Forest Inventory Division
Operations Manual
1961 and revisions to 1972
FOREST INVENTORY DIVISION

OPERATIONS MANUAL

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PART 1 - FIELD ADMINISTRATION

The Project Supervisor or Party Chief is responsible to the Forester-in-Charge for all field administration on a project, including responsibility for all equipment issued to the project. It is recognized that certain aspects may be delegated to responsible assistants or field staff. The supervisor must ensure that those delegated are well briefed and are familiar with matters entrusted to them.

1.1 FIELD CAMPS (See Part 8, Section 5, pages 179-180)

1.11 Responsibility - Erecting and Dismantling.

Unless otherwise arranged, the Housing Section will be responsible for erecting and dismantling field-base camps. Extra on-site costs incurred in constructing camps will be directed to the Housing Supervisor and the invoices then signed by him. The project will be noted and on receipt at Victoria costs will be posted to the applicable project. Wherever possible the project supervisor shall visit the proposed camp site with the housing supervisor to discuss camp layout in relation to trailer spotting, sanitation, electrical and water services, including family areas if applicable. Failing this, the project supervisor should suitably stake out trailer and tent locations and provide the housing supervisor with a rough sketch of the proposed layout.

1.12 Location

Camps should be located on Vacant Crown land where feasible. Information on such potential sites may be obtained by writing to the local Forest Ranger as early as possible. Check with the Parks Branch for undeveloped park reserves in the area. Private lands should be checked as the last alternative.

1.121 Use of Private Land

- Contact the reputed owner, determine legal description, and verify ownership through the Ranger, Land Inspector, or by notifying Division headquarters.

- If the proposed site is on a Timber Lease, Licence, Berth or other temporary alienation, advise Forester i/c as the actual ownership may be obscured. It is possible that rentals should not be paid or are being requested by some one not eligible.

- Set a firm rental price and period of occupancy, and this must be confirmed in the rental form letter (See Appendix I). Usual rent for undeveloped camp sites or field is around $100.00 per month. Ensure that terms are fully understood. Some may wish to charge rent based on the number of trailers, tents, etc. Total rent exceeding $200.00 per month must be approved by the Forester i/c.

1.122 Considerations for Camp Location

- Access for heavy trucks and trailers - will any gravelling or grading be required.
- Topography and drainage. Conditions which result from prolonged wet spells.

- Clearing required. Heavy brush, etc.

- Creek bottom areas; possible flood; potential frost pockets.

- Water supply - purity and lift required. Our standard pumps can normally lift vertically approximately thirty feet; heavy duty models up to eighty feet.

- Electricity - proximity to domestic supply. How many poles required to bring power to camp site.

- Sanitation - suitable gravel soils for adequate filter action of septic tanks or cesspools.

- Possible invasion by farm stock.

- Helicopter landing site.

1.13 Construction and Layout

The erection of temporary field camps and provision of adequate services are governed by numerous rules and regulations, particularly those under the Electrical Energy Inspection Act and the Health Act; these being rules and Regulations for Installation and Maintenance of Electrical Equipment (Canadian Electrical Code as amended for B.C.) and Regulations for Sanitary control of Industrial Camps, respectively. Our camps are subject to inspection by officers appointed under the authority of these Acts. In view of these factors much of the camp equipment is pre-fabricated at Green Timbers and approved in advance. The installation of these services required personnel familiar with such equipment and is therefore only to be undertaken by the Housing Section or as arranged with the project supervisor through the Housing supervisor.

1.131 Electrical Services

Two sources of electrical power may be available, either light plants or domestic supply (B.C. Hydro, etc.). The largest Division deisel light plants can supply 10,000 watts, others 3,000-6,000 and smaller gas units 1,500 watts. Supply companies will supply one span of wire for an existing pole to the consumer service free; otherwise each pole complete will cost $150 to $200; the approximate span between poles is 150 feet. Thus a three hundred foot line from existing poles would cost $150 to $200 since only one pole would be required, and project supervisors, or the housing supervisor may authorize expenditure for one pole. Any expenditures above this amount must first be approved by the Operations Forester. If hooking in to the domestic supply seems feasible an estimate must be obtained in writing before authorizing the installation or obtaining approval from the Operations Forester.

Trailers, service poles, and line etc., have been pre-assembled and approved at Green Timbers, thus they are suitable for connection to domestic supply sources or to our own generating plants. If a
domestic supply is to be used it is necessary that an electrical permit be obtained from the Department of Public Works or municipal authority before the camp can be connected to the supply source. All permits are issued from Vancouver and directed to the local inspector who will complete the inspection and advise the supply company when the installation has been passed.

Since Electrical Inspectors have large areas to cover they may not be available for inspections on short notice. If permits are not obtained in advance it is possible that connections to power may be held up for want of approval. If delays are to be avoided as much as possible, the following procedure should be followed:-

- Contact the supply company and obtain estimated cost. Obtain confirmation from Operations Forester if estimate is over $200 - that is more than one pole required.

- Contact Operations Forester with details of location and nearest inspector. A permit will be applied for at Victoria and a copy forwarded to the Housing supervisor at Green Timbers. It should be noted that the bottom of the electrical permit has a tear-off portion which is forwarded to the Electrical Energy Inspection Division, 411 Dunsmuir Stree, Vancouver, when the work is completed. Their Vancouver office advises the local inspector if the work has been completed or is expected to be completed within a few days from the time of application. On advice from either the Housing supervisor or project supervisor, we will note on the application that the work is complete thus eliminating the step of advising the Electrical Energy Division of its completion. If possible, the local inspector should be visited beforehand and advised that the permit has been applied for and that his cooperation would be appreciated in carrying out the inspection within a suitable time in order that the camp will have the necessary power on the date of occupancy.

1.132 Sanitation

Necessary cesspools or septic tanks will be laid out by the Housing supervisor in accord with any local regulations. In respect to sanitation an extract from "Regulations for the Sanitary Control of Industrial Camps" should be the guide for those in charge, i.e.

The operator of every camp shall:-

- Maintain in good repair and appearance all sanitary facilities and appliances in the camp.
- Maintain every camp and its equipment in a clean and sanitary condition.
- Provide and maintain at the camp, equipment suitable and adequate for the deposit therein of rubbish, garbage, refuse or waste.

The Housing supervisor must be contacted immediately if any sanitation problems develop. The following are some rules which apply respecting camp sites and sanitary facilities:-
- The site shall be chosen so that all drainage may be so arranged that there is no pollution of any water supply.
- Floor and walls or all areas used for living, sleeping or eating purposes shall be kept clean.
- Toilets shall be not more than one hundred feet from a sleeping area in camp.
- Toilets shall be maintained in a clean, sanitary condition - adequate use of chloride of lime and periodic scrubbing with soap and hot water to which has been added a small amount of bleach (approx. 1 tablespoon/2 gallons).
- Outdoor privies shall be so constructed that flies, insects or vermin cannot gain access to waste materials.
- Self-closing seat covers must be installed in privies.
- Camps accommodating 1 to 15 persons shall have two privies and one shower; those with 16 to 30 persons, three privy seats and two showers.
- Fly-tight garbage containers shall be used and shall not be allowed to become foul-smelling, unsightly or a breeding place for flies.
- All garbage and refuse must be disposed of by burial, incineration or removal to approved garbage dumps. (See 1.1321 below.)
- No animals or cats shall be allowed in the cookhouse, dining area or where food is being prepared or stored.


Projects must ensure that garbage and waste is properly disposed of. Under no circumstances is it to be left out above ground except at approved municipal garbage dumps. Following are excerpts from the Litter Act for British Columbia, passed in 1970.

"No person shall discharge, dump, discard or dispose of litter (rubbish, garbage or waste materials) on any land or fresh water except

(a) In compliance with a permit issued by the Pollution Control Act 1967 or
(b) Where litter is burned in compliance with the Forest Act, or bylaw, permit or licence of a municipality or village or
(c) By burying, and covering with not less than 12" of clean soil or
(d) Where disposal facilities are provided, in compliance with proper and accepted methods of disposal using those facilities.

1.133 Fire Protection (See also Part VI, Section 6, pages 159-161 b)

Where a pressure water system is used in a camp, suitable stand pipes, painted red, shall be provided within 50 feet of the main trailer and tent areas. Sufficient lengths of half-inch or one-inch garden hose must be placed at each stand pipe. Most project base camps will be issued with a fire pump and hose. Key staff, particularly those most likely to be in camp, such as the cook, should be thoroughly instructed in operating the pump. This unit must be tested weekly and tests recorded in the unit log book. Hose need only be tested under pressure at the start of the season then should be bled, thoroughly dried, rolled and placed in appropriate positions for instant use. Each tent shall be provided with a fire bucket which must be kept full of water at all times. Note the posting of Form F.S. #29 (Appendix 2) at all gasoline caches including helicopter fueling site at base camp. Fire tools will be placed according to instructions in Part VII, Section 2, page 168, on suitable racks supplied by the Housing Section.

Protection of valuable field data - A suitable fire-retardant container will be supplied for storage of field samples, classification sheets, etc., and all samples and valuable data should be placed in these containers when not in use at the end of each day.

- 4 - Revised April, 1970.
1.134 Water Supply

Where any doubt exists as to the suitability of the supply for drinking and domestic use, samples must be obtained and taken to the nearest health authority for testing. The water systems will be laid out by the Housing crew and any alterations must be arranged through the Housing Supervisor. Light duty, electric pumps, will lift water approximately 30 feet while heavy duty types will lift up to 80 feet. Both types are used by the Division. Day to day

Continued on page 5
servicing may be carried out by the project supervisor and should include the following:-

- Is intake valve adequately submerged; usually placed in bucket and covered with fine mesh screen.
- Clean container - particularly during spring run-off when sediment level is very high.
- Check foot valve, that it operates properly in preventing backflow of water when the pump cuts out.
- Are the pump and pressure tank adequately protected from stray cattle - may be necessary to build a small fence around this equipment.

The Housing Supervisor should be advised promptly if the system fails to maintain adequate pressure, pump fails to operate when pressure drops below cut-in point, or pump appears to be overtaxed in maintaining adequate pressure.

- Freezing temperatures - Drain lines of the pump and tank at night if there is any likelihood of temperature dropping sufficiently to cause freezing, as this is quite common in the Interior, early in the season.

1.14 Camp Servicing

As noted elsewhere, the Housing Supervisor will be responsible for servicing utilities and appliances. This is particularly applicable to electrical and propane work. Workmen’s Compensation Board regulations state that only experienced and competent persons shall be authorized to do any work on electrical lines and equipment. Any changes or repairs in electrical or propane systems must be referred to the Housing Supervisor who will arrange for the work to be done or direct the Project Supervisor to contact a qualified local contractor. Amateur electrical work or tampering with electrical systems is expressly forbidden.

1.15 Dismantling Camp

The Housing Section is responsible for the final condition of the campsite, but the usual cooperation is expected from the Project Supervisor in taking down tents, arranging for termination of electrical supply with local supply authorities, and other help as agreed.

Campsite Cleanup:-

- Area to be thoroughly cleaned up; all debris and refuse to be burned or removed. All latrines, garbage pits, septic tanks, rock pits, etc. must be filled in. Occasionally on private land the owner may request that holes be left, or material destined for disposal be left on site. He must be prepared to accept responsibility in a signed statement to that effect, with a copy to Victoria, as noted on the rental form letter.
- If a domestic power supply has been used the power company must be notified. They will de-energize the lines to the original source. Removal of poles is our responsibility. On private land this should be discussed with the owner and noted on the statement as in the above paragraph if they are to be left. Otherwise they must be cut off at ground level.
The Housing Supervisor will notify Operations of such arrangements as noted in the two paragraphs above, and a letter will be forwarded to the owner outlining details.

1.16 Camp Discipline (See also Part VIII, Section 1, pages 174-175)

A neat orderly camp site is indicative of a well-run efficient organization. Frequently this is the main contact point between the general public and the field crew, and one from which opinions respecting the efficiency of the service as a whole may be derived. As such, the conduct of personnel about the camp, or their habits, should not be of a nature that could reflect on the reputation of this Division. All personnel entering the area are expected to be governed by these rules of conduct and any others laid down by the project supervisor:

- **Firearms** (refer to Part VIII, Section 4 re licensing and carrying sidearms).
  
  Bringing firearms to camp should be discouraged among seasonal personnel and may be prohibited if the Project Supervisor deems it necessary. No firearms are to be discharged in or near the camp area except as approved by the Project Supervisor in the case of nuisance animals.

- **Use of Alcoholic Beverages in Camps**
  
  Stated government policy with regard to the use of alcohol in government offices will apply to Project Offices (i.e., office trailers, tents, or buildings used as Project Offices). In addition, it is the field supervisor's responsibility to ensure that employees are advised of working rules such as "no drinking during working hours". Withdrawal of camp privileges will result if, in the opinion of the supervisor, there is excessive drinking, or if resulting litter could reflect unfavourably on the camp or the Forest Service.

1.2 **LIVING ALLOWANCES:**

Division employees, while away from their designated headquarters (i.e. Victoria or Green Timbers) will be entitled to free board and lodging. Cooking staff, however, will be deducted $45.00 per month for board, while in camps.

Generally, board and lodging for personnel away from headquarters is provided at base camp and no other arrangements are necessary. When travelling to and from base camp, in connection with duties, or on assignments away from base camp, continuous employees may obtain reimbursement for travelling expenses, by submitting a **Travel Voucher** (Weekly Expense Account). Expenses for seasonal employees must be substantiated by receipts (including meals), and submitted on the Survey Party Monthly Expense Account. (1.211 below)

Board and lodging will not be paid for days off, if the employee leaves the field camp.

When the camp cookhouse is closed down, and single employees remain at camp, the project supervisor will make suitable alternative arrangements for board.

1.21 **TRAVELLING EXPENSES:**

Travel expenses are paid to and from the project. For seasonal employees,
this is contingent on remaining the full season as defined each year on
the Field Work Information Sheet. Where private vehicles are used, there
is no reimbursement for transportation, other than board and lodging re-
quired en route to the project.

Where an employee is dismissed, transportation will be paid to the point
of hire.

When an employee terminates his service (i.e., quits, not dismissed)
travelling expenses will not be paid, and costs incurred in travelling
to the Project will be deducted. Such costs must be noted on the
Termination Sheet.

No travel expenses are payable for days off, should the employee decide
to leave camp.

1.211 MEAL ALLOWANCES:

For employees on approved travel expenses, the maximum daily rate for
meals including tax and gratuities is $11.00 if all meals are purchased,
and individual meals are not to exceed the following rates:

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>$2.75</td>
</tr>
<tr>
<td>Lunch</td>
<td>3.00</td>
</tr>
<tr>
<td>Dinner</td>
<td>5.25</td>
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</tbody>
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1.22 Families of Staff at Field Projects:

- Family accommodation will only be considered for continuous staff, and
  only for periods of at least one month.
- Project Supervisors will be provided with a family trailer or equivalent
  accommodation.
- Wherever possible, considering access and establishment cost, other
  continuous staff may be supplied with a family tent. This unit will
  include 1 - 14 x 16 prefabricated tent, with equipment as noted in
  the Equipment Manual, under family tents. The tent will be installed
  at the camp site by the Housing crew. Additional tents, without frames,
  may be supplied if available; erection will be the responsibility of
  the occupant. Bedding and cooking equipment will be supplied if avail-
  able, and charged to the project.
- Requests for family accommodation must be submitted on F.S. 806, (Ap-
  pendix 3) "Application - Field Camp Family Accommodation", prior to
  the field season.
- Family accommodation must be sufficiently removed from the main camp
  area in order that the normal camp routine may function properly.
  Family use of wash tent facilities must be restricted to specific
  times so as not to conflict with camp requirements. Periods reserved
  for family use must be posted.

1.221 Living Allowances Claimable:

(1) Forest Service Family Trailer Provided:

- Personnel will not be entitled to board in the camp cookhouse,
  or any other living allowance at the site. However, Project
  Supervisors and Assistants are excepted on occasions, as their
duties include assessment of cookhouse fare from time to time.
The trailer will be connected to camp services.
(2) Family Tent Provided:

- No meal allowances are payable for meals eaten with family, except in event that the cookhouse is closed as outlined in 1.221 (4) below, but the employee has the option of eating at the camp cookhouse, or whatever dining arrangements have been established for the single personnel.
- When feasible, services will be provided to family tents.

(3) Employees Providing Own Trailers:

(a) Located in project camp site - Services may be supplied provided requests are initiated when the camp is being planned, and provided the trailer location is reasonable in relation to the main camp services. (See 1.222 Moving Private Trailers.)

An allowance of $1.00 per meal may be claimed for meals eaten with the family; Maximum allowance per month $90.00.

(b) Located outside the camp site - An allowance of $1.00 per meal may be claimed as in 3 (a) and an additional $1.00 per day is allowed for services.

Maximum allowance per month - $120.00.

(4) Families securing other accommodation outside the camp site.

- The same allowances claimable under 3 (b), will apply.

In categories 3 (b) and 4, the services allowance will continue if employees are temporarily away from their accommodation on fly camp or sub-bases.

Should the camp cookhouse be closed, employees in category (2) above remaining at camp, may eat meals with the family and claim the $1.00/meal allowance, or the Project Supervisor may make suitable arrangements for board, similar to those for single employees remaining at camp.

Claims for living allowances outlined above are to be submitted on the Travel Voucher form. Before forwarding to Victoria they must be checked and initialled by the Project Supervisor.

1.222 MOVING PRIVATE TRAILERS: (See 3.27 Engineering Manual)

Private trailers may be moved at division expense, either by the Housing Crew or Commercial towing firms. Approval must first be obtained from the Forester i/c.

Commercial hauling - obtain two written quotes if possible and complete form F.S. 463 - "Application to move privately owned Trailers". (Appendix 4)

Division hauling - The Forest Service or its employees will not assume any responsibility for damage caused to the trailer. Prior to hauling, the Victoria office must be given the following
information in order to arrange third party liability insurance:

"Owners name, make and model of trailer, particulars of towing vehicle, points between which tow is to be made, and date(s) vehicle will be on the road. On receipt the Victoria office will arrange liability insurance (third party, not for trailer) through the Insurance and Safety Officer, Department of Highways. Confirmation of insurance coverages must be received from Victoria prior to moving the trailer. The owner must also complete an F.S. 463 before the haul commences."

N.B. This insurance is provided to cover the Government from third party liability claims, arising out of damages, etc. caused by the trailer. It does not cover the owner for any damages to his trailer, however caused.

The owner will be responsible for procuring any necessary travel permits, and the trailer must be in a road-worthy condition, approved by the Mechanical Supervisor, before being towed by Forest Service vehicles.

1.3 RECORD KEEPING:

1.31 Personnel Forms Required for New Employees

Forms: 1. Pay Data Sheet (F.S. 884). (Appendix 5)
2. Employees Tax Deduction Declaration (T.D. 1) (Appendix 6)
3. British Columbia Medical Plan (Optional). (Appendix 8)

1.311 Pay Data Sheet (F.S. 884) - Appendix 5

This form is the basis for the initiation of an Appointment Action Form by the Victoria Office. The top section of the Pay Data form is filled in to cover transfers of fieldmen to another party, particularly the disposition of his cheques.

This form is to be completed by the Project Supervisor or Section Head, not the employee.

In all cases, complete information is required under heading "Send cheque to ..." so that the salary cheques are forwarded correctly.

Original - Forwarded to Victoria office, 1 copy retained by field party.

1.312 Form T.D. 1 - Employees Tax Deduction Declaration - Appendix 6

Must be filled out by all employees on commencement of employment. If personnel exemptions entered are lower than estimated earnings for the year, income tax will be deducted accordingly at Victoria.

NOTE: Exemption claim for casual or seasonal employment must be completed for seasonal employees or Income Tax will be deducted.

Original - Forwarded to Forester i/c, Victoria, with pay data sheets.
Unemployment Insurance was recently extended to include forestry workers and applies to employees in the Division as follows:

- **Permanent** - Civil Service appointments not included and no deductions made.

- **Permanent-Probationary** - During the six-month probationary period, unemployment insurance is deducted.

- **Temporary** - Year round basis or part time not attending school. Compulsory deductions are made from salary. Unemployment insurance books must be turned into the Victoria office at the commencement of employment and will be held there until termination or change in appointment status to permanent.

- **Temporary Summer Help** - Students who anticipate returning to school are not required to contribute.

All new employees in the last three categories above, are required to complete form F.S. 807 - Unemployment Insurance Coverage and forward one copy to Victoria with the Pay Data Sheet.

The above three forms are all required of new employees on arrival at project headquarters. They must be completed immediately by the Project Supervisor and forwarded to the Forester i/c, Forest Inventory, Division, British Columbia Forest Service, Victoria, British Columbia.

1.314 **Medical Coverage**

Any employee whether permanent or temporary may enroll in the British Columbia Medical Plan immediately on commencement of employment. When enrolled, the cost is borne half by the employee, half by the Government.

A brief outline of the regulations follows:

**Enrollment:**

New employees may enroll in the Plan from the date their employment commences. Since premiums are payable in advance, and deductions from salary pay the premium for the following month, an employee desiring coverage sooner must remit the first premium in cash (money order or cheque) with the application.

Application must be made on the British Columbia Medical Plan application.
- If the first month's premium is included with the application, effective date of enrollment is the date of application, provided the applicant is on the payroll (i.e. date of application, on or after effective date of appointment on Pay Data Sheet).

- Where an applicant is presently covered by MSA, MSI or CU & C plans, either his own or as dependent from parents' plan, this should be noted as he may receive full benefits immediately under transfer arrangement between GEMS and those plans rather than having to wait six months for full coverage under GEMS.

- Coverage may be continued during temporary layoffs, by paying the full premium in cash. This is twice the premium payable when on the payroll.

**Costs:**

Rates vary according to marital status and number of dependents, and are subject to change annually. Victoria office will supply rates on request.

**Benefits:** (Note carefully details on Application Form.)

Employees who enroll in the Medical Plan within 60 days from date employment commences shall be entitled to the limited benefit for six months - medical care while in a hospital, and resulting convalescent care and medical care at home or in a doctor's office for disabilities sustained from accidents. For example, visits to a doctor's office for illness not requiring hospitalization are not covered for the first six months.

Employees who do not enroll within 60 days from date employment commences shall be entitled to the limited benefits outlined above, but shall not be entitled to benefits for conditions that were diagnosed or treated within 60 days prior to the effective date of coverage.

- Full benefits are automatically obtained after employee has made six (6) consecutive premium payments.

- These benefits are briefly outlined on the Application Form.

1.32 **Other Personnel Record Forms:**

Forms: 1. Days off Payroll or Termination (F.S. 885) - Appendix 9

2. Sick Leave: (a) Declaration of Illness not Exceeding Five Days (C.S.C.4) - Appendix 10

(b) Sickness Report (C.S.C. 5) - Appendix 11.


1.321 "Days off Payroll or Termination of Appointment" (F.S. 885)

This form is to be completed by the Supervisor immediately on termination, or in the case of an employee being taken off the
payroll temporarily. The Chief Clerk is to be notified by radio giving last working day in order to hold the cheque for an adjustment, if necessary.

Note the following points when completing the form:

- Worked up to and including: In calculating salaries for part months the daily rate is based on actual working days in a month. For five-day week employees, Saturdays, Sundays and statutory holidays are not counted. Therefore, do not show last day worked on those days noted. If a five-day week employee terminates on a Saturday, Sunday or statutory holiday, show his last day working on the last valid working day prior to these days, then count the other days in with Saturdays, Sundays or statutory holidays worked.

- Approved termination leave, Total working time to be credited, and Final Cancellation Date will be calculated by the Chief Clerk. This final cancellation date will be determined by counting Travel Time, Compensatory Days, and Termination Leave from the last working day, on actual working days to bring the final date to a valid working day.

  e.g. 
  Employee worked up to and including: - September 2, 1967. 
  This is a Saturday, and entry under (4) "Worked up to and including" should be September 1st, 1967 (Friday).

  Approved Travel Time - 1 day. (September 3, a Sunday).
  (If entered this way do not add to holidays worked.)

  Saturdays, Sundays and statutory holidays worked - 9
  (includes September 2).

  Approved Termination Leave - completed by Victoria office from date of appointment to last day worked plus days coming.

  Termination Leave is approximately 5/6 of a day per complete working month. In this case, the employee commenced May 18, and the last day worked plus travel and days coming = 10, work period then May 18 - September 18 = 4 days termination credit.

  Total Working days to be credited, then = 14 \((9 + 1 + 4)\).

  Final Cancellation Date: September 22, 1967.

  Calculated by counting 14 working days from September 1st.
  Start September 5; thus September 5, 6, 7, 8, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22 (Friday).
  If the 22nd was a Saturday, final date would be date of next working day (i.e., Monday).

Original - forwarded to Victoria office; copy - field project.

1.322 Sick Leave

For all employees, commencing from the date of appointment, sick leave credit may be accumulated at the rate of one and one-quarter \((1\frac{1}{4})\) working days for every 21 days worked. A maximum of 15 working days may be credited for each year and a maximum of 250 days sick leave credit may be accumulated.
completed are eligible for sick leave but any time off must be reported on C.S.C. 4 for illness not exceeding 5 days, and a C.S.C. 5 Sickness Report for absences over five days, (or less if requested). The latter form must be completed by a physician. Where an employee is off work more than 5 days this form must be completed on return to work to ensure that he is medically fit to resume duties. It must be presented on return to duties.

One copy is prepared and signed by the employee, initialled by the supervisor and forwarded to the Chief Clerk.

1.323 Personal Appraisal: (F.S. 851)

This form is to be completed by supervisors for all personnel working under their direction. Where an employee is rated poorly or not recommended for rehire, the contents of the appraisal must be discussed with the employee by the person making the report.

Appraisal required under following conditions:

(a) when employee terminates
(b) at conclusion of field season, all personnel
(c) early in July for seasonal personnel
(d) personnel whose performance is marginal.

1.324 Workmen's Compensation:

All personnel employed by the Division are covered under the provisions of the "Workmen's Compensation Act" at no cost to the employee. Any accident, however slight, occurring while carrying out duties in connection with conditions of employment must be reported immediately to the supervisor, who will ensure that the necessary forms are completed as outlined below.

On occasion, supervisors have neglected to complete forms correctly, causing delays and needless correspondence. Attention is drawn to the following sections, and those concerned should acquaint themselves with the contained information about the functions of compensation.

Supervisors must have a copy of the Current W.C.B. Booklet Accident Prevention Regulations. Further information is obtainable from the Workmen's Compensation Board, 5255 Heather Street , Vancouver 13, British Columbia.

General Regulations:

Note:- These are for guidance only and are subject to change.

1. Compensation has a two fold purpose.

- Compensation for loss of earnings due to injuries sustained in performance of duties (i.e. payment of a portion of workmen's salary in the event he is unable to continue working).

- Payment of medical costs for physician, hospital, prescribed drugs, etc.

Revised May 1972
2. **Disabling injuries - off more than one day, or one shift.**

If the injury does not disable workmen longer than one working day, no compensation is payable for earnings lost except medical aid; should the disability last more than one day, compensation is payable from the date of disability.

Notes re "2" above.

(1) In many instances slight injuries may not prevent field men from carrying out light base camp or office duties, provided this has the supervisor's approval, and the injured man is able. In this case, the workman remains on our payroll. If there is no suitable work available, or injuries prevent any type of work around camp, and workman is laid up more than one day, he is taken off our payroll and is eligible for compensation.

Victoria office must be notified by radio immediately, giving date workman is taken off Division payroll. On return to the job, date of commencement must be radiated to Victoria.

3. **Injuries owing to misconduct.**

Where injury is attributable solely to serious and willful misconduct of the workman, no compensation is payable.

4. **Transportation:**

The employer is required to provide suitable speedy transportation to the nearest hospital or doctor where treatment appropriate to the injuries is available. In other words, the supervisor will arrange for transportation of injured man at our expense. If the man has to lay off and applies for compensation, further transportation costs will be considered by the Compensation Board but not necessarily approved in all cases. That is, once the man is off our payroll, the Division is not responsible for his travelling expenses to visit a doctor, etc. However, discretion should be exercised by the supervisor, to make transportation available if it does not interfere with the party's work. If an employee terminates, as a result of a compensable accident, his travelling expenses will be paid to point of hiring.

5. **Compensation for loss of earnings for temporary disability.**

Seventy-five per cent of workman's average earnings is paid if a man is off our payroll, and continues until he is able to work.

No compensation is paid for the portion of earnings over $6,600/year.

Any continuously employed personnel with at least one year's service remains on the Forest Service payroll at full salary while laid off on account of a compensable injury. W.C.B.

Revised May 1972
cheques are directed to the Civil Service Commission.

6. **Board in Camp while on Compensation**

   If an injured man laid off work, is unable to do light duties, but remains at camp with the idea of returning to work when fit, the Division is not responsible for providing board and lodging. However, it is impossible to lay down rules in all circumstances and the supervisor should judge each case on its own merits, with the intention of not working a hardship on deserving field men. If charged, the rate per meal is 50 cents.

7. **Medical Aid and Prescription Costs.**

   **ONCE A PHYSICIAN IS SELECTED, THE WORKMAN MAY NOT CHANGE DOCTORS WITHOUT PERMISSION OF THE BOARD.**

   Occasionally an injured fieldman carrying out light duties may be transferred to another party in a different area. If he still requires the occasional visit to a doctor, the supervisor will advise the Workmen's Compensation Board, setting out circumstances for the change in doctors, referring to claim number, and that it is the same disability or injury.

   If medicines, etc., are prescribed by the physician, the workman may claim these costs. A copy of the prescription, claim number and receipt must be forwarded to the W.C.B. by the workman and a reimbursement will be considered by the Board.

8. **Compensation Outside the Province**

   - An injured workman may not leave British Columbia and receive time-loss compensation except in emergency or with the permission of the Board.

   - Medical aid outside the Province is not provided except in the case of emergency or with permission of the Board.

   In other words, if a temporary employee from outside this Province is injured and returns home, it is quite possible he will not receive compensation or medical aid from the W.C.B. once he leaves British Columbia.

   A copy of any correspondence between the supervisor and W.C.B. should be forwarded to the Forester i/c in case further developments occur at the conclusion of the field season. Such correspondence should be filed under 0146188 - personnel files.

**Compensation Claims**

A. **General**

   A compensation claim must be made on the appropriate forms outlined below whenever a workman receives injuries as a result of discharging his work duties, and requires medical attention from a physician, First Aid Attendant, or professionally qualified person. Where no medical treatment is required, the details of the accident must be recorded in the First Aid Log, or other type of project diary and a form 7 is not required. Should subsequent medical aid be necessary...
reference can be made to the initial recording in the log or diary, when forwarding the form 7. This must not be construed as preventing a workman from seeking competent medical attention if it is considered necessary.

In order to ensure prompt processing of claims, the Compensation Board requires the following:

1. Prompt submission of necessary reports (see B following).
2. Complete information.
3. Correct address and coding.

B. Forms Required for Compensation Claims

(1) W.C.B. Form 7 (revised 1969) Employer's Report of Injury or Industrial Disease is to be completed by the Supervisor as soon as an accident is reported by a workman.
One copy to Victoria H.Q., 1 copy retained at project.
Using the information on the original, Victoria office will raise four copies:
   1 - Workmen's Compensation Board
   1 - Personnel Officer
   1 - Workman's personnel file (plus original field copy)
   1 - Accident Reports' file (0146188-H)

N.B. - Effective January 1st, 1970, Form 6, Employee's Report will not be required unless the W.C.B. requests the workman to complete one. The W.C.B. will forward the necessary forms direct to the workman.

Mailing address -
Employer's name: Province of British Columbia,
   Firm 4000, Class 1302 - I-7
Address:
   Forester i/c,
   Forest Inventory Division,
   British Columbia Forest Service,
   Victoria, British Columbia.
Type of business: Forest inventory
Phone number: 382-6111, local 2724
Employee's address: use home address where possible, otherwise field project address.

In completing the form 7 the last 12 questions on the brown shaded part need only be filled in if it appears a time loss is involved (i.e. workman will be off work more than three days).

(2) Form 7A - First Aid Report

This form is only required if an injured workman is treated by a First Aid Attendant.

(3) Form 9 - Employer's Subsequent Statement

This form is only used in the case of Time Loss Accidents where the workman is off work for more than three days. It is completed when he returns to work or is considered fit to return to work.
Original to Victoria office; copy kept at field headquarters.
Four copies will be raised by the Victoria office and distributed as the Form 7.

- 16 - Revised April, 1970.
One copy must be submitted for all time loss accidents, and for medical aid only where the workman requires medical attention. This report may also be used to report on investigation of any accidents or damage to equipment where other forms are not provided for that purpose. (E.g., boat accidents where no injury results but a boat is damaged.)

This form is not sent to the Workmen's Compensation Board.

C. Some W.C.B. Accident Prevention Regulations Applicable to Forest Inventory work.

All Supervisors are expected to be familiar with contents of W.C.B. booklet General Accident Prevention Regulations 1966.

1. Caulked or other safe-soled footwear shall be worn by workmen whose duties require them to walk on logs. Caulks and shoes shall be maintained in good condition by workmen. (Reg. 14.12)

2. The personal wearing apparel of a workman shall be of a type and condition that will not expose him to any unnecessary and avoidable hazards. (14.02)

3. Safety hats shall be worn by workmen in all work areas in which a potential hazard exists from falling, flying or thrown objects or from harmful contacts. (14.14)

4. Tool handles shall be of sound material, kept smooth and securely fastened to tool heads.

5. An approved life jacket must be supplied for each person being transferred by boat. (Forest Service regulations further state that life jackets must be worn when personnel are travelling in boats.)

6. Riding on running boards or standing up in the bed of a truck while machine is in motion is strictly prohibited.

7. Vehicles used for the transport of workmen shall be equipped with racks for saws and axes and such tools shall be kept in racks.

8. Every employer shall post in a conspicuous place any placard or notice issued by the Board, which is headed by the words "Notice to Workmen". (4.20) (Appendix 23)

First Aid Kits

It is the duty of the supervisor to see that field crews are supplied with adequate first aid kits, and that such contents of kits are replenished following use.

See - Requirement of F.S. Kits, Part II, Section 2.

1.33 Accounting Records

Forms - 1. Labour Distribution F.S. 834) - Appendix 17
2. Survey party Monthly Expense Account (F.S. 838) - Appendix 18
3. Travel Voucher Form - Appendix 19
4. Vehicle Log and Operation Report
5. Cost Summary Designation (F.S. 834) - Appendix 20

1.331 Monthly Labour Distribution (F.S. 834)

Instructions for use will be issued on Operations Manual yearly variations memo

- 17 - Revised April, 1970
1.332 Survey Party Expense Account

See Purchasing – 1.42 - Authority to Purchase and Costs. (Attention is drawn to page 20 following, re Travel between Vancouver Island and the mainland).

(Continued on p. 19)
General

Cash expenses incurred in operating a field party are submitted on this form. Receipts must be obtained for all purchases marked "paid" and be submitted with the account. Meal and accommodation receipts must be signed, dated, and location noted. All receipts are numbered and a separate entry is made for each.

Headings on Expense Account

No entry is made beside Accounts Form Serial No.

- Travel, Accommodation, Food - beside each receipt enter code. T - Travel, A - Accommodation, F - Food and totals

- Rental of Equipment - self explanatory.

- Miscellaneous Field Expenses - stamps, supplies (except food), expendable equipment, and any other items not covered under the following three items:

Purchases of Non-Expendable Equipment.

A property receipt must be attached to the expense account for purchases of non-expendable equipment.

Operation and Running Repairs.

Cash purchases of gas, oil, minor running repairs such as tire repairs, sealed beam units, brake adjustment, etc.

Maintenance of Mechanical Units.

Used for expenditures for more extensive repairs than in the above "Operation and Running Repairs".

Distribution of Copies

Yellow (4) → Project's copy
Blue (3)
Pink (2)
White (1) → First 3 copies to Victoria office.

Monthly Expense Summary (with F.S. 841 attached - see 1.335 below).

1.333 Travel Voucher Forms

This form is only to be used by personnel as approved by Forester i/c and only for expenses in connection with travelling. Allowable meal expenses applicable to this Division are detailed under 1.211.
Instructions for completing this form may be found on the back of the first copy (white).

Some points to note:-

- This form is to be used for reimbursement of travelling expenses of individuals only. Crew or group expenses must be submitted on the Survey Party Monthly Expense Account.

- Receipts

Note where receipts required. A receipt is also required for taxi fares in excess of $5.00 and all bridge, tunnel, ferry and highway tolls.

- Loss of Receipts

The Audit Branch, Department of Finance, requires personal certification by the Departmental Comptroller that he has investigated any claims of lost receipts. The Departmental Comptroller has stressed the need for care in retaining receipts and submitting them with expense accounts as required.

- Transportation

In addition to instructions on back of expense voucher, the following should be noted:

- Transportation cannot be charged on any ferries; all transactions must be cash.

- Customers portion of an air ticket must be attached to expense voucher to claim costs of taxi or bus to and from airport even though tickets have been purchased by headquarters.

N.B. **TRAVEL - VANCOUVER ISLAND TO MAINLAND**

We have been instructed by the Chief Forester, that all Government employees travelling to Vancouver Island from the Mainland or vice versa, must use the B.C. Toll Authority ferry unless authorization has first been obtained from the Deputy Minister to travel by some other method. For this Division, all trips must first be approved on the appropriate form signed by the Forester i/c and this form must accompany ferry receipts for vehicles when claiming reimbursement on weekly or monthly expense accounts, otherwise the account will not be passed for payment.

- Allowable Expenses - Meals

On occasion, when travelling by public transport such as trains or ferries, the standard menu costs are above allowable Division
rates. In this case it is permissible to exceed the limits as detailed. Suitable notation indicating meal was eaten on the ferry or train, etc., must be made on the receipt or travel voucher form.

Allowable rates are detailed under 1.211 - Meal Allowances (Page 6).

- Laundry and Dry Cleaning

Laundry charges may be included in travelling expenses for supervisory personnel whose duties require continuous travel, but are not claimable for any personnel stationed at a field site for more than two months.

Supervisory staff, under the continuous travel category above, are also permitted dry cleaning charges on trips of at least seven (7) days duration.

1.334 Vehicle Log and Operation Report

Each motor vehicle is issued with a Vehicle log book. Purchases in connection with vehicle operation should be entered without delay.

The carbon copy of the months operation costs must be forwarded to the Forester i/c by the 6th. of the ensuing month.

1.335 Cost Summary Designation (F.S. 841)

Ledgers are maintained at the General Office to determine total costs for projects and for various categories of equipment, including capital expenditures, annual overhaul etc.

In order to ensure correct posting against appropriate projects an F.S. 841 (Cost Summary Designation) must be attached to all invoices (including expense accounts) when passed for payment by Supervisors. Under the Headings "PROJECTS", check off the correct category (1-10) as project costs will be summarized under those headings. Headings under "EQUIPMENT" generally apply to sections involved in equipment maintenance, and the completed F.S. 841 is to be attached to invoices in the same manner as for Field Projects.

1.4 PURCHASING

1.41 Functions of Purchasing Commission

The major portion of governmental purchasing is administered by the Purchasing Commission. The Chief Clerk of this Division, on receipt of a request for supplies, etc., exceeding $25.00 from a field party, office section, supervisors, etc., prepares a requisition which is passed to the Purchasing Commission with our recommendations regarding quality, suppliers, date of delivery, etc. It is then the function of the Commission to arrange for the purchases and delivery.

This is the safest procedure to prevent criticism and possible cancellation of emergency purchase privileges. Think ahead of your
party’s need for supplies and arrange for requisitions through
the Chief Clerk, thus avoiding reprimands from the Purchasing
Commission for numerous unauthorized purchases. The Commission
has a larger overall picture of government spending in various
communities, thus the fair distribution of business to suppliers
is their concern and the Division is relieved of explanations as
to choice of retailers, etc.

N.B. Purchases refers only to supplies, not services such as boat hire,
aircraft charter, mechanics labour, etc. No requisition is prepared
for this, nor for purchases under $25.00.

1.42 Authority to Purchase and Costs

All purchases will be under the control of the supervisor, but written
authority may be delegated to responsible assistants. On all purchases
give the supplier exact information for billing purposes.

Project No., Forest Inventory Division, B.C. Forest Service,
Project address or Victoria, and your name.

All day bills or counter slips obtained from the supplier at the time
of purchase must be signed by the Project Supervisor or delegated person.

Sound judgement and common sense must be used by fieldmen concerning
field purchases and disposition of such items in order to prevent
discredit or adverse criticism from the public.

- Basic foodstuffs are essential and field projects need not stint on
such items, but discretion should be exercised in purchasing luxury
food items.

- Prevent wastage wherever possible, but if spoilage occurs, items
must be well buried and NOT left lying around camp, or disposed of
in such a manner as to invite criticism. (i.e. if eggs go bad on a
launch, don’t dispose of them in full view when tied up at a wharf.)

- Purchase of equipment or supplies for personal use with government
funds is adequate cause for immediate dismissal.

- Before purchasing any non-expendable equipment in the field,
permission must be obtained from the Forester i/c.

- When ordering bulk purchases of food, remember many wholesale outlets
will not split cases of tinned or bottled goods. Therefore, items
used sparingly, such as vinegar, salad oil, spices, dressings, and so
on, should be purchased separately at retail outlets when required,
rather than have a large stock of unused items at the end of the field
season.

- Non perishable items are to be suitably packaged and returned to
Green Timbers at the conclusion of the field season.

1.43 Emergency Field Purchases

The Purchasing Commission recognizes that the need for certain supplies
may arise on short notice, necessary for continued operation, where it is impossible to wait for the requisition form and transactions to be completed. Emergency Purchase Orders, Form PC 6, is used to cover these emergency purchases. Only authorized personnel may sign E.P.O.'s and the Purchasing Commission will not recognize purchases made by others. The Chief Clerk submits a list of authorized personnel to the Purchasing Commission. Supervisors must check with the Chief Clerk for any revisions in the list of authorized personnel prior to the field season. Unused PC 6 forms are to be returned to the Chief Clerk at the conclusion of the field season.

When required:

The PC 6 form is required for the purchase of supplies if such purchase exceeds the sum of forty dollars ($40.00), including sales tax. The regulations regarding the proper use of emergency purchase orders are somewhat involved, and to avoid misuse, authorized field personnel will be required to prepare a form PC 6 to cover the following types of purchases only.

- Tires, tubes, and battery purchases, regardless of cost. (See Part V, Page 121)

- Monthly charge accounts exceeding forty dollars, excepting charge accounts for cafe meals.

- Bulk purchases of gasoline, oil, etc. exceeding forty dollars or any supplies exceeding forty dollars.

- Cash purchases of field supplies exceeding forty dollars. Do not give the supplier any copies since he has already been paid. E.P.O. must be attached to the receipt or invoice, when forwarding to Victoria.

Preparation of Emergency Purchase Orders

Written information on the form PC 6 must be explicit and a completed form is reproduced in this section as a guide to field personnel. This sample form is sufficient in detail to cover all field purchases except the purchase of tires, tubes and batteries, as discounts and taxes must be fully detailed in the latter case as shown in the sample under "Tire Purchases" below.

Distribution of Copies:

```
      (4)                (3)                (2)
Emergency Purchase Order  Orange (4th. copy) - retained by field project
                         (1) Blue - Victoria  ) with invoices
                                Yellow - Victoria )
                                 White - to supplier (except for cash
     purchases over $25.00)
```

Do not send blue and yellow copies to Victoria until you forward invoices. In the case of cash purchases over $40.00 retain the white copy for party file, but do not give supplier any copies.
## SAMPLE OF EMERGENCY PURCHASE ORDER

**PROVINCE OF BRITISH COLUMBIA**
**PURCHASING COMMISSION**
**PARLIAMENT BUILDINGS, VICTORIA, B.C.**

**Vote No.**
**Allocation:**
**EMERGENCY PURCHASE ORDER**

Your invoice, packages, and all correspondence must bear the above purchase order number.

**Date**
June 3 1967

**To:**
Red and White Grocery,
1000 Main Street,
Rince George, B.C.

**Ship to:**
Picked up Aug 7, 5.
Via: Suck

**Date Required**

**Charge Department of**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
<th>Quoted or Estimated Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Supplies as per attached invoice</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTIONS FOR INVOICING**
- Wholesalers and manufacturers must render four copies of invoice to consignee at point of delivery.
- Include shipping charges and attach receipts.
- The Provincial Government is exempt from Federal Sales and excise taxes.
- To ensure prompt payment, follow instructions on reverse side.

**Explanation or reasons for the emergency purchase must be given here:**

1. Necessary supplies for Summer Party.
2. Necessary for continued operation of mechanical unit.

*Signature*

*Chief, Supervisor*

*Authorized Official*

---

1.44 Types of Business

1.441 Purchase of Supplies Under the Invoice Total of $40.00

Such purchases may be made either in cash or on charge without a Purchasing Commission emergency purchase order.

Note: If such purchases include non-expendable equipment, it will be necessary to prepare a property receipt. (See Property, Part 11).

1.442 Purchase of Supplies Invoice Total of $40.00 or More (Including sales tax – except accounts for meals)
(a) Purchasing Commission Basic Requisition or Purchase Order.

This is the normal procedure for obtaining supplies over $40.00. The Chief Clerk, on consultation with the supervisor, will arrange for purchases of food, gas, and oil, etc., over all or part of the season, through the Purchasing Commission. The firm we wish to deal with may be stated on the requisition form, but the Purchasing Commission has the final determination. When approved, the requisition allows the party to pick up supplies as needed from a specific supplier, by quoting the requisition number. Day bills or counter slips will be obtained as supplies are received and monthly invoices certified and forwarded to Victoria in the usual manner, with original day bills attached.

Unless it specifically states on the purchase order that goods are to be delivered to a certain location any delivery charges must be billed separately.

Normally, the purchase order will state "to be picked up as required" for a specific period. If the need extends beyond the time stated, the purchase order must be renewed by advising the Chief Clerk of the new date.

Wherever possible, future needs of field projects should be planned prior to moves to a new work area, and the Chief Clerk advised by radio of particulars of supplier desired, length of time required, and the type of supplies needed. A purchase order will then be initiated and the supervisor advised.

Example of information required by Chief Clerk in order to prepare a basic requisition:-

Party 510 is assigned to work in the vicinity of Aleza Lake, using a helicopter for which the Division supplies gas and oil.

Food

Time - May 1 to Sept. 15 (It is alright if party leaves before final date, but supplier should be so advised.

Project No. - 510, B.C. Forest Service, Forest Inventory Division, Aleza Lake.

Supervisor - 

Field Address - 

Suggested Supplier - Fresh produce (fruit and vegetables, Slade & Stewart.

- Meat - Caribou Packers.

- All other canned, dairy produce, etc. - Kelly Douglas.

- 25 -
Aviation Gas and Oil

Time - May 15 to July 15.

Type - Gas - Aviation 91-98
         Oil - Aviation 80

Supplier - Charter firm will only use Imperial Products.

Delivery - To be picked up at Prince George as required by Survey Party #510 or ship to camp at Aleza Lake.

Supervisor - ________________

Field Address - ________________

1.443 Credit Card Purchases

- Credit cards are to be used only for purchases of gas, oil, grease jobs, and minor items such as oil filters, sealed beam units, etc. Tires and tubes and other accessories must not be purchased on credit cards.

- Credit cards supplied in Vehicles are only to be used at the applicable service station. The credit slip signed, must be for the same company as the credit card presented. Credit slips must only be signed, for the oil company whose credit card is presented.

1.444 Charge Accounts

(a) Charge accounts will be opened in the name of "Forest Inventory Project ...", c/o Project Supervisor i/c.

(b) The original day bills will be obtained at the time of purchase, signed by Project Supervisor, and retained until such time as the statement is received from the store proprietor. Note: - The Provincial Government pays S.S.M.A. Tax (5% sales tax) on all purchases, and normally Federal Sales Tax, only on retail purchases.

(c) The store proprietor will be instructed to prepare a summary statement, monthly or as often as desired, in quadruplicate from the information contained in the duplicate day bills which he has retained in his book. This statement need show the monthly total only, and when same is received, it will be checked with the original day bills and certified by supervisor that goods have been received.

(d) Three copies of the statement, certified by supervisor, together with the original day bills, will be submitted to the Forester i/c, Forest Inventory Division, B.C. Forest Service, Victoria, B.C. for payment. Field project keeps the fourth copy.
(e) It is to be understood that such charge accounts are for the convenience of obtaining field supplies only, and personal equipment must be purchased by the individual concerned out of his own funds.

(f) Certification of Invoice - On occasion suppliers of goods or services do not have a letterhead invoice form and make out hand written or typed invoices. They must state on the form "Certified this is my invoice" and supplier signs beside this statement, otherwise the Audit Branch will not pay this type of invoice. Ensuring this is done, could save a lot of back tracking later.

1.445 Meal Accounts (Cash or Charge)

(a) Maximum meal allowance in respect of meals eaten away from camp, will be as detailed under Section 1.211.

(b) It may be more convenient to maintain a monthly charge account for meals at a pre-arranged contract rate per meal, or at menu rates, and the proprietor will then be instructed to prepare a summary statement, at convenient intervals, in quadruplicate from the information contained in the day bills. The statement will be certified correct by the supervisor and submitted to the Chief Clerk.

Note that day bills need not be forwarded with the summary statement. Statement should read as follows:

"To supplying meals for Inventory Project
July 15-30 inclusive".

40 Breakfasts @ $1.50 = $60.00
35 Lunches @ $1.50 = 52.50
40 Dinners @ $2.50 = 100.00
TOTAL: $212.50

It is apparent, that individual meal costs may vary should the prices be according to menu, but total cost for the period may be averaged and presented as above. Average meal rate must not exceed allowable amount. No reference to meal receipt numbers should be made on the statement, otherwise such receipts must accompany statement.

1.45 Victoria Headquarters Purchases - Office Sections

All requests to purchase equipment or supplies must be approved by the Forester i/c Operations.

