PART# 291CT
BILLET RACING VALVE COVER SET
for GM LS Engines

INSTALLATION INSTRUCTIONS

Thank you for choosing **COMP Cams®**. We are proud to be part of the **Edelbrock Group®** family of performance brands and appreciate your trust in our products. **COMP Cams** is dedicated to pushing the limits of valvetrain performance and innovation.

These instructions provide the necessary information for the proper installation and use of your product.

Please read these instructions completely before beginning installation to ensure safe and correct operation.

Most installations can be completed using standard tools and accepted procedures; however, a basic level of mechanical knowledge is recommended. If you are not comfortable performing this installation, it is strongly recommended that a qualified professional complete the work.

BEFORE YOU BEGIN

- ❑ ***Verify this product is compatible with your application***
- ❑ ***Ensure all required tools and parts are available***
- ❑ ***Read all instructions before starting installation***
- ❑ ***Work on a clean surface & keep components free of debris***

IMPORTANT NOTICE

Proper installation is the responsibility of the installer. Failure to follow instructions may result in poor performance, engine or vehicle damage, and may void the warranty.

KIT CONTENTS

Before installation, verify that all required components are included. Some components may be pre-installed in the valve covers.

ITEM	QTY	Part #	DESCRIPTION
1	1	291-L	COMP Cams LS Billet Valve Cover With Fill Cap
2	1	291-R	COMP Cams LS Billet Valve Cover Without Fill Cap
3	1	290-CAP-BL	-16AN Oil Fill Cap for COMP Valve Cover
4	1	291-16AN	-916 O-Ring for SAE -16 O-Ring Port
5	4	19046P	-4AN Socket Hex Port Plug
6	16	291-012	SAE -02 O-Ring Fitting Spring Oiler
7	16	291-2AN	-902 O-Ring for -2AN Fittings

ITEM	QTY	Part #	DESCRIPTION
8	2	291-4FTG	-4AN Male To -4 O-Ring Fitting
9	6	291-4AN	-904 O-Ring For -4AN Fittings
10	2	290-BP	Baffle Plate, for GM LS Valve
11	1	290-VCG	Valve Cover Gasket Set, GM LS (Pair)
12	8	290-VCBWG	GM LS Bolt/Washer/Grommet Assembly
13	28	290-BPS	Screw, for GM LS Valve Cover
	2	54092VT	Tube, Vacuum 3/8" O.D. (Not Shown)

SUPPORT

If you have any questions or require te chnical assistance, please contact COMP Cams Technical Support

1-800-999-0853 • compcams.com

(Monday–Friday, 7:00 AM – 5:00 PM (CST):

