

Information and Instructions

This individual shop manual is one unit of a series on wheel type tractors. Contained in it are 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.

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

JOHN DEERE

SERIES
1020 1520 1530 2020 2030

Tractor serial number is located on right side of transmission case. Engine serial number is stamped on a plate at lower right front of engine cylinder block.

INDEX (By Starting Paragraph)

	1020	1520	1530	2020	2030
BRAKES	152	152	152	152	152
CARBURETOR	62	62	...	62	62
CLUTCH (Engine)					
Adjust	109	109	109	107	109
R&R and overhaul (Single)	113	113	112	113	112, 113, 114
R&R and overhaul (Dual)	116	116	115	116	116
COOLING SYSTEM					
Radiator	94	94	94	94	94
Water Pump	96	96	96	96	96
DIESEL SYSTEM					
Bleed System	66	66	66	66	66
Filter	65	65	65	65	65
Injection Pump	74A	74A	74A	74A	74A
Injectors	67	67	67	67	67
Timing	76	76	76	76	76
DIFFERENTIAL					
Bevel Gears	146	146	146	146	146
Overhaul	145	145	145	145	145
Remove and Reinstall	144	144	144	144	144
ELECTRICAL SYSTEM					
Alternator	101, 103	101, 103	101, 103	101, 103	101, 103
Distributor Timing	98	98	...	98	98
Regulator	101, 103	101, 103	101, 103	101, 103	101, 103
Starter Motor	105	105	105	105	105
ENGINE					
Balancer Shafts .....	...	...	...	41	41
Cam Followers	37	37	37	37	37
Camshaft	40	40	40	40	40
Connecting Rod Bearings	55	55	55	55	55
Crankshaft	56	56	56	56	56
Cylinder Head:					
Gasoline	29	29	...	29	29
Diesel	30	30	30	30	30
Cylinder Sleeves	49	49	49	49	49
Engine Removal	28	28	28	28	28
Flywheel	59	59	59	59	59
Front Oil Seal	39	39	39	39	39
Idler Gears	42	42	42	42	42
Ignition Timing	98	98	...	98	98
Injection Timing	76	76	76	76	76
Main Bearings	56	56	56	56	56
Oil Pump	61	61	61	61	61
Pistons	49	49	49	49	49
Piston Pins	54	54	54	54	54
Piston Rings	49	49	49	49	49
Rear Oil Seal	57, 58	58	58	57, 58	58
Timing Gear Cover	39	39	39	39	39
Timing Gears	43	43	43	43	43
Valve Guides	33	33	33	33	33
Valve and Seats	31	31	31	31	31
Valve Springs	34	34	34	34	34
Valve Timing	38	38	38	38	38
FINAL DRIVE					
Overhaul	151	151	151	151	151
Remove and Reinstall	150	150	150	150	150
FRONT SYSTEM					
Axle	1	1	1	1	1
Spindles and Bushings	2	2	2	2	2
Toe-In	3	3	3	3	3
GOVERNOR					
Linkage adjustment	92	92	...	92	92
R&R and Overhaul	93	93	...	93	93

INDEX CONT.

HYDRAULIC LIFT SYSTEM

Hydraulic Pump	180	180	180	180	180
Load Control	184	184	184	184	184
Remote System	185	185	185	185	185
Rockshaft Housing	182	182	182	182	182
System Adjustments	175	175	175	175	175
System Tests	171	171	171	171	171
Trouble Shooting	170	170	170	170	170

POWER STEERING

Pump	16, 180	180	180	16, 180	180
Steering Valve	18, 20	20	20	18, 20	20
System Checks	12	12	12	12	12
Trouble Shooting	10	10	10	10	10

POWER TAKE-OFF

Front Shaft and Gears	162	162	162	162	162
Rear Shaft	160	160	160	160	160
Independent PTO	164	164	164	164	164

