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3-67

FUEL CAPACITY:

Gasoline and Diesel	14 gallons
LP-Gas (80% Full)	22 gallons

POWER (ESTIMATED):

	Gasoline			LP-Gas		Diesel
Engine B.H.P.	52			54		51
PTO H.P.	45			46		44
Drawbar H.P.	40			41		39
Speeds with standard transmission:						
	1st	2nd	3rd	4th	5th	Rev.
	2.55	3.90	5.20	5.95	14.26	3.90
With Ampli-Torc:						
	1st	2nd	3rd	4th	5th	Rev.
High Range	2.55	3.90	5.20	5.95	14.20	3.40
Low Range	1.34	2.04	2.73	3.12	7.38	2.04
With Mechanical Reverse Shuttle:						
	1st	2nd	3rd	4th	5th	
Forward	2.63	4.03	5.48	6.14	14.57	
Reverse	3.29	5.03	6.75	7.67	18.22	

TRANSMISSION OIL:

Capacity (with reverse shuttle or Ampli-Torc)	10 gallons
Capacity (without reverse shuttle or Ampli-Torc)	8 gallons
Grade	SAE 80 EP Gear Lubricant (Meeting Mil. Spec. 2105B)

FINAL DRIVE:

Axles	Live, tapered roller bearing mounted
Bull gear	One piece forged steel bull gears mounted on tapered involute splined axles

CLUTCH (ENGINE): 11" single-plate, dry disc, spring-loaded type foot operated

DIMENSIONS TO NEAREST INCH (WITH 14.9 x 28 TIRES):

	"U" DUAL	"E" ADJUSTABLE	"N" SINGLE
Wheel base	80"	88"	80"
Over-all length	127"	132"	127"
Over-all width (Min.) -			
Rear axle shafts	70"	70"	70"
Over-all height -			
To steering wheel	71"	71"	71"
To muffler	83"	83"	83"
Rear wheel tread	56-84"	56-84"	56-84"
Front wheel tread	-	50-78"	-
Clearance -			
Under rear axle	19-1/2"	19-1/2"	19-1/2"
Under front axle (standard)	-	20"	-
Drawbar height	12 & 17"	12 & 17"	11 & 16"
Turning radius	114"	136"	114"

WEIGHT (WITH 14.9 x 28 TIRES AND NO EXTRA EQUIPMENT):

Gasoline	4155	4260	4155
Diesel	4155	4260	4155
LP-Gas	4285	4420	4285

FILLING THE TRACTOR FUEL TANK

Before filling the tractor fuel tank, be sure that you thoroughly understand the use and function of the control valves and gages, on both the storage tank and the tractor fuel tank.



NOTE: IF ANY LP-GAS ESCAPES FROM THE STORAGE TANK OR TRACTOR FUEL SYSTEM, IT WILL TEND TO SETTLE IN THE LOW, QUIET SPOTS SINCE BOTH PROPANE AND BUTANE ARE HEAVIER THAN AIR. FOR THIS REASON, IT IS VERY IMPORTANT TO PREVENT LEAKS, AND TO THOROUGHLY VENTILATE LOW SPOTS IF ESCAPING GAS IS DETECTED, BEFORE STARTING THE TRACTOR ENGINE OR PRODUCING SPARKS OR FLAMES OF ANY KIND.

Since a small amount of vapor and liquid is lost when attaching and removing hoses during the refueling operation, we recommend placing the tractor out-of-doors and well away from buildings, when refueling.

It is a good practice to switch to vapor approximately 30 minutes before stopping the tractor engine for refueling. This helps reduce the pressure in the tractor fuel tank and will facilitate filling the tank.

When filling the tractor fuel tank, follow the steps outlined below:

-Close the valves marked "Liquid and Vapor" on the tractor fuel tank.



Fig. 19

1. Vapor valve
2. Liquid valve

-Connect the vapor-return line from the storage tank to the vapor-return valve on the tractor tank.

