

ENGINE - KOHLER TESTS AND ADJUSTMENTS

IMPORTANT: Avoid damage! Repeat test at least three times for accuracy. To repeat test, remove the manometer tube from top of manometer at "A". DO NOT remove manometer tube from engine. Perform step #7 then reattach manometer tube to side "A". Continue with step #10.

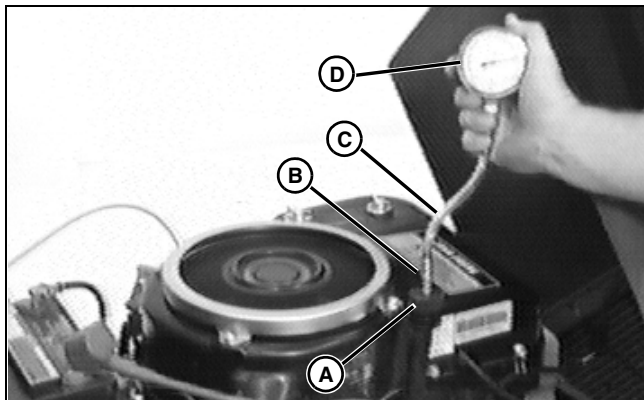
11. Remove line from manometer before stopping engine. Then remove dipstick hose connection and install dipstick.

Procedure 2:

1. Park machine on level surface.
2. Raise engine hood and remove dipstick. Check dipstick/oil fill cap and O-ring for cracks or damage, replace as necessary.
3. Install appropriate size rubber plug (A) in dipstick tube.
4. Insert barbed fitting (B) in rubber plug so that clear line (C) to fitting can be connected at a later step.

IMPORTANT: Avoid damage! DO NOT make connection between test gauge and rubber plug BEFORE engine is running at FAST idle or gauge damage may result.

After test reading is made, DO disconnect test gauge WHILE engine is running at FAST idle to prevent damage to gauge.



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5. Hold finger over rubber plug hole to keep oil from spraying out. Start engine, move the throttle lever to fast idle (3400 rpm) and allow engine to reach operating temperature.
6. Connect gauge (D), clear line, and barbed fitting to rubber plug.
7. Record crankcase vacuum reading. Gauge should show a minimum vacuum of **10.2 cm (4 in.)** of water movement.
8. Disconnect barbed fitting, clear line, and gauge from rubber plug while engine is running at FAST idle. Hold finger over rubber plug hole to keep oil from spraying out.

9. Move throttle to SLOW idle and turn engine OFF.
10. Remove rubber plug and install dipstick.

Specification:

Minimum crankcase

Vacuum at 3400 rpm **10.2 cm (4 in. water)**

Results:

If crankcase vacuum does not meet specification, check the following:

NOTE: A new engine may have low vacuum readings due to the fact that the rings are not seated.

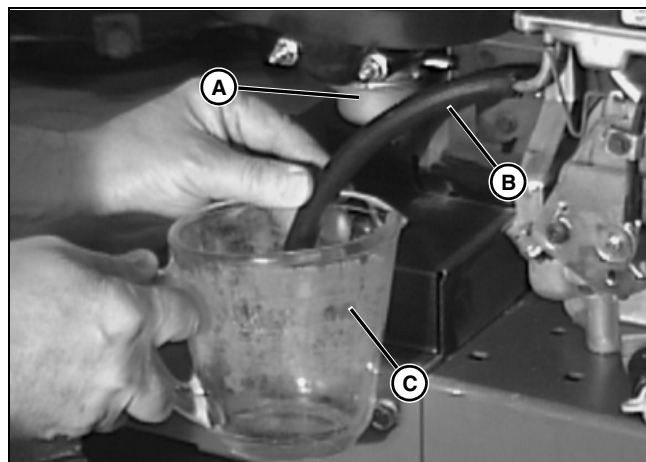
- Breather reed valve clearance and condition
- Seals and gaskets for leakage
- Rocker arm cover O-ring for leakage
- Rings, piston, and cylinder bore for wear or damage

Fuel Flow Test

Equipment:

- Proper Fuel Container

Procedure:



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1. Clamp fuel line (B) or turn off fuel shut-off valve, if equipped, to prevent fuel flow.

IMPORTANT: Avoid damage! Ensure that the fuel container is clean if fuel is to be returned to the tank after test.

