

INSTALL INSTRUCTIONS

2019-2024 RAM 3500 P/U

6" LIFT 4-LINK REAR



#10004864 - COIL

#10004889 - LEAF

#10005563 - AIR ASSIST

kelderman



KELDERMAN MANUFACTURING

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KIT NUMBERS

- THIS INSTALLATION MANUAL COVERS THE FOLLOWING AIR RIDE KITS.

KIT NUMBER	DESCRIPTION
10004864	KIT - 2019-2024 RAM 2500 PICKUP 4-LINK 6" LIFT REAR - COIL REPLACEMENT
10004889	KIT - 2019-2024 RAM 2500 PICKUP 4-LINK 6" LIFT REAR - LEAF SPRING REPLACEMENT
10005563	KIT - 2019-2024 RAM 2500 PICKUP 4-LINK 6" LIFT REAR - FACTORY AIR ASSIST REPLACEMENT



2019 RAM 3500 MEGA CAB SHOWN

INTRODUCTION

IMPORTANT

- ♦ IT IS IMPORTANT THAT THE ENTIRE INSTALLATION INSTRUCTIONS BE READ THOROUGHLY BEFORE PROCEEDING WITH INSTALLATION.
- ♦ IF YOUR KIT WAS ORDERED RAW, OPEN EVERY BOX AND LOCATE ALL PARTS. THERE ARE SEVERAL SMALLER BUSHING PIECES AND BOLTS THAT ARE PACKAGED SEPARATELY INSIDE THE MAIN BOX.

PRODUCT INSTALLER RESPONSIBILITIES

- ♦ INSTALLER IS RESPONSIBLE FOR INSTALLING THIS PRODUCT IN ACCORDANCE WITH KELDERMAN MFG. INC. SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
- ♦ INSTALLER IS RESPONSIBLE FOR PROVIDING PROPER INSTALLATION OF VEHICLE COMPONENTS AND ATTACHMENTS AS WELL AS REQUIRED OR NECESSARY CLEARANCE FOR SUSPENSION COMPONENTS, AXLES, WHEELS, TIRES, AND OTHER VEHICLE COMPONENTS TO ENSURE A SAFE AND SOUND INSTALLATION AND OPERATION OF THIS PRODUCT.

DEFINITION OF TERMS

- ♦ **WARNING:** INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.
- ♦ **CAUTION:** A POTENTIAL HAZARDOUS SITUATION MAY RESULT IN PROPERTY DAMAGE.
- ♦ **NOTE:** PROVIDE INFORMATION OR SUGGESTIONS THAT HELP CORRECTLY PERFORM A TASK.
- ♦ **TORQUE:** WHEN ITALICIZED "TORQUE" ALERTS THE INSTALLER TO TIGHTEN FASTENERS TO A SPECIFIED VALUE.

BOLT TORQUE CHART

BOLT SIZE	GRADE 5 TORQUE	GRADE 8 TORQUE
1/4"-20	8 <i>FT-LB</i>	12 <i>FT-LB</i>
3/8"-16	19 <i>FT-LB</i>	26 <i>FT-LB</i>
3/8"-24	21 <i>FT-LB</i>	30 <i>FT-LB</i>
1/2"-13	45 <i>FT-LB</i>	64 <i>FT-LB</i>
1/2"-20	50 <i>FT-LB</i>	70 <i>FT-LB</i>
9/16"-18	70 <i>FT-LB</i>	100 <i>FT-LB</i>
5/8"-11	90 <i>FT-LB</i>	125 <i>FT-LB</i>
5/8"-18	100 <i>FT-LB</i>	150 <i>FT-LB</i>
3/4"-16	175 <i>FT-LB</i>	250 <i>FT-LB</i>
7/8"-14	275 <i>FT-LB</i>	400 <i>FT-LB</i>

SAFETY

YOUR SAFETY AND THE SAFETY OF OTHERS IS VERY IMPORTANT.

- ◆ READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND INSTRUCTIONS BEFORE INSTALLING THIS PRODUCT.

CAUTION: TRUCKS EQUIPPED WITH PARKING SENSORS OR OTHER LIKE DEVICES.

- ◆ RELOCATION OF THESE DEVICES WILL ALTER THE FIELD OF VIEW. IT IS THE RESPONSIBILITY OF THE OWNER TO UNDERSTAND HOW THESE CHANGES AFFECT THE OPERATION OF THESE SYSTEMS.

WARNING: COMPONENTS UNDER PRESSURE.

- ◆ BLEED ALL PRESSURE FROM THE AIR SYSTEM BEFORE PERFORMING ANY MAINTENANCE OR SERVICE. SERIOUS INJURY COULD OCCUR IF COMPONENTS ARE REMOVED WHILE SYSTEM IS PRESSURIZED.

WARNING: CARELESS INSTALLATION CAN RESULT IN SERIOUS INJURY OR PROPERTY DAMAGE

- ◆ WEAR EYE PROTECTION.
- ◆ DISCONNECT THE BATTERY BEFORE DOING ANY WORK ON THE VEHICLE.
- ◆ WORK ON FLAT LEVEL GROUND.
- ◆ ENSURE TRUCK IS PROPERLY SUPPORTED BY JACK STANDS. NEVER WORK UNDER A VEHICLE SUPPORTED ONLY BY HYDRAULIC JACKS.
- ◆ TAKE PRECAUTIONS WHEN LIFTING PRODUCT. DUE TO THE SIZE AND WEIGHT OF THIS PRODUCT TWO PEOPLE ARE RECOMMENDED FOR INSTALLATION.
- ◆ NEVER WORK DIRECTLY UNDER THE PRODUCT UNTIL IT HAS BEEN SECURELY FASTENED TO THE VEHICLE.
- ◆ AVOID SHARP, HOT, AND MOVING COMPONENTS WHEN ROUTING ELECTRICAL CABLES AND AIR LINES.
- ◆ IF DRILLING, INSPECT BOTH SIDES OF THE SURFACE AND REMOVE/RELOCATE ANY OBJECTS LOCATED IN THE WAY.
- ◆ ENSURE ALL BOLTS ARE PROPERLY TIGHTENED BEFORE DRIVING.

PRODUCT OWNER RESPONSIBILITIES

- ◆ PRODUCT OWNER IS SOLELY RESPONSIBLE FOR PRE-OPERATION INSPECTION, PERIODIC INSPECTIONS, MAINTENANCE, AND USE OF THE PRODUCT AS SPECIFIED BY KELDERMAN MFG. INC. OF PARTICULAR IMPORTANCE IS THE RE-TORQUE OF FASTENERS.
- ◆ THIS RE-TORQUE MUST BE PERFORMED WITHIN 2500 MILES OF THIS PRODUCT BEING PUT INTO SERVICE.
- ◆ THE KELDERMAN AIR SUSPENSION IS FULLY AUTOMATIC IN CONTROLLING THE HEIGHT OF THE CHASSIS WHEN PROPERLY INSTALLED.
- ◆ NO MANUAL INTERVENTION TO CONTROL AIR PRESSURE OR RIDE HEIGHT IS NEEDED DURING THE COURSE OF NORMAL OPERATION.
- ◆ PRODUCT OWNER IS RESPONSIBLE FOR “*DOWN TIME*” EXPENSES, CARGO DAMAGE, AND ALL BUSINESS COSTS AND LOSSES RESULTING FROM A WARRANTABLE FAILURE.

SERVICE INTERVALS

FIRST 2,500 MILES

- ◆ CHECK RIDE HEIGHT $\pm 1/4$ ”
- ◆ CHECK FOR AIR LEAKS AROUND FITTINGS.
- ◆ CHECK FOR ANY LOOSE OR RUBBING HOSES AND WIRES.
- ◆ RE-TORQUE ALL HARDWARE.

EVERY 30,000 MILES

- ◆ CHECK RIDE HEIGHT $\pm 1/4$ ”
- ◆ CHECK FOR AIR LEAKS AROUND FITTINGS.

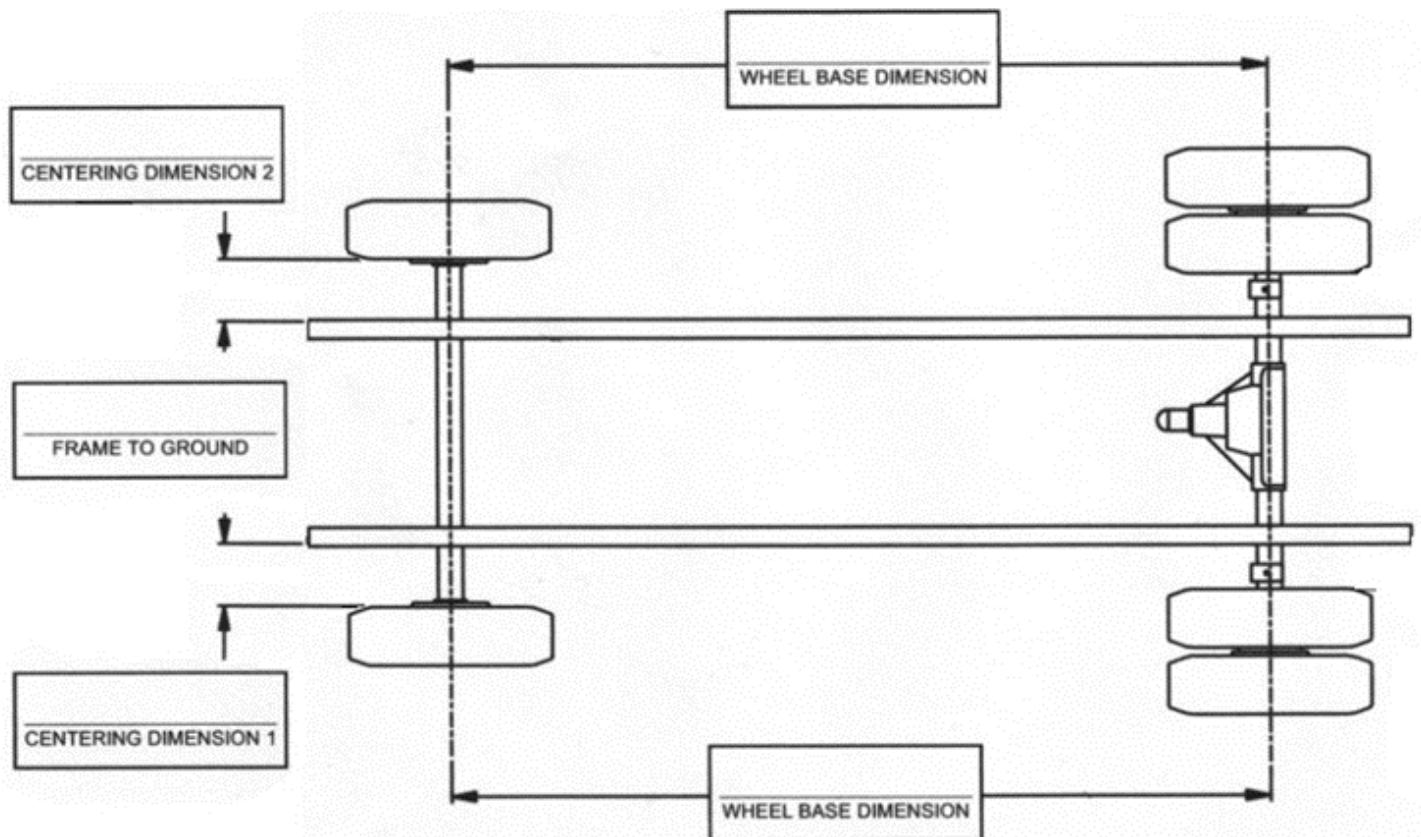
DISASSEMBLY

BEFORE DOING ANYTHING, MEASURE THE PINION ANGLE AND RECORD IT. THIS IS IMPORTANT BECAUSE YOU WILL NEED TO PUT THE AXLE BACK TO THIS MEASUREMENT AFTER INSTALLATION. SEE FIGURE 1.