IMPORTANT: ALWAYS CONNECT THE VAPOR-RETURN LINE FIRST AS THIS LINE PERMITS VAPOR TO FLOW BETWEEN THE TANKS, THUS EQUALIZING THE PRESSURE.

-Connect the liquid-filler line from the storage tank to the liquid-filler valve on the tractor fuel tank.

-Start transferring fuel to the tractor fuel tank. When transferring fuel, momentarily open the 80% stop-fill valve and at frequent intervals. Stop transferring fuel as soon as liquid fuel (not vapor) comes out of the 80% stop-fill valve. DO NOT LEAVE THE 80% STOP-FILL VALVE OPEN ALL THE TIME WHEN REFUELING. THIS IS A HAZARDOUS PRACTICE.

-Close the 80% stop-fill valve, and disconnect the liquid-filler line and the vapor-return line. Reinstall the covers in the valves on the tractor tank.

IMPORTANT: THE FUEL TANK MUST NOT BE FILLED WITH LIQUID FUEL ABOVE THE 80% FULL LEVEL. THE REMAINDER OF THE TANK SPACE HOLDS THE VAPOR GIVEN OFF BY THE FUEL.

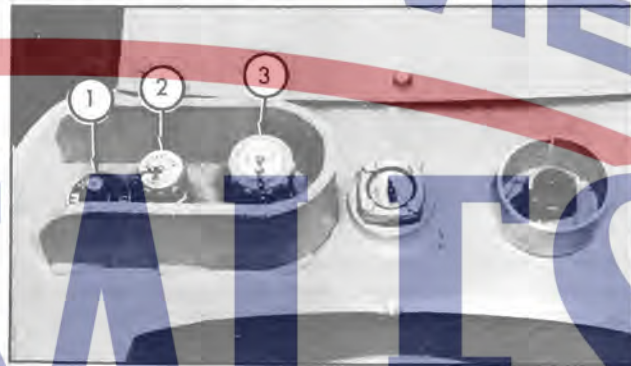


Fig. 20

1. 80% stop-fill valve
2. Vapor return valve
3. Liquid fuel valve



CAUTION: DO NOT SMOKE OR LIGHT MATCHES WHILE FILLING THE TRACTOR FUEL TANK. NEVER HAVE THE TRACTOR ENGINE RUNNING OR THE TRACTOR IN A CLOSED BUILDING WHILE FILLING THE TRACTOR FUEL TANK. ALSO, KEEP EXPOSED PARTS OF THE BODY AWAY FROM THE LP-GAS, AS LP-GAS IS HIGHLY REFRIGERANT.

OIL LEVELS

Check the lubricants in all compartments, reservoirs, and the air cleaner cup to be sure they are up to the proper levels. See "Lubrication".

PRE-STARTING CHECKS

The operator should form the habit of checking the tractor before each day's operation. This check can help prevent costly breakdowns.

CYLINDERS

Before starting the engine for the first time after a period of prolonged storage, remove the spark plugs or

1000 RPM shaft. Two holes in the front end of the drawbar allow for adjustment.

To change the height of the drawbar, disengage the front end, and turn the drawbar over. Place the wear plate on the bottom of the drawbar.

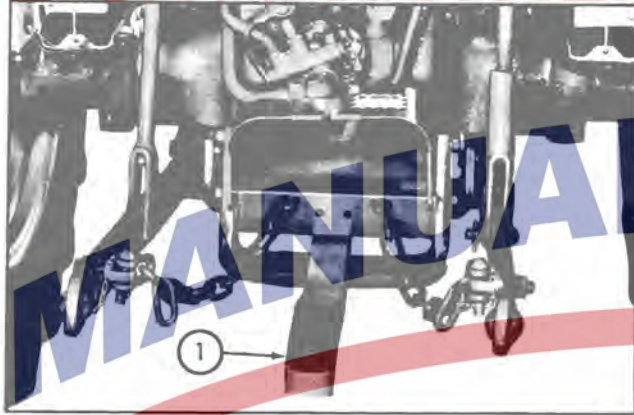
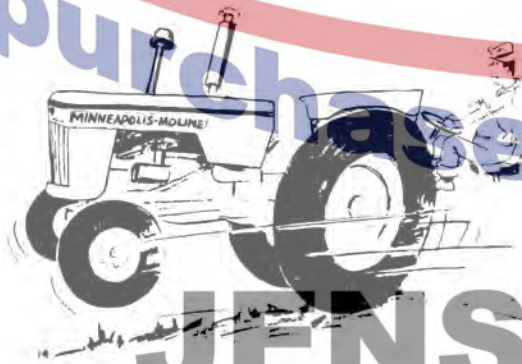


