



kelderman

AIR SUSPENSION SYSTEMS

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2011 GM 2500-3500 HD 4-Link

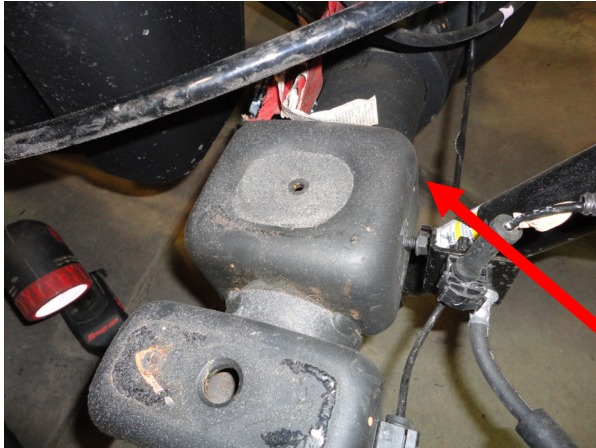
6-8" Rear

Installation Instructions



Installation

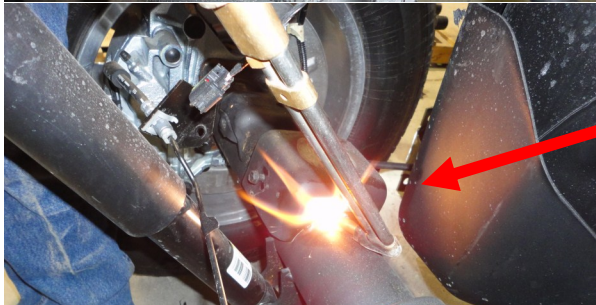
1. Before doing anything, measure the pinion angle and write the angle down here _____. This is important because you will need to put the axle back to this measurement after the installation. Also, take a measurement from the front of the axle to a location on each side of the frame. Write these measurements here. Pinion angle _____. Right side _____ Left side _____ **NOTE: All the bolts in this kit use a flat washer on each side of the bolt.** It is recommended to remove the bed if possible.
2. Jack up the rear of the frame so that most of the tension is off the leaf springs. Place a set of jack stands under the frame, block the tires so the axle won't move and place a jack stand under the pinion so it doesn't rotate. Remove the leaf springs. Using the steps pictured below, cut off the bump stops off the axle and



frame. The brake lines are connected to the axle bump stops. Unbolt them and pull them out of the way when you cut. They will fasten to the lower air bag mount in step XX.

If the truck has overload pads remove them from the side of the frame. **On short box trucks remove driveshaft. A new driveshaft must be made 71 3/4" center to center of the U joints.**

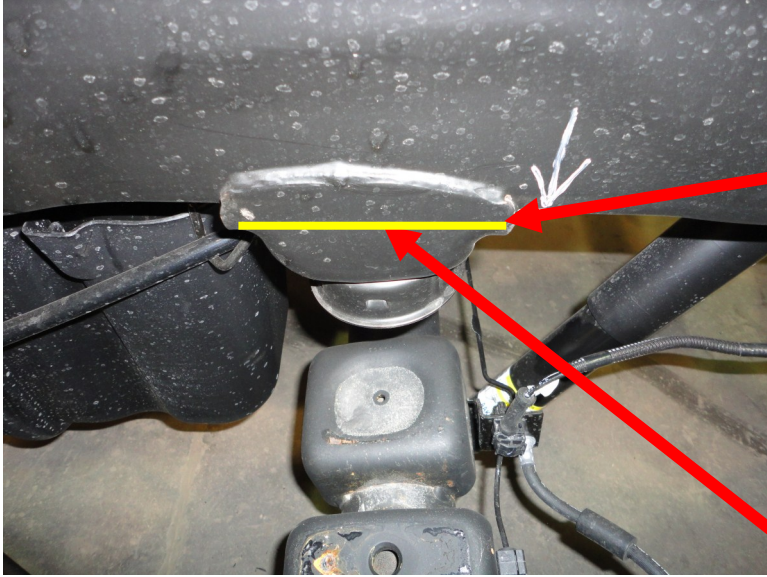
This block will be removed on each side of the axle.