2. Disconnect fuel line from carburetor (A) and place in container (C).
3. Release clamp on fuel line (B) or turn on fuel shut-off valve, if equipped.
4. Crank engine, fuel should flow freely into container (C).
5. Clamp line or close fuel shut-off valve to install fuel line on carburetor (A).

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6. Pour captured fuel into tank.

Results:

If fuel flow is slow, check the following:

- Replace fuel filter
- Check fuel lines, fuel pump, shut-off valve (if equipped), fuel tank outlet, and fuel tank cap for restrictions

Oil Pressure Test

Reason:

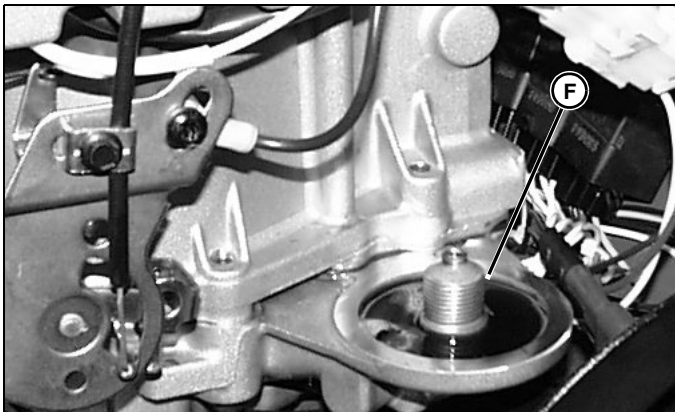
To verify that the engine has enough oil pressure to lubricate the internal engine components.

Equipment:

- JT07262 Oil Pressure Test Adapter w/ O-ring (required ONLY on engines without test ports)
- JT05847 Connector
- JT03017 Hose Assembly
- JT03262 Coupler
- JT07034 Gauge, 0 - 700 kPa (0 - 100 psi)

NOTE: The connector, hose assembly, coupler, and gauge are found in other SERVICEGARD™ test kits. The connector pipe thread (NPT) also matches the oil pressure switch port on early Kohler engines.

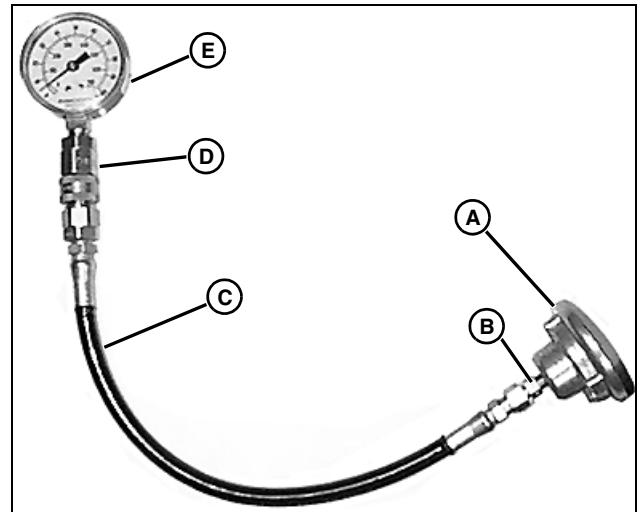
Procedure:



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Test Procedure At Oil Filter Base:

1. Perform test procedure with engine level.
2. Stop engine.
3. Disconnect spark plug wire and allow engine to cool.
4. Drain engine oil from oil filter.
5. Remove oil filter and wipe filter base clean.
6. Install pre-assembled adapter (A), connector (B), hose assembly (C), coupler (D), and gauge (E) on to oil filter base (F). ONLY hand-tighten adapter to oil filter base.
7. Check crankcase oil level and adjust to full mark.



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- A - JT07262 Oil Pressure Adapter
- B - JT05487 Connector
- C - JT03017 Hose Assembly
- D - JT03262 Coupler
- E - JT07034 Gauge

8. Monitor oil pressure during cranking, if oil pressure is below **28 kPa (4 psi)** - STOP engine immediately and correct cause before continuing.

9. Connect spark plug wire.

10. Warm-up engine by running at MEDIUM idle for five minutes.



CAUTION: Avoid Injury! Engine components are HOT. DO NOT touch with bare skin. Wear protective eye glasses and clothing.

