

970 Tractor

Operators Manual

9-2812

Reprinted





This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death.

SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW

BEFORE THE OPERATOR STARTS THE ENGINE:

- 1 GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
- 2 MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.



WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.

BEFORE STARTING THE ENGINE, DO THE FOLLOWING

- 1 READ THE OPERATOR'S MANUAL
- 2 READ ALL SAFETY DECALS ON THE MACHINE
- 3 CLEAR THE AREA OF OTHER PERSONS

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

TO THE PURCHASER OF A CASE TRACTOR

The care you give your Case Tractor will greatly determine the satisfaction and service life you will obtain from it. Use this manual as your guide. By observing the instructions and suggestions in this manual, your Case Tractor will serve you well for many years.

As an Authorized Case Dealer, we stock Genuine Case Parts, which are manufactured with the same precision and skill as the original equipment. Our factory trained staff is kept well informed on the best methods of servicing Case equipment and is ready and able to help you.

Should you require additional aid or information, contact us.

Your Authorized Case Dealer



**LOOK FOR THIS SYMBOL TO POINT
OUT IMPORTANT SAFETY PRECAUTIONS.
IT MEANS - ATTENTION! BECOME ALERT!**

**TO INSURE EFFICIENT AND PROMPT SERVICE, PLEASE
FURNISH US WITH THE MODEL SERIAL, ENGINE, ENGINE TRANS-
MISSION AND CAB SERIAL NUMBERS OF YOUR TRACTOR
IN ALL CORRESPONDENCE OR CONTACTS.**

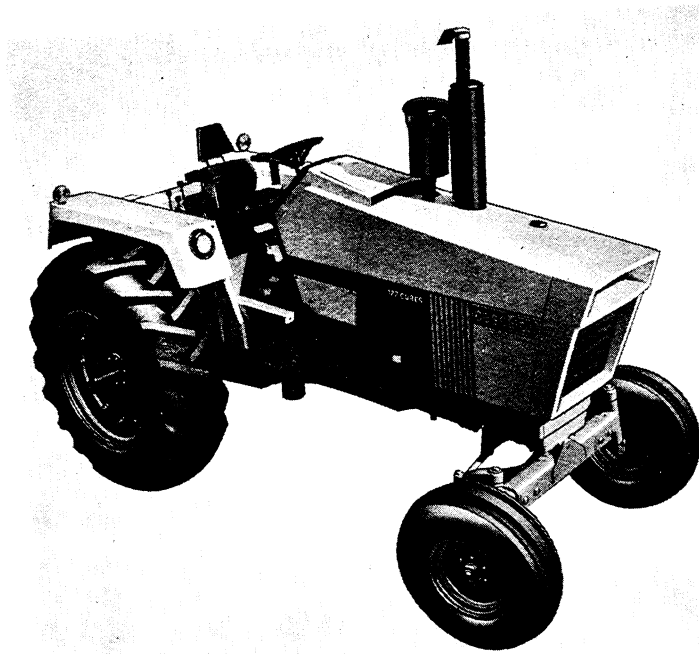


Figure 1

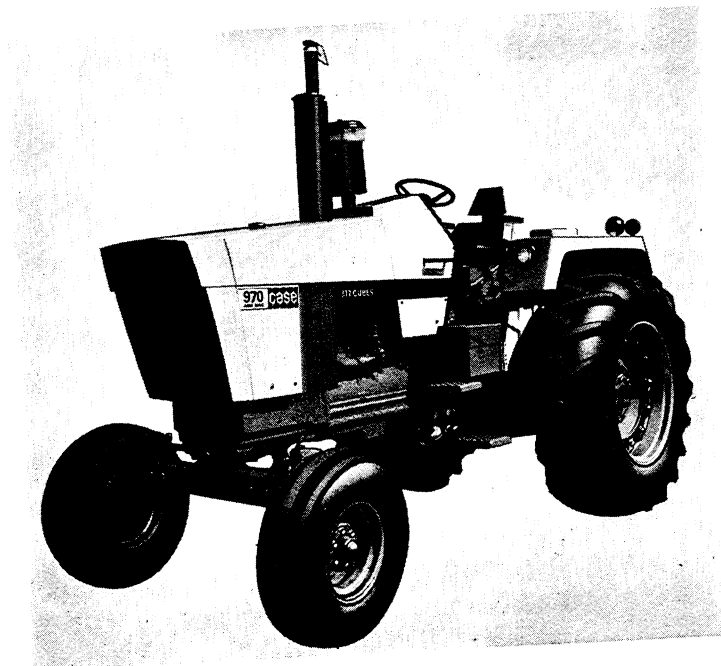


Figure 2

SERIAL NUMBER

The Model and Serial Numbers are stamped on the number plate located on the outside and lower left hand side of the wire wall assembly, Figure 3. The Engine Serial Number is stamped on a plate fastened to the rear right hand side of the engine block, Figure 4. The transmission Serial Number is stamped on a plate and fastened to the right hand side and to the front of the axle on the transmission housing, Figure 5. The Cab Serial Number is stamped on a plate fastened to the inside right hand support, Figure 6.

