



## GM Muscle Car Upper Control Arms

**Q1: My SPC upper control arms contact the frame when I lift the vehicle with a jack. What should I do?**

**A1:** It is critical that you consider the entire suspension system when you modify your front end. Fortunately, SPC Performance arms are modular and can be configured to work with most spring and shock combinations. We recommend you use an SPC extended length ball joint (see application) or a tall knuckle for better handling as well as to help prevent contact issues. You can also use no more than 3 of the optional SPC ball joint shims (p/n 94304 or 94306) to lift the arm from the ball joint and get additional clearance.

The shock absorbers should provide a limit for the suspension travel prior to the arm contacting the frame. There are many lengths of shocks available in the aftermarket; some are much too long for the application, so check your shock length in addition to the configuration options.

**Q2: How do I know what length shock I should be running?**

**A2:** We have determined lengths for some of our applications and listed them in the directions. For other applications, you can easily lower the arm with the shock removed until the SPC upper arm just touches the frame, then measure the distance from the upper mount to the lower mount and subtract  $\frac{1}{2}$ " to determine the ideal shock length for your vehicle. Shocks up to  $\frac{1}{2}$ " shorter than this measurement will also be fine.

**Q3: What about using limiting straps?**

**A3:** Limiting straps are a viable alternative as well. This extra device is not needed for most usages; it may be the better option if you use your car very hard (drag racing, rally, etc.). They can also allow you to keep your current shocks if they are too long.

**Q4: The OEM snubber that limited down travel (droop) of the UCA doesn't work with the SPC arm, how should I limit droop travel of my suspension system to prevent contact between the arm and frame?**

**A4:** Again, the shock absorber should provide a limit for the suspension travel prior to the arms contacting the frame.

**Q5: I have installed your extended length ball joint. There is about  $\frac{1}{2}$ " of ball joint stud showing above the knuckle. Is this correct? Is the stud seated properly in the knuckle? Is the boot too short?**



- A5:** The extended height 4-bolt ball joint used in this kit will leave about ½" of stud showing between the knuckle and the boot. If you see about ½" of stud, it is seated properly and the boot will protect the ball joint as designed. This extended stud is designed to improve the camber curve. It does look a little different than you are used to seeing, but it will work very well. The castle nut should be tightened to 45 ft-lb and then the cotter pin inserted. Tightening the nut farther in an attempt to "seat" the extended shaft will result in broken or damaged parts, and will not change the exposed shaft.
- Q6: I'm running radial tires, what alignment settings should I use?**
- A6:** Factory specifications for this car were based on bias-ply tires and/or manual steering. Running radial tires with those settings will result in a very light steering feel with little return to center, and a somewhat vague on-center feel. Most people report significant improvement in drivability running approximately 3 degrees of caster, recommended camber is zero to -0.25 degrees, recommended total toe is +.25 degrees. We suggest you start there and see how it feels with your total system modifications.
- Q7: My control arm part number says it will fit either the right or left side, but one side looks upside down when installed. Do I need to change anything?**
- A7:** Specific part numbers of arms are interchangeable, working on both right and left sides of the vehicle. If you have two of the same part number this is the case. First, make sure the bushing pivots on each end of the cross-shaft are offset upwards and the bolt heads are facing upwards. You may need to remove the large nut on each end of the cross-shaft and slide the bushing off to flip it over. Next make sure the welded stud on the ball joint plate is facing towards the front of the vehicle. Note: make sure the bolt heads are facing upward. Last are the adjuster sleeves. They should mirror each other from side to side. Check the instruction sheet for any specific placement. Keep the amount of threads showing equal on either side of the hex adjuster, and make sure adequate threads are engaged. The best placement of the ball joint is under the ball joint plate. Add shims if necessary or if it is recommended in the instructions.
- Q8: Muscle car race arms previously used steel pivots on cross shaft with snap rings. Is that arm still available or is there an updated part?**
- A8:** No, the solid steel race arm cross-shaft and pivot are no longer available. The pivots now use a bushing material called Delrin. Delrin works well for a



racing application because it has little to no compliance, is low friction, and is resistant to heat and abrasion. The pivots have also been redesigned. The redesign included an offset to increase frame clearance during suspension droop and a grease zerk. Older race arms with steel-on-steel cross-shafts can be updated with a new cross-shaft and new pivot assemblies. You will need a cross-shaft specific to your application along with the new pivot assembly, part number 92025.

