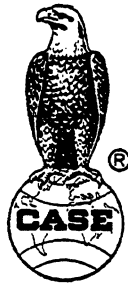


**Supplement To**  
**OPERATOR'S INSTRUCTION MANUAL**  
**Forms R. I. 9-921 and R. I. 9-922**

**CASE<sup>®</sup>**  
**"630" SERIES**  
**DIESEL TRACTORS**



Est. 1842

**J. I. CASE CO.**

**RACINE, WIS. U.S.A.**

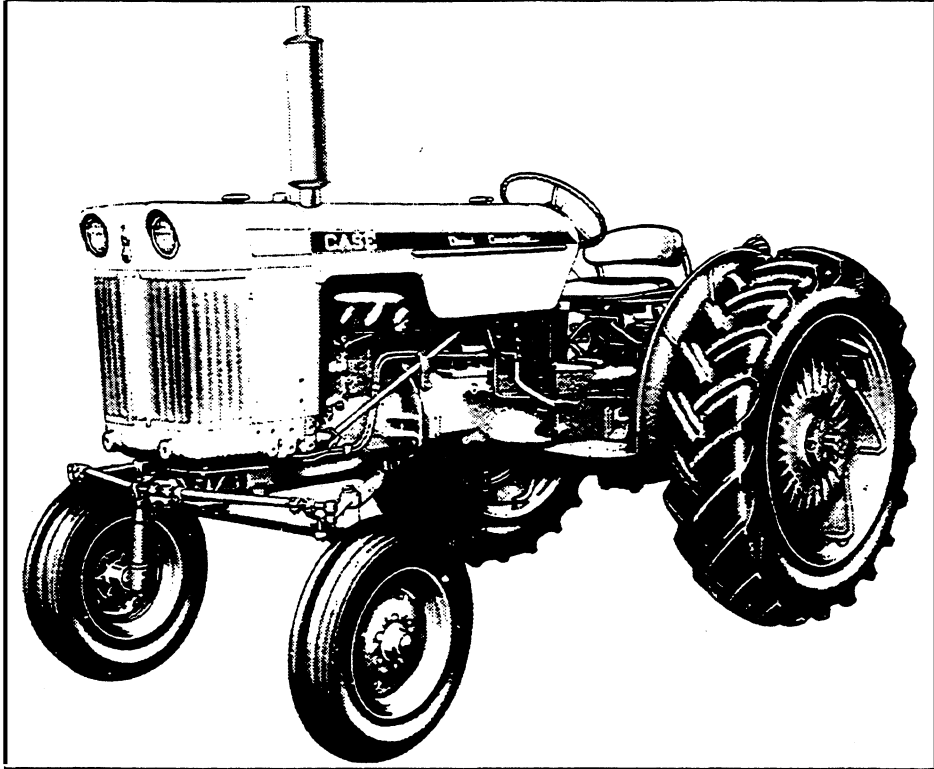
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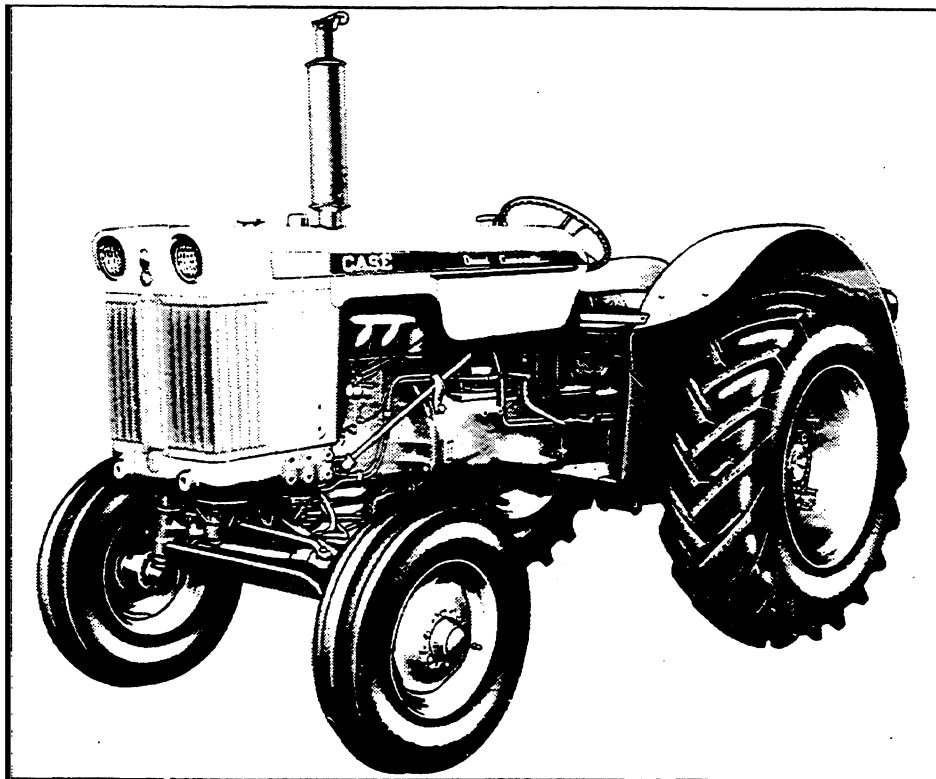
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## INTRODUCTION



Model 631C General Purpose Tractor



Model 632C Western Special Tractor

## INTRODUCTION

This supplementary manual covers, only, information pertinent to the lubrication, operation and preventive maintenance of the Case "630" Series Diesel tractor engine. Use this supplement along with the Operators Manual Forms 9-921 and 9-922 Case Model 640-641-640C-641C Tractors.

