



XP8100 SHOCKS

2013+ Ram Heavy Duty (2500/3500)

Please visit www.aev-conversions.com to view the most current installation guide for this product.

This is a new product and we want to make sure that you receive the latest and most accurate information based on customer feedback, product revisions, and/or model year updates. We value customer feedback, so we encourage you to contact our Technical Support department if you have any suggestions on how to make the installation of this product easier or if you have any questions regarding the installation of this product. AEV's Technical Support can be reached by email at tech@aev-conversions.com or by giving us a call at (248)-926-0256.

**PLEASE READ BEFORE YOU START**

To guarantee a quality installation, we recommend reading these instructions thoroughly before beginning any work. These instructions assume a certain amount of mechanical ability and are not written nor intended for someone not familiar with auto repair.

INCLUDED PARTS	QTY	REQUIRED TOOLS
RAM 2500 DIESEL		Common Hand Tools
Front Shock (P-25-313536)	2	Torque Wrench
Rear Shock (P-25-313550)	2	Marking Pen
Mounting Kit (10309000AB)	1	Drill with 3/8" Drill Bit
		Welder
RAM 2500 GAS		Grinder or sanding tool (die grinder,
Front Shock (P-25-316506)	2	angle grinder, etc)
Rear Shock (P-25-313550)	2	Underbody touch-up paint (chassis
Mounting Kit (10309000AB)	1	black)
RAM 3500 DIESEL		
Front Shock (P-25-313536)	2	
Rear Shock (P-25-313550)	2	
Mounting Kit (10309000AB)	1	
RAM 3500 GAS		
Front Shock (P-25-316506)	2	
Rear Shock (P-25-315134)	2	
Mounting Kit (10309000AB)	1	



NOTE: Due to the added damping forces and the lower mount relocation required for proper clearances, the provided AEV front shock mount reinforcement brackets are mandatory for this kit. Failure to install these can result in damage to the OEM axle brackets. This should only be installed by a qualified welder. Some trucks, primarily 2019+, have also been found to have incomplete factory welds on the front axle shock mounts. AEV suggests inspecting these mounts for complete weld coverage around the perimeter of the brackets attaching them to the axle tube, prior to installing the AEV reinforcement brackets. If mounts are found to not be welded completely, the welds should be completed by a qualified welder to reduce chances of bracket failure due to the increased forces from the 8100 dampers and mounting. AEV suggests welding the interior portion of the brackets to the axle tube so than an external weld doesn't interfere with installation of the reinforcement brackets.

If installing with an existing AEV suspension system, make sure to support the axles when removing existing shocks. Shocks can be retrofit with the vehicle sitting on the ground, but it will be necessary to compress the shocks for installation at ride height, which is very difficult, especially while aligning bolt holes. Recommend using jack stands or a hoist in order to install at full extension.

If installing along with full AEV suspension system, following the suspension kit instructions and supplement with this shock installation guide.

I. VEHICLE PREPARATION

1. Remove factory front shocks. Save the lower flag nut, the rest of the hardware will not be re-used
2. One side at a time, hold the AEV shock mount reinforcement brackets into position on the axle. Use the provided tube spacers and long M14 bolts with the OEM flag nut to temporarily mount them in their final position. The AEV bracket should shell around the OEM bracket from underneath. The spacers can be used in the original shock mount location and the new offset location to align the bracket with proper spacing. Note all accessible areas where the bracket mates up to the axle tube and OEM shock bracket, these are where the brackets will be welded. Mark these areas for paint removal in order to get a proper weld.

Note: Due to variation in OEM brackets and welds, there may be some areas of interference that prevent the reinforcement brackets from sitting tight against the axle. Carefully grind away any interfering material from either the AEV bracket or OEM welds until the reinforcement bracket can sit flush against the axle tube.



