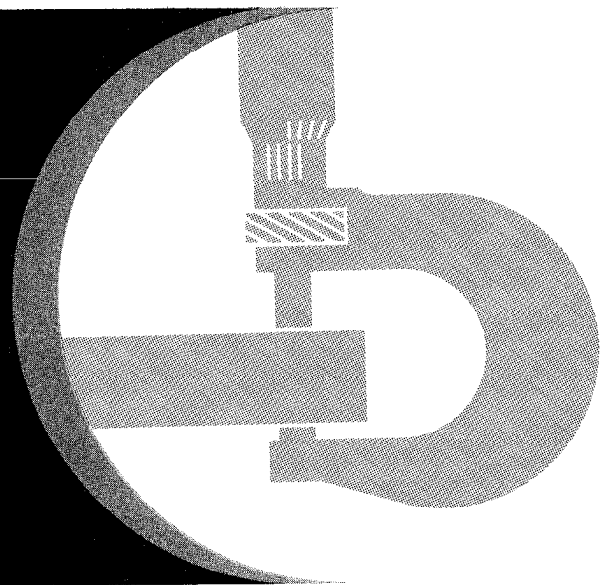


# John Deere 440, 440 Series-A and 440-B Skidders



## TECHNICAL MANUAL

John Deere Davenport Works  
TM-1009

Litho in U.S.A.

# JD440, JD440 SERIES-A, and JD440-B SKIDDERS

TECHNICAL MANUAL

TM-1009 (Mar-80)

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## Group 5 SPECIFICATIONS

	JD440		JD440 Series-A and JD440-B	
	Diesel	Gasoline	Diesel	
ENGINE				
Flywheel horsepower (observed) at 2500 rpm. . . . .	59.0	59.0	70	
Torque (ft-lbs) (observed) (nominal) . . . . .	145.0@1300 rpm	145.0@1300 rpm	173@1500 rpm	
Number of cylinders . . . . .	4	4	4	
Bore and stroke, inches . . . . .	3.86 x 4.33	3.86 x 3.86	4.02 x 4.33	
Displacement in cubic inches . . . . .	202.0	180.0	219.0	
Compression ratio . . . . .	16.3 to 1	7.5 to 1	16.7 to 1	
N.A.C.C. or A.M.A. horsepower rating				
for tax purposes . . . . .	23.84	23.84	23.84	
Firing order . . . . .	1, 3, 4, 2	1, 3, 4, 2	1, 3, 4, 2	
Slow idle (rpm) . . . . .	800	800	800	
Fast idle (rpm) . . . . .	2650	2700	2650	
Working speed range (rpm) . . . . .	1500 to 2500	1500 to 2500	1500 to 2500	
Governed speed range (rpm) . . . . .	800 to 2650	800 to 2700	800 to 2500	

**ELECTRICAL SYSTEM**

Battery voltage nominal . . . . . 12 volts  
 Battery specific gravity (corrected to 80°F.) (full charge) . . . . . 1.260  
 Battery terminal grounded . . . . . Negative  
 Alternator regulation . . . . . Voltage regulator

**SYNCHRO-RANGE TRANSMISSION (Direct-Drive)**

Type - Constant mesh with 8 forward and 4 reverse speeds (3 reverse speeds on JD440 Skidders). Four shift stations. Synchronized shifting within stations except reverse.

Clutch - 11 or 12-inch, dry-type, ceramic-faced, foot operated (early models). Ceramic button disc (later models).

**POWER SHIFT TRANSMISSION (440-A and 440-B)**

Type - Planetary, hydraulically actuated wet disk clutches and brakes. 8 forward and 4 reverse speeds hydraulically shifted and controlled by a single lever.

Disconnect Clutch - 12-inch, dry-type clutch operated by a hand lever (as a starting aid).

**TRAVEL SPEEDS (MPH)**

(with 18.4-26 Tires - no slippage)

Gear	1500 rpm		2500 rpm	
	Syncro-Range	Power Shift	Syncro-Range	Power Shift
1	1.2	0.9	2.0	1.5
2	1.8	1.3	3.1	2.2
3	2.4	2.0	4.0	3.4
4	3.1	2.6	5.2	4.4
5	3.8	3.4	6.4	5.6
6	5.1	4.4	8.5	7.3
7	6.4	5.8	10.6	9.7
8	10.2	9.7	16.9	16.1
1st Reverse	1.2	1.0	2.0	1.7
2nd Reverse	1.8	1.5	3.1	2.4
3rd Reverse	3.1	2.3	5.2	3.8
4th Reverse	5.1	2.9	8.5	4.9

**DRIVE AXLES**

Four wheel drive with inboard mounted planetary gears on all axles.

