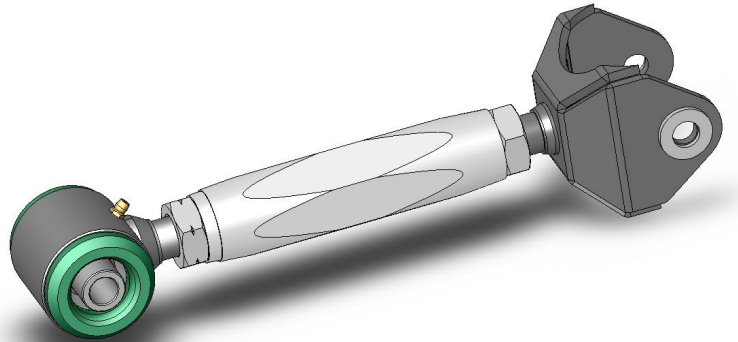


HOTCHKIS **HOTCHKIS** **SPORT SUSPENSION**

1205AA **78-96 GM B-BODY** **Double Adjustable** **Trailing Arms**



Thank you for your purchase from our new line of GM parts.
Please call us at (877) 4NO-ROLL if you have any questions
regarding the service or installation of your Hotchkis products.
Visit us online @ www.hotchkis.net

Warning: This installation should be performed by a trained professional.

Tools Required for this Installation

- 4 post lift or alignment rack preferable
- Air Chisel, Angle Finder (Digital Preferred), Dead blow hammer
- The following sockets or wrenches: 10mm, 13mm, 15mm, 16mm, 18mm, 21mm

REMOVAL OF STOCK UPPER TRAILING ARMS

1. Raise the vehicle to access the rear end section.



2. There are various methods for installing your new upper trailing arms. Preferences in methods are mainly based on the way you remove the old rubber Can Bushings from the differential. Some may find it easier to detach the entire differential (rear end) from the car in order to remove the Can Bushings. This makes it easier to get at the Can bushings for removal and replacement. The only problem with this method is that it requires much more to be disconnected e.g. brake lines, parking brake, axle u-joint, and lower trailing arms. However, it is possible to remove the Can Bushings without taking the rear end off the car, but it's tricky.

In this manual, we will describe how to replace the Can Bushings without removing the rear end from the car.

3. First, raise the rear of the vehicle so that the rear wheels are off the ground. If you are using a 2-post lift, support the differential with a hydraulic tranny jack.
4. Remove the rear shocks.
Upper mounts: 10mm and 13mm socket/wrench for bolt and nut
Lower mounts: 19mm socket/wrench for nut



5. Remove the rear swaybar from the lower trailing arms.
Trailing arm mounts: 15mm socket/wrench for nuts



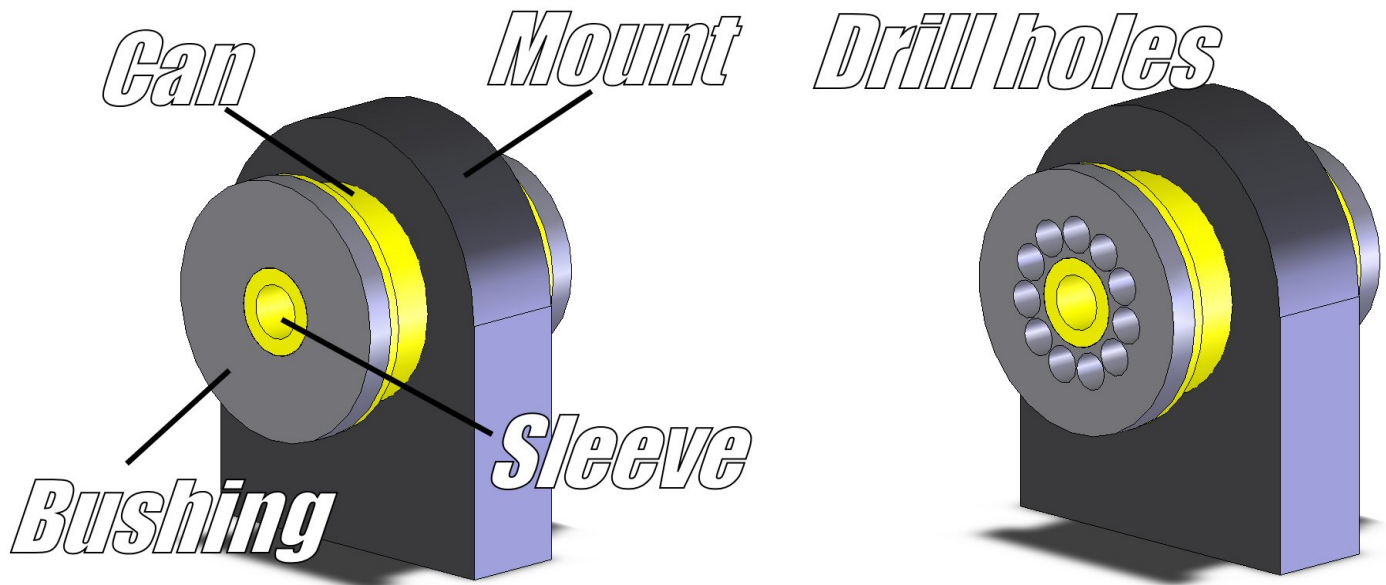
6. Allow the differential to droop as far down as possible.

