



2020+ Polaris RZR Pro XP 2" Forward A-Arm Kit # S3233



INSTALLATION INSTRUCTIONS

Polaris RZR Pro XP 2" Forward A-Arm Kit



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PARTS LIST

PART #	DESCRIPTION	QTY
S3233	Passenger Upper A-Arm	1
S3233	Passenger Lower A-Arm	1
S3233	Driver Upper A-Arm	1
S3233	Driver Lower A-Arm	1
30133	Sway Bar Link	2
30134	Misalignment Spacer	8
MXM-10	RH Heim Joint w/Jam Nut	2
MXML-10	LH Heim Joint w/Jam Nut	2
97447A050	3/16" Rivet	4
	3D Printed Steering Knuckle Template – Driver	1
	3D Printed Steering Knuckle Template – Passenger	1

Tools Needed:

- Ratchet or Impact (3/8" or 1/2")
- T-30 Torx Bit
- Sockets (15mm, 16mm, 18mm, 19mm, 30mm or 1 3/16")
- Wrenches (15mm, 16mm, 18mm, 24mm or crescent)
- Drill
- 3/16" Drill Bit
- Rivet Gun
- Diagonal Cutters / Needle Nose Pliers
- Dead Blow Hammer
- Snap Ring Pliers
- Red Threadlocker

Installation Notes:

-In an effort to keep track of hardware, we recommend replacing where removed from.



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- Disassemble/assemble one side at a time so a fully assembled side can always be referenced for bolt placement, orientation, brake line routing, etc.
- Use red threadlocker on all fasteners during assembly, except lug nuts.
- Hand tighten all nuts during assembly, unless otherwise noted. Final tightening of all fasteners is one of the final steps.

Disassembly:

- 1.) Place RZR in park (P) on a flat level surface. Elevate front of machine and support with suitable jack stands.
- 2.) Remove front tires, using 19mm socket for lug nuts.
- 3.) Remove lower shock bolt, using 15mm socket and wrench. (*Pro Tip : Secure shock out of the way using a bungee or ratchet strap.*) Drill out 3 rivets securing brake line to upper a-arm. (*See Image 1*)
- 4.) Remove both brake caliper bolts securing caliper to steering knuckle, using 15mm socket. (*See Image 2*) (*Pro Tip : Zip tie out of the way as to not put tension on the brake line.*)
- 5.) Remove sway bar bolt connecting front sway bar to upper a-arm, using 18mm socket and wrench. (*See Image 3*)
- 6.) Remove lower ball joint pinch bolt, using 15mm socket and wrench. (*See Image 4.*) With light taps from a dead blow hammer on lower a-arm, the ball joint will be freed from Steering Knuckle.
- 7.) Remove both bolts securing lower a-arm to frame, using 18mm socket and wrench. Lower a-arm can now be removed. (*See Image 5*)
- 8.) Remove upper ball joint pinch bolt, using 15mm socket and wrench. (*See Image 6*) With light taps from a dead blow hammer on upper a-arm, the ball joint will be freed from Steering Knuckle.
- 9.) Remove bolts securing upper a-arm to frame, using 18mm socket and 18mm wrench for front most bolt and 16mm socket and 18mm wrench for rear most bolt. Upper a-arm can now be removed. (*See Image 7*)
- 10.) Remove brass caps from OEM a-arms. If reusing OEM bushings, remove from OEM arms. Smaller bushing tubes require circlip removal (4 total per side, 1 per a-arm). Larger bushing tubes are press fit. (*Pro Tip : A small pick works well for circlip removal. A blunt punch or flathead screwdriver works well to tap out bushings, taking care to not damage bushing during removal.*)
- 11.) IMPORTANT – Note direction of removal/install of ball joints!!
If reusing OEM ball joints, remove them from OEM a-arms using a bearing press or similar. Be sure to remove ball joint retaining rings first, taking care to not damage them as they will be reused.

Optional : Trim Steering Knuckle (This step will maintain OEM steering angle/turning radius)

- 1.) Remove outer tie rod nut, using 18mm socket and wrench.
- 2.) Remove cotter pins from front axles. These can be reused if undamaged during removal. If damaged, replace with new. (*Pro Tip : Needle nose pliers or diagonal cutters work well.*)
- 3.) With a 30mm socket (or 1 3/16"), remove front axle castle nut. (*Pro Tip : 1/2" impact works well. If you don't have one, a 1/2" breaker bar can be used. You will need an assistant to hold the brakes,*



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taking care that the RZR is on jack stands.) Hub/Rotor Assembly and Steering Knuckle can now be removed. Be aware Steering Knuckles are RH and LH specific.

