

4520 Tractors



TECHNICAL MANUAL 4520 Tractors

TM1007 (01FEB75) English



TM1007 (01FEB75)

LITHO IN U.S.A. (REVISED) ENGLISH

4520 TRACTOR

TECHNICAL MANUAL TM-1007 (FEB-75)

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INTRODUCTION

This technical manual is for the 4520 Tractor. It contains procedures and specifications which an individual cannot be expected to remember.

The table of contents at the front of the manual lists the sections in the manual and their groups in each section.

A table of contents on the first page of each section lists the groups in the section and the page number of the major subjects found in each group.

Coverage for each component usually includes general information, diagnosis and test, removal, repair, adjustments, installation, specifications, and special tools. For your convenience, the specifications and special tools are always listed at the end of each group.

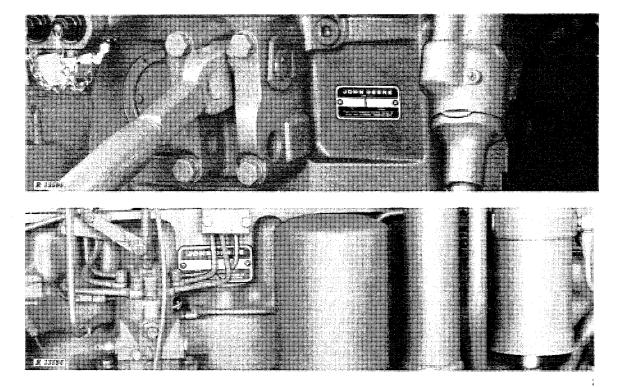
Use the lubrication chart in the general section to determine what type and amount of lubricant to use after servicing a component or system.

Use the tune-up chart in the general section as a check list in tuning up a machine. Specifications are included in the chart and references are made to other sections and groups for detailed instructions. You will notice that there is little explanation about theory of operation in this manual unless the theory is peculiar only to the component in this machine. Basic theory of operation and general information about the systems or components of the tractor will be found in the John Deere ''Fundamentals of Service'' manuals.

Some components such as the fuel injection pump, starter, alternator, remote hydraulic cylinders, and selective control valves are identified by model numbers. The engine is identified by a type and serial number found on a plate at the right side of the engine. The tractor chassis type and serial number is on a plate at the rear of the tractor. When ordering replacement parts, be sure to use all of the digits in the model number or type-and-serial number.

This technical manual was planned and written for you—a journeyman mechanic. Keep this manual in the shop where it is readily accessible and refer to it whenever in doubt about correct maintenance procedures.

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



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Section 10 GENERAL

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Group 5

GENERAL TRACTOR SPECIFICATIONS

FUEL SYSTEM:

HORSEPOWER:*

Syncro-Range
Power Shift
ENGINE:
Type 6-cylinder, in-line, valve-in-head,
diesel, turbocharged
Bore and stroke $4-1/4$ in. $x 4-3/4$ in.
Displacement 404 cu. in.
Compression ratio 16.4 to 1
Firing order 1-5-3-6-2-4
Valve clearance Intake-0.018 in.
Exhaust-0.022 in.
Injection pump timing
Engine Speeds:
Working range 1500 to 2200 rpm
Maximum transport speed 2500 rpm
Engine speeds:
Slow idle 800 rpm
1900 rpm load
2200 rpm load
2500 rpm load
LUBRICATION SYSTEM: Full pressurized
with full-flow micronic oil
filter, water cooled oil
cooler, and bypass valves
for filter and cooler.

*Maximum observed hp. measured at the PTO at 2200 engine rpm (official test)

Injection pump type Inlet metering, distributing type Air cleaner . . . 8-in. diameter; dry type COOLING SYSTEM: Type . Pressurized with centrifugal pump Temperature control Heavy-duty thermostat CAPACITIES: Fuel tank 50 U.S. gals. Cooling system 28 U.S. qts. Crankcase (with filter change) . 16 U.S. qts. Transmission-hydraulic system (add 4-1/2 gals. to capacity if equipped with Power Front Wheel Drive):

Type......Direct injectionFilters...Two-stage with replaceable

impregnated paper elements.

Syncro-Range Transmission . 18 U.S. gals. Power Shift Transmission . . 16 U.S. gals.

