



**TUBULAR FRONT END KIT
INSTALLATION INSTRUCTIONS
1979 – 2004 MUSTANG**

Pre-Installation Notes & Recommendations:

- Before disassembly, remove anything within the engine bay that can be removed; this will give the most room to perform the installation.
- Disconnect the lights from the wiring harness.
- Spray penetrating lubricant on any suspect fasteners.



1.) Remove Front Bumper:



- Remove flanged nuts attaching each side of the bumper to the front fenders.
- Remove flanged nuts attaching headlight housing to front sub frame.
- Unbolt upper bumper supports from radiator core support.
- Unbolt the hood latch from its mount and remove the pull-cable from it. Once removed pull the cable out of the front sub-frame and tuck it out of the way.



- Once bumper cover has been taken off, the bumper core can be removed via (8) bolts. Remove and discard.

2.) Remove Fenders

- For the Fox-Body Mustangs, unbolt the front fender brace that ties back to the sub frame – see circled item below.



- Remove the fasteners from the following locations:
 - Top of fender along engine bay
 - Bottom rear of fender at body
 - Inside of door jamb (see picture of frame tab below). This bolt must be removed with the door open, from inside the cab – we recommend using a 6" or longer socket & extension to reach it.
 - Inside the wheel wells where the plastic inner fender attaches.



- Once the fenders are off, you can remove the washer fluid reservoir, horns, cruise control assembly & bracket at your discretion.



- The passenger side houses the vacuum reservoir – remove if you wish.



- Below is the stripped front end; at this point it is highly recommended to clean the engine bay and inner fender areas where cutting and welding will take place.



3.) Cut the Front Sub-Frame:

At this point it's pertinent to note that the frame can be cut by a variety of methods – abrasive wheel, reciprocating saw, plasma-cutter, etc. - all of which will net the desired result. The example shown in these instructions is a combination of abrasive cut-off wheel and reciprocating saw, which many DIY-er's will most probably use.

