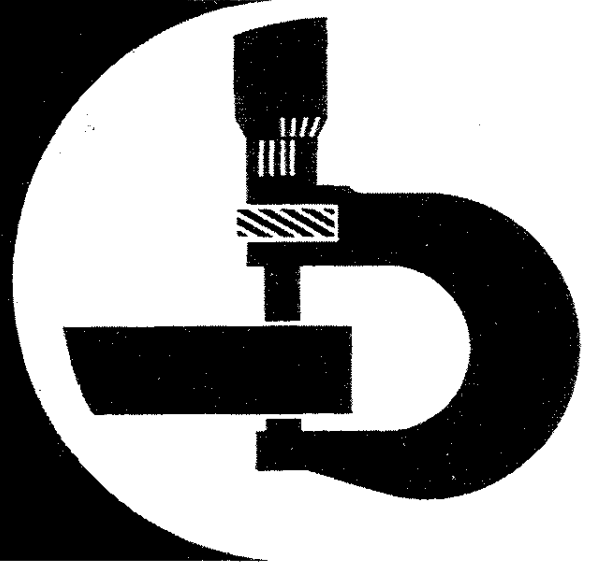


3050, 3350 and 3650 Tractors



John Deere Werke Mannheim
TM4443 (Nov-90)
PRINTED IN GERMANY
ENGLISH



SUMMARY OF MOST IMPORTANT SPECIFICATIONS FOR 3050, 3350 and 3650 TRACTORS

NOTE: For further specifications, see relevant Technical Manual.

ENGINE

Valve clearance (engine hot or cold):	
Intake valves	0.35 mm (0.014 in.)
Exhaust valves	0.45 mm (0.018 in.)
Minimum engine oil pressure at 800 rpm and normal operating temperature	
	100 kPa (1 bar; 14 psi)
Compression	
	2100 kPa (21 bar; 300 psi)
Maximum difference in pressure between cylinders	
	350 kPa (3.5 bar; 50 psi)
Maximum blow-by at crankcase vent tube	
	80 l/kWh (2.8 cu.ft./kWh)
Rocker arm shaft to cylinder head	
	50 Nm (35 ft-lb)
Cylinder head to cylinder block (cap screws dipped in oil)	
1st step	85 Nm (65 ft-lb)
2nd step	135 Nm (100 ft-lb)
3rd step	+60°
Rocker cover to cylinder head	
	10 Nm (7 ft-lb)
Connecting rod cap screws (dipped in oil)	
	65 to 75 Nm (50 to 55 ft-lb)
Main bearings to cylinder block	
	120 Nm (85 ft-lb)
Flywheel to crankshaft	
	160 Nm (120 ft-lb)
Front axle carrier to engine	
<i>without increased lifting capacity</i>	230 Nm (170 ft-lb)
<i>with increased lifting capacity and 3650</i>	
upper TORX screws	100 Nm (75 ft-lb) + 60°
lower TORX screws	250 Nm (185 ft-lb)
Oil pan to front axle carrier	
	400 Nm (300 ft-lb)
Oil pan to clutch housing	
<i>without increased lifting capacity</i>	230 Nm (170 ft-lb)
<i>with increased lifting capacity and 3650</i>	400 Nm (300 ft-lb)
Clutch housing to engine	
<i>without increased lifting capacity</i>	230 Nm (170 ft-lb)
<i>with increased lifting capacity and 3650</i>	
upper and upper right-hand TORX screws	
	120 Nm (85 ft-lb) + 120°
upper left-hand TORX screw	
	120 Nm (85 ft-lb) + 90°
lower TORX screws	
	120 Nm (85 ft-lb) + 72°
Side frames to front axle carrier	
<i>without increased lifting capacity</i>	230 Nm (170 ft-lb)
<i>with increased lifting capacity and 3650</i>	
TORX screws	
	400 Nm (300 ft-lb)
Side frames to flywheel housing	
<i>without increased lifting capacity</i>	230 Nm (170 ft-lb)
<i>with increased lifting capacity and 3650</i>	
upper and lower cap screws	
	575 Nm (425 ft-lb)
center cap screws	
	325 Nm (240 ft-lb)

