

64½-66 Ford Mustang 1117U Upper Control Arms

*Thank you for your purchase from our new line of Mustang parts.
Please call us at 877 - 4NO - ROLL if you have any questions
regarding the service or installation of your Hotchkis Performance products.*

IMPORTANT: PLEASE READ THE ENTIRE INSTRUCTION MANUAL BEFORE
STARTING THIS INSTALLATION.

Suggested Items before Starting:

- Lower Springs
- Lower Spring Perches (New or Good Condition)
- Spring Compressor tool (If currently on stock springs)

Upper Control Arm Installation

1 *Raise the Vehicle*

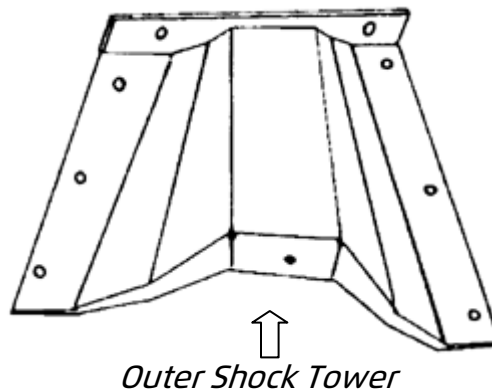
Raise the front end of the vehicle with a lift or support with jack stands. Front wheels should be off the ground.

2 *Remove the Front Wheels*

Remove the front wheels and set aside

3 *Remove Outer Shock Tower*

You will need to remove the front springs. The coil spring is shrouded by an outer shock tower. Remove the 8 bolts that secure the outer shock tower to the main shock tower on each side. This will give you access to the front springs.



4 *Support the Lower Control Arm*

We will be removing the front shocks, but first you will need to support the lower control arm with a floor jack. Apply a slight upward force just to support the weight of the suspension.

5 *Remove the Front Shocks*

Undo the two nuts on the lower shock mount that attaches the shock trunnion to the lower spring seat. Be careful when doing this as there are bushings and washers that may fall once the nut is removed.

Next, open up the hood and undo the three nuts that hold the upper shock mount to the inner shock towers. Remove the shock from the top.



6 *Remove the Front Springs*

Slowly lower the floor jack that is supporting the suspension and allow everything to droop. Drop the vehicle with the tension in the spring. Most lowering springs will have a short enough free length that it will come out with little to no spring tension.

Special Note: If you have stock height springs you will need to use a spring compressor to keep the spring length to a minimum when removing. Use the floor jack to raise the suspension to compress the spring. Clamp down the spring with the spring compressor and lower the floor jack to droop the suspension. Remove the spring as normal.

We highly recommend using lowering springs with our upper control arms to take full advantage of our parts.

7 *Disconnect the Upper Ball Joint*

Remove the cotter pin in the upper ball joint stud. Loosen but do not remove the castle nut that holds the ball joint stud in the spindle. Leave about a 1/8" of gap between the nut and the spindle mating surface.

