S197 TUBULAR ADJUSTABLE CONTROL ARMS

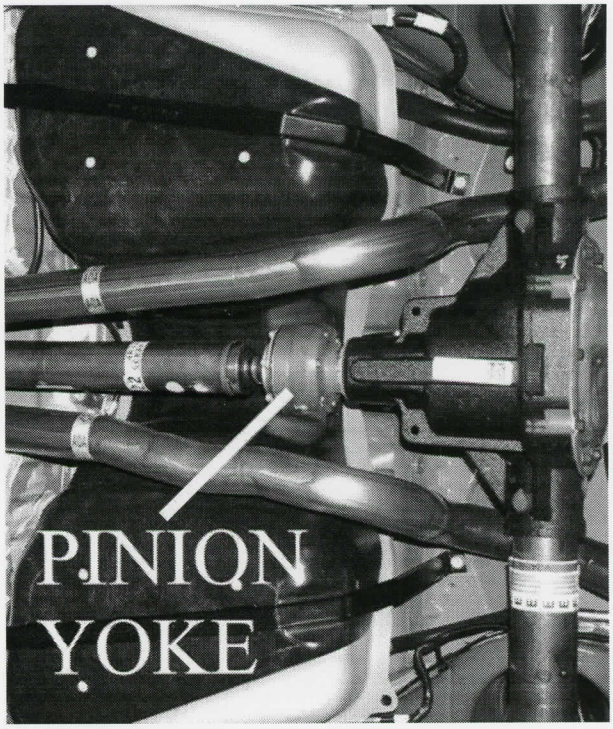
Part # TCA020, TCA021

NOTE: Although this installation can be performed with a hydraulic jack and stands, a 4 post service lift is recommended.

1. Lift vehicle and support by the axle. Remove both rear wheels.
2. Using a small screwdriver, unhook the brake cable were it attaches on the caliper. Slide the brake cable out of the control arm.
3. Remove both control arm bolts using an 18mm wrench or socket. Remove the control arm. Do not remove both lower control arms at one time or the axle may rotate creating additional difficulty during re-installation.
4. Adjust the BMR control arm until it is the same length as the factory arm. With the narrow end forward, install the control arm using the factory bolts. The offset bushing at the rear of the control arm faces inward. If using part number TCA021, it is recommended to lift the rear-end until the car is supported before tightening the mounting bolts. This prevents the polyurethane bushings from being pre-loaded. Failure to do so may result in premature bushing wear and/or irregular ride height. Tighten all mounting bolts to 130 ft/lbs. While the suspension is loaded, lube the grease fittings. Do not exceed 3-4 pumps per fitting.
5. Repeat steps 2-5 on the other side.
6. Re-install the brake cables. This may be done by using a pry-bar to rotate the brake lever while re-inserting the cable end into the slot. Zip tie the brake cable to the new control arms.
7. If you do not want to set a custom pinion angle, tighten all jam-nuts, re-install the wheels, and lower vehicle. If adjustment is required, use the procedure below:

ADJUSTING PINION ANGLE

1. Make sure the rear end is loaded by either setting the car on the ground or letting the car rest on jack stands positioned under the rear axle. In both cases, the car needs to be as level as possible and the suspension loaded.
2. Place an angle finder on the rear portion of the two piece driveshaft and record the angle. Now place the angle finder on the pinion yoke and record the angle.
3. Subtracting one angle from the other results in your pinion angle (Example: -2 rear end angle subtracted from 0 driveshaft angle = -2 degrees) Adjust the control arm to achieve the desired angle.
4. As a starting point, most cars seem to like the following initial settings: Automatics: 1-2 degrees negative, Manuals: 2-3 degrees negative
5. Once pinion angle has been set, tighten all jam nuts.



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This product is an aftermarket accessory and not designed by the vehicles manufacturer for use on this vehicle. As such, buyer assumes all risk of any damage caused to the vehicle/person during installation or use of this product.

