



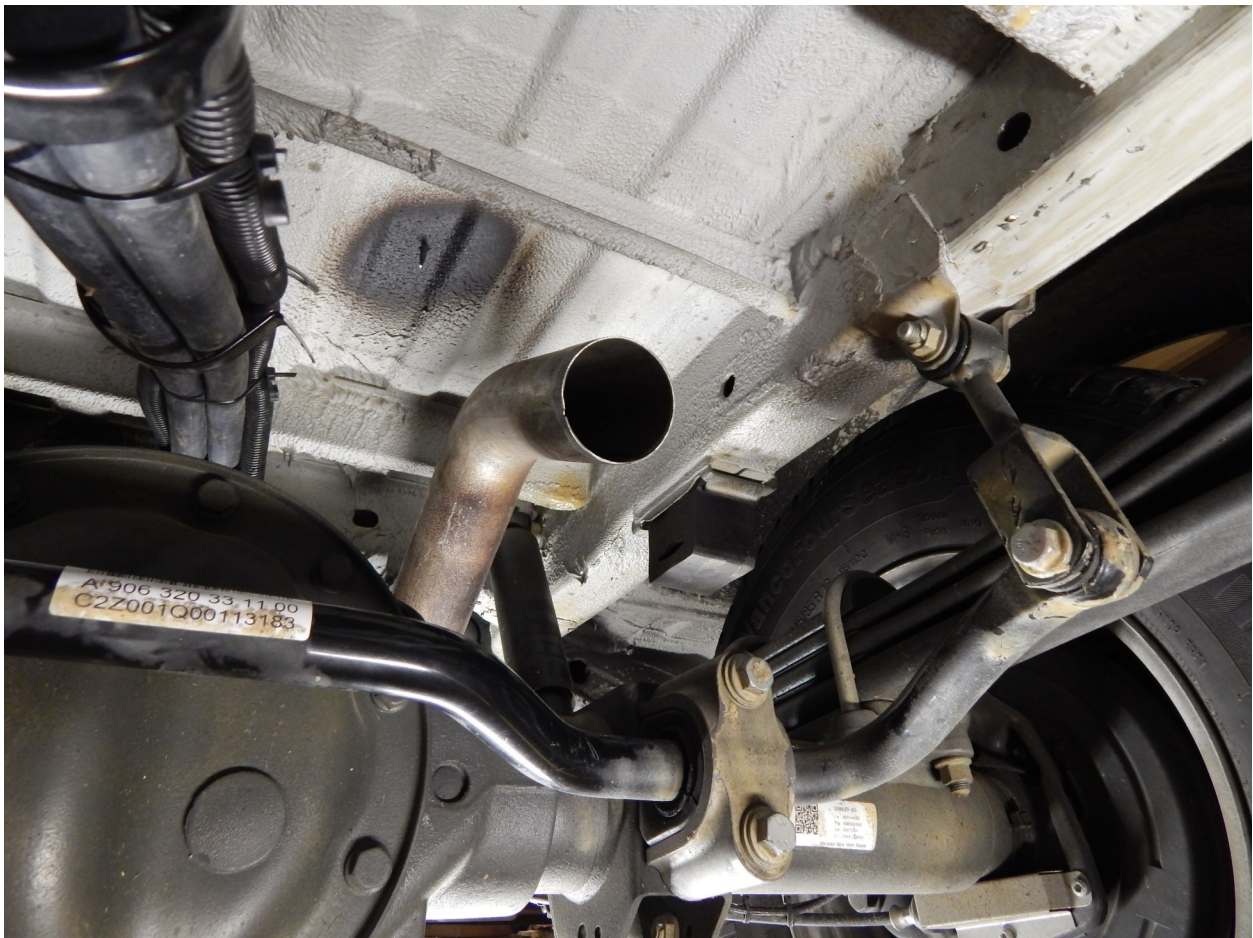
10012180—2WD Kit
10013632—4WD Kit
10012821—Generator
Kit
ESLK1AL—Magnet
Controls
ASLKWD—Mechanical
Controls

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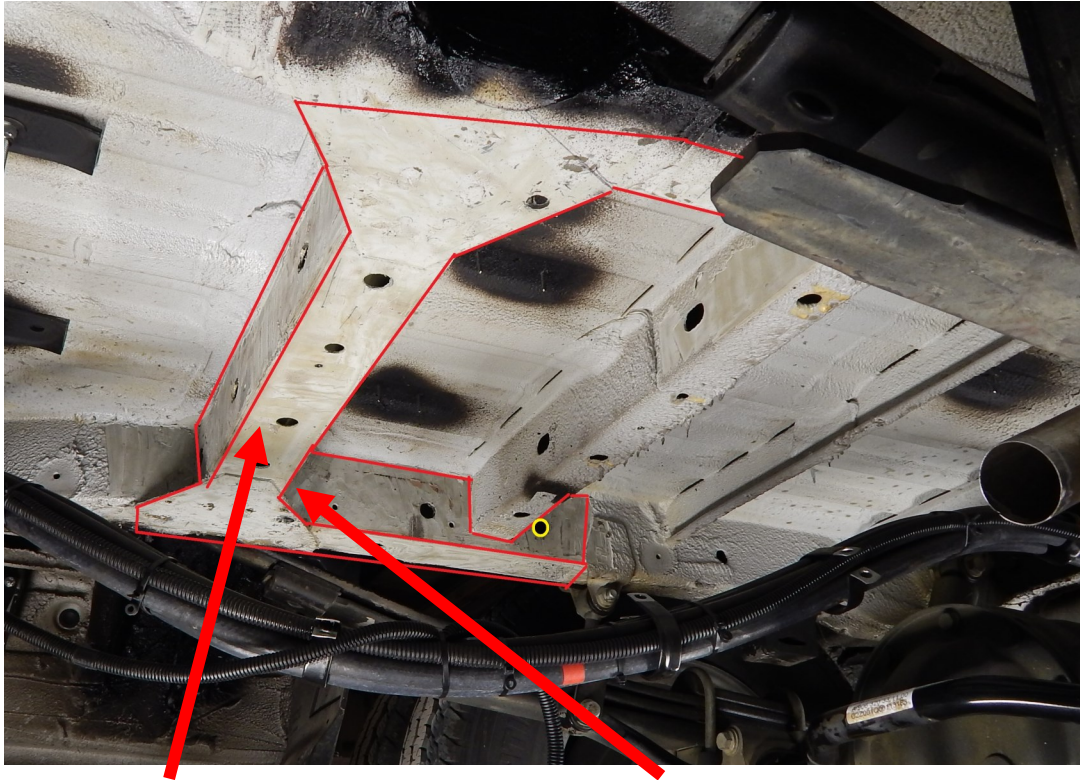
2014+ Mercedes-Benz Sprinter Van 3500 - DRW - 2-Stage Rear Installation Instructions



1. Place the vehicle on a smooth surface to perform the installation (if not using a lift).
2. Cut the exhaust off in front of axle 6" down from the bend above the axle. All vans must be side dump exhaust.
3. Remove the rear shackles off the leaf springs. The shackles will not be reused. Keep the bolts as they will be used in step 14.
4. If Using Generator, Remove shackles, lower generator and remove brackets. See page 13 for Generator Kit installation.

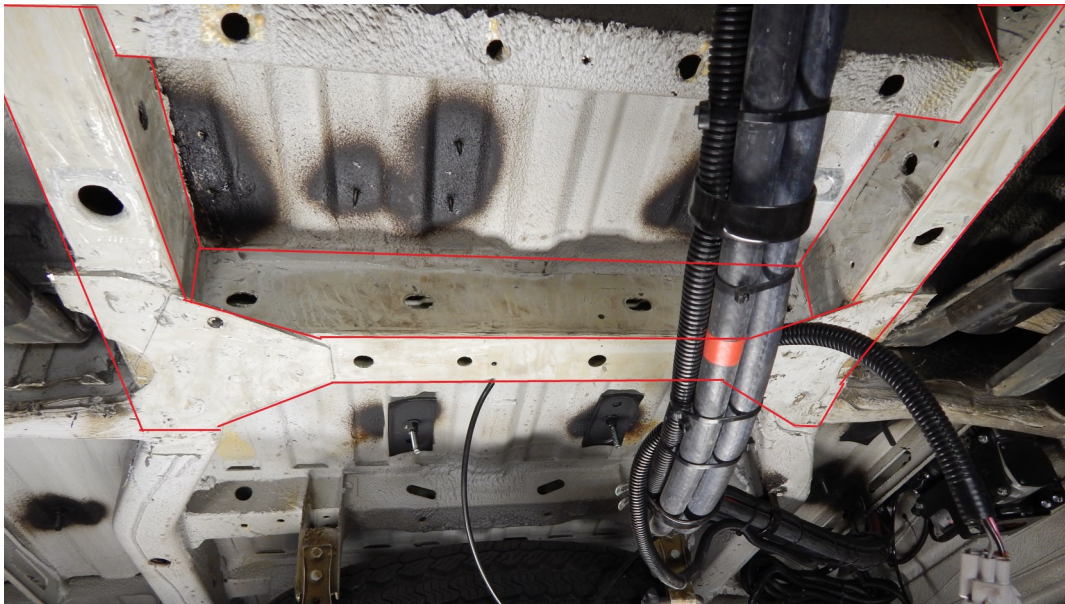


4. Notice where they mount to the unibody cross members. May be required to remove the factory undercoating where these parts attach to the chassis. This area is outlined in red in the pictures. Make sure to test fit parts before removing undercoating, as they might fit without having to remove undercoating.