Case "630" Series Tractors are powered by a 188 cu. in. direct injection, full-diesel engine. Here are some of the outstanding features of this engine.

1. High compression - heavy duty construction - five bearing induction hardened counterbalanced crankshaft.
2. Direct injection combustion chamber - fuel is injected directly into the combustion chamber where it is mixed with air moving in a cyclonic manner to give the best fuel efficiency.
3. Multi-purpose fuel filtering system. One unit, (under the fuel tank), filters both dirt and water from fuel. Replaceable cartridge element provides 560 square inches of filtering area.
4. Intake manifold electrical starting aid for easy starting at low temperatures.

### CASE "630" SERIES DIESEL TRACTOR DESIGNATIONS

Model 630 - 4 - Wheel Utility (Dry clutch)  
Model 630C - 4 - Wheel Utility (Case-O-Matic)  
Model 631 - General Purpose (Single, Dual or Adj. Axles) (Dry clutch)  
Model 631C - General Purpose (Single, Dual or Adj. Axles) (Case-O-Matic)  
Model 632 - Western Special - 4 - Wheel (Dry clutch)  
Model 632C - Western Special - 4 - Wheel (Case-O-Matic)  
Model 634C - Grove - 4 - Wheel (Case-O-Matic)


NOTE: All above tractor models, use the Case 188 cu. in. Diesel Engine, therefore information in this supplement applies to each one of these tractors. Your tractor serial number plate, located on the right side of the dash panel, (see Fig. 1) will have one of the above model numbers stamped on it.

## TRACTOR SERIAL NUMBERS

When ordering parts from your authorized Case Dealer, always specify the Serial Number and Model of your Tractor.

As a means of ready reference fill in the serial numbers along with the model number of your tractor, in the spaces provided here.

MODEL	<input type="text"/>
NO.	<input type="text"/>
J. I. Case Co., Racine, Wis.	



<input type="text"/>
Engine Serial Number

When ordering Tractor Parts, specify the Tractor Model and Serial Number, located on the side of the tractor "dash."

Use the Engine Serial Number, stamped on the right side of the engine block, when ordering Engine Parts.

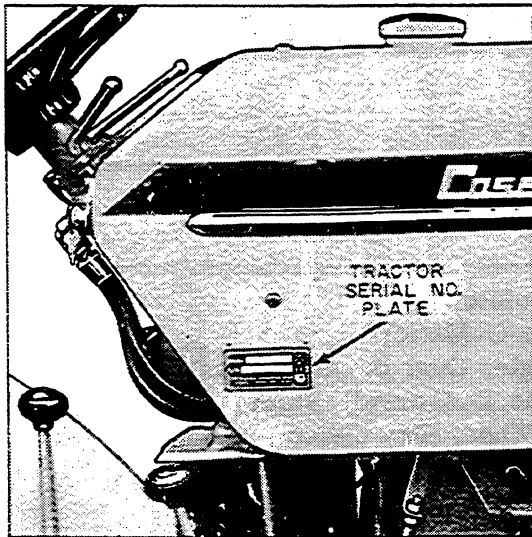


Fig. 1. Tractor Number

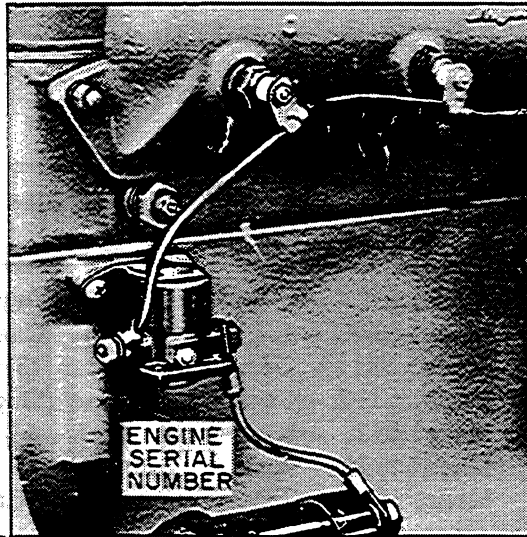


Fig. 2. Engine Number

If you should require additional information or services of a trained mechanic, be sure to see your authorized CASE DEALER.

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.