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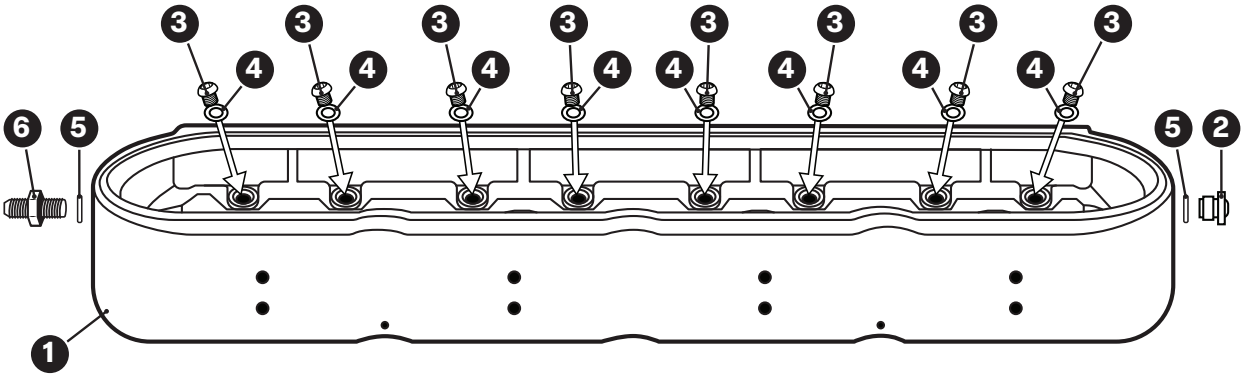
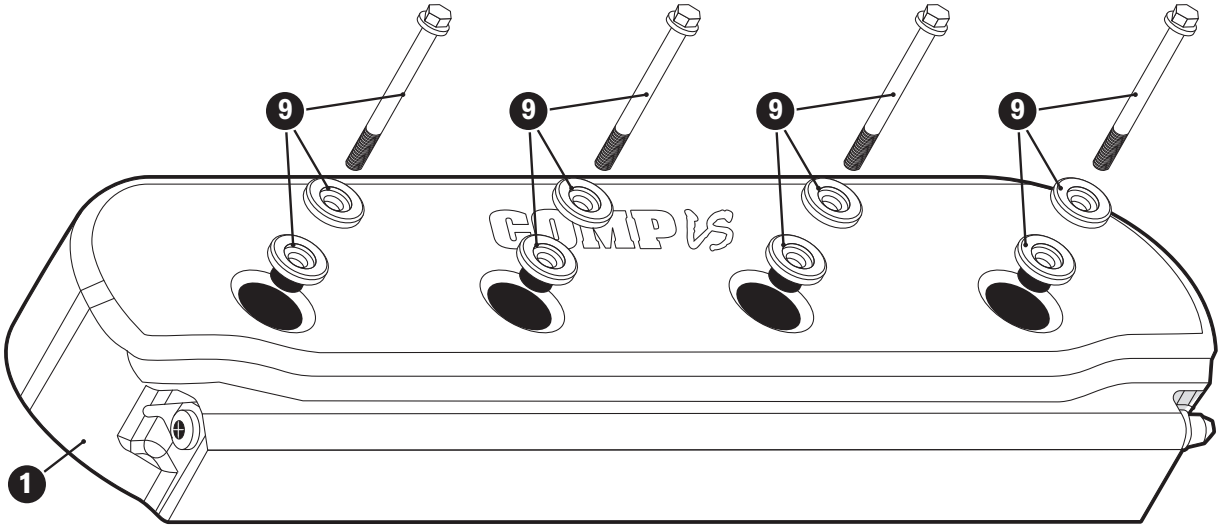
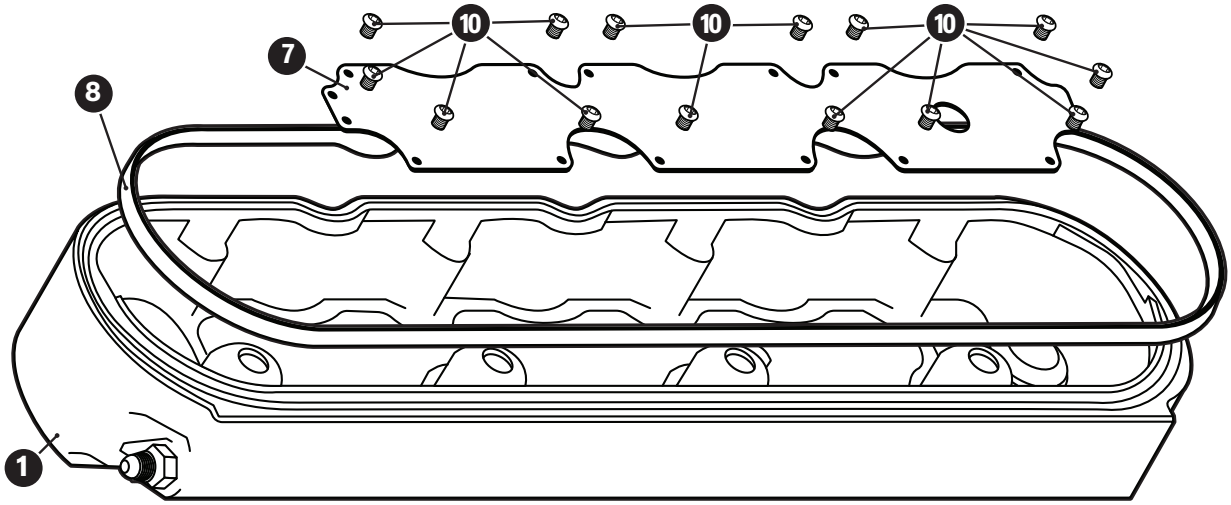
#291CT ILLUSTRATED PARTS LIST







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INSTALLATION INSTRUCTIONS

SPRING OILING SYSTEM
The **COMP Cams Billet LS Valve Covers** include an integral spring oiling system. The **standard 0.012" spring oiler fittings (P/N 291-012)** are pre-installed and may remain installed even if the spring oiling system will not be used.

