



INSTRUCTIONS

COMP Cams® Billet LS Valve Covers with Integral Spring Oiling (Part# 291)

Thank you for choosing COMP Cams® products; we are proud to be your manufacturer of choice. Please read this instruction sheet carefully before beginning installation, and also take a moment to review the included limited warranty information. Contact us toll free at 1.800.999.0853 or at www.compcams.com under Tech Support with any questions.



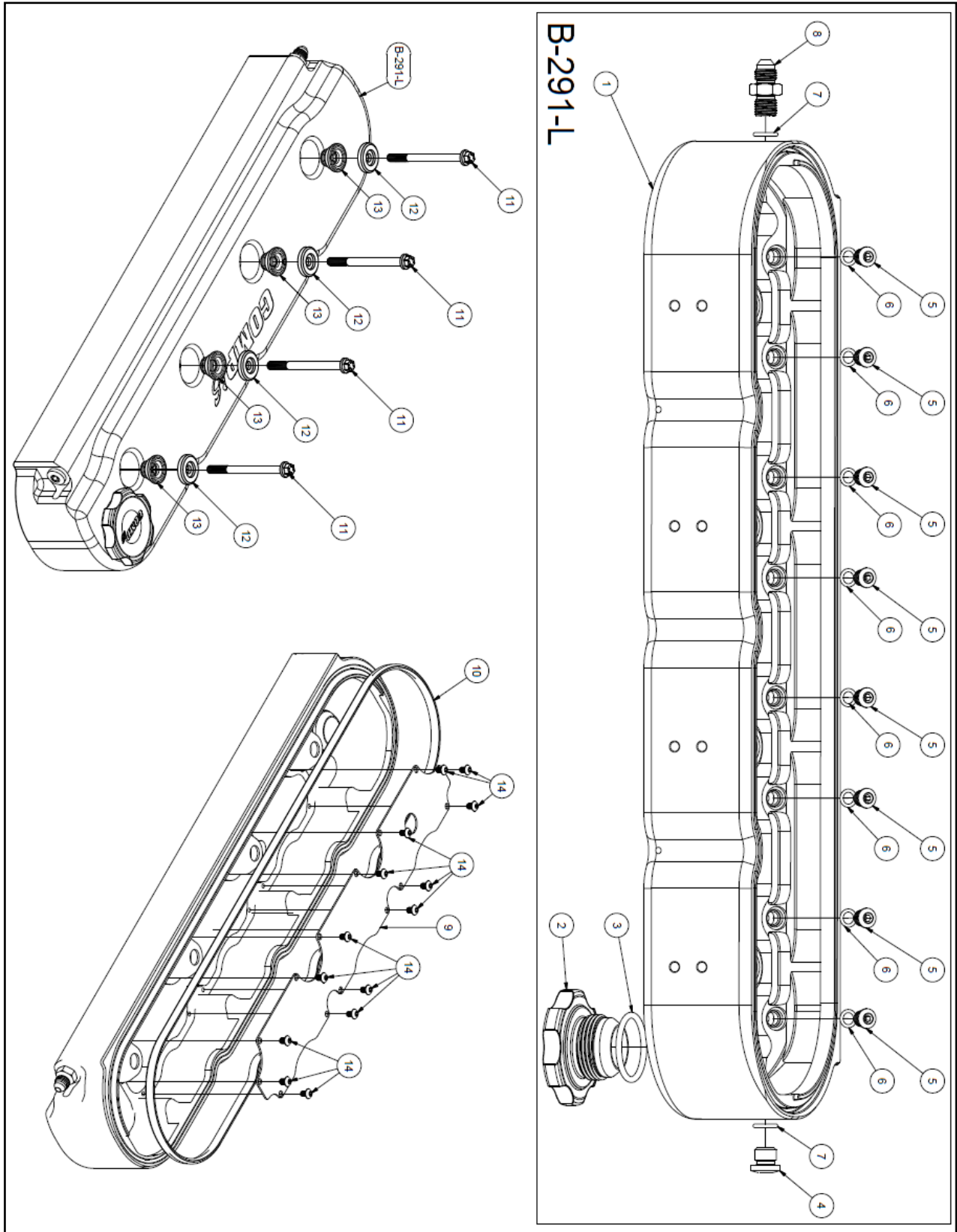


Figure 1 - P/N 291 Illustrated Parts List

Table 1 - P/N 291 Bill of Materials

PARTS LIST FOR 291 COMP CAMS® LS BLACK ANODIZE VALVE COVER KIT				
	ITEM	QTY	P/N	DESCRIPTION
B-291-R (NOT SHOWN)	1	1	291-R	COMP CAMS® LS BILLET VALVE COVER - NO OIL FILL HOLE
	5	8	291-012	SAE -02 O-RING FITTING SPRING OILER
	6	8	291-2AN	-902 O-RING FOR -2 AN FITTINGS
	4	2	19046P	-4AN SOCKET HEX PORT PLUG
	7	1	291-4FTG	-4 AN MALE TO -4 O-RING FITTING
	8	3	291-4AN	-904 O-RING FOR -4 AN FITTINGS
B-291-L	1	1	291-L	COMP CAMS® LS BILLET VALVE COVER WITH FILL CAP
	2	1	290-CAP-BL	-16AN OIL FILL CAP FOR COMP VALVE COVER
	3	1	291-16AN	-916 O-RING FOR SAE -16 O-RING PORT
	5	8	291-012	SAE -02 O-RING FITTING SPRING OILER
	6	8	291-2AN	-902 O-RING FOR -2 AN FITTINGS
	4	2	19046P	-4AN SOCKET HEX PORT PLUG
	7	1	291-4FTG	-4 AN MALE TO -4 O-RING FITTING
	8	3	291-4AN	-904 O-RING FOR -4 AN FITTINGS
	9	2	290-BP	BAFFLE PLATE, FOR GM LS VALVE
	10	1	290-VCG	VALVE COVER GASKET SET, GM LS (PAIR)
	11	8	290-VCB	VALVE COVER BOLT, GM LS HEX
	12	8	290-VCW	WASHER, FOR GM LS VALVE COVER
	13	8	290-CG	VALVE COVER GROMMET, FOR GM LS
	14	28	290-BPS	SCREW, FOR GM LS VALVE COVER