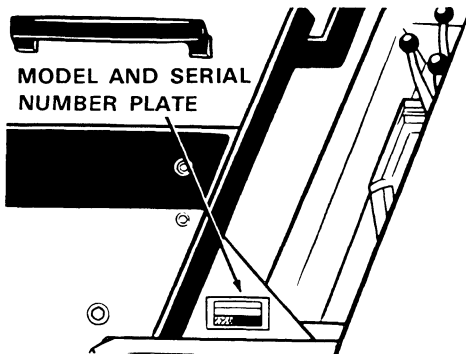


Figure 3

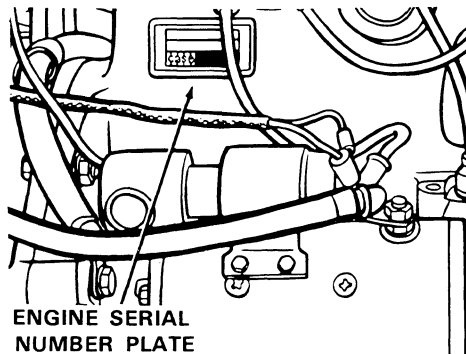


Figure 4

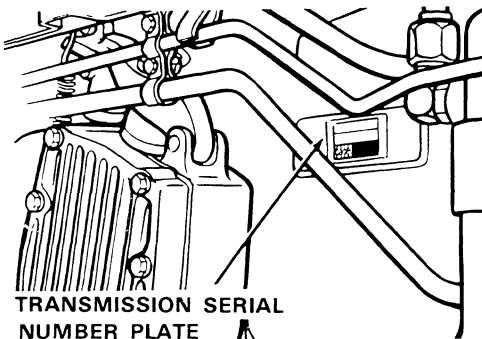


Figure 5

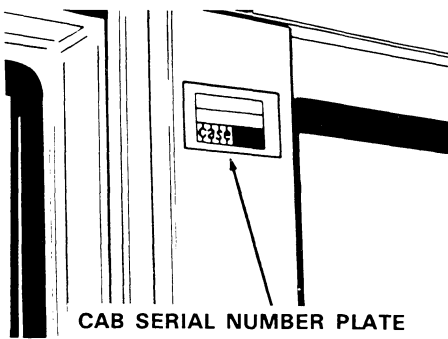


Figure 6

NOTE: The terms “Right Hand” and “Left Hand” whenever used in this manual, apply to the tractor when facing in the direction the tractor will move in forward operation.

For reference, fill in the Serial Numbers of your tractor in the spaces provided below.

Model Designation _____
Tractor Serial Number _____
Engine Serial Number _____
Transmission Serial Number _____
Cab Serial Number _____

Diesel Engine

SPECIFICATIONS

General

Type ----- 6 Cylinder, 4 Stroke Cycle,
Valve-in-Head.
Firing Order ----- 1-5-3-6-2-4
Bore ----- 4-1/8 Inches (104.7mm)
Stroke ----- 5 Inches (127mm)
Piston Displacement ----- 401 Cubic Inches (6 571.2cm³)
Compression Ratio ----- 16.5 to 1
Cylinder Sleeve ----- Removable Wet Type
No Load Governed Speed ----- 2160 RPM
Rated Engine Speed ----- 2000 RPM
Engine Idling Speed ----- 725 RPM
*Valve Tappet Clearance (Exhaust) ----- (Hot) .020 Inch (0.508mm)
(Cold) .025 Inch (0.635mm)
(Intake) - (Hot and Cold) .015 Inch (0.381mm)

*Hot Settings Are Made After The Engine Has Operated At Thermostatic Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings per piston ----- 3
Number of Compression Rings -----
Number of Oil Rings ----- 1
Type Pins ----- Full Floating Type
Type Bearing ----- Replaceable Precision, Steel
Back, Copper-Lead or Aluminum Alloy Liners

Main Bearings

Number of Bearings ----- 7
Type Bearings ----- Replaceable Precision Steel
Back, Copper-Lead or Aluminum Alloy Liners

Engine Lubricating System

Oil Pressure ----- 45 to 55 PSI (3.2 to 3.9 kg/cm²) with Engine Warm
and Operating at Rated Engine Speed

Lubrication System ----- Pressure and Spray Circulation

Oil Pump ----- Gear Type

Oil Filter ----- Full Flow Spin on Type

Fuel System

Fuel Injection Pump ----- Robert Bosch, Type PES
(Multiple Plunger).