PINION ANGLE _____



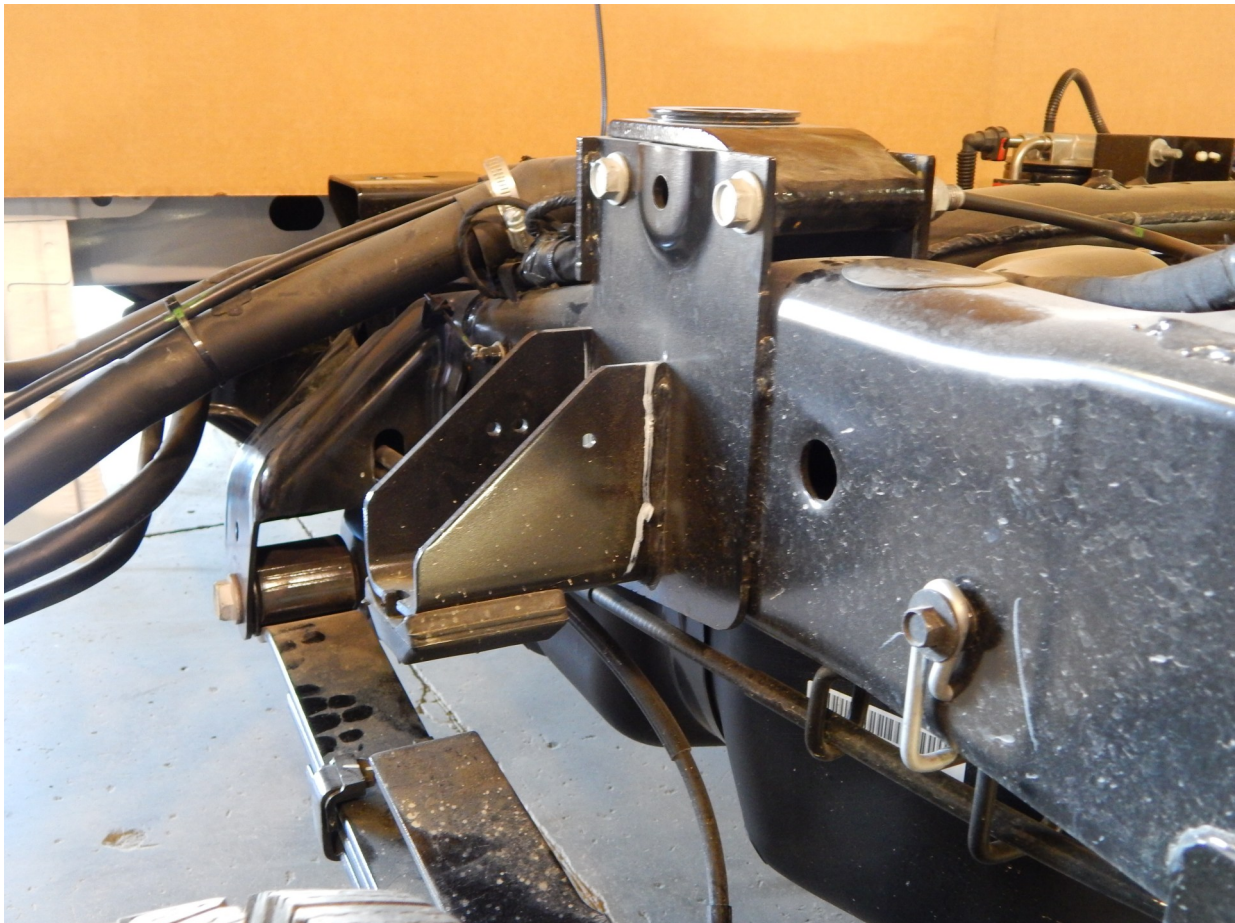
TAKE THE FOLLOWING MEASUREMENTS FOR FUTURE REFERENCE. THESE MEASUREMENTS WILL BE USED TO ADJUST THE SUSPENSION AFTER INSTALLATION.

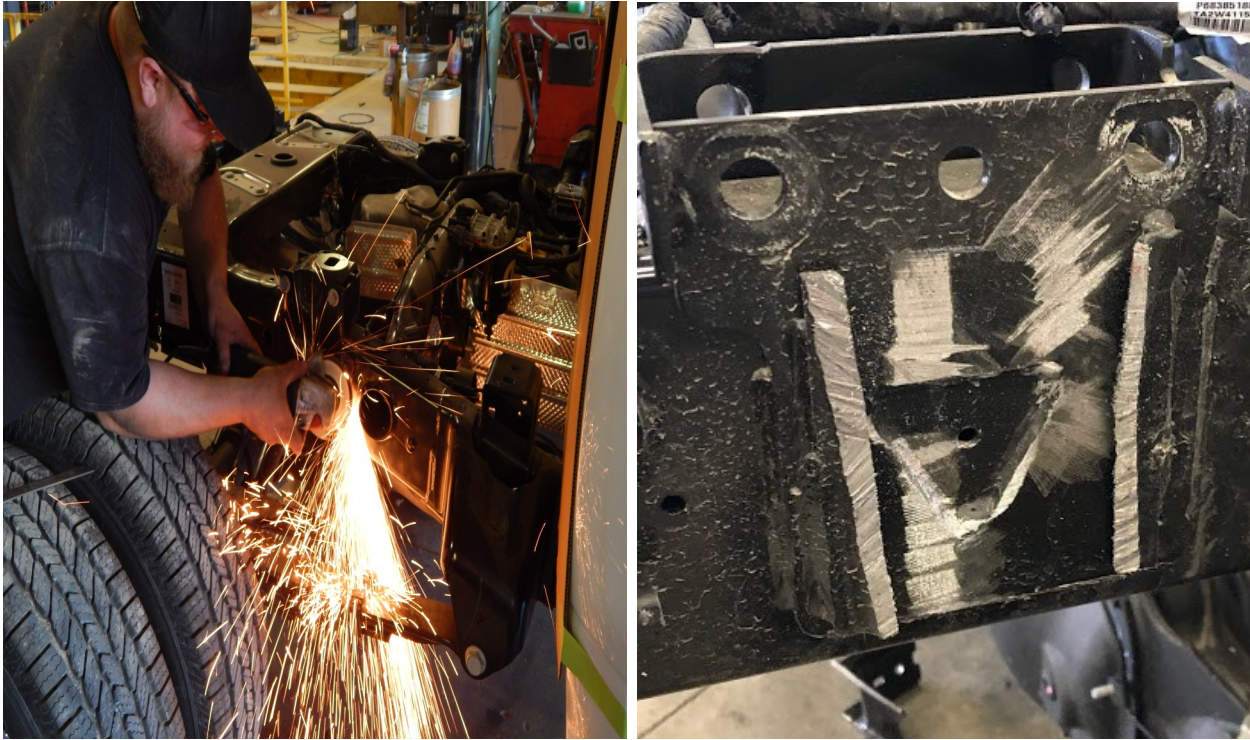


1. IT IS NOT REQUIRED TO REMOVE THE BED, BUT IF YOU HAVE THE ABILITY TO DO SO, IT WILL MAKE THE INSTALL MUCH EASIER. TAKE OFF THE E-BRAKE CABLE AT THE TENSION ADJUSTMENT.

2. JACK UP THE REAR OF THE FRAME SO THAT 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, RUBBER BUMP STOPS FASTENED TO THE BOTTOM SIDE OF THE FRAME (NON AIR RIDE TRUCKS), AIR BAGS ON THE FACTORY EQUIPPED AIR RIDE TRUCKS AND SHOCKS. KEEP THE BOLTS THAT FASTEN THE FRONT OF THE LEAF SPRING PERCH AND THE REAR SHACKLE BOLT. THESE WILL BE RE-USED IN LATER STEPS. REMOVE THE FUEL TANK.

3. NON-AIR RIDE TRUCKS WILL BE EQUIPPED WITH OVER LOAD PADS. BOTH THE FRONT AND REAR PADS WILL NEED TO BE CUT OFF AND REMOVED ON BOTH SIDES OF THE FRAME. ONCE REMOVED, GRIND THE AREA SMOOTH.



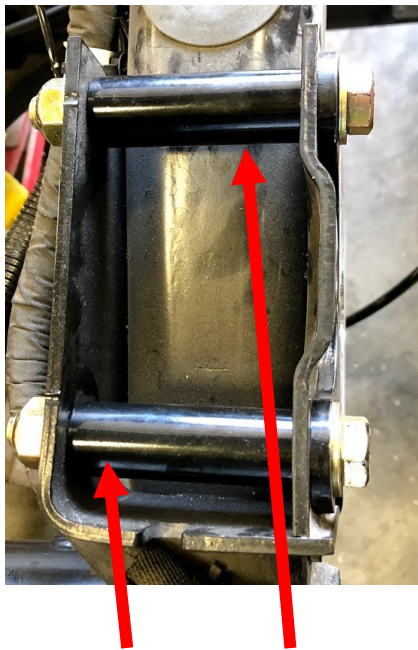


OVERLOAD PADS SHOWN REMOVED FROM THE FRAME.
THE AREA WILL NEED GROUND SMOOTH FOR WELDING IN LATER STEPS.



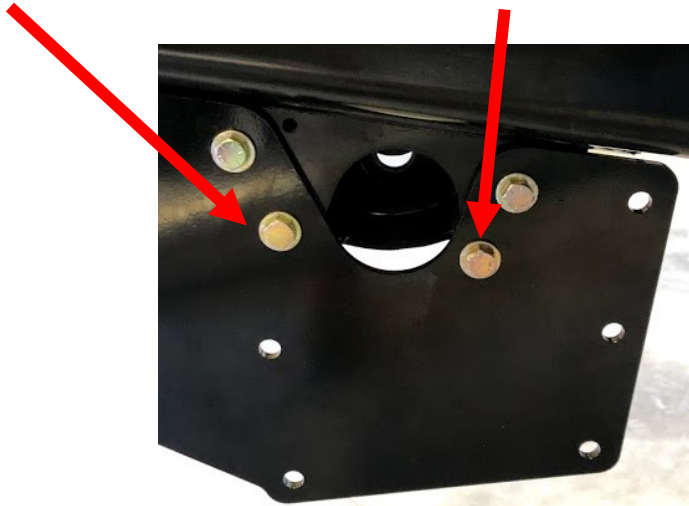
ASSEMBLY

1. LOCATE THE SIDE FRAME MOUNTING PLATE ASSEMBLIES (PART # 5057-PS & 5414-DS) AND SPACERS (#10004891-FRONT & 10015489-REAR). THE NEXT 6 PAGES SHOW THE PARTS AND WHAT BOLTS ARE USED TO FASTEN TO THE FRAME. THERE ARE FOUR HOLES THAT NEED DRILLED ON EACH SIDE IN THE OEM SPRING PERCH. USE THE FRAME/PERCH SUPPORT AS A DRILL GUIDE. 3/8" BOLTS ARE USED SO, YOU WILL WANT TO DRILL THE HOLES AROUND 1/16" BIGGER.