Details will be submitted on an F.S. 836 Draft Requisition for Supplies (Appendix 21)

On approval, the F.S. 836 will be passed to the Chief Clerk to initiate a Requisition to the Purchasing Commission, Queen's Printer, or Forest Service Property Room.
1.5 ADVANCES

1. Advances are issued to cover travelling expenses and "out of pocket" cash expenditures required in the performance of duties. Requests for advances must be made to the Chief Clerk and approved by the Forester i/c. Any advances over $450.00 require the approval of the Deputy Minister. At the time of requesting, the date of repayment must be stated for all temporary advances, and are recallable at that prescribed date. Most advances used by this Division are temporary, and permanent advances are only issued to personnel whose duties require them to travel year round.

A period of several days is required to procure the advance cheque from the Department of Finance and those requiring advances should be governed accordingly when making application to the Chief Clerk.

2. The total amount of each advance is chargeable to the individual concerned, and must be accounted for at all times, in cash, receipts for disbursements or transfers.

3. When disbursements are made, it is necessary to procure receipts, even though receipts are in minor amounts, and such receipts will be accumulated and submitted on the regular expense account forms.

4. The individual will be reimbursed by the amount of each properly approved expense sheet in order that a sufficient amount is on hand at all times to meet any requirements.

5. If it is found that the sum advanced is in excess of the amount required, a repayment of a portion may be made at any time, and the individual's responsibility will be discharged accordingly.

6. All advances are to be repaid upon termination of employment or at the end of the field season, whichever is the earliest, unless retention of advance is approved by Forester i/c.

7. Remember that a cash advance is provided solely as a convenience while in the field and any unauthorized disbursements will have to be made up out of your own pocket.

1.51 Field Transfers of Advance Money

1. Numerous field transfers tend to bog down and confuse the record keeping, and such transfers must, therefore, be kept at a minimum.

2. When necessary, it is in order to transfer funds in the field, but such transfers must be recorded in each instance on the form provided, F.S. 832, Memorandum to the Comptroller General. (Appendix 22)

3. Five copies of this form are to be made out, and three copies duly completed are to be dispatched immediately to the Forester i/c in order that the transfer may be recorded without undue delay; transferor keeps the fourth copy, transferee keeps the fifty copy.

Revised May 1974
N.B. It is the responsibility of the transferor to ensure that these forms are properly completed and immediately dispatched by the field office to the Forester-in-Charge, as otherwise his account will not be credited with the amount transferred. It is a very important duty of the field office to ensure that the forms are dispatched promptly. The transferor should retain his copy, properly received, to protect himself until he is satisfied that the field office has discharged its duty and that he has been cleared of the sum transferred.

1.52 Repayment of Advances

At the termination of employment, which normally will be at the end of the field season, the amount of the advance still outstanding will be accounted for by the supervisor on the termination of payroll data sheet for the individual concerned.

This amount will be removed from the employee's final salary cheque, if not otherwise accounted for by cash transfer or expense accounts. The necessity for making such payroll deductions is to be kept to a minimum. As a guide in this regard, the following specimen is a sample of "Financial Clearance" section of the "Days Off Payroll or Termination of Appointment Sheet".

i.e. Financial Clearance:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total outstanding advance</td>
<td>$200.00</td>
</tr>
<tr>
<td>Less: Amount transferred to other</td>
<td>-$50.00</td>
</tr>
<tr>
<td>Expenses not collected</td>
<td>-$100.00</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>*</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

* This sum is the amount to be deducted from the employee’s final salary cheque, if not repaid in cash or by money order or certified cheque at time of termination.
PART 2 - PROPERTY, INDEX

1.0 GENERAL

2.0 OFFICE CO-ORDINATION AND PROPERTY ACCOUNTING

2.1 PROPERTY DESCRIPTION AND CLASSIFICATION

2.12 Mechanical Units

2.121 Radios
2.122 Launches
2.123 Small Boats

2.13 Furniture

2.131 Repairs - Office Business Machines
2.132 Business Machine Rental

2.14 Property List Items

2.141 Green Timbers Warehouse Stock
2.142 Victoria Stock
2.143 First Aid Kits - Types

2.15 Forest Service Uniforms

2.151 Distribution
2.152 Care and Use of Uniform

2.16 Personal Property

2.2 PROPERTY AND EQUIPMENT FORMS

2.21 Property List - Warehouse Stock (F.S. 853)

2.211 Use of Form F.S. 853

2.22 Property List - Victoria Stock (F.S. 854)

2.23 Property List - Units (F.S. 883)

2.24 Property Transfer (F.S. 880)

2.241 Transfers from Victoria or Warehouse to Field Parties
2.242 Transfers between field parties, or sections and personnel with property on charge.

2.25 Property Form (F.S. 17-T)

2.251 Use as a Property Loss
2.252 Use as a Property Receipt
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   - Function of Headquarter Section, Responsibility of Chief Clerk

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PART 2 - PROPERTY

1.0 GENERAL

The Forest Inventory Division utilizes a large stock of valuable government property in carrying out operations in the field and office. Most of the equipment is distributed at the commencement of a field season and may change hands many times until its final return to the Warehouse or Victoria. Therefore, it is necessary to maintain an adequate system for accounting, storage and maintenance of both kinds of property. All personnel utilizing equipment are expected to exercise proper care in using and maintaining equipment in their charge. Personnel who lose or damage equipment, through obvious carelessness or misuse may be assessed a portion of the value of the article.

The bulk of the Division's property is stored at the Green Timbers Warehouse and its maintenance and distribution is handled by the Warehouse Section under the direction of the Forester-in-Charge. Victoria headquarters controls all property records.

The General Office is responsible for the Division's property records, and is responsible for packing, storage, and maintenance of forms, stationery, and some equipment, as listed on F.S. 854 "Property List - Victoria Items" (Appendix 37).

2.0 OFFICE CO-ORDINATION AND PROPERTY ACCOUNTING

2.1 PROPERTY DESCRIPTION AND CLASSIFICATION

A consistent, standard nomenclature is necessary for the large number of articles in stock, so that all concerned will use the correct term in dealing with these items. The Division recognizes the following categories:

2.12 Mechanical Units

Vehicles, outboard motors, chain saws, light plants, boats of all descriptions, radios, trailers, etc. A mechanical unit has a separate file and a separate Property List. Articles necessary for its operation and maintenance are included in the property list. A copy of the property list termed a "Permanent Unit List" will be attached to each unit's file in Victoria. The equipment on these permanent lists is stored separately and does not constitute a part of warehouse stock. Power units all have a Forest Service number, and are referred to by this number. Each power unit is supplied with a log book which should be kept up to date by each operator. This record is very useful in obtaining comparisons of costs and performance of each unit. It is also used to obtain information for monthly statements of mileage and expense for units. Some units are supplied with a tool box to hold the items on the property list. For fire pumps the tool box number corresponds with the unit number but all other tool boxes are standardized and have no number.
It is a function of the Warehouse to check tool boxes during the winter, and replenish any shortages. If replacement tools are taken from stock it is necessary to transfer these items from STOCK to Permanent Unit List on Property Transfer F.S. 880. Note that some items are considered expendable on the property list. Transfers, losses, etc., of such items are not recorded on property forms. Non-expendable items are noted with an asterisk.

2.121 Radios

The radio number is stencilled on the box and corresponds to the Forest Service chassis number on the radio. This number is to be used for property records. No specific call letter is permanently assigned to our radios used on field projects. S.P.F., Model "B's", Side band portables or Base Camp L.R.T.'s are either licensed for operation in a certain area or anywhere in British Columbia. Previous to issuing sets for the field a call sign is allotted to each radio box number, and is outlined in "Operations Notes" issued at the commencement of the field season.

2.122 Launces

Launches are given a registered name and this will be used for property records. Owing to the diversity of equipment on board launches, and occasional uncertainty as to what remains on board or is removed at the conclusion of the field season, specific property lists have been made up for each category of equipment on a launch. All equipment lists will be designated by launch name. Using the "Forest Surveyor" as an example, the property lists for this launch are enumerated.

(a) "Forest Surveyor" Launch equipment - These items include mostly permanent fixtures on this launch such as engine, auxilliary engines, pumps, winches, etc., and are left on board.

(b) "Forest Surveyor" Launch equipment - "Removable" - These items are comparable to (a) used solely on the Forest Surveyor but are stored at Green Timbers. They are not Green Timbers stock.

(c) "Forest Surveyor" - Engine Room equipment - Tools and equipment used by engineer - returned to Green Timbers at the end of the field season, and stored in box designated - Engine Room, Forest Surveyor.

(d) "Forest Surveyor" - Field equipment - These are items taken from Green Timbers stock and returned to Green Timbers at the conclusion of the field season. Such items include mainly galley equipment, bedding, etc.

These lists as outlined above are all that is necessary to completely outfit the launch to handle a maximum size crew.

Revised 1971. (36)
The lists are all charged to the launch captain. No spare field equipment such as O.B.U.'s, etc., will be charged to the launches. Such items will only be charged to the project.

2.123 Small Boats

Small boats are numbered with a letter prefix as a further means of identifying the type of craft as follows:

R - River boat
O - Open clinker built outboard cruiser (12 or 14 ft.)
OC - Outboard cabin cruiser
D - Dinghy (aluminum, wood, fibreglass etc. - open type)
S - Small boat off "Forest Surveyor"
I - Inflatable rubber raft (no motor)
A - Cruison-Air boat - inflatable (normally carries motor).

2.13 Furniture

Such items as desks, chairs, cabinets, typewriters, adding machines, calculators, etc., are defined as office equipment. The purchasing and recording of such items is a function of the General Office; they will maintain a record of these items. Any rentals must be approved by the Operations Forester, and the Chief Clerk will raise a requisition to the Purchasing Commission, who will issue a Purchase Order to supply rental machines. (See 2.132 below)

2.131 Repairs Office Business Machines

The Business Machines Division of the Purchasing Commission has the responsibility for maintenance, repair, and overhauling of all Provincial Government office machines. They also process requisitions for new Business machines.

Where repairs or servicing is required on machines under a service contract the Section Supervisor may contact the commercial service agency direct. If it is necessary to remove the machine from our premises the Chief Clerk is to be advised and he will advise the Supervisor of the Business Machines Division.

For machines not under service agreement the Section Supervisor is to contact the Supervisor of the Business Machines Division.

2.132 Business Machines Rental

On occasion our supply of machines is insufficient to cope with seasonal increases in demand, requiring temporary rentals. If, after checking with other Section Heads regarding loan of surplus machines, none is available, and if rentals are approved, arrangements are to be made as follows:

(a) The Section Supervisor will prepare an F.S. 843 "Draft Requisition for Supplies"; information thereon to include
type of machine required, estimated period required, and monthly rental cost as obtained by reference to the local agency supplying the machine. It might also be helpful in obtaining the make of machine desired if reasons for wanting this particular type could be stated; e.g., "for use in office where only a particular type is in use"; etc. Otherwise, the Purchasing Commission may select a less expensive rental unit as there are many brands which perform identical operations.

(b) Requisition to be passed to the Chief Clerk who will prepare a P.C. 1 "Requisition to the Purchasing Commission", where it will be passed to the Business Machines Supervisor. Normally it will take about one week to have a purchase order prepared by the Commission. If there is a rush, the Chief Clerk should be advised to contact Mr. White by phone and send our requisition for Mr. White's attention.

2.14 Property List Items

All articles are given a stock code number, which is prefixed with a letter designating whether it is Warehouse stock or Victoria stock. "W" is used for Green Timbers Warehouse items, "V", Victoria stock. Stock code numbers are useful when ordering from the field as names may be garbled in radio transmission. Some articles may be also given a Division number as a means of identification, and aid in keeping track of exactly who was issued the particular item.

2.141 Green Timbers Warehouse Stock (listed on F.S. 853 - Appendix 36)

These articles are all named, using the proper name followed by other terms suitable to distinguish a specific type from other articles of the same name and prefixed "W" on the F.S. 853. For example, axes, scout; axes, boys; axes, double bitted, etc.

(a) Expendable and Non-expendable items

Certain items of minor value are considered expendable. Losses, transfers, and purchases are not to be recorded on Property Forms. They will be recorded on the initial property shipment from the Warehouse and on final property return. The term expendable should not be misconstrued; if such items are still serviceable they must be returned to the Warehouse at the conclusion of the field season. A Warehouse packing slip will accompany the shipment of expendable items. Non-expendable items are frequently termed "property" and all transactions involving receipt, loss, or transfer must be recorded on property forms.

Expendable and Non-expendable items are grouped separately on the F.S. 853.
2.142 Victoria Stock (F.S. 854 - Appendix 37)

These articles are described and classified similar to Warehouse stock in (a). All Victoria stock is prefixed "V" and issued from, and stored at Victoria. This stock is divided into Property, Stationery and Supplies, and Forms. Only the first category is considered non-expendable, the others are expendable but serviceable items are expected to be returned to stock at termination of use. Expendable items will be sent with a packing slip.

2.143 First Aid Kits

First Aid Kits are listed as a stock item on the Warehouse Stock list (F.S. 853). Contents have been readjusted into three types for use in the Division. See Appendix 27 for standard lists.

Supplies must be replenished after use. When ordering kits complete, refer to as Kit 0, Kit 1, Kit 2, or Kit 3.

Kit 0 is a common pocket size cut kit not recognized by the Workmen's Compensation Board but will be issued to each member of a field project.

Kit 1. This kit is equivalent to a W.C.B. #1 kit or a 10 unit W.C.B. kit, that is, it contains the minimum requirement of both. Wherever a W.C.B. #1 kit or a 10 unit W.C.B. kit, is called for, Kit #1 will fill the requirements. It is packed in a waterproof, dustproof container.

Use - Every truck, vehicle or boat must carry this kit for the use of the person or persons operating it.

Kit 2. This kit is equivalent to a W.C.B. #2 kit or a 24 unit W.C.B. kit. Wherever a W.C.B. #2 kit or a W.C.B. 24 unit kit is called for, Kit 2 will fill the requirements. It is packed in waterproof, dustproof container.

Use - "Crummy" type. Conveyance for transporting workmen. Volume & Depletion plots, sub base or small crews less than 15 men.

Kit 3. This kit is equivalent to W.C.B. Kit #3. All project base camps and large launches must be equipped with this kit.

In addition to the above, project bases will have a basket type stretcher and a survival kit for dropping by air. A stretcher and two blankets will be standard equipment at V. & D. plots.

2.15 Forest Service Uniforms

2.151 Distribution

Uniforms are administered and distributed by the Forest Protection...
Division, and form F.S. 272A is used to account for uniforms to the Inventory Division. Field employees designated by the Forester i/c are eligible to receive a made-to-measure woollen uniform.

Total allowable issue is two complete uniforms; consisting of 2 pairs trousers, 2 jackets, 2 shirts, and 1 tie. Requisition for replacements are to be made to the Chief Clerk, subject to approval of a property loss certificate which must accompany the order. All uniforms are issued free of charge.

2.152 Care and Use of Uniforms

Garments are to be worn as a complete uniform, not mixed with other similar personal items. Uniforms are to be worn on suitable occasions, and kept neat and tidy. Portions of uniforms are not be worn as bush clothes.

2.16 Personal Property

In the course of normal duties an employee may lose some personal belongings, and we are governed by the following regulations:

(a) The Forest Service accepts no responsibility for loss of personal property, but will deal with certain circumstances on their individual merit.

(b) No claim for musical instruments, fishing or sports equipment, firearms, text books, binoculars, radios, monies, or any other private property or clothing not required on the job, will be considered.

(c) Claims will only be considered, where an unusual hazard exists while carrying out duties, and the claim only suggests what payment be made as a matter of grace.

(d) Claimant will list the value of the articles lost and submit a statement outlining the circumstances. This must be accompanied by a supervisor's statement verifying the claim. If the claim is considered valid the information, with recommendations by the Forester i/c will be forwarded to the Assistant Chief Forester for consideration.

(e) If approved, payment is normally computed on the basis of 50% of the depreciated value.

(f) A payment voucher will be raised by the Accounting Division.

(g) The Forest Service will not be responsible for loss by fire or other causes of private property placed in Forest Service buildings or conveyances, and a card provided for the purpose of making this known should be placed in such premises: vehicles, trailers, etc.
2.2 PROPERTY AND EQUIPMENT FORMS (See Appendix for Property Forms)

Some forms are used solely by Victoria, others by the General Office and field for listing property, others for transfers, losses, additions, or acquisitions, and finally some forms are used for reporting on condition of property or equipment. This section enumerates such forms and briefly describes their use. Further information may be found under Property Distribution and Accounting.

2.21 Property List - Green Timbers Warehouse Stock - F.S. 853
(Appendix 36)

This multi-page form lists most necessities for field parties. Expendable and non-expendable items are listed separately.

2.211 Use of F.S. 853

(1) As a request for property and Property List

Prepared by Project Supervisor in "ORD" (ordered) column.

Four (4) copies prepared and handed to Operations Forester. Checked and forwarded to Green Timbers Warehouse. Warehouse fills in "ISS" (issued) column and stockman signs "Transferred by" and distributes as follows:

1 copy retained by Warehouse,
3 copies to Victoria - 2 to Project Supervisor (property is checked on arrival in field by Project Supervisor, who signs "Received by" and returns 1 copy to Victoria).
- 1 to party's Victoria file. On receipt of signed copy above, this is removed from file.

These completed forms then are the project's initial Property List.

(2) For Property Returns to Warehouse

Prepared by Chief Clerk for end of season check-off at Green Timbers - check-off in "RET" (returns) column.

Three (3) copies are prepared and forwarded to Warehouse. After check off:

1 copy retained by supervisor or party chief,
1 copy to Victoria, signed by Warehouse Supervisor beside "Returns Checked". Supervisor signs by "Transferred by".
1 copy retained by Warehouse.
(3) For Subsequent Shipment from Warehouse

Normally Property Transfer F.S. 880, issued unless a large number of items are being transferred; then this form (F.S. 853) may be used.

1 copy retained by Warehouse,
1 copy to Victoria for party file,
2 copies to receiver. Receiver signs beside "Received by" and forwards 1 copy to Victoria, which is placed on party file.

(4) For Transfers Between Projects

Normally, Property Transfer, F.S. 880, issued unless a large number of items are being transferred; then form F.S. 853 may be used.

Four (4) copies are prepared by sender, who signs all beside "Transferred by".

1 copy retained by sender,
3 copies to receiver, who signs beside "Received by" -
  1 copy retained by receiver,
  2 copies to Victoria - 1 for sender's party file, 1 for receiver's party file.

2.22 Property List - Victoria Stock F.S. 854 (Appendix 37)

There are several pages to this form, listing Property, Stationery and Supplies, and Forms which are stored at, and distributed from, Victoria. Non-expendable items are listed under Part A. Parts B and C are expendable and losses, transfers, etc., are not recorded on property forms.

This form has a similar use to F.S. 853 except that it would seldom be used for subsequent shipments or field transfers since there are so few non-expendable items, that a Property Transfer sheet, F.S. 880, is more practicable to record the above transactions.

2.23 Property Lists - Units, F.S. 883 (Permanent Unit List) - Appendix 35

This mimeographed form lists any accessory or incidental equipment required in the operation of a Mechanical unit: units include small boats; light plants; O.B.U.'s; power saws; radios; trailers; vehicles; cookhouse tents; and other equipment packed permanently for special use. Warehouse Section to provide the General Office with a list of items for each Permanent Unit List. Any items marked with an asterisk * are non-expendable, and losses, transfers, etc, are recorded on property forms.

Distribution of copies is outlined at the top of page 1 of the form.

Revised 1971.
2.24 **Property Transfer – F.S. 880** (Appendix 34)

This is a divisional form produced in pads, with carbonized copies. It is used for transfer of non-expendable property or mechanical units to sections, field parties, or for loans to organizations outside the division. The F.S. 880 will not be required for units on the initial field season distribution, but subsequent transfers must be covered by F.S. 880.

Except in cases of transfer of a large number of items, this form is to be used (note instructions for use on F.S. 853, Property List).

Distribution of copies is as designated at top of form.

2.241 **Transfers from Victoria or Warehouse to Field Parties, Supervisors, office sections etc.**

Two copies with goods to recipient (Victoria copy and recipient's copy) who signs beside "Received by". Recipient returns signed Victoria copy to Victoria - filed on Victoria party property file, other copy retained by recipient.

One copy retained by Warehouse (shipper's copy). (I.e., Green Timbers or Victoria). One copy to Victoria from Warehouse - filed on party file until the original signed copy is received from the recipient.

2.242 **Transfers Between Field Parties, Personnel with property on charge, supervisors, and sections.**

Four copies are prepared by the sender who signs all beside "Transferred by". Two copies retained by sender (shippers copy and extra Victoria copy). The first retained by the sender, and extra Victoria copy sent to General Office. Two copies to Receiver; keeps Receiver's Copy, signs Victoria copy and forwards it to Victoria.

This is matched with extra Victoria copy forwarded as above, and filed as noted; 1 for sender's party file (Victoria copy), 1 for receiver's party file (extra Victoria copy).

2.25 **Property Form (F.S. 17T)** (Appendix 33)

This form used throughout the Forest Service, has a three-fold purpose:

(1) As a property loss form
(2) Property Receipt form
(3) Property Transfer form

Revised 1971.
2.251 Use as a Property Loss - This form is raised to account for deductions in property on charge as follows:

1. Loss of property (non-expendable items);
2. Property damaged beyond repair and disposed of;
3. To account for any shortages on the physical inventory when compared with records.

Under the remarks section, the person responsible for the loss must briefly explain the reasons, and the Supervisor must countersign the form and indicate whether or not an assessment is recommended.

When equipment is checked off at the end of the field season, the following notations must be entered beside items on the property loss.

N.A. - item not accounted for
W.O. - worn out and discarded

2.252 Use as a Property Receipt

This form also has a section to record the receipt of new or used non-expendable equipment. In addition, when property check-offs and returns are made, the physical count may turn up more items than records show as being on charge. The property receipt is used to account for the extras, and the words "Since Found" must be written across the Property Receipts. Green Timbers Warehouse will be responsible for initiating this form for all purchases delivered to the Warehouse, with the exception of mechanical units. The Mechanical Supervisor will ensure that mechanical units are properly brought into the stock records, and the General Office advised in order to raise a file for the unit.

The General Office will be responsible for initiating this form for all purchases of non-expendable property received at Victoria, except for radio equipment which will be handled by the division Radio Technician.

Purchases of non-expendable equipment by Field Projects, must have a property receipt initiated by the purchaser, and it must be attached to the invoices or expense account when submitted to the General Office for payment.

2.253 Use as a Property Transfer

Item 2 of the F.S. 17T will not be used within the division to account for transfers of property, as the pad-form F.S. 880 Property Transfer are considered handle for field use. The F.S. 17T may be used by the Warehouse or General Office for recording transfer of property outside the division.
Distribution of Copies - when used as Property Loss or Property Receipt:-

1 - Victoria office
1 - Retained by originator

Note: If items from more than one property list appear on a Property Loss Certificate, it will be necessary to make an appropriate notation alongside the item(s) identifying the property list.

E.g. Items on P.L. Certificate

2 Tapes, diameter
1 Tape, Cloth, 100' - Green Timbers list
1 Stereoscope, Pocket - Victoria list
1 Oar - Property List Boat "0-5"

Identifies correct property list.

2.26 Supervisor's Accident Investigation Report (Appendix 29)

This form is used to report on damage to equipment excluding vehicles, where the item is not property lossed. Should the damaged item be sent to the Warehouse or Victoria for repairs the usual F.S. 880 must be completed to account for the transfer. Supervisors must always include a recommendation for assessment if the damage resulted from carelessness or abuse. Items such as topographic chains, diameter tapes, increment borers, etc., which break through normal use are not to be reported; the intent is to account for untoward damage resulting from carelessness. An example would be portable radios being damaged when left in locations subject to flooding, or transported on floors of trucks in a careless manner.

Distribution:-

1 - Victoria office

2.27 Mechanical Unit Order Form - F.S. 881

This form is used by Project Supervisors, Party Chiefs, etc. to order mechanical units, radios, and camp housing for their respective projects. Two copies are submitted to Operations. Actual units allocated will be shown either on the second copy of the F.S. 881 or supervisors will be given a copy of the Equipment Distribution Sheet.

2.28 Other Forms Used by Victoria Office and Green Timbers Only

Revised 1971. (45)
2.281 Property Record Cards or Property Ledger

These records, maintained under the direction of the Chief Clerk, are used to record disposition of all property items. Each non-expendable item has a separate card or ledger sheet and transactions are recorded thereon, either as a charge-out or as stock at the Warehouse (Victoria or Green Timbers). Mechanical units are not entered on these cards; separate files are maintained. Balance Field includes property on personal charge, on permanent unit lists, or on charge to field parties, or office sections. Balance Warehouse represents the amounts of property in stock and available for issue. The sum of Balance Field and Balance Warehouse is the total inventory of any item.

As property transactions take place (as detailed on property forms) they are entered in the ledger, details being given under the appropriate headings as follows:

Project No. (Section No.) - enter assigned number for permanent section, or field parties.
- type of unit for Permanent Unit lists.
- Recipient's name for equipment on personal charge.

Equipment No's. - If item has a divisional number (e.g. sleeping bags, etc.), this should be entered.

Form - Certain forms must be raised to account for a property transaction, and entries are abbreviated under this column as follows:

P. List - Property List
P.U.L. - Permanent Unit List
P.L. - Property Loss
P.R. - Property Receipt
P. Trans. - Property Transfer

2.282 Purchasing Commission P.C. Invent. 14 - Office Furniture and Equipment Inventory

This ledger is used to account for property classed as furniture by the Purchasing Commission. A separate page is inserted for each article. Articles transferred from the Division's charge are noted on the form and placed at the Dead Ledger section at the back of the book.

2.283 Pump and Outboard Motor Units - Shipping and Receiving Sheet - Portable Unit Lists (F.S. 392).

This form is used to cover shipments of mechanical units to the Forest Service Maintenance Depot for repair or overhaul. Units sent in for repairs, etc., will be shipped to Green Timbers with the usual property transfer. The Mechanical
Supervisor or Warehouse Section will initiate the above form, when the unit is delivered to the Maintenance Depot. Field parties are not to send units direct to the Forest Service Maintenance Depot, or make out this form. Units are to be directed to Green Timbers Warehouse.

2.284 Equipment Distribution List (Operations sheet)

This form shows the allocation and distribution of all units to projects, or units still in stock. The operations sheet is prepared prior to the start of field projects and distributed to Green Timbers Section and Project Supervisors.

2.3 ROUTINE FOR PROPERTY DISTRIBUTION AND ACCOUNTING

Victoria records of property charged out - maintained on Property Cards or Ledger and Property Lists by name, section number, or project number on 0188221 ---.

2.31 Property Charge Out (see note after 2.314 ahead) -

Division property is issued as follows:

2.311 Personal Lists - property charged out to individuals permanently, includes such items as life jacket, hard hats, stereoscopes, etc., used in connection with duties, by supervisors, and Forest Officers. Property on this charge out is listed for the individual concerned, by name in Victoria files under 0188221 ---, and is entered on property ledger in the same manner (by name).

2.312 Permanent Sections - property required by personnel in these sections is charged to the section number through the supervisor who assumes the responsibility for accounting and distribution. Charge outs within the section are an internal matter between the supervisor and persons under his direction.

Permanent sections are detailed below:

  100 - General Office
  110 -
  120 -
  130 -
  140 - Summary
  150 - Draughting
  160 - Tabulation
  170 - Kai Plotting
  180 -
  190 -
  200 - Records, Vault
  210 -
  220 -
  230 -
  240 -
  250 - Growth

Revised 1971. (47)
260 - Volume and Depletion
270 -
280 - Photogrammetry
290 -
300 - Warehouse - Green Timbers
310 - Radio
320 - Printing and Duplication
330 - Average Lines (Stand Tables)
340 -
350 - Housing
360 -
370 -
400 - Mechanical (Green Timbers)

2.313 Field Projects

Seasonal charge out to projects by project number. The Project Supervisor or Party Chief is responsible for all property on charge to the project. Issuance of equipment to crew personnel, is an internal matter between the supervisor and crews under his direction. No record of these transfers are necessary for Victoria records, but supervisors are expected to keep an accurate record of equipment issued.

2.314 Permanent Unit Lists

As noted in 2.23 most mechanical units, radios, and boats are issued with additional equipment for the maintenance and operation of a unit. In addition, various standard lists are packed for tent cookhouses, Volume and Decay Helicopter Units, etc. Items on these lists are permanently charged out to the unit concerned.

Four copies of the lists are prepared; 2 copies kept on the appropriate unit file at Victoria (on issuance to a field project, one is handed to the Supervisor). 2 copies forwarded to Warehouse Section, Green Timbers.

Note: If an employee has property charged out personally (by name) and is also responsible for property on charge to his section, project, etc., it is imperative that any transaction on a property form clearly designate which list is concerned; i.e., if "property item" charged on personal list of J. Smith (who is also supervisor of Section 310) is transferred to any other person or section, only J. Smith's name should appear beside "Transferred by" on the F.S. 880, not J. Smith and 310, as the file clerk will have difficulty determining which list is to be amended. Conversely, if item is from 310 list, only 310 should be entered against "Transferred by". Where it is necessary to complete both signature and reporter number, as in the case of recipient's signature, correct designation can be indicated by circling either the signature or project number or section number.

Revised 1971.
Furthermore, transactions may involve items on personal lists, permanent unit lists, Victoria property lists or warehouse property lists. Entries on property forms accounting for losses, transfers etc. must clearly indicate what list(s) is involved (see 2.25 Property Form).

2.4 ORDERING EQUIPMENT FOR FIELD PROJECTS

2.41 Property List Items from Stock (see 2.21, 2.22)

Project Supervisors or Party Chiefs will obtain the required amount of property list forms (Warehouse and Victoria; F.S. 853, F.S. 854) from the stationery room. Enter amounts of various articles necessary for party operation, under the "required" column. Four copies are required. These lists will be submitted to Operations where requirements will be checked and entered on the "master property list". The total requested will be compared with the total stock column obtained from a previous physical inventory. A further reduction may be necessary if total requirements exceed total stock. However, in the case of important items, shortages must be ordered without delay. Any other items of which there are inadequate reserves, after balancing, should also be ordered at this time.

On completion of balancing and adjusting, the four copies of the Victoria "Property and Stationery" list (F.S. 854) are handed to the Chief Clerk for packing, and four copies of "Green Timbers" list (F.S. 853) forwarded to Green Timbers for packing. On completion of packing, copies of Property Order and Check-off list with "Issued" column filled in, are distributed as follows:

1 - Retained by Warehouse
3 - Victoria - 2 to Project Supervisor, 1 for project file.

N.B. The "issued" column must agree with actual amount shipped to the field party, and any non-expendable items sent later to make up shortages will be issued on Property Transfers. Therefore, the warehouses will have to maintain a list of approved shortages for each project, and ship when stock is available.

2.42 Mechanical Units, Radios, Camp Housing

Project Supervisors, etc., requiring such equipment will submit their requirements at the same time as Property list items, on a Mechanical Unit Order form (F.S. 881). Again, estimates will be compared with availability of units and a final balance and distribution will be entered on the Equipment Distribution List (operation sheet).

2.5 FIELD PROJECT PROPERTY ACCOUNTING

Revised 1971.
2.51 **Property Check-off**

On arrival at the project camp, and prior to distribution of equipment to crew personnel, the supervisor or party chief must make a careful check of property received against the issued column of the Property Lists (F.S. 853, 854), and a signed copy is to be returned to the Chief Clerk. Discrepancies will be detailed on a F.S. 17T Property Form; shortages with notation "Not Received"; Extras, with notation "Since Found".

2.52 **Issuing Equipment to Sub-Parties, Crews**

All property issued to sub-parties, tally crews, or crew personnel on field projects is an internal matter between the supervisor and crew personnel. Only transfers between permanent reporters as listed under 2.31 are to use the appropriate property forms and distribute them according to instructions. Care, maintenance and responsibility for accounting for equipment must be stressed to persons to whom equipment is issued. Supervisors are responsible to the Forester i/c for property issued.

2.53 **Transfers, Losses, Purchases, Etc.**

All requests for property must be made through the supervisor, who will order from Victoria. Such requests from the field are to be sent to the Forester i/c, Victoria, **NOT** Green Timbers. As changes are made in property lists by losses, transfers, and purchases, forms covering these transactions will be attached to the appropriate property list and will form the basis for the net total of property remaining at the end-of-field-season check-off. Damaged items which cannot be repaired in the field should be held at party headquarters or until advised by Victoria to ship to Green Timbers. Appropriate forms must be made out immediately following loss, transfer, or purchase, and **explanations must be made regarding loss or damage to equipment with recommendations regarding assessment.** Any forms pertaining to property transactions must clearly indicate which property list is involved (personal list, permanent section, field project or permanent unit list). In recording items, ensure that the correct nomenclature according to property lists is used.

2.54 **Re-Allocation of Equipment**

Operations will keep in touch with supervisors regarding utilization of units in their charge in order to re-distribute needed units to other areas. Where possible, supervisors should anticipate further requirements and advise the Forester i/c as soon as possible, so that efforts may be made to supply needs without interruption in field work.
2.551 **Final Check-off at Green Timbers Warehouse**

At the conclusion of the field season the supervisor is responsible for checking and balancing stock on hand against net property lists, following deductions and additions. Final check-off is to be made at Green Timbers, in the presence of the Project Supervisor and Warehouseman. Green Timbers will be the receiving depot for all equipment including Victoria property, and returns will be completed on F.S. 853 for Warehouse property and F.S. 854 for Victoria property. The latter will be signed for by Warehouseman and stored temporarily for later transport to Victoria. Expendable items returned will also be listed.

The General Office will prepare an up to date F.S. 853 and 854 to be forwarded to the Warehouse, prior to the check-off.

During the check-off, warehouseman will count and record all expendable items returned as well as non-expendable. Items such as string, tree-tags, etc., normally used up in the course of field work, will not be accounted for.

All the necessary paper work to balance losses or additions against the physical count must be completed by the Project Supervisor during the check-off, and the original Property Losses or Property Receipts are to be handed to the warehouseman at the conclusion.

The Warehouse Section will also receive all radios, tape recorders, and other mechanical units assigned to projects.

2.552 **Labelling and Transporting Equipment to Warehouse**

Carefully check all equipment and clearly tag any items which require repairs or further inspection.

All equipment is expected to be returned in a clean, dry condition. It is imperative that canvas be dry.

Boxes are to be suitably tagged by project number, with destination (i.e. Green Timbers, or Victoria) - for Victoria destined boxes (i.e. photos, maps, personal gear, etc.), date required in Victoria must be noted on the label.

Project records, maps, photos, etc. must not be mixed in boxes containing Victoria property which will be checked off at Green Timbers.

In labelling boxes use shipping tags provided for that purpose; chalk and crayon markings lead to confusion in future years.

Revised 1971.
Vehicles: Drivers bringing vehicles to Green Timbers will be held personally responsible for the general condition of the vehicle and equipment signed out to it. They will be checked by the warehouse staff. Any shortages must be accounted for by Property Losses signed by the Project Supervisor and turned in by the driver. Any previous damage must be noted in writing in the log book; otherwise the above will apply. Jerry cans, carried on some vehicles must be emptied before arrival at Green Timbers.

Other Mechanical Units: Log books are to be tied to the mechanical unit; do not leave in tool boxes.

Launches: The Warehouseman will arrange to meet launches at the Maintenance Depot to receive shipments of property. The Warehouse Section, Project Supervisor, and Launch Captain will check off property charged to the launch when the launch has completed its seasonal work, and make sure equipment is either shipped to Green Timbers or stored on the boat as explained under 2.122 Launches in this chapter. If the launch is to be used by other divisions or districts, a complete inventory of all property is to be made by the warehouse section before transfer, preferably in the presence of the borrower's representative.

2.553 Disposition of Surplus Food

Purchases are expected to be kept to a minimum as the project nears completion in order that excessive amounts of food are not on hand at close-up.

All non-perishable food and supplies are to be listed and returned to Green Timbers Warehouse at the end of the field season. Warehouse will be advised of disposition of surplus food to other Divisions carrying on winter projects. All perishable items are to be satisfactorily disposed of by burning or burying, but there should be little remaining if stock is watched closely towards the end of the season.

2.6 VICTORIA OFFICE PROPERTY ACCOUNTING

Functions of Headquarters Section

Responsibility - Chief Clerk

All papers and forms pertaining to property accounting will be directed to the Chief Clerk, who will be responsible for the following:

1. Initiate and maintain appropriate property files for mechanical units, personal lists, permanent unit lists, etc.

2. Maintain property ledger for all non-expendable items used in the division; post all transactions therein.
3. Inventory of division stationery and stockroom. Ensure that an adequate supply of forms, stationery, supplies, and Victoria property is on hand. Pack and distribute such items for field and office use.

4. Provide an up to date personal property list at the start of each calendar year for all staff.

5. Undertake an annual check of warehouse stock against ledger totals; usually at the end of the calendar year. The purpose is to balance physical inventory with the property ledger maintained at headquarters, and account for any differences.

2.7 FUNCTION OF GREEN TIMBERS WAREHOUSE SECTION

1. To ensure that all property under warehouse control is properly brought into stock, stored, distributed, and repaired; and that proper forms are raised to account for any transactions.

2. Pack and ship property assigned to field projects. Receive items returned (see item 7, below).

3. Check all shipments of new property and supplies to ensure that they agree with the order.

4. Inspect all warehouse property at the conclusion of the field season, and carry out repairs on the premises or arrange for repairs through appropriate commercial concerns; or raise property losses to cover property write off for unrepairable items. Before destruction or removal of such items they are to be inspected by the Operations Forester.

5. Conduct a physical inventory of warehouse property for the annual check at the end of each calendar year.

6. Initiate orders for replacement property on the basis of field season requirements.

7. Check off field project equipment returns with the Project Supervisor at the end of the field season.

8. Responsible for the distribution and receipt of all mechanical units stored at the Green Timbers Depot. The mechanical section is responsible for the actual overhaul and maintenance of the mechanical units, but when servicing is completed the mechanical section will, in effect, turn them over to the warehouse section for distribution. Similarly, new units will be inspected by the mechanical section prior to distribution by the warehouse.

9. Checking and packing all Permanent Unit Lists including mechanical unit tool boxes.

Revised 1971.
2.8 ASSESSMENT FOR PROPERTY LOSS OR DAMAGE - Victoria Office
Procedure

1. All property loss or property damage forms are to be
directed to the Operations Forester. Forester i/c will
have the final decision as to the advisability of
assessment.

2. Each case will be judged on its merit, according to the
remarks on the forms by the person incurring the loss or
damage, further remarks by the Project Supervisor, and
previous record, if any.

3. Maximum assessment will be 50 percent of the replacement
cost.

4. Where assessment is recommended, four copies of the
assessment form letter will be distributed as follows:
   - 1 personnel file
   - 1 party file
   - 1 unit file (if applicable) or property list
   - 1 sent to field headquarters for delivery to person
     being assessed, except if the man has left the
     project, in which case it will be sent directly
to him.

5. The General Office will advise the Departmental Comptroller
to deduct the amount of assessment.

6. Any assessments not covered by assessment forms delivered
must be covered in the appropriate section of the
Termination Form, when made out by the Project Supervisor.

Revised 1971. (54)
PART 3 - AIRCRAFT

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3.1 GENERAL

Helicopters and float equipped aircraft have proven to be a valuable aid in many phases of Inventory work. This type of transportation is very expensive, and any plans to use aircraft must be laid out in advance of the operation in order to avoid excessive ferry flights. Wherever possible, crews should be provided with alternative work, in the event that the aircraft is unable to land in the original planned sites either in the initial trip, or in pick up following completion of the work. Field crews should thoroughly understand all plans regarding landing sites, pick up, check flights, etc. before departure, in case of any communication breakdown. Likewise, the pilot should also be briefed on the entire operation, since his co-operation is essential in obtaining the desired results.

All Forest Inventory personnel engaged in flying, are covered by insurance while travelling on business. (Circular letter September 5, 1956 - O Aircraft Insurance.) At present the limit per person is $75,000.00 (memo Forester i/c Protection Division - January 5, 1958) up to a trip maximum of $500,000.00.

Depending on project areas, it is sometimes advisable to recco areas in order to examine potential aircraft landing sites before sending in crews. Photo examination does not always convey to pilots existing local conditions, thus the possibility of aborted trips can be avoided by planning ahead. Fixed wing, float equipped aircraft operations require additional planning, which sometimes can be done from photo examination in order to determine:

- length of lakes (approximately 1 mile long or greater)
- prevailing wind
- surrounding terrain - for landing and take-off - steep hills, height of shoreline trees.
- depth of river water, snags, driftwood, etc.
- weight of gear to go in and out of area
- local knowledge of pilot, experience

3.2 HELICOPTER

3.21 General Specifications (See also Appendix 4 Helicopter Performance Summary).

Our present use of helicopters is generally confined to Bell 47 models or equivalent on a contract basis. Occasionally we use other types of helicopters on a charter basis when our own machines are not available. Since this type of transportation differs considerably from fixed wing aircraft, the following should be noted:

- Average daily flying time expected of the pilot is approximately 3-4 hours, or 90-120 hours per month.
- Crew - a fully qualified and properly licensed pilot and engineer for each helicopter are mandatory.
- Landing gear - either tubular aluminum skids with bear paws attached or inflatable floats.

- Gas capacity approximately 30 gallons (Imperial) with standard tanks or 60 gallons with long range ranks consumption 10-15 gallons per hour.

- Speed depends on machine, weather, load, but average cruising speed 60-70 m.p.h.

- Landing sites - gravel bars, meadows, base of snow slides, edge of lakes, ridge tops - but is dependent on:
  - size of opening - rotor blades 35' in diameter
  - requires approximately 400' cleared space for take-off without banking, but varies with machine, elevation, temperature, load.

- Loads carried by helicopter and performance can vary depending on:
  - pilot and experience
  - machine and elevation -(Rule of thumb for performance reduction: Non Super-charged machines lose 1'
    manifold pressure/1,000' elevation increase = 100#/load reduction/1,000').
  - temperature and size of landing site.

- Payload decreases with elevation, higher temperature and distance. Super-charged models such as G7G3B or 3B-1 allow the same performance at high elevation (i.e., 4,000'+) as at sea level. On short hops under ideal flying conditions pay load may be increased at pilots discretion since less gas is required.

- Personnel carried varies with machine, area, weather, etc. but two men with supplies and equipment for 5 to 7 days fly camp should be normal for G3B's, 3B-1 or other super-charged machines if distance not too great. Otherwise one crew member and half of equipment per load. One man and equipment for low level classification with extra gear carried on outside racks is standard procedure.

Hourly flying costs are high and careful planning is necessary to make efficient use of the machine. The pilot should always be informed of the daily schedule in advance of flying in order for him to determine gas requirements, and arrange for regular inspection and maintenance work carried out by the Engineer. While in flight particularly close-in work, the pilot must be given signals on what is required of him in order to reduce extra flight time on elevation changes or circling for close-in observations.

Generally the Division is responsible for supplying room and board to the pilot and engineer similar to that of the Inventory crew.

All matters except safety of helicopter flights are under the supervision of the Project Supervisor or authorized Forest Officer. A copy of the yearly helicopter contract is distributed to each project for familiarization.
Charter Tariff rules for rotating wing aircraft govern helicopter operations. Some points extracted from Tariff regulations are as follows:

- For operation, interruption or cancellation of charter flights, the Carrier shall have exclusive operational control over the chartered aircraft, contents and crews thereof. All persons provided transportation on chartered aircraft shall comply with all rules and regulations of the Carrier, and all persons or property aboard chartered aircraft shall be subject to the authority of the pilot in charge.

In addition, the Carrier has the right to cancel or terminate the Charter or any flight of a Charter at any time or to return to base or to the last point of landing or to direct or to land at an intermediate point when such action is deemed by the Carrier to be necessary due to unserviceability, weather, or to conditions beyond the control of the Carrier.

- For determination of flight time, hours and minutes flown will be computed from the time the aircraft commences taxiing or hovering until the aircraft ceases to hover and taxi after landing. For supercharged helicopters, flying time includes run-down or cooling-off periods. Exception to this is if operations involve a continuous succession of flights, each of less than ten minutes duration without the engine being shut down between such flights, flying time will be computed from the time the aircraft commences taxiing or hovering for the first flight until the aircraft ceases to hover and taxi after the final landing. In addition, when computing charges, fractions of an hour will be increased to the next higher multiple of five minutes.

- For transportation of Carrier's personnel, equipment and spare parts, the Charterer shall provide or pay for the transportation, if any, for Carrier's personnel, equipment and spare parts required for purposes of the Charter.

Also, the Charterer shall provide or pay for transportation of Carrier's personnel replaced at the request of the Charterer and replacements therefore; and such additional personnel, equipment and spare parts as Charterer and Carrier agree that the requirements for which could not have been reasonably foreseen and provided for in the initial outbound movement.

- For accessorial charges, the Charter is liable for the cost of special services, equipment or personnel requested from the Carrier and not specifically provided for in the helicopter's tariff.

3.22 Helicopter Contract

3.221 Inventory Division

This Division generally contracts helicopters for a specific period, usually three or more months duration. Under the terms of the contract the following normally applies:

- sole use of aircraft by the Division

- Division guarantees to pay for a specific minimum number of hours per month, as stated in Carrier's Tariff Rates, usually 90 hours.

- Division supplies gas and oil which reduces hourly rate. Requisitions are placed with the Purchasing Commission for aviation gas and oil. No amounts are specified. On receipt of the Purchase Order, projects must contact the agent specified to arrange delivery and advise amounts required. If delivery charges are made, they must be billed separately, not included in the price per gallon unless specifically stated on the Purchase Order. Where gas and oil is provided at a cache by an oil company agency in accordance with the above Purchase Order, the agent should be advised when our needs have terminated so that stocks are not kept on hand needlessly.

- Occasionally other agencies, or Forest Service offices, such as Protection, may enquire regarding the use of this Division's helicopter. Any arrangement made must be approved by the Project Supervisor. If it appears the helicopter will be used on Protection work to the extent that our use will be delayed, the Forester i/c is to be advised immediately. The pilot cannot enter into any direct agreement with other parties.

3.222 District Helicopter

Check with the District Protection office regarding District helicopters. Most Districts are arranging locally for helicopter use and have information on helicopters available in the District.

Other Districts have Protection Contract helicopters at contract rates, with priority to the District depending on fire season requirements.

When District contract machines are used the pilot must be instructed to note "Inventory Division" Vote (current year)/027 on the ticket as all invoices are directed to the Protection Division.

3.23 Helicopter Charter

On occasion an Inventory project may find it necessary to enter into an agreement with an outside helicopter company for additional, approved flying time. This may be on a job by job basis, or guarantee a minimum number of flying hours per day. The pilot may take on other business in the area provided he is advised we do not require the machine at that time. Normal rates would apply. Ferry time from the Charter's base to the Inventory camp is chargeable at the normal rate. If we provide gas and oil, the hourly rate is reduced.

Billing should be made direct to the project concerned or to Victoria office.

3.3 FIXED WING
3.31 General

On occasion, a project may require additional flying using fixed wing, float equipped aircraft on a short term, or day to day basis.

The following points must strictly be observed:

- Charter time for projects will be allotted prior to the field season. If additional time is required, approval must be obtained from the Forester i/c.

- Charter firm must have properly licenced aircraft and crew. Flight insurance is not valid if pilot is not licenced to carry paying passengers. If doubt exists, person authorizing flight should request to see licence and have pilot or airline state validity of licence held.

- One copy of flight ticket obtained from pilot, to be sent in with flying time report (See Section 3.42 for flight time reports).

For long term periods of fixed wing flying, charters are made through the Forester i/c, where such conditions as sole use, number of flying hours, provision of fuel, room and board (if required) etc., are confirmed in writing prior to the commencement of the field season.

3.32 Forest Service Contract – Fixed Wing

Periodically, a Forest District will have float equipped, fixed wing aircraft on a contract for a specific number of flying hours primarily for protection work.

Depending on prevailing conditions in any one season, there are times when this aircraft is obtainable through the District Forest Protection Officer for short periods.

On some flights a forest district air observer will go with the aircraft, and his advice and help in arranging trips or food drops may be obtained.

Billing for such flights will be forwarded from the District office to Inventory Division or Forest Protection Division. Be sure flight ticket has recorded Inventory Project and Vote as in 3.222 in order that cost can be allocated.

3.4 FLYING TIME REPORT

3.41 General

The flying time report serves several purposes:

- As a check against invoices received by Victoria office from various airlines.

- A summation on flying time allotted to any project for total hours, expenditure and type of aircraft.

- Final summation of total flying done by the Division each summer, for types of use - i.e. Ferry, Training, Classification, etc.
3.42 Use of Flying Time Report (F.S. 848)

All flying done by this Division must be recorded on a flying time report with the exception of commercial airline flights between regular scheduled points.

The following points must be noted:

- No duplication or omission on report submitted.
- One copy submitted to Victoria at least every two weeks.
- After each flight or days flying, a copy of the flight ticket(s) must be obtained, with the exception of the District contract aircraft which is submitted direct to Victoria. The tickets must be signed by the Project Supervisor, or officers delegated by him, and attached to the flying time report when sent to Victoria.
- For each ticket number, the total hours flown for each category or type of flying is entered. It is not necessary to enter each trip separately.
- Names of personnel are not required on flight tickets.
- Enter flight ticket number, aircraft identification letters and date.
- All flights must be entered on flying time report, i.e. ferry trips, supply flights, tally crew pick-up etc. Not just flights carrying passengers.
- Flying time for helicopters includes all periods of time used for taxiing, actual flight of the aircraft, and run down periods for super-charged machines. It does not include inactive time when machine is on the ground waiting to pick up personnel and equipment. Flying time for fixed wing is based on ramp to ramp time including taxi time.

3.43 Recording Procedure for F.S. 848

The revised (1970) flying time report is divided horizontally into two main sections. One section for helicopter and one section for fixed wing flying. The same main headings are used for both aircraft.

