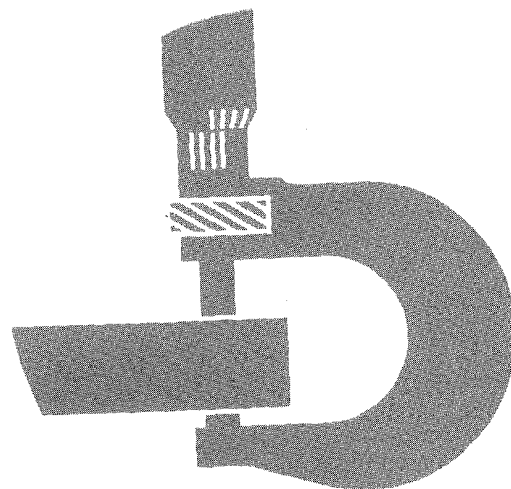


**John Deere  
JD644 and JD644-A  
Loaders**

**TECHNICAL  
MANUAL**



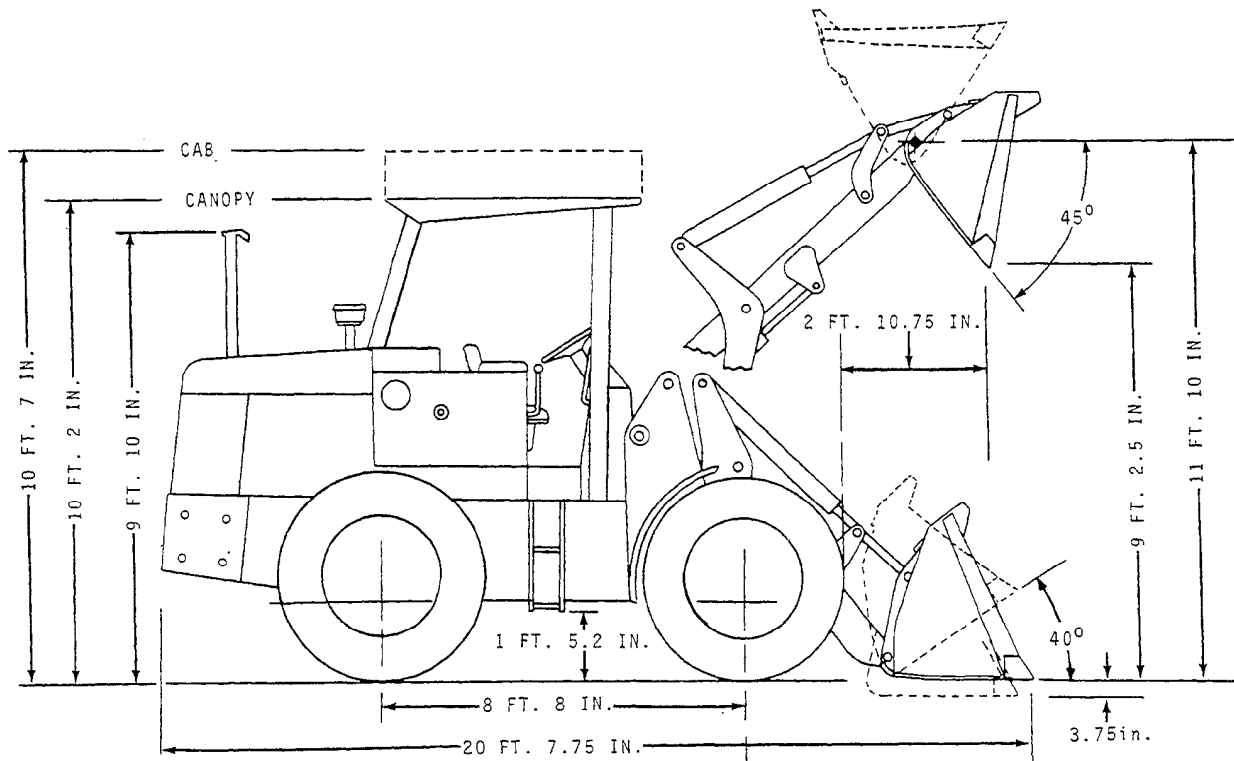
# JD644 and JD644-A Loaders TECHNICAL MANUAL TM-1011 (Apr-74)

