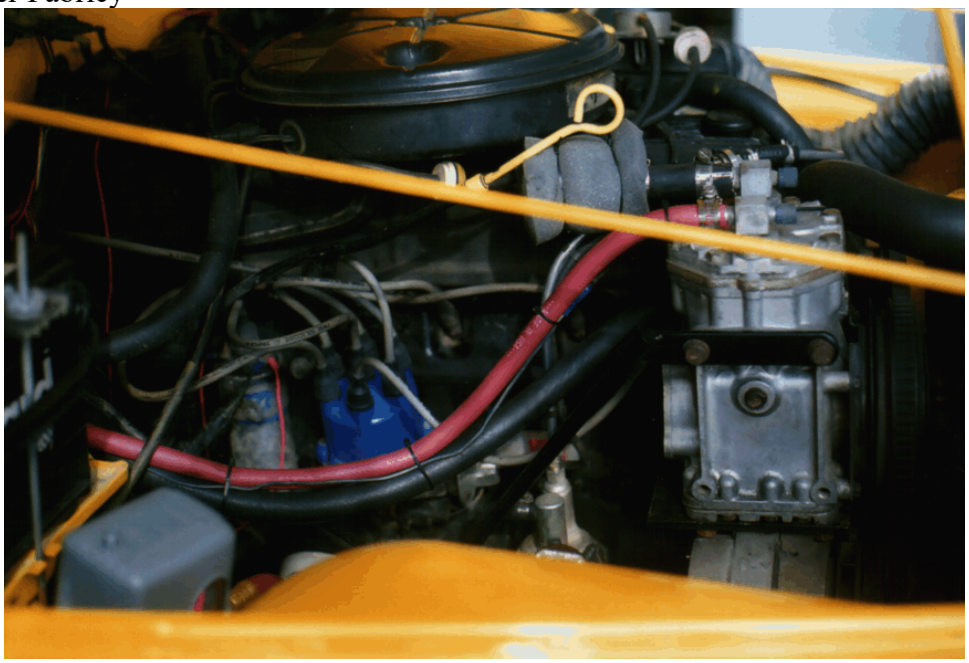
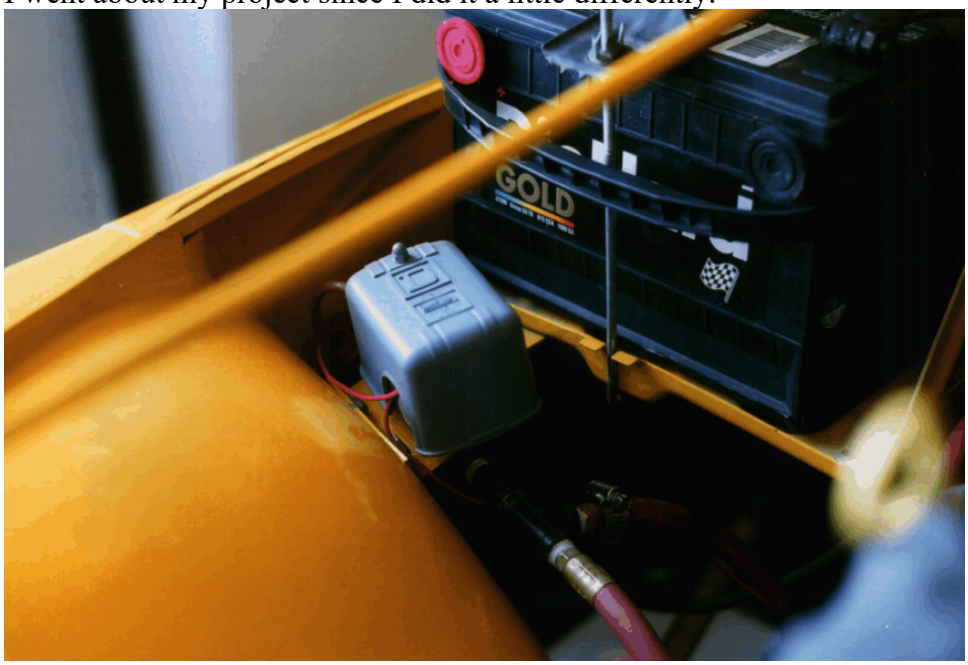
On-Board Air

By Peter Fabricy



Unfortunately after I was almost done with my on-board air project I realized there are tons of sites on the internet explaining how it's done. I'll just give you a summary of how I went about my project since I did it a little differently.



