H Body Control Arm Mods for S-10 Ball Joints

Re: s-10 ball joint any body got them figured out yet

by **70styleVega** » Sun Nov 23, 2008 3:49 pm
I just reassembled the front of my '75 Vega with S10 spindles, S10 ball joints and stock Vega upper and lower control arms. I don't have it back on the ground yet to see if I successfully designed out the negative chamber, but here is what I did:

I elevated my car (blocks under all four tires) and measured my front end geometry. I drew the upper control arm, lower control arm, spindle, with a 20 inch tall tire mounted, in AutoCad. Changing nothing else, I checked to see what shortening the spindle 1/16 inch would do to the chamber (the S10 spindle is 1/16 shorter than the Vega spindle it replaces). The 1/16 decrease in spindle height was enough cause the 20 inch tire to lean in 1 degree (and cause the top of the tire to lean in .271). In AutoCad, I had to move the lower ball joint location inward .124 to correct the 1 degree negative chamber.

With that knowledge, I installed the upper S10 ball joint as close to the original location as possible. The closest I could actually fit the larger S10 ball joint to the original was .075 away, so relocated them .075 inward.
Next, the lower ball joint needed to be moved .075 also: .075 would need to be added to the .124 (to correct the negative chamber) for a total of .199 inward relocation of the lower ball joint. I used UB Machine S10 ball joint sleeves, and had them welded in .250 inward, rather than the .199 to allow for additional adjustment, in case of a ride height change.
I decided to use Nick's recommendation to relocate the LBJs .250 inward, to avoid needing offset bushings to get additional adjustment.
I will let you know soon how it all worked. Tom

Re: s-10 ball joint any body got them figured out yet

by **70styleVega** » Mon Dec 29, 2008 2:08 pm
Sorry it took a while to make a reply.... cold days and a busy schedule has kept me from playing with my favorite toy. I've got good news and bad news.

The bad news first. The bad news isn't really that bad.... I need to cut at least 1 coil off of my brand new Moog 6490 coil springs. (I hate modifying new stuff). So rather than continue assembly on the rest of the car, I have to take the front end apart again.

The good news is the ball joint locations in the upper and the lower control arms look about perfect. As previously stated the upper ball joint is relocated as close to the factory position as I could get it, .075 inward: and the lower was relocated .250 inward to allow for additional adjustment. With wooden blocks under the lower control arms, I used a carpenter's framing square against the rotor to adjust the camber to 0 degrees (vertical). The adjusters were about in the middle of their range with plenty of adjustment in each direction.... exactly what I wanted. HEY NICK, IT WORKED.

I also removed the stops riveted onto the lower control arms. I could see I was going to have a turn radius problem.

And I even remembered to take pictures of the work in progress and I will post them when time permits. Right now I'm pretty happy because I can see light at the end of this tunnel.

Waybad, I hope this helps you. I'm not 100% done as you can see, but you can PM me if you have any

questions regarding what I've done so far. A lot of the H-body.Org members have done this swap.... now they're trying to improve it. I wouldn't have tried this without the shared knowledge of this group.

Re: s-10 ball joint any body got them figured out yet

by **70styleVega** » Fri Feb 20, 2009 9:36 pm
I finally got got a chance to take some photos including some closeups.

