

415B BACKHOE LOADER

16,000 lb (7225 kg)

Transport Height.....	12 ft (3.68 m)
Transport Length.....	18 ft 10 in. (5.7 m)
Machine Width.....	8 ft 2 in. (2.5 m)

ENGINE.....John Deere 300 Series

Number of Cylinders and Displacement.....	4 cylinders, 239 cu in. (3.9 L)
Air Intake System.....	Naturally aspirated
Bore and Stroke.....	4.19 x 4.33 in. (106 x 110 mm)
Net hp at 2500 rpm.....	68 SAE hp (51.2 kW) DIN 54 kW
Maximum Torque at 1400 rpm.....	170 ft-lb (230 N•m)
Nozzle Opening Pressure:	
New.....	3200 ± 50 psi (22 060 ± 345 kPa)
Used.....	3000 ± 50 psi (20 680 ± 345 kPa)
Valve Clearance (Cold):	
Intake.....	0.014 in. (0.36 mm)
Exhaust.....	0.018 in. (0.46 mm)
Oil Pressure at 2500 rpm.....	50 ± 15 psi (345 ± 105 kPa)
Static Injection Pump Timing.....	Timing lines aligned w/flywheel located 13° BTDC
Dynamic Injection Pump Timing at Rated Load rpm*.....	16 + 0 - 1° BTDC
Speeds:	
Slow Idle.....	800 ± 50 rpm
Fast Idle.....	2675—2700 rpm
Rated Full Load.....	2500 rpm
Converter Stall (Min).....	2110 rpm
Cylinder Pressure Hot.....	300 psi (2070 kPa) cranking with injectors removed
Flywheel Teeth.....	142
Electrical System.....	12 V
Alternator.....	65 amp

*Note: *For latest information, see Dealer Technical Assistance Center (DTAC) Solution K000413.*

TRANSMISSION

Model and Speed:	
Standard.....	Four-speed transmission (1st and 2nd collar shift, 3rd and 4th synchronized) with hydraulic reverser
Limited Speed Countries.....	Three-speed transmission (1st collar shift, 2nd and 3rd synchronized) with hydraulic reverser
Reverser Pump Flow (Min.) at 180 psi (1240 kPa) and 1500 rpm:	
New.....	7.5 gpm (28.5 L/min)
Used.....	5.5 gpm (21 L/min)
Reverser System Pressure.....	180 ± 5 psi (1240 ± 35 kPa) at 1500 rpm
Reverser Lube Pressure.....	32—42 psi (220—290 kPa)
Torque Converter.....	Single stage, dual phase, overrunning stator, 280 mm (11 in.), stall ratio to 2.8 to 1

FRONT WHEEL DRIVE

Engaged on-the-go hydraulically. Automatic self-locking differential.

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HYDRAULIC SYSTEM—Close-Center

Main Hydraulic Pump Size.....	3 cu in. (50 cm ³)
Main Pump Standby Pressure	2550 ± 50 psi (17 585 ± 345 kPa)
Main Pump Flow at 2000 psi (13 790 kPa) and 2000 rpm:	
New	23 gpm (87 L/min)
Used	20 gpm (75.5 L/min)
Charge Pump Pressure	85—105 psi (585—725 kPa)
Charge Pump Flow at 100 psi (690 kPa) and 2000 rpm:	
New	20 gpm (76 L/min)
Used	14 gpm (53 L/min)
Priority Valve Setting.....	1525 ± 145 psi (10 500 ± 1000 kPa)
System Relief Valve.....	2700—3200 psi (18 630—2200 kPa)

RELIEF VALVE SETTINGS*

Loader:	
Bucket Rollback and Dump	4500 psi (31 030 kPa)
Backhoe:	
Crowd Out and In	2750 psi (18 960 kPa)
Boom:	
Lower	2750 psi (18 960 kPa)
Raise	4000 psi (27 580 kPa)
Bucket:	
Curl	3500 psi (24 150 kPa)
Dump	2750 psi (18 960 kPa)
Swing Left and Right	2610 psi (17 995 kPa)
Sideshift.....	3500 psi (24 135 kPa)

*Note: *Tolerance is + 200 - 0 psi (+ 1380 - 0 kPa)*

LUBRICANTS

See front of this book for the codes [].

CAPACITIES	U.S.	Imp.	Metric
Engine:			
Cooling System [N]	4.25 gal	3.5 gal	16 L
Crankcase w/ Filter [E].....	2.25 gal	1.9 gal	8.5 L
Fuel Tank	23 gal	19.2 gal	87 L
Transaxle and Hydraulic System [C]	19 gal	15.8 gal	72 L
Torque Converter and Reverser System [C].....	3.5 gal	2.9 gal	13.2 L