



**DON'T FORGET**

These instructions can be found in color and expandable at QA1.net

Technical Support Line: (952) 985-5675 Email: sales@QA1.net

**INSTALLATION INSTRUCTIONS**

*GM Upper Control Arms*

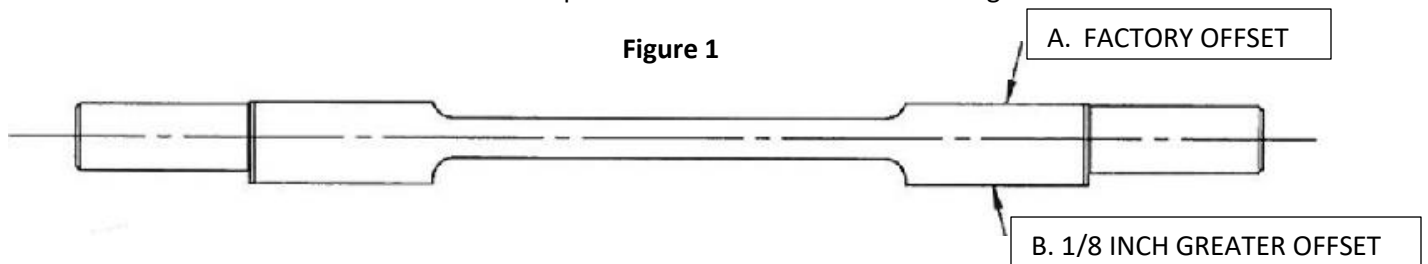
QA1 P/N 52322, 52422, 52365, 52465, 52317, 52417, 52318, 52418, 52367, 52467

**TOOLS AND SUPPLIES REQUIRED**

- Floor Jack
- Jack Stands
- Wrench Set
- Ratchet & Socket Set
- Ball Joint Separator
- QA1 Ball Joint Tool Kit p/n 1891-106 (Race Series Arms only)

**PRE-INSTALLATION NOTES:**

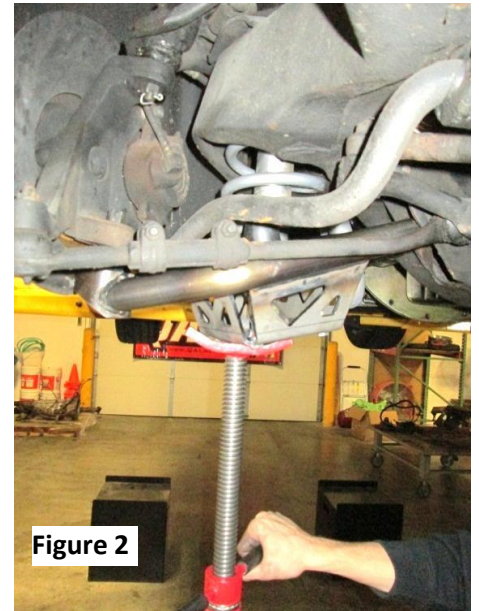
1. QA1 does not recommend driving the vehicle until it has been properly aligned due to major changes in suspension geometry that will affect the handling characteristics of the vehicle. *A front end alignment to the QA1 specs at the end of these instructions should be performed by a qualified alignment shop after installation.*
2. QA1 upper control arms have offset cross-shafts with one side being the factory offset side and the other being a high offset side. The purpose of the high offset side is to reduce the amount of shims needed when using the factory offset side. For initial installation use the factory offset side with the same amount of shims that were taken out of the factory arms. Be sure the upper control arms both have the cross shafts facing the same direction. See **Figure 1**.
  - A. This side of the cross-shaft with the shallow cutout will allow for a factory alignment.
  - B. This side of the cross-shaft with the deep cutout will allow for additional negative camber.



- QA1 Race control arms are equipped with QA1 Low Friction Ball Joints; please refer to the ball joint instructions on page 3 for setting the initial preload. Preload is set from the factory, but the ball joint stud should be checked for play before installing the control arms. QA1 street control arms use OE replacement ball joints and only periodic greasing is needed.

