

Vehicle Maintenance Facility Standard Operating Procedure

Responsibility: Vehicle Maintenance Foreman, McMurdo Operations

The Vehicle Maintenance Facility (VMF) is responsible for the repair and maintenance of all motorized vehicles with the exception of aircraft and motor toboggans (snowmobiles).

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Hours of Operation

1. Day Shift: 7:30 am to 5:30 PM.
2. Night Shift (summer): 7:30 PM to 5:30 AM.
3. Lunch is one hour, from 11:30 to 12:30 or 12:30 to 1:30.
4. Break time is from 10:00 to 10:15 and from 3:00 to 3:15.

Customer Service-Front Office Desk

Receptionist Tasks

1. Answer phones and take messages.
2. Answer I-net and dispatch accordingly.
3. Help customers as needed at front window.
4. Maintain tracking/status board.

Taking Work Order Information

1. Ask for USN# and equipment type, i.e., Truck, van, bulldozer, etc., The requester needs to give the full USN number.
2. Job code - if the requesting party is unsure of his/her job code, it is suggested that they ask their Supervisor/Foreman.
3. Get first and last name of requester, telephone number, and first and last name of POC, if different than the requester.

VMF Work Order

Work Order Functions

1. To record the customer's work request or complaint. Get as much information as possible about the symptoms. The Mechanic can now refer to the "symptoms" portion of the work order to assist in trouble shooting.
2. The "Service Writer's notes" should contain the findings of the Service Writer as the vehicle was inspected with the customer.
3. To record the work performed, the parts used, and the results. Work not performed due to lack of parts or tools and documentation so they will be ordered.
4. To record the work and findings of the first mechanic so the next mechanic can start at the correct place.
5. To record defects that will need work in the future, but were not corrected.
6. To record the test, often a test drive, that demonstrates that the repair work has been successful. To record any defects not previously noted.
7. To inform the customer of work performed, work needed, and safety deficiencies found.
8. To record the customer's acknowledgment of safety deficiencies, thereby protecting the service facility.

Work Order Suggestions

1. Write the hours and miles on every work order.
2. Write your name down, legibly. If it's common, use both names.
3. Note any vehicle abuse, regardless of ownership.
4. If you see early signs of a "future" problem, write it down and "cover your ass."

Work Order Procedure

Work orders will be required for any job over 1 1/2 hour.

1. The completed work order (WO) will consist of 4 pieces of information stapled together, but not in this order.
 - Heavy Shop Work Order: This is the paper that initiates the work.
 - Work Order: This is generated by MAPCON and may or may not be generated in time for the work to start.
 - Parts List: The official list of parts used on the job.
 - Notes: A collection of information from the mechanic(s), service writer and lead mechanic. Mechanics will provide a complete report of work done.
2. The work request will contain the following information:
 - Name, phone, department and any information needed to contact the originator.
 - Symptoms as determined from driver or dispatcher.
 - A proper WBS number, equipment number, and hour meter reading when applicable.
3. The heavy shop work order will have the Service Writer's directions to the mechanics. This is the result of inspecting the vehicle, possibly with the operator or from the best information available.
4. The mechanic may use the back of the work order to record the work performed and the parts used. To reduce greasy prints, scratch paper can be used for notes and the information transferred later.
5. Describe the work not performed due to lack of parts, tools or technical information. List the parts needed and make a copy to staple to the work order and the original goes to the Material Control Specialist for ordering.

Work Orders Generated by MAPCON

The WO may be generated anytime in the repair process. The front can be used to check off tasks completed, parts used or any other comments. If the job is completed before the MAPCON WO is generated, then the CTTO can enter the parts and the printout will show the parts used.

Test Drive

1. The test drive or other test procedure will demonstrate that the vehicle performs adequately. Note any defects found. These may be related to the original problem or noticed for the first time. Note steps taken.
2. The mechanic may need to demonstrate to the operator a technique or procedure to solve the problem.

Preventative Maintenance (PM)

1. Fluid levels should be checked and noted before the fluid is drained. Levels, unacceptably low, require supervisor notification.
2. Look for defects that need attention which may not be noted on the WO.
3. See the *VMF Preventive Maintenance Standard Operating Procedure* for further details.

Service Calls

Service calls will be recorded by MAPCON work order. The service call mechanic can keep any needed notes and turn them in to the service writer along with odometer and hour meter readings.

General Assistants

Daily Duties

1. Empty trash cans.
2. Keep new Floor-Dry barrels full.
3. Keep rags stocked.
4. Keep oil and antifreeze containers in operator's room filled.

5. Keep operator's room clean.
6. Keep storage tanks filled in lube room.
7. Clean up around shop (floors, cords, hoses, jackstands, oilpans).
8. Remove water on floor.
9. Check waste oil barrels and glycol barrels.
10. Keep oil separator building clean.
11. Charge up batteries.
12. Clean battery room.
13. Change out full Floor-Dry and rag sealable drums.
14. Check laundry and coveralls.
15. Clean above battery room.
16. Assist mechanics and others.
17. Help in tool room.