7. Remove the stock upper trailing arms.
Fore mount: 21mm socket/wrench for nut & bolt
Aft mount: 18mm socket/wrench for nut & bolt

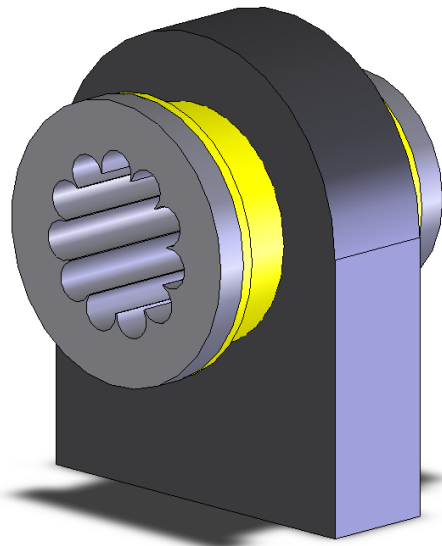


8. Now here comes the difficult part. Removing the stock Can Bushings. These are the bushings that connect the aft end of the upper trailing arms to the differential.

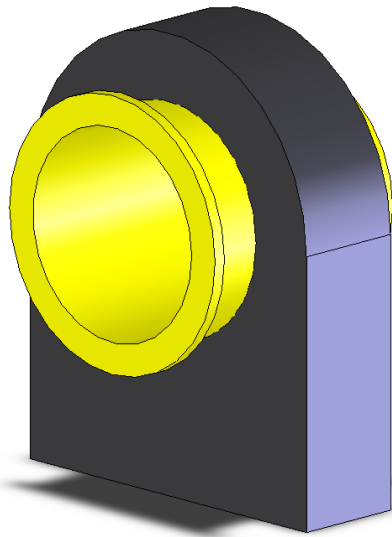
- First step is to drill out the rubber bushing. Drill a sequence of holes in a circular pattern in the rubber.



- Once the rubber surrounding the inner metal sleeve is pretty much drilled out, you should be able to punch out the metal sleeve.

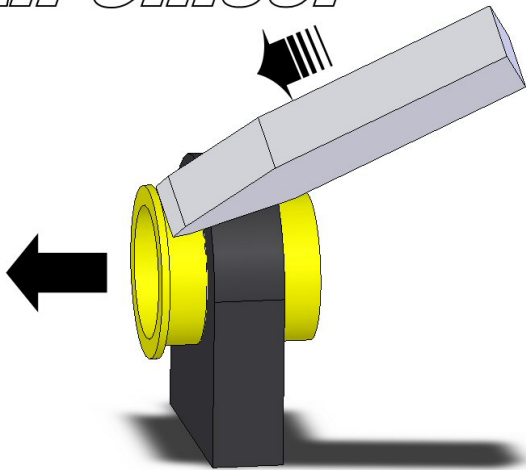


- Scrape or pull out the remaining rubber in the bushing can. All that should be left is the metal can



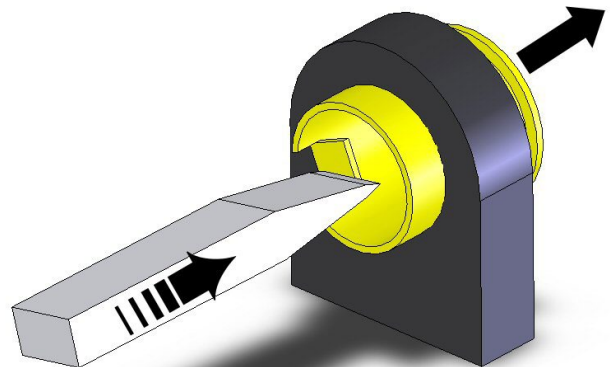
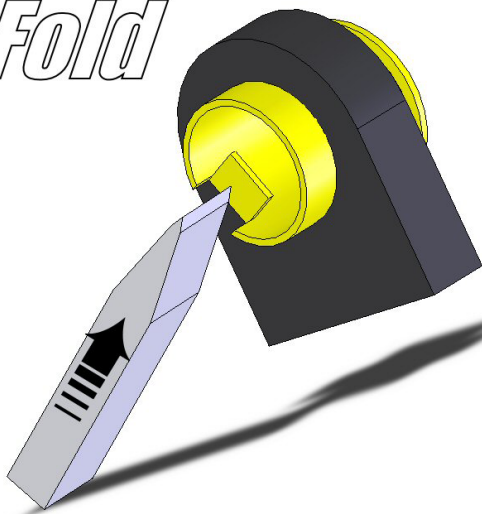
- Soak the entire can with some good penetrating oil. Let it sit for about 20-30 minutes.
- Grab your trusty air chisel and hammer away at the flange in the direction of extraction.

Air Chisel



- If the flange begins to tear or bend then it may necessary to chisel the other end of the can to fold the edge over. This way you have something to chisel onto in the direction of extraction.

Fold

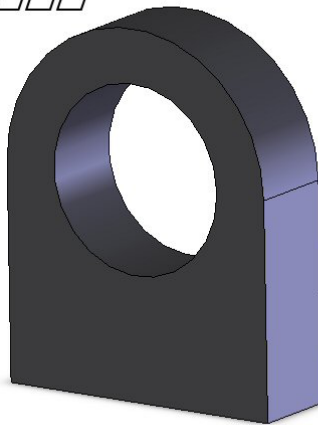


9. Next, clean the differential mounts and make sure there are no burrs that will make reinstallation difficult. Soak the holes with penetrating oil to aid re-insertion of new can.

