

4430 Tractor

TECHNICAL MANUAL
4430
Tractor

4430 TRACTOR

Serial No. (-33109)

TECHNICAL MANUAL

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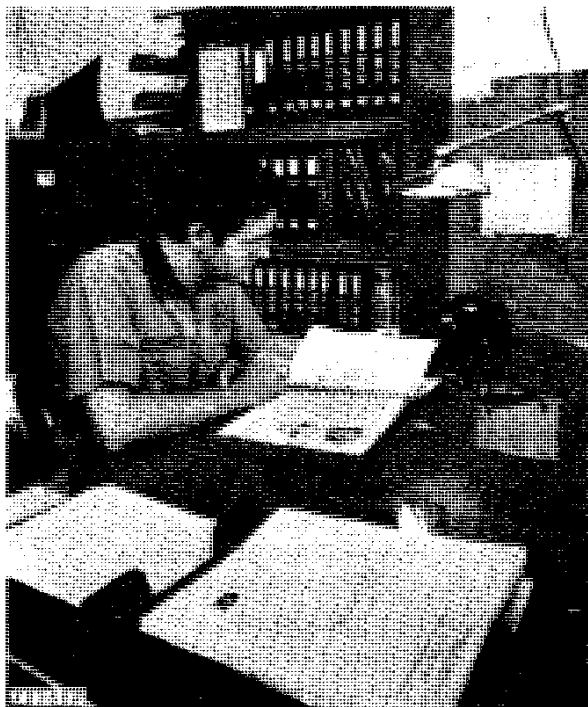
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All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

INTRODUCTION



Use FOS Manuals for Reference

This technical manual is part of a twin concept of service:

- *FOS Manuals—for reference*
- *Technical Manuals—for actual service*

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

Fundamentals of Service (FOS) Manuals cover basic theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failures and their causes. FOS Manuals are for training new men and for reference by experienced men.

Technical Manuals are concise service guides for a *specific* machine. Technical Manuals are on-the-job guides containing only the vital information needed by a journeyman mechanic.



When a serviceman should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.



Use Technical Manuals for Actual Service

Some features of this technical manual:

- *Table of contents at front of manual*
- *Exploded views showing parts relationship*
- *Photos showing service techniques*
- *Specifications grouped for easy reference*

This technical manual was planned and written for you—a journeyman mechanic. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.

Using the technical manual as a guide will reduce error and costly delay. It will also assure you the best in finished service work.



This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Section 10

GENERAL

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Group 5

GENERAL TRACTOR SPECIFICATIONS

PTO HORSEPOWER (Official test
at 2200 engine rpm):125.88

ENGINE:

Type6-cylinder, in-line, valve-in-head,
diesel, turbocharged

Bore and stroke 4¼ in. x 4¾ in.

Displacement 404 cu. in.

Compression ratio 15.5 to 1

Firing order 1-5-3-6-2-4

Valve clearance Intake—0.018 in.
Exhaust—0.028 in.

Injection pump timing TDC

Engine Speeds:

Working range1500 to 2200 rpm

Maximum transport speed 2400 rpm

Engine speeds:

Slow idle 800 rpm

Fast idle 2400 rpm

LUBRICATION SYSTEM:

Full pressurized with full-flow micronic oil filter,
water cooled oil cooler, and bypass valves for
filter and cooler.

FUEL SYSTEM:

Type Direct Injection

Filters Two-stage with replaceable
impregnated paper element

Injection pump type Multiple plunger,
in-line

Air cleaner Dry type, with safety element

COOLING SYSTEM:

Type Pressurized with centrifugal pump

Temperature control Heavy-duty
thermostats

CAPACITIES:

Fuel tank 46 U.S. gals.

Cooling system 30 U.S. qts.

Crankcase (with filter change) ... 17 U.S. qts.

Transmission—hydraulic system (add 4½
gals. to capacity if equipped with Power Front
Wheel Drive):

Quad-range or Syncro-range .. 13 U.S. gals.

Power shift transmission 11 U.S. gals.

Hi-crop final drive housing 1¾ U.S. qts.

