



Massey Harris Massey Ferguson

Operator's Manual

MF Super 90

MF Super 90 WR

Gas & Diesel

Operator's Manual

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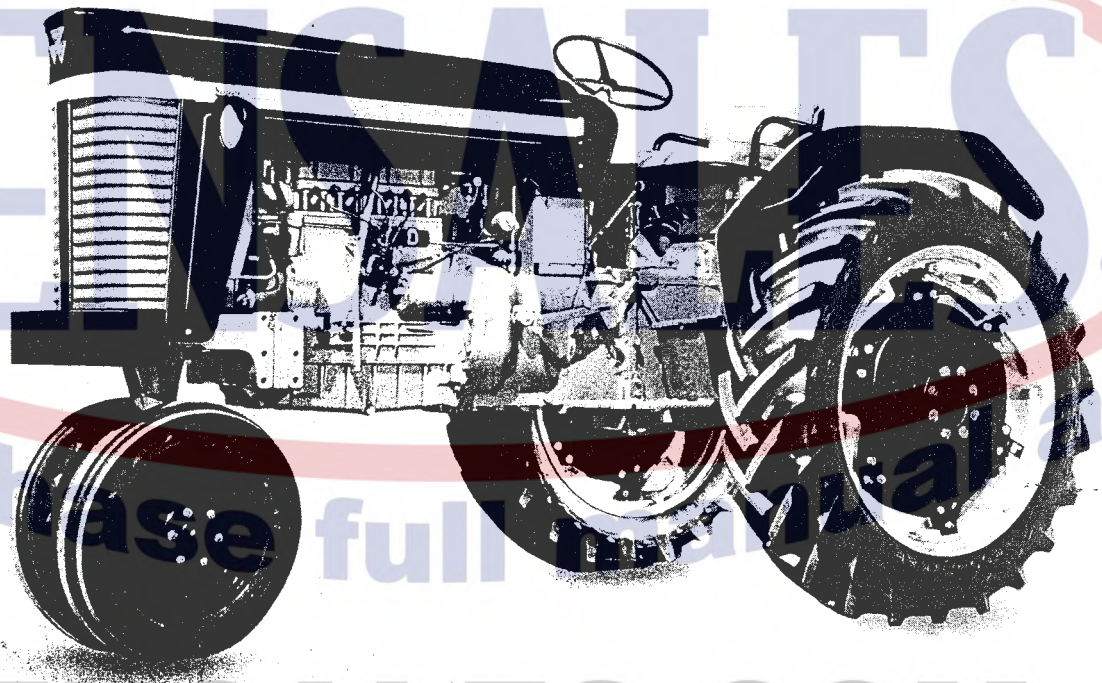
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MASSEY-FERGUSON

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Owner's Manual



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TRACTOR IDENTIFICATION

Each tractor is identified by means of a tractor serial number. This number is permanently recorded on the serial number plate which is attached to the tractor battery box plate on the right side of the tractor.

The tractor engine also carries a serial number. The gas engine has a serial number plate on the left side of the engine block. The diesel engine has its serial number stamped on the right-hand side of the engine block, at the rear end behind the bowl of the secondary fuel filter.

It is important that you refer to these serial numbers when ordering parts, attachments or requesting service. This practice will insure prompt service and eliminate confusion.

We suggest that you write these numbers in the spaces provided and also record them in your personal records.

Tractor Serial Number Engine Serial Number

BREAK-IN PROCEDURE

To properly "break-in" your new tractor, follow the instructions listed.

1. During the first 25 hour or break-in period, run your engine under normal load at normal operating temperature. Avoid continuous light loads or low engine RPM.

2. For plowing and similar heavy load operation, use the next lower gear, than what would be used normally, to prevent overloading or lugging the engine. However, during this period, vary the load by shifting to a higher gear for short intervals to bring the engine up to full load.

3. Change the engine crankcase oil after the first 50 hours of operation.

4. Tighten all nuts, bolts and screws frequently during the break-in period.

ATTACHING MOUNTED IMPLEMENTS*

GENERAL INFORMATION

Read the following items of information carefully before actually attaching the mounted implements to the tractor.

