

MM IRS Upper Control Arm Delrin Bushing Kit (MMIRSB-2.1)



Read all instructions before beginning work. Following instructions in the proper sequence will ensure the best and easiest installation.

Thank you for purchasing the Maximum Motorsports IRS Delrin Upper Control Arm Bushing Kit. This kit will improve handling and reduce wheel hop by eliminating the deflection allowed by the stock rubber upper control arm bushings. The Delrin bushings precisely locate the upper control arms. This maintains rear wheel alignment in a manner that is impossible with the compliant stock rubber bushings. While providing adequate suspension control, noise and vibration reduction, rubber bushings cannot accurately position the control arms well enough to achieve maximum performance from the suspension. Wheel hop is caused by the undamped compression of the rubber bushings in the rear suspension. That undamped movement is further increased by repeated loss of traction. Wheel hop can occur under acceleration or braking. Eliminating the soft stock bushings that compress easily and spring back, causing the tires to continually lose and regain traction, will reduce wheel hop.

There are many unique features to our bushing kit:

- The Delrin bushing shoulders are chamfered to ease installation, and reduce the sliding-friction contact area with the sub-frame tabs.

- Tooling! We include a set of press tools to remove the stock rubber bushings and shells. There is no need to spend hours at the difficult task of drilling out bushings and cutting up bushing shells. With the MM bushing press tools, all four control arm bushings can be easily removed in a matter of minutes.
- Tab-straightening tools are included with the MM kit to assist in flattening the sub-frame tabs before installing the new Delrin bushings. The mounting tabs are distorted on the assembly line when the control arms are originally installed. This is a critical step that ensures that the control arms pivot freely, without binding.

Besides the typically required hand tools, this installation will require the following items:

- Flat file
- Grease or Anti-seize
- Hacksaw
- Workbench Vice or Arbor Press

Delrin Bushing Preparation

Remove the four Delrin bushings from the MMIRSB-2.1 kit and place them in a freezer for at least one hour prior to Step 16 of these installation instructions. The extremely low temperature of the freezer will help shrink the bushings before pressing them into the control arms for easier installation.

Remove the IRS Subframe

Follow the attached MM IRS Subframe Removal Instructions to remove the IRS Subframe.

Remove the Upper Control Arms

1. Remove the IRS Upper Control Arms.

Remove Control Arm Bushings

2. Grip the control arm in a soft jaw vise to avoid damaging the arm. Orient it so that one of the bushings is facing upward.

- Use a hacksaw to cut the bushing flange in the location shown, directly opposite the arm. Be careful not to cut into the control arm.



NOTE: There is an upper and lower part of the flange. Cut through both. The photo below shows a removed bushing with the flange properly cut.



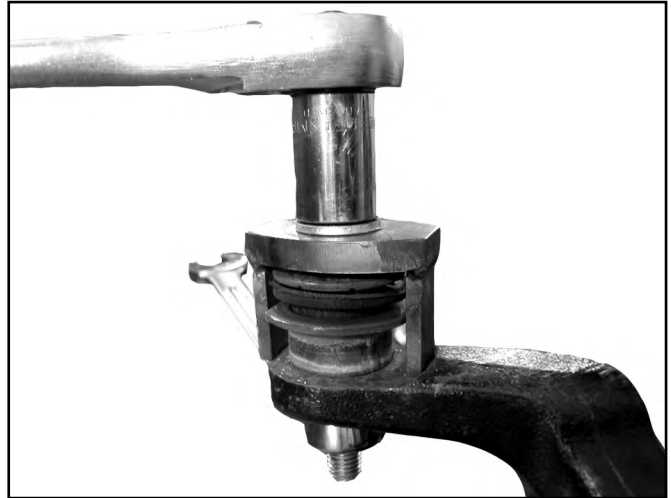
- Apply a liberal amount of anti-seize compound to the entire threaded portion of the supplied 7/16-20 x 3-1/4" bolt and 7/16-20 nut.
- Place one washer under the head of the bolt and insert through the Removal Tool.
- Apply anti-seize between the washer, the head of the bolt, and the Removal Tool.
- Place the legs of the Removal Tool across the control arm bushing. The Removal Tool should rest firmly against the control arm.



- Thread the nut and washer on the bolt as shown in the photo above.

NOTE: Extra washers shown- see note in Step 9

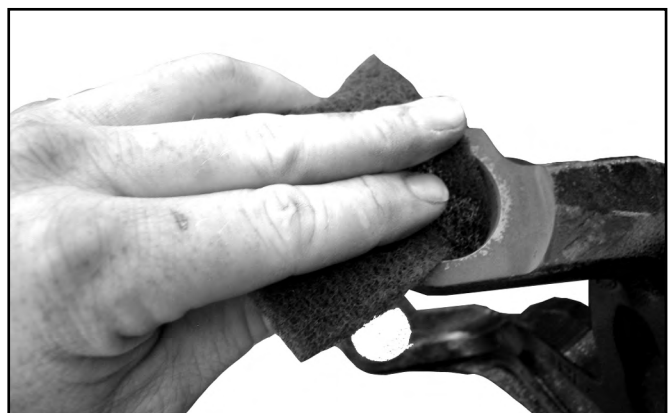
- Using a wrench and ratchet, tighten the bolt until the bushing is pulled free of the control arm. The bushing shell only needs to move about 3/4" to become free. To avoid damaging the arm, we recommend AGAINST using an impact gun.