SYNCRO-RANGE TRANSMISSION:

Type Syncro-range, constant mesh

SYNCRO-RANGE TRANSMISSION (Continued)

Clutch

- Perma-Clutch Hydraulically operated,
wet clutch, multiple disk
- Gear selections 8 forward and 2 reverse
- Shifting 4 stations, synchronized forward
speed shifting within stations

QUAD-RANGE TRANSMISSION:

- Type 2-speed, power shifted, planetary
and 8-speed, syncro-range
transmission with constant mesh gears
- Perma-Clutch Hydraulically operated
multiple disk wet clutch
- Gear selections 16 forward and 6 reverse
- Shifting
 - Range selector lever Collar shifted
between ranges
 - Speed selector lever
 - Forward-rearward lever movement
 - Mechanically synchronized forward
speed shifting of syncro-range
transmission
 - Sideways lever movement Power shift-
ed planetary transmission speeds

POWER SHIFT TRANSMISSION:

- Type Planetary gears, hydraulically
actuated wet disk clutches and brakes
- Gear selections 8 forward and 4 reverse
- Shifting Hydraulic, powershifting con-
trolled by speed selector

POWER TAKE-OFF

- Type Independent PTO with rear
power take-off controlled by hand-
operated clutch lever stub shafts
used for dual speed PTO
speed conversion
- Speed (2200 engine rpm) Dual speed—540
or 1000 rpm; single speed—1000 rpm
- PTO ahead of drawbar
 - hitch point 540 rpm—14 in.
1000 rpm—16 in.

ELECTRICAL SYSTEM

- Type 12-volt, negative grounded
- Batteries:**

- Diesel Two, 6-volt, 5D group, 800
amps cold cranking at 0°F,
376 minutes reserve capacity at 25 amps
- Alternator 12-volt, 55 amp with
Sound-Gard body, 37 amp without
Sound-Gard body

POWER FRONT-WHEEL DRIVE

- Type Hydraulic motor driven with
planetary gear reduction in wheel hub,
uses pressure oil from hydraulic system
- Torque Low (series connected) and
high (parallel connected)
- Controls Solenoid-operated control
valves, synchronized with
transmission controls

HYDRAULIC SYSTEM

- Type Closed center, constant pressure
- Actuates power steering, power brakes,
power front-wheel drive, and
implement control
- Standby pressure 2250 psi

BRAKES

- Type Hydraulically actuated power
disk type operating in oil

STEERING

- Type Hydraulically actuated power,
manual operation in case of
hydraulic failure

FRONT TIRES* 7.50-15, 6-ply rating

REAR TIRES* 20.8-34, 6-ply rating

WHEEL TREADS See tractor
operator's manual

**Additional tire sizes available.*

GROUND SPEEDS (IN MPH, 18.4-38 REAR TIRES)

Gear	SYNCHRO-RANGE AND POWER SHIFT TRANSMISSION			
	Synchro-Range		Power Shift	
	1500 rpm	2200 rpm	1500 rpm	2200 rpm
1st	1.4	2.0	1.2	1.8
2nd	2.2	3.2	1.7	2.5
3rd	2.9	4.2	2.6	3.8
4th	3.7	5.4	3.4	4.9
5th	4.6	6.8	4.4	6.5
6th	6.1	8.9	5.7	8.3
7th	7.8	11.5	7.6	11.2
8th	12.8	18.8	12.9	18.9
1st reverse	2.8	4.1	1.5	2.2
2nd reverse	4.5	6.6	2.1	3.1
3rd reverse	—	—	3.2	4.7
4th reverse	—	—	4.1	6.0

QUAD-RANGE TRANSMISSION

Range	Speed	Forward		Reverse	
		1500 rpm	2200 rpm	1500 rpm	2200 rpm
A	1	1.4	2.0	2.2	3.2
	2	1.8	2.6	2.8	4.1
	3	2.3	3.4	—	—
	4	2.9	4.3	—	—
B	1	3.2	4.7	5.1	7.5
	2	4.0	5.9	6.5	9.5
	3	5.3	7.7	—	—
	4	6.7	9.8	—	—
C	1	3.8	5.5	6.0	8.8
	2	4.8	7.0	7.7	11.2
	3	6.2	9.1	—	—
	4	7.9	11.6	—	—
D	1	5.8	8.5	—	—
	2	7.3	10.8	—	—
	3	9.6	14.0	—	—
	4	12.2	17.8	—	—

DIMENSIONS

	Tractor without Roll-Gard	Tractor with Sound-Gard Body
Wheel base	106 $\frac{5}{8}$ in.	106 $\frac{5}{8}$ in.
Over-all length	160 $\frac{3}{4}$ in.	160 $\frac{3}{4}$ in.
Height to muffler cover	108 $\frac{5}{8}$ in.	125 $\frac{1}{4}$ in.
Height to steering wheel	85 $\frac{1}{4}$	—
Height to top of Sound-Gard Body	—	114 in.
Over-all width (regular axle) ..	89 $\frac{5}{8}$ in.	89 $\frac{5}{8}$ in.
SHIPPING WEIGHT**	9,732 lbs.	10,762 lbs.

