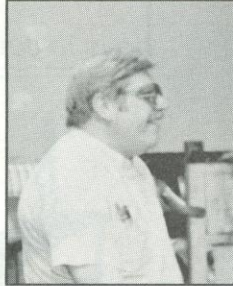


Arvin history

The Model "A" Ford Tapered Muffler

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Quality Layout



Between 1929 and 1933, new ideas in mufflers were developed in a rented experimental garage in Indianapolis. Studebaker was the first customer for the muffler, followed by Ford, Chrysler, Chevrolet, and Ford Model A. Ford A5230 was the first muffler assembly which was welded in the rear of the muffler.

Arvin actually got its start in the automotive exhaust system business when the Model T Fords were being phased out. The Ford people were so busy working on the new Model A that we were able to convince them that it would be better to let Arvin run the last original equipment and replacement Model T mufflers. As things worked out, this led to the Company later being able to become a supplier for the Model A exhaust system as well.

The original Ford Motor Company Model "A" tapered muffler design consists of nine separate parts welded together. The end bells (front and rear), three internal circular baffles, a perforated tube 30 inches long, a tapered outlet shell and inlet and outlet pipes. The manufacture of the two end bells and three internal baffles was done by draw forming the metal. But due to the complicated shape of the end bells, it required four dies for each end bell to make a part to print. The internal circular baffles

each required three dies for a total of 17 dies. The inner perforated tube and the outer shell each required two forming dies.

Perhaps the trickiest parts to manufacture were the inlet and outlet pipes. The correct radii were critical for the fit and the original tubes were bent using the mandrel bending method which forms the tube, leaving smooth outer contour, as opposed to the indentation left by conventional push mandrel techniques as used by modern manufactures and muffler shops. The method Ford used and we used is only seen today in the aerospace industry and the applications required precision. The mandrel bending the tube was pre-bent and then inserted into the cavity to hold the correct radius: steel balls were pulled through the tube to force it out to the correct round cross section. Using this method, fairly sharp bends were possible while maintaining a round cross section. Special tooling was made to achieve flange.

Final assembly was a critical part of the manufacturing process; several steel sizing plugs and rings were made to keep everything round and properly aligned while welding. The inlet and outlet pipes were assembled to the correct angles by using a precision machined welding fixture with eight hold down points.

The muffler assembly went on the 1928, 1929, 1930, and 1931 Model "A" Ford cars and trucks.

If Arvin still made mufflers and pipes the way it did 60 years ago, the exhaust system for a big, powerful car today would be perhaps 50 feet long. AG