IF THE SPRING OILING SYSTEM WILL NOT BE USED
Install the supplied **-4 AN socket hex port plugs (Item 4)** to cap the oil passages at each end of both valve covers.

Torque the **-4 AN fittings** to a maximum of **120 in-lbs**.

IF THE SPRING OILING SYSTEM WILL BE USED
The valve covers are supplied with **sixteen standard 0.012" spring oiler fittings (P/N 291-012)** to meter oil spray.

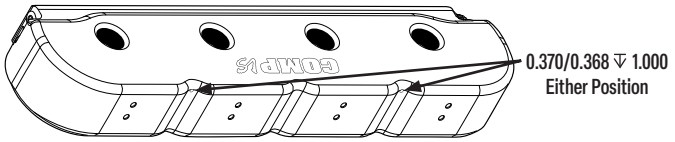
The following spring oiler sizes are available:

Type	Part Number	Orifice Size
Optional	291-010	0.010"
Standard	291-012	0.012"
Optional	291-015	0.015"

If the spring oiler fittings are changed or serviced, **torque** the **-2 AN spring oiler fittings** to a maximum of **48 in-lbs**.

OPTIONAL PCV / VENT INSTALLATION
Perform this procedure if vent lines or a PCV-system connection are required.

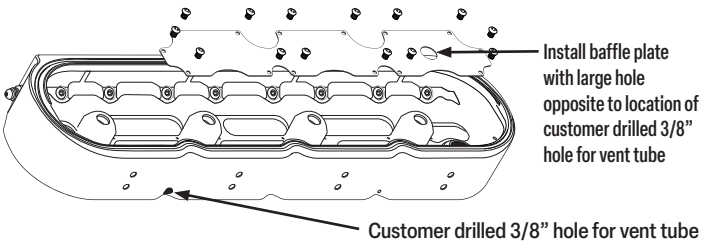
FIGURE 1: Vent Tube Drilling Locations and Sizing



1. **Locate** the **two drill marks** near the upper rear area of each valve cover.
2. **Select** the desired vent location shown in **Figure 1 – Vent Tube Drilling Locations and Sizing.**
3. **Drill** the selected location to the dimensions shown in **Figure 1**.
4. **Insert** the supplied **3/8" vacuum tube (P/N 54092VT)** into the hole.
5. **Orient** the tube **as required**. When drilled to the correct size, the tube should install with some resistance.

INSTALL THE OPTIONAL BAFFLE PLATES
If the **3/8" vent tubes** are installed, **install** the supplied **baffle plates (Item 9)** for oil control.

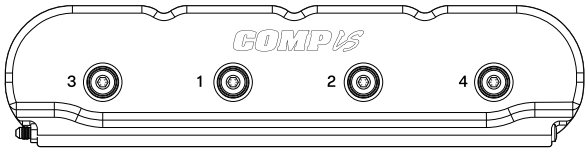
FIGURE 2: Optional Baffle Plate Orientation



1. **Position** each **baffle plate** with the large hole **opposite the drilled 3/8" vent-tube hole**, as shown in **Figure 2 – Optional Baffle Plate Orientation**.
2. **Secure** each **baffle plate** with **14 button-head cap screws (Item 12)**.
3. **Apply one drop** of **blue thread-locking compound** to each **M4 screw**.
4. **Torque** the **M4 screws** to a maximum of **60 in-lbs**.

VALVE COVER INSTALLATION
1. **Verify** that the **valve-cover gasket (Item 10)** is **properly seated** in the **receiving channel**.
2. **Position** the **valve cover** on the **cylinder head**.
3. **Install** the supplied **GM Performance bolt/washer/grommet assemblies (Item 11)**.
4. **Torque** the **valve-cover bolts** to **106 in-lbs**, following the sequence shown in **Figure 3 – Valve Cover Torque Sequence**.