	15	2	54092VT	TUBE, VACUUM 3/8" O.D. (NOT SHOWN)

Installation Instructions:

1. Begin by inspecting your new COMP Cams® Billet LS Valve Covers to ensure that all the parts listed in the Bill of Materials (BOM) are included in the packaging you received.

NOTE: Some components may be pre-installed into the valve covers.

2. The COMP Cams® Billet LS Valve Covers come with optional spring oilers. P/N 291-012 is pre-installed in the valve covers. It is safe to leave these installed even if you are not going to use the spring oiling feature.

The COMP Cams® Valve Cover Kit includes (4) -4 AN Socket Hex Port Plugs (Item 4). If you decide not to utilize the spring oiling system, use these plugs to cap the oil passage in the valve cover (one on each end of both valve covers). Torque -4AN fittings to a maximum of 120 in-lbs.

- The COMP Cams® Billet LS Valve Cover Kit ships with (16) spring oiler fittings (Item 5) (P/N 291-012) with a 0.012” hole to meter the oil spray. COMP Cams® has two optional spring oiler fittings available separately.

QTY	P/N	DESCRIPTION
Optional	291-010	SAE -02 O-RING FITTING SPRING OILER, 0.010"
Standard	291-012	SAE -02 O-RING FITTING SPRING OILER, 0.012"
Optional	291-015	SAE -02 O-RING FITTING SPRING OILER, 0.015"

If changing or servicing of the spring oilers are required, torque -2AN spring oiler fittings to a maximum of 48 in-lbs.

- If vent lines or connection to a PCV system are desired, the valve covers can easily be drilled to accept the included 3/8” vacuum tubes (P/N 54092VT). There are 2 center drill marks near the top, back side of each valve cover. Drill in the desired location according to Figure 2 below.