Oscillating front axle, fixed rear axle.

**DIFFERENTIALS**

Front - full differential with hydraulic lock.  
 Rear - solid axle with no differential action - full differential without hydraulic lock

**HYDRAULIC SYSTEM**

Type - Closed center, constant pressure system. Includes power steering, power brakes, differential lock, front blade, and remote functions.

**STEERING**

Full power steering controlled by steering wheel. Frame steered by two hydraulic cylinders. Turning clearance circle (with blade)

Skidders with Syncro-Range (Direct Drive)  
 (16.9 x 30 tires) . . . . . 35 ft. 6 in.  
 Skidders with Power Shift and Short Frame (16.9 x 30 tires) . . . . . 35 ft. 6 in.  
 Skidders with Power Shift and Long Frame (18.4 x 34 tires) . . . . . 38 ft. 8 in.  
 Turning radius  
 Skidders with Syncro-Range (16.9 x 30 tires) (Direct Drive) . . . . . 16 ft. 8 in.  
 Skidders with Power Shift and Short Frame (16.9 x 30 tires) . . . . . 16 ft. 8 in.  
 Skidders with Power Shift and Long Frame (18.4 x 34 tires) . . . . . 19 ft. 2 in.

**BRAKES**

Syncro-Range - Hydraulically operated disk type (Direct-Drive) on output shaft with single pedal control. Mechanical brake for parking and winching.  
 Power Shift - Axle-mounted single disk brakes, hydraulically operated with single pedal control. Mechanical brake for parking and winching.

TIRE OPTIONS

14.9 x 28 (early models) . . .	8 ply (short frame only)
16.9 x 30 . . . . .	8 ply
18.4 x 26 . . . . .	10 ply
18.4 x 34 (early models) . . .	10 ply (long frame only)
23.1 x 26 (early models) . . .	10 ply (long frame only)

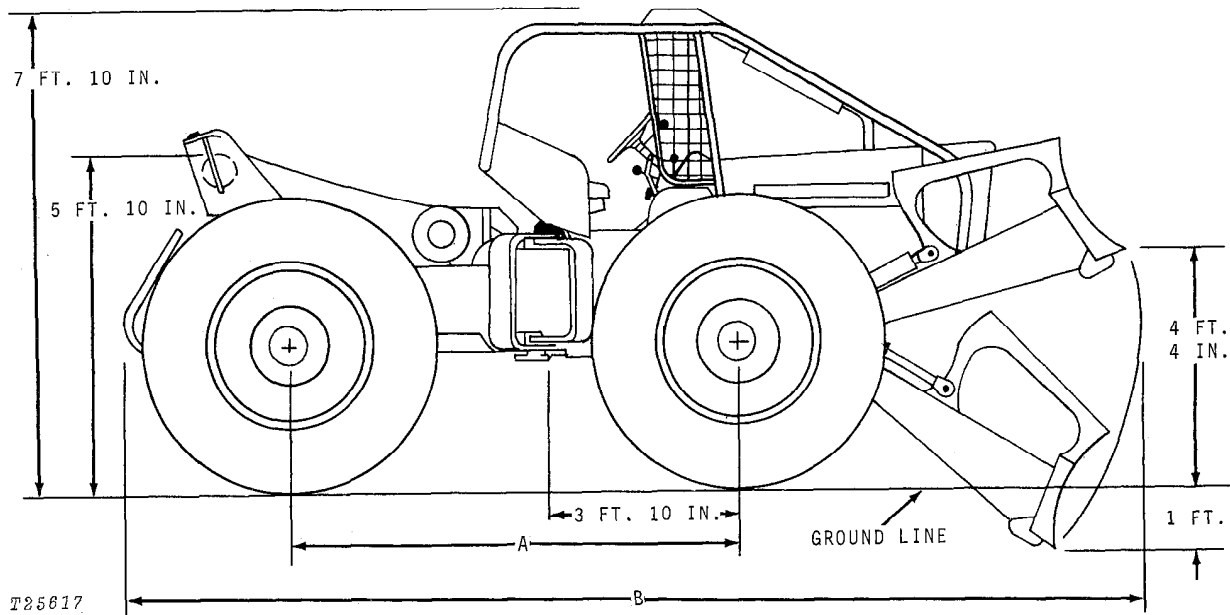
CAPACITIES (U.S. Standard Measures)