11. Record oil pressure readings at SLOW and FAST idle.

12. Stop engine and allow to cool.

13. Remove adapter, connector, hose assembly, coupler, and gauge.

14. Install new oil filter.

15. Run engine for **30 seconds** and stop engine.

16. Check crankcase oil level and adjust to full mark.

Results:

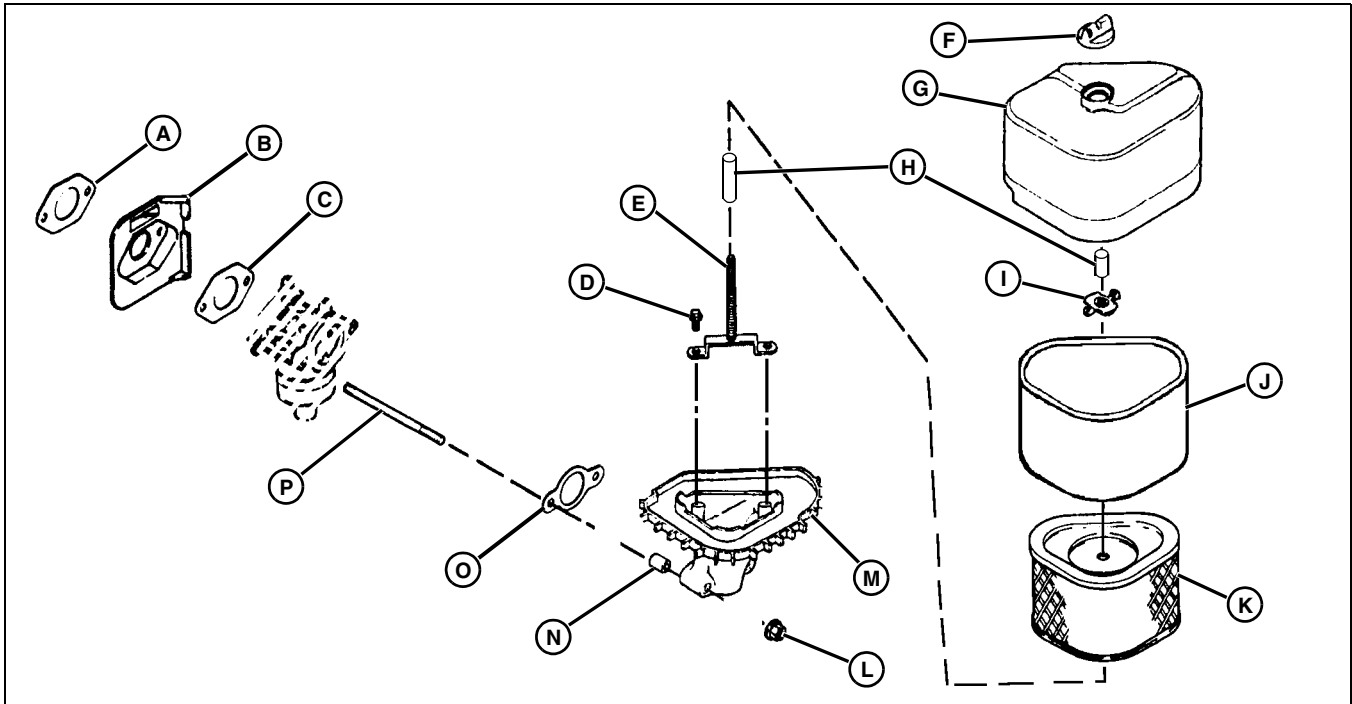
• If oil pressure readings are not within **69 kPa (10.0 psi) - 517 kPa (75.0 psi)** at FAST idle, inspect and/or replace the following:

- Oil pump assembly. See "Oil Pump Disassembly and Inspection."
- Oil suction screen.
- Oil passages
- Crankshaft bearings
- Oil Seals

ENGINE - KOHLER FUEL AND AIR REPAIR

Fuel and Air Repair

Air Intake System Components



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- | | |
|--|--|
| A. Gasket | J. Foam Element |
| B. Shield | K. Paper Element |
| C. Gasket | L. Nut (Tighten to 10 N•m (88 lb-in.)) |
| D. Stud Retaining Screw (Use Thread Lock and Sealer) | M. Air Cleaner Housing |
| E. Stud | N. Sleeve |
| F. Knob | O. Gasket |
| G. Cover | P. Stud |
| H. Rubber Seal | |
| I. Wing Nut | |



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