Instruction Manual

AEM
PERFORMANCE ELECTRONICS

STOP! - READ THIS BEFORE INSTALL OR USE!

WARNING:
THIS INSTALLATION REQUIRES WELDING AND INTEGRATION INTO A VEHICLE'S ELECTRICAL SYSTEM. DAMAGE TO SENSITIVE ELECTRONICS, FIRE, OR EXPLOSION MAY OCCUR IF PROPER PRECAUTION IS NOT TAKEN. IF THERE IS ANY DOUBT, **DO NOT** ATTEMPT THE INSTALLATION AND CONSULT A PROFESSIONAL.
NOTE: IT IS THE RESPONSIBILITY OF THE ENGINE TUNER TO ULTIMATELY CONFIRM THE CALIBRATION USE FOR ANY PARTICULAR ENGINE IS SAFE FOR ITS INTENDED USE. AEM HOLDS NO RESPONSIBILITY FOR ANY ENGINE DAMAGE THAT RESULTS FROM THE MISUSE OF THIS PRODUCT.

The 52mm (2-1/16") AEM X-Series Gauge features a four digit central readout and sweeping 24-color-coded LED display, providing immediate reference to the sensor reading in real-time.
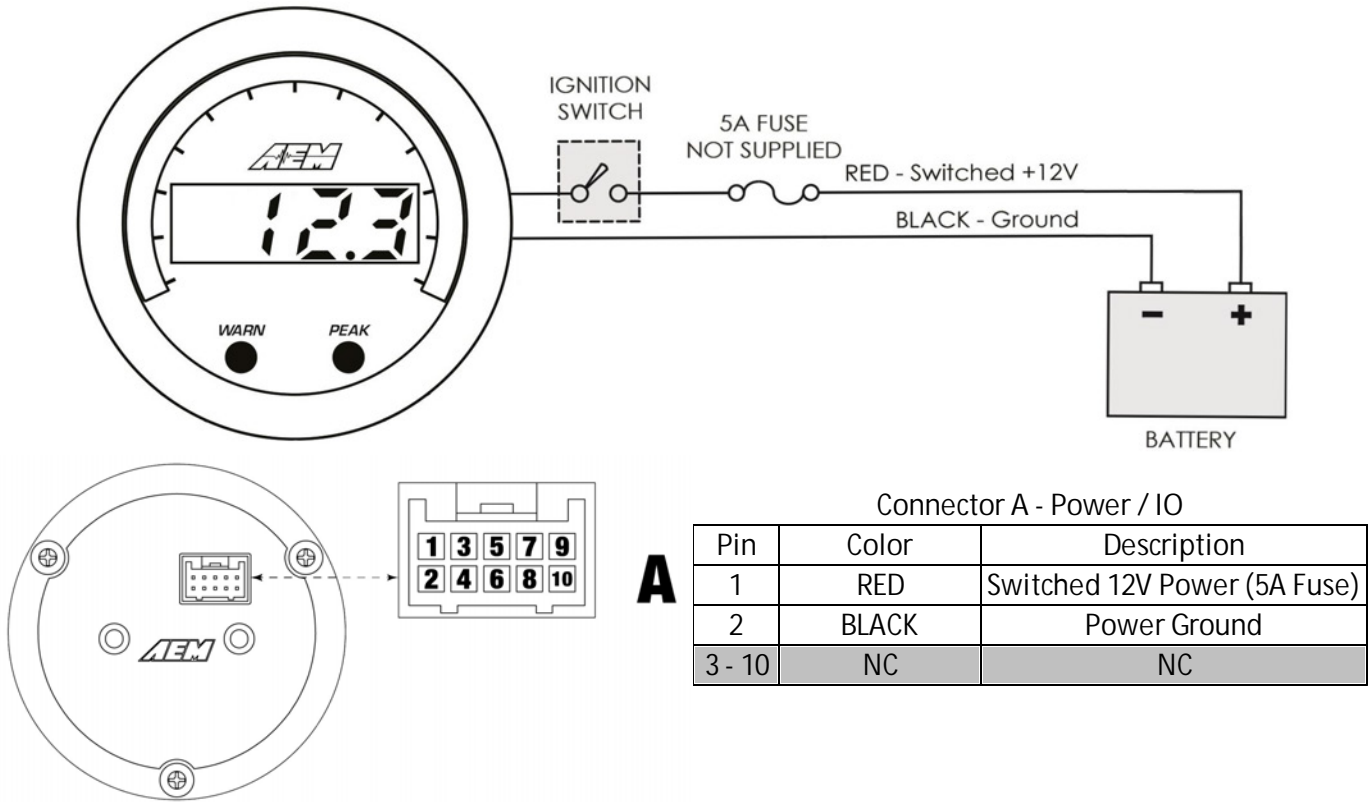
Features