**With equipment for average field service, less fuel and ballast. Add 125 lbs. if equipped with a Quad-Range transmission. Add 375 lbs. if equipped with a Power Shift transmission. Add 450 lbs. for a 4-post Roll-Gard, and add approximately 1000 lbs. for Power Front Wheel Drive.

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.

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

NOTE: A Caplug is placed in the muffler outlet to prevent turbocharger rotation during transit. Re-

move Caplug before unloading tractor. Reinstall Caplug before transporting the tractor to the customer.

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.

Temporary Tractor Storage

Service	Specification	Reference
Check radiator for coolant loss and antifreeze protection	2 inches above baffle .....	.....
Reduce shipping pressure of tires .....	.....	Operator's manual
Cover tractor and tires for protection and cleanliness .....	.....	.....

Before Delivering Tractor

ELECTRICAL SYSTEM

Install electrolyte and charge batteries .....	.....	FOS-20 Manual
Punch date code on battery tag .....	.....	FOS-20 Manual
Connect Power Front-Wheel Drive wiring harness at connector near control valves ..	.....	Section 40, Group 5
Install light switch knob .....	.....	.....
Clean terminals and connect battery cables ..	.....	Section 40, Group 5
Check light operation and adjustment. Remove flasher if required by local governmental regulations .....	.....	Operator's manual

COOLING SYSTEM

Inspect radiator for coolant loss	2 inches above baffle .....	.....
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 retainer cap screws for tightness	Front hub bolts—100 ft-lbs Rear hub bolts—300 ft-lbs Rim clamp nuts—170 ft-lbs .....	.....

Before Delivering Tractor—Continued

Service	Specification	Reference
Check installation of wheel-stop snap ring on outside ends of rear axle .....	.....	.....
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 Multipurpose lubricant	Operator's manual
ENGINE		
Check air intake system — air cleaner and hose connections .....	.....	Operator's manual
Fill fuel tank and start engine	Capacity—46 U.S. gallons	Operator's manual
Check operation of starter, gauges, and indicator lights .....	.....	Operator's manual
Check engine timing	TDC	Section 30, Group 15
Check speed control and fuel shut-off linkages for free operation and adjustment .....	.....	Section 30, Group 25
Check engine speeds	800 rpm, slow idle speed 2400 rpm, fast idle speed	Section 30, Group 20
OPERATION		
Shift transmission through all speeds .....	.....	Operator's manual
Check throttle linkage for free operation .....	.....	Section 30, Group 20
Adjust headlights. Check operation of all lamps .....	.....	Operator's manual
Check Power Front-Wheel Drive operation ..	.....	Operator's manual
Check power takeoff operation .....	.....	Operator's manual
Check differential lock operation .....	.....	Operator's manual
Check brakes and accumulator	3 in. maximum travel for one emergency application immediately after stopping engine	Operator's manual
Check hydraulic system operation: Rockshaft, steering, and remote cylinder ..	.....	Operator's manual
Check implement hitch operation .....	.....	Operator's manual
Check seat operation .....	.....	Operator's manual

Before Delivering Tractor—Continued

Service	Specification	Reference
Check operation of pressurizer blowers, air conditioning system and heater system (if equipped)		Operator's manual
Check air conditioner compressor drive belt . ¼ in. deflection, 15 lb. pull		Operator's manual
Check Sound-Gard Body mount caps	Tighten until effort is required to rotate cap by hand (early models); 9-11 ft-lbs torque required to rotate cap (late models with holes)	Section 10, Group 25
Check window, door, and cowl seals for proper installation		
Check windshield wipers for proper sweep angle and park in off position		Operator's manual
GENERAL		
Check 4-post Roll-Gard mounting bolts for correct torque	150 ft-lbs.	Section 10, Group 25
Check front axle-to-knee bolts for correct torque	Narrow, regular, wide, and PFWD — 370 ft-lbs Hi-Crop — 445 ft-lbs.	Section 80, Group 5
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.