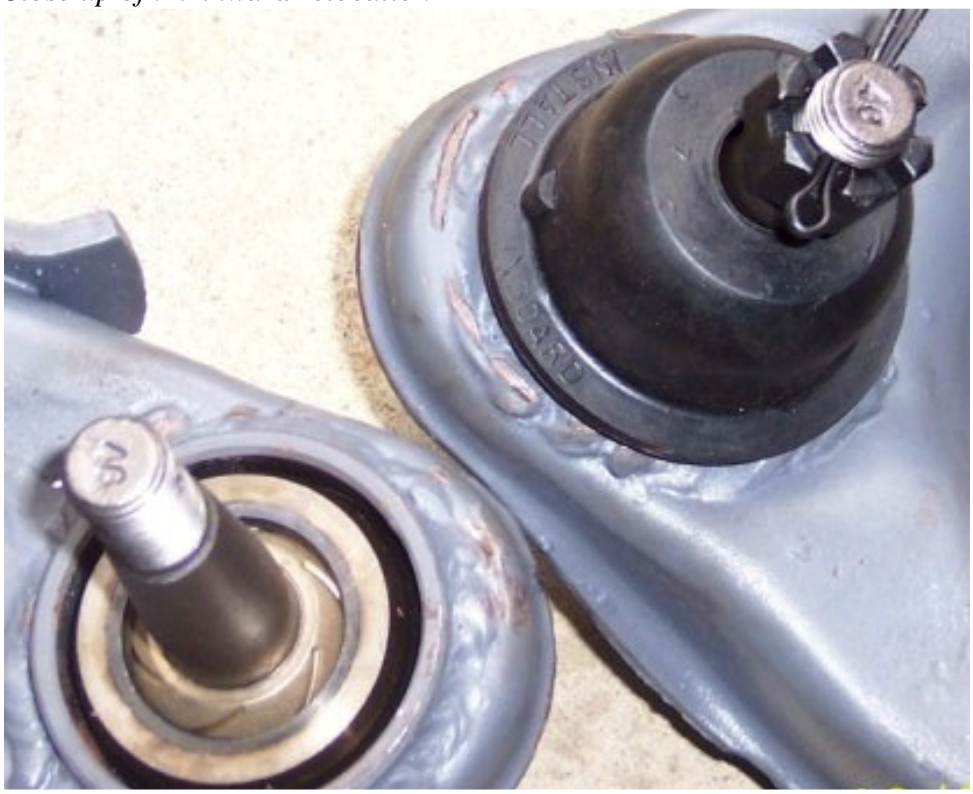
The upper control arms had the bolt holes welded and redrilled and the center hole enlarged to accept an S-10 ball joint (UB Machine PN 40-3101).

The lower control arms were had the lower hole center relocated .250 inward using an S-10 ball joint and welded in sleeve (UB Machine PN 40-3203 and 40-3301).

UCA, before and after

LCA Sleeve show prior to install.

Close up of .25 inward relocation



Sleeve and ball joint installed

Re: s-10 ball joint any body got them figured out yet

70styleVega » Thu Feb 26, 2009 7:26 pm

" Do you have this measured with the front of the car at it's final ride height?(weight of engine, fluids, etc) "

I assembled the front end with a fully assembled (but naked) cast iron head small block and tranny installed. With the new uncut Moog 6490 (V6 Monza/no air), the tall springs were maxed out in the 1975 Vega shallow spring pockets. I had to cut them a coil and a half just get some suspension travel.

Right now the front fender opening is about one inch and a half above my P185/60-15 the front tires. This is probably a little high in front for some h-body owners, but do I expect the front end will settle when the motor and engine compartment is fully dressed.

Also it has taller P235/60-15 drag radials on the back for that old school tilt. "Can the church say AMEN?"

Regarding the Bob Gumm Sleeves, I've never seen an installation up close and personal, so I can't comment. When I was about to do my rebuild, NixVegaGT and some other H-body members were taking about how to do it with S10 ball joints (less sleeves) and without negative camber. It wasn't documented how to routinely do it without negative camber, but there was a lot of good discussion and I thought I would give it a try. I never looked back after that.

When I get all four tires back on the concrete in a day or two, I'll post some more photos and you can check out the end product.

Re: s-10 ball joint any body got them figured out yet

by **70styleVega** » Wed Mar 18, 2009 4:42 pm
I didn't measure the S10 sleeves but they appeared to be easy enough to make: steel pipe stock with a precision press-fit machined inside.

I had my buddy Steve weld in my U B Machine S10 lower ball joint sleeves 360 degrees around, with welds on both the top and bottom of the control arms. The top of the sleeve protrudes above the control arm just far enough to get a good strong continuous fillet.

Good Luck.... and don't forget to post photos.