FIGURE 3: Valve Cover Torque Sequence



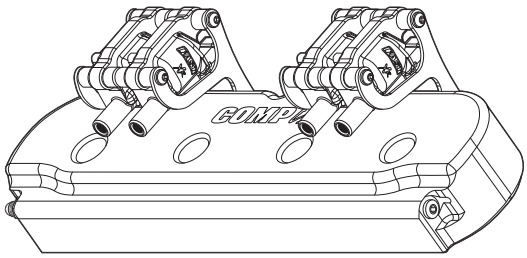
OPTIONAL IGNITION COIL MOUNTING
The valve covers include **eight M6 bolt holes** on each inboard face for optional **ignition-coil mounting**.

COMP CAMS COIL MOUNTING KIT (#290-KIT)
Use the optional **COMP Cams Coil Mounting Kit** to mount **LS3-style ignition coils**, such as **FAST Gen IV Car & Truck XR Coils (#30385-8)**.

This kit works best with LS truck-length ignition wires, such as **FAST Custom Fit Firewire 8.5MM Spark Plug Wire Set (#255-2420)**.

Refer to **Figure 4: Optional Coil Mounting Kit** for the mounting configuration.

FIGURE 4: Optional Coil Mounting Kit

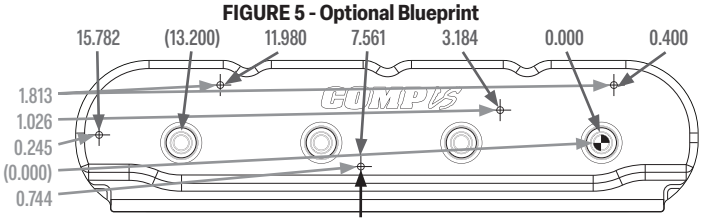


FAST XR-1A COILS
COMP Cams Mounting Kit (#290-XR-KIT) provides a mounting option for **FAST XR-1A High Output ignition coils (#30260)**.

STOCK-STYLE IGNITION COIL BRACKETS
If using stock-style ignition-coil brackets, the valve covers may be drilled for the stock brackets.

Follow the specifications shown in **Figure 5: Optional Blueprint**.

FIGURE 5 - Optional Blueprint



DRILL: 0.197 ↧ 0.400 MAX DEPTH / TAP: M6x1-6H ↧ 0.250 MIN DEPTH (X5)

GENERAL WARRANTY INFORMATION

LIMITED WARRANTY

Thank you for choosing an **Edelbrock Group** product. **Edelbrock Group** warrants that each new product is free from defects in material and workmanship for the applicable warranty period, provided the product is:

- Properly installed
- Used under normal operating conditions
- Properly maintained
- Not modified or altered
- Not damaged through misuse, abuse, negligence, or unauthorized repair

This warranty applies only to the original purchaser. If you believe your product is defective, contact **Edelbrock Group Technical Support** before returning the product. Products approved for warranty inspection must be returned freight prepaid with proof of purchase and a description of the issue. If inspection confirms a defect in material or workmanship, **Edelbrock Group** will, at its discretion, repair or replace the product. This warranty covers the product only and does not include labor, removal, installation, shipping, or incidental expenses unless otherwise required by law.

LIMITATION OF LIABILITY

To the maximum extent permitted by law, **Edelbrock Group** shall not be liable for incidental, consequential, property, or personal injury damages resulting from the use or installation of its products. Any implied warranties, including merchantability and fitness for a particular purpose, are limited to the duration of the applicable warranty period unless otherwise prohibited by law.

Warranty Period

- One Year
- Limited Lifetime on designated products

Special Conditions

- RMA required
- Racing exclusion
- Marine exclusion
- Installer responsibility

OFF-HIGHWAY USE

Many **Edelbrock Group** products are intended for off-highway use only. Installation of off-highway products on pollution-controlled vehicles may violate federal, state, or local emissions regulations and may void the vehicle manufacturer's warranty. Always verify local emissions regulations before installation.

LEGAL RIGHTS

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

CALIFORNIA PROPOSITION 65 WARNING

This product may contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

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