



2003-2017 Dodge Viper Precision Camber Block Adjustment System

Overview:

Replace the OEM eccentric washers or aftermarket shims with this precision camber block kit. The bolt is precisely locked in place and cannot move without changing the locator. Change settings without guesswork. This system is the most repeatable and offers the most resolution of any known system on the market.

Overcome frame inconsistency: This system overcomes inconsistency caused by oversized frame slots which can cause different caster/camber angle each time the bolts are loosened. The camber block ties both front and rear slots together as one unified system that will not change position.

Maximum Adjustment Resolution: Aluminum locators with 4 different configurations allow for 22 different positions of the bolt on each side of the bushing. The space between these positions is 0.033".

Reduce Setup Time: The laser etched position indicators align with the locator needle to instantly provide position status. This feature plus the above All of the above features combine function and user-friendly performance to reduce setup time by eliminating frustrating inconsistencies.

NORD-LOCK Security: Each bolt is held in place with NORD-LOCK wedge-locking technology washers assuring they will not loosen.

Options to fit your needs: The locators can be configured for any position. The full set includes 40 locators for quick change options at the track. The half set includes 24 locators that can be configured as needed for those who will rarely adjust the setup.

Compatibility:

The camber block assemblies are available for any 2003-2017 Viper. The assemblies replace the eccentric bolts/washers or camber shims.

Construction:

Anodized and laser etched T6-6061 aluminum block, powder coated adjuster plate and indicator with stainless steel locator screws and class 10.9 steel control arm bolts.

Weight: This kit weighs ~0.9 lbs more than the factory eccentric bolt/washer.

Ordering Information: <http://www.dougshelbyengineering.com>

Installation Guide:

Tip: If desired, you can overlay the block before removing the old bolt to estimate positioning. Placing the block within the frame stops (under the bolt) and overlaying the locator that most closely approximates the center of the bolt will expedite finding locator position as you install the new system.

Remove the lower control arm nut/bolt and eccentric washer (or aftermarket shim).

Tip: Ideally each block maintains the same installed orientation (DSE logo facing the same way) for setup consistency and reference purposes).

Insert the camber block from below by sliding it up between the frame slots. Only partially insert at this time to allow installation of the block shims.



Camber Block Kit (One Arm Set)

