

EQUIPMENT

18.01 RESPONSIBILITY

This manual is intended for internal guidance only and is not intended to create a legal or moral duty. Supervisors have discretion, based upon their expertise and the particular circumstances, to deviate from this manual and to conduct additional research or receive input from experts in other areas, as needed.

18.01.01 IMPORTANCE

The maintenance of rural and urban highways and streets entails the use of numerous units and various types of equipment. It may be said that suitable equipment properly used is the life-blood of highway maintenance. Highway maintenance operations cannot be performed effectively and economically with inadequate equipment.

Equipment is essential in all phases of maintenance. It is needed for locating defective conditions; for transporting men, materials and equipment to the job site; for performing the necessary work; and for inspecting the completed work. Radios are also included in the equipment needed to meet the demands of today's highway maintenance operations and services. Radios are used extensively in the direction of maintenance operations, particularly during an emergency.

All automotive equipment, maintenance equipment, and construction equipment owned by the Division of Highways is maintained by the Equipment Division. The Equipment Division is reimbursed for all equipment maintenance and operation costs through ownership and operating rentals from the District, County or Division, and rental should be sufficient to cover all equipment maintenance, operation costs, and replacement costs.

The maintenance workforce is the biggest user of equipment in the Division of Highways. This statement applies not only to the number of units assigned to maintenance but also to the number of different types of units. The Maintenance Division provides input to upper management which is utilized in conjunction with other data in developing the types and quantities of equipment to be purchased.

18.01.02 EQUIPMENT DIVISION RESPONSIBILITY

18.01.02.01 RELATION TO MAINTENANCE

The Equipment Division of the Division of Highways is a service organization which has the responsibility of serving the entire Division. Since effective performance of maintenance operations depends on good management of equipment, there must be

very close cooperation between the Equipment Division and the Maintenance operation.

It is not the purpose or intent of this Chapter to go into detail in regard to the operation of the Equipment Division; only that portion which affects the actual performance of the various maintenance operations will be discussed, such as the operation and maintenance of equipment as it applies to the maintenance of streets and highways included in the State System.

18.01.02.02 DISTRICT EQUIPMENT SUPERVISOR

The District Equipment Supervisor is directly responsible to the District Engineer but receives close technical supervision from the Equipment Division. The District Equipment Supervisor also receives instructions from the District Maintenance Engineer, which will deal with the transportation needs in assigning and shifting of equipment in the field and the order of priority in which "down" equipment will be repaired.

The District Equipment Supervisor shall transfer equipment in need of major repairs within the District. The District Equipment Supervisor determines which units will be brought into the District Shop for repairs by classifying a status change to "R" Repair Status. Both District and County shops receive technical guidance from the District Equipment Supervisor. Refer to Volume IV of the Division's Administrative Operating Procedures for detailed procedures regarding equipment status.

18.01.02.03 SHOP SUPERVISOR

The District Shop Supervisor is directly responsible to the District Equipment Supervisor. When the Equipment Superintendent is not available, an employee of the Maintenance operation may discuss with the Shop Supervisor any matter pertaining to the repair of equipment.

The District Shop Supervisor is responsible for the actual repairs and upkeep of all maintenance equipment under the direction of the District Equipment Supervisor. All mechanics and mechanic's helpers assigned to the District shop are under the direct supervision of the Shop Supervisor.

The senior mechanic will act as a working Shop Supervisor at a County repair shop and will perform the same duties as those performed at a District shop by the District Shop Supervisor.

18.01.03 MAINTENANCE DIVISION RESPONSIBILITY

18.01.03.01 GENERAL

The Maintenance organization must work closely with the Equipment Division

to insure adequate and proper equipment will be available to perform the many and varied jobs assigned the District and County maintenance forces.

The District and County maintenance forces are responsible for the maximum utilization of all equipment assigned to them. The proper use of that equipment and its day-to-day maintenance is their responsibility. A very important phase of equipment management is the reporting of equipment usage, accurate meter readings and the usage of fuel and lubricants. The performance of daily/weekly operator checks, scheduled preventive maintenance (PM) work orders, and the accurate recording of meter readings will prolong the operating life and subsequent usefulness of the equipment to the Division.