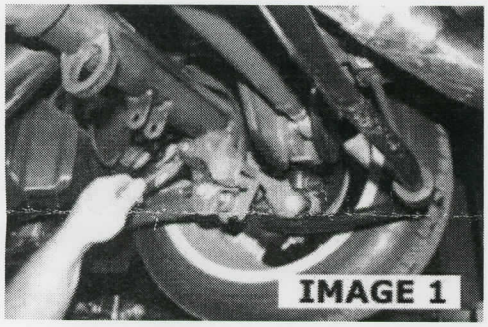
CONTROL ARM RELOCATION BRACKETS
2005-Present Ford Mustang

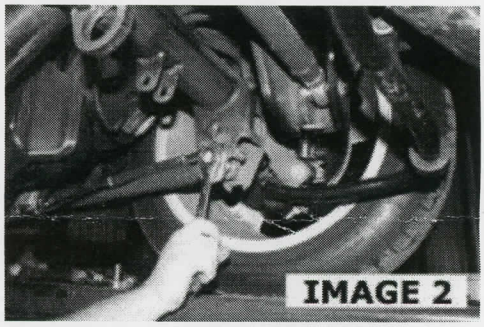
Tools required:

Wrenches: 15mm, 18mm, 19mm, 22mm
Sockets: 18mm, 19mm, 22mm
Jack and Jack Stands
Pry-bar, Hammer

Installation:

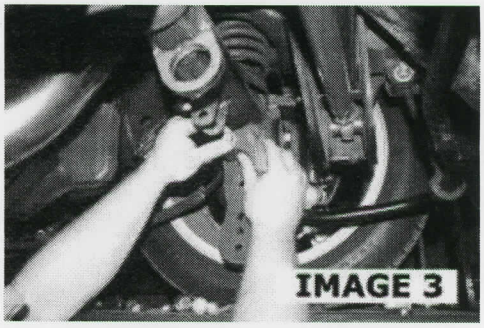
1. Lift rear of vehicle and place stands under the rear axle.
2. Begin with the passenger side. Using a 15mm wrench, loosen the axle damper weight mounting bolt and remove the damper as shown in **IMAGE 1**. *NOTE: please disregard this step if your vehicle did not come with these weights.*
3. Using an 18mm socket or wrench, remove the lower control arm bolt as shown in **IMAGE 2**. Lower control arm to gain access to mount area.
4. Slide the passenger side BMR Relocation Bracket over the OE mount and align the holes.

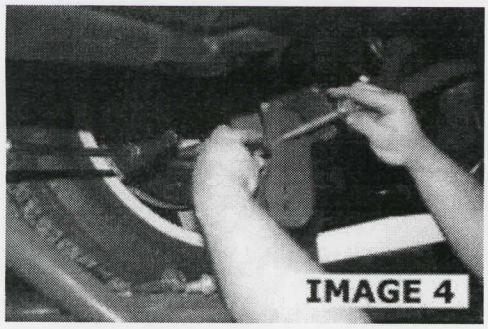


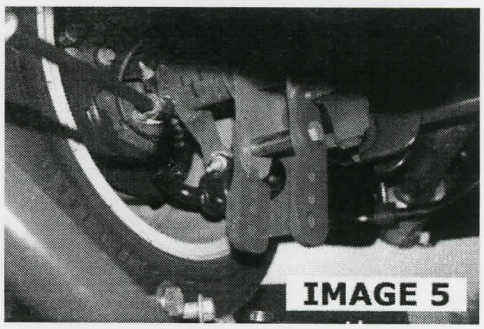


Re-install the axle damper weight but do not tighten the bolt yet. (**IMAGE 3**) *NOTE: if your vehicle did not come with damper weights installed, use the provided 12mm x 30mm bolts for this mounting position.*

5. Locate the gold colored bolt spacer and a 14mm x 110mm bolt from the provided hardware pack and install it into the OE mounting hole as shown in **IMAGE 4**. Do not tighten yet. When installed, it should look like **IMAGE 5**.







