



## PHASE II

### 62-67 Tubular Lower/Upper Control arms

# *Installation Guide*

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Contents:

- 2 frame plates
- 1pr. Howe racing ball joints
- 2pr. Square eliminator plates
- 4 Forward arm spacers
- 4 Link adjusters
- 10 7/16" bolts/nuts *not shown*
- 4 Chromoly rod ends
- 4 1/2" grade 8 bolts
- 4 Main arm spacers (Grooved)
- 1pr. Tubular lower control arms

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First you must remove the factory lower control arms, strut rods and brackets. Your Church Boys Racing lower control arms will bolt up using the factory bolt holes that were used with the original control arm and strut rod mounting brackets.

There is an extra bolt hole in the frame plate for the lower control arms however, it is not needed and there are no supplied bolts for this hole. If you choose to use this extra hole you will need a 7/16" drill bit, nut and bolt.

Your frame plates can only be installed in one direction. With the mounting ears facing down and toward the rear of the car, your bolt holes will align with the existing holes in the frame. With the frame plates mounted in place keep all the provided hardware loose until everything has been installed completely.

When trying to mount the forward arm it is easiest to lengthen the adjustment to allow for the 1/2" mounting bolt to align. Once you have the main arm and forward arm mounted adjust the link adjuster to 5 inches measured from the center of the rod end to the end of the threaded tube.

Your "Main arm" (short arm) will be mounted using the square eccentric eliminator plates. These will eliminate the use of the original eccentric bolts that could be problematic. The following photo shows the orientation and how they mount.

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Your final adjustments will be made with the link adjuster, loosen the jam nuts, lengthen or shorten the arm as needed to get the desired setting and re-tighten the jam nuts.

For the main arm start with the adjustments turned all the way in, or its shortest setting. You may need to adjust the setting by eye once the car is on the ground. Never try to do a final alignment by viewing the arms while they are suspended in the air.

This is only a preliminary adjustment to get you to the alignment shop. Double check that your jam nuts are tight. Now that your tubular control arms are in place tighten all the hardware for the frame plates and mounting bolts.

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\*\*\*NOTE\*\*\*When making adjustments you must insure that you have a minimum of  $\frac{3}{4}$ " thread engagement with the rod end to link adjuster and adjuster to the tube.



Pictured here is your lower ball joint assembly. Housing, ball stud, threaded cap, lock plate and c-clip. If replacement or adjustment is ever needed the process to adjusting out the lash or play in the stud is as follows:

Remove the C-clip and lock plate, using a  $\frac{3}{4}$  wrench tighten the threaded cap until the ball stud will not move under light pressure. Using the lock plate set it over top of the hex nut in a manner in which you need to loosen the cap to align the lock plate with its locking groove. This should only be about  $\frac{1}{8}$ " of movement to re-install. Install the C-clip and apply a good high pressure grease. 3-5 pumps is sufficient, there is no need to have grease oozing out of the ball joint boot. Re-apply grease at every oil change.

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Quick Notes:

1/2" bolt torque 80lbs.

7/16" bolt torque 60lbs.

22329x Lower ball joint housing P/N

22380 Lower ball joint stud P/N (Stock style of spindle)

22480 Phase II spindle lower ball joint stud P/N

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## Tubular Upper Control Arms



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Your new Church Boys Racing LLC upper control arms come fully assembled, greased and are ready to bolt on right out of the box. We use a very high quality ball joint with tight tolerances, once the grease is installed it is very hard to squeeze more into the joint. It is not necessary to push grease thru the joint and out of the boot as this will only attract unwanted dirt and debris to collect.

Properly uninstall your stock upper control arms, shocks, springs (*with the use of a spring compressor*) and spring perch. Once everything is removed you will be able to simply bolt up your new upper control arms using the factory bolt holes. Using the supplied 7/16" bolts, bolt up your arms with the arrow facing toward the front of the car. Torque your mounting bolts to 60 lbs/ft and re-torque after 100 miles. It is recommended that a form of Loctite is used as well

With your new upper control arms in place you can now re-install your spring perch spring and shock. *The use of a coil spring compressor is highly recommended!* If you are using a coil over system you will not need the spring perch.

When installing your new upper control arms with the stock spring and shock set up be aware that your ride height will be lowered by approximately  $\frac{3}{4}$ -1.0 inch, depending on the condition of your springs. This is due to the lowered inner pivot.

Before you bolt up your spring cover you will need to unbolt the rubber stop, rotate it 180 degrees and re-bolt it back up. This is to better align the rubber stop with the new upper ball joint housing. If you have selected a wide series of tire to run on the front you will want to use a grinder to clearance the small lip that runs along the bottom perimeter of the spring cover. In extreme cornering, depending on your alignment settings and overall ride height of your car, it is possible for the tire to make contact with this lip.

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Please be aware that when using your Church Boys Racing LLC. Upper control arms with the matching lower control arms you will see an increase in Positive caster (4-5 additional degrees). Positive caster will provide your car with high speed stability. At the same time your slow speed turning effort will also increase. In an effort to reduce the turning effort your alignment shop can adjust for a little less caster. When doing so it is a must that you maintain a minimum of  $\frac{3}{4}$ " thread engagement in the lower arms forward link adjuster.

#### **Upper Ball Joint Adjustment** (not needed to be done when new)

- Properly support the car and disconnect the upper control arm from the spindle
- Remove the retaining clip for the locking plate on the upper ball joint.
- Remove the locking plate.
- Turn the hex cap down until a slight drag (zero lash) is felt on the ball joint stud.
- Place the locking plate over top of the adjusting nut, back off the nut until the locking plate aligns with the locking groove.
- Re-install the retaining clip, apply grease and re-install your spindle. Please do not try to over grease the ball joint. 3-5 pumps is sufficient. There is no need to have grease oozing out of the ball joint boot.

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