Figure 1

3. Remove the reinforcement bracket and grind any weld locations on the OEM axle and bracket to remove paint. Paint the inside of the reinforcement bracket now since it will be hidden after installation, being careful to not apply paint to areas that will be welded. Use masking tape or grind any overspray before reinstalling.
4. Reinstall the reinforcement bracket using the hardware from step 2 and have a qualified welder weld it in place. Suggested weld locations are below (fig 2 and 3). Make sure to also weld the seams on the rearmost portion of the reinforcement bracket.

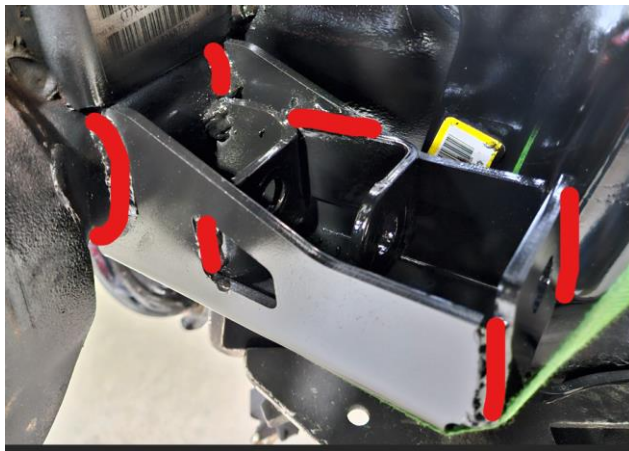


Figure 2



Figure 3

5. Clean all welded areas and paint any exposed metal remaining on the bracket and axle.

II. INSTALL FRONT SHOCKS AND RESERVOIR BRACKETS

1. Install upper shock bushing to frame. Starting on either side, install upper mount using provided hardware. Shocks are not sided, so either front shock can be mounted on either side of vehicle. Larger hole cupped



washer and conical bushing go on shock shaft in orientation shown, then shaft gets placed through the frame bracket, then the other bushing and cupped washer go in place before installing the nut (fig. 4).

Reservoir fitting should point straight outward (fig. 5). Reservoir can hang from the hose, be careful not to hit it on anything and damage the finish. An old sock or rag can be helpful to protect it during shock installation. Torque top nut to 40 ft-lb.

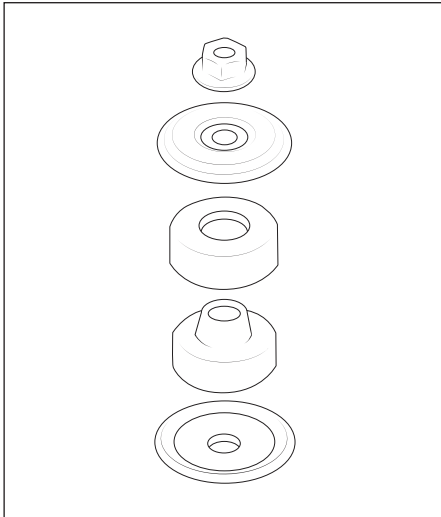


Figure 4

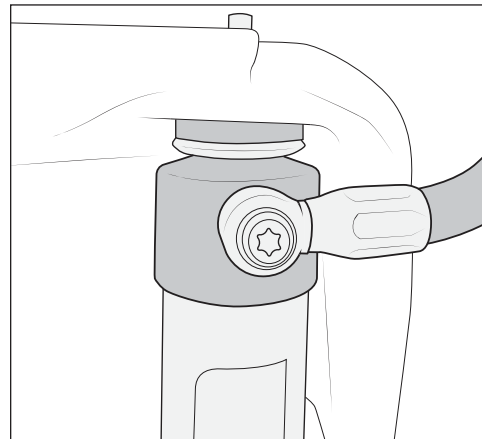


Figure 5

2. Install lower shock bushing to axle. Shock bushing has offset end to clear radius arm hardware, bushing must be oriented to be offset inboard as shown (fig. 6). Once in correct orientation, place washer on provided M14x120mm bolt and feed through the shock bushing from the rear. Bushing does NOT go between the mounting brackets like factory orientation. Put provided crush sleeve in factory bushing location, place shock bushing back face of rear OEM bracket and front face of AEV reinforcement bracket, and feed the bolt through the rear bracket, shock, crush sleeve, and front brackets. Install provided M14 flange nut to the front and torque hardware to 100 ft-lb. (fig. 7).

