

# INSTALLATION INSTRUCTIONS FUEL LEVEL SENDER

## 1 BEFORE YOU START

1. Read instructions completely before installation.
2. Install Fuel Level Sender 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 working on vehicle's fuel system.

**NOTE:** It may be necessary to reprogram your radio, clock, etc. after reconnecting the battery.

5. It may be necessary to remove the vehicle's fuel tank before installing the Fuel Level Sender. Refer to your vehicle's service manual for procedures to drain and remove the fuel tank.

6. 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.
7. Follow all necessary safety procedures for protection.

**WARNING:** Handle the fuel tank carefully when draining to replace the Fuel Level Sender. Dangerous gasoline fumes are present. Work in a well ventilated area. Avoid sliding or dragging the fuel tank. **KEEP SPARKS, FLAME OR OTHER SOURCES OF IGNITION AWAY. DO NOT SMOKE.**

## 2 APPLICATIONS

- Compatible with GM (O.E. - style) fuel level gauges
- Resistance: Empty = 0 ohms; Full = 90 ohms

**NOTE:** The lengths of the Fuel Level Sender shaft and float arm must be adjusted to fit your fuel tank **PRIOR** to installation (see steps 4A and 4B).

## 3 PREPARATION FOR INSTALLATION

**NOTE:** If required, refer to your vehicle's service manual for proper procedures to drain and remove the fuel tank and old fuel level sender.

1. Drain the fuel tank and remove the tank from the vehicle.
2. Remove the old fuel level sender from the fuel tank. Retain the attaching hardware/gaskets for use when installing the new Fuel Level Sender.

## 4 ASSEMBLY AND ADJUSTMENTS

**NOTE:** Refer to your vehicle's service manual to determine the depth of your fuel tank. Adjust the float arm length ("A", Figure 1) and shaft length ("B", Figure 1) as described in the following steps.

### A. Float Arm Adjustment

1. Slide the float arm shaft through **BOTH** holes in the rotating arm coupling, then **TIGHTEN THE SET SCREW SECURELY**. (Figure 2). Make sure the end of the float arm **DOES NOT** touch the sensor assembly housing.
2. Measure the *actual* length of the float arm ("A", Figure 1) from the center of the float to the center of the pivot point.
3. Refer to Table 1. Locate your fuel tank depth in the table and note the corresponding *required* Length "A".

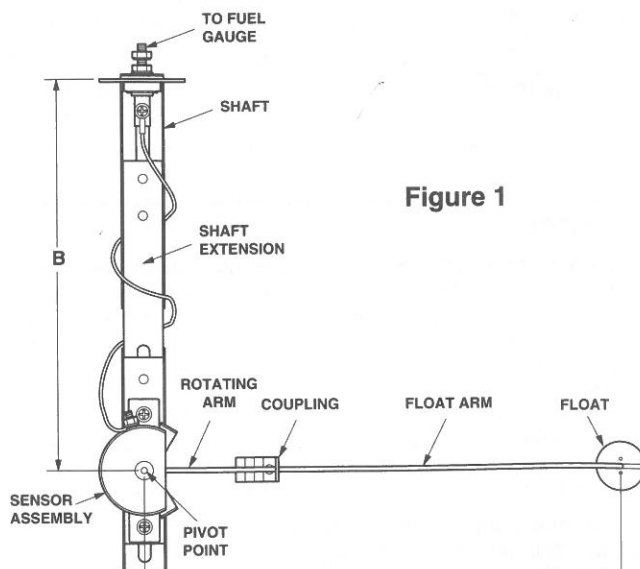


Figure 1

4. If necessary, adjust float arm length as follows:

- Loosen the set screw and remove the float arm from the rotating arm coupling.
- Subtract the *required* length (noted in step 3) from the *actual* length (measured in step 2) to determine the amount of material to remove from the float arm.

