

From My Shop Distributor Spark Plug Wire Conduit

by Phil Lawrence



This month we'll take a break from making tools and make a useful accessory!

If you are running a distributor in your "T," a way to tame those spark plug wires sometimes becomes a problem. When I bought my first Model T in 1971 it had an original Atwater-Kent model LA distributor installed. The spark plug wires pretty much just lay on the cylinder head and sometimes against the exhaust manifold, not an ideal situation.

I came up with a conduit set up to run the plug wires through and also mount the coil in a convenient place. With help from my friend and mentor back then, we came up with this design. I have built many of these over the years and they have served the purpose well.

The materials should be available at any hardware store or home improvement center. You'll need one 1/8 inch thick x 1 1/4 inch wide flat steel bar and a 1-inch outside diameter steel tube. The shortest lengths available will be three feet long. That's ok because you'll have enough material to make two if you want.

There are three basic parts to the total assembly, (see photo #1). First, cut a 14" piece off the 1-inch diameter tube. You won't need the rest for now. Next, take the flat bar and, on each end, lay out a mark 5/8 inch from the end of the bar and 5/8 inch from the side. Make a punch mark where they intersect. At your punch mark, drill a 15/32 inch hole for the 7/16 inch head bolts to go through with plenty of clearance. Note: don't try to drill the 15/32 hole at one shot. Work up to it with several progressively larger drill bits first.

After the holes are drilled, radius off the end of the bar using the hole as a guide. Next, make a mark 1 1/8 inch from the radius end across the bar. That mark will be our bend line. Put the end of the bar in a vise up to the mark you just made. Using a small square check to make sure the bar is 90 degrees with the vise jaws (side to side). Now, using the leverage of the three-foot bar, make a 90 degree bend. A large ball peen hammer will help forming a tight 90 degree bend. Do the same procedure on the opposite end. With the ends now formed we can cut each to length. From the outside of the bend measure 3 3/8 inches. Make a mark and draw a line across the bar. That's the cut line. On the other end do the same thing but make your mark at 5 1/4 inches. Cut both pieces off the bar, deburr and smooth out your cuts with a file.

The short leg is finished for now. Take the longer leg and layout the holes from the coil bracket you'll be using. On mine I drew a line down the middle of the leg and from the top end measured down 1/2 inch, made a mark on the center line and measured down another 2 7/8 inch, made another mark then punched both marks and drilled two 5/16 inch holes for the coil bracket to mount. My coil bracket had a slight radius on each end, so I radiused the top end of the leg to match the bracket.

Next comes welding or brazing the legs to the tube (I brazed mine). We'll attach the longer leg first. Lay your tube on a fireproof flat surface. Now place the long leg, with the foot down (away from you) on the tube. Then measure 2 3/8 inches from the end of the tube to the vertical center line of the leg (5/8 inch from each side). You want the center of the tube 90 degrees to the leg and 2 inches down from the top of the leg. With everything in place we can

tack weld or braze the leg to the tube. If you are satisfied that the leg is where and how it should be, finish the welding or brazing. You might want to add a nice fillet on the top of the tube between it and the leg.

Once everything has cooled down from the welding, drain a gallon of coolant from the radiator and remove the first and fourth head bolts from the head. Place the tube and front leg assembly with head bolt #1 in place and tighten snug. Align the shorter leg in place and snug up bolt #4. The top of the short leg should come up to the center line of the tube. Check to make sure the tube is parallel with the top of the head. Either tack weld the short bracket in place (be cautious around the gas line and carburetor) or mark the tube. (This is a good time to also layout the holes for the spark plug wires to go through the conduit tube. I marked mine at 3, 6 $\frac{3}{4}$ and 12 $\frac{1}{4}$ inches from the front edge of the tube.) Remove assembly and weld up on the bench or welding surface. When all welding is finished and the assembly has cooled, drill the spark plug wire holes. They will be on the back surface facing away from the manifolds and on a center line with the conduit tube.

For the spark plug wires, drill the holes 7/16 inch diameter using the same procedure as you did the head bolt holes, and if you have a Dremel, or better yet, a die grinder, elongate the holes toward the rear of the engine. This will help the wire exit the conduit at a slight angle instead of a sharp 90 degree angle. To finish up, de-burr all the holes and edges smooth, prime and paint the assembly and it's done!

When installing the spark plug wires, install the ends for the spark plugs first and work the wire into the conduit tube from the back first and work towards the front to your distributor. The #4 spark plug wire exits the rear of the conduit. The large coil wire goes directly from the coil to the distributor. The smaller coil wires go from the firewall through the conduit to the coil, install these wires first, then plug wire #4, #3, and so on. Once everything is installed and before you start up your engine, don't forget to refill the radiator.



See more photos next page.