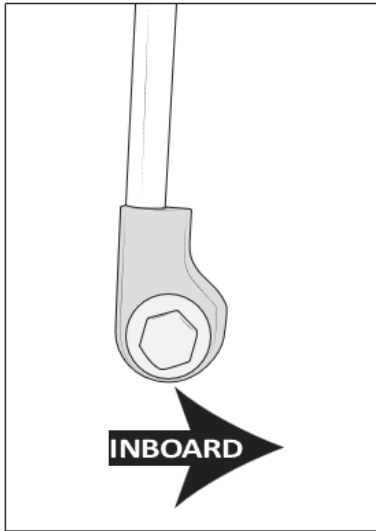


Figure 6

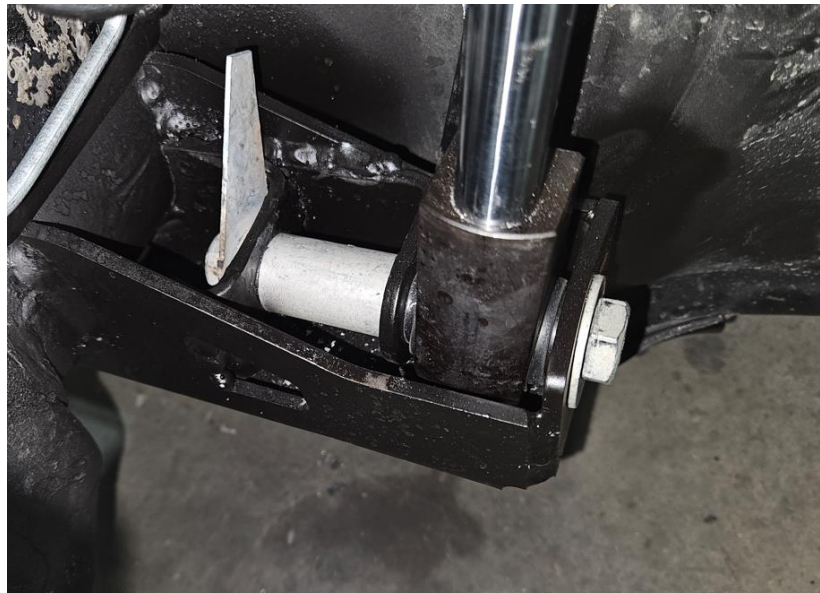


Figure 7

3. Install reservoir bracket. These are sided, the tabs should point inward toward center of vehicle and the longer leg of the mount toward the rear. Place it on spring tower so that the flanges sit on top of the tower edge and the mounting tabs are centered between welded gussets (fig. 8). NOTE: some vehicles with excessive welding will need weld ground flush for bracket to sit flush.

