

# John Deere 6602 Combine



JOHN DEERE

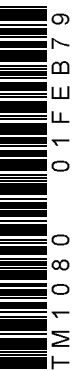
## TECHNICAL MANUAL

John Deere 6602  
Combine

TM1080 (01FEB79) English

**TM1080 (01FEB79)**

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



# 6602 COMBINE

TECHNICAL MANUAL  
TM-1080 (Mar-78)

## CONTENTS

### SECTION 10 - GENERAL

- Group 5 - General Combine Specifications
- Group 10 - Tune-Up and Adjustments
- Group 15 - Lubrication

### SECTION 20 - ENGINES

- Group 5 - General Information, Diagnosis, and Removal
- Group 10 - Cylinder Head, Valves, and Camshaft
- Group 15 - Cylinder Block, Liners, Pistons, and Rods
- Group 20 - Crankshaft, Main Bearings, and Flywheel
- Group 25 - Lubrication System
- Group 30 - Cooling System
- Group 35 - Governor and Speed Control Linkage
- Group 40 - Specifications

### SECTION 30 - FUEL SYSTEMS

- Group 5 - Diagnosing Malfunctions
- Group 10 - Air Intake, Tank, and Fuel Pump
- Group 15 - Gasoline Fuel System
- Group 20 - Diesel Fuel System
- Group 25 - Specifications

### SECTION 40 - ELECTRICAL SYSTEM

- Group 5 - Description and Wiring Diagrams
- Group 10 - Charging Circuit
- Group 15 - Starting Circuit
- Group 20 - Ignition Circuit
- Group 25 - Lighting, Gauges, and Accessory Circuits
- Group 30 - Low Shaft Speed Monitor
- Group 35 - Specifications

### SECTION 50 - POWER TRAIN

- Group 5 - Transmission
- Group 10 - Differential
- Group 15 - Final Drives
- Group 20 - Hydrostatic Drive
- Group 25 - Front Axle Mechanism
- Group 30 - Specifications

### SECTION 60 - POWER STEERING AND BRAKES

- Group 5 - Power Steering
- Group 10 - Brakes
- Group 15 - Specifications

### SECTION 70 - HYDRAULIC SYSTEM

- Group 5 - General Information, Diagnosis, and Tests
- Group 10 - Reservoir
- Group 15 - Hydraulic Pumps
- Group 20 - Hydraulic Valves
- Group 25 - Hydraulic Cylinders
- Group 30 - Hydraulic Motor
- Group 35 - Specifications

### SECTION 80 - LEVELING SYSTEM

- Group 5 - Hydraulic System
- Group 10 - Fluid Level System
- Group 15 - Electrical System
- Group 20 - Specifications

### SECTION 90 - OPERATORS CAB

- Group 5 - Pressurizer System
- Group 10 - Air Conditioning System
- Group 15 - Heater System
- Group 20 - Accessories
- Group 25 - Specifications

### SECTION 100 - HARVESTING FUNCTIONS

- Group 5 - Cutting Platform
- Group 10 - Feeder House
- Group 15 - Separator
- Group 20 - Specifications

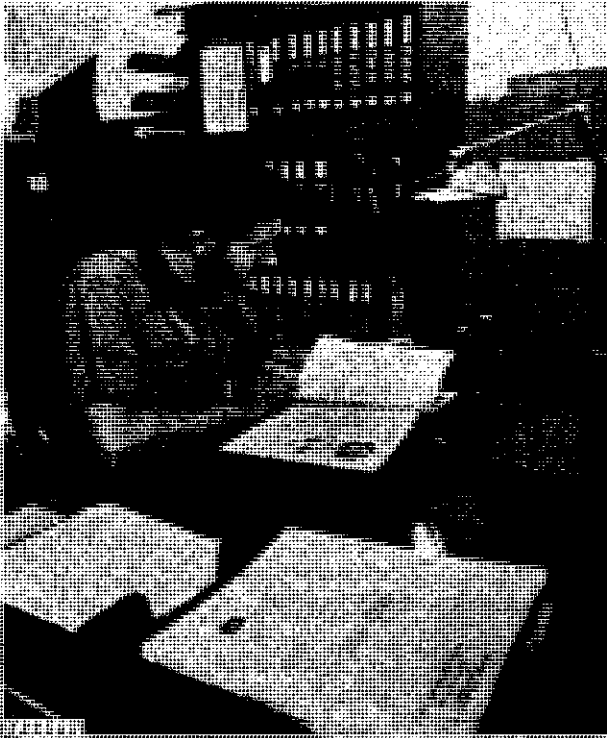
### SECTION 110 - ELECTRO-HYDRAULIC SYSTEMS

- Group 5 - Unloading Auger Hydraulic Swing and Automatic Latching System
- Group 10 - Specifications

