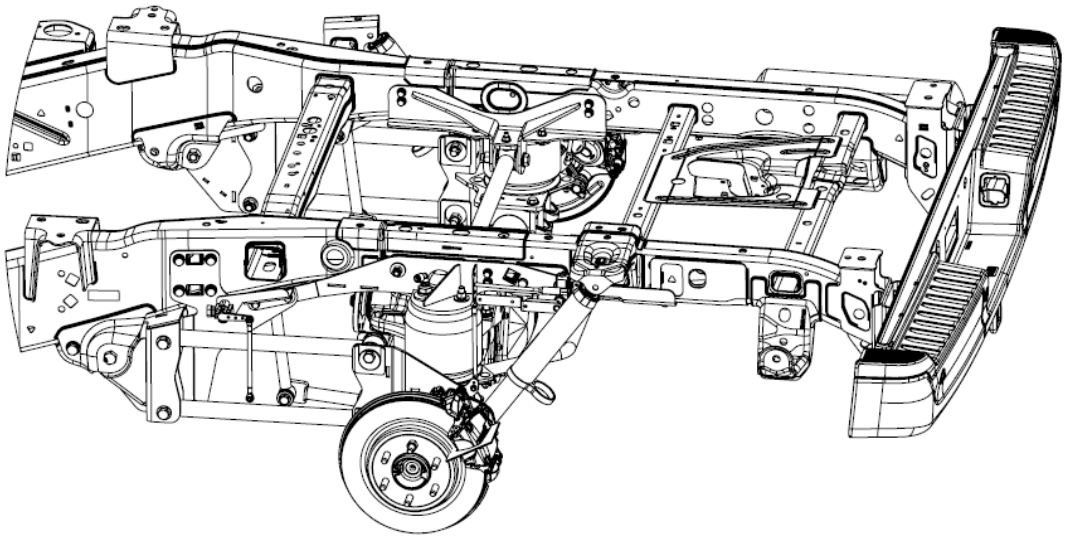
kelderman

Stock Height 4-Link Rear Air Ride Installation Manual

- 2021+ Ford F150

Kelderman 4-Link Air Ride



- **Contents**

Kit Numbers

- **This installation manual covers the following air ride kits.**

Kit Number	Description
10011486	Kit - Stock Height - 4-Link Rear - Ring Gear 9.75" (EGPAF0) : 2021+ Ford F150 Pickup - Stock Height 4-Link Rear
10013624	Kit - Stock Height - 4-Link Rear - Ring Gear 8.8" (EGPAE0) : 2021+ Ford F150 Pickup - Stock Height 4-Link Rear

Introduction

- **Important**

  It is important that the entire installation instructions be read thoroughly before proceeding with installation.

- **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.

- **Product Owner Responsibilities**

  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 90 days or 1000 miles of this product being put into service.

- **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.

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: 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 three 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.
  - 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.

Suspension Removal

1: Before starting the removal process, take some time to examine the muffler and tail section of the exhaust to see if these need to be replaced as you will be required to drop the tail section during the removal and assembly processes.

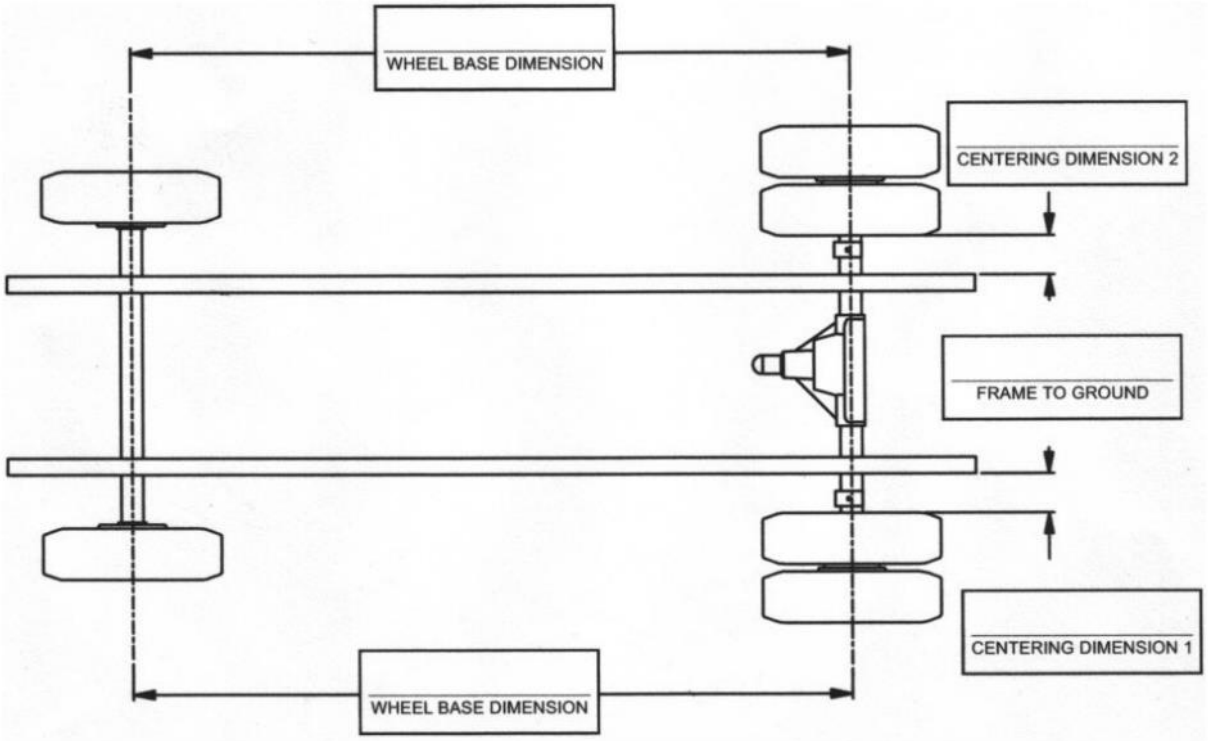
2: Next, measure the pinion angle and record it. This is important because you will need to put the axle back to this measurement after installation. See figure 1.

Pinion angle_____

Tools/Equipment needed: Floor jack, grinder with cut off wheel, wrenches/sockets, impact gun

3: Drop the spare tire and remove from the truck.

4: Take the following measurements for future reference. You will need to refer to these measurements to adjust the suspension system. See figure 2 below.

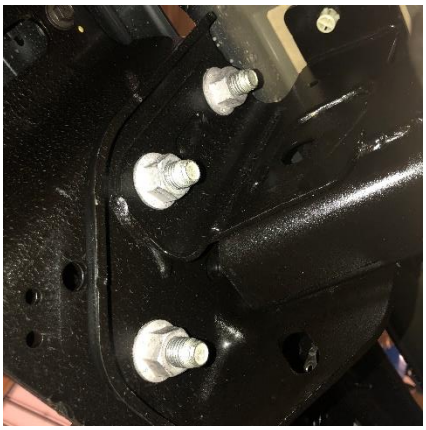


5: Remove the bolt on passenger side of tailgate and unplug harness attached to tailgate

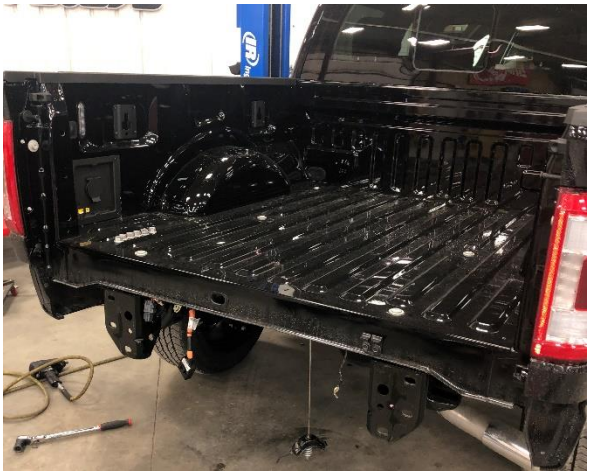
6: Remove the tailgate and set aside.

7: Unplug harnesses behind bumper before removing bumper/truck bed.
There will be harnesses attached to the truck bed with ties that will need to be cut off.

8: Remove (6) M24 bolts & ground straps on bumper before removal.



9: Remove bumper and hardware. Keep bumper hardware as they will be required later.



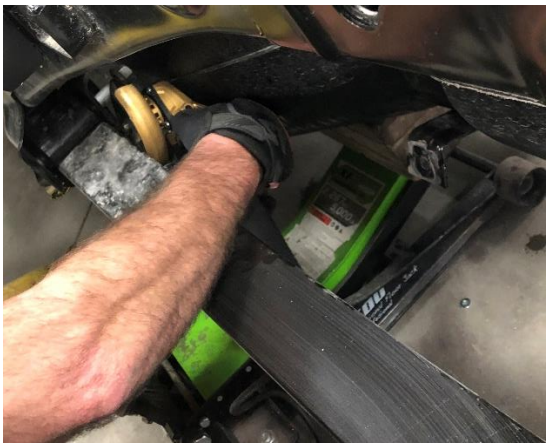
10: Remove (6) bolts on the bed & bolts attaching fuel filler neck to bed

11: Remove bed from truck. Make sure to push fuel filler neck through rubber gasket during removal.

12: Remove rear fuel tank strap & remove fuel tank to allow clearance to remove front leaf spring bolt ***(Note: best to have minimal gas in the fuel tank.)***

13: Jack up the rear of the truck until weight is taken off the leaf springs. (Note: Use a block or extension if height maximizes jack height.)

14: Remove front driver side leaf spring bolt. (Note: Bolt may have to be cut off and replaced. ***(Recommended to use cut off wheel on a 4" grinder).***



15: Remove bolts on the tail section of the exhaust to drop muffler & tailpipe to allow for clearance to remove passenger side front leaf spring bolt.



16: Remove passenger side front leaf spring bolt. ***(Note: Keep all leaf spring bolts for later install.)***

17: Remove both rear leaf spring bolts, shackle mount & shackle mount bolts.

18: Fuel tank can be bolted back in place but leave exhaust loose during install process

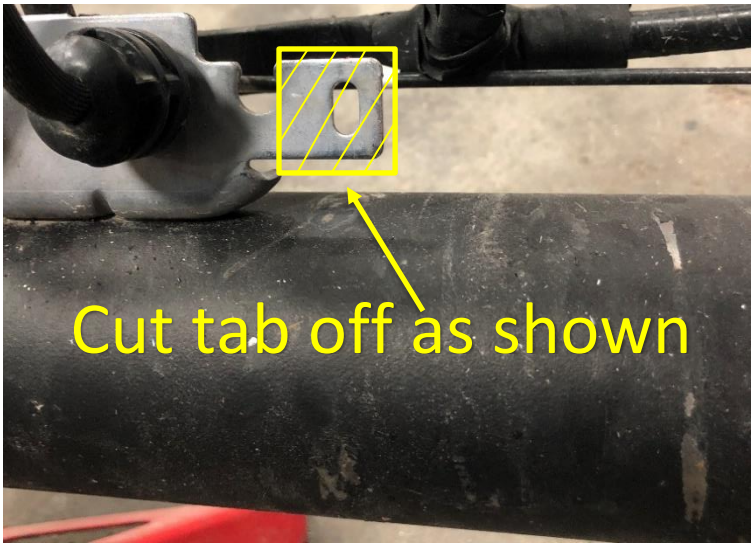
19: Remove ride height sensor from driver side leaf spring & frame. Remove the bracket attached to axle mount before taking off bolts on the axle.

20: Remove bolts & U-bolts attaching leaf spring to the axle

21: Remove the lower axle clamps from both sides & ***keep for later install.***

22: Remove bump stops from both sides. ***Keep factory bolt for install.***

23: Cut off tab on axle for clearance needed later during install.



24: Un-install is now complete & install can now be started.

Air Ride Installation

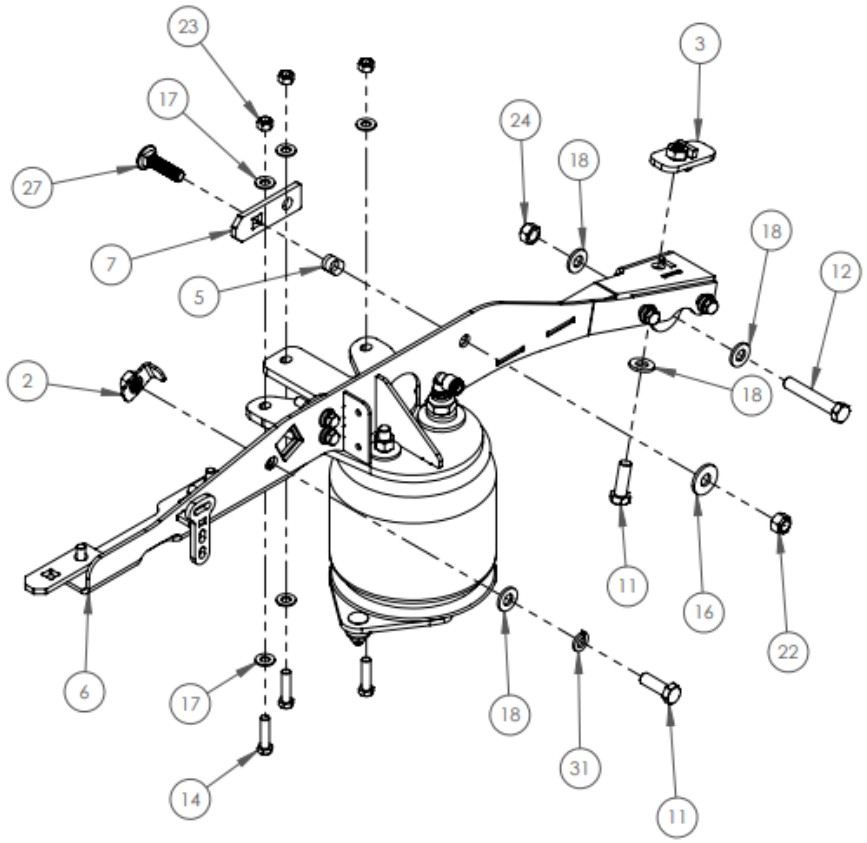
- Open every box and locate all parts. There are several smaller bushing pieces and bolts that are packaged separately inside the main box.

NOTE: **All of the bolts in this kit use a flat washer on each side of the bolt.**

NOTE: **Snug all bolts but do not tighten until the entire kit is installed**

NOTE: **Best practice to keep a jack under rear differential during install**

Tools/Equipment needed: Jack stand/Floor Jack, wrenches/sockets, impact gun, needle nose vise grip, bendable telescoping magnet



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Weldments	
1	10010610	Weldment - Side Plate Weld Nut Tab	1
2	10010747	Weldment - Trailing Arm Brace Weld Nut Tab	1
3	10010768	Weldment - End Link Weld Nut Tab	1
4	10010876	Weldment - Side Plate Weld Nut Tab	1
5	10010931	Plate - 7ga - Frame Hole Spacer	1
6	10011501	Weldment - (PS) Upper Bag Mount w/PHB Mount	1
7	10011508	Weldment - Carriage Bolt & Weld Nut Flag	2
		Parts	
8	10006339	Plate - 1/4" - Removable Lower Bag Plate	1
		Purchased Parts	
9	80012-2119	Firestone 2119	1
10	80168	KV2L11-35s - 90° Elbow, 3/8" x 1/4-18 NPT	1
		Hardware	
11	12006	Hex Bolt - 1/2"-13 x 1-1/2" - GR5 - Z	3
12	12021	Hex Bolt - 1/2"-20 x 3" - GR8 - YZ	1
13	12216	Hex Bolt - 3/8"-16 x 1-1/2" - GR5 - Z	2
14	12217	Hex Bolt - 3/8"-24 x 1-1/2" - GR8 - YZ	5
15	12220	Hex Bolt - 3/8"-16 x 2" - GR5 - Z	2
16	13004	Flat Washer USS - 1/2" - GR8 - YZ	3
17	13022	Flat Washer SAE - 3/8" - GR8 - YZ	12
18	13024	Flat Washer SAE - 1/2" - GR8 - YZ	4
19	13046	Split Lock Washer - 3/8" - GR8 - YZ	6
20	13056	Split Lock Washer - 3/4" - GR8 - YZ	1
21	13102	Top Distorted Thread Lock Nut - 3/8"-16 - GR5 - Z	2
22	13104	Top Distorted Thread Lock Nut - 1/2"-13 - GR5 - Z	1
23	13122	Top Distorted Thread Lock Nut - 3/8"-24 - GR8 - YZ	3
24	13124	Top Distorted Thread Lock Nut - 1/2"-20 - GR8 - YZ	1
25	13164	Hex Nut - 1/2"-20 - GR8 - YZ	1
26	13208	Jam Nut RHT - 3/4"-16 - GR5 - Z	1
27	13831	Carriage Bolt - 1/2"-13 x 2" - GR5 - Z	1
28	14145	Carriage Bolt: 3/8"-16 x 1-1/4" - GR5 - Z	2
29	13008	Flat Washer USS - 3/4" - GR8 - YZ	1
30	13002	Flat Washer USS - 3/8" - GR8 - YZ	2
31	13050	Split Lock Washer - 1/2" - GR8 - YZ	2

REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION

UNLESS OTHERWISE SPEC. DIMNS. IN INCHES

STD. TOLERANCES
X.X ±.060
X.XX ±.030
X.XXX ±.010
FRAC.DIM. ±1/32"
Dec. ± .5°

A | DO NOT SCALE DRAWING | 1:12 | Approximate Weight =**25.12 lbs**

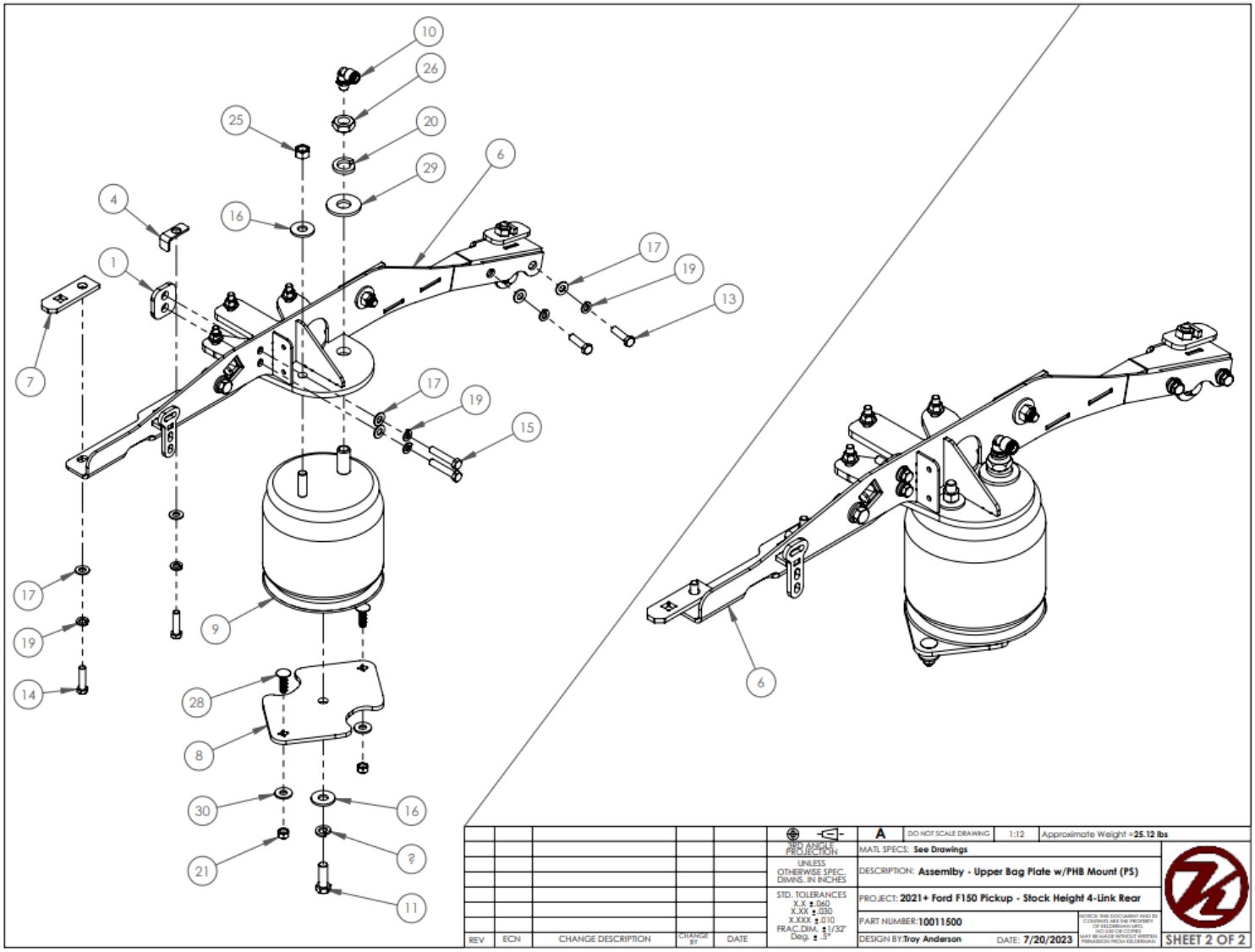
MATL SPECS: **See Drawings**

DESCRIPTION: **Assembly - Upper Bag Plate w/PHB Mount (PS)**

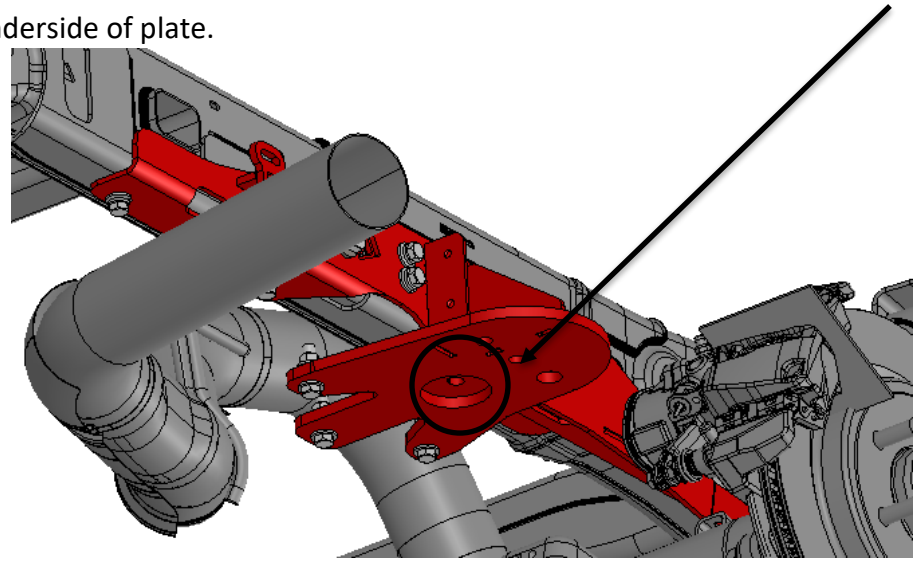
PROJECT: **2021+ Ford F150 Pickup - Stock Height 4-Link Rear**