**Example:** Tank Depth = 17"

$$14\text{-}1/2" - 11" = 3\text{-}1/2"$$

(Actual length) - (Required length) = (Material to remove)

- Use a hacksaw, or other suitable tool, to cut the required amount of material from the end of the float arm.

5. Reinstall the float arm in the rotating arm coupling.
6. Adjust the length of the float arm, as necessary, by sliding the float arm back and forth in the coupling. Make sure the end of the float arm **DOES NOT** touch the sensor assembly housing.
7. When the proper length is obtained, **MAKE SURE** the float is level then **TIGHTEN THE SET SCREW SECURELY**.

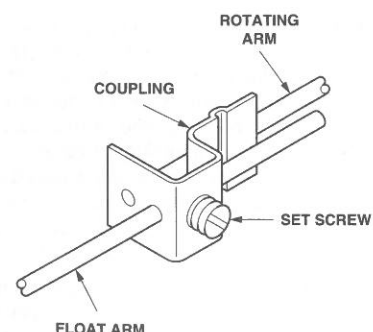


Figure 2

## 4 ASSEMBLY AND ADJUSTMENTS (Con't)

### B. Shaft Adjustment

**NOTE:** The shaft is equipped with a removable extension, which allows for a wide range of length adjustments. Use the shaft extension if your fuel tank depth is between 12" and 27". Remove the shaft extension if your fuel tank depth is between 5" and 11-1/2".

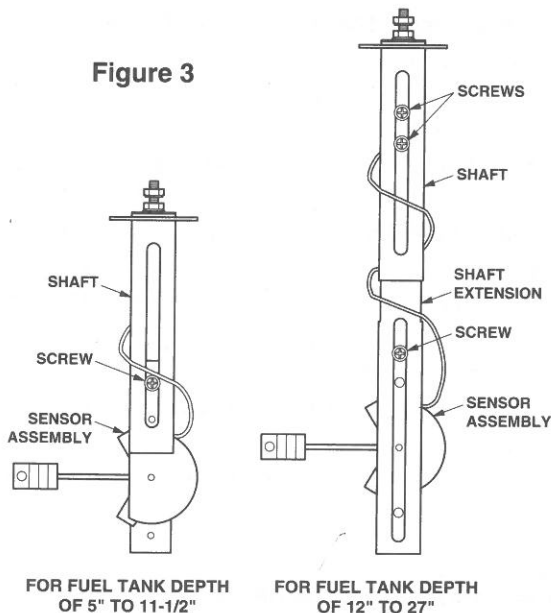
- If necessary, remove the shaft extension as follows (see Figure 3):
  - Remove the three screws, washers and lockwashers securing the shaft and sensor assembly to the shaft extension.
  - Position the sensor assembly on the shaft and secure with one screw, washer and lockwasher.
- Refer to Table 1. Locate your fuel tank depth in the table and note the corresponding *required* Length "B".

**NOTE:** If a tank gasket is used, add the thickness of the gasket to the *required* length noted in step 2 to determine the *total* length.

**Example:** Tank Depth = 17"

$$\begin{array}{r} 8-5/8" \\ \text{(Required length)} \end{array} - \begin{array}{r} 1/8" \\ \text{(Gasket thickness)} \end{array} = \begin{array}{r} 8-3/4" \\ \text{(Total length)} \end{array}$$

- Loosen the screw(s) securing the shaft to the shaft extension (or sensor assembly) and slide the shaft up or down to obtain the proper *total* length.
- When the proper length is obtained, **TIGHTEN THE SCREW(S) SECURELY.**



## 5 INSTALLATION

**CAUTION:** Make sure the lengths of the float arm and shaft have been properly adjusted **BEFORE** installing the Fuel Level Sender. Improper adjustments will result in inaccurate indication of fuel quantity.

