



INSTALLATION OF HOTCHKIS PERFORMANCE TUBULAR UPPER A-ARMS

1/99

#1101 & 1103

The instructions below apply only to those cars that are converting to larger disc brakes with taller spindles. PART # 1101 & 1103 ARE NOT DESIGNED TO WORK WITH STOCK (STANDARD) "A" OR "G" BODY SPINDLES.

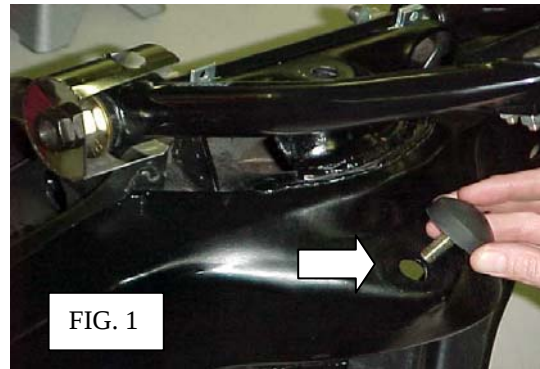
This is a job for expert mechanics. If you have any questions about front-end work, please consult the appropriate GM service manual or call Hotchkis Performance.

**PLEASE READ THESE INSTRUCTIONS CAREFULLY
BEFORE YOU BEGIN.**

Thank you for purchasing Hotchkis Performance products.

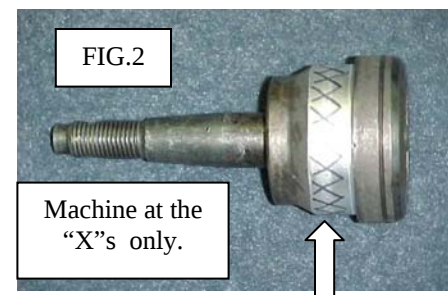
- 1) Raise the front of the vehicle to an adequate working height and support the car securely on jack stands. Remove the front wheels. Work on one side of the car at a time.
- 2) Remove the front shocks.
- 3) Remove the cotter pin and nut securing the outer tie-rod ends to the steering arm and separate the two. Disconnect the flexible brake line from the caliper. Remove the cotter pins securing the upper and lower ball-joint nuts and loosen the nuts a few turns **but leave the nuts on the threads of the ball-joints**. Separate the two ball-joints from the spindle (using a separating tool, pickle fork, etc.) until the spring pressure snaps down against the nuts. With a jack, support the lower A-arm until it is loaded enough to release all pressure against the ball joint nuts, then remove the upper nut and pivot the upper A-arm out of the way. Remove the lower ball joint nut and remove the entire knuckle assembly (spindle, rotor, caliper, etc.)
- 4) Remove the two nuts that hold the upper A-arm crossshaft to the frame of the car (**Note: keep track of the number of alignment shims and their locations as they will be replaced in the same manner for a rough initial alignment setting**). Remove the upper A-arm from the vehicle.
- 5) Carefully lower the floor jack under the lower A-Arm to remove the front springs. (**CAUTION! The stock front springs are very long and may need to be compressed to remove them.**)

- 6) After removing the front springs, remove the stock rubber droop stop on the frame rail and install the new poly stop. **See Fig. 1**



IMPORTANT INFO FOR PART # 1103 (64-72 A-BODY CARS)

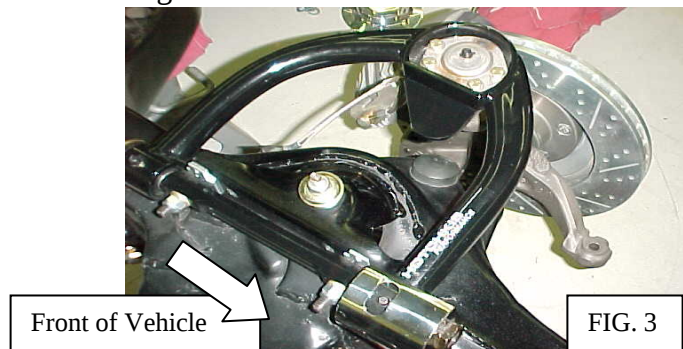
For 64-72 A-Body cars, you must use the lower ball joint for the spindle you are going to use. (For example if you are using a 72 Camaro spindle you must use a new lower ball joint from the same car. Please look at the parts list for applications.) The new ball joint will need to be turned down to 2.010" so that it will fit in the stock A-Body lower A-Arm. You can also purchase an already turned down ball joint from Hotchkis Performance part # 1155. **See Fig. 2**



- 7) Reinstall the lower A-Arm with the new modified lower ball joint on the car.