Across the top of the form is:

- Project Name and Number submitting report. Usually special cruise number and Unit name.
- Period is the elapsed time covered by the report. This can be one week, ten days, but not more than two weeks for billing purposes.
- Authorized by, refers usually to field supervisor, assistant, or any other Forest Officer authorizing flights.
3.431 Vertical Column Headings

Type of Charter refers to code number as indicated at the bottom of the form for either helicopter or fixed wing. The Inventory helicopter contract will use code 1. For Forest Service District either helicopter or fixed wing contract, use code 3 or 6, and District letter.

Date as per flight ticket.

Airline is the name of the company under which the machine is flying. Usually same name as occurs on flight ticket.

Aircraft No. refers to the aircraft identification letters. For record purposes, U.F.Y. or O.N.M., etc. will suffice.

Ticket Number entered on form is usually printed in upper or lower right hand corner of the flight ticket.

Type of Flying is divided into two sections;

- Chargeable to Project

  Training is time flown on the project for forest classification training purposes.

  Classification is time flown on actual classification work. This can be flight plans, swamp hops, etc. and ferry time within the project.

  Sample is time flown for sampling work either to take crews into, or out of work areas, supplying crews, or ferry time within the project.

  Field Supervision is time flown for such purposes as recco flights; potential landing sites; air call inspections; sample inspections; etc.

- Non Project Flying

  Ferry is time flown to or from a project at the beginning or end of the helicopter scheduled work period, and is charged to project 100. Does not include ferry flying within project to pick up field crews, etc.

  Victoria Supervision is time flown by Victoria personnel which would not otherwise be used as part of the projects scheduled flying.

  Other is time flown or used by outside agencies such as Protection, Parks, etc. A notation in the Remarks column as to the agency or cause of such flying will help Victoria office in billing. Protection flying must include the Fire Name, and Ranger District. Tickets must be countersigned by the Ranger Staff.
- **Project Total** is a summation of all flying chargeable to the project concerned for a day or as per flight ticket.

- **Non Project Total** is a summation of all flying not chargeable to the project for a day or as per flight ticket.

- **Ticket Total** is a summation of project and non project totals and has to equal the total flying time shown on the daily flying tickets.

- **Remarks** - notations as necessary.

3.432 **Section Totals**

For helicopter and fixed wing there are separate sub totals and grand totals for each type of flying.

Keep Contract and Charter sub totals separate as well as Project and Non Project Sub totals separate. Only combine these two in order to obtain total flying for the period.

Total flying added to previous total will give cumulative total to date or for the period of the report.

FOR COMPLETED FORM F.S. 848, SEE PART 3, APPENDIX 1.

3.5 **AIR DROPS**

3.51 **General**

There has been a trend away from fixed wing food drops by parachutes into prearranged sites to helicopter landings where food caches can be established for field crews working in the area.

3.52 **Helicopter Sites**

Meadows, swamps, recent burns and openings in the timber where a helicopter can land and take off are potential landing sites when a crew is going into an area for a week or ten days and walking out. One or more food caches can be established along the exit route to supplement food carried. Such supplies can be cached when the field crew is initially flown into an area. It is important that a senior field crew man is in the helicopter to mark on his photograph the location of the supplies in order to locate the site on the trip out. If field crews are going to be picked up at a different location, then a radio can also be placed with the food, giving the crew a means of communication for pick-up time or emergency calls.

3.53 **Food Packs**

An important factor in making up food parcels is the weight. Depending on the type of helicopter being used, the load weight will vary. Where a crew is being left in the bush for an extended period, it is essential to have an emergency food pack cached with a radio in case the helicopter is unable to get into an area due to bad weather, mechanical trouble, etc. See Appendix 3 for a list of items.
3.54 Fixed Wing Airdrops

The pre-drop system has proved successful whereby parcels are dropped into the work area prior to the arrival of the field crew. The supervisor and senior field crew member should make the drops so that both personnel know the site location. Drop sites are carefully marked on the photo indicating the location of each drop. Then the field crew will know each parcel location of arrival at the site.

On check flights, if additional drops are required, a pre-arranged set of signals can be laid out at the drop site by the ground crew so that they can continue work, and not have to wait for the aircraft arrival.

In some cases, bears have spoiled the contents of food drops when left too long. Therefore, crews should endeavor to reach drops as soon as possible.

Drop sites are similar to helicopter landing sites, but should be close to burn or swamp edges. This will enable easier locating from the ground.

3.541 Signals and Check Flights

Avoid any arrangement with the field party to meet them at a certain time and place, either in the course of dropping or checking the air drops. This usually leads to expensive delays, flight repeats and misunderstanding. The field party can put out their signals at the drop site and go about the regular days work.

The following set of signals are to be used:

**Food Drop Signals - Ground to Air**

- **F 1** - Drop again. 1 parcel.
- **F 11** - Drop again. 2 parcels.
- **F 111** - Drop again. 3 parcels.
- **LL** - Everything O.K. (Sufficient food drops found and do not require any more drops).
- **I** - Emergency - Personnel - as outlined in the R.C.A.F. signals means require doctor, serious injuries and may be interpreted to mean require help to get injured man out of woods. Steps must be taken to send help, either by helicopter, aircraft or ground crew. See Part VI, Section 5 for complete list of R.C.A.F. and Forest Protection Ground to Air Signals.

The signals are to be laid out at the drop site. They are clearly discernible from the air if made with toilet paper.

If check flights are contemplated, instructions pertaining to the flight, are to be written down on a duplicate letter pad before the fly camp commences. This will eliminate misunderstandings. Include dates, signals to be used, etc., giving the crew sufficient time to get into the area. One copy retained at camp, and one copy
with field crew. All caches should be found and inspected by
the ground crew before the check flights commence in order to
determine if any additional drops are required. The check
flight aircraft must take extra parcels for possible replacement
of the original drops.

3.542 Food Parcels

The likes and dislikes of many people have been considered and
a medium has been struck in food supplies for air drop parcels.
See Part 3, Appendix 2 for list. Quantity is ample for one man
for 7 days. Due to spoilage, tainting of other items or danger
of fire, the following must be carried by the field man as they
are not included in drop parcels:

- Matches
- Toilet paper for signals if drops not found
- Soap
- Salt

Overall weight for drop parcels should not exceed 40 pounds.
Equipment for parcels can be ordered from Green Timbers and
includes the following:

- W245 - Pliofilm bags
- W460 - Harness rings - 1½ x 2" diameter
- W461 - ¼" rope
- W467 - Burlap Sack
- W285 - Cardboard container

- piece of plywood approximately 12" x 12"
- Cardboard dividers
- Excellsior or equivalent padding.

3.543 Packing Food Parcels

Place a piece of plywood on bottom of carton, followed by heavy
unbreakable items. Do not mix breakable or crushable items such
as jams, oatmeal, sugar etc. in this layer. A cardboard separator
and excellsior is put on top of this and the remainder is packed
in successive layers with cardboard and paddings. All perishables
are packed in pliofilm bags, and breakable items on top. The
packed carton is then placed in the burlap sack and the top laced
or tied with string.

For roping the parcel, the objective is to divide the strain to all
rope strands in order to reduce the chance of the rope breaking
when the chute opens.
Using one end of ¼" rope make loop with slip knot and pass around parcel at (1). Cinch up and knot at "A" on top of parcel. Insert 1 harness ring in loop before knot is tied. Insert second harness ring on the remainder of the rope and place at B during following:- Carry rope across top to "B" and down back under bottom and up the front (2) to "B".

Loop under previous turn at "B" and carry along top of parcel and down side "C" passing under bottom and looping previous strand at "D". Continue along bottom looping previous strand at "E" continue along bottom and up other side and along top looping under strand "A" and knot at "A".

3.544 Dropping Procedure – Fixed Wing and Helicopter

Fixed Wing

(i) Attach rings on drop to clips on parachute before take off.

(ii) Carry knife handy in case of foul ups.

(iii) Attach static cord to clip or ring on aircraft.

(iv) Put on safety harness and lift dropping hatch.

(v) Best height is approximately 400'. Air speed 85-95 m.p.h.

(vi) Arrange signals with pilot before take off. If buzzer system in aircraft – one buzz – 5 second warning hold parcel directly over hatch. Two buzzes – drop clearly through hatch. If arm signals used, pilot will raise his arm five seconds before dropping. When arm is lowered release parcel.

(vii) Yard in static cord as rapidly as possible to avoid any entanglement with controls and unclip from aircraft.

Helicopter

(i) Cut static cord to approximately 6 – 7'.

(ii) Anchor end of static cord either inside bubble or on outside rack. Some helicopters may be equipped with quick release drop gear slung beneath the fuselage.

(iii) Make sure that the string that holds static cord pins to chute container are firmly tied, and there is no chance of chute opening until dropped. This is important since parcels are normally carried outside the helicopter.

(iv) Make dry run over dropping site.

(v) On final run reduce speed to 30 m.p.h. and altitude of 200 feet above drop site.
3.6 AIRCRAFT SAFETY

3.61 General

During the course of the field season, many field men will be flying or working around float aircraft or helicopters, and the possibility of serious accident is ever present through carelessness. This is particularly evident after personnel have become familiar with aircraft. Lack of respect for potential danger and disregard for safety precautions, rigidly adhered to earlier in the season, generally increase the chances of mishaps.

Some safety precautions are listed below and must be strictly enforced by supervisors.

- The pilots shall be sole judge whether or not weather conditions are suitable for flying, and shall be solely responsible for the composition, weight and stowage of cargo, number of passengers, altitudes, speeds of flight, and landing localities to be used.

- Forest Inventory personnel must wear seat belts at all times during flight and take off, in any type of aircraft.

- An approved harness securely anchored to aircraft must be worn by person ejecting cargo during air dropping. Dropping hatch must be closed and secured following dropping operation. A knife should be handy at all times during dropping in case of fouling static lines, etc.

- In float aircraft, unless instructed by the pilot, personnel are to refrain from attempts at assisting during docking, at least while the motor is running or there is any possibility of it being turned on momentarily. This is very important since many personnel make a point of running along the pontoon, out of view of the pilot. This could lead to fatal injury if struck by the propeller blade. If instructed to help secure aircraft, use the pontoon on the pilot's side so you are in his view.

- Where crews are flown to an area with no radio or communications break down, and are expected to stay for over a week, it will be a policy that the plan include arrangements to fly a check flight once a week.

- All field crews depending on air transportation flights must carry an emergency food kit in addition to usual food etc. only to be opened in case of emergency, when other supplies are exhausted. On air classification, a kit is to be left with any crewman carrying out ground checks. Kit to contain approximate items listed in Part 3, Appendix 3, packed in waterproof sealed container. (Large cookie tins approximately 1' square are suitable, such as Peak Frean tin.)
- Be sure doors in aircraft are securely closed and not relied on as a leaning post.

- If any control cables are exposed inside the aircraft be sure you are not considering using them for a hand hold or back rest.

- On all flights, party chief or responsible person remaining on ground must obtain destination of aircraft, personnel on board and approximate length of trip.

3.62 Helicopter Safety

The following are of particular importance in connection with helicopter operations:

1. Safety Instruction - It is Division policy that personnel involved in helicopter operations, will be shown the Slide Series on Helicopter Safety whenever possible, and it is the responsibility of project supervisors to arrange a safety meeting with the field crew and the helicopter crew at camp prior to commencing flying operations.

2. Stand well back during take offs and landing. Keep the landing site clear of all personnel, allowing the pilot full scope for manoeuvring during landing and take off. The best rule is to remain amongst the trees until the pilot has cut the motor, throttled down, or signalled that it is alright to approach the helicopter. In some cases, the pilot may instruct the field crews to give wind direction signals or to guide him evenly onto cross skids in soft areas. In the former case, one person only is to remain at the landing site to give the signal, then move well back as outlined. Where directions are being given to guide the pilot onto cross skids, keep well down on your knees directly in front of aircraft, and be prepared to lie flat on the ground if the machine should overshoot the landing spot. There is an ever present danger of being struck by the tail rotor as the helicopter passes by. In dusty or gravelly sites, personnel should not stand behind the helicopter as there is a considerable blast of dust and fine particles, which could cause eye injuries.

3. Always approach the helicopter in the pilot's view, never from the rear.

4. Keep well down when in the rotor blades orbit, especially at the extremities of the rotor blade. Watch for any signal from the pilot to keep back, this is particularly common during gusty wind conditions, since the blade is mounted on a moveable hub, it can dip close to the ground at the extremities.

5. Do not leave light articles, such as tents, flys, clothing, etc. near the landing site. They could be caught up in the blades or control lines. Be sure ropes used in lashing cargo on racks are securely tied when not in use, and if unloading when machine is under power, coil up the slack or do not allow length to dangle freely.

6. Nothing is to be thrown from the helicopter when unloading. It is possible for articles to be drawn into the rotor blades.
7. Extra caution must be observed when working around the helicopter on sloping ground as the blade will be much closer to the ground on the uphill side.

8. Be sure the pilot’s rules are strictly obeyed.

9. Remember the rotor blade is not like a propeller on a conventional aircraft when the motor is cut, it moves freely for sometime, since it is not slowed down by the inertia of the motor.

10. The Project Supervisor or a delegated crew member at base must have a copy of the flight plan or work schedule of the helicopter, every time it leaves base.

11. In helicopter work everything looks very simple and easy as the machine flys slowly along the ground, turns around, backs up, hovers, etc. in very small spaces. Many forget this is very difficult flying. There is little margin for error. After becoming familiar with the helicopter, the potential dangers are forgotten, and it is considered as nothing more than a bus. This is when people are more prone to accidents and the increase in carelessness is very evident. Watch for this and deal with any indication of carelessness immediately. **IT IS TOO LATE AFTER THE ACCIDENT HAPPENS.**

12. **Wind direction signals** - When landing the helicopter pilot usually requires an accurate indication of wind direction given at the landing site. One man will then move to the landing site and pass the information by arm signals. Stand with your back to the wind, arms raised parallel in front of you at shoulder height. Move both arms gently up and down. If the wind is variable swing both arms in an arc showing range of variation. Pilot will land helicopter directly in front of you. When he is fairly close crouch down on one knee. If he requires guiding onto cross poles, etc. again use both arms to signal, as follows:

- **Come ahead** - palms toward signaller, signaller hands move ahead and back in pulling motion.
- **Go back** - palms facing helicopter, push away motion.
- **O.K. set down** - palms facing ground and pushing away motion toward ground.

It is often difficult to ascertain direction of slight breezes. Following methods are often useful:

1. Flutter of deciduous leaves

2. Swaying grass

3. Tie 2-3 foot piece of toilet paper or red plastic tape on stick driven in ground.

13. **Radio Contact** - Under the conditions of our helicopter contract the machines are provided with the necessary equipment to communicate on Division frequencies during trips, principally as a safety measure
in logging the aircrafts' position. Position reports (usually air call number) are to be given at approximate 15 minute intervals. Maintaining the helicopter's radio equipment in a satisfactory operating condition is the responsibility of the helicopter company, with the co-operation of the division's radio technician.

In the event of unsatisfactory performance or breakdown of radio equipment, the supervisor must suspend flying operations immediately until this equipment is repaired and operating in a suitable manner. On occasion atmospheric conditions may cause temporary loss of positive communication. Suspension of flying in this case will be at the discretion of the Project Supervisor.

3.63 Search and Rescue

See "Procedures in Event of Serious Accident or Injury, Overdue Personnel or Aircraft", distributed annually under Part 6 of this Manual.

3.64 Ground to Air Signals

These visual patterns are to be used in emergencies.

Wherever possible a smoke fire should be used to attract aircraft. Use toilet paper, poles, rolled tents, etc., to make the signals.

1. Emergency Signals - downed aircraft, ground emergency, etc.

   In most cases personnel should remain at the scene of any wreck, unserviceable aircraft, or ground accident in back areas. If the trip has been properly planned and E.T.A.'s left at Project headquarters, searches will be started for overdue personnel.

   Serious injury, require doctor --------------------------
   Drop here, all C.K. ----------------------------------
   Negative -------------------------------------------
   Yes -----------------------------------------------
   Require helicopter -------------------------------
   Require food --------------------------------------
   Require radio and/or batteries ---------------------
   Which way do we go? -------------------------------
   Am proceeding in this direction ---------------------
   All O.K. ------------------------------------------
   Not understood ------------------------------------
   Require fuel --------------------------------------

Revised 1971.
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PART IV - COMMUNICATION

1.0 General

A Communication system to handle verbal contracts, correspondence, and shipments of supplies or data, is essential in administering the division's operations. In many instances it is important that an orderly method of conveying information be used in order that requests be properly processed and where possible systematically recorded on files for future reference.

This ensuing section will deal with various methods of communication between headquarters and projects; between projects; and communications used in conducting a field project.

2.0 Mail, Parcel Post, Express

2.1 Addresses

All correspondence and shipments directed to Division headquarters are to be addressed as follows:

Forester i/c,
Forest Inventory Division,
British Columbia Forest Service,
Parliament Buildings,
Victoria, British Columbia.

The correspondence should be to the attention of the person or section expected to process the material.

Normally all mail directed to the Forest Service is opened in the Parliament Buildings mail room, unless marked "Personal" or "Confidential". Subject matter considered confidential should have "CONFIDENTIAL" written on the envelope, and on receipt at the office, will not be opened by anyone other than the addressee. If he is absent "Confidential" letters enclosed in official envelopes will be opened and dealt with by the next in charge. "Personal" letters will not be opened by any other than the addressee no matter what delay this may cause.

Technical data mailed from field projects must be sent by registered mail.

Green Timbers Address -

(a) Mail:
Forest Inventory Division,
British Columbia Forest Service,
Box 159,
Surrey, British Columbia.

(b) Freight, Express:
Forest Inventory Division,
British Columbia Forest Service,
Green Timbers Forestry Station,
9800 - 140th Street,
Surrey, British Columbia.

2.2 Use of Air Parcel Post and Air Express, Freight

1. Any piece of mail weighing under 8 oz., if it is prepaid at the letter rate, goes by air in British Columbia, without a special air mail sticker.

2. For large items there is "Air Parcel Post" for which a special sticker may be obtained at the Post Office when mailing. Although the parcel cannot be registered, it may be insured. Generally it is more economic to use mail services rather than express. That is especially so for places off a direct air route as the parcel post covers everything from the point of mailing onward, whereas the express company would also add any rail or bus fees for places away from an airport.

The advantages in using air express are that fragile items would get more individual attention, and that the express company might manage to get a parcel on the plane if time were short, whereas the Post Office would not give such personal service.

On items sent from Victoria the Division pays express charges, but postal costs are not borne by us. This should be taken into account when specifying "AIR EXPRESS".

Where field projects request shipments be made by freight or express, the sender (i.e. Victoria, Green Timbers Warehouse, etc.) must be advised of the express or freight office address. In many outlying localities there would be no delivery to the field project; the shipment must be picked up at the local office. Senders must advise in advance, by radio, etc. of the date of shipment, contents and destination. Conversely the same information should be supplied by projects when making shipments to Victoria, or Green Timbers, etc.

Failure to advise of freight and express shipments has resulted in much needed supplies laying in express or freight offices, through the recipients lack of knowledge of the destination or method of shipment.
2.3 Division File System

As with any organization conducting widespread business activities, the division must maintain a standard system for filing reports, correspondence, and other information. Reference to file numbers is essential if correspondence is to be processed properly and be available for later reference. File designation must be placed on the upper right hand corner of the correspondence. Where correspondence refers to matters under more than one file designation a copy should be made for the other file(s) concerned. A notation "c.c. 0188220 - E", for example, should be placed on the lower left side opposite the writer's signature.

Appendix I details file numbers currently in use. For seasonal projects, temporary files are initiated under 0188221 by project number. Normally this will suffice for all correspondence, radiograms, etc. to and from projects. At the conclusion of the field season, Project Supervisors will be responsible for reviewing their party file kept in the General Office. Any information considered essential for future reference will be directed to an appropriate permanent file, anything else is to be destroyed.

Where correspondence refers to mechanical units with a Forest Service number, ensure that the number is used in describing the unit.

All correspondence replying to or referring to the letters of others should indicate both our file and their file number.

2.4 Signing Authority

Letters emanating from this Division are in three categories:

(a) Important letters - policy-defining letters, etc.
These should be prepared for the signature of the Forester i/c.

(b) Less important letters. These will be either answered by, or prepared for the signature of, the Forester i/c, 2 i/c, or Section Head. The following are examples of just how these should be signed:

Yours truly,

"John Doe", R.P.F.,
Forester 2 i/c,
Forest Inventory Division.

Revised January, 1971. - 90a -
or: Yours truly,

"John Doe",
Forester,
Forest Inventory Division.

Letters in this category are to be signed only by the Forester 1/c, 2 i/c, Foresters 4 & 5 and the Chief Clerk. Job offers are to be signed by the Forester 2 i/c.

(c) Very routine letters. These will be signed as follows:

Yours truly,

Forest Inventory Division,
per: "Joe Smith",
Clerk.

In the above examples, "Yours truly" will only apply for letters outside the Division. In addition, for letters directed outside the Forest Service or formal reports signed by Registered Professional Foresters, the initials R.P.F. will be placed behind the signer's typewritten name. See first example above.

Letters prepared and dictated by a subordinate officer for a senior officer's signature will bear the typed initials of the subordinate officer at the bottom left hand corner of the last page.

On all correspondence within the Service these initials will appear on both the original and the copy. On letters going to the public, such initials will appear only on the copies, not on the original.

3.0 Radios

3.1 General

Radio Communication provides an important means of contact during the field season, linking Division headquarters with Project Base Camps for regular traffic and the base camps with field crews, aircraft, launches and vehicles operating in remote areas.

The Forest Service Radio Superintendent is responsible for the direction of all matters pertaining to radio communication. A radio technician, on our staff, is responsible for the Division's radio network under the supervision of the Operations Forester.

The following types of equipment are used:

Land Radio Transmitters (LRT) - Multi-channel A.M. or single side band, usually up to 100 watts.

Revised January, 1971. - 90b -
Marine Radio Transmitters - Multi-channel, A.M. units on launches; in addition to Forest Service frequencies, B.C. Telephone and Distress channels are installed.

Battery Portables - S.P.F.'s, Model "B" single channel A.M.; multi-channels single side band - 10 watts and some multi-channel A.M. sets up to 25 watts.

Mobiles - single channel A.M., installed in some vehicles.


"The following brief comments are made relative to regulations made under the Radio Act, 1938, Part II, as they affect the Forest Service:-"

(a) A licence must be obtained through the Radio Superintendent, Victoria, for the installation and operation of any Forest Service radio station.

(b) A Forest Service call sign cannot be lent, even temporarily, to those not members of the British Columbia Forest Service.

(c) The working of the licensed station shall be limited to the exchange of messages with stations owned and licensed by the Government of British Columbia.

(d) A diary of service, or log, must be kept at all radio stations. (See Manual Section 3.51, 3.52 for further instructions).

(e) Forest Service radios are for the transmission of Forest Service or Provincial Government business only.

(f) The only exception to (e) above is where an agreement has been made between the Minister of Communications for Canada and the Minister of Lands, Forests, and Water Resources for British Columbia.

3.3 Radio Licenses, Call Signs, Unit Numbers

All stations must be licensed to operate by the Department of Communication (D.O.C.). The license contains the following information:-

Licensee - The Minister of Lands, Forests, and Water Resources

Note re (c) above - Aircraft firms under contract to the Division may use our frequencies, as arranged during contract negotiations. Firms are supplied with a letter giving permission.
Location - Portable in British Columbia

Hours of service - as designated by the Forest Service

Power - from 2 watts to 100 watts (except XMJ-78).

Frequencies - Forest Service frequencies only, except where B.C. Telephone channels are installed in isolated areas, or special aircraft frequencies.

Licenses are renewable every five years and copies of the original are kept on file in Victoria. The launch "Forest Surveyor" carries a copy of its license on board, as do any other vessels.

Headquarters licenses are not transferrable, but all others may be used in any part of the province.

Each radio is assigned a permanent unit number. The call sign of most radios may vary from year to year; for property record purposes the radio unit number is used, e.g., L.R.T. Ell, S.P.F. #27, Model B #2, etc.

Owing to the annual changes in call signs, operating localities, frequencies and schedules, a YEARLY VARIATIONS MEMO is issued to outline these changes.

3.4 Forest Service Frequencies (From Section 10.4 Engineering Manual).

Forest Service frequencies assigned by the Federal Department of Communications are as follows:

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Area</th>
<th>Forest Service Channel No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2597 Khz</td>
<td>Cariboo</td>
<td>1</td>
</tr>
<tr>
<td>2845 Khz</td>
<td>Nelson</td>
<td>2</td>
</tr>
<tr>
<td>3245 Khz</td>
<td>Vancouver</td>
<td>3</td>
</tr>
<tr>
<td>3315 Khz</td>
<td>Kamloops</td>
<td>4</td>
</tr>
<tr>
<td>3370 Khz</td>
<td>Prince Rupert</td>
<td>5</td>
</tr>
<tr>
<td>3382.5 Khz</td>
<td>Prince George</td>
<td>6</td>
</tr>
<tr>
<td>3392.5 Khz</td>
<td>Inventory Division</td>
<td>7</td>
</tr>
<tr>
<td>4900 Khz</td>
<td>Inter-District</td>
<td>8</td>
</tr>
<tr>
<td>4980 Khz</td>
<td>Topographic Surveys</td>
<td>-</td>
</tr>
<tr>
<td>5262 Khz</td>
<td>Inter-District</td>
<td>9</td>
</tr>
<tr>
<td>7550 Khz</td>
<td>Inter-District</td>
<td>10</td>
</tr>
<tr>
<td>9255 Khz</td>
<td>Inter-District</td>
<td>11</td>
</tr>
</tbody>
</table>

Very High Frequencies

159.270 Mhz As designated to Districts
161.810 Mhz As designated to Districts
162.690 Mhz As designated to Districts
162.930 Mhz As designated to Districts

163.065 Mhz  Repeater Receiver Freq.  Red
163.935 Mhz  Repeater Transmit  Red
163.125 Mhz  Repeater Receive  Green
163.995 Mhz  Repeater Transmit  Green
163.215 Mhz  Repeater Receive  Blue
164.085 Mhz  Repeater Transmit  Blue
163.275 Mhz  Repeater Receive  Orange
164.145 Mhz  Repeater Transmit  Orange
163.335 Mhz  Repeater Receive  Yellow
164.205 Mhz  Repeater Transmit  Yellow
163.395 Mhz  Repeater Receive  Black
164.265 Mhz  Repeater Transmit  Black
161.830 Mhz  As designated to Districts
164.040 Mhz  Air Tankers
164.910 Mhz  As designated to Districts
166.710 Mhz  As designated to Districts
167.670 Mhz  As designated to Districts
169.950 Mhz  As designated to Districts
171.030 Mhz  Inventory to Green Timbers as well as Districts
172.050 Mhz  Green Timbers and Inventory as well as Districts

Frequencies to be used by the Division network will be outlined in the Yearly Variations Memo, issued prior to each field season.

3.5 Radio Message Records

All base stations must ensure that a systematic method is used to keep track of messages. Use a proper message form rather than "verbals". A written message often provides a useful record for future reference. File numbers must be used whenever possible, usually the field project number is sufficient.

3.51 Radiogram form F.S. 326A (See Appendix II, page 108)

This form is used for messages sent and received. Field projects base stations will number messages sent starting at one (1) and thereafter consecutively for the season's operation. Victoria headquarters will use the same system.

A copy of all messages sent and received must be kept until the end of the field season when they will be turned over to the Radio Technician who will retain them for one year in accordance with Department of Communications Regulations.

All information on the form F.S. 326A must be completed by the operator including Date, Time In, etc.

Sufficient supplies of this form may be ordered on the Victoria Property List prior to the field season.


- 93 -
Address messages to the Forester i/c with the message directed for the attention of individual concerned. E.g., Forester i/c, Inventory Division, Attention: Mr. John Doe, Chief Clerk.

3.52 Radiotelephone Station Log (F.S. 404). See example below.

With the exceptions noted below every Forest Service radio station must keep a log. The following information should be entered under the column headed "Communication".

(a) Any unlawful interference from other stations.

(b) Distress calls, or any unusual or special incidents.

(c) Breakdown in apparatus or disturbance tending to delay traffic.

(d) Position of launches, aircraft, personnel, etc.

(e) Change in operators - both must sign log.

(f) Conversations not written in message form - brief outline of conversation giving pertinent facts.

(g) Test transmission.

(h) Additional information considered by operator to be of value.

Exceptions:- Crews on fly camp (not sub base), and vehicles.

Logs are to be turned over to the Radio Technician at the conclusion of the field season.

3.6 Distress Signals

All personnel using radio must understand the significance of the international distress signal.

1. MAY DAY - Signal indicates station sending is threatened by grave and imminent danger and requests immediate assistance. Any station hearing this call must suspend immediately all transmissions likely to interfere with the distress call, and stand by to record information or relay to station being called if necessary.
<table>
<thead>
<tr>
<th>DATE</th>
<th>July 1969</th>
<th>STATION</th>
<th>XM087</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME</td>
<td></td>
<td>STATION CHANNEL</td>
<td>MESSAGES SENT</td>
</tr>
<tr>
<td>0630</td>
<td>7 (209.5)</td>
<td>XMJ78 #21</td>
<td>#2</td>
</tr>
<tr>
<td>0640</td>
<td>7 &quot;</td>
<td>XM089 #3</td>
<td>0645</td>
</tr>
<tr>
<td>0645</td>
<td>7 &quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0650</td>
<td>7</td>
<td>YCGQ</td>
<td></td>
</tr>
<tr>
<td>0700</td>
<td>7</td>
<td>XM079</td>
<td></td>
</tr>
<tr>
<td>0705</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1215</td>
<td>9 (3262)</td>
<td>XMJ78 #23</td>
<td>1220</td>
</tr>
<tr>
<td>1220</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1230</td>
<td>4900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1240</td>
<td>4900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>July 2</td>
<td>etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>July 3</td>
<td>etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Entry under Station Channel - column 2 above, use Channel Number, or Frequency.

R.S.O. = Conversation
2. PAN - Urgency signal next in priority to May Day. 
   Indicates station sending has a very urgent 
   message to transmit concerning the safety of a 
   ship or aircraft, or some person on board. This 
   signal must be given priority over ordinary traffic.

3. SEURITE (Secur-ite) - Used when a station is about 
   to transmit information regarding safety of 
   navigation, or giving important meteorological 
   warnings. Same priority as above.

3.7 Words and Phrases to Aid in Transmissions

3.71 Phonetic Alphabet

The similarity of certain vowel sounds makes for 
inaccuracy when transmitting messages by voice. 
To counteract this, a phonetic alphabet is used to 
ensure the correct spelling of difficult words 
over the air.

Do not slow down communication by continual use of 
the phonetic alphabet, but apply common sense to 
its use to ensure that is is employed only where 
words are similar in pronunciation to others which 
may apply in the text of the message, or when 
receiving conditions are poor. Unusual names of 
people and places will also be spelled phonetically.

The phonetic alphabet is as follows:--

A - Alpha       J - Juliet       S - Sierra
B - Bravo       K - Kilo         T - Tango
C - Charlie     L - Lima         U - Uniform
D - Delta       M - Mike         V - Victor
E - Echo        N - November     W - Whisky
F - Foxtrot     O - Oscar        X - X-ray
G - Golf        P - Papa         Y - Yankee
H - Hotel       Q - Quebec       Z - Zulu
I - India       R - Romeo

3.72 Phonetic Numerals

In transmitting numerals it has been found that 
greatest clarity occurs when certain syllables of 
some numbers are emphasized. Those requiring
special emphasis are as follows:

4 - FOWer  5 - FIFer  7 - SEVen  9 - NINer

Stress is placed on the syllables in capital letters.

3.73 Procedure Words and Phrases

To further facilitate the accuracy and speed of message-handling, certain words and phrases have become standard for radio-telephone. To avoid ambiguity and confusion in servicing traffic, all operators should learn and use the following:

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge -------</td>
<td>&quot;Let me know that you have received and understood this message.&quot;</td>
</tr>
<tr>
<td>Affirmative ------</td>
<td>&quot;Yes&quot; or &quot;Permission granted.&quot;</td>
</tr>
<tr>
<td>Negative ----------</td>
<td>&quot;No&quot; or &quot;Permission not granted&quot; or &quot;That is not correct&quot;.</td>
</tr>
<tr>
<td>Correction --------</td>
<td>&quot;An error has been made in this transmission (or message indicated). The correct version is ..........&quot;.</td>
</tr>
<tr>
<td>Go ahead ---------</td>
<td>&quot;Proceed with your message&quot;.</td>
</tr>
<tr>
<td>How do you read ----</td>
<td>Self-explanatory.</td>
</tr>
<tr>
<td>I say again ------</td>
<td>Self-explanatory.</td>
</tr>
<tr>
<td>Over --------------</td>
<td>&quot;My transmission is ended and I expect a response from you&quot;.</td>
</tr>
<tr>
<td>Out ---------------</td>
<td>&quot;This conversation is ended and no response is expected&quot;.</td>
</tr>
<tr>
<td>Read back ---------</td>
<td>&quot;Repeat all of this message back to me exactly as received after I have given 'over'&quot;.</td>
</tr>
<tr>
<td>Roger -------------</td>
<td>&quot;I have received all of your last transmission&quot;.</td>
</tr>
<tr>
<td>Say again ---------</td>
<td>Self-explanatory.</td>
</tr>
<tr>
<td>Speak slower ------</td>
<td>Self-explanatory.</td>
</tr>
<tr>
<td>Stand by ---------</td>
<td>Self-explanatory.</td>
</tr>
</tbody>
</table>

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That is correct ---- Self-explanatory.

Tor ------------ Time of receipt.

Verify ------------ "Check coding, check text with
the originator, and send correct
version".

Wilco ------------ "Your last message (or message
indicated) received, understood,
and will be complied with".

Words twice ------- As a request: "Communication
is difficult. Please say every
word twice".

3.8 Radio Operation

3.8.1 Traffic Regulations

There are certain radio traffic regulations which
must be observed:-

1. Only Forest Service business is to be transacted,
except in cases of emergency.

2. No bad language on the air.

3. Do not discuss the following:
   - private affairs of anyone.
   - salaries and unconfirmed appointments of any
     member of the staff.
   - remarks concerning your opinion of any member
     of the Forest Service.
   - remarks detrimental to the reputation of
     commercial firms with whom we have had
     unsatisfactory dealings.
   - the publication over the air of price quotes
     and bids of companies competing for our
     business.
   - any subject at all which could directly or
     indirectly bring discredit to the Forest Service.

4. Names of personnel involved in accidents (See
   Part VI, Operations Manual, "Procedures in Event
   of Serious Accident" etc.).

Remember the Department of Communications monitors
all frequencies to ensure correct procedures are followed.
3.82 Radio Operators - Licensing

Department of Communication regulations provide for the licensing of anyone operating a radio transmitter. Candidates are required to take a short examination given by the D.O.C. Obviously it is not possible to have all field staff obtain a Radiophone Restricted License.

It is division policy that the following personnel be licensed:

- Project Supervisors and Assistants, Party Chiefs.
- Operators for Victoria Headquarters.
- Warehouse Supervisor and Assistant, Green Timbers.
- Launch Captains.

There is no charge for the examination. Prior to the field season the Radio Technician will make arrangements for personnel designated to obtain licenses.

All operators shall be familiar with all pertinent sections of the Manual dealing with Radios.

3.83 Method of Calling a Station

Ensure the channel is clear before transmitting.

To establish communication with a specific station, the calling station shall call in the following manner and order:-

(a) Identity of station being called.
(b) The words "this is".
(c) The identity of the calling station.

Example: Victoria Headquarters calls Green Timbers ----- "XMO69 this is XMJ78".

Between stations constantly working together and expecting calls at any time, this may be abbreviated to "XMO69, XMJ78" provided that the correct order of called and calling station is always maintained.

When the stations involved are capable of multi-channel operation, the transmitting station must indicate its listening channel. When the called station is known to be guarding several frequencies simultaneously, the transmitting station must indicate its transmitting channel also.

Example: "XMO69, XMJ78. Transmitting 7, listening 7".

In addition to the above, the initial call must indicate to the called station the number of messages on hand. The complete call will therefore be: "WM069, WMJ78. Transmitting 7, listening 7, with two".

When no indication of the number of messages on hand is given by the transmitting station, it will be taken for granted that a routine conversation, not a numbered message, will follow.

Importance of Call Letters - It is against the law to transmit an unidentified signal. The call sign must be given at the beginning of every transmission and when signing off. The Department of Transport monitor station is constantly on the watch for infractions of this rule, and failure to comply is seriously regarded.

Signing Over and Signing Off - The station transmitting must make it perfectly clear when it is temporarily at the end of a conversation and wishes a reply. The words "over" or "go ahead" are used for this purpose, though the former is preferable.

Further points on Calling Stations and Passing Messages.

No Reply to Call - There are occasions where atmospheric conditions, or receiver problems of the station calling prevent acknowledgement from the station being called, or others that may pick up the transmission. If the message is of immediate importance transmit it blind rather than continuing lengthy attempts to establish contact by only giving call signs.

Poor signal conditions - don't attempt to pass lengthy messages when stations receiving are not reading properly. Routine traffic can be held until better conditions prevail; the whole network can be tied up needlessly by stations making endless attempts to pass messages that could be held for more opportune times.

3.84 Traffic Priority

1. Emergencies, Serious Accidents, etc. - Take priority over all transmissions; other stations must standby and be prepared to relay if requested to do so, or if the situation obviously makes relaying necessary.
2. **District Fire Reports** - Fire reports must be given priority over our routine traffic. Division stations must stand by during such transmissions if using the same frequency, or where our frequency is known to overlap district frequencies as to cause interference (e.g. Inventory frequency 3392.5 and Prince George District frequency 3382.5).

3. **Aircraft, Vessels** - Position reports have priorities over normal traffic.

3.85 **Project Base Standby - Safety Measures**

It is the responsibility of Field supervisors to ensure that base radios have an operator in attendance under the following conditions:

1. When an aircraft is in flight.

2. When position reports are expected from crews operating under conditions considered hazardous. (i.e. small boats making trips on large lakes; crews on fly camp, where they are expected to check in after a days work.

3.9 **Radio Equipment**

3.91 **Care of Radio Equipment**

Radios are expensive, delicate instruments; components can be easily damaged through mishandling or other abuse. As with other division equipment, operators may be assessed for damage or breakages resulting from obvious carelessness.

1. Keep the sets dry. About 80 percent of the trouble with these units is caused by dampness.

2. When transporting any of the portable sets be sure that any cables that should be disconnected, have been removed from their mating sockets. On the S.P.F. the only one is the Microphone and speaker plug, located in the upper right hand corner. This has a lock nut to ensure that it does not work out. Unscrew this knurled nut, and pull out the cable. Place units on the seat of a vehicle when transporting if possible, or otherwise use a seat belt and strap them to an unused seat. **DO NOT THROW THEM INTO THE REAR OF A VEHICLE.** The rough roads shake off parts and otherwise damage the units. Bedding or other soft material is excellent for transporting the units. Do not put heavy equipment on top of any portable unit.

3. Make sure that all of the accessories necessary for the operation of any portable are present and that the radio is functioning **before you take it into the field.** The loss of any part can render the set.

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useless. All parts must be present, and they must be in good repair.

4. If the set does not operate after you have checked everything, according to the instructions (see in case of failure end of 3.921 (e)), DO NOT attempt to take the radio apart. Advise your supervisor who will have the radio repaired by a Forest Service technician.

5. Do not take any of our radios to commercial radio repair shops. Such a shop can rarely do anything with our type of units.

6. If a set is dropped in water, be certain that all batteries are removed at once. Get the set in for a check-up as quickly as possible. If a mechanic is located in the camp and has one of the many moisture absorbent sprays handy use this freely on the unit, or light oil can be sprayed into the unit from an "oil bomb". If the set has been dropped in salt water wash it out with fresh water immediately. Salt water will completely ruin electronic equipment in half an hour if precautions are not taken at once. A brief notation should be attached to the radio giving details of what happened and what action was taken. Get the unit in for repairs as quickly as possible.

7. At the end of the field season, or when the radios are shipped to Victoria, REMOVE ALL THE BATTERIES. Be certain that the operate switch is in the OFF position at all times when the set is not being used. Battery acid can cause severe damage when the batteries are run down and they start to leak.

8. Radio Service Tags (F.S. 288) - Each project will be issued with a supply of these tags which are to be attached to any unserviceable radio equipment. When serviced, the red portion of the tag will be removed by the technician leaving the green portion attached to indicate the set is now serviceable.

3.92 Battery Operated Portables

3.921 S.P.F. Radios

- 1 radio S.P.F.
- 1 portable antenna (antenna leads directly to the radio set).
- 1 permanent antenna (lead-in attached) optional.
- 4 battery jumpers
- 4 insulators
- rope

2. Batteries (S.P.F. only)

Connect all batteries exactly as shown in the diagram with the set. (See also diagram in this section.)

(a) "A" Batteries - two No. 6 dry cells connected in "series" to supply 3 volts for set operation.

(b) "B" Batteries - four 45 volt "B" batteries giving a total of 180 volts. (Everready #482 "B" batteries or equivalent.) (Any 45 volt "B" battery will do the job if necessary.)

3. Placing the Set in Operation - (using the portable antenna).

(a) Antenna set-up (see Diagram page 100h and 100d showing different types of antennae).

Choose enough space for erecting the antenna, about 120 feet. Place the radio at one end of this space. Remove the antenna from the lid of the box. Unwind the rope, and tie the lead weight supplied on one end. Throw the lead weight over the limb of a tree. Better still, climb the tree to get more height, and fasten one end of the rope. Get enough height so that the end of the wire to be connected to the radio is eight to ten feet off the ground. Have the antenna sloping toward the base station you wish to communicate with. Results will improve with antenna height. (See 3.9221 - for use with permanent antenna)
Walk in the direction of the set, unwind the wire. You can then either connect the end of the antenna wire to the antenna terminal on the set, after being certain that the enamel is scraped from the end of the wire, or if there are convenient trees run the wire parallel to the ground for sixty or seventy feet, then tie the other insulator to a piece of rope and fasten it to a convenient branch. The end of the antenna can then run down to be connected to the radio antenna terminal. If this type of antenna is used it should be broadside to the base camp for best reception. Do not roll up any excess wire but any excess can be laid along the ground. Rolling the wire into a ball causes excessive losses. A better method for any excess wire would be to string it between brush or small trees, particularly in places where the ground is damp.

Do not have any of the lead running below the main span - horizontally.

Place the set at the end of the wire so that it can be conveniently inserted into the antenna post. Press the top of the binding post and insert the wire, then release the spring loaded connection, or if this type is not used, screw down the end of the binding post to hold the wire. BE SURE THAT THE ENAMEL COATING HAS BEEN REMOVED FROM THE WIRE.

(b) Tuning the set to the Antenna

- See that the RECV-TRANSMIT switch is in the OFF position.
- Push the RECV-TRANSMIT switch on the left - the receive position.
- Do not adjust any controls except the one marked VOLUME. The others are for Transmit only. A background noise should be heard as the VOLUME Control is advanced.
- Set meter-switch to TRANS-FIL position. (Be sure FIL control is turned full to the left (OFF)).
- Push RECV-TRANSM switch to TRANS position and adjust FIL control until meter reads on red line. Do not leave RECV-TRANSM switch in TRANS position longer than necessary to make this adjustment.
- Turn meter-switch to TRANS-TUNE position.
- Locate and have fingers on knob at rear of set.
- Push RECV-TRANSM switch to TRANS position and adjust knob at back of set to give lowest reading on meter. This setting should be made as carefully and exactly as possible. If the set is working properly and the batteries are fresh, the minimum meter reading will be between 1.5 and 2.5. This adjustment is made only when the set is first set up. No further adjustment will be required unless the height of the antenna is changed or the set is connected to a different antenna. Leave the meter switch in the TRANS-TUNE POSITION. Except for an occasional check of the "A" and "B" batteries, the unit should be operated with the meter switch in TRANS-TUNE. The set is now ready for reception and transmission. Instructions for establishing communication follow:-

WARNING: SEE THAT RECV-TRANSM SWITCH IS IN "OFF" POSITION WHEN SET IS NOT IN OPERATION.

(c) How to Use the Receiver

The set is now ready for operation. Throw switch to "RECV" position. Turn control marked "VOLUME" to the extreme clockwise position.

(d) Transmitting

Move the RECV-TRANS switch to "TRANS" position.
(e) Procedure in Case of Failure

1. Receiver

Receiver turned on, but absolutely dead:-

- check battery connections. See that they are tight and in proper place.
- Test "A" and "B" batteries.

Receiver sounds as though it were operating, but no signal can be heard:-

- See that antenna is connected.
- See that antenna connection has not come in contact with front panel or other metal part of set.
- Some unusual condition may be affecting reception. Try again later.

2. Transmitter

Transmitter working but signals reported weak:-

- check battery connections. See that they are tight and in proper place.
- Test "A" and "B" batteries.
- If antenna is low, increase the height is possible.
- Some unusual condition may be affecting transmission.

Transmitter apparently not functioning:-

- Check "tuning" adjustment with meter switch in "tune-up" position. With antenna connected, minimum meter reading should be between 1.5 and 2.0. Turning the adjustment away from the setting for minimum meter reading should cause reading to increase to between 3.5 and 4.0.

WARNING: Keep tuning adjustment set for lowest meter reading at all times except when making the above check. If large meter deflections are permitted for more than a few seconds, it will result in damage to tubes. If meter reading does not vary with tuning adjustment, the transmitter is not functioning and must be repaired.

If none of the above suggestions are effective - do not attempt any adjustments inside the set.

3.922 Model "B"'s

The Model "B" unit is similar in operation to the older S.P.F. It is lighter weight and uses slightly different

batteries. The Red knob in the middle of the front panel is the Trans-Tune control and is used to make the initial adjustment to the transmitter. There is no filament control on the Model "B". The "A" batteries should be discarded when the voltage in the "FIL" position drops lower than 1.2 on the meter. The meter switch must be in the Test A Volts position, and the transmit button on the microphone pushed. The B Batteries can be checked with the switch in the middle position marked Test B Batteries. The units use two 742 A Batteries, and three 467 B Batteries. They cannot be hooked up wrong, as all plugs are polarized.

Temporary antenna installation is similar to that for the S.P.F.

OPERATION:

Place the selector switch on the front panel in the "TRANS-TUNE" position. Depress the switch on the microphone and quickly rotate the "TRANS-TUNE" knob until a point is found where the meter reading "DIPS". This should result in a meter reading of no more than mid-scale, and if this is so the transmitter is working properly. If the meter reads higher than mid-scale when in its lowest position it will be necessary to adjust the LOAD control which is a screwdriver adjustment above the Antenna post. Adjust the screw head counter-clockwise slightly. Then readjust the Trans-Tune control and a lower reading should result. If not adjust the slot in the LOAD control more counter-clockwise. Once properly set up, no further adjustment is needed, unless there is a change made in the antenna.

ALWAYS TURN THE SET OFF WHEN NOT IN USE.

3.9221 Using Permanent Antenna with S.P.F. or Model "B" Portables

Model "B" units and S.P.F. sets can be used as a temporary base station if a "permanent" type antenna is used, rather than the 100 foot type generally supplied. Tuning for the "permanent" type antenna is the same as with the 100 foot. In the case of the Model B units when the longer tuned antenna is used, it will always be necessary to re-adjust the LOAD control as stated above. Be sure that the current as shown on the meter is less than half scale when the TRANS-TUNE control is adjusted. This applies to both S.P.F. and Model B. The S.P.F. will show a lower reading for the Permanent Antenna than the 100 foot type.

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3.923 Single Sideband Portables - Model SBX-11

The Forest Service will commence using the new SSB type of portable radios during the 1971 season. These vary vastly from the old portables, and their operation is more complex. Within the next few years all AM operations will cease and SSB will be the method of communication on the medium frequencies. It will be possible to read AM on a SSB receiver, but there may be a "howl" in the background. However, an AM transmitter cannot transmit SSB signals.

The SBX-11 is a four channel 10 Watt Transceiver. Flashlight, or similar batteries are used to power the unit, and the weight is ten pounds. Separate permanent type antennae will be used for each channel.

OPERATION:

Turn on the power by turning the VOLUME control clockwise. Check the meter on the front panel for the condition of the battery. To check for weak batteries, operate the transmitter for 5 seconds in the TUNE condition; then

immediately check the meter indication upon releasing the microphone button. The meter should be in the GREEN section of the meter.

Connect the two ends of the lead in from the antennae to the two terminals on the front panel. Be sure the antenna is the correct one. It is planned to use one low frequency and one high frequency channel for fly camp operation. Additional channels will be supplied where these units are used at sub-base operations.

To RECEIVE adjust the volume control and the CLARIFIER control for the best reception. The clarifier is a new control and is used only for making the voice sound more natural.

To TRANSMIT press the microphone button and talk for Power Output as shown on the meter.

ALWAYS TURN THE POWER OFF AFTER USING BY TURNING THE VOLUME CONTROL TO ZERO.

If there is no indication of Battery Voltage with the power turned ON check the following: (1) Are the batteries in good condition. (2) Check the polarity of the batteries as shown on the diagram inside the set; transistors will not work if the batteries are connected with the wrong polarity. (3) Check that the plug for the batteries is properly connected. (4) Check the fuse, and replace with the spare if necessary.

If, after checking the above items, make certain that you are using the correct antenna for the channel you are using, if you cannot contact anyone.

3.93 Base Radios

3.931 Single Side Band

For the most part, the main base radios, including Green Timbers, are Single Sideband Marconi, Model CH-25 units. They have a power output when using Sideband of 100 Watts PEP. They can be used for compatible AM transmission, but the power is reduced, and they have much sharper speech quality on receive, than the older type of AM units. Each unit has six channels, and the channels are selected from the front panel. Antennas for each channel are automatically selected.