PART NUMBER: **10011500**

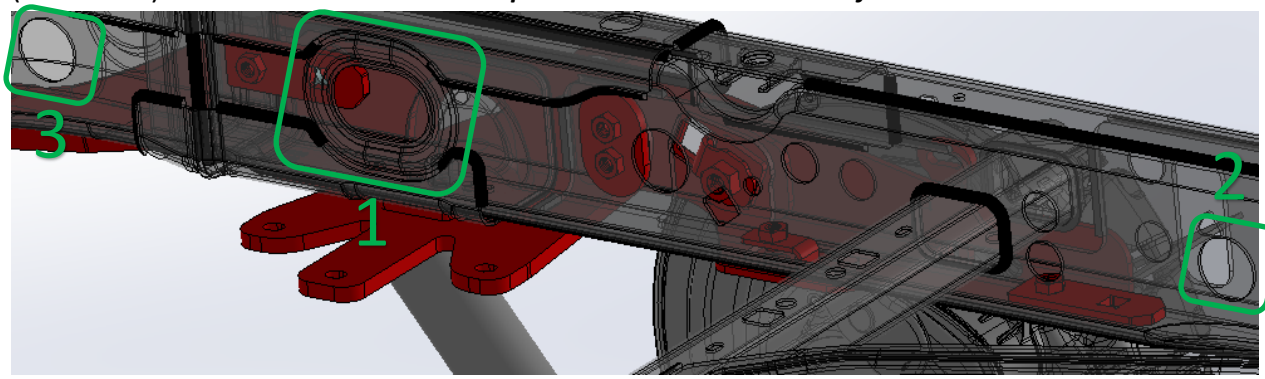
DESIGN BY: **Troy Anderson** DATE: **7/20/2023**

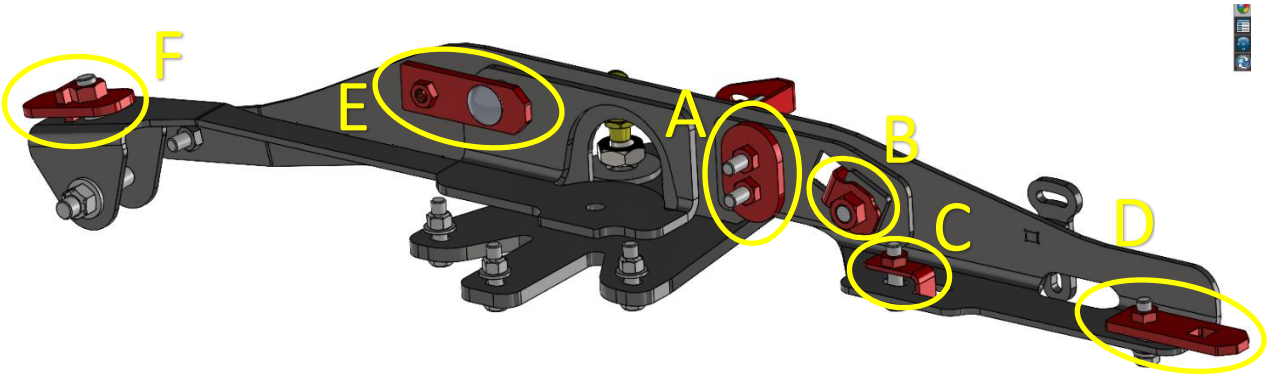


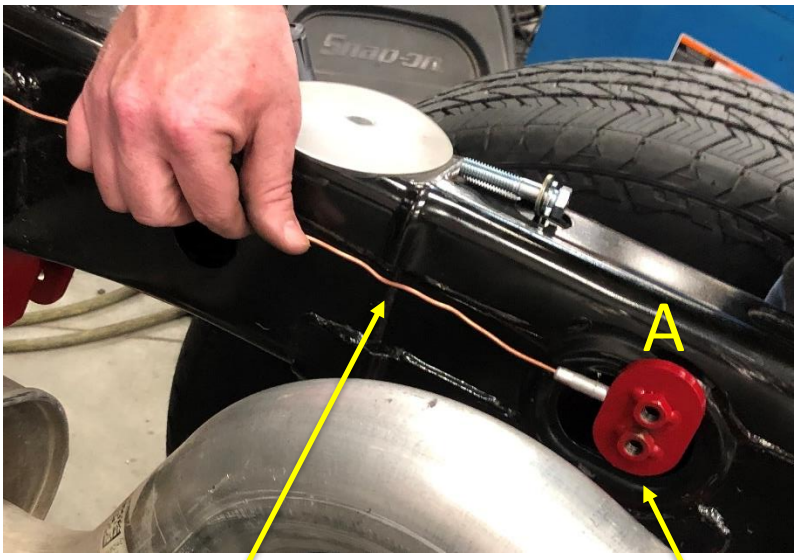
1: Install upper bag mount (Part #10011501) to the frame & install factory bump stop bolt to underside of plate.



2: Next step will consist of fishing the weld nut tabs through the frame to securely attach (10011501) to the frame. ***NOTE: These procedures will be the same for both sides.***







Weld Tab #'s

A: #10010610

B: #10010747

C: #10010876

D: #10011508

E: #10011508/10010931

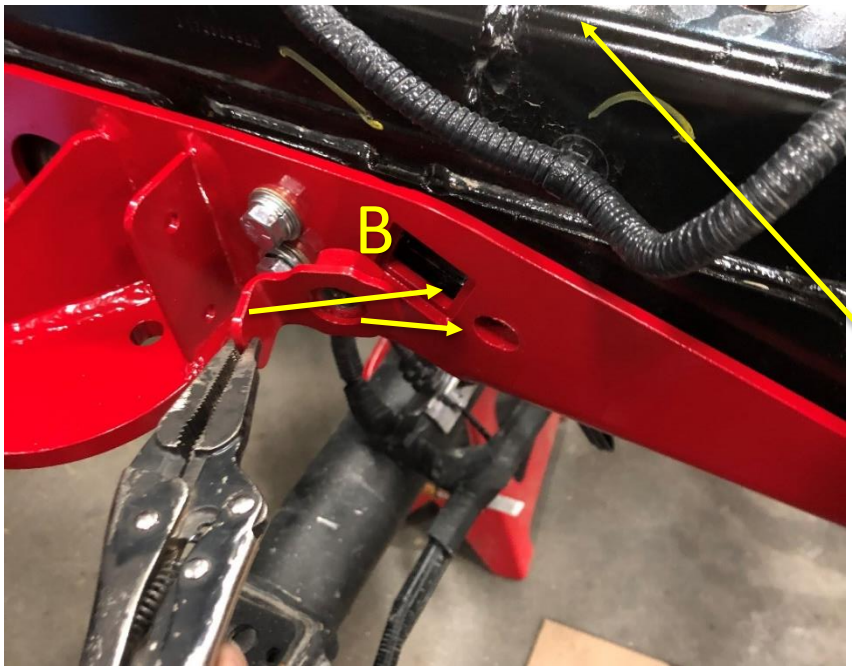
Recommended to use a bendable telescoping magnet or wire magnet to help to place the weld tabs in their intended location

Fish item #10010610 through the opening (#1)

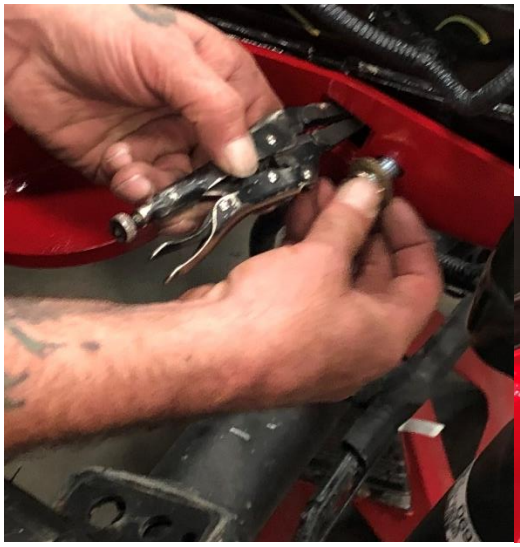
(2) Hex bolt 3/8”-16 x 2”

(2) 3/8” split lock washer

(2) 3/8” flat washer



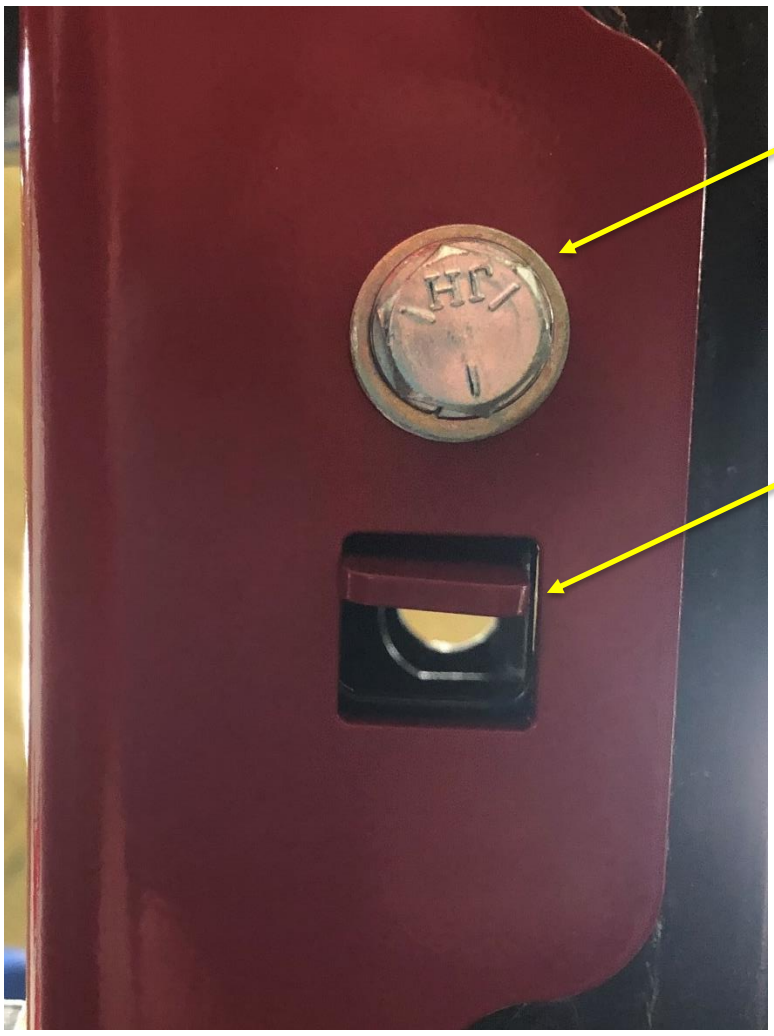
(B) Must come in from back side of the frame



NOTE: Recommended way to hold weld tab is to use a needle nose vise

(2) Hex bolt ½-13 x 1-1/2”

(1) ½” flat washer



(1) Hex Bolt 3/8”-16 x 1-1/2”

(1) 3/8” Split Lock Washer

(1) 3/8” Flat Washer

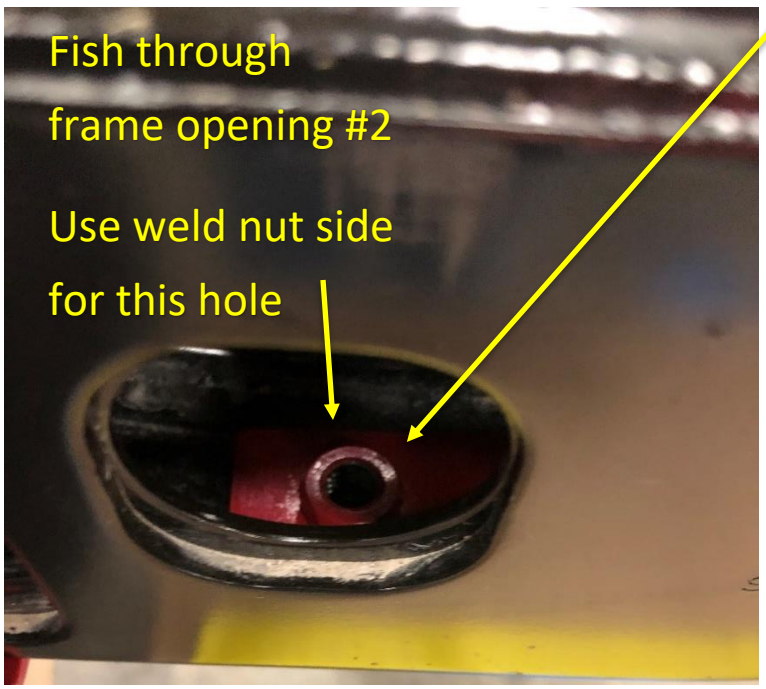
C

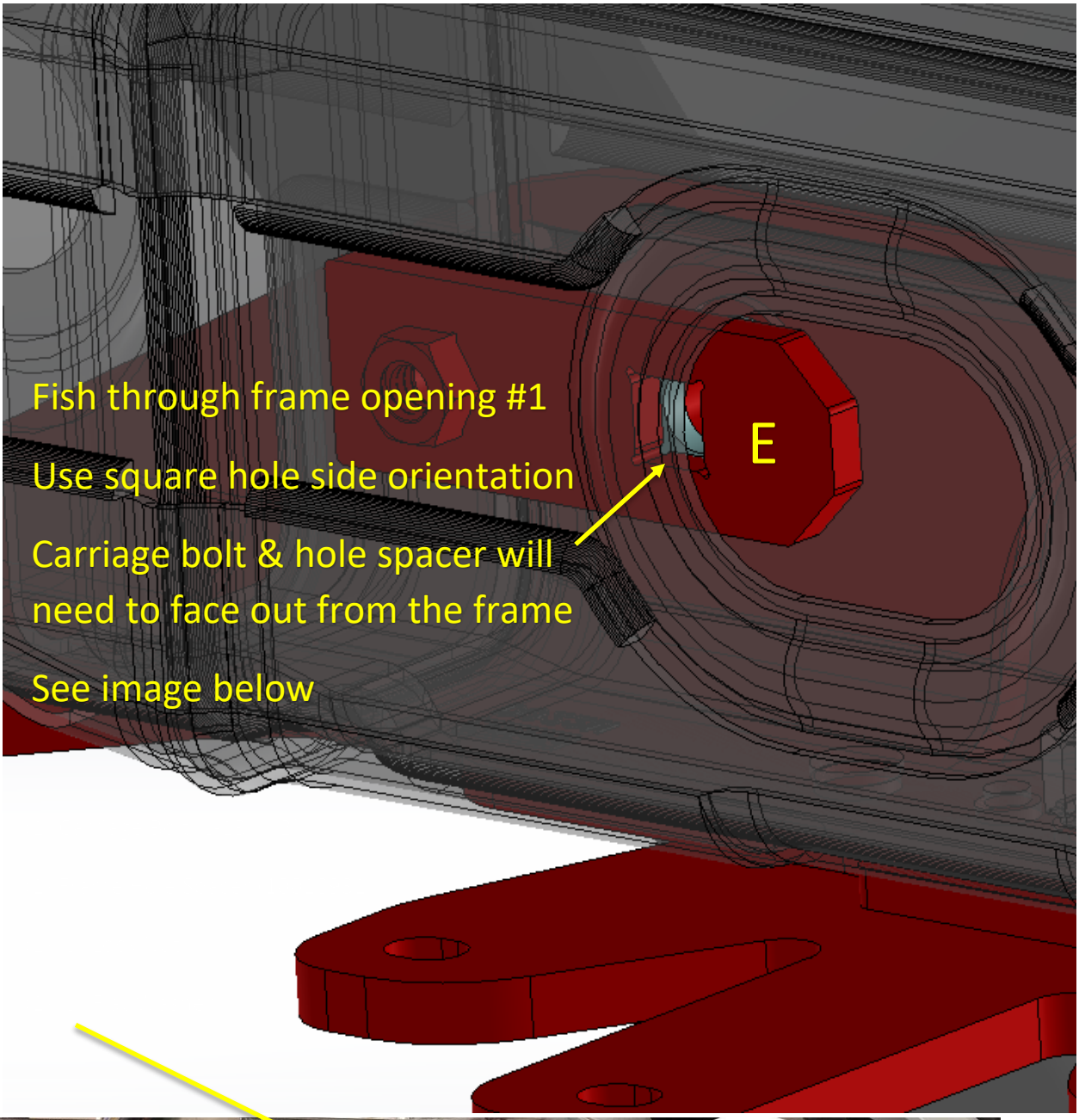
Fish through frame opening #1

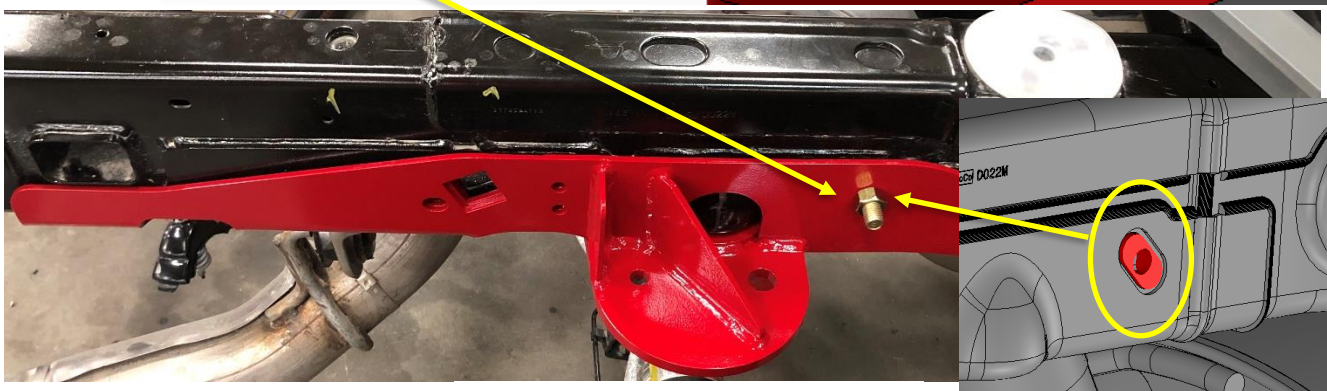
(1) Hex Bolt 3/8”-24 x 1-1/2”

