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Ford

Operator's Manual

272 & 292 Cubic Inch

8 Cylinder Engines

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FO-O-ENG 272+

Operator's Manual

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**INDUSTRIAL ENGINES
AND POWER UNITS**

**OWNER'S MANUAL
MODELS**

**272, 292 CUBIC INCH
8-CYLINDER O.H.V. ENGINES**

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**FORD MOTOR COMPANY
INDUSTRIAL ENGINE DEPARTMENT**

FO-O-ENG 272+

OWNER'S MANUAL



INDUSTRIAL ENGINES AND POWER UNITS

MODELS

272 M.D., 292 M.D. and H.D. Cubic
Inch 8-Cylinder O.H.V. Engines

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INDUSTRIAL ENGINE DEPARTMENT
F O R D D I V I S I O N
FORD MOTOR COMPANY, DEARBORN, MICHIGAN

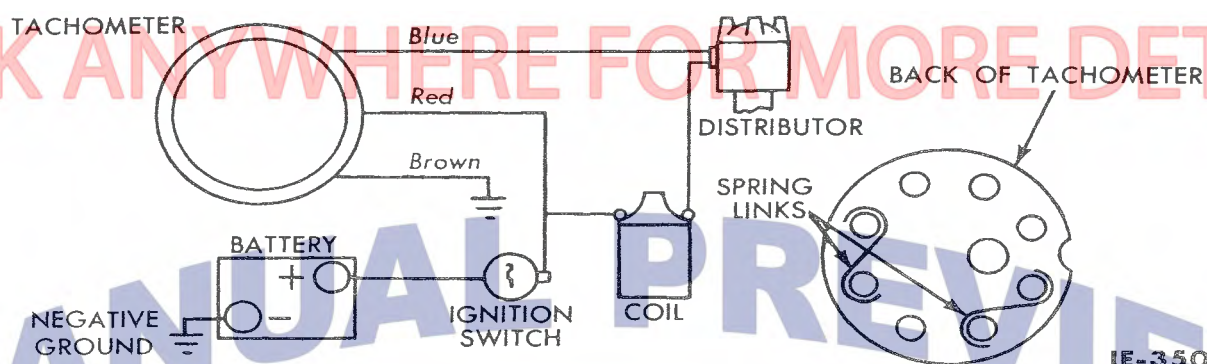


Fig. 2—Tachometer Wiring Diagram—12-Volt System

Tachometer

Engine revolutions per minute (r.p.m.) are indicated on the tachometer. This instrument is highly useful, particularly on installations requiring a constant engine speed. The maximum speed at which these engines should be run for continuous operation is 2800 r.p.m. It is a good idea to paint a red line on the face of the tachometer at the 2800 r.p.m. position. Then it will be readily evident if the engine should overspeed due to some malfunction of the governor.

If your tachometer does not operate properly, make sure it is wired correctly and the spring links are installed on the proper plug pins. If a link becomes lost, it is permissible to use heavy copper wire until a new link can be obtained.

For engines equipped with a 12-volt electrical system, refer to fig. 2 and for engines equipped with a 6-volt system, refer to fig. 3.

Hour Meter

The accumulated number of hours the engine has been in operation are shown on the hour meter (fig. 4). This instrument takes the guess work out of establishing definite service intervals for your unit. If the recommended service operations are performed on time, engine life will be materially increased. Use the hour meter in conjunction with the Preventive Maintenance Schedule on page 29.

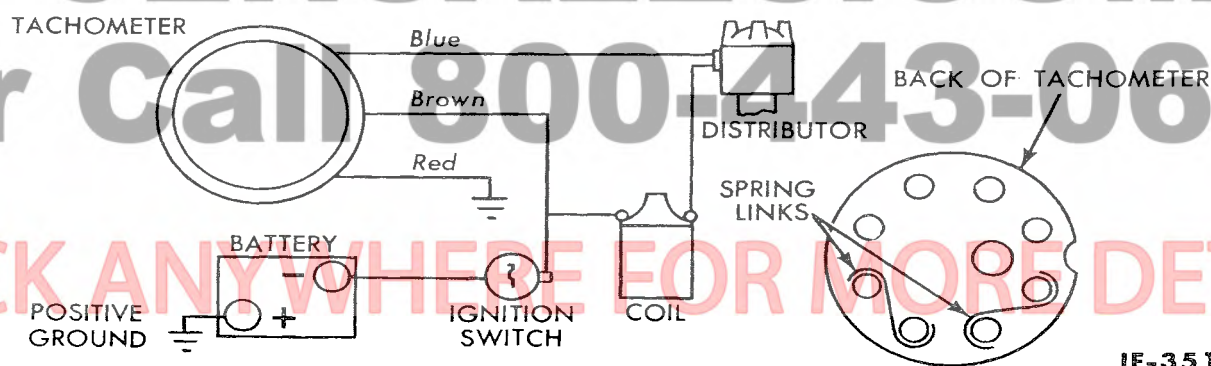


Fig. 3—Tachometer Wiring Diagram—6-Volt System

The hour meter dial has three rings and four hands. The outside ring is the 10-hour ring. The long hand, which points out the increments on the 10-hour ring, makes one complete revolution every 100 hours. The small divisions in the outside ring represent one hour each.