FUEL INJECTION NOZZLES

Opening pressure of a new or re- conditioned nozzle with new spring	
- Engine without turbocharger	21700 to 22400 kPa (217 to 224 bar; 3150 to 3250 psi)
- Engine with turbocharger	25100 to 25800 kPa (251 to 258 bar; 3650 to 3750 psi)
Minimum opening pressure with used nozzle	
- Engine without turbocharger	20700 kPa (207 bar; 3000 psi)
- Engine with turbocharger	24100 kPa (241 bar; 3500 psi)
Maximum difference in opening pressure	
	700 kPa (7 bar; 100 psi)
Fuel injection nozzle to cylinder head	
	30 Nm (23 ft-lb)

BATTERIES

Cold state testing current	395 amps.
----------------------------	-----------

ENGINE CLUTCH

Thickness of a new disk	10 mm (0.39 in.)
Wear limit	7 mm (0.26 in.)
Maximum permissible warpage of clutch disk	
	0.5 mm (0.02 in.)
Flywheel to crankshaft	
	160 Nm (120 ft-lb)
Clutch to flywheel	
	50 Nm (35 ft-lb)
Clutch pedal free play (mechanical operated clutch)	
	25 mm (approx. 1 in.)

HI-LO SHIFT UNIT

Operating pressure at 1500 rpm	
	1050 kPa (10.5 bar; 150 psi)
Operating pressure of automatic shift valve	
	500 to 700 kPa (5 to 7 bar; 75 to 100 psi)
Hi-Lo shift unit to clutch housing	
	50 Nm (35 ft-lb)

SYNCHRONIZED TRANSMISSION

Differential drive shaft

Rolling drag torque with	
New bearings	0.75 to 1.5 Nm (6.5 to 13 in-lb)
Used bearings	0.4 to 0.75 Nm (3.5 to 6.5 in-lb)
Special hex. nut or special nut of differential drive shaft	
	140 Nm (100 ft-lb)



SUMMARY OF MOST IMPORTANT SPECIFICATIONS FOR 3050, 3350 and 3650 TRACTORS

SYNCHRONIZED TRANSMISSION (Contd.)

Range shaft

Preload of taper roller bearings 0.05 to 0.10 mm
(0.002 to 0.004 in.)

Countershaft

Preload of transmission hollow drive shaft taper roller bearings 0.05 to 0.10 mm
(0.002 to 0.004 in.)

Rolling drag torque 1 to 2 Nm (9 to 18 in-lb)
End play of transmission drive shaft 0.03 to 0.13 mm
(0.001 to 0.005 in.)

Hex. nut of transmission hollow drive shaft 140 Nm (100 ft-lb)
Countershaft bearing quill 120 Nm (85 ft-lb)

Intermediate shaft

Preload of bearings 0.05 to 0.10 mm
(0.002 to 0.004 in.)
Grooved nut 140 Nm (100 ft-lb)

Clutch housing to transmission case
without increased lifting capacity 160 Nm (120 ft-lb)
with increased lifting capacity and 3650
upper cap screws 260 Nm (190 ft-lb)
Upper left and right-hand TORX screws 100 Nm (75 ft-lb) + 60°
Remaining TORX screws 100 Nm (75 ft-lb) + 40°

TRANSMISSION OIL PUMP

Minimum delivery of transmission oil pump with:
Oil temperature 40°C (100°F) and 2000 rpm 42 liters/min. (11 gpm)
Oil temperature 65°C (150°F) and 2000 rpm 38 liters/min. (10 gpm)

Minimum flow to hydraulic pump with:
Oil temperature 40°C (100°F) and 2000 rpm 38 l/min (10 gpm)
Oil temperature 65°C (150°F) and 2000 rpm 34 l/min (9 gpm)

Transmission oil pump cap screws 55 Nm (40 ft-lb)
Transmission oil pump to clutch housing 55 Nm (40 ft-lb)

DIFFERENTIAL

Preload of taper roller bearings 0.15 to 0.25 mm
(0.006 to 0.01 in.)