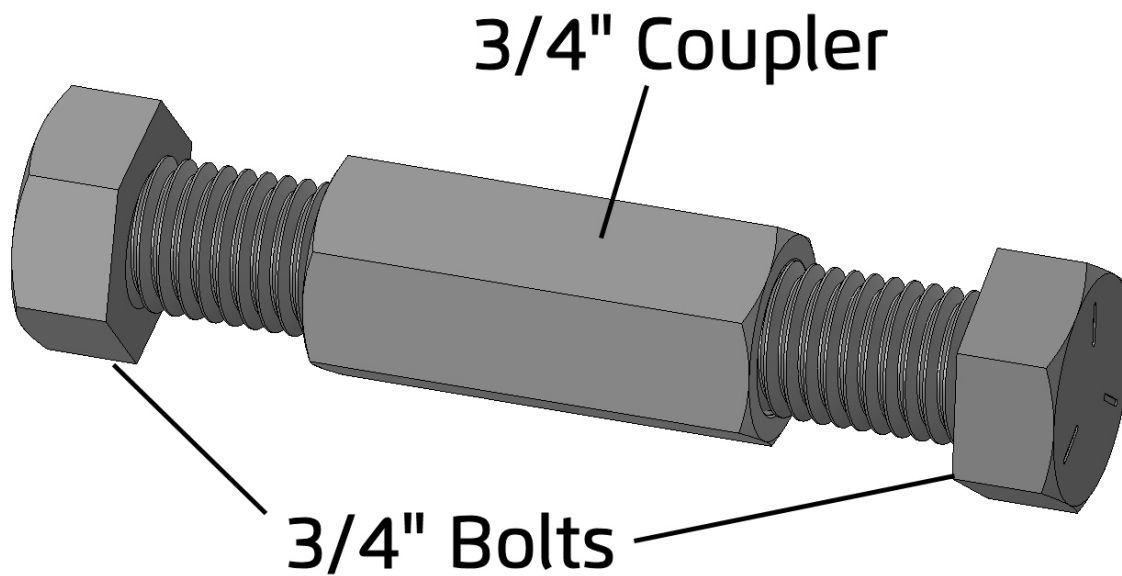


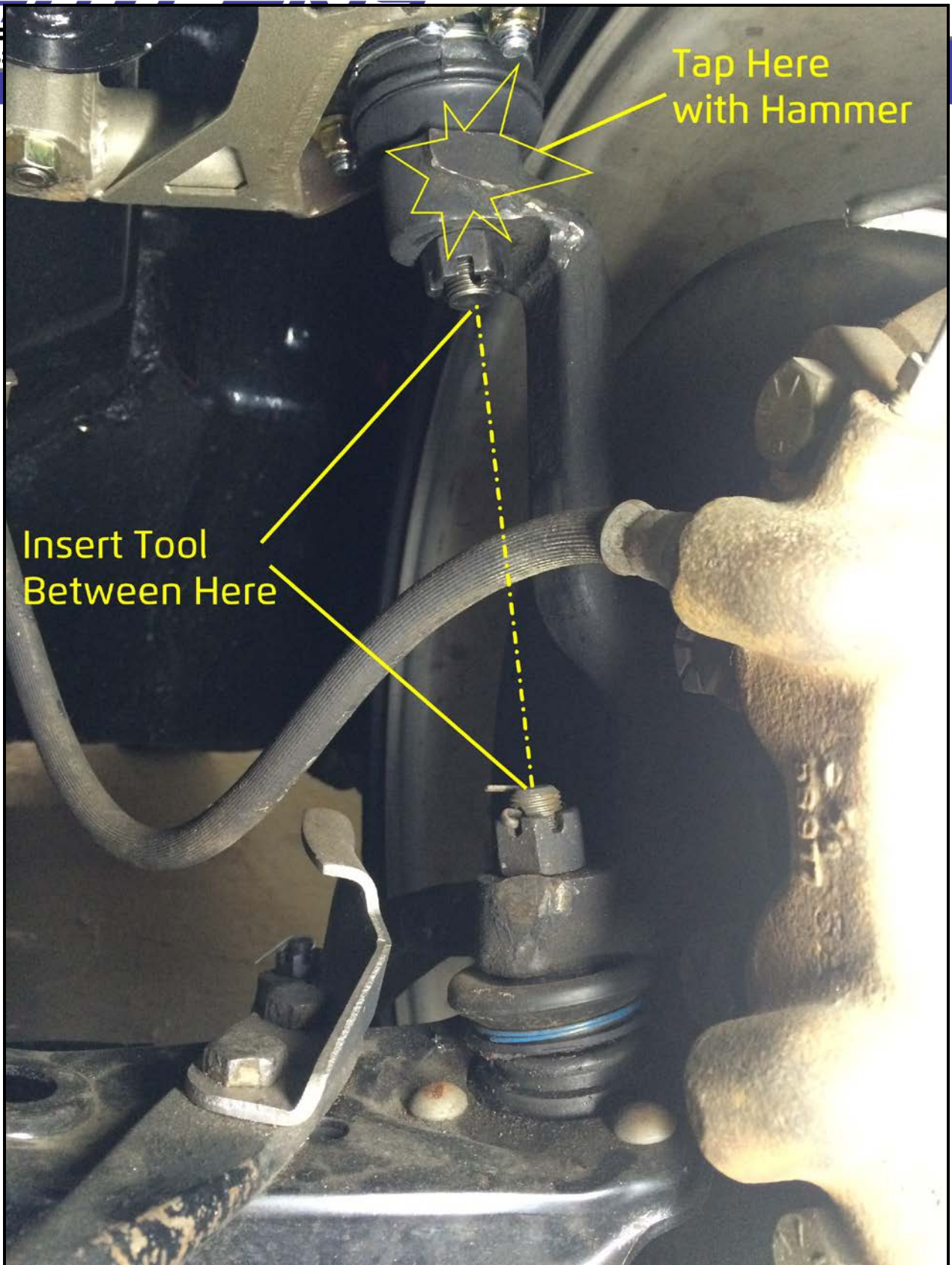
The ball joint stud is taper pressed in the spindle mount. To remove the stud from the spindle force and/or impact is required to break the press fit. There are a number of ways to do this, but the best method is to make an inexpensive tool with off the shelf components. Go to the hardware store and pick up two 3/4" x 1.75" long

