



J.I. Case
Operator's Manual
S Series
With Hitch

Operator's Manual

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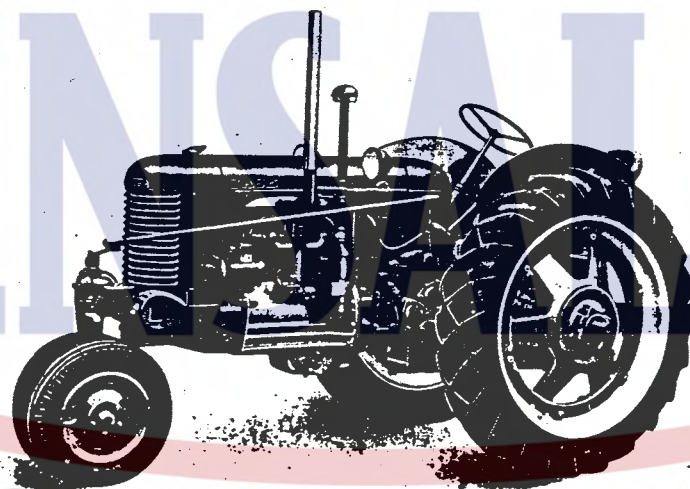
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S-SC-SO SERIES TRACTOR WITH EAGLE HITCH

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ESTABLISHED 1842

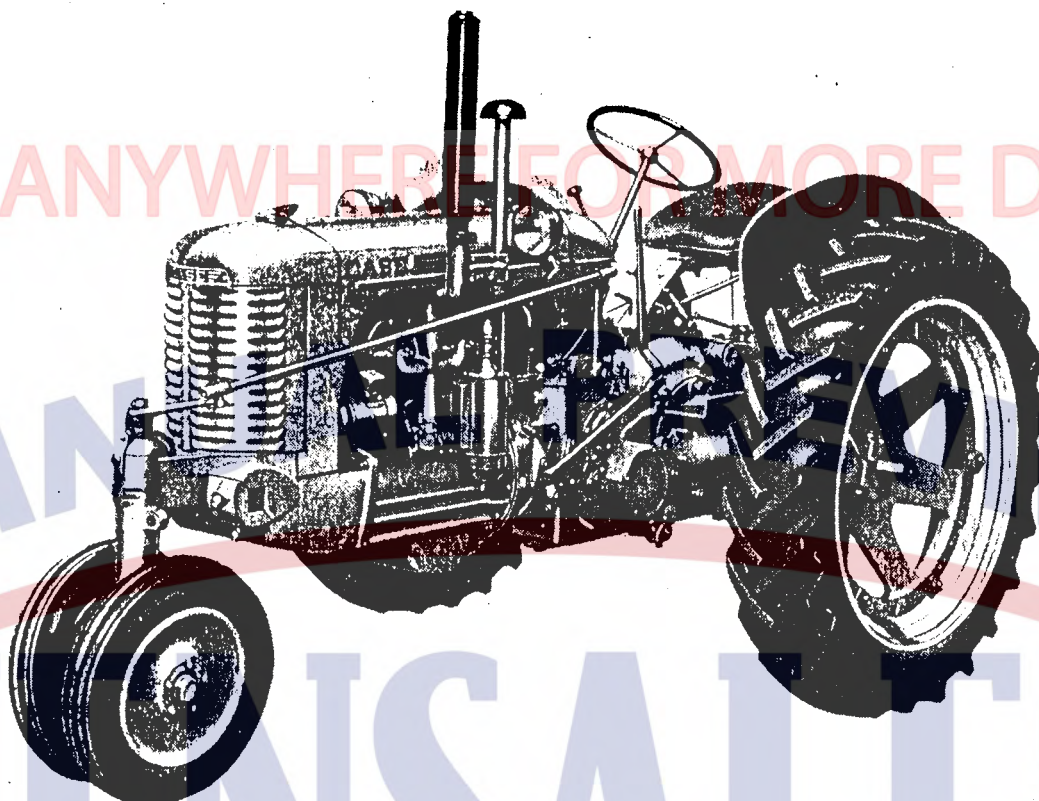
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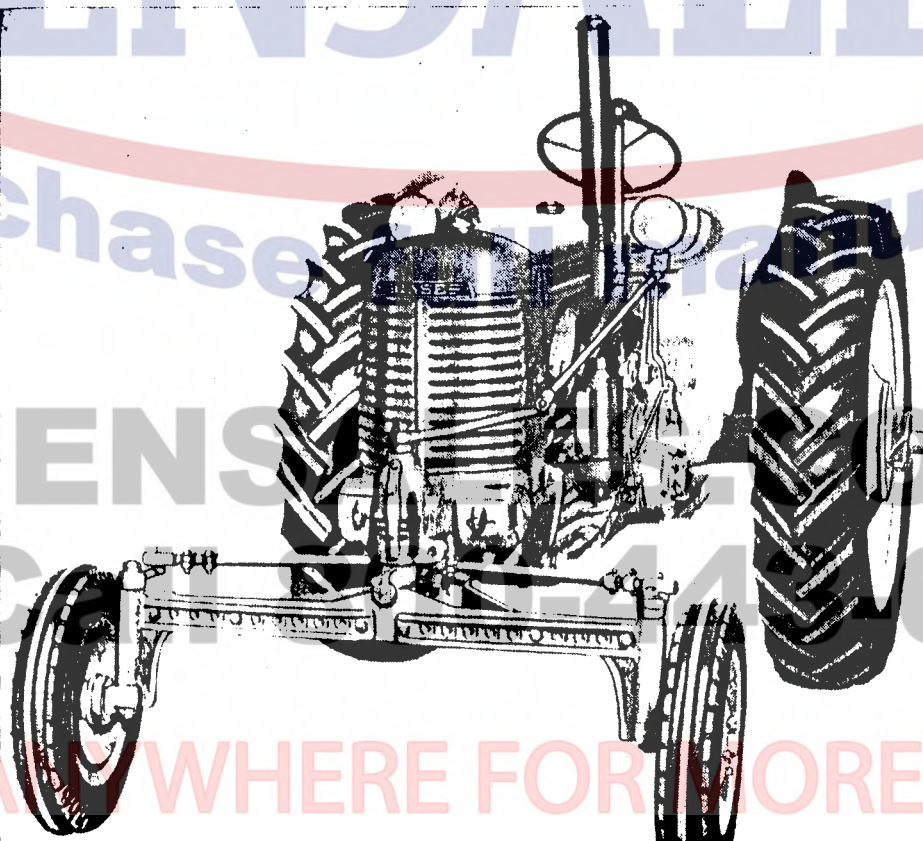
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Model SC General Purpose Tractor