4.) Using the provided 3D Printed Steering Knuckle Template, place on the steering knuckle and trace edge with a bright marker. (See Images 8-10)

5.) Cut/Grind along the traced line. The line should be ~3/8" from the edge of the steering knuckle, top and bottom. (See Image 11)

6.) Once complete, apply a layer (or two) of paint on the trimmed area to prevent rusting. (See Image 12)

Assembly:

12.) Carefully press ball joints into S3 a-arms the same direction as OEM arms. Install ball joint retaining rings, if applicable. (*Pro Tip : An arbor press or bearing press works well for this step.*)

13.) Install bushings and circlips into smaller bushing tubes of S3 a-arms. Larger bushing tubes will need 2 bushings and 1 pivot tube per arm. Insert brass caps with o-rings into side of each bushing tube. (See Images 13-16)

14.) With S3 a-arms prepped for installation, locate upper vs. lower and driver vs. passenger for easy reference.

15.) If Steering Knuckle was trimmed, reinstall Steering Knuckle and Hub/Rotor Assembly ensuring outer cv axle splines align with Hub splines. Reinstall axle spring washer and castle nut, ensuring spring washer flares outward. (*Note : Steering Knuckles are LH and RH specific.*)

16.) Attach lower S3 a-arm to frame using OEM hardware. Ball joint end of arm may need to be elevated for bushing tubes to slide into frame. Once bolts have been inserted, hand thread on nuts. (See Image 17)

17.) Insert lower ball joint stud into Steering Knuckle, ensuring the machined groove of the ball joint stud aligns with the OEM pinch bolt. Elevating the Knuckle will allow the ball joint stud to slip in easily. Light taps with a dead blow hammer also work well. Slide bolt through Knuckle and thread on nut. (See Image 18)

18.) Attach upper S3 a-arm to frame using OEM hardware. (*Note : 18mm bolt for front bushing tube and 16mm bolt for rear bushing tube.*) Once bolts have been inserted, hand thread on nuts. (See Image 19)

19.) Insert upper ball joint stud into Steering Knuckle, ensuring the machined groove of the ball joint stud aligns with the OEM pinch bolt. Elevating the Knuckle will allow the ball joint stud to slip in easily. Light taps with a dead blow hammer also work well. Slide bolt through Knuckle and thread on nut. (See Image 20)

20.) Reinstall tie rod into Steering Knuckle. Hand thread on nut.

21.) Install S3 Sway Bar Link, using OEM hardware. (*IMPORTANT : Sway Bar Link Length should be set at 5 3/8", center bolt hole to center bolt hole. Failure to do so will result in lower arm crashing into sway bar at full compression.*) (See Image 21)



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- 22.)** Reattach brake caliper to rotor and thread 15mm bolts through Steering Knuckle flanges and into caliper. OK to final tighten caliper bolts to OEM specs. *(Note : If using aftermarket ball joints, OEM wheel scrapers may need to be removed.)*(See Image 22)
- 23.)** Fasten brake line to upper S3 a-arm, using 2 rivets and 1 zip tie. Be sure to route hard line through lower shock mount. Remove metal tab on inner most brake line mount. *(See Image 23)*
- 24.)** Attach shock to lower shock mount on S3 a-arm, using OEM hardware. Hand thread nut on. *(See Image 24)*
- 25.)** Final tighten all remaining fasteners, using red threadlocker, to OEM specifications. *(Note : Refer to service manual for OEM torque specifications.)*
- 26.)** Reinstall cotter pins into axles. Use new cotter pins if OEM were damaged during removal.
- 27.)** Repeat on opposite side.
- 28.)** Install desired wheels/tires and place RZR back onto flat ground.
- 29.)** Test drive to settle suspension. Recheck all hardware/fasteners. *(Note : Front end alignment will be necessary when installation is complete.)*
- 30.)** Using a long straight edge at the same area on both front tires, measure across the front of the front tires and measure across the back of the front tires. The difference between these 2 measurements should be negative, or toed outward. *(See Images 25 & 26) (Pro Tip : A level works well for this step, as well as an assistant.)*
- 31.)** With the front end toed outward, it will need to be adjusted - also known as an alignment. The goal of the alignment is to have the 2 distances measured previously to be identical.
- 32.)** To adjust toe in/toe out, loosen outer tie rod end jam nut, using 24mm wrench (or crescent wrench).
- 33.)** IMPORTANT – Adjust toe by turning/twisting tie rod, using 16mm wrench. Be sure to count revolutions in 1/4 turn increments. Adjust driver and passenger side equally.
- 34.)** If using OEM tie rod, there will be approximately 1.125" of thread exposed once jam nut is tightened. *(See Image 27)*
- 35.)** Once alignment (or zero toe) has been achieved, tighten tie rod end jam nuts to OEM spec using red threadlocker.