OPERATION:

To place the sets in operation push the switch in the lower left hand corner upward. Pushing the switch into the down position turns on the receiver only. You cannot transmit in this position. Advance the
volume control and background noise should be heard. Select the channel required, by the channel knob. Single Sideband reception and transmission is selected by turning the control just under the meter to SSB. If AM reception and transmission is wanted turn the switch to the right to AM. If there is a high background noise turn the same switch to the extreme right, and a noise limiter will cut down on the background. However, there may be some distortion on reception. To transmit, fully depress the bar on the mike stand and speak into the microphone. Be sure that you are in the correct mode of operation as noted above. Sideband cannot be copied on the regular AM receivers.

3.932 AM Radios

We will have, for some time, a number of AM radios in operation. These will be either Marconi CN-86, 10 channel units, or battery operated Marconi units. The CN-86 radios are placed in use by turning the OFF-ON switch to the right. Then the further advancement of the knob brightens the indicator lights. Select the channel by the large knob in the centre, and turn up the volume control for correct level. Antennas are automatically selected by relays. To transmit, push the button on the microphone and speak close to the microphone.

If storage battery operated units are supplied, the polarity of the battery must be observed. The sets will not operate if the battery is not correctly connected, and damage can result to the transistors in the receiver. Select the channel desired after turning on the unit. In most cases the receiver is turned on by advancing the volume; and the transmitter is turned on by a toggle switch marked "Transmit" or "Transmitter on". The transmitter requires about two minutes to warm up after turning it on before transmitting. Pushing the button on the microphone places the unit in "Transmit". In most cases, the proper antenna is selected by a small selector box on the unit.

3.94 Mobile Radios

A few of our cars are equipped with AM mobiles, but these will gradually be phased out as SSB increases. The types in use are the old Spilsbury and Tyndall MBL-25 and the Pye 25 Watt series. These units are equipped with a squelch knob, but as this tends to de-sensitize the radio it should not be advanced too far. If signals are weak turn the squelch control off or to the extreme counter-clockwise position.
The greatest problem with the mobile unit is dust. The fine dust on the back-roads gets into the units and onto the relay contacts. There is little that can be done with this, except to call the radio technician and have the relays cleaned. On the MBL-25 units this is not too difficult. The four bolts on the front panel should be removed, along with the power cable, the control cable and the antenna lead-in. Pull the unit out, turn it upside down and blow out the dust then take a piece of clean paper and cut a small strip. Use this to run between the contacts of the relay located near the connector where the antenna is attached. Place the paper between the bottom contacts, push the relay contacts down and pull the paper through the contacts. Do this at least twice to take out any fine dust. When the problem occurs with the Pye it should be left until a radio technician is present as it is a much more complicated job. After completion as above, re-assemble and test.

If you have a vehicle with a radio in it, be sure that the antenna is kept down when travelling in the bush. Damage or loss to the top section will result if this precaution is not taken. If you have a bumper mount on the vehicle, be sure to remove the antenna and carry it inside when travelling on bush roads. Push down and a half turn will release the antenna whip for storage purposes.

4.0 Tape Recorders

In the interests of reliability and simplicity only one type of tape recorder will be used for helicopter operation. The units will be Sony, battery operated, or AC operation if required at base camp for play-back.

The tape recorders will be supplied with a photo board, with a switch for controlling the tape recorder, tapes, a pair of stereo type headphones for play-back, and a high quality noise cancelling microphone, which is attached to a helmet of the correct size for the operator.

Before flying check the following: Batteries - a new set should always be installed; headset, and switch on the photo board. Ensure that the recorder is in the record position. On the majority of the tape recorders, the Sony Model TC-860, there is a switch on the side of the machine - close to the point where the control cable is plugged in - marked "speaker off-on" with a red arrow. Pushing the switch to the "on" will permit you to hear your voice as it is being recorded. The meter on the recorder will also move up-scale. If you cannot hear your voice, or see the meter moving, check to see that everything is hooked up correctly. Adjust the microphone so that it is close to the mouth (approximately ½ inch). Talk in a normal voice. No volume control is used on this model of machine. It is automatic. The tape recorder is controlled by the switch on the photo board.

Three of the older Sony machines have a level control. This must be advanced so that the needle kicks upward. The switch allowing you to listen while recording is not a feature of these three older machines.

Be certain that you check the level meter on the photo board or the tape recorder once in a while when flying. If it is not moving check at once to be certain that the machine is in the RECORD position.

5.0 Telephone

5.1 General

The responsibility for the control of telephones is placed on the Department of Public Works. It is a function of the Forest Protection Division to process all requests for telephone installations or take-outs including B.C. Telephone frequencies in our radio transmitters. Such requests must be channelled through the Protection Division.

Telephones are an efficient and convenient method of communicating from offices and the field. However we must be guided by rules laid down by the Department of Public Works.

1. Collect Calls are not to be made to government offices except in emergencies when other systems outlined below are not possible.

2. Similarly, direct long distance calls are to be avoided unless absolutely necessary; the "telpak" system is to be used whenever possible.

3. Telephone calls made at government expense are for government business.

4. Out of Province calls require prior approval of the Deputy Minister.

5. Should a long distance call to our offices be necessary, (2 above), avoid person to person calls; that is do not give the operator at your end the local number and persons name, simply ask for the Parliament Buildings, Victoria, 382-6111, the Buildings Operator can be advised of the local number and she will connect you.

5.11 Telephone Numbers:

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parliament Buildings</td>
<td>382-6111</td>
</tr>
<tr>
<td>Green Timbers Warehouse</td>
<td>581-1866</td>
</tr>
<tr>
<td>Green Timbers Mechanical Section</td>
<td>581-9112</td>
</tr>
</tbody>
</table>

District Offices:
Cariboo (Williams Lake Government Office) 392-6261
Vancouver 684-2321
Kamloops 374-4112
Nelson 352-2211
Prince George 562-2111
Prince Rupert 624-2121
Forest Service Training School 581-1838
Forest Service Training School Residence 581-0110
Forest Service Maintenance Depot 261-4231

Inventory Division Locals:
Forester i/c 2722
Forester 2 i/c 2723
General Office 2724
C.J. Calder or
R.C. Jones 2725
E.G. Vaughan 2726
Radio Room 2736
Vault 2735

5.2 Telpak System

5.21 Introduction

The TELPAK Telephone System consists of a number of private lines between major centres on full time lease to the Provincial Government.

All TELPAK lines go through the Government exchange in the Parliament Buildings, except the direct line between Kamloops and Kelowna and between Prince George and Dawson Creek.

TELPAK unlisted confidential numbers are not included herewith. They should be promulgated in each Department, through supervisors, to all personnel who are authorized to make long distance calls. These numbers are not to be given to anyone but those authorized. A long distance call should never be made when a TELPAK line is available.

Long distance charges are not applicable on TELPAK lines between TELPAK centres. Calls made to or from places outside these centres may sometimes be economical. They can be placed through the nearest centre, and long distance will only apply on the portion between that centre and the outside location.

5.22 TELPAK Centres (See map, page 105, Section 5.25).

TELPAK lines are available between the following centres:

<table>
<thead>
<tr>
<th>Centre</th>
<th>Centre</th>
<th>Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbotsford</td>
<td>Nanaimo</td>
<td>Kamloops</td>
</tr>
<tr>
<td>Courtenay</td>
<td>Nelson</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Cranbrook</td>
<td>Port Alberni</td>
<td>Vancouver</td>
</tr>
<tr>
<td>Dawson Creek</td>
<td>Prince George</td>
<td>Victoria</td>
</tr>
<tr>
<td>Duncan</td>
<td>Terrace</td>
<td></td>
</tr>
</tbody>
</table>

The TELPAK switching centre is incorporated in the Parliament Buildings Exchange. Thus most TELPAK calls are connected by a Parliament Buildings operator, who is reached by dialing the appropriate numbers as detailed below.

The system is in operation Monday through Friday only from 8:30 a.m. to 5:30 p.m. and when the Legislature is in session. In the event an essential call must be made outside these hours normal Long Distance methods will have to be used.

5.23 Method of Using TELPAK System

To use TELPAK from Parliament Buildings Exchange, Victoria

(a) For calls to Vancouver numbers in the Greater Vancouver free dialing area (does not include North Vancouver)
   - Dial 8, wait for Vancouver tone then dial the seven digit Vancouver number desired.

(b) For calls to other TELPAK centres
   - Dial 0
   - Give the operator the location you wish to call and the number followed by any other information requested by the Buildings operator.

To use TELPAK from TELPAK Centres other than Victoria

- Dial the confidential TELPAK number for the local centre. This will be answered by a Parliament Buildings Operator.
- Give the location and number you require, followed by any information requested by the operator.

To use TELPAK from locations away from any TELPAK Centre

- Determine the appropriate TELPAK centre from the TELPAK area map (see 5.25, page 105).
- Place long distance call to the confidential TELPAK number for that centre (see note below). This will be answered by a Parliament Buildings Operator.
- Give the location and number you require, followed by any information requested by the operator.

NOTE re placing long distance call from phoning point to nearest TELPAK Centre.

The long distance charges to the TELPAK centre may be handled by either of the following ways:

1. By depositing sufficient money in the pay phone as requested by the local operator, or
2. By advising the local operator to make a third party billing to a Victoria local number as noted on all extension phones in our offices. The full code must be given (e.g.) 053-2724-493 (The centre digits are local 2724, Division's general office.) This billing number may be used for field projects.

DO NOT MAKE A COLLECT CALL TO COVER THE LONG DISTANCE PORTION: THE PARLIAMENT BUILDINGS OPERATORS’ ARE INSTRUCTED NOT TO ACCEPT THEM.

Revised January, 1972. - 104b -
5.24 Additional Facilities, Kamloops - Kelowna and Prince George - Dawson Creek.

In addition to TELPAK lines to the Parliament Buildings switchboard there are direct lines to connect telephones in Kelowna to the Kamloops Government Building switchboard, and to connect telephones in Dawson Creek to the Prince George Government Building switchboard.

Offices on the switchboards in Kamloops or Prince George may place calls to Kelowna or Dawson Creek respectively through their operator.

Offices in Kelowna or Dawson Creek and their vicinities may place calls to the Kamloops and Prince George Government switchboards respectively by dialing the appropriate confidential number. These calls cannot be extended beyond the Government switchboards.

5.25 Map Showing TELPAK Centres
5.26 Authority to use TELPAK and Long Distance

Only those personnel listed below are authorized to use the TELPAK system or make long distance calls, subject to rules as outlined under 5.0.

Forester 4's and up,
Assistant Project Supervisors or Party Chiefs in the field,
Chief Clerk and Assistant,
Supervisor - Draughting Section,
Supervisor - Vault,
Supervisor - Reproduction and Printing,
Radio Technician,
Mechanical Supervisor and Assistant,
Operations Foreman,
Warehouse Supervisor,
Housing Foreman,
Forester III's in charge of office sections.

Any other staff members will require permission from the Forester 2 i/c before using Long Distance or Telpak. Those concerned will be provided with a confidential list of telephone numbers for TELPAK Centres.

6.0 Telex

This form of teletype has replaced the previous Forest Service radio communication between Victoria and Forest District headquarters. Telex machines are installed at all Districts headquarters, some Engineering Division projects and remote Ranger Stations such as Fort Nelson. Three units operate from Victoria; one each at Engineering, Management and Protection.

For contact with the districts, or other Forest Service Telex Units, Inventory Division will use Engineering's telex. Messages originating from our offices are to be written on the standard radiogram form, marked "TELEX" and handed to our general office stenographer who will pass the information to the Engineering Telex operator.

Personnel originating messages must ensure that a file number is placed thereon for future reference.

The number of Engineering Division's Telex is 044-8267.

7.0 Installation of Traffic Control Radios in Forest Service Vehicles

On occasion Division vehicles may operate on private industrial roads, on which vehicle traffic is controlled by radio. As a safety measure our units may require the installation of suitable compatible equipment to that used by the industrial operation.

Where the equipment is considered necessary the Division may lease radio equipment subject to the following conditions:

Revised January, 1971.  - 106 -
1. All installations are subject to prior approval by the company or agency responsible for administering the road frequency.

2. The division radio technician will make the necessary arrangements to procure the lease equipment, or advise those concerned where the equipment may be obtained.

3. The division will bear the costs of installation and lease charges. Actual costs will be charged against Field & Office Equipment Rentals not against the Project.

4. The Radio Technician will report all installations and removals to Engineering Services Division, by a copy of each installation, change or removal instruction to the supplier.
5.0 MECHANICAL

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5.112 Daily Check
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E Channel Markings and Warnings
   1. Fishing Vessels
   2. Buoyage or Channel Markings
   3. Skin Diving Markers

F Boat Hire

G Loading, Unloading 45 Gallon Drums

H Special Marine Craft
   1. Rubber Rafts
   2. Cruison Air Boats
Much of the contents of this Part pertaining to Motor Vehicles is quoted directly from the Mechanical Section of the Engineering Services Manual. Such information herein is in quotation marks. Quotations are omitted where further points applicable to this Division have been added.

\section{5.11 \textbf{Responsibility}}

"The operator in charge of any automobile shall be considered responsible for its operation, daily maintenance, appearance, and for all possible precautions necessary to safeguard the vehicle and its contents from theft.

"Each operator will also be considered responsible for the general mechanical condition of the vehicle in his charge, particularly in so far as the safety features are concerned. Steering mechanism and the brakes must be kept in good condition at all times, and no argument by the operator will condone failure in this respect. Tires in doubtful condition should be repaired or replaced (see Manual section under "Tires"). Lights, windshield-wipers, and other devices relative to visibility must be kept in good order and properly adjusted."

Division mechanics will periodically inspect mechanical units in the field. Party chiefs must endeavour to arrange work so that vehicles are available for inspections on advice that mechanics will be in the area. If repairs or adjustments are necessary, the party chief will be guided by instructions of the mechanics who will either make the necessary repairs or arrange for the work to be done in a commercial shop. When, in the opinion of a mechanic, condition of the vehicles is such that continued use could create a hazard or result in further damage, the field party must abide by his decision and make other arrangements for transportation until the vehicle is in proper working order. Failure to do so will render the person responsible liable for damage resulting from continued use. Mechanics must contact the supervisor or party chief to provide information in the above cases.

\section{1.12 \textbf{Daily Check}}

"Prior to commencing each day's operation, the driver will make an inspection of oil level, radiator coolant, battery condition, tire inflation, fuel supply, and general all-round condition of the vehicle. Items requiring attention should be put in order before continued use of the unit."

Mechanical supervisor or mechanics should be advised immediately of any apparent mechanical defects, and they will issue instructions for having the vehicle checked.
Lubrication and Oil-Changing

"This is the responsibility of the operator, who must see that they are carried out at regular intervals as per the following schedules:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chassis Lubrication</td>
<td></td>
</tr>
<tr>
<td>Engine oil change</td>
<td>1,000</td>
</tr>
<tr>
<td>Oil-filter (replaceable–cartridge type)</td>
<td>5,000</td>
</tr>
<tr>
<td>Oil-filter (porous type, bronze), clean at</td>
<td>2,000</td>
</tr>
<tr>
<td>Air-cleaner (oil-bath type), change oil and wash out mesh</td>
<td>3,000</td>
</tr>
<tr>
<td>Air-cleaner (dry-element type), clean at each lubrication period</td>
<td></td>
</tr>
</tbody>
</table>

Units which operate in extremely dusty or muddy conditions may require chassis lubrication at 500 miles or less (as advised by the Mechanical Supervisor). Vehicles which operate consistently on short runs, or in the lower gears with low cumulative mileage, should have the engine oil changed on a time rather than a mileage basis to minimize the detrimental effects of this type of service. (Consult the Mechanical Supervisor.)"

Transmission and Rear Axle

"Lubricants are to be changed periodically; these changes should be seasonal, with lighter lubricants used during extreme low-temperature operation. In no case should the vehicle be operated in excess of 10,000 miles without changing. (See "Winterizing," section 1.16.)"

Wheel Bearings

"All front-wheel bearings will be lubricated and adjusted every 5,000 miles. Truck rear-wheel bearings which do not receive lubrication from the rear axle are to be lubricated every 10,000 miles by removing the hubs, and cleaning and repacking the bearings with wheel-bearing lubricant."

Limited-Slip Differentials — Special Lubricants

"In order to ensure maximum operational efficiency and maximum wear, it is most important that the correct lubricant be used in all limited-slip differentials. Improper lubricant can cause noises such as chatter, growl, or whine, as well as scoring of the differential clutch plates and possible failure of the unit.

Listed below are the special lubricants recommended by various vehicle-manufacturers.

Plymouth: Mopar Sure-grip Lubricant — Part No. 1879414.
Dodge: Mopar Sure-grip Lubricant — Part No. 1879414.
Fargo: Mopar Sure-grip Lubricant — Part No. 1879414.
Willys: Power-Lok Differential Oil - Part No. 94557.

"These lubricants are available in tins, and it is recommended that
each vehicle fitted with a limited-slip differential carry a supply,
to be used for topping-up purposes.

"Limited-slip or 'locking' differentials may be identified by a
metal tag placed under a differential-housing cap screw, or by a
pointed stripe or other mark on the differential cover."

"(See also Winterizing, section 1.16.)"

1.14 Appearance

"Washing and polishing is to be carried out when necessary so that
the unit presents a creditable appearance. A dirty, untidy vehicle
reflects discredit not only on the operator, but on the Forest
Service as a whole."

1.15 Operation

"Operators of Forest Service vehicles will be governed by the pro-
visions of the 'Motor-Vehicle Act' and the 'Highway Act', and all
personnel whose duty necessitates driving on public roads should
become familiar with the regulations contained therein. Always
remember that excessive speed (with relation to prevailing road
and weather conditions), failure to give right-of-way, failure to
signal, failure to observe warning-signs, etc., may lead to seri-
ous accidents.

"Extreme caution when driving during adverse weather conditions and
(or) over slippery roads is most necessary and must be observed.
Show courtesy, observe the rules of the road, and drive safely at
all times."

Supervisors must ensure that personnel under their direction who
are assigned vehicles are tested and competent to operate the
vehicle. Any driver who fails to operate a vehicle in a safe man-
ner, following a warning is to be relieved of driving duties by
the supervisor, and may be dismissed if circumstances warrant such
action.

Maximum speed limits have been laid down for the operation of ve-
hicles in this Division as follows:

Surfaced Roads:

4-Wheel drive 45 m.p.h. ) Reduced as light or
All other trucks 50 m.p.h. ) weather conditions
Cars, Sedan Deliveries Posted speed limit) increase driving
Hillmans 50 m.p.h. ) hazards.

PART V  SECTION 1, contd.
(1961)
(114)
Gravel and Secondary Roads:

Conditions on these types of roads vary considerably. In some instances they are almost equivalent to surfaced roads; in others, poor visibility, narrowness, dust and other factors cause driving conditions to be extremely hazardous. It is impossible to stipulate safe driving speeds, but some general factors should be considered in regulating speed to said conditions.

- Speed considerably less than those detailed for surfaced roads.
- Extreme caution on winding, narrow roads.
- Common sense assessment of potential hazards and consequent reduction in speed.
- Condition of road surface, and possibility of sudden swerves to avoid pot holes.
- Extra caution on roads with which the driver is unfamiliar.

After considering the above factors a driver should govern his vehicle's speed accordingly in order to be able to take effective precautionary action safely if suddenly confronted with a potential accident situation.

1.16 Winterizing

"Winterizing consists not only of protecting cooling systems with anti-freeze, but also in draining and refilling engine crank-cases, transmission and transfer cases, front- and rear-axle gear-cases, etc., with the proper grade of winter oils or greases. Operation for even short periods during extremely cold weather with improper lubrication may result in almost immediate seizure of parts, or an accelerated degree of wear which may not show up as actual failure for several months."

1.161 Engine Crank-Case

"The viscosity grade of engine oil to be used will depend upon the temperature range in which the unit will operate. In the absence of manufacturer's directions, the following chart may be followed:-

If Anticipated Temperature Will be:— Use S.A.E. Grade Indicated Below.

"Between 32° F. and 10° above zero                S.A.E. 20W
Between 10° F. above zero and 10° below zero    S.A.E. 10W
Below 10° F. below zero                           S.A.E. 5W

"It must be noted that the above chart should be used as a general guide only. Wherever possible, manufacturer's specific recommendations for the engine concerned are to be obtained and followed.

"The use of 5-20 or 10-30 multi-viscosity oils where low-temperature 'cold' starts are anticipated is recommended both for easier starting and increased engine protection."
Transmissions, Transfer-Cases, and Front and Rear Axles

"Transmissions, transfer-cases, front- and rear-axle gears, etc., as found in Forest Service vehicles are of many and diverse types. Lubrication requirements vary considerably, and it would be impractical to issue instructions for winterizing procedure which would be applicable to all units. It must, however, be realized that all gear-cases require special winter lubricants for operation in sub-zero temperatures, and that it is the responsibility of the person in charge of the vehicle to see that the necessary servicing is carried out sufficiently in advance of the winter season.

"Manufacturer's recommendations should be followed in all cases, and these may be obtained either from the operator's handbook which accompanies all new vehicles or from the dealer or agency handling the unit concerned. Where special conditions are involved, instructions will be issued by the Mechanical Superintendent and (or) District or Divisional Mechanical Supervisor."

Cooling Systems

"Any vehicle or other motorized unit which employs liquid coolant, and which will be in service during periods when temperatures may fall below freezing point, must be protected by the addition of anti-freeze to the cooling system. Responsibility of protection from frost damage will rest directly with the current operator, who will ensure that the anti-freeze solution is of sufficient strength for complete protection at the minimum temperature to which the unit may be subjected.

"Anti-freeze will be supplied in quantity lots to Districts and Divisions on requisition to the Purchasing Commission, and in order to ensure delivery in ample time for local distribution, requisitions should be directed to Engineering Services Division, Victoria, not later than July 15th.

"Ethylene Glycol base anti-freeze will be used exclusively. Alcohol, salt-base type, fuel-oil, or other anti-freeze solutions are not recommended. Special consideration in regard to flushing out or otherwise overhauling cooling systems before addition of anti-freeze should be discussed with the Mechanical Supervisor.

"The following chart shows the approximate protection afforded by various proportions of Ethylene Glycol base anti-freeze and water:-

<table>
<thead>
<tr>
<th>Anti-Freeze</th>
<th>Water</th>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 qt.</td>
<td>3 qt.</td>
<td>10° above zero</td>
</tr>
<tr>
<td>1 qt.</td>
<td>2 qt.</td>
<td>Zero</td>
</tr>
<tr>
<td>2 qt.</td>
<td>3 qt.</td>
<td>12° below zero</td>
</tr>
<tr>
<td>1 qt.</td>
<td>1 qt.</td>
<td>34° below zero</td>
</tr>
<tr>
<td>3 qt.</td>
<td>2 qt.</td>
<td>62° below zero</td>
</tr>
</tbody>
</table>

PART V SECTION 1, contd.
(1961)
"Anti-freeze solutions tend to lose their rust-resisting and anti-corrosion properties through continued use, and are also a possible source of oil contamination. When danger from frost is past, all automotive cooling systems will be drained, and then refilled with water, to which will be added a suitable rust inhibitor."

Antifreeze is listed on the Warehouse Property Lists (S.D. 53) and may be ordered with other equipment at the start of the field season.

1.2 Vehicle Identification

1.21 Licence Plates

"Licence plates for Forest Service owned vehicles are supplied free by the Motor Vehicle Branch and must be displayed and kept clean at all times.

"Registration slips shall be carried in a holder attached to the steering column and be inserted in such a manner that the name and address shown thereon may be read through a window or the windshield.

"Engineering Services Division, Victoria, will attend to all licensing procedure, forwarding new licence forms and plates for all vehicles in service at the commencement of the licence-year. This also applies to each new unit as it is purchased and placed in service.

"It is essential that full and correct information re type, and make, engine number, serial number, and weight be forwarded to Engineering Services Division immediately on receipt of a new unit.

"Loss of either one or both plates must be reported without delay, together with a request for replacement."

1.22 Unit Identification Numbers

"All cars and trucks operated by the Forest Service are numbered serially, and each car or truck retains this number for identification purposes as long as it remains in the Service. Forest Officers will ensure that all cars and trucks are so identified by having the serial number, issued in decal form by the Mechanical Superintendent's office, installed on the lower right inside corner of the windshield and the upper left inside corner of the rear body or cab window glass, with the number facing outward. All correspondence, invoices, vouchers, etc., relative to a Forest Service vehicle must bear the Forest Service number for that particular unit. Failure to provide this identification often leads to serious delay, particularly in the vouchers and payment of repair invoices."
1.23 Forest Service Identification Plates

"All cars, trucks, and other licensed mechanical units will carry the special 'B. C. Forest Service' identification plates so that they may be recognized by the general public, the Forest Service or other Government officials. These plates will be mounted either above or below the Provincial licence on both front and rear of the cars, and on trucks and other units either as above or in such a position on fenders, tail-gates, or special brackets as will render them fully visible from front or rear. When any unit is traded in, sold, or scrapped, these plates will be removed."

1.24 Decalcomanias

"'Government of British Columbia. Official Use Only.' Each motor-vehicle operated by the Forest Service must have the approved Government crest and lettering transfer displayed on one door each side.

"Should the lettering and (or) crest become obliterated, immediate steps must be taken to renew it by applying new decalcomania transfers. These are obtainable from the Engineering Services Division, Victoria. Instructions regarding the application of these transfers are on file in all District and Division offices, also in Ranger or Camp offices, and should be referred to when applying new decals.

"When any units are traded in or sold out of the Service, the decals must be removed or painted over in a manner to render them unrecognizable."

1.3 Tools and Equipment on Vehicles

"Supervisors will ensure that each vehicle or other machine is equipped with the necessary tool complement, unit instruction book, envelope containing operator's instructions and accident forms, etc., and a vehicle log book as required. Log books will be checked for proper and complete entries."

1.31 Tool Complement

"Certain tools are considered to be mandatory equipment for all cars and trucks, and are listed as follows:-

- Jack and handle (of sufficient capacity for the unit with a normal load).
- Wrench, wheel, complete.
- Hammer.
- Pliers.
- Screwdriver.
- Wrench, adjustable.

"In addition to the above items, trucks of 3/4-ton rating or over will carry a set of approved flares and flags and an approved first-aid kit."
"Passenger-cars (including private cars on mileage), pick-ups, and trucks up to 1-ton capacity must be equipped with First-aid Kits W.C.B. No. 1.

"Trucks over 1-ton capacity and personnel-carrying units such as travel-alls and station wagons must be equipped with First-aid Kits W.C.B. No. 10 unit.

"Trucks of 7,000 G.V.W. and over will be equipped with approved flags and flares."

Tools for each vehicle are listed in the log book and serves as a property list for the unit.

1.32 Log Books

"A log book is supplied for each Forest Service vehicle and will accompany the unit at all times. This book is designed to give at a glance the operating history of the unit as occasion requires.

"Instructions covering the use of the log book are presented on the first page of each book and must be strictly adhered to. Failure to do so detracts from the value of the book particularly from the point of view of the Mechanical Supervisor, who will make periodic inspections of these records - i.e., at annual and interim inspections or at other convenient times."

1.33 Ash Receivers

"Each car or truck operated by the Forest Service will be equipped with an ash receiver. If such receiver is not supplied as standard equipment on the vehicle, the operator will bring the matter to the attention of the Mechanical Supervisor in order that a suitable ash receiver may be obtained."

1.34 Seat Belts

"Government regulations require that passenger cars and light-type vehicles be equipped with safety belts. All Forest Service vehicles in the following categories - passenger cars, pick-ups (1 ton and under), sedan deliveries, panels, station wagons, suburbans - presently in service, and all new vehicles of these types as they are received, must be fitted with two safety belts in the front seat. Safety belts should be requisitioned from the Purchasing Commission in the usual manner.

1.4 Driver's Licence

"Every Forest Service employee whose duties require him to operate a car, truck, or other unit for which a driver's licence is required must provide himself with such licence and renew same on expiration as necessary.

"An official in charge of a Government-owned truck or car who permits an unlicensed driver to operate the vehicle may be held responsible for any unfortunate results therefrom."

PART V SECTION 1, contd.
(1961)
Minors Licences

Drivers licences issued to persons under the age of 21 years are restricted by the Superintendent of Motor Vehicles to the driving of passenger type vehicles or commercial motor vehicles not exceeding one-half ton carrying capacity or 6,000 pounds gross vehicle weight. Any employee whose licence is so restricted and whose duties require him to operate a vehicle which exceeds these limits must first apply to a motor licence issuing office and qualify in a road-test in the largest vehicle which he will be required to operate. The examining official will then amend the restriction accordingly.

1.6 TRANSPORT OF OVERWEIGHT LOADS, PASSENGERS, AND EXPLOSIVES

1.61 Overweight Loads, Forest Service Units

"If or when it may become necessary to transport on a public highway any piece of Forest Service mechanical equipment or other material or load, of such weight or proportion as to constitute an overweight or oversized load on the transporting vehicle, as defined in sections 19.02 to 19.05, inclusive, of regulations pursuant to the Motor-Vehicle Act, it will be mandatory to procure a Department of Commercial Transport 'Special Permit for Operation of an Overweight or Oversize Vehicle on Provincial Highways' (D. C.T. 1). This form must be filled out in detail and presented to an appropriate Department of Transport official for approval and signature, as follows: In the case of a single trip, to any weight-scale official, Motor-Vehicle Branch, or Government Agent. In the case of a 'term' permit covering a number of trips, to the Department of Transport, Victoria."

1.64 Carrying Employees and Passengers

"Passengers may be carried on Government Forest Service cars and trucks as provided hereunder:-

"Government servants may be carried in the performance of their duties, or such other persons as are conveyed in connection with work of the Government; employees of the Government may be carried to and from the location of their work where such transportation is a condition of employment."

1.7 Tires

"Forest Service personnel in charge of cars, trucks, and other rubber-tired vehicles are expected to exercise all possible precautions which will tend to lengthen tire life and to reduce tire costs.

"The simplest and most effective of these is to maintain proper inflation pressures. The correct pressure for the type of tire used may be found in the log book which accompanies the unit concerned. This pressure should be closely adhered to, always bearing in mind that over-inflation or under-inflation does not compensate for heavy loads or rough roads, and will invariably result in increased wear and premature failure.

PART V SECTION 1, contd.

(1961)
Wheel Alignment

"It is essential that a close watch be kept on front tires for indication of rapid wear or scuffing due to front-wheel misalignment. If such a condition becomes apparent, immediate action in the form of toe-in check and other adjustments should be taken. Where examination indicates further repairs are required, the Mechanical Supervisor should be advised."

Recapping

"Automobile or truck casings on which the tread has worn thin but which have not sustained injury through cuts or breaks, or have not been weakened by running under-inflated, should be recapped.

"When any tire shows tread wear to the point where the tread pattern has nearly disappeared, it should be removed and brought to the attention of the Mechanical Supervisor, who will make arrangements to have it examined by a reputable tire repair shop and recapped with new tread rubber."

Any damaged or worn out tires will be held until inspected by the Mechanical Supervisor and only discarded on his approval.

Warranty Replacement or Adjustment

"In the event of premature tire failure where warranty consideration is indicated, the damaged tire should be brought to the attention of the Mechanical Supervisor, who will contact the tire company concerned and arrange for inspection and adjustment. Where a new tire is obtained through adjustment, the transaction must be covered by a confirmatory requisition or Emergency Purchase Order."

Emergency Tire Purchase

"In the event of failure where immediate replacement is necessary, tires or tubes may be obtained from the nearest dealer by use of an Emergency Purchase Order (E.P.O., Form P.C. 6).

"When the person requiring a tire does not carry an E.P.O. book, he must obtain the necessary form from a superior officer. Permission to purchase a tire and an E.P.O. number may be obtained via radio, in which case the official issuing the E.P.O. must ensure that the original copy is dispatched to the tire-supplier forthwith. Copy number two will in all cases be forwarded to the Purchasing Commission, and copies three and four retained for Departmental use.

"The following is an excerpt from 'Instructions re Purchase of Tires and Tubes' issued by the Purchasing Commission, May 20th, 1954, with further instructions regarding Emergency Purchase Orders:

"This form is then completed showing the make, size and ply of the tires or tubes to be purchased. These particulars are important and must not be omitted. Upon presentation of this form to the dealer, the tire, or tube, or both, will be supplied and the dealer
"will charge an installation fee of $1.00 per wheel for passenger car tires. Charges for other sizes are set out below. This amount must be paid at the time of procurement, and should be paid from travelling expenses. This is the only charge the dealer will make.

"The Rubber Companies and Distributors for all types of tires have agreed to accept our emergency purchase form, when attached to a dealer's order, as cash, and the sale of the tire or tube will be credited to the dealer's account, or the merchandise sold will be replaced in his stock, whichever he so desires. Upon receipt of our Emergency Purchase Order, the Distributor will bill the Department at the recognized discounts, less sales and excise taxes. Be sure to instruct the dealer to only supply tires for which he is an authorized agent.

"The successful operation of this scheme depends entirely upon the co-operation of those in the field. It is imperative that the Emergency Purchase Order form be used and the necessary information placed upon it. It will also be necessary for the person or Department receiving the tire to endorse on the second copy of the Emergency Purchase form (the copy for the Purchasing Commission) that the tire or tube has been received in good order. The reason for this being that the Audit Department has authorized the Purchasing Commission to transpose the signature from this copy to the invoice to speed payment of the account. Do not use an Emergency Purchase Order except in cases of real emergency.

'Installation Cost Schedule

"The Schedule for installing tires is as follows:-

Passenger Car Tires: All passenger car tires $1.00 per wheel.

Truck Tires -

6.00 x 16 up to 6.50 x 20 $1.25
7.00 x 15 up to 7.50 x 24 1.75
8.25 x 15 up to 8.25 x 24 2.50
9.00 x 17 up to 10.00 x 20 2.75
10.00 x 20 up to 12.00 x 20 3.00
12.00 x 24 with exception of earth mover tires 3.25

Earth Mover Tires -

Earth mover tires are to be installed on an hourly basic rate as recognized.'"

2.0 PURCHASES, REPAIRS, TRANSFERS, AND ACCIDENTS

2.3 Warranty

2.31 Service Policy

"When accepting delivery of a new car or truck, it should be ascertained that a service policy, complete with free inspection coupons, is provided by the dealer or his agent. Without this
"Policy it may be difficult to take advantage of the manufacturer's warranty, free inspections, or similar services. If the unit in question has been stationed in an area removed from the jurisdiction of the supplying dealer or agent, the operator will make necessary arrangements with the nearest dealer to perform all warranty and free services, presenting the aforementioned service policy when requested."

2.32 Warranty Duration

"Cars and trucks are guaranteed to be free from defects in material and workmanship under normal use and service, the duration of the guarantee usually being for ninety days after delivery or for 4,000 miles, whichever comes first.

"This guarantee may be rendered void by repairs and adjustments attempted or effected by unauthorized persons or garages, except in cases where there is no local dealer for the make of the vehicle involved. In these cases, arrangements can be made by the Mechanical Supervisor to have the supplying dealer honour invoices submitted by any reputable local garage for the required warranty repairs and (or) free services.

"A defect showing up within the guarantee period must be reported promptly to the District or Division Mechanical Supervisor, so that a follow-up can be made to ascertain that such defect has been remedied. If, after expiration of the warranty period, defects develop in any equipment which, in the opinion of the Mechanical Supervisor, should not be chargeable to the Forest Service, a full report on the subject will be forwarded for the attention of the Mechanical Superintendent so that the matter may be taken up with a representative of the manufacturer concerned."

2.41 Semi-Annual Inspections

"There shall be two routine inspections each year.

"The first is to be completed prior to the commencement of the fire season and will be reported on Form F.S. 80A (Mechanical Inspection Report, Interim Inspection). This is to ensure that all equipment is ready for the season's use - i.e., that units which have been in service during the winter months may be repaired as necessary, and that all reconditioning done following the fall inspection has been satisfactory.

"The second and main inspection of the year will constitute a most thorough check-over of all features of the unit's condition. This inspection will be recorded on Form F.S. 80 (Car and Truck Inspection Report), which must be completed in all details. It is most important that the unit grading figure be computed and shown in the space provided."

PART V SECTION 1, contd. (1961) (123)
2.45  Neglect or Improper Operation

"Where the inspection of any unit discloses improper operation or neglect of maintenance to an extent that disciplinary action is indicated, the Mechanical Supervisor will bring the matter to the attention of the District Forester or Division head for consideration.

2.5  Mechanical Repairs

2.51  Operator's Authority

"The operator, subject to District or Division ruling, may on his own responsibility expend up to $25 for necessary maintenance repairs to the vehicle in his charge. This is not to include installation of additional accessories."

The rule for this Division is that no repairs are to be undertaken without prior approval of the Mechanical Supervisor or mechanics. The only exception is minor emergency repairs to brakes, lighting system, or other safety devices. With an effective communication system and two mechanics in the field, requests can be confirmed rapidly to ensure adequate measures are taken to make the vehicle serviceable.  See Amendment #16

2.54  Repair by Dealer

"Forest Service vehicles which are to be repaired or serviced by a public work-shop will normally be taken to the agency garage, or the dealer for the particular unit concerned. If the District or Division has reasons to transfer this business, the Mechanical Superintendent must be advised by a written report giving full particulars."

2.6  Estimates, Repair Invoices

2.634  Discounts and Flat-Rate Charges

"As a fleet owner, the Forest Service, when patronizing an authorized dealership or garage, is entitled to a substantial discount on genuine replacement parts, and also the manufacturer's flat-rate charge on all standard repair or overhaul operations.

"Any deviations from the accepted discounts or flat-rate charges should be discussed by the operator with the dealer or his representative, with a view to effecting an equitable adjustment. Failing this, the disputed invoices should be drawn to the attention of the District or Division Mechanical Supervisor for further action."

Operators must ensure that the dealer or garage has the unit number correct on the work order, as the occasional invoice arrives at Victoria with no reference to vehicle number, Division or name of person authorizing repairs. This leads to considerable time wasted in determining whether the bill is valid or applicable to this Division's vehicles.

PART V  SECTION 1, contd.
(1961)  (124)
Attention - Holders of Operations Manuals

Re: AMENDMENTS - MOTOR VEHICLE ACCIDENTS

The following amendment is to be inserted in the Amendments Section at the end of Part V, Mechanical, and suitable notations made alongside Section 2.82, page 125, "Reporting on Blue Form":

Amendment #67.

"Report of Motor Vehicle Accident" form must be submitted to the Forester i/c for any motor vehicle accident where the total damage to the vehicle(s) involved exceeds $25.00. It is only necessary to forward one copy of the report (Blue Form H13).

On receipt of the report, the Victoria office will raise 6 copies and distribute as follows:

1 - Engineering Services Division - Superintendent of Equipment.
1 - Insurance and Safety Officer - Department of Highways
1 - Division Mechanical Supervisor - Green Timbers
1 - Vehicle file
1 - Personnel file
1 - 0146188-H.

R. C. Jones.

RCJ: rp
2.7 Mileage and Cost Reports

"Form F.S. 447 (Monthly Statement of Mileage and Expense for Department Vehicles). This form will be filled out each month by the operator or official in charge of each Forest Service vehicle.

"As the basic reason for this statement is to determine, for record and comparison purposes, the cost per mile for operation of each unit in question, it is extremely important that all charges that contribute to the expense of such operation be tabulated and totalled each month as soon as receipt of invoices, etc., will allow, and that completed forms are forwarded to District or Division headquarters regularly and promptly.

"Form F.S. 334 (Annual Mileage and Cost Report). This form will be completed by each District or Division at the termination of each fiscal year, and two copies forwarded to the Chief Forester, Victoria; Attention Comptroller, and Mechanical Superintendent respectively."

2.8 Accidents and Insurance

2.81 Reporting to the Police

"If an accident occurs within a city or municipality and results in death or injury to any person, or if property damage is sustained to either or both vehicles in a total apparently exceeding $100, the person(s) in charge of the motor-vehicle(s) MUST make a written report of the accident on a police report form within twenty-four hours to the chief of police of the said city or municipality.

"If the accident occurs in unorganized territory, a report MUST be filed with the nearest R.C.M.P. officer within forty-eight hours."

2.82 Reporting on "Blue" Form

"In addition to reporting to the police as required, a further report on the prescribed "blue" form (Report of Motor-Vehicle Accident Involving a Government Vehicle), covering ALL accidents involving Government vehicles or other motorized equipment, must be submitted to the District or Division Office. District or Division officials will forward one copy of the "blue" form to the Insurance and Safety Officer, Department of Highways, Victoria, and one copy to Engineering Services Division.

"If, in any accident, bodily injury or death occurs to any person, it is imperative that full information be radioed, telephoned, or telegraphed to the Insurance and Safety Officer and the Chief Forester, Victoria, as soon as possible after the accident.

"It is of the utmost importance that the accident reports be made out as soon as possible after the accident occurs, preferably at the scene of the accident, so that no detail will be overlooked, and forwarded by first mail. If possible, make measurements of road width, etc., and state estimated speeds of vehicles involved, as this information is extremely important in determining liability. Reports should be accompanied by a comprehensive diagram either in the space provided on the "blue" form or separately. When possible the report may be illustrated by photographs."
The procedure in reporting as per paragraph 2 above is laid down under Part VI of this manual. The Forester i/c is to be notified. It will be the function of the Victoria office to notify other Government officers as noted in the paragraph.

2.83 **Forms to be Carried in Motor-Vehicles**

"A special envelope containing Department of Highways Form S-2176, Forest Service Circular Letter No. 2192, Safety Committee bulletins, and six Report of Motor-Vehicle Accident forms shall be carried in each vehicle at all times. The insurance pink card will be carried in the same holder as the vehicle registration slip."

2.84 **Workmen's Compensation Board Report**

"In addition to filing a report of accidents as herein instructed, if the accident caused bodily injury to an employee, a report on Form 7 (Employer's Report of Accident) must be filled out by the District or Division and forwarded to the Workmen's Compensation Board, Vancouver (see also Protection Manual, section 10.442)."

Refer to Part I for further instructions on W.C.B. reports.

2.85 **Investigating Accidents**

"In the event of a major accident, a senior Forest Officer should carry out an on-the-spot investigation in order to assess responsibility and gather information for a supplementary report to accompany the "blue" forms to Engineering Services Division, Victoria, and the Insurance and Safety Officer. In cases where the accident is attributed to mechanical failure of the Department vehicle, the Mechanical Supervisor will prepare and forward a covering report as above."

2.87 **Rendering Assistance**

"Operators of Government cars and trucks must render all possible assistance to persons injured as a result of an automobile accident, but under no circumstances will admission of responsibility be made. No driver of a Government vehicle shall voluntarily assume any liability or settle any claim except at his own cost."

2.88 **Insurance**

"The following excerpt is from a memorandum dated May 30th, 1953, from the Minister of Finance to all Deputy Ministers:-

"'This will serve to advise you that commencing April 1st next, the fleet of Government-owned vehicles of all types will no longer be insured by private insurance companies as heretofore.

"'As an economic measure the Government will become self-insurers. This will not affect adversely the drivers of Government vehicles. The Government gives assurance that the same protection will be afforded to drivers exactly as though the insurance was carried by a private firm.'"
Claims

"Claims arising from an accident wherein liability is determined to be that of the Government driver will be paid from Government funds. (See also section 1.5, 'Improper Use of Vehicles'.)"

"No employee will enter into negotiations with any insurance company or adjuster for settlement, on behalf of the Government, of any claim resulting from an accident involving a Government-owned vehicle; nor will he or she execute any release of discharge form in settlement except by express instructions from the Chief Forester. Third parties may be advised that all claims for damage should be addressed to the Insurance and Safety Officer, Department of Highways, Victoria, unless other arrangements are made between the Insurance Officer and the Department reporting the accident.

"When and where it seems necessary, an insurance adjuster will be appointed by the Insurance and Safety Officer, Department of Highways, to investigate, report, and recommend in the matter of settlement of claims. At such times and places as adjusters are appointed, District officials and drivers will co-operate in supplying the adjuster with full information."

SECTION 2 TRAILERS

3.21 Trailer Licences

"Licences must be taken out for the operation of trailers as for cars or other vehicles. Licence-plates for Forest Service trailers are obtainable, free of charge, on application to the local licence office or Government Agent. The plates must be properly displayed and kept clean. If lost, the matter must be immediately reported and application made for replacement."

3.22 Mechanical

"Running-gear must be kept in good condition at all times and will receive periodic inspection by the Mechanical Supervisors as in the case of motor-vehicles. Operators should ensure that the wheel bearings receive adequate lubrication (4,000 miles) and that brake adjustment and air vacuum hoses are checked and kept in good order.

"Trailer hitches, brakes, lines or cables, safety chains, etc., must be carefully connected and tested before moving off. Wheel nuts must be kept really tight, especially on the braking wheels; wheel nuts should be checked several times in the first 500 miles running of a new trailer.

"Each fall (before the trailer is stored for the winter) the axle or axles will be dismantled - i.e., wheels and drums removed, wheel bearings repacked, brake linings checked for wear, and all brake linkage lubricated where necessary. The following maintenance should also be carried out:-"
"Screw jacks lubricated.
Spring shackles lubricated (if fittings provided).
Tires checked for cracks, breaks, and wear.
Any other part, such as the roof-vent screw, lubricated."

3.23 Parking

"Before attempting to raise the hitch off the towing-ball by means of the screw jack, be sure that the wheels are blocked to prevent the trailer from moving when the restraint of the hitch is removed. If this precaution is omitted, it is very probable that the jack will bend or break, especially if the jockey wheel is not used or if it sinks into a soft surface.

"The best idea is to use a piece of 3/4-inch plywood about 18 inches square and place this under the jockey wheel to enable it to swivel more readily. This is a good idea even though the wheels are blocked because there may be a tendency to 'slew' due to flexing of the tires or springs.

"Always block up the corners of any trailer if it is to be parked for more than a couple of days. Some trailers are equipped with built-in jacks, but these should not be relied upon for other than temporary use - i.e., one or two days. Blocking is the only safe permanent course of action."

3.24 General Instructions re Trailers

"The following general instructions will be printed on a card and placed in each trailer:-

"Plumbing. If the trailer is to be left unheated during freezing weather, or for a period which may extend into fall or winter, all plumbing must be completely drained by:-

"i. Opening all drain cocks provided for this purpose. These may be located under the trailer or under fixtures, in which case a hose-bib connection is provided. (NOTE. - There may be more than one such drainage point, so reason out the layout of the piping until you are satisfied that every low spot is drained.) Payne-type electric water-heaters are guaranteed to drain completely, providing the connecting pipe is drained.

"ii. It is essential to open all faucets to ensure that air is permitted to replace water in the pipes. Where a fresh-water tank is provided, the filler or sounding-hole plug must be removed to permit air to enter the tank.

"iii. Remember to check that the toilet is drained and that the bowl and tray of the fixture are either drained by means of a pump or that anti-freeze is added to the water in sufficient quantity."
"Oil Heaters:"

"i. Read and understand the manufacturer's instructions relative to the type of heater installed in the trailer, and if these are missing, write for them immediately either to the manufacturer or to the Engineering Services Division, Victoria.

"ii. Use the greatest care when filling the oil-tank at the back of the heater and wipe off any residue or spilling that may occur, taking care to destroy the wiping cloth immediately, as oily clothes are capable of spontaneous combustion. Paper towels are perhaps best to use as these are more readily disposable.

"iii. Always stand by the heater after lighting until it settles down to a steady flame.

"iv. Be sure to turn the heater down low before leaving the trailer - you may be away longer than you intended.

"v. Precautions iii. and iv. apply equally to lanterns or lamps.

"vi. The importance of the above is accentuated by the highly inflammable nature of the lacquer finish in most Forest Service trailers.

"Propane Gas:"

"i. While safety features are built in to all propane gas fixtures in trailers, it is nevertheless very necessary to use common sense and presence of mind at all times when handling this fuel,

"ii. Be sure that the gas supply is turned off at the tank when leaving the trailer for any considerable length of time.

"iii. If you suspect that there is any leakage or escapement of gas from the tank, regulator, or safety valve, be sure to close any windows located within 3 feet of the tanks to prevent convection currents of air from drawing the gas into the trailer. (Escapement of gas from the safety valve may occur on a warm day if the tanks have been over-filled.)

"iv. Do not look for leaks with an open light or flame.

"v. Do not turn on the oven until you have the lighted match in your hand.

"Electrical:-- From time to time, persons have received slight shocks from touching the shell or door handles of trailers. This can be attributed to a number of causes, depending upon whether the source of electrical supply is grounded and whether this ground is located in the vicinity of the trailer. There are also several variables, such as moisture content of the ground, which may affect the grounding qualities of the trailer's ground-rod, and of atmospheric dryness, which may cause static electricity to collect in the aluminium of the trailer sheathing."
"The possible combination of circumstances are so numerous that it is not possible to give precise instructions regarding the tracing of such conditions, but if the shocks are quite severe, the advice of an electrician should be sought at the earliest opportunity. One piece of advice can, however, be given: If the type of connection permits, you should remove the service-line plug and turn it 180 degrees before reconnecting. This may remove the cause of electrical 'leakage' and consequent shocks."

SECTION 3 OTHER MECHANICAL UNITS

4.2 Outboard Motors

4.21 Responsibility

"Responsibility for the operation, running maintenance, and general condition of an outboard motor shall be vested primarily in the operator or the Forest Officer to whom it is charged. Due to the nature of the work it must perform, and the exposed and unprotected operating position, it is imperative that general maintenance and care during operation be of a high standard."

4.22 Safety Devices

"Propellers and driving mechanism are protected from severe damage when striking an obstruction either by 'shear pins' which break, or by friction devices which slip, thus freeing the propeller on its driving-shaft. It is most important that only proper shear pins are used, and on no account should nails be utilized for this purpose.

"Friction devices are pre-set on assembly and require no adjustment by the operator.

"The motor-tilting arrangement is a further safeguard, and the tilting bolt or screw should be adjusted so that friction will just hold the motor in any position it is placed. As the tilting feature is inoperative when the motor and boat are going backwards, it is extremely important that the reversing speeds be kept to the minimum, consistent with operating conditions. Striking a submerged object while reversing at high speed will invariably result in damage to the propeller, and probably result in damage to the lower housing and (or) drive-shaft.

