

251 and 1550 POWR-TILL™ Seeders



JOHN DEERE

TECHNICAL MANUAL 251 and 1550 POWR-TILL™ Seeders

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251 AND 1550 POWR-TILL SEEDERS

TECHNICAL MANUAL
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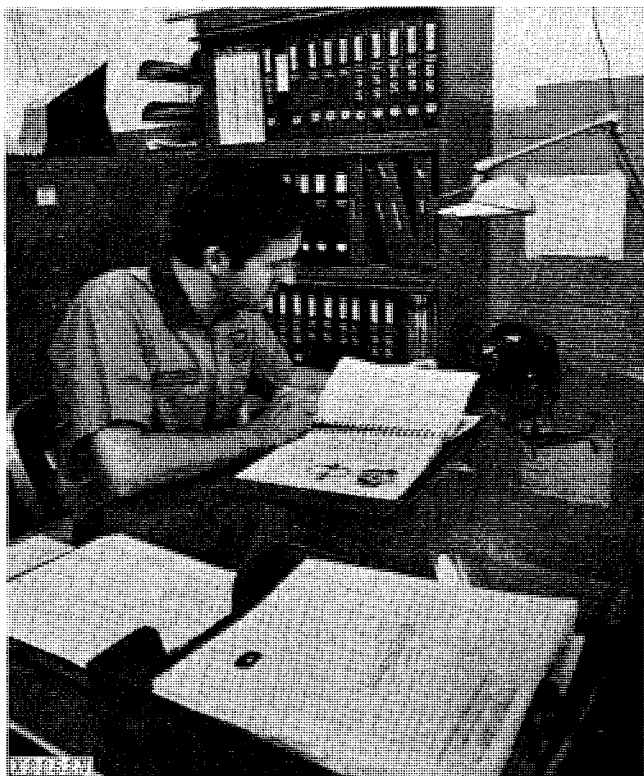
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INTRODUCTION



Use FOS Manuals for Reference

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

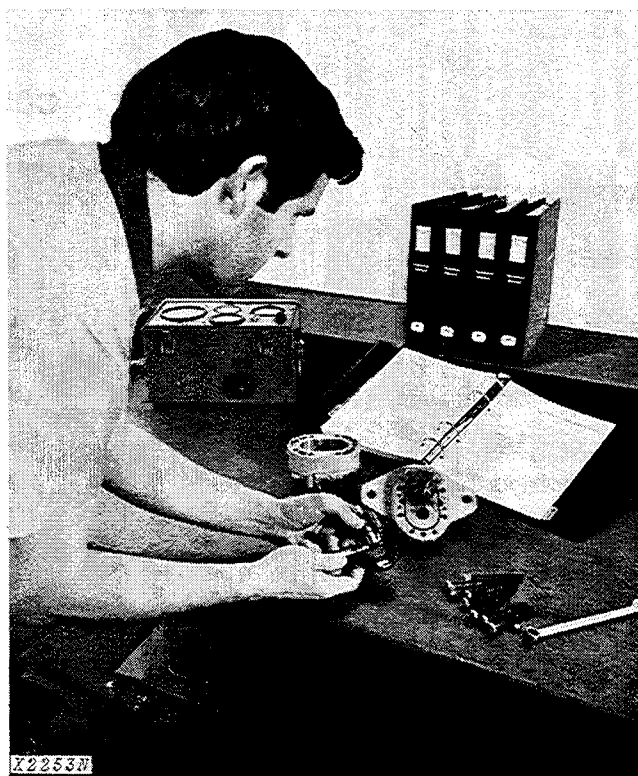
- **FOS Manuals**—for reference
- **Technical Manuals**—For actual service

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 mechanics and for reference by experienced mechanics.

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

When a service person should refer to a FOS Manual for more information a FOS note 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—an experienced 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.

 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.

“Right-hand” and “left-hand” sides are determined by facing the direction the seeder will travel when in use.

This publication contains both the U.S. customary units of measurement and the SI Metric equivalents. Throughout this manual dimensions are shown as follows: (1.75 mm) .069 in. The measurement in parentheses was converted from the design dimension.