NOTE: It is possible that the nut will bottom out on the threads before the bushing is completely removed. If this happens, place additional 7/16" washers under the bolt head, or under the nut, and repeat Step 9.

- Repeat Steps 2-9 to remove the other three control arm bushings.
- Using the supplied Scotch-Brite pad, clean up the dirt and oxidation on the control arms as shown.

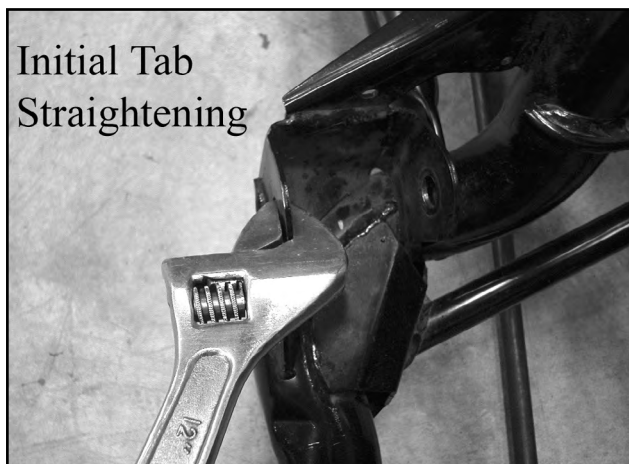
NOTE: Do not enlarge the inner diameter of the control arm pivot.



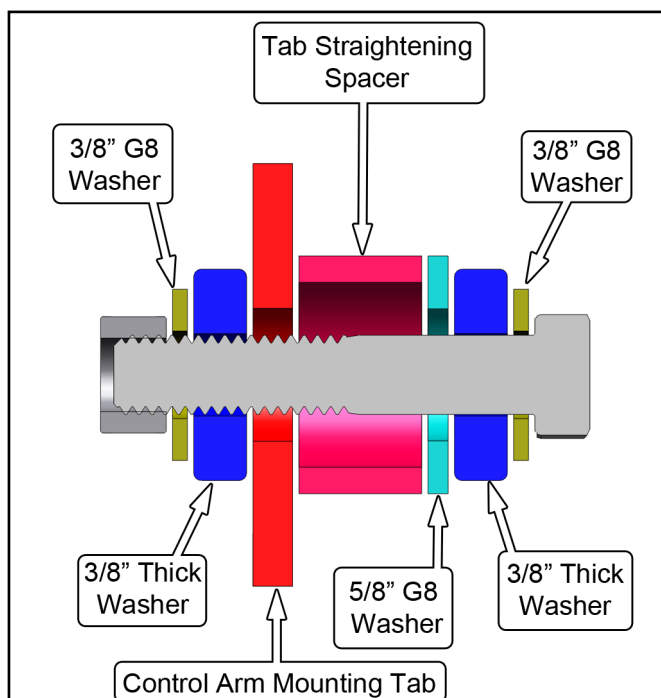
Straightening of Control Arm Mounting Tabs

The control arm tabs are deformed from the control arm mounting bolts being tightened at the factory. Proper tab straightening will minimize bind between the bushing faces and the mounting tabs.

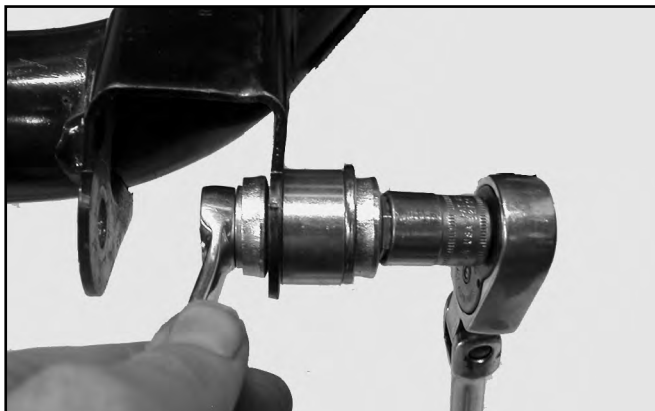
12. Check that a crush sleeve will fit between each pair of control arm mounting tabs. Use a Crescent wrench to spread any overly bent tabs apart until the crush sleeve can be inserted between the tabs.