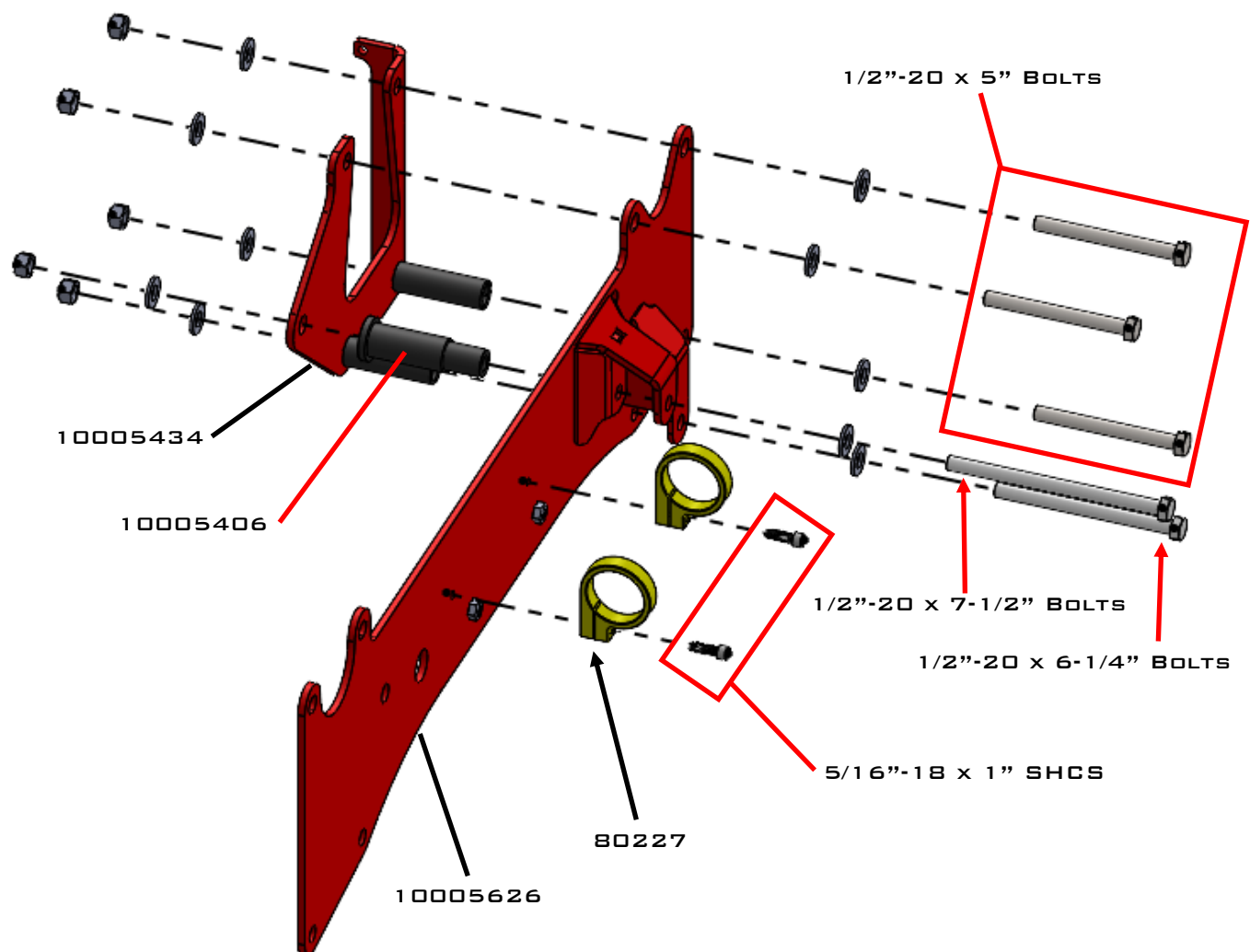


*USE THE SUPPLIED CRUSH SPACERS IF
THE TRUCK DOES NOT HAVE THE FACTORY
5TH WHEEL HITCH BRACKETS*

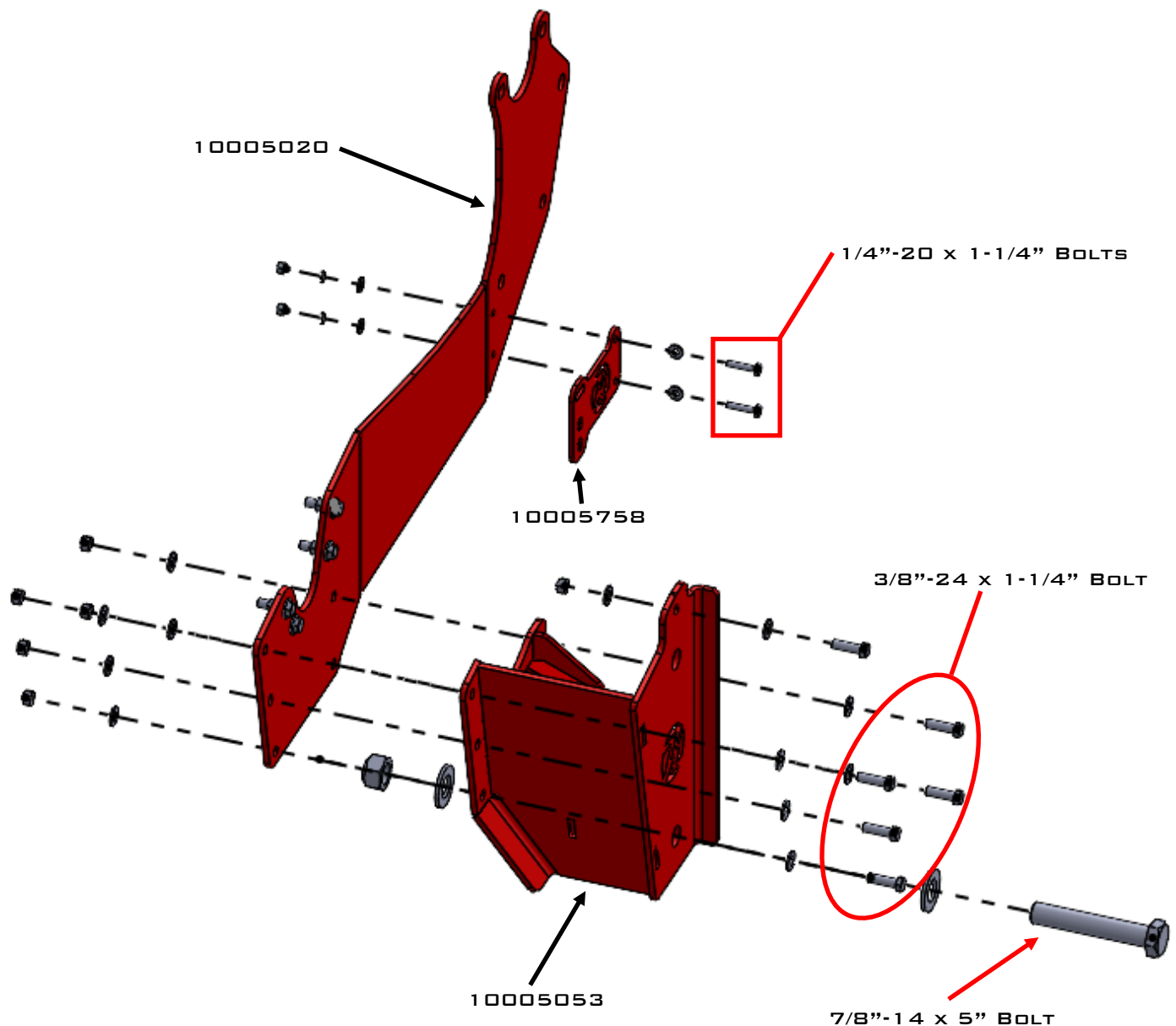
DRILL THE BOTTOM TWO HOLES FOR THE BOTTOM BOLTS



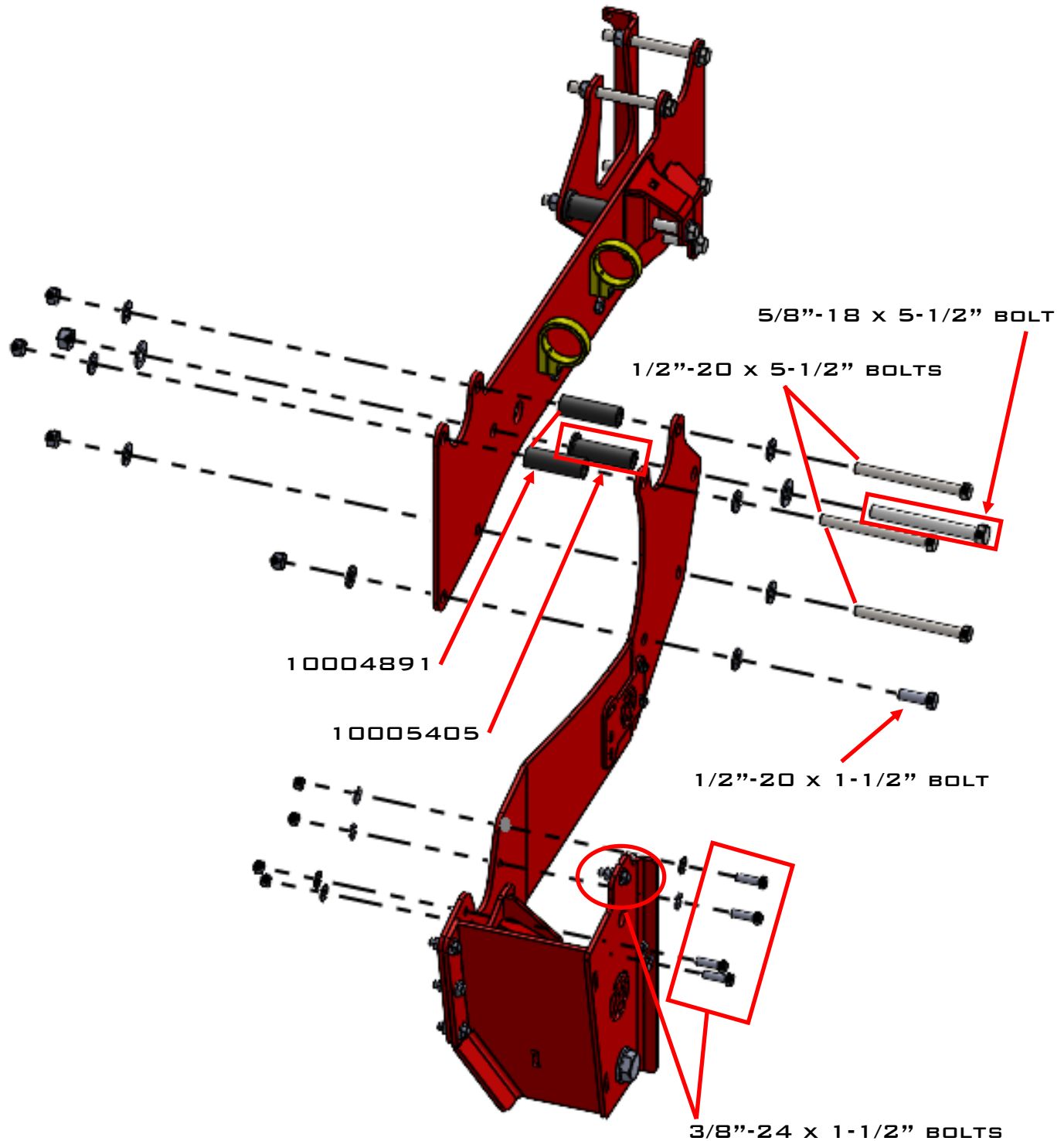
2. LOCATE DS SIDE PLATE WELDMENT (#10005626), DS SIDE PLATE FRAME CLAMP (#10005434), ANTI CRUSH BUSHING (#10005406) AND RESERVOIR SPLIT CLAMPS (#80227). ATTACH THE SIDE PLATE TO THE FRAME AND CLAMP WITH 1/2"-20 X 5", 1/2"-20 X 6-1/4" AND 1/2"-20 X 7-1/2" BOLTS, WASHERS AND LOCK NUTS. ATTACH THE SPLIT CLAMPS TO THE SIDE PLATE WITH 5/16"-18 X 1" SOCKET HEAD CAP SCREWS.