Model SC General Purpose Tractor
(With Adjustable Front Axle)

Cooling System

Temperature Control for Gasoline.....	Thermostat Starts to Open 175° to 180° F. Fully Open 200° F.
Temperature Control for Low Cost Fuel.....	Thermostat Starts to Open 175° to 180° F. Fully Open 200° F. Radiator Shutter Standard Equipment
Type of System.....	Forced Circulation (Pump)
Type of Water Pump.....	Impeller
Radiator.....	Heavy Duty Tube and Fin Type
Hose Specifications	
Upper Radiator Hose.....	1¾ x 4 Inches
Lower Radiator Hose.....	1¾ Inches Molded
Rate of Coolant Flow at Full Load	
Governed Engine Speed of 1550 RPM.....	40 Gallons per Minute
Number of Fan Blades.....	4
Effective Width of Blades.....	1⅞ Inches
Diameter of Fan.....	15½ Inches

Electrical System

Type of System.....	Negative Ground from Battery
Voltage.....	6 Volt
Battery.....	15 Plate, 100 Ampere Hours at 20 Hour Rate
Generator.....	6 Volt
Voltage Regulator.....	Automatic Type
Starting Motor.....	Drive Assembly Automatically Lubricated in Clutch Housing (Sealed from Dust)
Headlight Bulb Size.....	32 C.P., Single Contact, 6-8 Volt-Flange Base Type
Rear Light Bulb Size.....	Large—32 C.P., Single Contact, 6-8 Volt— Plain Base Type Small—1 C.P., Single Contact, 6 8 Volt— Plain Base Type

When the power take-off is not in use on an Eagle Hitch equipped tractor, either the Eagle Hitch power take-off shaft guard or the standard adapter guard and tubular guard must be in place, as shown in Figures 31 and 39.