Fuel Tank . . . . .	24 gals.
(Power Shift with long frame) .	42 gals.
Cooling System (JD440) . . . . .	3 gals.
Cooling System (JD440-A and JD440-B) . . . . .	4 gals.
Engine Lubrication (including filter) . . . . .	9 qts.
Transmission case (includes hydraulic system) . . . . .	Syncro-Range 8 gals. Power Shift 9 gals.
Front Differential . . . . .	9 gals.
Rear Differential . . . . .	4-1/2 gals.
Oil Bath Air Cleaner (early units) . . . . .	1-1/2 qts.
Winch Housing (with filter) . . . . .	9 qts.

WINCH

Model . . . . .	No. 3305
Drum speed (at 2200 rpm engine speed) . . . . .	58-1/2 rpm
Drum diameter . . . . .	6 in.
Drum capacities*	
(with 1/2-inch cable) . . . . .	195 ft.
(with 5/8-inch cable) . . . . .	125 ft.
(with 3/4-inch cable) . . . . .	100 ft.
Cable speed (at 2200 rpm speed using 5/8-inch cable)	
(with bare drum) . . . . .	100 fpm
(with full drum) . . . . .	159 fpm
Cable pull (at 2200 rpm engine speed) (calculated)	
(with bare drum) . . . . .	14,500 lbs (JD440) 17,300 lbs (JD440 Series-A and JD440-B)
(with full drum) . . . . .	9,150 lbs (JD440) 10,800 lbs (JD440 Series-A and JD440-B)

\* Calculated Capacities - allowance must be made for loose or uneven spooling.



Syncro-Range  
 (Direct Drive)

Power Shift

**DIMENSIONS**

(Skidder with 18.4-26 tires)

A. Wheel base .....	7 ft. 5 in.	8 ft. 8 in.
B. Over-all length (front blade extended, to log bumper) .....	17 ft. 4 in.	19 ft. 4 in.
Over-all height (to top of canopy) .....	7 ft. 10 in.	7 ft. 10 in.
Ground clearance .....	1 ft. 6 in.	1 ft. 6 in.
Over-all width .....	7 ft. 8 in.	7 ft. 10 in.
Stability weight .....	12,400	13,800

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with I.E.M.C. and S.A.E. standards.)

# Group 10

## PREDELIVERY, DELIVERY, AND AFTER-SALES SERVICES

### PREDELIVERY SERVICE

Every new John Deere skidder leaves the factory so it can be delivered to the customer after a minimum of servicing.

Shipping factors, in addition to extra finishing touches needed for customer satisfaction, necessitate proper predelivery service on the part of the dealer.

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

After completing the factory-recommended checks and services listed on the predelivery tag, remove and file the tag with the job shop order. The tag and the customer's John Deere Delivery Receipt certify proper predelivery service when that section of his receipt is completed.

### TEMPORARY MACHINE STORAGE

Service	Specifications	Reference
Check radiator for coolant loss and antifreeze protection.	Midway between radiator cover and filler neck.	FOS Manual 30— ENGINES
Fill fuel tank.	.....	Operator's Manual
Check crankcase oil level.	.....	Operator's Manual
Relieve hydraulic pressure.	Stop engine, lower skidder blade and operate cylinders to relieve pressure.	.....
Cover exhaust inlet pipe.	.....	.....
Reduce shipping pressure of tires.	.....	Operator's Manual
Check torque on wheel nuts.	.....	Section 10, Group 25

### PREDELIVERY INSPECTION

#### ELECTRICAL SYSTEM

Check battery terminals to be sure they are tight.	.....	Operator's Manual
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#### COOLING SYSTEM

Inspect radiator for coolant loss.	Midway between radiator core and filler neck.	.....
Check antifreeze protection.	.....	FOS Manual 30— ENGINES