- 2-1/16" / 52mm outer diameter mounting
- Flashing warn / alarm feature
- Peak recall
- Black bezel / "Volt" faceplate supplied; Silver / white available as optional purchase
- Locking connectors
- Supports vehicle / system voltages up to 16V
- Auto-dimming display

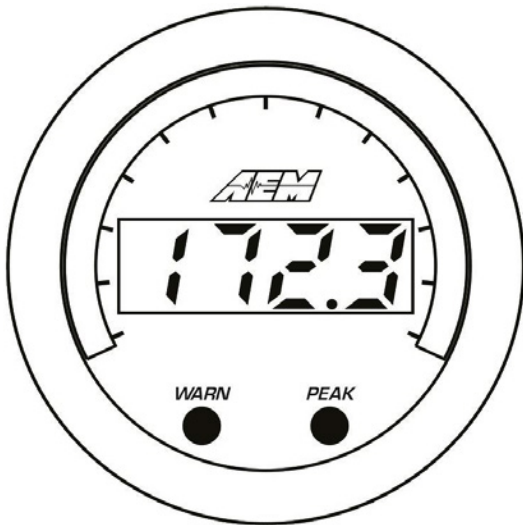| KIT CONTENTS	
PN	**Description**
10-0303	INST, X-SERIES VOLT GAUGE 8 TO 18V
35-0303	GAUGE ASSY, X-SERIES VOLT GAUGE 8 TO 18V
35-4302	RED INSULATED BUTT CONNECTORS (6)
35-8618	NUT, KNURLED, M4x0.7 (2)
35-8614	BRACKET, X-SERIES GAUGE
35-3435	CABLE, X-SERIES GAUGE PWR/IO BATT
35-8617	RUBBER BAND, X-SERIES GAUGE

OPTIONAL ACCESSORIES	
PN	**Description**
30-0303-ACC	BEZEL, X-SERIES GAUGE SILVER FACEPLATE, VOLTS 18V, WHITE

Wiring Installation Diagram

Connector A - Power / IO

Pin	Color	Description
1	RED	Switched 12V Power (5A Fuse)
2	BLACK	Power Ground
3 - 10	NC	NC

Operation

The inner numeric LEDs and outer ring LEDs display the currently measured sensor reading; the inner numeric LEDs will flash when the sensor reading exceeds the (configurable) warn/alarm threshold value. WARN and PEAK buttons are located on the face of the gauge and are used to perform the following functions.

Display or adjust warn/alarm threshold
- § Press the WARN button; the warn/alarm threshold will be displayed and the outer LEDs will flash
- § Use either the WARN or PEAK buttons to decrement or increment the threshold value
- § Depress and hold both the WARN and PEAK buttons until LESS or GrTr appears
- § Press the WARN button to toggle between LESS and GrTr modes