CAUTION

**BEFORE WORKING ON PTO DRIVEN MACHINE ALWAYS
DISENGAGE PTO CLUTCH AND STOP TRACTOR ENGINE.**

BELT PULLEY WORK

Model S Series Tractors are provided with a $9\frac{1}{4}$ inch diameter belt pulley that has a $6\frac{3}{8}$ inch face. The tractor engine at its full load governed speed of 1550 RPM produces a pulley speed of 1078 RPM. The corresponding belt speed is 2600 feet per minute.

When positioning the tractor for belt work, care must be used to align the tractor pulley with the driven pulley. Should the belt tend to run off to either side, undue belt wear may result in addition to the hazard of damage to the tractor tire.

For proper lubrication, locate the tractor in as nearly a level position as possible when doing belt work. Should it be necessary to have the front end of the tractor high, additional oil must be put in the transmission case to insure proper lubrication of the front gears and bearings.

Secure the tractor in alignment by locking the brakes. Place blocking under the tractor wheels if necessary. Have the gear shift lever in the neutral position and operate the belt pulley by engaging and disengaging the traction clutch hand lever.

Be sure the correct diameter belt pulley is used on the driven machine so the tractor engine may be operated at full governed RPM:

To determine the correct diameter of the driven pulley, multiply the diameter of the tractor pulley by the full load speed of the tractor pulley; then divide that answer by the desired RPM of the driven machine.

As an example: Your new Case Model S Series Tractor is provided with a $9\frac{1}{4}$ inch diameter belt pulley. The full governed load speed of the pulley is 1078 RPM. Suppose you must keep the speed of the driven machine up to 900 RPM under load:

$$\frac{9\frac{1}{4} \text{ inches} \times 1078 \text{ RPM}}{900} = 11 \text{ inch driven pulley required}$$

Static Electricity

A fully rubber tire equipped tractor doing belt work tends to generate static electricity. This can be grounded harmlessly by attaching a chain long enough to touch the ground to any suitable metal part of the tractor.

Operating Temperature Control

To control the engine heat, a thermostat is provided in the upper radiator hose, Figures 48 and 50. When the liquid coolant is cold, the thermostat is closed; thereby blocking the flow through the radiator. The trapped coolant immediately in back of the thermostat surrounds the cylinder sleeves and the combustion chambers which produce heat immediately. This permits the trapped coolant to heat up to operating temperature quickly. As soon as the coolant warms sufficiently, the thermostat opens and coolant circulates through the radiator. Should the coolant passing through the thermostat drop in temperature below the opening point of the thermostat, it will close; thereby keeping the temperature of the liquid in the engine at a more constant temperature.

IMPORTANT

ALWAYS ALLOW ENGINE TO REACH CORRECT OPERATING TEMPERATURE BEFORE SUBJECTING IT TO LOAD.

Figure 48 illustrates the travel of the liquid coolant through the system. You will note that the temperature of the liquid is at its maximum peak when it enters the top of the radiator. As it passes through the radiator and is subjected to the strong current of air created by the fan, it cools rapidly. When the liquid flows back into the engine block, it is at its minimum temperature.

It is extremely important that the liquid coolant returning to the block retain sufficient heat to prevent harmful low engine temperatures. To maintain a safe and efficient temperature of the coolant entering the block, the temperature of the coolant entering the radiator from the top must be held at the recommended 180 to 200 degrees F. Coolant entering the radiator at lower temperatures than this will be reduced to a dangerously low temperature during its passage through the radiator.