I had a buddy of mine call me one day after he got back from a local u-pull-it junk yard. He informed me that he saw an AMC Eagle that had air conditioning and it looked like a virgin wreck(not parted out yet). A week later I headed over with my tools, a camera, and hand cleaner. If I had to do it again I would have brought something to carry all the parts out with. Maybe something like a bucket or crate. I spotted car way back in the corner of the yard. I crossed my fingers as I pried the hood back. Sure enough there lay a York

compressor and all the hardware. I was pretty excited at that point. I examined the belts and engine block to make sure it was the same as in my 84 CJ-7. Sure enough this was. This is important since in the past I've hauled what I thought was all the needed hardware from a junk yard in CO to my home in PA only to find I didn't have the right size pulleys or an idler pulley. Since I just happened to drive my CJ to the junk yard I compared the parts in the Eagle with a tape measure and I made sure it would all squeeze in there. I also started taking some pictures of how the belts ran and how all the brackets bolted up to the block. I decided to take everything from the front of the Eagle engine and replace it with what I had in the CJ so I can be sure that it works and possibly standardize my belt sizes for a particular vehicle. I spent the next hour furiously stripping parts off the car. I was able to get a working high output York compressor and all the bracketry out of the junkyard for $30. That's a pretty sweet score! After getting them home I cleaned an painted everything to make my install just a little bit nicer. I test fit everything and found that this was project was definitely going to work. With some careful planning I decided that I would try to use the rear bumper as an air tank, the hole behind my license plate as a hose connector, and run an air gauge to my dash. My pictures will show just how I did it.

I used a standard cheapo pressure switch with bleed valve and set it for 120Lbs of pressure. I found a cheapo inline check valve to keep the pressure in the tank so it wouldn't come back through the bleed valve. My pressure gauge goes to 150Lbs and has the most increments I could find in a gauge. These parts can easily be found at a industrial hardware supply store like Grainger. Pipe fittings were obtained at a local hardware store. Try to find brass fittings so they won't corrode. I wasn't so lucky and I had to paint mine cast iron pipe fittings. Painting the outside of the pipe fittings doesn't solve the problem of internal corrosion. For the intake filter on the compressor I used an intake filter from a lawn mower. These filters can be found at any hardware store that sells lawn mower replacement parts.

I plumbed from the compressor to the pressure switch using flexible hose that you would run air tools from. This works great as long as you keep it away from hot parts. I also used this hose from my air manifold(pressures switch and check valve) to the rear bumper. I used zip ties to secure it to the fuel line back to the bumper. Since I welded all the holes shut in my custom made bumper I just tapped it for some air tube fittings. This was actually tough since I had to weld a million little spots to plug up all the pin holes in the bumper. The hard work was definitely worth it. I then tapped for another fitting to come out and connect with a hose up to a hose connector that sits behind my gas filler. Since I have a YJ tub on my CJ frame, I have gas filler on both sides. The one behind my license plate isn't being used so I decided to mount my hose connector there. I used the plastic filler hole with a piece of 3/16 steel screwed on behind to mount the hose connector. I drilled and tapped the steel to match the pattern of the holes that would normally hold the filler tube going to the gas tank. With some nice stainless steel screws I was able to give it a nice custom look.

The last stage of this project was to mount an air gauge on my dash. Why did I want it inside? Well since I plan to use this air for an air locker, air adjustable shocks, and possibly air horns, I want to know at a glance that I have enough pressure to keep my axles locked.