Clean

&

oil



INSTALLING NEW UPPER TRAILING ARMS

10. The new polyurethane can bushings come pre-assembled, but it is easier to install the new can bushing with the polyurethane bushing out of the metal can. So, the bushing will have to be pressed out.

- First, set the bushing (flange down) in a vise. See picture. Notice the flange sits on top of the vise. It is not compressed in the vise.



- Using a dead blow hammer, smack the bushing downward until the bushing is level with the metal edge.



- Grab a large deep socket and use it as a punch to hammer the rest of the bushing out.



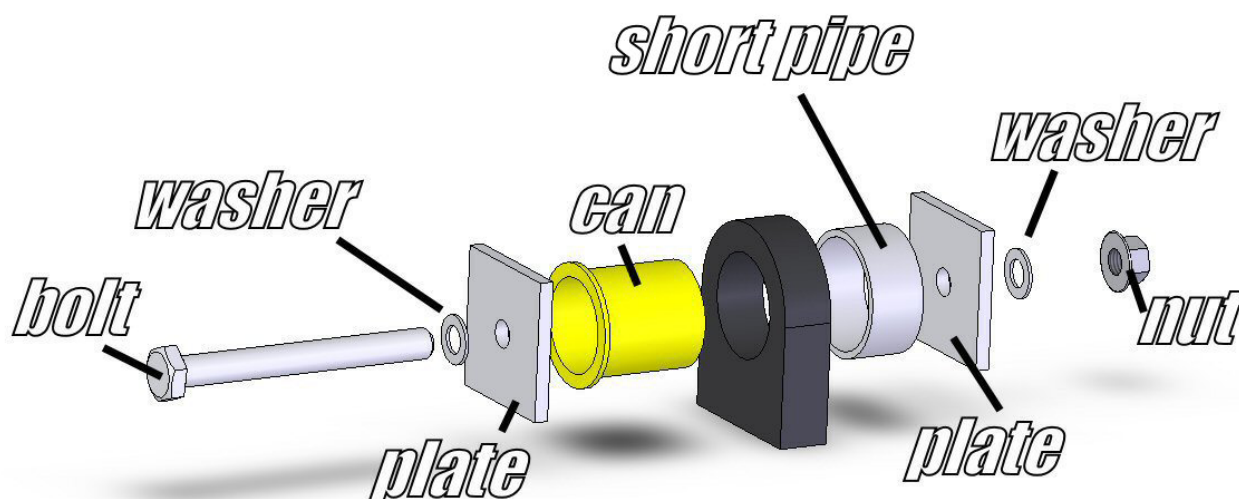
11. Normally with enough room, you can place the bushing can in the differential mount and hammer it in with a flat piece of wood. But, if there isn't enough room, then you will have to fabricate your own press tool. This is not as hard as it sounds.

Home made press materials:

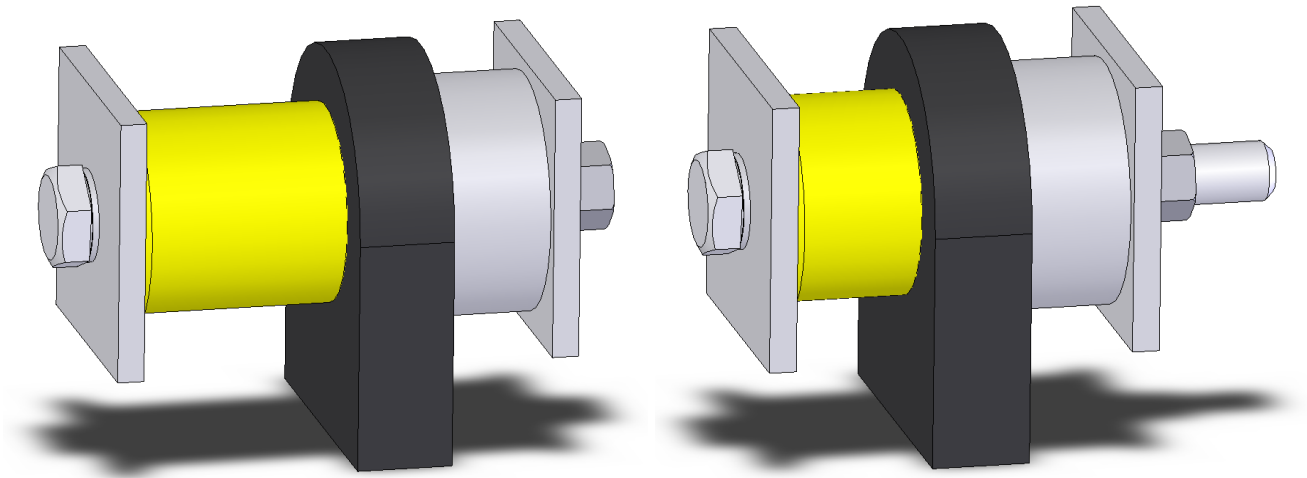
- (2) steel plates (2 ½" x 2 ½" x ¼" thick)
- (2) 2" ID metal pipe (≈1" long "short", ≈ 2" long "deep")
Note: these lengths may vary based on your bolt thread length
- (1) ½" Bolt 5" long Grade 8
- (1) ½" Nut Grade 8
- (2) ½" Washers Grade 8

You should be able to find these supplies at your local hardware store.

