## Gee I Wish I Had Known That

Front end rebuild.

List of POSSIBLE parts you will need;

Four upper control arm bushings, Two upper control arm ball joints, Four lower control arm bushings, Two lower control arm ball joints, Sway bar links, Sway Bar Bushings, Inner and Outer Tie Rod ends, Adjusting sleeves, Idler Arm. Pitman Arm. Drag Link, Cotter pins, Wheel bearings and races, Wheel bearing seals, Wheel bearing grease, Copper crush washers

Although this is not a difficult job it is long and can be dangerous. You need to use your head and now is not the time to break out the six-pack. This can be done in a weekend. Do not hurry though.



The procedure I am laying out below assumes you still have the weight of the front clip and engine in the car. If not, it will not work because when you lift the lower control arms with the jack you will not compress the springs. One way around this is to borrow a group of friends to make up the weight.

The night before you start, soak up the upper and lower ball joint stud nuts, lower



control arm pivot bolts, and upper control arm to frame retaining nuts with a good penetrating oil.

Prepare your garage, sweep the floor and clear out the area so you have room to work.

Jack the car up by the frame so the front wheels are hanging in the air. Use jack stands; do not leave the car on the jack. I actually like to use large wood blocks.

Remove the front wheels

Remove the front shocks. If you are not going to reuse the shocks the easiest way is to put a deep well socket on the upper stem and nut, put a long extension or several extensions on the socket and bend the nut and stem back and forward. The stem will snap off on the third of fourth bend. (Of course the correct way is to put an open-end wrench on the end of the stem to keep the shock absorber upper stem from turning and then remove the upper stem-retaining nut, but that is easier said than done).

Remove the lower shock mounting bolts and discard the shock. If you're using a new shock and it came with new bolts (most good shocks do) discard the mounting bolts.

Remove stabilizer link bolts.

## Remove the brakes

On disk brakes,

Remove the caliper, you can hang it with a coat hanger, but I like to remove them. Loosen the banjo nut that holds the brake line to the caliper. I find that if you take an old tire valve stem and push it up into the hole on the brake line mounting block it makes a great seal and you will not have as much trouble bleeding the brakes, it also stops brake fluid from leaking on your floor or the drain pan from getting kicked over. If you remove the banjo bolt you will need new copper crush washers, so get them now.

Remove the rotor. Take the dust cover/hub grease cap off the rotor, remove the cotter pin and discard, do not reuse.

Remove the spindle nut and washer. Put your thumb over the end of the spindle, do not let the bearings fall and hit the ground. The rotor, hub assemble, bearings and races can now be removed as a whole. Hint. Put the spindle nut and washer on top of the outer bearing and reinstall the dust cover/hub grease cap on the rotor. This will keep all the parts together so you will be able to find them later when you need them. While you have this assemble off the car you should consider repacking the bearings. Be sure to inspect for any burnt or damaged races and bearings. Replace as needed.

Remove the three bolts that secure the rotor dust cover to the spindle, the two lower bolts also secure the steering knuckle to the spindle. Remove the dust shield.

You now have clear, and unobstructed access to both the upper and lower ball joints.

On drum brakes,

Remove the drum. Take the dust cover/hub grease cap off the drum, remove the cotter pin and discard, do not reuse.

Use a brake adjusting spoon and back the brake shoes all the way off.

Remove the spindle nut and washer. Put your thumb over the end of the spindle, do not let the bearings fall and hit the ground. The drum, hub assemble bearing and races can now be removed as a whole. Hint. Put the spindle nut and washer on top of the outer bearing and reinstall the dust cover/hub grease cap on the rotor. This will keep all the parts together so you will be able to find them later when you need them. While you have this assemble off the car you should consider repacking the bearings. Be sure to inspect for any burnt or damaged races and bearings. Replace as needed.

Personally I like to remove the entire brake assemble to provide room to work.

However, you can remove the brake shoes from the backing plate. Remove the brake anchor pin and two bolts securing the brake backing plate and steering arm to the steering knuckle. Withdraw the steering arm and brake backing plate from the steering knuckle. Now wire the backing plate and wheel cylinder to the frame in an out of the way place.

Now there are many different ways of proceeding from this point. This is just the way I do it.

Place a jack under the lower control arm and jack the arm up until the frame just starts to come off your jack stands. Lower it back down until it is sitting on the stands. Remove the upper and lower ball joint stud cotter pins. Loosen the upper and lower ball joint stud nuts. I like to take them all the way off and then screw them back on five full turns.

Now lower the jack so it is just not touching the lower control arm.

Now the tricky part. Be careful and think each step through.



Use a pickle fork to separate the upper and lower ball joint studs from the spindle. You will have the force of the spring helping you do this. As the nuts are still on the studs the spring will not be released.

Install a spring compressor (most good parts stores have a loan program where you can barrow or rent a GOOD spring compressor, do not use a Harbor Freight tool!). The best style I have found is the one that goes up inside the coil springs. Put a chain around the spring for safety.

Compress the spring with the spring compressor, to help in this take your floor jack and jack up the lower control arm, as far out on the arm as possible, until the car just starts to lift off the jack stands.

Once again be careful and think these steps through. There is a LOT of stored energy in the spring.



Now you have removed the tension on the upper and lower ball joint studs bolts. Remove them. With the sprina now compressed, SLOWLY lower the lower control arm with the jack enough to remove the spindle and set it aside. Now continue to lower the lower control arm with the jack. Keep an eye on the jack alignment as you lower the control arm. You can always jack the jack back up put the upper and lower ball joint studs bolts back on and reposition the jack. At some point, if you have the

spring compressed enough; the lower control arm will not be under tension from the spring. Remove the spring and loosen and remove the spring compressor from the spring. The dangerous part is over.

Remove the two lower control arm pivot bolts (if you soaked them overnight with penetrating oil this will be easier), and remove the lower control arm.

Count and record the location and number of shims between the upper control arms and the frame. Remove the NUTS, not the bolts that retain the upper control arms to the frame. The nuts are spindled onto the frame not threaded. If you wish you can press them out. Remove the upper control arms.

There are all kinds of methods to remove the bushings. Best bet is to take it to a garage and have it done. Make sure they are going PRESS them out not use an air chisel to remove them.

I will address that later.