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Revisions			
Rev.	Description	Date	Approved
A	Initial Release Per ECO 19-033	3/7/19	A.S.



Jeep JL Adjustable Front Lower Control Arms

Installation Instructions

Applications:
2018+ Jeep Wrangler (JL/JLU)



TITLE:
JEEP JL ADJUSTABLE FRONT LOWER CONTROL ARMS INSTALLATION INSTRUCTIONS

SIZE	DWG NO:	REV
A	8851-01-INST	A
	SCALE: N/A	PAGE 1 OF 4



PARTS LIST

8851-01 ADJUSTABLE FRONT LOWER CONTROL ARMS		
QTY	Part Number	Description
1	885101-L-PC	Left Lower Control Arm Powder Coated
1	885101-R-PC	Right Lower Control Arm Powder Coated
2	3622-12-12-PL	Adjuster Sleeve
2	4320-02	Dual Durometer Bushing
2	4807-02	Dual Durometer Bushing Flex Joint
2	N/A	1/2-20 Top Lock Nut
2	N/A	1/2-20 x 1.75 Grade 8 Bolt

GENERAL NOTES

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos or videos for your reference.
- These control arms are a direct replacement for the stock control arms. They are compatible with stock and lifted Jeeps as a heavy-duty upgrade and allow you to correctly align the front axle after the Jeep has been lifted.
- These control arms feature a double adjuster sleeve which allows you to adjust the length of the arms without removing them from the vehicle.
- These control arms feature Synergy Dual Durometer Bushings which are free-floating Teflon lined bushings that require no grease for the duration of their use.

TOOLS REQUIRED

- 15mm, 19mm (or 3/4"), 21mm, 24mm Sockets and wrenches
- 1 1/2" Wrench (or large Crescent wrench)
- Torque wrench
- Cut off wheel or pry bar

INSTALLATION

1. The control arms come assembled to the shortest length. Make any length adjustments by only turning the adjuster sleeve so there is equal thread on the flex joint and adjuster sleeve.
2. If you are just replacing the lower control arms, they can be replaced one at a time with the vehicle sitting on level ground, without removing the tires & wheels or any other suspension part. If the vehicle is raised up and the suspension is allowed to droop, it may be more difficult to align the bolts in the arms due to the track bar 'pulling' the axle over.
3. There is a bracket crimped to the front brake lines that attaches to the factory control arms. These brackets need to be removed when installing the Synergy MFG front control arms. It is possible to either pry open the bracket and remove the line from the bracket, or use a cutoff wheel to remove a majority of the bracket from the brake line. It is critical that care be taken with either step to not damage the brake lines. We recommend trimming the bracket off the brake line in order to prevent damage to the brake

lines. **Figure 1** shows the bracket marked in sharpie, **Figure 2** shows an angle grinder being used to cut the bracket and **Figure 3** shows the completed cut bracket.



Figures 1 and 2. Marking and Trimming Factory Brake Line Bracket



Figure 3. Brake Line Trimmed

4. With the brackets removed or trimmed, remove the right side front lower control arm. The bolt head is a 21mm and the nut is 24mm.
5. The Synergy MFG control arms are left and right specific. Be sure they are installed correctly and the flex joints are aligned properly. The flex joint at the adjuster end of the control arm is angled so that the bushings are put in a zero-bind condition at ride height. The threaded shank should be pointing 'in' towards the center of the Jeep.

Install the new control arms with the adjuster at the frame end. See **Figure 4**. The arms are bent in for tire clearance, and up for ground clearance. The bends should be in, towards the center of the Jeep. Be sure to orient them correctly and with the pinch bolts facing up. Reuse the factory mounting bolts. It is easiest to install the frame side first, then swing the axle side up into the bracket. **NOTE:** When installing with an aftermarket axle housing, the control arm mounting brackets on the axle may be different than stock. Because these control arms are bent for maximum ground clearance and tire clearance, slight clearancing of the control arm brackets may be required to prevent interference.



