



SYNERGY MFG. 870 INDUSTRIAL WAY, SAN LUIS OBISPO, CA (805) 242-0397

8561 / 8569 – DODGE AAM FRONT AXLE C-GUSSET KIT

GENERAL NOTES:

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos for your reference.
- Please read these instructions carefully before beginning, do not attempt to install if you do not have the tools or skills required.
- You will need a welder and grinder for installation.
- ****NOTE**** 03-09 trucks have a different front axle than 2010+ models. Be sure to order the correct kit per your vehicle. 2003-2009 trucks need 8569 C-gusset kit. 2010-Present trucks need 8561 C-gusset kit.

PARTS LIST:

- **8561 - 2010-PRESENT DODGE AAM 9.25 FRONT AXLE**
 - (2) 8561-02 LOWER C-GUSSETS
 - (2) 856101-01 UPPER C-GUSSET, FRONT
 - (2) 856101-02 UPPER C-GUSSET BACK
 - (2) 856901-03 UPPER C-GUSSET, TOP
- **8569 - 2003-2009 DODGE AAM 9.25 FRONT AXLE**
 - (2) 8569-02 LOWER C-GUSSETS
 - (2) 856901-01 UPPER C-GUSSET, FRONT
 - (2) 856901-02 UPPER C-GUSSET BACK
 - (2) 856901-03 UPPER C-GUSSET, TOP

Parts / Tools Needed to complete installation:

- Basic simple hand tools.
- 4-1/2" angle grinder with abrasive attachments to remove paint and metal from inner C's.
- Some form of welder. Mig is preferred, but Tig or stick welding is acceptable.
- Spray paint of desired color.

INSTALLATION:

- 1) Note, we do recommend removing the balljoints from the housing prior to installing C-gussets. Excessive heat from welding can damage the plastic internals of a stock balljoint as well as the rubber dust boots. Use discretion when welding.

- 2) Refer to your factory service manual for procedures on tearing the front axle down to the point of ball joint removal.
- 3) The first step in fitment of the Axle C-gusset kit is to grind a small rib off the front and back of the upper portion of the Axle C. Note the forging seam in the picture below which is highlighted by the dashed yellow line. Mark a line which is in line with this forging seam along the protruding ridge on the axle C. This is your grind line. Grind off the ridge to this point so the side of the axle C is flat.



Picture 3.1 Trim line of axle C modification.



Picture 3.2 Completed trim of Axle C ridge.

- 4) Grind off this ridge on both the front and back sides of the axle C. The finished C should appear as shown above in picture 3.2.
- 5) Next, test fit the C-gussets to the axle as shown. The smaller of the upper C-gussets goes on the front, while the larger plate is for the back. Test fit as shown below and take note of the areas which will require preparation for welding.
 - Note – Picture 5.1 & 5.2 are 8561 brackets for a 2010+ axle. Picture 5.3 & 5.4 are 8569 brackets for a 2003-2009 axle.



Picture 5.1 - Front upper C-gusset. 2010+ axle.



Picture 5.2 - Rear Upper C-gusset. 2010+ axle.



Picture 5.3 - Front Upper C-gusset. 2003-2009 axle.



Picture 5.4 - Rear Upper C-gusset. 2003-2009 axle.

- 6) Once the upper C is prepped for welding, tack the gussets into position. The easiest order install is as follows:
- Rear gusset, top plate, front gusset.

- Tack the rear gusset so it sits flat against the C and tapers in to follow the contour of the axle when looking from above. Next, tack the top plate into position. Be sure it sits flat on the axle C and butts up to the bottom lip of the coil perch. As shown in image 6.1 below.
- Note, the gussets should sit flat against the C and taper in to follow the contour of the axle when looking from above. See image 6.2 below.



Image 6.1 – Rear gusset tacked into position. Orientation of top plate.



Picture 6.2 - Downward view of Upper C-gussets.

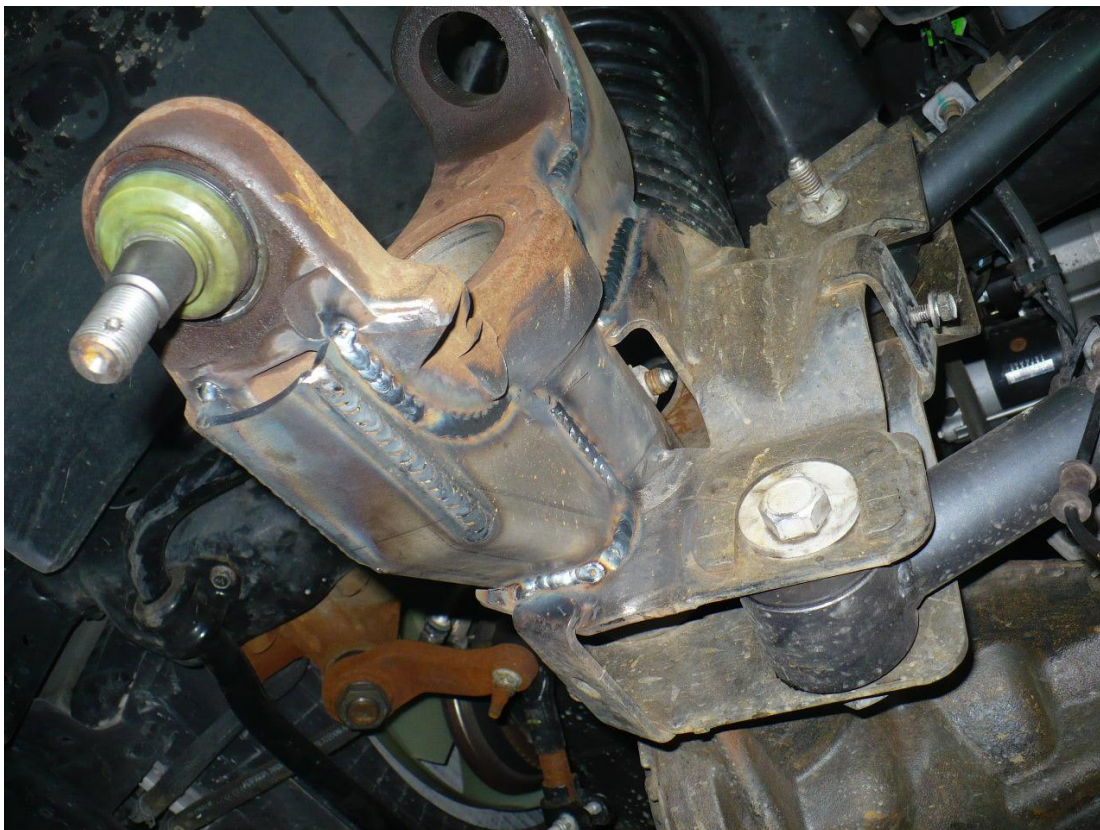
- 7) Now move to the bottom C-gusset and test fit the bracket into place. Take note of the areas which need to be prepped for welding.



- 8) Note the lower mount is designed to butt up to the lower control arm mount at the axle. Be sure to prep this area for welding as well and be careful not to burn a control arm bushing or suspension joint when welding.
- 9) Tack the lower gusset into place.
- 10) Fully weld the gussets as shown below.







11) Paint any exposed areas of metal with a quality paint of your choice to prevent rusting. Reinstall any axle components removed for installation.

Installation is Complete. Thank you for choosing Synergy Manufacturing.