# W8 Series B Industrial Gasoline Unit Loader

# Operator's Manual

**9-1511**

Reprinted

CASE


ASE GASOLINE ENGINES ARE DESIGNED TO OPERATE ON REGULAR - GRADE GASOLINE. THE ANTI-KNOCK QUALITY OF REGULAR GRADE GASOLINE,AS INDICATED BY ITS OCTANE NUMBERS, WILL GIVE FULL POWER AND ECONOMY TOGETHER WITH LONG ENGINE LIFE AND LOW MAINTENANCE COSTS THIRD -- GRADE GASOLINE SHOULD NOT BE USED. KNOCK OR DETONATION RESULTING FROM A LACK OF ANTI-KNOCK QUALITY MAY CAUSE PREMATURE FAILURE OF ENGINE PARTS, SUCH AS CYLINDER HEAD GASKETS,VALVES,PISTONS AND SPARK PLUGS. ALSO THIRD GRADE GASOLINE WILL NOT GIVE FULL POWER AND ECONOMY.

THE AVERAGE OCTANCE NUMBER RATINGS FOR REGULAR GRADE GASOLINE (SPRING OF 1962) ARE 84.9 MOTOR METHOD AND 92.8 RESEARCH METHOD. CASE ENGINES ARE DESIGNED TO OPERATE ON GASOLINE HAVING A MINIMUM RESEARCH METHOD RATING OF 90.7.

TWO OCTANE NUMBER RATINGS,MOTOR METHOD AND RESEARCH METHOD, ARE USED TO DEFINE THE ANTI-KNOCK QUALITY OF A GASOLINE. IN RECENT YEARS IT HAS BECOME COMMON PRACTICE IN THE PETROLEUM INDUSTRY TO REFER ONLY TO THE RESEACH METHOD RATING RATHER THAN THE TOR METHOD RATING. THEREFORE WHEN ONLY ONE OCNE NUMBER RATING IS GIVEN FOR A GASOLINE AND THE METHOD IS NOT SPECIFIED IT CAN BE ASSUMED TO BE THE RESEARCH RATING.

**CAUTION**

NEVER FILL THE FUEL TANK.
WHEN THE ENGINE IS RUNNING
OR WHEN NEAR AN OPEN FLAME.
DO NOT SMOKE WHEN WORKING
NEAR INFLAMMABLE FUELS.

## Filling Reservoir-Bleeding Air from Power Steering System

Remove the reservoir cap and dipstick. Carefully fill reservoir with clean Automatic Transmission Fluid Type - A until the oil level reaches the"F"mark on the dipstick, Figure 10. Replace the reservoir cap and dipstick and start the engine. Turn the steering wheel through several turns; then stop the engine and refill the reservoir to the"F" mark on the dipstick.

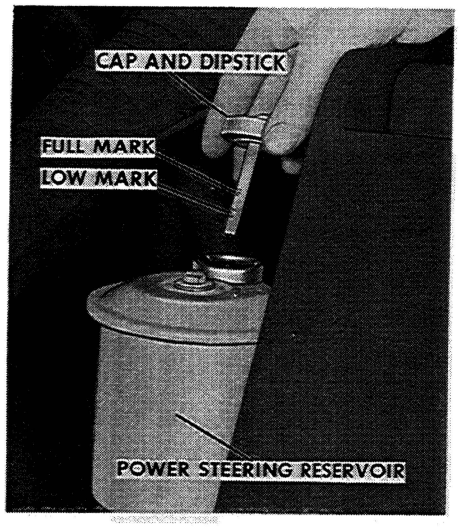



Figure 10

Repeat until the fluid level ceases to drop after turning the steering wheel. The system is then completely filled.

### NOTE

The first few times you turn the steering wheel, do not make full turns. Make full turns only after a sufficient amount of fluid is added to the system. ***IMPORTANT*** While bleeding air from system operate engine at low idle speed (approximately 750 RPM).

## Checking the Fluid Level

Check the reservoir fluid level every 60 hours of operation. Wipe the reservoir cover and cap clean before removing the cap. Keep the reservoir filled to the "F" mark on the dipstick, Figure 10.Overfilling the reservoir will cause the oil to surge out of the breather hole in the cap.