(1) 3/8” Split Lock Washer

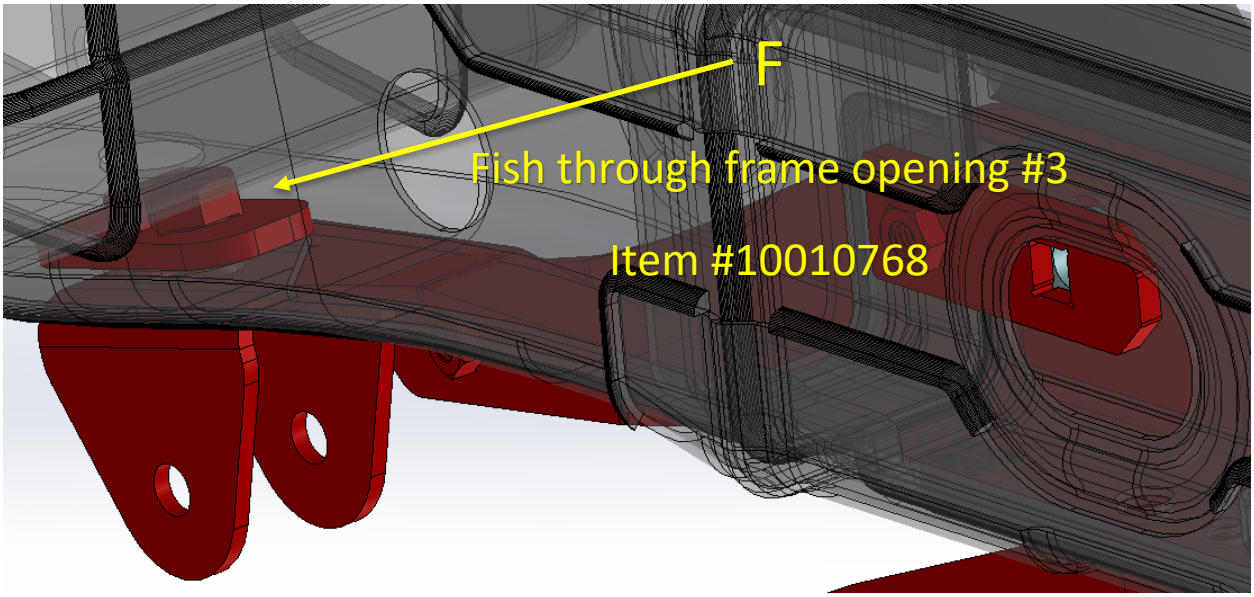
(1) 3/8” Flat Washer







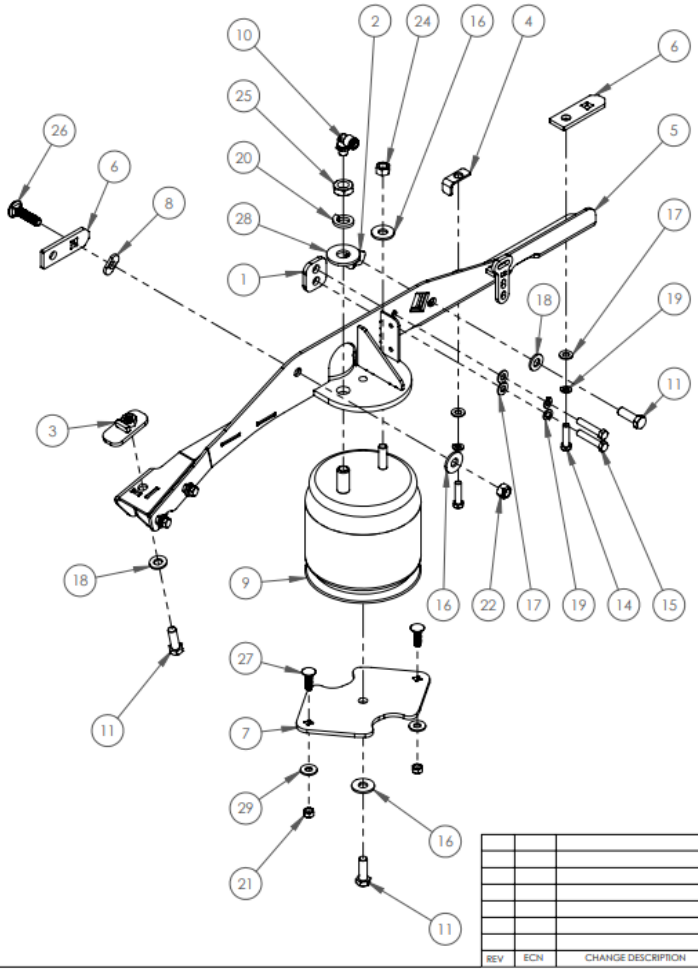
Install 10010931 after (E) 10011508 before install side plate weldment



(1) Hex Bolt ½-13 x 1-1/2”

(1) ½” Flat Washer

3: Follow same procedures with driver side weldment (10011495).



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2	10010747	Weldment - Trailing Arm Brace Weld Nut Tab	1
3	10010768	Weldment - End Link Weld Nut Tab	1
4	10010876	Weldment - Side Plate Weld Nut Tab	1
5	10011495	Weldment - Upper Bag Mount (DS)	1
6	10011508	Weldment - Carriage Bolt & Weld Nut Flag	2
		Parts	
7	10006339	Plate - 1/4" - Removable Lower Bag Plate	1
8	10010931	Plate - 7ga - Frame Hole Spacer	1
		Purchased Parts	
9	80012-2119	Firestone 2119	1
10	80168	KV2L11-35s - 90° Elbow, 3/8" x 1/4-18 NPT	1
		Hardware	
11	12006	Hex Bolt - 1/2"-13 x 1-1/2" - GR5 - Z	3
12	12021	Hex Bolt - 1/2"-20 x 3" - GR8 - YZ	1
13	12210	Hex Bolt - 3/8"-16 x 1" - GR5 - Z	2
14	12217	Hex Bolt - 3/8"-24 x 1-1/2" - GR8 - YZ	2
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27	14145	Carriage Bolt: 3/8"-16 x 1-1/4" - GR5 - Z	2
28	13008	Flat Washer USS - 3/4" - GR8 - YZ	1
29	13002	Flat Washer USS - 3/8" - GR8 - YZ	2

REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION

UNLESS OTHERWISE SPEC. DIMNS. IN INCHES

STD. TOLERANCES
X.X ± .060
X.XX ± .030
X.XXX ± .010
FRAC.DIM. ± 1/32"
Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:12 | Approximate Weight = lbs

MATL SPECS:

DESCRIPTION: **Assemlby - Upper Bag Mount (DS)**

PROJECT: **2021+ Ford F150 Pickup - Stock Height 4-Link Rear**

PART NUMBER: **10011494**

DESIGN BY: **Troy Anderson** DATE: **7/21/2023**

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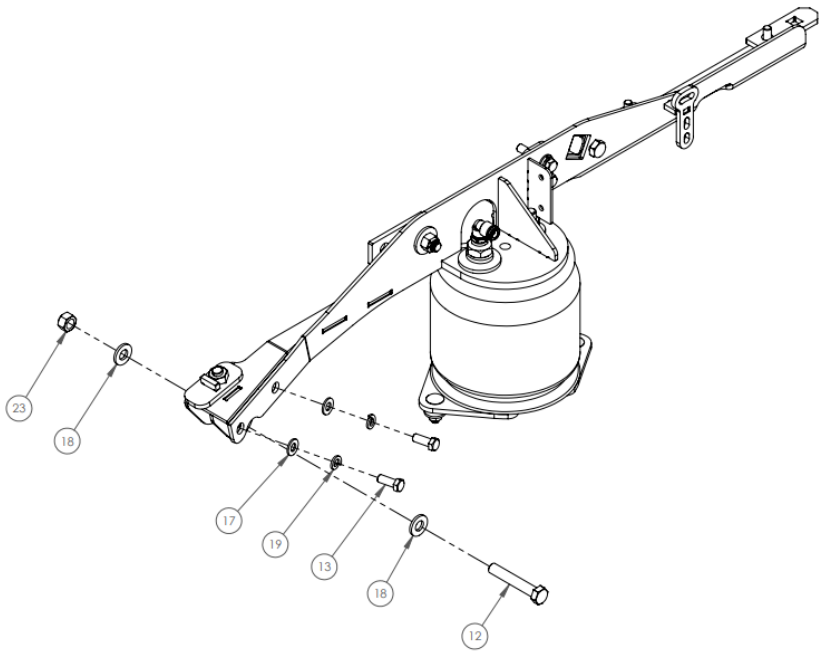
SHEET 1 OF 2



REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION

UNLESS OTHERWISE SPEC. DIMNS. IN INCHES

STD. TOLERANCES
X.X ± .060
X.XX ± .030
X.XXX ± .010
FRAC.DIM. ± 1/32"
Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:12 | Approximate Weight = lbs

MATL SPECS:

DESCRIPTION: **Assemlby - Upper Bag Mount (DS)**

PROJECT: **2021+ Ford F150 Pickup - Stock Height 4-Link Rear**

PART NUMBER: **10011494**

DESIGN BY: **Troy Anderson** DATE: **7/21/2023**

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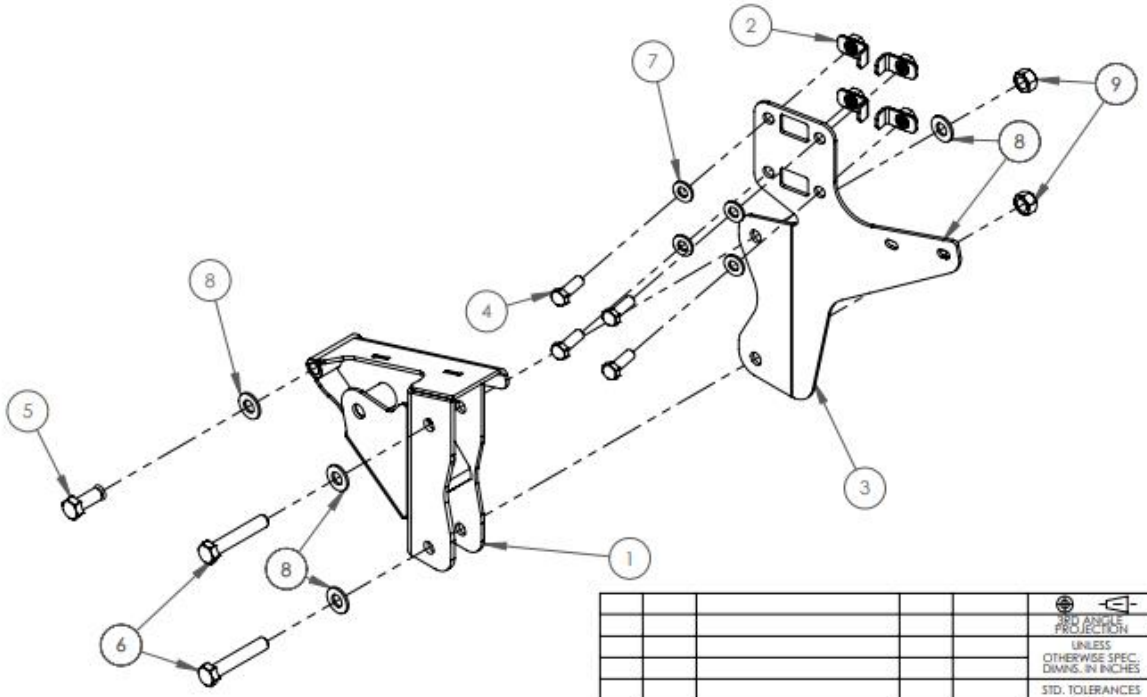
SHEET 2 OF 2

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Weldments	
1	10010670	Weldment - Trailing Arm Mount (DS)	1
2	10010747	Weldment - Trailing Arm Brace Weld Nut Tab	4
		Parts	
3	10010758	Plate - 7ga - Trailing Arm Brace (DS) - w/Bends	1
		Hardware	
4	12006	Hex Bolt - 1/2"-13 x 1-1/2" - GR5 - Z	4
5	12405	Hex Bolt - 5/8"-18 x 1-1/2" - GR8 - YZ	1
6	12423	Hex Bolt - 5/8"-18 x 3-1/2" - GR8 - YZ	2
7	13024	Flat Washer SAE - 1/2" - GR8 - YZ	4
8	13026	Flat Washer SAE - 5/8" - GR8 - YZ	5
9	13126	Top Distorted Thread Lock Nut - 5/8"-18 - GR8 - YZ	2



REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION

UNLESS OTHERWISE SPEC. DIMNS. IN INCHES

STD. TOLERANCES
X.X ±.060
X.XX ±.030
X.XXX ±.010
FRAC. DIM. ±1/32"
Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:8 | Approximate Weight = **17.18 lbs**

MATL SPECS: **See Drawings**

DESCRIPTION: **Assembly - (DS) Trailing Arm Mount**

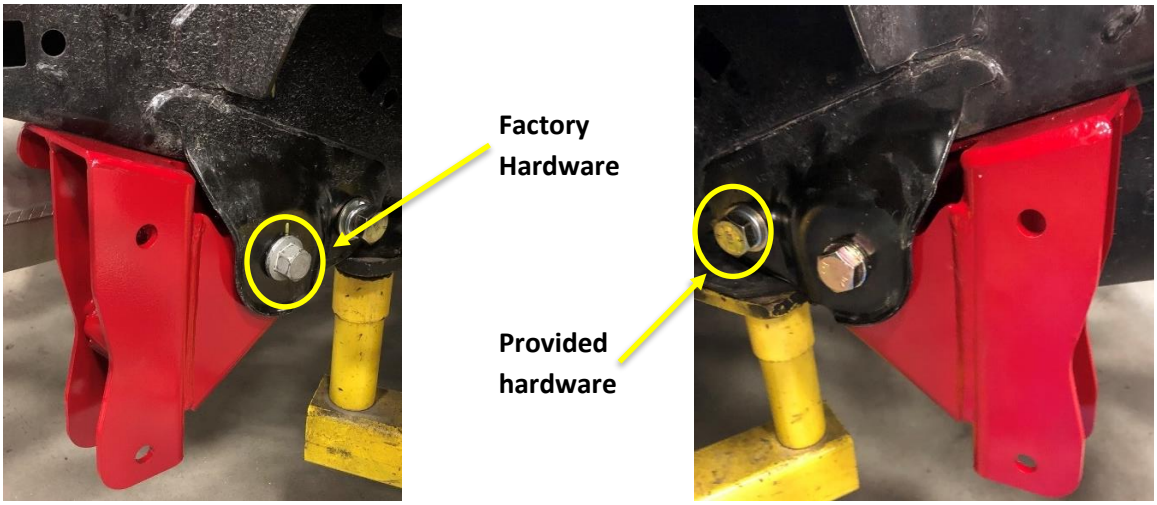
PROJECT: **2015-2020 Ford F150 Pickup**

PART NUMBER: **10010760**

DESIGN BY: **Troy Anderson** DATE: **7/21/2023**

SHEET 1 OF 1

4: Install trailing arm mounts (10010750 & 10010670) to factory front leaf spring mounts. Note: Use factory bolt for rear hole & front hole uses (2) hex bolt 5/8-18" x 1-1/2" & 5/8" split lock and flat washer. (**Note:** It's a tight fit where factory bolt goes through and may require a pass through with a drill bit.)



5: Install trailing arm brace to both sides (10010758 & 10010762)

- These plates bolt to trailing arm mounts (10010750 & 10010670) & upper bag mounts (10011495 & 10011501)

(4) Hex bolt 3/8-16" x 1"

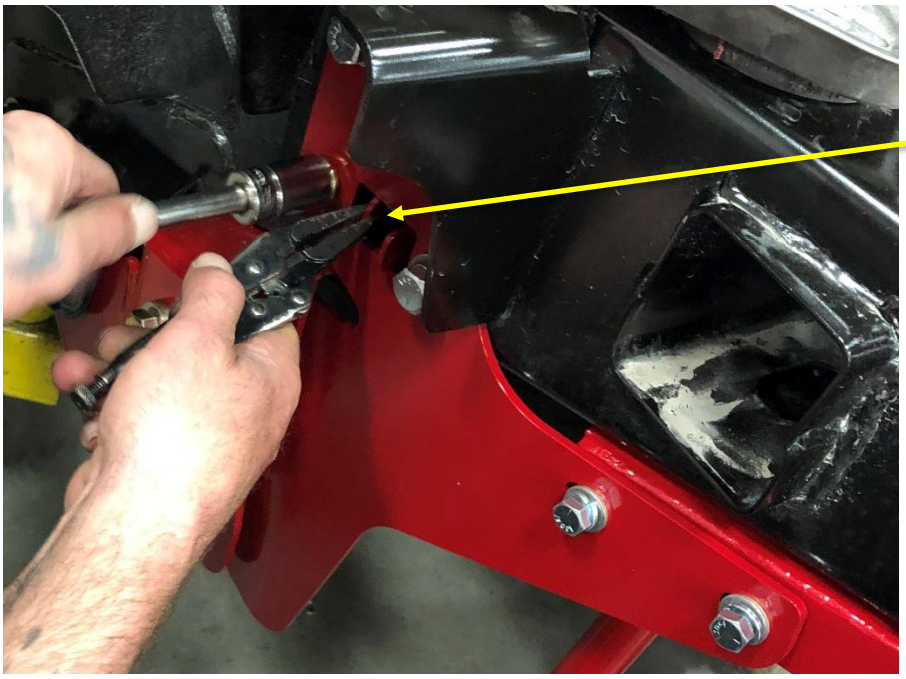
(4) 3/8" flat washer

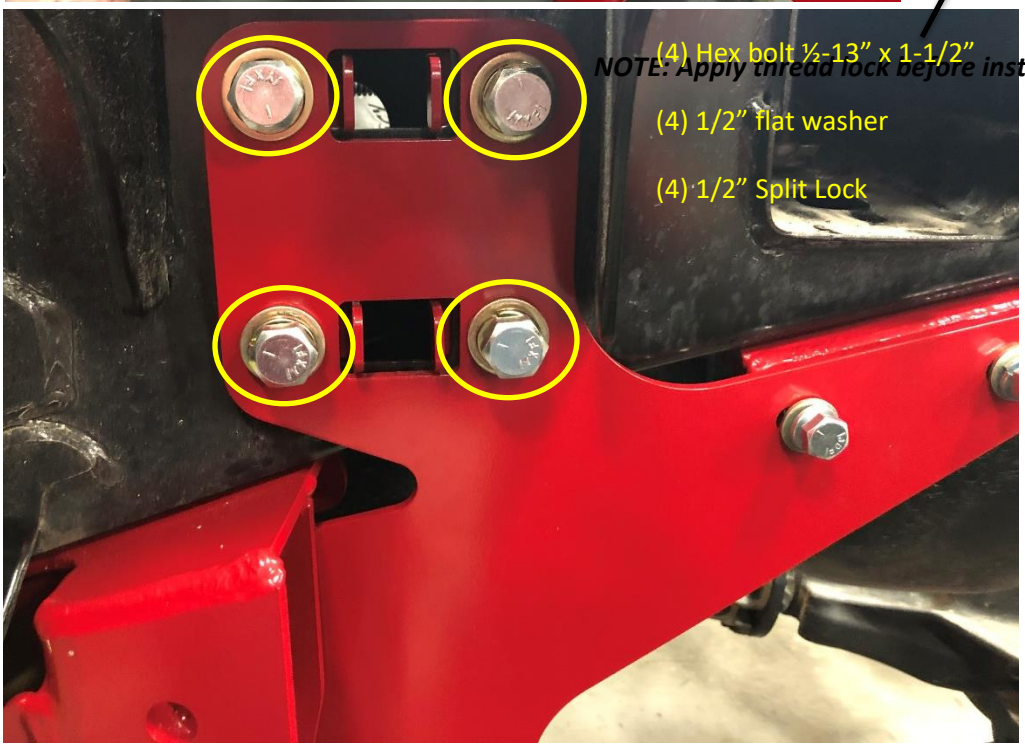
(4) 3/8" Split Lock

6: Insert trailing arm brace weld nut tab through openings in brace plate.