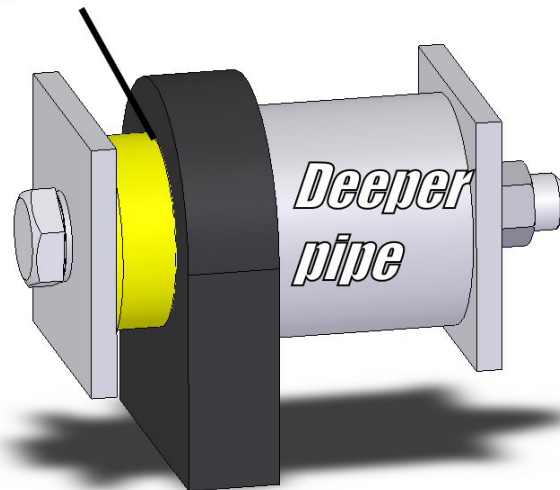
Assemble the materials as shown in the diagram.



Use a $\frac{3}{4}$ " wrench to hold the nut and a $\frac{3}{4}$ " socket to tighten the bolt. The bolt may eventually run out of thread. When this occurs, you can replace the short pipe with the deep pipe.



Stop at Crease



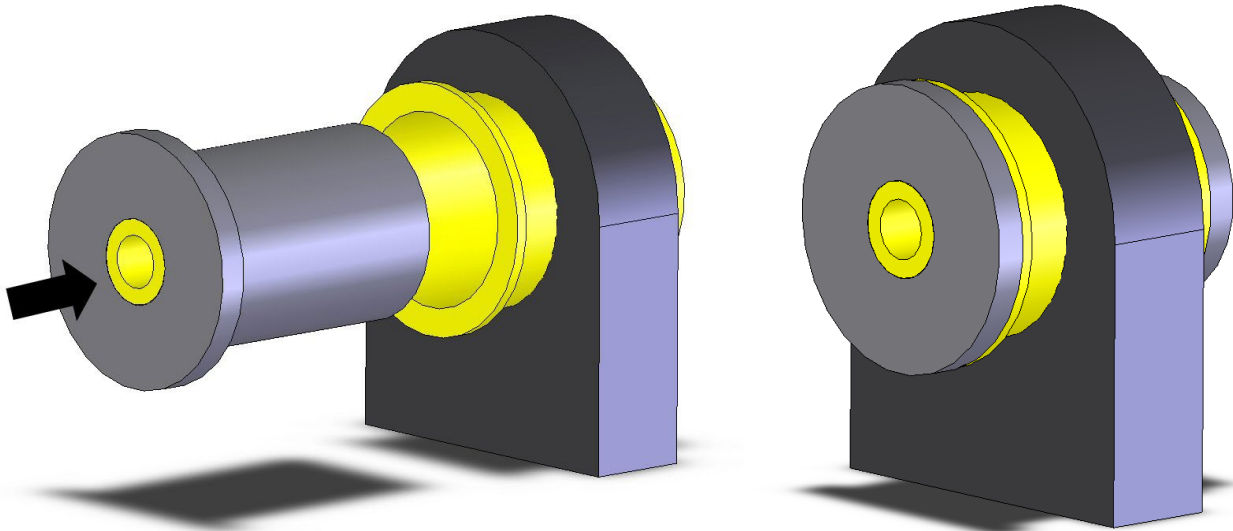
Press the metal can in until it reaches the crease.



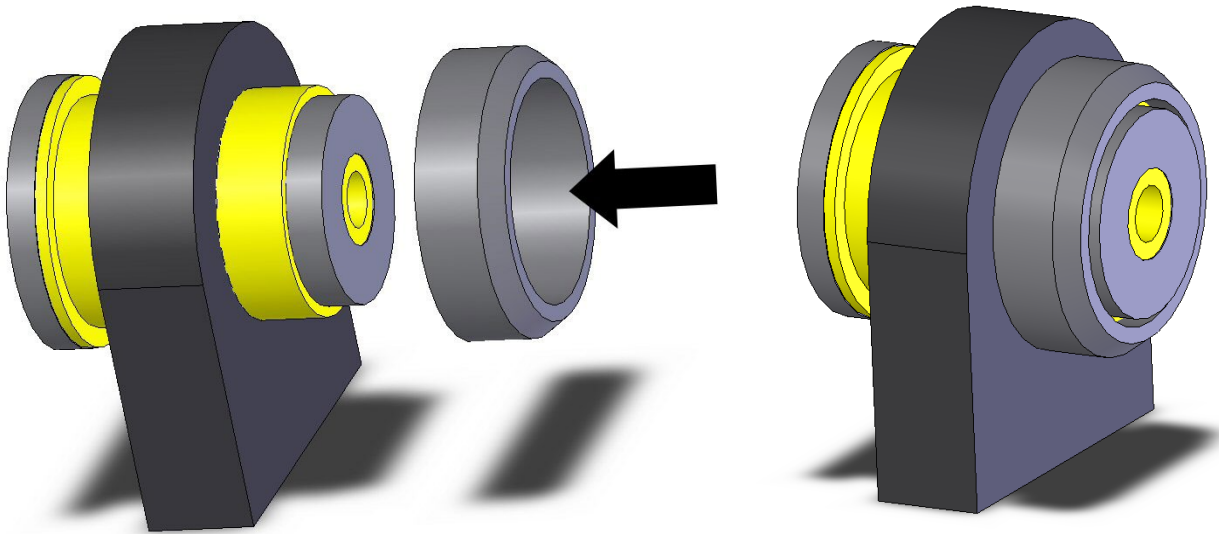
Important Note: On 12-bolt differentials, you cannot use the homemade press method. This is because the thrust bushing (see step 13) needs to be installed onto the can just before the can is fully pressed in. The thrust washer also needs to be shaved down in order to clear the differential housing. In this instance, use a dead blow hammer to smack the can into the mount hole.