SYNCRO-RANGE TRANSMISSION:

Type . . . Syncro-Range, constant mesh Clutch . . Heavy-duty, 14-3/4 in. plate, foot operated Gear selections . . 8 forward and 2 reverse Shifting 4 stations, synchronized shifting within stations

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10 General

POWER SHIFT TRANSMISSION:	REAR WI 20.8-38
Type Planetary gears, hydraulically actuated wet disk clutches and brakes	GROUND
Gear selections 8 forward and 4 reverse	engine rp
Shifting Hydraulic, powershifting con-	• -
trolled by speed selector	Geor
POWER TAKE-OFF:	1st . 2nd .
Type Independent PTO with mid and	3rd.
rear power take-off controlled	4th .
by hand-operated clutch lever	5th .
Clutch: Syncro-Range One dry-disk, hydrau-	6th .
lically actuated	7th .
Power Shift Multiple disk, wet clutch	8th .
hydraulically actuated	1st re
Speed (1900 engine rpm) 1000 rpm	2nd re 3rd re
PTO ahead of drawbar hitch point 16 in.	4th re
HYDRAULIC SYSTEM:	POWER
Type Closed center, constant pressure.	Type.
Includes power steering, power	-91
brakes, implement control, and	
transmission and differential lu-	
brication. Standby pressure	Torque
BRAKES Hydraulically power actuated,	Control
disk-type operating in oil	sy
Provision for manual opera-	Planeta
tion with brake accumulator to supply oil.	
STEERING Full power, hydrostatic type.	DIMENSI
Provision for manual operation.	Wheelb: equipp
ELECTRICAL SYSTEM:	Wheel
Type 12-volt, negative grounded	Over-a
Batteries Two, 6-volt, 75-plate 172-	Over-a
ampere-hour, 3 EH type,	Height 1
connected in series	Over-a
Alternator 12-volt, 55-amp, with	Turning
integral transistorized regulator	Witho
Capacity available at 1900 engine rpm: Lights off operation 40 amps	(min apr
Lights on operation (6 working	Power Power
lights)	drive
FRONT TIRES*	brak
14.9-24, 6-ply	whee
11.0-21, 0 - ply	SHIPPIN
REAR TIRES*	field se
	Subtra
FRONT WHEEL TREAD: 57 1/2 to 82 1/4 in	transi
10.00-16 tire $57-1/2$ to $83-1/4$ in.14.9-24 tire 72 to 88 in.	Roll-(Wheel
	wneel

^{*}Additional tire sizes available.

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HEEL TREAD:

8 tire, regular axle 63 to 107-1/2 in.

D SPEEDS IN MILES PER HOUR (2200 pm and with 20.8-38 rear tires):

						Syncro-	Power
Geor						Range	Shift
1st	•	•	•	•		2.0	1.7
2nd	•		•	•	•	3.1	2.5
3rd	•	•	•	•	•	4.1	3.8
4th	•	•	•	•		5.3	5.0
5th	•			•		6.6	6.5
6th	•	•	٠			8.7	8.5
7th	•	•	٠	•	•	11.2	10.9
8th	•	•	•	•	•	18.3	18.5
1st reverse	•	•		۰	•	4.0	2.1
2nd reverse	•			•	•	6.4	3.0
3rd reverse	•			•	•		4.7
4th reverse	•	•	•	•	•	• • •	6.3

FRONT WHEEL DRIVE

. . Hydraulic motor driven with planetary gear reduction in wheel hub, uses pressure oil from

hydraulic system

. . Low (series connected) and high (parallel connected)

ls . . Solenoid operated control valves, ynchronized with transmission controls ary disconnect . Hydraulic wet brake on ring gear releases when

drive is disengaged

IONS:

Wheelbas	se (Subi	tra	ct	1	in	ch	fo	r	tra	act	or	S	
equippe	d with	Po	we	\mathbf{r}	Fı	or	ıt						
Wheel I													
Over-all	length	•	•	•	•	•	•	•	•	1	70	-3/4	in.
Over-all	height	•	۰		•	•	•	•	•	•		106	in.
Height to	steeri	ng	wł	ıe	el	•		•	•	•	•	. 87	in.
Over-all	width	•			•	•	•	•	•		95	-7/8	in.
Turning :	radius												
Without	Power	۰F	ro	nt	W	he	el	D	riv	<i>v</i> e			
(minir	num tr	ead	d a	no	d b	ra	ke	s					
appli	ied) .			•			•		•	•		151	in.
Power	Front V	Whe	eel	I)ri	ve	(v	vit	th				
drive engaged in "High Torque",													
brake	s applie	ed	an	d :	mi	ni	mu	ım	1				
wheel	tread)	•	•	•	•	•	•	•	•	•		137	in.
HIPPING	WEIGI	TE	(W	7it	he	qu	ip	m	ent	; fo	or :	aver	age
field serv						_	_						-

act 50 lbs. if equipped with Syncro Range mission. Add 575 lbs. if equipped with Gard. Add 1,000 lbs. for Power Front el Drive and 1,100 lbs. for Roll-Gard Cab.

(Specifications and design subject to change without notice.)

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