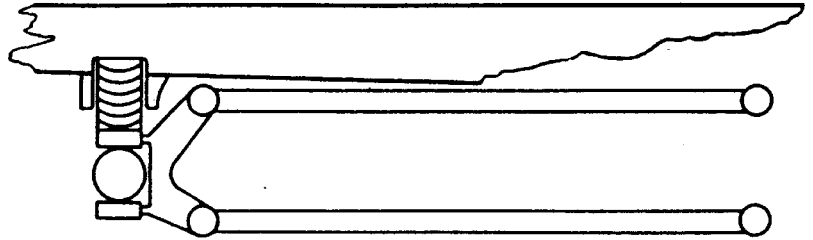
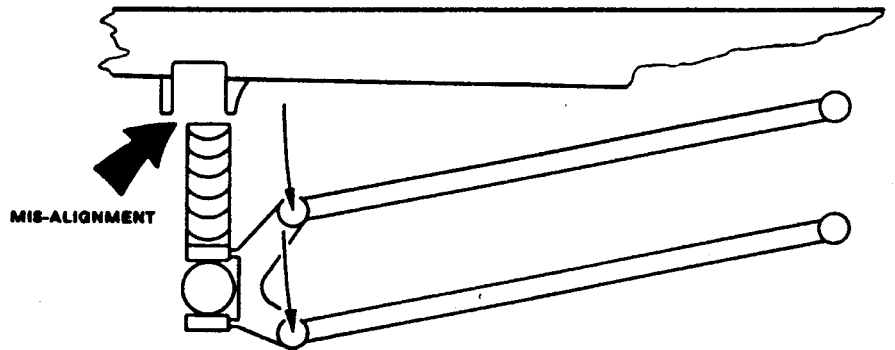


# 4-BAR INSTALLATION TIPS

Set length of bars at ride height and at proper caster angle.



When axle is dropped down several inches from ride height with bars hooked-up, axle will move back causing spring to NOT line-up. Put full weight of car on spring then hook-up the bars.



When an axle moves up and down vertically it also moves back and forth, front to rear on an arc related to the pivot of the wishbone or bars that hold it. The shorter the bars the tighter the radius the axle travels and thus more movement. This front to rear movement however is very slight when the bars are parallel or near parallel to the frame, as travel in the arc is at a minimum. In the 2" up and 2" down travel required by the front end the axle moves approximately 1/16" front to rear. This movement at ride height causes no problem. Some hassle occurs, however, when assembling and disassembling the front end. When the axle is dropped down away from the ride height, say 4", the axle will move back 3/8" to 1/2".

With a stock wishbone set-up the axle also tilts or rotates forward (negative caster) when it is dropped down and the uncompressed spring slides easily in and out of the crossmember. In a parallel bar system the axle does not rotate forward (caster remains constant) as it drops down away from the frame. This causes the spring to bind as it wants to move straight back and can't.

If you're setting up the front end in a bars frame (no engine and body weight) and using the full spring in the crossmember, the axle will be dropped down from ride height. If you adjust and hook-up the bars at this time the bars will actually be longer than necessary when the car is at ride height. In other words if you set-up the front end with a full spring, in the crossmember but with no weight to compress it, the axle will move forward when the full weight of the car is lowered down on the spring, causing the spring to bind up.

The proper way to set up the front end is to position the axle assembly and adjust the bars at ride height. To do this we use only the main leaf (and maybe the leaf above it) mounted on the shackles and slipped up into the crossmember. This simulates the full spring for positioning the axle but allows the bare frame to sit down at ride height. A good rule of thumb is to have about 3" to 4" between the center of the crossmember and the axle for ride height. With only the main and one other leaf installed in the crossmember, we slip a common 2 x 4 piece of wood on its side between the crossmember and axle to hold the frame up. Now the bars can be adjusted for length, squaring-up the axle and setting the caster angle. Leave the front end this way until final assembly when the full weight of the car is together on the frame. At that time disconnect the bars from the frame brackets and install the full spring. Then lower the car down on the spring compressing it to ride height. Then reconnect the bars to the frame brackets and you're ready to go.

If you mount the full spring on the front end, leaving the bars hooked to the frame brackets, the spring WILL NOT want to go into the crossmember. The spring must be compressed before it and the bars will line up. You might only need to disconnect the two upper bars, letting the axle rotate forward, to slip the spring into the crossmember. Ride height will also vary from car to car depending on the spring (reversed eye, stock eye, number of leaves, and arch) and the total weight riding on the spring, so fine tuning the length of the bars may be necessary. If the front end is installed with the spring in a bind, it will not work smooth and freely and will put a strain on the shackles.