

# EVA-1 Installation Guide

## Sensor Installation

The sensor unit should be mounted with the round window facing forward, with the sensor base in any orientation. The sensor should be located low on the front of the vehicle, since that location will detect both airborne particles and ground contamination. The sensor may be mounted either in an open installation, such as on a grill guard, by bolting through sheet metal into the tapped holes in the base, or a blind installation from the outside using fasteners that crimp onto sheet metal. Before drilling any holes, consult with your vehicle manufacturer for guidelines on after market installation placement restrictions to prevent voiding the vehicle warranty.

## Open Sensor Installation

The sensor base has two 10-32 holes tapped into its bottom on either side of the cable.

1. Select a location that will allow threading the four-conductor cable from the sensor to the indicator.
2. Using the drill guide pattern, mark and drill two clearance holes (.25") for the 10-32 machine screws.
3. Also using the drill guide pattern, mark and drill a .500" (1/2") hole for the four-conductor cable. Deburr the hole.
4. Pass the cable through the center hole.
5. Secure the sensor to the vehicle with the (2) 10-32x1/2" machine screws.

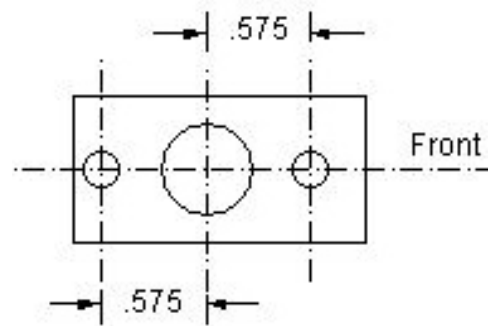


Fig. 1 Sensor Drill Guide

## Blind Sensor Installation

For a blind installation the sensor must be mounted on sheet metal with a thickness from .020" to .130". Two sets of PEM fasteners are included in the installation kit: the shorter two have a grip range of .020" to .080", and the longer two have a grip range of .080" to .130".

1. Select a location that will allow threading the four-conductor cable from the sensor to the indicator.
2. Using the drill guide, mark and drill two holes (.266" +.006" -.000") for the PEM fasteners.
3. Also using the drill guide, mark and drill a .500" (1/2") hole for the four-conductor cable. Deburr the hole.
4. Determine the thickness of the sheet metal and select the appropriate set of PEM fasteners.
5. Pass the four-conductor cable through the center hole.
6. Loosen the screw holding the sensor to its base and tilt the sensor to expose a threaded hole in the base.
7. Install a 6-32x1/2" hex-head machine screw through the exposed hole in the base and into a PEM fastener until it is finger tight. Press the fastener into one of the .266" holes.
8. Hold the sensor to prevent the base from turning. Using a nut driver, tighten the screw to crimp the fastener while also applying pressure onto the base to keep the fastener from spinning. Remove the screw and repeat for the other hole.
9. Remove the screw and verify that the fasteners are secured to the vehicle.
10. Remove the sensor from its base to expose both holes the in the base for the 6-32x1/2 screws.
11. Secure the sensor base to the vehicle with (2) 6-32x1/2" machine screws and (2) #6 lock washers.
12. Remount the sensor onto its base and position the sensor with the face pointing towards the front on the vehicle. Secure the sensor onto the base with the 10-32 machine screw removed in step 10.

## Indicator Installation

The indicator should be mounted in the cab where its warning light will be noticed, and within reach so that the mute button can be pressed. It must be located where the two cables can be routed to its back without interference. The unit may be mounted with 6-32 sheet metal screws that go directly into the dash, or the PEM fasteners may be used for a blind installation. Since the unit is very light, the supplied double sided adhesive strip may be used to secure the unit if screwing it down is not practical. If the cable is routed through the supporting material, the center hole should be .500" (1/2").

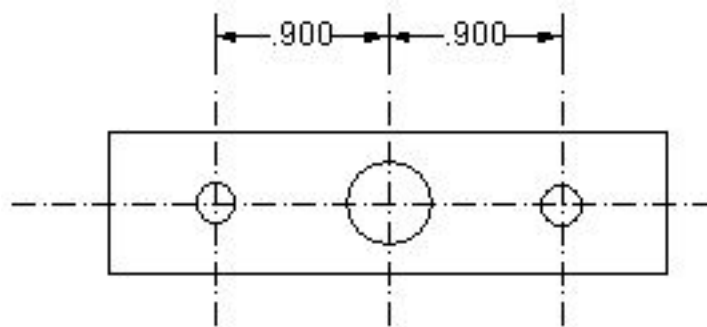


Fig. 2 Display Drill Guide

## Four-Conductor Cable Routing

Route the cable from the sensor in the front of the vehicle to the indicator in the cab assuring that it does not interfere with any moving parts. Secure the cable with the nylon ties that are included so that it will not chafe. Where possible route the cable with other wire harnesses. Avoid the spark plug wires and distributor wires that may interfere with the signals between the sensor and the indicator. Where the cable passes through sheet metal, assure that it is protected from chafing. Plug the four-conductor connector into the mating socket on the indicator.

## Fuse Panel Connection

Route the two-conductor power cable from the indicator to the fuse panel in the cab. Connect the red wire to a fused source of 12VDC that is switched with the ignition. Connect the black wire to ground. Plug the two-conductor connector into the mating socket on the indicator.

## Parts List

- (1) External Sensor with four-conductor cable
- (1) Internal Indicator
- (1) two-conductor power cable
- (10) nylon ties, high temperature (-40° to 220°F)

### Open Sensor Installation Hardware:

- (2) 10-32 x ½" machine screws with lock washers

### Blind Sensor Installation Hardware:

- (2) self-clinching fasteners for .020"-.080" sheet metal (PEM # AELS-632-80)
- (2) self-clinching fasteners for .080"-.130" sheet metal (PEM # AELS-632-130)
- (2) 6-32 x ½" hex head machine screws
- (2) #6 lock washers

### Indicator Installation Hardware:

- (2) 6-32 x ½" sheet metal screws
- (2) #6 anchors
- (1) VHB double sided adhesive strip