12. Once both cans are pressed in, lube the polyurethane bushings and push them into the can in the same manner. You may need to use a dead blow hammer or large channel locks to get the bushing in all the way.



13. Install the thrust washer onto the unflanged side of the can.



12. Install your new Hotchkis adjustable upper trailing arms in the same manner as the stock removal. Make sure the grease fittings on the front end are facing downward. Use all new hardware provided in your kit.



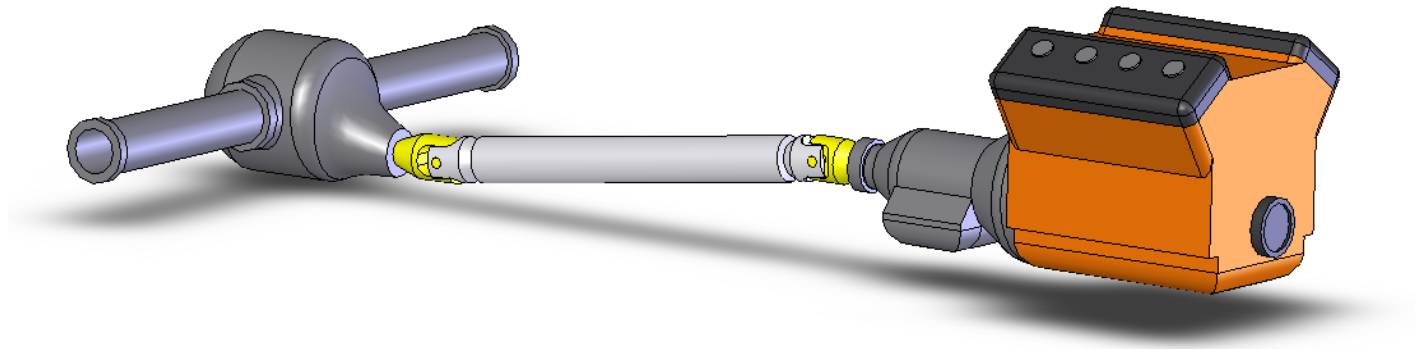
14. Reinstall the rear shocks and sway bar.

15. Make sure all hardware is fully tightened.

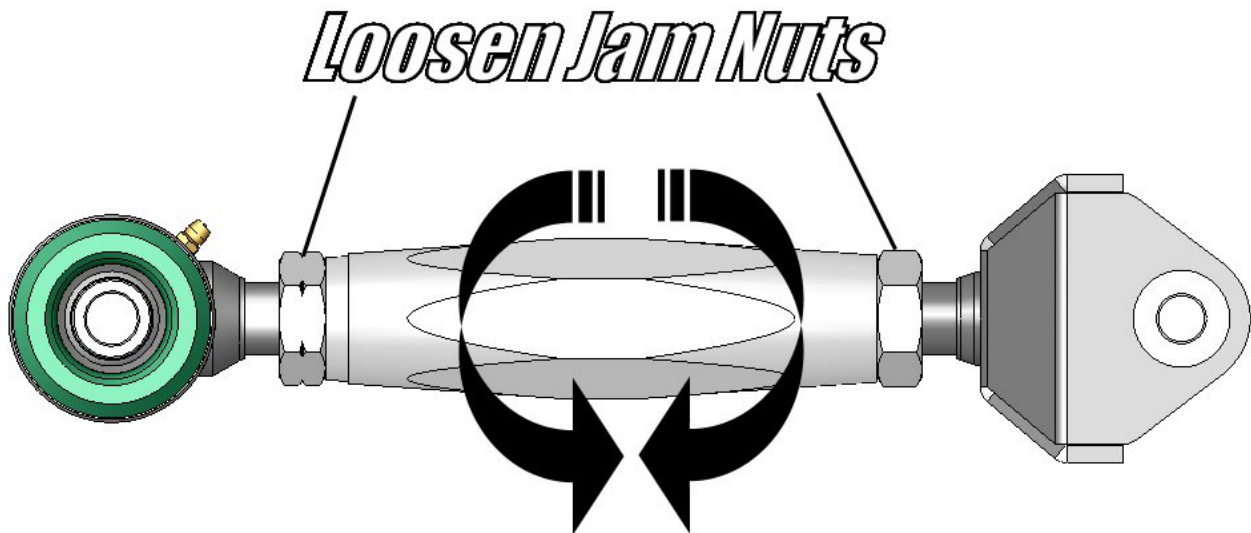
SETTING PINION ANGLE

It may be necessary to set pinion angle after installation of your new Hotchkis upper trailing arms.

