

5200 and 5400 Self-Propelled Forage Harvester



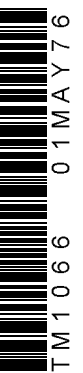
JOHN DEERE

TECHNICAL MANUAL 5200 and 5400 Self-Propelled Forage Harvester

TM1066 (01MAY76) English

John Deere Ottumwa Works
TM1066 (01MAY76)

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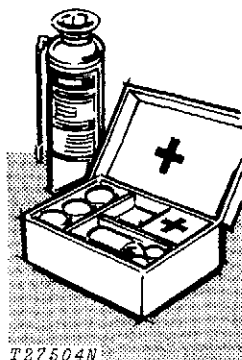
SAFETY AND YOU



T27999N

INTRODUCTION

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



T27504N

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.

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.

AVOID FIRE HAZARDS



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WRONG

Don't smoke while refueling or handling highly flammable material.

Engine should be shut off when refueling.

Use care in refueling if the engine is hot.

Don't use open pans of gasoline or diesel fuel for cleaning parts. Good commercial, nonflammable solvents are preferred.

Provide adequate ventilation when charging batteries.

Don't check battery charge by placing metal objects across the posts.

Don't allow sparks or open flame near batteries.

Don't smoke near battery.

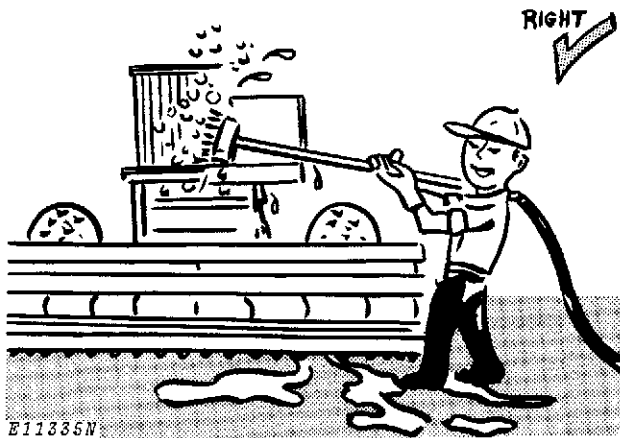
Never check fuel, battery electrolyte or coolant levels with an open flame.

Never use an open flame to look for leaks anywhere on the equipment.

Never use a open flame as a light anywhere on or around the equipment.

When preparing engine for storage, remember that inhibitor is volatile and therefore dangerous. Seal and tape openings after adding the inhibitor. Keep container tightly closed when not in use.

CLEANING THE HARVESTER



Always stop the engine before cleaning the harvester.

Keep the operator's platform clean. Do not use it as a storage area.

Keep the radiator screen free of foreign matter. Avoid a possible fire hazard.

Keep all equipment free of dirt and oil. In freezing weather, beware of snow and ice on ladder steps and operator's platform.

FLUIDS UNDER PRESSURE

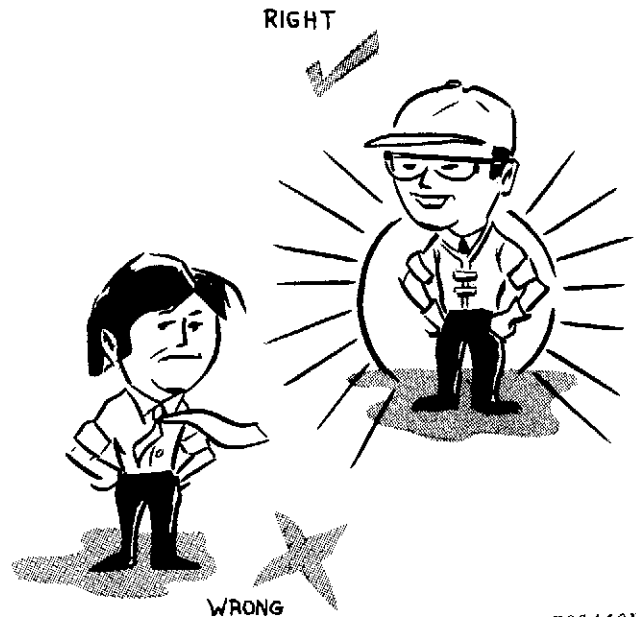
Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Don't forget the hydraulic system or diesel fuel injection system may be pressurized! To relieve pressure, follow the instructions in this technical manual.