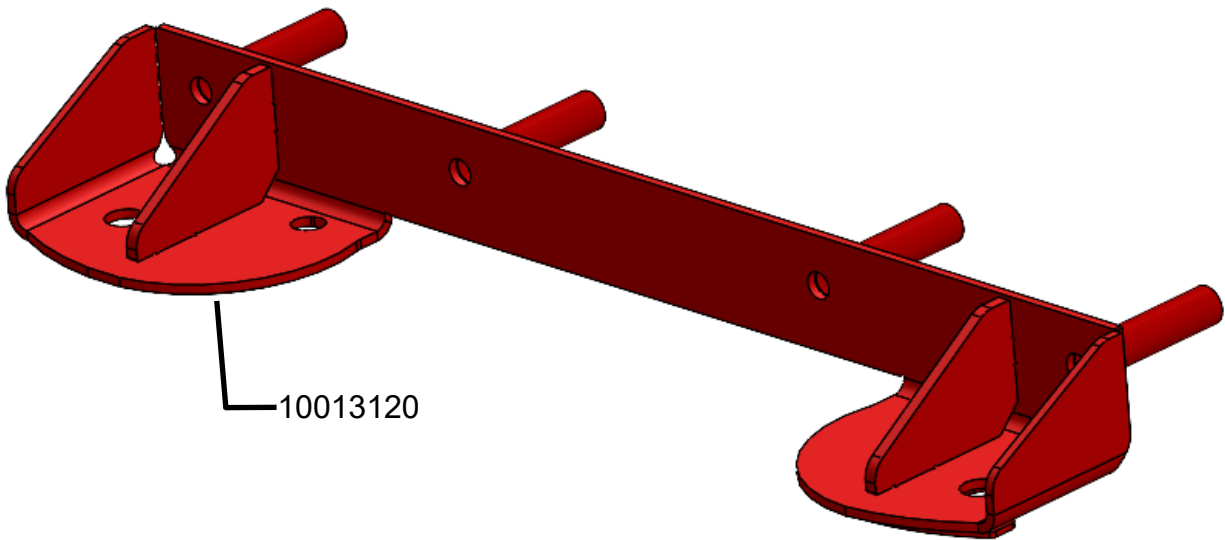
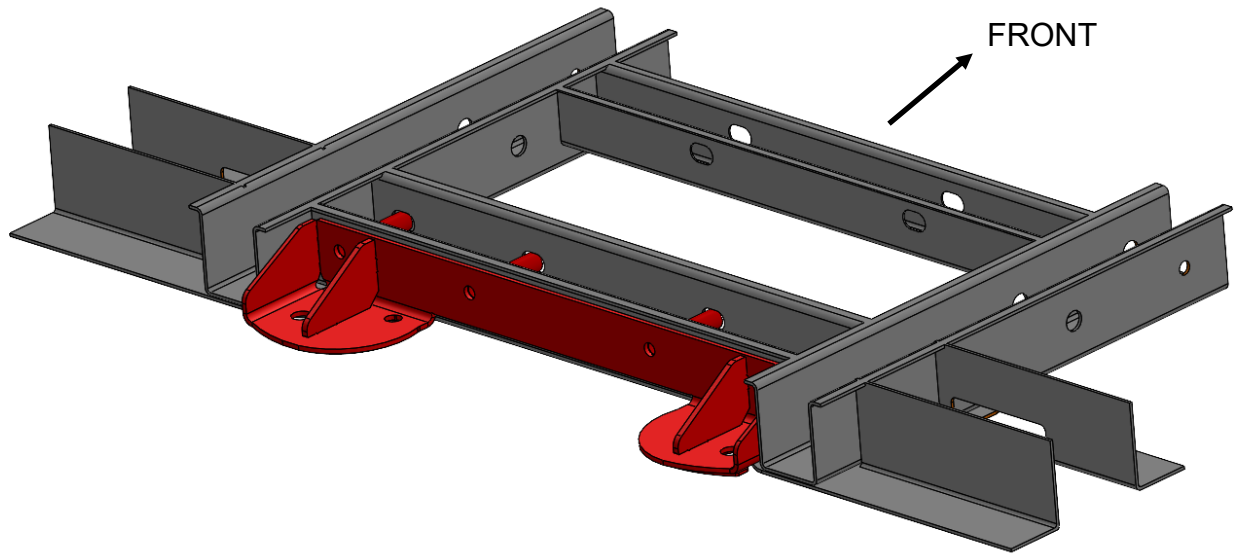


Clean the undercoating in the area outlined in red

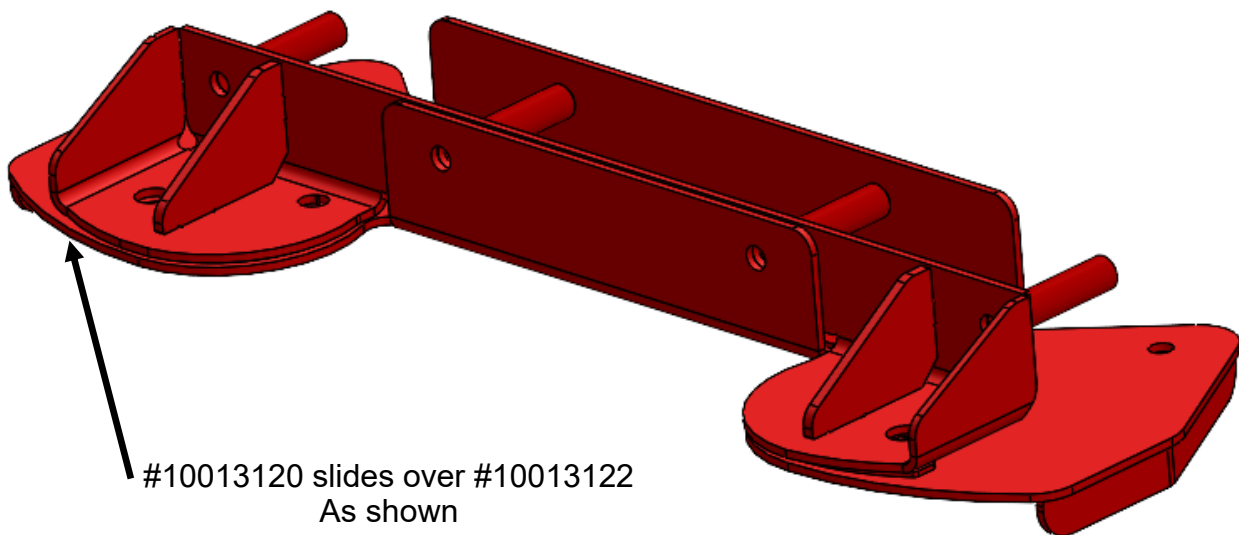
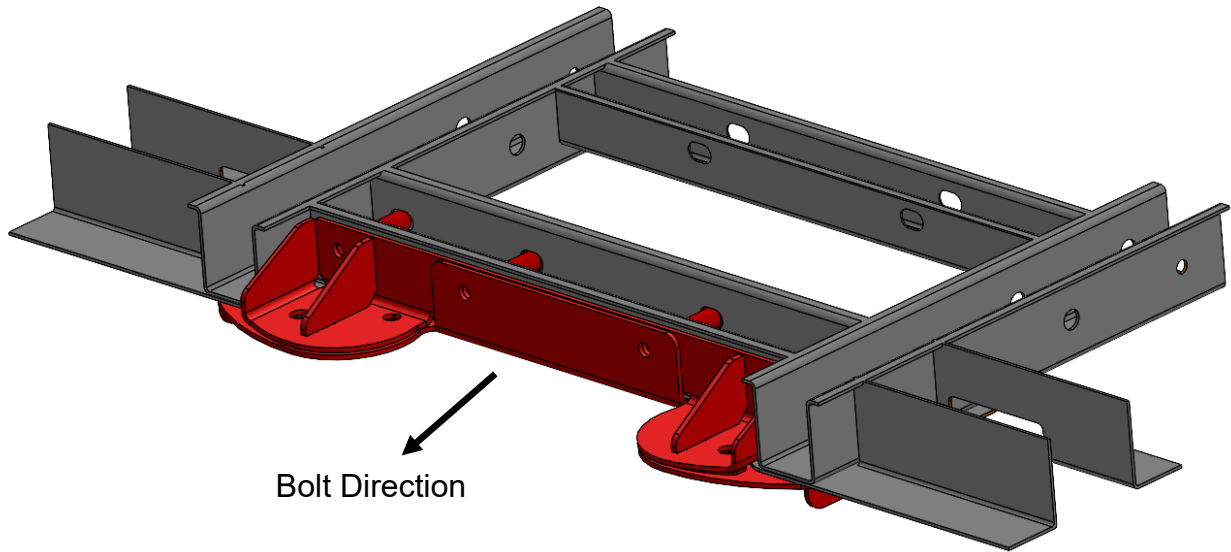
The corners between the frame rail and cross member must be clean