18.01.03.02 DISTRICT MAINTENANCE ENGINEER

The District Maintenance Engineer is responsible for determining the distribution of all available equipment in the District. Equipment must be properly allocated to District Annual Plan as well as Non Annual Plan organizations. Excess and Pool status equipment units are also managed by the District Maintenance Engineer. The Maintenance Engineer must work closely with the District Equipment Supervisor in communicating District priorities as related to the repair and maintenance of the District equipment fleet.

The District Maintenance Engineer, or his designated representative, will have the responsibility of authorizing, preparing, and entering into the REMIS System all transfers of operational equipment within the District, transfers required for the assignment of new equipment, and the re-allocation of equipment to other Districts. All such transfers of operational equipment are to be maintained on file in the Maintenance Engineer's office. Requests for special and supplemental equipment for the District organizations must be directed to the District Maintenance Engineer. Refer to Volume IV of the Division's Administrative Operating Procedures for detailed procedures regarding the transfer of equipment.

18.01.03.03 COUNTY/EXPRESSWAY SUPERVISOR AND SUPERVISOR OF DISTRICT-WIDE CREW

County/Expressway Supervisors or a Supervisor of a District-wide crew are responsible for the proper utilization and operation of equipment assigned to their organizations. The supervisors must check each unit of equipment under their supervision to insure it is being used and operated properly. Before assigning an operator to a unit of equipment, the operator must be qualified to operate the unit. Where possible, each organizational maintenance supervisor will assign two qualified operators to each unit of equipment. The first or primary operator will be responsible for the unit of equipment including maintenance and cleanliness. The second designated operator will be the alternate, who will operate the equipment and assume the associated responsibilities whenever the primary operator is unable to work.

The daily supervision of the operation and condition of a unit of equipment will be delegated to the Maintenance Crew Supervisor/Leader of the crew to which it is assigned.

18.01.03.04 MAINTENANCE CREW SUPERVISOR/LEADER

Each Maintenance Crew Supervisor/Leader is responsible for the direct supervision of the equipment operators in the crew. This supervisor must be sure the operator of each unit of equipment is complying with all safety regulations, all motor-vehicle laws, and all Equipment Division instructions relating to daily/weekly maintenance. The Maintenance Crew Supervisor/Leader must also see that the required information pertaining to maintenance is recorded accurately on the proper Divisional forms for entry into the REMIS System.

A Maintenance Crew Supervisor/Leader must be sure that only the assigned operator(s) are allowed to operate the equipment. During an emergency situation, the rule of utilizing qualified operators still applies. All operators must be advised they are each responsible for the condition of the equipment unit they operate. The Maintenance Crew Supervisor/Leader is expected to recommend the removal of any operator who does not follow instructions in regard to the operation and daily maintenance of the equipment.

18.02 REPAIR AND REPLACEMENT

18.02.01 REPAIR PROCEDURE

18.02.01.01 SCHEDULING

The scheduling for repairs of maintenance equipment is a cooperative effort between supervisory employees of the Maintenance and Equipment Divisions at either the District or the County level. It is the responsibility of the Equipment Supervisor and a Shop Supervisor to decide how, where and when repairs are to be made. The order of priority to be given to the repair of various pieces of "down" equipment is the responsibility of Maintenance Supervisors. Minor repairs can sometimes be made quickly in the field. When a unit of equipment breaks down and needs minor repairs, the repair work will be performed at the County shop. The decision regarding the county shop's ability to complete the repairs, will be made by the District Equipment Supervisor. The District Equipment Supervisor will assign the "R" status for all units requiring major type repairs beyond the minor shop's capability of repair. The District Equipment Supervisor will schedule the "R" status units for transport and repair at the District shop.

18.02.01.02 REPORTING BREAKDOWN TO HEADQUARTERS

When a unit of equipment breaks down in the field, the operator must notify the

appropriate supervisor as soon as possible. Operators working alone may have to locate a telephone to report such breakdowns to the appropriate supervisor.