CONTROL ARM RELOCATION BRACKETS (Cont.)

6. Locate the short 14mm x 35mm bolt, washer and nut in the hardware packet and insert it into the upper mount of the relocation bracket as shown in **IMAGE 6**. Slide a 22mm wrench up into the control arm mount and onto the nut. Tighten the bolt to 129 ft/lbs. using a 22mm socket.
7. Tighten the sleeve and cross-bolt to 129 ft/lbs. then tighten the upper damper bolt to 45 ft/lbs. using a 22mm socket and wrench.
8. Position the control arm into the desired hole as shown in **IMAGE 7** and insert a new 14mm x 100mm bolt and nut. Tighten the bolt to 129 ft/lbs.

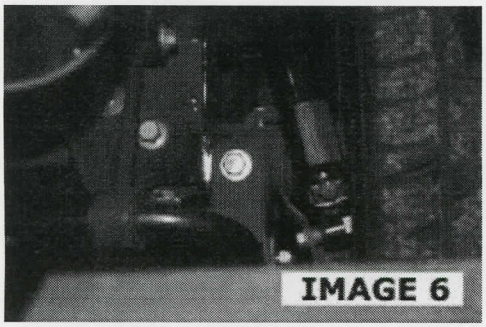


IMAGE 6

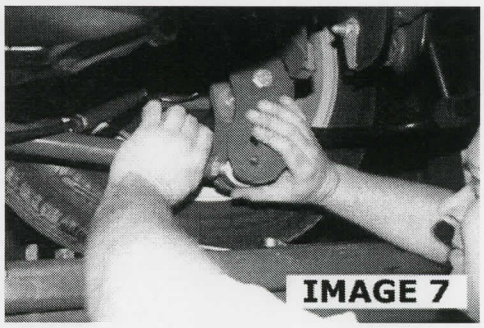


IMAGE 7

9. Move to the drivers' side next and remove the axle damper weight using a 15mm wrench as shown in **IMAGE 8**. *NOTE: please disregard this step if your vehicle did not come with these weights.*
10. Using the 18mm wrench, loosen the control arm mounting bolt and lower the control arm out of the way. See **IMAGE 9**.

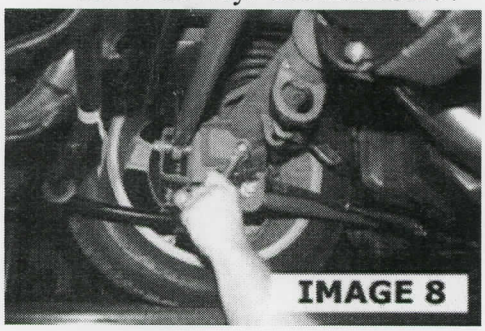


IMAGE 8

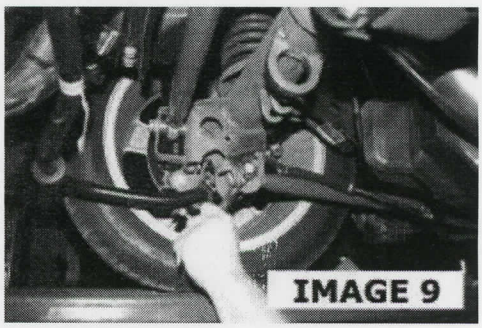


IMAGE 9

11. Using an 18mm wrench, remove the Panhard rod bolt as shown in **IMAGE 10**.

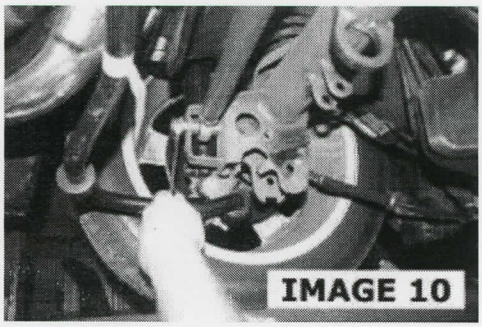


IMAGE 10

CONTROL ARM RELOCATION BRACKETS (Cont.)