  LESS Warn/alarm activated when sensor reading is less than threshold value

  GrTr Warn/alarm activated when sensor reading is greater than threshold value
- § The gauge will return to normal display mode a few seconds after the last button press
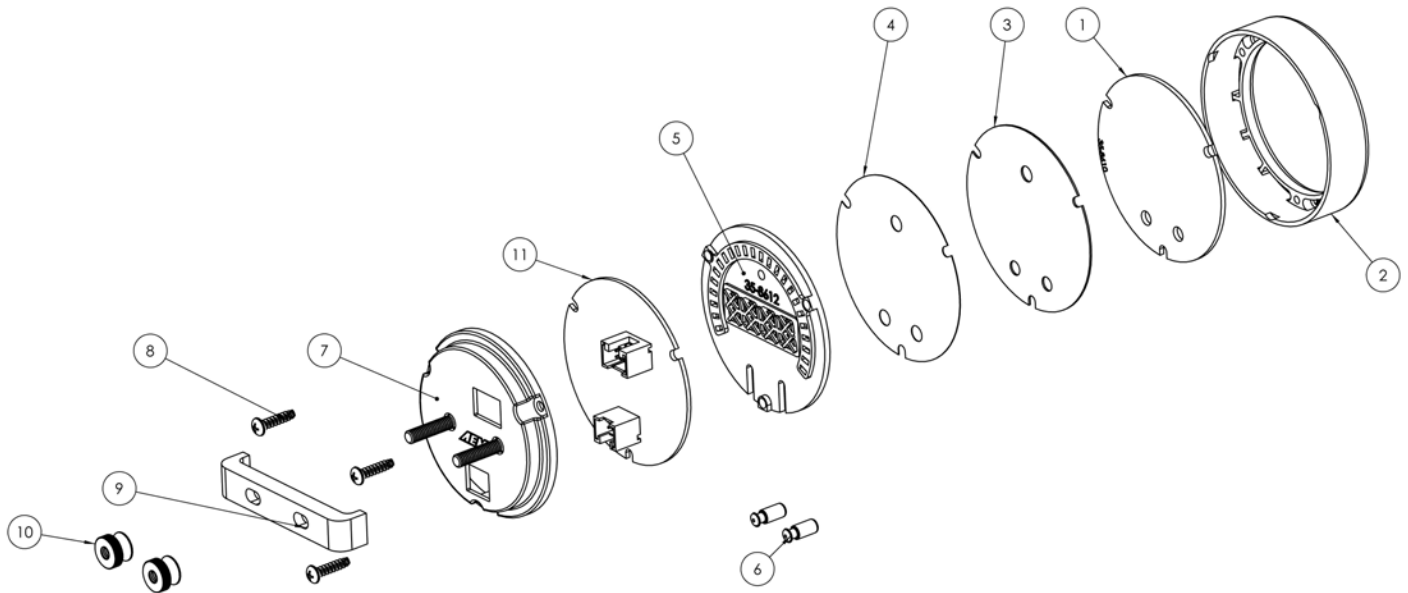
Display or clear stored peak value
- § Press the PEAK button; the peak (highest) sensor reading will be displayed and the outer LEDs will flash
- § The peak value will be retained across power cycles
- § While the peak value is being displayed, depress and hold the PEAK button for three seconds until "CLr" appears to clear the peak value

  CLr Will be displayed to confirm the peak value has been reset
- § The gauge will return to normal display mode shortly after the last button press
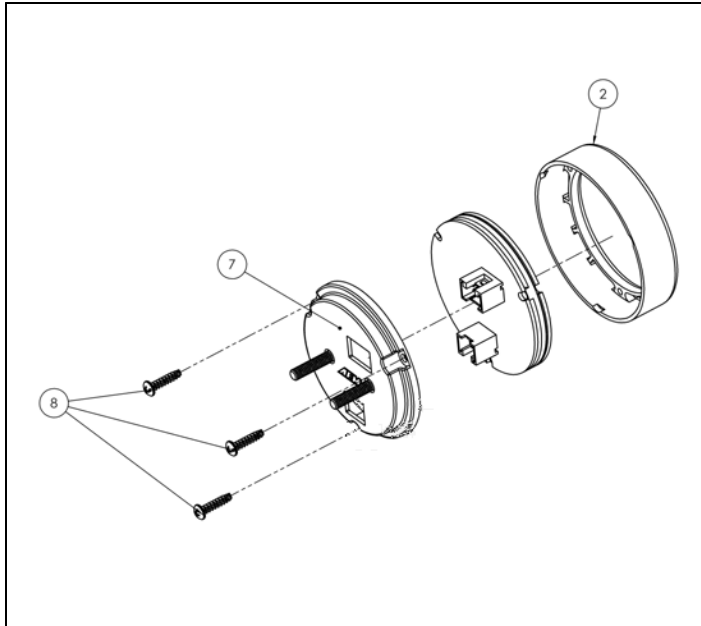
Faceplate / Bezel Installation

The gauge kit is supplied assembled with a black faceplate and black bezel. An accessory kit is available (for purchase through AEM dealers) which includes an optional silver bezel and white faceplate. Please reference the Optional Accessories section earlier in the document for the appropriate part numbers.