18.02.01.03 INITIAL DUTY OF SHOP SUPERVISOR

When the report of a breakdown is received at Headquarters from either the operator or the Maintenance Crew Supervisor/Leader, the person receiving the call must notify the Shop Supervisor and relay all the pertinent information. When possible, the Shop Supervisor will personally talk to the operator.

The Shop Supervisor can sometimes tell from the information relayed by telephone or by radio whether the repairs can be made in the field or whether the equipment will have to be brought into the shop. When the repairs must be made in the shop, the Shop Supervisor will have to decide if the unit is to be brought in under its own power or will require towing or transporting. The Shop Supervisor will make a rough estimate of the length of time the unit of equipment will be out of active service and report this to the County/Expressway Maintenance Supervisor or Maintenance Assistant in charge.

18.02.01.04 OPERATOR DUTY AT BREAKDOWN SITE

No equipment operator will attempt to make adjustments or repair to his unit unless there is an emergency.

Minor repairs can often be made quickly in the field. A road mechanic may be dispatched for such repairs. Since the road mechanic usually travels alone and may need help in making the repairs, the operator of the equipment must remain with the unit when field repairs are to be made.

When the equipment must be taken to the shop for repairs, the Shop Supervisor will usually instruct the operator either to bring the unit in under its own power or to have another unit of Division equipment tow it to the shop. In case a unit of equipment can neither travel under its own power nor be moved by towing, the Shop Supervisor must make arrangements to transport it to the shop.

When equipment breaks down on the traveled way or in such a location that it will present a hazard to the traveling public, the operator must remain with the equipment and act as a flagger. He/she must set flares or flags in the prescribed manner and remain on the job directing traffic past the equipment until it is moved completely from the traveled way. In case a flagger is already working with the equipment, the operator may leave the flagger with it while he/she goes to a telephone. If the operator is alone, he/she shall wait until someone arrives who can telephone Headquarters and report the situation for him/her.

18.02.01.05 SCHEDULING REPAIRS

The Shop Supervisor must make a quick inspection of the unit of down equipment as soon as it arrives at a County Shop. From this inspection the complexity of repairs will be determined and the approximate time needed to complete the repair. The Shop Supervisor will then relay the necessary information to the County/Expressway Supervisor.

When the Maintenance Supervisor learns from the Shop Supervisor how long the unit of equipment will be out of service, he/she must decide whether to request a replacement for the down equipment and also what order of priority will be given to the repair. If it is decided to replace the unit, the Maintenance Supervisor will submit a request to the District Maintenance Engineer for a replacement unit.

The order of priority for repairs will frequently depend on the availability of a replacement. When no replacement is available for a unit that is critical to a project, the repair of that equipment unit will be given top priority. In such a situation, the Maintenance Engineer and the Shop Supervisor or the Equipment Supervisor must work closely together. Items that must be considered when determining repair priority are:

The units being worked on presently.

The amount of work needed to finish each unit presently in the shop.

Existing shop schedule.

The availability of the necessary parts.

18.02.02 EQUIPMENT POOL

18.02.02.01 PURPOSE

An equipment pool serves two main purposes:

- 1) Lowers the cost of maintenance operations in reducing the time lost by maintenance crews due to breakdowns of equipment.
- 2) Makes better utilization of specialized equipment.

The practical approach is to establish in each District an equipment pool composed of specialty equipment, and of extra or backup equipment of those types required to meet the fractional and contingency needs of the subordinate organizations. The Statewide Equipment Pool contains equipment used to supplement the needs of all DOH organizations as required. The Statewide Equipment Pool is administered by the Maintenance Division.

The specialty equipment in a District Pool includes that equipment which is allocated to all organizations on a fractional basis, or that specialized equipment

allocated/assigned to the District Heavy Maintenance Detachment not being utilized on a budgeted project. These units are not used or needed every day by maintenance forces and there are not enough units of the same type in the District to make one available for each County; therefore, the working time of each unit must be shared by several organizations. The extra or back-up equipment retained by the District Maintenance Engineer is mutually agreed upon by the Maintenance Engineer and the Maintenance Division. These units are kept as reserve in the pool to replace like equipment assigned to an organization when there is a break-down or whenever equipment demand exceeds the organization's allocated quantity.