SAFETY AND YOU

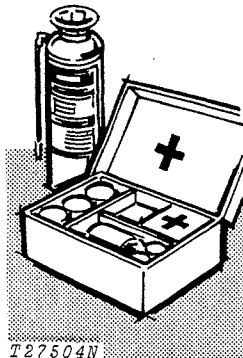


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INTRODUCTION



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



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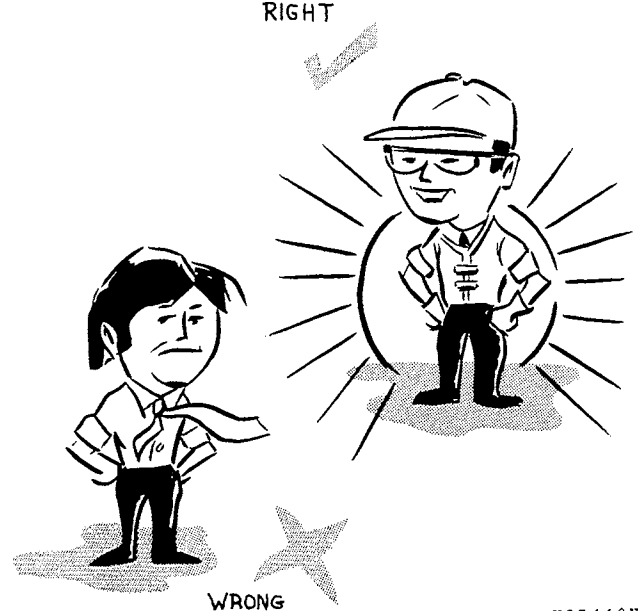
Be prepared if an accident or fire should occur. Know where the first-aid kit and the fire extinguishers are located—know how to use them.

PERSONAL SAFETY

Shut off tractor engine and remove switch key before working on the seeder, when it is attached to the tractor.

Avoid working on equipment with the tractor engine running. If it is necessary to make checks with the engine running, **ALWAYS USE TWO PEOPLE**—one, the operator, at the controls, the other person checking so as to be visible to the operator on the tractor seat. **KEEP HANDS AWAY FROM MOVING PARTS.**

RIGHT



WRONG

H23440N

Always avoid loose clothing or any accessory—flopping cuffs, dangling neckties and scarves—that can catch in moving parts and put you out of work.

Always wear your safety glasses while on the job.

SERVICE AREA

Keep the service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment.

Make sure the service area is adequately vented.

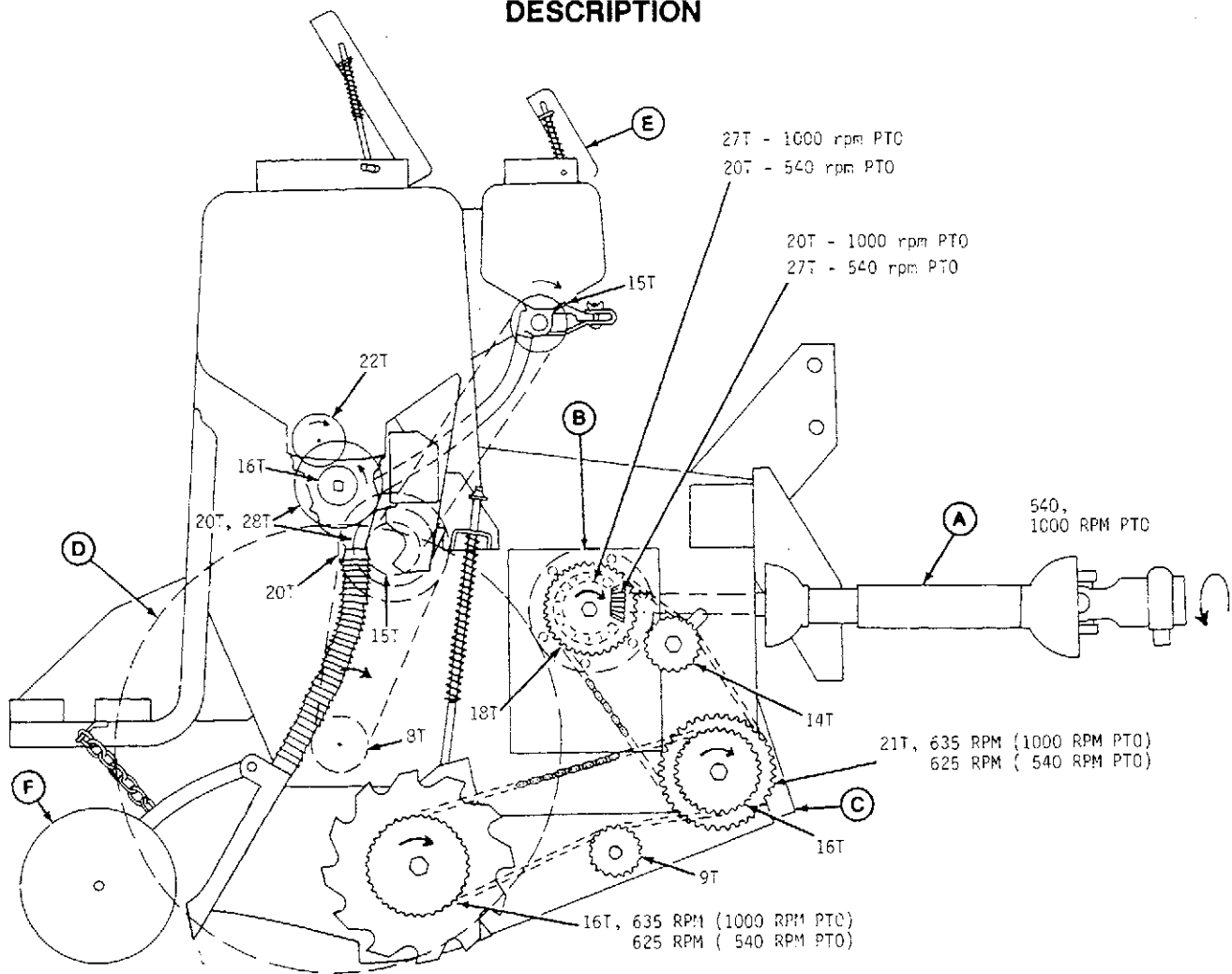
Periodically check the shop exhaust system for leakage. Engine exhaust gas is dangerous.

