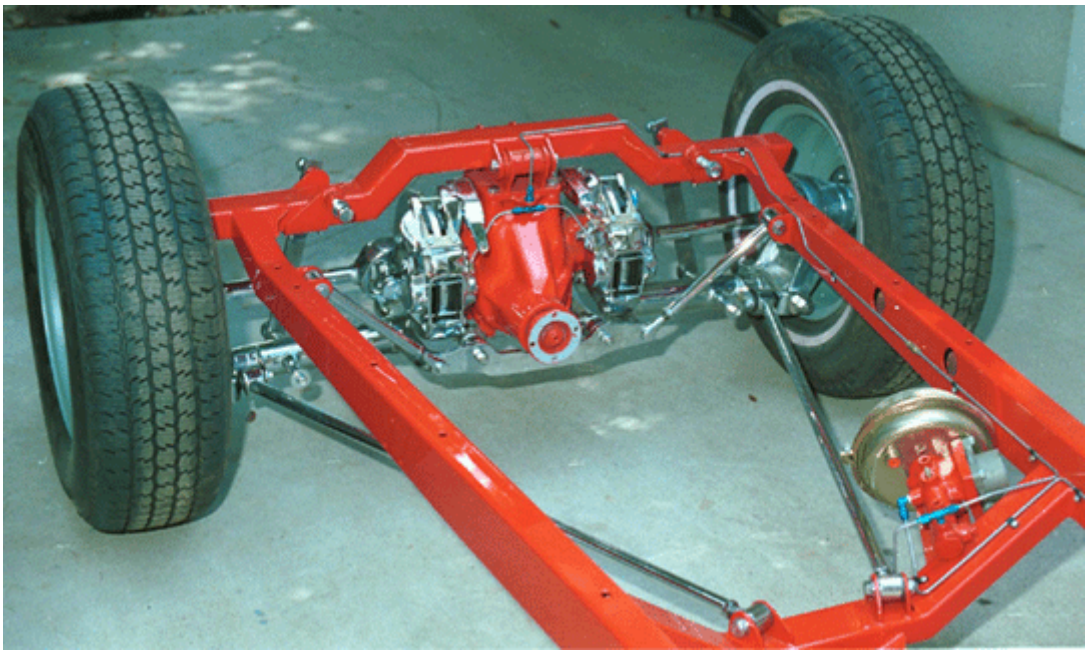
4727 E. Hedges
Fresno, CA 93703
(559)255-0527
FAX (559)253-1952
www.snowwhiteltd.com

Model A Rear Crossmember Instructions



A good deal of common sense must be exercised in the assembly of this unit, high quality welds are essential, we recommend Heli-ARC (TIG) Welding. If you are in doubt about your welding ability, we strongly suggest that you tack weld components in place and take them to a competent or certified welder for final welding.

1. **Frame should be boxed in the area of crossmember attachment; areas adjacent to welds must be sandblasted or ground clean.**
2. **Set the frame on sawhorse or a suitable working area and level the frame from side to side and front to rear, using a good carpenters level.**
   a) Front to rear "rake" can be set at this time. (See Notes)
3. **Square the frame by cross measuring**
   a) Frame may be a parallelogram. (one rail behind the other)
   b) Make adjustments as required.
4. **Measure from the front crossmember centerline to the rear of the chasis and mark a centerline for the rear crossmember at 102-3/4 inches (this will be the rear axle centerline.)**
   PLEASE NOTE:
   a) Mark centerline on ends of weedeater crossmember for your reference.
   b) Stock Model A wheelbase is 103 inches
   c) For JAG rears we make W.B. 102-3/4 inches
5. **Double check crossmember centerline by measuring to some reference point on frame rails.**