12. Slide the BMR Drivers' side relocation bracket up onto the mount. The rear leg of the mount should fit up into the OE bracket of the rearend on the backside of the Panhard rod mount. Insert the provided spacer behind the upper hole as shown in **IMAGE 11**.
13. Once properly positioned, re-install the damper weight and leave the bolt loose. See **IMAGE 12**. *NOTE: if your vehicle did not come with damper weights installed, use the provided 12mm x 30mm bolts for this mounting position.*

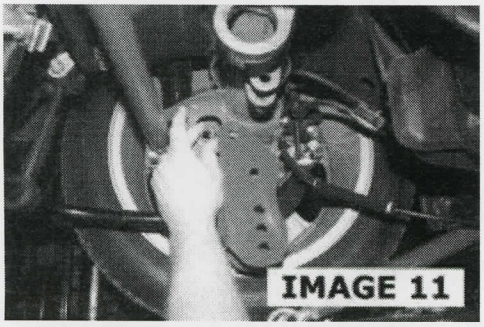


IMAGE 11

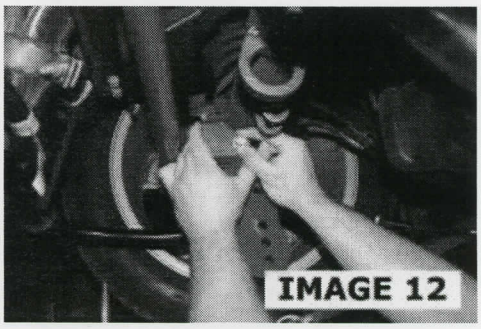


IMAGE 12

14. As in step #5, install the gold spacer and 14mm x 110mm bolt and nut into the OE control arm mounting hole and leave the bolt loose. See **IMAGE 13**.
15. Re-install the Panhard rod mounting bolt and tighten to 129 ft/lbs. using an 18mm wrench or socket. See **IMAGE 14**.

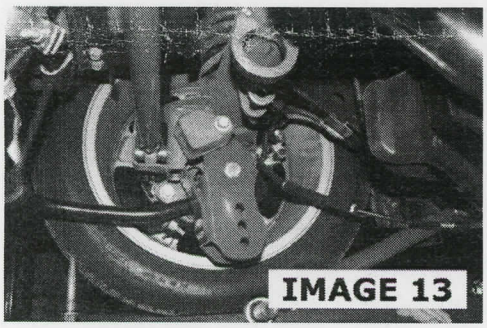


IMAGE 13

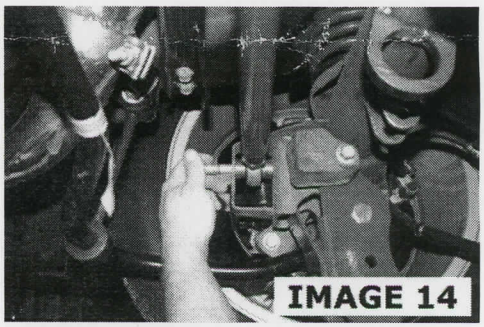


IMAGE 14

16. Tighten the main 14mm bolt and nut to 129 ft/lbs. using a 22mm wrench and socket.
17. Tighten the damper weight bolt to 45 ft/lbs using a 15mm wrench.

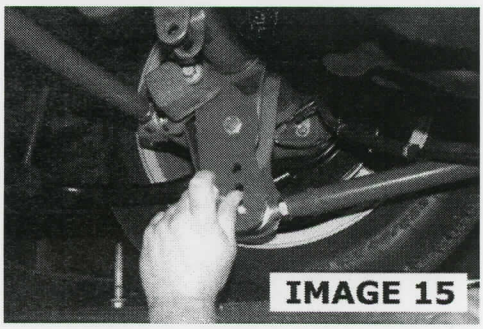


IMAGE 15

18. Install the control arm into the desired mounting hole and insert the provided 14mm x 100mm bolt and nut as shown in **IMAGE 15**. Tighten to 129 ft/lbs.
19. Lower vehicle.