Note: Install is easier with a needle nose vise grip

#10010747





(4) Hex bolt ½-13" x 1-1/2"

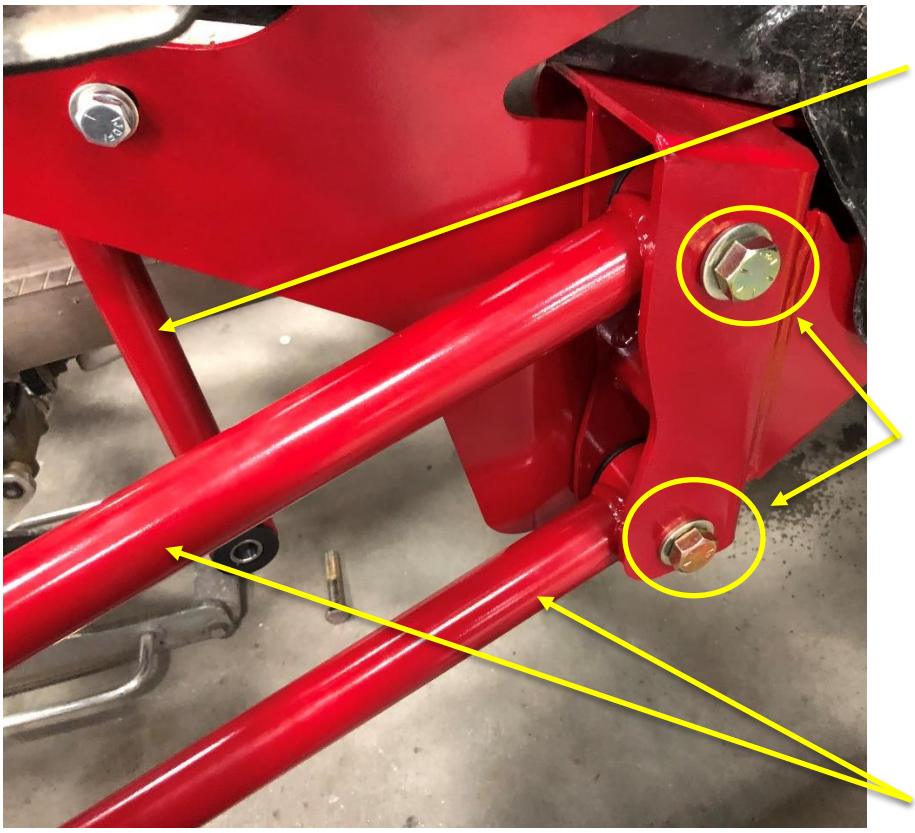
NOTE: Apply thread lock before installing weld nut tab

(4) 1/2" flat washer

(4) 1/2" Split Lock

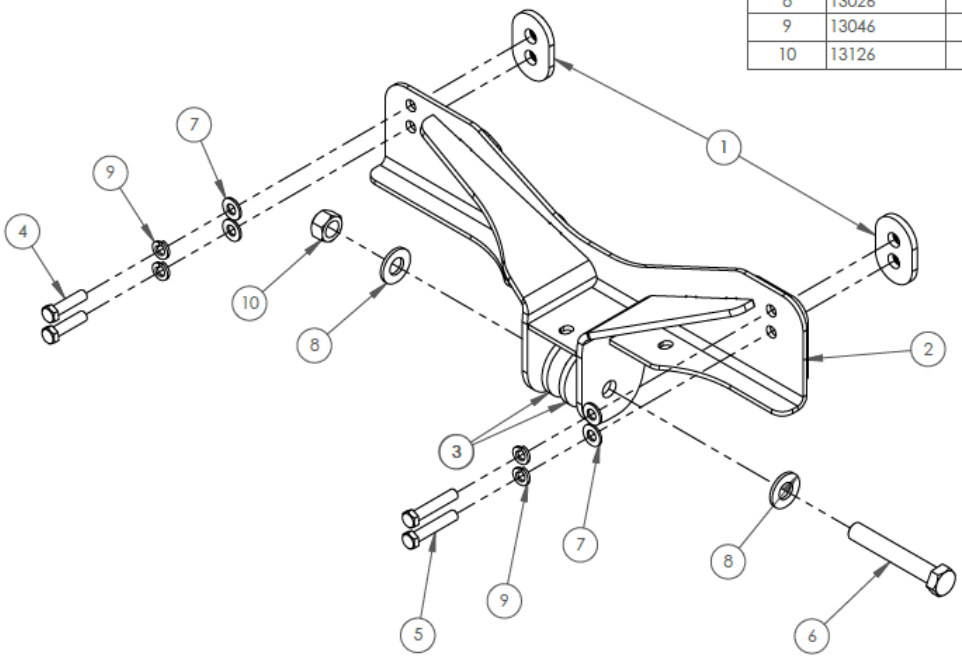
7: Install trailing arms (10010667) to trailing arm mount & trailing arm brace on both sides

- Also both end links (25008) can be installed, leave bottom un-bolted as shown.



NOTE: Follow procedures for passenger side before moving to next step.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Weldments	
1	10010610	Weldment - Side Plate Weld Nut Tab	2
2	10010659	Weldment - PHB Frame Brace	1
		Parts	
3	10012035	Plate - 1/4" - 5/8" ID x 2-1/4" OD Washer (PHB)	2
		Hardware	
4	12216	Hex Bolt - 3/8"-16 x 1-1/2" - GR5 - Z	2
5	12220	Hex Bolt - 3/8"-16 x 2" - GR5 - Z	2
6	12427	Hex Bolt - 5/8"-18 x 4" - GR8 - YZ	1
7	13022	Flat Washer SAE - 3/8" - GR8 - YZ	4
8	13026	Flat Washer SAE - 5/8" - GR8 - YZ	2
9	13046	Split Lock Washer - 3/8" - GR8 - YZ	4
10	13126	Top Distorted Thread Lock Nut - 5/8"-18 - GR8 - YZ	1



REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION
UNLESS OTHERWISE SPEC. DIMNS. IN INCHES
STD. TOLERANCES
X.X ±.060
X.XX ±.030
X.XXX ±.010
FRAC. DIM. ±1/32"
Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:8 | Approximate Weight = lbs

MATL SPECS:

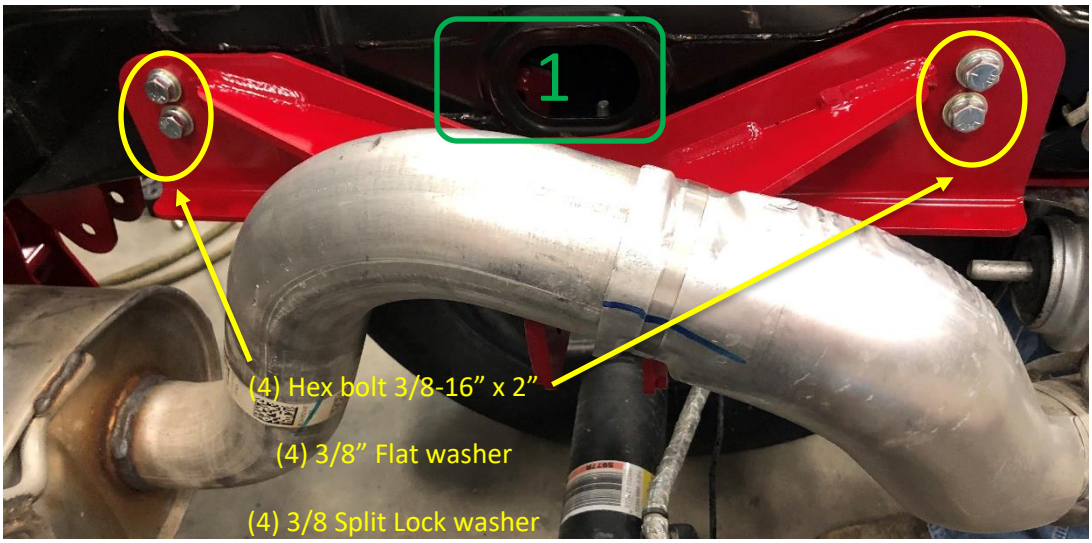
DESCRIPTION: **Assemlby - Panhard Bar Drop Bracket**

PROJECT: **2015-2020 Ford F150 Pickup - Stock Height 4-Link Rear**

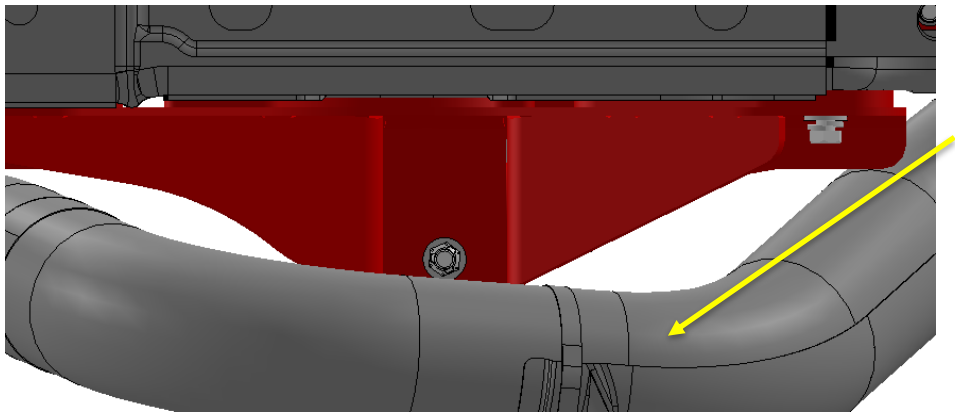
PART NUMBER: **10010938**

DESIGN BY: **Troy Anderson** DATE: **3/14/2022**

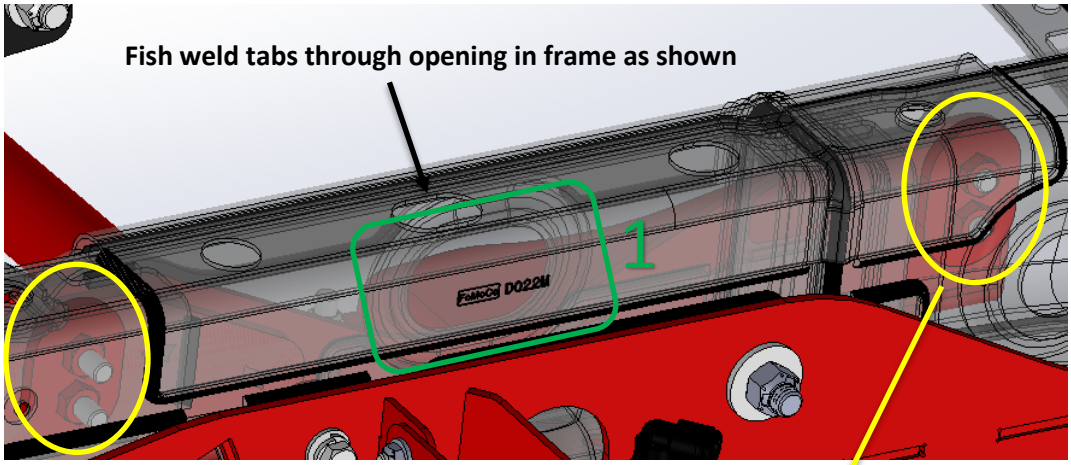
SHEET 1 OF 1



8: Install Panhard Bar Frame Brace (10010659) to inside of passenger side frame.

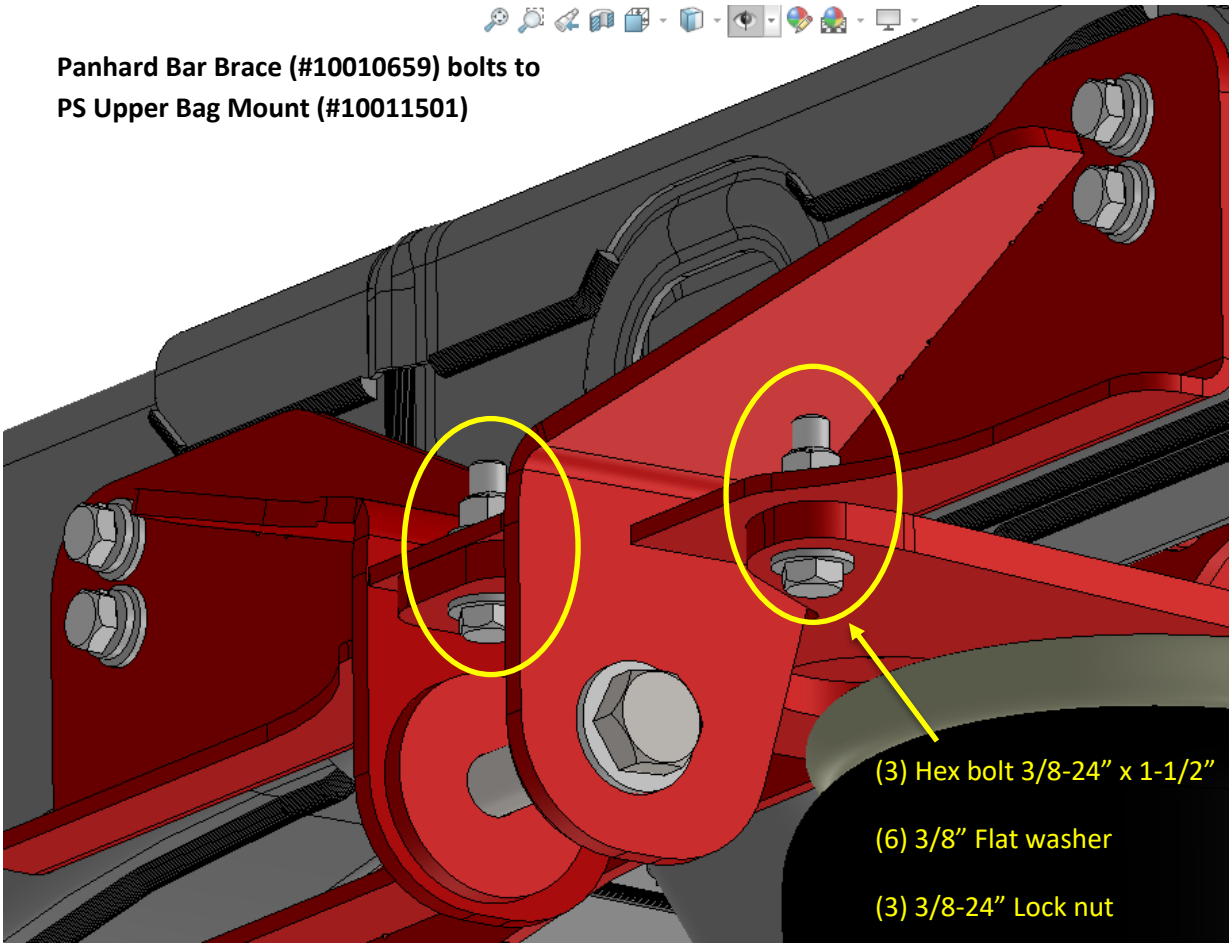


The exhaust tube will need to be pushed out to fit pan hard bar brace in.

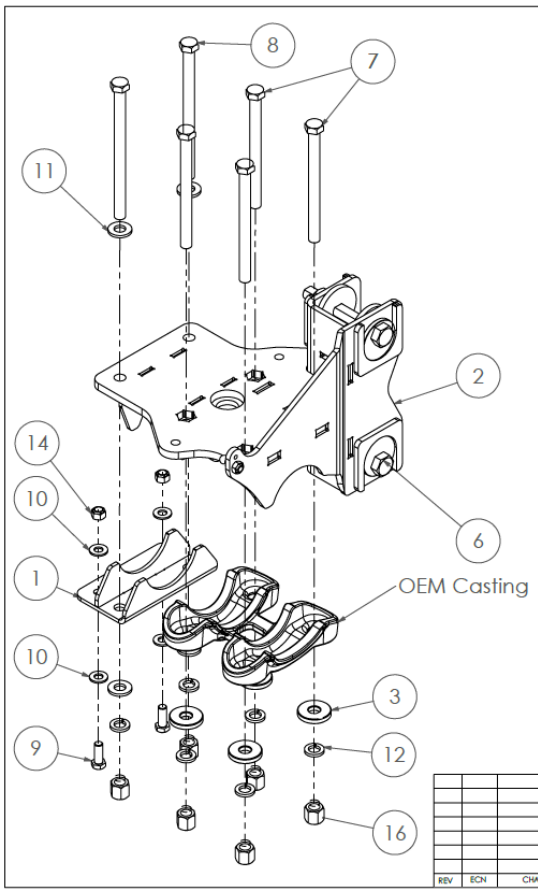


10010610

NOTE: Telescoping magnet is recommended when fishing weld nut.



9: Install lower bag mounts DS/PS (10010702-DS/10010764-PS)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Weldments	
1	10010712	Weldment - Sway Bar Bushing Mount	1
2	10010764	Weldment - (PS) Lower Bag Mount	1
		Parts	
3	11551	Plate - 1/4" - 1.5"OD x .53" ID x 1/4"	4
4	10010857	Plate - 1/4" - Adjuster Anti Cut Washer	4
		Purchased Parts	
5	80073	Ball Stud - .39" Dia - 5/16"-18 Thread	1
6	80318	Specialty Products Company - Eccentric Bolt Kit - 5/8"-11 x 4-1/2" (2 Bolts w/Hardware)	2
		Hardware	
7	12045	Hex Bolt - 1/2"-20 x 6" - GR8 - YZ	4
8	12053	Hex Bolt - 1/2"-20 x 7" - GR8 - YZ	2
9	12211	Hex Bolt - 3/8"-24 x 1" - GR8 - YZ	2
10	13022	Flat Washer SAE - 3/8" - GR8 - YZ	4
11	13024	Flat Washer SAE - 1/2" - GR8 - YZ	4
12	13050	1/2" Lock Washer	6
13	13101	Top Distorted Thread Lock Nut - 5/16"-18 - GR5 - Z	1
14	13122	Top Distorted Thread Lock Nut - 3/8"-24 - GR8 - YZ	2
16	13175	Hex Nut High - 1/2"-20 - GR8 - YZ	6

REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

THIRD ANGLE PROJECTION
UNLESS OTHERWISE SPEC. DIMNS. IN INCHES
STD. TOLERANCES
X.X ± .060
X.XX ± .030
X.XXX ± .010
FRAC. DIM. ± 1/32"
Deg ± .5°

A | DO NOT SCALE DRAWING | 1:8 | Approximate Weight =26.01 lbs

MATL SPECS: **See Drawings**

DESCRIPTION: **Assemlby - (PS) Lower Bag Plate / Axle Clamp**

PROJECT: **2015-2020 Ford F150 Pickup**

PART NUMBER: **10010803**

DESIGN BY: **Troy Anderson** DATE: **3/14/2022**

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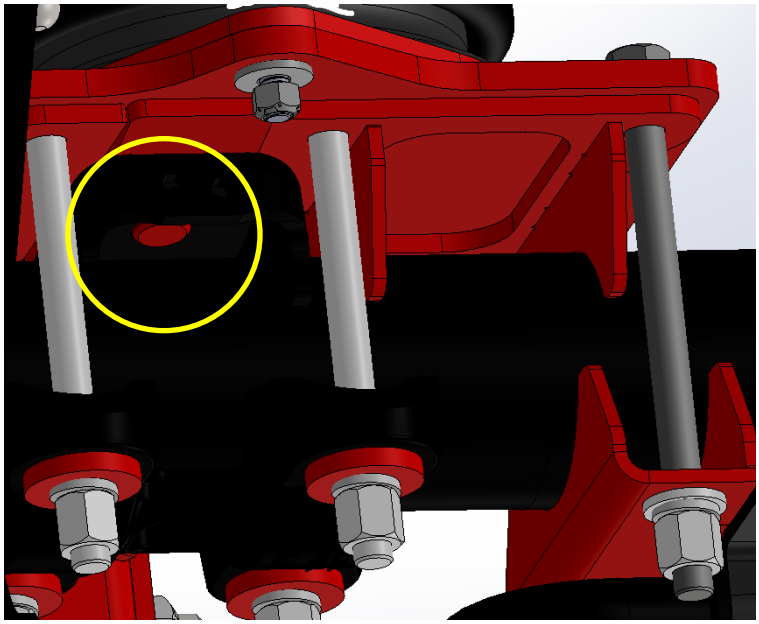
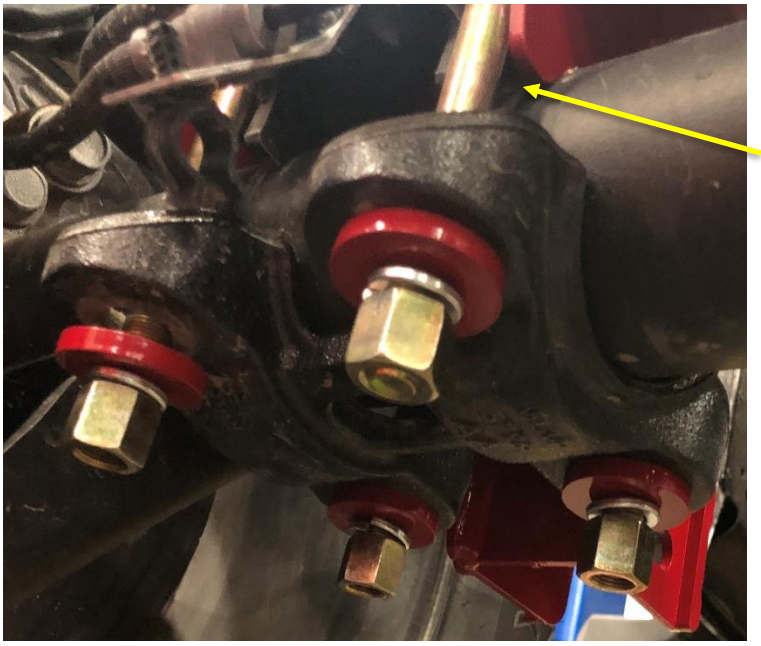
SHEET 1 OF 2



NOTE: Line up stud on lower bag mount with hole shown on axle tube mount.