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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

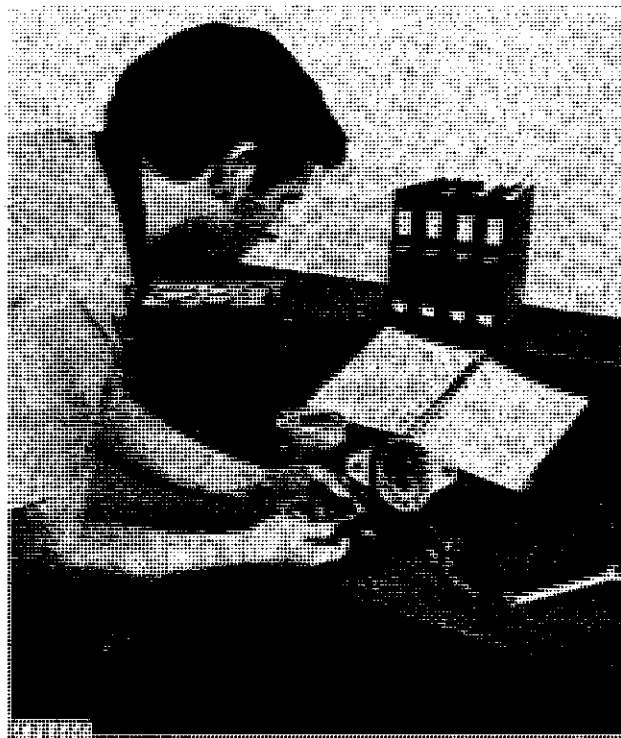
The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

*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 service people and for reference by experienced technicians.

*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 technician.



When a technician 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.



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 technician. 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.



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.

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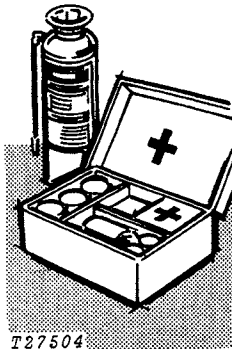
## SAFETY AND YOU



T27999

### INTRODUCTION

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



T27504

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.

### BLOCKING THE COMBINE

#### CAUTION

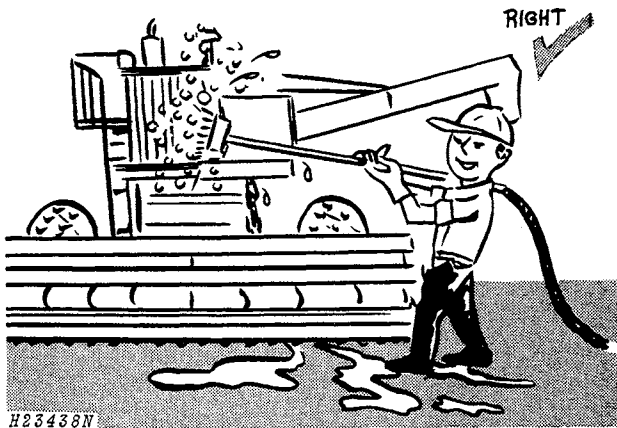
**Whenever any components of the Automatic Leveling System are to be disconnected or removed for service or replacement, it is very important that the combine be securely blocked so it will not tilt and cause serious personal injury or damage to the combine.**

Place blocks on each end of the axle beam inside the front axle support frame. Also, place wedges between each of the rear axle spindles and rear axle.

Always service the 6602 Combine on level ground unless otherwise specified in this manual.

Before checking, adjusting, or servicing the automatic leveling system, be certain the separator is absolutely perpendicular with the front axle balance beam. This may be checked with the carpenter's level, with the combine setting on a level surface and the tires equally inflated.

After leveling the separator and before checking, adjusting or servicing the remainder of the combine, be certain to: (1) block the front and rear wheels, (2) lower the cutting platform all the way to the ground and, (3) shut off the engine.