"All outboard motors when mounted and running shall have a safety rope or chain of convenient size and length made fast at one end to the motor and at the other end to the boat. Mounting-clamp screws should be set up tight and should be checked occasionally during operation."

4.23 Operation, Repairs

"When in use each outboard motor must be given a daily inspection to minimize the possibility of failure during operation. Each
"motor must have an instruction and parts book as standard equipment, and reference should be made to this when servicing or adjusting the unit.

"Field repairs must be kept within the capabilities of the operator and (or) local facilities. No major repairs will be undertaken without advice from the Mechanical Supervisor, who will approve local repair or advise return to the Forest Service Marine Station."

4.25 Storage

"When an outboard motor is retained in the District for winter storage, it must be carefully cleaned and the fuel completely drained. The cooling system and lower end should also be drained to remove any water that may remain, the lower end to be refilled with an approved lubricant. The unit will then be stored in an upright position either on a rack or in its shipping-case. Do not store in a horizontal or inverted position."

4.26 Fuel and Oil

"To ensure trouble-free operation of any outboard motor, it is essential that only recommended fuels and oils be used. Where possible, fuel should be a regular non-leaded white or "marked" gasoline - not naphtha. Oil should be a non-detergent type, such as first-quality straight mineral oil or one of the special "outboard" oils.

"The Engineering Services Division will provide from time to time, or on request, current fuel and oil recommendations.

"The fuel and oil mixture used in the majority of outboard motors must be in the recommended proportions and be thoroughly mixed, preferably in small quantities. Up to 10 gallons is suggested.

"Do not use ready-mixed fuels, such as a power-saw mix."

4.27 Outboard-Motor Mounting

"In order to achieve maximum performance from an outboard and boat, it is essential that the motor be properly mounted. It must be centrally located on the transom with the propeller deep enough in the water to avoid 'cavitation.' The motor must also be positioned with the tilting device to achieve ideal boat 'trim' when under way.

"Keep the boat on an even keel, utilizing ballast up forward if necessary to offset the operator's weight or any tendency of the motor to pull the stern down."

4.28 Tools and Equipment

"Each outboard motor shall be provided with a tool and equipment
"kit suitable for the particular unit and conditions under which it operates. The suggested minimum kit is as follows:-

1 pliers, 6" or 8", ord.
1 wrench, crescent, 8" or 10".
1 screwdriver, 6" or 8".
1 gauge, spark-plug and magneto point.
1 funnel, complete with water-screen.
1 cord, starting (spare).
6 pins, shear (suitable size and type).
6 pins, cotter, brass (suitable size and type).
1 tube of gear grease.
1 log book.
1 instruction manual.
1 chain or rope, safety, complete with hooks.

"Additional items, such as spare propellers, gas-cans, grease-guns, etc., may be carried if operation or unit requires such equipment."

All tool kit items as listed in the log book, are packed in a plywood box, with the unit number designated on the box.

4.29 Identification Numbers

"All outboard motors operated by the Forest Service are numbered serially, and each motor retains this number for identification purposes as long as it remains in the Service. Forest Officers will ensure that all outboard motors are so identified by having the number, issued by the Mechanical Superintendent, suitably painted or stencilled on the fuel-tank or engine shroud. In cases of units equipped with separate fuel-tanks, the number must also be placed on the tank.

"All correspondence, invoices, vouchers, etc., relative to a Forest Service outboard motor must bear the Forest Service number for that particular unit."

When replacing O.B.U.'s in packing cases prior to shipment, ensure that the correct unit is placed in its applicable case.

4.3 Power Saws

4.31 Responsibility

"The responsibility for the operation, running maintenance, and general condition of a power saw shall be vested primarily in the Forest Officer and (or) operator to whom it is on charge. Due to the somewhat severe service to which these units are subjected, plus the exposed operating conditions, it is imperative that general maintenance be of a high standard."

4.32 Operation

"In operating a power saw, maximum efficiency can be achieved only by practice and experience, and by becoming thoroughly familiar with the unit. Inexperienced operators must be instructed in the

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"Use and maintenance of a saw and given an opportunity to get the 'feel' of the unit before going into production work.

"The instruction manual which is provided with each power saw should be used as a guide and referred to for any operating or maintenance problems. Particular attention must be paid to items relative to chain care and lubrication, fuel-oil mixtures, detrimental effects of 'racing' an unloaded motor, and safety precautions.

"To minimize the possibility of starting bush fires, each power saw must be equipped with a fully charged chemical fire extinguisher of not less than 8 ounce capacity by weight. In addition, a round-point shovel must be maintained at the refuelling point. (Regulation 2 (f), Fire Prevention Regulations.)"

4.33 Fuel and Oil

"To ensure trouble-free operation of any power saw, it is essential that only recommended fuels and oils be used.

"Where possible, fuel should be a regular non-leaded white or 'marked' gasoline - not naphtha. Oil should be a non-detergent type, such as first-quality straight mineral oil or one of the special outboard or power saw oils. The Engineering Services Division will provide from time to time, or on request, current fuel and oil recommendations.

"It is most essential that the fuel and oil mixture be in the recommended proportions, and thoroughly mixed, preferably in reasonably small quantities. Up to 10 gallons is suggested.

"Power saw mixes will be used only when recommended by the Mechanical Supervisor and approved by the Mechanical Superintendent."

4.34 Tools and Equipment

"Each power saw should be provided with a tool and equipment kit suitable for the particular unit and the conditions under which it operates. The exact complement of such a kit will depend largely upon the make and model of the saw.

"When a unit lacks tools and other equipment, the Mechanical Supervisor will forward his recommendations for the necessity and composition of such a kit. Items such as an instruction manual, chain files, and suitable wrenches and screwdrivers for bar adjustment are mandatory. Each saw must be equipped with a 8 ounce chemical fire extinguisher and a round-nosed shovel for fire prevention purposes."

Tools and equipment are listed in the unit's log book.

4.35 Bars and Chains

"To ensure efficiency with full production, it is essential that the bar(s) and chains be kept in good order at all times. Too
"Often the motor is blamed for inefficiency when the bar and (or) chain is at fault. Reference should be made to the maintenance manual and to the various bulletins issued by the Mechanical Superintendent's office relative to the care of these important components, and the instructions and suggestions contained therein carefully followed."

4.36 Inspection

"When in use a power saw must be given a regular daily inspection, with minor repairs and adjustments made as required. Each unit is equipped with an instruction book, which should be referred to when effecting any servicing or adjustments.

"At least once annually the District or Division Mechanical Supervisor will perform a complete inspection of each power saw, reporting his findings on Form F.S. 401 to the Mechanical Superintendent. Copies will be forwarded to the Superintendent of the Forest Service Marine Station, the District or Division headquarters, and the operator or Forest Officer in charge of the unit. In addition, the Mechanical Supervisor will make at least one annual interim inspection (Form F.S. 80A) to ensure that field maintenance is adequate and that the unit is performing satisfactorily."

4.37 Repairs

"Field repairs must be kept within the capabilities of the operator and will normally consist of minor adjustments and repairs only. No major repairs will be undertaken without advice from the Mechanical Supervisor, who will approve local repair or shipment to the Forest Service Marine Station. In some instances, permission may be obtained for Forest Service camp or project workshops to perform major repairs, provided competent mechanical personnel and suitable tools and equipment are available."

4.39 Identification Numbering

"All power saws operated by the Forest Service are numbered serially and each saw retains this number for identification as long as it remains in the Service. Forest Officers will ensure that all power saws are so identified by having number tags, issued by the Mechanical Superintendent, suitably attached to the unit. Lacking the required tag, the number may be painted or stencilled on the fuel tank or other conspicuous place. All correspondence, invoices, vouchers, etc., relative to a Forest Service power saw must bear the Forest Service number for that unit."

4.4 Light Plants

4.41 Responsibility

"Responsibility for the operation and general conditions of any power lighting plant will rest on the Forest Officer to whom it may be on charge. Due to the important part that a power plant
"plays in the operation of a station or camp, it is imperative that every effort be made to ensure maintenance of a high standard. When unable to handle such maintenance personally, the Forest Officer in charge of the unit will delegate a competent person to handle the servicing and adjustments.

"Overloading the plant must be avoided at all times."

4.42 Inspection

"When in constant use, a daily inspection programme must be set up and adhered to. This shall include cleaning, refuelling, topping up crank-case oil and coolant, inspection of batteries, the wiring, and of the unit generally.

"Manufacturer's recommendations regarding frequency of oil and filter changing and other pertinent maintenance factors must be closely followed. Each plant is provided with an instruction manual, which must be kept with the unit and referred to when making any adjustments or repairs.

"At least once each year the District or Division Mechanical Supervisor will make a complete inspection of each plant, forwarding his findings and recommendations to the Engineering Services Division, Attention: Mechanical Superintendent; the Superintendent of the Forest Service Marine Station; the District or Division headquarters; and the Forest Officer in charge of the unit. In addition, the Mechanical Supervisor will make at least one interim inspection (Form F.S. 80A) annually to ensure that the unit is being properly services and maintained."

4.43 Repairs

"Field repairs must be kept within the capabilities of the station or camp staff. General repairs or overhaul will not be undertaken without advice from the Mechanical Supervisor, who will approve local repair or advise shipment to the Forest Service Marine Station.

"Where the Forest Service maintains repair facilities of its own, such as at road projects, overhaul of these units may be undertaken by Forest Service mechanical personnel, subject to recommendations by the District or Division Mechanical Supervisor and approval of the Mechanical Superintendent."

Division mechanics are to be informed of any apparent defects in operation, and will be responsible for arranging repairs.

4.44 Fuel and Oil

"To ensure trouble-free operation of any light plant, it is essential that only approved fuels and oils be used. The manufacturer's recommendations should be closely followed, and no deviation from these will be made unless recommended by the Mechanical Supervisor and authorized by the Mechanical Superintendent."
4.45 Installation

"In order to achieve maximum performance from a light plant, it must be centrally located in respect to power demands. Where possible, avoid long 'runs' or transmission wiring, which tend to increase the plant load. Imposition of loads in excess of the rated capacity of the plant must be avoided by restricting the use of appliances or other devices that entail a heavy current consumption.

"The plant must be suitably mounted, preferably on a concrete base. Installation should be in a well-ventilated weather-proofed building, which must be kept clean and free of stored fuels and oils, etc. Such a building must be retained solely for the accommodation of the plant and not as a general storeroom."

Mechanical Supervisor has arranged for some units to be mounted on trailers. Concrete slabs are not presently required for this Division's units.

4.46 Tools and Equipment

"Generally speaking, the more permanent the installation of a light plant, the less need for a large accompanying tool kit. Other than special tools, instruction manual, and equipment peculiar to the unit, it should be possible to utilize station or camp tools when effecting adjustments or repairs. It is important, however, that manuals and special tools, such as gauges, wrenches, etc., be conveniently located in order that they can be referred to or used as occasion demands."

Tools are listed in the log book.

4.47 Identification Numbers

"All light plants operated by the Forest Service are numbered serially, and each plant retains this number for identification purposes as long as it remains in the Service. Forest Officers will ensure that all light plants are so identified by having the number, issued by the Mechanical Superintendent, suitably stencilled or painted in a conspicuous place on the unit. In the case of plants where the alternator is a separate belt-driven unit, both the engine and the alternator will be marked with the name number.

"All correspondence, invoices, vouchers, etc., relative to a Forest Service light plant must bear the number for that particular plant."

SECTION 4 MISCELLANEOUS MECHANICAL INFORMATION

5.21 Employment as Operators or Drivers

"Applications for positions as truck, tractor, or grader operators may be made to the District Forester or Division head on Form F.S. 88, which is obtainable on request.

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"It is preferable that prospective operators and drivers be interviewed by the Mechanical Supervisor prior to engagement, and in no case will they be confirmed in their positions until they have satisfactorily passed the Mechanical Supervisor's test. In the case of truck drivers, the test will be fully carried out as per Form F.S. 210 (Truck Operation Test), and in the case of tractor, grader, or machine operators will consist of pre-operational servicing, handling under actual working conditions, and by oral and practical examination, satisfying the Mechanical Supervisor that their general knowledge of operation and maintenance is adequate in respect to the machine concerned. On completion of the test, a memorandum outlining the results should be directed to the District or Division head, with a copy to the Mechanical Superintendent."

5.22 Operator Instruction

"Mechanical Supervisors will instruct operators where necessary in proper operation and maintenance procedures, particularly in the case of new employees or where new types or models of machines are placed in service."

5.3 Volatile Fuels

5.31 Storage and Safety Measures

"In every instance where it is necessary to stock gasoline or other volatile fuels, every precaution must be taken for safe handling and safe storage.

"In temporary project camps, suppression crew and fire camps, or other places where it may be necessary to maintain a drum supply, storage will be arranged well apart from the camp proper and away from all other supplies. In warehouses, special storage space shall be provided, fully complying with all local fire regulations. In locations where tool caches are in the basement or immediately adjacent to public or other buildings, it may be necessary to establish separate fuel cache buildings.

"At all times when gas supply is from a drum, lock faucets or, preferably, approved wing or plunger pumps will be standard equipment as a means of drawing gas from a drum. This is not only for safety but also as a means of preventing waste."

5.32 Warning Signs

"At all gas caches, both permanent and temporary, warning sign Form F.S. 29, as follows, will be posted:-

WARNING

"No Forest Officer, employee of the Forest Service, or any person acting on behalf of the Forest Service shall handle gasoline or fuel-oils within 50 feet of an exposed light or flame. Smoking or
"striking lights or any other infraction of this order will merit summary dismissal. If any gasoline or other volatile fuel must be handled after dark in buildings or any locations not provided with electric light, approved electric lanterns or flashlights must be used.

"This form may be requisitioned from the Property Clerk, and a stock is to be maintained in all Ranger Districts for inclusion in timekeepers' kits, etc."

5.33 Responsibility

"It is the direct responsibility of the Forest Officer immediately in charge to see that the instructions mentioned under section 5.32 are complied with. It shall also be his duty to ensure that dispatchers, warehousemen, suppression crew men, and all other personnel who may in the course of their duties be handling volatile fuels receive special instructions in the matter at the beginning of the season."

SECTION 5 MARINE

A. 6.1 Forest Service Marine Craft

6.11 General Definitions

"The word 'vessel' will include every description of water-craft, other than a seaplane, which is capable of being used as a means of transportation on water. Vessels will be defined, in so far as possible, in the following manner:-

"Motor-vessels: Inboard-powered and exceeding 26 feet in length. Launches: Inboard-powered, 26 feet and under in length. Outboard cruisers: Designed for outboard use only. River-boats, dinghies, and skiffs: Aluminum and plastic, will be referred to in that manner where necessary. Coastal vessels: This term will refer to motor-vessels and launches as defined above and plying Coastal waters."

See Appendix I for description of small craft operated by the Division. Boats designated "O", "OC", "R", and any other powered by a 10 h.p. motor or greater are now licenced under Canada Shipping Act regulations. Licence numbers are attached on both sides of the bow and a small plates is fastened near the stern seat with unit number, maximum load men, maximum load freight and maximum horsepower motor.

6.12 Responsibility (All Vessels)

"The Forest Officer in whose charge the vessel has been placed will be responsible for the vessel, except in those cases where a master is carried (Coastal vessels)."
"The responsibility covers the equipment, condition and appearance, running operation, the safe mooring or anchorage, and compliance with Forest Service instructions and other regulations.

"On Interior waters, running operation and other matters may be placed to the responsibility of the operator of the vessel, but the Forest Officer in charge will still be responsible in a supervisory capacity for the vessel's condition and appearance.

"On Coastal vessels all mechanical, radio, and other equipment will be directly under the charge of the engine and radio operator, and he will be responsible to the officer in charge for the upkeep and condition of such equipment.

"In the case of one-man vessels the officer in charge will assume the whole responsibility for condition and operation, under his immediate superior. This refers generally to Assistant Rangers, Patrolmen, or in certain cases where the Ranger operates the vessel alone."

The project supervisor or party chief will be responsible for placing a qualified employee in charge of any boat used in field projects. Such personnel must be personally checked out by the supervisor and thoroughly instructed in their duties. If the nature of the work is such that the supervisor considers none of his crew are suitably qualified arrangements shall be made as outlined in 6.34 below.

B. 6.3 Running Operations

6.31 Responsibility

"The Forest Officer in charge, or the master, or the operator (see section 6.12) shall be held responsible for the running operation of the vessel, her equipment, condition, and appearance. He shall be responsible for the compliance with all regulations governing running operation."

6.33 Operation, Running

"Every vessel shall be operated in a safe and prudent manner, and shall abide by the International Rules of the Road and the 'Canada Shipping Act' (where such applies) and the Forest Service regulations.

"All personnel required to operate a vessel shall be familiar with the running instructions and regulations pertaining to the vessel in their charge.

"Forest Service vessels must not, except in justifiable circumstances, be operated during the hours of darkness, or in a fog, or in any similar circumstances of restricted visibility, or where conditions of wind or sea make the operation hazardous. In cases where an emergency run has to be made, an entry will be made in the log book (Coastal vessels), giving pertinent details. Fresh-water ves-
"sels maintaining a log will follow the same procedure, and where no such log is kept, an entry in the diary of the operating officer should be made."

The foregoing shall only apply to vessels operated by qualified masters on coastal waters, i.e., "Forest Surveyor", "B. C. Forester", "B. C. Surveyor". All other boats used by the Division will be operated in accordance with Division policy respecting running as follows:

1. No trips are to be undertaken where destination cannot be reached within one hour of darkness, except in cases of extreme emergency.

2. Where potential hazardous operating conditions are present, and travel by boat is necessary, the supervisor will investigate the conditions prior to commencing work. He shall arrange for necessary safety precautions such as hiring boatmen or guides, or designation of suitable experienced personnel to be placed in charge of the boat, and arrange for regular radio checks whenever possible, and advise Forester i/c, Operations of any additional safety equipment required. All the above arrangements are to be dispatched to the Forester i/c for final approval. (See section on boat safety for further particulars on water travel.)

C. 6.5 Safety Measures

6.51 Fire Prevention

"Fire aboard a vessel may mean loss of life, an explosion adding greatly to such a probability. For this reason, particular attention must be paid to the storage and handling of gasoline, and of Rockgas or propane gas used for stove or refrigeration. In both cases, the gas fumes, being heavier than air, will settle into the lowest part of the vessel and are readily ignited by an electric spark, lighted match, or any open flame.

"Should a leak occur in the Rockgas or propane installation, shut off the gas at the tank, repair the leak, and thoroughly air out the vessel before attempting to start the engines.

"If gasoline gets into the bilges from any source, such as broken lines, flooded carburettors, spillage, etc., it must be removed, the bilge mopped dry, and the vessel thoroughly aired before the engines are started.

"When gas is about or suspected, smoking aboard is absolutely prohibited. Furthermore, smoking is prohibited when taking fuel aboard, and in the engine-room at any time. (REMEMBER - Survivors of vessels wrecked by explosions are few.)

"Oil Burners - Defective or dirty oil burners, whether on ranges or hot water heaters, and defective stove-pipes, exhaust-lines, and mufflers are all potential fire-hazards and should be repaired or replaced at once.
"Fire Extinguishers - Every powered vessel is equipped with one or more fire extinguishers, depending upon the size of the vessel, also with fire buckets on the larger vessels. In most cases the CO₂ or dry powder fog type is supplied, and for some applications the carbon tetrachloride type is used. Fire extinguishers must be kept on the hangers provided, in such a position that they are handy for instant use and free from extraneous gear. Fire extinguishers must be recharged as soon as possible after use. The carbon tetrachloride and dry powder fog can be recharged on the Station; the CO₂ will have to be sent to a CO₂ service dealer. All fire extinguishers should be tested each year by an authorized person."

Marine Safety Equipment Inspection Report F.S. 211 (Appendix I). These inspections are to be made twice a year during the operating season.

6.53 Life Boats

"Life boats or dinghies carried aboard vessels shall be kept free of extraneous gear, the hoisting gear in good condition, the oarlocks to be attached by lanyards or chain or other means to their respective positions. The requisite oars shall be in the boat at all times."

6.54 General Safety Measures in Operation

"Small boats are hazardous and often dangerous means of transportation, therefore, care must be used at all times. The operator's ability and experience on small boats, the type of boat, weather conditions, what body of water the boat is to be used on, and the load carried are all factors to be considered carefully before setting out. It is positively dangerous to operate small boats, including decked cruisers, in waters where the wind is bucking the current. This applies to rivers, estuaries, and tidal currents.

"Motor vessels require handling ability and experience proportionate to their size. Do not assume control of any motor vessel of a type with which you have no previous experience in handling without prior personal instruction. Have the previous operator or other authorized personnel explain the various controls and their functions. Make a few practice runs under supervision and carefully observe the following:-

"Does she alter direction quickly or otherwise when the wheel is turned.

Does she pick up speed quickly when the throttle is open.

Does she lose speed rapidly when the throttle is closed.

Note the speed through the water with a closed throttle and whether she loses way rapidly when thrown out of gear.

How fast does she pull up when thrown into reverse.

"The foregoing are vital factors when coming in for a landing or feeling your way through unknown waters."
Further Safety Precautions.

1. Do not overload boats.
2. Carefully size up any situation before setting out. Do not endanger lives by venturing out into rough waters unnecessarily, when a trip could be postponed until conditions are suitable.
3. Remain seated unless directed to move by the operator.
4. If the motor quits, take immediate action to put out oars to prevent swinging broadside to waves. Take direction from boat operator, don't all rush to stern to change motors.
5. If caught in a blow, quarter waves as much as possible and reduce speed.
6. On the coast all operators must be familiar with tide tables particularly in narrow entrances having rapid tidal flows.
7. The Division uses many types of small craft. Many have entirely different characteristics. Operators should be familiar with the boats they may be called on to operate.
8. Maintain a sharp lookout for "chunks" or submerged rocks, logs, piling, or other floating debris.
9. Life jackets issued will easily support a 200 pound man, fully clad. Under most conditions it is best to keep all clothes on, mostly to provide some warmth in cold water.
10. Obtain all local information about the waters you will be required to use.
11. Tie everything down.

6.55 Accidents

"All accidents, of whatever nature, must be entered in the log book and reported to the District Forester or Division head at once. Copies of all accident reports are to be forwarded to the Chief Forester from the District or Division office. Failure or loss of time in reporting accidents cannot be tolerated, and no excuse will be accepted in this respect. Accident reports should be full but concise, giving all pertinent particulars, such as location, time, tide, weather, cause, action taken, probable time out of operation and probable costs (if known).

"Reports of witnesses may be valuable as evidence and should be obtained if possible."

For details respecting accidents see Part I, W.C.B. reports and Part VI, Safety Precautions.

D. 6.6 Rules of the Road (Running Regulations)

"RULE 18. (a) When two power-driven vessels are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard so that each may pass on the port side of the other."
"This rule only applies to cases where vessels are meeting end on, or nearly so, in such a manner as to involve risk of collision, and does not apply to two vessels which must, if both keep on their respective courses, pass clear of each other.

"The only case where the rule applies is when each vessel is end on, or nearly so, to the other; in other words, to cases in which, by day, each vessel sees the masts of the other in line, or nearly in line, with her own; and by night to cases in which each vessel is in such a position as to see both the sidelights of the other.

"It does not apply, by day, to cases in which a vessel sees another ahead crossing her own course; or, by night, to cases where the red light of one vessel is opposed to the red light of the other, or where the green light of one vessel is opposed to the green light of the other, or where a red light without a green light or a green light without a red light is seen ahead, or where both green and red lights are seen anywhere but ahead.

"(b) For the purpose of this rule and Rules 19 to 29 inclusive, except Rule 20 (b), a seaplane on the water shall be deemed to be a vessel, and the expression 'power-driven vessel' shall be construed accordingly.

"RULE 19. When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her starboard side shall keep out of the way of the other.

"RULE 20. (a) When a power-driven vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, except as provided in Rules 24 and 26, the power-driven vessel shall keep out of the way of the sailing vessel.

"(b) A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, she shall comply with these rules.

"RULE 26. All vessels not engaged in fishing shall, when under way, keep out of the way of any vessels fishing with nets or lines or trawls. This rule shall not give to any vessel engaged in fishing the right of obstructing a fairway used by vessels other than fishing vessels.

"RULE 28. (a) When vessels are in sight of one another, a power-driven vessel under way, in taking any course authorized or required by these rules, shall indicate that course by the following signals on her whistle, namely:

"One short blast to mean 'I am altering my course to starboard'. Two short blasts to mean 'I am altering my course to port'. Three short blasts to mean 'My engines are going astern'.
"RULE 31. Distress Signals. When a vessel or seaplane on the water is in distress and requires assistance from other vessels or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, namely:

(a) A gun or other explosive signal fired at intervals of about a minute.
(b) A continuous sounding with any fog-signal apparatus.
(c) Rockets or shells, throwing red stars fired one at a time at short intervals.
(d) A signal made by radiotelegraphy or by any other signalling method consisting of the group "---·---" in the Morse Code (SOS).
(e) A signal sent by radiotelephone consisting of the spoken word 'Mayday'.
(f) The Internation Code Signal of distress indicated by N.C.
(g) A signal consisting of a square flag having above or below it a ball or anything resembling a ball.
(h) Flames on the vessel (as from burning tar barrel, oil barrel, etc.).
(i) A rocket parachute flare showing a red light."

E. Channel Markings and Warnings

1. Fishing Vessels – Watch for a small flag (of varying colour combinations) on a float. This flag denotes the end of a boat's fishing net. If you see that you're going to run over a net before you can alter course, kill your outboard and hoist the propeller clear of the water. The boat will run over the net floats without too much trouble. Flags are replaced by lanterns at night.

2. Buoyage or Channel Markings – Throughout the ports of B.C. all STARBOARD HAND buoys are CONICAL, painted RED, and, if numbered, marked with even numbers.

ALL PORT HAND buoys are flat topped, painted BLACK and, if numbered, marked with odd numbers.

The term starboard hand denotes the side of the right hand of a mariner when going with the main stream of the flood, or in entering a river, harbour, or estuary from seaward.

The term port hand denotes the left hand of a mariner, under the same circumstances as in the paragraph above.

It has been decided to mark the coastwise channels of British Columbia as if the tide ebbed to the southward, disregarding the point of turn of the tide, so that vessels proceeding northward up the coast or into an inlet toward the head will have red buoys and beacons on the starboard side. (The preceding 5 paragraphs have been quoted from "Buoyage – Canadian Uniform System; D.O.T.; Victoria, B. C., May 11, 1951.)}
The main thing to remember is that if you are proceeding northward in B.C. waters, or into any river or harbour, keep completely red buoys on your starboard side and completely black buoys on your port side. Proceeding southward, or out of any river or harbour the opposite will be true.

Buoys painted with black and red horizontal bands will be found on obstructions of middleg rounds, and may be left on either hand.

Buoys painted with black and white vertical stripes will be found in mid-channel, and must be passed close to, to avoid danger. (The preceding 2 paragraphs have been quoted from "Buoyage - Canadian Uniform System; D.O.T.; Victoria, B. C., May 11, 1951.)

3. Skin Diving Markers - A warning flag, red with white diagonal band, is displayed to indicate that skin diving is in progress. Boats should keep well clear of such markers.

F. Boat Hire

Rates are variable. Consult with local Forest Service District staff. All arrangements must be confirmed in writing, and should embody a clear understanding of the following points:

1. Rate per day, per week, per month or per person as the case may be.

2. Exactly what the rate covers, accessories, fuel, services of crew, maintenance, overhaul, etc.

3. The value in the case of loss or damage. Who carried the risk? Preferably the owner should carry the risk, and he normally will if he is the operator.

4. In case of intermittent use, are there reduced charges, and if so, what are they?

G. Loading & Unloading 45 Gallon Barrels on River Boats

Required: one plank, at least 2" x 6" x 8', preferably 2" x 8" x 12' (can be kept in boat all the time).
1. Place plank from shore on to boat, abeam over the seat, extending not quite as far as the length of the seat.

2. Roll barrel slowly up plank which tips over boat's edge allowing barrel to be rolled slowly down on to far side of seat.

3. Remove plank.

4. Roll barrel back to centre of seat.

5. Tip barrel over edge of seat, set on bottom and lay it down (travelling with barrel upright might cause damage if it tips over in bad weather).

6. To unload, reverse procedure.

H. Special Marine Craft

1. Rubber Rafts

Inflatable rubber rafts have proved very useful in certain aspects of our work, such as travelling on upper reaches of rivers, unnavigable on lower portions by other means owing to falls, etc. Raft equipped crews can be flown in by helicopter or float aircraft. Twelve foot rafts with a gross load of 400 lbs. only draws 2 - 3" of water. Rafts weight approximately 45 lbs. deflated, and fit into a carrying case approximately 22" x 42" x .10' in dimension. The following is an outline of operating procedures for this equipment, which may be used as a guide for future use.

Equipment List

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patching kit large</td>
<td>1</td>
</tr>
<tr>
<td>Life jackets</td>
<td>2</td>
</tr>
<tr>
<td>Oars</td>
<td>2 sets</td>
</tr>
<tr>
<td>Pumps</td>
<td>2</td>
</tr>
<tr>
<td>Tarps (Ground sheet size)</td>
<td>2</td>
</tr>
<tr>
<td>Rope 1/4&quot;</td>
<td>50'</td>
</tr>
<tr>
<td>Deflator</td>
<td>1</td>
</tr>
</tbody>
</table>

Operating Points

(a) Fix oars in one position so they do not slide through the oar locks. This can be done by wrapping tape on the oar, on each side of the oar lock.

(b) Wrap gear in waterproof tarps, or pliofilm bags.

(c) Protection of bottom -
    - Wear light shoes.
    - If air mattress available, inflate and put on the bottom of the raft.
    - Stow sharp edged gear off the bottom.
(d) In normal water operator faces downstream and rows upstream, to guide or slow up raft, or angles across current at about 20° if a crossing is desired.

(e) In fast water it is impossible to use the oars and they must be kept flat against the raft, otherwise the pressure of the current could force an oar underneath, causing the raft to tip. A good idea is to tie the ends inside the boat in rough water.

(f) Wear life jackets, tie everything down.

(g) Keep centre of gravity as low as possible.

(h) Obtain advance information about bad rapids, canyons, or waterfalls. The river should be closely examined from the air on the trip in, bad spots can be marked on photos, and if necessary warning markers can be placed on the bank above the area at the nearest landing spot.

2. Cruison Air Boats ("A" Boats)

These are inflatable boats designed to be used with an outboard engine (see Appendix II), and have proved to be very satisfactory for many jobs. Initial costs are quite high and deterioration is rapid if improperly used.

Description of models currently in use:

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Beam</th>
<th>Weight</th>
<th>Assembly Time</th>
<th>Bag Size</th>
<th>Capacity</th>
<th>H.P. Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planet</td>
<td>11' 9&quot;</td>
<td>51&quot;</td>
<td>110 lb.</td>
<td>15</td>
<td>1-40&quot;x29&quot;x8&quot;</td>
<td>600 lb.</td>
<td>15 H.P.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1-28&quot;x34&quot;x12&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meteor</td>
<td>12' 3&quot;</td>
<td>45&quot;</td>
<td>80 lb.</td>
<td>15</td>
<td>1-31&quot;x30&quot;x6&quot;</td>
<td>600 lb.</td>
<td>5 H.P.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1-24&quot;x30&quot;x16&quot;</td>
<td></td>
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</tbody>
</table>

Assembly Instructions

A wooden frame is used to maintain the shape and rigidity of the inflated boat. It is essential that this frame is assembled and fitted properly. Directions for assembling are provided with each boat. Operators must ensure that they are carefully followed.

Operating and Maintenance

(a) Remember these are inflated boats, and while extremely seaworthy, they will not stand up to scuffing or abrasion encountered in beaching. They must not be driven ashore.

(b) Deflate air tubes slightly if boat is left out of water and is exposed to direct sun.

(c) Before repacking, allow skin to dry thoroughly.

(d) Each boat is inspected and tested by the Manufacturer's agent prior to use by field crews.
# Marine Safety Equipment Inspection Report

<table>
<thead>
<tr>
<th>Show number or quantity and condition</th>
<th>No.</th>
<th>Condition</th>
<th>Manual pump (bailing)</th>
<th>Bailer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dinghy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raft or buoyant apparatus</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Life-buoy (approved type) with 30-ft. rope</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life-jackets</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Life-saving vests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life-saving cushions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oars or paddles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oarlocks</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Anchor</td>
<td></td>
<td></td>
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<tr>
<td>50-ft. cable or rope</td>
<td></td>
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</tr>
<tr>
<td>Fire-buckets</td>
<td></td>
<td></td>
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<tr>
<td>Fire-axes</td>
<td></td>
<td></td>
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<tr>
<td>Small Vessel Regulations</td>
<td></td>
<td></td>
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</tbody>
</table>

- Is licence number displayed? (Registered vessel's numbers carved in main beam.)
- Is B.C.F.S. safety plate (load and max. h.p.) attached?
- Does motor comply with above plate?

## Structural defects (with special reference to strength of transom where applicable)

## General remarks (note any equipment not in satisfactory condition)

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**Inspected by**

**Noted**

*Inspections are to be made twice per year—once as early in the operating season as possible, and again when opportunity occurs. Inspections to be made by a Forest Officer of supervisory rank other than the person in charge of the boat. The inspecting officer must carry a copy of Small Boat Regulations.

White copy to District Forester or division head. Blue copy to Engineering Services Division, Victoria. Yellow copy to Ranger or vessel file.*

F.S. 211—20 bks. (50)–1159-966

APPENDIX I
Equipment lists and safety loads - small boats.
(See individual Unit File 0188220-M for more complete list for each unit).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>&quot;O&quot;</th>
<th>&quot;OC&quot;</th>
<th>&quot;L&quot;</th>
<th>&quot;I&quot;</th>
<th>&quot;R&quot; 30'</th>
<th>&quot;R&quot; 22'</th>
<th>&quot;C&quot;</th>
<th>&quot;D&quot;</th>
<th>&quot;S,F,B&quot;</th>
<th>&quot;A&quot;</th>
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</thead>
<tbody>
<tr>
<td>Life Jackets</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Issued to any employees using small boats. Responsibility of supervisor to ensure personnel provided with jackets.</td>
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</tr>
<tr>
<td>Anchor</td>
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<td>Oars</td>
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<td>2</td>
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<td>4</td>
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<td>Car Locks</td>
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<td>4</td>
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<td>Controls, Remote</td>
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<td>Cover, canvas or nylon</td>
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<tr>
<td>Ext. Dry Chem 2½ lb.</td>
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<tr>
<td>Kit, 1st Aid (Kit 1)</td>
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<td></td>
<td>1</td>
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<tr>
<td>Paddles</td>
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<td></td>
<td>2</td>
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<tr>
<td>Pump, Wing</td>
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<tr>
<td>Pump</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deflator</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarps (Approx. 4' x 7')</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank, Fuel, 10 gal.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rope ½&quot;</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>50'</td>
<td></td>
<td></td>
<td></td>
<td>50'</td>
<td></td>
</tr>
<tr>
<td>Rope, Anchor</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patching, Kit</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. H.P. Engine</td>
<td>12'</td>
<td></td>
<td>14'</td>
<td>50</td>
<td>5</td>
<td>40</td>
<td>35</td>
<td>5</td>
<td>5+</td>
<td>5+</td>
</tr>
<tr>
<td>Max. No. Passengers</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Including boatman)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Max. Freight Load</td>
<td>500#</td>
<td>600#</td>
<td>1200#</td>
<td>2000#</td>
<td>1200#</td>
<td>600#</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Load stated is in addition to Boatman except "A" boats - load stated includes boatman

Explanation - Letter symbols for type of boat.

"O" - 12' or 14' cedar clinker built dinghys - nearly flat bottoms often referred to as "flatties."

"OC" - 13' cabin cruiser, plywood hull

"L" - Formerly sectional collapsible canvas covered 8' link boat - have been joined, stiffened and fibre-glassed - not collapsible weight approximately 30 lbs.

"R" - River boat 30' or 22'.

"I" - Inflatable rubber life rafts, 8-12' long Most manually inflated. (Two, automatic for use as Life rafts on Cabin Cruisers)

"C" - Canoe

"D" - Dinghy - assorted shapes and sizes - equipment varies slightly depending on size.

"S" - Small boat off "Forest Surveyor" ) Clinker built dinghys

"F" - Small boat off "B.C.Forester" ) Equipment varies slightly.

"B" - Small boat off "B.C.Surveyor" )

"A" - Cruison Air Boats, inflatable with wooden floor and transom for use with O,B,U.

PART V APPENDIX II
## Property Lists - Units

1. VICTORIA - Unit file
2. VICTORIA - Party file
3. WITH UNIT - in Log Book Envelope
4. GREEN TIMBERS - Party file
5. FIELD - Party file

### This Property is For:

<table>
<thead>
<tr>
<th>UNIT</th>
<th>NO.</th>
<th>MAKE</th>
<th>TYPE</th>
<th>UNIT</th>
<th>NO.</th>
<th>MAKE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat</td>
<td></td>
<td></td>
<td></td>
<td>Tape Recorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Plant</td>
<td></td>
<td></td>
<td></td>
<td>Trailer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O.B.U.</td>
<td>X</td>
<td></td>
<td></td>
<td>Vehicle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumps</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Items

- Book, Log
- Chains, Safety
- Extinguisher, Fire, Can, Spray
- Funnels, 1 qt., Filter
- Grease, Tube
- Measure, Pint
- Pins, cotter
- Pins, Shear
- Pliers, slipjoint
- Rags, wiping
- Spark plugs
- Screwdriver, 8"
- Starting Cord spare
- Wrenches, spark plug
- *Wrenches, Crescent 10"
- Cover Canvas Approx. 3' x 3'

### Notes

- Items not normally transferred between Units but if transferred use Property Transfer S.D. 80 to record.
- To transfer Unit and its' Property List use Property Transfer S.D. 80

* Indicates non-expendable equipment

S.D. 83

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**PART V**

**APPENDIX III**
### PROPERTY LISTS - UNITS

1. VICTORIA - Unit file
2. VICTORIA - Party file
3. WITH UNIT - in Log Book Envelope
4. GREEN TIMBERS - Party file
5. FIELD - Party file

#### THIS PROPERTY IS FOR:

<table>
<thead>
<tr>
<th>UNIT</th>
<th>NO.</th>
<th>MAKE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Plant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O.B.U.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Saw</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumps</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT</th>
<th>NO.</th>
<th>MAKE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tape Recorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ITEM

<table>
<thead>
<tr>
<th>ITEM</th>
<th>ORD</th>
<th>ISS</th>
<th>RET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box Power Saw</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bars, Power Saw 24&quot;</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book, Log</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box, Tool Power Saw</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cans, Gas 1 gal.</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cans, Gas 2 gal.</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chains, 24&quot;</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extinguisher, Fire Can Spray</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>File, N-Joint</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Files, round 7/32&quot;</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Files, round 1/4&quot;</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Files, flat 8&quot;</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gauge, raker</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Hammer, ballpein small</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methohydrate - 1 Pt.</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Pail, canvas</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pliers, slipjoint</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rags</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screwdriver - 6&quot;narrow head</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screwdriver - 8&quot; standard</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sparkplugs</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarpaulin (cover) 4' x 4'</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrench OE-7/16 x 1/2&quot;</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrench OE-1/2 x 9/16&quot;</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrench OE-9/16 x 9/8&quot;</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrench, Crescent - 6&quot;</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrench, Sparkplug</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wedge, Aluminum</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Items not normally transferred between Units but if transferred use Property Transfer S.D. 80 to record.

To transfer Unit and its Property List use Property Transfer S.D. 80

* Indicates non-expendable equipment

S.D. 83
PART 6  ACCIDENT PREVENTION

6.1  POLICIES

6.2  ACCIDENT PREVENTION PROGRAM

6.3  ACCIDENT CODE LIST

6.4  ACCIDENT FREQUENCY RATING SYSTEMS

   6.41  Government Accident Frequency Rating System
   6.42  W.C.B. Time Loss

6.5  SAFETY AWARDS

   6.51  B.C. Safety Council
   6.52  Divisional Safety Award

6.6  JOB SAFETY ANALYSIS: GENERAL

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   6.62  Base Camp
   6.63  Fly Camps
   6.64  Axes
   6.65  Knives and Machetes
   6.66  Fuel Handling and Storage
   6.67  Natural Hazards

6.7  JOB SAFETY ANALYSIS: POWERED UNITS

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   6.73  Amphibcats
   6.74  Catagators
   6.75  Trail and Motor Bikes
   6.76  Aircraft
   6.77  Power Saws
   6.78  Boats

6.8  FIRST AID

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   6.82  Drowning and Unconsciousness
       6.821  Direct Artificial Respiration
       6.822  Care of the Unconscious
   6.83  Cuts and Bruises
   6.84  Fractures and Sprains
   6.85  Shock
   6.86  Burns and Scalds
   6.87  Other Injuries
   6.88  Transporting Injured Persons

6.9  PROCEDURE IN EVENT OF SERIOUS ACCIDENT OR INJURY, OVERDUE PERSONNEL
     OR AIRCRAFT, Distributed Annually.

Revised 1971.
PART 6  ACCIDENT PREVENTION

6.1  POLICIES

Workmen's Compensation regulations, issued to Project Supervisors, provide for the establishment of accident prevention programs initiated and maintained by the management of each place of employment. These programs are to include (1) management's aims in accident prevention, (2) delegation of responsibility for the program, (3) responsibilities of management, supervision, and employees as regards accident prevention, (4) monthly supervisor meetings to review accidents and accident prevention activities, and (5) establishment of an accident prevention committee.

In accord with this, it is government policy that:

Firstly, working conditions for public employees shall be made as safe as we presently know how;
Secondly, supervisors shall accept the responsibility for training and instructing their staff and complying with all Workmen's Compensation Board and departmental safety regulations; and,
Thirdly, employees shall be expected to learn and follow safe working practices and to assist their departments in pursuing vigorously a program for the prevention of accidents and injuries.

More specifically, the Chief Forester states that the purpose of the Forest Service Safety Manual is "To help you, a member of the British Columbia Forest Service, to stay alive and unhurt", and that safety is a personal matter, the practise of which rests with the individual.

Our Divisional field work is not only hazardous, but is also often remote; medical aid is frequently many hours away, and it may in fact be days before a Doctor can be reached. Clearly, then, it is the responsibility of all supervisors not only to educate their employees in safe practices and habits, but also to instill in them a deep concern for, and continual alertness to, accident prevention.

6.2  ACCIDENT PREVENTION PROGRAM

In keeping with the above, an Accident Prevention Division of the Civil Service Commission has been formed to act in a co-ordinating and advisory capacity, assisting Departments in establishing and maintaining their safety programs. The Division supplies posters, bulletins, statistics, etc., investigates all fatal and most near-fatal accidents, maintains accident records, trains supervisors, and checks and tests new products, equipment, and safety standards.

Since our Department is very large, and scattered about the Province, the Forest Service Safety Co-ordinating Committee has been formed to (1) ensure the establishment and effective activity of District and Divisional safety committees, (2) define general matters of policy to these committees, and (3) co-ordinate the activities of these committees with the Civil Service Commission's Accident Prevention Division and with the Workmen's Compensation Board.

Revised 1971.
In the Inventory Division, the responsibility for development and co-ordination of the accident prevention program rests with the Operations Forester. His duties are roughly analogous to the Accident Prevention Division above, and include the organization of the safety training given to all new field staff at Green Timbers at the beginning of each field season. This training includes:

- Rudimentary first aid (a minimum of 4 hours),
- Operation of certain mechanical units likely to be used,
- Instruction in Forest Service and Division accident prevention policy and responsibility,
- Study of hazards and certain work procedure in connection with duties to be performed, (see JOB SAFETY ANALYSIS, below)
- Closely supervised practice in operating motor vehicles, 4-wheel drive units, and winching,
- Instruction on the proper use of safety equipment, and
- Instruction regarding types of personal equipment to be carried in the woods.

In addition Workmen's Compensation Board regulations provide for an Accident Prevention Committee, consisting of equal numbers (at least 4) of elected employee representatives and employer representatives. The general duties are to:

1. Investigate (at the scene, if possible), review, and discuss each accident;
2. Hold regular meetings for the discussion of accident causes, and submit recommendations to the Forester i/c;
3. Receive any suggestions or recommendations on safety from the employees; and
4. Impart safety information to the employees.

Ultimately, however, the responsibility for accident prevention rests with the field supervisors, who have both the opportunity and the authority to put accident prevention into practice. They are expected to set a good example in safe work practices. Further, they have the responsibility to provide more on-the-job training, as an effective follow-up to the Green Timbers training. Only the field supervisors can ensure that safe working practices are being followed.

All of this activity focuses on the individual doing the work. They should be made aware that although certain work practices and the use of safety equipment is mandatory (and could even be the basis for dismissal), safety is an attitude towards the job, and cannot be limited to a set of regulations. To avoid injury, the workman must be constantly looking for hazards and avoiding them. Virtually all of our serious accidents have involved the special hazardous nature of our work, and most of these have involved some element of haste. Only through CAUTION will injuries be avoided.

6.3 ACCIDENT CODE LIST

It is occasionally impossible to notify the Forester i/c of an accident by telephone within a reasonable time (in the order of one hour). For these
occasions, an accident code list is filed in Victoria, and several
copies are retained by the supervisor. The list consists of the names
of all personnel on a given project, last name first, and consecutive
numbers for each name. It is to be made up as soon as possible in the
spring. As changes occur in personnel, the list is to be updated, and
the Forester i/c informed of the changes. The injury code is as follows:

1 - OK
2 - Minor injury (taken to medical aid)
3 - Serious injury
4 - Missing
5 - Fatal

For example, 3B-2 indicates Brown, third on the list, has a minor injury.
9W-4 indicates Wilson, ninth on the list, missing.

6.4 ACCIDENT FREQUENCY RATING SYSTEMS

Frequencies are based on the number of time loss accidents per million
man hours worked. A group with 2 time-losses in 400,000 hours of work
has their frequency calculated from the equation: X:1,000,000 =
2:400,000.

6.41 Government Accident Frequency Rating System

This method now agrees with that used in the United States. It
defines a time loss as an injury disabling a workman for one
complete day or shift, and is used to record Divisional time-loss
accidents. For instance, if an employee is injured on Monday and
he reports at any time Wednesday, it will be a time loss accident.
He has lost one day, Tuesday.

Common sense should be exercised in some cases; do not have an
employee return to work at 4:45 Tuesday merely to comply with
regulations. His return to work should depend entirely upon his
ability to work.

6.42 W.C.B. Time Loss (See 1.324 for Workmen's Compensation reports, etc.)

By this system, a time loss is defined as an injury that disables
a workman for more than 3 days. Thus, if injured at 9:00 Monday,
the workman has until 9:00 Friday to report to work before it is
considered a time loss accident. Compensation would cover all
time lost.

6.5 SAFETY AWARDS

6.51 B.C. Safety Council (Based on WCB time loss system)

This series of awards is made to companies or groups attaining a
given number of man-hours worked without a time loss accident. The
number depends on job classification and hazard rating. For our
division, a Bronze award requires 157,000 hours, Silver 292,000
hours, and Gold 440,000 hours. We have to date received one each of
these awards.

Revised 1971. - 156 -
6.52 Divisional Safety Award

This award is given to the project having the best accident record during the field season. Yearly calculated rating factors for employee category, work area, and crew type and number are used to weight accident frequency. The latter is taken to be the total of medical aid accidents and W.C.B. time-loss accidents.

6.6 JOB SAFETY ANALYSIS: GENERAL

6.61 Foot Travel

Lost - Stay put, build a shelter, and conserve your energy and food; prevent exhaustion and exposure.
- Prepare kindling and material for a smoke smudge.
- Keep your flares handy and do not exhaust the supply.
- Face facts; your time and energy are limited.
- Keep warm at all costs. Do not sleep unless you are warm and comfortable.
- Keep busy; it helps pass the time.
- See appendices 45, 46, and 47 for emergency air drop lists and food lists.

General - Familiarize yourself with the area before embarking.
- Ask about the area; the ranger, prospectors, etc., may be able to give you sound advice.
- Usually it is best not to follow a stream in its bed; stay uphill or on ridges. This can save much time and re-tracing of steps.
- Post your location and expected return before leaving camp.
- Let others know of your whereabouts whether on or off the job.
- Always carry a compass, first aid kit, matches (water-proof container), and knife. Be prepared for adverse weather conditions.
- Flares, field bandage, and insect repellent should be carried in the tally bag.
- Never travel alone, and stay together.
- Do not take shortcuts.
- Instruct your compassman in the use of maps and photo navigation.
- Get an early start; if you are misplaced, you will have more time to find yourself.
- If you may be lost and it is getting dark, stay where you are until morning; leave yourself time to construct an adequate camp.

Clothing - Wear sturdy boots with adequate traction and ankle support.
- Avoid bows and loops when tying boots.
- Keep leather boots soft and pliable. Leather burns at the same temperature as your hand; do not try to dry boots at a higher heat.
- Ill fitting, poor quality boots result in blisters, sores, wet feet, and pain in general.
- Carry a light pair of runners, etc., for use around camp; they really feel good after a day in heavy boots.
- Choose lightweight but tough clothing. Lighter colours attract fewer mosquitos.
- Avoid short sleeves and tight fitting pants.
- Pants should be "stagged".
- Clean work socks are essential. Change daily on long hikes, and carry an extra pair.
- Lightweight nylon socks worn inside the wool ones reduce the chance of blistering.
- Hard hats are essential in the bush, and a pair of cheap cotton gloves is often useful.
- A cruiser's vest is necessary to efficient bush work.
- Contact lenses do not guard the eyes and may in fact be dangerous in the bush.
- Vinyl coated nylon raingear is now most commonly used in the bush. It is lightweight but tough, and folds to an amazingly small size. If it tears, however, it must be repaired immediately. Tin clothes are too heavy and stiff for our use. Rubber suits may be used at the expense of heavy weight.

Back

- Put heavy objects at the top of the pack.