The faceplate is reversible, displaying alternative scalings on either side. Reference the Operation section of this manual for details on how to switch the display mode when reversing the faceplate. Disassembly is required to change the faceplate, flip/reverse the faceplate, or change the bezel of the gauge. The following diagram will provide familiarization with the major components of the gauge prior to beginning the procedure.
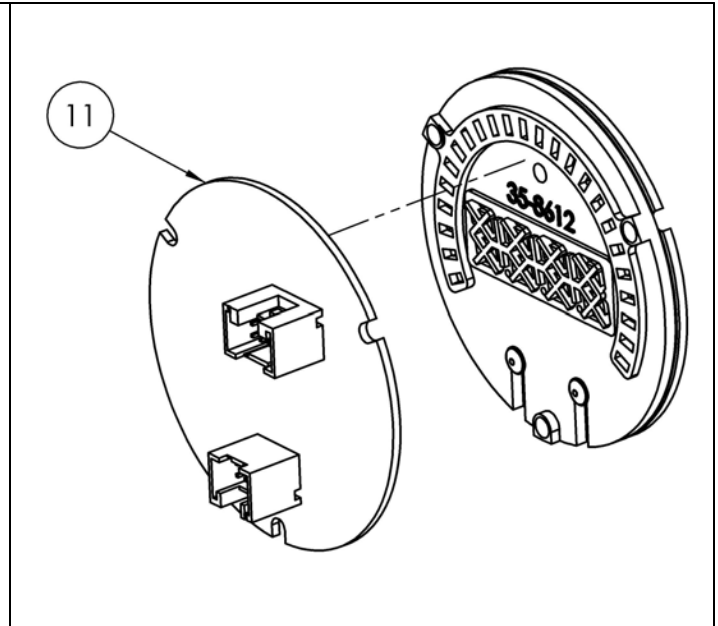
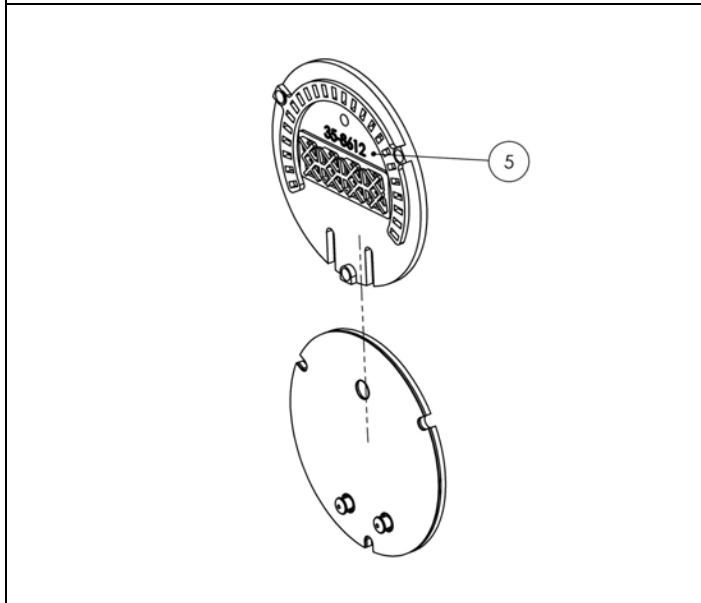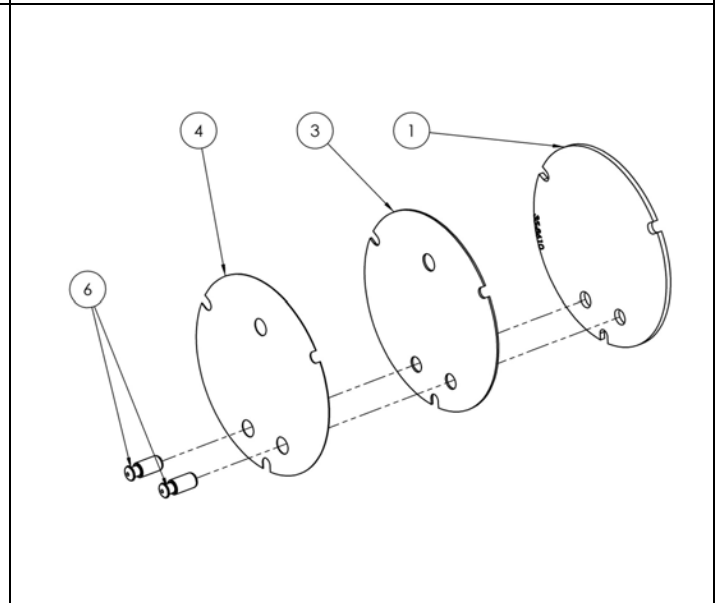| Item	Qty	Description
1	1	Lens
2	1	Bezel
3	1	Faceplate
4	1	Diffuser
5	1	Light Guide
6	2	Button
7	2	Mounting Stud (M4 x 0.7)
8	3	Assembly Screw
9	1	Mounting Bracket
10	2	Brass Thumb Screw (M4 x 0.7)
11	1	Printed Circuit Board (PCB)