### DISASSEMBLY

- Raise and support the vehicle by the frame with jack stands on a stable surface and remove the front wheels.
- Support the lower control arm with a jack to take weight off of the droop stop. See **Figure 2**.
- Remove the cotter pin and loosen the upper ball joint nut. Do not remove the nut at this time.
- Separate the upper ball joint from the spindle using a ball joint separator.
- Remove the ball joint nut. Support the spindle and brakes making sure they are not hanging by the brake hose as this may cause damage to the brake hose.
- Note the position of the shims on the cross shaft. Remove the nuts on the cross-shaft and remove the upper control arm from the car. See **Figure 3**.



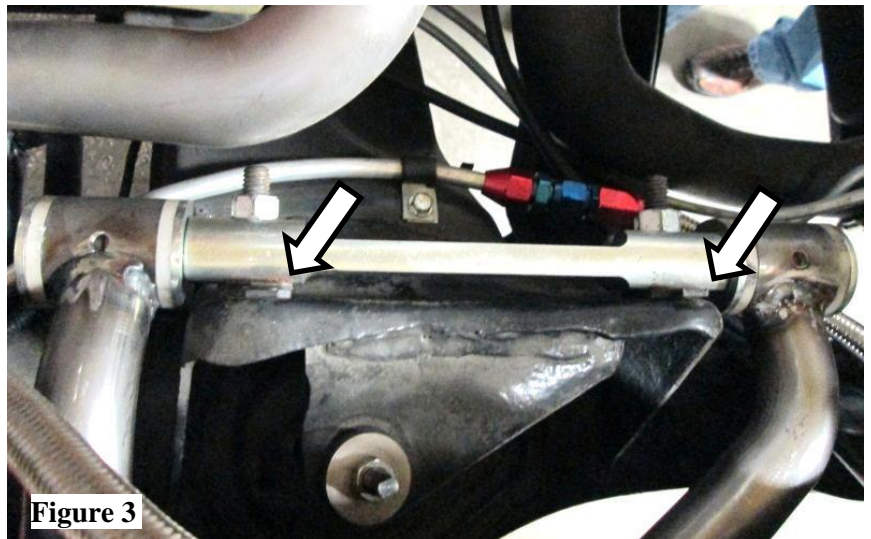
**Figure 2**

**NOTE: The studs retaining the cross-shaft are knurled. QA1 control arms do not include new knurled studs because it is not recommended to remove the studs unless they are damaged. If a damaged stud needs to be removed it should be pressed or knocked out of the mount. Do not turn the bolts to remove.**

**'64-'72 GM A-body cars will need the factory bump stop removed from the chassis before install.**

### INSTALLATION

- Slide the QA1 upper control arm over the mounting bolts making sure to have the factory side of the cross-shaft facing out toward the wheel for both control arms.
- Re-insert the shim stacks in the same location on the cross-shaft that they were removed from and tighten the nuts to the factory specification. If the mounting studs have been removed, it may be necessary to hold the head of the bolt to tighten the cross-shaft nuts. **Do not turn the bolt to tighten the nuts or the knurling will strip.**
- Connect the upper ball joint to the spindle and tighten the ball joint castle nut to the following torque. Install a new cotter pin.



**Figure 3**

#### **Ball Joint Torque Spec**

Follow minimum initial torque specs, then tighten till the first available slot aligns with the cotter pin hole.

7/16" & 12mm	40 ft. lbs.
1/2"	55 ft. lbs.
9/16" & 14mm	65 ft. lbs.
5/8" & 16mm	75 ft. lbs.
Aluminum Spindles	50 ft. lbs.

4. Remove the jack from the lower control arm and reinstall the wheels and tires.
5. A front end alignment is required and should be performed by a qualified alignment shop. Refer the alignment shop to the new alignment specs at the end of these instructions.

**Maintenance of QA1 Ultimate Ball Joints**

**Grease using high quality lithium grease and check preload on a regular basis. Check and set ball joint preload at least annually or every 3,000 miles, whichever comes first.** NOTE: Preload on the ball stud can be set with the ball joint attached to the control arm if the spring is unloaded and the ball joint taper is free from the spindle. Preload can also be set prior to installing the ball joint.