Backlash between ring gear and differential drive shaft pinion 0.30 mm (0.012 in.)

FINAL DRIVES

To measured rolling drag torque of final drive housing (before tightening 12-point screw) add 10 to 13.5 Nm
(7 to 10 ft-lb)
Final drives to transmission case 230 Nm (170 ft-lb)

PTO

Operating pressure at 1500 rpm 1050 kPa
(10.5 bar; 150 psi)

Drive gear to clutch drum 75 Nm (55 ft-lb)
Bearing quill to transmission case 115 Nm (85 ft-lb)
Preload of taper roller bearings (handshift PTO) 0.05 to 0.15 mm
(0.002 to 0.006 in.)

PTO shaft cover to bearing quill (handshift PTO) 30 Nm (23 ft-lb)

FRONT PTO

Operating pressure at 1500 rpm 1050 kPa
(10.5 bar; 150 psi)

Preload of taper roller bearings 0 to 0.05 mm (0 to 0.002 in.)
Front PTO to front axle carrier 400 Nm (300 ft-lb)

FRONT WHEEL DRIVE

Operating pressure at 1500 rpm 1050 kPa
(10.5 bar, 150 psi)

Disk clutch slips at a torque of:
3050 and 3350 without front PTO 1000 Nm (740 ft-lb)
3050 and 3350 with front PTO and 3650 1300 Nm (960 ft-lb)

Clutch shaft taper roller bearings
Preload 0.02 mm (0.0008 in.)
Up to axial play of 0.03 mm (0.0012 in.)
Front axle to front axle carrier 300 Nm (220 ft-lb)
Front axle axial play 0 to 0.5 mm (0 to 0.02 in.)
Universal-jointed drive shaft to drive hub 75 Nm (55 ft-lb)

STEERING

Adjustment pressure of double-acting shock valves 21000 kPa
(210 bar; 3050 psi)

Steering valve to steering column 50 Nm (35 ft-lb)

BRAKES

Return movement of pressure ring within 15 seconds 0.28 to 0.35 mm
(0.011 - 0.014 in.)

Test pressure for leakage test of pressure ring 300 kPa
(3 bar; 44 psi)

Maximum pressure drop within 10 seconds 10 kPa
(0.1 bar; 1.5 psi)

Retraction pin assembly to pressure ring 15 Nm (11 ft-lb)



SUMMARY OF MOST IMPORTANT SPECIFICATIONS FOR 3050, 3350 and 3650 TRACTORS

HYDRAULIC PUMP

Pump stand-by pressure	19000 kPa (190 bar; 2760 psi)
Minimum delivery at 2000 rpm and 17000 kPa (170 bar; 2450 psi) operating pressure:	
23 cm ³ (1.4 cu.in.) pump	34 l/min (9 gpm)
40 cm ³ (2.4 cu.in.) pump	68 l/min (18 gpm)
Hydraulic pump to front axle carrier	120 Nm (85 ft-lb)

ROCKSHAFT

Opening pressure of pressure relief valve	21000 to 23000 kPa (210 to 230 bar; 3050 to 3340 psi)
Rockshaft to transmission case	
Without increased lifting capacity	120 Nm (85 ft-lb)
With increased lifting capacity and 3650	
Hexagon socket screws	200 Nm (145 ft-lb)
Cap screws	120 Nm (85 ft-lb)

Adjusting Load Control Arm

Turn in control arm adjusting screw until it contacts arm and then back off	1/3 to 1/2 a turn
---	-------------------

Adjusting Valve Clearance

At commencement of lift turn adjusting screw clockwise	1/4 turn
Front edge of rockshaft control lever (Play between raising and lowering)	
With SG2 cab	12 to 15 mm (0.5 to 0.6 in.)
Without SG2 cab	2 to 4 mm (0.08 to 0.16 in.)

