

Minneapolis Moline Service, Part, & Operator's Manual

V

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Service, Part, & Operator's Manual

MM-SOP-V

OWNER'S GUIDE

MM
MODEL
"V"

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TRACTOR

MANUAL PREVIEW

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DON'T TAKE UNNECESSARY RISKS—BUY GENUINE MM REPLACEMENT PARTS.

All are made from the original patterns, insure perfect fit and maintain MM QUALITY.

SPECIFICATIONS STANDARD MODEL "V"

Number of Cylinders	4	Fuel Tank (Capacity)	7 Gal.
Bore and Stroke	2½" x 3"	Crankcase (Capacity)	3 Qts.
R. P. M. (Governed) {		Number of Wheels	4
Field	1800	Tire Size Front	4.00 x 15
Belt	1800	Tire Size Rear	8-24
Idling Speed	500 to 600 R.P.M.	Wheel Base	74"
Main Bearings	3	Overall Length	105"
Camshaft Bearings	4	Height to top of Radiator	51½"
Ignition	Battery	Overall Height	61¼"
Starting	Electric & Manual	Overall Width	51"
Clutch	8" Single Plate	Tread	40"
Fan Diameter	13"	Cultivating Clearance	23"
Oil Filter	Fram (Replaceable Element)	Shipping Wt. (Approx.)	1612 lbs.
Air Cleaner	Vortex Oil Bath	Drawbar Height	11½", 13½", 15½"
Carburetor	⅝" Tillotson YC-6A	Drawbar Lateral Movement	24"
Governor	Fly Ball (Throttling)	Transmission & Differential Case	
Fuel	Gasoline	(CAP.)	5 Pts. (3 Qts. w/P.T.O.)
Steering	Cam & Lever	Final Drive (Capacity)	3 Pts. (each)
Cooling System (Type)	Thermo-Syphon	Minimum Turning Radius	9'
Cooling System (Capacity)	6 Qts.		

TRACTOR SPEED AT GOVERNED ENGINE SPEED

	9-24 tire		8-24 tire
First Gear	2.85	First Gear	2.74
Second Gear	3.75	Second Gear	3.60
Third Gear	7.60	Third Gear	7.33
Reverse	3.35	Reverse	3.22

EXTRA EQUIPMENT SPECIFICATIONS

Belt Pulley Diameter	6"	Operating Speed P.T.O. (R.P.M.)	540
Width of Face	5½"	Power Take-off Connection {	
Pulley Speed (R.P.M.)	1990	Size	1½"
Belt Speed (F.P.M.)	3100	Type	6 Spline
		Wheel Weights	150 Lbs. (Each)

3. BRAKES

1. This tractor is equipped with foot brakes, which are adjusted at the factory and should need no further adjustment for a considerable period of time. *Always be conservative in the use of the brakes.* To make a short turn, apply brake on side toward which turn is to be made. Always apply brakes gently but firmly.
2. **ADJUSTMENT OF FOOT BRAKES:** After the brakes have been used, the linings will have become set and the high spots worn down then adjustment may be necessary. Remove top cover plate and turn adjusting nut until shoes are tight on the drum; then back nut off 1-2/3 turns. Replace top cover plate. The guide piece should be adjusted so that it is just touching the bolt when the cover is pulled down, tight. The brakes and link should be adjusted so that the travel of both pedals is the same. This is essential for operating both brakes simultaneously.
3. **REMOVAL:** Remove both top and bottom covers. Take out brake return springs and remove adjusting nut and bolt on top. Then remove headed pin through hook bolt, and locking cam. Next remove nut at rear of bottom band; bands can now be removed.
4. Brakes may be locked for belt work by use of the brake locking cam.

4. DRAWBAR AND HITCH

1. Hitch all drawn implements to the drawbar. Drawbar may be locked in position or allowed to swing as needed. Keep all drawbar bolts tight.
2. Adjust vertical position of drawbar to provide best traction and steering. Tools hitched too high cause difficult steering; tools hitched too low cause slippage of drive wheels.
3. For discing or other work, when it is necessary to turn under a load, allow drawbar to swing. For plowing or for work where implement must follow close behind the tractor, lock drawbar by putting bolts in drawbar support.
4. Always hitch to drawbar. Never use a chain, rope or cable to hitch elsewhere.

SAFETY FIRST

When using equipment with power drives, a shield should always be used over front universal joint to protect the operator.

5. COOLING SYSTEM

1. Capacity of cooling system is 6 qts. Always use clean water, free from dirt or other foreign matter, which might clog the cooling system. Use rain water in the system if possible, to insure against a clogged radiator and formation of scale in the engine block, which will cause overheating. Drain, flush and refill the system several times each season to remove any dirt or loose scale that has collected.
2. If engine overheats, check water level in radiator and adjustment of fan belt. Keep fins free of dirt and trash.
3. Use a radiator cleaner, available at your dealer or an automotive supply store to remove loose scale or sediment.
4. Do not add cold water to an overheated engine. Serious damage may result to cylinder head or cylinder block.
5. Anti-freeze solutions may be used satisfactorily in this cooling system. When operating tractor in cold weather, cover part of radiator to keep it warm. Always drain water in freezing weather if you do not use an anti-freeze solution. Approximately 2 qts. of the permanent type anti-freeze will give satisfactory protection to 0°. It is advisable to mix this solution before pouring into radiator.
6. Keep all hose connections tight.