Pump Timing ----- 30 Degrees Before Top Dead
Center (Port Closing).

Fuel Injectors ----- Pencil Type
Opening Pressure 2800 PSI (196.9 kg/cm²)

Fuel Transfer Pump ----- Plunger Type, Integral Part of
Injection Pump.

Governor ----- Variable Speed, Fly-Weight Centri-
fugal Type; Integral Parts of
Injection pump.

1st Stage fuel filter ----- Full Flow Spin on Type

2nd Stage fuel filter ----- Full Flow Spin on Type

Fuel Tank Water Trap and Drain ----- Located in Base of Fuel Tank

Fuel Tank Capacity ----- 50 U.S. Gallons (189.3 Liters)

Fuel Level Gauge ----- Electric, Located on Instrument
Panel.

Hand Primer Pump ----- Located on Top of the Fuel
Transfer Pump

Preliminary Fuel Filter ----- Located at the Bottom of the
Fuel Transfer Pump.

Fuel Tank Filter ----- Located in Fuel Shut-off Valve
in Base of Fuel Tank.

spark ignition engines

SPECIFICATIONS

General

Type	6 Cylinder, 4 Stroke Cycle, Valve-in-Head.
Firing Order	1-5-3-6-2-4
Bore	4 Inches (101.6mm)
Stroke	5 Inches (127mm)
Compression Ratio	7.5 to 1
Piston Displacement	377 Cubic Inches (6178cm ³)
Governed Speed	
No Load Governed Speed	2180 RPM
Rated Engine Speed	2000 RPM
Engine Idling Speed	600 RPM
*Valve Tappet Clearance (Intake) (Hot and Cold)	.015 Inches (0.381mm)
(Exhaust) (Hot)	.020 Inches (0.508mm)
(Cold)	.025 Inches (0.635mm)
Exhaust Valve Rotators	Positive Type

*Hot Settings Are Made After The Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings per Piston	4
Number of Compression Rings	3
Number of Oil Rings	1
Type Pin	Full Floating Type
Type Bearings	Replaceable, Precision Steel Back, Copper-Lead or Aluminum Alloy Liners.

Main Bearings

Number of Bearings ----- 7
Type Bearings ----- Replaceable, Precision Steel
Back, Copper-Lead or Aluminum Alloy Liners.

Engine Lubricating System

Oil Pressure ----- 45 to 55 PSI (3.2 to 3.9 kg/cm²)
Engine Warm and Operating at
Full Governed RPM.

Type System ----- Pressure Spray Circulation

Oil Pump ----- Gear Type

Oil Filter ----- Full Flow, Spin on Type

Fuel System

Fuel Tank Capacity ----- 50 U.S. Gallons (189.3 liters)

Carburetor (Zenith) (w/solenoid) ----- 1-1/2 Inch SAE Flange (38mm).

Fuel Pump and Screen ----- A.C. Vacuum Type, Camshaft
Actuated.

Distributor Ignition

Contact Point Gap ----- .020 Inches (0.508mm)

Dwell Angle ----- 39°

Spark Plugs ----- Prestolite 18 8

Plug Gap ----- .025 Inches (0.635mm)

Thread ----- 18 MM

Shank Length ----- 1/2 Inch (12.7mm)

Engine Timing

Static Timing ----- TDC

Running Timing ----- Engine Running at Rated
Engine Speed: 27° BTDC

general specifications

Cooling System

Capacity ----- 38 U.S. Quarts (36 liters)
Type of System ----- Pressurized, Thermostat Controlled
By-Pass Type: Forced Circulation, (Impeller Type Pump).
Radiator ----- Heavy Duty Fin and Tube Type
Thermostat ----- Starts to Open at Approximately 195°F. (91°C)
Full Open at 202°F. (94°C.)
Pressure Cap Required ----- (w/o Cab) 7 PSI (0.492 kg/cm²)
Pressure Cap Required ----- (w/Cab) 14 PSI (0.984 kg/cm²)
When using a proper operating 7 PSI (0.492 kg/cm²) pressure cap, the engine temperature can safely rise to 230°F. (110°C). With a 14 PSI (0.984 kg/cm²) pressure cap, the engine temperature can safely rise to 250°F. (121°C.).