NOTE: Hotchkis Performance upper A-Arms are designed to operate on cars with a slightly lowered ride height, we suggest using Hotchkis Performance front performance springs part # 1901F for 64-72 A-Body cars and part # 1902F for 78-88 A-Body cars.

- 8) Install Hotchkis Performance A-arm (short leg towards the front of the car) **See Fig. 3**, reinstalling the original alignment shims in the same locations and torque the two nuts to 45 ft./lbs. The crossshafts in the A-arms are offset positive or negative, depending which way that the shaft is rotated. This allows a greater range of camber adjustment. The pre-assembled A-arms are preset for maximum negative camber. If the proper alignment cannot be obtained rotate the crossshaft 180 degrees.



- 9) Check all ball joint and tie rod boots and replace if necessary. Install the new spindle assembly. Place ball joint ends into the spindle and install the nuts. Torque upper nut to 60 ft./lbs. & the lower to 80 ft./lbs. Making sure to align the cotter pin holes with the nuts. Reinstall outer tie rod end into the steering arm, torque nut to 35 ft./lbs. Install **NEW** cotter pins in all locations; never reuse old cotter pins.
- 10) Assemble the brake rotor, bearings, calipers, etc. as required. Install new flexible brake line. (This is a good time to replace old brake lines) Repeat steps 3 through 9 for the other side of the vehicle.
- 11) Change the master cylinder, booster, and proportioning valve (if your application requires it)(**It is required on drum brake cars**). Bleed the brake system. Check the flexible brake lines for binding or kinking throughout steering travel. Check for any brake fluid leaks. Reinstall the wheel and torque to proper specification.
- 12) Adjust the toe in to near straight ahead to drive it to the alignment shop and have the car aligned to the following specifications:

Camber: 0 degrees

Caster: + 4.0 degrees (left side), + 4.5 degrees (right side)

Toe In: 1/16 inch total

A-ARM INSTALLATION NOTES

1978 TO 1988 A/G BODY CARS:

The master cylinder must be changed to one with a 1.125" bore. The optimum set-up is to use the master cylinder and proportioning valve that matches the new calipers. The master cylinder from a 1970 to 1981 Camaro or a 1978 to 1996 Caprice will bolt to the stock power booster without modification. On some cars you may have to reverse the brake lines at the master cylinder. The hex on both lines is the same, but the thread size is different and the lines will only go one way.

On Buick turbo cars the electric power booster will have to be changed to a vacuum type booster, the brake pedal will also have to be changed (see parts list). Install a 3/8-inch "T" fitting in the rubber hose to the PCV valve and run a vacuum line to the check valve at the booster. Do not cut wiring to the original booster, tape the plug securely and leave in the car.

1982 TO 1993 S-10 2WD:

Same as A/G, but hard lines between master cylinder and proportioning valve must be reversed. You will need to fabricate new lines to do this.

1964 TO 1972 A BODY CARS:

If converting from drum brakes use the master cylinder; booster and proportioning valve from a 1967 to 1972 disc brake A body car.

Turn base of lower ball joints to 2.010" **See Fig 2** (see parts list) or you can purchase the already turned down ball joint from Hotchkis Performance part # 1155

IMPORTANT!!! REMOVE BRAKE LINE MOUNT ON FRAME AND REPOSITION APPROXIMATELY ¾ INCH LOWER TO PREVENT BRAKE LINE INTERFERING WITH SUSPENSION TRAVEL. MAKE SURE THERE IS ADEQUATE CLEARANCE BEFORE DRIVING THE CAR.



Hotchkis Performance LLC Return Policy & Limited Warranty

Effective January 1, 2009 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.

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 of its products. 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?**
- **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
12035 BURKE ST. SUITE 13
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 January 1, 2009. 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.