

GMOD Electronic Oil Level Sensor Installation and Use

Overview – the sensor described below replaces the standard GMOD dipstick for measurement of the oil level during test operation and provides an electronic output that corresponds directly to the measurement that would be taken with the dipstick.

Installation – the sensor is installed into the filler neck of the GMOD oil pan. However, an adaptor is required that is shown in the appendix of this document.

Parts list:

Part description	Part number	Source
Oil level sensor	CS250AVH2	http://www.mtssensors.com/products/index.html
Float	201656	http://www.mtssensors.com/products/index.html
Gasket	402809-2	http://www.mtssensors.com/products/index.html
O-ring, Viton -119	#9452K83	McMaster-Carr
Screws, #10-24x1/2"		
Screws, #8-32x3/8"		
Adaptor	100141	See drawing

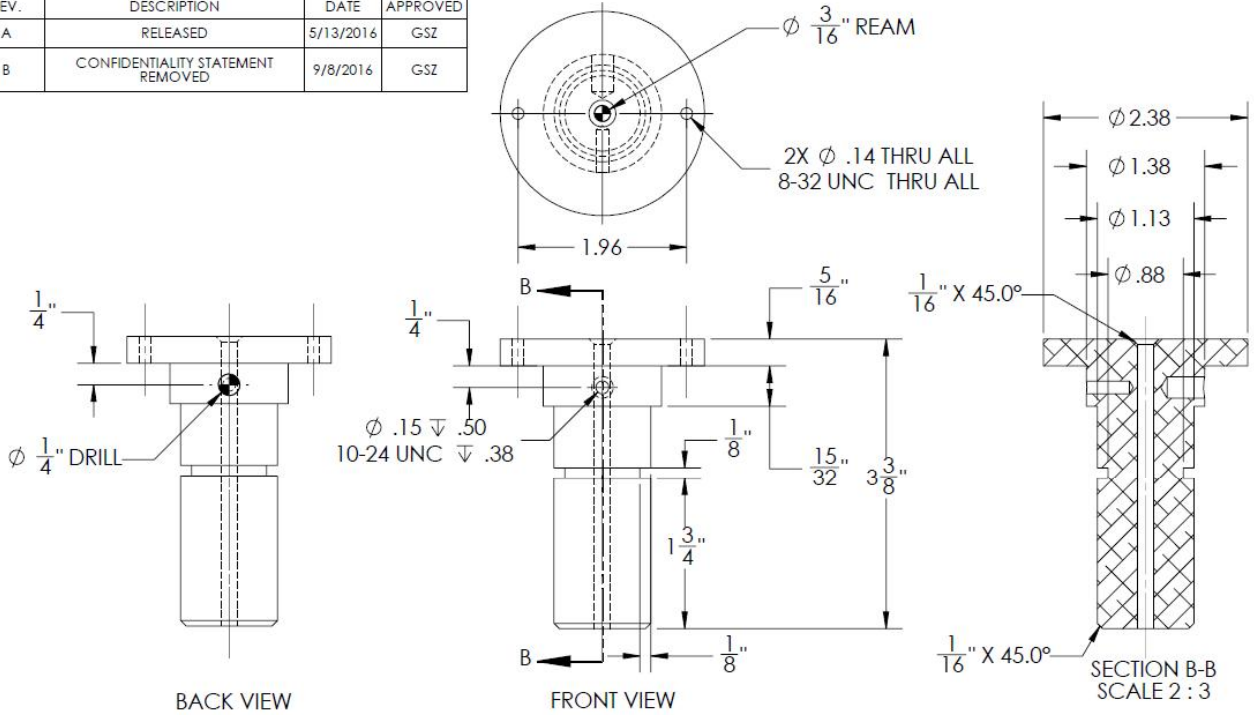
Wiring – see the instructions that come with the sensor. It is powered via 5 VDC (or optionally 12 VDC with a part number CM250AVH2), and the output is 0-5 VDC.

Calibration – with a range of 0-250 mm that corresponds to an output of 0-5 VDC, the nominal slope of the sensor is 50 mm/ Volt. Adjust the calibration offset so that the oil level value matches the standard dipstick value.

Use during testing – use the following procedure to incorporate this sensor:

1. At SOT, install the standard GMOD cap/plug on the oil pan fill tube.
2. Perform Initial Oil Leveling using the standard dipstick and record the oil level at the end of the 15 minute engine-off drain-back period.
3. Install the oil level sensor.
4. Adjust the offset for the oil level parameter so that its value matches the standard dipstick value
5. Run the test through to 100 hours and record the oil level at each 20 hour interval with the sensor in place of the dipstick oil level measurement.
6. At EOT, remove the sensor at the end of the 15 minute engine-off drain-back period, and measure and record the oil level with the standard dipstick.

REVISION TABLE			
REV.	DESCRIPTION	DATE	APPROVED
A	RELEASED	5/13/2016	GSZ
B	CONFIDENTIALITY STATEMENT REMOVED	9/8/2016	GSZ



DATE	REVISION
9/8/16	B

UNLESS OTHERWISE SPECIFIED
 DIM ARE IN INCHES
 TOL ON ANGLE $\pm .10^\circ$
 XX $\pm .010$ XXX $\pm .005$
 FRACTIONAL $\pm 1/32$
 INTERPRET DIM AND TOL PER ASME
 Y14.5M-1994 GENERAL TOL IAW
 ISO 2768 - C L

THIRD ANGLE PROJECTION

	NAME	DATE
DRAWN	GRWE	5/13/2016
CHECKED		
ENG APPR.	GSZ	
MFG APPR.		
G.A.		
MATERIAL	ALUM	
FINISH		
NEXT ASSY		

TITLE:
Oil Level Sensor Adaptor

SIZE DWG. NO. REV
A 100141 B

SCALE: 2:3 WEIGHT: 0.44 SHEET 1 OF 1

5 4 3 2 1