Gauge Disassembly

STEP 1 - Remove the three assembly screws (8) using a #1 Phillips head screwdriver. Separate the bezel (2) and cup (7) from the rest of the assembly. If you have purchased the optional accessory kit, the silver bezel may be replaced for the existing bezel at this time

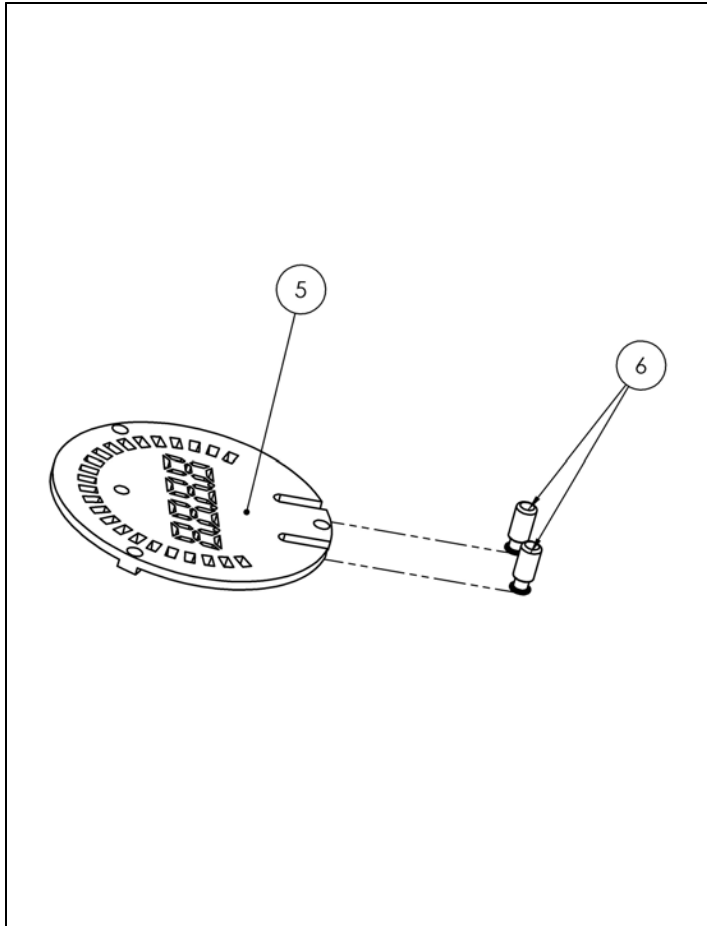STEP 2 - Separate the PCB (11) from the remaining components