course thread bolts and a 3/4" x 2.25" long coarse thread coupler nut. Assemble the parts and position it between the upper and lower ball joint studs. Unscrew the bolts until you have a moderate amount of tension. Grab a hammer and tap on the side of the spindle mount. The taper fit should pop loose rather easily. Support the lower control arm with a floor jack and spin the upper ball joint castle nut right off. Lift the upper control arm up and hold the spindle from flopping over. Using a bungee cord or zip ties to the tether the top of the spindle to the car will keep it in place.

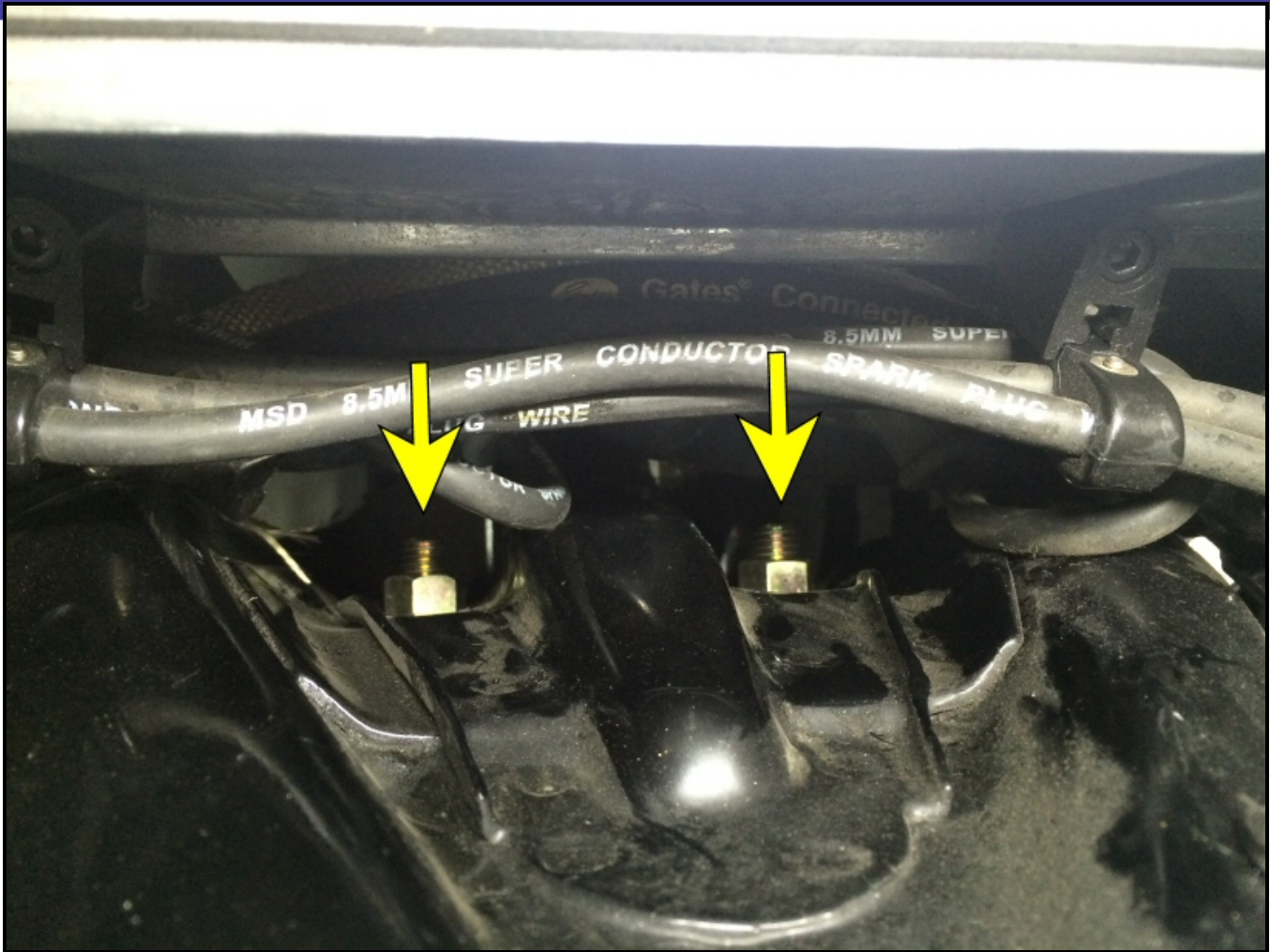
Tool Components:

