



INSTALLATION INSTRUCTIONS

2-5/8" GAUGE KITS

1 BEFORE YOU START

1. Read instructions completely before installation.
2. Install gauges only when engine is cool and ignition is off.
3. Make sure all necessary tools, materials, and parts are on hand.
4. Disconnect negative (-) battery cable before installing gauges.
NOTE: It may be necessary to reprogram your radio, clock, etc. after reconnecting the battery.
5. Make sure mounting location does not impair visibility or interfere with driving. Also check behind the mounting location for any wiring or components before drilling.

6. Refer to your vehicle's service manual for the location of sensor port, vacuum system, and/or charging system.

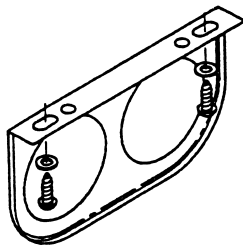
NOTE: Some vehicles use temperature and pressure sensors for engine control functions. Use a T-fitting if necessary when installing gauge sensors.

7. When connecting electrical wires, install crimp terminals (purchased separately) and make wire splices as needed. **ALWAYS** insulate wire splices with electrical tape to prevent shorting.
8. Follow all necessary safety procedures for protection.

2 PANEL INSTALLATION

For on-dash or under-dash mounting.

1. Determine mounting location.
2. Using panel as a template, mark locations for screws.
3. Drill small holes for the screws.
4. Hold panel in place and secure with the screws and flat washers provided.

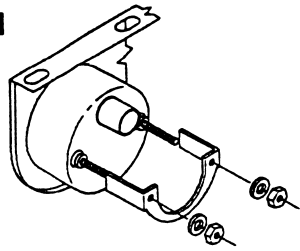


3 IN-DASH INSTALLATION

1. Locate a position on the dashboard that can be cut out without striking any objects from behind the dash.
2. Using a hole template, cut a 1-1/2" or 2" hole, as necessary, through the dashboard.
3. Using a round file, smooth out the rough edges around the drilled hole.
4. Install the gauge as described in step 4, GAUGE INSTALLATION.

4 GAUGE INSTALLATION

1. Insert gauge through front of PANEL or hole in dashboard.
2. Install U-bracket over gauge mounting studs and secure with two brass nuts and flat washers provided. **TIGHTEN NUTS FINGER-TIGHT ONLY.**

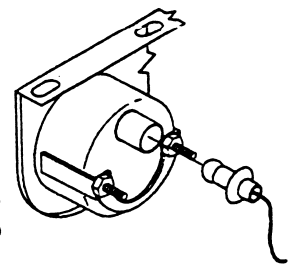


NOTE: The ammeter U-bracket has two black insulators installed in the mounting holes. **MAKE SURE THESE INSULATORS ARE PRESENT BEFORE INSTALLING THE U-BRACKET.**

3. Hold gauge case and rotate gauge, as needed, until gauge face is positioned properly on front of panel.
4. After positioning, tighten mounting nuts securely to prevent gauge movement. **DO NOT OVERTIGHTEN NUTS OR U-BRACKET MAY WARP.**

5 GAUGE LIGHT INSTALLATION AND CONNECTION

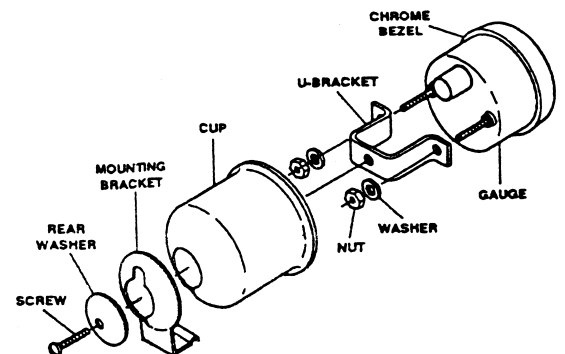
1. Press each snap-in light socket into the collars on back of the gauges.
2. Splice the free end of each light socket RED lead wire into an existing lead from any vehicle instrument panel lamp. Insulate the splices with electrical tape to prevent shorting.
3. If the dashboard is plastic or insulated from frame ground, or the gauge is panel- or cup-mounted solder a wire from the gauge case to a good ground.
4. The gauge lights are now connected to the lighting circuit controlled by the headlight switch. If the vehicle is so equipped, gauge light brightness will be controlled along with the regular instrument panel lamps.



