AMERICAN MOTORS

DESCRIPTION & OPERATION

Ammeter – The ammeter used on AMC vehicles is actually a specially calibrated voltmeter which measures voltage drop across a resistor wire between battery and alternator. When the voltage is higher on the alternator end of the wire, the gauge reads charging. When voltage is higher on the battery side, the gauge shows discharge.

Oil Pressure and Water Temperature Gauges – Both gauges are the electromagnetic type. Variable resistance sending units in the engine block ground one terminal of the gauges and provide a calibrated reading. Neither sending units nor gauges can be adjusted.

Fuel Gauge – The fuel gauge is an electromagnetic type with a variable resistance sending unit at the tank. The resistance changes as the float moves up and down, and the varying resistance changes the gauge reading.

Oil Pressure Indicator Light – The indicator light is wired to a sending unit that grounds the light when oil pressure drops below 3-5 psi.

Charge Indicator Light – The charge indicator is lit when alternator output falls below battery voltage.

TESTING

AMMETER

1) If ammeter does not work, check wiring connections. If ammeter works, but readings seem incorrect, check as follows:

2) Disconnect vehicle harness wire from junction block next to starter solenoid. Connect an ammeter between junction block and disconnected wire. With ignition "ON" but engine off, turn on lights and heater blower. Compare ammeter reading with vehicle ammeter.

3) Start engine and turn off all electrical accessories. Compare ammeter readings. If readings vary more than 5%, replace vehicle ammeter.

FUEL, OIL PRESSURE & WATER TEMPERATURE GAUGES

1) Test procedures are similar for all 3 gauges. If gauge does not operate at all, check operation of other gauges. If all are inoperative, check gauge fuse. If other gauges operate, check power to inoperative gauge and repair if necessary.

2) Using an ohmmeter, check continuity to ground and to sending unit from gauge. Repair as necessary. Tighten connection nuts holding gauge to circuit board and recheck operation.

3) If gauge works but readings are incorrect, construct a variable resistance tester using a fuel sending unit and an ohmmeter. Connect one ohmmeter lead to sender terminal and the other to sender ground. Move float arm and mark arm location when appropriate resistance is indicated on ohmmeter. See *Sending Unit Resistance Table*.

4) Disconnect sending unit lead on vehicle and attach to marked fuel sender. Ground body of fuel sender. Move float arm and compare gauge readings with table. If readings vary more than a needle width from specified position, remove gauge and measure resistance. If readings are correct, replace sending unit.

Sending Unit Resistance Table

Gauge Reading	Ohms Resistance
Fuel Gauge	
Empty	248
½ Tank	105
Full	31
Oil Pressure	
0 psi	240
60 psi	67
Water Temperature	
147°F	353
280°F	45.2

5) Use an ohmmeter to measure the internal resistance of gauge. All gauges should measure 81.6 ohms between terminals I and S, and 327.5 ohms between terminals S and G. If resistance varies more than 5%, replace gauge.

OIL PRESSURE INDICATOR LIGHT

Disconnect sending unit wire and ground it. With ignition "ON", indicator light should glow. If not, check wiring and bulb. If bulb lights, replace sending unit.

ADJUSTMENT

STOP LIGHT SWITCH

Switch is mechanically actuated by brake pedal, mounted on master cylinder push rod and is not adjustable. If switch remains on, check for binding linkage.

REMOVAL & INSTALLATION

INSTRUMENT CLUSTER & SPEEDOMETER

Removal – 1) Disconnect negative battery cable. Cover steering column with cloth, then remove lower column cover. Disconnect gear selector actuator cable at shift shroud (if equipped).

2) Remove bezel screws at top edge, left end, above radio and behind glove compartment door. Tip bezel out at top and disconnect tabs along lower edge.

3) Unplug glove compartment lamp wire connector. Disconnect speedometer cable. Reach into opening above bezel and press down on 3 illumination bulb housings. Pull out on top of bezel until bulb housings are free.

4) Disconnect headlight switch connector, wiper switch connector and illumination bulb. Twist and remove gauge cluster bulb sockets. Unplug gauge cluster wire connectors.

