Autogage® by Auto Meter

INSTALLATION INSTRUCTIONS

1-1/2" Mechanical Mini Gauges

MODEL 2351, 2352 & 2396

WARNING: Some late model vehicles use electronic sensors in their pressure and temperature senders for engine control functions. Before removing the original senders, we recommend that you contact your automotive dealer to be sure no critical functions will be disrupted. With pressure gauges, it is beneficial to add a T-fitting to install your new gauge and to keep the warning light operational. This allows you to monitor the pressure and still have a warning light to indicate emergency conditions.

Preliminary Steps

1. Read instructions thoroughly. Please consult a qualified mechanic if you have not had training on the proper installation of instruments.
2. Consult your vehicle's repair manual to locate:
   A) oil pressure port,
   B) 12V ignition switch or fuse box , and
   C) water temperature port
3. Determine ideal mounting location. Choose a location that will not obstruct visibility or impair driving movement.
4. Determine the best route for tubing to follow. Choose a path free of hazards of moving parts or hot engine components.
5. Assemble tools and parts required for installation.
6. Remove gauges from metal panel. Notice their placement to make reassembly easier.
7. Disconnect negative (-) battery cable.
8. Hold panel in desired mounting location. Use panel as template and mark holes to be drilled for mounting. (For mini consoles, use mounting brackets as templates.)
9. Drill holes with a 9/64" drill bit and attach metal panel with self-tapping screws provided.

For actual gauge installation, see further instructions inside.

Oil Pressure, cont.

4. Route tubing through small grommet in firewall and cut to meet mounted panel (leave one foot of extra length before cutting). Be sure to avoid potential hazard of moving parts or hot engine components.
5. Secure gauge in mounted panel using non-insulated mounting bracket.
6. Slide sealing nut and ferrule on this end of tubing and tighten in the same manner described in Step 4 (use 9/16" and 3/8" open-ended wrenches).

Final Procedures

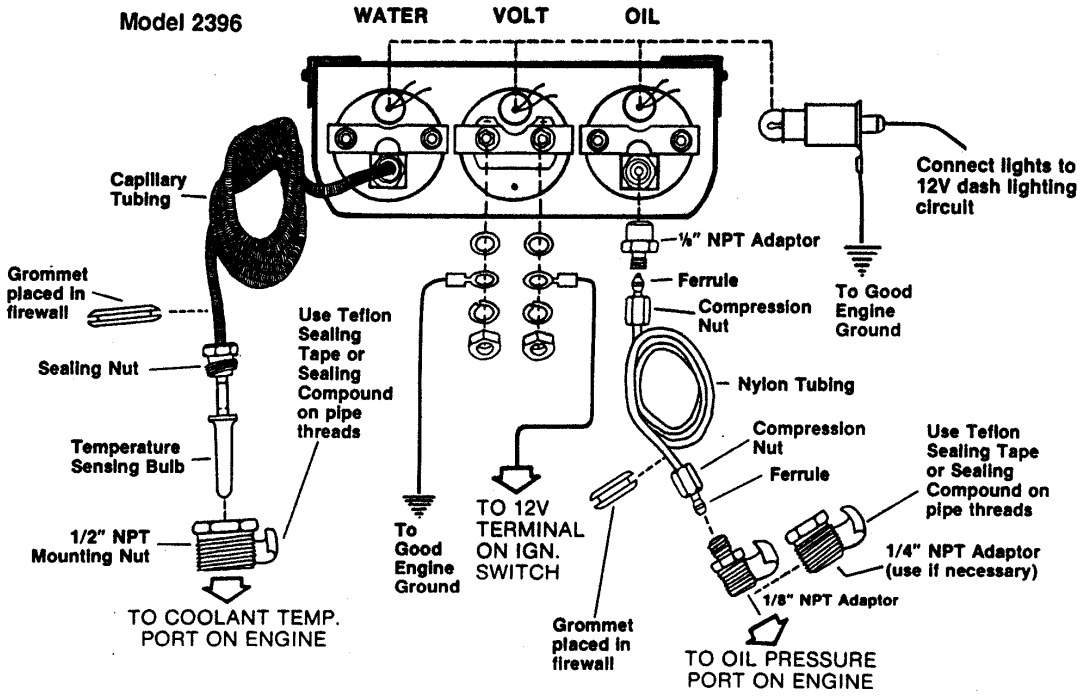
(Follow these steps after you've completed the steps for all three gauges-listed on inside pages.)