Figure 4. Control Arm Correctly Installed (Frame Side Shown)

6. With the right-side control arm in place with hardware through both ends, snug the hardware and move to the left-hand side.
7. Remove the left-hand factory control arm. Install the Synergy MFG control arm. Snug hardware.
8. With the vehicle on the ground at ride height, torque the factory control arm bolts to 190 lb-ft.
9. Adjust control arms to the same length with the 1 ½" wrench or crescent wrench. Adjusting the length of the control arms will change caster and pinion angle. We recommend adjusting the control arm length so the vehicle aligns to factory caster, approximately 5 degrees depending on model.
10. Once final length adjustments are made, tighten the adjuster pinch bolts (19mm or 3/4") to 90 lb-ft.
11. Retorque bolts after the first 100 miles of driving.
12. Installation is complete.

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Jeep JL Adjustable Front Upper Control Arms

Installation Instructions

Applications:
2018+ Jeep Wrangler (JL/JLU)



TITLE:
JEEP JL ADJUSTABLE FRONT UPPER CONTROL ARMS INSTALLATION INSTRUCTIONS

SIZE	DWG NO:	REV
A	8853-01-INST	A
	SCALE: N/A	PAGE 1 OF 4



PARTS LIST

8851-01 ADJUSTABLE FRONT UPPER CONTROL ARMS		
QTY	Part Number	Description
1	885301-L-PC	Left Upper Control Arm Powder Coated
1	885301-R-PC	Right Upper Control Arm Powder Coated
2	3622-07-14L-PL	Adjuster Sleeve
2	4321-01	Dual Durometer Bushing
2	805305-01	Forged Yoke
2	N/A	1/2-20 Top Lock Nut
2	N/A	1/2-20 x 1.75 Grade 8 Bolt

GENERAL NOTES

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos or videos for your reference.
- These control arms a direct replacement for the stock control arms. They are compatible with stock and lifted Jeeps as a heavy-duty upgrade and are adjustable to help center the axle and correct caster.
- We recommend pairing adjustable upper control arms with adjustable lower control arms.

TOOLS REQUIRED

- 10mm, 18mm and 19mm (or 3/4") Sockets and Wrenches
- 1 1/4" Wrench (or large Crescent wrench)
- Torque Wrench

INSTALLATION

1. The control arms come assembled to the shortest length. Make any length adjustments by only turning the adjuster sleeve so there is equal thread on the forged yoke and adjuster sleeve.
2. If you are just replacing the upper control arms, they can be replaced one at a time with the vehicle sitting on level ground, without removing the tires & wheels or any other suspension part. If the vehicle is raised up and the suspension is allowed to droop, it may be more difficult to align the bolts in the arms due to the track bar 'pulling' the axle over.
3. Remove the heat shields covering the frame side upper control arm bolts (10mm head). Depending on engine configuration it may not be possible to access both upper and lower bolts holding the heat shields to the mount. In this case it is possible to only remove the lower bolt and bend the heat shield out of the way. **Figure 1** shows heat shield bent out of the way.



Figure 1. Front Upper Control Arm Heat Shield Bent Out

4. Remove the factory right-side upper control arm (18mm head). The frame side uses a flag nut that goes through the frame. Certain engine configurations may not allow the bolt to come fully out without removing or moving other nearby components.
5. The Synergy MFG control arms are right and left specific. Be sure they are installed correctly with the pinch bolt facing up and the bend facing in and down, towards the center of the Jeep. The bends are to clear the frame and the motor mounts. Reuse the factory mounting bolts. Install the right-side Synergy MFG control arm and snug hardware. **Figure 2** shows correctly installed control arm.



Figure 2. Correctly Installed Synergy MFG Right Front Upper Control Arm

6. Remove the factory left-side upper control arm. Install the Synergy MFG left-side control arm and snug hardware. **Figure 3** shows correctly installed control arm.