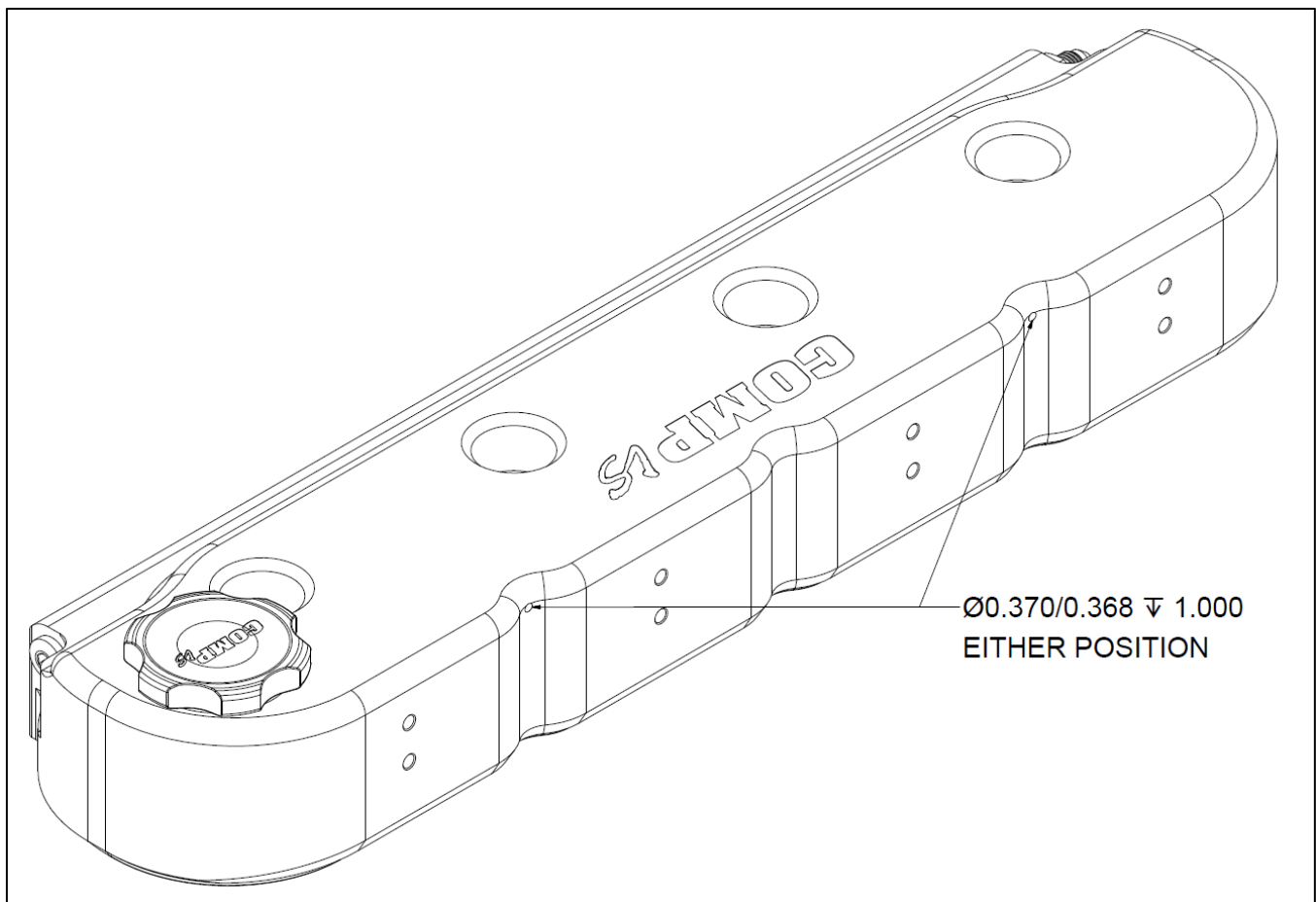


Figure 2 - Vent Tube Drilling Locations and Sizing

After drilling the hole, the vent tube may be inserted and oriented as desired. The tube should slide in with some resistance if the hole has been drilled to the correct size.