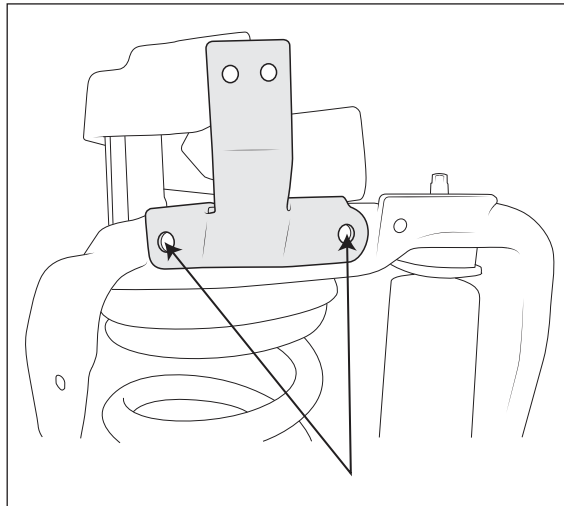


Figure 8

4. Mark the hole locations with a sharpie or paint pen. Remove the bracket and drill 3/8" holes at each location, being careful not to go too far and damage wheel liner or components behind it. Deburr the holes and apply paint or rust preventative to exposed steel.
5. Bolt the reservoir clamp to the AEV mounting bracket with clamp bolt head pointed downward. Bolt in place using top set of holes in clamp and tighten bolts to 30 ft-lb. (fig. 9)

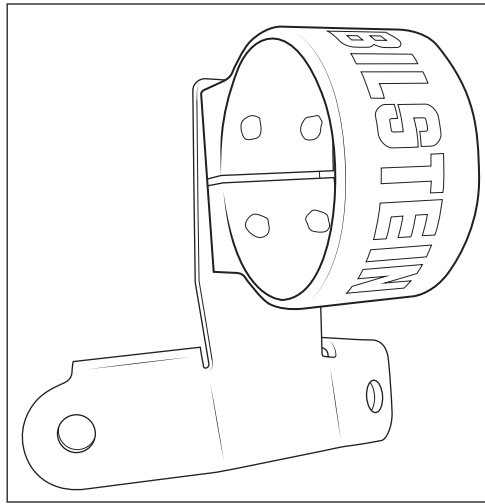


Figure 9

6. Hold reservoir mount in vehicle orientation (not vehicle position, there's not enough room to slide reservoir in place in vehicle position) and carefully slide reservoir into clamp, being careful not to damage paint on reservoir. Reservoir hose should point rearward from shock body, then loop up and forward to reach reservoir. Hose fitting on the reservoir should point inward toward center of vehicle and be at the rear of the reservoir when installed (fig. 10) Temporarily snug clamp bolt to prevent reservoir movement.
7. Install reservoir mount into previously drilled holes using provided M8x25mm button head bolts, washers, and nuts (fig. 10). Torque hardware to 30 ft-lb. Reservoir clamp can then be loosened to fine tune reservoir position and clocking. It should be roughly centered in the clamp with the hose fitting pointed straight inward toward center of vehicle. Reservoir can be clocked as needed to keep hose tight to wheel liner, but it should not make contact. Tighten the clamping bolt until snug, excessive force is not needed to hold the reservoir in place.

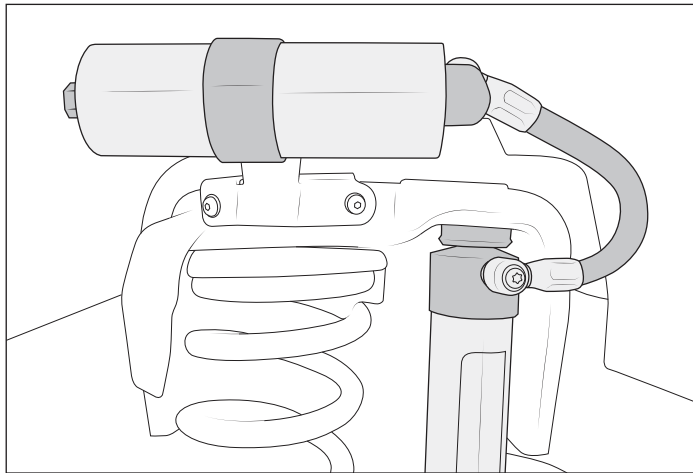


Figure 10



III. INSTALL REAR SHOCKS

A. 2500 Models: Rear shocks install with body down.

1. Install provided bushing components onto shock rod (fig. 11). Cupped washer goes onto shaft, then metal sleeve, then conical bushing go on shock shaft in orientation shown, then shaft gets placed through the frame and frame mount, then the other bushing and cupped washer go in place before installing the nut. Torque top nut to 40 ft-lb.