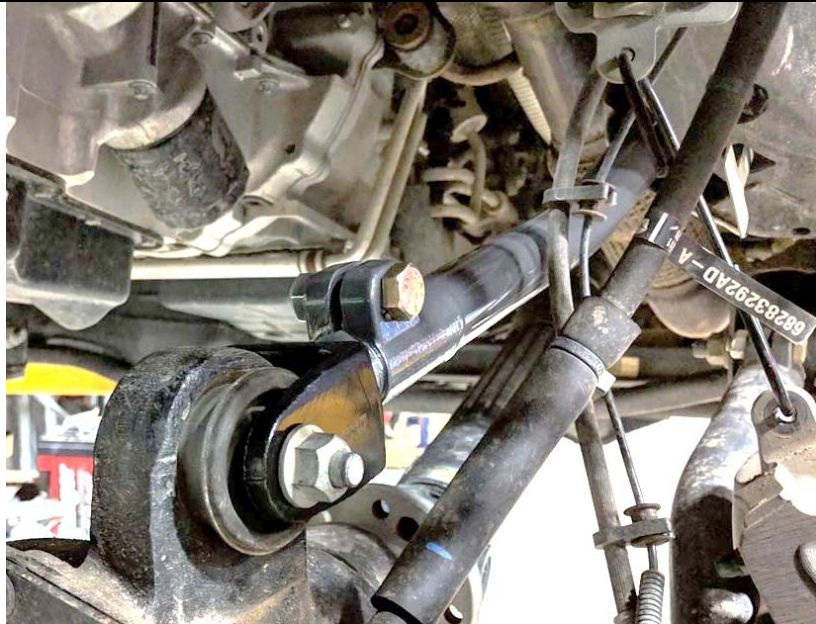


Figure 3. Correctly Installed Synergy MFG Left Front Upper Control Arm

7. Make sure the vehicle is on its own weight, then tighten the frame side and axle side control arm bolts to 80 lb-ft.
8. Re-install the factory heat shields and torque hardware to 40 lb-in (Inch, not feet!). It is critical that the heat shields be reinstalled, otherwise hot exhaust components will cause control arm bushings to fail prematurely. **Figure 4** shows installed control arm with heat shield.



Figure 4. Synergy MFG Right-Side Control Arm Installed With Heat Shield

9. Adjust control arm length as needed with a 1 1/4" wrench or Crescent wrench. If being used with adjustable lower control arms, use the lower control arms to position the axle in the wheel well, then use the upper control arms to adjust caster. We recommend adjusting the control arm length so the vehicle aligns to factory caster, approximately 5 degrees depending on model. Arms should be adjusted to the same length. We recommend aligning the slots in the double adjuster with the slot in the pinch bolt forging if possible.
10. Tighten the adjuster pinch bolts (19mm or 3/4") to 90 lb-ft.
11. Retorque bolts after the first 100 miles of driving.
12. Installation complete.

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Revisions			
Rev.	Description	Date	Approved
A	Initial Release Per ECO 20-001	1/3/20	A.S.



Jeep Wrangler Adjustable Rear Upper Control Arms

Installation Instructions

Applications:
2007-2018 Jeep Wrangler (JK/JKU)
2018+ Jeep Wrangler (JL/JLU)



TITLE:
**JEEP JK/JL ADJ REAR UPPER CONTROL
ARM INSTALLATION INSTRUCTIONS**

SIZE	DWG NO:	REV
A	8854-01-INST	A
	SCALE: N/A	PAGE 1 OF 4



JEEP JK/JL ADJ REAR UPPER CONTROL ARM INSTALLATION INSTRUCTIONS

Thank you for purchasing the best aftermarket products available for your vehicle. We strongly feel that the parts you are about to install should meet or exceed your expectations for performance. Proper assembly is critical to the performance of these components and the vehicle as a whole. Please take the time to carefully read these instructions and familiarize yourself with the installation procedure before working on your vehicle. If you have any questions PLEASE contact Synergy Manufacturing BEFORE beginning installation. Thanks again for supporting Synergy – enjoy the performance benefits of the best aftermarket products available for your vehicle!

Synergy Manufacturing

Phone: (805) 242-0397

Email: support@synergymfg.com

Modifying or otherwise altering vehicle components may cause the vehicle to handle differently than originally designed. It is the driver’s responsibility to familiarize themselves with the performance and handling characteristics of the modified vehicle. Vehicles with larger diameter than stock tires must be driven carefully and cannot be expected to perform as stock or meet OEM performance with regard to handling, braking or crash performance. Ensure all replacement components are compatible with vehicle capacities so as not to overload components, especially tires. It is up to the individual to ensure that the vehicle and all components are compatible with the intended vehicle use, including load ratings, road conditions, and driver abilities. Thorough and frequent vehicle inspections are recommended to ensure a safe and reliable state of readiness, especially after off-highway use.