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T29868

JD644 Loader Dimensions

**LOADER OPERATING INFORMATION**

Bucket Capacities ... 2-1/4 (early Models),  
 2-1/2, 3, and  
 4-1/2 cu. yd.  
 Breakout force (SAE) (2-1/2 yd.) 23,945 lbs.  
 3 yd. . . . . 20,960 lbs.  
 4-1/2 yd. . . . . 16,125 lbs.  
 2-1/4 yd (early models) . . . . . 22,866 lbs.

**LOADER DIMENSIONS (with 20.5 - 25 tires)**

Height to top of stack . . . . . 9 ft. 10 in.  
 Overall height (to top of canopy) 10 ft. 2 in.  
 Overall width . . . . . 8 ft.  
 Overall length (bucket level, no  
 bucket teeth) . . . . . 20 ft. 7.75 in.  
 Ground clearance . . . . . 1 ft. 5.2 in.  
 Wheelbase . . . . . 8 ft. 8 in.

Maximum bucket dump angle  
 (full height) . . . . . 45°  
 Dumping reach (full height)  
 (bucket at 45° angle) . . . . . 2 ft. 10.75 in.  
 Dumping clearance (full height)  
 (bucket at 45° angle) . . . . . 9 ft. 2.5 in.  
 Maximum lift (bucket at full height)  
 (at pivot pin) . . . . . 11 ft. 10 in.  
 Digging depth below ground  
 (bucket level) . . . . . 3.75 in.  
 Bucket width (2-1/4 yd.)  
 (Early Models) . . . . . 8 ft. 10 in.  
 (2-1/2 yd.) . . . . . 8 ft. 8.6 in.  
 (3 yd.) . . . . . 8 ft. 8.6 in.  
 (4-1/2 yd.) . . . . . 9 ft. 2.6 in.  
 Drott 4-in-1 . . . . . 8 ft. 10 in.  
 Bucket roll-back (ground level) . . . . . 40°  
 Operating weight (2-1/2 yd.)  
 (with cab) (approx.) . . . . . 26,472 lbs.

*The specifications and design information contained in this manual were correct at the time this machine was manufactured. It is John Deere's policy to continually improve and update our machines. Therefore the specifications and design information are subject to change without notice. Wherever applicable, specifications and design information are in accordance with SAE and IEMC standards.*

**Group 10**

**PREDELIVERY, DELIVERY, AND AFTER-SALES SERVICES**

**PREDELIVERY SERVICE**

Because of the shipping factors involved, plus extra finishing touches that are necessary to promote customer satisfaction, proper delivery service is of prime importance to the dealer.

A tag pointing out the factory-recommended procedure for predelivery service is attached to each new loader before it leaves the factory.

After completing the factory-recommended dealer checks and services listed on the predelivery tag, remove the tag from the loader and file it with the shop order for the job. The tag will then serve as a basis for certifying that the loader has received the proper predelivery service when that portion of the customer's John Deere Delivery Receipt is completed.