Thank you for choosing S3 Power Sports! Let us know if you have any questions! 855-221-7097



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Image 1



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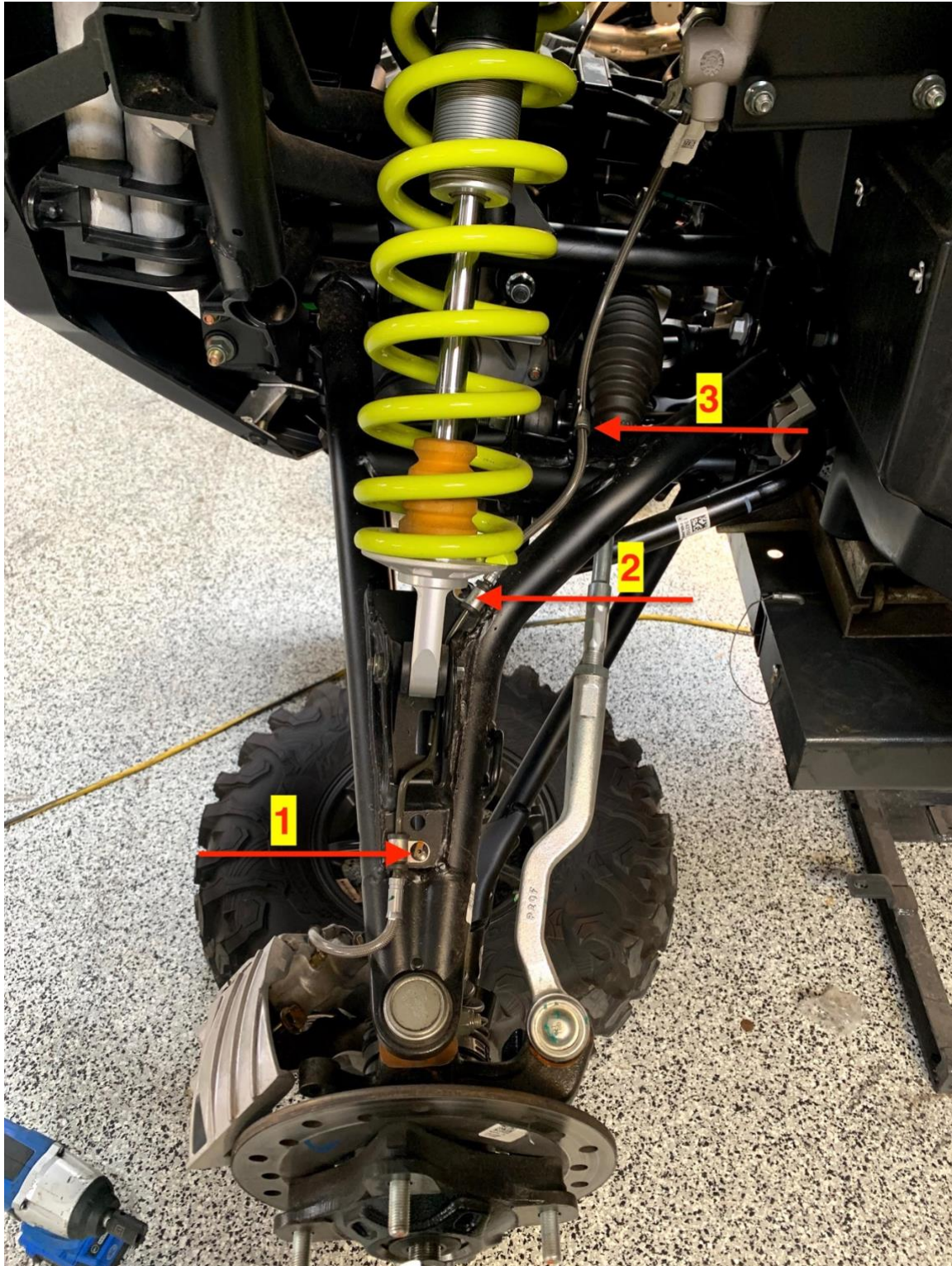