- (x1) Coupling Nut 3/4"-10 x 2.25" long (Mcmaster Carr 90977a215)
- (x2) Hex Bolt 3/4"-10 x 1.75" long (Mcmaster Carr 92865a841)





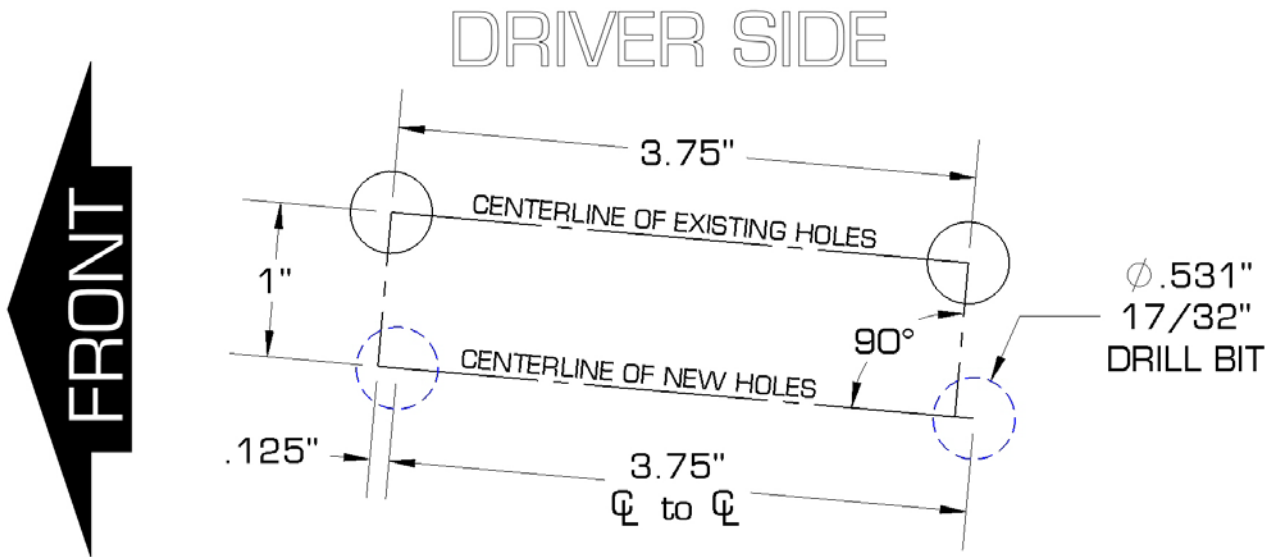
All that is left holding the upper control arm to the car is the cross shaft fasteners. Undo the two nuts on the spring bay side and remove the control arm from the car.



9 *Perform the Shelby Drop*

The Hotchkis lower control arms are optimized to work with the common Shelby Drop modification. For those who are unfamiliar, the Shelby Drop is the relocation of

the cross shaft bolts to create a more aggressive camber curve. If the Shelby drop has not been performed on the vehicle yet, you will be required to drill two holes in the inner shock tower per side. Follow the template below:

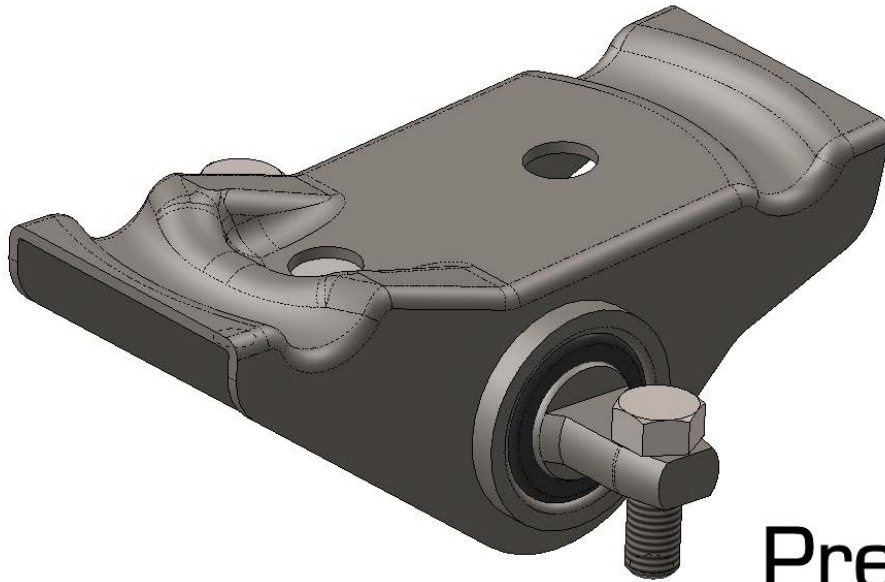


Basically the new bolt pattern is 1" down and 1/8" towards the rear of the car. These dimensions are orthogonal to the centerline of the existing holes.