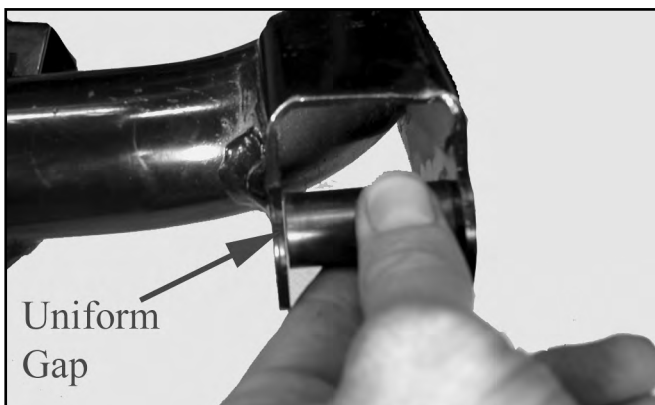
13. Set the Tab Straightening Spacer on the outside of the tab. Place the 3/8" G8 washer, 3/8" thick washer, and 5/8" G8 Washer on the 3/8-16 x 2" long bolt. Run the bolt through and place the other thick washer, 3/8" G8 washer, and nut on the inside of the tab. Use anti-seize compound or grease on the threads and washer surfaces.



14. Tighten the bolt to pull the tab straight. Be careful to not over bend the tab. It may be necessary to move the setup around and repeat the process to flatten the entire mounting surface.



NOTE: To check tab straightness, set the crush sleeve flush against one tab. There should be a uniform gap from the crush sleeve to the tab at the other end. Continue the process until the tabs are straight.



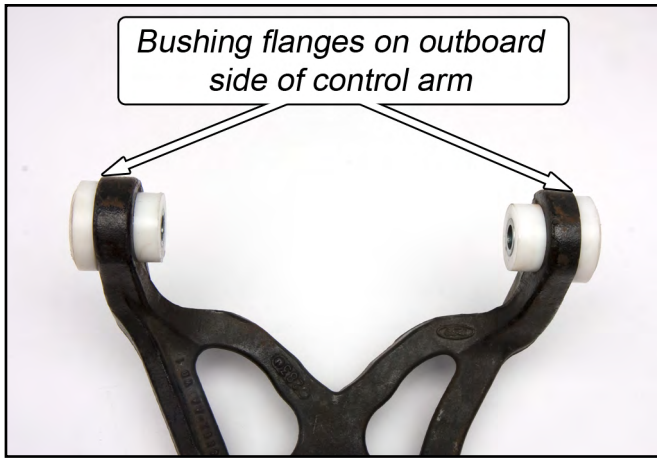
15. At this point, check the inner surface of each control arm mounting tab for irregularities from weld spatter or other protrusions. It is important that the mating area of the Delrin be smooth. Use a flat file to smooth out the area.

Install Bushings

NOTE: Complete the remaining installation steps for the passenger side first, until instructed to work on the driver side.

16. Remove two of the Delrin bushings from the freezer and **QUICKLY** install them into the control arm. The bushing flange faces towards the outside of the control arm.

NOTE: Some force will be required to insert the bushings into the control arm. Use a vice or press to install the bushings. Take care not to damage the faces of the Delrin bushings.



17. With the supplied grease, lubricate the outside diameter of the crush sleeves, the inside diameter of the control arm bushings, and both faces of bushings.

NOTE: The supplied grease is extremely difficult to remove from your skin and clothing. We have supplied a pair of latex gloves for your protection during lubrication application.

18. Install the crush sleeves into the bushings.

NOTE: Because of the tight clearance between the bushings and crush sleeves, it will be necessary to allow the bushings to reach room temperature before installing the crush sleeves.



19. Install the arm into the sub-frame. Snug the mounting bolts, but do not fully torque.

20. Check for bind in the system. The upper control arm should almost fall under its own weight. If it does not, determine where it is binding and take corrective action.

NOTE: The most likely source of bind is from the control arm tabs not being straightened enough.

NOTE: To determine which pivot bushing is binding up, we recommend loosening one pivot bolt and rechecking for bind. If the bind is reduced, that pivot point needs to be addressed. If the bind isn't reduced, tighten the bolt and move on to the next pivot bushing and repeat the test procedure.

21. Torque the control arm bolts to 66 ft-lb. Recheck the arms to make sure they still pivot freely.

22. Repeat Steps 16-21 for the driver side.

Reinstall the IRS Subframe

Follow the attached MM IRS Subframe Removal Instructions to reinstall the IRS Subframe (starts at Step 37 of those instructions).

This kit includes:

- 4 Delrin Bushings
- 4 Crush Sleeves
- 1 Tab Straightening Spacer
- 1 5/8 G8 Washer
- 1 3/8-16 x 2" G8 bolt
- 1 3/8-16 G8 nut
- 2 3/8 G8 flat washer
- 2 3/8 x 1 x 1/4 thick washer
- 1 Bushing Removal Tool
- 1 7/16-20 x 3-1/4" Hexbolt
- 1 7/16-20 G8 nut
- 5 7/16" G8 flat washers
- 1 Small Scotch-Brite pad
- 2 Grease packets
- 2 Latex gloves