6. **Removing existing rear crossmember:**
   a) Tack Weld in temporary straps across the top and bottom of frame rails about 12 inches in front of crossmember.
   b) Measure width of frame through centers of stock bumper bracket holes on top of rails; outside measurement will be between 38-1/2 to 3/8-11/16 inches.
   c) Trim required amount off frame rails
      - Frame rail cut will be at 101-1/4 inches. (102-3/4 W.B. less that half the rear crossmember width = [1-1/2"]
7. **Bolt Crossmember assembly to top of Jag Pumpkin using the tapered seat OEM Jag Capscrews. (part # C17024 if you don't have them)**
   a) Narrower end of center mount plate to the rear of car.
   b) Assemble lower control arms to Jag Pumpkin using fulcrum mounts, shafts, washers, and spacers. (See our Catalog or Jag Manual)
   c) Bolt Pinion Support Bracket to front of Jag fulcrum shafts at this time.
   d) Centerline of crossmember and centerline of 1/2 shafts should coincide.
   e) Shock bosses on crossmember and Lower Control Arms (LCA) should be parallel.
   f) Jag sedan pinion centerline should be parallel with both inner and outer fulcrum shaft, and lower shock shaft centerlines.
   g) Jag XKE pinion centerline will point slightly upward at an angle of 5-60.
   (XKE's can be converted to flatter sedan angle: see Note #5)
8. **Tack weld crossmember in place: DO NOT FINAL WELD CM IN AT THIS TIME**
9. **Attach pinion support bars to front pinion support tybar.**
   a) Clevis end attach to pinion support tybar.
   b)Capture bushing ends with teardrop shape gussets, 1/2" bolts, washers, and nuts supplied.
   c) Adjust length of support bars to position capture gussets to lower edge of frame rails.
   d) Tack weld teardrop gussets in place.
10. **Check that face of shock boss on crossmember and LCA are essentially parallel.**
    a) Bolt a shock to crossmember shock boss and Jag LCA.
    b) If shock won't line up with both shock bosses: You Have::
       - Assembled Jag Fulcrum Mounts to Jag Pumpkin incorrectly.
       - Assembled Jag center crossmember mount plate backwards. (small end of plate toward rear of car)
       - XKE Rear End instead of a Sedan Rear (See Note #5A)

    c) Shocks line up correctly: All Right!

11. **Stand around and eyeball your work; does everything "look" right and straight?**
12. **Final weld crossmember in frame. (Have you read the NOTES yet?)**
    a) Read NOTES before final welding.
    b) Read ALL NOTES before final welding.

NOTES
More than you really want to know

1. **We recommend assembling rear fender and running board or body to frame as a check for rear tire centering and desired height in wheel arch.**
2. **Approximate measurement form bottom of our crossmember to half shaft near outer U-Joint is 4 to 4-1/2 inches at normal ride height.**
3. **Bottom of Hub Carriers should be approximately parallel to ground with frame at normal rake. (Look at frame and HC from the side)**
4. **Normal attitude for Jag Half shafts at Ride Height:**
   Half shafts "Hang Down" approximately 1 to 2 degrees
   a) Check with Magnetic Protractor (1 to 1-1/2 degrees down)
5. **Yes, Dave; This is California: and we can turn straw into gold: send your old XKE inner fulcrum mounts and $ = We'll puss em' out so's your pinion will lay flat too.**
   a) Pinion centerline and all shafts should be parallel to each other in a side view.
      - Bottom of HC should be parallel with ground.

   b) This conversion is not possible with some 61 to 63 XKE's that have only two holes in each Inner Fulcrum Mount:

   NOTE:
   Your Fulcrum Mounts must each have 4 countersunk holes for this modification.

   THIS CHANGE TO SEDAN ANGLE IS A VERY IMPORTANT CONVERSION ON XK JAG REARS IN "A" AND "T" MODELS WITH QUICK CHANGE COVERS 'CAUSE YOU CAN SEE THE REAR COVER TILTIING DOWN AT THE FROUND UNDER THE BACK OF THE BODY WHEN AN UNMODIFIED XKE JAG REAR IS INSTALLED.

   c) Remember, the installed angle of the rear end is determined by the position of the holes drilled in the inner fulcrum mounts on the 3rd member, the weird angle machined on the top of the 3rd member is just a mounting surface.
   d) The machined surface angle on top of the 3rd Member Pumpkin is the same on ALL JAG 3RD MEMBERS. (Rear cover surface angle to top)

6. **If you are planning to "kick" your frame for hub carrier clearing we recommend a maximum or 1-3/4 inch at the rear crossmember, any more than this requires major subframe mods, and in a sedan severely limits the rear seat height - if the top is chipped you may want to see about adopting a midget.**
   a)Vicky Owners: You have a wooden subframe - see your body man first - steel floor time.
7. **Wheelbase:**
   a) Stock Model A wheelbase is 103 inches.
   b) For Jag Rears we make W.B. 102-3/4 inches.
8. **Frame rake: If you run 235/75 or 235/78 x 15 rears* and 195/50 x 15 front tires, your frame rake measured from the bottom of the front and rear from horns will be a difference of approximately 13 inches.**
   a) *Recently available Goodyear/Goodrich 255 or 245/70 x 15 is still about the same size 28 to 28-1/2 OD.
   b) 275/70 x 15 may work with Roadster fenders.

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