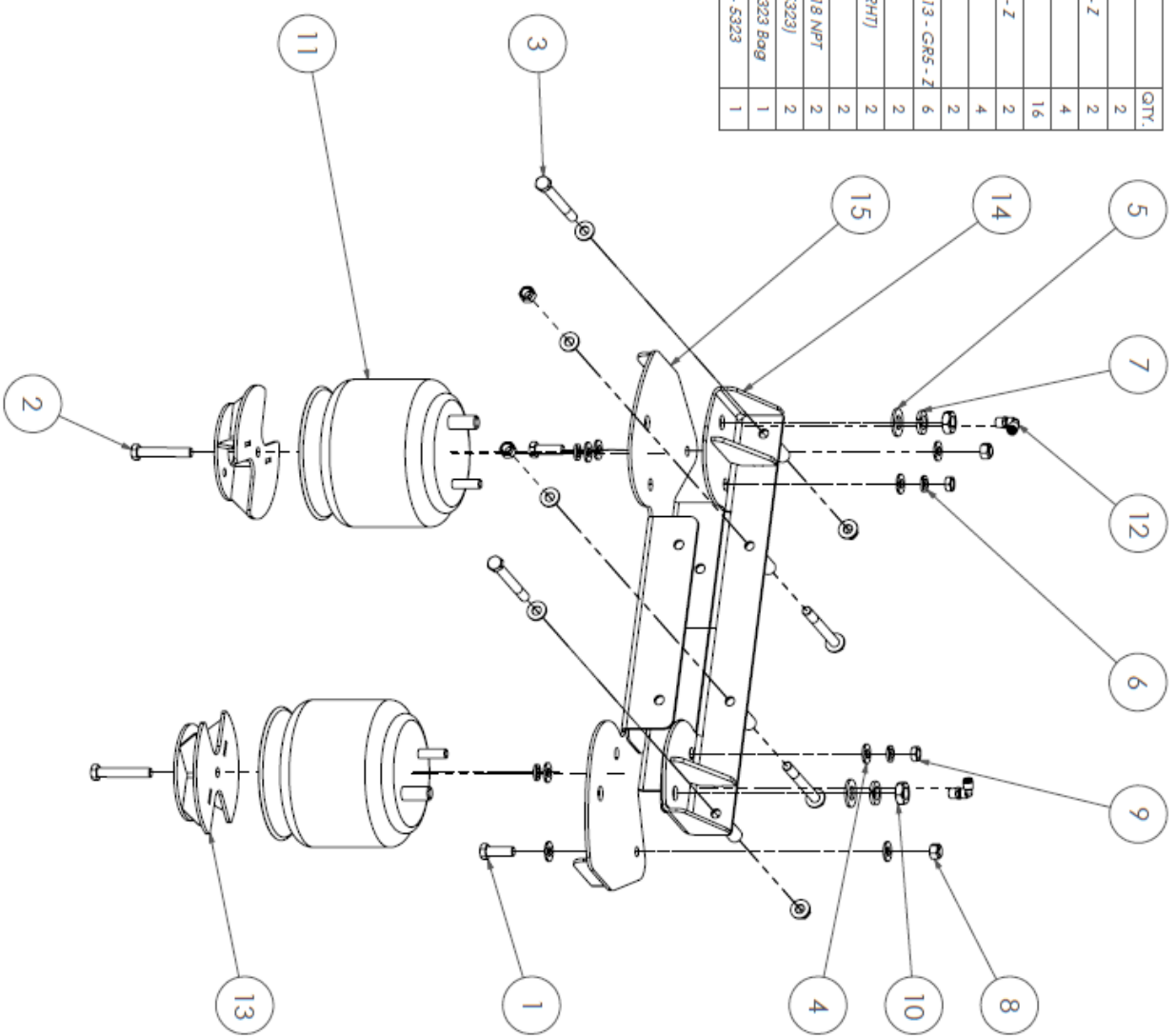
5. Locate the air bag upper top frame (part# 10013120). Slide the upper frame into place with the bushings orientated towards the front of the vehicle. The bushings will slide through four existing holes in the cross member.



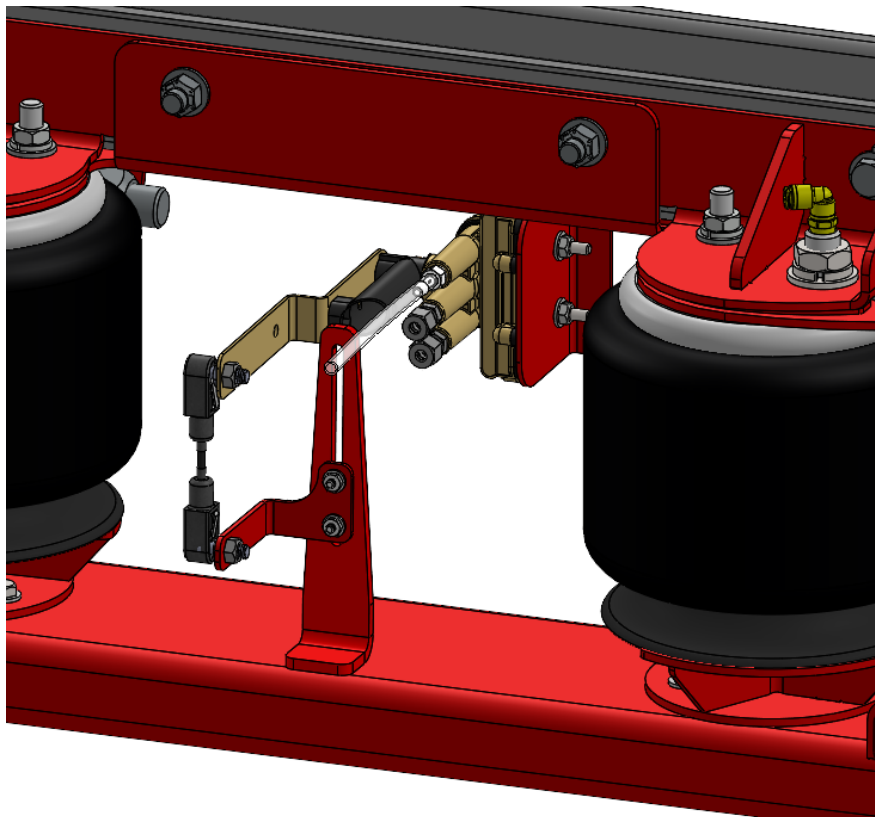
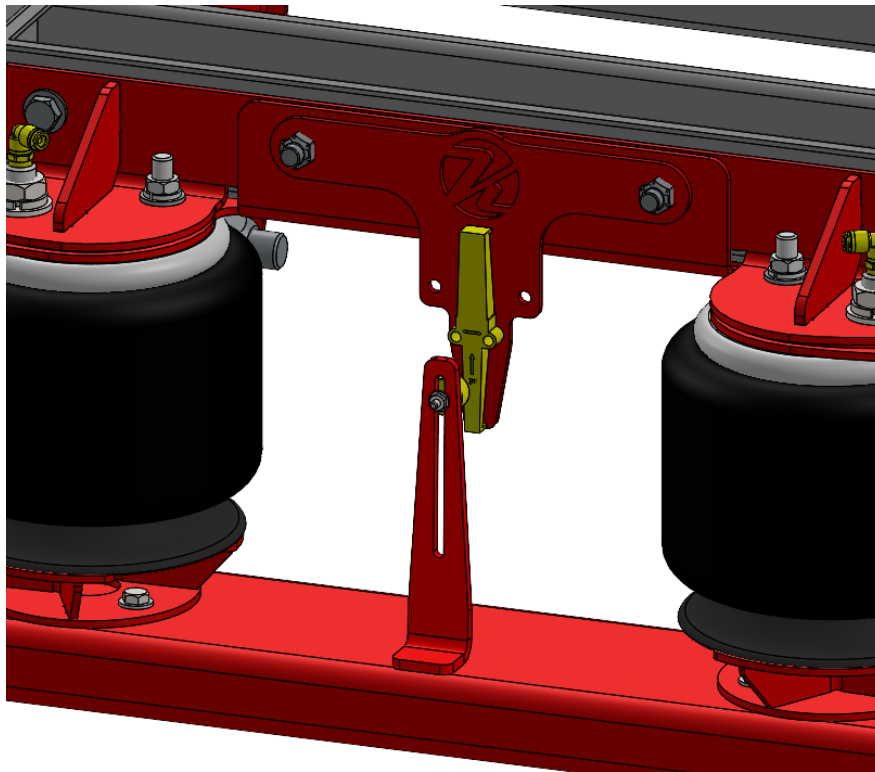
6. Locate the air bag lower top frame (part# 10013122). Slide it over (part# 10013120) that you installed in step 6. Insert (2) 1/2" x 5" bolts in the inner holes. Orient the bolts from the front towards the back of the vehicle.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	12007	Bolt - 1/2"-20 x 1.50" Gr.8	2
2	12020	Hex Bolt - 1/2"-13 x 3" - GR5 - Z	2
3	12037	Bolt - 1/2"-20 X 5" Gr.8	4
4	13004	1/2" Flat Washer	16
5	13008	Flat Washer USS - 3/4" - GR5 - Z	2
6	13050	1/2" Lock Washer	4
7	13056	3/4" Lock Washer	2
8	13104	Top Distorted Thread Lock Nut - 1/2"-13 - GR5 - Z	6
9	13144	Hex Nut - 1/2"-13 - Gr.5	2
10	13208	Jam Nut - 3/4"-16 - GR5 - Z - (RHT)	2
11	80012-5323	Air Bag - Firestone 5323	2
12	80094	90° Male Elbow Tube 1/4" x 1/4-18 NPT	2
13	10013015	Weldment - 1-5/8" Bag Riser (5323)	2
14	10013120	Weldment - Top Frame, Upper - 5323 Bag	1
15	10013122	Weldment - Top Frame, Lower - 5323	1