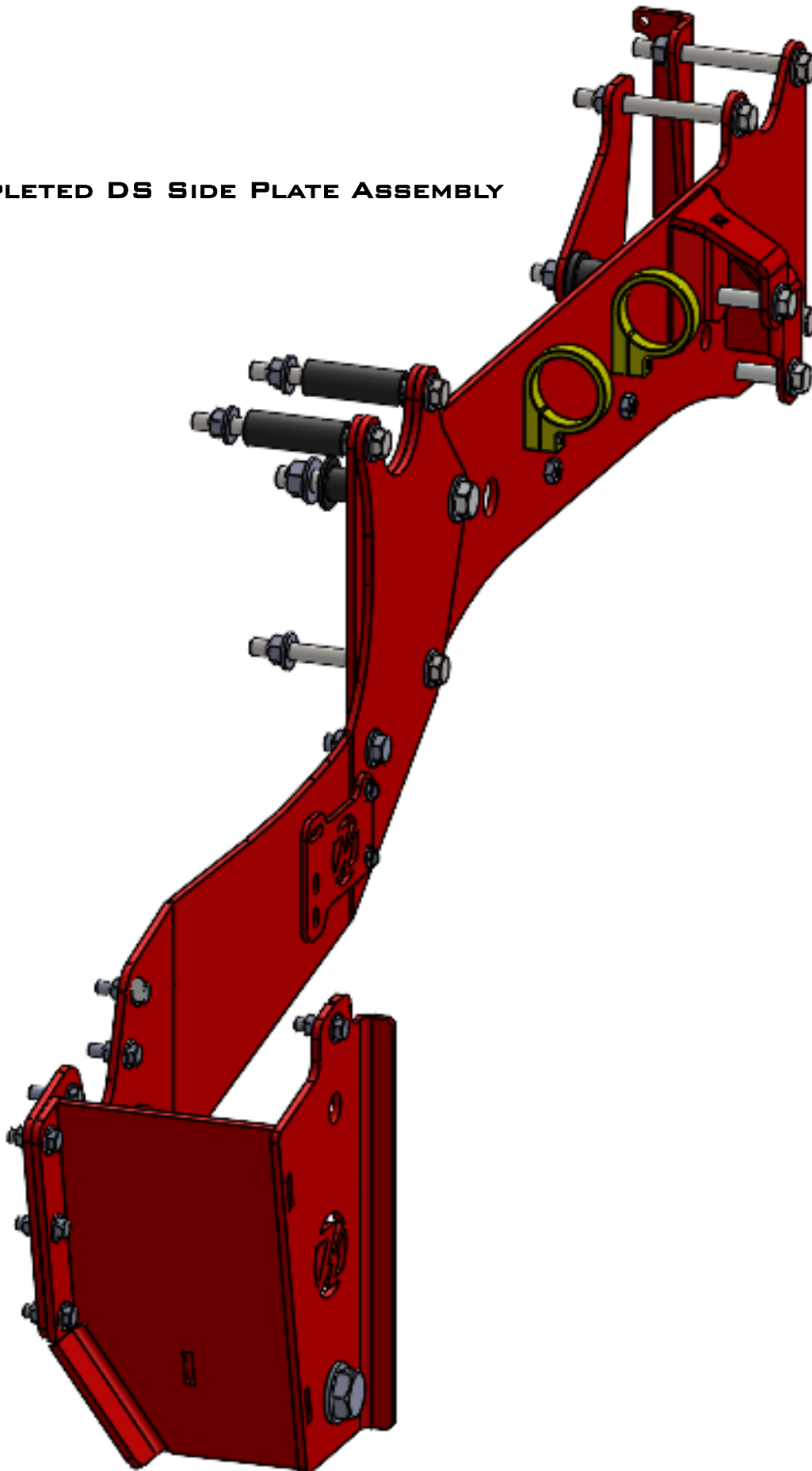
3. LOCATE DS FRAME/PERCH SUPPORT PLATE (#10005020), DS TRAILING ARM PERCH (#10005053) AND DS HEIGHT CONTROL SENSOR BRACKET (#10005758). ATTACH THE TRAILING ARM PERCH TO THE SUPPORT PLATE WITH (5) 3/8"-24 x 1-1/4" BOLTS, WASHERS AND LOCK NUTS. INSTALL 7/8"-14 x 5" BOLT AND LEAVE LOOSE FOR TRAILING ARM INSTALL. INSTALL THE SENSOR BRACKET WITH 1/4"-20 x 1-1/4" BOLTS, WASHERS AND LOCK NUTS.



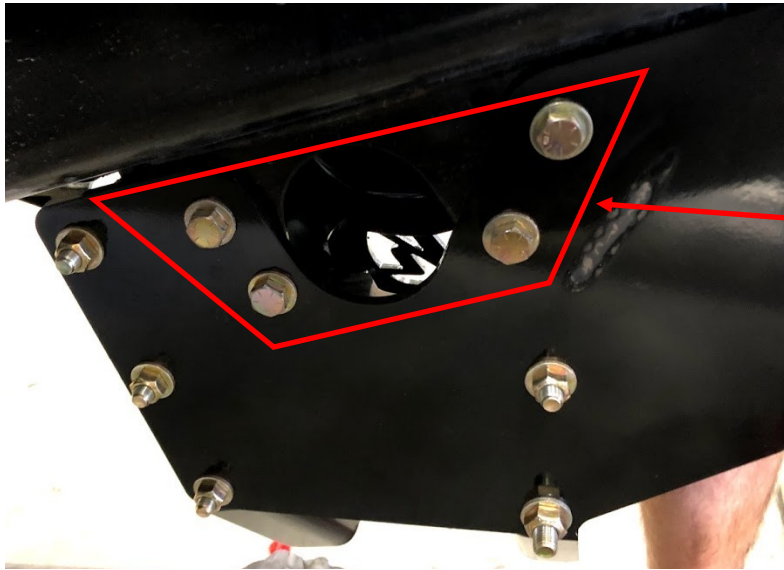
4. ATTACH THE TRAILING ARM PERCH/SUPPORT PLATE ASSEMBLY FROM PREVIOUS STEP TO THE ASSEMBLY IN STEP 2 WITH (2) ANTI CRUSH BUSHINGS (#10004891) AND TOP HAT ANTI CRUSH BUSHING (#10005405). THE TOP (2) CRUSH BUSHINGS ATTACH WITH 1/2"-20 X 5-1/2" BOLTS, WASHERS AND LOCK NUTS. THE TOP HAT BUSHING ATTACHES WITH A 5/8"-18 X 5-1/2" BOLT, WASHERS AND LOCK NUT. THE LOWER HOLES OF SIDE PLATE USE (1) 1/2"-20 X 5-1/2" BOLT, WASHERS AND LOCK NUT AND (1) 1/2"-20 X 1-1/2" BOLT, WASHERS AND LOCK NUT. THE TRAILING ARM PERCH ASSEMBLY ATTACHES TO THE FRAME WITH (5) 3/8"-24 X 1-1/2" BOLTS, WASHERS AND LOCK NUTS. TORQUE BOLTS.



COMPLETED DS SIDE PLATE ASSEMBLY



2. LOCATE THE FORWARD TRAILING ARM MOUNTS (#10005059). IT FASTENS TO THE FORWARD LEAF SPRING PERCH WITH THE (6) 3/8"-24 X 1-1/2" BOLTS. SLIDE THE TRAILING ARM MOUNT IN POSITION AND USE THE FACTORY FRONT LEAF SPRING BOLT TO HOLD THE MOUNT IN PLACE. INSTALL THE (6) 3/8"-24 X 1-1/2" BOLTS. THERE ARE FIVE BOLTS THAT ATTACH TO THE BOTTOM SIDE OF FRAME MOUNTING PLATE AND ONE IN THE LEAF SPRING PERCH ITSELF. ON THE DRIVERS SIDE, LOCATE THE PROVIDED CLIP AND RUN THE DRIVERS SIDE E-BRAKE CABLE THOUGH IT. TIGHTEN THE TOP 3/8" BOLT FIRST AND THEN DO THE BOTTOM FIVE THAT CONNECT THE TRAILING ARM MOUNT TO THE SIDE PLATES. TORQUE THESE BOLTS TO 50 FT./LBS.

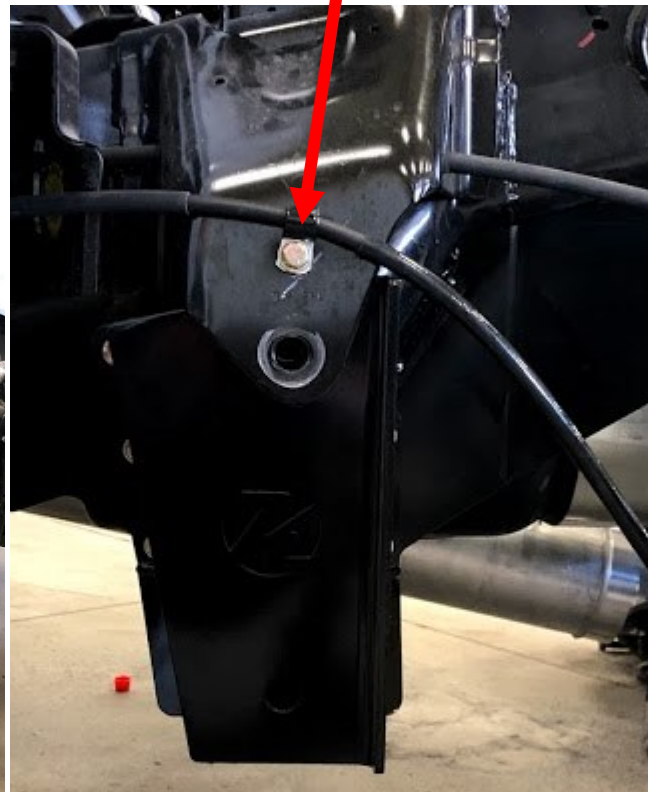


THESE 4 HOLES
ARE DRILLED

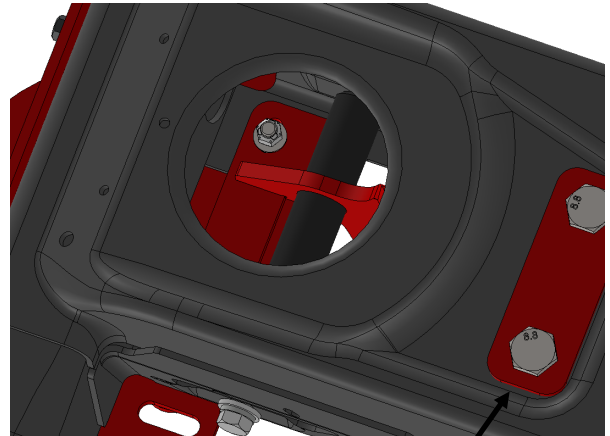
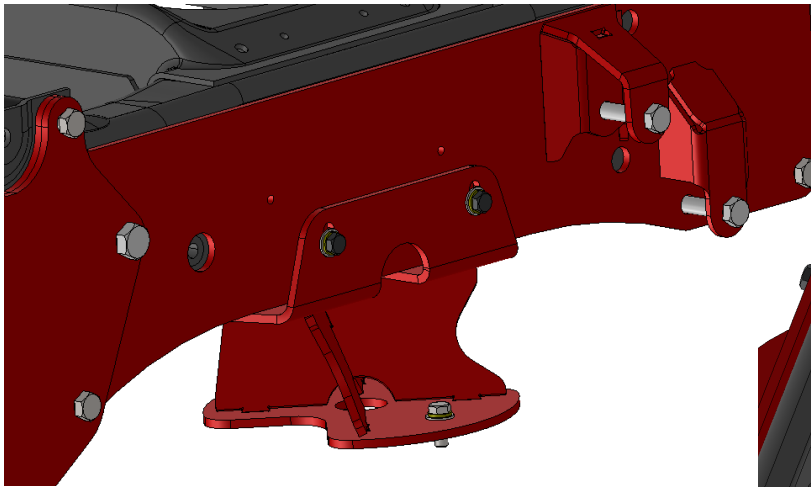
E BRAKE CABLE INSTALLED
INTO CLIP ON DRIVERS SIDE