18.02.02.02 DISTRICT POOL OPERATION

The scheduling of replacement equipment and/or specialty equipment from the Equipment Pool plays an important part in making possible a smooth running, effective maintenance operation. Therefore, a maintenance employee who is authorized to request pool equipment must know and follow the correct procedure. It is also important that every District and County/Expressway Maintenance Supervisor clearly understands the reasons for the pool.

The District pool is under the jurisdiction and control of the District Maintenance Engineer. He is responsible for maintaining an accurate record of transfers of pooled equipment in and out of the District Pool. The Maintenance Engineer must be sure that all active equipment in the pool is in good operating condition. Equipment which is inoperable will not be pooled until the necessary repairs are complete. Refer to Volume IV of the Division's Administrative Operating Procedures for detailed procedures regarding Pool equipment.

When the District Maintenance Engineer approves a request for replacement equipment, he must notify the Equipment Supervisor when transport of the pooled unit is required. In the event a replacement is not available from the District Pool, the District Maintenance Engineer will contact the Maintenance Division to determine if a replacement can be obtained from another District's Pool or the Statewide Pool. When replacement of equipment cannot be provided from the Division's fleet, it may be necessary to hire the needed equipment from the private sector.

18.03 PRIVATE SECTOR EQUIPMENT RENTAL

18.03.01 DISTRICT MAINTENANCE ENGINEER

When it is necessary to rent privately owned equipment to perform maintenance operations, the District Maintenance Engineer or his designee, will initiate all such requests to the Maintenance Division. This request may first be handled with a telephone call and later followed by a written request, or in the event the request is not an emergency, the Maintenance Engineer shall submit a written request.

18.03.02 MAINTENANCE DIVISION

The Director of the Maintenance Division, or his designee, will verify that the requested equipment unit is:

- 1) Available from the Statewide Equipment Pool or another District Equipment Pool and coordinate the movement of the equipment unit to the requestor.
- 2) Available from a Divisional Equipment Pool but it is not economically feasible to move the unit to the requestor. Permission will then be granted to rent from the private sector.
- 3) Not available from the Division's fleet and permission will be granted to rent the requested unit from the private sector.

This permission to rent equipment from the private sector can be verbal but must be followed by written approval from the Maintenance Division.

18.03.03 PRIVATE SECTOR EQUIPMENT RENTAL METHODS

The Division has at its disposal, several methods for renting private sector equipment:

18.03.03.01 STATE CONTRACT PURCHASE ORDER (SCO)

The State Contract Purchase Order is the principal document used in renting private sector equipment. These contracts are bid annually for the lease/rent of specific equipment types which may be needed by the Division throughout the State. Some of these contracts are bid for specialty equipment/services as required on a more selected or limited basis, i.e., Districtwide and Statewide.

These contracts are referred to as "open-ended", in that the type of equipment or the time/duration of need cannot be predetermined. All equipment units/services as bid on these State Contract Purchase Orders must normally be rented as first choice over other private sector equipment as long as the "open-ended" contract equipment/service is available and acceptable - regardless of price. A bona fide emergency situation may exempt this requirement. Refer to Volume IV and Volume VIII, of the Division's Administrative Operating Procedures for detailed procedures.

18.03.03.02 SPECIAL PURCHASE AUTHORIZATION (SPA)

Equipment that is not on a State Contract Purchase Order may be rented using the Special Purchase Authorization. The Special Purchase Authorization (SPA) is an expedient purchasing method for low cost, non-recurring rentals. There is a dollar limitation on this type rental. Refer to Volume VIII and Volume IV of the Division's Administrative Operating Procedures for the exact limitations and restrictions.

18.03.03.03 ONE-TIME PURCHASE (RPO)

For an equipment rental amount that exceeds the Special Purchase Authorization (SPA) limit and the unit is not on contract (SCO) the One-Time Purchase (RPO) method may be utilized. One-Time Purchase Orders may be processed with 3 bids attached, or the RPO may be processed for advertising and solicitation of bids by the Finance and Administration Purchasing Division. The total dollar value of the RPO dictates which method will be utilized. Refer to Volume VIII and Volume IV of the Division's Administrative Operating Procedures for the proper guidelines to be used.