6 MOUNTING CUP INSTALLATION

For on-dash or on steering column installation.

1. Make necessary connections to gauge **FIRST**.
2. Install U-bracket on gauge using two nuts and washers.
3. Route gauge lead wires, pressure lines, etc., through hole in cup, and press cup firmly in place on gauge.
4. Install mounting bracket on cup, and secure with rear washer and screw.
5. For on-dash mounting, drill hole in dash and secure mounting bracket to dash with screw.
6. To mount on steering column, use large hose retainer clamp (purchased separately).



Questions? Call our Tech Line **1-330-630-0240**

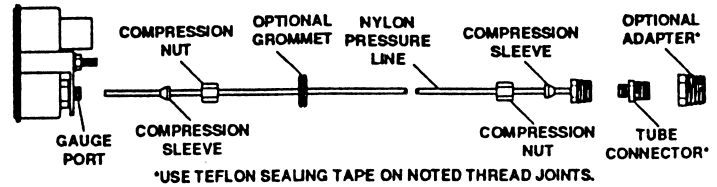
7 GAUGE CONNECTION

A. MECHANICAL OIL PRESSURE

1. Determine routing for nylon pressure line. Use an existing firewall grommet, or drill a 3/8" (9.5mm) diameter hole through firewall to accommodate pressure line. Install a rubber grommet (purchased separately) in hole, or wrap with electrical tape, to protect pressure line from chaffing or other damage.

NOTE: Use teflon sealing tape (purchased separately) on noted-thread joints to ensure proper sealing.

2. Connect nylon pressure line to gauge using compression sleeve and compression nut.
3. Route pressure line through grommet in firewall.
4. Install adapter in appropriate pressure port on engine.
5. Connect nylon pressure line to pressure port adapter using tube connector, compression sleeve and compression nut.



6. Secure tubing along its route to prevent damage from sharp edges, moving parts or hot engine components.

NOTE: When pressure testing gauge installation, use shop cloths and drip pans, as needed, to protect vehicle interior from potential leaks.

7. Reconnect negative (-) battery cable. Start and run engine for approximately 30 seconds. Turn off engine and check gauge installation for leaks. Tighten or reseal joints as needed and retest.

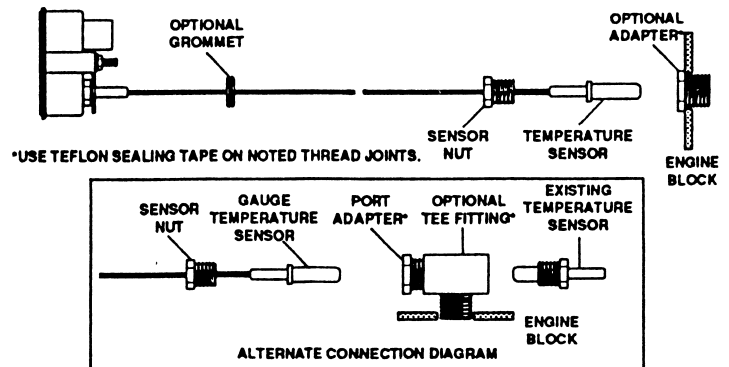
B. OIL TEMPERATURE / WATER TEMPERATURE

1. Determine routing for temperature sensor. Use an existing firewall grommet, or drill a 7/8" (22 mm) hole through firewall to accommodate sensor line and sensor. Install a rubber grommet (purchased separately) in hole, or wrap with electrical tape, to protect sensor line from chaffing or other damage.

NOTE: The sensor line is under pressure and filled with ether. **NEVER CUT THE LINE.**

2. Route temperature sensor through grommet in firewall.
NOTE: Use teflon sealing tape (purchased separately) on noted thread joints to ensure proper sealing.
3. Remove existing temperature sensor. Install adapter in sensor hole and tighten securely. Insert temperature sensor in adapter and tighten sensor nut securely. **DO NOT ROTATE SENSOR WHILE TIGHTENING NUT OR SENSOR LINE MAY BE DAMAGED.**

WARNING: Some vehicles use the original temperature sensor for functions in addition to the warning light. In these cases, both the gauge sensor and the original sensor must be



connected using a "T" fitting (purchased separately). See alternate connection diagram.