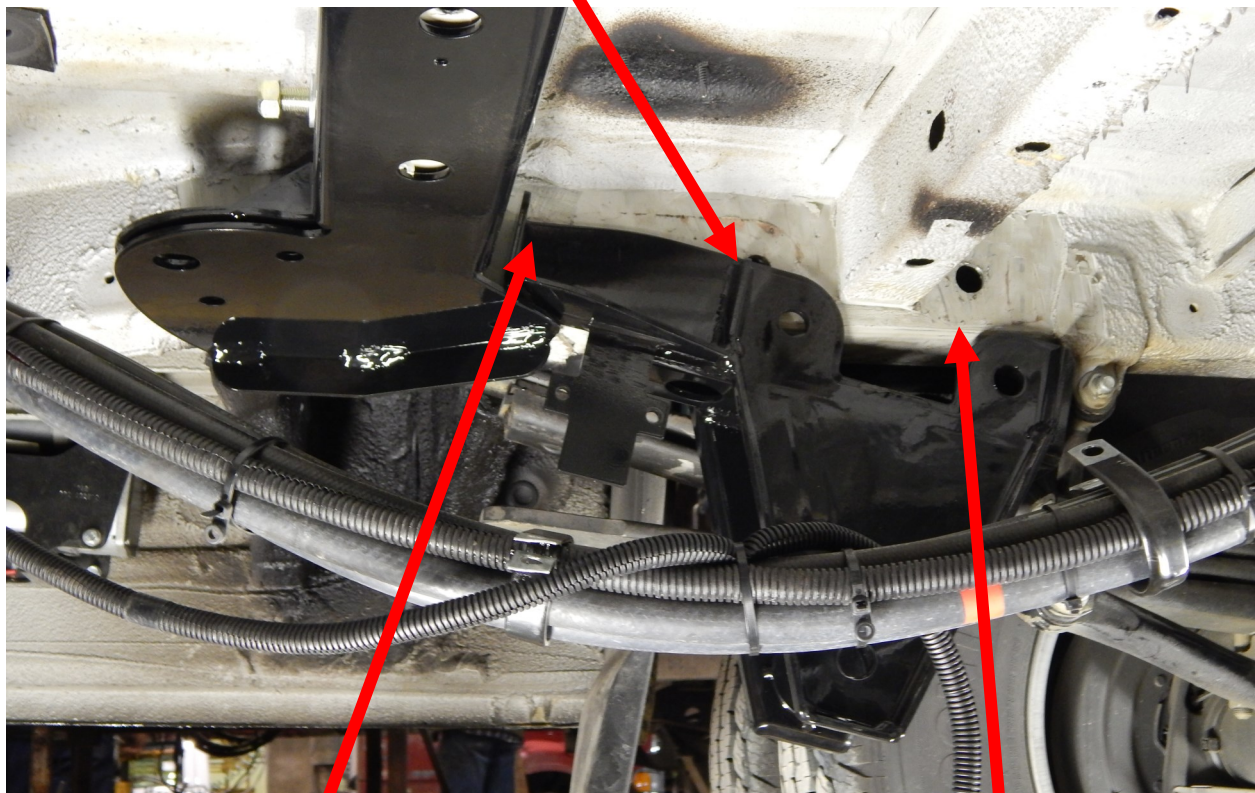
7. Bolt on the AMK magnetic or Haldex mechanical sensor bracket depending on the kit being used.



7. Locate the top frame swing arm mounts (Part# 20803-DS/20802-PS). Slide the mount over the drivers side frame rail until it completely seats on the frame, making sure that the rear hole in the swing arm mount aligns with the factory hole in the frame. Locate part #20813 (rear anti-crush bushing) and slide it into the rear hole in the mount. Use a 1/2" x 5" bolt to guide the bushing and be careful not to drop the bushing in the frame.

The swing arm mount is slid down to show where the bushing holes are drilled.

If installing Generator bracket, See Page 15

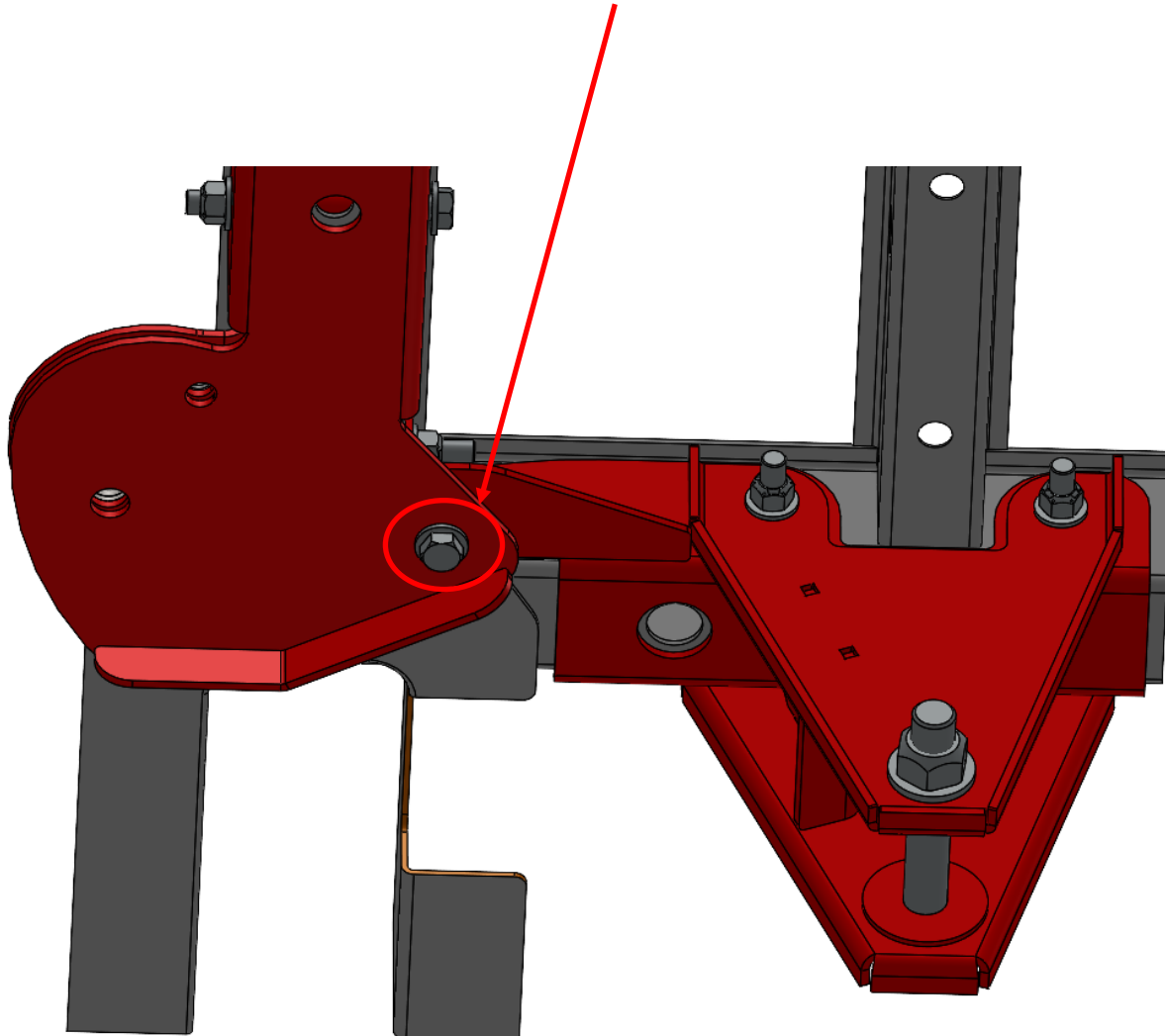


Now, locate another 1/2" x 5" bolt and slide it through the rear of the swing arm mount and upper bag mount/ factory cross member. Snug these bolts up so that the parts align with each other.

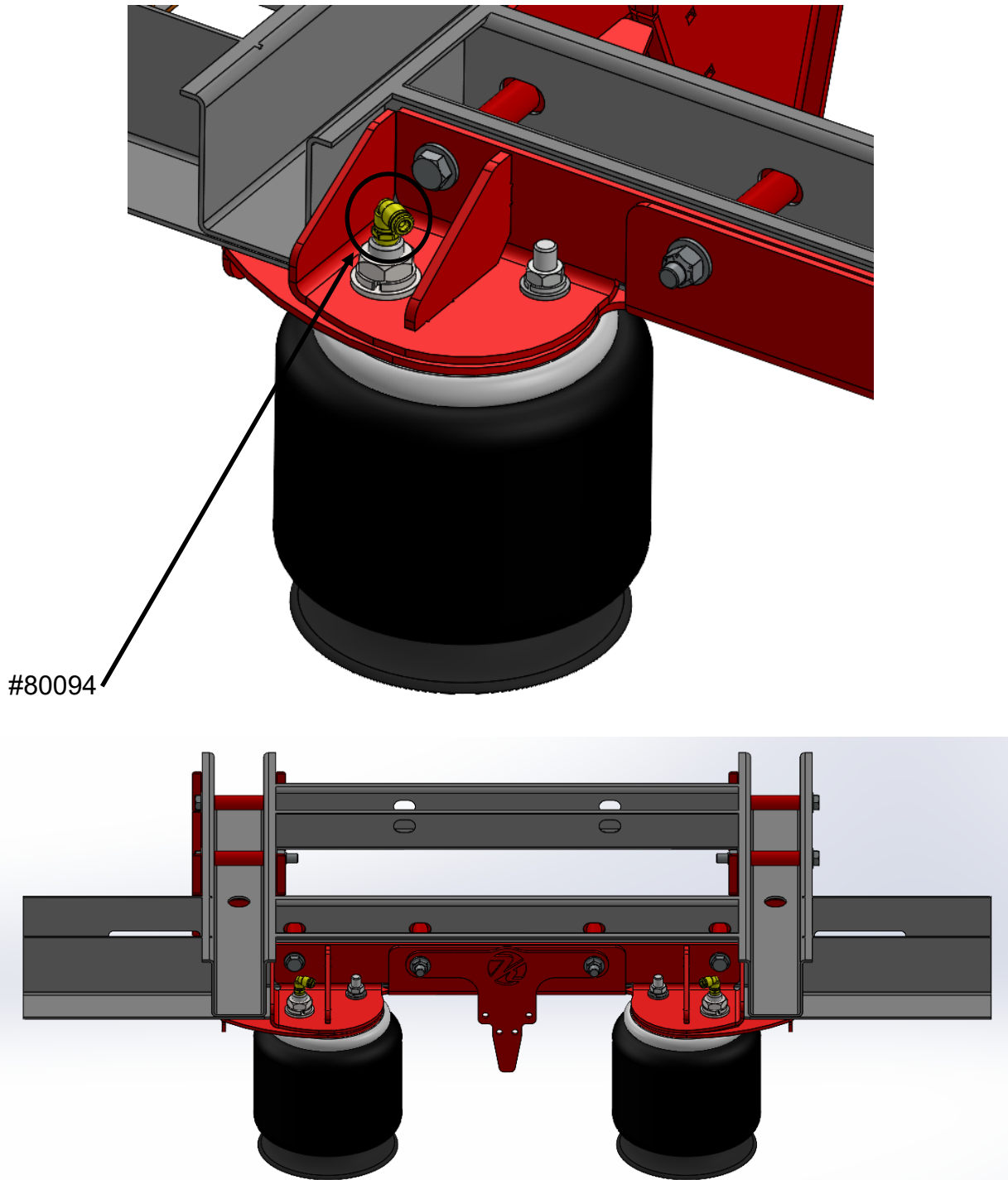
Use the swing arm mount as a drill guide to locate where to drill the bushing hole. The inside of the frame gets drilled out to 25/32" and the outside is 17/32" (the outside is smaller so the bolt goes through but not the bushing)

8. Locate part #20802 PS and repeat all the steps on the passenger side as you did on the drivers side. Once the holes are drilled go ahead and insert the two anti crush front bushings (part# 20812) using 1/2" x 5" bolts.