Image 2



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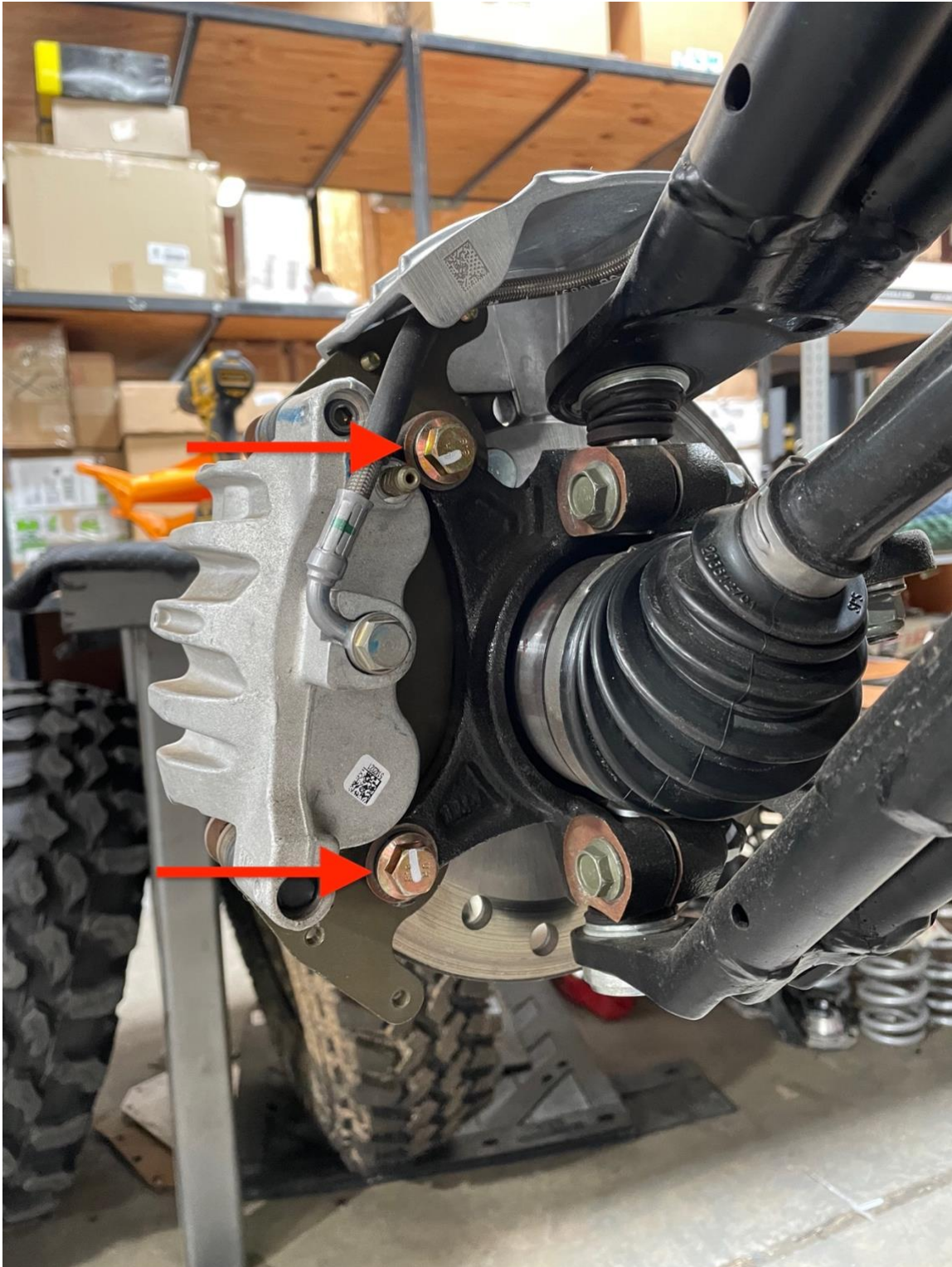