**Q9: I am installing pivots with Delrin sleeves in my Racing/Muscle Car upper control arms. What is the proper torque value for these pivots?**

**A9:** There is no “correct” torque value for these pivots. Tightening the Delrin bushing too much will damage the bushing material. Tighten the supplied lock nut until the washer is snug against the Delrin bushing and there is no side-to-side play along the cross shaft. Recheck in 1000 miles to make sure there is no play and tighten slightly if necessary. After that, it is good to check and grease them at every oil change.

**Q10: How do I know if I have an old style or new style cross-shaft?**

**A10:** All new style cross-shafts will have a flanged area on the inboard side of the bushing support. Bushings will be sandwiched between this flange and the washer/nut on the outer end.

**Q11: Can I use the stock rubber type pivot bushings instead of the Delrin race-style bushings?**

**A11:** Yes, but only on the new steel cross-shafts. All of the new style shafts will accept the rubber (Clevite style) bushing or the Delrin race-style bushings.

### ***For Arms with Screw-In Ball Joint Plates:***

**Q12: I am having trouble screwing my balljoints into the SPC balljoint plates.**

**A12:** By popular demand, the threads in our plates are designed to accommodate the Howe re-buildable ball joint. We have sampled OE style balljoints from many other vendors, and found that their “threads” vary widely in geometry, with some not even being threaded at all, but just having circular grooves. On others, the threads are shaped like saw teeth. Unfortunately, there is no standard for the “thread” used by Chrysler on the original design. Howe continues to use that original profile, which matches our thread profile. Other manufacturers are free to make these threads as they interpret them, and we



cannot control it.

**Q13: How can I install non-Howe balljoints in your arms if they won't thread in?**

**A13:** You have two options: Try a different supplier that uses a more correct thread profile, or press them in. In their original application, the balljoints were always pressed into the control arm on first installation. The "threads" were there to assist with removal and replacement in the field when a press was not available.

**Q14: My control arm uses the 92002 10 degree Chrysler screw-in ball joint plate. There is no right or left markings, how is it installed?**

**A14:** The 92002 ball joint plate can be used on both the right and left control arms but unlike our others the welded stud will go forward on the left and rearward on the right. This will keep the 10 degree angle for the ball joint in the proper orientation.

**Q15: I have installed the adjustable upper control. Camber is good, but I can't get caster where I want it. . What can I do?**

**A15:** When the arm includes a long adjusting sleeve and a shorter adjusting sleeve, it may be necessary to switch positions of the adjusting sleeves to get the desired alignment angles. The sleeves can be interchanged easily by unscrewing each from the ball joint plate and pivot stud. When reassembling, ensure that equal amounts of thread are showing on both sides of each sleeve before installing on the vehicle. If the proper alignment cannot be obtained after switching the positions of the sleeves, we offer a range of adjusting sleeves in various lengths that are compatible with these arms.

**Q16: I have installed the adjustable upper control arms and cannot achieve desired caster. One sleeve is threaded all the way in and the other out when camber is set to specifications. How can I correct this?**

**A16:** Many control arms come with two different lengths of hex adjuster sleeves. Most likely the sleeves are in the wrong position for your vehicle. For example, if the longer sleeve is towards the front of the vehicle and the shorter one is towards the rear and the caster is extremely positive, try switching the positions of the adjusters. Put the longer one in the rear and the shorter one in the front. This will push the upper ball joint forward and caster and camber can now be adjusted to desired specifications. Don't just flip the arm over; make sure the ball joint plate has the welded stud towards the front



of the vehicle. Thread the adjuster sleeves equally onto the pivot studs and plate studs.

*Reference Items: 92142, 92144, 92242, 92244, 92252, 92254, 92342, 92344, 92352, 92354, 92542, 92546, 92552, 92556, 92646, 92656, 92740, 92748, 92749, 92750, 92751, 94305, 94320, 94330, 94331, 94332, 94340, 94350, 94360, 94368, 94369, 94370, 94371*