DRIVER SIDE

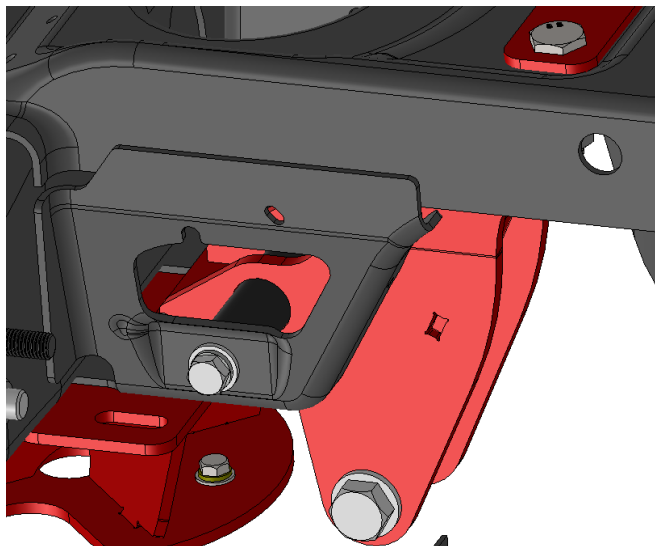
*PASSENGER SIDE INSTALLED AND
WELDED (USE UNDERCOATING OR
SPRAY PAINT TO PAINT THE
WELDS)*



3. LOCATE THE UPPER BAG MOUNTS (#10005606) AND PANHARD BAR DROP (#10009779). THE UPPER BAG MOUNTS WILL FASTEN TO THE BOTTOM OF THE FIFTH WHEEL CROSSMEMBER AND SIDE PLATE. THE PHB DROP MOUNTS INSIDE THE 5TH WHEEL HITCH WITH THE 5/8" X 1" BOLTS AND 3/8"-24 X 1-1/4" BOLTS. THE PASSENGER SIDE MOUNTS WITH BOLT PLATE (#10004553) ON THE HITCH CROSSMEMBER. THE BOLTS ON THE OEM HITCH PLATE ARE NOT LONG ENOUGH. IF THE VEHICLE YOU ARE WORKING ON DOES NOT HAVE A 5TH WHEEL HITCH, YOU WILL USE THE BOLT PLATE SPACER (#10004890) IN BETWEEN THE BOLT PLATE AND THE FRAME. THE BOLT PLATE IS SHOWN ON THE FOLLOWING PAGE AND THE 1/2"-20 X 1-1/2" BOLTS GO THROUGH BOTH SIDES OF THE PHB DROP BUSHING. TORQUE THE 3/8 BOLTS TO 50 FT./LBS., 1/2" BOLTS TO 75 FT./LBS. AND OEM BUMP STOP BOLTS TO 45 FT./LBS.



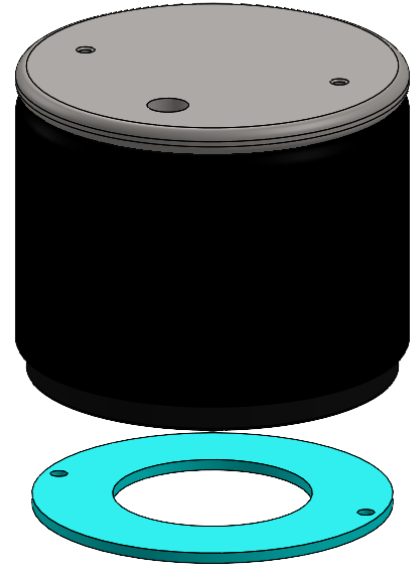
IF NO HITCH, THERE WILL BE A SPACER HERE (#10004890)



BOLT PLATE FOR PASSENGER SIDE BRACKET WITH PANHARD BAR MOUNT



4. LOCATE THE LOWER AIR BAG MOUNTS (#10005572-DS & 10005573-PS), LOWER AIR BAG SPACERS (#10005006) AND AIR BAGS (#F5748). INSTALL THE (2) 5/8"-18 X 7-1/2" & 7" BOLTS DOWN THROUGH THE LOWER BAG MOUNTS. DROP THE AIR BAG AND THE SPACER DOWN ON LOWER AIR BAG MOUNT. FASTEN THE LOWER BAG SPACER TO THE LOWER AIR BAG MOUNT WITH THE 3/4" LOCK NUT AND LOCK WASHER. LEAVE THE NUT FINGER TIGHT. YOU WILL TIGHTEN THIS NUT AFTER THE UPPER AIR BAG IS FASTENED TO THE UPPER AIR BAG MOUNT. DROP THE LOWER BAG MOUNTS IN PLACE OVER THE AXLE PERCHES.



IF USING A CONTINENTAL AIR BAG, YOU WILL NEED TO USE THE SPACER BETWEEN THE AIR BAG AND AIR BAG SPACER.

5/8"-18 x 7-1/2"

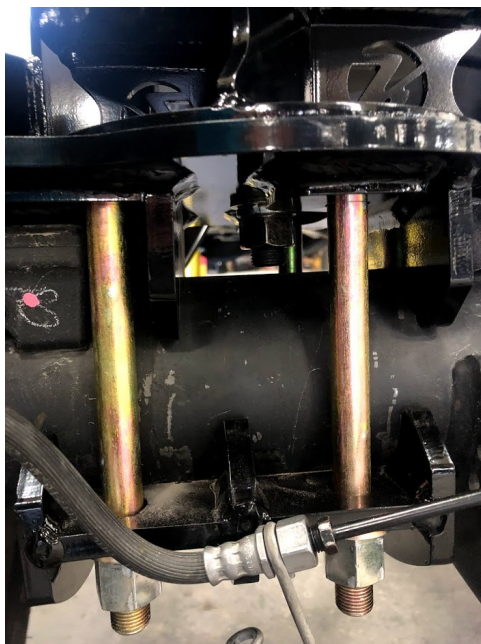
5/8"-18 x 7"



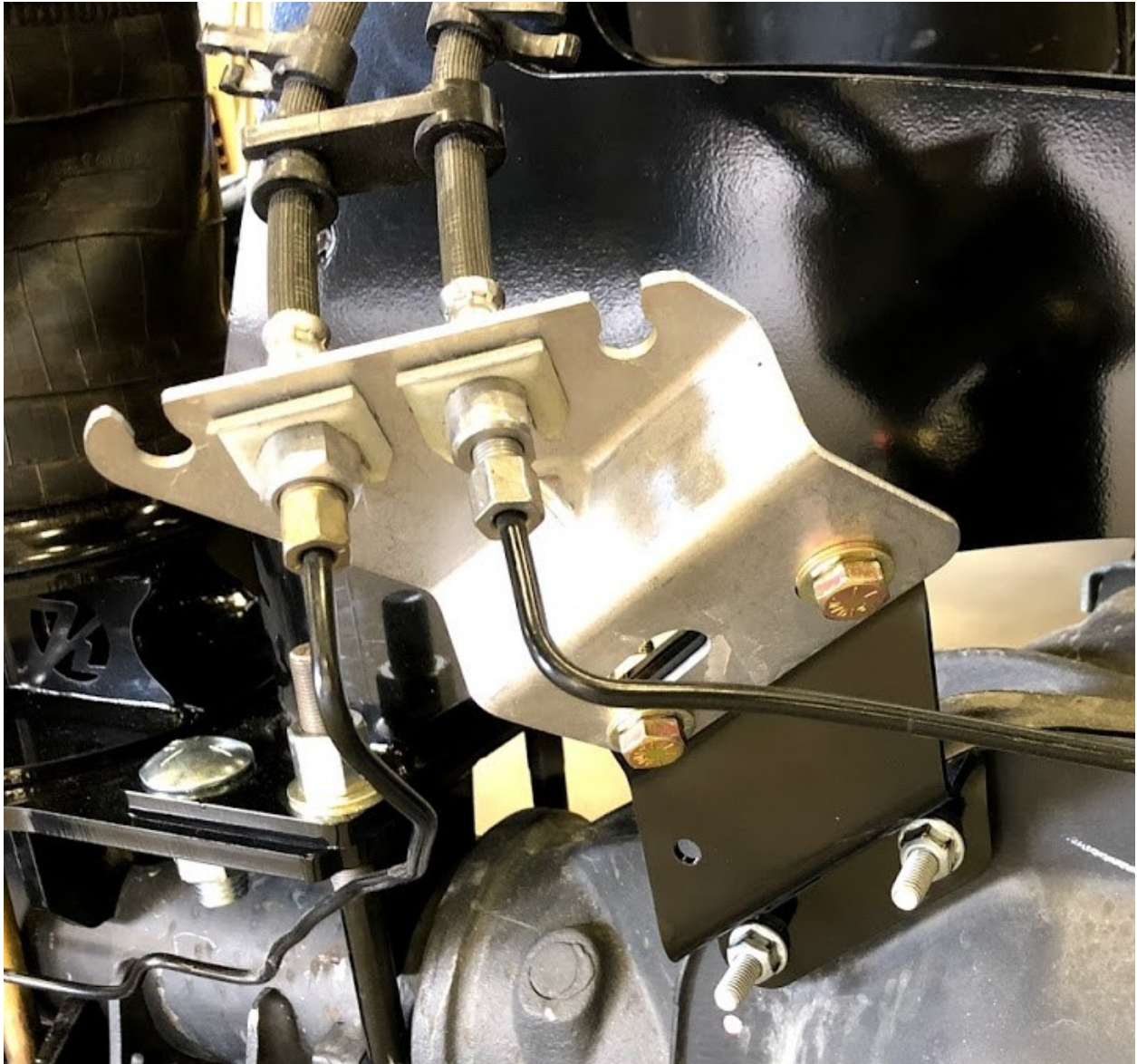
ATTACH THE AIR BAG TO THE TOP OF THE UPPER BAG MOUNT WITH 3/4" JAM NUTS AND 1/2" HEX NUTS.

5. LOCATE THE AXLE CLAMPS (#10005421-DS & 10005422-PS) AND THE PHB CROSSMEMBER (#10009776). SLIDE THE AXLE CLAMPS OVER THE 5/8" BOLTS AND TIGHTEN FINGER TIGHT. LOCATE THE OUTER U-BOLTS AND SLIDE THEM IN PLACE AND START THE NUTS. DROP THE PHB CROSSMEMBER DOWN ON THE LOWER AIR BAG MOUNTS. THE PAN HARD BAR FASTENS TO THE LOWER AIR BAG MOUNTS WITH THE 5/8"-18 X 8" U-BOLTS AND (4) 3/4" X 1-1/2" CARRIAGE BOLTS. TORQUE THE 5/8" BOLTS TO 150 FT./LBS., U-BOLTS TO 75 FT./LBS. AND THE 3/4" CARRIAGE BOLTS TO 150 FT./LBS.

U-BOLTS SHOWN INSTALLED WITH LOWER PHB MOUNT, AIRBAGS, AND AIRBAG SPACERS

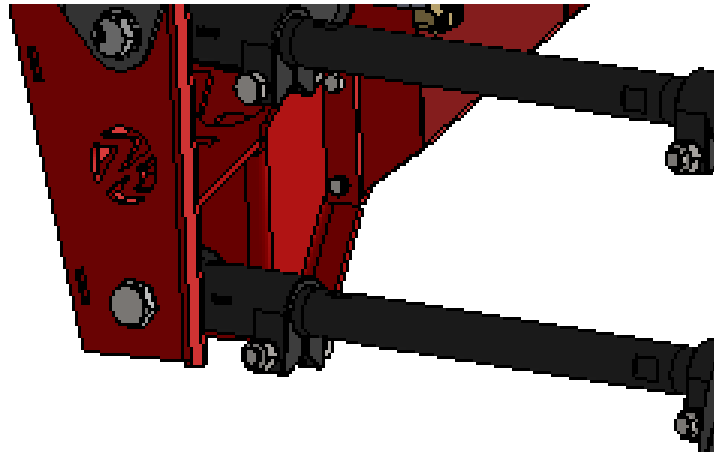


6. LOCATE THE BRAKE LINE ADAPTER (#10005018). IT FASTENS TO THE REAR DIFFERENTIAL COVER WHERE THE OEM BRAKE LINES ATTACH, AND TO THE OEM BRAKE BRACKET WITH THE TWO 3/8 X 1" BOLTS. THIS WILL RAISE THE BRAKE LINES UP AND OUT OF THE WAY SO THEY DON'T PINCH WHEN THE SUSPENSION IS DUMPED/DEFLATED.