Packing

- Tie the pack together securely.
- Reduce weight by substituting dry goods for canned.
- Cache food halfway out on long hikes, for use as you "work your way home".
- On steep, rugged, cross-country trips, use light, fairly small loads. On old logging roads and well-defined trails, larger and bulkier packs are manageable. (See appendices 41, 42, 43, and 44 for lists of equipment and food.)
- Generally, follow roads and trails, even if the distance to be covered is greater; there will be great savings of time and energy.
- Do not drink water, as stomach cramps often result. Rinse out the mouth with water and keep the salt content of your body adequate.
- Change the position of your arms; cross them in front, hook your thumbs in the straps, etc., to cut down on the loss of circulation.
- Remember, most accidents happen to tired men. Be weight conscious, and take definite rests. Five minutes or so is sufficient; rest longer and you will stiffen. Get to your goal as quickly as possible and then rest.

Crossing

Rivers

- Use a nylon rope and cross, one at a time, senior man first.
- Cut a stout pole, choose the widest point, and angle upstream, leaning into and body sideways to, the current.
- Remove socks and replace your boots.
- Fast water over thigh high should not be attempted by inexperienced personnel.
- Your sense of balance may be impaired by looking into moving water for long periods.
- Use boulders to provide lateral support to the feet and legs, rather than as stepping stones.
- Sand or gravel can be washed from underfoot as soon as it is disturbed.
- Do not cross above deep pools or rapids.
- Straddle logs rather than attempting a balancing act.

Revised 1971
- If you lose your balance, try to fall downstream.
- Forget your pride. If you are nervous, ask for help with the pack or for a helping hand.

**Logs**
- Avoid walking on rotten and loose-bark logs; the footing is unpredictable.
- Check logs for stability before walking on them.
- Jumping from logs may dislodge sound bark.

**Falling and Rolling Objects**
- Wear your hard hat; do not use snags for support.
- Warn others if rocks or logs are dislodged when climbing or descending steep draws. Avoid walking directly in the fall-line with person above or below.
- Avoid areas of active logging.

**Hidden Obstructions**
- Watch for hidden branch stubs, rocks, and roots.
- Never jump into areas where the ground is obscured by brush, soft snow, etc.
- North-facing slopes provide firmer footing when walking in spring snows.

**Slips**
- Avoid smooth and moss-covered rocks whenever possible.
- Never jump onto steel decking or girders while wearing caulk boots.

**Eye Injuries**
- Keep well back from the man ahead.
- Move with your head down in dense underbrush.

**Smoking**
- Smoke only when sitting down, never walking.
- Be sure butts and matches are cold before discarding.

6.62 **Base Camp**

**Organization**
- Form a safety committee to investigate danger spots and report on potential hazards.
- Thorough and frequent inspections are a fundamental rule.

**Fire**
- Fire pump should be thoroughly understood. Drill in its use should be frequent.
- Know types and location of fire extinguishers available.
- Be sure the fire tool cache is known to everyone.

**Misc.**
- Fill all holes.
- Keep the duckboards clean.
- Keep the trailer steps clean.
- Make sure the washtent floor is kept dry.
- Flag low poles, ropes, and fire buckets.
- Have a qualified electrician repair any defects in the electrical system.
- Do not try to repair the light plant electrical system; direct such problems to the Mechanical Superintendent.

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6.63 Fly Camps

General - Stick axes in trees or logs.
- Store the radio out of the tent.
- Use small cans for naptha.
- Avoid camping on game trails.
- Instruct the compassman on the fly camp location in relation to the nearest camp or other habitation.
- Have a complete change of clothes.
- Avoid exposed areas with strong and gusty winds.
- For even short camps, time for constructing makeshift tables, chairs, etc., will be well spent.
- Choose a campsite near a supply of running, unpolluted water. If stagnant water is the only available, strain and boil it before use.
- Don't camp on sand or gravel bars to avoid flooding.
- Do not touch the inside of wet tents; they will leak. If this happens accidentally, run a piece of soap on the inside of the tent to the bottom of the tent.
- Do not store tents while they are wet; this causes mildew and rotting.
- During wet spells, dry and air your clothes, sleeping bags etc. on any sunny days.
- Keep your clothes with you in the sleeping bag; they will be warm and drier in the morning.

Fires and Explosions - Be familiar with the Fire Protection section (7) of this manual.
- Douse your campfire before retiring or leaving.
- Fireplace stones gathered from creekbeds may explode due to heat.
- Collect campfire wood before nightfall; otherwise use a flashlight.
- Boiling soup, tea, etc., spilled on someone can be a major calamity so use special care when handling hot liquids.
- Take an aerosol fire extinguisher on all camps.
- Store gas or naptha away from the tent and well clear of the campfire.
- Refuel stoves and lamps away from the campsite.
- Take down and disconnect antennas before thunderstorms.
- Make and use ashtrays while inside the tent.
- Don't smoke in bed.
- Make sure all equipment is off before leaving the camp.
- Do not burn aerosol cans or spent batteries.
- Choose the campfire location carefully. Do not build it too close to the tent; allow for windshift; remove dry overhead branches.

Animal Damage - Dig a hole outside to store meat.
- Cover your cooler with moss.
- Hang other food in a bag, in the air.
- Burn or bury all garbage regularly.
- Keep your garbage pit well away from the camp.

6.64 Axes

General - Make sure the head is firmly attached to a good handle. Soaking in oil or water is a temporary measure--Use a new wedge or fit a new handle.
- Avoid slivers by having a smooth and straight-grained handle. Oil new handles and tape the heels.
- Do not throw axes.
- Drive the axe into a stump or log when not in use.
- Do not use an axe as a pry or hammer.
- Keep a good edge; file off any shoulders to prevent glancing.

**Carrying**

Hold the axe near its head at the downhill side of your body; never carry it over your shoulder.
- Cover the blade with a sheath, especially when transporting it in a vehicle, boat, or aircraft.
- Carry the axe in your left hand (if right-handed, or vice versa) when traveling on level ground.

**Cutting**

- Clear all obstructions before swinging.
- Select secure footing and use the correct stance.
- Chop down and away from your feet; use both hands on the axe handle; keep your hands dry.
- When limbing, cut at an angle away from your legs and feet; stand on the bole or on the opposite side of the bole so that legs and feet cannot be injured if the axe deflects or misses entirely.

**Knives and Machetes**

Wear knives snugly on the rear hip to prevent stabbing the leg in a fall; carry machetes in your hand or pack only, not on your belt.
- Use a sturdy sheath; reinforce the stitching with aluminum leather rivets.
- Secure the knife with a thong or snap to prevent dislodging.
- Cut away from your hands and body, not towards.
- Maintain a clean and sharp cutting edge.
- Avoid using a knife as a can opener, especially folding knives.
- Do not overswing the machete; use on brush, not to chop or blaze trees.

**Fuel Handling and Storage**

**Naptha**
- Keep the gas can a good distance away from any Coleman device, because they often start up with a flash.
- Let excess naptha evaporate before striking a match, and strike before turning on the fuel source.
- Let gas dissipate if the device does not light immediately.
- Let the stove or lamp cool for several minutes before refilling.
- Light stoves and lamps a good distance from camp.
- Dry socks, etc., from the side and not by draping overhead or in direct contact with the device.
- Do not allow grease and oils to accumulate on stoves.
- If soup, water, etc., boils over, shut off the stove and let liquid evaporate.

**Gasoline**
- Establish gas caches well away from all other supplies.
- Do not carry gasoline inside an enclosed vehicle.
- Keep a fire extinguisher at the gas cache.

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- Shut off the engine before refuelling any machine.
- Caps and lids of containers (metal only) should be tight.
- Do not smoke while refuelling or near gas caches.
- Fuels should not be used for starting campfires, especially not poured from the can.
- Use waxed paper or insect repellant to start fires.
- Do not store gasoline inside buildings.
- Label all containers as to mixed, unmixed, naphtha, diesel, aviation, etc.
- Do not fill a gas tank while in a boat—If emergency conditions exist, the motor must be shut off.
- Wipe up or bail out any gas that has been spilled.
- Destroy any containers that are leaky or unreliable.
- Do not use a 2-wheel trailer to transport gasoline.

Propane
- Check all connections for propane odour and secure all connections. Test for leaks with soapy water, never with an open flame.
- Store all cylinders outside, upright, and with the caps on.
- Never use a damaged or leaking cylinder. If a leak persists when the valve is tight, the cylinder should be emptied in an open area and taken out of service.
- Radiant-type heaters should have at least 36" of clearance at the front.
- Bury all propane lines.
- Leaky appliances are unserviceable.
- Portable heaters, which are not outside vented, deplete the oxygen supply. Ensure adequate ventilation.
- Remember to relight pilot lights if the propane supply is interrupted.
- Shade cylinders that are exposed to the sun.

6.67 Natural Hazards

Windstorm
- Do not camp near snags, old cottonwood, or trees with large rotten branches.
- Wear your hard hat.

Floods
- Avoid camping on sand and gravel bars.

Lightening
- Disconnect radio antennas if a severe storm is approaching and before leaving or retiring.
- Avoid exposed ridges.
- Avoid contact with any metal objects.
- The safest place is in the vehicle.

Insects
- Carry an adequate supply of sting-kill.
- Remove wasp nests from buildings by quickly placing a large bag over the nest and sealing. Destroy by burning or immersing in hot water.
- Fewer insects are attracted by lighter coloured clothing.
**Animals** - Most recorded incidents with animals involve surprise or animals with young; hence, whistle, sing, or thump trees with a stout stick while travelling game trails and, where possible, avoid bears and moose when they have young.

- Bears are curious and will often investigate odd sounds; they soon wander off again.
- Be cautious when approaching old farms and orchards, so as not to startle a bear.
- If you meet a bear and he sees you, don't panic. A bear is often like a dog which chases people when he knows they fear him. Unless there are cubs nearby, the bear will usually run off. If not, don't run. A bear can easily outrun a man. Pick a good tree.

**6.71 Vehicles**

**Faulty Equipment**

- Carry out routine checks on tires, battery, frame, cooling system, loose connections, etc. Ensure a full complement of tools and accessories. Keep ropes, cables, and snatch block free of mud. Oil the springs and pawls on the jack.
- Repair as soon as possible any piece of defective equipment. Leave a written report of faults or defects for other drivers.
- Remove and tag keys from any unserviceable vehicle.

**Off Highway Driving**

- Use your seat belt.
- Use headlights at all times and keep on your own side.
- Do not park, turn, or back up on blind corners.
- Turn by backing into the cut bank.
- Keep clear of soft shoulders and severe frost heaves.
- Cross small logs head on. Crossing slippery logs at an angle may cause sudden slewing, and will damage wheel alignment at best.
- Investigate on foot mudholes, waterholes, washouts, and excessively steep inclines.
- Engage four-wheel drive and free-wheeling front hubs before proceeding.
- Select the proper gear reduction before mudholes and steep inclines.
- Do not enter water or mudholes at excessive speeds.
- Avoid deep ruts.
- Engage the lowest gear when backing downhill.
- Dry and test the brakes after crossing creeks and mudholes.
- Stop the vehicle to remove wasps or bees.
- Use extra caution and slow speeds on rain-slicked clay type road surfaces.
- Keep the outside mirrors and windows free of mud.

**Loaded Trucks**

- Note turnouts on all roads.
- Yield the right-of-way; let overtaking vehicles pass.
- Determine local policy re meeting other vehicles.
- If backing up is required, the onus is on the unloaded vehicle first, and on the uphill vehicle second.
- Do not travel on radio controlled access roads without permission. Obtain a radio if extensive travel is expected.
- Where possible, follow a truck.

6.72 Winching

**General**
- Use a solid and secure anchor. Do not select an anchor tree on the edge of a cut bank.
- Attach the cable near the root collar.
- Attach a rope high on the anchor tree and low on a second tree to spread the strain.

**Breaking Winch Equipment**
- Reduce strain by digging ramps and by jacking the vehicle up and placing logs, etc., under the wheels.
- Lay the winch line straight and set to lift slightly.
- Use a snatch block at the anchor to double the purchase.
- If necessary, use a tripod of posts to raise the front end.
- Disengage the power take-off and clutch when not in use.
- Be sure the cable is large enough and in good condition before starting out.
- Keep the cable lubricated to prevent rusting and consequent added friction.
- Do not let the cable lie on sharp rocks; pad with a log. Do not allow the cable to bite into the dirt.
- Use a length of chain with grab hooks (tool box equipment) where sharp rock corners or actual bends may damage the cable.
- Avoid side pulls wherever possible. If it is necessary to pivot the vehicle sideways, do so gradually by several operations.
- Do not let the cable bunch up or twist in a poor roll as crushing the strands weakens the cable.
- Raise the vehicle hood to protect the windshield in case of cable snap.

**Cuts**
- Wear gloves or use rags when pulling the cable.
- Use a stick to guide the cable when rewinding.
- Do not allow the spliced section of the cable or the chain to pass between the rollers.
- Drive slowly in low gear while winching.
- When hand winching do not improvise a handle longer than 3'.

6.73 Amphibians

**Rolling Over**
- One man should be outside on any steep climbs.
- Do not try slippery, steep climbs.
- Keep the speed low.
- Balance the load before entering the water.
- Wear your hard hat.

**Branch Whip Motion**
- Use the windshield.
- Long-sleeved, heavy garments are advisable.

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Loss of-
  Drive cautiously.
Control-
  Practise handling the vehicle.
  - Operate the vehicle at low speeds.
  - Carry tools, parts, and food.
  - Always inspect the vehicle before use.

Loading-
  Use the utmost caution.
  - Push the vehicle onto the trailer if possible.
  - Roll it off without power.
    - If possible, back the trailer into an embankment.

Fire
  - Rest the machine frequently.
  - Carry a fire extinguisher.
  - Don't smoke while in the machine.

6.74 Catagators

Snags
  - Watch for fallen trees and snags coming in through
    open doors or windows.

Tracks
  - Do not step on the tracks when the machine is in
    gear, as the neutral position on the clutch control
    is not positive and the machine can lurch forward.

Doors
  - Secure the doors open with the hooks provided and
    with wire. Keep hands off the door jamb, as the
    doors can come unhooked and slam shut in rough terrain.

6.75 Trail and Motor Bikes

Loose Gravel
  - Assess the conditions. Do not travel at
Wet or Greasy
  - Assess the conditions. Do not travel at
Surfaces
  - Assess the conditions. Do not travel at
Wet Brakes
  - Dry the brakes immediately after crossing water.

Incorrect
  - Wear sturdy boots, gloves, and a jacket for
Dress
    - A helmet and face shield are mandatory.

Fire
  - Shut off the machine while refuelling.
    - Check the exhaust system for proper spark arrestors.

Incorrect
  - Put loads as far forward on the rack as possible
Loading
    - to prevent tipping over backwards on uphill climbs.
    - Do not carry passengers.

Inexperience
  - Instigate a training programme for new operators.
    - Allow ample time for practice.
    - Use slow speeds, especially downhill.
    - Rest frequently.

Breakdowns
  - Check daily for loose nuts, cracks, throttle
    lever, brakes, etc.
  - Carry all necessary tools.
6.76 Aircraft

General
- Keep your seat belt fastened at all times.
- No smoking during landing, take-off, or when refuelling.
- Do not wear caulks on pontoons or floats.
- An aircraft harness must be worn during air drop operations; keep a knife handy in case of fouling.
- The pilot is the sole judge of composition, weight, and storage of cargo, and number of passengers, weather, etc.
- Mark the weights on packages and advise the pilot. Load according to his instructions.
- Improvise a wind sock with flagging.
- If the aircraft is overdue, stay where you are. Every effort is being made to pick you up.

Helicopters:—Rotors can kill. Stand well clear of the landing area when the helicopter is approaching or taking off, especially during gusty winds.
- Stand still until the helicopter is firmly settled.
- Keep clear of the approach and take-off paths when the helicopter is carrying sling loads.
- Approach and depart from the front and sides only. Walk under the blades in a crouched position. Wind gusts can tip the blades to within five feet of level ground.
- On sloping or irregular terrain, approach and depart the helicopter in the area of greatest clearance under the blades. Never approach or leave from the rear or from the up-hill side.
- Use caution even when the engine is off—The main and tail rotors may still be turning.
- If conditions warrant, protect your eyes from blown debris or dust from the rotor blast.

Rotor Blades
- Never leave loose articles, ropes, or dangling rope ends on the cargo racks.
- Never throw anything from or to the helicopter.
- Never carry anything on your shoulders or over your head.
- Never leave loose articles at the landing area.

Loading and Unloading
- Avoid unstable saddle-type and sidehill sites.
- Clear the area to ground level within 20' of the site.
- Clear all roots and small stumps capable of hooking the skids or puncturing floats.
- Clear a glide path for take-off and landing.

Landing Pads
- Wear a crash helmet or a hard hat and stout boots; carry matches, a knife, and a warm jacket.
- Wear life jackets on extended trips over water.
- Carry a portable radio on all classification flights.
- Avoid cluttering the cabin with photos and unfolded maps.
- Do not use the instrument panel as a hand hold or support; you may touch the ignition switch.
- Wires, ropes, and radio aerials must be well marked with flagging. Do not erect such near the landing area.
- Avoid walking too close to the front of the bubble; the protruding antenna may be obscured by grass or brush.
- Conserve your food and radio batteries; the aircraft may not be able to pick you up on time.

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Power Saws

General
- Do not use the camp saw without the supervisor's knowledge and consent.
- Delegate 2 or 3 men to clear all roads, campsites, landing pads, etc.
- Never operate a saw alone.
- Wrap the bar securely with a tarp when transporting the saw.
- For a complete description of saw care and use, see the equipment manual.

Fires
- Carry a belt fire extinguisher.
- Keep a shovel in the refuelling area.
- Refuel carefully, and move the saw away from the fuelling location before starting it.
- Do not refuel an overheated saw.
- Watch for burning carbon particles and replace the muffler baffles as often as is necessary.
- If the saw is overheating, let it cool frequently.
- Do not set a hot saw on dry moss or needles.
- Keep the saw clean.

Kickback
- Keep all nuts and bolts tight. Do not use the saw if the blade or handle is loose.
- Use a raker gauge when setting the joint of rakers. If rakers are filed too low, the chain will grab.
- Use a file-n-joint according to the instructions. Hooked teeth will grab, causing poor control.
- Avoid plunge-cuts.
- Avoid touching the chain tip to trees or branches behind the one being bucked.

Sharpening
- Roll the chain only in the normal direction of rotation, pushing only on the rear of the teeth.
- Use gloves or a piece of wood to roll the chain.
- Hold the saw securely while sharpening.
- Jam the chain tight to the bar with a stick between the bar and chain on the bottom of the bar.

Falling
- If not assisting, keep clear of the faller by at least one tree length.
- Don't approach a faller without his acknowledgement of your intentions.
- Clear the work area and escape routes.
- Don't work downhill of a faller.
- V & D crews should be wary of working on newly felled plots during high winds. Watch for debris in tree tops, and the possibility of windthrow.

Bucking
- Clear the work area.
- Stand to the side, not behind the saw motor, to avoid being hit by kickback.
- Ensure firm footing.
- Analyse what the log will do when the buck is finished.
- Stand on the uphill side; or at least buck the downhill side first.

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- Use wedges before the saw gets stuck.
- Use only aluminum or plastic wedges or make wooden wedges from hard wood. Don't use an axe head.

6.78 Boats

General

- Be familiar with the Government safety manual "Safety Afloat". Know the boater's rules of the road.
- Read and understand tide tables and charts.
- Obey the speed, load, and engine limits of the boat being used. These are displayed on aluminum plate attached to the boat.
- Do not start the motor when it is in gear.
- Wear and fasten life jackets at all times.
- Do not travel after dark. Plan on reaching your destination one hour before darkness.
- Make sure the boat is properly equipped.
- Carry an emergency food pack and radio.
- Make a low-level flight over unknown and potentially dangerous rivers.
- Do not attempt to lift heavy outboard motors alone.
- Keep your hands and feet clear when fending off, towing, docking, or winching.
- Do not place hard or angular objects on the floor of a raft; provide cushioning with tarps, tents, etc.
- Seal sleeping bags, food, etc., in strong plastic bags.
- Do not throw objects into a raft. They may bounce overboard.
- Always carry at least two bailing cans, preferably tied to the boat.
- Check the screw-type drain plug in certain types of boats such as 18' plywood cabin cruisers (O.C. boats). It can be loosened by vibrations from the motor.
- Check the transom for checks or splits.
- Plan trips so as to take advantage of morning and evening times of less wind and calm water.
- Do not overpower a boat with too large an outboard.

Loss of Equipment

- Outboard motors must be secured to the transom by a safety chain. Attach the chain and an extra safety rope before mounting motors.
- Oarlocks should be secured by short lengths of rope.
- Tie your boots together before transferring between boats; you are less likely to drop them in the water.

Capsizing

- Keep the bow at a right angle to the waves when landing on a beach. Take advantage of kelp beds in reducing wave and swell action.
- Do not stand up in small boats.
- The load should be well balanced. Bow heavy reduces steerage; stern heavy reduces motor efficiency.
- Do not allow water to accumulate in the boat. A few inches of water greatly reduces stability.
Landings
- Choose a landing spot carefully and control your speed; manoeuvrability is reduced at slow speeds.
- Do not use reverse gear to slow momentum.
- Do not gun the motor when approaching the shore.
- Approach other craft on the leeward side, head-to-wind.

Tie-up; and
Anchoring
Small Boats
- Use the correct knots and check that they are secure.
- Never underestimate time and tide. Secure the bow line even if the boat is high on the beach—Your return may be delayed.
- Avoid tying to wharf pilings or overhead logs on tidal rivers. The boat may be trapped and swamped by the rising tide.
- Never throw the anchor. Lay out the rope neatly and lower the anchor to the bottom. Keep your feet clear.
- Estimate the depth and lay out 6-8 times that much rope (scope). Too little scope may lift the anchor shank. Allow for wind and tidal shifts.
- Anchor small boats like you hang out clothes, with the anchor acting as one pulley (rope free and passed through they eye of the anchor), you on the shore as the second pulley, and the boat tied to the line as are the clothes. Drop anchor offshore, row ashore, and pull the boat back out near the anchor, tying securely to the shore. Allow sufficient scope.

Spilled
Gasoline and
Oil
- No smoking or open flame when refuelling.
- Spilled gas and consequent trapped vapours can explode. Lift the floorboards to ventilate the bilge.
- Wash any oily residue from slippery seats or decking.
- Protect the day tank fuel lines when wearing caulks.

Weather
- Avoid open water when weather conditions are marginal.
- Ask the locals about weather patterns.
- If you are caught in a blow, reduce your speed and angle into the waves.
- If the motor quits, use the oars immediately to prevent the boat from broaching-to.

Sweepers and
Log Jam
- Sweepers are common along the outer curves of rivers. The safest procedure is to land on the inner curve and walk the boat around the bend.
- Use caution if forced to fend off against a strong current. Never use a pole or oar as a "stiff leg" between your body or boat and the object; you could be "jill poked" out of the boat.
- Approach log jams cautiously. There may be dangerous eddies and under-tows.
Swift Currents

- Travelling downstream is much more hazardous than going upstream. Your speed must be controlled. Land with the bow headed upstream.
- Run directly with the current; do not let the boat turn broadside at any time.
- If the motor or shear pin fails, keep the bow into the current and immediately head for shore.
- A stout pole is more effective than oars for guiding a boat in shallow rapids.
- Rubber rafts may "jack-knife" in deep troughs.
FIRST AID

All inventory personnel should have some knowledge of elementary first aid for treating simple accidents likely to happen in the woods. All supervisors should have a copy of "Fundamentals of First Aid" by the St. John's Ambulance. The following are some fundamentals with which everyone should be familiar, and types of injuries most likely to be encountered during our field season.

1. drownings
2. cuts and bruises
3. fractures and sprains
4. shock
5. burns
6. other injuries.

The following are some points to follow in treating for the above. By no means are they intended to be comprehensive. In all cases of serious injury, send for medical aid.

6.81 General Rules of First Aid

First aid aims to preserve life, minimize the effects of the injury, and to relieve pain and distress.

Pay special attention to failure of breathing, severe bleeding, and severe shock.

If there is the slightest doubt as to whether a patient is dead or alive, continue your treatment until the arrival of medical aid.

Keep the patient warm, paying especial attention to what he is laying on. More heat is lost to solid objects (ground, etc.) than to the air. Be sure he is laying on a warm or well-padded surface.

Keep calm and reassure the patient.

Obtain medical aid as soon as possible.

THE NECESSITY FOR CARE IN PREVENTING ACCIDENTS IN THE WOODS CANNOT BE OVER-EMPHASIZED, PARTICULARLY IN "BACK" AREAS, WHERE IT IS DIFFICULT TO OBTAIN MEDICAL AID. BE CAREFUL IN THE WOODS.

6.82 Drowning and Unconsciousness.

Commence artificial respiration immediately. Keep the victim's nose and mouth away from the ground. If others are present, have them loosen clothing, provide warmth, and promote circulation by massaging the inner side of the legs and arms towards the heart. Make sure that the air passages are not blocked. Remove artificial teeth, weeds, etc. from the mouth. When changing operators, do not lose the rhythm. Keep on with artificial respiration until natural breathing is restored, or until a doctor declares the victim dead. There are recorded recoveries after more than 24 hours have elapsed.

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Direct Artificial Respiration

This is the method whereby a person ventilates the lungs of an unconscious, non-breathing victim by blowing his own breath directly into the mouth or nose of the victim. The atmosphere contains 21% oxygen, while expired air contains 14-16%, an amount more than adequate for artificial respiration.

1. Place the victim on his back immediately.

2. QUICKLY clear the throat of water, mucous, food, sand, etc.

3. TILT THE HEAD BACK as far as possible. (lower arrow of Fig. 1)

4. LIFT THE JAW UP to keep the tongue out of air passages. (Upper arrow of Fig. 1.) If necessary, hold the tongue against the lower jaw with your thumb in his mouth.

5. PLACE YOUR MOUTH TIGHTLY OVER THE VICTIM'S MOUTH AND PINCH THE NOSTRILS to prevent air leakage.

6. BLOW INTO THE VICTIM'S MOUTH OR NOSE until you see his chest rise.

7. REMOVE YOUR MOUTH AND LISTEN for the sound of returning air. Snoring, gurgling sounds indicate throat obstruction. Check the jaw position (Fig. 1) if there is still no exchange of air, turn the victim on his side and slap him between the shoulder blades to dislodge any matter in the throat.

8. REPEAT BLOWING 12 TIMES PER MINUTE, removing your mouth each time to allow the air to escape.

In the case of infants and small children, tilt the head fully back and surround the mouth and nose completely with your mouth. Blow with only enough force to produce a visible rise in the victim's chest, and no more. Repeat every 2 seconds.

Care of the Unconscious

Lack of oxygen for a very few minutes may cause permanent brain damage or death. A victim's breathing must receive your first attention.

An unconscious person may be breathing or not breathing. IN EITHER CASE AN OPEN AIR PASSAGE TO THE LUNGS MUST BE MAINTAINED.
The human tongue is as large as a quarter of pound of steak. The muscles of the tongue relax with loss of consciousness. In certain positions the tongue may fall back, obstructing the throat and cutting off the air passage.

If the victim is not breathing, administer artificial respiration at once. If he is breathing, remember that temporary shock and loss of consciousness may cause suffocation if the tongue falls back. Thus, accidental death may be avoided by first taking this simple precaution:

PLACE THE VICTIM ON HIS SIDE OR ABDOMEN WITH HIS HEAD TURNED TO ONE SIDE, AND TILTED BACK.

In this position there is less danger of obstruction by the tongue or aspiration of vomitus into the lungs.

6.83 Cuts and Bruises

Personnel should be familiar with the appearance of the three types of bleeding: arterial, veinal, and capillary. Rules to remember in treating wounds include:

- Either sit or lay the patient down.
- Elevate the bleeding part.
- Wash in and around the wound with sterile water, but do not disturb any blood clot already formed.
- Apply direct pressure over a pad (if available) to the part of the wound from which blood is coming.
- Cover the wound with a dressing (gauze pads) and bandage them firmly in position.
- Do not apply any antiseptic. Sufficient antiseptic to kill germs also kills human flesh, resulting in very slow recoveries.

Most wounds at first appear more serious than they actually are. Don't panic at the sight of blood; appear confident and reassure the patient.

Bruises are actually capillary hemorrhages beneath the skin, accompanied by discolouration and swelling. Apply a cold compress.

6.84 Fractures and Sprains

Swelling, pain, tenderness, limitation of natural movement, deformity, irregularity of the bone, etc. are the main symptoms of fractures. The injured person must obviously be transported to medical aid as soon as possible.

Prevent any further movement of the injured limb by immediately steadying and supporting it. Immediately treat any bleeding. Use the victim's body to immobilize the fracture; bandages are used to support the injured limbs to the patient's body. Splints are sometimes required to ensure immobility.
Sprains are caused by a sudden wrench or twist at a joint. Treat thusly:

- Secure the limb in the most comfortable position.
- Expose the joint and apply a firm bandage and wet it with cold water.
- In the case of a sprained ankle when the man has to walk out, replace the boot before increased swelling makes it impossible.
- Remember, only X-rays can determine breaks with certainty—see a doctor for all sprains.

6.85 Shock

Shock accompanies all injuries to varying degrees. The St. John's Ambulance has eliminated shock from their instruction, having determined that having treated the injury correctly and effectively, you have effectively treated for shock.

6.86 Burns and Scalds

In our work, the usual cause of burns and scalds is cooking. Prevention of infection and the replacement of body fluids are the main considerations.

- For minor burns, if there is cold water close to hand, pour it on the injury to cool the skin and stop further burning.
- Remove clothing, but do not pull of stuck clothing, and do not break any blisters.
- Saturate a dressing with warm alkaline solution (body temperature), such as that obtained by adding 2 teaspoonsfuls of baking soda to one pint of sterile water. Add soda after boiling the water.
- Bandage the dressing firmly in place.
- Keep the patient warm, and give large quantities of warm fluids.
- The usual simple burn may only require holding the burned section in lukewarm water to reduce pain.
- Jellies, butter, etc., only serve to trap bacteria in the wound.

6.87 Other Injuries

Bee Stings

Stings may be quite serious in the bush if they are near the eyes. Swelling may partially or completely close the eyes. Extract the sting if possible. Swab with a "Sting-Kill" or a solution of baking soda.

Rattlesnake Bites

Carry a snake bite kit when in rattlesnake territory. DO NOT RUN. Running increases the chance of serious injury.

Foreign Body in Eye

Do not rub the eye.

Pull down the lower eyelid and, if the object can be seen, remove it with a corner of a clean handkerchief, twirled up and wetted with clean water. If the object is thought to be under the upper lid, lift the upper eyelid over the lower and let go of the upper lid. Repeat several times.

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If these methods fail, or if the object is embedded, cover the eye with soft gauze, hold in place with tape, and see a physician.

**Foreign Body in Ear**

Fill the ear with oil (castor oil, mineral oil, etc.)

See a physician.

**Blisters**

This is a common ailment at the start of the field season, owing to unaccustomed long hikes with new or poorly fitting boots. Most blisters are on the back of the heel. Excessive sweating greatly increases the chances of blistering. Dirty socks almost invariably lead to infection.

- If work is discontinued for a day or two (before the blister breaks), further treatment is not necessary. The fluid is soon absorbed and the skin dries out and toughens.
- Unless the blister is very large, and likely to rupture, do not pierce the blister. If you must, use a sterilized needle, and approach from the side, inserting the needle into the skin 1/16" or so away from the blister.
- If the blister is broken, wash with soap and water immediately, to prevent infection and blood poisoning.
- After washing thoroughly, dress with two or three layers of sterile gauze, cut about 1/2" larger than the blister. Hold in place with two or three layers of adhesive tape or elastoplast with holes cut directly over and the size of the blister. In two or three days the trouble will clear up.

**Infection**

The symptoms of infection include inflammation, reddening, pus and swelling in the lymph glands in the groin, armpits, or neck. In the latter, red streaks can be traced from the wound towards the glands. This indicates infection in the lymph vessels. Hot compresses must be applied to the wound and extended above the red streaks. Almost all cases clear up within 24 hours. Blood poisoning, evidenced by the above, and chills, fever, weakness, listlessness, and poor appetite, must be treated immediately by a physician. Hot compresses must be applied until the doctor is in attendance.

**Heat Exhaustion**

Symptoms include dizziness, weakness, pallor, beads of sweat on the forehead, and in some cases vomiting or nausea. In short it looks precisely like shock, but is caused by unaccustomed work and/or heat.

Remove the case to a shaded spot, apply ice or cold water to the forehead and give fluids, especially salty fluids.

Prevention consists of drinking adequate fluids and consuming sufficient salt.
Transporting Injured Persons

If you are alone, use forked limbs as an improvised crutch or cane.

One bearer can use pick-a-back, the fireman's or other lifts.

If there are two bearers, a suitable stretcher can be improvised using two poles with jackets, tarps, gunny sacks, tent flies, etc.

As a general rule, carry the patient feet first; you are less likely to injure him further with overhanging branches, etc. Keep the patient warm, using blankets or sleeping bags above and below him. Keep a careful watch on the condition of the victim. Be as gentle as possible when loading him onto the stretcher. Trade ends of the stretcher occasionally to give your muscles a change.
6.9 PROCEDURES IN EVENT OF SERIOUS ACCIDENT OR INJURY, OVERDUE PERSONNEL OR AIRCRAFT

6.9 1. PROJECT BASE PROCEDURE

(a) AIRCRAFT OVERDUE
Steps outlined below must be initiated by the Project Supervisor or senior man at base if the aircraft is unreported after two (2) hours, unless there is sufficient reason to extend the period. The two hour maximum is particularly important where duration of daylight is a factor in obtaining search aircraft.

(i) Contact Victoria office (387-6722 or 387-6723) by radio or telephone, (see part V, Communications, re use of Telpak telephone system) or home:

J.B. Bruce 598-2916  
C.J. Calder 658-5592

H.N. Cliff 477-3097  
R.W. Corregan 598-7406

Names are not to be mentioned over radios. Use Accident Code List for individuals involved.

(Steps indicated below under Victoria Headquarters procedure will be carried out by Victoria office contacted on receipt of information from project).

Details - aircraft, charter firm, licence; classification flight plan if applicable; pilot and passenger(s) (Use code list on radio.); general area of flight; details of last position report; emergency equipment carried, SARA?

(b) PERSONNEL, BOATS OVERDUE
No definite time limit can be set, and reporting must be at the discretion of the supervisor or senior man at base. Generally one (1) day should be the maximum limit past expected arrival, but in some instances this may only be an hour or so. Procedure outlined under (a) above will be followed including names, departure time, destination, estimated arrival time; last contact; equipment carried.

(c) SERIOUS ACCIDENT OR INJURY
Follow (i) above with any other pertinent information as to extent of injuries; hospital; damage or injury to public.

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VICTORIA OFFICE PROCEDURES

(a) General

(i) On receipt of call, record all times and details in writing and in radio log if applicable.

(ii) Office contacted should proceed to the radio room (15 basement) if continued contact is necessary. (Key to radio room is kept in metal box tagged Room 15, Room 149). For those unfamiliar with radio operation, any of the following may be contacted to help operate radio:

R. Tate 592-9659
R. Crawford 477-3589
B. Bedingfield 598-6394

(iii) Obtain files on personnel concerned from file drawer in room 147 (Miss Phillips).

(iv) Do not notify next-of-kin—check this with senior officer contacted under (d) below.

(b) Check location of Forester 1/c or 2 1/c, if in field; and advise if possible—use code list of names—Victoria office code list copy kept on file, 0146188—F.

(c) Contact Forest District officials, District Forester, Assistant District Forester or Forest Protection Officer by telephone.

Vancouver—684-2321
H.M. Pogue—926-2528 D.F.
J.C. Payne—224-9302 A.D.F.
W.W. Smith—581-3139 F.P.O.

Prince Rupert—Dist. Office 624-2121; night calls 624-2124
W.G. Bishop—624-4320 D.F.
R.G. Gill—624-6073 A.D.F.
W.S. Carr—624-9097 F.P.O.

Prince George—Dist. Office 562-8131; night calls 562-8131,37
M. Isenor—563-8977 D.F.
O. Kettleston—564-8345 A.D.F.

Kamloops—Dist. Office 374-4112; night calls 374-4114,15
A.H. Dixon—376-5574 D.F.
A.C. MacPherson—376-9164 A.D.F.
Nelson - Dist. Office 352-2211; night calls 352-2213
J.R. Johnston - 352-7740  D.F.
J.A. McDonald - 352-3090  A.D.F.
W. Brash - 352-5178  F.P.O.

Cariboo - Dist. Office 392-6261; night calls 392-6261,3244
E.W. Robinson - 392-5707
A.B. Robinson - 392-5032
A.F. Ginnever - 392-3444

This step should be discussed with project supervisor or senior
man making initial call, as it may be more expedient for project
base to do so.

(d) Contact Assistant Chief Forester i/c Resource Management or
Services or Chief Forester if first two not available.

Resource Management - Mr. W. Young, local 3912 or home 652-3002
Services - Mr. P. Hemphill, local 3912 or home 658-8094
Chief Forester - Mr. E. Young, local 3901 or home 592-9019

(e) Contact Air Sea Rescue if aircraft or boat involved. This step
at decision of Victoria office. This organization may be requested
to have their facilities alerted only and not start procedures
until requested.

Air Sea Rescue will require details of aircraft or boat; flight
area; destination; range; special equipment carried (SARA, etc.);
last report; persons on board; etc. Give them details of search
activities already instituted or in progress, i.e. District air-
craft en route, etc.

(f) Contact Aircraft Charter Firm.

Transwest Helicopters. Mr. McMahon, 291-7578.

Give details received and action taken.

(g) Contact R.C.M.P. May be delegated to project base - advise
extent of Forest Service resources in action.

(h) Release of Information - Under no circumstances is information to
be given to outside inquiries except above. Such inquiries must
be directed to the senior officer previously contacted under (d)
above.
7.0 FIRE PROTECTION

7.1 FIRE PREVENTION AND FIRE FIGHTING DUTIES

7.11 Forest Act
7.12 Fire Permits
7.13 Precautionary Measures
7.14 Conscript for Fire Fighting
    7.14.1 Overtime for Fire Fighting

7.15 Accidents

7.2 FIRE TOOL REQUIREMENTS FOR INVENTORY PROJECTS

7.21 Loss Factor Crews (4 men)
7.22 Launches
7.23 Project Headquarters
7.24 Recovery of Inventory Division Tools

7.3 SUPPRESSION ACTION ON FIRES

7.31 General
7.32 Fundamentals of Fire Fighting
7.33 Fire Fighting Procedure
    7.33.1 Initial Attack
7.33.2 Crew Organization
7.33.3 Fireline Construction
7.33.4 Holding Actions

7.4 FOREST SERVICE BADGES

7.5 FOREST CLOSURES

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7.1 FIRE PREVENTION AND FIRE FIGHTING DUTIES

For the last ten years an annual average of more than 2,400 forest fires have occurred in British Columbia, of which 63% were man caused. For a ten year average, over 1/5, or 523, fires annually were attributed to smokers and campers. Many of these fires were due either to disregard of the Forest Act and regulations or carelessness on the part of some individual. Forest Inventory personnel must obey all fire prevention measures as set forth in the Forest Act, and must familiarize themselves with the following Fire Protection sections of the Forest Act. The sections of the Act are summarized for reading convenience only, and do not replace the act for statutory authority.

7.11 Forest Act

Section 100

The close season in respect to setting fire is from the first day of May to the last day of October. The period of close season may be extended if unusually dangerous conditions are present.

Section 101

No persons shall set out a fire during the close season within one half mile of a forest or woodland, or slash or forest debris, or any peat or shrub lands, without first obtaining a permit under Section 102.

A permit is required to kindle a fire for cooking, necessary warmth, and burning any material. This permit is required unless the fire is started in a stove, furnace, or similar device designed to confine the fire, and suitable for the purpose.

(Regulation 5 of Order-in-Council 745) "Every person who sets out, starts, or kindles any fire in any forest or woodland during the close season for the purpose of cooking or obtaining necessary warmth:

1. Shall not locate the fire within ten feet of any log, stump, snag, or standing tree, and
2. Shall clear away all inflammable debris and material down to mineral soil for a space of three feet in every direction from the edge of the fire."

Fires shall be extinguished before the person leaves the vicinity of the fire.

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Every person who fails to extinguish a fire used for cooking or warmth is guilty of an offense against the Act.

Section 102

Permits may be issued by the Forest Service to set out fires for cooking and warmth, subject to such conditions as are deemed necessary by the Forest Service. The Minister may, due to the hazardous conditions, suspend or cancel all permits or may attach conditions to the permits as he deems proper.

Contravention of conditions of a permit is an offense against the Act.

Section 104

Every person shall extinguish on the spot during the close season, matches, pipe ashes, lighted cigarettes or cigars, or any other burning substance used by them. It is illegal to throw burning material from a motor vehicle.

Section 119

It is the duty of every adult person to prevent the spread of any fire that exists within one half mile of any forest and to report it to the Forest Service.

Section 122

Where hazardous conditions exist, the Minister may declare that area a closed district and no person shall enter or be in that area for purposes of travelling, camping, hunting, fishing, recreation, prospecting, or the like, without a permit. The section allows persons to travel along public highways, under the above conditions.

Section 125

Forest Officers may employ or conscript persons to fight fire, between the ages of eighteen to sixty, except train men, telegraphers and dispatchers on duty, medical practitioners, and persons physically unfit.

The preceding fire protection sections summarized from the Forest Act apply to Forest Inventory personnel as well as to other citizens. In fact, from a public relations point of view, Inventory personnel are expected to set the example in obeying the fire protection sections of the Act. To aid in this, the following instructions regarding the above sections of the Act are laid down in cooperation with the Forest Protection Division.
Note: Wherever the word "Forest Officer" appears in this text, it shall apply to the Forest District Staff.

7.12 Fire Permits

All fire regulations apply to Inventory Division personnel during the close season. Campfire permits may be obtained from any Ranger Station. Permits obtained in one Forest District do not apply to any other District.

If permits are cancelled due to hazardous conditions, crews must not light campfires. In such a case, immediately notify your Project Supervisor, and check with the local Forest Officer.

7.13 Precautionary Measures

- If possible, locate the campfire beside a creek and on a sand bar or river bank.

- A bonfire is not necessary for cooking purposes. The best results are obtained from a small fire with lots of hot coals.

- Be extremely careful of campfires at higher levels, where fuels are drier, winds trickier, and water very scarce. A sudden gust could start a fire which would be difficult to control.

- Do not build fires close to tents, which are highly inflammable. Fill and light gas lanterns and stoves outside.

- Before leaving camp at any time, and before going to bed, put out your campfire, using lots of water, and check the ashes with your hand. If the coals are still warm, the fire is not out.

- Before burning garbage at base camps, obtain a burning permit from the Ranger. It may be necessary to have a burning permit issued by municipal authorities when lighting fires inside the boundaries of a village, municipality, or town. The Ranger is familiar with such regulations, and will advise you if a special municipal permit is required.

- If Inventory personnel are working on private land or logging operations, consult the superintendent for any local fire rules.

Smokers must observe these points:

- Do not throw cigarette butts out of car windows - use your ash tray.

- Use "rollings" in the woods. Some logging camps will not allow tailor-mades in the woods during the fire season.
- "Take five" if you want a smoke when travelling through the woods; sit down, and make sure the smoke is properly butted and out.

- Butt cigarettes on a stone or in the earth; the same applies to matches. Break matches in half. Cigarette lighters are safer and are recommended for the woods.

Remember, during the last ten years, smokers and campers have annually caused 523 fires. If an investigation shows carelessness attributed to Inventory personnel, immediate dismissal, at least, will result. Whether or not carelessness is indicated, any fire caused by Inventory personnel is a reflection on the entire organization. Public cooperation is essential to fire prevention, and all Inventory personnel must set a good example.

### 7.14 Conscription for Fire Fighting

When called upon by a Forest Officer for fire fighting duties, all Inventory personnel must obey his instructions immediately, observing the following points:

- Inform the Forest Officer of the crew with which you are working, and notify your Project Supervisor.

- Arrange with the Forest Officer to leave tally equipment, etc., not required for fire fighting, at the Ranger Station.

- The Forest Officer will advise his District Forester of any Inventory personnel engaged in fire fighting, and will continue with weekly reports until the Inventory people are relieved.

- The District Forester will, upon receipt of this information, relay it to the Forest Inventory Division, in Victoria.

### 7.14.1 Overtime for Fire Fighting

In most instances, Inventory personnel will only be left on fire duties for short periods, and their regular pay will be sufficient. Overtime will be considered for that time worked in excess of the normal 40 hour work week, at the rate of time and one-half. Note the following points:

- The District Forest Officer must report time on F.S. 63T, and forward one copy either to the Victoria office of our Division, or to the Project Supervisor (who will in turn forward it to Victoria).

- Where payment is to be made for overtime, the District will forward a copy of F.S. 202 to the Accounts Division, Victoria. Accounts will forward a copy to our office if our staff is involved. Inventory Division will advise Accounts as to whether payment is to be made or compensatory time is to be given.
- The decision as to whether time or payment is given is the perogative of the Forester i/c.

7.15 Accidents to Inventory Personnel While on Fire Duties

In the event of a compensable accident or injury to Inventory personnel while fighting fire the following procedure shall be carried out:

- The injured man must notify the Forest Officer as soon as possible.

- The Forest Officer will notify the District Forester, giving name, nature of injury, etc., and if possible notify the Project Supervisor.

- The District Forester will notify our Victoria office.

- The Forest Officer in charge of the fire will be responsible for making up the necessary Workmen's Compensation Board forms and forwarding them to the District Forester. For Forest Inventory records, a copy of the form can be obtained from the Personnel Division, Victoria.

7.2 FIRE TOOL REQUIREMENTS FOR INVENTORY PROJECTS

Since all Inventory personnel are expected to take action on any fires discovered, every field party is equipped with fire tools for fire fighting only. Fire tools are also carried in our vehicles as per the vehicle property list. These tools may be used for other purposes, but must be returned to the vehicle. Equipment lists include:

7.21 Loss Factor Crews (5 men)

<table>
<thead>
<tr>
<th>Tool</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand tank pumps</td>
<td>1</td>
</tr>
<tr>
<td>Shovels</td>
<td>2</td>
</tr>
<tr>
<td>Mattocks</td>
<td>2</td>
</tr>
<tr>
<td>Axes, double bitted</td>
<td>1</td>
</tr>
<tr>
<td>Buckets, canvas, 2 gallon</td>
<td>2</td>
</tr>
</tbody>
</table>

The above equipment may be placed at base camp or at the plots as determined by the party chief.

7.22 Launches (Issued to Launch Permanent Unit List and need not be ordered.)

<table>
<thead>
<tr>
<th>Tool</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand tank pumps</td>
<td>1</td>
</tr>
<tr>
<td>Shovels</td>
<td>1</td>
</tr>
<tr>
<td>Mattocks</td>
<td>1</td>
</tr>
<tr>
<td>Pulaski</td>
<td>1</td>
</tr>
<tr>
<td>Buckets, canvas</td>
<td>2</td>
</tr>
</tbody>
</table>

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7.23 Project Headquarters

Hand tank pumps 1
Shovels 2
Mattocks 2
Axes, double bitted 1
Buckets, canvas, 2 gallon 2

In the interior, a power pump and approximately 500 feet of hose will be assigned to each project base camp. The pump is to be set up, ready for instant use, with hose laid out or suitably coiled. The pump must be tested each week. Project Supervisors will ensure that appropriate persons on the crew are instructed in operating the unit. The Project Supervisor shall be responsible for placing fire tools in a conspicuous position at project headquarters, ready for instant use. The racks for these tools are marked "FIRE TOOLS - FOR FIRE ONLY". Fire tools must be kept in good condition. Be sure that they are kept dry. Exposure to moisture soon damages equipment. A coat of oil or light grease will inhibit rust.

7.24 Recovery of Inventory Division Tools

Inventory tools and equipment which you take to a fire must be recovered, since they are charged to the project. Cooperate with the Forest Officer in lending outboards, boats, etc., for fires. Do not leave equipment unaccounted for on fires when returning to Inventory duties. It may be necessary to loan equipment to the Ranger, but the Project Supervisor must be advised. He will contact the District so that, if necessary, replacement of loaned equipment can be arranged. Loans must be accounted for on a Property Form (F.S. 17T). When the property is returned, receipt the return by noting it on the form, and show the date and any necessary comments regarding condition, repairs needed, etc.

7.3 SUPPRESSION ACTION ON FIRES

7.31 General

This section is not intended as a fire fighters' manual, but merely to help those who have had little fire fighting experience. It will deal only with small spot fires which inventory crews may discover. Remember, the first action is to notify the Forest Officer concerned. The exception is the very small spot fire that you put out immediately, and are quite sure is safe to leave. In this event, carry on with the day's work and notify the Project Supervisor of the location of the spot fire and the action taken. He will advise the Forest Officer concerned by letter or radio. The Forest Protection organization has made the necessary arrangements to provide a chain of command in the field, and our staff will accept direction accordingly.

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7.32 **Fundamentals of Fire Fighting**

All attempts to control and extinguish fires are based on the knowledge that to start combustion, heat, fuel and oxygen are required in proper combination. With this in mind the following fundamentals in fire fighting become apparent.

- Heat is reduced by knocking down the flames with water or dirt.

- Fuel is removed from the path of the fire by building a fire line or trench.

- Oxygen is eliminated by smothering the flames with dirt, water, or chemicals.

These fundamentals are the basis for an initial attack on a small fire.

7.33 **Fire Fighting Procedure**

7.331 **Initial Attack**

A well organized initial attack is essential, and, if properly carried out, a small fire can be rapidly controlled. The Project Supervisor or senior member of the crew shall take charge, and the entire crew must follow his orders. He must size up the fire quickly and give the crew explicit instructions on where to put in the fireline.

7.332 **Crew Organization**

For a typical six-man crew, there would be one axeman, two mattockmen, two shovelmens, and one patrolman with a hand tank pump.