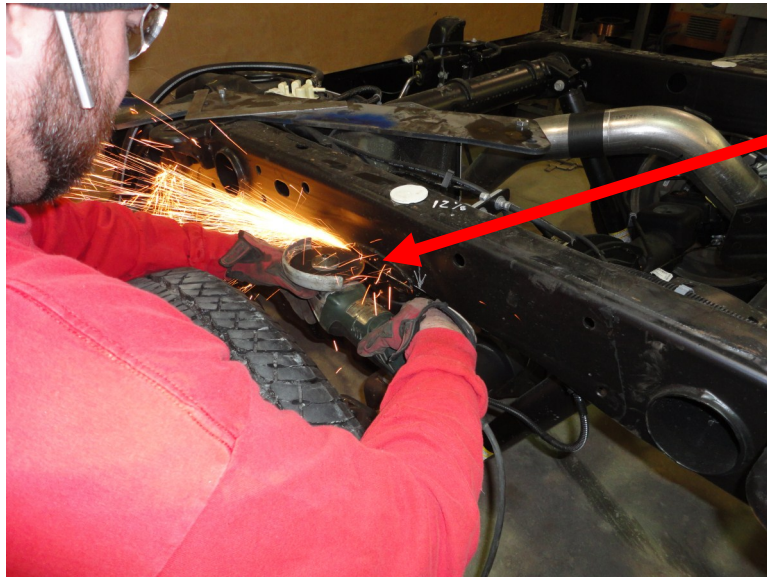
Use a torch or plasma cutter to remove the block. **DO NOT CUT INTO THE AXLE TUBING!**



Once the block is removed, grind the surface smooth. Spray with some undercoating or black paint.



The upper bump stops need to be removed from the frame.



Cut the bump stop so it is flush with the bottom of the frame. Only the remaining part of the bump stop on inside of the passengers side of the frame needs to be removed. Grind it flush with the frame. You will need to remove the bolts on the inside of the drivers side where the brake lines fasten and use a strap to pull the brake lines away from the frame to gain access to cut.

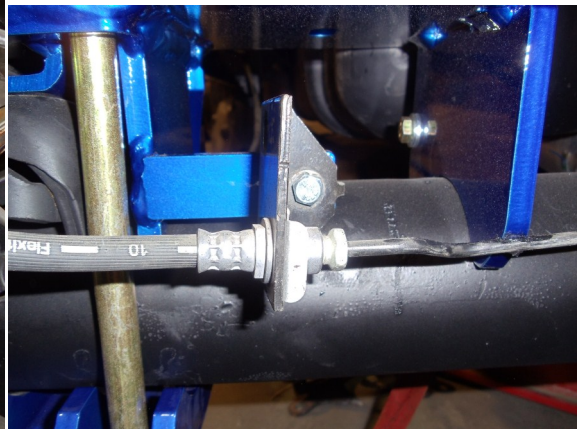
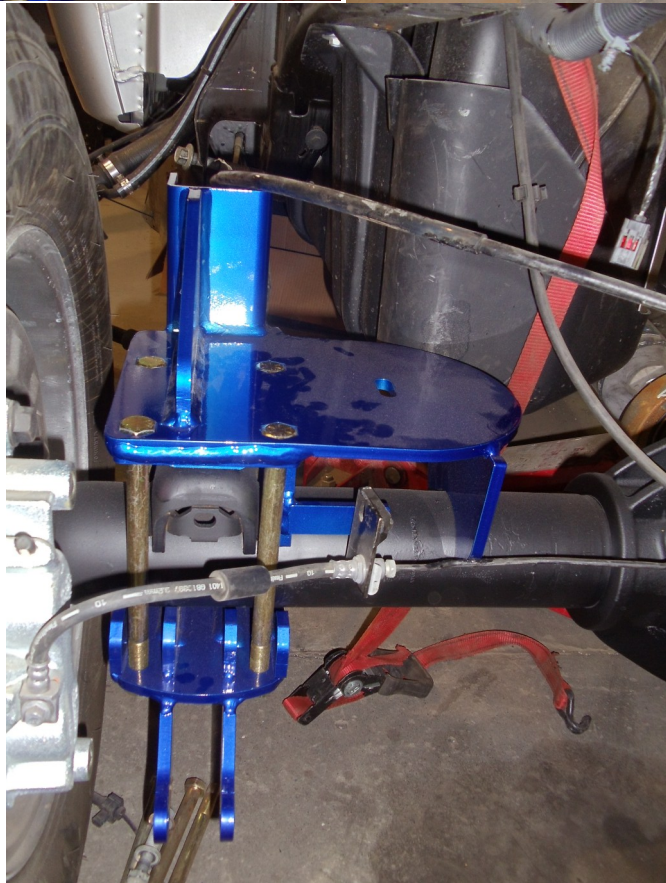
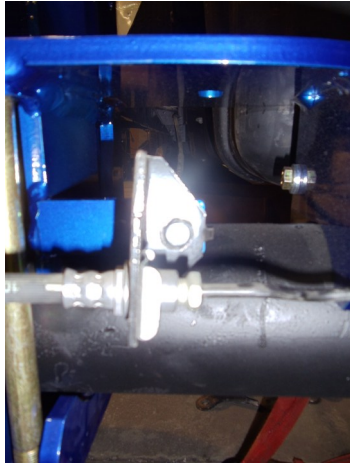