1. Insert light bulb and socket assembly into back of each gauge. Connect all red lighting wires to 12V power source in dash lighting circuit. This allows the gauge lights to be dimmed with normal dash lighting and only used at night. Connect the black wires to good engine ground. (Body frame bolt is a good engine ground.)
2. Reconnect negative (-) battery cable.
3. Wrap a clean rag around fittings on back of oil pressure gauge and place a pan on floor under them to protect vehicle interior from potential oil leaking. Start engine and run for 30 seconds. Shut engine off and check rag for leaks. If none appear, start engine again and visually check all connections for leaks.

Tools Required

Electric Drill
Drill Bits: 9/64", 3/8", 7/8" dias.
Open-End Wrenches: 7/16", 9/16", 3/8", 7/8"
Standard Screwdriver
Clean Rag
Thread Sealing Compound

NOTE: For Model 2351 & 2352 single gauges, refer to hook-up instructions for your particular gauge.



Water Temperature

1. Drain coolant from cooled radiator into a container. *Never drain hot coolant!* Save antifreeze to refill radiator after installation.
2. Drill a 7/8" dia. hole in firewall and route temperature sensing bulb through mounted panel first and then through firewall hole. Slit rubber grommet and position in firewall hole to hold gauge tubing in place.
3. Using sealing compound on threads, insert and tighten mounting nut in the 1/2" NPT port in engine. (Use 7/8" open-end wrench). If port opening is not 1/2" NPT, use the 3/8" adapter provided in kit. Insert temperature sensing bulb into mounting nut and carefully thread the sealing nut into the mounting nut. Be sure to hold the mounting nut securely (with 7/8" open-end wrench) while tightening sealing nut (with 5/8" open-end wrench). Check that tubing is free from hazard of moving parts or hot engine components.
4. Refill radiator with coolant.
5. Secure gauge in mounted panel using non-insulated mounting bracket.

Note: Whenever removing temp. sensing bulb, loosed sealing nut but DO NOT allow mounting nut to rotate. Rotation may break capillary tubing, thus voiding warranty.

Voltmeter

1. Negative (-) battery cable should remain disconnected.
2. Fasten voltmeter in metal panel using insulated bracket, 2 lockwashers, and 2 #10 nuts.
3. Cut two lengths of 18-gauge wire. One wire is for connecting gauge to fuse box, the other connects to good engine ground. Strip insulation back 1/4" on one end of each wire. Attach solder lug terminal and wire to positive (+) terminal on back of gauge using proper lockwashers and #10 nut. Connect other end of this wire to appropriate 12V source at fuse box. Attach the ground wire to negative (-) terminal on back of gauge and connect other end to good engine ground. (Body frame bolt is a good engine ground.)

Oil Pressure

1. Drill a 3/8" dia. hole in firewall. Install small rubber grommet in firewall to insulate nylon tubing where it passes through sheet metal.
2. Remove existing oil pressure sender (for computerized vehicles, see warning on pg. 1). Install 1/8" NPT adapter (with 7/16" open-end wrench) in this location using sealing compound on pipe threads. If 1/4" NPT adapter is needed, install it first instead (with 9/16" open-end wrench). Be sure to hold 1/4" NPT adapter while tightening 1/8" NPT adapter firm (with 7/16" open-end wrench).
3. To help prevent leaks, be sure the end of nylon tubing is cut cleanly and straight. Slide compression nut onto tubing with threads toward end of tubing. Slide ferrule onto end of tubing, leaving 3/16" between ferrule and end of tube. Insert end of tubing into 1/8" NPT adapter. Apply pressure to maintain constant bond between end of tubing and inside of adapter. Slide ferrule into the adapter then compression nut. Tighten compression nut (with 3/8" open-end wrench) while holding 1/8" NPT adapter firm (with 7/16" open-end wrench). To make sure it is a snug fit, tug lightly on nylon tubing to make sure it doesn't come out.

(Steps for installing this gauge continue on back cover.)