**CLEANING THE COMBINE**

Always stop the engine before cleaning the combine.

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

Keep the radiator and engine closure screens 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.

**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**

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 an 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.

## 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 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

## CONTENTS OF THIS SECTION

	Page		Page
<b>GROUP 5 - GENERAL SPECIFICATIONS</b>		<b>GROUP 15 - LUBRICATION</b>	
Description .....	5-2		
Serial Numbers .....	5-2	<b>GROUP 20 - DIAGNOSING AND TESTING PROCEDURES</b>	
Engines .....	5-2		
Electrical System .....	5-2	<b>GROUP 25 - TUNE-UP AND ADJUSTMENT</b>	
Transmission .....	5-2	General Information .....	25-1
Final Drive .....	5-2	Preliminary Engine Testing .....	25-1
Steering .....	5-2	Engine Tune-Up .....	25-2
Brakes .....	5-3	Final Engine Testing .....	25-4
Hydraulic System .....	5-3	Miscellaneous Adjustments .....	25-4
Capacities .....	5-3	Standard Torque Chart .....	25-4
Dimensions .....	5-3		
Ground Speeds .....	5-4		
<b>GROUP 10 - PREDELIVERY, DELIVERY SERVICE, AND AFTER-SALE INSPECTION</b>			
Combine Predelivery			
Controls and Instruments .....	10-1		
Prestarting Checks (Before Unloading Combine) .....	10-3		
Installing Shipping Wheels .....	10-3		
Installing Drive Wheels and Drive Assemblies .....	10-4		
Assembly .....	10-5		
Checks and Adjustments .....	10-12		
Engine Operating Procedure .....	10-15		
Combine Run-In .....	10-16		
Temporary Storage .....	10-16		
Cutting Platform Predelivery .....	10-17		
Delivery Service .....	10-29		
After-Sale Inspection .....	10-29		

# Group 5 GENERAL SPECIFICATIONS

## DESCRIPTION

The 6602 Self-Propelled Combine has a 44-inch (1 118 mm) wide separator. It is powered by either a 362 gasoline engine, a 404 diesel or turbocharged diesel engine, or a 466 turbocharged diesel engine.

It is equipped with hydraulic disk brakes and a 4-speed, collar shaft, constant-mesh transmission.

"Right-hand" and "left-hand" sides are determined by facing in the direction the combine will travel when in use.

## SERIAL NUMBERS

Serial Number Unit	Location
Combine	Rear left-hand upright
Engine	Right-hand side of cylinder block or above starter on later engines.
Feeder House (early combines)	Right-hand side sheet
Cutting Platform	Right-hand side sheet

## SPECIFICATIONS

### ENGINES

Gasoline  
 362 GH-02 ( -111600)

Diesel  
 404 DH-02 ( -1500 )  
 404 DH-03 (1501 -163500)  
 404 TH-02 (163501-311300)  
 466 TH-01 (353601- )

Type ..... 4-stroke cycle, 6-cylinder-in-line, valve-in-head

Cubic inch displacement and brake horsepower  
 Gasoline ... 362 (5932 cm<sup>3</sup>)... 121 (90 kw)  
 Diesel..... 404 (6620 cm<sup>3</sup>)... 121 (90 kw)  
 404 (Turbocharged (6620 cm<sup>3</sup>) ..... 135 (100 kw)  
 466 (7640 cm<sup>3</sup>)... 145 (108 kw)

Bore and stroke, inches (mm)

	Bore	Stroke
362	4.25 (108 mm)	4.25 (108 mm)
404	4.25 (108 mm)	4.75 (121 mm)
466	4.56 (116 mm)	4.75 (121 mm)

Compression ratio  
 Gasoline ..... 7.5 to 1  
 Diesel..... 16.8 to 1 (404 D)  
 15.5 to 1 (404 T)  
 14.9 to 1 (466)

Firing Order ..... 1-5-3-6-2-4

Valve clearance  
 Gasoline (hot or cold) intake exhaust  
 0.015 in. 0.028 in.  
 (0.381 mm) (0.711 mm)

Diesel (hot or cold)  
 0.018 in. (0.457 mm) 0.028 in. (0.711 mm)

Engine speeds (Normal slow idle) (Fast idle with separator engaged)

Gasoline ..... 800 rpm ..... 2650 rpm  
 Diesel..... 1200 rpm ..... 2650 rpm  
 Diesel (Turbo) .. 1200 rpm ..... 2350 rpm