# GENERAL SPECIFICATIONS

## CASE 188 DIESEL ENGINE

### GENERAL

Type . . . . .	Case Open Combustion-4 Cyl.-4-Stroke-Valve in Head
Firing Order . . . . .	1-3-4-2
Cylinder Bore . . . . .	.3 13/16"; Stroke . . . . 4 1/8"
Piston Displacement . . . . .	188 Cu. In.
Compression Ratio . . . . .	17.5 to 1
Valve Guides . . . . .	Cast Replaceable
Valve Clearance . . . . .	.014" (Cold)
Cylinder Sleeves . . . . .	Wet Type-Replaceable
Full Governed Speed (Dry Clutch) . . . . .	2000 R.P.M.
(Case-O-Matic) . . . . .	2250 R.P.M.
No Load Speed (Dry Clutch) . . . . .	2150 R.P.M.
(Case-O-Matic) . . . . .	2400 R.P.M.
Engine Idle Speed . . . . .	600 R.P.M.
Governor Type . . . . .	Flyweight (in injection Pump)
Air Cleaner . . . . .	Oil Bath Type
Cold Weather Starting Aid (Std.) . . . . .	Electric Heat Plugs (4)
Fuel . . . . .	No. 2 Diesel Fuel (See Fuel Spec's)

### PISTONS AND RODS

Rings - Compression . . . . .	2 or 3
Rings - Oil Control . . . . .	1
Piston Pins . . . . .	Full Floating
Piston Material . . . . .	Aluminum Alloy
Connecting Rod Bearings . . . . .	Steel Backed Inserts
Number of Main Bearings . . . . .	5
Type Bearings . . . . .	Steel Backed Inserts

### ENGINE LUBRICATING SYSTEM

Oil Pressure . . . . .	50 to 60 lbs. at 2000 R.P.M.
Type System . . . . .	Positive Displacement-Gear Type Pump With Floating Intake Screen
Oil Filter . . . . .	Full-Flow-Replaceable Element

### DIESEL FUEL SYSTEM

Fuel Injection Pump . . . . .	Roosa-Master
Fuel Injectors . . . . .	(Long Stem Multi-Hole) C.A.V.
Fuel Transfer Pump . . . . .	Vane Type (Integral Part of Injection Pump)
Governor . . . . .	Mechanical, Flyweight, (Integral Part of Injection Pump)
Fuel Filter . . . . .	Roosa-Master (With Replaceable Element) (Includes Moisture Trap)
Fuel Gage . . . . .	Sending Unit in Tank - Dial on Instrument Panel

## COOLING SYSTEM

Type of System . . . . . Pressurized, Thermostat Controlled  
Pump . . . . . Impeller Type-Sealed Pre-Lubricated Bearing  
Radiator . . . Heavy Duty-Tube and Fin Construction. (Heat Exchanger in Base on  
Case-O-Matic Models)  
Thermostat . . . . . Starts to Open at 177° F. Fully Open at 202° F.  
Radiator Pressure Cap. . . . . Open at 4 Lbs.

## STARTING AND LIGHTING SYSTEM

Type of System . . . . . 12 Volt - Positive Ground  
Batteries . . . (2) 6 Volt-105 Amp. Hour Batteries connected in series Group I.  
Generator . . . . . 12V-2 Brush With Full Ventilation  
Voltage Regulator. . . . . 12V - Automatic Type  
Starting Motor . . . . . 12 V With Attached Solenoid Switch  
Manifold Heaters (4) . . . . . 12 Volt - 450 Watt  
Headlights. . . . . 12 V 35 Watt-Sealed Beam  
Rear Light . . . . . 12 V-Sealed Beam-Combination  
Fuse . . . . . 20 AMP-Light Circuit-Mounted on Dash  
Electrical Socket . . . . . 12 V-for Auxiliary Tail Light on Implements  
12 Volt Warning Light (Extra). . . . . For use with Electrical Outlet Socket

## CAPACITIES

Engine Crankcase. . . . . 4 qts.  
With Filter Change . . . . . 5 qts.  
Air Cleaner. . . . . 2 3/4 Pints  
Cooling System . . . . . 16 1/2 qts.  
Fuel Tank . . . . . 22 gal.

## APPROXIMATE WEIGHTS

Model 630 - Utility Tractor . . . . . 3520 lbs.  
Model 631 - Gen. Purp. (Dual Front Wheels) . . . . . 4195 lbs.  
Model 631 - Gen. Purp. (Adj. Front Axle) . . . . . 4315 lbs.  
Model 630C - Utility . . . . . 3673 lbs.  
Model 631C - Gen. Purp. (Dual Front Wheels). . . . . 4348 lbs.  
Model 631C - Gen. Purp. (Adj. Front Axle). . . . . 4468 lbs.  
Model 632C - Western Special . . . . . 4610 lbs.  
Model 632 - Western Special . . . . . 4580 lbs.  
Model 634C - Grove Tractor . . . . . 4500 lbs.

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