18.03.03.04 EMERGENCY PURCHASE

In the event of a bona fide emergency, private sector equipment may be secured in such a manner as to circumvent or lessen the emergency situation via Emergency Purchase. All Emergency Purchases must have prior approval by the Finance and Administration Purchasing Division. Refer to Volume VIII and Volume IV of the Division's Administrative Operating Procedures for the specific procedures.

18.03.04 PRIVATE EQUIPMENT AVAILABLE FOR RENT - NOT ON CONTRACT LISTS

Each county maintenance organization is required to maintain a current list of available private equipment which may be utilized to aid in snow removal and other emergencies. These lists are to be prepared and updated semi-annually, in December and June of each year.

A copy of these lists is to be maintained on file at each County and District Headquarters office and the Maintenance Division. All local sources, such as mining and logging operators, contractors, etc., should be contacted for inclusion on this list. Such a list can be the primary source for Emergency Purchases as described in Section 18.03.03.04.

18.03.05 RESPONSIBILITIES - PRIVATE SECTOR RENTAL

The procurement of private sector equipment by the Division dictates certain responsibilities must be followed.

18.03.05.01 PRIOR APPROVAL TO SECURE PRIVATE SECTOR EQUIPMENT

All organizational requests for Private Sector Equipment must be channeled through the District Maintenance Engineer's Office to the Maintenance Division. All such requests and replies by the Maintenance Division shall be in written form. Emergency requests and response may be handled via telephone but must be followed up in written form. The Maintenance Division will contact the Finance and

Administration Purchasing Division for the advance approval of an Emergency Purchase Authorization (see Section 18.03.03.04.)

18.03.05.02 DIVISIONAL/VENDOR OBLIGATIONS

Regardless of the purchase method employed, a clear understanding of the Division's and the Vendor's obligations is paramount to a harmonious relationship between the two parties. The Division's State Contract Purchase Order (SCO) for private sector equipment rental contains very detailed language regarding the parties' responsibilities and obligations. This particular document was developed by the Division's legal staff and approved by the State Attorney General; as such, the document is legal and binding.

All arrangements for private sector rental must include as an addendum or attachment those portions of the State Contract Purchase Order (SCO) which address responsibilities and obligations. This procedure is to be utilized regardless of the procurement method utilized. Any such revisions to said language of responsibilities and obligations must have the prior approval of the Maintenance Division.

18.03.05.03 EQUIPMENT INSPECTIONS

Prior to the utilization of any equipment unit from the private sector, the District Maintenance Engineer, or his designee, will be responsible for a thorough inspection - checking the mechanical and safety condition of the unit. This inspection should be performed in the presence of the vendor, or vendor's designated representative, and documented. Inspections of this type should be performed and documented both before acceptance and again upon return of the unit to the owner/vendor. Refer to Volume IV of the Division's Administrative Operating Procedures for the specific procedures to be followed.

18.03.05.04 PRIVATE EQUIPMENT USE AND DOCUMENTATION OF USE

The organizational Supervisor is responsible for maximizing the utilization of private sector equipment. Additionally, the organizational supervisor is ultimately responsible for insuring the Division's operators comply with the Division's obligations and responsibilities as discussed in the purchase agreement. This entails the use of properly qualified/licensed operators, safe operating conditions, and proper preventive maintenance checks. The organizational supervisor must advise the District Maintenance Engineer whenever private equipment rental can be terminated.

The use/non use of private sector equipment shall be documented at the user organization level. This documentation will serve as the source document for payment of the owner/vendor's invoice, as well as documenting maximum utilization of the subject units(s). Refer to Volume IV of the Division's Administrative Operating Procedures for the specific procedures in documenting private sector equipment rental.