The axeman lays out the fireline around the edge of the fire, blazing the line, and removing limbs and brush along the line. For a moving fire, the line should run along the flanks of the fire to eventually choke off the head. The initial attention should be concentrated on the flanks close to the head of the fire.

The men with the mattocks or pulaskis follow the axeman, loosening debris, branches, duff, etc., for a width of 2 to 4 feet, and digging a trench (about a foot wide) down to mineral soil in the centre of the cleared strip. The hand tank pump may be necessary to knock down the flames, to allow the men to construct the lines as close to the fire as possible.
The shovelmen follow closely, removing loosened debris. Burning material should be scattered back into the fire, while cold material is thrown outside the line and scattered. Be sure that the trench is down to mineral soil. Dirt can be used to knock down the flames, but hot dirt or dirt mixed with duff and needles, etc. may help maintain combustion, so use only mineral soil.

The last man patrols the fireline, knocking down hot spots at the head of the fire or near the line, and watching for spot fires.

7.333 Fireline Construction

Some points to remember in constructing a fireline are:

- Dig down to mineral soil.
- Watch for spot fires and immediately extinguish them.
- Remove any brush or reproduction close to the fireline.
- When knocking down flames with a hand tank pump, direct the stream to the base of the flame.
- A fireline should be constructed regardless of the size of the fire.

- In constructing the fireline, don't waste time on refinements. The line can be improved later when the fire is surrounded.

- Merely throwing dirt over burning logs and stumps is not sufficient to extinguish the fire. Embers and coals may smoulder for days underneath and then break out again.

- On steep side-hills, watch for rolling burning material.

- For small fires, flames can often be beaten out with a wet sack, etc., and the trench put in right at the fire's edge.

7.334 Holding Actions

When the fire has been cut off, holding action is necessary. Concentrate on cooling off hot spots, improving the fireline, falling snags (if you have an experienced faller), and extinguishing burning material inside the fireline. For the latter, the best method is to have a shovelman and hand tank pump man working together. One rolls the smouldering material over, while the other thoroughly douses it with water on all sides. When mopping up, be sure that every smoke is out before leaving the fire.

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If possible, leave two men to patrol the fire until the Forest Officer takes over. It is useless to spend many back-breaking hours controlling a fire and to have it escape later.

If no report other than the initial one has been made, notify the Forest Officer concerned of the action taken.

7.4 **FOREST SERVICE BADGES**

Project Supervisors will be issued with bronze Forest Service badges for identification only, and the following rules will apply:

- Do not use the badge as authority to conscript or arrest any citizen under any section of the Forest Act, because this is a function of the District Forest Officer.

- If occasion arises to check anyone for infractions of the Forest Act, such as throwing cigarette butts from car windows or leaving campfires burning, be courteous at all times. Remember, good public relations is more effective in forest protection than high-handed officiousness.

- The use of the badges by Project Supervisors will be restricted to necessary interim suppression action taken by Inventory personnel in the absence of a District Officer.

7.5 **FOREST CLOSURES**

Owing to hazardous fire conditions, the Minister of Lands, Forests, and Water Resources may declare an area a closed district, and may restrict any or all persons, occupations, or operations.

There are two main types of closures: Regional and Forest District. There are three classes of closures under each of the above types: (1) Recreational; (2) Restricted Industrial; and, (3) Complete (general).

Recreational closures cover recreationists, including prospectors. Restricted Industrial closures may cover certain industries or restrict hours of work (i.e. early shift). Generally, campfire permits are suspended during a recreational closure, but portable pressure camp stoves (Coleman, etc.) are not affected by restrictions on campfires. A complete closure often covers all activities not directly relating to protection of the forest. Details of occupations and forest users affected by forest closures and restrictions imposed are known by the Forest Ranger. It is important that the Project Supervisor consult with the Ranger in the event of a forthcoming closure to ascertain whether the crew's activities will be curtailed. Occasionally it is possible to obtain special permits or permission to continue some phases of the project.

It is imperative that Division personnel do not contravene any closures, and the Project Supervisor should keep well informed regarding these matters.

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If a closure affects field work, the Forester i/c must be notified, as re-allocation of crews to other areas may be necessary.

Note Appendix 3 - Vancouver Forest District, Forest Closure Zones, as Closures or restrictions may only cover some zones.
8.0 PUBLIC RELATIONS

8.1 THE GENERAL PUBLIC
  8.11 On Duty
  8.12 Off Duty
  8.13 Rights of Access
  8.14 Using Facilities of Others
  8.16 Use of Government Vehicles
    8.161 Recreational Use
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PART 8 - PUBLIC RELATIONS

8.1 THE GENERAL PUBLIC

The general public is your employer. They have a right to expect their employees to carry out duties in the proper manner, efficiently and courteously, to turn in a good day's work, and to properly care for public equipment entrusted to their use.

It is very easy for the public to gain the wrong impression of our effectiveness when observing our performance, since they are often not very well informed on the purposes of our job. We must carefully consider how any action of a public servant could be detrimental to the entire Forest Service. We have a responsibility to ensure that any abuse of the privileges afforded us is not allowed to continue. Following are some general rules of conduct. They are not complete, but will indicate the standard expected.

8.11 On Duty

Be pleasant, business-like, and courteous to the public and those with whom you may be required to conduct business.

8.12 Off Duty

Your leisure time is your own insomuch as it does not involve your employer. Activities around camps or neighboring communities should not be such that would bring discredit on our organization.

8.13 Rights of Access

Consider the rights and property of private citizens. The Forest Act outlines the jurisdiction of the Forest Service in relation to forestry matters, including cutting, classifying trees, timber, and products of the forest, "and in the exercise of any power or duty in connection therewith a person employed by the Forest Service may enter into and upon any land or premises other than dwellings". (Forest Act, Part I, Section 5)

Wherever possible, however, Division personnel should contact the owner, if the land is occupied, as an act of courtesy, to advise of your activities; and of course use discretion. Under no circumstances should private property be damaged in any way, by blazing trees, fences, etc. Using a four-wheel drive on soft roads can cause considerable damage.

8.14 Using Facilities of Others

You establish your personal reputation in the woods as well as in the settlements. Your behaviour in the woods, when sharing or using (with the owner's permission) other peoples' accommodations and/or facilities (such as trappers' cabins) should be in accordance with the high tradition of the good woodsman, who replaces wood burned, food used, cleans up after himself, and respects the property of others to a degree far above that expected of the city dweller. In an emergency, the owners of cabins in the woods may well expect that you make use of their facilities and/or supplies, but they will also expect that you tell them at the first opportunity, and make arrangements

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to replenish any supplies used. Wood can be replaced at this time. You can clean up after yourself at the time, but you might have to make arrangements later to pack in food replacements. They surely do not expect to find any of their belongings missing or abused in any way. Field crews using this type of accommodation should give details in writing to the supervisor, mentioning condition prior to and after use, and anything used by them. Nothing is to be removed, except in emergencies.

8.16 Use of Government Vehicles

The public is usually more concerned with the use, or, on occasion, the misuse (in their opinion) of vehicles, since they are immediately identifiable as belonging to the Government. For this reason, supervisors and drivers must be familiar with the following points:

8.161 Recreational Use

Government vehicles are to be used only for authorized purposes in carrying out assigned duties. Vehicles are not to be used for private purposes. It is generally recognized that on occasion vehicles may be used for group transportation to a nearby centre for recreation. Such use must be authorized by the Project Supervisor and is a privilege, not a right, and where possible, should be made in conjunction with a recognized business trip, for supplies, etc. There is no firm statement respecting responsibility in the event of an accident for trips solely for group recreation, but there have been cases of accidents resulting from approved recreational use, and they have been considered in the same manner as if the vehicle were being used for regular duties.

In authorizing the use of Government vehicles for a recreational trip, the following points must be kept in mind:

- Only the best, most responsible drivers are to be placed in charge of the vehicle.

- It must be clearly understood that the driver will refrain from consuming alcoholic beverages, since the vehicle and passengers are his responsibility. If he is in an intoxicated state he may be held personally responsible for any damage or claims arising from any accident.

- The trip is to be direct to the destination, with no unjustifiable side trips.

Revised 1972.
- On arrival, the vehicle is to be parked in a Government lot or left in as inconspicuous a place as possible, and secured against theft or use by unauthorized persons.

8.162 Limitations

There is no authorization for vehicles to be taken out of the general project area except for supervisory trips to District Offices or approved trips to Victoria headquarters.

8.163 Drivers' Liabilities

If you are using the vehicle for an approved purpose, and are sober, there is assurance that your employer will protect you against any outside claims arising as the result of an accident. You still, however, may be held responsible for a portion or all of any loss sustained to Government property, if there is evidence that you were responsible for the accident through improper driving practices. The Inter-Departmental Safety Committee, after reviewing the circumstances, recommends what action is to be taken.

All concerned should be aware of the paragraph in the Department of Public Works (Highways) Circular 2176 regarding improper use of vehicles, viz., "The unauthorized and/or unjustified use of a Government owned car or truck by an employee of the Government may render such an employee personally liable for the consequences of such use and further, he or she may be suspended or summarily dismissed if in the opinion of the Department head, the gravity of the consequences of such use warrants suspension or dismissal."

8.2 THE STOCKMEN

All Forest Inventory personnel will be guided by the following points having to do with minimizing the disturbance of livestock and ranching operations.

- Do not approach range cattle on foot unless absolutely necessary. Range cattle are nervous of humans on foot, and agitated cattle do not gain weight. Cattle are not unduly alarmed by vehicles or men on horseback.

- Leave gates as you find them. Fences are essential in range and livestock management. During one period, it may be necessary to divide a range area, whereas during another period, it may be essential to use the whole area as a unit. A gate improperly left open may result in many thousands of dollars of damage in lost cattle, reduced calf crops, range damage, etc. A gate improperly closed may deprive stock of access to water, interfere with the desired drift of stock, and be otherwise detrimental.
- Do not make camp on waterholes frequented by livestock. The availability of good water is often a key factor in range and livestock management. The loss of such facilities may render useless large areas of range, and adversely affect the stock. If you must draw water from a source also used by stock, camp should be established at least 300 yards away, and water fetched at a time when stock are not watering.

- Do not damage irrigation rills and ditches with vehicles. During and for some time after irrigation, the ground is extremely soft. If vehicles are used on fields in this condition, the rills which spread the water and smaller lateral ditches may be damaged to the point of uselessness. Even large ditches may be severely damaged by vehicles. Further, driving across soft fields will very likely damage the crop.

- Ask permission before camping on range land. Usually the owner will be pleased to give such permission, and will be able to indicate campsites which will least interfere with his operation.

- Drive carefully in the vicinity of livestock - their movements are unpredictable. Apart from the humane angle, a maimed or killed animal represents a serious loss to the rancher.

- Remember the rancher is running a complicated operation. He must deal with a multiplicity of natural factors and adapt himself to them. The less disturbed by even well-intentioned outsiders, the better. Please show consideration.

8.3 THE FOREST DISTRICTS

As field men, our inter-divisional relations are confined to mixing of personalities with the principals in the forest Districts. A good job done in this regard is half the battle for a smooth running field party.

The keynote to good relations with Rangers and District personnel is found in:

- Sincere cooperative effort.

- Awareness that we are out to establish and maintain goodwill for the Inventory Division.

- Compromise, out of respect for their problems. Remember that their organization is set up for a year-round active operation; ours is seasonal. Their busiest season coincides with our field season. Therefore, compromise and cooperation is a very real necessity.

At the start of the field season, we should see to the following points:

- After the Forester i/c has forwarded an introductory letter to the District Forester, the Project Supervisor will follow up with
letters to the Rangers concerned. Details should be given which include proposed base camp location, commencement date, names of personnel, and any other pertinent information.

- The Project Supervisor must submit a full list of names of all personnel on the project to the District Forester and Ranger as soon as the list can be formed.

8.31 Forest Rangers

In the course of doing our field work, our main contact with the Districts will be through the local Forest Ranger or his assistants.

The Forest Ranger is the backbone of the Forest Service. He is a man of responsibility and character in his own community. He has some connection with every phase of the Forest Service. His work includes management, protection, logging inspections, etc. Diplomatic relations between the Forest Service and the logging industry are dependent to a large extent upon the Forest Ranger. He seldom, if ever, has enough assistance; 24 hours every day are just not enough.

When approaching the Forest Ranger with your problems, remember that he has a thousand other things to worry about. Do not expect him to place his complete staff at your disposal simply because our headquarters are in Victoria. Consider yourself lucky if the Ranger can give you five minutes of his personal time, and then turn you over to his most junior staff member to get along as best you can. Nevertheless, you will find all Forest Rangers very cooperative, and they will do their best to help you whenever possible.

The Ranger and his assistants will be able to advise you on local transportation facilities, trails, new logging roads, boats for hire, and numerous other details.

It is important that you consult the Forest Ranger no more than is absolutely necessary. The Project Supervisor should, however, make a point of calling on him to get acquainted. Inform him that you are in his District and what you are doing, and extend an invitation to visit the base camp, where a fuller explanation of procedures and techniques could be arranged.

If the Ranger asks you for results from field work, there is no point in withholding information that may be of value. Our base maps, photos, and tallies (except Timber Sales) are available to him. This is also largely true for private individuals. While in the field, we are far from a final answer, and this should be impressed upon the inquirer. If there is any doubt about releasing information contact the Forester i/c for instruction.

Revised 1971. (204)
8.4 THE WILDLIFE ACT - FIREARMS, HUNTING, AND FISHING

Your position as an employee of the Provincial Government necessitates your close observance of Acts and Regulations instituted by that Government. Various officials are responsible for enforcing these regulations, and our actions must not reflect an attitude which could be construed as one Government Department having no concern for the responsibilities of another. Repeated infractions of such rules may result in dismissal. Strict observance of Wildlife Act regulations is necessary, particularly in respect to taking game or fish.

Some pertinent details of the Wildlife Act are outlined below; further information may be obtained from the local Conservation Officer.

8.41 Sidearms

It is Forest Service policy that no employee is to carry sidearms in the course of his duties. The Forest Inventory Division is governed by this rule and it must be followed by all concerned.

In the interest of safety, no firearms are to be discharged in or near the camp area, except in cases of marauding bears, etc. The intent of this rule is to remove target shooting or "plinking" to a safe distance from the camp area and any nearby habitation.

8.42 Licensing

- As of April of 1972, a person carrying firearms must be in possession of either a valid hunting license or a permit to carry firearms. If the person is hunting, he must naturally have a hunting license. If he intends only to target practice, etc., he may obtain the permit to carry firearms.

- When hunting, a person must have valid game tags for the species sought, in his possession.

- No licence to carry firearms or hunt shall be issued to any person under eighteen years of age, except at the written request of his parent or guardian, and he must be accompanied by an adult when carrying firearms.

- Also as of April 1, 1972, hunters either under eighteen or not having previously possessed a license must complete successfully the Fish & Wildlife Branch's Hunter Training, Conservation and Outdoor Safety examination before applying for a license.

- Anyone attempting to take fish with a hook and line, in non-tidal waters, is required to be in possession of a valid "Anglers" license.
8.43 Out of Season Hunting

8.431 Marauding Animals

Bears, etc., may be killed only to protect domestic animals, birds, etc. Permits (and subsequent reports) may be obtained from Conservation Officers. Alternatives are tranquilizer guns (in short supply) and traps. For serious nuisances, consult the local Conservation Officer.

8.432 Hunting for Sustenance

Permits are available in some cases to hunt for sustenance. Normally, this does not apply to our Division. In emergencies, hunting or fishing for sustenance is acceptable, but see the local Conservation Officer afterwards to obtain a permit and file a report. Keep a record of number, species, and sex killed.

8.44 Miscellaneous

- Live ammunition must not be contained in the breech or magazine of any rifle or shotgun while in a vehicle or aircraft. Firearms are not to be discharged from a vehicle.

- A Conservation Officer or constable may stop and search any conveyence, person, or camp without a warrant.

8.5 CARE AND USE OF PRIVATE OR OTHER DEPARTMENT BUILDINGS OR PROPERTY

8.51 Provincial Parks

Developed campsites, park grounds, or picnic sites for public use are not to be used as field crew campsites. Any proposals to utilize undeveloped areas of provincial parks as a base camp must be approved by the Forester i/c.

8.52 Crown Land

Wherever feasible, vacant Crown land should be used for base camps or sub-camps. Local information regarding ownership may be obtained from the Forest Ranger.

8.53 Private Lands or Buildings (See also Part I, Section 1.1, Field Camps)

Before using private non-commercial facilities, consideration should be given to the consequences of any action resulting in loss or damage to the property or buildings. A broken-down shack may suddenly become very valuable if destroyed while occupied by Government employees.

In view of the problems that could arise if rented buildings are damaged or destroyed while occupied by our employees,
final approval for rentals must be obtained by the Forester i/c. The following information is to be forwarded when requesting approval:

- Legal description of property, location, and owner's name.
- Value the owner places on the building(s), in writing.
- Type of construction.

On the basis of values involved, the Division may arrange for insurance coverage.

If the rental is approved:

- Arrangements should be made in writing with the owner.
- Ensure that you are dealing with the actual owner.
- Pay the first month's rent in advance, and obtain a signed invoice or receipt with a notation; e.g., "For rental of house on Lot 24", or street address.
- Generally we are responsible for any damages during our tenure. When vacating, arrange to inspect the premises with the owner, to ensure that everything is in a condition suitable to him, and obtain a written statement to that effect.
LIST OF APPENDICES

GENERAL ADMINISTRATION

1. Map of Route to Green Timbers
2. Map of Vancouver Forest Closure Zones
3. List of File Numbers for Inventory Division
4. Warning Poster (Handling of Fuels)
5. Radiogram Form
6. Requisition for Supplies (F.S. 843)
7. Flying Time Report (F.S. 848)
8. Labour Distribution Sheet (F.S. 834)
9. Weekly Travel Voucher
10. Survey Party Expense Account
11. Cost Designation Sheet (F.S. 841)
12. Transfer of Advance (F.S. 832)
13. Land Rental Agreement
14. Application; Field Camp Family Accommodation (F.S. 806)
15. Application to Move a Privately Owned Trailer (F.S. 463)
16. Pay Data Sheet (F.S. 884)
17. Employee’s Tax Deduction Declaration (T.D. 1)
18. Termination and Days Off Payroll (F.S. 885)
19. Unemployment Insurance Coverage (F.S. 807)

MEDICAL AND SAFETY

22. Medical Plan Application
23. Illness Not Exceeding 5 Days (C.S.C. 4)
25. Employer’s Injury Report (WCB 7)
26. First Aid Report (WCB 7A)
27. Employer’s Subsequent Statement (WCB 9)
28. Accident Investigation Report (C.S.C. 38)
29. WCB Notice to Workmen re Injuries
30. Care and Safety Notice re Propane, Electricity, Condensation
31. Marine Safety Equipment Inspection Report (F.S. 211)
32. First Aid Kit Requirements

PROPERTY AND EQUIPMENT

35. Property Form (F.S. 177)
36. Property Transfer (F.S. 880)
  Property Lists:
   37. Mechanical Unit (F.S. 883)
   38. Warehouse Items (F.S. 853)
   39. Victoria Items (F.S. 854)
   40. Small Host Equipment and Load Limits
   41. Mechanical Unit Order Form (F.S. 881)
42. Personal Gear - Fly Camp
43. Equipment List - 10 Day Fly Camp
44. Food List -------- 10 Day Fly Camp
45. Menu ------------- 10 Day Fly Camp
46. Overnight Emergency Drop Packs
47. Air Drop Food List
48. Emergency Food Kit List

Revised 1971.
Starting from Ferry drive out to #10 Highway (Ladner Trunk), turn right. Stay on #10 road and drive over freeway and all the way through to 136th Street. Turn left, and drive down to 96th Avenue; then turn right and drive to 140th Street. Turn left, cross Fraser Highway; then turn right into Forest Service Training School.

From (#17 Highway) to (136th King George) = 10 miles
From (#10 Ladner Trunk) to (96th Town Line) = 5 miles
From (136th Street) to (140th Street) = 1/2 mile
From (96th) to (Training School) = 1/2 mile

Telephone Numbers
Inventory Division Warehouse - 581-1866
Mechanical Section - 581-9112.

INVENTORY DIVISION
Route to Green Timbers
& Freeway #401 to Interior Points
NOT TO SCALE
0286281 - ANNUAL CUT (General)
A. Vancouver
B. Kamloops
C. Nelson
D. Prince Rupert
E. Prince George
F. Annual Cut (Calculated and/or Allowable)

04170 - POLICY
A. Forest Inventory Supervision
B. Annual Report - Forest Inventory
C. Forest Service Manual
D. Forest Service Circular Letters
E. Civil Service Commission Memos
F. Finance Department Memos
G. Public Works Department Memos
H. Forestry Branch - Canada Forest Act
I. Minister's Book
J. Provincial Secretary Memos
K. Superannuation Branch Memos
L. Public Information & Education Circulars
M. Correctional Camp
N. A.R.D.A.
O. Priorities
P. Forest Inventory - Pocket Manual
Q. Inventory Aspects of P.H.F.'s
R. Land Use Policy
S. Forest Inventory - Operations Manual
T. Forest Inventory - Classification & Sampling Manual
U. Cruising Manual
V. Forest Inventory - V. & D. Manual
W. Forest Inventory - Tabulation Manual
X. Cedar Hemlock Rehabilitation Study
Y. Forest Inventory - Summary Manual
Z. Copies of all Forest Inventory Circulars

066369 - TIMBER ASSESSMENTS

0118875 - A. Accounts
B. Forest Accounts Circulars

0111806 - STATISTICS & PUBLICATIONS
A. General
B. Dominion (returns only)
C. British Commonwealth Conference
D. Forest Inventory Notes
E. Reports (compartment, region, etc.)
F. Continuous Forest Inventory Report

0130334 - COST ANALYSIS

0130550 - A. Air Photogrammetry
B. Volume Tables
C. Depletion, Loss Factors
D. Sampling
E. Silviculture (Residual stands)
F. Growth
G. Regeneration (Reforestation)
H. #1 Technical Publications
   #2 Field Photographs
I. Mensurational Problems
J. Aphid Studies
K. Forest Classification
L. Ground Control
M. Office Routine
O. Draughting
P. Public Relations
Q. Forest Protection
R. Summary and Compilation
S. Organization
T. Microfilming
W. Waste Studies
X. Tree Farm Forestry Committee
Y. Aircraft
Z. Miscellaneous - Meetings, etc.

0130551 - AIR PHOTOGRAPHS

0134218 - MAPS

0134219 - SPECIAL CRUISES

0187355 - ESTIMATES AND EXPENDITURES
0146716 - PROJECT PLANNING & PROGRESS REPORTS

A. Work Committee
B. Co-operative Projects (Industry)
C. Project Supervision
D. Co-operative Projects (Government)
E. Sampling Services
F. Area Integration Services
G. Liaison Services
H. Operation Services
I. Interdepartmental Committee on Surveys & Mapping
J. Forest Development Roads
K. Fertilization Board
L. British Columbia Natural Resources Conference
M. Hydro Electric Power (including Yukon)
N. Systems Programming Development
O. Computer Programmes - Industry
P. Productivity Committee
Q. Co-operative Projects University
R. Ecological Committee
S. Forestry Working Group - Earth Resources Satellites and Remote Sensing
T. Inventory Product Studies

0188219 - MISCELLANEOUS REQUESTS
(Use specific files where possible)

0188220 - PROPERTY GENERAL (Cont'd.)

A. Data Processing Equipment
B. #1 Kail Plotters
   #2 Photography
C. Forest Service Uniforms
D. Furniture
E. Housing
F. Radio & Communications (Radio No.)
G. Equipment - General
H. Vehicles (Vehicle No.)
I. Cars - Private
J. Trailers (Trailer No.)
K. O.B.U.'s (O.B.U. No.)
L. Launches (Name)
M. Small Boats - General (Boat No.)
Q. Light Plants (Unit No.)

0188221 - FIELD PARTIES

052638 - B.C. FORESTER (Engineering Div.)

0162628 - FOREST SURVEYOR

0211512 - MECHANICAL SUPERVISION

0235034 - SPEECH MATERIAL

0235377 - PROPOSED SPECIAL CRUISES

0253610 - INVENTORY SCALE ANALYSIS

0272858 - CO-OPERATIVE DISTRICT CRUISING

0146188 - PERSONNEL FILES (Room 147)

A. Employment General - Personnel
A.(1) Employment Job Descriptions
C. Civil Service Notices and B.C.F.S. Announcements
D. Civil Defence
F. Data Processing Courses
G. Applications and Enquiries re Employment
H. Accident Reports
I. Safety General
J. First Aid Courses
K. Scaling Courses
L. Forest Inventory Basic Training Course
M. Forest Inventory Advanced Training Course
N. T.F.O. 1 Course
O. T.F.O. 2 Course
P. Correspondence Course in Basic Public Administration
Q. Executive Development Training Course
R. A.R.D.A. - Personnel File
S. T.F.O. 3 Course
U. In Division Courses
WARNING

No Forest Officer, employee of the Forest Service, or any person acting on behalf of the Forest Service shall handle gasoline or fuel-oils within 50 feet of an exposed light or flame. Smoking or striking lights or other infractions of this order will merit summary dismissal.

If any gasoline or other volatile fuels must be handled after dark in buildings or any locations not provided with electric light, approved electric lanterns or flashlights must be used.
TO XMJ 78
ATT. R. Tate

ANTENNA FOR 4900 BROKEN IN WINDSTORM. PLEASE SHIP PRECUT REPLACEMENT VIA Sicamous Ranger.

J.R. Doe

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME IN</th>
<th>INIT.</th>
<th>TIME OUT</th>
<th>INIT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 July</td>
<td>16:37</td>
<td>J.R.</td>
<td>16:37</td>
<td>J.R.</td>
</tr>
</tbody>
</table>

APPENDIX 5

1971
Forest Inventory Division

DRAFT REQUISITION FOR SUPPLIES

To: Chief Clerk

Section: 150

Date: 7 April 1971

Please supply the following articles:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Particulars</th>
<th>Estimated Cost/Unit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Electric erasers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Qtr.</td>
<td>2H pencils</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Black ballpoint pens</td>
<td></td>
<td></td>
</tr>
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</table>

Supplies Available From:

Requisitioned by: J. Doe

F.S. 836

1971

APPENDIX 6
### Forest Inventory Division

#### Flying Time Report

<table>
<thead>
<tr>
<th>Type of Charter</th>
<th>Date</th>
<th>Airline</th>
<th>Aircraft No.</th>
<th>Ticket No.</th>
<th>Chargeable to Project</th>
<th>TYPE OF FLYING</th>
<th>Project Total</th>
<th>Non Project Total</th>
<th>Ticket Total</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELICOPTER:-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Training</td>
<td>Class</td>
<td>Sampling</td>
<td>Field Sup.</td>
<td>Ferry</td>
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<tr>
<td>1</td>
<td>July 3</td>
<td>Trans West</td>
<td>O.N.M.</td>
<td>1232</td>
<td></td>
<td>2:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>July 3</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1233</td>
<td></td>
<td>3:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>July 3</td>
<td>Skanagan</td>
<td>O.K.Y.</td>
<td>1234</td>
<td></td>
<td>2:00</td>
<td>1:00</td>
<td>1:00</td>
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<td>1:00</td>
</tr>
<tr>
<td>1</td>
<td>July 3</td>
<td>Trans West</td>
<td>O.N.M.</td>
<td>1235</td>
<td></td>
<td>4:00</td>
<td></td>
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</table>

**Contract:**
- Project Total for Period: 6:00
- Non Project Total for Period: 2:00
- Total for Period: 18:00

**Charter:**
- Project Total for Period: 6:00
- Non Project Total for Period: 2:00
- Total for Period: 18:00

**Total for Period:** 18:00

**Cumulative to Date:** 18:00

---

### Fixed Wing

<table>
<thead>
<tr>
<th>Type of Helicopter</th>
<th>Date</th>
<th>Airline</th>
<th>Aircraft No.</th>
<th>Ticket No.</th>
<th>Chargeable to Project</th>
<th>TYPE OF FLYING</th>
<th>Project Total</th>
<th>Non Project Total</th>
<th>Ticket Total</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>FIXED WING:-</td>
<td></td>
<td></td>
<td></td>
<td>1641</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>5</td>
<td>July 3</td>
<td>P.W.A.</td>
<td>F.H.N.</td>
<td>1641</td>
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<td></td>
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<tr>
<td>5</td>
<td>July 3</td>
<td>R.C.A.</td>
<td>F.H.T.</td>
<td>2860</td>
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<td></td>
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**Contract:**
- Project Total for Period: 1:10

**Charter:**
- Project Total for Period: 1:10

**Total for Period:** 1:10

**Cumulative to Date:** 1:10

---

### Type of Helicopter,
1 - Inventory Contract
2 - Inventory Charter
3 - P.S. District Contract
4 - Scheduled Commercial A/C.

### District Contracts
- N = Nelson
- V = Vancouver
- P = Prince Rupert
- K = Kamloops
- PG = Prince George

---

P.S. 848
## Monthly Record of Labour Distribution

### Forest Inventory Division

#### Supervision
- 1

#### Travel
- 2

#### Holiday (Sat., Sun.)
- 3

#### Off Payroll
- 4

#### Forest Classification
- 5

#### Sampling
- 6

#### Cookhouse
- 7

#### Boat Crew
- 8

#### Other - (Specify)
- 9

#### Coding
- 10

#### Training
- 11

#### Total Days by Labour Distribution Code Numbers

<table>
<thead>
<tr>
<th>Surname Followed by All Initials</th>
<th>Monthly Wage</th>
<th>Weekly Distribution</th>
<th>Total Days</th>
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<tbody>
<tr>
<td>Doe, J. R.</td>
<td>540</td>
<td>2/10/10/3/10/10/10/10</td>
<td>13</td>
</tr>
<tr>
<td>Smith, D. J.</td>
<td>327</td>
<td></td>
<td>3</td>
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<tr>
<td>Roe, E. M.</td>
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<td>3</td>
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<tr>
<td>Jones, Y. R.</td>
<td>14.61</td>
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<td>3</td>
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<tr>
<td>Paul, C. V.</td>
<td>412</td>
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<td>3</td>
</tr>
<tr>
<td>Severin, W.</td>
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<td>3</td>
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**Total: 28 days**
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<thead>
<tr>
<th>DATE</th>
<th>MONTH</th>
<th>MILES</th>
<th>FROM AND TO</th>
<th>AMOUNT</th>
<th>ITEMS AND PLACE</th>
<th>AMOUNT</th>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
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<tbody>
<tr>
<td>SUN.</td>
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<td></td>
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</tr>
<tr>
<td>MON.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>RAIL</td>
<td>100</td>
<td></td>
<td></td>
<td>FERRY</td>
<td>3.25</td>
<td>HOPE</td>
<td>2.50</td>
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<tr>
<td>TUES.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>FERRY</td>
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<td></td>
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<tr>
<td>WED.</td>
<td></td>
<td></td>
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<tr>
<td>THUR.</td>
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<td></td>
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</tr>
<tr>
<td>FRI.</td>
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</tr>
<tr>
<td>SAT.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

MILEAGE TOTAL: 100
TOTAL TRANSPORTATION: 1925
TOTAL BOARD AND LODGING: 1925
MILEAGE TO DATE: 1025
TOTAL MISCELLANEOUS: 25
TOTAL OF THIS SHEET: 205

Agent's "PAID" stamp here:
Certified that this is a true statement of disbursements made by me at the places shown.

(Sign here)   FORESTER
Occupation:  Forester
Headquarters at:  Victoria

Approved:
Authorized Signing Officer
# Survey Party Expense Account

**For Month of June, 1971**

## Expenses for Personnel

<table>
<thead>
<tr>
<th>Receipt No.</th>
<th>dlg.</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>320</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>625</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>125</td>
</tr>
</tbody>
</table>

## Rental of Equipment

<table>
<thead>
<tr>
<th>Receipt No.</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>117</td>
</tr>
<tr>
<td>5</td>
<td>233</td>
</tr>
</tbody>
</table>

## Miscellaneous Field Expenses

## Purchases of Non-Expendable Equipment

<table>
<thead>
<tr>
<th>Receipt No.</th>
<th>Property Receipt No.</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3116</td>
<td>4.75</td>
</tr>
<tr>
<td>7</td>
<td>4001</td>
<td>7.25</td>
</tr>
</tbody>
</table>

## Operation and Running Repairs of Mechanical Unit

<table>
<thead>
<tr>
<th>Receipt No.</th>
<th>No. or Name Car or Unit</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>12/05</td>
<td>14.00</td>
</tr>
</tbody>
</table>

## Summary

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>12.35</td>
</tr>
<tr>
<td>TOTAL</td>
<td>350</td>
</tr>
<tr>
<td>TOTAL</td>
<td>39.50</td>
</tr>
</tbody>
</table>


---

*Certified that the expenses incurred are necessary for the performance of duty.*

**Party Chief**

**Date**: 12/05/71

---

*NOTE: The 'dlg.' column stands for 'dollars' or 'digital' in the context of the document.*
**COST DESIGNATION SHEET**

**Project #** 150  
**Date Submitted** 30 June 1971  
**Issuing Company** J. WALKER, TRUCKING

**ALL FIELD PROJECTS:**
Plus Proj. 100, 300, 310, 350 & 400

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Salaries</td>
<td>$127.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Helicopter Flying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Helicopter Fuel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Fixed Wing Costs</td>
<td>$77.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Travel Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Vehicle Costs</td>
<td>$23.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Launches (Forester, Surveyor only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Other Mechanical Units (O.B.U., Light Plant, Power Saws, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Camp Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Miscellaneous</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**EQUIPMENT**
(This side not for Field Project Use)

1. Vehicles
2. Trailers
3. Launches
4. Radio
5. Other Mech. Units
6. Field Housing
7. Perm. Housing
8. Field & Office Equipment

- (a) Capital Expenditure
- (b) Operating
- (c) Maintenance
- (i) Parts
- (ii) Outside Work
- (d) Miscellaneous
- (e) Equipment Rentals

---

**INVOICE #** | **AMOUNT**
---|---
17407 | $77.00
17408 | $150.50
---|---
**Total** | **$227.50**

**F.B.#841** 1971

**APPENDIX II**
MEMORANDUM TO THE DEPARTMENT OF THE COMPTROLLER GENERAL

Dear Sir:

Receipt is acknowledged for the sum of $150.00 being part of the advance now charged in the name of Doe, J.R. and I hereby authorize you to charge this amount to me as a cash advance.

Yours truly,

[Signature]

(Transferee)
Mr.
Project Supervisor,
Forest Inventory Division,
B. C. Forest Service,
B. C.

Dear Sir:

This is your authority to set up a Forestry Camp on the entire part of my property described as follows:

BUNKHOUSE AND BARN AT BOX 198 RR 3, REVELSTOKE, & c.

and have access over roads to the campsite for 4 months from May 15, 1971, to Sept 15, 1971, subject to termination by either party on two weeks written notice.

It is agreed that any structures, fixtures or mobile equipment erected or moved on to the area shall remain as Forest Service property and the Forest Service shall have the right to remove same. It is further agreed that the Inventory Division may clear such brush and trees as we mutually agree upon and mark, necessary to obtain suitable space for the camp.

The Inventory Division shall be responsible for removing all structures, etc. referred to above and for filling in all wells, garbage pits, septic tanks, or other excavations made by you or your men unless otherwise specifically requested in writing by the undersigned. The site shall be left in tidy condition at the conclusion of the rental period.

It is agreed that a fee of $100.00 per month for ground rental is payable while your camp is located on the above property.

Yours truly,

[Signature]

Owner.

22 April 1971

1971 APPENDIX 13
APPLICATION: FIELD CAMP FAMILY ACCOMMODATION

Approval is requested for the allocation of a Forest Service Accommodation subject to the following conditions.

1. Trailers or family tents are assigned at the discretion of the Service, and only for periods of at least one month's duration.

2. The occupant is responsible for keeping the accommodation in good order. Expenditures for repairs and maintenance are subject to approval. Alterations or additions to equipment may only be undertaken on approval of the Forester i/c Operations.

3. Location of the Accommodation at camp shall be as approved by the project supervisor, and Housing Supervisor.

4. Attention of applicants is drawn to the Operations Manual, Part I, Section 1.22 "Families of Staff at Field Projects".


Date: \textbf{March 17, 1971}.

\textit{J. R. Doe}  \hspace{1cm} \textit{Signature of Applicant}

Recommended: __________________________

Approved: ____________________________

Allocation: ___________________________

F.S. 806

1971}
Application to Move a Privately Owned Trailer

Approval is hereby requested to move my trailer at Government expense by:

A. Commercial hauler from NAKUSP to REVELSTOKE

The quote of Acme Trailer Movers Inc. is recommended.

(Signed) J.P. Doe

OR

B. Government vehicle No. or leased vehicle licence No. BAF 306

I, John Rawlins Doe (Print full name.)

in consideration of the premises, hereby release the Government of the Province of British Columbia, its employees and agents, of all or any responsibility for damage caused to my trailer 12' x 55'

Knight # 620 AM 42716

(Make and serial number.)

and its contents while said trailer is being towed by a motor-vehicle owned or leased by the Province of British Columbia:

From NAKUSP

To REVELSTOKE

Date of move July 7, 1971

(Signed) J.P. Doe

Recommended: ____________________________

Approved: ____________________________

Division or District Forester.
TO BE COMPLETED BY PROJECT SUPERVISOR

B.C. FOREST SERVICE
INVENTORY DIVISION

PAY DATA SHEET

NAME  Doe, J. R.  PROJECT or SECTION  150

TRANSPORTATION EXPENSES

EXPENSES TO FIELD PAID BY SURVEY PARTY  $ 13.27  Survey Party Use
EXPENSES INCURRED DIRECT BY VICTORIA  $  Victoria use only

SALARY  $ 540.00  (as offered and approved)

SEND CHEQUE TO  Project 150

Note: If a Bank, state branch, town and account number.

THE SECTION BELOW TO BE COMPLETED FOR THOSE NOT ALREADY ON THE PAYROLL, WHO ARE REPORTING DIRECTLY TO THE FIELD CAMP:

HOME ADDRESS  1267 Balmoral  
               Victoria BC

DATE OF BIRTH  17 Feb 1947  PLACE OF BIRTH  Victoria

NEXT OF KIN  F. Y. Doe

ADDRESS OF NEXT OF KIN  1267 Balmoral  
                         Victoria BC  Telephone 384-0000

Relationship  Father

SOCIAL INSURANCE NO:  000-01-010  TD.1 FORM SENT  14 June 1971

PREVIOUS EMPLOYMENT WITH B.C. GOVERNMENT - Date and Department -


DATE AND HOUR OF ARRIVAL AT SURVEY CAMP  14 June 1971  09:00 hrs

DATE OF FIRST ACTUAL WORKING DAY ON THE JOB  15 June 1971

TRAVEL TIME APPROVED  1  days (Working days actually travelling)

EFFECTIVE DATE OF APPOINTMENT  13 June 1971

DATE  14 June 1971  SIGNATURE  Doe  Project/Supt or Party Chief

NOTE: SEND ONE COPY ONLY TO VICTORIA OFFICE IMMEDIATELY AFTER EMPLOYEE'S ARRIVAL AT FIELD CAMP

FS 884

1971
**Claim for Personal Exemptions**

**Basic Personal Exemption**
- If you are 65 years of age or over

**Married or Equivalent Exemption**
- If applicable, check and claim only one of these 4 Items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$1,600</td>
</tr>
<tr>
<td>2.</td>
<td>$1,350</td>
</tr>
<tr>
<td>3.</td>
<td>$1,650</td>
</tr>
<tr>
<td>4.</td>
<td>$1,850</td>
</tr>
</tbody>
</table>

**Exemption for Wholly Dependent Children**

<table>
<thead>
<tr>
<th>Name of child</th>
<th>Relationship to you</th>
<th>Estimated annual net income</th>
<th>Year of Birth</th>
<th>If over 21, state school attended or whether infirm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Exemption for Other Dependents**

- (A) Parents, Grandparents, Brothers or Sisters (including in-laws)
- (B) Aunts or Uncles Resident in Canada (including in-laws)

**Claim for Tuition Fees by Students Only**
- Claim the amount by which the tuition fees exceed the total (less $200) of all scholarships, bursaries or other like benefits which will be received during the calendar year. Inquire at your District Taxation Office for further information.

**Exemption Claim for Casual, Seasonal or Part-time Employment**
- (Valid for current calendar year only)

<table>
<thead>
<tr>
<th>Income date this year from all sources</th>
<th>Estimated income for remainder of year from all sources</th>
<th>Total estimated income from all sources</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**Certification**

I hereby certify that the information given in this return is true, correct and complete to the best of my knowledge and belief.

**Signature**

Date: 14 June 1971
DAYS OFF PAYROLL OR TERMINATION OF APPOINTMENT DATA SHEET

NAME DOE JOHN ROBERT  PROJECT OR SECTION 150
(Surname-Print) (Full Christian Names)

DAYS OFF PAYROLL
1. ON COMPENSATION FROM July 3, 1971 TO July 7, 1971 inclusive
2. ON SICK LEAVE FROM Aug 7, 1971 TO Aug 3, 1971 inclusive
3. OTHER REASONS, FROM Sept 1, 1971 TO Sept 4, 1971 inclusive
   specify LEAVE WITHOUT PAY FOR WEDDING

TERMINATION OF PAYROLL
1. REASON FOR LEAVING: RETURNING TO SCHOOL
2. FORWARDING ADDRESS: 1267 Balmoral
   VICTORIA, B.C.
3. HAVE CHEQUE SENT TO: AS ABOVE
4. WORKED UP TO AND INCLUDING Sept 19, 1971

WORKING DAYS TO BE CREDITED OR DEDUCTED

<table>
<thead>
<tr>
<th>CREDIT</th>
<th>DEDUCT (as in Part 1 above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPROVED TRAVEL TIME</td>
<td>1</td>
</tr>
<tr>
<td>APPROVED TERMINATION LEAVE</td>
<td>1</td>
</tr>
<tr>
<td>SUNDAYS AND STATUTORY HOLIDAYS WORKED</td>
<td>10 Days</td>
</tr>
<tr>
<td>TOTAL WORKING DAYS TO BE CREDITED</td>
<td>12</td>
</tr>
<tr>
<td>FINAL CANCELLATION DATE</td>
<td>Sept 20, 1971</td>
</tr>
</tbody>
</table>
(last day on the job plus or minus working days)

TRANSPORTATION EXPENSES: (Dependent upon circumstances of termination)

ARE EXPENSES TO THE JOB TO BE PAID  
(Yes or No)  
If not, expenses already paid will be deducted.

ARE EXPENSES FROM THE JOB TO BE PAID  
(Yes or No)  
Expenses are not paid either way for personnel leaving before Labour Day weekend - or earlier completion of project.

DATE 19 Sept 1971  SIGNED  
Project-Supervisor: or Party Chief

F.S. 885

1971 APPENDIX 18
UNEMPLOYMENT INSURANCE COVERAGE

FOR INFORMATION

OF

FOREST INVENTORY DIVISION

CHECK AND COMPLETE AS APPLICABLE

☐ I am in possession of an Unemployment Insurance Book, which I will present to my employer on appointment.

☒ I am not in possession of an Unemployment Insurance Book but I have previously registered with the Unemployment Insurance Commission and my Registration Number is ____________, (or, if Reg. No. Not Known) - my date of birth was 17 Jan 1947.

☐ I am a student and anticipate returning to school at the end of the field season.

Employees Signature

14 June 1971

Date

F.S. 807

1971
REPORT ON PRE FIELD SEASON EXAMINATION OF FUTURE PROJECT AREAS

In order to facilitate planning for the project, supervisors will be required to submit reports covering topics outlined below. This information will be passed to sections involved (e.g., Radio, Housing, etc.) to enable preparations to get underway well in advance of the field season.

(1) Housing:

(a) Base Camp (Provide plan of proposed layout)
- Location - alternatives, note on photo and map; tent and trailers, all tent, road work to site.
- Type of camp - tent & trailers, all tents, other buildings on site (see below).
- Access problems - road work to site, soft ground, flooding.
- Ownership - Crown - any reserves, e.g., Parks, etc.
  - Private - name, address, rental rates, was rental agreement signed.
- Will a caretaker be required if established prior to crew occupancy, names, address or mode of contacting potential local caretaker types.
- Use of any existing buildings or facilities; alterations, condition, special repairs required, e.g., broken water pipes, sewer, etc.
- Clearing or tree removal (obtain owner's approval).
- Power Source - Domestic (Hydro) or our Light Plant - if domestic, number of poles (Hydro Firm) required to bring power to site.
- Water Supply - type available, e.g. well, existing pipes and supply; water pump - height of lift from source to camp if pumping from creek, lake, etc.
- Sanitation - any local regulations re sewage, toilets, etc., location and names and telephone number. Back Hoe Contractors.
- Propane - names of nearest suppliers, mode of delivery.

(b) Sub Bases - Facilities available, cost, type of accommodation, e.g. logging camp, lodge etc. Any special camp equipment required - e.g. cabin tents, propane frig., small light plant, etc.

(2) Transportation:

(a) Access in project area, roads, trails, raftable rivers, river boat, landable lakes or air strips - show on key map; local guides or knowledgeable people.
(b) **Aircraft** - Base location commercial airlines operating in area. Firm, type of aircraft, rates; regular flights of use in transporting personnel. Landing facilities near base camp, float, wheels. Helicopter bases and firms - local charter.

(c) **Water** - Types of boats and number(s) required, any F.S. boats available nearby. Boatman requirements, names and addresses of any local men - if they have own boat, motor, rental rate. Raftable rivers, lakes requiring fly in and inflatable boats, etc. O.B.U. repair facilities.

(d) **Land** - Types and numbers of vehicles required - motor bikes, horses? Vehicle repair facilities in particular commercial shops experienced in Land Rover repairs and service.

(3) **Freight, Postal Service:**
- Commercial freight lines delivery to camp, or nearest point. Frequency of service. Destination, method of shipping from Green Timbers to project.
- Postal facilities; frequency and means of delivery, P.O. location, availability of P.O. Boxes.

(4) **Supplies:**
- Food - list suppliers and goods supplied (e.g.) basic staples, dairy produce meat, fresh vegetables, etc.
- recommendations for best suppliers, or order of preference.

- Fuel - Deisel, car gas, oil, aviation gas. Names of firms and location, delivery frequency if any. Necessity of installing camp tanks for bulk storage - size, and type of fuel to be contained. Will a tanker supply.

(5) **Communication:**
- Special frequencies required for:
  - Base Camp radio, Sub Base radio.
  - Road frequencies for vehicles - how many, what firm, what frequency - are they agreeable to authorizing installation of radios in our vehicles.
  - Forest District, B.C. Tel., C.N. Telegraph, Airlines (frequencies required). F.M. link to F.S. stations. If possible check with airlines for written permission to have their frequency installed in F.S. radios.

(6) **General:**
- F.S. facilities - Local Ranger, name, location - Assistant Ranger stations, Engineering Division camps. Possibility of using Ranger Station for temporary storage, trailers, equipment prior to camp establishment - get Rangers O.K. Snow problems, late start necessary.

- Dual Projects - feasibility of both operating from same base camp; division of area between projects.
Proposals for carrying out existing projects:

- rough schedule of operations, sub bases.
- division of area among classifiers, number classifiers required.
- scheduling helicopter.
- Areas requiring special attention; large N.S.R. areas, recreational, insect infestation, etc.
- Brief outline of predominant cover types.
- Prepare project cost estimates, including helicopter time requests by Classification, Sampling, Training, and Miscellaneous Supervision.

Other information not included above.
APPLICATION FOR COVERAGE (Must be signed by all applicants)
I hereby apply for coverage and certify that my ordinary residence is in British Columbia. I authorize doctors to furnish reports to the British Columbia Medical Plan relative to diagnosis and medical services and I accept the terms and conditions set forth in the subscribers' contract under this Plan.

Date signed: 
Signature:

APPLICATION FOR PREMIUM ASSISTANCE UNDER THE PROVINCIAL MEDICAL GRANT ACT

Complete this section ONLY if applying for Premium Assistance

I hereby apply for Premium Assistance. I understand that I must re-establish my eligibility for Premium Assistance before April 30th each year and I authorize the District Taxation Office to verify that the Information given in this application agrees with my Income Tax return and that of my spouse (if married.)

I certify that:
(1) I have maintained my permanent residence in British Columbia for the 12 consecutive months immediately preceding this application.
(2) I am not the spouse or the dependent child of another subscriber to the Plan. (child means unmarried person under 21)
(3) I am not covered for medical care by Government.
(4) I qualify under A or B below. (Sign only one... A or B)

A I am subject to income tax but was NOT REQUIRED TO PAY tax for the 12 months ended December 31st last because my TAXABLE income (including the taxable income of my spouse if married) was NIL.

Signature:

B My TAXABLE income (including the taxable income of my spouse if married) was between $1 and $1,000 in the 12 months ended December 31st last. State amount: $__________

Signature:
CIVIL SERVICE COMMISSION
Government of British Columbia

DECLARATION OF ILLNESS, NOT EXCEEDING FIVE DAYS

INSTRUCTIONS.—This report is to be filled out by all employees who have been absent because of sickness for a period of five work-days or less.

I certify I was unable to work because of sickness for...work-day(s) on the following date(s):

August 17-18, 1971

Describe sickness: Severe vomiting and cough

Number of days sick leave taken in current working-year: [3]

Were you seen by a doctor for this illness? Yes. [ ] No. [ ]

Doctor’s name: W. J. Roe

Address: 1710 Ontario, Revelstoke, B.C.

Aug. 19, 1971

(Compassman)

(Victoria)

Recommended: [Signature]

Approved: [Signature]

RETURN TO SUPERVISOR WHEN REPORTING BACK TO DUTY.

SUPERVISOR’S INITIALS

1971 APPENDIX 23
**CIVIL SERVICE COMMISSION**
**GOVERNMENT OF BRITISH COLUMBIA**

**SICKNESS REPORT**

**PART I**

To be completed by employee. Please answer all questions.