- Install the tank gasket (if used) at the mounting hole on the fuel tank.
- Insert the new Fuel Level Sender in the fuel tank and secure with the fasteners retained from the old fuel level sender. **TIGHTEN ALL FASTENERS SECURELY.**
- If necessary reinstall the fuel tank as described in your vehicle's service manual.
- Connect the fuel sender wire (purchased separately) from the Fuel Level Sender terminal to the proper fuel gauge terminal.

**Table 1**

Tank Depth"	Length"		Tank Depth"	Length"	
	A	B		A	B
5	2-11/16	2-5/8	16-1/2	10-5/8	8-3/8
5-1/2	3	2-7/8	17	11	8-5/8
6	3-3/8	3-1/8	17-1/2	11-5/16	8-7/8
6-1/2	3-11/16	3-3/8	18	11-11/16	9-1/8
7	4-1/16	3-5/8	18-1/2	12	9-3/8
7-1/2	4-3/8	3-7/8	19	12-3/8	9-5/8
8	4-3/4	4-1/8	19-1/2	12-11/16	9-7/8
8-1/2	5-1/8	4-3/8	20	13-1/16	10-1/8
9	5-1/2	4-5/8	20-1/2	13-3/8	10-3/8
9-1/2	5-13/16	4-7/8	21	13-3/4	10-5/8
10	6-3/16	5-1/8	21-1/2	14-1/16	10-7/8
10-1/2	6-1/2	5-3/8	22	14-7/16	11-1/8
11	6-7/8	5-5/8	22-1/2	14-3/4	11-3/8
11-1/2	7-3/16	5-7/8	23	15-1/8	11-5/8
12	7-9/16	6-1/8	23-1/2	15-1/2	11-7/8
12-1/2	7-7/8	6-3/8	24	15-13/16	12-1/8
13	8-1/4	6-5/8	24-1/2	16-3/16	12-3/8
13-1/2	8-9/16	6-7/8	25	16-1/2	12-5/8
14	8-15/16	7-1/8	25-1/2	16-13/16	12-7/8
14-1/2	9-1/4	7-3/8	26	17-3/16	13-1/8
15	9-5/8	7-5/8	26-1/2	17-1/2	13-3/8
15-1/2	9-15/16	7-7/8	27	17-13/16	13-5/8
16	10-5/16	8-1/8			

## WARRANTY AND SERVICE

**LIMITED ONE YEAR WARRANTY:** The Manufacturer warrants to the original purchaser that this unit is free of defects in materials and workmanship under normal use and maintenance for a period of one (1) year from the date of original purchase. If the unit fails within the one (1) year period, it will be repaired or replaced, at the Manufacturer's option, at no charge, when returned prepaid to the Service Center with Proof of Purchase. The sales receipt may be used for this purpose. Installation labor is not covered under this warranty. All replacement parts, whether new or remanufactured, assume as their warranty period only the remaining time of this warranty. This warranty does not apply to damage caused by improper use, accident, abuse, improper voltage, service, fire, flood, lightning, or other acts of God, or if the product was altered or repaired by anyone other than the Manufacturer's Service Center. The Manufacturer, under no circumstances shall be liable for any consequential damages for breach of any written warranty of this unit. This warranty gives you specific legal rights, and you may also have rights, which vary from state to state. This manual is copyrighted with all rights reserved. No portion of this document may be copied or reproduced by any means without the express written permission of the Manufacturer. **THIS WARRANTY IS NOT TRANSFERABLE.** For service, send via U.P.S. (if possible) prepaid to Manufacturer. Allow 3-4 weeks for service/repair.

**SERVICE PROCEDURES:** If you have any questions, require technical support or information on UPDATES and OPTIONAL ACCESSORIES, please contact your local store, distributor or the Service Center. **USA & Canada:** (800) 544-4124 (6:00 AM-6:00 PM, Monday-Friday PST) **All others:** (714) 241-6802 (6:00 AM-6:00 PM, Monday-Friday PST) **FAX:** (714) 432-7511 (24 hr.) **Web:** [www.iEQUUS.com](http://www.iEQUUS.com)