First of all, what is pinion angle? Pinion angle is basically the angle between the centerline of the differential pinion and the drive shaft centerline. This angle changes during acceleration and braking. If the pinion angle is excessive, then vibration and increased U-joint wear will occur.

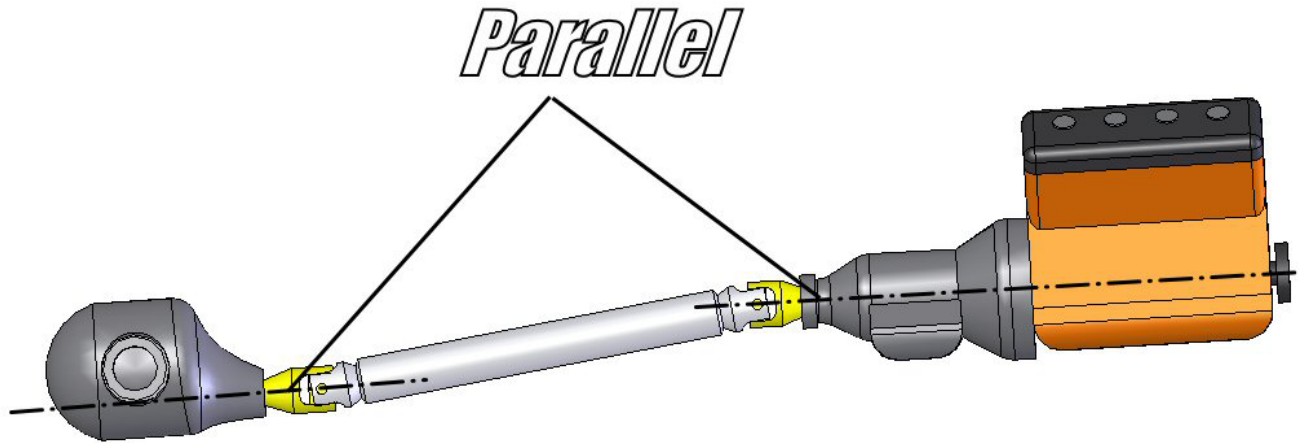


The Hotchkis double adjustable trailing arms allow you to adjust the pinion angle with ease. Simply loosen the two jam nuts and rotate the aluminum turnbuckle to lengthen or shorten the arm. So, how does one set the pinion angle?



The simplest rule of thumb is:

The centerline of the differential pinion should be parallel to the centerline of the engine's crankshaft without being the same line.

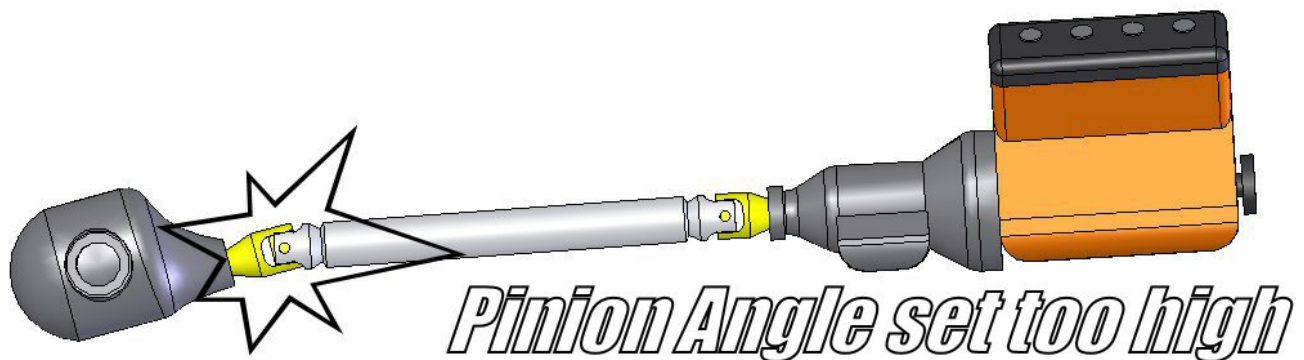


So, the first thing to do is to find out the angle the engine's crankshaft is sitting at. One way to do this is to set a digital angle finder on the front crank pulley or harmonic balancer. Record this angle. Next, set the digital angle finder on the front flat face of the differential yoke. This angle needs to be the same as the recorded crank angle. Adjust your Hotchkis trailing arms to obtain the angle needed.

Tighten all hardware and drive the car. Test for driveline vibration by accelerating.

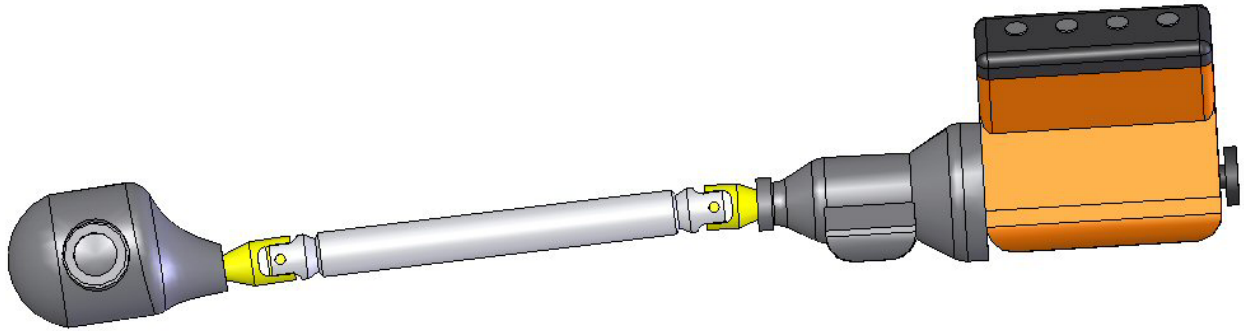
If there is vibration during acceleration, then the pinion angle is set too high!