PARTS LIST

8854-01 Jeep Wrangler Adjustable Rear Upper Control Arms		
QTY	Part Number	Description
1	885401-L	JK/JL RUCA LEFT FINAL ASSEMBLY
1	88 5401-R	JK/JL RUCA RIGHT FINAL ASSEMBLY

GENERAL NOTES

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos for your reference.
- These control arms are a direct replacement for the stock control arms. They are compatible with stock and lifted Jeeps.
- The installation of these control arms will allow the rear axle position and pinion angle to be adjusted in order to accommodate lift springs, aftermarket driveshafts, or larger tires.
- These control arms feature Synergy Dual Durometer Bushings which are free-floating Teflon lined bushings that require no grease or other maintenance. Replacement bushings are available at www.synergymfg.com.
- These control arms are 17.375” collapsed and 18.875” extended.

TOOLS REQUIRED

- 19mm (or ¾”), 21mm, and 22mm Sockets and Wrenches
- 1 ¼” Open End Wrench (Or Large Crescent Type Wrench)
- Tape Measure
- Torque Wrench
- Jack and Jack Stands

ESTIMATED INSTALLATION TIME

1 Hour

INSTALLATION

1. Park the vehicle on a flat, level surface. Put the vehicle in gear or in park and set the parking brake. Raise the vehicle up and support the frame with jack stands or on a lift. We recommend removing the rear wheels (22mm or 19mm socket) in order to ease installation.
2. Remove one of the rear upper control arms. The bolts are a 21mm head and both the frame side and axle side use a ‘flag’ nut, so no wrench is necessary to prevent the nut from spinning. It may be necessary to remove rear bump stop spacers to remove the axle side bolt.
3. Install a new Synergy Adjustable control arm. The arms install with the pinch bolts down and the fixed end of the arm on the frame side. The bend in the arm goes in towards the frame for tire clearance. Adjust the length as necessary by rotating the silver double adjuster sleeve with a 1 ¼” open end wrench or Crescent style adjustable wrench. Once the bolt holes line up, re-install the factory hardware. See **Figures 1 and 2**.



Figures 1 and 2. Driver Side Synergy Rear Upper Control Arm



- Repeat steps 2 and 3 for the other side of the vehicle.
- Torque frame side hardware to 120 lb-ft. Torque axle side hardware to 95 lb-ft. Leave pinch bolts loose at this point.
- Re-install wheels and torque lug nuts (See **Table 1**). Place vehicle back on ground at ride height.
- With the vehicle back on the ground, adjust the control arm lengths to set the axle in the correct position, and set the correct pinion angle for the driveshaft being used. On JL applications, we recommend keeping the upper control arms as short as possible, and using the lower control arms to set pinion angle. See **Tables 2 and 3**.
- Double check control arm lengths to make sure they are identical side to side. After checking, torque pinch bolts to 90 lb-ft.
- If the pinion angle has changed significantly from stock (pinion is higher than stock) then we recommend over-filling the rear differential by a quart or so in order to ensure the pinion is getting sufficient oiling. Aftermarket diff covers often have raised fill plugs to accomplish this, otherwise you can add the extra fluid through the vent tube.

Installation is Complete

Table 1. Jeep JK/JL Bolt Torques

Bolted Joint Location	Wrench Size	Torque
JL Lug Nuts	22mm	125 lb-ft
JK Lug Nuts	19mm	95 lb-ft
Rear Upper Control Arm to Frame	21mm	120 lb-ft
Rear Upper Control Arm to Axle	21mm	95 lb-ft
Synergy MFG Control Arm Pinch Bolts	19mm	90 lb-ft

**Table 2. Jeep JK Recommended Control Arm Lengths
(For 3-4.5" of Lift)**

Vehicle Type	UCA Length	LCA Length
4 Door with CV Driveshaft	18.25"	20.25"
2 Door with CV Driveshaft	18.75"	20.25"

**Table 3. Jeep JL Recommended Control Arm Lengths
(For 2-3" Of Lift)**

Vehicle Type	UCA Length	LCA Length
4 Door	17.375"	20"
2 Door	17.375"	19.75"