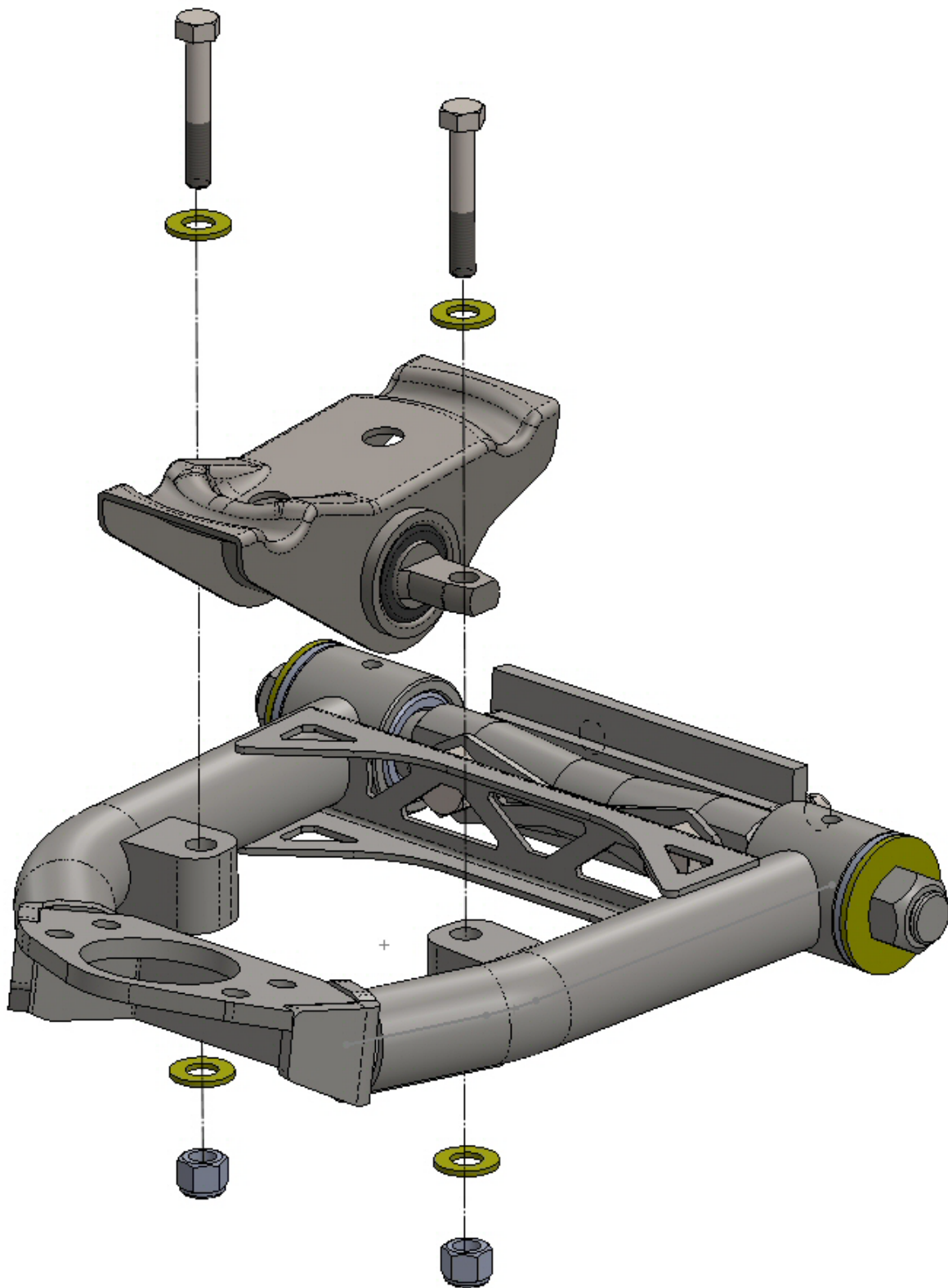
10 *Install Lower Spring Seat Mount*

Check the condition of the lower spring seat mount. If the bushings are deteriorating or there is any sign of bushing deformation replace with new. If the spring seat is in good condition, unbolt the nuts from the stock arm.

Whether you are using an old or new spring seat mount you will need to press out the studs from the trunnion. Use a press tool to remove the studs. Next, drill out the holes in the trunnion using a 3/8" drill bit to clean up the knurl burs. Next use the provided 3/8" hardware to install the spring mount to the Hotchkis arm. (See diagram)

