

John Deere 2030 Tractor



JOHN DEERE

TECHNICAL MANUAL John Deere 2030 Tractor

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2030 TRACTOR

TECHNICAL MANUAL
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Section 10 GENERAL

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Group 5

GENERAL TRACTOR SPECIFICATIONS

	Gasoline	Diesel		
ENGINE			ELECTRICAL SYSTEM	
Maximum PTO horse- power*	60.34	60.65	Battery dry voltage	12 volts
Number of cylinders	4	4	Battery specific gravity at full charge (corrected to 80°F)	1.260
Bore and stroke, inches	4.02 x 4.33	4.02 x 4.33	Battery terminal grounded	negative
Displacement in cubic inches	219	219	CAPACITIES (U.S. Standard Measures)	
Compression ratio	7.5 to 1	16.3 to 1**	Fuel tank	19-1/2 gals.
Firing order	1-3-4-2	1-3-4-2	Cooling system	12 qts.
Intake valve clearance	0.014-in.	0.014-in.	Crankcase (including filter)	6 qts.
Exhaust valve clear- ance	0.022-in.	0.018-in.	Transmission-hydraulic system	10 gals.
Slow idle	600 rpm	800 rpm***	On Mannheim tractors	
Fast idle	2680 rpm	2650 rpm	Dry system	9.5 gals.
			At service intervals	7.4 gals.
			Belt pulley	2-1/2 pts.
			CLUTCH	Single or dual stage, spring-loaded, dry disk, foot-operated.

*Official test at 2500 engine rpm (650 or 1210 PTO rpm)
 **16.2 to 1 on Mannheim tractors
 ***650 rpm on Mannheim tractors

TRANSMISSION

Type Collar shift
Gear selections 8 forward and 4 reverse
Shifting 4 speeds each in high, low, and reverse ranges. Park lock included.

HI-LO SHIFT

Hydraulic wet clutches, no clutching required. Shifting from high to low decreases ground speed 25.8 percent (21 percent on Mannheim tractors) and increases pull power up to 35 percent (27 percent on Mannheim tractors) in any of the transmission speeds.

REVERSER

Hydraulic wet clutches, no clutching required. Provides reverse speeds for gear selections 1 through 4 which are 16% faster than corresponding forward speeds.

BRAKES Hydraulically actuated, wet-disk type.

DIFFERENTIAL AND FINAL DRIVES

Type Planetary reduction final drives with spiral bevel gear drive differential.
Differential lock ... Hand or foot operated mechanical lock, spring-loaded out of engagement.

POWER TAKE-OFF

Type Continuous-running or independent types available in 540 and/or 1000 rpm options. On Mannheim tractors, independent types only.

HYDRAULIC SYSTEM

Type Closed center, constant pressure.
Standby oil pressure 2250 psi

STEERING

Type ... Hydraulically actuated, with manual provision in case of hydraulic failure.

FRONT TIRES*

Size	Ply Rating
6.00-16	6
7.5L-15	6
7.50-16	6
6.00-14	4
6.00-16	4
27/9.50-15	10
6.00-16	6
7.5L-15	6
7.50-16	6

REAR TIRES*

13.6-28	4
14.9-28	6
16.9-28	6
14.9-24	6
16.9-24	6
18.4-26	6
12.4-36	4
13.6-38	4
15.5-38	6

* Additional tire sizes available.

DIMENSIONS*

Over-all height 81-1/4 in.
Over-all width, min 69-1/2 in.
Over-all length
(with 3-point hitch) 139-1/2 in.
Shipping weight (approx.)
Gasoline tractor 4720 lbs.
Diesel tractor 4800 lbs.

* 14.9-28 rear tires and 6:00-16 front tires

Group 10

PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

PREDELIVERY SERVICE

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

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

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

Temporary Tractor Storage

Service	Specification	Reference
Check radiator for coolant loss and antifreeze protection	Midway between core and filler neck
(Mannheim Tractors)		
Electrical System		
IMPORTANT: When the tractor is delivered red cable is not connected to alternator terminal "B+".		
Further, the alternator three-terminal plug is not connected. Connect cable and plug before operating tractor for the first time.		
If the tractor is to be operated for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the key switch before stopping the engine by means of the fuel pump shut-off cable. Further it is recommended to use additional current (lights) while engine is running. Insulating tape on battery cable end leading to starting motor should not be removed. If this advice is disregarded, damage to alternator and regulator may result.		
Remove batteries. Drain electrolyte and store batteries	Store at room temperature	Section 40, Group 35
(All Tractors)		
Drain fuel system (gasoline)		Operator's manual
Reduce shipping pressure of tires		Operator's manual
Cover tractor and tires for protection and cleanliness

Before Delivering Tractor

Service	Specification	Reference
Electrical System (U.S. Tractors)		
Remove resistor and connect wiring lead (red) to alternator output terminal. Do not attempt to polarize Alternator connected. Serial No. (187301-)	Section 40, Group 10
Install electrolyte and charge batteries. Tractors Serial No. (187301-)	FOS-20 Manual
Check electrolyte level and specific gravity		
Punch date code on battery tag		
Check battery terminal connections		Section 40, Group 5
Check alternator belt tension	3/4-inch deflection, 20 lb. force	Operator's manual

Electrical System (Mannheim Tractors)

IMPORTANT: When the tractor is delivered, red cable is not connected to alternator terminal "B+". Section 40, Group 35

Further, the alternator three-terminal plug is not connected. Connect cable and plug before operating tractor for the first time.