When checking hydraulic pressure, be sure to use the correct test gauge for the pressure in the particular system.

PERSONAL SAFETY



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. Keep transmission and brake control units properly adjusted at all times. Before making adjustments, stop engine.

Before removing any housing covers, stop engine. Take all objects from your pockets which could fall into the opened housings. Don't let adjusting wrenches fall into opened housings.

Don't attempt to check belt tension while the engine is running.

Don't adjust the fuel system while the machine is in motion.

Before repairing the electrical system, or performing a major overhaul, make sure the batteries are disconnected.

Avoid working on equipment with the engine running. If it is necessary to make checks with the engine running, **ALWAYS USE TWO MEN**—one, the operator, at the controls, the other checking where the operator can see him. Also, put the transmission in neutral, set the brake, and apply any safety locks provided. **KEEP HANDS AWAY FROM MOVING PARTS.**

Use extreme caution in removing radiator caps, drain plugs, grease fittings, or hydraulic pressure caps.

Section 10 GENERAL

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Group 5 SPECIFICATIONS

ENGINE

Horsepower:	
5200 (-124495)	160 (119 kW)* 135 (101 kW)**
5200 (124496-)	175 (130 kW)* 150 (112 kW)**
5400	212 (158 kW)* 185 (138 kW)**
Type	6-cylinder, in-line valve- in-head, diesel, turbo- charged and inter-cooled
Bore and stroke	
5200	4-1/4 in. x 4-3/4 in. 10.8 cm x 12.1 cm
5400	4-3/4 in. x 5 in. 12.1 cm x 12.7 cm
Displacement	
5200	404 cu. in. (6620 cm ³)
5400	531 cu. in. (8701 cm ³)
Compression ratio	
5200 (-124495)	16.8 to 1
5200 (124496-285,000)	15.5 to 1
5200 (285,001-)	14.7 to 1
5400	15.4 to 1
Firing order	1-5-3-6-2-4
Valve clearance	Intake-0.018 in. (0.46 mm) Exhaust-0.028 in. (0.71 mm)
Injection pump timing - 5200	TDC
5400	24°BTDC
Engine Speeds	
Working speed	2100 rpm
Slow idle	800 rpm
Fast idle (Full load)	2100 rpm
(No load)	2300 rpm

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

*Factory observed net horsepower at flywheel less fan measured at 85°F (30°C), 29.3 in. Hg. operating at 2100 rpm.

**Factory observed net horsepower at cutterhead drive sheave operating at 2100 rpm.

FUEL SYSTEM:

Type	Direct injection
Filter	Two-stage with replaceable impregnated paper element.
Injection pump type:	
5200 (-124495)	Inlet metering, distributing type
5200 (124496-) and 5400	Multiple plunger, in line
Air cleaner	Dry element with self-cleaning precleaner and safety element

COOLING SYSTEM:

Type	Pressurized with centrifugal pump
Temperature control	Heavy-duty thermostats

ELECTRICAL SYSTEM:

Type	12-volt, negative grounded
Batteries	Two, 6-volt 87-plate 204- ampere-hour, 7D type, connected in series
Alternator:	
5200	12-volt, 55-amp, with integral transistorized regulator.
5400	12-volt, 55-amp capacity
5200 and 5400 (with air conditioned cab)	72-amp

MAIN CLUTCH (Blower Fan and Cutterhead Drive):

Type	Over-center, dry, metallic button, adjustable
Number of disks	2
Diameter	12 in. (30.5 cm)
Actuated	Hand lever

TRANSMISSION:

Type	Automotive spur gear with four speeds. Transmission is equipped with neutral safety switch.
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FINAL DRIVE:

Type	Pinion and ring gear
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