

## ISUZU & LUV

Isuzu  
I-Mark  
P/UP  
LUV

### DESCRIPTION & OPERATION

All models have an instrument cluster with speedometer, fuel gauge and temperature gauge. The gauges use variable resistance sending units. A voltage regulator in the cluster ensures readings stay constant when charging voltage varies.

The hazard flashers, windshield wiper/washer and turn signals are controlled by steering column levers. The I-Mark uses 2 combination switches. Pickup models have one switch which controls all functions. All models have a panel-mounted light switch.

### TESTING

#### VOLTAGE REGULATOR

1) The regulator is built into the fuel gauge. Remove gauge cluster and measure resistance of regulator. I-Mark regulator should have 65-75 ohms resistance. Pickup models should measure 110 ohms.

2) Connect voltage regulator to battery and check output. Voltmeter at output terminal should swing above and below 7 volts on Pickup models. It should swing between 0-12 volts on I-Mark. See Fig. 1.

#### FUEL GAUGE & SENDING UNIT

1) Connect ohmmeter to fuel gauge terminals. Resistance should be 50-60 ohms on I-Mark and 25 ohms on Pickups. See Fig. 1. If not, replace gauge.

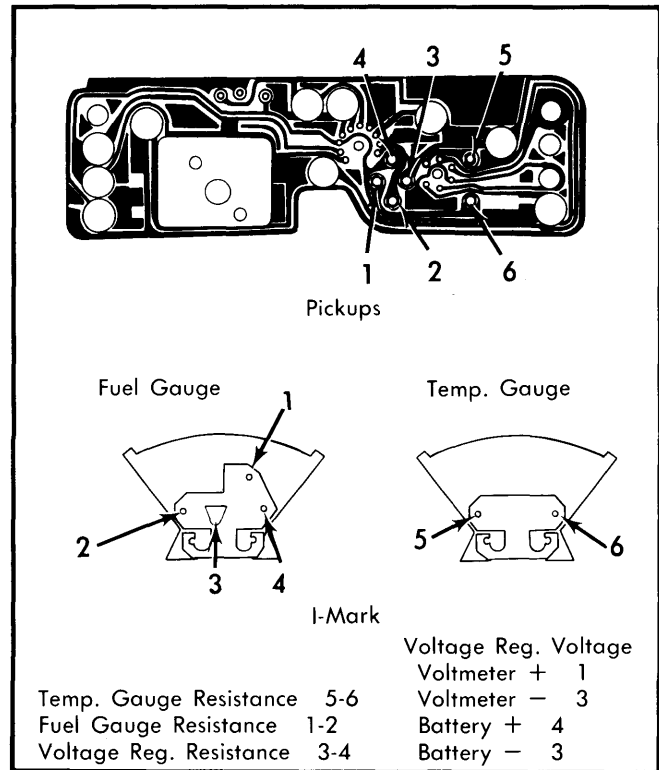
2) Connect ohmmeter to fuel tank sending unit. As float is moved, resistance reading should change smoothly. Check resistance at 3 positions. If readings are not correct, replace sending unit.

Fuel Gauge Sending Unit Resistance	
Application	Ohms
I-Mark	
Empty .....	103-117
Half .....	29-37
Full .....	1-5
Pickups	
Empty .....	114-127
Half .....	41-50
Full .....	15-19

#### TEMPERATURE GAUGE & SENDING UNIT

1) Measure temperature gauge resistance. It should be 55 ohms on I-Mark and 34 ohms on Pickups. See Fig. 1. If not, replace gauge.

2) Measure resistance of sending unit. It should be 100 ohms for I-Mark (at room temperature). Resistance on Pickups should be 50 ohms at 176° F (80° C). If not, replace sending unit.



**Fig. 1 Connection Points for Testing Gauges. Be Sure to Use Correct Terminals While Testing.**

### REMOVAL & INSTALLATION

#### INSTRUMENT CLUSTER

**Removal (I-Mark)** - 1) Disconnect battery ground cable. Remove steering wheel. Disconnect speedometer cable and remove wing nut. Remove instrument cluster screws.

2) Rotate left end of cluster out and unplug wiring. Remove cluster. Remove bezel screws and lens. Remove screws or nuts to take out gauges.

**Installation** - To install, reverse removal procedure.

**Removal (Pickups)** - 1) Remove radio knobs and nuts. Remove radio bezel. Remove 5 cluster screws and cluster panel.

2) Disconnect speedometer cable. Remove 4 cluster screws. Pull cluster out part way and unplug wiring. Remove cluster.

**Installation** - To install, reverse removal procedure.

#### COMBINATION SWITCH

**Removal (I-Mark)** - Disconnect battery ground cable. Remove steering wheel. Remove steering column covers. Unplug wiring. Remove 2 screws and wiper switch. Remove 4 screws and left combination switch.

**Installation** - To install, reverse removal procedure.

**Removal (Pickups)** - Disconnect battery ground cable. Remove steering column covers. Unplug wiring. Remove steering wheel with "C" clamp type puller (J-24292-A). Remove 2 screws and combination switch.

**Installation** - To install, reverse removal procedure.