**PREDELIVERY INSPECTION—Continued**

Service	Specifications	Reference
<b>TIRES AND WHEELS</b>		
Adjust pressure of tires.	.....	Operator's Manual
Check torque on wheel nuts.	.....	Section 10, Group 25
<b>LUBRICATION</b>		
Check crankcase oil level.	To upper marks on dipstick.	Operator's Manual
Check transmission-hydraulic system oil level.	Between marks on dipstick. Type 303 Special-Purpose Oil.	Operator's Manual
Check winch housing oil level.	Level with oil level hole.	Operator's Manual
Check rear differential housing oil level.	Level with oil level hole.	Operator's Manual
Lubricate grease fittings.	.....	Operator's Manual
<b>ENGINE</b>		
Drain fuel tank sump and fuel filters.	.....	Operator's Manual
Check air cleaner.	.....	Operator's Manual
Fill fuel tank and start engine.	.....	Operator's Manual
Check operation of lights, gauges, and indicator lamps.	.....	Operator's Manual
Check speed control linkage for free operation.	.....	Section 20, Group 20
Check engine idle speeds.	.....	Section 20, Group 20
<b>OPERATION</b>		
Check engine clutch operation	.....	Section 50, Group 10
Shift transmission through all speeds.	.....	Operator's Manual
Check fire extinguisher.	.....	Operator's Manual
Check winching brake.	.....	Operator's Manual
Check steering, brakes, and hydraulic operations.	.....	Operator's Manual
Check seat operation.	.....	Operator's Manual



### Predelivery Inspection—Continued

#### GENERAL

Remove fire extinguisher cold shut. ....	.....
Tighten accessible nuts and cap screws. ....	Refer to torque chart. Section 10, Group 25
Clean skidder and touch up paint. ....	.....

#### DELIVERY SERVICE

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

Complaints may arise if the owner is not shown how to operate and service his new machine correctly. Devote enough time, at your customer's convenience, to introduce him to his new machine. Explain fully how to operate and service it.

The following procedure is recommended before the serviceman and owner complete the delivery acknowledgments section of the Delivery Receipt.

Using the operator's manual as a guide, make sure the owner thoroughly understands the following points:

1. Operation and use of controls and instruments.
2. Operation of the engine.
3. Importance of the break-in period.
4. Use of cast-iron ballast.
5. Operation and functions of the hydraulic system.
6. Importance of safety.
7. Importance of lubrication and periodic services.

After explaining and demonstrating the above points, have the owner sign the Delivery Receipt and give him his operator's manual.

#### AFTER-SALES INSPECTION

The purchaser of a new John Deere machine 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 customer's John Deere Delivery Receipt.

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

If recommended after-sales service inspection is followed, the dealer can eliminate minor irregularities which can develop into major service problems at a later date. This will promote strong dealer-customer relations and give the dealer an opportunity to answer questions that may have arisen during the initial operation.

During the inspection service, the dealer has the opportunity to promote the sale of additional new equipment and accessories.

## AFTER-SALES INSPECTION

Service	Specifications	Reference
Check radiator coolant level.	Midway between radiator cover and filler neck.	Operator's Manual
Clean external surface of radiator core.	.....	.....
Check hoses and connections for leaks.	.....	.....
<b>FUEL SYSTEM</b>		
Drain fuel tank sump and clean strainer.	.....	Operator's Manual
Remove water and foreign matter from transfer pump (AC only) and filter sediment bowls.	.....	Operator's Manual
Bleed fuel system.	.....	Operator's Manual
Tighten loose connections and check entire system for leaks. Correct if necessary.	.....	.....
Check air cleaner element and clean, if necessary.	.....	Operator's Manual
<b>ELECTRICAL SYSTEM</b>		
Check specific gravity and electrolyte level of batteries.	Full charge - 1.260 at 80°F.	FOS Manual 20 - ELECTRICAL SYSTEMS
Check belt tension.	3/4-inch belt deflection with 20 lb. force.	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 upper marks on dipstick.	Operator's Manual
Check transmission-hydraulic system oil level.	Between marks on dipstick. Use John Deere Type 303-Special-Purpose Oil.	.....
Check differential housing oil level.	Level with oil level hole.	Operator's Manual
Check winch housing oil level.	Level with oil level hole.	Operator's Manual

### AFTER-SALES INSPECTION—Continued

Service	Specifications	Reference
<b>ENGINE</b>		
Check valve clearance.	.....	Section 10, Group 15
Check engine speed under load, fuel consumption, and horsepower.	.....	FOS Manual 30 - ENGINES
<b>GENERAL</b>		
Check clutch pedal free travel (Syncro-Range).	.....	Operator's Manual
Check winching brake free travel.	.....	Operator's Manual
Check transmission linkage adjustment.	.....	Section 50
Check power steering, brakes, and other hydraulic functions.	.....	Section 70
Check winch operation.	.....	Section 80, Group 5
Tighten accessible nuts and cap screws.	Refer to "Torque Chart"	Section 10, Group 25
Check fire extinguisher operation	.....	Operator's Manual

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