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Tech Support :
Our technical staff is available from 8:30am to 6:00pm Eastern Time, Monday through Friday by calling us at **(813) 986-9302** or e-mailing us at **tech-help@bmrfabrication.com**. Installation instructions for most part numbers can be downloaded at **www.bmrfabrication.com/instructions**.

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All non-warranty returns must be made within 90 days from the date of shipment and are subject to a 15% restocking fee, excluding all shipping cost. BMR Suspension will not accept returns on items that have been installed, used, modified or damaged. All items must be received in the original packing material and in the original condition as it was shipped. All items damaged from shipping will be refused. BMR will issue a Returned Material Authorization number for every return. Returned goods will not be accepted without an RMA Number. There are no refunds on shipping and handling charges and all items must be sent prepaid. All returned goods sent freight collect will be refused. If item is returned scratched, nicked or damaged in any way, the cost to repair or re-powder coat the item will be deducted from the amount of the refund. If item is missing any components, the cost to replace these components will be deducted from the amount of the refund. Special order items cannot be returned.

Shipping :
In-stock parts ordered by 3pm Eastern time will ship the same day. BMR Suspension ships all orders UPS Ground unless otherwise specified. UPS next day air, 2nd day air and 3-day select are only available on items that are in stock at the time of order. Canada, Hawaii and Alaska shipments may ship US Postal Service if requested in advance. BMR Suspension does not ship product using other small-package carriers. Any shipment that is refused without authorization will be subject to original shipping charges, return shipping charges, and a restocking fee.

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If the incorrect product is shipped to the customer due to a BMR error (wrong color, wrong part, wrong size), the incorrect product will be replaced with the correct product at **no charge**. If a shortage is found within the shipment, the missing components will be replaced at **no charge**. Incorrect product and shortages must be reported to BMR Fabrication within fourteen (14) days of receipt of shipment. The customer may be responsible for a portion of the replacement cost if reported after fourteen (14) days.

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International Orders :
All international orders must be fully prepaid in US funds. International orders that are more than $1000 must be prepaid with a wire transfer. International orders that are less $1000 may be paid with a credit card or wire transfer. International orders will be shipped UPS or truck freight. Canada orders may ship US Postal Service if requested in advance. The buyer is responsible for all shipping costs and must be prepaid. All international items will be fully insured and marked for the full value of the item. Required duties and taxes must be paid by the customer to the appropriate parties.

Warranty :
BMR product applications are warranted to be free from defects in material and workmanship under normal use and service for a period of (2) two years from the date of sale to the original purchaser. Obligation under this warranty is limited to product replacement but not the reinstallation of the replacement product or other incidental costs. This warranty does not cover any product that has been subject to misuse, neglect, alteration, accident, or improper installation. Normal wear shall not be considered a defect under this warranty. All warranty adjustments are limited to replacement or credit of returned merchandise. This warranty specifically excludes impact damage or damage to powdercoat. BMR will issue a Returned Material Authorization number for every return. Returned goods will not be accepted without an RMA Number. BMR will ship the replacement product at no charge using UPS Ground. If the customer would like to upgrade the shipping method (for example, Next Day Air), the customer will be charged the difference in shipping cost.

BMR product is designed to be used with OEM product and other BMR products. BMR does not warranty our product for fitment with aftermarket product from other manufacturers. This applies to suspension products from other manufacturers as well as aftermarket exhaust products, aftermarket drivetrain products, and other aftermarket products. BMR products that are returned due to fitment issues with OEM components or BMR product will receive a full refund. BMR products that are returned due to fitment issues with aftermarket product will be subject to a 15% restocking fee.