Bump stop removed

3. Locate the drivers side side plate. It fastens to the frame with the original forward leaf spring bolt, 3) m12-80 bolts and 2) 1/2x1 3/4" bolts. Leave the bolts loose for the time being. You will torque them after the four link bar mount and cross member is installed in steps 5 and 6. **If you have a 5th wheel hitch, you will have to remove the attachment plates on the side of the frame and weld the top plates to the side plates of the air suspension.** Repeat this step on the passengers side.



4. Locate the lower air bag mounts and axle clamps. Set the lower bag mounts on top of the axle and fasten to the axle clamp with the 5/8x9 1/2" bolts. Torque to 150 ft/lbs. Next fasten the brake lines to the mounting tab with the 1/4x1" bolts.



5. Locate the four link mount for the drivers side, connecting plate, as well as the trailing that has the knuckle with the smaller bushing. First locate one trailing arm. Adjust this trailing arm so that there is 12.875" between the knuckles. Next slide the four link trailing arm mount in position and use the factory leaf spring bolt to fasten the mount and trailing arm in place. Next use the six 1/2x 1 3/4" bolts to connect the connecting plate to the four link mount and the side plate. Start all the bolts but do not tighten. Repeat this step on the other side.

6. Locate the bottom trailing arms. Set the bars so that there is 12.25" in-between the knuckles. Use the 7/8x5" bolts on the remaining 3 knuckles. Insert the bolts so they go from the outside in (nut closest to truck frame). Once the truck is aligned and pinion angle set you will torque these bolts to 300ft/lbs.



7. Locate the upper cross member/upper air bag mount. It also has the upper pan hard bar mount built into it. It fastens to the side plates with four 1/2x 1 3/4" bolts on each side. The pan hard bar mount goes on the drivers side.



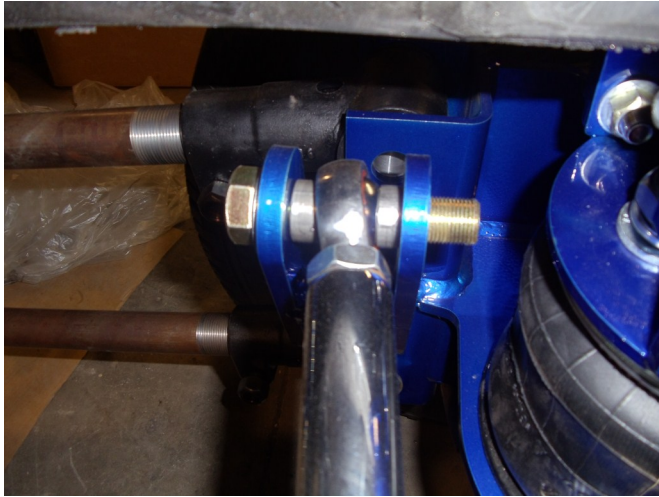
8. Once you get all the bolts started you can tighten all the bolts in the 4 parts. Torque the m12 bolts to 100 ft/lbs and the 1/2" bolts to 85 ft/lbs. and the leaf spring bolt to 135 ft/lbs. Use the same torque specs on the passengers side. You can insert the other end of the trailing arm to the lower bag mount with the 7/8x5 1/2" bolts.