- The COMP Cams® Billet LS Valve Cover Kit includes baffle plates (Item 9) for oil control if utilizing the 3/8" vent tubes. The baffle plate should be installed with the large hole opposite to the location of the drilled 3/8" hole from Step 4. Each baffle plate attaches with 14 button headed cap screws (Item 14). Apply a drop of blue thread locking compound to each M4 screw and torque to a maximum of 60 in-lbs.

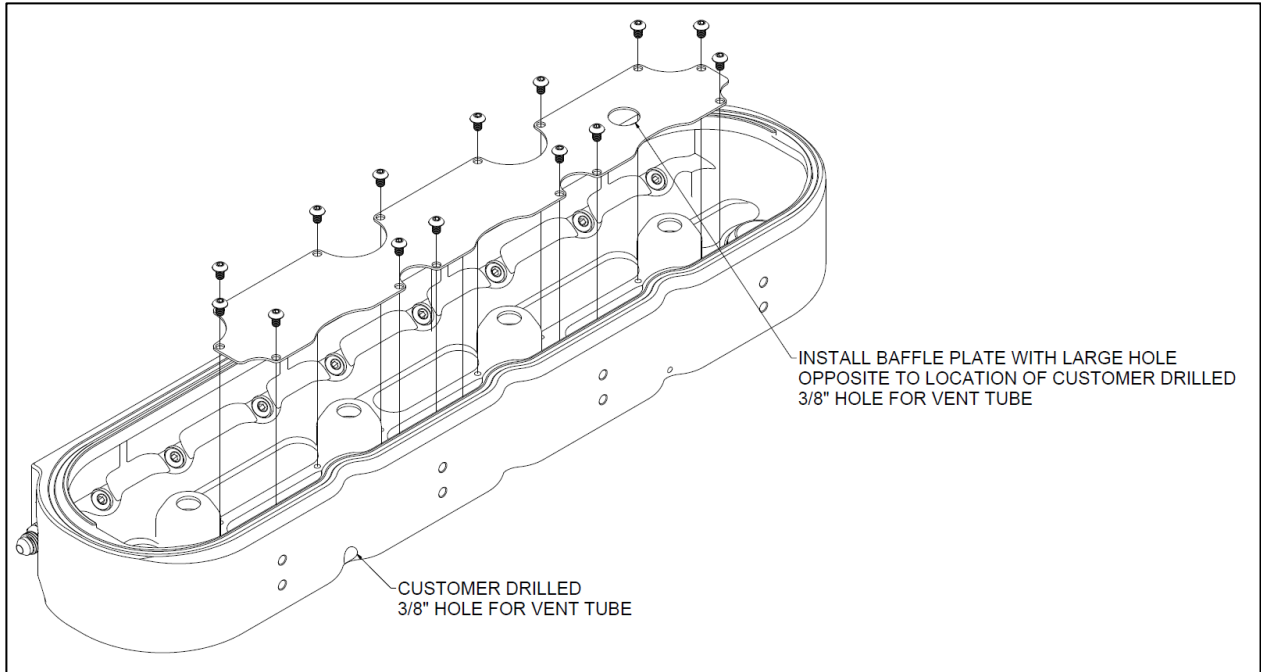


Figure 3 - Optional Baffle Plate Orientation

- The included Oil Fill Cap P/N 290-CAP-BL (Item 2) is used to seal the oil fill port in the 291-L valve cover. However, this port is designed to accept an SAE -16 O-Ring style AN fitting, providing a great attachment point for a dry sump vent line.
- Before bolting the COMP Cams® Billet LS Valve Covers to the cylinder heads, please ensure that the valve cover bolt grommets (Item 13) are installed in the bolt holes and the valve cover gasket (Item 10) is properly seated in the receiving channel. The kit also includes (8) polished ARP stainless steel bolts and washers (Items 11 and 12) for securing the valve covers to the cylinder head. Torque valve cove bolts to 106 in-lbs, following the sequence in Figure 4.