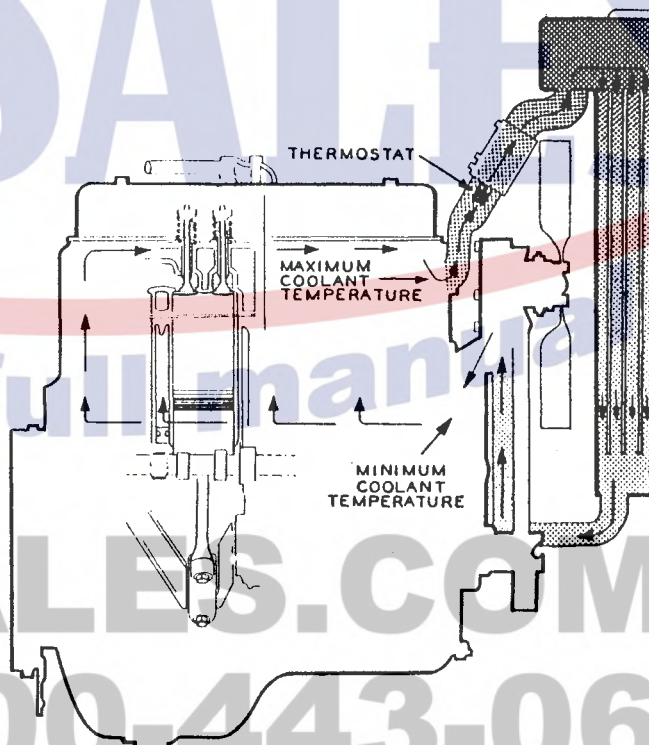


Figure 48. Coolant Flow Diagram

REPACKING AND ADJUSTING FRONT WHEEL BEARINGS

After every 250 hours of operation, the front wheel bearings should be cleaned, repacked with a high quality wheel bearing grease and adjusted. Each wheel bearing should be individually cleaned, repacked and completely adjusted.

Repacking Bearings

To clean and repack the bearings, raise the front end of the tractor and remove the hub cap.

Remove the cotter pin that locks the castellated adjusting nut, then remove the nut and the flat washer.

Remove the wheel and hub, both bearing assemblies, the flat washer, the felt retainer, and the retainer seal.

Wash both bearings thoroughly. Clean the bearing grease from the hub, the hub cap and the spindle.

Pack each bearing liberally with a high quality wheel bearing grease. Be sure to work enough grease into each bearing to completely fill the space around each roller. Fill the hub cap approximately $\frac{1}{2}$ full of bearing grease.

Install a new retainer seal and new felt washers when replacing the retainer.

Reinstall the inner bearing assembly, the hub and wheel, the outer bearing assembly, the flat washer and the castellated adjusting nut.

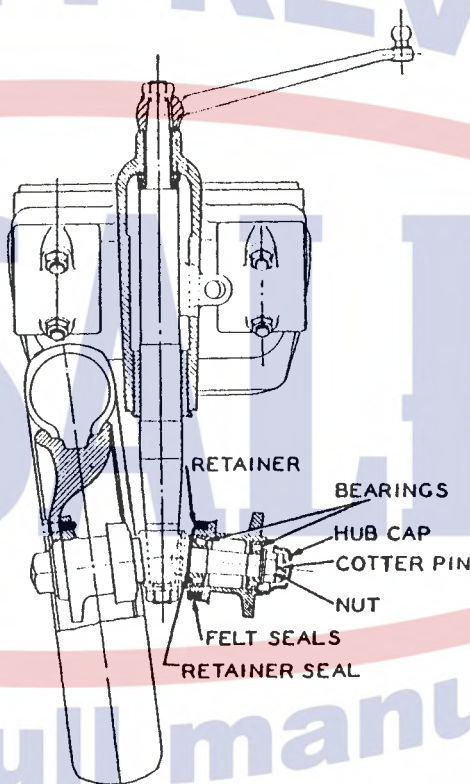


Figure 74.

Bearing Adjustment

Carefully draw the adjusting nut up against the flat washer and the outer bearing assembly until the pressure of the nut causes a noticeable binding of the bearing when the wheel is rotated, Figure 75. Back off the adjusting nut approximately $\frac{1}{6}$ of a turn—or one castellation—to permit the bearings to run freely.

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