TACHOMETER - Figure 20. Indicates engine speed in revolutions per minute. Revolutions per minute is indicated in 50 RPM steps.

HOURMETER - Figure 20. The hourmeter is located within the tachometer dial. The direct reading hourmeter indicates hours and tenths of hours that the engine has run. The hourmeter does not record clock hours, but rather the average engine hours, at a mean speed of 1650 RPM. The hourmeter provides a convenient means of knowing when to service the Loader.

CLUTCH PRESSURE GAUGE - Figure 20. Indicates hydraulic clutch operating oil pressure. The gauge needle should register between 160 PSI and 200 PSI which is the operating zone. If the gauge needle drops out of the operating zone, will not reach the correct operating zone, or goes over the correct operating zone - DO NOT OPERATE THE LOADER UNDER LOAD UNTIL THE CAUSE HAS BEEN DETERMINED AND CORECTED.

TORQUE CONVERTER TEMPERATURE GAUGE - Figure 20. Indicates operating temperature of the oil in the torque converter. The gauge needle should register in the Green Zone on the gauge. If the gauge needle rises into the red zone. - PLACE THE TRANSMISSION IN NEUTRAL, IDLE THE ENGINE UNTIL THE GAUGE NEEDLE RETURNS TO THE GREEN ZONE. One of the causes of converter oil overheating is operating too long at stall speed.

FUEL GAUGE - Figure 20. Indicates amount of fuel in the fuel tank.

ENGINE TEMPERATURE GAUGE - Figure 20. The gauge needle will register in the Work Zone when the engine is at correct operating temperature.

ENGINE OIL PRESSURE GAUGE - Figure 20. The engine oil pressure gauge should register between 40 to 45 PSI when the engine is warm and running at full governed speed. When low or no oil pressure is indicated on the gauge, stop the engine and check for the cause of low oil pressure.

HYDRAULIC SYSTEM PRESSURE GAUGE - Figure 20 - Extra Equipment - Indicates the pressure in the hydraulic system when the Loader engine is operating.

ELECTRIC HOURMETER - Figure 20. - Extra Equipment - Indicates the clock hours that the key switch is in the ON position and the engine is operating at any RPM.

## STANDARD BUCKET SIGHT LEVEL GAUGE

A bucket sight level gauge, Figure 31, is located directly ahead of the operator and is in his normal line of vision when operating the Loader.

The position of the gauge rod in its sheath indicates the angle of which the bucket is tilted.