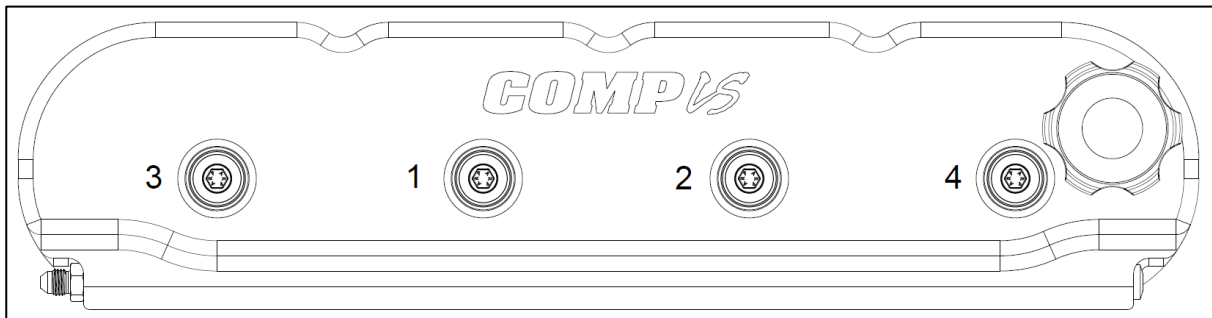


Figure 4 - Valve Cover Torque Sequence

8. The COMP Cams® Billet LS Valve Covers are equipped with (8) M6 bolt holes on each inboard face to use with the optional COMP Cams® Coil Mounting Kit (P/N 290-KIT). The kit comes with all the brackets and hardware necessary to cleanly and securely mount a set of LS3 style ignition coils, such as FAST® P/N 30385-8. The 290-KIT Coil Mounting Kit works best with LS Truck length ignition wires, such as FAST® P/N 255-2420.

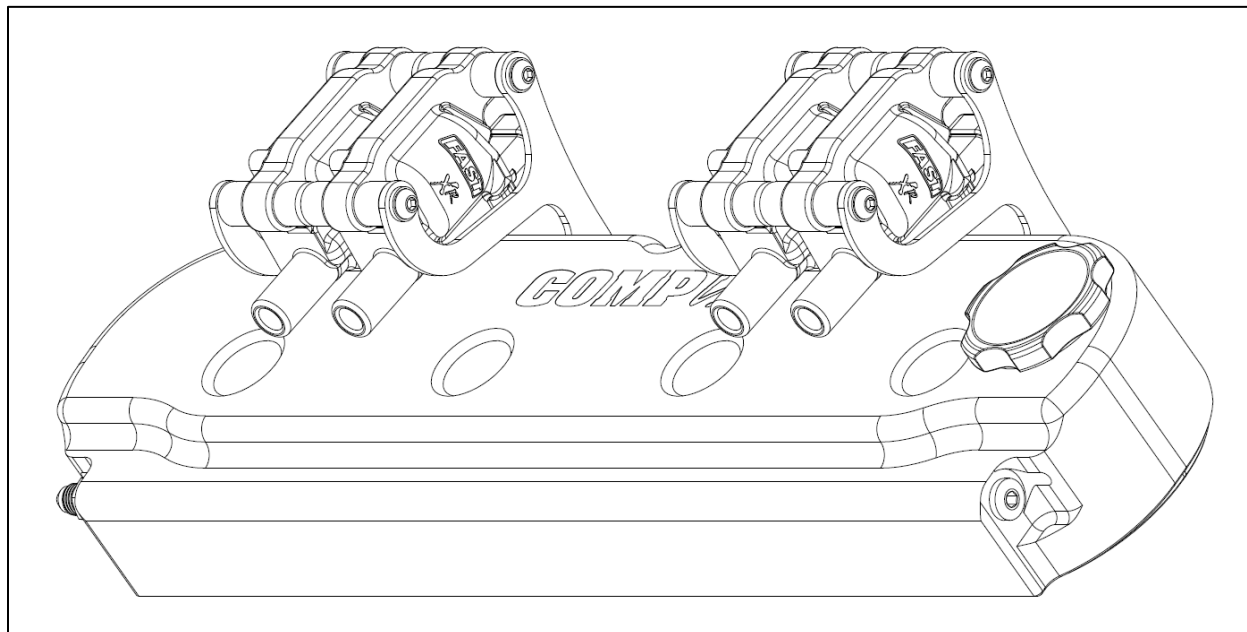


Figure 5 - OPTIONAL P/N 290-KIT for LS3 Ignition Coils

9. If using a stock style ignition coil bracket, the COMP Cams® Billet LS Valve Covers can be drilled to accept the stock ignition brackets by following Figure 5, below.