6. ENGINE LUBRICATION

1. Capacity of crankcase is 3 qts. Check oil level at the beginning of each day's operation and add oil if necessary.
2. Crankcase oil level is indicated by the bayonet gauge. Oil level should be maintained at 4/4 mark. When checking, tractor should be level and engine stopped. Change oil every 50 to 60 working hours and in extreme dusty or hot conditions every 30 hours.
3. **To Drain:** Remove plug in bottom of oil pan and drain while oil is hot. Replace plug and fill crankcase to 4/4 mark on gauge. Do not overfill. The proper weight to use is as follows:

ABOVE 32° FAHRENHEIT SAE 30
 32° FAHRENHEIT TO ZERO SAE 20-W
 BELOW ZERO SAE 10-W

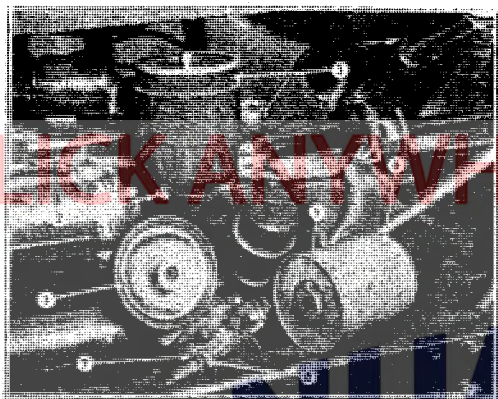
Flush engine crankcase two or three times a year.

Do not use kerosene for flushing crankcase. Use a good flushing oil.

4. Clean oil pan and screen every 500 working hours.



1. Breather Cap
 2. Breather Pipe
 3. Bayonet Gauge
 4. Bayonet Gauge Tube



7. ENGINE OIL FILTER

1. The oil filter is a non-cleanable cartridge type and its life depends upon the mechanical condition of the engine, the quality of the oil used and the general operating conditions.
2. *Care:* At every 250 hours or oftener, the cartridge should be replaced.
3. When replacing cartridge be sure gaskets are in good condition and after starting engine check for leaks.

Figures at left show: 1. Cover Assy. 2. Drain Plug
3. Body Assy. 4. Cartridge 5. Stem Gasket
6. Cap Screw 7. Cap Screw Gasket

8. OIL PRESSURE GAUGE

1. The oil pressure gauge *does not* indicate the *amount* or *condition* of oil in crankcase. It only indicates whether or not the pump is working. As soon as engine starts, observe gauge. If it fails to register, stop engine at once and determine cause.
2. When engine is hot, pressure should be 15 lbs. at governed speed and not less than 5 lbs. at idle speed.

9. OIL PRESSURE ADJUSTMENT

1. Oil pressure adjustment is located on engine block near front, beneath lower radiator hose.
2. To *change* oil pressure, remove acorn cap nut from regulator screw, and after loosening lock nut, turn slotted screw *in* to *increase* pressure and *out* to *decrease* pressure. When correct pressure is obtained tighten lock nut and replace cap nut.
3. It is not advisable to change adjusting nut until the cause for the decrease or increase in pressure has been determined or when decreased pressure is caused by worn bearings.

10. OIL PUMP

1. Oil is supplied to the crankshaft, connecting rod bearings, camshaft gear and crankshaft gear under pressure by a gear-driven oil pump.

11. AIR CLEANER

1. At the beginning of each day's operation and at frequent intervals, depending upon dust conditions, remove oil cup. Remove baffle in cup and wash thoroughly in gasoline and refill to oil level mark with light (SAE 20-W) clean engine oil.
2. Twice each year, depending upon dust conditions, remove entire cleaner and wash thoroughly in gasoline. In extreme dusty conditions clean air cleaner assembly every 100 working hours. Keep all connections between air cleaner and carburetor tight.
3. When servicing air cleaner, make sure the cleaner intake stack is not obstructed with trash or other foreign matter.
4. Proper servicing of the air cleaner means longer life for the tractor engine.

12. FAN

1. LUBRICATION: Oil the fan bearing only, using the same weight oil as used in the engine. (See Sec. 6). Twice a year remove the screw plug in the fan hub. Turn the hub until plug hole is half way between top and bottom and add oil until hub is half full. CAUTION: If too much oil is put in fan hub the centrifugal force will cause the seals to leak. Once this happens it is impossible to keep oil in hub and consequently bearing will burn out.
2. Adjust tension on fan belt by loosening generator adjusting strap and moving generator. Belt tension is correct when belt can be pushed in approximately $\frac{3}{4}$ ". CAUTION: If fan belt is too tight, excessive wear in fan bearing and pulley will result; while if too loose, belt will slip and cause engine to overheat.



1. Screw Plug 2. Slack in Belt

13. CARBURETOR

1. ADJUSTMENT—HIGH SPEED: Turn high speed needle in bottom of carburetor *in* until lightly seated then backout $1\frac{3}{4}$ turns. Start engine and let it warm up to operating temperature. With throttle wide open, turn high speed needle in slowly until engine speed slows down; then back out just enough so that engine runs smoothly at highest speed. This adjustment will be approximately $1\frac{1}{2}$ turns open.
2. ADJUSTMENT—IDLE: Close throttle and adjust low speed adjusting needle for smooth idling, then recheck high speed adjustment. Set stop screw so engine idles smoothly.



1. High Speed Needle 2. Low Speed Needle
3. Stop Screw 4. Choke