Fig. 46

1. Turn drawbar over to change height



CAUTION: DO NOT ATTACH TOWED MACHINES TO ANY PART OF THE TRACTOR OTHER THAN THE DRAWBAR. DO NOT RIDE ON THE DRAWBAR OF THE TRACTOR OR DRAWN EQUIPMENT. WHEN ATTACHING A HEAVY LOAD TO THE DRAWBAR, ENGAGE THE ENGINE CLUTCH VERY SLOWLY.



A cross-type drawbar is also available for use with a 3-point-hitch.

REAR POWER TAKE-OFF

The tractor can be equipped with either a 540 RPM or a 1000 RPM power take-off. The 540 RPM shaft is a standard 1-3/8 inch, 6B SAE spline, and turns at 540 RPM at an engine speed of 1525 RPM. The 1000 RPM shaft is a 1 3/8-21T SAE spline, and turns at 1000 RPM at an engine speed of 1750 RPM. The control lever is the same lever that controls the belt pulley. Pushing forward on the lever engages the drive.

It is extremely important that safety shields be kept in place at all times. Keep the small, tubular shield in place over the PTO shaft at all times except when using PTO-driven, pull-behind equipment. When using PTO-driven, pull-behind equipment, install the large shield.

Safety shields are for your protection -- replace them immediately if they become lost or damaged.



WARNING: DO NOT OPERATE THE 540 RPM POWER TAKE-OFF WITH AN ENGINE SPEED IN EXCESS OF 1525 RPM; DO NOT OPERATE THE 1000 RPM POWER TAKE-OFF WITH AN ENGINE SPEED IN EXCESS OF 1750 RPM.

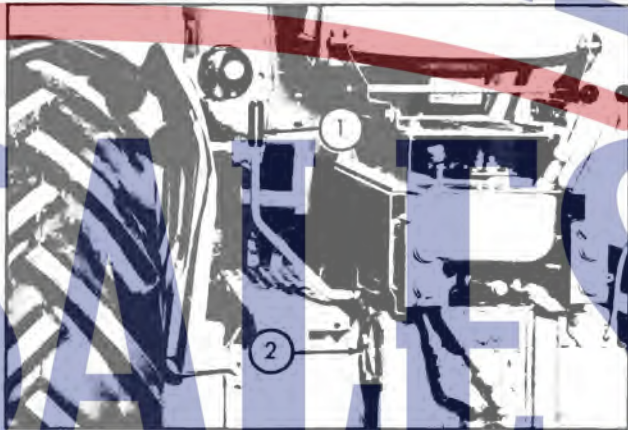


Fig. 47

1. Control lever
2. Belt pulley location



IMPORTANT: FORM THE HABIT OF ALWAYS DISENGAGING THE PTO BEFORE DISMOUNTING FROM THE TRACTOR.

When using PTO-driven, pull-behind implements, be sure to pin the drawbar so it is in line with the center of the tractor.

BELT PULLEY

An independently clutched, engine-driven belt pulley attachment is available. The pulley is 8-3/8 inches in diameter and has a 6-1/2 inch face. When the engine is running at 1550 rpm, the pulley turns at 1470 rpm to provide a belt speed of 3220 feet per minute. The same lever that controls the operation of the rear power take-off also controls the operation of the belt pulley. Pulling the lever back disengages the drive for the belt pulley. It is not necessary to engage the engine clutch when engaging or disengaging the belt pulley drive.