STEP 3 - Slide the light guide (5) upward to remove it, the buttons may fall out at this time - take care not to lose them
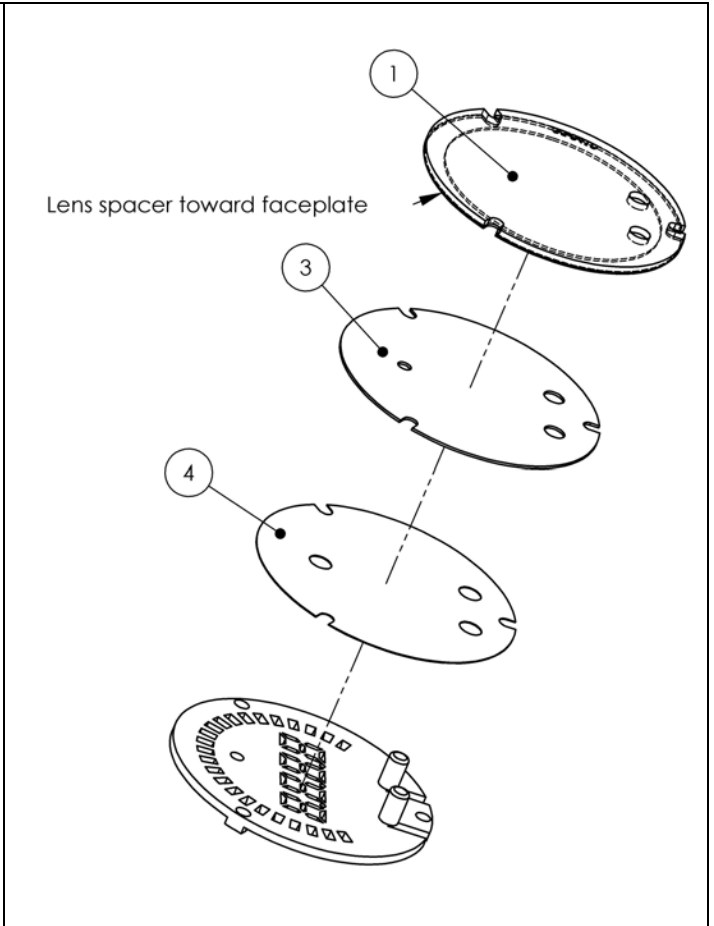
STEP 4 - As you separate the remaining components, diffuser (4), faceplate (3), lens (1), note the order in which they were assembled. The faceplate (3) may now be reversed to display an alternate scaling or replaced for a different color as included in the optional accessory kit
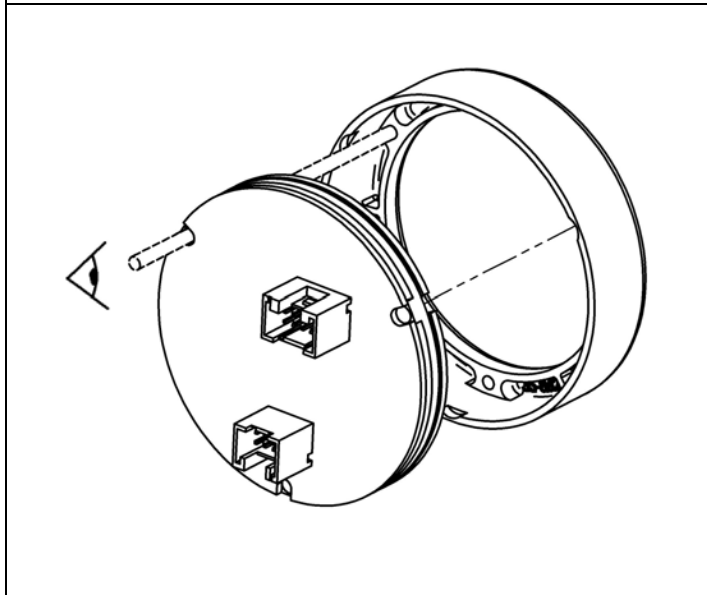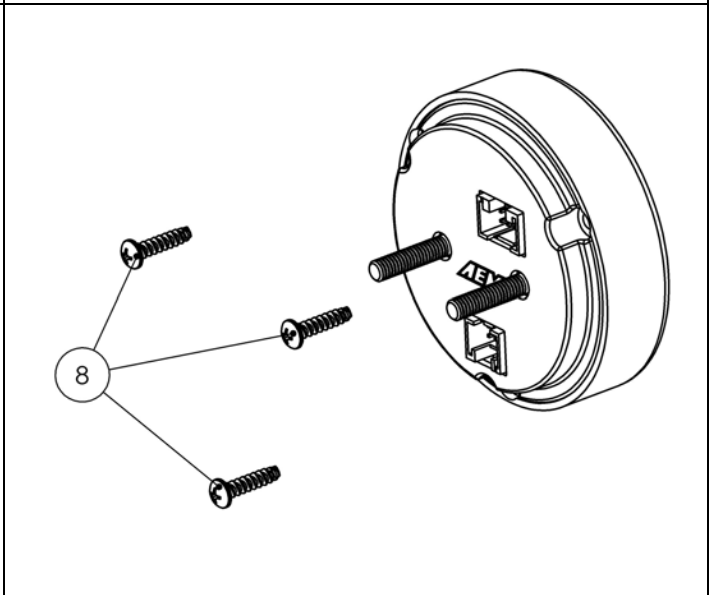
Gauge Assembly