Be sure all electrical outlets and tools are properly grounded.

Use adequate light for the job at hand.

GENERAL INFORMATION

DESCRIPTION



- A—Powershaft
- B—Slip Clutch (2)
- C—Cutter Wheel Unit
- D—End Wheel
- E—Grass Seed Box
- F—Press Wheels
- RPM—Revolutions Per Minute
- PTO—Power Take-Off
- T—Teeth

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Fig. 1—Power Train Diagram - 1550 POWR-TILL Seeder

The 1550 POWR-TILL Seeder grain box holds (352 L) 10 bushels and may be powered by a 540 or 1000 rpm PTO. A (88 L) 2-1/2 bushel grass seed attachment (E) may be added to make a combination grain and grass seeder (as illustrated).

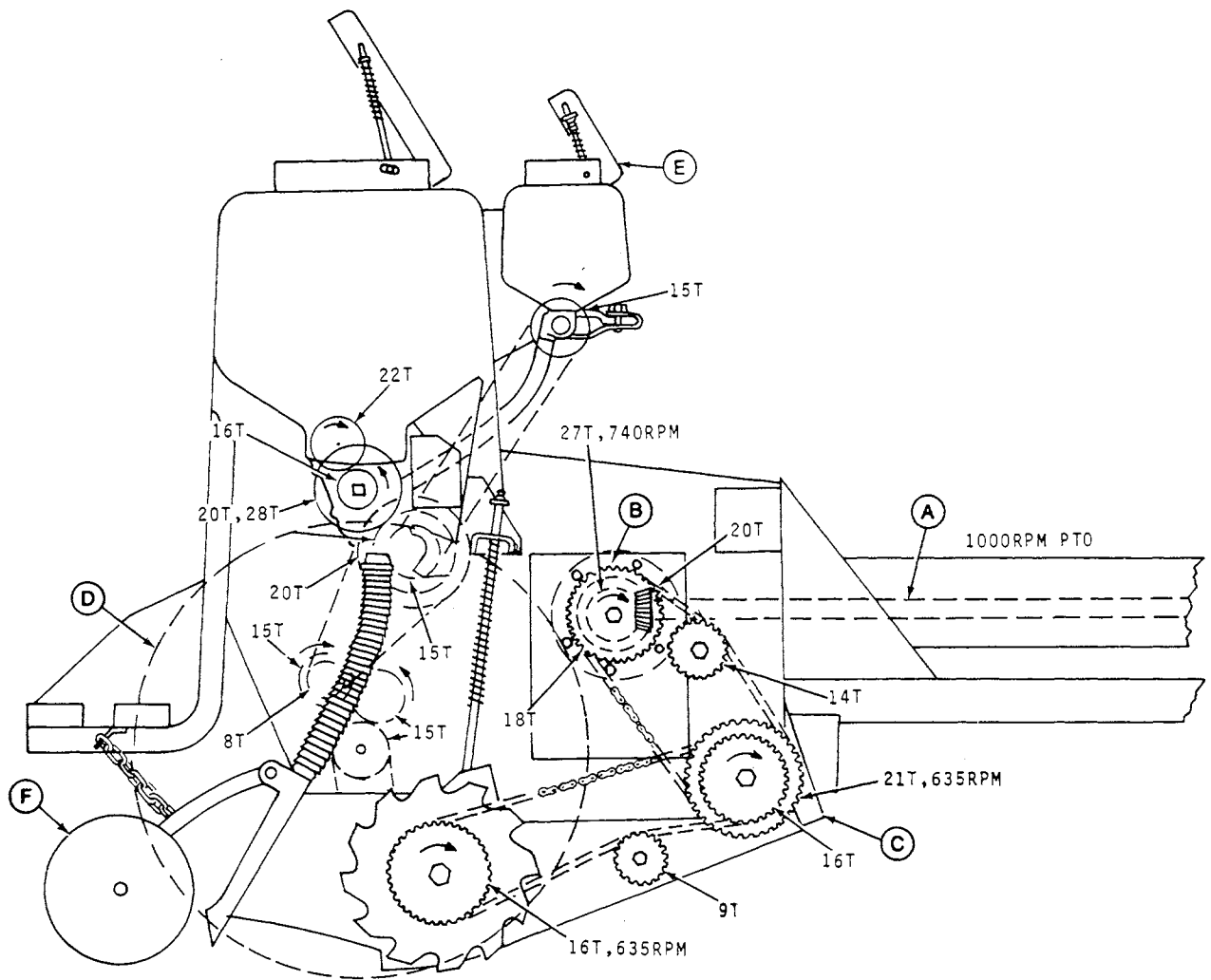
The PTO drive (A) is shielded from the tractor to the implement gear case. Power is transmitted from the gear case by two output shafts through disk-type slip clutches (B) and output shafts to enclosed drive housings on each end of the seeder. No. 80 roller chains, running in grease, couple the output shaft sprockets to the cutter wheel unit (C) drive shaft drive sprockets. Cutter wheel units are supported independently, with individual drive shafts connected by coupling sprockets, allowing removal of a single unit. Each pair of cutter wheels is driven by an enclosed, lubricated, No. 80 roller chain.