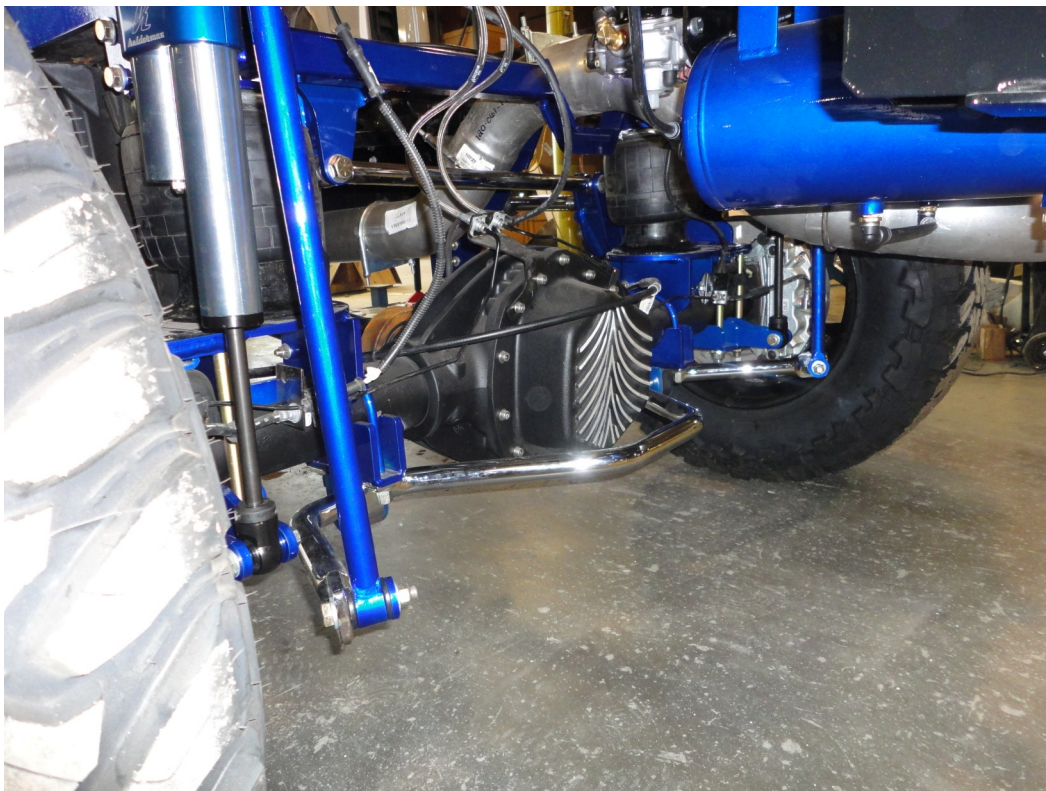
9. Locate the 5323 air bags. The top fastens to the upper side plates with the 1/2" and 3/4" lock washers and nuts. The bottom fastens into the lower air bag mount with the 1/2"x3 1/2" bolts, flat washer and lock washer. Torque the bottom bolt to 30 ft/lbs and the top nuts to 25 ft/lbs.



10. Locate pan hard bar. Connect one end to the driver side upper pan hard mount with the 3/4x4" bolt. Use the supplied spacers to center the heim end. The other side of the pan hard bar connects to the passengers side lower air bag mount. Use the 3/4x4" bolt to fasten. Use the supplied spacers to center the heim end. Torque the 3/4" bolts to 150 ft/lbs.



11. Locate the shocks. The bottom of the shocks mount to the lower axle clamps with the 1/2x 3 1/2" bolts and the top of the shock mounts to the forward mount on the side plate with the 1/2x3" bolts. Torque these bolts to 85 ft/lbs. Make sure the reservoirs face forward.

