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### **ASSEMBLY INSTRUCTIONS**

*QA1 Mustang Struts*

*HX601, HX603, HX604 and HX605 Models*

READ ALL INSTRUCTIONS CAREFULLY AND THOROUGHLY PRIOR TO STARTING INSTALLATION. PRODUCTS THAT HAVE BEEN INSTALLED ARE NOT ELIGIBLE FOR RETURN. USE THE PROPER JACKING LOCATIONS. DEATH OR SERIOUS INJURY CAN RESULT IF INSTRUCTIONS ARE NOT CORRECTLY FOLLOWED. A GOOD CHASSIS MANUAL, AVAILABLE AT YOUR LOCAL PARTS STORE, MAY ALSO AID IN YOUR INSTALLATION.

#### **• DISCLAIMER / WARRANTY •**

QA1 WARRANTS THAT THE PRODUCTS WILL BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM DATE OF SALE TO THE ORIGINAL PURCHASER. QA1 MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. QA1 SHALL HAVE NO OBLIGATION UNDER THE FOREGOING WARRANTY WHERE THE DEFECT IS THE RESULT OF IMPROPER OR ABNORMAL USE, YOUR NEGLIGENCE, VEHICLE ACCIDENT, IMPROPER OR INCORRECT INSTALLATION OR MAINTENANCE, NOR WHEN THE PRODUCT HAS BEEN REPAIRED OR ALTERED IN ANY WAY. QA1'S LIABILITY IN THE CASE OF DEFECTIVE PRODUCTS SUBJECT TO THE FOREGOING WARRANTY SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT, AT QA1'S OPTION, OF THE DEFECTIVE PRODUCTS.

THE USER UNDERSTANDS AND RECOGNIZES THAT RACING PARTS, SPECIALIZED STREET ROD EQUIPMENT, AND ALL PARTS AND SERVICES SOLD BY QA1 ARE EXPOSED TO MANY AND VARIED CONDITIONS DUE TO THE MANNER IN WHICH THEY ARE INSTALLED AND USED. QA1 SHALL BEAR NO LIABILITY FOR ANY LOSS, DAMAGE OR INJURY, EITHER TO A PERSON OR TO PROPERTY, RESULTING FROM THE INSTALLATION, DIRECT OR INDIRECT USE OF ANY QA1 PRODUCTS OR INABILITY BY THE BUYER TO DETERMINE PROPER USE OR APPLICATION OF QA1 PRODUCTS. WITH THE EXCEPTION OF THE LIMITED LIABILITY WARRANTY SET FORTH ABOVE, QA1 SHALL NOT BE LIABLE FOR ANY CLAIMS, DEMANDS, INJURIES, DAMAGES, ACTIONS, OR CAUSES OF ACTION WHATSOEVER TO BUYER ARISING OUT OF OR CONNECTED WITH THE USE OF ANY QA1 PRODUCTS. MOTORSPORTS ARE DANGEROUS; AS SUCH, NO WARRANTY OR REPRESENTATION IS MADE AS TO THE PRODUCT'S ABILITY TO PROTECT THE USER FROM INJURY OR DEATH. THE USER ASSUMES THAT RISK!

### **TOOLS AND SUPPLIES REQUIRED**

- Floor Jack
- Jack Stands
- Spring Compressor (Optional)
- Metric Sockets (24mm)
- Lug Wrench
- 13/16" and 15/16" Sockets and Boxed End Wrenches

### **REMOVAL**

1. Start your installation by inspecting your chassis. Look for worn/deteriorated bushings, ball joints, etc. If anything is worn replace before continuing.
2. Above the 24mm nut on the existing strut shafts, there are two flat spots to enable the use of an adjustable wrench to keep the piston rod from turning. Loosen the two 24mm nuts on the upper end of the piston rods where they come through the caster/camber plates. Do not remove the 24mm nuts at this time.
3. Jack the car up and ensure the frame is set in place securely on jack stands. See your owner's manual for proper jacking techniques. Remove the wheels.
4. Removing the brake caliper from the knuckle assembly and moving it out of the way is a good idea to ensure the brake line is protected and over extended. If removed, it is a good idea to hang the caliper by something other than the brake line. Damage to the brake line can occur if caliper is hung by the brake line.
5. Position the floor jack under the ball joint cup. Jack the A-arm up just enough to take the load off of the strut and spindle, without raising the car off the jack stands. This will retain the factory spring in its location. *Note: If the coil-over kit is being installed the factory spring will need to be removed from the vehicle. To do this, slowly lower the control arm taking tension off the spring. This will allow removal of the spring. CAUTION: THE SPRING IS UNDER TREMENDOUS TENSION AND IT IS CRITICAL TO USE CAUTION WHEN REMOVING.*

6. On 2005 and newer models the brake line, ABS wire and sway bar end-links need to be disconnected from the strut housing.
7. Loosen and remove the two nuts and bolts that attach the strut to the spindle knuckle. Remove the 24mm nut at the top of the strut and remove the strut assembly.
8. Remove the factory dust cover and bump stop from the factory strut.

## **INSTALLATION**

1. Start the installation of the QA1 strut by extending the strut shaft fully. Slide the factory bump stop down on the strut shaft if applicable.

*If your struts are being used as coil over struts, please see the instructions included with the coil over hardware kits.*

2. Place the upper threaded end of the strut shaft up into the caster camber plate and loosely install the 24mm nut.
3. Position the spindle knuckle into the bracket on the strut.
4. Install the two spindle mounting bolts and nuts. Torque to factory specifications.
5. Reinstall the brake line, ABS wire and sway bar end-links to the strut housing if removed.
6. Reinstall the brake caliper and wheel. Torque all nuts and bolts to factory specification.
7. Torque the upper strut mount bolt to factory specifications.
8. Repeat the entire removal and installation procedures for the other side of the vehicle.
9. Take the car to a reputable alignment shop and have the car realigned.

## **VALVING ADJUSTMENT**

Your QA1 struts either have:

- 18 valving settings on one knob that simultaneously adjusts compression and rebound (Single adjustable).
- 18 valving settings on one knob that has a firm compression stroke that increases in firmness as you increase the rebound (drag race "R" series)
- 18 valving settings on two knobs that independently adjust compression and rebound (double adjustable).

QA1 shocks have 18 damping settings per knob. There are 6 clicks per revolution of each knob, and each knob has 3 complete revolutions. The knob set fully counter clockwise is the softest setting - start adjusting from that point. Recommended base settings to begin testing with are as follows:

### ***Shocks with one adjuster knob:***

Drag Racing:	0-6 clicks
Other Applications:	2-8 clicks for nice ride and handling; 8-12 clicks for firm ride and improved handling; 13+ clicks for more aggressive handling

### ***Shocks with two adjuster knobs:***

Drag Racing:	12-16 clicks compression and 0-4 clicks rebound
Other Applications:	2-8 clicks compression and rebound for nice ride and handling; 8-12 clicks for firm ride and improved handling; 13+ clicks for more aggressive handling

*Note: Do not force the adjuster knob. Do not use pliers or any other tools on the piston rod or the adjuster knob. Do not exceed 18 clicks under any circumstances. This could damage the adjuster and cause the strut to not adjust. This will void all warranties. Do not use the strut as a droop limiter. Severe damage to the strut could occur and this will void all warranties.*

**To further upgrade your suspension, use other QA1 suspension products such as coil-overs, shocks, struts, springs, K-members, torque arms, panhard bars, sub-frame connectors, strut tower braces, rod ends, sway bars, tubular control arms, spherical bearings, and more. For more information, please visit [www.QA1.net](http://www.QA1.net).**