The seed metering system is ground driven by the right-hand end wheel (D), and uses fluted force feeds.

The 12 power-driven cutter wheels (2 per unit) spaced on (203 mm) 8-in. centers, till an area about (13-19 mm) 3/4-inch wide. An adjustable down pressure spring controls the vertical floating action of each unit.

The seeding rate is controlled by a single lever on either the grain or grass box. Seeds drop through rubber tubes, through the spring-loaded seed spouts, into the seed furrow. Furrow depth is adjustable for varying moisture conditions and/or seed requirements.

Press wheels (F) are available (optional equipment) to improve seed-to-ground contact for better germination.



A—Input Shaft C—Cutter Wheel Unit E—Grass Seed Box (2) RPM—Revolutions Per Minute T—Teeth
 B—Slip Clutch (2) D—End Wheel F—Press Wheels PTO—Power Take-Off

Fig. 2-Power Train Diagram - 251 POWR-TILL Seeder

The 251 POWR-TILL Seeder grain box holds (573 L) 16.25 bushels and may be powered only by a 1000 rpm PTO. A (141 L) 4 bushel grass seed attachment (E) may be added to make a combination grain and grass seeder (as illustrated).

The PTO drive (A) is shielded from the tractor to the implement gear case. Power is transmitted from the gear case by two output shafts through disk-type slip clutches (B) and output shafts to enclosed drive housings on each end of the seeder. No. 80 roller chains, running in grease, couple the output shaft sprockets to the cutter wheel unit (C) drive shaft drive sprockets. Cutter wheel units are supported independently, with individual drive shafts connected by coupling sprockets, allowing removal of a single unit. Each pair of cutter wheels is driven by an enclosed, lubricated, No. 80 roller chain.

The seed metering system is ground driven by the right-hand end wheel (D), and uses fluted force feeds.

The 16 power-driven cutter wheels (2 per unit), spaced on (244 mm) 10-in. centers, till an area about (13-19 mm) 3/4-inch wide. An adjustable down pressure spring controls the vertical floating action of each unit.

The seeding rate is controlled by a single lever on the grain box, and two levers on the grass box. Seeds drop through rubber tubes, through the spring-loaded seed spouts, into the seed furrow. Furrow depth is adjustable for varying moisture conditions and/or seed requirements.

Press wheels (F) are available (optional equipment) to improve seed-to-ground contact for better germination.

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