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Revisions			
Rev.	Description	Date	Approved
A	Initial Release Per Eco 21-040	4/29/2021	KB



JEEP GLADIATOR ADJUSTABLE REAR LOWER CONTROL ARMS

Installation Instructions

Applications:
2019+ JEEP JT GLADIATOR



TITLE:
JEEP JT ADJ REAR LOWER CONTROL ARM INSTALLATION INSTRUCTIONS

SIZE	DWG NO:	REV
A	8871-01-INST	A
SCALE: N/A		PAGE 1 OF 5



JEEP JT ADJ REAR LOWER CONTROL ARM INSTALLATION INSTRUCTIONS

Thank you for purchasing the best aftermarket products available for your vehicle. We strongly feel that the parts you are about to install should meet or exceed your expectations for performance. Proper assembly is critical to the performance of these components and the vehicle as a whole. Please take the time to carefully read these instructions and familiarize yourself with the installation procedure before working on your vehicle. If you have any questions PLEASE contact Synergy Manufacturing BEFORE beginning installation. Thanks again for supporting Synergy – enjoy the performance benefits of the best aftermarket products available for your vehicle!

Synergy Manufacturing

Phone: (805) 242-0397

Email: support@synergymfg.com

Modifying or otherwise altering vehicle components may cause the vehicle to handle differently than originally designed. It is the driver’s responsibility to familiarize themselves with the performance and handling characteristics of the modified vehicle. Vehicles with larger diameter than stock tires must be driven carefully and cannot be expected to perform as stock or meet OEM performance with regard to handling, braking or crash performance. Ensure all replacement components are compatible with vehicle capacities so as not to overload components, especially tires. It is up to the individual to ensure that the vehicle and all components are compatible with the intended vehicle use, including load ratings, road conditions, and driver abilities. Thorough and frequent vehicle inspections are recommended to ensure a safe and reliable state of readiness, especially after off-highway use.

PARTS LIST

8871-01 JEEP JT ADJ REAR LOWER CONTROL ARM		
QTY	Part Number	Description
1	887101-L-PC	JT ADJ REAR LOWER CONTROL ARM, LEFT, POWDERCOATED
1	887101-R-PC	JT ADJ REAR LOWER CONTROL ARM, RIGHT, POWDERCOATED
2	432002	LOWER CONTROL ARM BUSHING, MULTI COMPOUND, 16MM
2	480002	LOWER CONTROL ARM DDB JOINT, 2.625W X 16MM BOLT, 1.25-12L
2	3622-12-12-PL	ROD END ADJUSTER SLEEVE 1.25ID X 12TPI
2	NA	HEX HEAD BOLT, UNF 1/2-20 X 1.75
2	NA	TOP LOCK NUT, UNF 1/2-20

GENERAL NOTES

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos for your reference.
- These control arms are a direct replacement for the stock control arms. They are compatible with stock and lifted Jeeps.
- The installation of these control arms will allow the rear axle position and pinion angle to be adjusted in order to accommodate lift springs, aftermarket driveshafts, or larger tires.
- These control arms feature Synergy Dual Durometer Bushings which are free-floating Teflon lined bushings that require no grease or other maintenance. Replacement bushings are available at www.synergymfg.com.
- These control arms are 23 5/8” collapsed and 24 7/8” extended.

TOOLS REQUIRED

- 19mm (or 3/4”), 21mm, and 24mm Sockets and Wrenches
- 1 1/2” Open End Wrench (Or Large Crescent Type Wrench)
- Tape Measure
- Torque Wrench
- Jack and Jack Stands

