



# 4520 Tractors



JOHN DEERE

## 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.

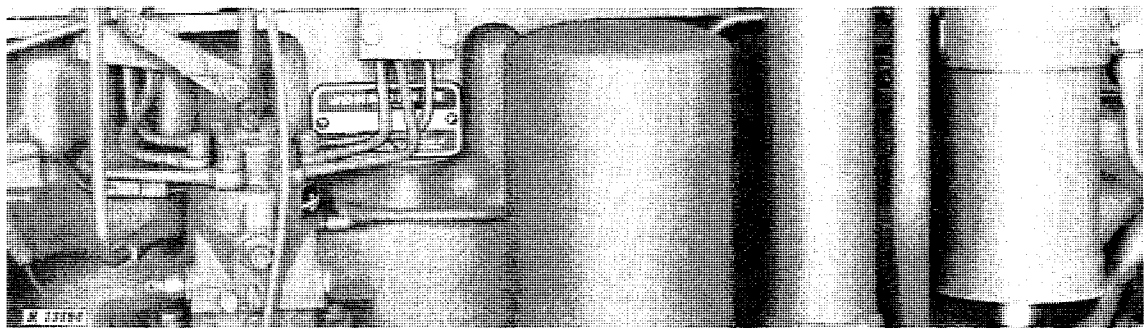
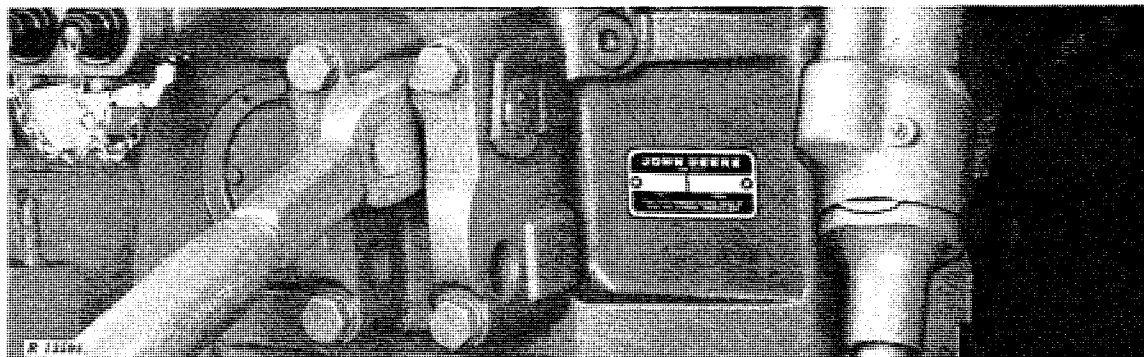
Use the tune-up chart in the general section as a check list in tuning up a machine. Specifications are included in the chart and references are made to other sections and groups for detailed instructions.

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.





**POWER SHIFT TRANSMISSION:**

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

**POWER TAKE-OFF:**

Type . . . . Independent PTO with mid and rear power take-off controlled by hand-operated clutch lever

**Clutch:**

Synco-Range . . . One dry-disk, hydraulically actuated  
Power Shift . . . Multiple disk, wet clutch hydraulically actuated  
Speed (1900 engine rpm) . . . . . 1000 rpm  
PTO ahead of drawbar hitch point . . . 16 in.

**HYDRAULIC SYSTEM:**

Type . . . Closed center, constant pressure. Includes power steering, power brakes, implement control, and transmission and differential lubrication.  
Standby pressure . . . . . 2250 psi

**BRAKES** . . . . Hydraulically power actuated, disk-type operating in oil  
Provision for manual operation with brake accumulator to supply oil.

**STEERING** . . . Full power, hydrostatic type.  
Provision for manual operation.

**ELECTRICAL SYSTEM:**

Type . . . . . 12-volt, negative grounded  
Batteries . . . . Two, 6-volt, 75-plate 172-ampere-hour, 3 EH type, connected in series  
Alternator . . . . . 12-volt, 55-amp, with integral transistorized regulator  
Capacity available at 1900 engine rpm:  
Lights off operation . . . . . 40 amps  
Lights on operation (6 working lights) . . . . . 23 amps

**FRONT TIRES\*** . . . . . 10.00-16, 6-ply  
14.9-24, 6-ply

**REAR TIRES\*** . . . . . 20.8-38, 10-ply

**FRONT WHEEL TREAD:**

10.00-16 tire . . . . . 57-1/2 to 83-1/4 in.  
14.9-24 tire . . . . . 72 to 88 in.

**REAR WHEEL TREAD:**

20.8-38 tire, regular axle 63 to 107-1/2 in.

**GROUND SPEEDS IN MILES PER HOUR (2200 engine rpm and with 20.8-38 rear tires):**

Geor	Synco-Range	Power 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 . . . . .	8.7	8.5
7th . . . . .	11.2	10.9
8th . . . . .	18.3	18.5
1st reverse . . . . .	4.0	2.1
2nd reverse . . . . .	6.4	3.0
3rd reverse . . . . .	. . .	4.7
4th reverse . . . . .	. . .	6.3

**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  
Planetary disconnect . . . Hydraulic wet brake on ring gear releases when drive is disengaged

**DIMENSIONS:**

Wheelbase (Subtract 1 inch for tractors equipped with Power Front Wheel Drive) . . . . . 106-1/4 in.  
Over-all length . . . . . 170-3/4 in.  
Over-all height . . . . . 106 in.  
Height to steering wheel . . . . . 87 in.  
Over-all width . . . . . 95-7/8 in.  
Turning radius  
Without Power Front Wheel Drive (minimum tread and brakes applied) . . . . . 151 in.  
Power Front Wheel Drive (with drive engaged in "High Torque", brakes applied and minimum wheel tread) . . . . . 137 in.

**SHIPPING WEIGHT (With equipment for average field service, less fuel and ballast) 13,030 lbs.**

Subtract 50 lbs. if equipped with Synco Range transmission. Add 575 lbs. if equipped with Roll-Gard. Add 1,000 lbs. for Power Front Wheel Drive and 1,100 lbs. for Roll-Gard Cab.

*(Specifications and design subject to change without notice.)*

\*Additional tire sizes available.

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