*****Note the following dimensions*****

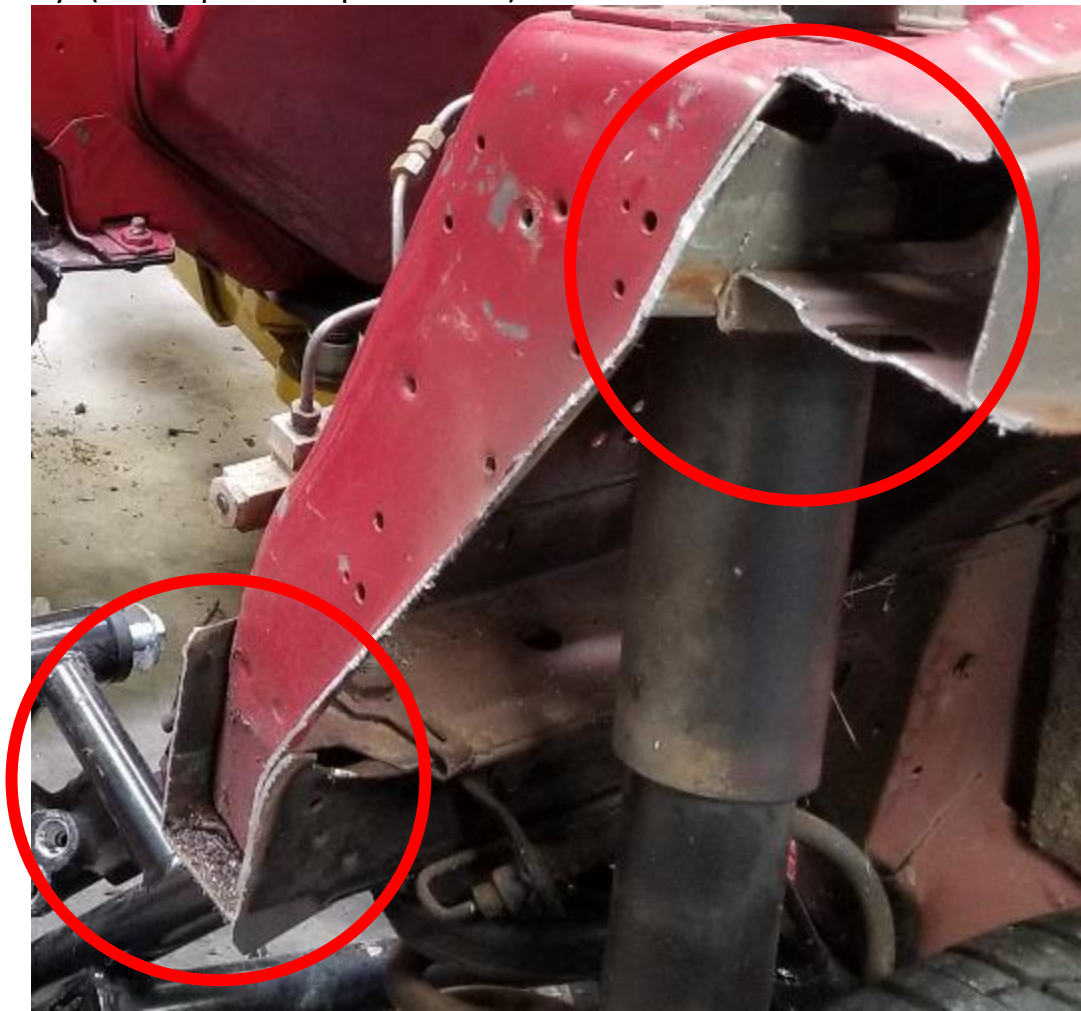
- For short (25") frame bars = cut frame 7" from face of shock tower box.
 - For long (32") frame bars = cut frame flush at shock tower box (as shown).
- Begin by marking a line down the inside of the fender, just in front of the shock tower box. Follow the curve of the body, then project across the boxed 'frame' section and down. For this installation the frame will be cut flush at the tower.



- Once the cut-lines have been marked, begin the cut at the top of the sub-frame with the cut-off wheel, making a 2-3" long cut on the inside face. This will allow the reciprocating saw blade to be inserted and aligned properly.



- Cut the rest with the reciprocating saw; as shown below, it is recommended to cut the boxed frame square to the formed 'rail', and the upper fender boxed-section square to the body. (This is personal preference)



- Once the front sub-frame has been cut off, sand, deburr and clean the cut sheet metal edges. This will also allow you to even up any irregularities in the cut and remove sharp corners made from the manufacturing process where the sheet metal has been joined.





4.) Position & Tack Tube Frame Rails:

- Begin the assembly process by removing all of the paint from the attachment areas on the front end. We recommend a disc sander or abrasive flap-wheel. **Be sure to sand through the manufacturer's rust prohibitive coating, and ensure that the base metal is clean before welding.**
- Once sanded, use a wire brush to hit the hard to reach places near the punched holes and inside corners where the sander could not reach.



- **Pro-Tip:** to aid in positioning the front frame-bars to the formed frame, we cut back the outer vertical portion of the frame rail "U" shape (inside shown) to allow the frame bar plate to rest in place. (This car previously had motor mounts added and removed, leaving a nearly rusted-through frame section which we had to repair.)



- Using a jack-stand, place each frame bar assembly into position. If you choose to not cut back the formed frame on the car, you will need to find a means of holding the frame plate in position.
- Take a 4ft level or long straight-edge and hold against the inside of the frame rail. Set the frame bars angled outward slightly more than the line the frame rails make, equally on both sides. **At this point in the installation, the angle isn't critical as the radiator support bar will lock in that width and angle once it's tacked in.**



- To match the frame bar elevation angle to the chassis, use a level or angle-finder to measure the position of the car – the circled spot below is a good reference point. Duplicate that measurement on the frame bar by raising or lowering the jack-stand until it matches. If available, use a level on each tube at the same time.