A copy of this documentation will be forwarded through the District Maintenance Engineer's Office to the Maintenance Division. The Maintenance Division will analyze the documented use/non use of private sector equipment to ensure the Division is realizing the maximum return on the private equipment rental investment. Additionally, the Maintenance Division will utilize this and other available data for the approval/disapproval of private sector rental extensions.

18.04 EQUIPMENT MAINTENANCE

18.04.01 GENERAL

Maintenance of equipment covers the various phases or types of repairs, including preventive maintenance. The simplest and perhaps the most important phase of equipment maintenance is the operator's daily/weekly checks.

18.04.02 OPERATOR DAILY/WEEKLY CHECKS

The equipment operator's daily/weekly checks are actually the first level of preventive maintenance. The operator's checks are a daily inspection of easily accessible components that are subject to normal wear, and of safety components and fluid levels. Weekly inspections are performed by the operators of transportation equipment.

The operator may be required to perform basic service such as chassis lubrication and minor adjustments. Through the completion of these operator checks, the operator is aware of the normal wear and tear and the operational condition of his assigned unit. Operator daily checks are documented on the Operator's Daily Check List booklet. This booklet also contains Repair Request forms which the operator can utilize to document any needed repairs discovered during the performance of the operator daily/weekly checks.

18.04.03 ASSIGNMENT OF RESPONSIBILITY - EQUIPMENT REPAIRS

Equipment repair services are performed at 3 shop levels: major shop, intermediate shops, and minor shops. The major level is the Equipment Division Shop, the intermediate shops are the District and Division (where applicable) shops, and the minor level is the County/Expressway shops. Each shop is staffed and stocked with the complement of tools to perform the assigned level of repairs. The scope of repairs that can be completed at a minor shop is substantially limited, it is less limited at the intermediate shop and the scope of repair is unlimited at the major shop level.

18.04.03.01 MAJOR SHOP REPAIRS

Major shop repairs include major body work, major equipment modification, component rebuild for inventory, and repair and rehabilitation of diesel engines. The

repair and rehabilitation of all crawler equipment will be performed and completed at the major level - Equipment Division Shop.

18.04.03.02 INTERMEDIATE SHOP REPAIRS

Intermediate or District shops function in much the same manner as an automobile sales garage. The District shops are to assist the lower level shops as needed, both in making repairs and performance of the higher level Preventive Maintenance Orders. The District shop can also make minor equipment modifications; perform diagnostic services; and repair, rehabilitate and exchange components for most equipment types; the exception being crawler equipment, and diesel engines and associated systems. Intermediate shops are not to engage in major engine rebuilds without the approval of the Equipment Division Director.

18.04.03.03 MINOR SHOP REPAIRS

Minor or County/Expressway shops function in much the same manner as the service of a gasoline station. Minor shops should attempt to schedule and limit repairs to the performance of Preventive Maintenance Orders and minor repairs and adjustments. A minor shop should never be involved in an engine rebuild, major body work, internal transmission adjustments, or work on diesel components.

18.05 OPERATOR ASSIGNMENT AND RESPONSIBILITY

18.05.01 GENERAL

Every Division employee, regardless of position, is responsible for using his assigned equipment in accordance with the Motor Vehicles Laws of the State, Division Policy, and the various instructions issued by the Maintenance and Equipment Divisions.

18.05.02 OPERATOR ASSIGNMENT AND QUALIFICATIONS

Every operator of maintenance equipment must be an employee of the Division of Highways. To be classified as a truck driver or equipment operator and to be eligible to operate or drive Division automotive equipment, a person must possess a license commensurate with the type of equipment operated, as stipulated by the West Virginia Motor Vehicle Laws. If, for any reason, the license of an operator of a unit of maintenance equipment is suspended or revoked, the Organizational Supervisor must be sure that the operator is not permitted to operate any Divisionally owned equipment. Before that person will be allowed to operate Divisional equipment again, written notice must be received from the Highway Services Division that his suspension has been withdrawn and his/her license has been validated.

The Organization Supervisor is responsible for assigning only qualified operators to operate the equipment under his/her supervision. The Supervisor is also

responsible for the removal of any operator who abuses, neglects, or is reckless with equipment. Refer to Volume IV of the Division's Administrative Operating Procedures.