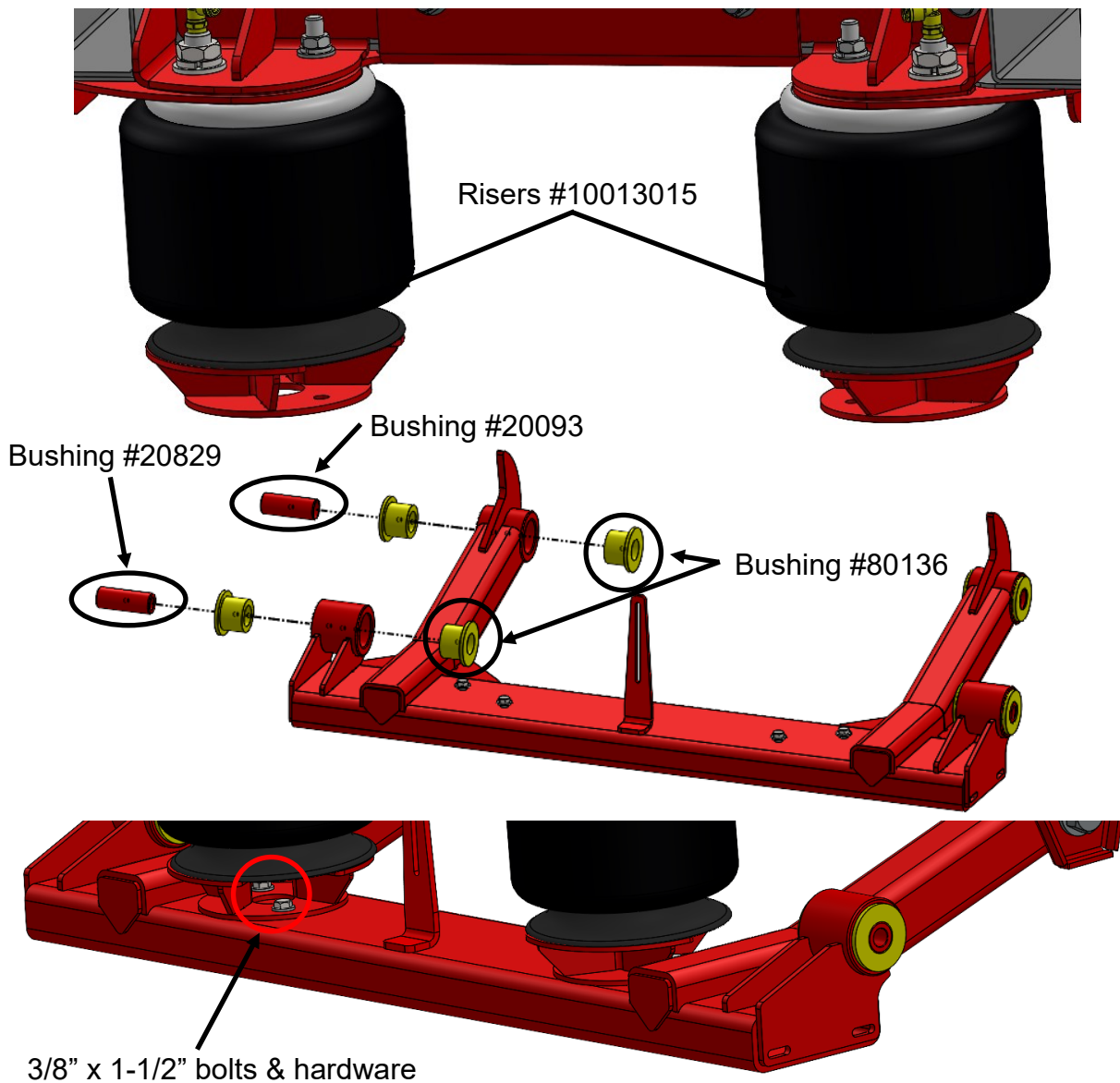
9. Now that the upper air bag plates are in place along with the swing arm mounts, locate (2) 1/2" x 1-1/2" bolts and fasten the two parts together. You will have to drill this hole 17/32". Use the framework as a drill guide. Next, insert the bolt from the bottom up. Wait to torque until everything is in place.



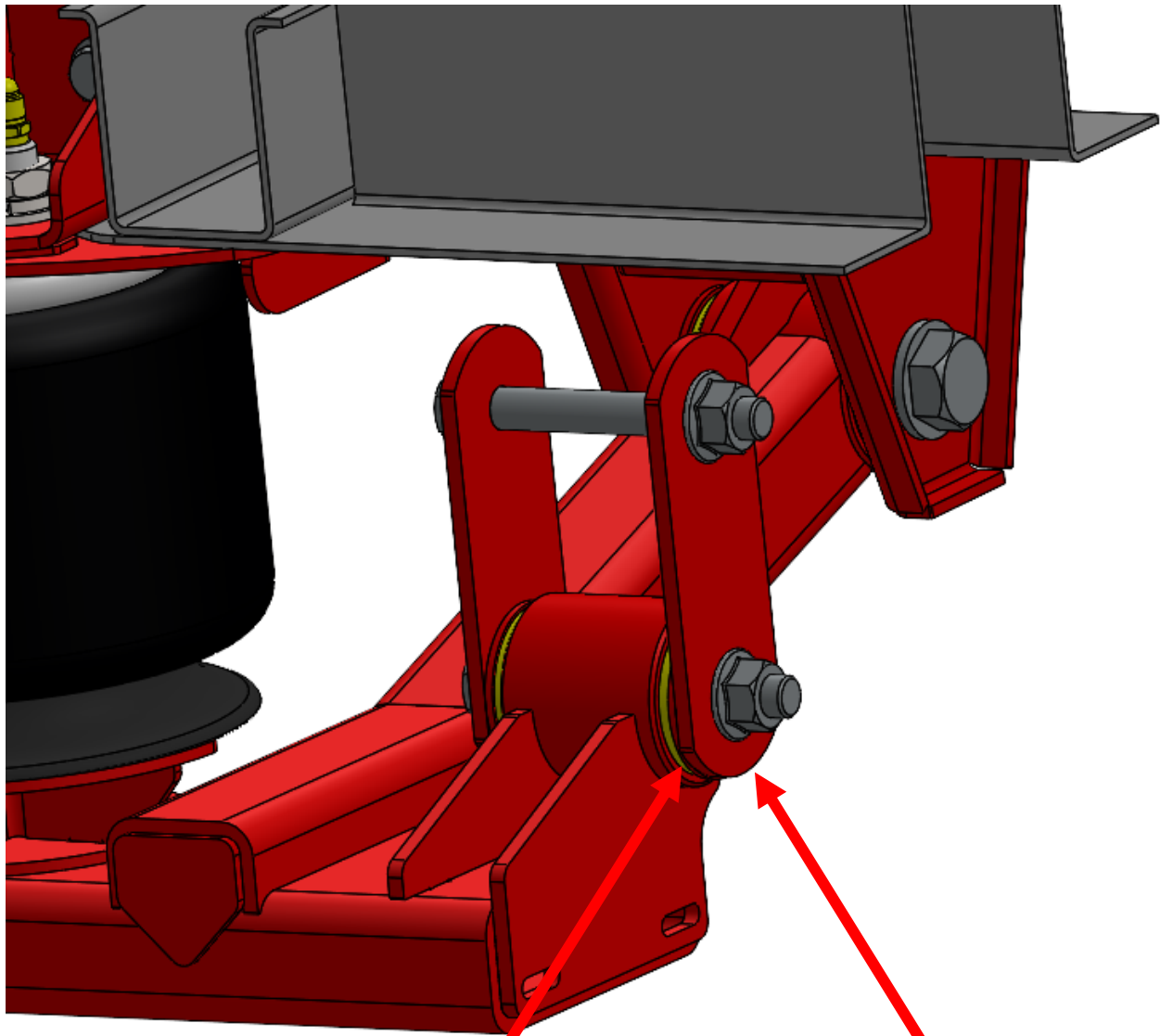
10. Now locate the Firestone (Part# 80012-5323) or Continental (Part# CAS68113) Now place the bags into the upper air bag framework and fasten with the 1/2" lock washers and flat washers. Locate the 90° air fitting (Part# 80094). Insert the fitting into the bag. Once it is finger tight use a 9/16" wrench and turn it one complete turn. Tighten these nuts to 35 ft/lbs.



11. Attach Risers (Part#10013015) to air bags before continuing to step 12.
12. Install Press-in Bushings (Part# 80136) and Sleeves (Part# 20093/20829) before attaching swing arm.
13. Locate the swing arm (Part# 10012173). It connects into the top frame swing arm mounts with the 7/8" x 5-1/2" bolts. Insert the bolts from the outside in. Use a flat washer on each side. Just start the nut for now on the 7/8" bolt. Leave loose so you can re-attach the risers and align with swing arm.
14. Raise the swing arm up and connect the bottom of the air bags to the swing arm with the 3/8" x 1-1/2" bolts. Use lock washers on these bolts and tighten them to 35 ft/ lbs.