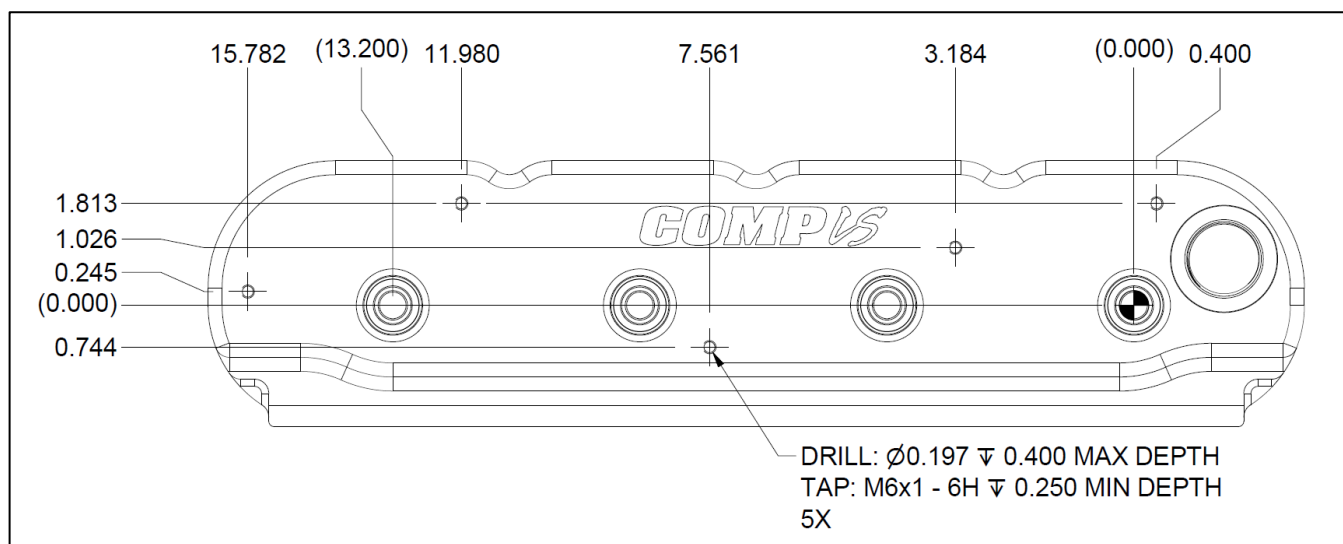


Figure 6 - OPTIONAL Blueprint for Using Stock Style Ignition Coil Brackets

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Competition Cams, Inc. warrants that all of its products are free from defects in material and workmanship, and against excessive wear for a period of (1) one year from the date of purchase. This **limited warranty** shall cover the original purchaser.

Competition Cams, Inc.'s obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned within (1) one year of purchase to the address listed below, freight prepaid. Items covered under warranty will be returned to you freight collect.

It is the responsibility of the installer to ensure that all of the components are correct before installation. We assume no liability for any errors made in tolerances, component selection, or installation.

There is absolutely no warranty on the following:

- A) Any parts used in racing applications;**
- B) Any product that has been physically altered, improperly installed or maintained;**
- C) Any product used in improper applications, abused, or not used in conjunction with the proper parts.**

There are no implied warranties of merchantability or fitness for a particular purpose. There are no warranties, which extend beyond the description of the face hereof. Competition Cams, Inc. will not be responsible for incidental and consequential damages, property damage or personal injury damages to the extent permitted by law. Where required by law, implied warranties or merchantability and fitness are limited for a term of (1) one year from the date of original purchase.

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