Electrical System

Type of System ----- 12 Volt Negative Ground
Batteries ----- (2) 12 Volt Batteries Connected
in parallel.
(Spark Ignition) - Group Size 27H, Rated at 1.255 to 1.265
Specific Gravity, Discharge Rate 300 Amps
at 0° F., Voltage drops to 8.7 after 10 seconds,
Voltage drops to 1.0 volts per cell after
3-1/2 minutes.
(Diesel) - Group Size 30H, Rated at 1.255 to 1.265
Specific Gravity. Discharge Rate 300 Amps
at 0° F. Voltage drops to 9.2 after 10 seconds.
Voltage drops 1.0 Volts per cell after 4 min.
Alternator ----- 12 Volt 55 Amp Output
Voltage Regulator ----- 12 Volt, Solid State,
Mounted on Alternator.
Starter Motor ----- 12 Volt with Solenoid Switch
Head Lights (2) ----- 12 Volt, 35 Watt, Sealed Beam
Flood Lights ----- 12 Volt, 35 Watt, Sealed Beam
Amber Warning Light ----- 12 Volt, Double Face, Flasher Type
Rear Tail Light ----- 12 Volt, 60 Watt Sealed Beam
Combination Tail and Flood Lamp.
Circuit Breaker System over load check - 12 Volt Twin 40 AMP
Breakers connected in parallel, 80 AMP rating -
60 AMP. Min. Continuous capacity.
Lights Circuit Breaker ----- 30 Amp., Located on Light Switch
Parking Brake Warning Light ----- 12 Volt, Red Flasher Type

Parking Brake

Type ----- Cable Actuated by Orchlin Type Handle - Adjustable from Operator's Seat.

Hydraulic Brakes

Type ----- Hydraulic Actuated, Self-Adjusting Disc Type Differential Brakes.

Hydraulic Power Assist Brakes

Type ----- Hydraulic, Power Assisted, Self-Adjusting Disc Type Differential Brakes.

Mechanical Transmission

Type ----- 2 Speed Gear Range With a 4 Speed Gear Section.

Gear Selection ----- 8 Speeds Forward - 2 Speeds Reverse.

Shifting ----- Mechanical With Plunger Type Locks and Tube Type Interlocks.

Power Shift Transmission

Type ----- 3 Speed Compound Planetary With Hydraulically Actuated Clutches and a 4 Speed Gear Range Section.

Gear Selection ----- 12 Speeds Forward and 4 Speeds Reverse

Shifting ----- Hydraulic Power Shifting Controlled By a Lever On Operators Console. 4 Speed Range Controlled By a Mechanical Shifter From a Lever On Operator's Console.

Power Take-Off

Type Clutch----- Hydraulically Operated
Rotation ----- Clockwise
Spline Size ----- 540 RPM ---- 6 Splines -- 1-3/8 in. (34.9mm)
1000 RPM --- 21 Splines -- 1-3/8 in. (34.9mm)
Engine Speed 1900 RPM ----- 540 or 1000 RPM Shaft Speed

Belt Pulley

Method of Engagement ----- PTO Control Lever
Pulley Diameter ----- 10.5 in. (266.7mm)
Pulley Face Width ----- 7.25 in. (184.2mm)
Ratio Engine RPM:
(540 PTO) ----- 1.716 to 1
(1000 PTO) ----- 1.722 to 1
1 RPM of Belt Pulley ----- 2.75 feet (8.4m) Per Minute
Belt Travel.

Drawbars

Standard or Yoke Type ---- Full Swinging Roller Mounted. Will
Accommodate a 1-1/4 Inch (31.8mm) Dia. Pin.

Draft-O-Matic System

Type of Sensing ----- Lower Link
Type Control ----- Hand Lever
Type Valve ----- 3 Positions - Raise - Hold - Lower
Type Draft Arms ----- Swinging, with Manual Float Adjustment
Type Hitch ----- 3 Point Category II

Hydrostatic Power Steering

Pump Type ----- Large Volume, Spur Gear, Continuous Running.

Pump Capacity at 1900 Engine RPM ----- 7 GPM (26.5 l/mn)

Hand Pump Type ----- Gerotor Bi-Directional, Driven By the Steering Wheel.

Actuating Cylinders ----- 2 Way Cylinders Are Integral Part of Steering Gear Mechanism.

Remote Hydraulic System

Pump ----- Large Volume, Spur Gear, Continuous Running.

Type Valve ----- Dual Valve - Individual Hand Lever Control

Portable Cylinder Coupling ----- Case Quick Detachable Break-away Type

Pump Capacity at 1900 Engine RPM ----- 16 GPM (60.6 l/mn)

Relief Valve Pressure - 1700 to 1900 PSI (119.5 to 133.6 kg/cm²)

Portable Cylinders ----- Available



Our support email:

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