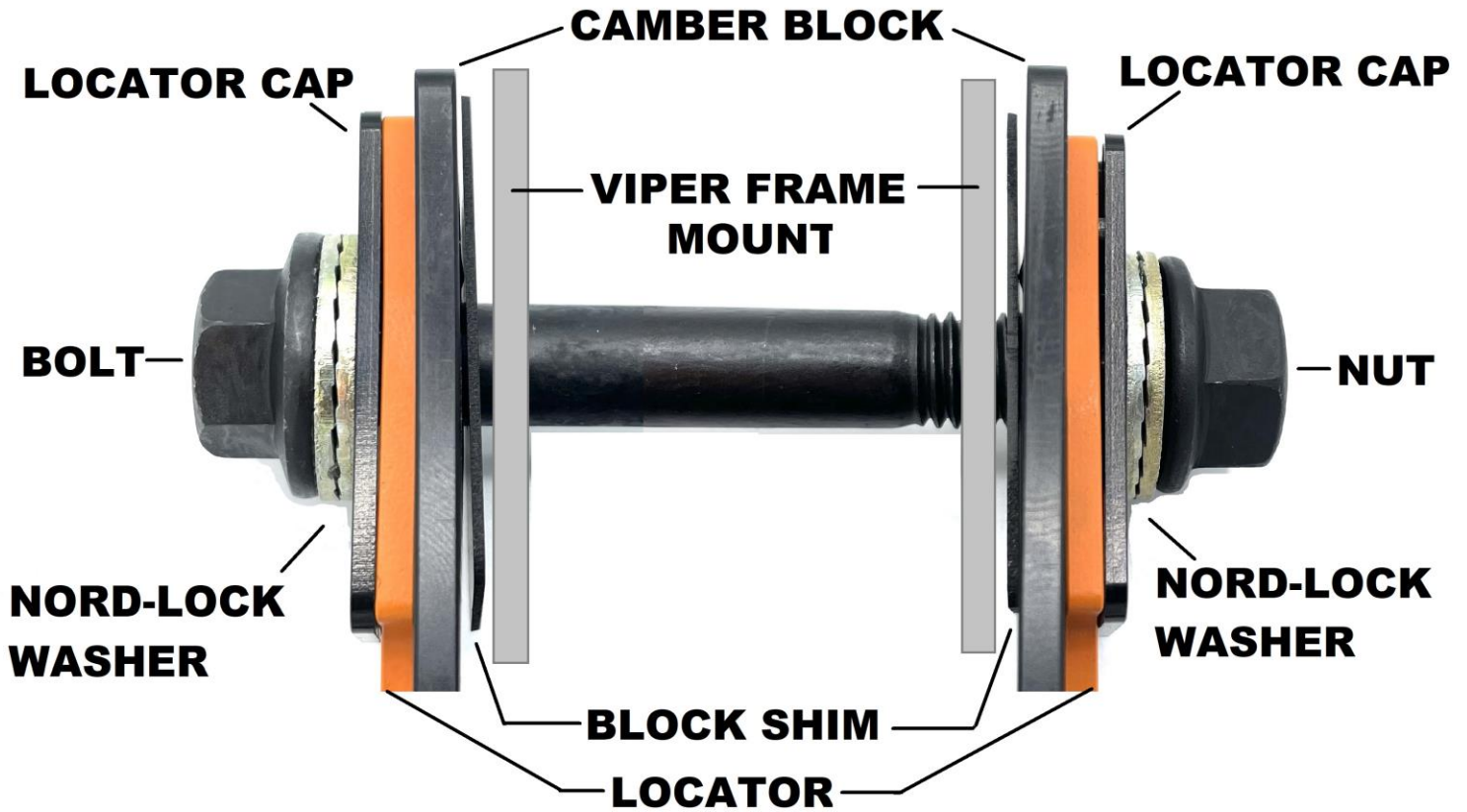


Inserting the Block and Shim

Two aluminum block shims are included for each block. These allow for accommodation of frame thickness/variance; however, it is ideal that both shims are used (one shim per side) to produce the tightest fit to the frame. Note the frame mounts are somewhat flexible so compressing them together can help with the insertion of the block and shims.

Insert the shims from the top with the block not fully engaged and align the holes to the slots on the block. The shim will need to move left to right with the ultimate position of the bolt. See the photo on the previous page for reference.

Insert the NORD-LOCK and locator cap on the bolt and push through the control arm bushing with the appropriate stack-up outlined below. The locator can be installed / removed without completely removing the bolt, nut, or caps.



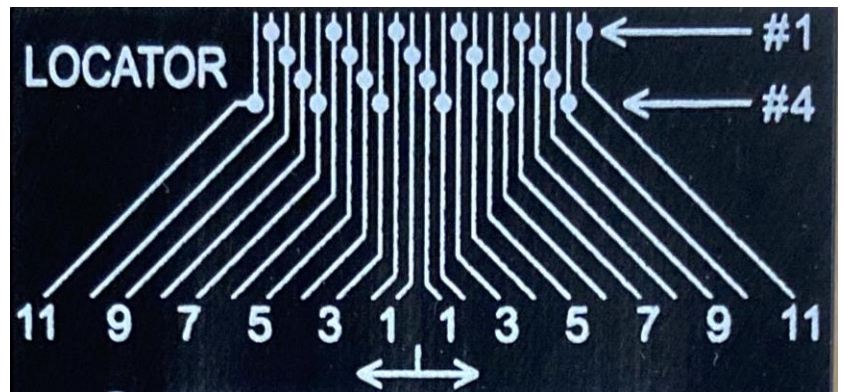
Stack-Up Diagram of the Camber Block System

Bolt Stack-up: The NORD-LOCK washer should be sandwiched between the bolt head/nut and the aluminum locator cap. These pieces can remain on the bolt permanently while the slotted locator that is sandwiched between the locator cap and block can be removed without removing the bolt when adjusting control arm position.

Explanation of System Adjustment

Adjustment on the block is made by selecting the correct locator configuration to achieve the ideal bolt/bushing location on the block.

There are 22 available positions that represent sliding the control arm bolt inward and outward on the frame. "0" is center but the first available positions are +/- 1 .



Etching on the Camber Block Showing 22 Available Positions.

Example: the #1 (top) Hole Locator can be inserted in any of 6 positions left to right along the block for larger adjustments, however, finer adjustments will require using the #2, #3, and #4 (bottom) locators in sequence.

| Camber Block Position | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | CENTER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Distance From Center (Inches) | 0.347 | 0.314 | 0.281 | 0.248 | 0.215 | 0.182 | 0.149 | 0.116 | 0.083 | 0.050 | 0.017 | 0.000 | 0.017 | 0.050 | 0.083 | 0.116 | 0.149 | 0.182 | 0.215 | 0.248 | 0.281 | 0.314 | 0.347 |
| Locator Used | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | N/A | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 |

Table Showing Details of the 22 Available Positions.

To start in the center-most positions available (slightly left or right of center) you would need to use locator #2 or #3. Moving outward would require locator #1 from the #2 position or locator #4 from the #3 position.

