

1520 TRACTOR

TECHNICAL MANUAL

TM-1012 (Jan-71)

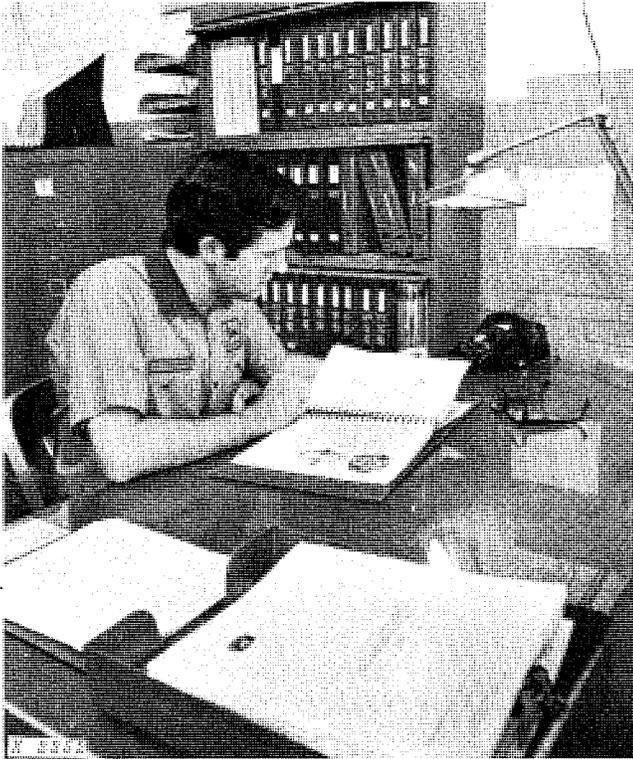
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INTRODUCTION



Use FOS Manuals for Reference



Use Technical Manuals for Actual Service

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.

Some features of this technical manual:

- *Table of contents at front of whole manual*
- *Contents at front of each Section*
- *Specifications at end of each Group*
- *Special tools at end of each Group*

 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.

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.

Section 10 GENERAL

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Group 5

GENERAL TRACTOR SPECIFICATIONS

	Gasoline	Diesel		
ENGINE			ELECTRICAL SYSTEM	
Maximum PTO horse- power*	47.86	46.52	Battery dry voltage	12 volts
Number of cylinders	3	3	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	164.0	164.0	CAPACITIES (U.S. Standard Measures)	
Compression ratio	8.0 to 1	16.3 to 1	Fuel tank	19-1/2 gals.
Firing order	1-2-3	1-2-3	Cooling system	3 gals.
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	Belt pulley	2-1/2 pts.
Fast idle	2680 rpm	2650 rpm	CLUTCH	Single or dual stage, spring-loaded, dry disk, foot-operated.

* Official test at 2500 engine rpm.

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 and increases pull power up to 35 percent 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, independent, or transmission-driven types available in 540 and/or 1000 rpm options.

HYDRAULIC SYSTEM

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

STEERING

Type... Manual or power; power steering is hydraulically actuated, with manual provision in case of hydraulic failure.

FRONT TIRES*

	Size	Ply Rating
RU tractor	6.00-16	6
	7.5L-15	6
	7.50-16	6
LU tractors	9.00-10	4
	6.00-16	4
	6.00-16	6
	7.50-16	6

REAR TIRES*

RU tractors	13.6-28	4
	14.9-28	6
	16.9-28	6
LU tractors	18.4-16.1	6
	13.6-38	4

* Additional tire sizes available.

DIMENSIONS

	RU Tractor	HU Tractor	LU Tractor
Over-all height	82 in.	87-1/2 in.	52-1/4 in.
Over-all width, min.	65-5/8 in.	67-1/4 in.	65-5/8 in.
Over-all length			
(with 3-point hitch)	134-3/4 in.	134-3/4 in.	134-3/4 in.
Shipping weight (approx.)			
Gasoline tractor	4590 lbs.	4700 lbs.	3790 lbs.
Diesel tractor	4640 lbs.	4750 lbs.	3840 lbs.

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.

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	Midway between core and filler neck	
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

Electrical System

Remove resistor and connect wiring lead (red) to alternator output terminal. Do not attempt to polarize		Section 40, Group 10
Install electrolyte and charge batteries		FOS-20 Manual
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

Cooling System

Inspect radiator for coolant loss	Midway between core and filler neck	
Check antifreeze protection		

Before Delivering Tractor—Continued

Service	Specification	Reference
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	SAE multipurpose-type grease	Operator's manual
Check distributor lubrication	Distributor cam lubricant	Section 40, Group 20
Check steering gear housing oil level (manual steering)		Operator's manual
Check belt pulley oil level		Operator's manual
Engine		
Check air cleaner		Operator's manual
Drain sediment from fuel filter and (or) fuel pump bowl		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
Check engine timing	Diesel - TDC Gasoline - 28° mark, 2500 rpm	Operator's manual
Check throttle linkage for free operation		Section 20, Group 40



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