BRAKE LINE ADAPTER MUST BE INSTALLED TO AVOID DAMAGE TO BRAKE LINES

7. LOCATE THE (4) TRAILING ARMS (#52122). SET THE DISTANCE BETWEEN THE TRAILING ARM HOLES TO 26-1/4" FOR THE TOP BARS AND 25-3/4" FOR THE BOTTOM ARMS. THE TRAILING ARMS FASTEN TO THE FORWARD TRAILING ARM MOUNTS WITH THE FACTORY LEAF SPRING BOLT (UPPER HOLE) AND THE 7/8"-14 X 5" BOLTS. THE REAR OF THE TRAILING ARMS FASTEN INTO THE LOWER AIR BAG MOUNTS WITH (4) 7/8"-14 X 5" BOLTS. TIGHTEN THE 7/8" BOLTS TO 275 FT./LBS. AND THE FACTORY TRAILING ARM BOLT TO 250 FT./LBS. SEE MORE PICTURES ON THE NEXT PAGE. LEAVE THE PINCH BOLTS IN THE CAST KNUCKLES LOOSE FOR NOW. ONCE THE ALIGNMENT IS SET, THE 5/8" BOLTS CAN BE TORQUED TO 150 FT./LBS.

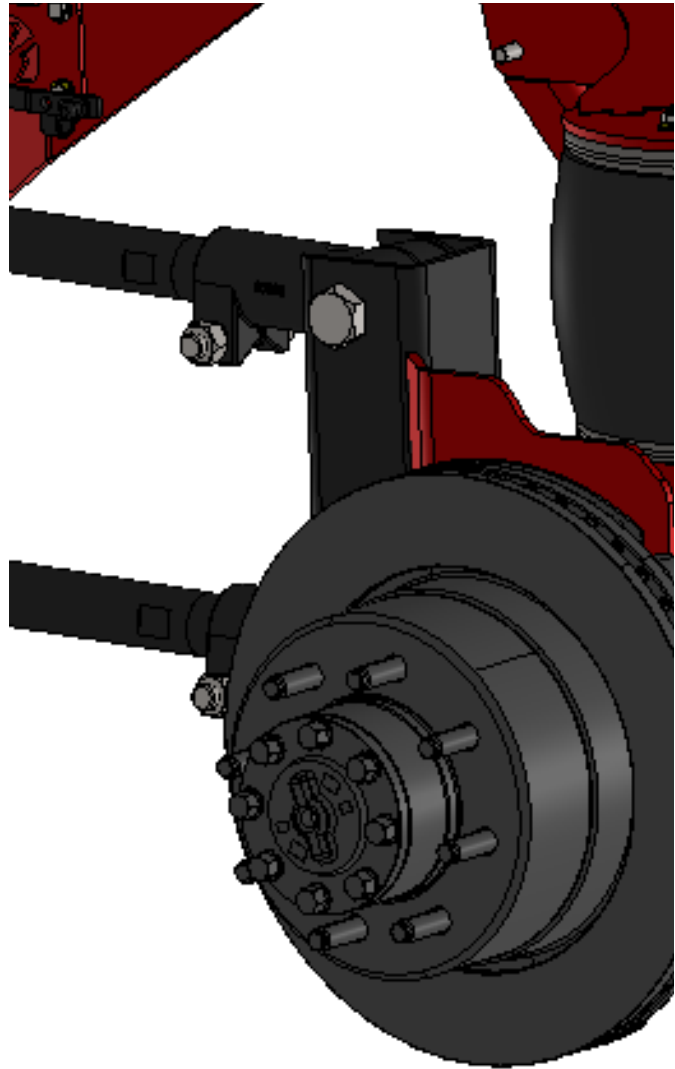


TRAILING ARMS SHOWN INSTALLED INTO FORWARD TRAILING ARM MOUNTS

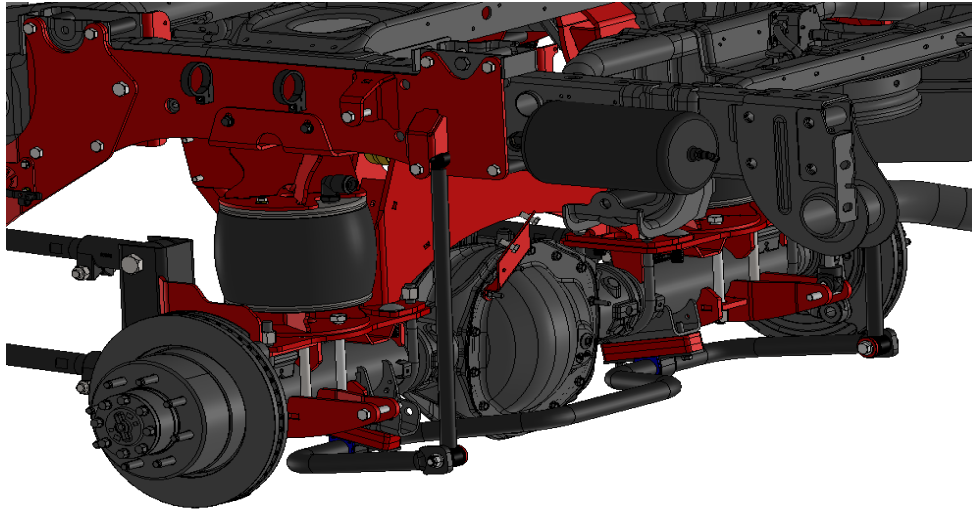
***LEAVE PINCH BOLTS ON THE CAST KNUCKLES LOOSE FOR LATER
ADJUSTMENTS***

***TRAILING ARMS SHOWN
INSTALLED INTO LOWER AIR
BAG MOUNTS***

***LEAVE PINCH BOLTS LOOSE
FOR LATER ADJUSTMENTS***



8. LOCATE THE ACCUMULATOR TANKS (#10005063-DS & #10005062-PS) AND THE 3/4" AIR LINE. THE TANKS FASTEN INTO THE REAR LEAF SPRING PERCHES WITH THE FACTORY SHACKLE BOLT. MAKE SURE END OF THE TANK WITH THE LARGE PORT IS FACING TOWARDS THE FRONT OF THE TRUCK. TORQUE THE SHACKLE BOLT TO 150 FT./LBS. TORQUE THE FITTINGS IN THE AIR TANK. THE FITTINGS ARE PIPE THREAD SO THEY SNUG UP AS YOU TIGHTEN THEM. THE FITTING IN THE REAR OF THE TANK WILL BE A 3/8" FITTING AND WILL CONNECT TO THE MANIFOLD BLOCK ON THE AIR CONTROL SYSTEM. CUT THE 3/4" AIR LINE FOR THE PASSENGER SIDE AT 22-1/2" AND THE DRIVERS SIDE TO 25-1/2". INSERT THE AIR LINE INTO THE FITTING IN THE AIR BAG AND THE FITTING IN THE ACCUMULATOR TANK. YOU WILL WANT TO LEAK TEST THESE FITTINGS ONCE THE CONTROL SYSTEM IS INSTALLED.

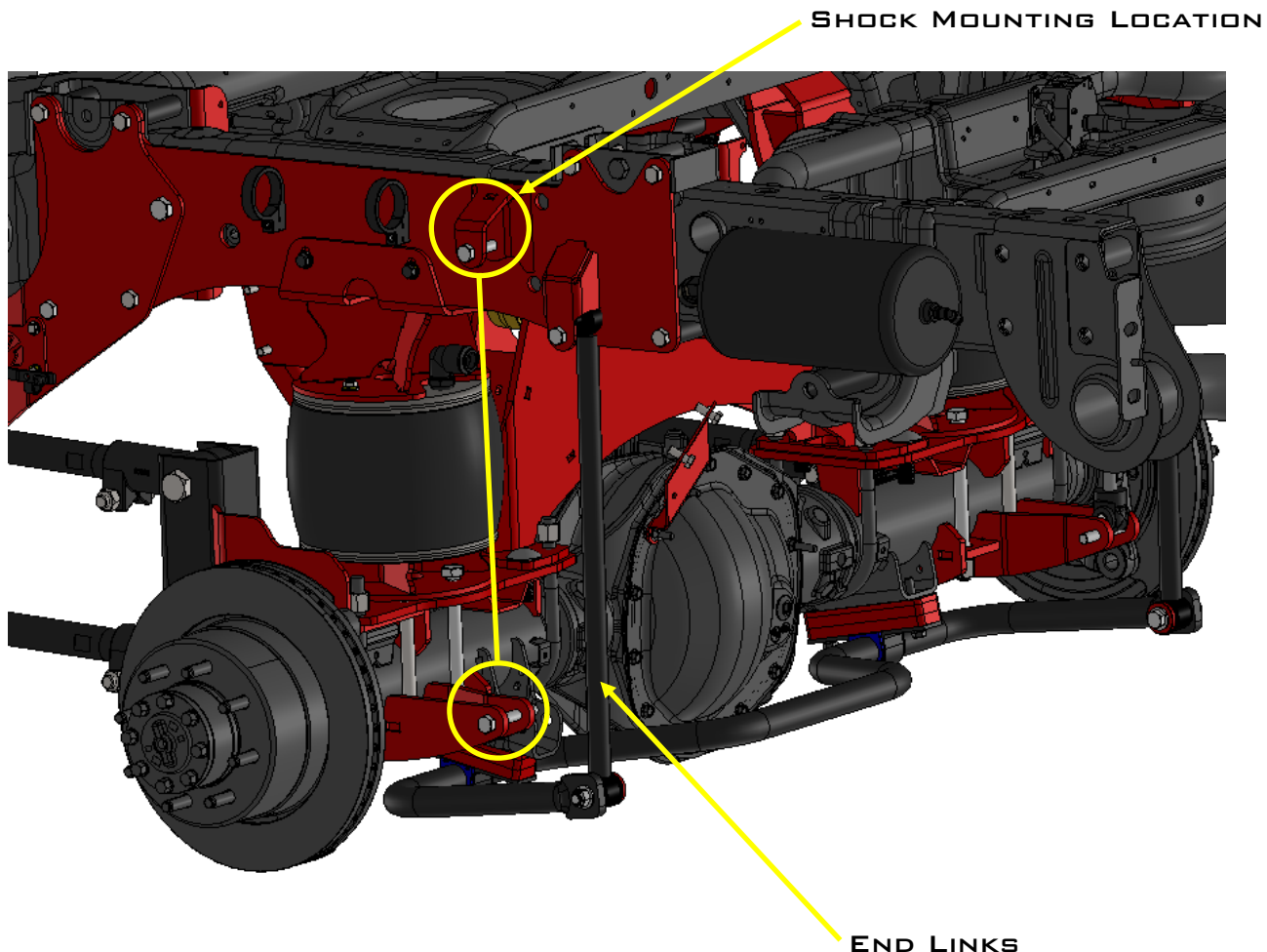


3/4" AIR LINE SHOWN INSTALLED FROM AIRBAG TO ACCUMULATOR TANKS

ACCUMULATOR TANKS INSTALL WITH FACTORY REAR SHACKLE BOLTS



9. LOCATE THE PROVIDED SWAY BAR (#80246), SWAY BAR BUSHING/ D-RING (#80255/80258). USE THE PROVIDED GREASE AND SLIDE THE BLUE POLY BUSHINGS OVER THE SWAY BAR. THE GREASE HELPS PREVENT SQUEAKING. INSTALL THE SPACER ON THE BOTTOM OF THE SHOCK RELOCATION BRACKETS AND THE SWAY BAR BUSHINGS W/ D-RING BELOW THAT. USE THE 7/16"-20 X 2-1/2" BOLTS TO FASTEN THE STACK TOGETHER. TORQUE TO 50 FT./LBS. USE THE 1/2"-20 X 3-1/2" TO FASTEN THE SHOCK RELOCATION BRACKET TO THE OEM SHOCK HOLE. TORQUE THIS BOLT TO 85 FT./LBS. LOCATE THE REAR SHOCKS (#10004452). YOU WILL USE THE 9/16"-18 X 3" BOLT TO ATTACH THE SHOCK TO THE SHOCK RELOCATION BRACKET. THE TOP OF THE SHOCK ATTACHES TO SIDE. TORQUE THE TOP SHOCK NUT TO 55 FT./LBS.