Image 3



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Image 4



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Image 5



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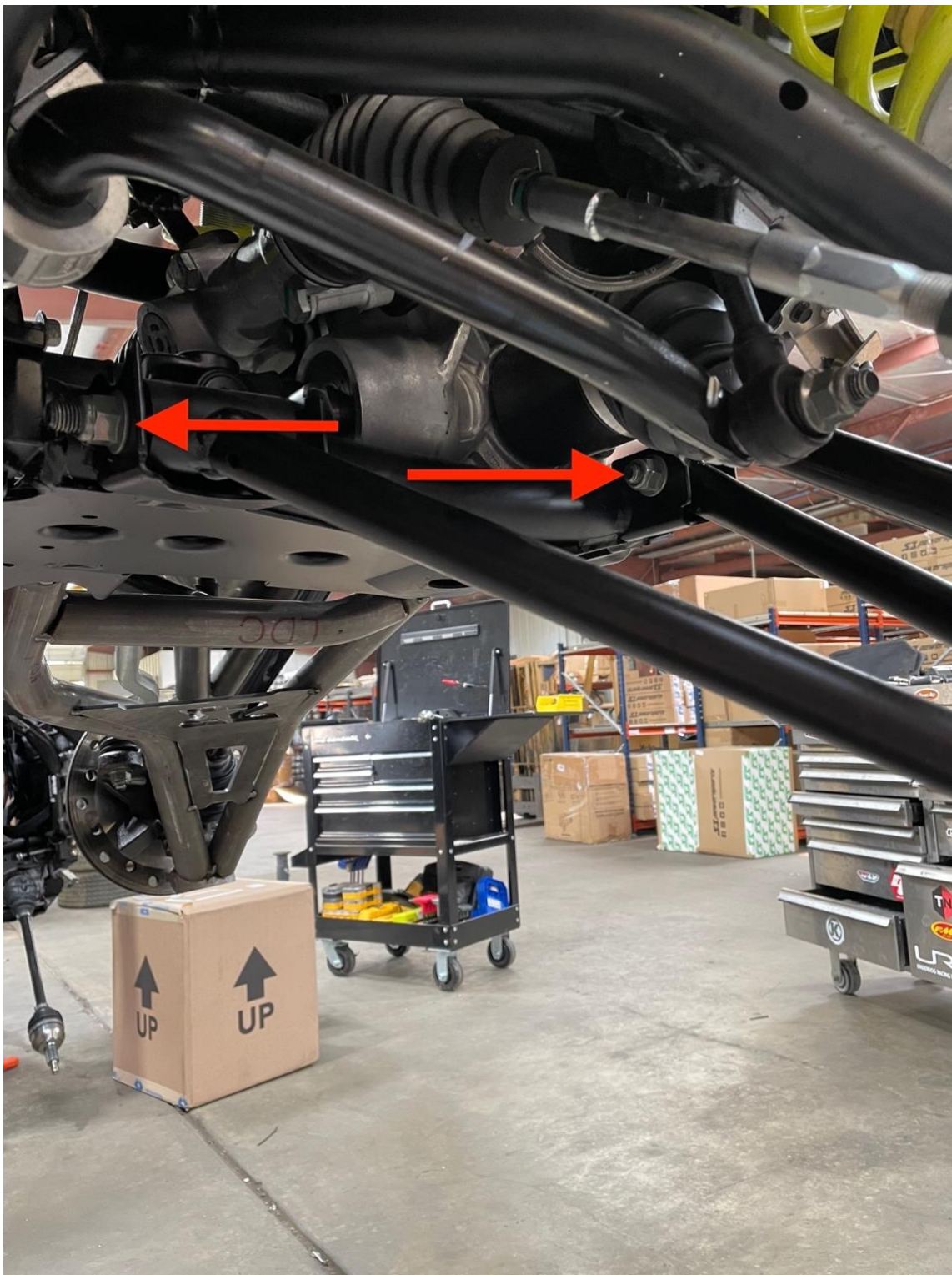