Adjusting Rockshaft Control Lever

With SG2 cab	
Front edge of rockshaft control lever in position	7 to 7.5
Without SG2 cab	
Front edge of rockshaft control lever to front end position of quadrant (measured at upper edge of quadrant)	12 + 1/-2 mm (0.47 +0.04/-0.08 in.)
Adjusting commencement of lift with load control	
With SG2 cab	
Front edge of control lever in position	2 to 2.5
Without SG2 cab	
Rear edge of control lever to rear end position of quadrant (measured at upper edge of quadrant)	50 ± 3 mm (2 ± 0.12 in.)

FRONT AXLE

Maximum permissible axial play of knuckle and spindle assy. in axle knee	0.76 mm (0.03 in.)
Front axle axial play	0 to 0.4 mm (0 to 0.015 in.)
Bearing pin to front axle carrier	100 Nm (75 ft-lb)
Axle knees to axle center	400 Nm (300 ft-lb)
Steering arm to knuckle and spindle assy.	230 Nm (170 ft-lb)

FRONT WHEELS

Wheel hub to axle spindle	50 Nm (35 ft-lb)
Steel disk to rim	
Bolts M16 × 120	250 Nm (185 ft-lb)
Bolts M16 × 74	280 Nm (210 ft-lb)
Wheel rim to hub	
Without front wheel drive	
Wheel bolts with cone	150 Nm (110 ft-lb)
Wheel bolts without cone	240 Nm (175 ft-lb)
With front wheel drive	300 Nm (220 ft-lb)
Front wheel toe-in	
Without front wheel drive	3 to 6 mm (1/8 to 1/4 in.)
With front wheel drive	0 to 3 mm (0 to 1/8 in.)

REAR WHEELS

Flanged Rear Axle

Steel disk to rim	
Bolts M16 × 120	250 Nm (185 ft-lb)
Bolts M16 × 74	280 Nm (210 ft-lb)
Cast disk to rim	230 Nm (170 ft-lb)
Rear wheels to rear axle	400 Nm (300 ft-lb)

Rack-and-Pinion Axle

Wheel rim to hub	
Steel type	400 Nm (300 ft-lb)
Cast type	230 Nm (170 ft-lb)
Pinion sleeve half to wheel hub	215 Nm (160 ft-lb)
Key sleeve half to wheel hub	400 Nm (300 ft-lb)



SUMMARY OF MOST IMPORTANT SPECIFICATIONS FOR 3050, 3350 and 3650 TRACTORS

SG2 CAB or RG2 ROLL-GUARD

SG2 cab or RG2 roll-guard to mounting brackets or final drives 200 Nm (145 ft-lb)
 Studs in final drive housings 35 Nm (25 ft-lb)

2-POST ROLL-GUARD

Supports of final drives 400 Nm (300 ft-lb)
 Supports to crossmember 230 Nm (170 ft-lb)

4-POST ROLL-GUARD

Roll-guard to fender 120 Nm (85 ft-lb)
 Fender to final drive 230 Nm (170 ft-lb)

CAPACITIES

Cooling system
Without SG2 cab 17 liters (4.5 U.S.gal.)
With SG2 cab 19 liters (5.0 U.S. gal.)

Crankcase
 Initial filling 12 liters (3.1 U.S.gal.)
 Oil change and renew filter 11.5 liters (3.0 U.S.gal.)

Transmission/Hydraulic System (with oil reservoir and oil cooler)

Initial filling
Without front wheel drive 53 liters (14.0 U.S.gal.)
With front wheel drive 56 liters (14.8 U.S.gal.)
With front PTO 58 liters (15.3 U.S.gal.)

Oil change and renew filter
Without front wheel drive 50 liters (13.2 U.S.gal.)
With front wheel drive 53 liters (14.0 U.S.gal.)
With front PTO 55 liters (14.55 U.S.gal.)

Front Wheel Drive

Front axle housing 7 liters (1.85 U.S.gal.)
 Wheel hub housings, each 0.75 liters (0.2 U.S.gal.)

Hydraulic Operated Clutch 250 cm³ (8.75 fl.oz.)

Air Conditioning System 1.8 kg (4 lb)



Thank you very much
for your reading.
Please click here
to get more information.