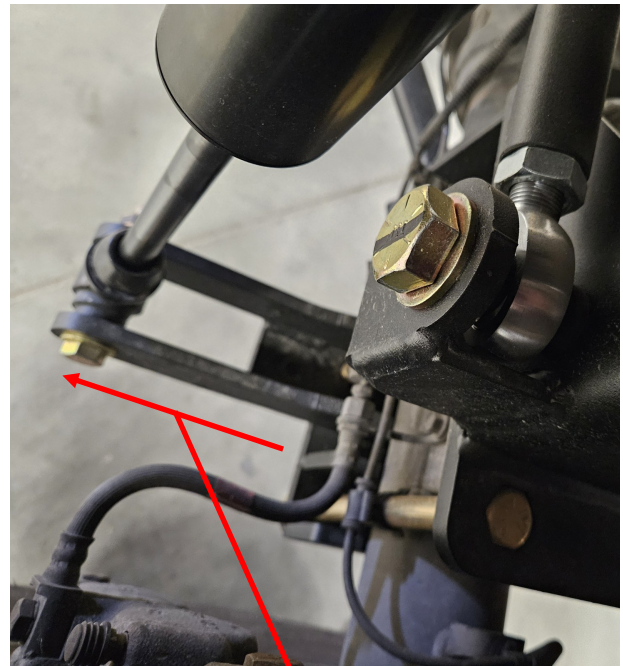
10. LOCATE THE END LINKS (#17744) AND SPACERS (#11551). THE BOTTOM OF THE END LINKS FASTEN TO THE OUTSIDE OF THE SWAY BAR WITH THE 1/2"-20 X 3" BOLTS. *MAKE SURE TO PLACE THE LARGE FLAT WASHER ON THE OUTSIDE OF THE END LINK.* BEFORE THE TOP OF THE END LINK IS INSTALLED, SLIDE THE LARGE FLAT WASHER ON, THEN A SPACER BUSHING AND INSERT THROUGH THE HOLE IN THE OVERLOAD PAD. SLIDE ON ANOTHER SPACER BUSHING, LARGE FLAT WASHER AND LOCK NUT. JUST SNUG THE LOCK NUT UP WHERE THE BUSHING JUST BEGINS TO SQUISH.



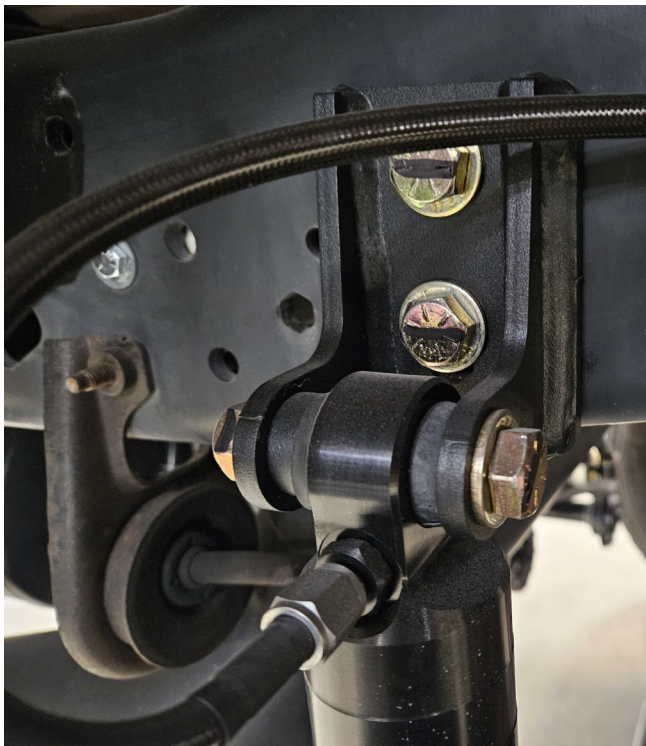
THE DRIVER SIDE SHOCK RELOCATION MOUNT FACES THE REAR OF THE TRUCK. THE PASSENGER SIDE SHOCK RELOCATION MOUNT FACES THE FRONT OF THE TRUCK.



LARGE FLAT WASHER GOES ON OUTSIDE OF END LINK BUSHING



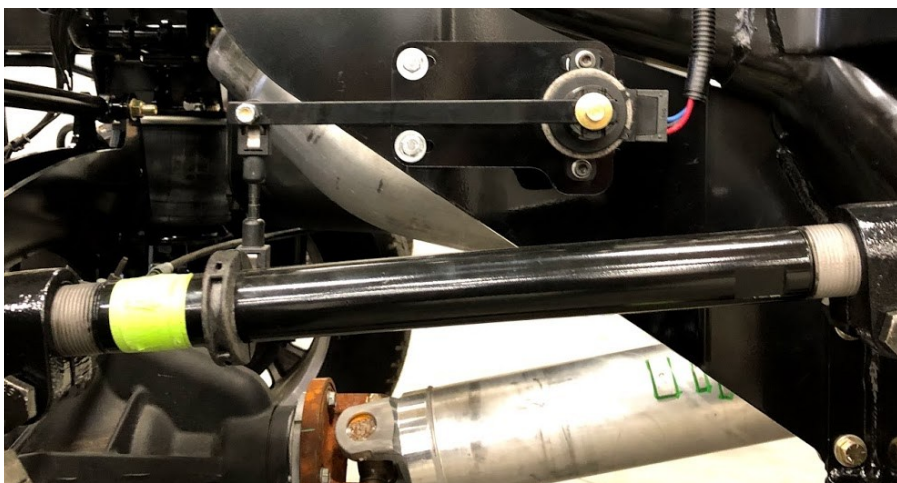
REAR OF THE TRUCK



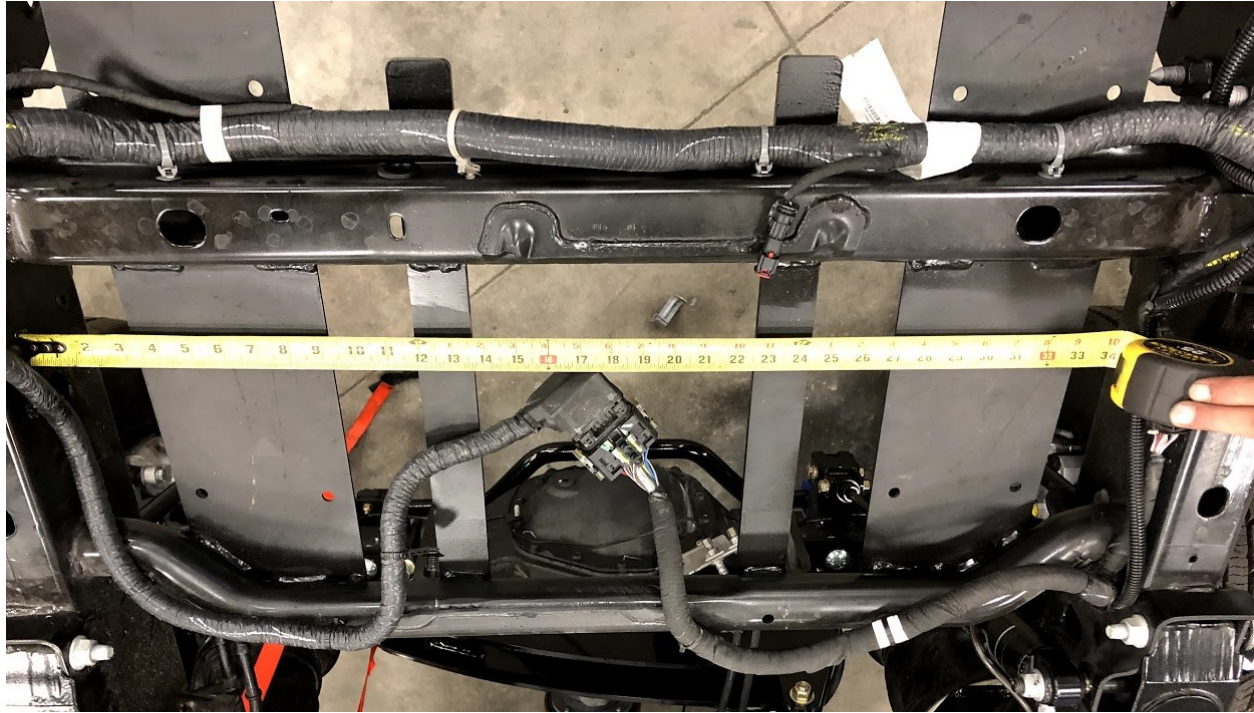
11. LOCATE THE SENSOR MOUNTING PLATES, (#10005225-PS & 10005230-DS) FOR COIL REPLACEMENT AND (#10005763-DS & 10005758-PS) FOR AIR BAG ASSIST, SENSOR AND SENSOR MOUNT TABS (#50177). THE SENSOR PLATE ATTACHES TO THE FRAME MOUNTING PLATES WITH THE (2) 1/2"-20 X 1" BOLTS. FASTEN THE SENSOR TO THE MOUNTING PLATE WITH THE 1/4-20 X 1" ALLEN HEAD BOLTS. LOCATE THE PLASTIC COLLAR AND ATTACH IT TO THE TOP TRAILING ARM BAR ABOUT 3-1/4" AWAY FROM THE REAR KNUCKLE. CONNECT THE SENSOR LINKAGE TO THE COLLAR AND SENSOR.

NOTE: IF THE COLLAR TURNS ON THE BAR AFTER TIGHTENING THE PHILIPS HEAD SCREWS, REMOVE THE COLLAR AND GRIND OR FILE THE MATING SURFACES WHERE THE COLLAR HALVES MEET. ONLY A FEW THOUSANDTHS NEEDS TO BE REMOVED.

RE-INSTALL THE COLLAR AND CONNECT IT TO THE LINKAGE.



12. LOCATE THE AIR MANAGEMENT SYSTEM. THERE IS A VIDEO ON OUR YOUTUBE PAGE THAT WALKS THROUGH THE AIR BOX AND AIR TANK MOUNTING PROCESS. GO TO [YOUTUBE.COM](https://www.youtube.com) AND SEARCH FOR "KELDERMAN TRUCKS. SEVERAL HELPFUL VIDEOS FOR INSTALLATION CAN BE FOUND THERE. CUT THE SPARE TIRE ASSEMBLY OUT THAT SITS BETWEEN THE FRAME CROSSMEMBERS. THE AIR BOX MOUNTING BRACKETS GET WELDED TO THE CROSSMEMBERS AND THE AIR TANK MOUNTING BRACKETS GET WELDED ON EACH SIDE OF THE AIR BOX MOUNTING BRACKETS. USE THE INSTRUCTIONS SUPPLIED WITH THE AIR CONTROL SYSTEM TO WIRE UP THE SYSTEM AND PLUMB IT IN.