1. The lower links have wrist action ball ends shown by No. 7, Fig. 9, to facilitate implement hitching. The ends are removable to provide interchangeability of the link ball sizes at the hitch points. A 1-1/8 inch diameter link ball, commonly referred to as a Category 2 Link Ball, is standard equipment on all models. However, a 7/8 inch link ball, commonly referred to as a Category 1 Link Ball, is available as an accessory item. Refer to the "Accessory" section under the heading "Three-Point Hitch Conversion for Category 1 Implements".

NOTE: Category 2 implements have 1-1/8 inch diameter hitch pins and the tractor lower links when they are at-

tached onto the implement hitch pins measure 34-3/16 inches apart center-to-center. The implement requires a 1 inch diameter upper link pin.

Category 1 implements have 7/8 inch diameter hitch pins and the tractor lower links when they are attached onto the implement hitch pins measure 28-1/4 inches apart center-to-center. The implement requires a 3/4 inch diameter upper link pin.

2. The lower links have check chains, shown by No. 10, Fig. 9, which limit their lateral movement. The check chains are attached to brackets on the lower links with removable pins. Each bracket has two attaching points, shown by Nos. 8 and 9, in Fig. 9, to permit using either Category 1 or Category 2 implements. Always use attaching hole "2" for the Category 2 implements, which are normally used with the Super 90 Tractor. Use attaching hole "1" only when using special implements of the Category 1 type.

IMPORTANT: Make sure the check chains are attached to hole "2" when using Category 2 implements. Damage to the tractor can occur if the check chains are not properly attached.

3. The hinged lift arms, No. 1, Fig. 9, on the tractor hydraulic lift shaft may be released to facilitate rapid implement hitching and permit wide ground supported implements, such as the gauge wheel controlled tool carrier, to follow uneven ground.

NOTE: Releasing of the hinged lift arm locking handles permits only vertical upward movement of the lift links.

4. A tubular, turnbuckle-style upper link, No. 3, Fig. 9, is provided on both the standard and high clearance model tractors. For the standard tractor, the nominal upper link length is 31-1/2 inches with an overall adjustment range of 28-1/2 inches to 34-1/2 inches and for the high clearance model, the nominal length is 27 inches with an adjustment range of 24 to 30 inches.

The upper link can be adjusted in length by rotating the center tube relative to the two ball joint ends, and it can be locked in increments of 1/2 turns.