4. Secure sensor line along its route to prevent damage from sharp edges, moving parts or hot engine components.
5. Reconnect negative (-) battery cable. Start and run engine and check gauge installation for leaks. Tighten or reseal joints as needed and retest.

C. FUEL PRESSURE

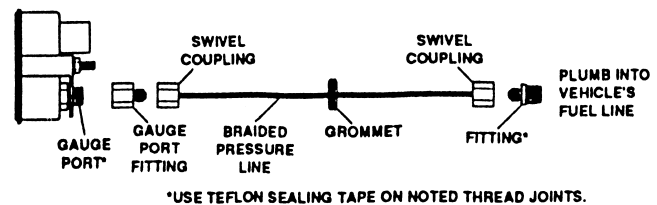
WARNING: Fuel pressure gauge must be cup-mounted outside vehicle's interior (such as on the cowling in front of the windshield) to prevent fire or explosion inside vehicle.

1. Determine routing for pressure line. Drill a hole through cowling to accommodate pressure line. Install a rubber grommet (purchased separately) in hole, or wrap with electrical tape, to protect pressure line from chaffing or other damage.

WARNING: Use ONLY braided stainless steel pressure line with swivel fittings when connecting gauge to fuel system. **DO NOT USE NYLON OR COPPER TUBING, OR FIRE OR EXPLOSION MAY RESULT.**

NOTE: Use teflon sealing tape (purchased separately) on noted thread joints to ensure proper sealing.

2. Connect fuel line fitting to vehicle fuel line outlet. Connect pressure line swivel coupling to fitting and tighten securely.
3. Route pressure line through grommet in cowling, and through cup components.



4. Connect gauge port fitting to gauge port. Connect pressure line swivel coupling to gauge port fitting and tighten securely.
5. Secure pressure line along its route to prevent damage from sharp edges, moving parts or hot engine components.
6. Assemble mounting cup on gauge and install chrome bezel (See Section 6). Secure cup to cowling using screw.
7. Reconnect negative (-) battery cable. Start and run engine and check gauge installation THOROUGHLY for leaks. Tighten or reseal joints as needed and retest.

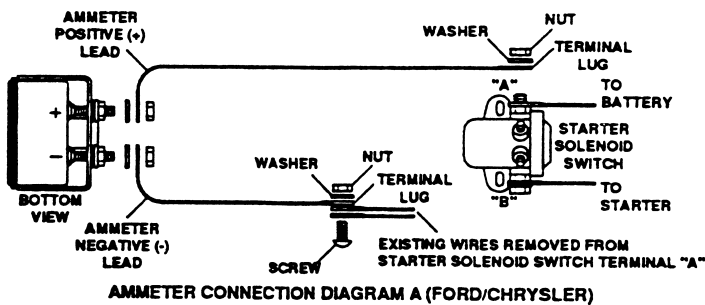
WARNING: Whenever disconnecting pressure line, loosen swivel coupling at fuel line fitting first.

D. AMMETER

NOTE: Ammeter lead wire must be purchased separately. Use wire of same gauge used in vehicle's charging circuit. If correct wire gauge cannot be determined, use 8 AWG wire when connecting the ammeter.

1. Determine routing for ammeter lead wires. Use an existing firewall grommet, or drill a 3/8" (9.5 mm) diameter hole through firewall to accommodate lead wires. Install a rubber grommet (purchased separately) in hole, or wrap with electrical tape, to protect lead wires from chaffing or other damage.
2. Install and crimp or solder terminal lugs (purchased separately) on ammeter positive (+) and negative (-) lead wires, and connect lead wires to ammeter using two brass nuts and flat washers. **TIGHTEN NUTS AND LUGS SECURELY AND PROPERLY INSULATE ALL CONNECTIONS.**
3. Route lead wires through grommet in firewall.
4. Connect ammeter lead wires to charging system:

- For magnetic starter switch systems (Ford/Chrysler), see Wiring Diagram A.