10: Install OEM casting axle clamps to underside of axle tube & bolt with lower bag mount.



(4) Hex bolt ½-20" x 7"

(4) ½" Flat washers

(4) Washer plate (11551)

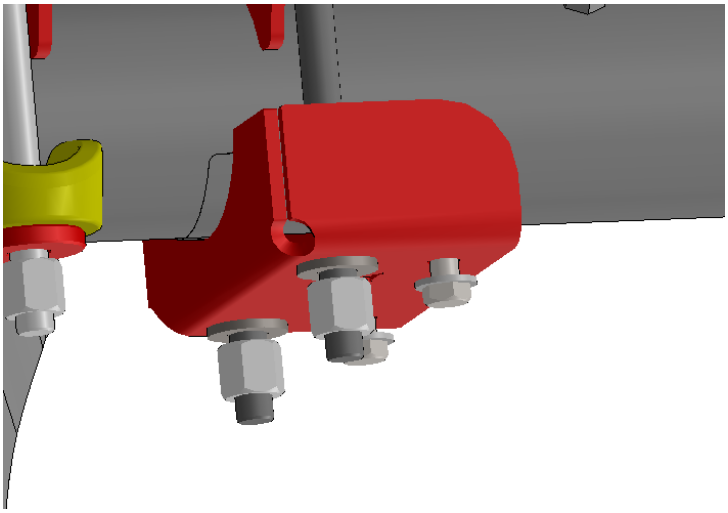
(4) ½" Split Lock washers

(4) High Hex Nut ½-20"

(1) OEM cast axle clamp

OEM cast axle clamp

11: Install sway bar bushing mount (10010712) to underside of axle tube.



(2) Hex bolt ½-20" x 7"

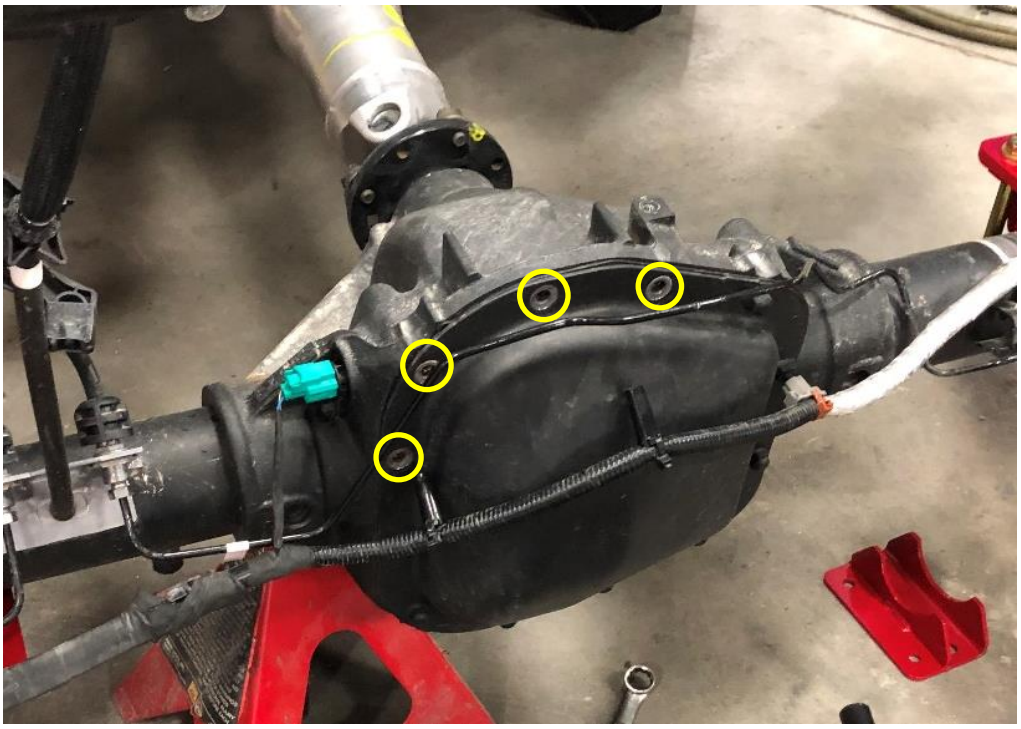
(4) ½" Flat washers

(2) ½" Split Lock washers

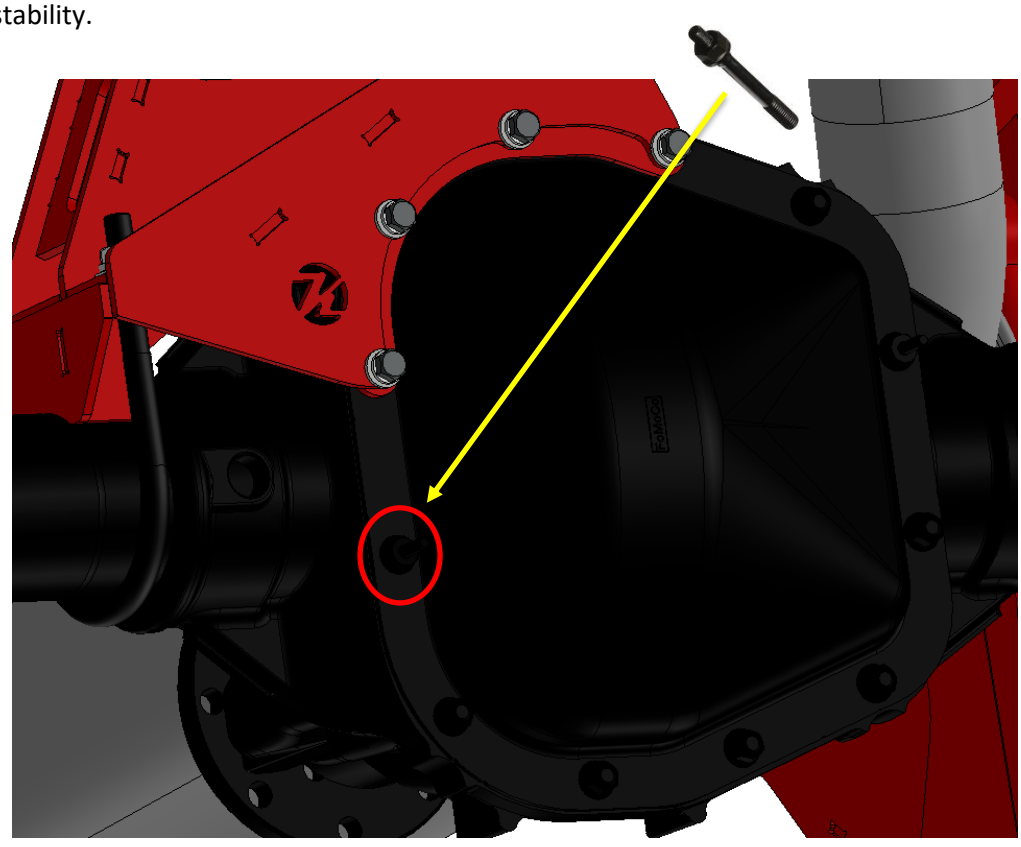
(2) High Hex Nut ½-20"

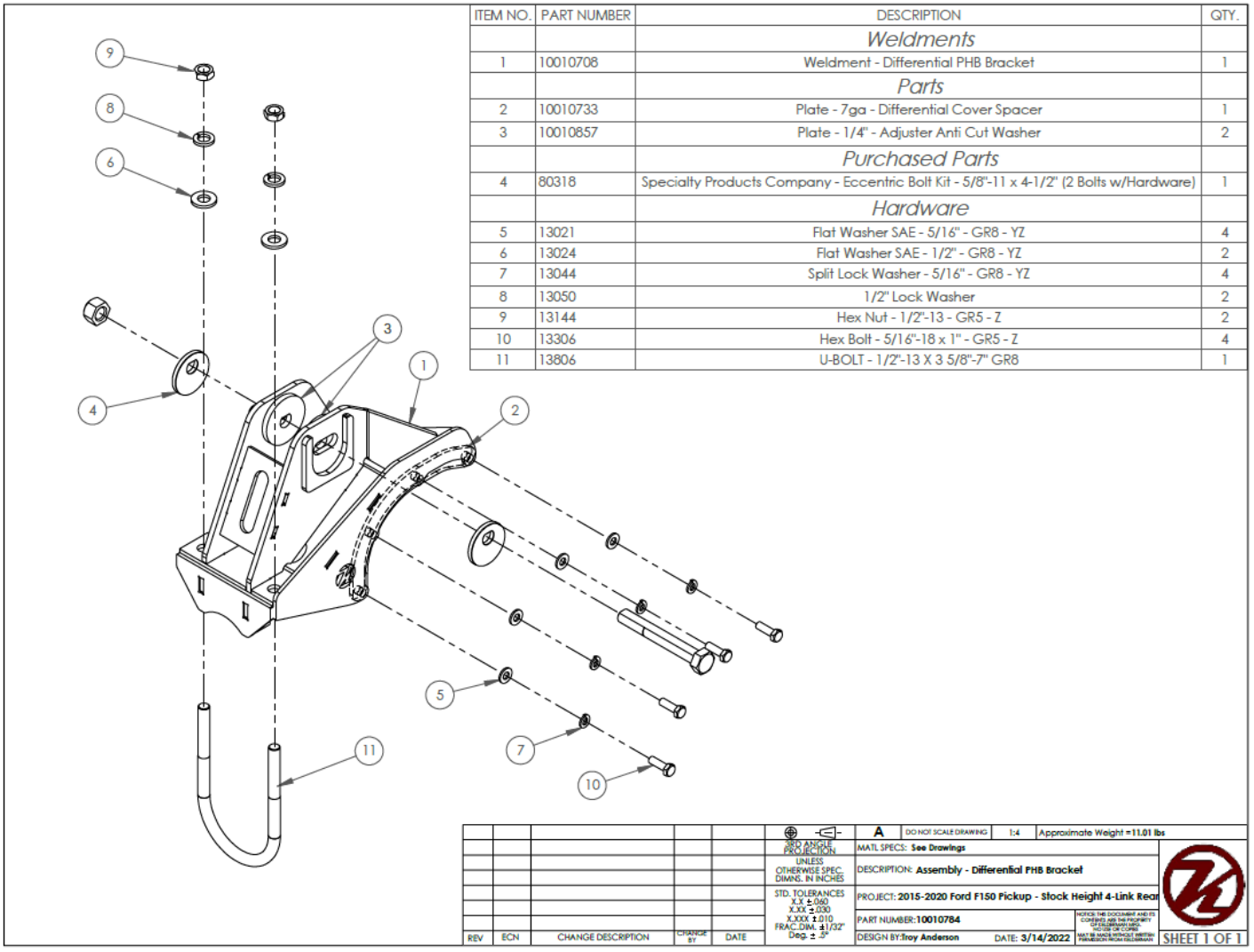
12: Follow same procedures for DS Lower bag plate (10010702)/axle clamp (10010712) installation.

13: Remove bolts from rear differential cover.



Remove bolt on the lower portion of the rear differential & replace with stud bolt removed from the cover. Wire harness end will need to be mounted to this for stability.





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Weldments	
1	10010708	Weldment - Differential PHB Bracket	1
		Parts	
2	10010733	Plate - 7ga - Differential Cover Spacer	1
3	10010857	Plate - 1/4" - Adjuster Anti Cut Washer	2
		Purchased Parts	
4	80318	Specialty Products Company - Eccentric Bolt Kit - 5/8"-11 x 4-1/2" (2 Bolts w/Hardware)	1
		Hardware	
5	13021	Flat Washer SAE - 5/16" - GR8 - YZ	4
6	13024	Flat Washer SAE - 1/2" - GR8 - YZ	2
7	13044	Split Lock Washer - 5/16" - GR8 - YZ	4
8	13050	1/2" Lock Washer	2
9	13144	Hex Nut - 1/2"-13 - GR5 - Z	2
10	13306	Hex Bolt - 5/16"-18 x 1" - GR5 - Z	4
11	13806	U-BOLT - 1/2"-13 X 3 5/8"-7" GR8	1

REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION
UNLESS OTHERWISE SPEC. DIMNS. IN INCHES
STD. TOLERANCES
X.X ±.060
X.XX ±.030
X.XXX ±.010
FRAC. DIM. ±1/32"
Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:4 | Approximate Weight =11.01 lbs

MATL SPECS: **See Drawings**

DESCRIPTION: **Assembly - Differential PHB Bracket**

PROJECT: **2015-2020 Ford F150 Pickup - Stock Height 4-Link Rear**

PART NUMBER: **10010784**

DESIGN BY: **Troy Anderson** DATE: **3/14/2022**

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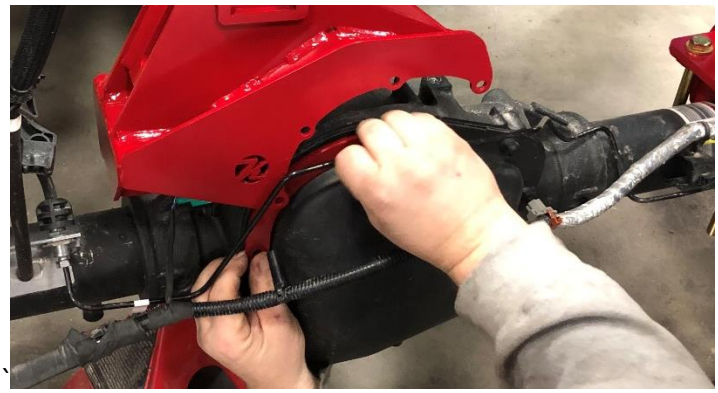
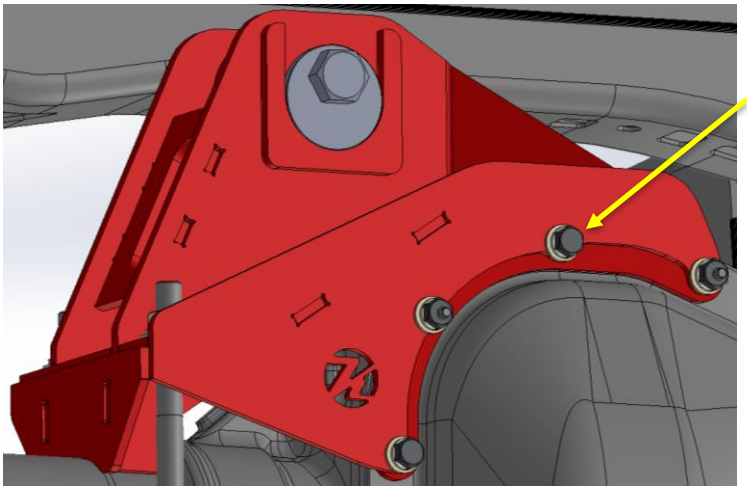
SHEET 1 OF 1

14: Install differential cover spacer (10010733) to existing differential cover holes.



Install Differential PHB Bracket Weldment (10010708) over the spacer & line up holes.

Note: All holes should line up before bolting



(4) Hex bolt 5/16-18” x 1”

(4) 5/16” Flat washers

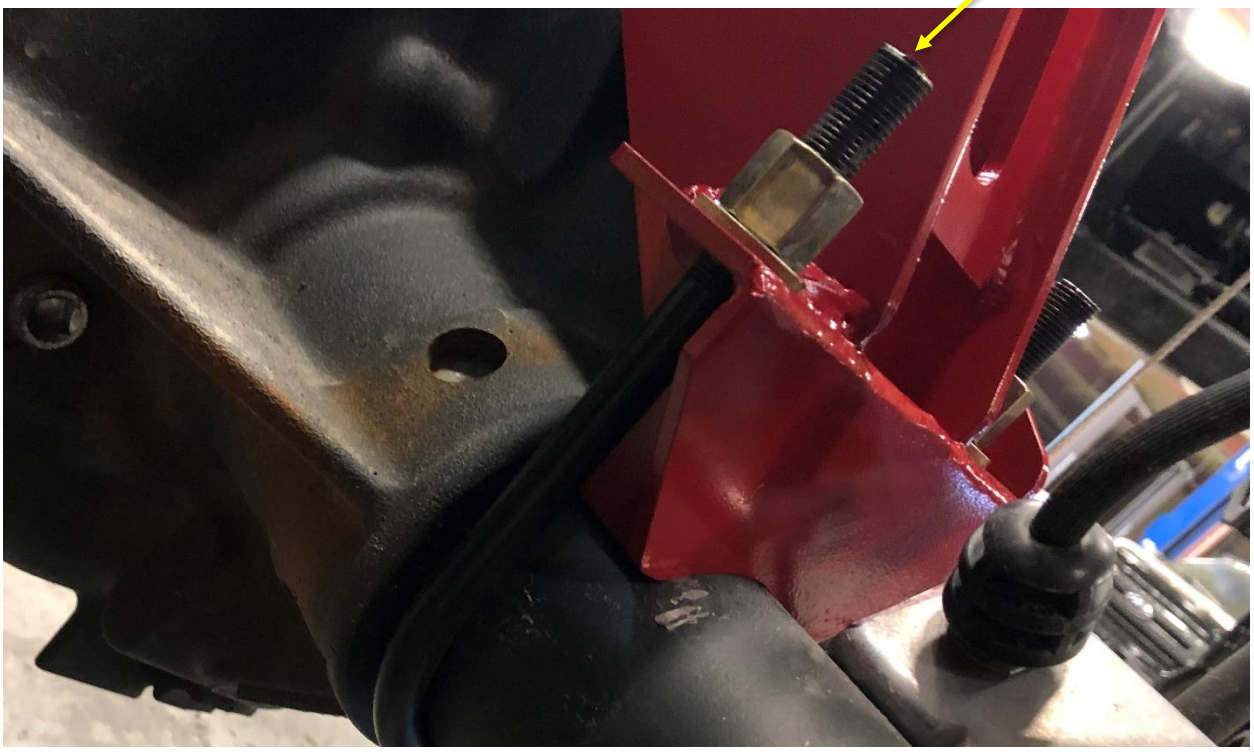
(2) 5/16” Split Lock washers

(1) U-bolt 1/2-13” x 3-5/8”-7”

(2) 1/2” Flat washers

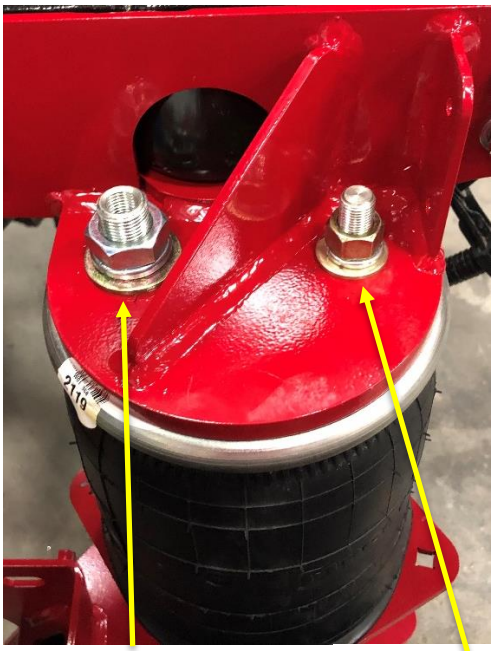
(2) 1/2” Split Lock washers

(2) Hex nut ½-13”



15: Attach air bag to removeable lower bag plate (10006339). Then attach to upper bag mount (10011495).