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.

IMPORTANT: Install Caplug in muffler outlet if transporting tractor to customer. This will prevent damage to the turbocharger caused by air passing through the turbocharger and rotating it without lubrication when the engine is stopped.

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 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.
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.

Service	Specification	Reference
COOLING SYSTEM		
Check radiator coolant level	2 inches above baffle .....	.....
Clean external surface of radiator .....	.....	.....
Check hoses and connections for leaks .....	.....	.....
FUEL SYSTEM		
Remove water and foreign matter from filter sediment bowl .....	.....	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
Check fan belt tension	1 inch deflection with a 25 pound force	Operator's manual

Service	Specification	Reference
Start engine and check operation of starter, lights, indicator lamps, and controls		Operator's manual
LUBRICATION		
Check crankcase oil level	To upper marks on dipstick	Operator's manual
Check transmission-hydraulic system oil level	In "SAFE" range on dipstick Use John Deere Type 303 Special-Purpose Oil	Operator's manual
ENGINE		
Check valve clearance	Intake—0.018 inch Exhaust—0.028 inch	Operator's manual
Check engine speed under load, fuel consumption, and horsepower	Specification	Group 15 of this section
CLUTCHES AND DIFFERENTIAL LOCK		
Shift transmission through all speeds		Operator's manual
Check Power Front-Wheel Drive operation		Operator's manual
Check PTO clutch and brake operation		Section 50, Groups 45, and 50
Check Differential Lock Operation		Operator's manual

Service	Specification	Reference
HYDRAULIC SYSTEM		
Check rockshaft and remote cylinder operation		Section 70, Group 30
Check negative signal adjustment		Section 70, Group 30
Check power steering	Smooth, easy operation	Section 70, Group 20
Check brakes and accumulator	3 in. maximum travel for one emergency application immediately after stopping engine	Operator's manual

NUTS AND CAP SCREWS

Tighten accessible nuts and cap screws that seem to require adjustment

RECOMMENDED TORQUE IN FOOT-POUNDS



Bolt Diameter	Plain Head*	Three Radial Dashes*	Six Radial Dashes*
1/4	6	10	14
5/16	13	20	30
3/8	23	35	50
7/16	35	55	80
1/2	55	85	120
9/16	75	130	175
5/8	105	170	240
3/4	185	300	425
7/8	160	445	685
1	250	670	1030

*The types of bolts and cap screws are identified by head markings as follows:

Plain Head: regular machine bolts and cap screws.

3-Dash Head: tempered steel high-strength bolts and cap screws.

6-Dash Head: tempered steel extra high-strength bolts and cap screws.

Group 15

TUNE-UP

Before tuning up a tractor, determine whether a tune-up will restore operating efficiency. When there is doubt, the following preliminary tests will help to determine if the engine can be tuned up.

If the condition is satisfactory, proceed with the tune-up. Choose from the following procedures only those necessary to restore the unit.

Preliminary Engine Testing

Operation	Specification	Section-Group Reference
Dynamometer Test (at 2200 engine rpm full load)	Compare with previous recorded output; compare with output after tune-up. See chart below	FOS—30 Manual, Chapter 12
Compression Test	330-370 psi at 200-250 rpm	FOS—30 Manual, Chapter 12
Engine Coolant Check Test	No air bubbles or oil film in radiator	FOS—30 Manual, Chapter 12

Engine Tune-Up

Operation	Specification	Section-Group Reference
Air Intake System		
Service air cleaner and check system for leaks		FOS—30 Manual, Chapter 12
Check system for restrictions using water manometer		FOS—30 Manual, Chapter 12
Normal reading (with clean filter elements at full load) . . .	10½ in. of water at 2200 rpm (tractors with extension) 11 in. of water at 2200 rpm (tractors without extension)	30-10
Maximum permitted reading . . .	25 in. of water at 2200 rpm	30-10
Check intake manifold pressure . .	15-17 psi at full load	30-10
Check restriction indicator light operation	24-26 in. at 2200 rpm	30-10