1. Employee's name: Doe, J.R.  
   Age: 17  
   Occupation: Compassman

2. Dept or Branch:  
   City or Town: Revelstoke

3. Physician's name: Doe, J.R.  
   Address: 1710 Ontario, Revelstoke, B.C.

4. Sir: This authorizes you to supply the information requested. Please mail Part II to Director of Occupational Health Services in the attached envelope. If there is a charge for completing this form it is the responsibility of your patient.

To be completed by attending physician—Part I only to be given to employee for return to Supervisor.

5. In my opinion the patient was unfit for work.  
   From:  
   To: inclusive.  
   Probable date of return: ____________

6. Recommendations (if any):


---

**PHYSICIAN'S CONFIDENTIAL REPORT**

(DO NOT TEAR THIS COPY)

Completed report (Part II) to be forwarded to Medical Director, Occupational Health Service in attached envelope.

8. (a) Diagnosis (If a previous report has been completed for this condition please describe progress and/or complications):

(b) When did patient first consult you for this condition?

(c) Date of examination on which this report is based

(d) If condition due to pregnancy—give approximate date of commencement

(e) If hospitalized—name of hospital

9. Remarks:

---

**FOR USE OF OCCUPATIONAL HEALTH SERVICE**

Name of Employee  
Address

Sick time: Recommended. ☐  Not recommended. ☐

Remarks:

J. H. Smith, M.D., Director, Occupational Health Service  
828 West Tenth Avenue,  
Vancouver 9, B.C.

Form C.S.C. 5  
1971
**Workmen’s Compensation Board of British Columbia**

707 West 37th Avenue, Vancouver 13, B.C.  Telephone 366-2211, Telex 54-20765

---

**Employer’s Name:** (please print)  **Firm No.**

4000  **Class & Sub.** I-7

**Mailing Address:**

FOREST & WILLS COLUMBIA RESEARCH INVENTORY DIVISION

B C

CITY VICTORIA

ZONE

**Location of Plant or Project:**

VICTORIA

ZONE

---

**Employer’s Telephone No.:**

362-6111  **Loc. 2124**

**Type of Business:**

INVENTORY

**Firm’s Name:** (please print)  **Employer’s Last Name:** (please print)

Mr.  **Social Insurance No.:**

Miss

DOE

JOHN ROBERT

BALMORAL VICTORIA

**Occupation:**

COMPASSMAN

---

1. **Date and Time of Injury**

**OR Period of Exposure Resulting in Industrial Disease:**

**Date:** July 3, 1971, at 12:15 A.M. P.M.  **Time:** 12:15 A.M. P.M.

**Place:**

FROM

3. **Describe fully what happened to cause the injury and mention all contributing factors: description of machinery, weight and size of objects involved, etc.**

**OR In cases of industrial disease, describe fully how exposure occurred, mentioning any gases, vapours, dusts, chemicals, radiation, noise, source of infection or other causes.**

---

**Mr. Doe Tripped over a Protruding Branch, Fell Heavily on Left Arm.**

---

**State ALL Injuries reported, indicating right or left if applicable.**

**Contusion + Abrasion Left Lower Arm. Pain + Swelling Around Wrist (Left Side).**

---

4. **City, town, or place where injury occurred:**

CROOKED CREEK (NEAR REVELSTOKE)

---

5. **How long has workman been employed by firm?**

1 MONTH

6. **How long at this particular job?**

1 MONTH

7A. **Was there any layoff beyond the day of injury?**

YES ☑ NO

7B. **Was layoff for three working days or more?**

YES ☑ NO

---

**Workman's gross earnings (enter one rate only) at time of injury**

- **per day:** $ 40.00
- **per week:** $ 280.00
- **per month:** $ 1,400.00

8. If the workman receives in addition to above earnings, indicate daily value. $ 1.50

9. **Do these earnings include rental of equipment?**

YES ☑ NO

---

10. **Wages paid on day of layoff:**

- **Normal Day's Pay:** $ 24.50

11. **If yes, state date:**

- **Day and hours per day:**
  - Sun.: 8
  - Mon.: 8
  - Tues.: 8
  - Wed.: 8
  - Thurs.: 8
  - Fri.: 8
  - Sat.: 8

12. **If yes, state date:**

- **From:**

1971

**TITLE:** Project Supervisor

SIGNED BY: V. M. Smith

---

**Employer’s Report of Injury or Industrial Disease**

**Date:** July 4, 1971

**APPENDIX 25**
FIRST AID REPORT

The following questions to be completed in full by First Aid Attendant, or other person rendering first aid.
Sign and attach to the Form 7 for submission to the Workmen's Compensation Board, 707 West 37th Avenue, Vancouver, B.C.

PARKLAND BUILDINGS, VICTORIA BC

WORKMAN'S LAST NAME: JOHNSON
First Name(s): ROBERT

Mailing Address: 1207 Balmoral St., Victoria, B.C.

Location of Plant or Project: REVELSTOKE BC

Type of Business: Forestry

Date of Birth: Feb 17, 47
Social Insurance No.: 000-01-010

Date of Injury: July 3, 1971 at 12:15 a.m.

Date and time of Injury: July 3, 1971 at 12:15 a.m.

(a) Time of reporting to First Aid Attendant: July 3, 1971 at 12:15 a.m.

(b) How did workman get to First Aid Room? Walk? Stretcher? Truck? etc. FLY CAMP ATTENDANT ON SCENE

(c) By whom was injured workman brought to the First Aid Room?

(d) Was workman unconscious following injury or exposure? Yes

Was this based on personal observation? Yes

3. (a) Describe injuries found. 2ND DEGREE BURN (SCALD) TO RIGHT KNEE AND UPPER LEG.

(b) Give nature of initial first aid rendered.

1) washing with boiled water with baking soda added.
2) dressing with gauze saturated in above.
3) lying patient down & covering
4) large quantities of water given

(c) Give dates and nature of subsequent treatments,

continued saturating dressing until 20:00, when helicopter arrived.

4. When did workman leave to see physician or qualified practitioner? July 3, 1971 at 20:00 a.m.

Did workman report to physician or qualified practitioner as soon as advised? Yes

5. Place and approximate distance to nearest physician or qualified practitioner. REVELSTOKE, 95 MILES

6. Give name and address of physician or qualified practitioner or attending workman. D.J. ROE, M.D.

7. By what means was workman transported to physician or qualified practitioner? HELICOPTER AND AUTOMOBILE

8. In your opinion is workman fit for duty? No

If yes, give date

Signed this 4TH day of July, 1971 at CROOKED CREEK, B.C.

Signature First Aid Attendant: W M SMITH

Industrial certificate (if any) dated: 19 No. Grade

Workman's statement of injury: I was carrying a pot of soup when I tripped over a stick and spilled it in my right eye.

1972

APPENDIX 26
WORKMEN’S COMPENSATION ACT  
BRITISH COLUMBIA  

EMPLOYER’S SUBSEQUENT STATEMENT  

To be sent to — Workmen’s Compensation Board as soon as the injured workman has returned or is able to return to work. Please send PROMPTLY.

Name of injured workman: Doe, J R  
Address: 1267 Balmoral  

| 1. Date of accident. | 3 July 1971, at 12:15 p.m. |
| Date workman first lay off work, | 3 July 1971, at 12:15 p.m. |
| 2. Has workman returned to work? | Yes |
| If so, on what date did he do so? | 7 July 1971, at 8:00 a.m. |
| 3. Did he work any between first laying off and final return or recovery? If so, give dates. | No. From 19__, at ______ o’clock ______ m. To 19__, at ______ o’clock ______ m. |
| 4. Did he return as soon as he was able? | (Give your own opinion) Yes |
| If not returned, is he able to do so? | (Give your own opinion) |
| 5. On what date do you consider he was first able to return to work? | 7 July 1971, at 8:00 a.m. |
| 6. How many working-days did he lay off work? | 3 days |
| 7. Is he earning or able to earn as much as before the injury? | Yes, now getting $ ______ per week |
| 8. If not, how much has the injury reduced his earnings? | $ ______ per week |
| 9. How long is this impairment of earning capacity likely to continue? | |
| 10. Have you paid or allowed him anything for the period of his disability? If so, give particulars. | No |
| Total amount, $ | |
| 11. If there are any peculiar circumstances or conditions about this case please state them. | |

Signed this 7th day of July 1971, at Revelstoke, British Columbia  

Employer's name: Province of British Columbia  
Signed by: D.J. Roe  
Official title of person signing: Project Supervisor
PROVINCE OF BRITISH COLUMBIA

SUPERVISOR'S ACCIDENT INVESTIGATION REPORT

The Supervisor responsible for the immediate supervision of the workman must complete this form. You should interview witnesses if any and examine the site of the accident.

The purpose of this form is threefold: (1) To provide an analysis of the cause; (2) to outline immediate preventive action taken at local level; (3) to indicate other possible preventive action requiring senior action.

1. Workman's name: John Doe
   Occupation: Campman

2. Department: Lands, Forests, & Water Res. Branch or Division: Inventory
   Date of accident: July 7, 1971
   Time of accident: 12:15 p.m.

3. Location of accident: Fly Camp on Crooked Creek

4. Description of injury: 2nd degree burn (scald) on leg

5. Describe any damage to equipment: None

6. From your own investigation what was the sequence of events resulting in this accident (details of what tools, equipment, or structures involved and what workman was doing). If necessary use back of form for diagram.
   The injured man was carrying a metal pot of boiling soup from the campfire to a homemade table. He tripped, spilling the soup on his right leg.

7. Was report of accident to you delayed: Yes. Reason for delay: 12 hour delay until evening radio schedule

8. Check Causes of Accident (Section A) on reverse side and comment fully here.
   The sticks laying on the ground should have been cleared in the camp area.

9. Check Guide to Corrective Action (Section B) and explain what corrective action YOU are now taking to prevent a recurrence of this type of accident to those employees under your immediate supervision.
   Discussion with entire crew re: 1) Campsite cleanup and 2) Awareness of and alertness to natural hazards

10. What other steps outside of your supervision could be taken to prevent a recurrence? In pre-season training, emphasize camp cleanliness.

11. Date: July 7, 1971
    (Supervisor's signature): J. Doe
    (Position): Project Supervisor

12. Comments of next senior officer

13. Date: 
    (Signature):
    (Position):

   Date: 
    (Signature):
    (Position)
NOTICE TO WORKMEN

TO PREVENT INJURIES

Use all safety devices and carry out all Accident Prevention Regulations which affect you.

Notify your employer of any conditions which appear to be dangerous.

IF INJURED

Get First Aid immediately even for slight injuries.

Report to the First Aid Attendant if one is available.

You are required to notify your employer of the accident as soon as practicable after it occurs, giving time, place and other particulars.

If medical attention is required you are entitled to choose your own physician or qualified practitioner unless you are under an Approved Medical Plan or Sick Mariners' Fund.

You must not change your doctor or other qualified practitioner without consent of the Board.

TO PRESENT A CLAIM FOR COMPENSATION

It is your responsibility, not the employer's, to complete an "Application for Compensation" (Form 6). Compensation for loss of earnings cannot be paid until this Form is received by the Board.

Application forms for compensation may be obtained from your employer, your physician or other qualified practitioner or the Board.

Failure to comply with the above, or any act on your part which retards recovery, jeopardizes your claim for compensation.

POST IN A CONSPICUOUS PLACE
CARE AND SAFETY NOTICE

1. PROPANE GAS.--(a) Failure to maintain outside air-supply to burners at all times may result in death by suffocation.

(b) Shut off or plug all pilot lights in appliances when cylinders are disconnected or gas-supply interrupted and light immediately supply is restored.

(c) Periodically (and after every change of location of trailers) carry out "flag test" at regulator as follows: With all pilot lights plugged, turn on valve and close after ten seconds; if flag shows, there is a leak in the system. Do not trace leak with naked flame but use soap and water.

2. ELECTRICAL.--(a) Where trailer has two-wire service entrance, a ground rod must be driven into moist ground or shell must be connected to pole ground wire by means of a battery clip.

(b) Where trailer has three-wire service entrance green ground wire must be connected to pole switch-box.

3. CONDENSATION.--Cross ventilation reduces condensation caused by gas appliances, washing, cooking, etc.

B.C.F.S.

P.S. 8.

APPENDIX I

Separate Safety Valve (tapped into top of cylinder)
**DEPARTMENT OF LANDS AND FORESTS**
**BRITISH COLUMBIA FOREST SERVICE**

**MARINE SAFETY EQUIPMENT**
**INSPECTION REPORT**

<table>
<thead>
<tr>
<th>No.</th>
<th>Condition</th>
<th>Manual pump (bailing)</th>
<th>No.</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Dinghy:
- Raft or buoyant apparatus
- Life-buoy (approved type) with 30-ft. rope
- Life-jackets
- Life-saving vests
- Life-saving cushions
- Oars or paddles
- Oarlocks
- Anchor
- 3/4" cable or rope
- Fire-buckets
- Fire-axes

**Small Vessel Regulations**

<table>
<thead>
<tr>
<th>Is licence number displayed?</th>
<th>(Registered vessel's numbers carved in main beam.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is B.C.F.S. safety plate (load and max. h.p.) attached?</td>
<td></td>
</tr>
<tr>
<td>Does motor comply with above plate?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire-extinguisher equivalents:</th>
<th>Soda Acid</th>
<th>Foam</th>
<th>Carbon Dioxide</th>
<th>Vapourizing Liquid</th>
<th>Dry Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BII</td>
<td>2</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Structural defects (with special reference to strength of transom where applicable)**

**General remarks (note any equipment not in satisfactory condition)**

- Inspected by ____________________________
- Noted ____________________________

Inspections are to be made twice per year—once as early in the operating season as possible, and again when opportunity occurs.
Inspections to be made by a Forest Officer of supervisory rank other than the person in charge of the boat.
The inspecting officer must carry a copy of Small Boat Regulations.
White copy to District Forester or division head. Blue copy to Engineering Services Division, Victoria. Yellow copy to Ranger or vessel file.

F.S. 211—20 bks. (50)-1159-966

1972    APPENDIX 31
### Requirements for First Aid Kits

<table>
<thead>
<tr>
<th>Kit 0 (Cut Kit)</th>
<th>Kit 1 (W.C.B. 10 unit W.C.B. #1)</th>
<th>Kit 2 (W.C.B. 24 unit W.C.B. #2)</th>
<th>Description of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>12</td>
<td>Sterile gauze pads 3&quot; x 3&quot;</td>
</tr>
<tr>
<td>8</td>
<td>16</td>
<td>24</td>
<td>Adhesive dressing assorted sizes (Band-aids)</td>
</tr>
<tr>
<td>1/2 oz.</td>
<td>1 oz. bottle</td>
<td>2 oz. bottle</td>
<td>Zepherin Chloride antiseptic</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1&quot; roll self adhering gauze</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2&quot; roll self adhering gauze</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>First Aid Manual 1957</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>First Aid Service Requirements 1957</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2&quot; x 2 yds. Roller Bandages</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1&quot; x 2 yds. Roller Bandages</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>1</td>
<td>3&quot; x 2 yds. Roller Bandages</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td></td>
<td>2&quot; Compress Bandages</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td></td>
<td>Triangular Bandages</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>4</td>
<td>Ammonia Inhalants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tubes ophthalmic ointment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Boracic)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Eye shield</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td></td>
<td>Safety pins</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>1</td>
<td>Field Dressings</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1 pair 3&quot; tweezers</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>Wire splint</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Small tubes Ozonal or equivalent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Burn ointment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 oz. bottle solvent non-</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>inflammable. Not carbon tet.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- use perchorethylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 oz. bottle solvent non-</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>inflammable</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1 oz. packet sterile absorbant</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>cotton</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Esmarch bandage 3&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Pair forceps - good silver</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Pair good scissors 4&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Eyedropper in 2 oz. stopper bottle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Small packet baking soda</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&quot; x 1 yd. packet plain sterile gauze</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>1&quot; x 5 yd adhesive tape</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Bar soap - antiseptic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Case record book W.C.B.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>1&quot; bandage roll (gauze)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2&quot; bandage roll (gauze)</td>
</tr>
</tbody>
</table>

On request, band-aids can be supplied separately in boxes of 50, in addition to those in above kits.

APPENDIX 32
**BRITISH COLUMBIA FOREST SERVICE**

**PROPERTY FORM**

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>ARTICLES</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

District/Division: _____________________________ Date: ___________________________

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>ARTICLES</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

1. I have received the above property from:

   (Name)  
   (Address)  
   (Signature)  
   (Title) (Date)

2. I have transferred the above property to:

   (Name)  
   (Address)  
   (Signature)  
   (Title) (Date)

3.  

   (Originator) (Title)  
   (Supervisor, etc.) (Title)  
   (Dist./Div. Head) (Title)  

   Inspected and approved for Property Loss.

   for: Chief Forester.

F.S. No.17T—20M-1170-8988 (4)  
1971  
APPENDIX 35
### B. C. FOREST SERVICE
**FOREST INVENTORY DIVISION**

**PROPERTY TRANSFER**

**Date:** July 30, 1971

**VICTORIA COPY**

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>NAME OF ITEM (INCLUDE UNIT NO. IF APPLICABLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>TAPE RECORDERS</td>
</tr>
<tr>
<td>2</td>
<td>HEADSETS</td>
</tr>
<tr>
<td>8</td>
<td>TAPE, 5&quot; reel</td>
</tr>
</tbody>
</table>

Received by: [Signature]

Transferred by: [Signature]

Transfer noted: [Signature]

NOTE: Circle Project No. or name according to Project or personal property list.

**APPENDIX 36**

1971
<table>
<thead>
<tr>
<th>UNIT</th>
<th>NO.</th>
<th>MAKE</th>
<th>TYPE</th>
<th>UNIT</th>
<th>NO.</th>
<th>MAKE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Plant</td>
<td></td>
<td></td>
<td></td>
<td>Radio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.B.U.</td>
<td></td>
<td></td>
<td></td>
<td>Tape Recorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Saw</td>
<td></td>
<td></td>
<td></td>
<td>Trailer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disp.</td>
<td></td>
<td></td>
<td></td>
<td>Vehicle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Indicates non-expendable equipment

F.S. 883

1971

APPENDIX 37
<table>
<thead>
<tr>
<th>ITEM</th>
<th>ORDER</th>
<th>ISSUE</th>
<th>RETURNTO</th>
<th>ITEM</th>
<th>ORDER</th>
<th>ISSUE</th>
<th>RETURNTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Ax, Boys or H.S. (S.B.)</td>
<td>55</td>
<td>Exting. 24 lb., Dry Chem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Ax, D.B. Falling</td>
<td>56</td>
<td>Exting. CO₂ or Dry Chem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Ax, D.B. Swamping</td>
<td>18 lb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Ax, Scout</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Ax, S.B. Large</td>
<td>58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Flats, Tent A, 8'x10' Canvas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Flats, Tent A, 10'x12' Canvas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Bags, Dunng</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Bags, Sleeping</td>
<td>Flats, Tent A, 14'x16' Canvas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Barometer, Base</td>
<td>Flats, Tent A, 9'x12' Silk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Barometer, Pocket</td>
<td>Flats, Tent A, 15'x15' Silk</td>
<td></td>
<td></td>
<td></td>
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F.S. 853-1

APPENDIX 38

1971
### FIELD PROPERTY LIST

**B.C. FOREST SERVICE**  
**Forest Inventory Division**

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**P.S. S5S-2**

| 1971 | APPENDIX 35, Cont'd. |

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- **Transfered by:**
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**F.S. 853-3**

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**Note:** All pencils and nubs are handled as single units. An order of 8 will be 8 pens not 2 doz. as noted.
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<thead>
<tr>
<th>ITEM</th>
<th>ORD</th>
<th>ISS</th>
<th>RET</th>
<th>ITEM</th>
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<td>Refills, Looseleaf x362&quot; lined</td>
<td>F.S. 404 Radiotelephone Str. Log Sheets</td>
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<td>C.S.C. 4 Sickness Form</td>
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<td>Tacks, Thumb, Box</td>
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F.S. 854-2

1971  APPENDIX 39, Cont'd.
Equipment lists and safety loads - small boats. 
(See individual Unit File 0188220 - M for more complete list for each unit).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Issued to any employees using small boats. Responsibility of supervisor to ensure personnel provided with jackets.</th>
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</thead>
<tbody>
<tr>
<td><strong>Type of Boat (See next page for explanation)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;O&quot;</td>
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<tr>
<td>Anchor</td>
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</tr>
<tr>
<td>Oars</td>
<td>2</td>
</tr>
<tr>
<td>Oar Locks</td>
<td>2</td>
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<tr>
<td>Controls, Remote</td>
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<tr>
<td>Cover, canvas or nylon</td>
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<tr>
<td>Ext. Dry Chem 2½ lb.</td>
<td>1</td>
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<tr>
<td>Kit, First Aid (Kit 1)</td>
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<tr>
<td>Paddles</td>
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<tr>
<td>Pump, Wing</td>
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</tr>
<tr>
<td>Pump</td>
<td></td>
</tr>
<tr>
<td>Deflator</td>
<td></td>
</tr>
<tr>
<td>Tarps (Approx. 4' x 7')</td>
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<td>Tank, Fuel, 10 gal.</td>
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<tr>
<td>Rope, ½&quot;</td>
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<td>Rope, Anchor</td>
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<tr>
<td>Patching Kit</td>
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<tr>
<td>Max. H.P. Engine</td>
<td>12'</td>
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<tr>
<td></td>
<td>18hp</td>
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<tr>
<td>Max. No. Passengers (including boatman)</td>
<td>4</td>
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<tr>
<td>*Max. Freight Load</td>
<td>500#</td>
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</table>

* Load stated is in addition to Boatman except "A" boats - load stated includes boatman.


14' Aluminum Boat - Max. No. personnel - 4
- Max. Load - 800 lbs.

12' Aluminum Boat - Max. No. personnel - 3
- Max. Load - 550 lbs.

D-10 16' Boston Whaler - Max. capacity - 6 men
- Max. Load - 1200 lbs.

Revised 1971.

APPENDIX 40
Explanation - Letter symbols for type of boat.

"0" - 12' or 14' cedar clinker built dinghys - nearly flat bottoms often referred to as "flatties", 14' have planing hull.

"OC" - 18'-25' cabin cruiser, plywood, aluminum, fibreglass etc.

"R" - River boat 30' or 22'.

"I" - Inflatable rubber life rafts. 8'-12' long. Most manually inflated. (Two, automatic for use as Life rafts on Cabin Cruisers).

"D" - Dinghy - assorted shapes and sizes - equipment varies slightly depending on size, includes open aluminum boats.

"S" - Small boat off "Forest Surveyor"

"A" - Cruison Air Boats, inflatable with wooden floor and transom for use with O.B.U.
<table>
<thead>
<tr>
<th>VEHICLES</th>
<th>NUMBER REQ'D</th>
<th>UNIT NO's ALLOTTED</th>
<th>SPECIAL INSTRUCTIONS</th>
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</thead>
<tbody>
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<td>2 Wheel Drive:</td>
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<tr>
<td>Station Wagon</td>
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<tr>
<td>½ Ton Panel (Front seat only)</td>
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<tr>
<td>½ Ton Travellall (4-door, front and back seats)</td>
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<tr>
<td>½ Ton Pickup (with Box Canopy)</td>
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<tr>
<td>1 Ton Pickup (Dual)</td>
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<td>4 Wheel Drive:</td>
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<td>88&quot; Landrover</td>
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<td>107&quot; Landrover</td>
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<td>Scout</td>
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<tr>
<td>Crew Cab</td>
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<tr>
<td>Jeep Wagoneer</td>
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<tr>
<td>Trail Bikes (state type)</td>
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<tr>
<td>Swamp Vehicle (state type)</td>
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<tr>
<td>BOATS</td>
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<tr>
<td>OC-Outboard Cabin Cruiser, 17'</td>
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<tr>
<td>O-Open Clinker, 12'</td>
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<tr>
<td>O-Open Clinker, 14'</td>
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<tr>
<td>R-River Boat, 22' - open</td>
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<tr>
<td>R-River Boat, 22' - cabin</td>
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<td>BOATS</td>
<td>NUMBER REQ'D</td>
<td>UNIT NO's ALLOTED</td>
<td>SPECIAL INSTRUCTIONS</td>
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<tr>
<td>R-River Boat, 30' - open</td>
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<tr>
<td>I-Inflatable Rubber Raft</td>
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<tr>
<td>A-Cruison - Inflatable Boat</td>
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<td>(for use with motor)</td>
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<tr>
<td>D (Boston Whaler)</td>
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<tr>
<td>D-Dinghy - Aluminum 12'</td>
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<tr>
<td>D-Dinghy - Aluminum 14'</td>
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</tbody>
</table>

| O.B.U.'s                     |              |                   |                      |
| 6 H.P. (Johnson - 2 only) (Small A boats) | | | |
| 9½ H.P. (Johnson) (Small "A" boats or 12' D Boats) | | | |
| 15 H.P. (12' "O" & "D" Boats, Large A boats) | | | |
| 18 H.P. (14' "O" & "D" Boats) | | | |
| 33 H.P. (OC, or R Boats)     | | | |
| 40 H.P. (OC or 30' R Boats)  | | | |
| 65 H.P. (Boston Whaler)      | | | |

| POWER SAWS                   |              |                   |                      |
| 1-Man, Light (Canadien 177 360B - 14-20) | Pioneer | | |
| 1-Man, (Canadien 270 370, 650, 1200) | Pioneer 620 | | |
| 1-Man, Gear Drive - Canadien 385 - 36" Bar | | | |

| PUMPS AND LIGHT PLANTS       |              |                   |                      |
| Pumps, Fire                  |              |                   |                      |
| Light Plants - Gas, Max. 1500 Watts | | | |
| - Diesel, 3 K.W.             | | | |

Page 2 of 4

Please submit 1 copy when ordering.

1971

APPENDIX 41, Cont'd.
<table>
<thead>
<tr>
<th>PUMPS AND LIGHT PLANTS (Cont'd.)</th>
<th>NUMBER</th>
<th>UNIT NO's</th>
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<td>Light Plants - Diesel, 6 K.W.</td>
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<td>- Diesel, 10 K.W.</td>
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<td>TRAILERS (See Unit file 0188220-J for floor plan)</td>
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<tr>
<td>Office, 10' x 20' (#298, 302)</td>
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<tr>
<td>Office, 8' x 30' (#384, 388) with single bunk</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Office, 8' x 20' (2) (#357, 358)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office, 8' x 16' (Formerly PB Hut)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- with double bunk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunkhouse, 8' x 30' (6-man) (#121,122,260)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House, 8' x 30' (2 bedroom) (#359,360,373,412,693,694)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boat, 12' - 22' (For O boats)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cookhouse, 8' x 16' (#300,301,327,326)</td>
<td></td>
<td>Loss Factors</td>
<td></td>
</tr>
<tr>
<td>8' x 30' (24-man) (#92,383)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8' x 30' (12-man) (#411) - with dining area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washhouse, 8' x 20' (#386)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining, 8' x 30' (24-man) (#90,382)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility Box</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RADIO</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L.R.T. - Base Camp - Single Side Band</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L.R.T. - Base Camp - A.M. only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L.R.T. - Battery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.P.F.'s (Battery Portable, 2 watts)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model B's (Battery Portable, 2 watts)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobiles (Vehicle)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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1971

APPENDIX 41, Cont'd.
<table>
<thead>
<tr>
<th>PREFabricated Tents - Base Camp</th>
<th>Number Req'd.</th>
<th>Unit No's Allotted</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash, 14' x 16'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining, 14' x 16'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crew, 14' x 16' (sleeps 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage, 14' x 16'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family, 14' x 16'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office, 14' x 16'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook, 14' x 16'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crew, 10' x 12' (sleeps 2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Wash, 10' x 12'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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1971

APPENDIX 41, Cont'd.
Personel gear (possible list)

*Blanket
Boots
Jacket
Knife - sheath
Liner
*Mattress - air
Packboard
Rain clothes
Sleeping Bag
Soap
Socks (extra pair)
Tarp
Toothbrush
Toothpaste
Towel
Underwear (extra)
Vest, cruisers (empty)

.......................... 35 lbs.

*These items are certainly optional. Cameras, anyone?
<table>
<thead>
<tr>
<th>Item</th>
<th>Lbs</th>
<th>Oz</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axe, boys</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Axe, scout</td>
<td>1</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Bag, lunch</td>
<td></td>
<td>1 $\frac{1}{2}$</td>
<td></td>
</tr>
<tr>
<td>Bars, Mosquito</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Borers, increment</td>
<td>1</td>
<td>2</td>
<td>14&quot;</td>
</tr>
<tr>
<td>Bowls soup</td>
<td></td>
<td>6</td>
<td>Plastic</td>
</tr>
<tr>
<td>Clocks, alarm</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Compasses, Silva</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Covers, metal large</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Covers, metal small</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Crayon, lumber</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cups, plastic</td>
<td></td>
<td>4 $\frac{1}{2}$</td>
<td></td>
</tr>
<tr>
<td>Flashlights</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Fly, Tent refl.</td>
<td>3</td>
<td>10</td>
<td>Weights from 3 lb. 10 oz. to 7 lbs</td>
</tr>
<tr>
<td>Forks, table</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Hats, safety</td>
<td></td>
<td>14</td>
<td>Weights from 12 oz. to 1 lb. 1 oz.</td>
</tr>
<tr>
<td>Holder, photo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insect repellant</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Kits, first aid &quot;0&quot;</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Kits, flare</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knives, paring</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Knives, table</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Levels, Suunto</td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>* Maps</td>
<td></td>
<td></td>
<td>* 50</td>
</tr>
<tr>
<td>Menders, chain</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Openers, can</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pans, frying</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Photos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plates dinner</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Pots, nest</td>
<td>2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Reamers</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sacks, instrument</td>
<td>3</td>
<td>7</td>
<td>3 lbs. 7 oz. to 4 lbs. 4 oz.</td>
</tr>
<tr>
<td>Shakkers, S &amp; P (sets)</td>
<td></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Sheets, compass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheets, sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spoons, soup</td>
<td></td>
<td>1 $\frac{1}{2}$</td>
<td></td>
</tr>
<tr>
<td>* Staples, T5</td>
<td></td>
<td>8</td>
<td>* 16 bolts</td>
</tr>
<tr>
<td>Stones, axe</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>String plot cones</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Tacker, T5</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>* Tags, Tree</td>
<td>3</td>
<td>3</td>
<td>* 15 books</td>
</tr>
<tr>
<td>Tapes or chains</td>
<td>2</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Tapes, diameter</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Tapes, 75'</td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Tape, flagging</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Tents, reflector</td>
<td>8</td>
<td>3</td>
<td>8 lbs. 3 oz. to 16 lbs. 3 oz.</td>
</tr>
</tbody>
</table>

Approximately 50 lbs.

Revised 1971.

APPENDIX 43.
### PROPOSED FOOD AND SUPPLIES LIST FOR TWO MEN FOR TEN-DAY FLY CAMP

---

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
<th>Net Weight</th>
<th>Gross Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Unit</td>
<td>Total lb. oz.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>lb. oz.</td>
<td>lb. oz.</td>
</tr>
<tr>
<td>Bacon</td>
<td>4 ¾ lb. pkgs.</td>
<td>- 8</td>
<td>- 9 ½</td>
</tr>
<tr>
<td>Bread, Crisp</td>
<td>6</td>
<td>- 8</td>
<td>- 8 ½</td>
</tr>
<tr>
<td>Bread, fresh</td>
<td>7</td>
<td>- 15 ½</td>
<td>- 15 ½</td>
</tr>
<tr>
<td>Butter</td>
<td>2</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Cake, fruit</td>
<td>1</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Candies</td>
<td>4</td>
<td>- 2</td>
<td>- 2</td>
</tr>
<tr>
<td>Cereal, dried</td>
<td>Nil (subs.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheese</td>
<td>2 pkgs., slices</td>
<td>- 8</td>
<td>- 8</td>
</tr>
<tr>
<td>Chocolate, semi sweet</td>
<td>3 pkgs.</td>
<td>- 8</td>
<td>- 9</td>
</tr>
<tr>
<td>Chocolate, hot</td>
<td>1 &quot;Quick&quot;</td>
<td>- 8</td>
<td>- 10</td>
</tr>
<tr>
<td>Coffee, ground</td>
<td>1</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Coffee, instant</td>
<td>1</td>
<td>- 2</td>
<td>- 8</td>
</tr>
<tr>
<td>Cookies</td>
<td>2 pkgs.</td>
<td>- 8</td>
<td>- 9 ½</td>
</tr>
<tr>
<td>Eggs</td>
<td>1 doz.</td>
<td>- 11</td>
<td>- 12</td>
</tr>
<tr>
<td>Fish, canned</td>
<td>2</td>
<td>- 3 ¾</td>
<td>- 7 ½</td>
</tr>
<tr>
<td>Flour, hot cake</td>
<td>1</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Fruit, canned</td>
<td>2</td>
<td>- 15</td>
<td>- 2 ½</td>
</tr>
<tr>
<td>Fruit, dried</td>
<td>1 pkg.</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Fruit, fresh</td>
<td>20 oranges</td>
<td>- 4*</td>
<td>- 4</td>
</tr>
<tr>
<td>Honey</td>
<td>1 carton</td>
<td></td>
<td>- 2</td>
</tr>
<tr>
<td>Jam</td>
<td>1 can</td>
<td>- 2</td>
<td>- 2</td>
</tr>
<tr>
<td>Jam</td>
<td>1 jar</td>
<td>- 12</td>
<td>- 12</td>
</tr>
<tr>
<td>Ketchup</td>
<td>1 plastic bottle</td>
<td>- 12</td>
<td>- 14</td>
</tr>
<tr>
<td>Kraft dinner</td>
<td>4</td>
<td>- 1</td>
<td>- 8 ½</td>
</tr>
<tr>
<td>Marmalade</td>
<td>Nil (subs.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Matches</td>
<td>6 boxes, waxed</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Meat, canned</td>
<td>7</td>
<td>- 12</td>
<td>- 15</td>
</tr>
<tr>
<td>Meat, fresh (ham)</td>
<td>1 piece</td>
<td>- 2</td>
<td>- 2</td>
</tr>
<tr>
<td></td>
<td>8 slices</td>
<td>- 8</td>
<td>- 9</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>- 2</td>
<td>- 2</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Milk, canned</td>
<td>5 small</td>
<td>- 6</td>
<td>- 7 ½</td>
</tr>
<tr>
<td>Milk, powdered</td>
<td>2 boxes = 8 qts.</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Mush (porridge)</td>
<td>2</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Peanut Butter</td>
<td>1 jar</td>
<td>- 12</td>
<td>- 12</td>
</tr>
<tr>
<td>Pepper</td>
<td>1 shaker</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>Potato, instant</td>
<td>1 pkg. = 8 serv.</td>
<td>- 6</td>
<td>- 8</td>
</tr>
<tr>
<td>Puddings, instant</td>
<td>5</td>
<td>- 4</td>
<td>- 4 ½</td>
</tr>
<tr>
<td>Raisins</td>
<td>20 boxes</td>
<td>- 12*</td>
<td>- 2*</td>
</tr>
<tr>
<td>Rice, Minute</td>
<td>1 pkg. = 4 serv.</td>
<td>- 5</td>
<td>- 7</td>
</tr>
<tr>
<td>Salad Dressing</td>
<td>1 jar</td>
<td>- 8</td>
<td>- 13</td>
</tr>
<tr>
<td>Salt</td>
<td>1 shaker</td>
<td>- 1</td>
<td>- 1</td>
</tr>
<tr>
<td>S.O.S. Pads</td>
<td>2 pkgs.</td>
<td>- 2</td>
<td>- 4</td>
</tr>
<tr>
<td>Soup, dried</td>
<td>10 pkgs.</td>
<td>- 2</td>
<td>- 3*</td>
</tr>
</tbody>
</table>

APPENDIX 44
<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
<th>Net Weight</th>
<th></th>
<th>Gross Weight</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Unit</td>
<td>lb. oz.</td>
<td>Unit</td>
<td>lb. oz.</td>
</tr>
<tr>
<td>Oxo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar, white</td>
<td>1 pkg.</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Syrup</td>
<td>Nil</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tea</td>
<td>30 bags</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Toilet Paper</td>
<td>4 rolls</td>
<td>-</td>
<td>6</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Vegetables, canned</td>
<td>4 tins</td>
<td>-</td>
<td>15</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Vegetables, fresh</td>
<td>Carrots</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Wax Paper (no container)</td>
<td>25 ft.</td>
<td>-</td>
<td>4</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Bags</td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cardboard containers</td>
<td>2</td>
<td></td>
<td>-</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

*to nearest ¼ oz.

(1) 12 lbs. of gross weight are in containers!

(2) Supply crews with salt pills to supplement salt ration.
Suggested Menu for 10-Day Fly Camp

BREAKFASTS:

1st. Day: 1/6 lb. bacon each (4 rashers approx.)
          3 eggs each
          2 slices toast each
          1 tbsp. butter each
          1 oz. jam each
          coffee

2nd. Day: Same as day 1

3rd. Day: 1/6 lb. bacon each
          1/6 pkg. oatmeal (as mush) each
          2 slices toast each
          1 tbsp. butter each
          1/2 quart milk each
          coffee

4th. Day: Same as day 3

5th. Day: Same as day 3

6th. Day: Same as day 3, except substitute 3 hotcakes
          each for the mush, to be spread with jam or
          honey. END OF BACON.

7th. Day: Same as day 3, except bacon

8th. Day: Same as day 6, except 4 hotcakes each, no bacon.

9th. Day: Same as day 7

10th. Day: Same as day 7

APPENDIX 45.

Revised 1971.
LUNCHES:

Three sandwiches each, each day - 60 sandwiches

- cheese - 16 (16 slices at 1 oz.)
- fresh lunch meat - 8 (8 slices at 1 oz.)
- canned meat - 12 (12 oz. can)
- canned fish - 8 (2 - 4 oz. cans)
- jam - 16 (1 - 24 oz. tin; 1 - 12 oz. jar)

Total - 60

Plus: peanut butter
- salad dressing
- 1 pkg. raisins each
- 1 square chocolate each
- 2 cookies each
- dried fruit
- 1 orange each

NB: 20 of sandwiches must be made with rye-krisp, because bread will be all used up.

SUPPERS:

1st. Day: Steaks (1 lb. each)
- 1 serving each of instant potato
- 1 tin canned vegetables
- 1 pkg. dried soup
- ½ tin fruit each
- 2 slices rye-krisp each
- 1 tbsp. butter each
- honey
- coffee, tea or hot chocolate

2nd. Day: Weiners (4 each approx.)
- 1 pkg. Kraft dinner
- 1 tin canned vegetables
- 1 pkg. dried soup
- ½ tin fruit each
- 2 slices rye-krisp each
- 1 tbsp. butter each
- honey
- coffee, tea, or hot chocolate

3rd. Day: ½ lb. ham each
- 1 serving each of instant rice
- 1 can vegetables
- 1 pkg. dried soup
- Instant pudding
- 2 slices rye-krisp each
- 1 tbsp. butter each
- honey
- coffee, tea, or hot chocolate

Revised 1971. APPENDIX 45 (Cont'd.)
SUPPERS (Cont'd.)

4th. Day: Same as day 3 except instant potato instead of rice.

5th. Day: Same as day 3, except Kraft dinner instead of rice and 1 tin meat instead of ham and fresh carrots instead of canned vegetables.

6th. Day: Same as day 4, except 1/4 lb. of fruit cake instead of instant pudding, and no canned vegetables.

7th. Day: Same as day 5

8th. Day: Same as day 6

9th. Day: Same as day 3, except canned meat in place of ham.

10th. Day: Same as day 5, except no pudding.
OVERNIGHT EMERGENCY DROP PACKS

It is possible that a crew could be stranded in the bush, perhaps
overnight, owing to inability of search aircraft to land nearby, etc.
Therefore the following items have been packed in a duffle bag and
can be dropped using one of our standard food drop parachutes. The
total kit weighs approximately 53 lbs. and the contents are:-

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleeping bags - &quot;Black&quot;</td>
<td>3</td>
</tr>
<tr>
<td>Blankets - grey</td>
<td>2</td>
</tr>
<tr>
<td>6 x 8' sheets pliofilm g/sheets</td>
<td>2</td>
</tr>
<tr>
<td>Fly-silk-reflector</td>
<td>1</td>
</tr>
<tr>
<td>Pots-cooking-aluminum</td>
<td>2 (nesting)</td>
</tr>
<tr>
<td>Cups-plastic or tin</td>
<td>3</td>
</tr>
<tr>
<td>Spoons - tea</td>
<td>3</td>
</tr>
<tr>
<td>First aid kit</td>
<td>1</td>
</tr>
<tr>
<td>Safety rope - nylon - 100 ft.</td>
<td>1</td>
</tr>
<tr>
<td>Matches - in waterproof container</td>
<td>2 boxes</td>
</tr>
<tr>
<td>Candles</td>
<td>3</td>
</tr>
<tr>
<td>Empty wax milk containers, crushed</td>
<td>2</td>
</tr>
<tr>
<td>Toilet paper</td>
<td>3 rolls</td>
</tr>
<tr>
<td>&quot;Off&quot; mosquito spray</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Off&quot; mosquito liquid</td>
<td>1 bottle</td>
</tr>
<tr>
<td>Mosquito net</td>
<td>2</td>
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<tr>
<td>Axe, boys, with sheath</td>
<td>1</td>
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</table>

Emergency food:-

<table>
<thead>
<tr>
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<tr>
<td>Tea</td>
<td>15 bags</td>
</tr>
<tr>
<td>Coffee</td>
<td>Small bottle Instant</td>
</tr>
<tr>
<td>Sugar</td>
<td>1 box cubes</td>
</tr>
<tr>
<td>Milk</td>
<td>1 pk. powdered Creamo</td>
</tr>
<tr>
<td>Ryking</td>
<td>1 pkt.</td>
</tr>
<tr>
<td>Soup, dehydrated</td>
<td>6 pkts.</td>
</tr>
<tr>
<td>Dot chocolate</td>
<td>2 bars</td>
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<tr>
<td>R.C.A.F. Survival Kit (1 man 3 days)</td>
<td>2</td>
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</table>

N.B. First Aid kit listed above includes 222 tablets and water
purification tablets in addition to first aid equipment.

APPENDIX 46.

Revised 1971.
<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>Bread, hard tack (Rye King, etc.)</td>
<td>3 pkts.</td>
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<tr>
<td>Butter, canned</td>
<td>1 - 1 lb.</td>
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<tr>
<td>Candles</td>
<td>2</td>
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<tr>
<td>Cheese, spreading mild - 1/2 lb. pkt.</td>
<td>1</td>
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<tr>
<td>Chocolate, semi sweet - 8 oz. bar</td>
<td>1</td>
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<tr>
<td>Coffee, 1/2 lb.</td>
<td>1</td>
</tr>
<tr>
<td>Eggs, powdered - 5 oz. pkt.</td>
<td>1</td>
</tr>
<tr>
<td>Fruit, canned (fruit cocktail, etc.)</td>
<td>1</td>
</tr>
<tr>
<td>Fruit, dried (apples, prunes, etc.)</td>
<td>1</td>
</tr>
<tr>
<td>Fish, canned - salmon - 8 oz. tins</td>
<td>2</td>
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<tr>
<td>Fish, canned - sardines - 4 oz. tin</td>
<td>1</td>
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<tr>
<td>Hot Chocolate - small pkt.</td>
<td>3</td>
</tr>
<tr>
<td>Jam, strawberry - 1/2 lb. jar or 1 lb. tin</td>
<td>1</td>
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<tr>
<td>Juice, concentrated (orange) Tang - 2 pkts.</td>
<td>2 pkts.</td>
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<tr>
<td>Kraft dinner</td>
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<tr>
<td>Meat canned, beef steak and onions</td>
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<tr>
<td>roast beef</td>
<td>1</td>
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<tr>
<td>all beef stew</td>
<td>1</td>
</tr>
<tr>
<td>bacon</td>
<td>1</td>
</tr>
<tr>
<td>corned beef</td>
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<tr>
<td>hamburger</td>
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<td>boneless chicken</td>
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<tr>
<td>Meat paste</td>
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<tr>
<td>Milk, canned (small)</td>
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<tr>
<td>Milk, powdered (Klim, etc.)</td>
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<tr>
<td>Oatmeal, 2 lb. pkt.</td>
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<tr>
<td>Oxo cubes</td>
<td>4</td>
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<tr>
<td>Potato, instant - 1 lb. pkt.</td>
<td>2</td>
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<tr>
<td>Puddings, chocolate - 4 1/2 oz. pkt.</td>
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<tr>
<td>vanilla</td>
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<tr>
<td>Raisins, 5¢ pkts.</td>
<td>12</td>
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<tr>
<td>Rice, Minute - 5 1/2 oz. pkt.</td>
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<tr>
<td>Scouring Pads (Chore Girl)</td>
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<tr>
<td>Soup, dehydrated - variety</td>
<td>5 pkts.</td>
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<tr>
<td>Sugar, white - 2 lb. pkt.</td>
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<tr>
<td>Plastic sandwich bags and ties</td>
<td>1/2 doz.</td>
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<td>Plastic garbage bag</td>
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<td>Tea bags - 4 oz. pkts.</td>
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<td>Toilet tissue</td>
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<td>Vegetables dehydrated - mixed</td>
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<td>carrots</td>
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<tr>
<td>onions</td>
<td>1</td>
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<tr>
<td>Vegetables, canned (carrots, peas, etc.)</td>
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</tbody>
</table>
Emergency Food Kit List - for crews depending on Air Transportation

To be packed in a waterproof sealed container.

2 Candles
1 Rice, Minute or Rice-a-Roni - Small
1 Hot Chocolate, ¼ lb.
1 Dark Chocolate - Bar
1 Stew or Chuckwagon dinner, etc.
1 Instant potato - package
2 Rolled Oats - package
6 Raisins, 5¢ pkts.
1 Dried fruit, package
2 Sardines, cans
1 Salt, small
1 Rye King - 1 package
6 Tea Bags
1 Sugar, Cubes, box
2 Soups, Lipton packages
1 Pudding, Instant
1 Milk, powdered, package
1 Cheese - ¼ lb.
1 Oxo cubes, box
1 Matches - box, wooden
1 Insect Repellant, bottle
1 Kraft Dinner, box
1 Salmon or Tuna, small tin
1 Spam, etc. small tin
1 Chef-Boy-Ar-Dee
1 Sausage, tin, small
### FOREST INVENTORY DIVISION
#### FILE LIST

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<th>Cab. Dr. File</th>
<th>POLICY, PLANNING, PROJECTS &amp; STATISTICS</th>
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### TECHNICAL

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- MANUALS - GENERAL (Forest Inventory)
  A. Operations
  B. Pocket
  C. Classification & Sampling
  D. Cruising #1 Correspondence
     #2 Requests only
  E. Volume & Depletion
  F. Summary
  G. #1 Growth & Yield (Managed)
     #2 Growth & Yield (Natural)
     #3 Growth & Yield (Pocket)
  H. Cartographic Manual

CO-OP OTHER AGENCIES - FOREST SERVICE
GOVERNMENT, PUBLIC

- FOREST SERVICE (GENERAL) (incl. circulars)
  A. Accounts Division
  B. Forest Valuation
  C. Protection Division
  D. Engineering Division
  E. Reforestation Division
  F. Research Division
  G. Personnel Division
  H. Information Division
  I. Productivity Committee
  J. Special Studies Division
  K. Forest Districts
  L. Grazing Division
  M. Planning Committee
  N. Admin. Division
  O. Resource Planning
  P. Forms Coordinating Committee
  Q. Task Force (Work Shop)

0325751 - GOVERNMENT (GENERAL)
  A. Public Service Commission
  B. Finance Department
  C. Public Works Department
  D. Highways Department (Data Processing Centre)

D 1 0325751

E. Federal Government - Forest Service
F. Provincial Secretary
G. Superannuation Branch
H. Attorney Generals Department
I. Secretariat (includes B.C. Land Inventory)
J. British Columbia Hydro
L. Tree Farm Forestry Committee
M. Civil Defence
N. Lands Service
O. Rec. & Con.
P. Integrated Field Programme Committee
Q. Royal Commission on Forest Resources
R. Mines

D 2 0325752 -

PUBLIC (GENERAL)

A. Industry
B. Universities, Colleges High Schools
C. Assoc. of B.C. Registered Foresters

ADMINISTRATION

OFFICE ROUTINE - GENERAL

A. Miscellaneous Meetings
B. Microfilming
C. Slide Show
D. Forest Service Dance Committee
### FINANCIAL

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### PROPERTY & EQUIPMENT

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<td>C.</td>
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<tr>
<td>D.</td>
<td>Training Unit 11A</td>
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<td>E.</td>
<td>Training Unit 11D (Spring Training)</td>
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<td>F.</td>
<td>Training F.S. Basic Exam</td>
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G. Training Unit 111A
H. Training Unit 111B
I. Training Unit 111D  
(Winter Training)
J. F.S. Intermediate Exam
K. Training Unit 1V - Managerial Course
L. Training Unit V - General
   #1 Unit V - Data Processing Course
   #2 Unit V - First Aid Course
   #3 Unit V - Scaling Courses
   #4 Unit V - Driver Training Course
   #5 Unit V - Classifiers Course
   #6 Unit V - Soil Courses
   #7 Unit V - Safety Courses
   #8 Unit V - Auto Mechanic Courses
   #9 Unit V - Office Summer Employees
M. Training Public Service Commission Courses
   #1 - Basic Public Admin. Course
   #2 - Executive Development Training Course
N. Training Continuing Education Course
   #1 - Wildlife Management
O. Outside Training Agencies
P. Administrative & Support Courses

0235034 - SPEECH MATERIAL
A. Conferences

0331013 - B.C.G.E. UNION - POLICY
A. Group 55 - Admin. Fiscal & Regulatory
B. Group 58 - Admin. Support
C. Group 62 - Resources & Environment
   #1 - Clothing
   #2 - Education
   #3 - Safety Co-ordinating
D. Group 63 - Engineering Tech. & Regulatory
E. Group 69 - Trades & Crafts
F. Group 71 - Operational
G. Group 74 - Marine Service (Unlicensed)