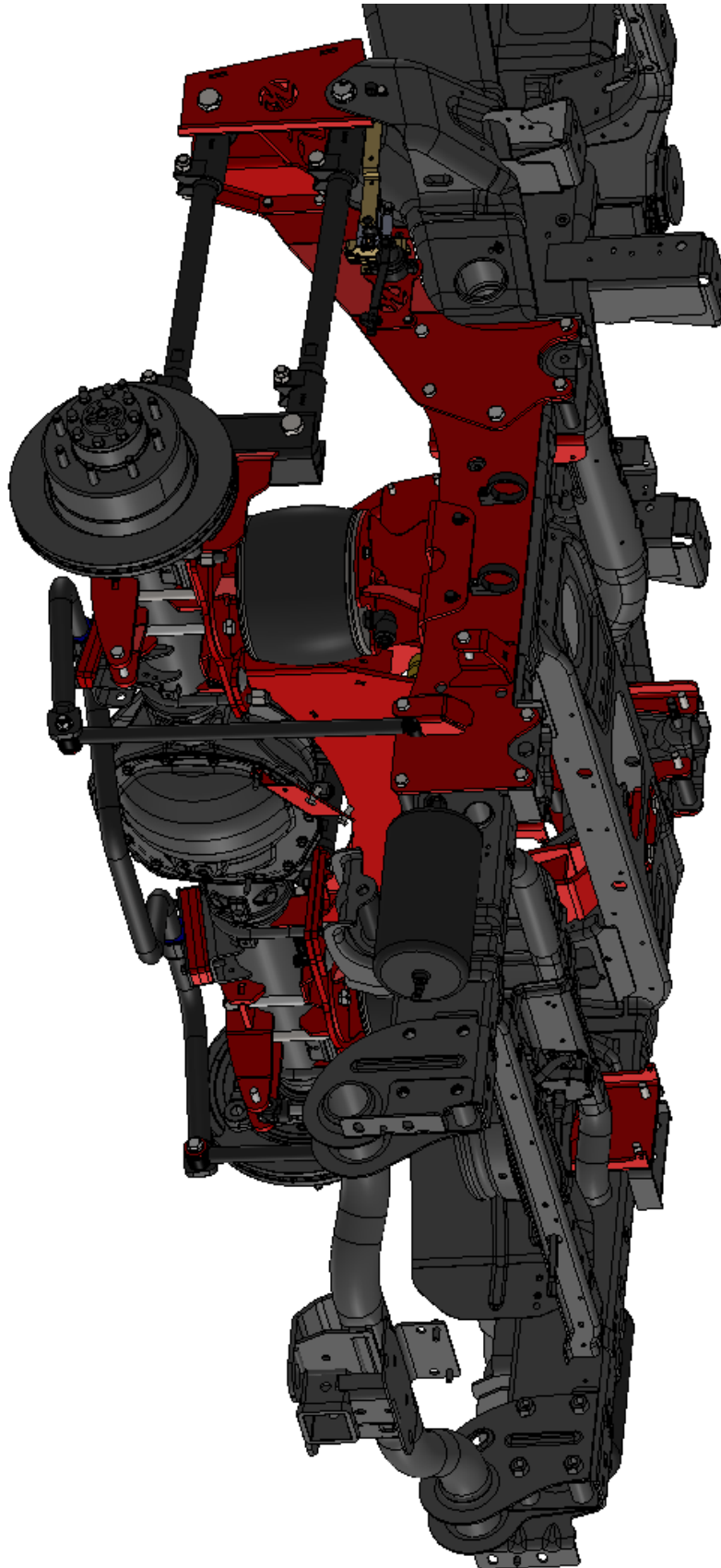




13. ONCE THE INSTALL IS COMPLETE, RE-CHECK ALL THE BOLTS ON THE SYSTEM TO MAKE SURE THEY ARE TORQUED TO THE PROVIDED SPECS. MEASURE FROM THE FRONT OF THE REAR AXLE TUBE TO THE FRONT AXLE KING PIN AS DONE IN STEP ONE. THESE NUMBERS NEED TO BE WITHIN 1/8" BEFORE THE TRUCK IS TEST DRIVEN. REVIEW THE PINION ANGLE MEASUREMENT RECORDED IN STEP ONE. CHECK THE CURRENT PINION ANGLE AND ADJUST THE TRAILING ARMS IN OR OUT AS NEEDED. THE TRAILING ARM MEASUREMENTS PROVIDED WHEN DOING THE INSTALL WILL BE CLOSE, BUT FINE TUNING IS USUALLY REQUIRED. ONCE THE FORE AND AFT AND PINION ANGLES ARE DONE ON THE AXLE, CHECK THE SIDE TO SIDE MEASUREMENT. ADJUST THE PAN HARD BAR IN OR OUT AS NEEDED. IF THE FRONT KIT IS NOT INSTALLED YET, PROCEED TO THE FRONT. IF THE INSTALL IS COMPLETE, PROCEED TO THE AIR MANAGEMENT INSTALLATION.



KIT DRAWINGS



This diagram shows an exploded view of a robotic arm assembly. The components are numbered 1 through 33. The assembly includes two main cylindrical motor housings (1 and 2), two motor shafts (3 and 4), two motor gears (5 and 6), two motor bearings (7 and 8), two motor pulleys (9 and 10), two motor belts (11 and 12), two motor pulleys (13 and 14), two motor bearings (15 and 16), two motor gears (17 and 18), two motor shafts (19 and 20), two motor pulleys (21 and 22), two motor bearings (23 and 24), two motor gears (25 and 26), two motor shafts (27 and 28), two motor pulleys (29 and 30), two motor bearings (31 and 32), and two motor gears (33 and 34).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		<i>Assemblies</i>	
1	19136	Assembly - 15' End Link	2
2	19167	Pan Hard Bar	1
3	19180	Assembly - Trailing Arm Knuckle	2
4	19181	Trailing Arm Knuckle 10005	2
5	19182	Trailing Arm Knuckle 10006	2
6	19183	Trailing Arm Knuckle 10006	2
7	10005093	Assembly - Crossmember Mounted Dual Accumulator Tank - 1 gallon	1
8	100051103	Assembly - Upper Bag Mount - 5748 Bag	2
9	10005110	Assembly - Brake Line Relocation Bracket - 1-1/2" Extension	1
10	10006064	Assembly - [P5] Lower Bag Mount	1
11	10006065	Assembly - [DS] - Lower Bag Mount & P18 Bracket	1
12	10006066	Assembly - Sensor Linkage Ear	2
		<i>Weldments</i>	
13	19176	Weldment - [DS] Shock Relocation Bracket	1
14	19177	[P5] Shock Relocation Bracket	1
		<i>Parts</i>	
15	11651	Truck Washer - 1.5"OD x .55"ID x 11/4"	2
16	18584	Plate - 1/2" - Sway Bar Extension Plate	2
17	19161	Plate - 1/4" - End Link Mounting Ear - w/Bends	2
18	51707	Plate - 7ga - Sensor Arm - 7.5" - Straight	2
19	52116.5	18.50" Trailing Arm Bar	2
20	52120	Tube - 1.5" OD x 1" ID x 20.00"	2
21	10005225	Plate - 7ga - Bump Stop Sensor Bracket [P5] - w/Bends	1
22	10005230	Plate - 7ga - Bump Stop Sensor Bracket [P5] - w/Bends	1
		<i>Purchased Parts</i>	
23	1129-14IKLD	1129-14IKLD Rodmaster	1
24	4129-14IKLD	Sway Bar Bushing Kit	2
25	80012-5748	5748 Firestone Air Bag	2
26	80143	90° Male Connector, Union, SAE Flare, 3/4" x 3/4" -14 NPT [Seamit]	2
		<i>Hardware</i>	
27	12021	Bolt - 1/2"-20 X 3" Gr.8	6
28	12213	Bolt - 3/8"-24 X 1 1/4" Gr.8	2
29	13002	Washer - 3/8" Flat STRL Washer	4
30	13004	1/2" Flat Washer	12
31	13162	Hex Nut - 3/8"-20 Gr. 8 YZ	2
32	13164	1/2"-20 Hex Nut Gr.8	6
33	13874	Bolt - M10 X 1.50 X 40mm Class 10.9	4
34	13893	Washer - M10 Lock Washer	4
35	13890	Flat Washer - M14	2
36	14139	Bolt - M14 x 2 mm Thread, 100 mm Long - Class 10.9 - Z	1
37	13905	M14-2 - Nylon-Insert Locknut	1

This diagram shows an exploded view of a mechanical assembly, likely a robotic gripper or a similar precision mechanism. The assembly consists of several main components, including two gripper arms (14 and 15), a central body (1), and various internal mechanisms and fasteners. The numbered callouts are as follows:

- 1: Central body or frame
- 2: Small pins or fasteners
- 3: Arm support bracket
- 4: Arm support bracket (top)
- 5: Arm support bracket (bottom)
- 6: Internal linkage or arm component
- 7: Internal linkage or arm component
- 10: Internal linkage or arm component
- 11: Internal linkage or arm component
- 12: Internal linkage or arm component
- 13: Internal linkage or arm component
- 14: Upper gripper arm
- 15: Lower gripper arm
- 18: Arm support bracket
- 19: Arm support bracket (top)
- 20: Arm support bracket (bottom)
- 21: Internal linkage or arm component
- 23: Internal linkage or arm component
- 24: Internal linkage or arm component
- 25: Arm support bracket

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		<i>Assemblies</i>	
1	17744	Assembly - 22" End Link	2
2	18498	Assembly - Cast Knuckle 10006	4
3	18499	Assembly - Cast Knuckle 10005 - 1" ID	2
4	50892	Assembly - Trailing Arm Knuckle 10005 (RHT) - No Sleeve Bushing	2
5	10005628	Assembly - (PS) Side Plate & Perch Mount	1
6	10006110	Assembly - Panhard Bar - 18.75" Bar Length - 7/8" Bolt	1
7	10006124	Assembly - Sway Bar Bushing - 1-3/8" ID	2
8	10006174	Assembly - Brake Line Relocation Bracket - 4" Extension	1
9	10006177	Assembly - Upper Bag Mount & PHB Drop (PS)	1
10	10006180	Assembly - PHB Crossmember - Shock Height +3"	1
11	10006183	Assembly - Lower Bag Plate & Axle Clamp w/ Shock (PS)	1
12	10006184	Assembly - Lower Bag Plate & Axle Clamp w/ Shock (PS)	1
13	10006194	Assembly - Upper Bag Mount (DS)	1
		<i>Weldments</i>	
14	10005062	Weldment - Accumulator Tank - 1 gal. (PS)	1
15	10005063	Weldment - Accumulator Tank - 1 gal. (DS)	1
16	10005625	Weldment - (DS) Perch Mount	1
		<i>Parts</i>	
17	11551	Thick Washer - 1.5" OD x .55" ID x 1/4"	2
18	17551	Wire/Hose/E-broke Coble Retainer	1
19	21467	Upper Front Trailing Arm Reducer Sleeve	2
20	52122	22" Trailing Arm Bar	4
21	10004890	Plate - 3/4" - PHB Drop Frame Spacer - Non Fifth Wheel	1
		<i>Purchased Parts</i>	
22	80094	90° Male Elbow Tube 1/4" x 1/4-18 NPT	2
23	80246	Purchased - Sway Bar - 1-3/8" Dia	1
24	80261	45° Male Elbow, 3/4" x 3/4" - 14 NPT - Brass Fitting, Swivel	2
25	80264	Purchased - Vibration-Damping Loop Clamp - 1/2" ID	2
		<i>Hardware</i>	
26	12021	Bolt - 1/2"-20 X 3" Gr.8 YZ	2
27	12633	Bolt - 7/8"-14 X 5 1/2" Gr. 8 YZ	1
28	13030	Washer - 7/8" Flat SAE Washer	2
29	13130	Lock Nut - 7/8"-14 Gr. 8 YZ	1
30	13024	Washer - 1/2" Flat SAE Washer	4
31	13124	Lock Nut - 1/2"-20 Gr. 8	2

NOTES

CONTACT INFORMATION

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