STEERING GEAR

Adjust	5	5	5	5	5
Overhaul	6	6	6	6	6

TRANSMISSION

Countershaft	138	138	138	138	138
Input Shaft	139	139	139	139	139
Pinion Shaft	140	140	140	140	140
Shifter Shafts	137	137	137	137	137
Top Cover	135	135	135	135	135
Tractor Split	136	136	136	136	136
Transmission Oil Pump	142	142	142	142	142

CONDENSED SERVICE DATA

GENERAL	1020 Gasoline	1020 Diesel	1520 Gasoline	1520 Diesel	1530 Diesel
Engine Make	Own	Own	Own	Own	Own
Number Cylinders	3	3	3	3	3
Bore—Inches	3.86	3.86	4.02	4.02	4.02
Stroke—Inches	3.86	4.33	4.33	4.33	4.33
Displacement—Cubic Inches	180	202	219	219	219
Compression Ratio	7.5:1	16.3:1	8.0:1	16.3:1	16.2:1
Battery Terminal Grounded	Neg.	Neg.	Neg.	Neg.	Neg.
Forward Speeds	8	8	8	8	8
TUNE-UP					
Firing order	1-2-3	1-2-3	1-2-3	1-2-3	1-2-3
Compression Pressure—PSI @ 200 RPM	120	300	120	300	300
Valve Clearance:					
Inlet—	0.014	0.014	0.014	0.014	0.014
Exhaust—	0.022	0.018	0.022	0.018	0.018
Timing Mark Location	Crankshaft Pulley	Crankshaft Pulley	Crankshaft Pulley	Crankshaft Pulley	.....
Breaker Point Gap	0.020	.....	0.020	.....	.....
Spark Plug Size	14MM	.....	14MM	.....	.....
Electrode Gap	0.025	.....	0.025	.....	.....
Engine Low Idle—RPM	600	800	600	800	650
Engine High Idle—RPM	2680	2650	2680	2650	2650
Working Range	1500-2500	1500-2500	1500-2500	1500-2500	1500-2500
PTO Horsepower @ 2500 RPM	38.8	38.9	47.9	46.5	46
SIZES—CAPACITIES— CLEARANCES					
Crankshaft Journal Diameter	3.1235-3.1245	3.1235-3.1245	3.1235-3.1245	3.1235-3.1245	3.1235-3.1245
Crankpin Diameter	2.309	2.7485	2.7485	2.7485	2.7485
Balancer Shaft Journal Diameter .....	.....	.....	.....	.....	.....
Piston Pin Diameter	1.1877	1.1877	1.1877	1.1877	See Paragraph 54
Main Bearing Clearance	0.001-0.0041	0.001-0.0041	0.001-0.0041	0.001-0.0041	0.001-0.0041
Rod Bearing Clearance	0.0012-0.0044	0.0012-0.0044	0.0012-0.0044	0.0012-0.0044	0.0012-0.0044
Camshaft Journal Clearance	0.0035-0.0055	0.0035-0.0055	0.0035-0.0055	0.0035-0.0055	0.0035-0.0055
Balancer Shaft Bearing Clearance .....	.....	.....	.....	.....	.....
Crankshaft End Play	0.002-0.008	0.002-0.008	0.002-0.008	0.002-0.008	0.002-0.008
Camshaft End Play	0.0025-0.0085	0.0025-0.0085	0.0025-0.0085	0.0025-0.0085	0.0025-0.0085
Piston Skirt Clearance	See Paragraph 53	See Paragraph 53	See Paragraph 53	See Paragraph 53	See Paragraph 53
Cooling System—Qts.	11	11	12	12	10.5
Crankcase (with filter)—Qts.	6	6	6	6	6
Fuel Tank—Gallons	16½	16½	19½	19½	19½
Trans. & Hydraulic Systems—Gals.	10	10	10	10	9½
TIGHTENING TORQUES— FT.-LBS.					
Cylinder Head	110	110	110	110	110
Main Bearings	85	85	85	85	110
Con. Rod Bearings (Oiled)	45	70	45	70	65
Rocker Arm Assembly	35	35	35	35	35
Flywheel	85	85	85	85	85