15. Locate the four shackle links (part# 10012902), and the factory M16 shackle bolts, washers and nuts. The shackle links connect the lower swing arm to the leaf spring. Raise the swing arm up and/or lower the axle down in order to slide the bolts through (Inside out). Make sure to put in the washer spacer on the bottom swing arm against the poly bushings. This will space the bottom the same as the top. Once the bolts are through and shackle links are connected, torque the bolts to 145 ft/lbs.



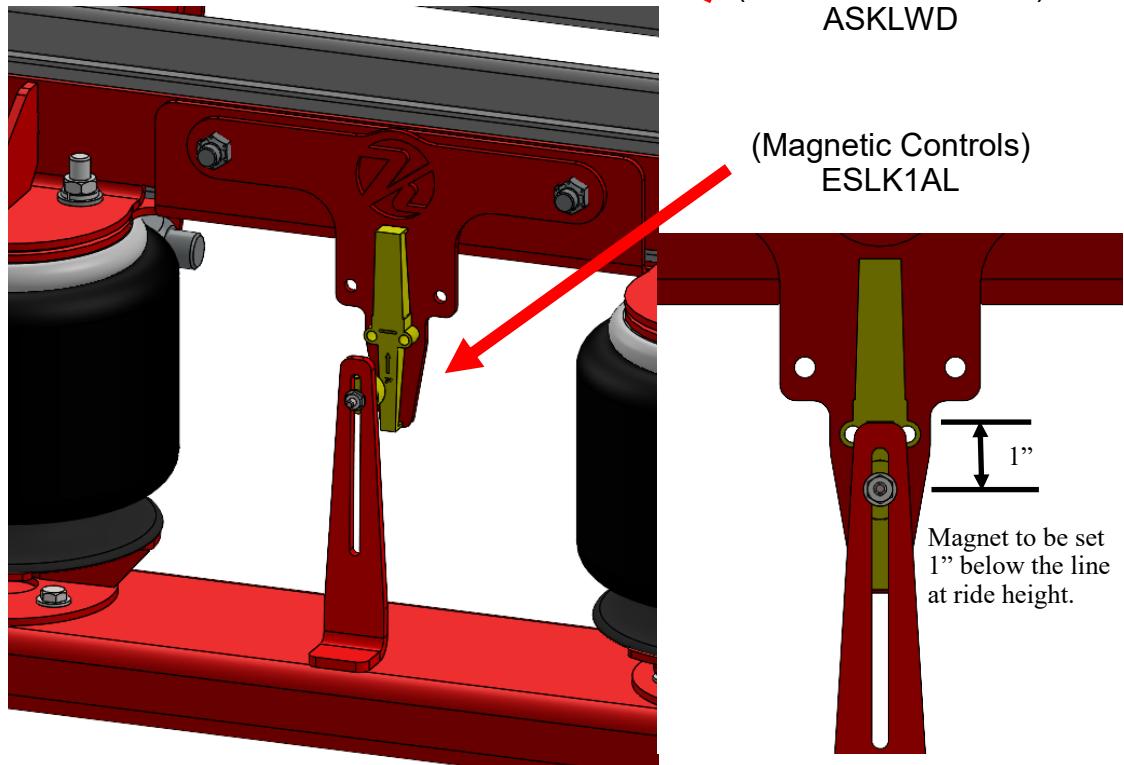
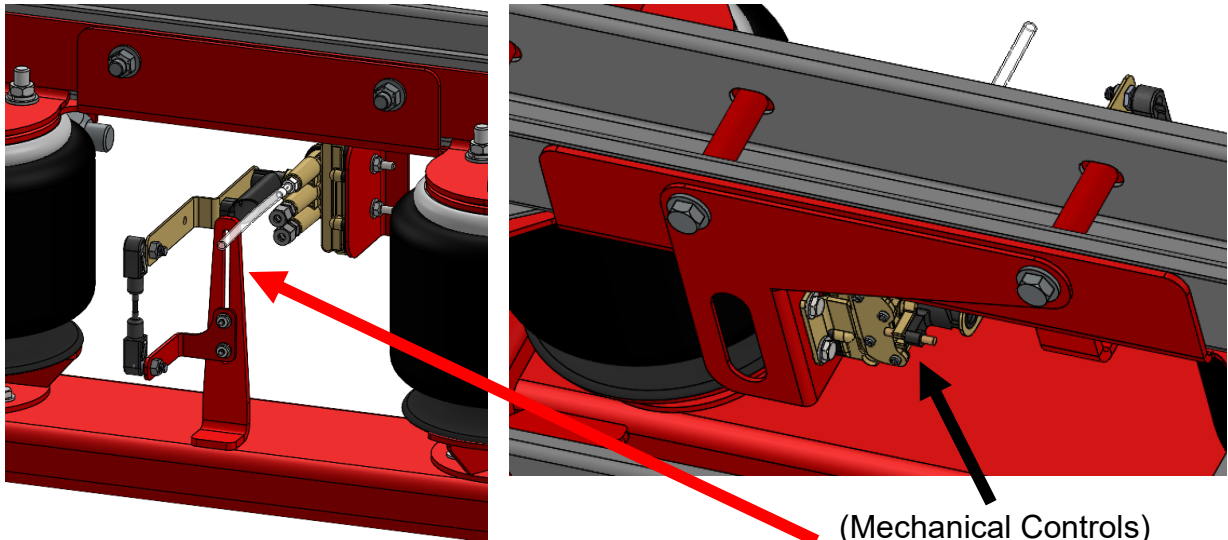
Spacer on the link goes on the bottom towards the poly bushing in the swing arm

2WD - Shackle #10012902

4WD - Shackle #20807

16. Now that the air suspension is installed, go back and torque all the bolts. The 1/2" bolts torque to 85 ft/lbs. and the 7/8" bolts torque to 300 ft/lbs.

17. Locate the air control system ESK1AL (Magnetic)/ASKLWD (mechanical). Use the instructions provided. If using magnetic controls, the magnet sensor (ecu) mounts on the upper swing arm on the passenger side. The actual magnet mounts on the long tab on the swing arm. When setting up the control system, adjust the magnet so the air bags measure, 7-1/2" on the 2WD and 8-1/2" on the 4WD, in between the lower swing arm and upper air bag mount. If using the mechanical controls, attach the mounting plate to the back of the top frame and attach mechanical valve to mount plate and attach linkage to ball studs. The compressor mounting is left up to the installer/builder.



18. Once the controls are set up and everything is functioning, make sure the air bags are in the 7.5-8” range. Let the air out of the system to make sure that the top of shack- le has enough clearance, it will be the closest spot. We don’t want any metal to metal contact on anything.

19. Dump the air and make sure nothing hits. Once it checks out ok, weld up the ex- haust, reusing the factory hanger parts if needed. The customer is required to make sure the exhaust is side dump.

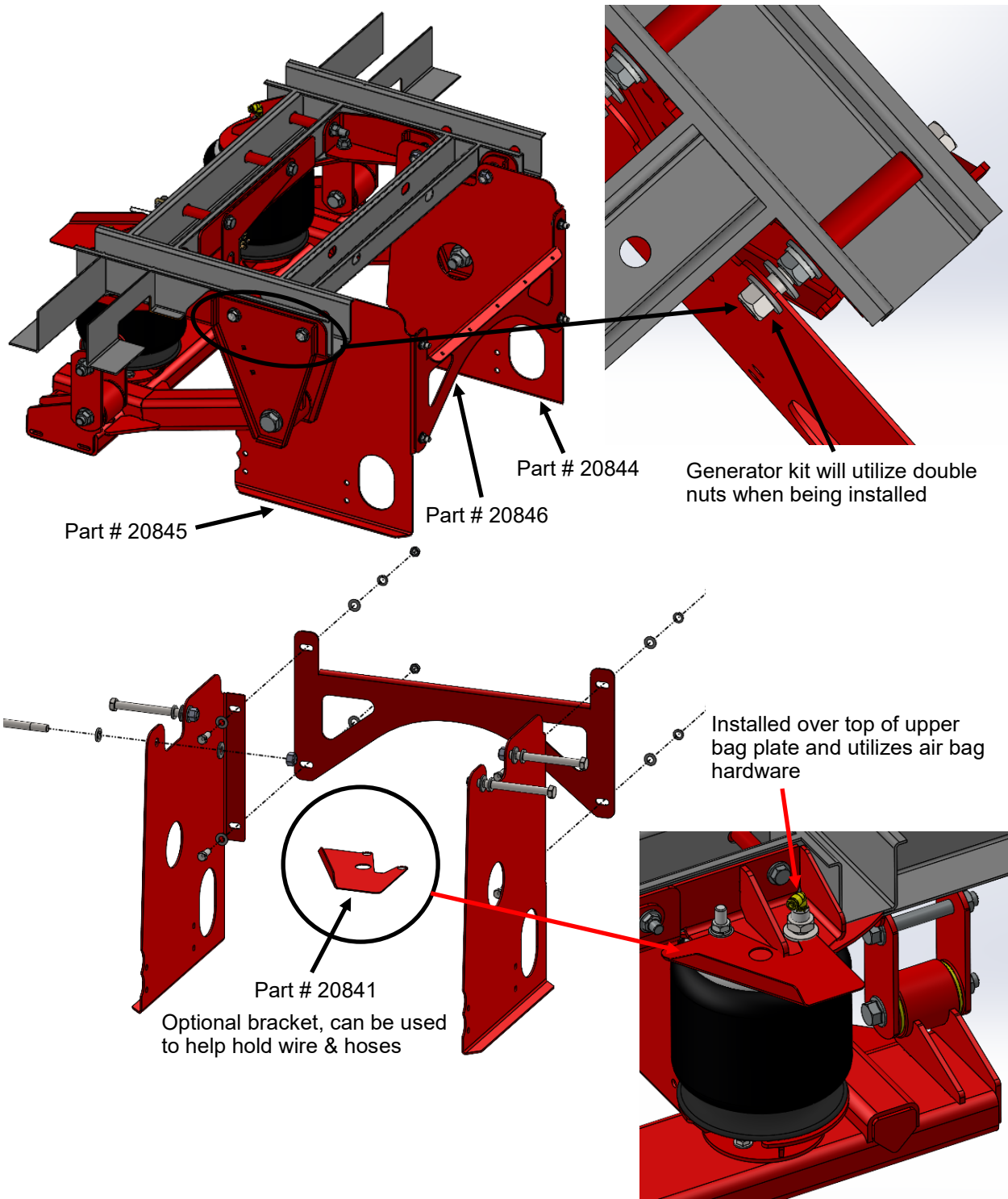
20. RV1 is a suspension bundle that can include an option CE8 that has raised rear body mounts. If van sits too high, the spacer can be removed and new shorter U-bolts (Part# 13824) will be required.