After completing any belt work with the tractor, remove the belt pulley attachment.

nozzle seating surface at the inner end. Carbon deposits at this point can result in improper seating of the nozzle, which will result in combustion blow-by, cocking of the nozzle (and possibly binding the valve), and a poor transfer of heat from the nozzle to the cylinder head. Carve or turn a piece of hard wood to fit the seat and scrape off the carbon. (Use a nozzle as a guide when making this scraper.) Turn the engine over a few times with the starting motor to blow out any remaining particles of carbon.



DO NOT STAND IN FRONT OF THE NOZZLE RECESS OR THE FUEL SUPPLY LINES WHEN BLOWING OUT THE CARBON WITH ENGINE COMPRESSION.

Always use a new copper washer when reinstalling the nozzle. Make certain the washer does not fall off the nozzle when reinstalling. A small dab of grease will help hold the washer in place. Place a light coating of heavy oil or light grease on the shank of the nozzle holder to facilitate inserting it through the "O" ring in the nozzle recess. Insert the nozzle slowly, being careful to avoid striking the tip against any hard surface. A gentle rotating motion will help ease the gap between the nozzle cap nut and the nozzle holder past the "O" ring.

Install the lock washers and nuts. Tighten them down gradually, alternating from one to the other, to avoid cocking the nozzle and possibly binding the valve. Torque the nuts to a reading of 14 to 16 ft.-lbs. This torque is very important, because too little may result in a loss of compression and power; too much may distort the nozzle and bind the valve.

Remove the plastic caps from the fuel lines and turn the engine over slowly a few times to flush out the lines and to remove any air. Connect the fuel and return lines to the holder assembly.

ENERGY CELLS

Since the energy cell has no moving parts, wear is not a factor in defective cells. The usual cause of cell failure are carbon fouling, burning or erosion, and improper installation. (Carbon fouling, burning, and erosion are usually the result of a defective nozzle.) These conditions will result in loss of power through improper control of combustion and loss of compression, heavy exhaust smoke, and engine knocking and misfiring.

After servicing a nozzle that was defective always remove and check the energy cell opposite the nozzle. Before removing the energy cell, thoroughly clean the area around the cap plug with cleaning fluid. Remove the cap plug, using a 1-1/8 inch socket. The holder cap fits loosely in the recess, and usually it is possible to work out the holder cap with a screw driver or similar tool. Be very careful to avoid damaging the threads in the cylinder head. Pull the cell cap from the chamber with a pair of thin-nosed pliers, again being careful to avoid

damaging the threads. Use the energy cell puller (supplied in tool box) when removing the cell. Screw the puller into the energy cell body. Insert a bar, or screw driver through the hole in the puller; twist the cell enough to loosen it, and carefully pull the cell from the head.



Fig. 69

1. Bar
2. Puller

Sometimes it may not be possible to screw the puller into the cell far enough to pull effectively and remove the cell. (This is usually due to badly burned or eroded threads in the cell.) In this case, insert a soft rod (or a welding or drill rod with a brass ball welded to the end) through the nozzle hole opposite the cell, and drive out the cell from the nozzle side. Always install new cells if the old ones appear badly burned.

IMPORTANT: THE CELL BODY AND CAP ARE LAP-FITTED TO FORM A MATCHED ASSEMBLY, IF REMOVING MORE THAN ONE ENERGY CELL AT A TIME, BE SURE TO TAG OR PLAINLY MARK THE MATING PARTS. REASSEMBLE THESE MATED PARTS IN THEIR ORIGINAL ORDER AND IN THE SAME ENGINE CYLINDER.



Fig. 70

1. Cap plug
2. Holder cap
3. Cell cap
4. Cell body
5. Lapped surfaces

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