18.05.03 OPERATOR RESPONSIBILITIES

The primary operator assigned to a unit of equipment for routine maintenance work is responsible for the daily maintenance and operation of that unit. The operator must be given any necessary instructions concerning the operation of his particular unit. Each operator is required to study and be thoroughly familiar with the sections of the instructions and the Operator's Manual that apply to the operation and daily maintenance of the unit. Also, these instructions and the Operator's Manual will be issued to the operator and must be kept with the equipment at all times.

The operator of a unit of equipment is expected to detect the first signs of faulty operation and to immediately report the condition to his/her Supervisor, who will then notify the Shop Supervisor or the Equipment Superintendent. When a unit of equipment is in need of repairs, it must be removed from operation at once, unless there is an emergency and its continued use is approved by the Equipment Superintendent.

It is the responsibility of the primary operator to keep the inside and outside of his equipment clean. The organizational supervisor may, however, designate one individual to perform cleaning services of all equipment units at a given location.

Any operator who abuses his equipment will be subject to disciplinary action. In each Division and District, an Equipment Operational Review Committee is appointed for the purpose of reviewing procedural and safety violations involving Division equipment and operators. The Committee for the Districts is composed of a selected panel of District Managers and field personnel. This Committee reviews all cases involving accidents, speeding, hazardous operation, misuse of equipment, and failure to perform preparation checks and recommends appropriate disciplinary action where warranted. Refer to Volume IV of the Division's Administrative Operating Procedures for the specific procedures involving the Equipment Operational Review Committee.

18.06 EQUIPMENT UTILIZATION

18.06.01 GENERAL

Continuous utilization of all equipment in a highway maintenance organization is nearly impossible. Many types of equipment, such as SRIC equipment, mowers, paint machines and asphalt distributors are needed only seasonally. Even though some of this seasonal equipment is only used a few days each year, it must be available when needed. Of course, units of equipment that can be operated throughout the year must be utilized to their fullest extent.

District equipment pools are established to produce better utilization of all equipment. The benefits of a pool are particularly noticeable when there is a shortage of a certain type of equipment in one area while the routine maintenance operations in another area do not require the full time use of that type of equipment. As a result, District-wide use makes it economically sound for the Division to have such a unit available for use.

18.06.02 MAINTENANCE SUPERVISOR'S RESPONSIBILITY

18.06.02.01 ADVANCED PLANNING

The ultimate responsibility for effective utilization of maintenance equipment lies with the Organizational Supervisor, whether it is a County or District crew. It is at the field level that proper use of available equipment is reflected in the cost and proficiency of maintenance operations. As discussed in Chapter 3 Planning and Scheduling, advanced planning of all projects is necessary and one of the more important considerations is the effective use of available equipment. When an Organizational Supervisor is planning any project, he/she must determine the amount of equipment of each type needed to complete the project and how to distribute the equipment to the best advantage.

18.06.02.02 EQUIPMENT COORDINATION

It is the Organizational Supervisor's responsibility to carefully think through all options available when selecting equipment units for a project. Often the equipment types that at first seem to be the best, may actually be too large or too specialized for the particular project, and may result in a greater amount of expense with much unproductive time.

The Organizational Supervisor should coordinate the organization's equipment needs with the District Maintenance Engineer when a project requires equipment not assigned to the organization. The District Maintenance Engineer administers the District Pool and maintains a close coordination of equipment needs with the central Maintenance Division as discussed under Section 18.03.

18.06.02.03 EQUIPMENT RELEASE

It is also the responsibility of the Organizational Supervisor to release equipment upon completion of the project for which it was obtained. Equipment not being used to perform necessary work is unproductive equipment. Naturally, seasonal equipment will be idle during the off-season and it may not be feasible to operate regularly used equipment for a short period of time because of adverse weather and road conditions. Otherwise, there should be enough work for all available equipment. When a unit of equipment is not needed in a County or District at a certain time, it can generally be put to good use in another area.

When an Organizational Supervisor holds unproductive equipment, the Supervisor is not working for the good of the Division as a whole, and the individual is contributing directly to the increased cost of the maintenance operation.