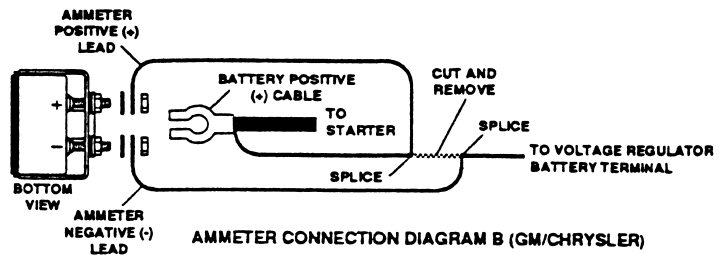
Remove nut and washer from battery connection post of magnetic switch.

Remove all wires except wire going to battery.

Connect ammeter positive (+) lead to battery connection post of magnetic switch; reinstall washer and nut.

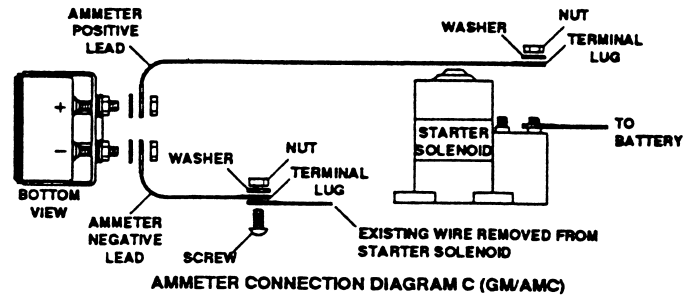
Connect ammeter negative (-) lead to wires removed from battery connection post of magnetic switch using screw, lockwasher, and nut (purchased separately).

- For voltage regulator/horn relay circuit systems (GM/Chrysler) see wiring diagram B.



Splice ammeter positive (+) and negative (-) leads into wire from battery positive (+) to voltage regulator.

- For most starter solenoid circuits (GM/AMC), see Wiring Diagram C.



Remove nut and washer from battery connection post of starter solenoid.

Remove all wires except wire going to battery.

Connect ammeter positive (+) lead to battery connection post of starter solenoid; reinstall washer and nut.

Connect ammeter negative (-) lead to wire removed from battery connection post of starter solenoid using screw, lockwasher, and nut (purchased separately).

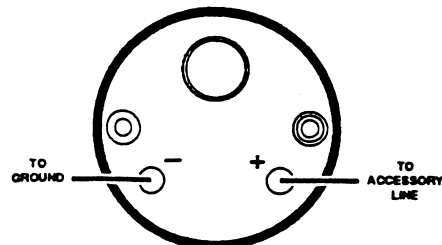
If none of the diagrams matches your vehicle's system, consult your vehicle's service manual or a qualified mechanic.

5. Reconnect negative (-) battery cable. Turn on headlights and observe ammeter. Ammeter should indicate "-". If ammeter indicates "+", or does not operate at all, turn off headlights and recheck connections.

E. VOLTMETER

NOTE: Voltmeter lead wire must be purchased separately. Use wire of same gauge used in vehicle's electrical circuits. If correct wire gauge cannot be determined, use 8 AWG wire when connecting the voltmeter.

1. Determine routing for voltmeter lead wires. Use an existing firewall grommet, or drill a 3/8" (9.5mm) diameter hole through firewall to accommodate lead wires. Install a rubber grommet (purchased separately) in hole, or wrap with electrical tape, to protect lead wires from chaffing or other damage.
2. Install and crimp or solder terminal lugs (purchased separately) on voltmeter positive (+) and negative (-) lead wires, and connect lead wires to voltmeter using two brass nuts and flat washers. **TIGHTEN NUTS AND LUGS SECURELY AND PROPERLY INSULATE ALL CONNECTIONS.**
3. Route lead wires through grommet in firewall.
4. Connect voltmeter negative (-) lead wire to a good electrical ground on the vehicle.
5. Splice the free end of the positive (+) lead wire into an existing accessory line in the vehicle. Insulate the splices with electrical tape to prevent shorting.



7. Reconnect negative (-) battery cable. With ignition switch on (and engine NOT RUNNING), voltmeter should read between 11.6 and 13.2 volts. A lower reading indicates a low battery, low water level, or defective battery cables. Make necessary repairs/services.

8. Start and run engine. Voltmeter should read between 13.3 and 15.2 volts. A lower reading indicates faulty regulator, slipping belts, faulty alternator, or excessive loads. A higher reading indicates a faulty or jammed voltage regulator. Make necessary repairs/services.

NOTE: If voltmeter reads backwards or fails to read, reverse connections. If voltmeter still fails to read, recheck and tighten all connections.