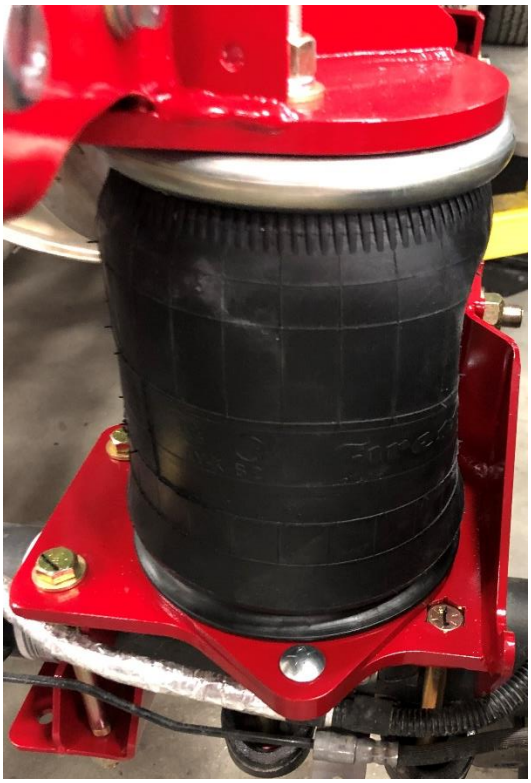
(1) Hex bolt ½-13” x 1-1/2”
(1) ½” USS flat washer
(1) ½” Split lock washer



(1) Jam Nut ¾”-16
(1) ¾” Flat Washer
(1) ¾” Split Lock Washer

(1) Hex Nut ½”-20
(1) ½” Flat Washer
(1) ½” Split Lock Washer

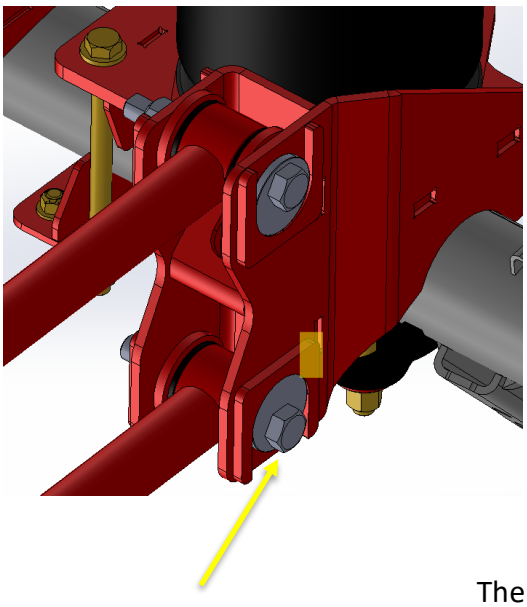
16: Lower the truck to attach Lower Bag Plate (10006339) to DS Lower Bag Mount (10010702).



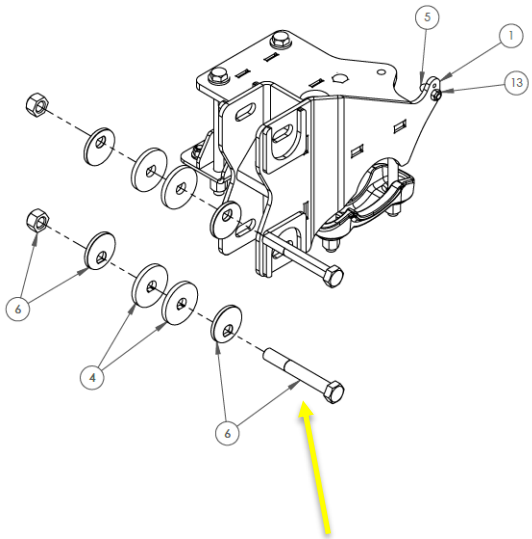
(2) Carriage Bolt 3/8”-16 x 1/1/4”
(2) 3/8” USS Flat Washer
(2) 3/8” Hex Nut

17: Follow same procedures for passenger side bag installation.

18: Attach Trailing Arms (10010667) to DS Lower Bag Mounts (10010702). Install eccentric bolt kit as shown in image below. (***NOTE:*** The bolts cannot be in dead center because of flat on the bolt.)



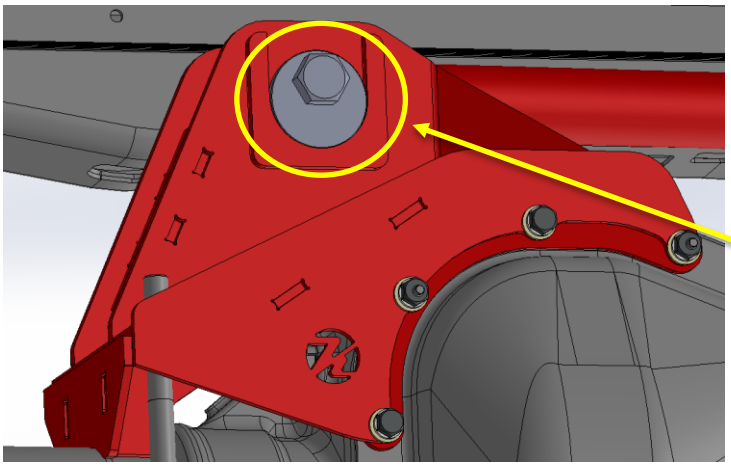
80318 – Eccentric Bolt Kit



The eccentric bolt kit will give +/- 2 degrees of adjustability. Adjust eccentric bolts to change the angle of the pinion.

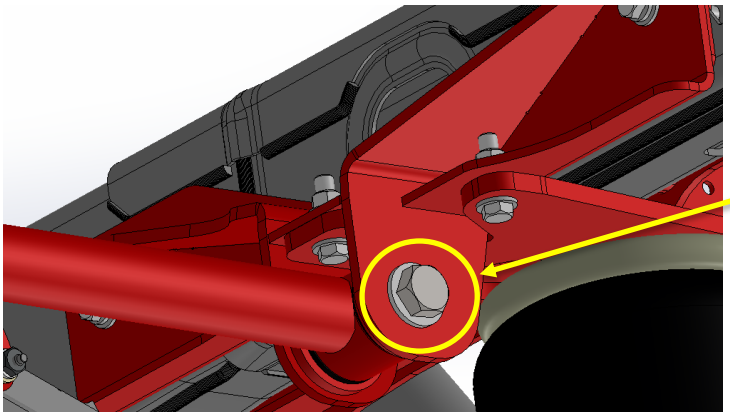
19: Follow the same procedure for passenger side Trailing Arms & Lower Bag Mount.

20: Install Panhard Bar (10010667) to PHB frame brace (10010659) & Differential PHB bracket (10010708). Install eccentric bolt kit as shown in image below. (***NOTE:*** The bolts cannot be in dead center because of flat on the bolt.)



80318 – 5/8" Eccentric Bolt Kit

The eccentric bolt kit will give +/- 2 degrees of adjustability. Adjust eccentric bolts to change the angle of the pinion.

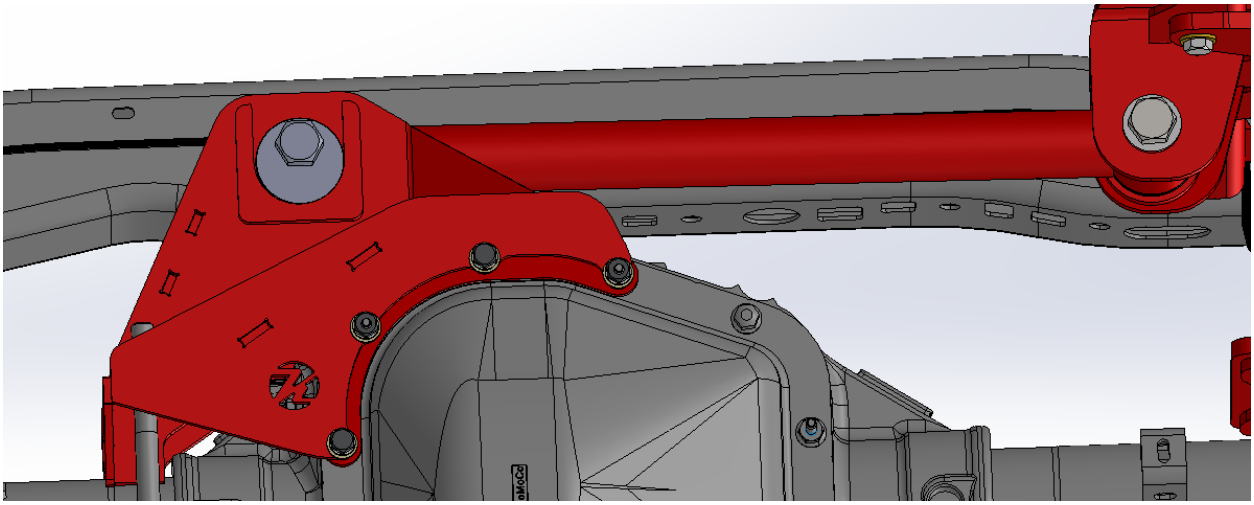


(1) Hex Bolt 5/8"-18 x 4"

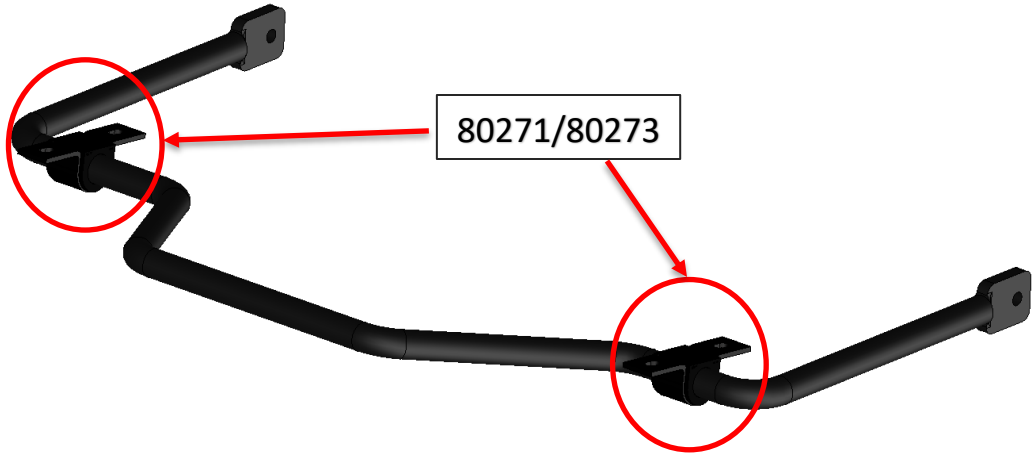
(2) 5/8" Flat Washer

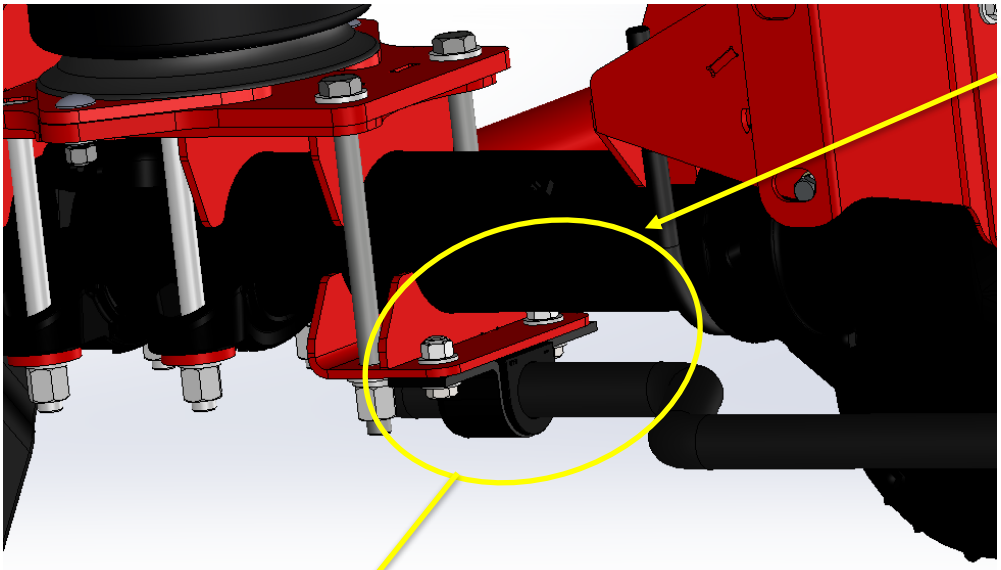
(1) 5/8"-18 Lock Nut

Panhard Bar should be level with the axle



21: Attach sway bar bushings (80271/80273) to sway bar bushing mounts (10010712) both sides.

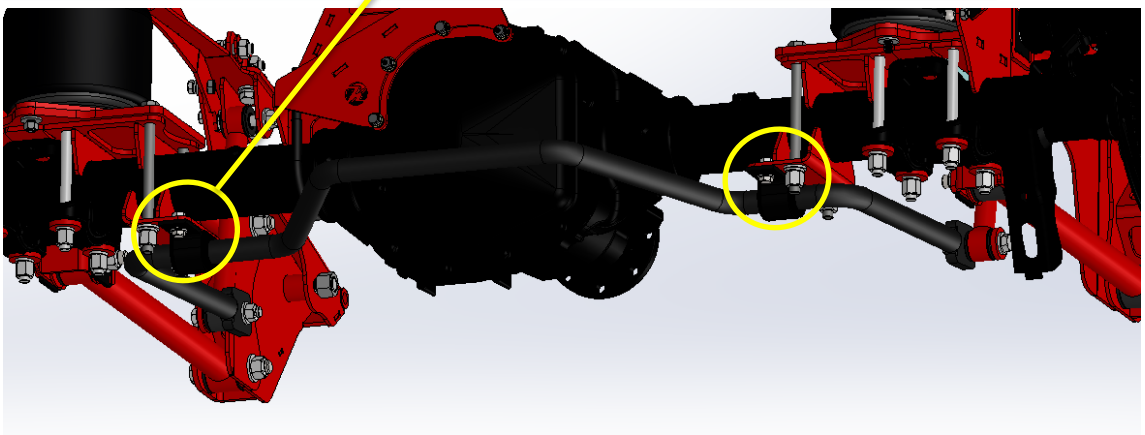




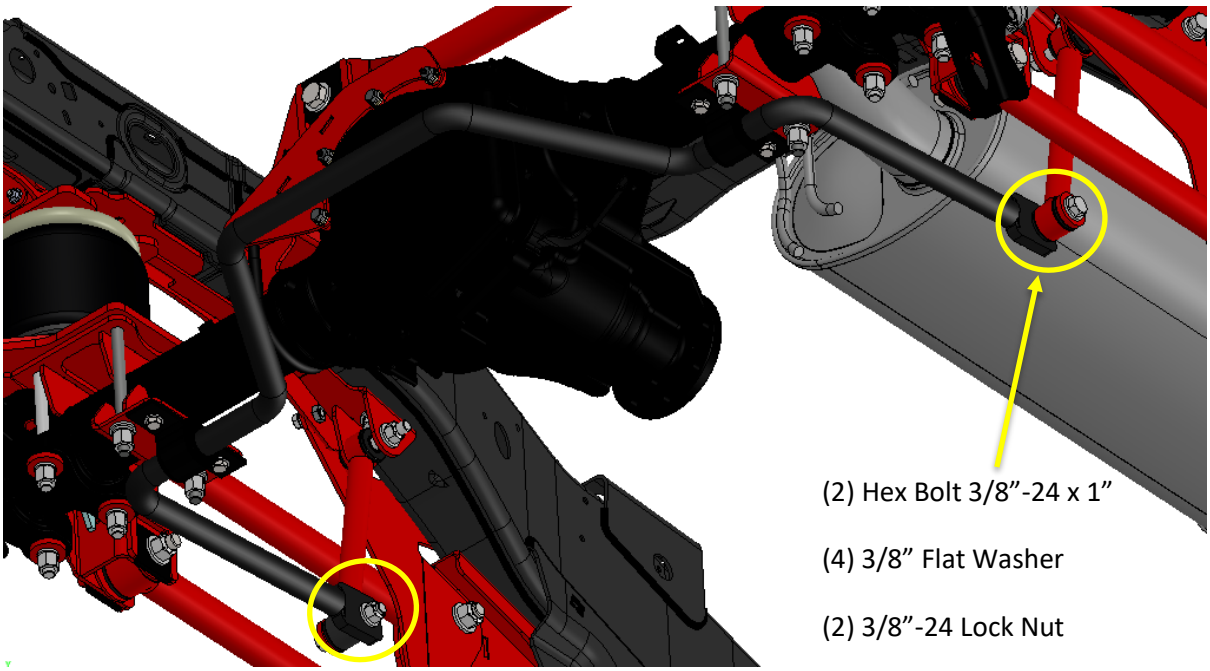
(2) Hex Bolt 3/8”-24 x 1”

(4) 3/8” Flat Washer

(2) 3/8”-24 Lock Nut



Attach sway bar ends to sway bar end links (25008) on both sides.



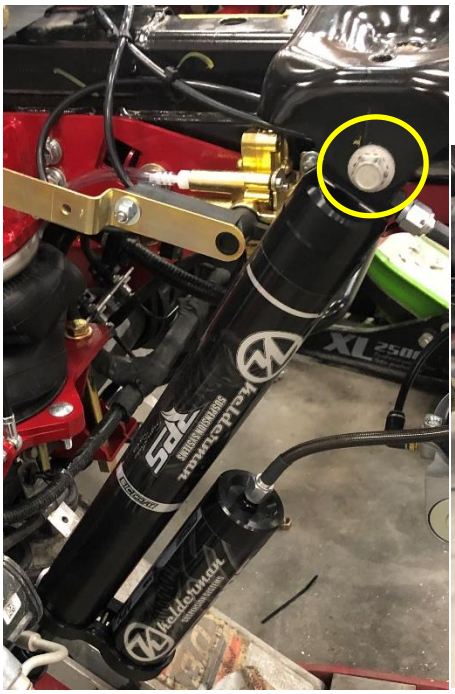
(2) Hex Bolt 3/8”-24 x 1”

(4) 3/8” Flat Washer

(2) 3/8”-24 Lock Nut

22: Install shocks (10153). Shocks will use factory shock mounts & hardware.

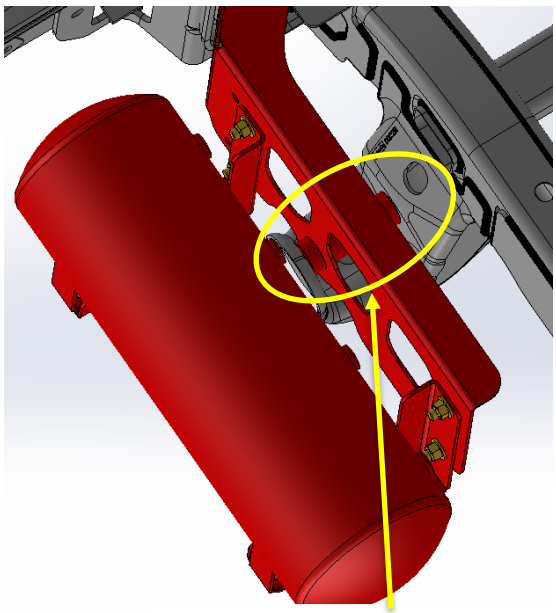
NOTE: Attach shock reservoir to shock using bracket included with the shocks.



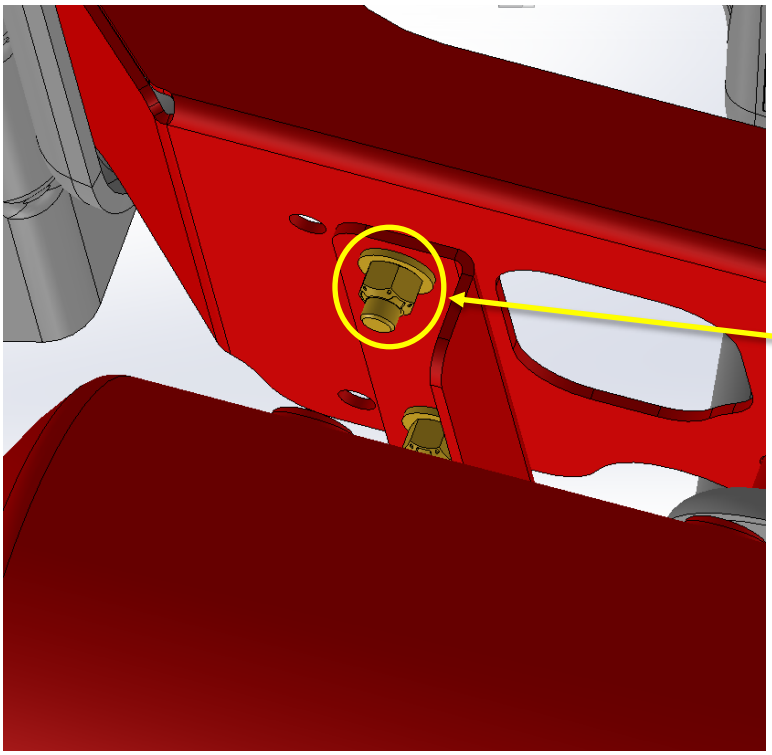
23: Attach the tank brackets (10011564) to frame & bolt on air tank.