18.07 COMMUNICATIONS EQUIPMENT

18.07.01 USE

The West Virginia Division of Highways has purchased and installed, in selected Division-owned vehicles, two-way radios for use in highway operations. Since the Maintenance Division of the Division has by far the greatest number of automotive vehicles under its direct control, and since the operations that are performed by this Division are of such varied types, the Maintenance Division operates the greatest number of mobile radio units. Many base stations are operated by maintenance personnel. *In an emergency, as during a snow storm or flood, those stations are used entirely to aid and direct maintenance operations.*

Because the major use of the Division's two-way radio system is for directing maintenance operations by maintenance personnel, it is essential that the correct radio procedures be known and followed by maintenance employees. The procedures that are of direct concern to maintenance personnel in the operation of Division radios are discussed in this chapter.

18.07.02 MAINTENANCE DIVISION RESPONSIBILITIES

The Maintenance Division is responsible for installing and maintaining all Division radio equipment. All Radio Technicians are assigned to that Division. Radio Technicians are, therefore, under the direction and control of the Director of the Maintenance Division. That Division purchases all new radio units for Division use and allocates the new units to field organizations. This distribution of the units among the Divisions is based on the overall needs and the available funds. The actual distribution of the units within the Maintenance Division is decided by the Division Director and the distribution within each District is determined by the District Engineer.

The Maintenance Division issues an Operator's Manual to each authorized Radio Operator, regardless of whether he operates a radio at a base station or a mobile radio. Every person authorized to operate a Division radio is required to study and be familiar with the Operator's Manual.

The Communications Manager of the Maintenance Division is designated as the Division of Highway's representative to work with the Federal Communication Commission in setting up and monitoring the Division of Highway's radio communication system, to assure it will be operated in compliance with Federal Regulations.

18.07.03 RADIO PROCEDURE

18.07.03.01 REQUIREMENTS

When a person sends a message by radio, he/she will obtain better results if he/she speaks clearly and distinctly and uses his/her natural tone; however, it may be desirable to speak more slowly than in normal conversation.

Operation of a radio during normal conditions is based on courtesy and brevity. These considerations are most important in an organization as large and complex as the Division of Highways.

18.07.03.02 BREVITY

One of the most serious defects in radio communications is the lack of effort to keep messages brief. Before an operator starts to transmit any radio message, he/she is expected to decide what he/she is going to say.

When he/she is required to transmit involved instructions, he/she must write the message before he/she attempts to send it. He/she will then have a chance to review it for clarity and brevity.

Each Maintenance Radio Operator is expected to keep readily available for use the list of radio call numbers of all units.

18.07.03.03 COURTESY

Observance of a few simple rules of common courtesy will contribute to the effectiveness of a radio communication system. When you are operating a radio you must remember the following rules:

- 1) Do not interrupt when someone else is transmitting.
- 2) Do not interrupt while a series of transmissions are in progress.
- 3) Use your radio only for necessary communication directly concerned with your work.
- 4) Do not use your radio to reprimand a subordinate because your message is being monitored by many sets.
- 5) Do not use obscene, abusive, or profane language in a transmission. An operator using obscene or profane language when transmitting is liable to loss of license and fine by the FCC.

- 6) **Discontinue transmission immediately when you are requested to do so by another operator, particularly if an emergency is indicated.**

Abiding by these rules of courtesy at all times will eliminate confusion and unnecessary delay in transmitting and receiving.

18.08 DIVISION POLICY ON RENTAL OF EQUIPMENT OWNED BY THE DIVISION OF HIGHWAYS

Equipment owned by the Division may under certain circumstances be rented to municipalities, other political subdivisions of the State, other State Divisions, and public and quasi-public organizations. The Division's policy and procedures governing the rental of Division owned equipment is discussed in detail in Chapter 1 Introduction/Policies, Subsection 01.02.14 Rental of Equipment Owned by the Division of Highways.

FOOTNOTE

As more fully set forth in Section 01.01.01, nothing in this manual is intended to create a legal or moral duty and has been created for internal guidance only.