



Massey Harris **Massey Ferguson**

Service Manual

MF50H,

MF50HX & MF60HX

Volume 1 of 2

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Service Manual

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MH-S-MF50H/HX+

WORKSHOP SERVICE MANUAL

1459 190 M4

MF 50H

MF 50HX

MF 60HX

**SERIES S and SERIES T
BACKHOE LOADERS**

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WORKSHOP SERVICE MANUAL

1459 190 M4

MF 50H
MF 50HX
MF 60HX

SERIES S and SERIES T
BACKHOE LOADERS

GROUP 1

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USING THE SERVICE MANUAL

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USING THE SERVICE MANUAL

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SPECIFICATIONS

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SPECIFICATIONS

TRANSPORT DIMENSIONS

Series S MF50H/HX

Digger Loader 2 and 4 wheel drive (figures 5 and 6)

All dimensions are in mm with (inches)

A	Overall transport length	- side-shift	6200	(244.0)
	(safety locks in place).	- centre-mount-	7735	(304.5)
B	Wheel base	- 2 wheel drive	2183	(85.9)
		- 4 wheel drive	2177	(85.7)
C	Height to top of digger		3550	(139.8)
D	Height to top of	- cab	2780	(109.4)
		- ROPS	2730	(107.5)
E	Maximum width (over bucket)		226	(88.0)
F	Track	- rear	1731	(68.2)
		- front 2 wheel drive	1680	(66.1)
		- front 4 wheel drive	1805	(71.1)
G	Ground clearance	- minimum	340	(13.4)

Loader and counterweight models

Dimensions B, D and E are same as for digger loader models.

A	Overall length in transport position	5893	(232.0)
G	Ground clearance	355	(14.0)

LOADER OPERATING DATA (figure 7)

A	Overall height fully raised	- 2WD	4204	(165.5)
		- 4WD	4160	(163.8)
B	Height to bucket hinge pin	- 2WD	3453	(135.9)
		- 4WD	3410	(134.3)
C	Dump height - dump angle 45°	- 2WD	2750	(108.3)
		- 4WD	2706	(106.5)
D	Reach, maximum height 45° dump		711	(28.0)
E	Dig depth	- 2WD	82	(3.2)
		- 4WD	36	(1.4)
F	Dump angle - max. height		50°	
G	Roll back angle at ground level		48°	

		Kg	(lb)
Maximum lift capacity	MF 50H	2370	(5225)
	MF50HX	2730	(6014)
Break-out force	MF50H/HX	4010	(8838)

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MANUAL PREVIEW

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issue 1

General dimensions
Weights and capacities
Machine specifications

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STARTING SYSTEM

STARTER MOTOR

Service

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Special equipment:

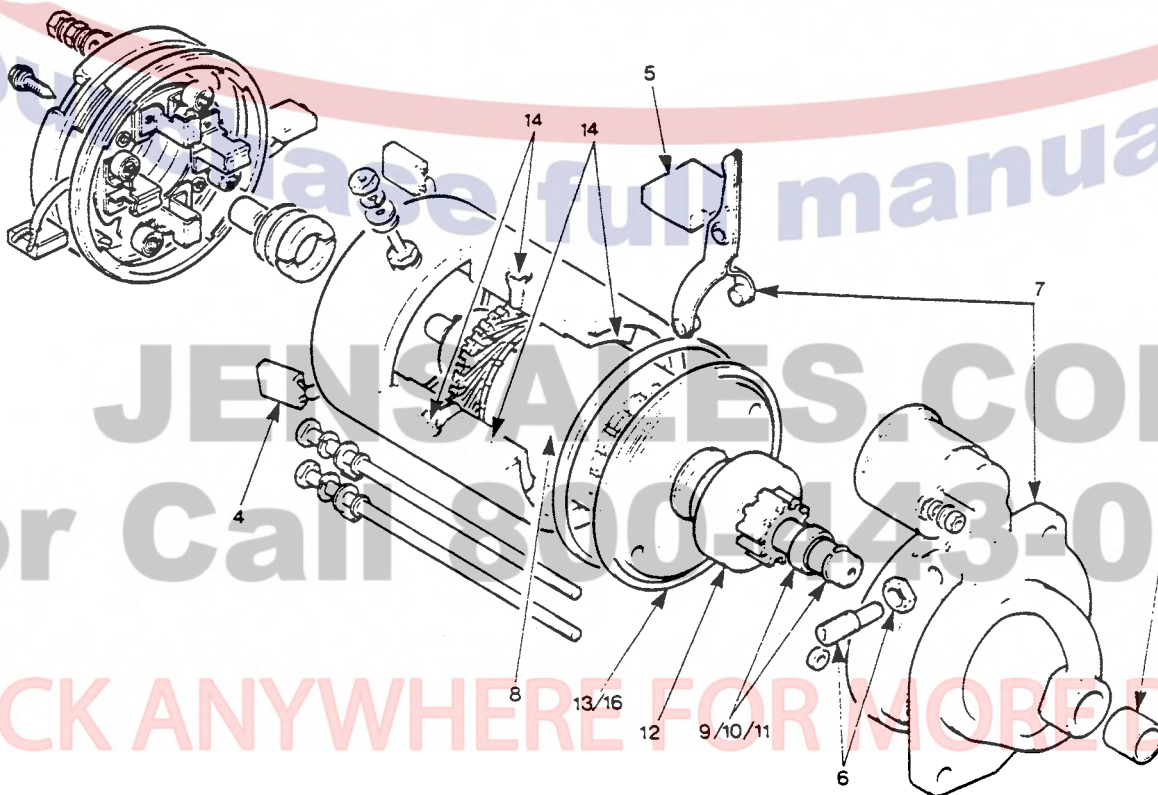
110 Volt insulation tester or ohmmeter

Strip

1. Remove starter motor.
2. Remove solenoid assembly per operation 3E•12.
3. Remove end cover per operation 3E•11.
4. Remove field winding brushes from brush plate.
5. Remove rubber grommet.
6. Slacken lock nut and remove pivot pin. (Pivot is eccentric to screw thread to allow adjustment of pinion gear, end clearance.)
7. Remove drive housing and pinion engagement lever.
8. Remove the armature and pinion assembly from the motor body.
9. Use a suitable tube to drive the thrust collar towards the pinion to expose the snap-ring.
10. Remove snap-ring.
11. Remove thrust collar.
12. Pull pinion and roller clutch off the armature shaft.
13. Pull the intermediate plate off the armature shaft.
14. Remove 4 screws and carefully pull the field windings from the motor body.

Inspection

15. Check brush wear in end cover, per operation 3E•11.
16. Check bush wear in intermediate plate and change if noticeable clearance between bush and shaft exists. Use a mandrel with a pilot diameter of 28.51mm (1.1226 inch). The bush must be immersed in clean engine oil for 24 hours prior to fitting. The absorption time can be reduced, by heating the oil to 100°C (212°F) for 2 hours, then allowing to cool. Do not overheat the oil.
17. Check bush wear in the drive housing and change if noticeable clearance between bush and shaft exists. A mandrel having a pilot diameter of 17.03mm (0.6705 inch), is required to fit a new bush. Pre-treatment of the bush is as per instruction 16.



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POWERSHUTTLE TRANSMISSION

POWERSHUTTLE TRANSMISSION

Servicing

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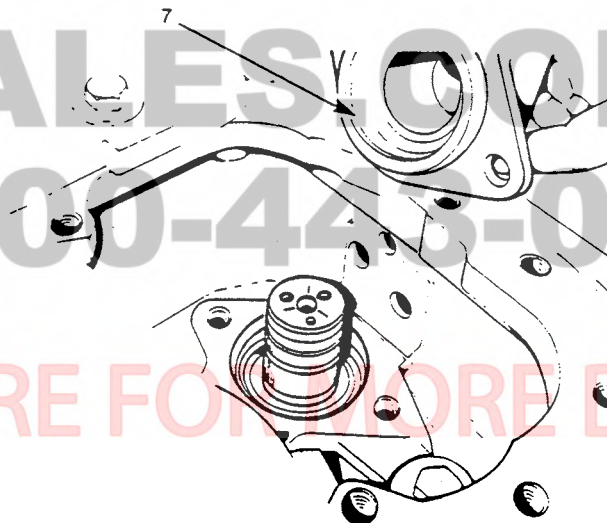
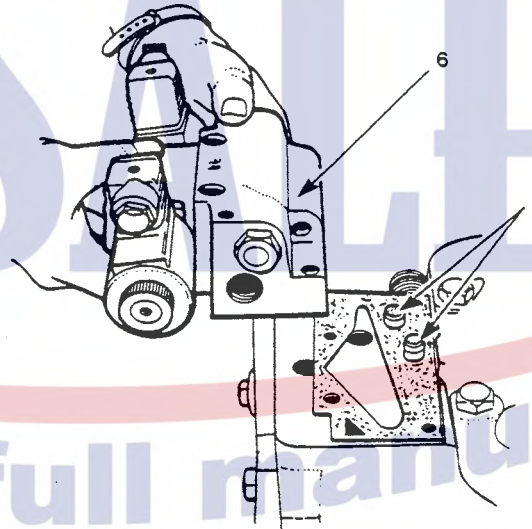
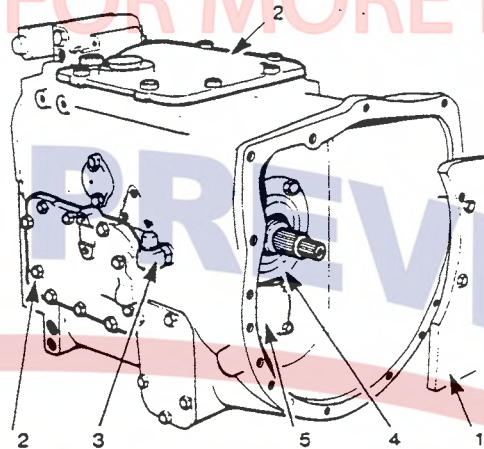
MF 414/1 Synchromesh alignment tool.

CR 375 Rolling torque gauge.

Dial indicator with magnetic base.

Strip

1. Mount transmission on a suitable rotating stand.
2. Remove side and top covers.
3. Remove torque converter input elbow and feed tube.
4. Remove input housing and input shaft (except if p.t.o. fitted, when input shaft can only be removed at instruction 17).
5. Remove power-take-off shaft cover, block gears and unscrew retaining bolt from p.t.o. shaft. (This instruction applies only to transmissions fitted with power-take-off option.)
6. Remove direction-shift control valve and both transfer tubes.
7. Turn transmission so that the output shaft points upwards and remove the clutch drive-shaft manifold.
8. Pull clutch drive-shaft upwards out of the clutch packs.



REAR AXLE & BRAKES

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FRONT AXLE 2 WD

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MF DRIVE-STEER AXLE

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Group 6 Section F

MF Drive-Steer Axle

Issue Two

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 (with Powershuttle transmission)

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LOADER AND BACKHOE CONTROL VALVES

Group 8 Section B

LOADER AND BACKHOE CONTROL VALVES

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HYDRAULIC CYLINDERS

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DIGGER STRUCTURE

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MANUAL PREVIEW

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SERIES S DIGGERS

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SERIES S DIGGERS

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