**TEMPORARY LOADER STORAGE**

| Service  | Specifications         | Reference         |
|--|------------------------|-------------------|
| Check radiator for coolant loss and antifreeze protection. | Bottom of filler neck. | .....             |
| Reduce shipping pressure of tires.                         | .....                  | Operator's Manual |
| Cover loader and tires for protection and cleanliness.     | .....                  | .....             |

**PREDELIVERY INSPECTION**

|   |                        |                      |
|---|------------------------|----------------------|
| <b>COOLING SYSTEM</b>   |                        |                      |
| Inspect radiator for coolant loss.  | Bottom of filler neck. | .....                |
| Check antifreeze protection.  | .....                  | .....                |
| <b>ELECTRICAL SYSTEM</b>  |                        |                      |
| Check battery terminals to be sure they are tight.                                | .....                  | .....                |
| Remove brake fuse from spare fuse holder and insert into fuse block. Test lights. | .....                  | Section 40, Group 10 |
| <b>TIRES AND WHEELS</b>   |                        |                      |
| Adjust tire pressure.   | .....                  | Operator's Manual.   |
| Check all wheel retainers for tightness.  | 275 ft-lbs torque.     | Operator's Manual.   |

BEFORE DELIVERING LOADER—Continued

| Service   | Specification  | Reference             |
|---|--|-----------------------|
| <b>TIRES AND WHEELS</b>                                 |  |                       |
| Adjust tire pressure.                                   | .....  | Operator's Manual.    |
| Check all wheel retainers for tightness.                | 275 ft-lbs torque.   | Operator's Manual.    |
| <b>LUBRICATION</b>                                      |  |                       |
| Check crankcase oil level.                              | To top mark on dipstick.   | Operator's Manual.    |
| Loader hydraulic system oil level.                      | Check oil level at window (JD303 Special-Purpose Oil).           | Operator's Manual.    |
| Check oil level in front and rear differentials.        | To level of check plug (cold) (JD303 Special-Purpose Oil).       | Operator's Manual.    |
| Check transmission oil level.                           | To top mark on dipstick (Hydraulic Transmission Fluid Type C-2). | Operator's Manual.    |
| Lubricate grease fittings.                              | SAE multipurpose grease.   | Operator's Manual.    |
| <b>ENGINE</b>   |  |                       |
| Check air cleaner.                                      | .....  | Operator's Manual.    |
| Fill fuel tank and start engine.                        | 50 U.S. gallons.   | Operator's Manual.    |
| Check operation of lights, gauges and indicator lights. | .....  | Operator's Manual.    |
| Check speed control linkage.                            | .....  | Section 20, Group 15. |
| Check engine speeds.                                    | .....  | Section 20, Group 15. |
| <b>OPERATION</b>  |  |                       |
| Shift transmission through all ranges.                  | .....  | Operator's Manual.    |
| Check hydraulic system operation.                       | .....  | Section 60, Group 5.  |
| Check clutch cutoff control disconnect.                 | .....  | Section 60, Group 5.  |
| Check brake operation.                                  | .....  | Section 60, Group 5.  |
| Check steering operation.                               | .....  | Section 60, Group 5.  |
| Check seat operation.                                   | .....  | Operator's Manual.    |
| <b>GENERAL</b>  |  |                       |
| Tighten accessible nuts and cap screws.                 | .....  | .....                 |
| Clean loader and touch up paint.                        | .....  | .....                 |

### DELIVERY SERVICE

A thorough discussion of the operation and service of a new loader at the time of delivery helps to assure customer satisfaction. Proper delivery should be an important phase of a dealer's program. A portion of the John Deere Delivery Receipt emphasizes the importance of proper delivery service.

It is a well-known fact that many complaints have arisen simply because the owner was not shown how to operate and service his new unit properly. Enough time should be devoted, at the customer's convenience, to introducing the owner to his new loader and explaining to him how to operate and service it.

The following procedure is recommended before the service man and the owner complete the delivery acknowledgments portion of the delivery receipt.

Using the loader operator's manual as a guide, be sure that the owner understands these points thoroughly:

1. Controls and Instruments.
2. How to start and stop the engine.
3. The importance of the break-in period.
4. All functions of the hydraulic system.
5. The importance of safety.
6. The importance of lubrication and periodic services.

After explaining and demonstrating the above features, have the owner sign the delivery receipt and give him the operator's manual.

