

Operation of “Fule Mule” Fuel Delivery Truck

OP-M-927

Revision Number 0

Approved by 

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*Active Divisions/Departments
Fuels*

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Purpose

This procedure describes the correct operations of the "Fule Mule" fuel delivery truck.

Scope/Applicability

This procedure applies to any Fuels Department personnel or other people who may operate this vehicle. This procedure should be followed each time the Fule Mule is used.

Terms and Definitions

Fule Mule

The Fule Mule is a JP-5 fuel delivery truck located at McMurdo Station. It is a 1991, 2.5 ton, 4x4 truck with a 2,000 gallon fuel dispensing tank. The Mapcon equipment number for the Fule Mule is TH01305. This vehicle is also referred to as "the Mule".

Fule Mule Mobile Delivery Sheet

The Fule Mule Mobile Delivery Sheet is a two-fold document. It is a schedule of buildings to be fueled by the Fule Mule each day. This form also contains an area for the Fuels Operators to record the number of gallons dispensed to each tank. There are versions of this document for mobile deliveries on Monday, Wednesday, and Friday—the days the Fule Mule is currently scheduled to be operated. The versions of the Fule Mule Mobile Delivery Sheet change often, as buildings, fish huts, equipment, etc. are added or deleted from the list of items to be fueled. As a result of this document changing on a regular basis, it is not assigned a form number.

Responsibilities

Fuels Operator

The Fuels Operators hold primary responsibility for mobile fuel deliveries to buildings at McMurdo Station.

Fuels Coordinator

The Fuels Coordinator is responsible for maintaining the Fule Mule Mobile Delivery Sheet, listing the current buildings to be fueled. This person also tracks, in an Excel spreadsheet, details of all gallons dispensed from the Fule Mule.

Discussion

Safety

Always wear appropriate Personal Protective Equipment when operating the Fule Mule. Eye protection is essential. When filling a tank, always stand above the opening. Never hold the nozzle above your head.

Check All Fluids

Prior to starting the Mule, check all fluids: engine oil, glycol, transmission and power steering oils. Add fluids according to need. Use 0-W30 motor oil for the engine. The dipstick is under the hood on the passenger side. Check the glycol by looking at the plastic radiator reservoir. The glycol level should be above the "add" mark and below the "full" mark. If necessary, add the appropriate amount. Transmission fluid (ATF) is checked before starting the Mule to verify that there is fluid in the transmission. ATF is checked again once the engine is warm. The dipstick is under the hood on the passenger side. On top of the motor is the power steering canister. Check this cold and fill with "cherry juice" (power steering fluid) if necessary. The vehicle should warm up with the hood open. This allows for checking the proper operation of the belts and hoses, as well as checking the ATF when the vehicle is warm. Once everything has been checked and verified as correct, close and secure the hood. Complete the daily Vehicle Checklist. In addition, complete the Fule Mule Daily Checklist, which covers items such as sumping the filter, checking the condition of the hose, and (VERY IMPORTANT) verifying that the actuator hammer on the parking brake is releasing on its own accord.

Starting

Sump about one cup of fuel (8 ounces) from the petcock on the base of the VF61 filter. Unplug the power cord. With the transmission in neutral and without pressing the accelerator

at all, start the engine. Idle for 30 minutes in cold weather; idle less time proportional to higher temperatures.

While Warming Engine

DO NOT GO UNDER THE TRUCK WHILE THE VEHICLE IS RUNNING. Check the tires for leaks or visual damage. Check the air pressure in the tires. All should be inflated to 100 pounds. Check the wheels for cracks, missing lug nuts, etc. Look at the inside of the tires for oil. The presence of oil running down the tires indicates a bad oil seal. Check the leaf springs for broken leaves, U-bolts or shackles. Look at air lines for punctures, cracks, leaks or damage. Examine the pump for loose connections or fittings. Check and secure the top hatch of the fuel tank.

While the Mule is warming up, start the ChillMat at the Mule pump house to warm up the Flo-Max pump. At this point, sump the pump house Velcon filter (eight ounces). Check the pump engine for proper oil and gasoline levels.

Driving

Disengage the brakes by pushing in the yellow brake button located to the right of the steering wheel. Engage the transmission into a drive gear. Drive below 2200 rpm. When stopped, put the transmission in neutral and engage the parking brake. The transmission must be in neutral for the pump to operate. Chock the wheel.