ENGINE-PTO SPEED RELATIONSHIP

Engine RPM	PTO Speed	Rated PTO Horsepower*
2200 (SRT & QRT, full load)	540 or 1002	125.88
2200 (PST, full load)	544 or 1011	—
2400 (SRT & QRT, fast idle)	589 or 1093	—
2400 (PST, fast idle)	594 or 1103	—

*Official test

Engine Tune-Up—Continued

Operation	Specification	Section-Group Reference
Exhaust System		
Check system for leaks		FOS—30 Manual, Chapter 12
Check muffler and exhaust pipe for restrictions		FOS—30 Manual, Chapter 12
Crankcase Ventilating System		
Check system for restrictions		FOS—30 Manual, Chapter 12
Cooling System		
Clean grille screen, radiator core, and oil cooler core		20-30
Clean and flush system; check thermostats	Opening range 177°F to 182°F	20-30
Check pressure cap	6.25 to 7.50 psi release pressure	20-30
Cylinder Head and Valves		
Torque cylinder head cap screws ..	130 ft-lbs in sequence	20-10
Set valve clearance	Intake—0.018 in. Exhaust—0.028 in.	20-10
Diesel Fuel System		
Check fuel tank for water		30-15
Check fuel pump pressure	20-25 psi at 2200 rpm full load	30-15
Change filter		30-15
Injection Pump:		
Service and check timing	TDC	30-15
Adjust throttle linkage	800±20 rpm, slow idle speed 2375±50 rpm, fast idle speed 2200 rpm, full load speed	30-20
Lubrication system		
Check engine oil pressure	40-50 psi (1900 rpm)	20-25
Charging System		
Check battery specific gravity	1.240-1.260	40-10
Check battery water consump- tion and electrolyte level		40-10
Clean battery, cables, and box		40-10
Check alternator belt tension	25 lbs. at 1 in. belt deflection	40-10
Check alternator output	32 amps at 13 to 15 volts (1880 engine rpm)—tractors without Sound-Gard Body 50 amps at 13 to 15 volts (1880 engine rpm)—tractors with Sound-Gard Body	40-10
Check alternator regulated voltage	14.2-14.6 volts (operating)	40-10

Engine Tune-Up—Continued

Operation	Specification	Section-Group Reference
Starting System		
Check start-safety switch operation		40-15 & 20
Check battery voltage when starting	Min. 9 volts (cranking)	40-15 & 20
Check starter current draw	Diesel—approx. 500-600 amps	40-15 & 20
Check operation of alternator, oil pressure, and Power Shift transmission filter restriction indicator lights		40-25

Final Engine Test

Operation	Specification	Section-Group Reference
Dynamometer Test (at 2200 engine rpm)	Compare with previous recorded output; record for future use	FOS—30 Manual, Chapter 12

Tractor Tune-Up

Operation	Specification	Section-Group Reference
Transmission		
Check shifting		50-15
Check for proper operation without excessive noise		50-15 & 20
Perma-Clutch actuating pressure ..	170-180 psi at 1900 engine rpm	50-10
Power Shift transmission pump pressure	175-195 psi	50-25
Power Shift engaged element pressure		50-25
Check differential lock operation	420-480 psi	50-30
Check brake pedal travel and even position	3 in. max. for one emergency application immediately after stopping engine	70-25
Check power take-off		50-45, 50, & 55
Check front wheel bearing adjustment and lubrication	35 ft-lbs; back-off to nearest hole	.....
Check front wheel toe-in	1/8-3/8 in.	.....
Check tire inflation		Operator's manual

Tractor Tune-Up—Continued

Operation	Specification	Section-Group Reference
Check Power Front Wheel Drive operation		50-60
Transmission pump	12 gpm at 1900 rpm—Quad-Range or Syncro-range 12 gpm at 1900 rpm—Power Shift	70-5
Main hydraulic pump	Standby—2200-2300 psi (2300-2400 psi for Power Front-Wheel Drive) Capacity—22 gpm (2000 psi and 1900 rpm); 29 gpm (2000 psi and 1900 rpm) for Power Front-Wheel Drive	70-5
Pressure control valve	1650-1700 psi at 800 rpm (approx- imately 5 gpm flow)	70-5
Rockshaft:		
Lift cycle time (75 degrees) rotation	2.6-2.8 seconds at 1900 rpm	70-30
Maximum oil flow	12 to 13 gpm at 2000 psi and 1900 rpm	70-30
Lever position (depth control)	Complete raise when control lever is moved rearward and stopped with front edge of lever in contact with stop in lever guide	70-30
Lever position (load control)	At 0 mark quadrant to raise (rear lever edge)	70-30
Negative signal adjustment		70-30
Selective control valve	2 to 20 gpm at 1200 psi and 1900 rpm	70-5
Power Front Wheel Drive pressure control	1930-1970 psi at 2150 rpm, 4th gear, high torque (or B-1 Quad- Range)	50-60

Hydraulic system pressures, flow rates, or cycle times are for conditions specified in Section 70 (tractor at operating temperature, transmission-hydraulic oil at 140° F to 160° F proper test equipment, correct test sequence, etc.).