### AFTER-SALES SERVICE

The purchaser of a new John Deere loader is entitled to a free inspection at some mutually agreeable time within the warranty period after the equipment has been "run in." The terms of this after-sales inspection are outlined on the back of the customer's John Deere delivery receipt.

The purpose of this inspection is to make sure that the customer is receiving satisfactory performance from his loader. At the same time, the inspection should reveal whether or not the loader is being operated, lubricated, and serviced properly.

If the recommended after-sales service inspection is followed, the dealer can eliminate a needless volume of service work by preventing minor irregularities from developing into serious problems later on. This will promote strong dealer - customer relations and present the dealer an opportunity to answer questions that may have arisen during the first few days of operation. During the inspection service, the dealer has the further opportunity of promoting the possible sale of other new equipment.

### AFTER-SALES INSPECTION

| Service  | Specifications         | Reference          |
|--|------------------------|--------------------|
| <b>COOLING SYSTEM</b>  |                        |                    |
| Check radiator coolant level.  | Bottom of filler neck. | .....              |
| Check hoses and connections for leaks.                                     | .....                  | .....              |
| <b>FUEL SYSTEM</b>   |                        |                    |
| Bleed fuel system.   | .....                  | Operator's Manual. |
| Check fuel line connections.   | .....                  | .....              |
| Check air cleaner element and unloading valve. Clean element if necessary. | .....                  | Operator's Manual. |



**AFTER-SALES INSPECTION—Continued**

| Service  | Specification   | Reference             |
|--|---|-----------------------|
| <b>ELECTRICAL SYSTEM</b>   |   |                       |
| Check specific gravity of batteries.                                   | Full charge - 1.260 at 80° F.   | Operator's Manual.    |
| Check level of battery electrolyte.                                    | To bottom of filler neck in each cell.  | Operator's Manual.    |
| Check alternator belt tension.   | 75 to 85 lbs. tension. After 3 minutes of operation, tension should be 60 lbs. minimum.   | Operator's Manual.    |
| Check fan belts tension.   | 100 to 110 lbs. tension. After 3 minutes of operation, tension should be 80 lbs. minimum. | Operator's Manual.    |
| Start engine and check action of starter, lights, and indicator lamps. | .....   | Operator's Manual.    |
| <b>LUBRICATION</b>   |   |                       |
| Check engine crankcase oil level.                                      | To top mark on dipstick.  | Operator's Manual.    |
| Check transmission oil level.  | To top mark on dipstick (J. D. Torque Converter Fluid Type C-2).                          | Operator's Manual.    |
| Check hydraulic system oil level.                                      | Check oil level at window (JD303 Special-Purpose Oil).                                    | Operator's Manual.    |
| Check oil levels in front and rear differentials.                      | To level of check plug (Cold oil) (JD303 Special-Purpose Oil).                            | Operator's Manual.    |
| <b>ENGINE</b>  |   |                       |
| Check engine valve tappet clearance.                                   | Intake - 0.018-inch.<br>Exhaust - 0.022-inch.   | Section 20, Group 5.  |
| <b>CONTROLS</b>  |   |                       |
| Check clutch cutoff disconnect.  | .....   | Section 50, Group 16. |
| Check return-to-dig valve operation.                                   | Check oil level and adjust (JD303 Special-Purpose Oil).                                   | Operator's Manual.    |
| <b>HYDRAULIC SYSTEM</b>  |   |                       |
| Check power steering.  | .....   | Section 60, Group 5.  |
| Check power brakes.  | Less than 2 inches of travel.   | Operator's Manual.    |
| Check brakes accumulator.  | 20 brake pedal applications with engine stopped.  | Section 60, Group 5.  |
| <b>TRANSMISSION</b>  |   |                       |
| Check general operation  | .....   | Operator's Manual     |
| Check torque on front output shaft yoke retaining nut.                 | 600-700 lb-ft   | Operator's Manual     |



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