If the tractor is to be operated for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the key switch before stopping the engine by means of the fuel pump shut-off cable. Further it is recommended to use additional current (lights) while engine is running. Insulating tape on battery cable end leading to starting motor should not be removed.

If this advice is disregarded, damage to alternator and regulator may result.

If the batteries are to be installed in the tractor, remove insulating tape on terminal of battery cable. This to be done if the tractor was shipped with dry-charged batteries or without batteries.

Connect batteries in the proper polarity (negative to ground). If they are improperly connected, the rectifier diodes will be immediately destroyed. Section 40, Group 35

First connect positive (+) cable and then ground (-) strap of each battery. Only then start tractor engine. Section 40, Group 35

Before Delivering Tractor—Continued

Service	Specification	Reference
Cooling System		
Inspect radiator for coolant loss	Midway between core and filler neck	
Check antifreeze protection		
Tires and Wheels		
Adjust pressure of tires		Operator's manual
Check front wheel hub bolts, rear wheel rim clamp nuts, and rear wheel cap screws for tightness	Front hub bolts; Tires 6.00-16 or smaller . . . 85 ft-lb. Tires larger than 6.00-16 . . . 100 ft-lb. Rear hub bolts-300 ft-lb. Rim clamp nuts-170 ft-lb. Rear wheel-to-flanged axle; cast-130 ft-lb., steel wheel-100 ft-lb.	Operator's manual
Lubrication		
Check crankcase oil level	To upper marks on dipstick	Operator's manual
Check transmission-hydraulic system oil level	To top of "SAFE" range on dipstick. Type 303 Special-Purpose Oil	Operator's manual
Lubricate grease fittings	John Deere Multi-purpose Lubricant	Operator's manual
Check distributor lubrication	Distributor cam lubricant	Section 40, Group 20
Check belt pulley oil level		Operator's manual
Engine		
Check air cleaner		Operator's manual
Drain sediment from diesel fuel filter		Operator's manual
Fill fuel tank and start engine	19-1/2 U.S. gallons	Operator's manual
Check operation of starter, alternator, lights, flashers, gauges, and indicator lights		Operator's manual

Before Delivering Tractor—Continued

Service	Specification	Reference
Check engine timing.....	Diesel - TDC Gasoline - "S" mark, 2500 rpm	Operator's manual
Check speed control linkage for free operation		Section 20, Group 35 for gasoline tractors; Section 30, Group 25 or Group 55* for diesel tractors.
Check engine speeds		
Gasoline	Slow idle, 600 rpm High idle, 2680 rpm Foot throttle, 2800 rpm	Section 20, Group 35
Diesel	Slow idle, 800 rpm, 650 rpm* High idle, 2650 rpm Foot throttle, 2800 rpm, 2650 rpm*	Section 30, Group 25 or Group 55*
Operation		
Check transmission clutch free travel (tractors without reverser)	Approximately 1-inch free pedal travel	Operator's manual
Check clutch wear adjustment (tractors with reverser)	5-1/4 in.	Operator's manual
Shift transmission through all speeds		Operator's manual
Check power takeoff operation		Operator's manual
Check differential lock operation		Operator's manual
Check steering operation		Operator's manual
Check brakes	Bleed brakes if spongy, check for excessive pedal travel, and even position	Operator's manual
Check hydraulic system operation: Rockshaft, and remote cylinder		Operator's manual
Check 3-point hitch operation		Operator's manual
Check negative stop screw adjustment		
Tractors without Independent PTO	1/4 turn	Section 70, Group 30
Tractors with Independent PTO	1/3 turn	Section 70, Group 30
All Mannheim tractors	1/8 turn	Section 70, Group 30
Check operation of reverser, or Hi-Lo shift		Operator's Manual
Check seat operation		Operator's manual

*Mannheim tractors

Before Delivering Tractor—Continued

Service	Specification	Reference
General		
Tighten accessible nuts and cap screws		
Clean tractor and touch up paint		

DELIVERY SERVICE

A thorough discussion of the operation and service of a new tractor at the time of delivery helps to assure complete 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 tractor properly. Enough time should be devoted, at the customer's convenience, to introducing the owner to his new tractor and explaining to him how to operate and service it.

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

Using the tractor 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. How to use liquid or cast-iron ballast.
5. All functions of the hydraulic system.
6. Using the power takeoff and belt pulley.
7. The importance of safety.
8. 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 SALE INSPECTION

The purchaser of a new John Deere tractor is entitled to a free inspection within the warranty period after the equipment has been "run in." The terms of this after-sale inspection are outlined on the back of the John Deere Delivery Receipt.

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

If the recommended after-sale 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.

The following inspection program is recommended within the first 100 hours of tractor operation.

Inspection Procedure

Service	Specification	Reference
Cooling System		
Check radiator coolant level.	Midway between core and filler neck	
Clean external surface of radiator core		
Check hoses and connections for leaks		
Fuel System		
Remove water and foreign matter from fuel pump 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 unloading valve. Clean element if necessary		Operator's manual
Electrical System		
Check specific gravity of battery(s).	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

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