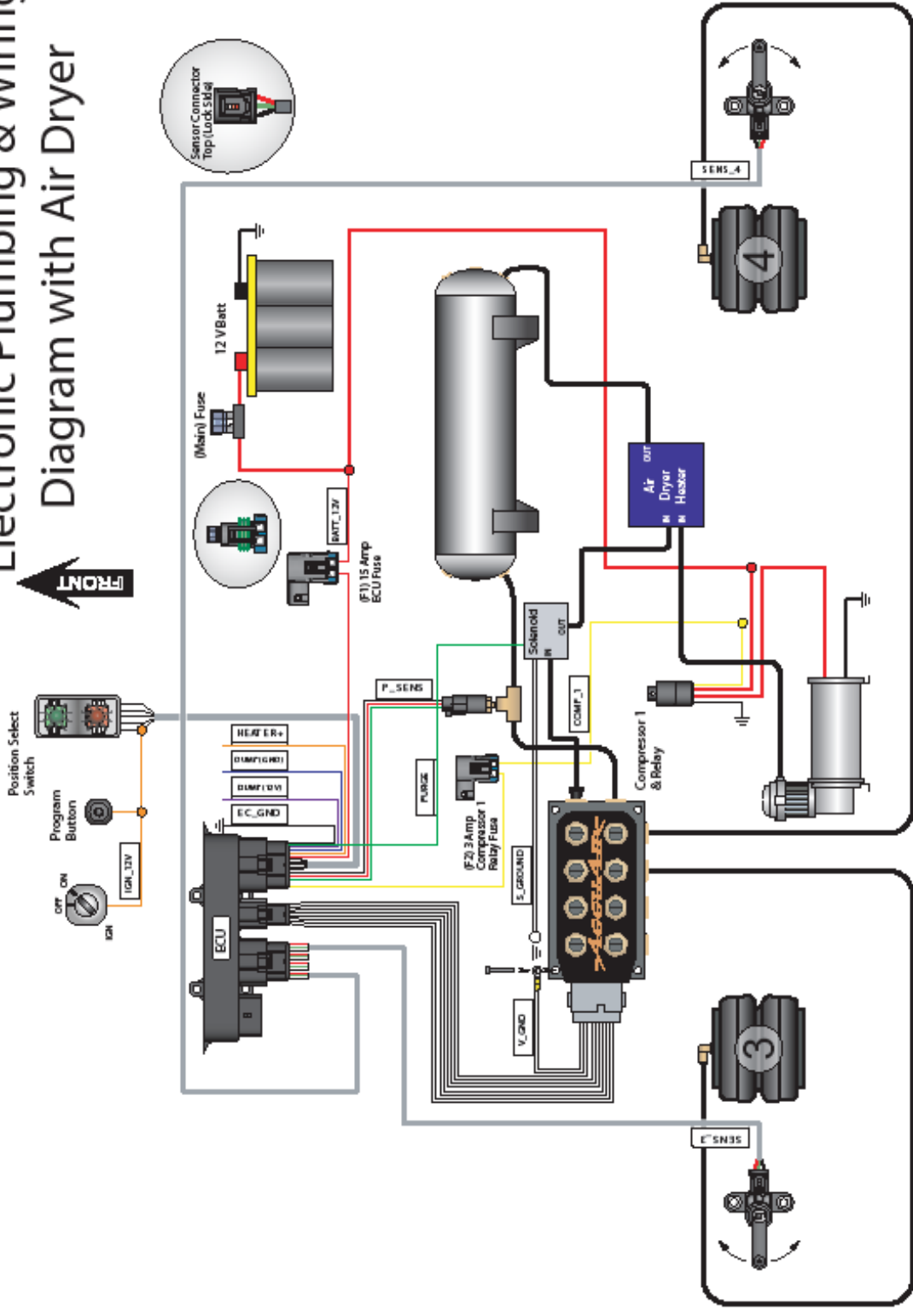


12. Locate the sway bar, sway bar, sway bar end links and sway bar mounting brackets. The mounting brackets mount to the bottom of the axle with the U bolt. One side of the sway bar mount has a long tab on it with a hole. This tab fastens to the bottom inside of the lower air bag mount with the 3/8x1 1/2" bolt. Slide the U bolt down over the axle and through the mounting bracket. Next locate the sway bar, blue bushings and D rings. They fasten to the bottom of the sway bar mounting brackets with the U bolt treads. Tighten the nuts on the D ring to 65 ft/lbs.. Next locate the sway bar endlinks. They fasten to the side plates with the 1/2x3" bolts and to the sway bar with the 1/2x3" bolts. Make sure that the large machined flat washer goes on the outside of the bolt and fits against the poly bushing. Torque the 1/2" bolts to 85 ft/lbs.



13. Now that the air suspension is installed, set the air bags so there is 8". You can do that by either hooking up your air controls and setting the mechanical height control valve and linkage or by programming the electronic air control system, or simply jacking the frame up and placing a jack stand under the hitch. Once the air bags are at 8", set the pinion angle and wheel base to match the numbers you took in step 1. The alignment should be fairly close if you use the supplied trailing arm measurements listed in step 6. Short box and long box units may vary a 1/4" or so when setting the pinion angle because the drive shafts are different.

Electronic Plumbing & Wiring Diagram with Air Dryer



Compressor Box Self-Leveling Kit Wiring Diagram (ambulance prep package)