The middle ring is the 100-hour ring. The intermediate hand, which corresponds to this ring, makes one complete revolution every 1000 hours. Each division of the middle ring represents 100 hours.

The inside ring is the 1000-hour ring. The short hand, corresponding to this ring, makes one revolution every 10,000 hours. Each division of the small ring represents 1000 hours.

The small hand, located at the upper left of the dial, indicates whether or not the meter is operating. It makes one revolution per minute.

The hour meter shown in fig. 4 indicates an elapsed time of 1274 hours. The short hand has passed the number 1 but has not reached 2, thus indicating 1000 hours. The intermediate hand points between 2 and 3 on the middle ring indicating 200 hours. The long hand rests between 7 and 8 and exactly four increments past 7. This indicates 74 hours, thus the total hours recorded on the meter is 1274.

Safety Switch

The low oil pressure and high water temperature safety switch automatically shuts off the ignition when the oil pressure drops below a pre-set value, or the water temperature rises above a pre-set value.



IE-227

Fig. 4—Engine Hour Meter

The adjustable contact screw on the oil pressure gauge should be set at 5 pounds and the screw on the water temperature gauge should be set at 212°.

OPERATING INSTRUCTIONS

After you have become familiar with the instruments, read the following instructions carefully.

Starting

Release the load on the power take-off, or if the engine is equipped with a transmission, release the clutch. If the engine is started with the clutch engaged, it imposes an unnecessary strain on the starter and battery.

Turn on the ignition switch. Pull the throttle out about 1/2 inch and the choke out about half-way. Engage the starter. After the engine starts, push the throttle in and adjust the choke for fast idle warm-up. The throttle control can be locked in any position to maintain a desired engine speed by turning the control handle clockwise.

NOTE: *If the engine is hot or flooded with fuel and does not start promptly, pull the throttle out all the way and crank the engine continuously until it starts. Do not use the choke.*

In warm weather, use of the choke while starting the engine may be limited, or may not be necessary at all.

When starting the engine in cold weather, pull the choke out all the way until the engine starts. Adjust the choke setting to keep the engine running smoothly. When the engine is at normal operating temperature, push the choke in all the way.

In cold weather, hard starting is the most common difficulty. In most instances, this problem can be eliminated or minimized by completely winterizing the engine and having a thorough tune-up performed as cold weather approaches.

Warm-Up

The greatest percentage of wear occurs when a cold engine is first started. After an engine has been shut down and allowed to cool, the majority of the lubricating oil drains off the reciprocating parts back into the oil pan. Engine oil does not flow freely or lubricate properly until it has reached normal operating temperature. If an engine is operated at excessive speeds or under heavy load when it is cold, wear will be accelerated tremendously. The greatest damage will be done to cylinder walls and pistons.

NOTE: *Always operate the engine at fast idle speed for at least*

Preventive Maintenance

Your Industrial Heavy Duty Engine or Power Unit was carefully inspected before leaving the factory. In order to keep your unit at peak operating efficiency, certain preventive maintenance operations are necessary. On a day-to-day basis, 10 hours, 50 hours, 100 hours, 150 hours, 1000 hours, and seasonally, certain adjustments, lubrications, inspections, and routine services must be performed. The preventive maintenance operations are given on the following pages. In addition, a quick reference Preventive Maintenance Schedule is listed on page 29.

DAY-TO-DAY CARE

The following items should be checked or serviced each day or when the engine has been operated for 10 hours, whichever comes sooner.

Oil Level

The dip stick (fig. 5) is located on the right-hand side of the engine. It is preferable to check the oil level after the engine has been stopped for a period of time, such as over night. This allows the oil in the overhead valve system to drain back into the oil pan, permitting a more accurate measurement of the quantity. Add MS or DG-type engine oil of the viscosity recommended for the lowest expected atmospheric temperature (Table 2).

Coolant Level

Maintain the coolant level at one inch below the top of the radiator upper tank.

CAUTION: *When the engine is hot, remove the radiator cap carefully. Turn the cap to the safety stop, then allow the pressure to escape before removing the cap.*

In freezing weather, test the anti-freeze solution before adding coolant to the system to determine how much additional anti-freeze will be necessary to maintain proper protection (page 27).

NOTE: *Do not add coolant to an engine that has become over-*



Fig. 5—Checking Oil Level on the Dip Stick