F. VACUUM

1. Determine routing for pressure line. Use an existing firewall grommet, or drill a 3/8" (9.5 mm) diameter hole through firewall to accommodate pressure line. Install a rubber grommet (purchased separately) in hole, or wrap with electrical tape, to protect lead wires from chaffing or other damage.

NOTE: Use teflon sealing tape (purchased separately) on noted thread joints to ensure proper sealing.

2. Connect nylon pressure line to gauge using adapter, compression sleeve and compression nut.
3. Route pressure line through grommet in firewall.
4. Connect nylon pressure line to vacuum system.

■ To connect to tapped hole in intake manifold, see Diagram A.

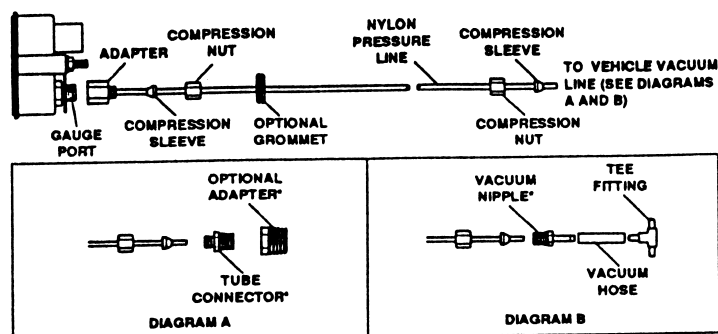
NOTE: Be sure to attach nylon pressure line only to the intake manifold side of any vacuum booster equipment.

Remove plug and install adapter in tapped hole.

Connect pressure line to adapter using tube connector, compression nut and compression sleeve.

For vehicles with 1/8" tapped holes, remove plug and install a straight pipe fitting (purchased separately). Connect nylon pressure line to pipe fitting using compression nut and compression sleeve.

■ To connect to a manifold vacuum line, see Diagram B.



*USE TEFLON SEALING TAPE ON NOTED THREAD JOINTS.

Cut manifold vacuum line and install tee fitting in vacuum line.

Connect vacuum hose to tee fitting.

Insert vacuum nipple into vacuum hose.

Connect nylon pressure line to vacuum nipple using compression nut and compression sleeve.

5. Secure tubing along its route to prevent damage from sharp edges, moving parts or hot engine components.
6. Reconnect negative (-) battery cable. Start and run engine for approximately 30 seconds and check gauge installation for leaks. Tighten or reseal joints as needed and retest.

Limited One-Year Warranty

This Limited One-Year Warranty is given to the original purchaser (the "Buyer") of this new Summit or Summit Performance Branded Product. Summit Racing Equipment warrants that the product will be free from defects in workmanship and materials under normal use and service for one year from the date of purchase.

Your responsibilities:

Keep a sales receipt, canceled check, or payment record to verify your purchase date. Operate and maintain the product in accordance with the specifications provided to you with the product. Arrange for or pay items and costs that are not covered by this Limited Warranty.

What is not covered:

1. Damages caused by shipping, product misuse, misapplication, improper installation or maintenance, or damages resulting from accidents, contact with on-road or off-road hazards, or racing engine use.
2. Labor costs to remove and install the products or component parts.
3. The costs of shipping the product to and from Summit Racing Equipment.

Claims Procedure:

The duration of this warranty is limited to claims made in writing to Summit Racing Equipment within one year after the

Purchase Date. The Buyer should call the telephone number below to report a possible warranty claim. The Buyer must also allow Summit Racing Equipment to inspect the product, and the Buyer must reasonably cooperate with Summit Racing Equipment with respect to verifying the warranty claim of the Buyer. In the event that a warranted defect is discovered, Summit Racing Equipment will repair or replace the product, or return the purchase price to the Buyer, at the option of Summit Racing Equipment.

All shipping costs are paid by the Buyer. Merchandise returned to Summit Racing Equipment without prior authorization will not be accepted.

This warranty extends only to the Buyer and is not transferable.

Implied warranties applicable to this transaction extend only to one year. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Summit Racing Equipment shall not be responsible for any incidental or consequential damages of the Buyer. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

This warranty gives you very specific legal rights, and you may also have other rights which vary from state to state.



1-800-230-3030 • SummitRacing.com