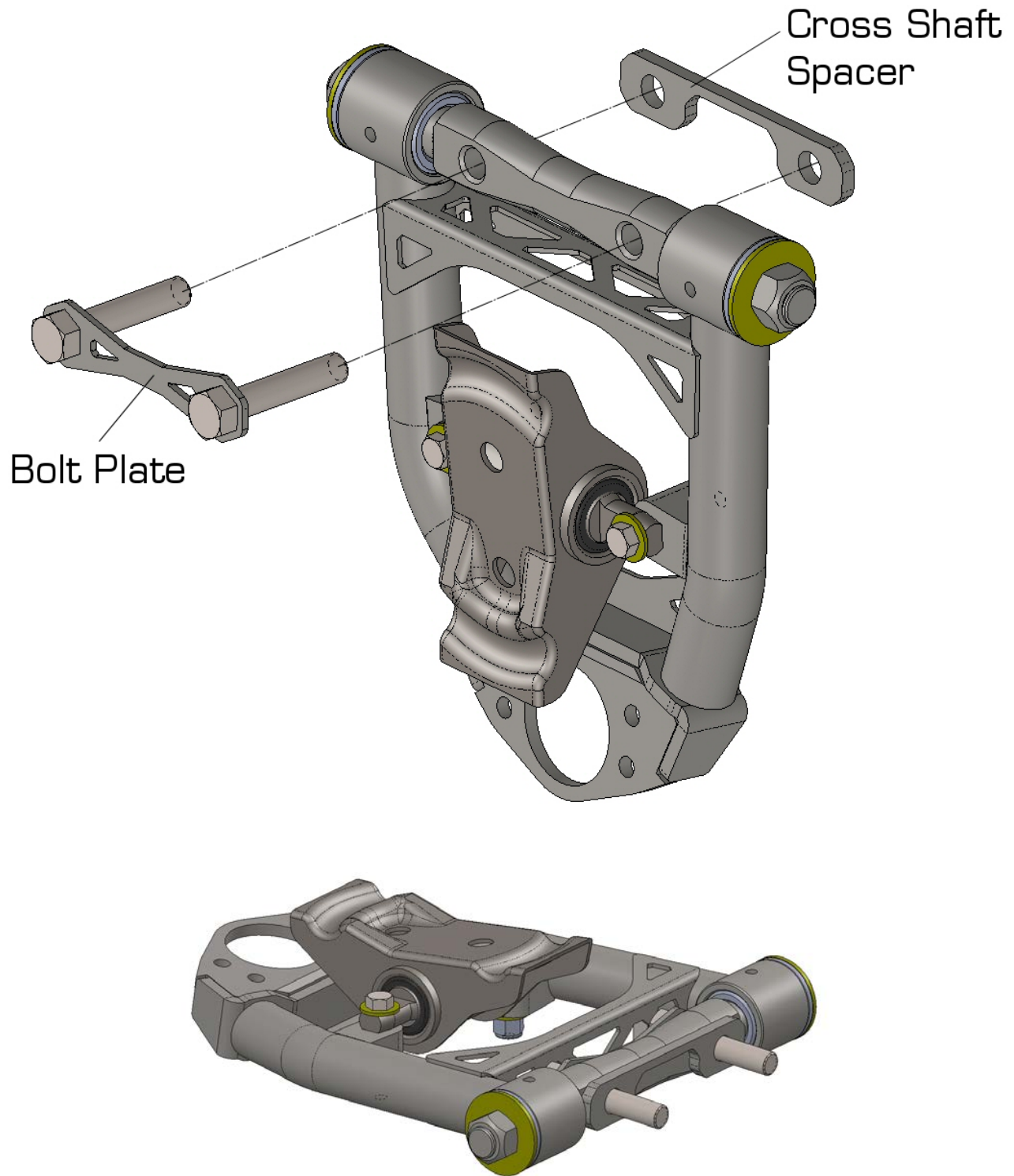


Press Out
Studs



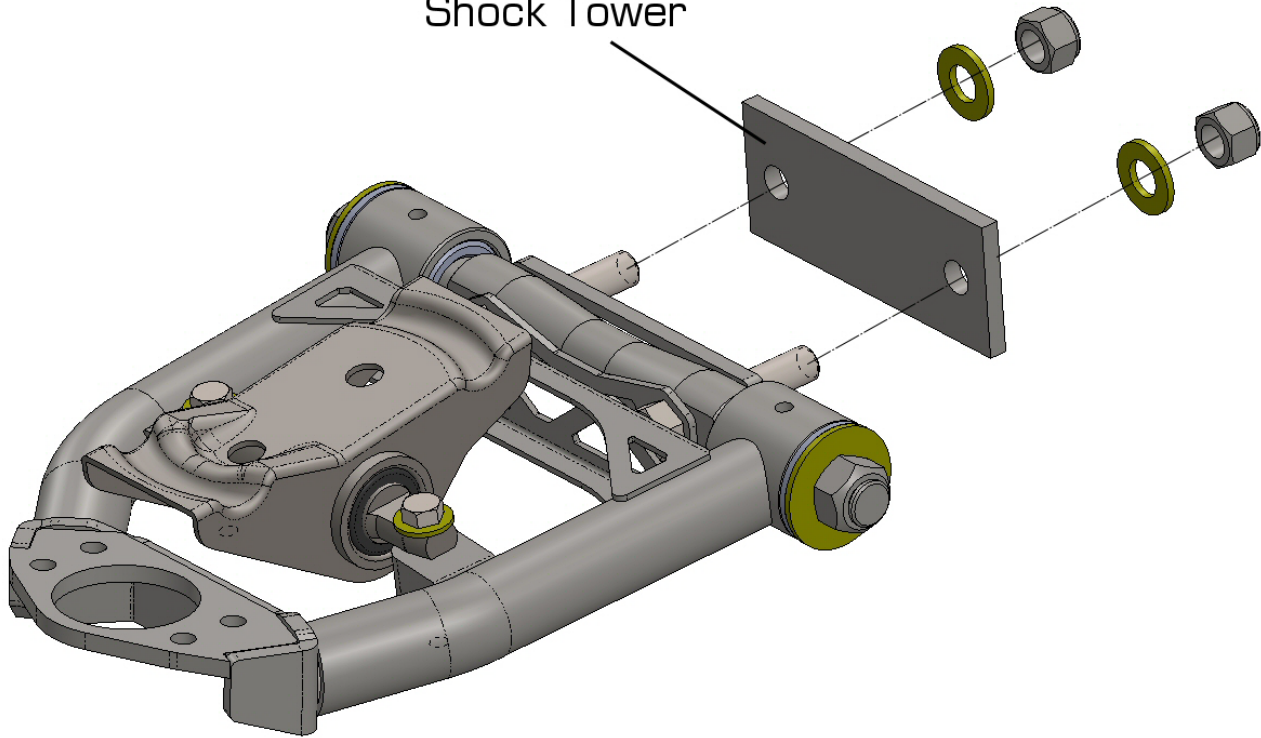
11 *Install the Hotchkis Upper Control Arm*