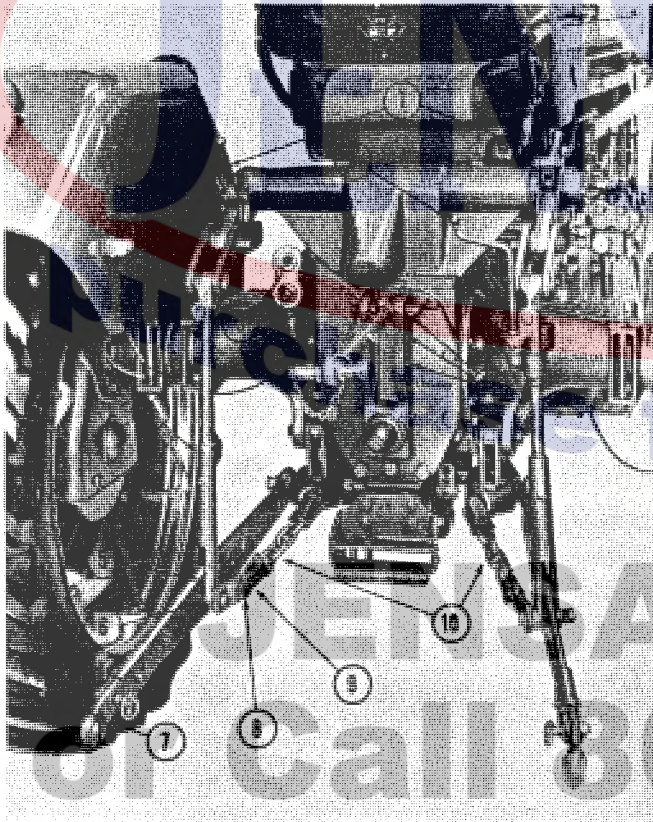


Fig. 9 - Tractor Nomenclature

- | | |
|--|---|
| 1. Lift Arm Locking Handles | 7. Wrist Action Ball Ends |
| 2. Leveling Crank | 8. Attaching Hole for Category 1 Width Implements |
| 3. Upper Link | 9. Attaching Hole for Category 2 Width Implements |
| 4. Left-Hand Lift Rod | 10. Check Chains |
| 5. Attachment Hole for Low Hitch Implements | 11. Upper Link Attaching Holes |
| 6. Attachment Hole for High Hitch Implements | |

* Super 90 Tractors Only

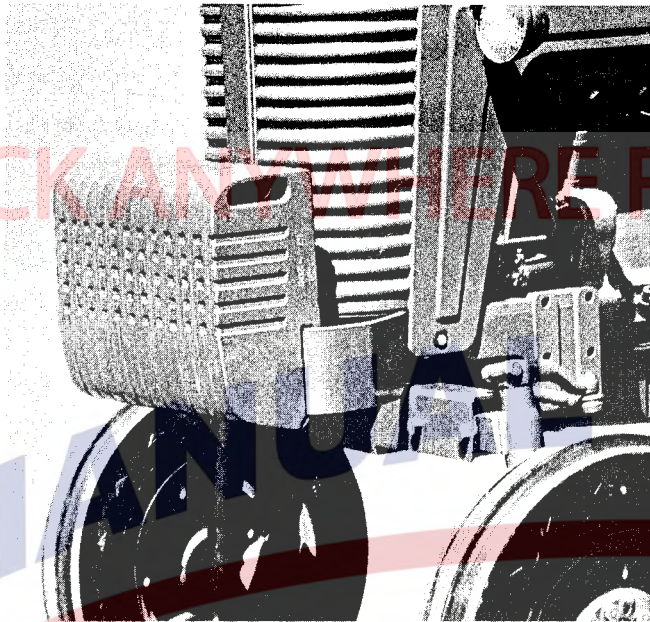


Fig. 61 - Front End Weight Kit

TRACTOR FRONT END WEIGHT KIT

A front end weight kit consisting of 12 sixty-pound hand weights is available to offset decreased steering traction created by heavy overhang implements mounted on the rear of the tractor. This condition is especially noticeable when crossing headland furrows or ridges.

REAR WHEEL WEIGHTS

The rear wheel weights which are available for installation on the MF Super 90 and 90 WR Tractors makes the job of installing or removing the weights a simple, one man operation. The weights are small for easy handling and when installed, they make a very compact unit thus the increased width of the tractor is held to a minimum. It requires only a matter of a few minutes to add or remove weights as required. Keeping in mind the fact that unnecessary weight creates extra load and higher fuel consumption, the wheel weights may be removed for light tractor work; such as mowing, raking, and added for such heavy draft jobs as plowing, discing, etc., to provide the desired traction.

SUPER 90 TRACTORS

Wheel weights are available for either the 36, 30, or 38 inch wheel rim sizes.



Fig. 62 - Rear Wheel Weight Kit for Super 90 Tractors

38 and 30 Inch P.A.V.T. Wheel Weights

The 38 and 30 inch P.A.V.T. wheel weight set consists of an adapter ring and as many disc type weights as required to provide the desired weight. There are two differently designed adapter rings for the 38 and 30 inch wheels. When attaching the adapter ring to the standard model tractor, whose wheels are set to obtain a maximum of 72 inches and on the high clearance model a maximum of 76 inches, (the wheel discs have not been reversed on the wheel hub) the "outer" adapter plate must be used. The "outer" adapter plate can easily be identified by the 1-3/16 inch weight mounting bolt extrusion.