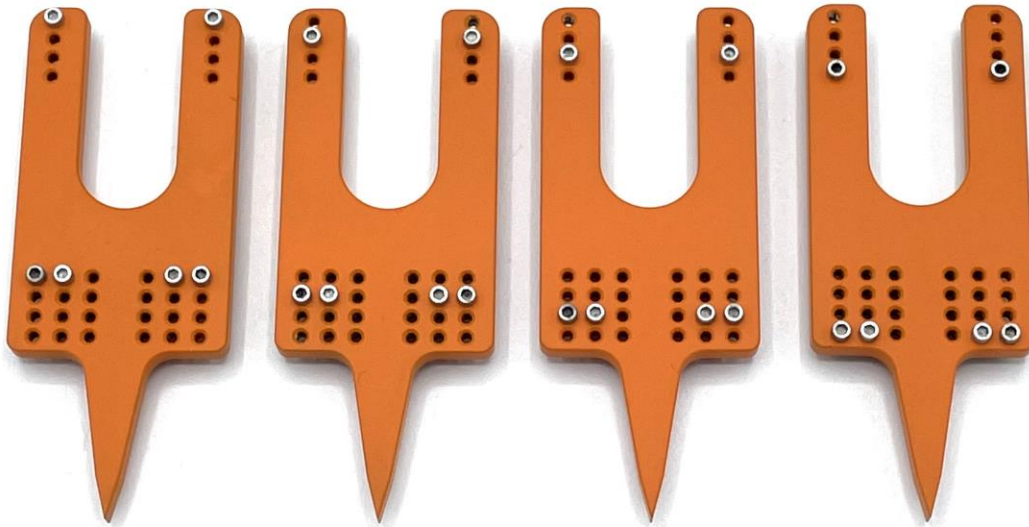
10 of each locator configuration are included in the full kit, however, the screws can be removed and replaced in new holes to alter the configuration of the locator.

Locator setup: Install the 6 screws in each locator to configure the position (#1-#4). Position #1 is the top hole, #2 is the second to top, and so on. Note the inner most row of holes are not populated.

If powder coating is covering the locator threads carefully use a screw (in/out motion) or the included tap to clear the threads.

For the full kit, create equal amounts of position #1-#4 (12 each).

For the half kit it is recommended to create one or two of each position and configure each additional locator as needed during installation. There will be enough spares for 8 additional locators beyond those used in the installation.



The 4 Locator Configurations. The Locator Needle Will Align Along The Block Edge To Indicate Current Position

If a setup has already been completed and the position of the control arm has not changed simply find the correct locator configuration to align with the control arm bushing on either end of the camber block. *This might have been estimated before removing the original bolt as described above.* Tighten the nut and bolt to 85 lb-ft per the manual.

Tip: Take care to insert and remove the locator without misalignment to avoid bending the screws in the locator. These can be replaced as necessary.

Note: For alignment-critical applications it is recommended to double check the alignment after installation is complete to confirm nothing has changed if using the above estimation approach.

Note: It is normal to hear a ratcheting sound from the NORD-LOCK washer when loosening the nut/bolt.

Tip: If you find the locator positions hard to read you might find it helpful to count the dots outward starting from 11 to determine what position the locator is in.

If a setup has not already been performed follow the factory guidelines from the service manual using the necessary locator configuration to achieve the proper camber and castor setting. Remove the locators from one or both sides of the bushing while

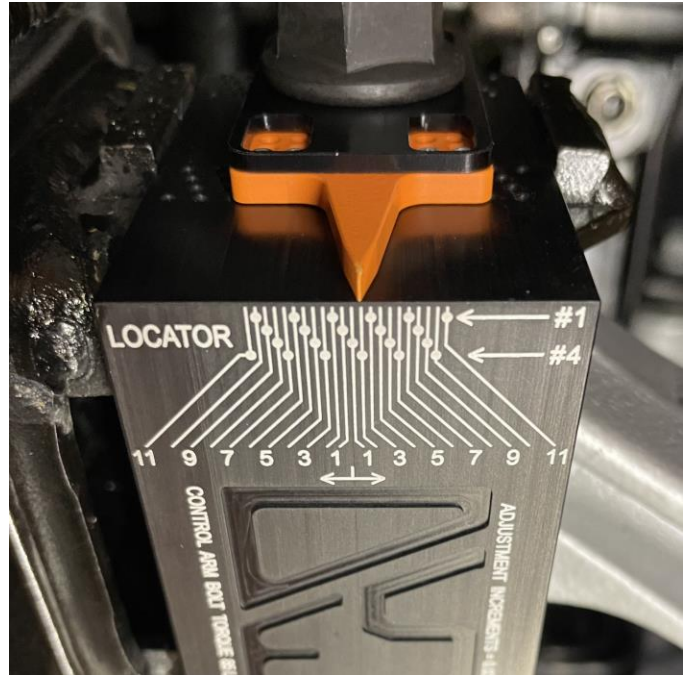
adjusting the control arm position. Tighten the fastener to 85 lb-ft on final installation.

Inspection and Maintenance:

- Periodically inspect the hardware to ensure nothing is loose or damaged. Some bending of the locator is normal after installation so long as it will still insert into the block.



Camber Block Installed



Locator and Bolt Installed (Locator #4 achieving position #2 Outward)

Thank you for your purchase!

Your business is appreciated! Customer satisfaction is our top priority! Don't hesitate to contact us with any questions or feedback. Word of mouth is the best form of advertising so if you are satisfied please spread the word!

Disclaimer of Liability:

Doug Shelby Engineering assumes no liability expressed or implied for the improper installation or use of this product or its components.

Doug Shelby Engineering is NOT responsible for any damage, consequential or otherwise for equipment failure after installation.

Vehicle Modification:

Modification of your vehicle with the parts identified above may alter its stock performance; the buyer hereby expressly assumes all risks associated with any such modification.

Disclaimer of Warranty:

Seller disclaims any warranty express or implied with respect to the parts sold hereby whether as to merchantability, fitness for particular purpose, or any other matter.