NOTE: *The bumper should be attached back to the truck at this point.*

Uses factory bumper bolts & nuts



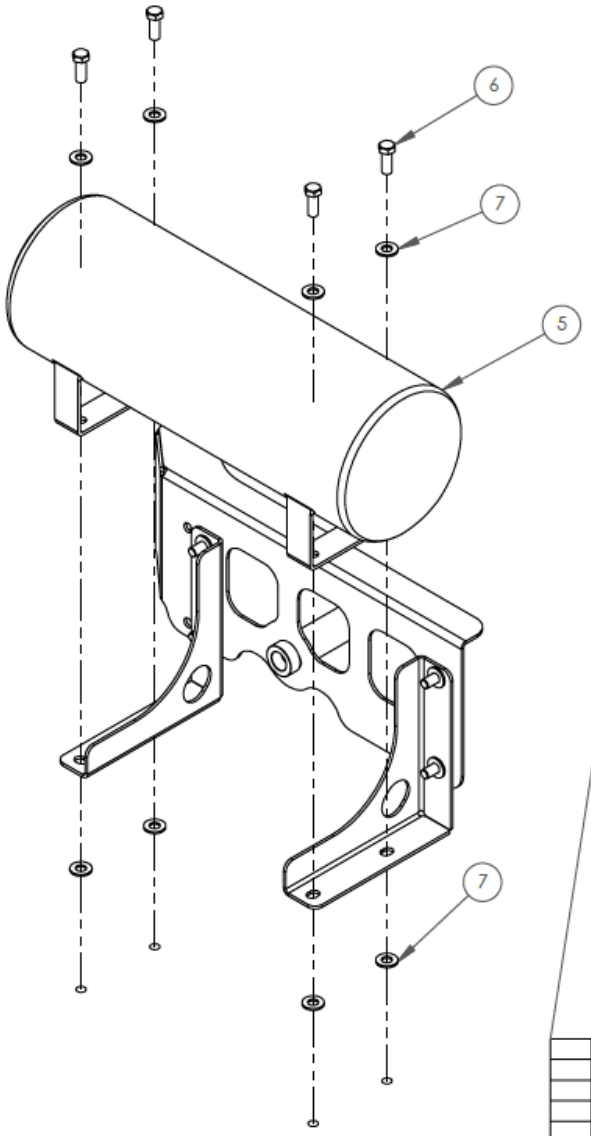
Uses factory leaf spring bolt & nut
Mount lines up with factory bracket for rear leaf spring on PS



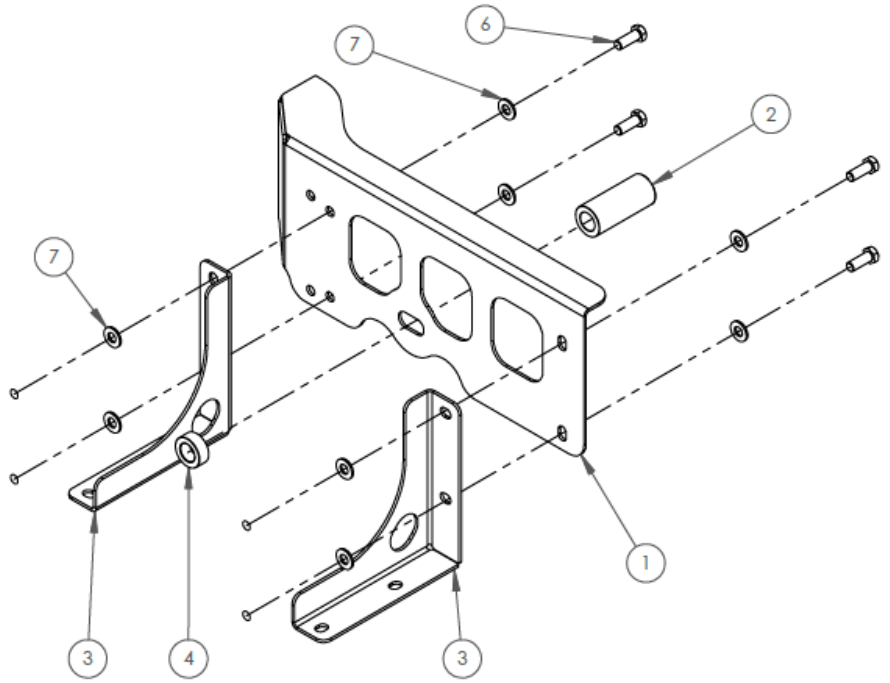
(4) Hex Bolt 3/8”-16 x 1”

(8) 3/8” Flat Washer

(4) 3/8”-16 Lock Nut



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Parts	-
1	10011520	Plate - 11ga - 3 Gal Air Tank Bracket - w/Bends	1
2	10011522	DOM - 1-1/2" OD x 3/4" ID x 1.72" L - Air Tank Spring Perch Bushing	1
3	10011564	Plate - 11ga - 2.5gal Aluminum Tank 90° Bracket - w/Bends	2
4	10011573	DOM - 1-1/2" OD x 3/4" ID x 1/2" L - Air Tank Spring Perch Bushing	1
		Purchased Parts	-
5	10011563	AirLift - 5 Port - 2.5 Gallon - Aluminum Raw	1
		Hardware	-
6	12210	Hex Bolt - 3/8"-16 x 1" - GR5 - Z	8
7	13022	Flat Washer SAE - 3/8" - GR8 - YZ	16



REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION

UNLESS OTHERWISE SPEC. DIMNS. IN INCHES

STD. TOLERANCES
X.X ±.060
X.XX ±.030
X.XXX ±.010
FRAC. DIM. ±1/32"
Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:8 | Approximate Weight =20.02 lbs

MATL SPECS: **See Drawings**

DESCRIPTION: **Assembly - 3 Gal. Air Tank Spring Perch Bracket**

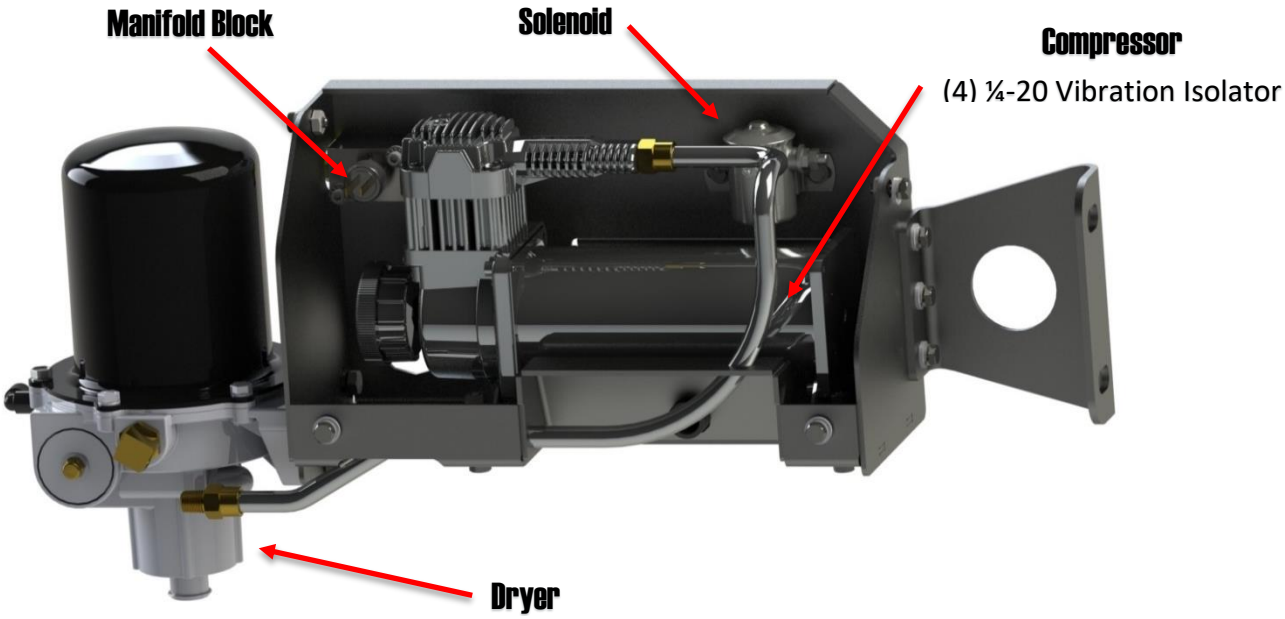
PROJECT: **2015-2020 Ford F150 Pickup & 2021+ Ford F150 Pickup**

PART NUMBER: **10011521**

DESIGN BY: **Troy Anderson** DATE: **3/14/2022**

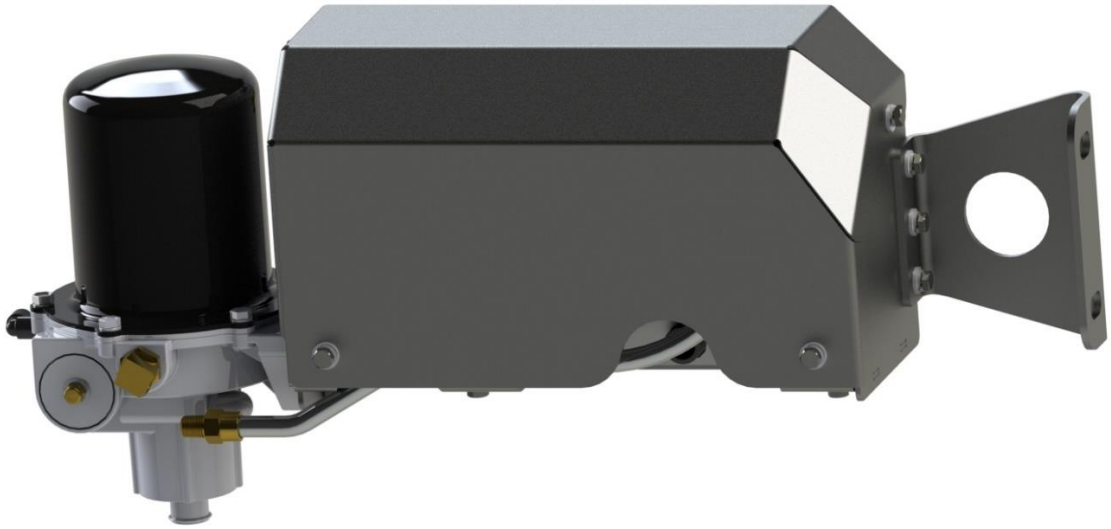
SHEET 1 OF 1

24: Attach the compressor, solenoid, manifold block & dryer to the bracket



25: Follow included instructions on how to wire compressor kit together.

26: Attach front cover plate & bolt on rear bracket to attach to the bumper.



(7) ¼”-20 x ¾” Hex Bolt

(7) ¼” Split Lock Washer

(7) ¼” Flat Washer SAE

(8) ¼” Flat Washer USS

(4) ¼”-20 x 1” Hex Bolt

(8) 3/8” Flat Washer SAE

(4) 3/8”-24 x 1” Hex Bolt

(4) 3/8”-24 Lock Nut

(3) M10-1.5 Hex Bolt

(3) M10 Split Lock Washer

(2) #10-24 x ¾” Hex Screw

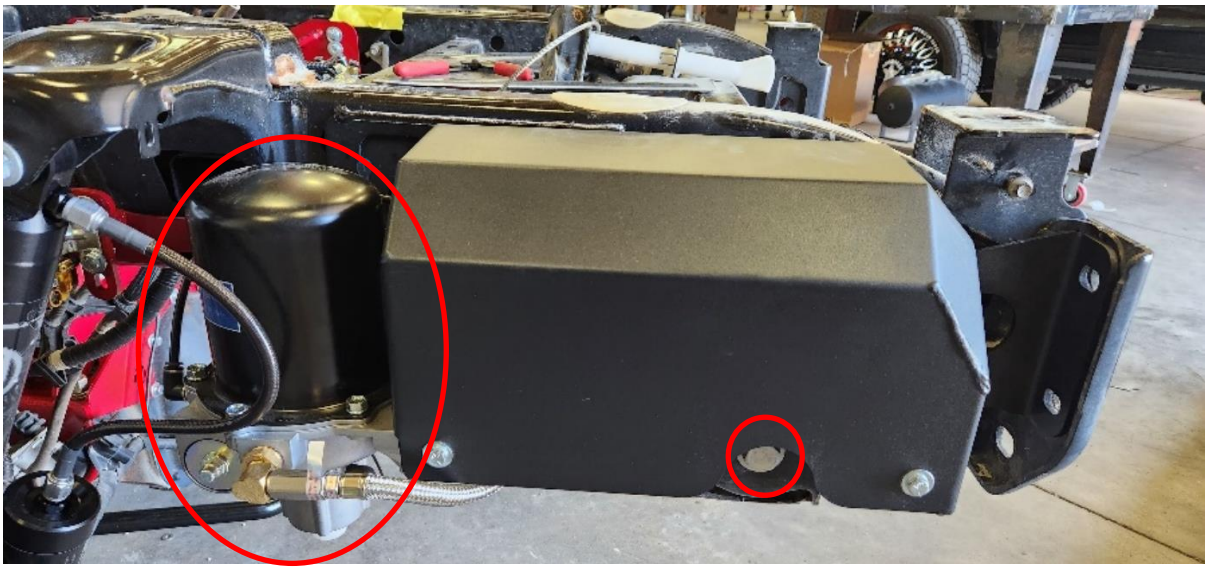
(4) #10 Flat Washer SAE

(4) #10-24 Hex Nut

27: Attach compressor/dryer bracket to existing rear leaf spring bracket & bumper.

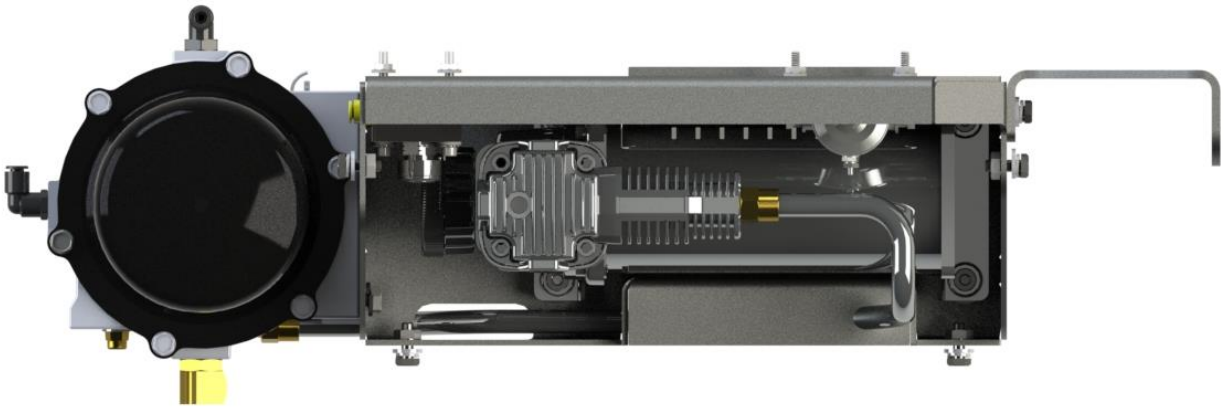
NOTE: *Uses the factory bolt for leaf spring & uses factory bumper hardware.*

After attaching bracket, the dryer can be bolted to the front of the bracket.

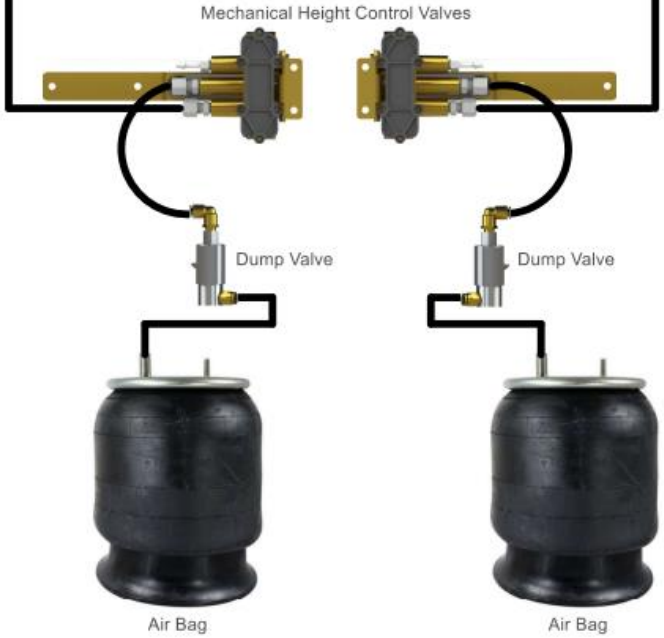


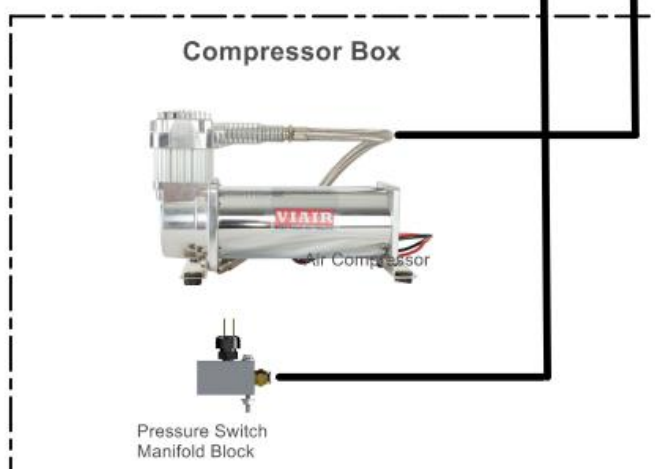
28: Attach hose from compressor to the dryer port on the side.

NOTE: *Before hose can be attached to dryer, fittings 80124 & 80125 will need to be installed.*



SLKD2WD Plumbing Diagram





Rev.	Date	Description	Appd. by	Status
A				Open

Prj: SLKD2WD	Sheet nb. 2 of 2
Prj nb:	Desg. by:
Title: SLKD2WD Plumbing Diagram	

Kelderman Manufacturing, Inc
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Oskaloosa, Iowa 52577
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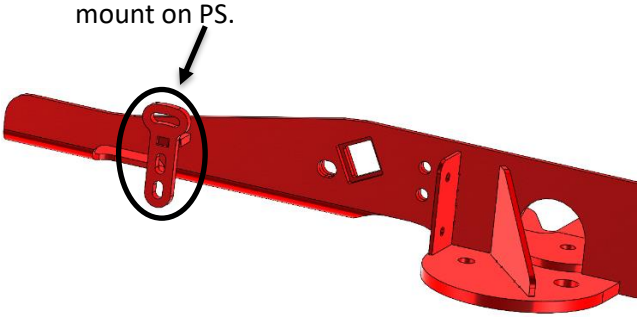
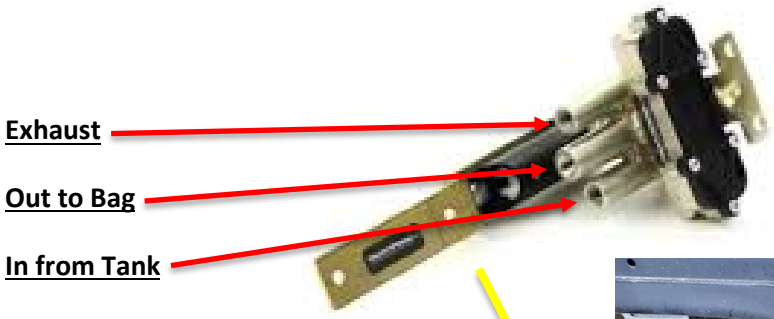
641-673-0468

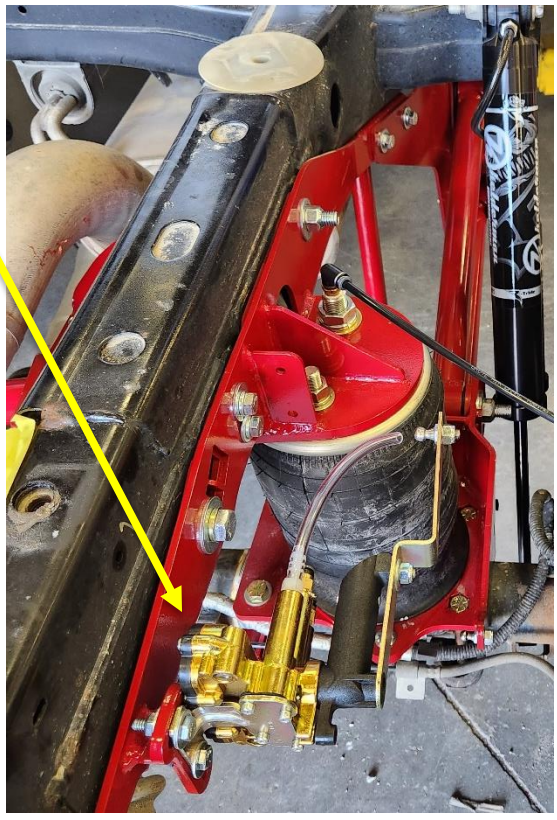
29: Attach the height control valve to the upper bags mount sensor bracket on DS & PS. Linkage needs to be straight up and down when bolted to the bracket and the arm straight out at ride height. Attach the ends mount on end of arm and the lower bag mount on each side.