You are just about ready to install the Hotchkis upper control arm. Grab the bolt plates and cross shaft spacers provided in your kit. Install these onto your control arm as shown below:



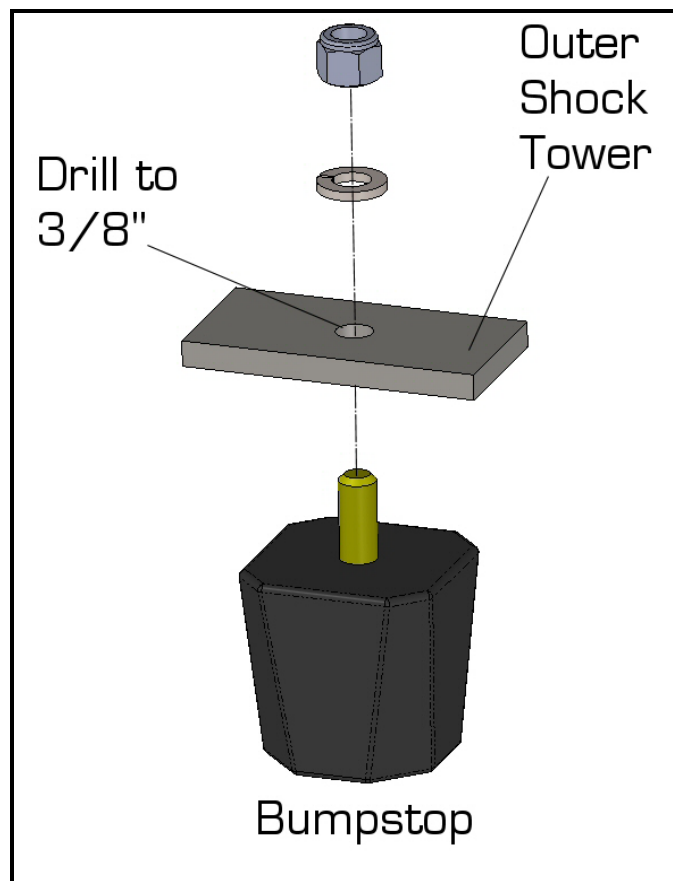
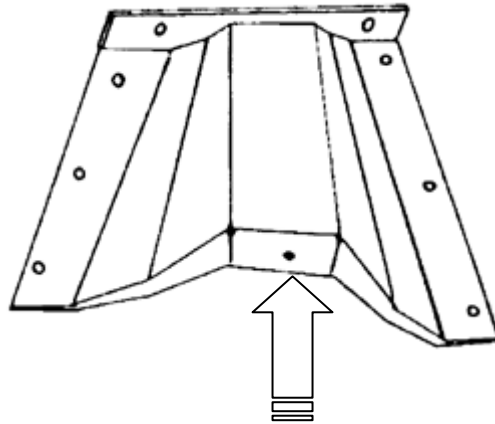
Install the arm onto the vehicle. Do not worry about using alignment shims at this point. You will need to align the vehicle after the installation is complete anyways. Fasten the bolt plate using the provided washers and nylock nuts. Repeat the steps 1-7 in reverse order to complete the install.

Vehicle
Shock Tower



Note for bumpstops:

- Your Hotchkis kit includes new bumpstops made for our arms. The stock bumpstop is located at the bottom of the outer shock tower shroud. Remove the stock bumpstop and drill out the hole using a 3/8" bit. Install the new bumpstop with lock washer and nut.



12 *Alignment Tips*

Once the installation of the upper control arms is complete. Please perform a front wheel alignment. The Hotchkis upper control arms have -1° of camber and $+3.125^\circ$ of caster built into them. Here are some suggested alignments for different scenarios.

Mostly Street/Occasional Autocross Alignment
Camber: -1.5°

Autocross/Track/Race Alignment

Camber: -2° to -2.5°

Caster: +6° or more with adjustable strut rods

Toe: Zero toe to 1/16" toe out

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 Hotchkis Performance 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:

HOTCHKIS SPORT SUSPENSION

The answer to ALL the following questions should be YES before making a warranty claim:
562 - 907-7757
8633 SORENSEN AVE. , SANTA FE SPRINGS , CA 90670
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 inquires 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.