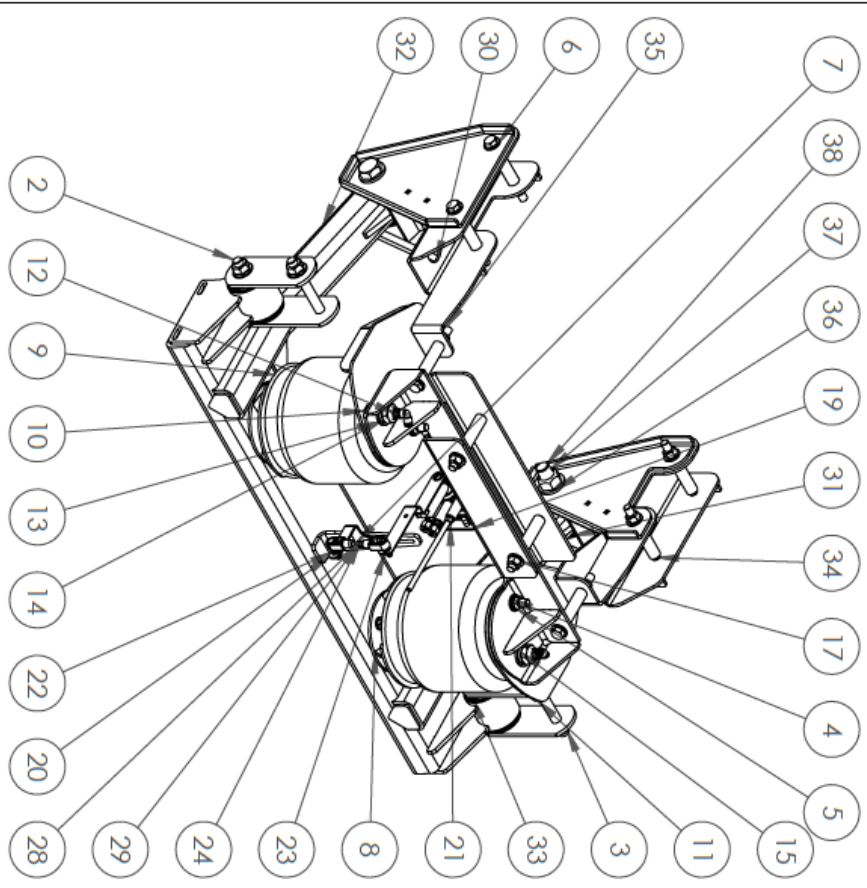
21. Its recommended to go back and undercoat whatever areas of the frame are ex- posed from the removal of the factory undercoating. As long as the sensor and magnet don’t get undercoating on it, will not affect the performance of the suspension if its gets undercoating sprayed on it.

Bolt Size	Torque
1/4"-20	70 <i>in-lb</i>
3/8"-16	20 <i>ft-lb</i>
1/2"-20	50 <i>ft-lb</i>
9/16"-18	100 <i>ft-lb</i>
5/8"-18	250 <i>ft-lb</i>
7/8"-14	300 <i>ft-lb</i>

22. If generator kit is required, locate parts #20844, 20845, 20846 and 20841. Remove factory brackets and bolt the outside plates through the top frame swing arm mount with 1/2"-20 x 5-1/2" bolts and hardware.

Generator Kit - 10012821



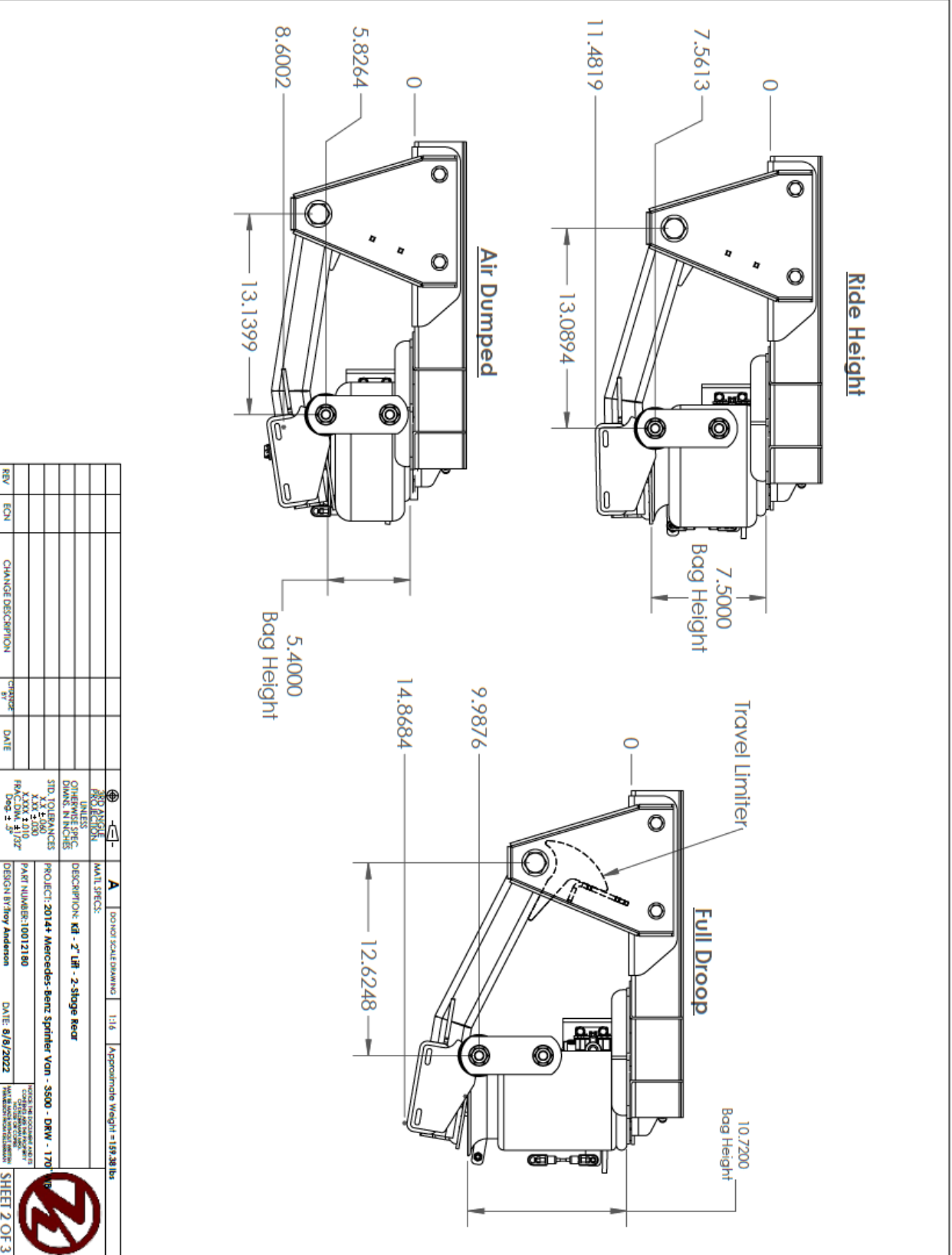


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
2	13926	M16 x 1.5 - 120mm Flange Bolt -GR10.9	4
3	13928	M16 x 1.5 Flange Nut GR10.9	4
4	13050	1/2" Lock Washer	4
5	13144	Hex Nut - 1/2"-13 - Gr.5	2
6	13004	1/2" Flat Washer	28
7	14062	FLAT WASHER - SAE - #10	4
8	10013015	Weldment - J-5/8" Bag River (S323)	2
9	80012-5323	Air Bag - Firestone S323	2
10	10013120	Weldment - Top Frame, Upper - S323 Bag	1
11	10013122	Weldment - Top Frame, Lower - S323	1
12	80094	90° Mole Elbow Tube 1/4" x 1/4-18 NPT	2
13	13008	Flat Washer USS - 3/4" - GR5 - Z	2
14	13056	3/4" Lock Washer	2
15	13208	Jam Nut - 3/4-16 - GR5 - Z - (RH)	2
16	12020	Hex Bolt - 1/2"-13 x 3" - GR5 - Z	2
17	13104	Top Distorted Thread Lock Nut - 1/2"-13 - GR5 - Z	14
18	13824	U-BOLT - 1/2"-13 X 3" Dia - T - GR8	2
19	10013114	Plate - 11ga - Hexdex Sensor Adaptor Plate - Frame Side - w/Bends	1
20	10013116	Plate - 11ga - Hexdex Sensor Adaptor Plate - Swing Arm Side - w/Bend	1
21	80077	Mechanical Height Control Valve	1
22	80073	Ball Stud - .39" Dia - 5/16-18 Thread	2
23	13101	Lock Nut - 5/16-18 Gr.5 - YZ	2
24	80081-3	Height Control Linkage - 4" CTC	1
25	13000	1/4" Flat Washer	4
26	13100	Nut - Locking - 1/4" - 20 - GR5	2
27	12110	Bolt - 1/4"-20 x 1" - Gr.5	2
28	14097	Hex Nut: #10-24 - GR5 - Z	2
29	14096	Hex Head Machine Screw - #10-24x3/4"	2
30	20803	Weldment - Top Frame Swing Arm Mount (DS)	1
31	20802	Weldment - Top Frame Swing Arm Mount (PS)	1
32	10012182	Assembly - 2" LIF Swing Arm	1
33	10012902	Weldment - Shackle Link - 4.19"	4
34	20812	Bushing - L-3-1/8" ID 17/32 OD 3/4"	4
35	12037	Bolt - 1/2"-20 X 5" Gr.8	8
36	13030	Flat Washer SAE - 7/8" - GR8 - YZ	4
37	13130	Lock Nut - 7/8"-14 - Gr.8 - YZ	2
38	12631	Bolt - 7/8"-14 X 5 1/2" - GR8	2
39	12007	Bolt - 1/2"-20 x 1.50" Gr.8	2