ESTIMATED INSTALLATION TIME

1 Hour

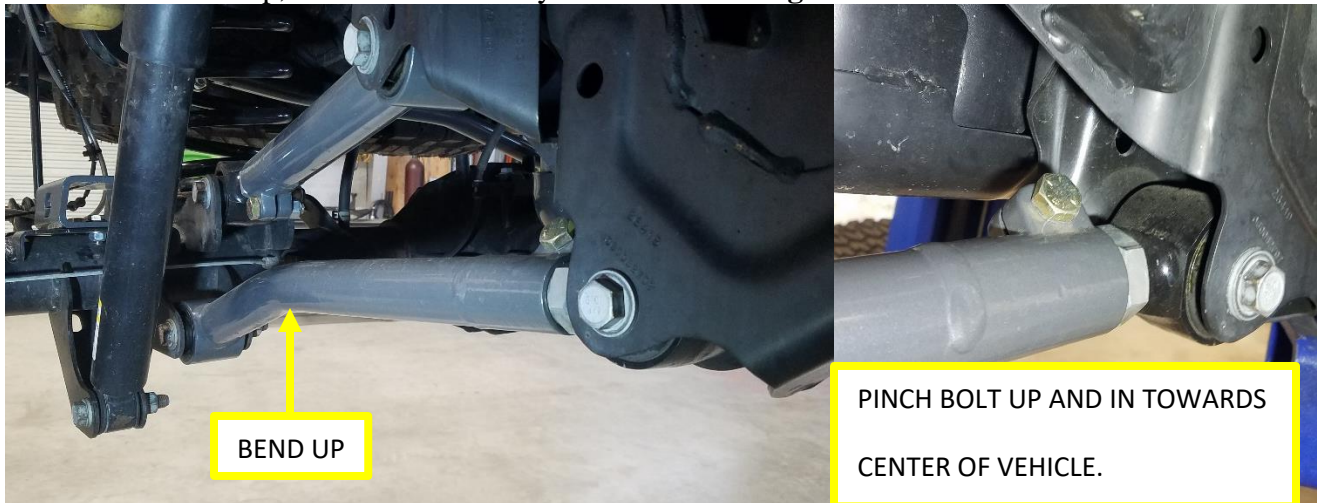
INSTALLATION

1. Park the vehicle on a flat, level surface. Put the vehicle in gear or in park and set the parking brake. Raise the vehicle up and support the frame with jack stands or on a lift. We recommend removing the rear wheels (22mm socket) in order to ease installation.
2. Remove one of the rear lower control arms. Use a 24mm wrench and 21mm socket to loosen and remove the frame and axle side control arm bolts. Retain the factory hardware. See **Figures 1 and 2**.



Figures 1. and 2. Removing the Drivers Side Factory Lower Control Arm.

3. Install a new Synergy Adjustable control arm. The arms install with the pinch bolts up and in toward the center of the vehicle, and the fixed end of the arm on the axle side. The bend in the arm goes up towards the frame for increased clearance. Adjust the length as necessary by rotating the silver double adjuster sleeve with a 1 1/2" open end wrench or Crescent style adjustable wrench. Once the bolt holes line up, re-install the factory hardware. See **Figures 3. and 4.**



Figures 3. and 4. Installing the Passenger Side Synergy Rear Lower Control Arm

4. Repeat steps 2 and 3 for the other side of the vehicle.
5. Torque frame side hardware to 120 lb-ft. Torque axle side hardware to 120 lb-ft. Leave pinch bolts loose at this point.
6. Re-install wheels and torque lug nuts to 130 lb-ft. Place vehicle back on ground at ride height.
7. With the vehicle back on the ground, adjust the control arm lengths to set the axle in the correct position, and set the correct pinion angle for the driveshaft being used. See **Figure 5.** We recommend keeping the lower control arms as short as possible, and using the upper control arms to set pinion angle.



Figure 5. Adjusting the Arm to Set Axle Position.

8. Double check control arm lengths to make sure they are identical side to side. After checking, torque pinch bolts to 90 lb-ft. See **Figure 6**.



Figure 6. Tightening the Pinch Bolt

9. If the pinion angle has changed significantly from stock (pinion is higher than stock) then we recommend over-filling the rear differential by a quart or so in order to ensure the pinion is getting sufficient oiling. Aftermarket diff covers often have raised fill plugs to accomplish this, otherwise you can add the extra fluid through the vent tube.

Installation is Complete

Table 1. Jeep JK/JL Bolt Torques

Bolted Joint Location	Wrench Size	Torque
JT Lug Nuts	22mm	130 lb-ft
Rear Lower Control Arm to Frame	21mm and 24mm	120 lb-ft
Rear Lower Control Arm to Axle	21mm and 24mm	120 lb-ft
Synergy MFG Control Arm Pinch Bolts	19mm or 3/4in	90 lb-ft