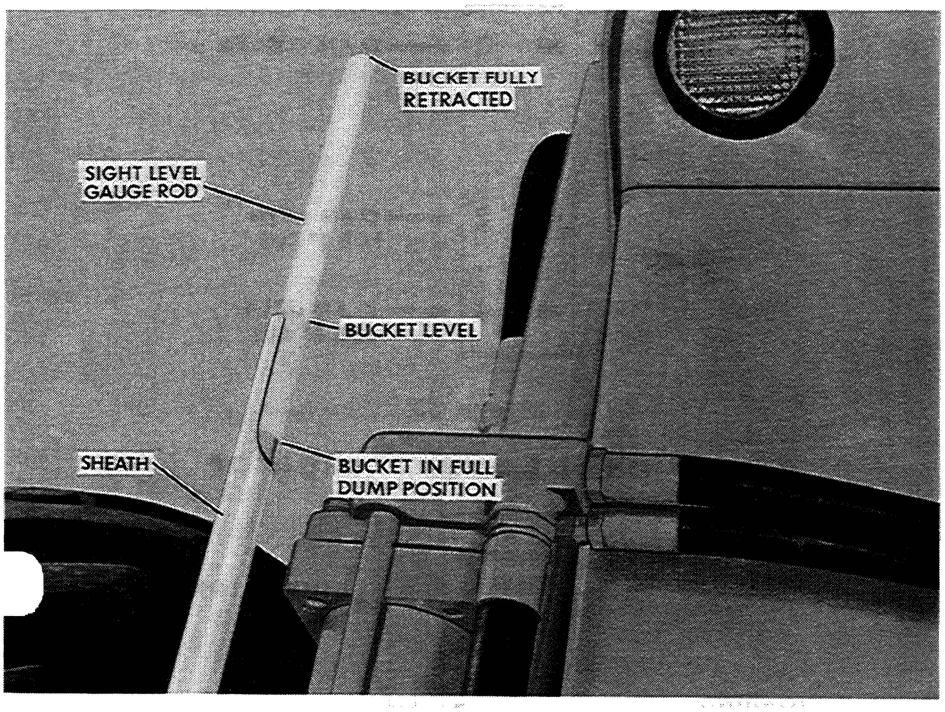



Figure 31

BUCKET RETRACTED(TILTED UPWARD) - The rod will protrude above the end of its sheath. Figure 31.

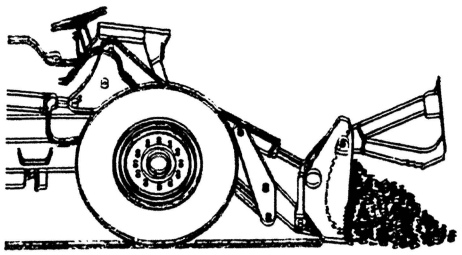
BUCKET IN LEVEL POSITION - The rod will be approximately even with the end of its sheath.

BUCKET IN DUMPING POSITION - The rod will be at the lower end of the cutaway portion of its sheath.

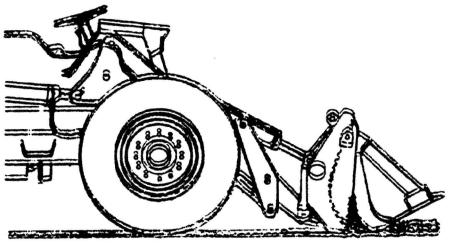
# 4 In 1 SEGMENTED TYPE BUCKET

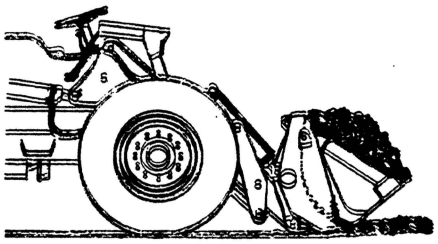
## Bulldozer

Set indicator on bulldozer position. Lower lift arms to ground level. Depth of cut is regulated by tilting blade backward and forward. More cut is taken when blade is tilted forward, less when tilted backward.



## Scraper





Set indicator on scraper position.

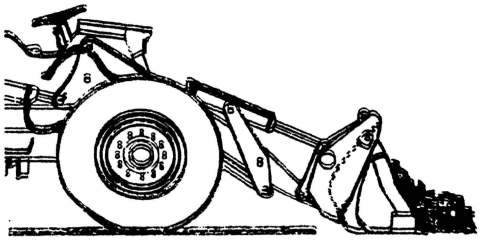
Starting Load - Clam is used as a depth gauge. Set clam indicator on rear mold board for desired depth.

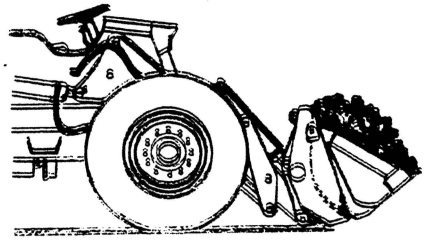
While Loading - Desired cut leaves smooth surface for Loader to travel on.

When Loaded - Tilt back before closing. Note compaction plate and design of clam for ironing, crushing and compaction action.

## Bucket

Set indicator on bucket position. Close clam. For greater cut, tilt bucket slightly forward. For lesser cut tilt bucket all the way back while moving forward to retain maximum payload to level off pile of dirt ahead of bucket. Carry bucket close to ground to maintain stability.





## NOTE

An engine that is not working under load will be slow to warm up to operating temperature. This is due to the large capacity cooling system and is normal. When the engine is under load, however, it would warm up reasonably soon.

During extremely cold weather, and if the thermostat is found to be operative, failure to maintain the proper operating temperature is an indication that radiator shutters are required.