During Acceleration



Fine tune your Hotchkis trailing arms to achieve the perfect setting for your driving style and horsepower.

During Acceleration

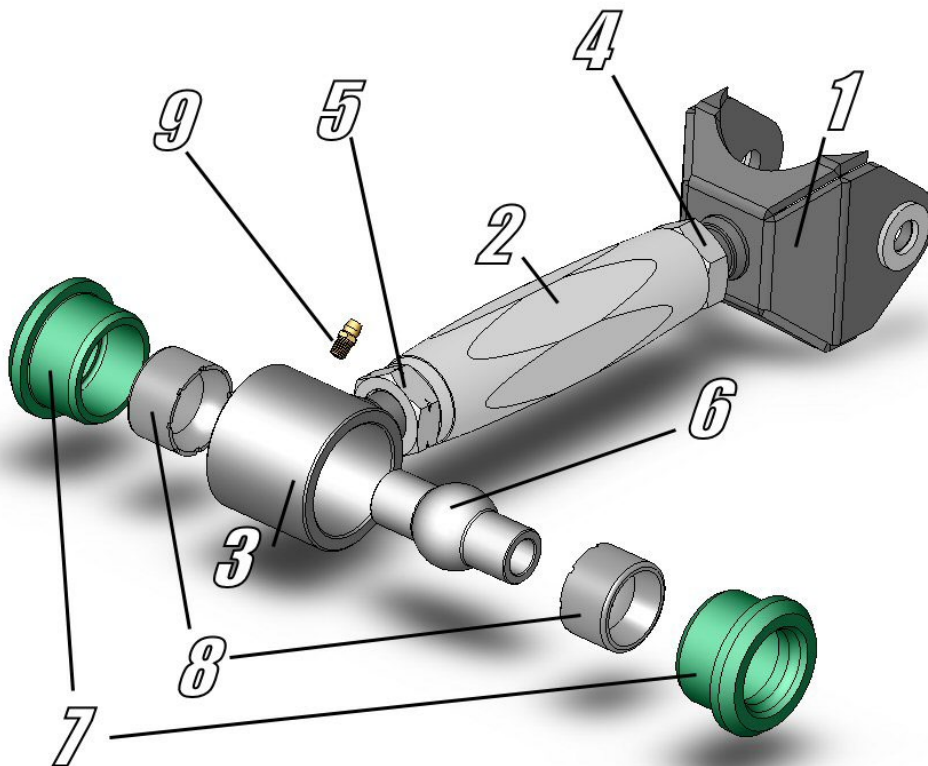


Adjusted Pinion Angle

HOTCHKIS SPORT SUSPENSION

1205AA **78-96 GM B-BODY** **Double Adjustable** **Trailing Arms**

	Hotchkis P/N	Item Description	Quantity
1	12610147	Clevis End	2
2	12490147	Aluminum Turnbuckle, Impala Xtend	2
3	12510152	Bushing End	2
4	7/8-14 JAM	7/8"-14 Right Hand Jam Nut	2
5	7/8-14 LTJAM	7/8"-14 Left Hand Jam Nut	2
6	16490147	Ball Pivot Sleeve (15.237)	2
7	21490147	Ball Pivot Bushing (2255G)	4
8	77410006	Ball Pivot Liner, Delrin	4
9	7201	Zerk Fitting, Short	2
10	GC-5B	Black Grease Cap	2
11	3230GA	Can Bushing, B-Body	2
12	3231G	Thrust Washer, B-Body	2
13	1715	Hardware Kit	1
14	9.11108	Grease Pack	2





Hotchkis Performance LLC Return Policy & Limited Warranty

Effective December 1, 2010 all Hotchkis products must be registered to qualify for warranty at www.hotchkis.net or via the mail-in warranty card, included with the product, within 30 days of the original purchase date.

IMPORTANT: This warranty supersedes all other warranties included with this product.