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MUSTANG UPPER CONTROL ARM AND MOUNT

Part # UTCA017, UTCA018, UTCA019, UTCA020, UCM001

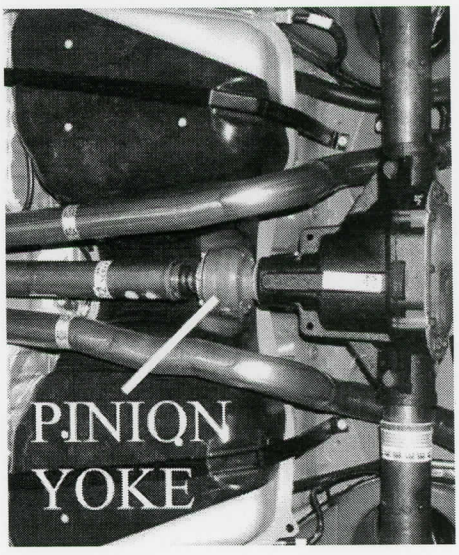
NOTE: While this installation can be performed with a jack and jack stands, a service lift is recommended.

Installation:

1. One of the bolts that retain the upper control arm mount is accessed under the rear seat inside the car. Remove the lower section of the rear seat by releasing the two lower clips located at the front of the seat bottom. This can be accomplished by pushing back on the seat until the clips are released, then lift the seat up and pull it out. The upper portion of the seat does not need to be removed.
2. Once the seat is removed, locate the upper control arm mount bolt and remove it using an 18mm socket.
3. Lift vehicle and support with stands under the frame, allowing the rear end to hang. Support rear with jack.
4. Using an 18mm socket, remove the upper control arm bolt at the rear end. The rear will shift slightly on the jack once this bolt is removed.
5. Using an 18mm socket, remove the two remaining control arm mount bolts.
6. It is not possible to remove the upper control arm mount without lowering the fuel tank. Support the tank and loosen the fuel tank straps at the rear of the tank using a 13mm socket (Due to a Ford recall, some cars have a unique 50 IP Torx head bolt in this location. This is an oversized T50 Torx that is only available through Snap-On dealers under part number FTX50TPE) Lower the tank far enough so that the upper mount and control arm can be removed.
7. Once the control arm mount and control arm have been removed, disassemble them using an 18mm socket.
8. When using BMR adjustable control arms, adjust to the approximate OE length. Lubricate the polyurethane bushings (where applicable) and install the BMR control arm into the new upper control arm mount. Insert the new supplied bolt but do not tighten yet.
9. Bolt the BMR control arm mount into the car using the rear lower factory bolts. Tighten to 110 ft/lbs.
10. Insert the OE bolt into the upper front hole located inside the car and tighten to 129 ft/lbs. using an 18mm socket. Reinstall the rear seat.
11. Reposition the fuel tank and tighten the strap bolts to 33 ft/lbs.
12. Rotate the rear end until the mounting hole lines up and insert the bolt.
13. If you are using part number UTCA018, you can tighten both control arm mounting bolts at this time. If using part number UTCA017, the rear end must be loaded before tightening the bolts. To do this, lift the rear to ride height and then tighten the control arm mounting bolts. Tighten both cross-bolts to 129 ft/lbs. ***NOTE:*** *Failure to load the suspension before tightening these bolts can result in premature bushing failure due to bushing pre-load.*
14. Lower vehicle.

ADJUSTING PINION ANGLE – Part #'s UTCA019 and UTCA020

- Make sure the rear end is loaded by either setting the car on the ground or letting the car rest on jack stands positioned under the rear axle. In both cases, the car needs to be as level as possible and the suspension loaded.
- Place an angle finder on the rear portion of the two piece driveshaft and record the angle. Now place the angle finder on the pinion yoke and record the angle.
- Subtracting one angle from the other results in your pinion angle (Example: -2 rear end angle subtracted from 0 driveshaft angle = -2 degrees)
- Adjust the control arm to achieve the desired angle.
- As a starting point, most cars respond well to the following initial settings: Automatics: 1-2 degrees negative, Manuals: 2-3 degrees negative
- Once pinion angle has been set, apply Loctite to jam nuts and tighten.



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