

Information and Instructions

This shop manual contains several sections each covering a specific group of wheel type tractors. The Tab Index on the preceding page can be used to locate the section pertaining to each group of tractors. Each section contains the necessary specifications and the brief but terse procedural data needed by a mechanic when repairing a tractor on which he has had no previous actual experience.

Within each section, the material is arranged in a systematic order beginning with an index which is followed immediately by a Table of Condensed Service Specifications. These specifications include dimensions, fits, clearances and timing instructions. Next in order of arrangement is the procedures paragraphs.

In the procedures paragraphs, the order of presentation starts with the front axle system and steering and proceeding toward the rear axle. The last paragraphs are devoted to the power take-off and power lift systems. Interspersed where needed are additional tabular specifications pertaining to wear limits, torquing, etc.

HOW TO USE THE INDEX

Suppose you want to know the procedure for R&R (remove and reinstall) of the engine camshaft. Your first step is to look in the index under the main heading of ENGINE until you find the entry "Camshaft." Now read to the right where under the column covering the tractor you are repairing, you will find a number which indicates the beginning paragraph pertaining to the camshaft. To locate this wanted paragraph in the manual, turn the pages until the running index appearing on the top outside corner of each page contains the number you are seeking. In this paragraph you will find the information concerning the removal of the camshaft.

SHOP MANUAL

MASSEY-FERGUSON

MODELS

MF175 MF180

**Tractor serial number stamped on instrument panel name plate.
Engine serial number stamped on side of engine.**

INDEX (By Starting Paragraph)

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BELT PULLEY	202	202	NON-DIESEL ENGINE		
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CARBURETOR (Gasoline)	116	116	Crankshaft and bearings	48, 76	48, 76
(LP-Gas)	119	119	Cylinder head	32, 56	32, 56
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			Flywheel	112	112
			Front oil seal	94	94
			Main bearings	107	107
			Oil pan	113	113
			Oil pump	114	114
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			Piston and rod removal	103	103
			Piston rings	104	104
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			Rear oil seal	111	111
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Timing gears	95	95	STEERING SYSTEM					
Timing gear housing	101	101	Cylinder	20	29			
Valve guides	88	88	Gear unit	18	—			
Valves and seats	87	87	Filling and bleeding	6	8			
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Bevel gears	194	194	Relief valve	17	17			
Differential R&R	189	189	Trouble shooting	13	14			
Differential overhaul	190	190	Hydramotor	—	25			
Planetary gear assembly	196	196	Orbitrol	—	27			
FRONT AXLE			TRANSMISSION (Except Multi-Power)					
Axle main member	1	2	Countershaft	165	—			
Axle pivot pin and bushing	1	2	Drive shaft and gear	161	—			
Dual wheels and spindle	—	2	Main shaft	164	—			
Steering spindles	3	3	Planetary unit	167	—			
Tie rods and/or drag links	4	4	Reverse idler	166	—			
GOVERNOR NON-DIESEL			Shifter rails and forks	163	—			
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Adjustment	216	216	Clutch	184	184			
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Operating pressure	215	215	Input shaft	183	183			
Pump	225	225	Mainshaft	182	182			
Remote cylinder	233	233	Planetary unit	180	180			
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Work cylinder	222	222	Remove and reinstall	171	172			
INDEPENDENT POWER TAKE-OFF		206	206	Shifter rails and forks	179	179		