AMERICAN MOTORS (Cont.)

5) Remove gear selector dial and screws attaching speedometer to cluster. Remove speedometer head and dial from cluster. Remove all bulbs, slide circuit board to disengage locking tabs and remove circuit board.

Installation – 1) Slide circuit board into position and install lamps and gauges. Position cluster on bezel and connect clock or tachometer leads. Install cluster-to-bezel screws and clock or tachometer screws. Position bezel against dashboard.

2) Connect wiring connectors and install illumination lamps. Connect headlight and wiper switch wiring. If equipped with transmission indicator, route actuator cable through dash grommet and connect to column shroud. Position bezel tabs in instrument panel and raise cluster and bezel.

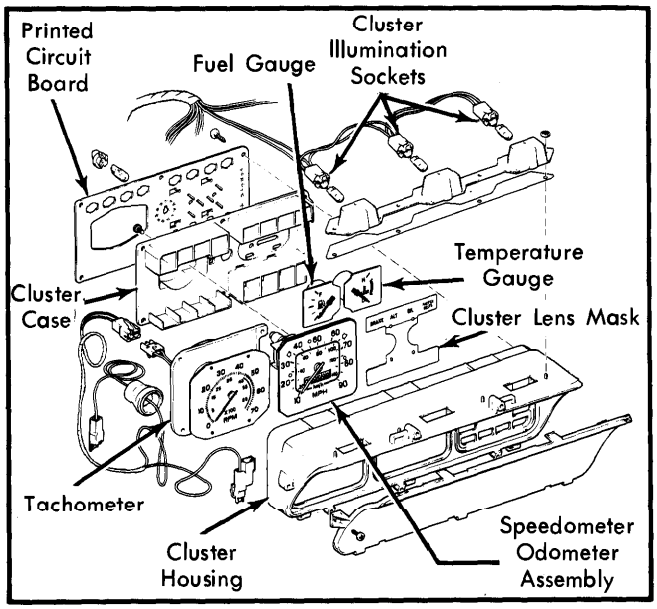

Fig. 1 AMC Instrument Panel (All Models)

3) Connect glove box lamp wiring, push bezel into place and install screws. Connect speedometer cable, replace steering column cover, and connect battery.

HEADLIGHT SWITCH

Removal – 1) Disconnect battery ground cable. Remove package tray (if equipped) and disconnect speedometer cable. Remove cluster bezel screws and tilt bezel away from panel.

2) Place switch in full "ON" position, pull on knob while depressing shaft release button on side of switch. Remove switch retaining sleeve nut, lower switch and disconnect wiring.

Installation – To install, reverse removal procedure.

GAUGE PACKAGE

Removal (Eagle) – Disconnect negative battery cable. Remove front and rear console-to-bracket screws. Remove shift knob and rotate console so heater deflector can be removed. Remove gauge retainer fasteners and remove retainer. Remove gauges.

Installation – To install, reverse removal procedures and reset clock if equipped.

Removal (Spirit) – 1) Disconnect negative battery cable. Remove console-to-console mounting bracket screws at front. Move seats as far forward as possible. Remove console-to-console mounting bracket screws at rear. Remove shift knob.

2) Lift out console and disconnect vacuum hose connector and multiple wire connector at rear of gauge cluster. Remove screws attaching top of gauge assembly to console.

3) Using care not to scratch console, turn console over and remove 2 screws and gauge mounting bracket holding bottom of gauge assembly to console. Remove gauge assembly.

Installation –To install, reverse removal procedure and reset clock if equipped.

STOPLIGHT SWITCH

Removal – 1) Remove package tray (if equipped). Disconnect wires at brakelight switch. Remove nut and locknut from brake pedal bolt and discard. Remove brake pedal bolt and spacers.

2) Push switch bushing out of master cylinder push rod bushing and remove switch. Remove push rod bushing and note position for reassembly.

Installation – To install, reverse removal procedure, making sure to check that brake lights come on within the first ½" of brake pedal travel.