Return Policy

We want you to be completely satisfied with your Hotchkis Performance product. For products, presenting signs of shipping damage please contact the freight carrier immediately. All our products are guaranteed to be free from manufacturer's defects. If your order arrives with a manufacture defect, please contact our Customer Service Department at (562) 907-7757. You will be assigned a Returned Goods Authorization Number (RGA). The package you return must show the RGA on the outside of the package, include the original invoice and be shipped prepaid to our facility. The product has to be unused and in its original packaging materials. Exchanges or refunds made after 30 days will be subject to a 20% restocking charge. **If you purchased your Hotchkis Performance product from an authorized dealer, you are still covered by this return policy. All returns however, should be made to your dealer, not to Hotchkis Performance directly.**

Limited Warranty

Hotchkis Performance offers a Limited Warranty against defects in materials and workmanship for the term of 36 months (3 years) from the date of purchase of this product. This Warranty only applies to the original retail purchaser who retains ownership of the vehicle on which the product was originally installed. If the product is determined to be defective, Hotchkis Performance will repair, replace or refund the purchase price of the defective product at Hotchkis Performance's sole discretion, which shall fully satisfy and discharge any and all warranty claims. Any repaired or replaced product will be returned to the sender excluding the cost of freight. **Products must be registered to qualify for warranty at www.hotchkis.net or via the mail-in warranty card, included with the product, within 30 days of the original purchase date.**

Exclusions from Warranty

Items offered but not manufactured by Hotchkis Performance are warranted according to the manufacturer's terms and are not covered by this limited warranty. Hotchkis Performance shall not be responsible for any labor, removal, installation, re-installation or maintenance costs. This warranty does not cover the cosmetic finish or plating of any product or any normal wear and tear to any product including, but not limited to bushings, brackets, end-links, hardware, steering components, shocks or springs. In addition, this warranty does not apply to any products that have been:

- Improperly installed or installed by someone other than a qualified, licensed auto mechanic experienced in the installation and removal of suspension products;
- Improperly serviced, misused, or modified, altered or subjected to abuse, negligence, accident or collision;
- Installed in any vehicle that has been modified;
- Installed on any vehicle that has carried loads in excess of automobile manufacturer suggested weight limits; or
- Installed on any vehicle that has been subject to abnormal or excessive use, including rallying, racing, or racing-type activities or off-road use.

Limitation of Warranty

This limited warranty is the entire and only warranty for the products and may not be modified or supplemented by any other person or company in any form. Any description of the products, by anyone, is for the sole purpose of identifying them and is not part of the basis of the bargain, and does not constitute a warranty that the products will conform to that description. The statements of any salesperson do not constitute part of this limited warranty and cannot be relied upon as a warranty.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THE

DESCRIPTION ON THE FACE HEREOF. ANY IMPLIED WARRANTIES ARE DISCLAIMED TO THE FULLEST EXTENT PERMITTED BY LAW. THIS WARRANTY DOES NOT COVER CONSEQUENTIAL DAMAGES, LOSS OF TIME OR REVENUES, INCONVENIENCE, LOSS OF USE OF THE VEHICLE, DAMAGE TO THE VEHICLE OR COMPONENTS OF THE VEHICLE, ANY OTHER TYPE OF CONSEQUENTIAL DAMAGES, OR OTHER INCIDENTAL OR INDIRECT DAMAGES. HOTCHKIS' MAXIMUM LIABILITY UNDER THIS WARRANTY SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PRODUCT. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages and in such states the above limitations or exclusions may not apply. This limited warranty gives the purchaser specific legal rights and the purchaser may have other rights that may vary from state to state.

Technical Information

Hotchkis Performance makes every effort to ensure that you are provided with the most accurate and up-to-date technical information. However, all technical information is approximate and may vary upon application. Additional suspension components may be needed in some applications, depending upon the make, model, engine and chassis of the vehicle. Hotchkis Performance is not responsible for any consequences resulting from manufacturer's technical mid-year changes. Hotchkis Performance products should only be installed by a qualified, licensed auto mechanic experienced in the installation of such products.

Warranty Claim Procedure:

The answer to ALL the following questions should be YES before making a warranty claim:

- Did you register the product at www.hotchkis.net or via the mail-in warranty card within 30 days of purchase?
- Is the product appropriate to your application?
- Did you carefully and thoroughly read the instructions provided along with the product?
- Do you have the original invoice or sales receipt?
- Is the return date within 36 months from the purchase date?
- Are you the original purchaser?
- Was the product properly installed by a qualified, licensed auto mechanic?
- Has the product been installed on the original vehicle on which it was installed at all times?
- Is the product unmodified and clean?
- Is the reason for return a legitimate product defect?

If the answer to all these questions is YES, please contact our Customer Service Department at (562) 907-7757. You will be given a Returned Goods Authorization Number (RGA) valid for 60 days. You will also be asked to ship the product prepaid to our facility. All shipments MUST be (i) prepaid, (ii) include the original invoice or sales receipt, (iii) show the RGA on the outside of the package and (iv) include your name, address, make and model of the vehicle, and a brief description of the claimed defect, including the circumstances under which the defect occurred. If the warranty claim is deemed valid then Hotchkis will estimate shipping costs to return the repaired or replacement part and contact you for payment. Hotchkis's Limited warranty requires that any repaired or replaced product will be returned to the sender excluding the cost of freight. Warranty related inquiries should be sent to the following address:

**HOTCHKIS PERFORMANCE, LLC
C/O CUSTOMER SERVICE
8633 Sorensen Avenue
SANTA FE SPRINGS, CA 90670**

Hotchkis Performance will not accept product returns without the RGA number, receipt and the information described above. C.O.D. or collect shipments will be refused. Once the returns are received at Hotchkis Performance, we will evaluate the products, verify the sales receipt, and investigate the warranty claim. Any repaired or replaced product will be returned to the sender.

Effective December 1, 2010. This return policy and limited warranty supersedes all previous policy and warranty statements. Policies and warranties are subject to change without notice. Hotchkis Performance is not responsible for printing errors.