1. Using the QA1 spanner socket from Ball Joint Tool Kit (p/n 1891-106) loosen the lock nut by turning counter clockwise.
2. Using the QA1 hex key, torque the torque nut to 25-30 in. lbs. and then back off 90°.
3. Using the QA1 hex key, a ½” open-ended wrench or socket, and the QA1 spanner wrench, tighten the lock nut while holding the torque nut, locking them together to 25 ft. lbs.
4. Re-check the lash on the ball stud and adjust as needed. The ball stud should not have any axial lash.
5. Using a grease gun, lubricate and rotate the ball stud by hand until the grease is visible on the bottom of the ball. If the ball joint is on the car, move the suspension up and down to get the same effect. Note: Excessive grease may result in hydraulic lock. If this occurs, move the ball stud until pressure is relieved and the ball stud freely rotates.

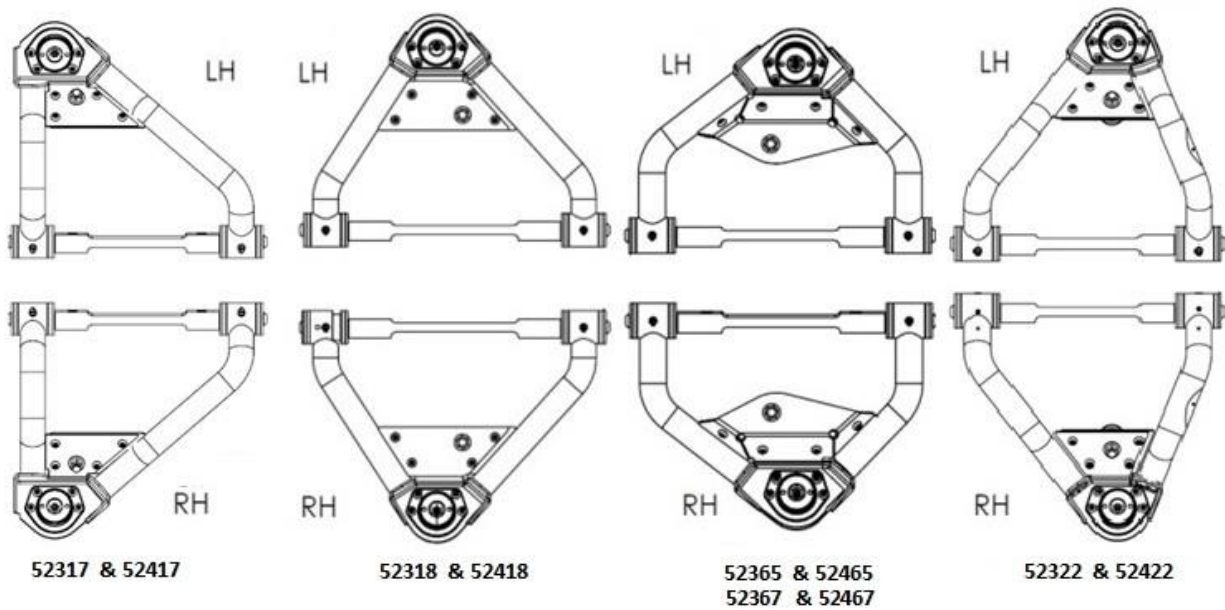
**Alignment Note**

**These components are designed to add more caster and negative camber. It is a good idea to make the alignment shop aware of this, as the alignment shop will only try to align the vehicle to factory specs. These alignment specifications are for vehicles equipped with both QA1 upper and lower control arms. Vehicles with other configurations may not be able to achieve these alignment specifications.**

**Recommended Alignment Specifications for Street Driving**

1964-1972 A-Body	Camber:	0 to -1 degree
1967-1981 Camaro and Firebird	Caster:	3 to 5 degrees
1968-1974 Nova, X-Body	Toe:	1/16” to 1/8” toe in
1973-1977 A-Body		
1975-1979 Nova, X-body		
1978-1988 A-Body and G-Body	Camber:	0 to -1 degree
1982-2003 S Series	Caster:	4 to 7 degrees
1978-1996 B-body	Toe:	1/16” to 1/8” toe in
1982-1992 Camaro and Firebird	Camber	0 to -1 degrees
	Caster	4 to 6 degrees
	Toe:	1/16” to 1/8” toe in

## Control Arm Identification



FRONT OF VEHICLE >

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.

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