Image 6



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Image 7



2020+ Polaris RZR Pro XP

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Image 8



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Image 9



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Image 10



2020+ Polaris RZR Pro XP

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Image 11



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Image 12



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Image 13



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Image 14



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Image 15



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Image 16



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Image 17



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Image 18



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Image 19



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Image 20



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Image 21



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Image 22



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Image 23



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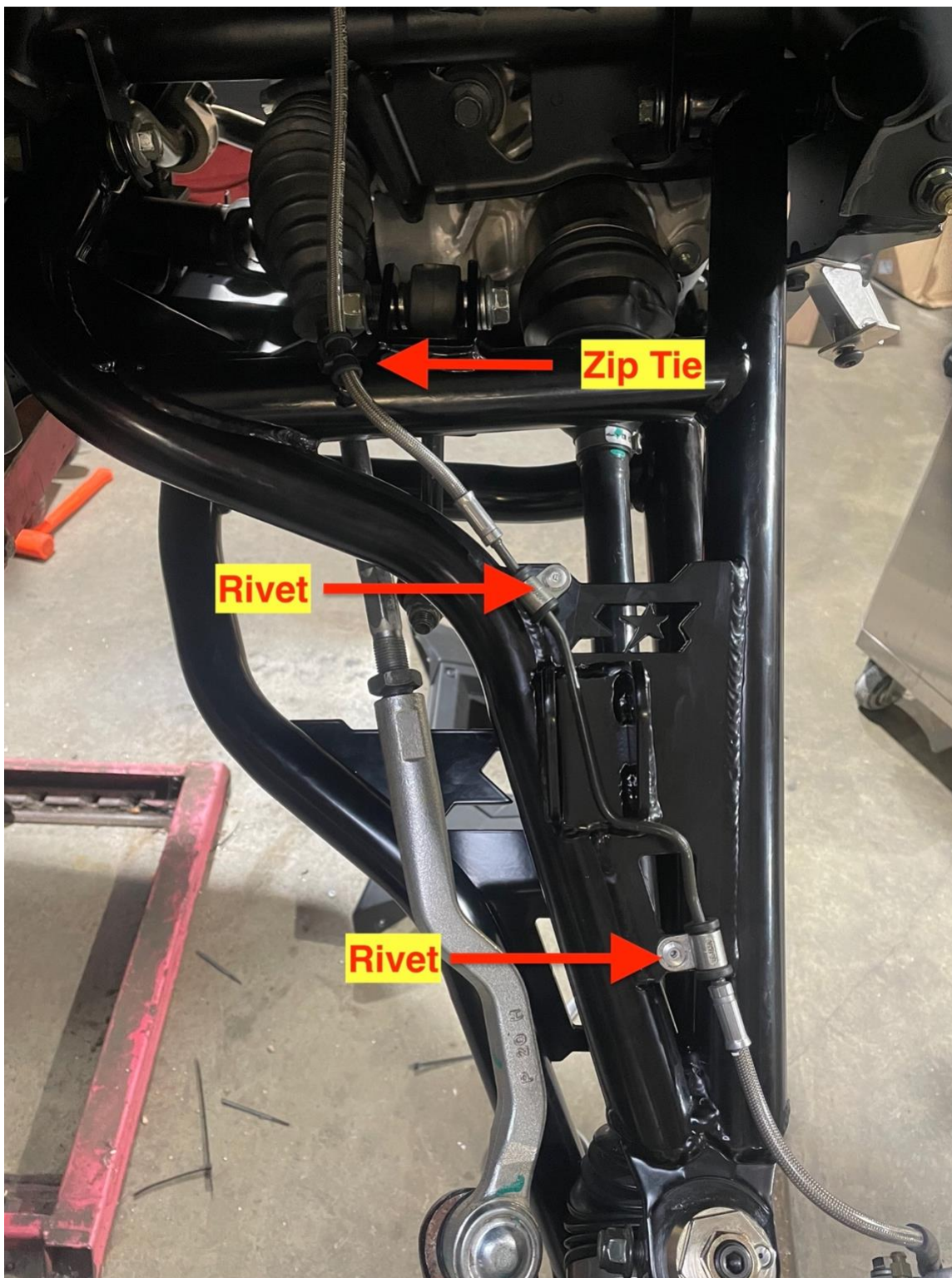


Image 24



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Image 25



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Image 26



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Image 27



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