Sensor Bracket – Mechanical will mount to DS & electronic sensor will mount on PS.

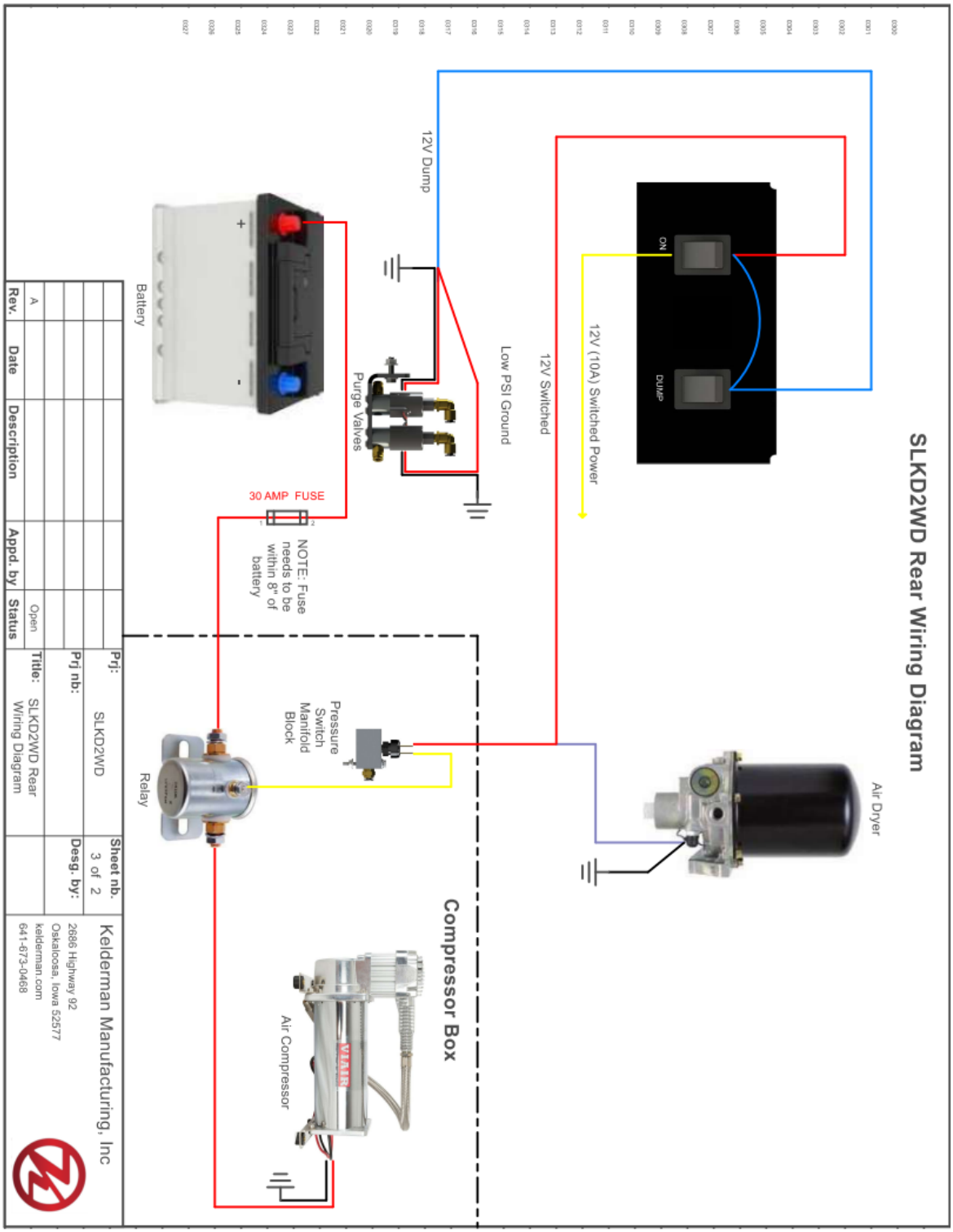


NOTE: Before installing the mechanical valve, rotate the arm clockwise and counterclockwise 4-5 times each way. This will get the internals ready for operation after sitting in inventory after production. Height control valves have an 8 second delay.

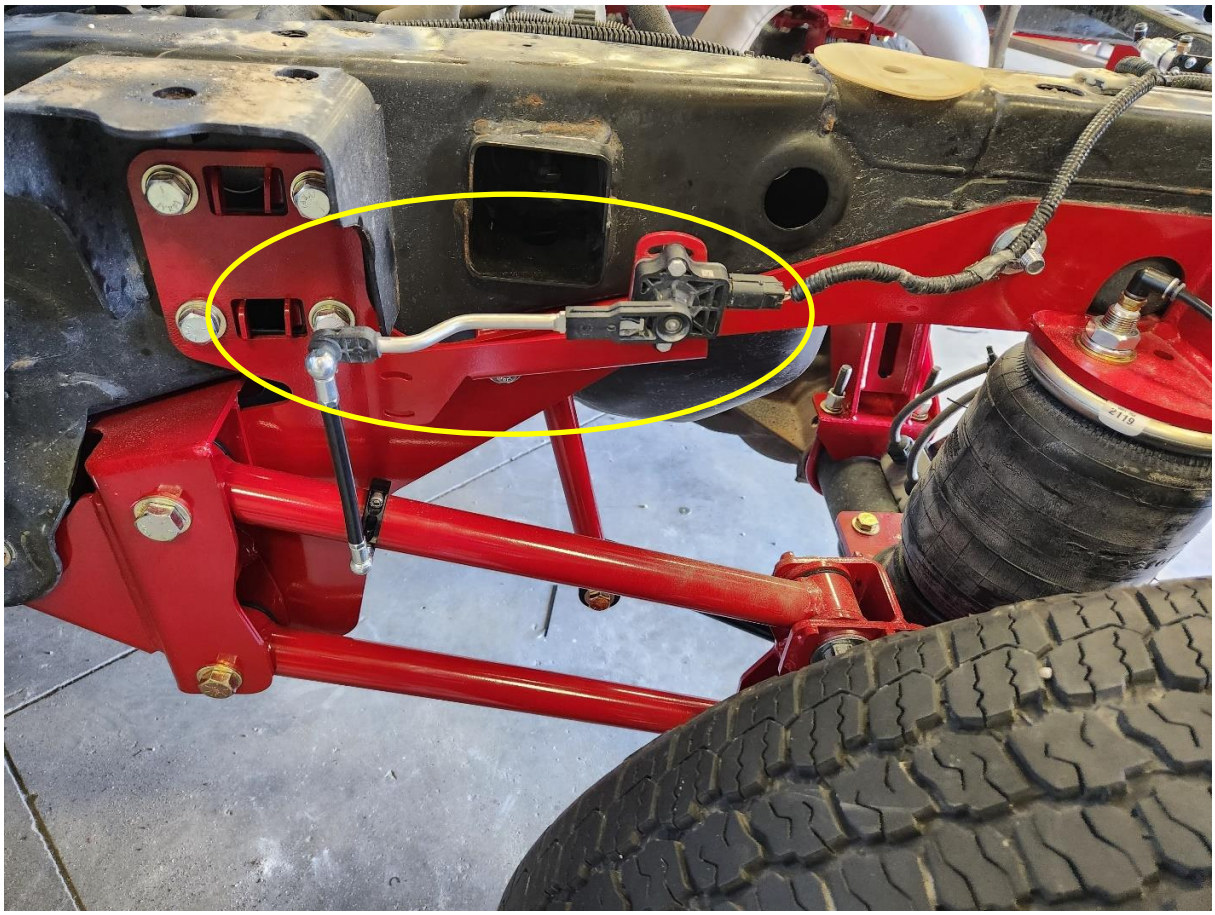




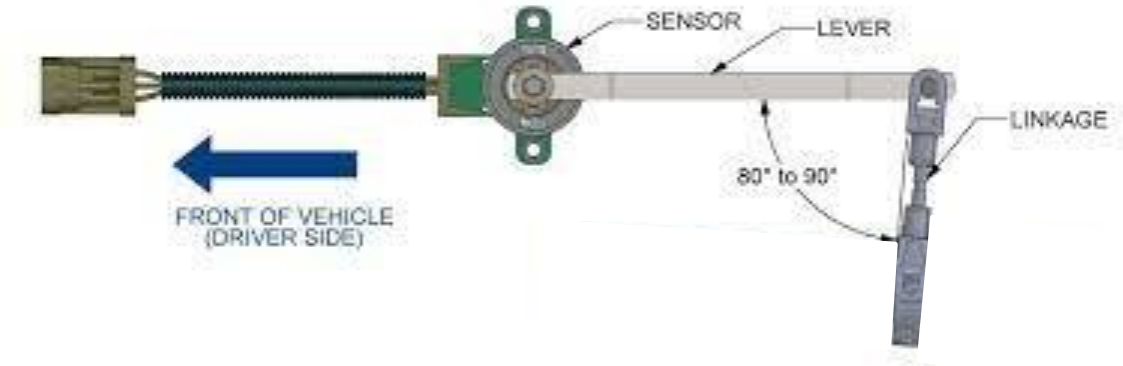
Mechanical Wiring Diagram



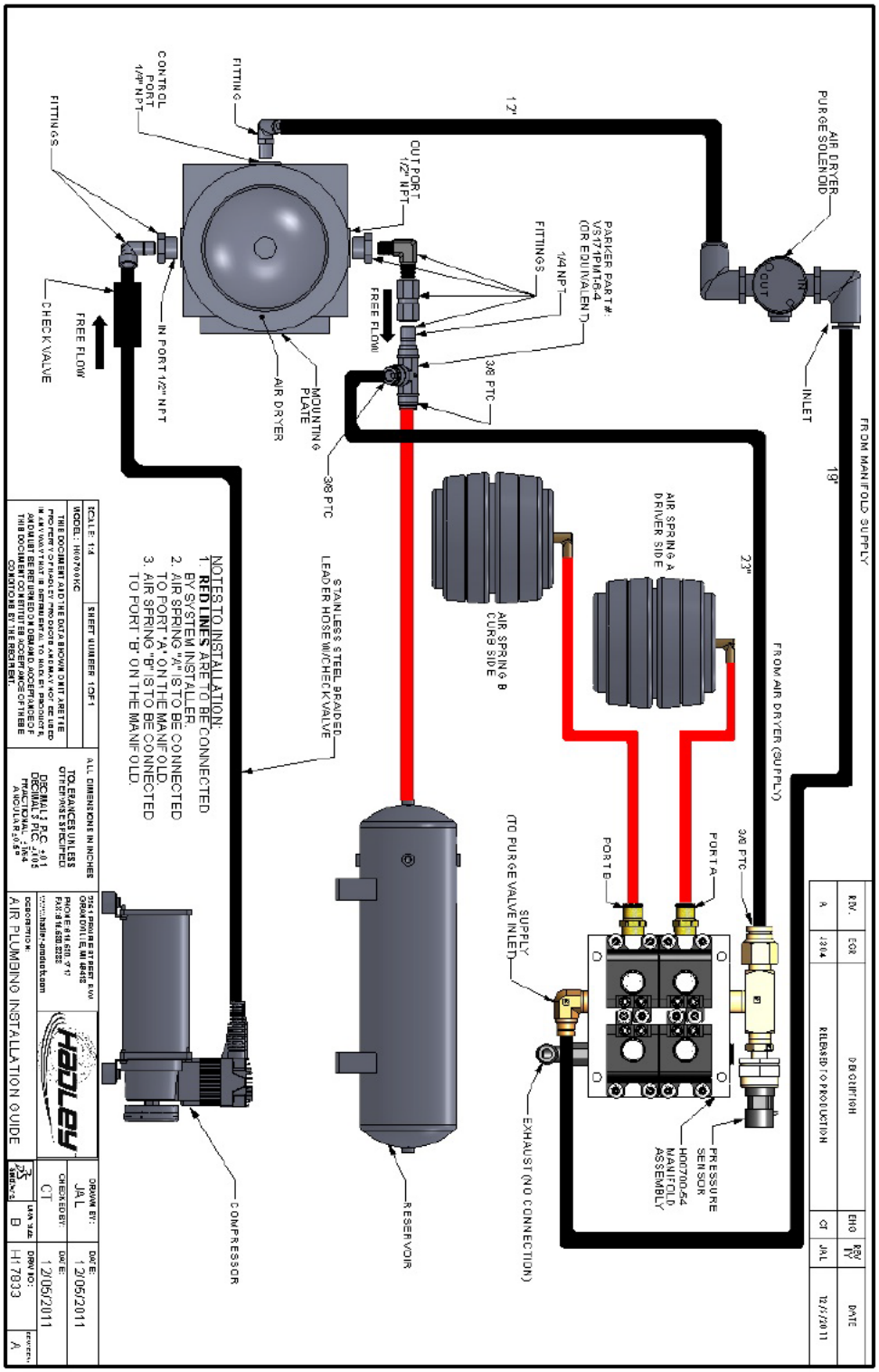
Relocate automatic headlight adjustment sensor to the location shown.



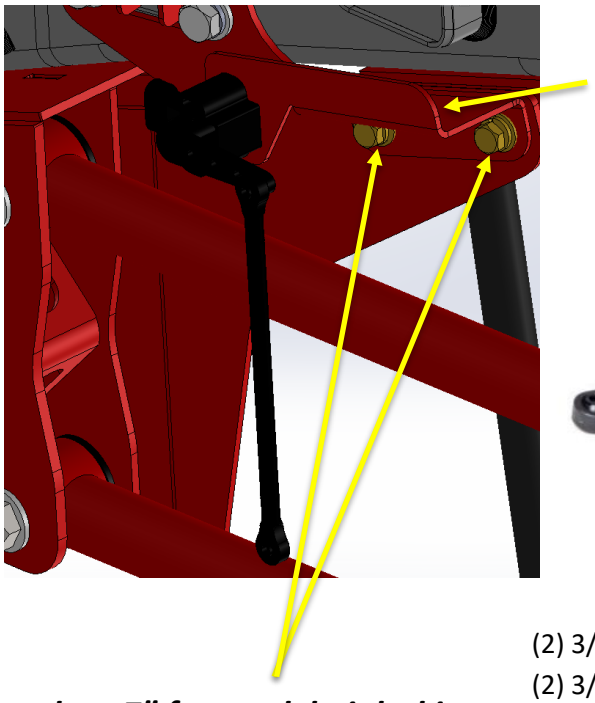
30: If you have an electronic height control device, you will mount to the same bracket as the mechanical. When setting the device makes sure the truck is a ride height and make sure the sensor is parallel to the ground. It will connect to the lower bag mount the same way as the mechanical control valve.



Optional Hadley Sensor Diagram



Optional AccuAir Sensor Diagram

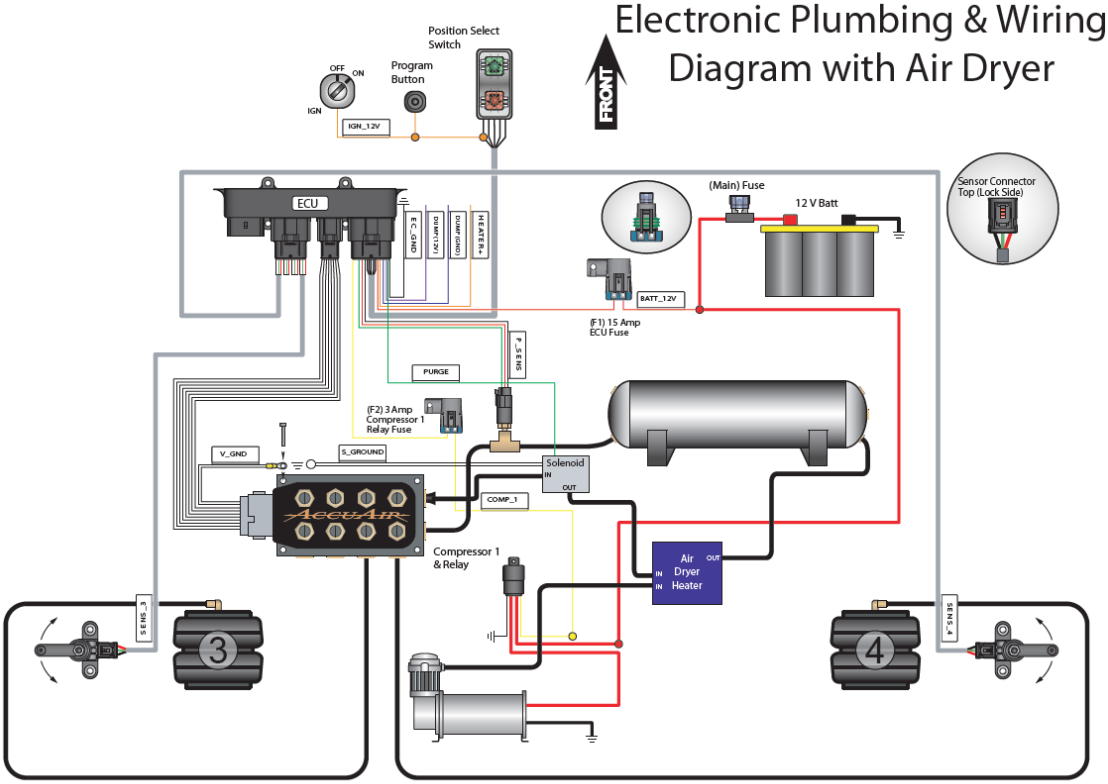


The AccuAir Sensor mounts to the DS with AccuAir Sensor bracket (10010885). The bracket bolts to DS Trailing Arm Brace (10010758).

Set this length to 7" for stock height kit

(2) 3/8"-16 x 1" bolts
(2) 3/8" SAE Flat Washer
(2) 3/8" Split Lock Washer

Electronic Plumbing & Wiring Diagram with Air Dryer



After install is complete, and the rear axle is square, torque all fasteners to the specifications in the chart.

After the bolts are torqued and the air bags are inflated to ride height, you can now replace the bed.

Set the pinion angle to the measurement that you took in Suspension Removal step 1.

Now the truck is ready for a test drive. Pay close attention to how the truck handles and if there are any vibrations.

When you test drive the truck, if the truck pulls to one side, shorten the **opposite side** trailing arms one turn and test drive again. Repeat until pull is no longer noticeable.

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

Owner Responsibilities

The Kelderman suspension needs no lubrication and little maintenance. However, immediate corrective action should be taken if a serious malfunction occurs.

CAUTION! If maintenance or service is to be done on the air system, be sure to drain all air from the system. Serious injury could occur if components are removed while system is full of air.

PRODUCT OWNER RESPONSIBILITIES

- Owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified in the particular Kelderman MFG. instructions available by product model, except as provided in this warranty, and for maintenance of other vehicle components. Of particular importance is the re-torque of fasteners including axle bolts, four link bolts, and pan hard bar bolts. This re-torque must be performed within 90 days of the suspension being put into service.

- Owner is responsible for "down time" expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.

- 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 operation.

- The Compressor Switch must be on for the compressor to operate. During difficult starting circumstances, (i.e. extremely cold weather) it is recommended to turn the compressor switch off until the vehicle is running, so it will not draw current from the battery. The compressor is controlled by the pressure switch located in the Air Control Box. This switch automatically turns the compressor on when the tank pressure falls below 110 psi, and turns them off at 145 psi.

CHECK AT EVERY VEHICLE SERVICE INTERVAL:

Check Ride Height ±1/4"
Check for air leaks around fittings.

CHECK AFTER THE FIRST 1000 MILES:

Recheck & tighten any loose fasteners.
Check for any loose or worn components.

CHECK AFTER EVERY 30,000 MILES:

Check trailing arm bushings and pan hard bar bushings for wear; replace if worn.

Notes

Contact Information

- Kelderman Manufacturing appreciates your business. We strive to meet the needs of our customers by providing the highest quality products. If you have any questions concerning our products please call or email us at the following:

2686 Highway 92
Oskaloosa, Iowa 52577

Phone: 1-800-334-6150
Fax: (641) 673-4168
Email: info@kelderman.com