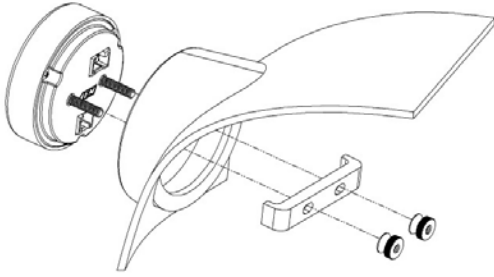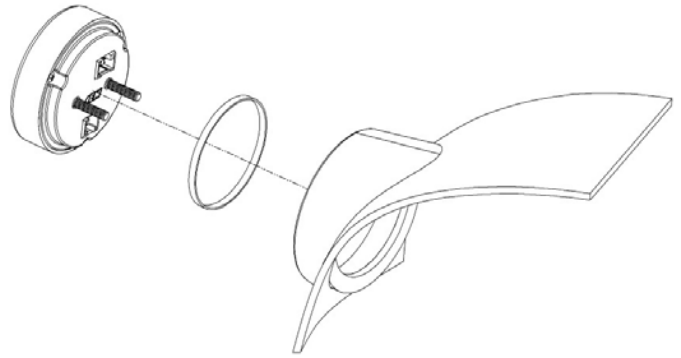|	
STEP 1 - Place the light guide (5) on a flat surface (black side up) and slide the buttons (6) into the slots	STEP 2 - Stack the diffuser (4), faceplate (3), and lens (1) in order, over the buttons, and on to the light guide
STEP 3 - Reassemble the PCB and display stack with the bezel, making sure screw holes are aligned through the entire assembly	STEP 4 - Reassemble and tighten screws to 2 in-lb (previously assembled bezel) or 3 in-lb (new bezel). Do not over-tighten!

Lens spacer toward faceplate

Gauge Installation

Installation using supplied bracket

Installation without bracket, using rubber band

A 2-1/6" (52mm) hole is required to mount the X-Series gauge. A bracket and thumbscrews are provided to facilitate installation into a panel or gauge pod. In some cases, the gauge cup may be pushed into a mounting hole causing an interference fit strong enough to retain the gauge; the supplied rubber band may be fit to the gauge to create a tighter fit in mounting holes slightly larger than 52mm. It is, however, recommended that gauges be mounted securely using the supplied bracket to ensure they never become loose and cause a hazard during vehicle operation.

Note: The gauge is not water-proof and should not be installed in a location with exposure to water or snow. Damage caused by water ingress will not be covered under warranty.

Specifications

Dimensions	diameter (bezel)	2.40 / 61	in / mm
	diameter (cup)	2-1/16 / 52	in / mm
	depth (incl. bezel)	0.825 / 21	in / mm
	depth (cup only)	0.200 / 5	in / mm
Supply Voltage	min	7	VDC
	max	18	VDC
Supply Current (13.8V)	nominal	50.0	mA
Operating Temperature	min	-4 / -20	degF / degC
	max (16V Supply)	185 / 85	degF / degC