REV.	ECH.	CHANGE DESCRIPTION	CHANGED BY	DATE

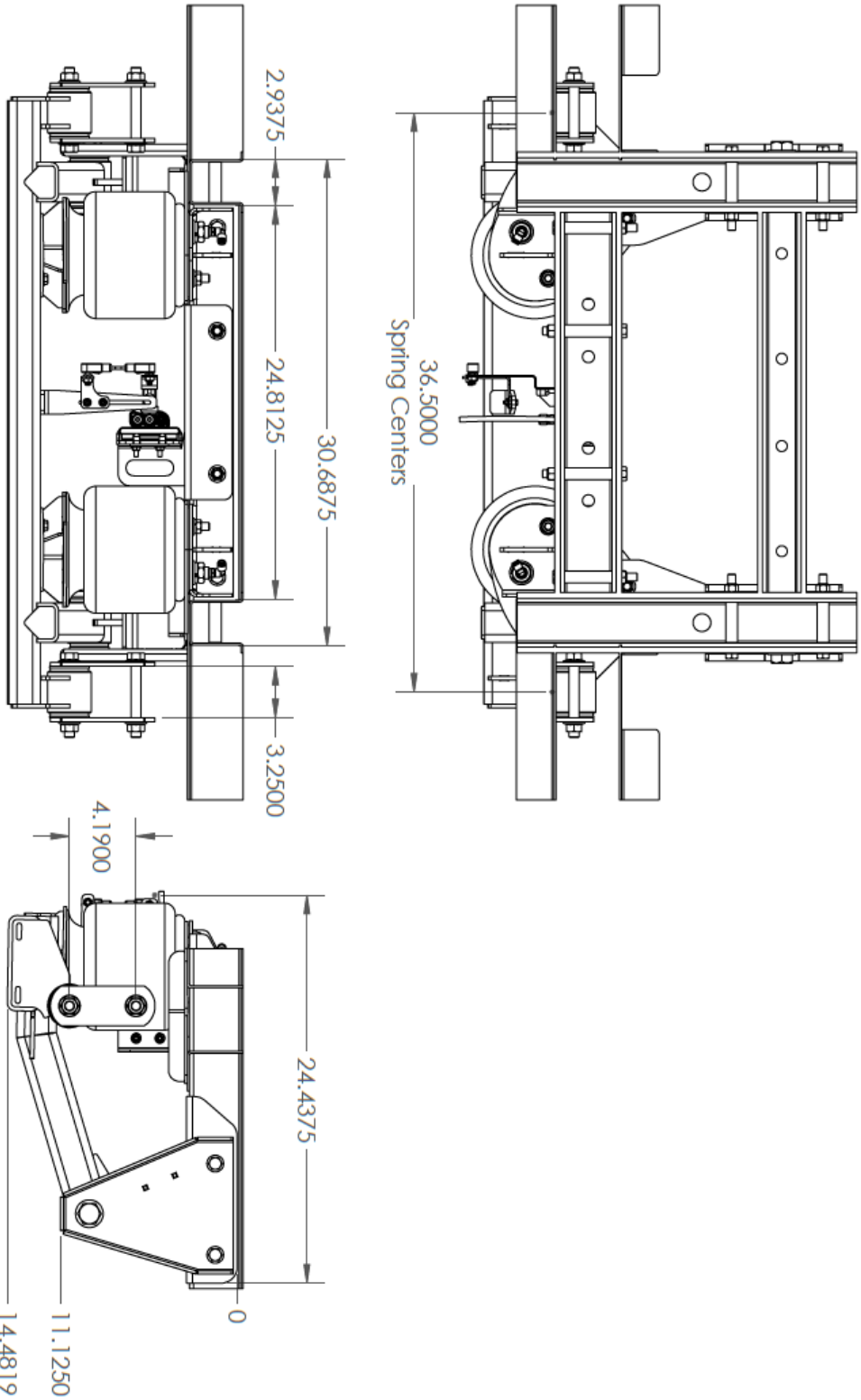
DESIGNER: Tony Anderson	DATE: 8/8/2022	PROJECT: 2014 Mercedes-Benz Sprinter Van - 3500 - DRW
PART NUMBER: 10012180		PROJECT: 1700 W8
X.XXX 1:10 X.XX 2:10 X.X 3:10 X 4:10 Deg. 5		

MAIL SPECS: A 1:16 Approximate Weight = 189.28 lbs
 DESCRIPTION: Kd - 2" LIF - 2-Stage Reac
 OTHER SPEC DIMS. IN INCHES
 310. TOLERANCES
 FRACTIONAL DECIMAL ANGLES
 X.XXX 1:10
 X.XX 2:10
 X.X 3:10
 X 4:10
 Deg. 5



REV	ECH	CHANGE DESCRIPTION	CHANGE BY	DATE	APPROVAL

APPROVAL INCHES OTHERWISE SPEC. DIMS. IN INCHES STD. TOLERANCES XX ±.000 XXX ±.010 XXXX ±.015 Supp. 2	MAT'L. SPEC:	DESCRIPTION: Kil - 2" Lift - 2-Stage Rear PROJECT: 2014+ Mercedes-Benz Sprinter Van - 3500 - DRW - 170 PART NUMBER: 10012180 DESIGN BY: Roy Anderson	1:16 Approximate Weight = 159.28 lbs
DATE: 8/6/2022			SHEET 2 OF 3



REV	ECN	CHANGE DESCRIPTION	CHANGED BY	DATE	REV	DATE	DESCRIPTION

RPD APPROVAL: **A**
 MAIL SPECS: **A**
 APPROXIMATE WEIGHT = 199.38 LBS
 UNLESS OTHERWISE SPECIFIED DIMS. IN INCHES
 STD. TOLERANCES: **X.XXX ±.010**
X.XX ±.000
PPH ±.001
Ang ±.5/32"
 PROJECT: 2014+ Mercedes-Benz Sprinter Van - 3500 - DRW - 170
 PART NUMBER: 10012180
 DESIGN BY: Andrew Anderson
 DATE: 6/6/2022
 CHECKED BY: [Signature]
 DATE OF CHECK: [Signature]
 DATE OF RELEASE: [Signature]

WZ

SHEET 3 OF 3



Commercial Product Warranty, Disclaimers and Warnings
Kelderman techs are available at 641-673-0468 M-F 7:00-4:00 CST

Kelderman Air Suspension Systems offer a 3 year/ 100,000 mile Limited Warranty, parts and labor, to the original retail purchaser who owns the vehicle on which the unit was installed, for defects in materials and workmanship related to the fabricated parts. Non fabricated parts such as air bags, air compressors, gauges, solenoid kits, and electronic or mechanical air ride control systems are covered for 1 year/ 50,000 miles for parts and labor. In cases where ride control systems manufactured by The Air Lift Company or Hadley Products are provided, the ride control warranty in this document will not apply. Instead, the warranty will be that of Hadley and Air Lift.

Kelderman Air Suspension Systems must be contacted for warranty authorization before any diagnostic work or repairs are performed. At that time, Kelderman will provide diagnostic assistance and authorization for the repairs if warrantable. Any unauthorized diagnostic work performed before contacting Kelderman will not be covered under the warranty program if deemed unreasonable.

Kelderman Air Suspension System does not warrant any product for finish, alterations, modifications and/or installation different from Kelderman's instructions. Alterations / modifications to the final product include, but are not limited to powder coating, plating, and/or welding which will void the warranty. Some damage may occur to the finish of the parts during shipping. This is considered normal and is not covered under warranty.

Kelderman tries to ensure that the suspension parts fit the vehicles they were designed for, but due to unknown vehicle manufacturer's production changes and/or inconsistencies by the vehicle manufacture, Kelderman cannot be responsible for 100% fitment.

Kelderman's obligation under this warranty is limited to the replacement of the defective parts only. Freight charges, incidental or consequential damages are expressly excluded from this warranty. Kelderman is not responsible for damages and/or warranty of other vehicle parts related or non-related to the installed Kelderman Air Suspension System. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, alteration, abuse or misuse as determined by Kelderman.

Kelderman Air Suspension Systems are designed to be installed, and run at the recommended ride heights provided by Kelderman. All warranties will become void if Kelderman systems are run outside the recommended ride heights, or if the systems are combined/substituted with other suspension kits. Combination and/or substitution of other components may cause premature wear and inhibit the Kelderman Air Suspension from operating as designed, which may cause severe injury or death. Kelderman does not warrant parts not manufactured by Kelderman.

It is the installer and sellers reasonability to review all these warranties, warnings and disclaimers with the consumer prior to installation.

Kelderman reserves the right to supersede, discontinue, change designs, finishes, part numbers and/or applications of parts deemed necessary without written notice. Kelderman is not responsible for misprints, or typographical errors within the catalog or price sheets.