Filling

The Fule Mule can be filled by gravity or pumped with a Flo-Max pump from bulk tank D-2. Park the truck over the containment. Chock the wheel. In the box with the fill hose, there is another chock. Place this chock on the front side of the rear passenger wheel. Connect the fill hose to the Fule Mule, wire the Kamlok connection, and open the Poppit valve. Note that when the cam cap over the Poppit valve is removed, the parking brake is automatically locked on. To make certain that this safety system is engaged, verify that the parking brake actuator hammer has released. You should also hear the air brakes engage. Open tank D-2. Start the pump. Monitor the Mule's tank level from the top hatch. As the fuel approaches six inches from the shoulder of the Mule's tank, shut off the pump. Close the pump house valves. Close tank D-2. Close the Poppit valve and **DISCONNECT THE HOSE FROM THE FULE MULE**. Replace the fill port cover (cam cap), being careful to line the cover up correctly so the parking brake actuator hammer depresses. You should hear the air brakes release. Failure to release the parking brake lock will prevent the Mule from moving. Remove the chock from the rear passenger tire and place it in the box with the fill hose. **DO NOT** attempt to "gun" or

accelerate the Mule if it gives resistance. **GET OUT AND INVESTIGATE.** THE FILLING HOSE MAY STILL BE ATTACHED, or the cam cap was not replaced to its proper position. Complete any forgotten steps.

Fueling

At the first fueling stop, push the white rocker switch in the lower left of the Mule cab. This switch must be on for all fuelings. If this switch is not on, the Power Take Off (PTO) switch on the front of the Mule will not engage the pump. Leave this rocker switch on during all of the day's fuelings. Check for signs of leaks around the building tank and at the piping connections. Dip the tank to see if it needs fuel. Place the nozzle in the tank. Do not engage the nozzle at this time. To activate the pump, engage the PTO switch on the front of the Fule Mule. Manually engage the nozzle for fuel flow. Fill the tank to the specified safe fill level that is written on the top of each tank. When the tank is filled to the desired level, disengage the nozzle. Ensure the nozzle is completely disengaged after each fueling. Turn off the pump by disengaging the PTO switch on the front of the Mule. Log the gallons delivered on the Fule Mule Mobile Delivery Sheet and reset the meter to zero.

Shutting Down

Make certain there is 1/3 of a load left on the Mule for any emergency fuelings that might occur during off hours. Turn off the white rocker switch in the lower left of the Mule cab. Follow all operating procedures for parking the vehicle, including chocking the wheel. Place a drip pan under the radiator area of the truck, as the radiator occasionally leaks. Turn off radio. Turn off the fuel control valve on the bumper.

Reporting

Log every gallon issued on the Fule Mule Mobile Delivery Sheet. Turn this form into the Fuels Coordinator at the end of the delivery shift.

References

Fule Mule Mobile Delivery Sheets – available on McMurdo's Fuels' drive – J:/ Fuels/Fueling Schedules/Fule Mule.

Fule Mule Daily Checklist – available on McMurdo's Fuels' drive – J:/Fuels/Vehicles.

Records

Record Identification, Format, & Owner	Active Location Storage, Protection, & Retrieval	Facility Storage, Protection & Retrieval	Retention Time (Active and/or Facilities Storage)	Ultimate Disposition
<p>Fule Mule Mobile Delivery Sheet. Hard copy. Owner: Filled out by Fuels Operator delivering fuel. Data entry and storage are the responsibility of the Fuels Coordinator.</p>	<p>Fule Mule Mobile Delivery Sheets are located in the Fuels drive at J:/Fuels/Fueling Schedules/Fule Mule. After deliveries are completed, hard copies of the Fule Mule Mobile Delivery Sheet are filed in the Fuels office. The information from the hard copy is entered into an Excel spreadsheet, where it is stored electronically. The spreadsheet is located on the Fuels drive at J:/Fuels/Coordinator/(season dates)/Mobile Delivery. The Excel information is available only to people with viewing authorization the Fuels drive.</p>		<p>Hard copies of the Fule Mule Mobile Delivery Sheets are retained for one calendar year. The Excel spreadsheets are kept for at least five years. Old years' spreadsheets are stored on CDs in the Fuels office.</p>	<p>Hard copies of the Fule Mule Mobile Delivery Sheets are disposed of in white paper recycling bins.</p>
<p>Fule Mule Daily Checklist.</p>	<p>Blank Fule Mule Daily Checklists are</p>		<p>Hard copies of the Fule Mule Daily</p>	<p>Hard copies of the Fule</p>

<p>Hard copy. Owner: Filled out by Fuels Operator when the Mule is started each day. Storage of hard copies is the responsibility of the Fuels Coordinator.</p>	<p>located in the Fuels drive at J:/Fuels/Vehicles. At the end of each month, the completed hard copies are filed in the Fuels office.</p>		<p>Checklist are retained for one calendar year.</p>	<p>Mule Daily Checklist are disposed of in white paper recycling bins.</p>
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FULE MULE DAILY CHECKLIST

Month _____

Year _____

DATE	Sump Filter	Check Hose Condition	Verify Release of Parking Brake Actuator Hammer	Notes	Completed By
01					
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