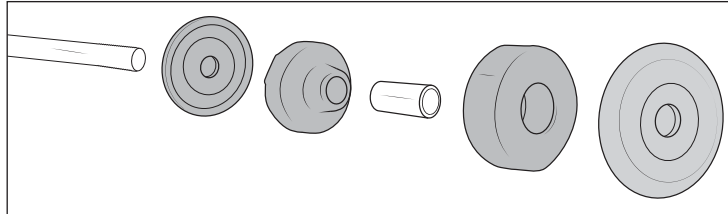


Figure 11

2. Install lower bushing to axle bracket. Reservoir should point toward axle tube (fig. 12). Reinstall factory shock bolt and torque to 89 ft-lb.

NOTE: Thick washers from hardware kit will not be used, these are only for 3500 model.

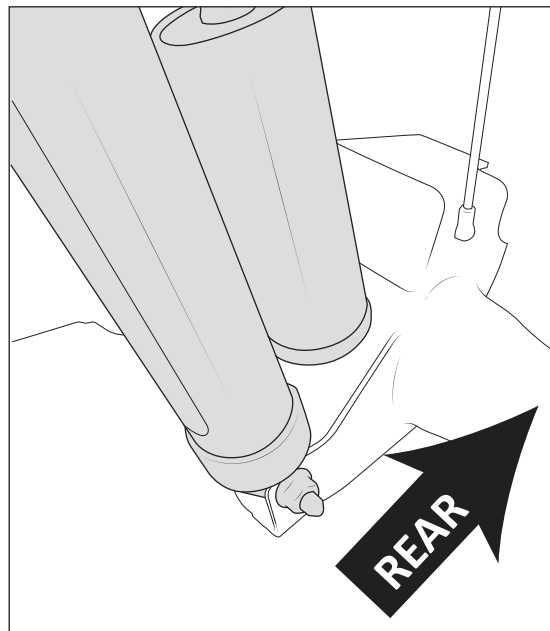


Figure 12



B. 3500 Models: Rear shocks install with body up.

1. Install provided 3/16" thick washers onto upper shock mounting stud. This will prevent the shock body from making contact with the frame. Install shock onto stud with body up and reservoir pointed forward toward front of vehicle (fig. 13). Reinstall factory nut and torque to 111 ft-lb.

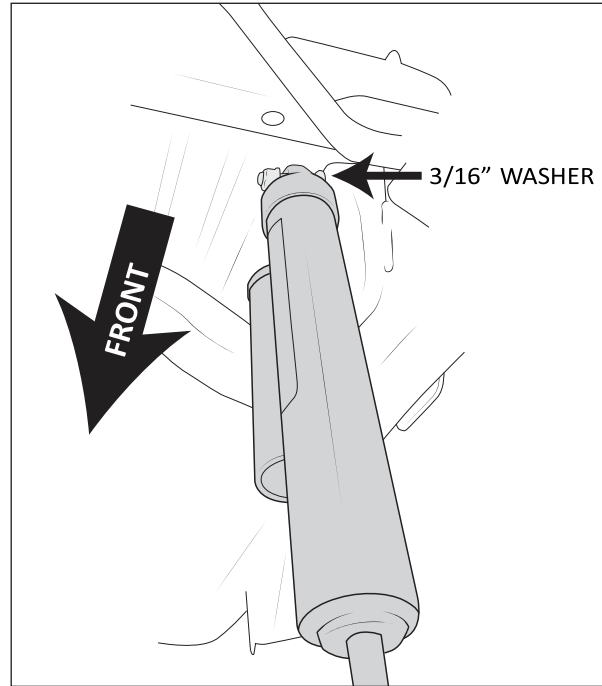


Figure 13

2. Install lower bushing to axle bracket using factory hardware and torque to 111 ft-lb