Injection pump timing ..... TDC  
 Distributor timing ..... 2000 rpm 20° mark  
 Distributor point gap ..... 0.016 in. (0.406 mm)  
 Distributor cam dwell ..... 31° to 34°  
 Spark plug gap ..... 0.025 in. (0.635 mm)

### ELECTRICAL SYSTEM:

Battery voltage ..... 12 volts  
 Battery specific gravity at full charge (corrected to 80°F (27°C) ..... 1.260 (±0.010)  
 Battery terminal grounded ..... negative  
 Alternator regulation ..... Voltage regulator

### TRANSMISSION: (Hydrostatic):

Type: Automotive spur gear with four forward speeds. Transmission is equipped with a safety start switch.

FINAL DRIVE: (Pinion and ring gear.)

STEERING: (Full power hydrostatic steering.)



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**BRAKES:**

Type: Drive wheel brakes are 6-1/2 inch (165 mm), hydraulically actuated, double disk type, located on rear portion of final drive. They are individually controlled by separate pedals.

Parking brakes are 6-1/2 inch (165 mm), mechanically actuated, double disk type, located on either side of transmission. They are controlled by a lever on the operator's platform.

**HYDRAULIC SYSTEM:**

Type: Open-center, constant-flow system. Includes power steering, platform lift, reel drive, reel lift, and unloading auger swing.

Pump ..... Cessna gear-type

Relief pressure ( $\pm$  100 psi [6.8 bar])  
 ( -163500 ) ..... 2000 psi (136 bar)  
 (163501- ) ..... 2250 psi (153 bar)

Flow rates (fast idle)  
 Main system  
 ( -163500 ) .... 9.60 gpm at 2300 rpm  
 (163501- ) .... 9.25 gpm at 2300 rpm

Steering System  
 ( -1500 ) ..... 2.95 gpm (19 m<sup>3</sup>/s)  
 ( 1501-163500 ) ..... 4.60 gpm (29 m<sup>3</sup>/s)  
 (163501- ) ..... 4.40 gpm (28 m<sup>3</sup>/s)

**CAPACITIES:**

Cooling System ..... 32 U.S. Qts. (30 l)  
 (Add 1-1/2 qts. (1.4 l) for heater)

Engine Crankcase  
 Gasoline ..... 15 U.S. Qts. (14 l)  
 Diesel ( -1500 ) ... 15 U.S. Qts. (14 l)  
 Diesel ( 1501-163500) ... 17 U.S. Qts. (16 l)  
 Diesel (Turbo  
 (163501- ) ..... 17 U.S. Qts. (16 l)

Fuel Tank ..... 79 U.S. Gals. (299 l)

Transmission ..... 11 U.S. Qts. (10.5 l)

Final Drives ..... 11 U.S. Pts. each (5.2 l)

Hydraulic System (including lines  
 and components) ..... 17-1/2 Qts. (17 l)

Hydraulic Brake Master Cylinder .. 1 U.S. Pt. (0.47 l)

Hydrostatic Drive and Leveling System  
 (including lines and components) .38 U.S. Qts.  
 (36 l)

**DIMENSIONS (with 24.5-32 tires):**

Length (including cutting  
 platform) ..... 26 ft. 3 in. (8001 mm)  
 Height (over grain tank) .. 9 ft. 11-1/2 in. (3035 mm)  
 Width (R.H. tire to  
 L.H. tire) ..... 13 ft. 11 in. (4242 mm)  
 Wheel base ..... 13 ft. 1-1/2 in. (4001 mm)

**GROUND SPEED IN MPH (km/h)**

Size	Tire		1st Gear		2nd Gear		3rd Gear		4th Gear	
	Type	Ply Rating	Forward	Reverse	Forward	Reverse	Forward	Reverse	Forward	Reverse
24.5-32	Low Profile	12	1.5 (2.4)	1.0 (1.6)	3.5 (5.6)	2.3 (3.7)	6.4 (10.2)	4.2 (6.8)	14.8 (23.8)	9.8 (15.8)
30.5-32	Low Profile	12	1.6 (2.6)	1.0 (1.6)	3.6 (5.8)	2.4 (3.7)	6.6 (10.6)	4.3 (6.9)	15.1 (24.3)	9.9 (15.9)

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