CONDENSED SERVICE DATA

GENERAL	Non-Diesel			TUNE UP (Cont'd.)	Non-Diesel		
	Diesel	Non-Diesel	Non-Diesel		Diesel	Non-Diesel	Non-Diesel
Engine Make	Perkins	Cont'l.	Perkins	Injectors			
Engine Model	A4.236	G-206	AG4.236	Opening Pressure	2500 psi		
Number of Cylinders	4	4	4	Spray Hole Dia.	0.009		
Bore—Inches	3 $\frac{7}{8}$	3 $\frac{1}{8}$	3 $\frac{7}{8}$	Governed Speeds			
Stroke—Inches	5	4 $\frac{1}{2}$	5	Engine			
Displacement—Cu. In.	235.9	260	235.9	Low Idle	750 rpm	475 rpm	750 rpm
Compression Ratio	16:1	7.25:1	7.0:1	High Idle	2160 rpm	2225 rpm	2250 rpm
Main Bearings, No. of	5	3	5	Loaded	2000 rpm	2000 rpm	2000 rpm
Cylinder Sleeves	Dry	Dry	Dry	Power Take-Off			
Forward Speeds	12*	12*	12*	High Idle	686 rpm	705 rpm	706 rpm
Reverse Speeds	4*	4*	4*	Loaded	635 rpm	635 rpm	635 rpm
Except MF175 not equipped with "Multipower".				Horsepower @ PTO Shaft	63.7	63.7*	60(1)
				*According to Nebraska Tests. (1) Manufacturer's Rating.			
TUNE-UP				Hydraulic System			
Firing Order	1-3-4-2	1-3-4-2	1-3-4-2	Maximum Pressure	3000 psi		
Valve Tappet Gap (Hot)				Rated Delivery	12.8 gpm		
Intake	0.010	0.016	0.012	SIZES - CAPACITIES - CLEARANCES			
Exhaust	0.010	0.018	0.012	Crankshaft Journal Diameter	2.999	2.3745	2.999
Compression Pressure				Crankpin Diameter	2.499	2.062	2.499
@ Cranking Speed		145-160		Camshaft Journal Diameter:			
Intake Valve Face Angle	44°	30°	45°	Front	1.997	1.8085	1.997
Intake Valve Seat Angle	45°	30°	45°	Center	1.987	1.746	1.987
Exhaust Valve Face Angle	44°	44°	45°	Rear	1.967	1.6835	1.967
Exhaust Valve Seat Angle	45°	45°	45°	Crankshaft Bearing Clearance:			
Timing (Ign. or Inj.)				Main Bearings	0.003	0.002	0.0035
Static	23° BTC	6° BTC	10° BTC	Crankpin	0.0025	0.002	0.0025
High Idle		26° BTC	32° BTC	Crankshaft End Play	0.009	0.006	0.009
Timing Location	Flywheel	Crank	Crank	Piston to Cylinder Clearance	0.007		
		Pulley	Pulley	Camshaft Bearing Clearance	0.004	0.0035	0.004
Battery				Camshaft End Play	0.010	0.005	0.010
Volts	12	12	12	Cooling System—Quarts	13.5	10.5	13.5
Capacity Amp/Hr.	96	41	95	Crankcase—Quarts	9.5	6	8.5
Ground Polarity	Neg.	Neg.	Neg.	Transmission, Differential and			
Distributor Contact				Hyd. Lift—Gal.	8	8	8
Gap		0.022	0.022	Power Steering—Quarts	— Refer to para. 6 or 8—		
Spark Plug Size		18 MM	14 MM	Steering Gear Housing—Quarts	— Refer to para. 5 or 7—		
Electrode Gap		0.025	0.025	Planetary Final Drive	1 $\frac{3}{4}$	1 $\frac{3}{4}$	1

MASSEY-FERGUSON

SHOP MANUAL

MODELS MF205, MF210 and MF220

Tractor serial number is located on plate attached to steering gear cover.

Engine serial number is stamped in machined pad on left side of engine near rear.

Transmission serial number is stamped in machined pad on left side.

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	MF205		MF210		MF220	
	2W Drive	4W Drive	2W Drive	4W Drive	2W Drive	4W Drive
BRAKES	200	200	200	200	200	200
CLUTCH	75	75	75	75	75	75
COOLING SYSTEM	60	60	60	60	60	60
DIESEL FUEL SYSTEM						
Bleeding	41	41	41	41	41	41
Filters	40	40	40	40	40	40
Nozzles	46	46	46	46	46	46
Pump	43	43	43	43	43	43
Speed Adjustment	44	44	44	44	44	44
Timing	42	42	42	42	42	42
DIFFERENTIAL						
Front	8	8	8
Rear	132	135	138	141	138	141
ELECTRICAL SYSTEM						
Alternator	65	65	66	66	66	66
Starter	67	67	68	68	68	68
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Assembly R&R	10	10	10	10	10	10
Camshaft	22	22	22	22	22	22
Connecting Rods	26	26	26	26	26	26
Crankshaft	29	29	29	29	29	29
Cylinder Head	11	11	11	11	11	11
Flywheel	32	32	32	32	32	32
Oil Pan	34	34	34	34	34	34
Pistons, Rings & Cylinders	24	24	24	24	24	24
Tappet Adjustment	12	12	12	12	12	12
Timing Gears	21	21	21	21	21	21
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FINAL DRIVE						
Front	5	5	5
Rear	150	150	151	151	151	151
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Axle	1	2	1	2	1	2
Split	4	4	4	4	4	4
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FRONT WHEEL DRIVE	5	5	5
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SHOP MANUAL

MASSEY-FERGUSON

MODELS

MF2675

MF2705

Tractor serial number is stamped on left side of instrument console.
 Engine serial number is stamped on left side at injection pump base.

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Adjustment	88
Brake pistons & discs	91
Fluid & bleeding	89
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CLUTCH

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Valves & seats	17
Valve clearance	22
Valve guides	18
Valve springs	19
Valve timing	23

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Differential & bevel gear	82
Differential lock valve	127
Rear axle & final drive	85

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Flow control valve	8
Steering cylinder	7
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Fuel filters & lines	38
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SHOP MANUAL

MASSEY-FERGUSON

MODELS

MF2745

MF2775

MF2805

Tractor serial number is stamped on left side of instrument console.
Engine serial number is stamped on right front cylinder block valley.
Transmission serial number is stamped on right side of transmission housing. Axle serial number is stamped on upper right side of center housing.

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