## Anti Freeze Solutions

Your Case Loader is shipped from the factory with high boiling type anti-freeze in the cooling system. This anti-freeze should never be used more than one winter due to the natural break-down of the rust inhibitor.

Use only a nationally recognized brand of High Boiling Point Ethylene Glycol anti-freeze in the CASE Loader.

Low Boiling Point Type alcohol base anti-freeze solutions are not recommended for use. Loss from evaporation could be excessive since the boiling point of alcohol is frequently below the Loader engine's minimum operating temperature.

DO NOT mix different types of anti-freeze solutions in the cooling system. The exact amount of protection afforded is almost impossible to determine by use of a tester when different types solutions are mixed.

## CAUTION

Never use any of the following as anti-freeze.

1. Solutions of unknown composition such as honey, sugar, glucose or sodium silicate.

2. Inorganic salt solutions such as: sodium chloride(commom salt) calcium chloride, magnesium chloride.

3. Mineral oil or petroleum base solutions such as: kerosene, fuel oil or lubricating oil.

# Loader Wiring Diagram

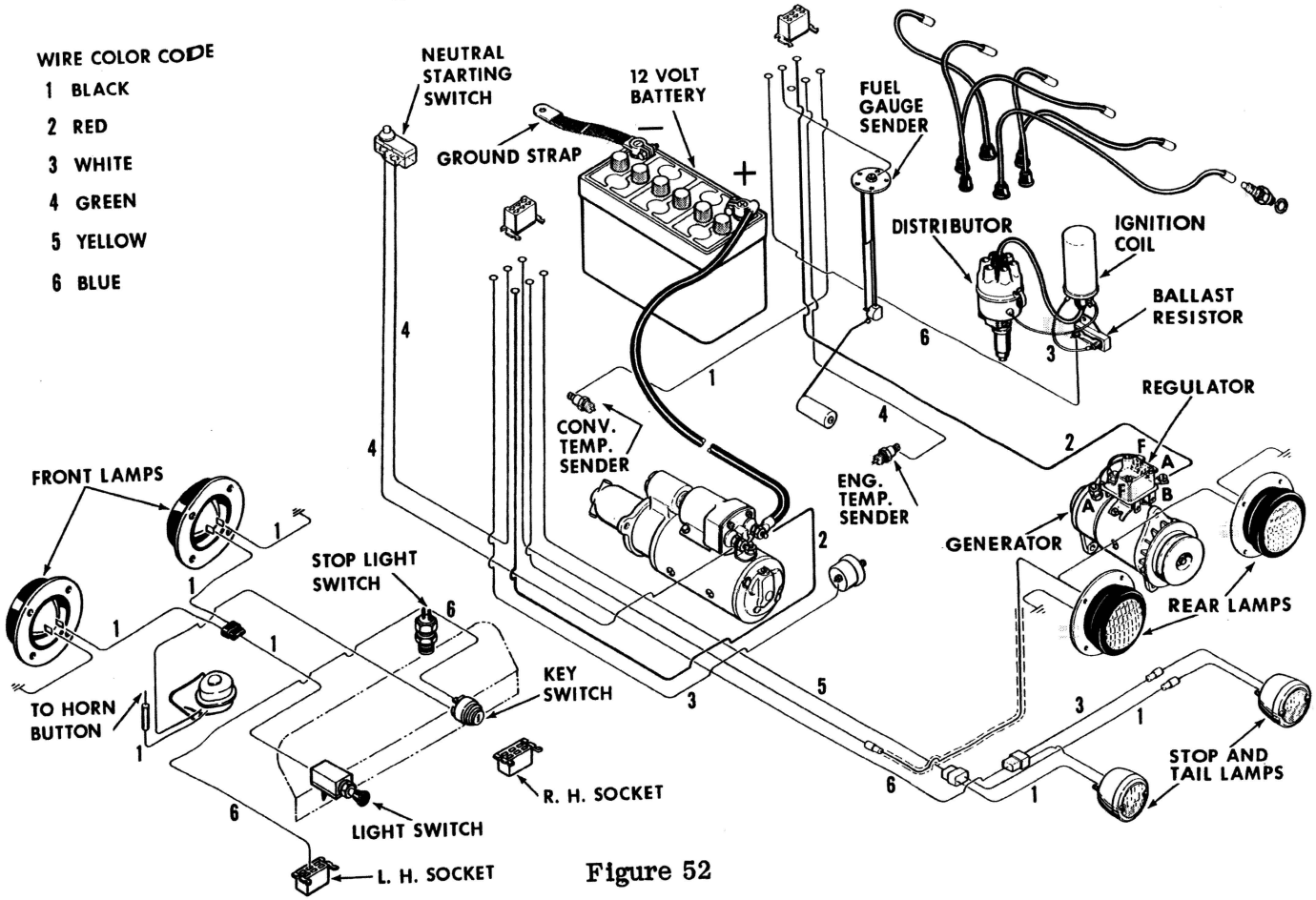



Figure 52

# VALVE TAPPET ADJUSTMENT

Check the valve (tappet) clearance after every 240 hours of engine operation.

CLEARANCE WITH ENGINE COLD.

| | |
|---|---|
| Intake valves | .015 inch |
| Exhaust valves | .025 inch |

SEQUENCE FOR CHECKING VALVE CLEARANCE

The two valves for each cylinder are to be checked and adjusted when the piston for that particular cylinder is at top dead center on the compression stroke. Start with Number 1 cylinder and follow the sequence of the firing order (1-5-3-6-2-4).

