

## 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 <sup>3</sup> )     |
| Main Pump Standby Pressure .....                         | 2550 ± 50 psi (17 585 ± 345 kPa)   |
| Main Pump Flow at 2000 psi<br>(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<br>(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 |