When the weights are used on the standard model tractor, whose wheels are set to obtain the maximum 88 inch wheel spacing and on the high clearance model the 92 inch maximum, (the wheel discs have been reversed) the "inner" adapter plate must be used. It can easily be identified by the 4-1/4 inch weight mounting bolt extrusion.

The adapter ring, which weighs approximately 50 pounds, attaches to the wheel disc with four bolts. The first weight is bolted to the adapter ring, the second weight is bolted to the first weight and so on until the desired weight is obtained. Each of the disc type weights weighs approximately 75 lbs.

HYDRAULIC SYSTEM

Pump - 4 cylinder, piston-type - driven by scotch yoke, developing up to 2300 PSI. Ratio of pump speed to engine speed - 1 to 2.77, approx. capacity - 6.26 gallons per minute at 2000 RPM.

Lift cylinder diameter - 3.75 inches.

Control - Vertical oscillating type control valve. Located on inlet side of pump.

POWER STEERING

Pump - Located in transmission case and driven from PTO driven gear. Delivers 4-1/2 gallons per minute.

Control - Spool valve located above vertical steering shaft.

BRAKES

Independent self-energizing - double disc, 7 inch diameter, 155 square inch area per brake assembly, mechanically operated together or independently to facilitate short turning.

EXTERNAL HYDRAULIC CONTROL VALVE

Control - Open center.

Operation - Manual.

Use - Operating and control of single and double acting external cylinders.

GROUND SPEEDS IN MILES PER HOUR

MODEL MF SUPER 90 HIGH CLEARANCE					
TIRE SIZE		13.9-36		16.9/14-30	
ENGINE SPEEDS (RPM)		1500	2000	1500	2000
Low Range	1	1.21	1.61	1.17	1.56
	2	1.70	2.27	1.65	2.20
	3	2.79	3.72	2.70	3.60
	4	3.84	5.11	3.72	4.96
	R	.99	1.32	.96	1.28
High Range	1	4.84	6.45	4.69	6.25
	2	6.81	9.08	6.61	8.81
	3	11.14	14.86	10.81	14.42
	4	15.34	20.46	14.89	19.85
	R	3.96	5.28	3.84	5.12
MF SUPER 90 STANDARD CLEARANCE & MF SUPER 90 WR					
TIRE SIZE		18.4/15-30		13.6/12-38	
ENGINE SPEEDS (RPM)		1500	2000	1500	2000
Low Range	1	1.28	1.70	1.33	1.77
	2	1.80	2.40	1.87	2.49
	3	3.17	4.22	3.29	4.39
	4	4.05	5.40	4.21	5.61
	R	1.04	1.39	1.08	1.45
High Range	1	5.10	6.80	5.31	7.08
	2	7.19	9.59	7.48	9.97
	3	12.67	16.89	13.18	17.57
	4	16.19	21.59	16.84	22.46
	R	4.18	5.57	4.34	5.79

LIMITING REQUIREMENTS FOR DIESEL FUEL OILS ASTM Designation: D975-59T

Grade of Diesel Fuel Oil	Flash Point, deg. Fahr. Min.	Pour Point, deg. Fahr. Max.	Water and Sediment, percent by volume Max.	Carbon Residue on 10 percent Residue, percent Max.	Ash, percent by weight Max.	90% Distillation Temperatures deg. Fahr.		Viscosity at 100° F. Kinematic, Centistokes (or Saybolt Universal sec.)		Sulfur, percent by Weight Max.	Copper Strip Corrosion Max.	Cetane Number Min.
						Min.	Max.	Min.	Max.			
No. 1-D Winter Operation	100 or legal	...	Trace	0.15	0.01	...	550	1.4	2.5 (34.4)	0.50	No. 3	40
No. 2-D Summer Operation	125 or legal	...	0.10	0.35	0.02	540	675	2.0 (32.6)	5.8 (45)	1.0	No. 3	40

For cold weather operation the pour point should be specified 10 F. below the ambient temperature at which the engine is to be operated.

Low-atmospheric temperatures as well as engine operation at high altitudes may require use of fuels with higher cetane ratings.