SETTING THE NUMBER 1 PISTON AT TOP DEAD CENTER ON THE COMPRESSION STROKE

A. Crank the engine slowly, until the crankshaft pulley is in the position shown in Figure 66. (Mark for checking No. 1 cylinder must be aligned with pointer).

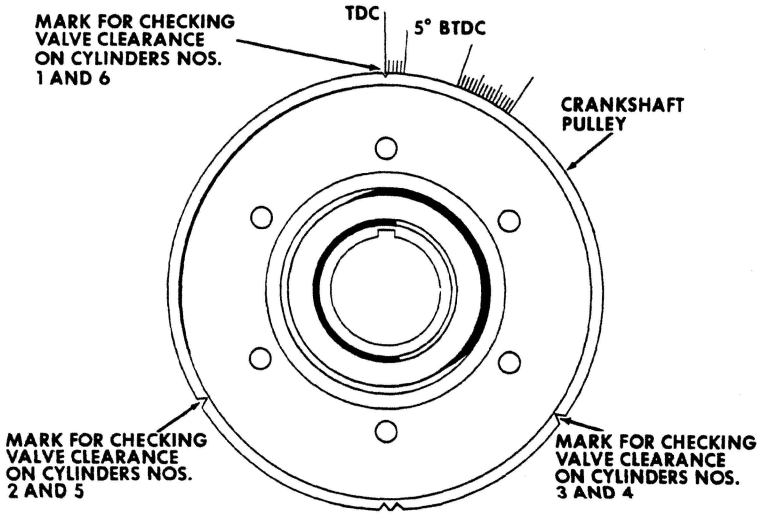



Figure 66

B. When the Number 1 piston is at top dead center on the compression stroke, the push rods will be loose on Number 1 cylinder and tight on Number 6 cylinder. The push rod for the exhaust valve on Number 2 cylinder will be tight. Refer to Figure 67. If the reverse is true, crank the engine one complete revolution.

# extra equipment

## Operator's Cab

The operator's cab completely covers the operator's compartment and is equipped with a windshield wiper. The glass panels give the operator complete view on all sides.

## Heater and Defroster

The defroster will help to keep the glass panels clean and the heater will give the operator a comfortable temperature inside of the cab in cold weather.

## Pusher Type Fan

The pusher type fan is recommended for use in warm temperatures to expel the heat out and away from the operator and engine.

## Alternator

The alternator can be installed in place of the generator where special electrical equipment is installed and high amperage load is required from the alternator at low or high engine RPM.

## Three Spool Valve

The three spool valve can be installed in place of the two spool valve and used for special equipment which requires an extra hydraulic controlled circuit.

## Fork Lift

The fork lift can be installed in place of the bucket whenever special loads are to be handled by the Loader.