Group 20 LUBRICATION

GENERAL INFORMATION

Carefully written and illustrated instructions are included in the tractor operator's manual. Remind your customer to follow the recommendations in these instructions.

For your convenience when servicing the tractor, the following chart shows capacities and types of lubricants for the various components. Additional lubrication information is on page 20-2.

Component	Capacity	Type of Lubricant	Interval of Service
Engine Crankcase	17 U.S. quarts (includes filter)	See "Engine Lubricating Oils" on page 20-2	10 Hours—Check level 50 Hours—Change oil 200 Hours—Replace filter
Transmission and Hydraulic System	*13 U.S. gallons (Syncro-range or Quad-Range) *11 U.S. gallons (Power Shift)	John Deere Type 303 Special-Purpose Oil	200 Hours—Check level 200 Hours—Change filter on Perma-Clutch tractors 600 Hours—Replace filter on Power Shift tractors 1200 Hours—Change oil
Hi-Crop Final Drive Housing	1¾ U.S. quarts	Above 32° F, use John Deere SAE 90 Gear Lubricant or its equivalent; below 32° F, use John Deere SAE 80 Gear Lubricant or its equivalent	200 Hours—Check level 1200 Hours—Change oil
Front Wheel Bearings	.....	Wheel Bearing Grease	1200 Hours—Repack bearing
Grease Fittings	.....	John Deere Multipurpose Lubricant	See Operator's Manual

*Add 4½ gals. to capacity if equipped with Power Front Wheel Drive.

LUBRICANTS

Engine Lubricating Oils



Fig. 1—Torq-Gard Engine Oil

We recommend John Deere Torq-Gard or Torq-Gard Supreme engine oil for use in the engine crankcase. This oil is compounded specifically for use in John Deere engines, and provides superior lubrication under all conditions. NEVER PUT ADDITIVES IN THE CRANKCASE. Torq-Gard oil was formulated to provide all the protection your engine needs. Additives could reduce this protection rather than help it.

If oil other than Torq-Gard or Torq-Gard Supreme is used, it must conform to the following specifications:

SINGLE VISCOSITY OILS

API Service CD/SD
MIL-L-2104C
Series 3*

MULTI-VISCOSITY OILS

API Service CC/SE, CC/SD, or SD
MIL-L-46152

*As further assurance of quality, the oil should also be identified as suitable for API service designation SD.

Depending on the expected prevailing temperature for the fill period, use oil of viscosity as shown in the following chart.

Air Temperature	John Deere Torq-Gard Oil	Other Oils	
		Single Viscosity Oil	Multi-Viscosity Oil
Above 32° F	SAE 30	SAE 30	Not recommended.
—10° F to 32° F**	SAE 10W-20	SAE 10W	SAE 10W-30
Below —10° F	SAE 5W-20	SAE 5W	SAE 5W-20

**SAE 5W-20 oil may be used where required to insure optimum lubrication at starting, particularly for an engine subjected to —10° F or lower for several hours.

Some increase in oil consumption may be expected when SAE 5W-20 or SAE 5W oils are used. Check oil level more frequently.

Transmission Hydraulic Oils

Use only John Deere Type 303 Special-Purpose Oil or its equivalent in the transmission-hydraulic system. Other types of oil will not give satisfactory service, and may result in eventual damage. This special oil may be used in all weather conditions.

Greases

John Deere Multi-Purpose Lubricant or an equivalent SAE multipurpose-type grease is recommended for most grease fittings. Wheel bearing grease is recommended for front wheel bearings. Application of grease as instructed in the lubrication section of the operator's manual will provide proper lubrication and will keep contamination out of bearings.

Storing Lubricants

A tractor can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture, and other contamination.

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