Batteries

Battery Filling and Maintenance Procedure

1. The batteries which are used in vehicles are shipped down dry. This means they is no electrolyte in them. Before usage, these batteries should be filled with straight electrolyte, then put on a charger for a slow charge.
2. When a vehicle is brought into the shop for maintenance and the battery is found to be low on fluid (due to evaporation), it should be filled with regular tap water, then charged. This will give the battery a longer life and stop it from freezing.

Battery Test Procedure - Load Test

1. Battery must be fully charged.
2. Load test with the battery in or out of the vehicle. Load the battery to 1/2 the "cold cranking amps" rating and hold it for 15 seconds. At that current the voltage should drop no lower than to 9.5 volts. Record that voltage and current.
3. If that test is failed, remove the battery and charge it fully. You may want to replace the battery under test with a known good one to get the vehicle on the road.
4. Test the charging system, recording the charge voltage and current. Repair as necessary.
5. Load test a second time. Failing this test, it's to be marked for retro. Passing this test, mark it for reuse.
6. Record the results and any actions on the work order.

Cold Cranking Amps

GROUP	CC AMPS	1/2 CC AMPS
27	355	178
6TN	400	200
4D	700	350
8D	750	375

Tires

Vehicle Tire Inflation

1. Delta Tires - Approximate air pressure should be between 10 and 15 PSI. The main concern is tire height, measured from the bottom of the rim to the ground. All tires should be within 1/4 inch of each other. The best way to measure is to

place a flat rod between the planetary and the wheel so that it sticks out past the tire. Take the measurement from the rod to the ground. Make sure the vehicle is parked on flat, even ground to get an accurate measurement.

2. Flotation Tires (Dick Cepeks) - These tires are primarily used on shuttle vans, vehicles used on the ice road and vehicles used on the Willy Field snow road. These tires should be run at a maximum of 18 PSI and a minimum of 12 PSI (standards may change depending on road conditions).
3. Foam Filled Tires - Foam filled tires require no maintenance. Vehicles with foam filled tires are: most Sprytes, Nodwells, Hydromacs and 1500-1800 LMCs.
4. All Other Tires - Tires other than flotation, Delta and foam filled should be filled to manufacturer specifications.

Tool Room Procedures

For further information, refer to the *VMF Tool Room Standard Operating Procedure*.

1. A mechanic sees the tool room attendant for a tool box issue and tool assortment.
2. The mechanic and tool room attendant do the inventory on the basic tool assortment located in the tool box. The tool box inventory list is then signed by the mechanic, agreeing that all tools are present.
3. Additional tools will be, at any time, assigned to the tool box upon request of the mechanic. (Depending on inventory). These are added to the tool box inventory and signed for by the mechanic.
4. The toolboxes and the tools, that are issued to the technicians are to remain unmodified. This means no permanent changes to the interior or the exterior of the toolboxes (holes, stickers, paint, etc.) also, no permanent changes to the original design of the hand tools, test equipment or shop equipment. When and if the technician feels a modification is needed he/she must first clear the modifications with the tool room attendant.
5. Any specialty tools or tools in short supply are signed out on the daily log sheet and returned when use of the tool is completed.

6. When the mechanic is to be deployed off the ice, the tool room attendant and mechanic will inventory the tool box against the inventory sheet. All tools are expected to be returned, broken or otherwise. The tool room attendant will note any intentional changes or damage to the issued tools.
7. When all tools are accounted for, the mechanic's departure slip is signed that all tools are returned and wished happy journeys!

Miscellaneous

Cold Start Procedure

1. Preheat engine and vehicle system's oil.
2. On diesel engines also heat the head and intake.
3. Check the precleaner and/or the air cleaner to make sure it is clear of snow.
4. Check the engine compartment, fan and belts to make sure it is clear of snow.
5. Check the batteries to be sure they haven't cracked from freezing.

110 Volt Heaters

1. All vehicles must be equipped with heaters. The heaters are 110 volt type and are plugged into a 4 outlet box, usually located in the engine compartment. The various types of heaters are:
 - Battery. Wrap around blanket or pad type.
 - Engine oil pan.
 - Glycol, immersion type in the block or external type.
 - Transmission
 - Hydraulic oil sump.

Winterization of Vehicles

1. Check and top off all fluids on vehicles not already parked for winter.
2. Upon parking vehicles, disconnect all battery cables and wrap the batteries in plastic.
3. Tape the intake and exhaust system, to keep the dirt and snow out.
4. Put tape around the door seams and windows to keep the dirt and snow out.
5. All vehicles that have tires should be blocked under the axles. This will remove pressure from the tire/wheel. If the tire goes flat, this will make it easy to reinflate later.