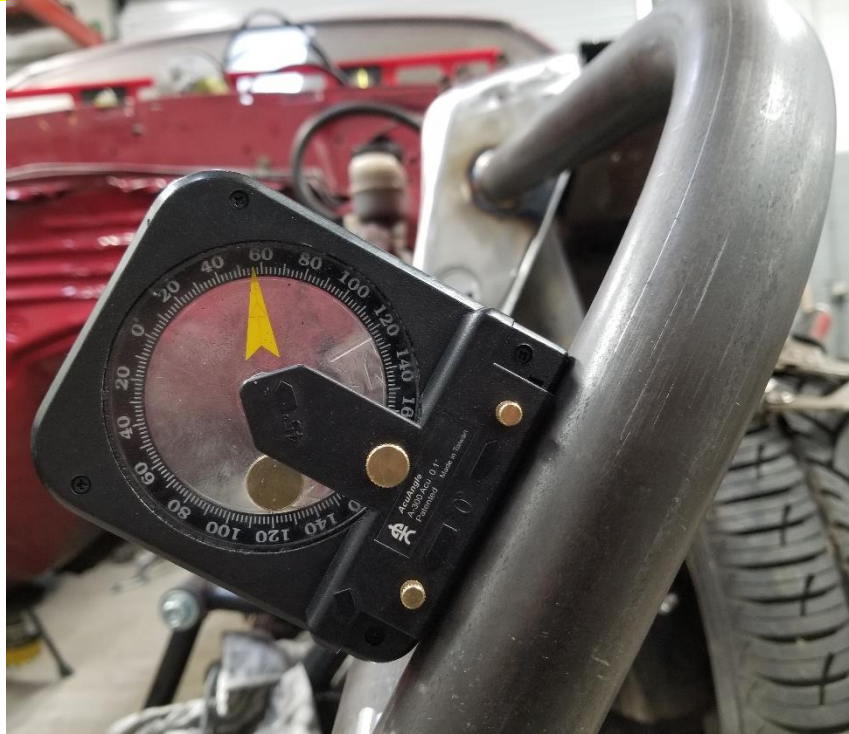
- Once the frame bars are set, tack them into position.





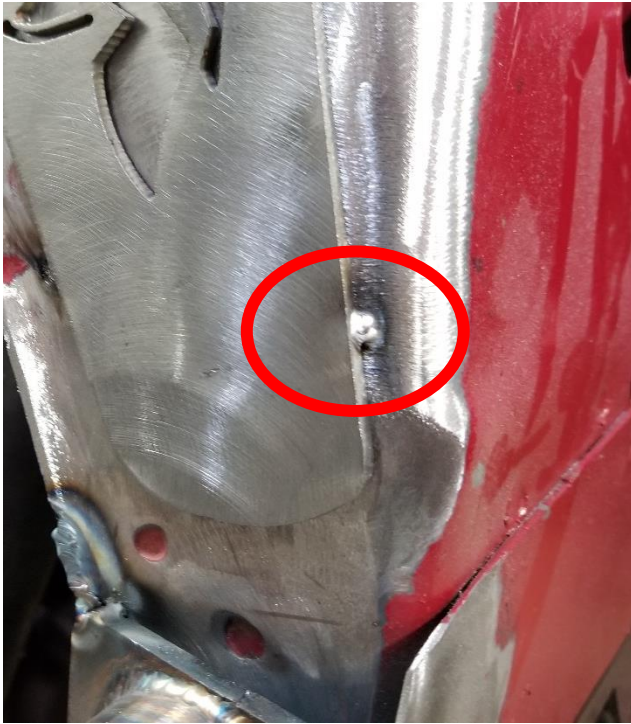
5.) Position & Tack Tower Bars:

- The tower bars are intended to be installed at 58° from horizontal (32° from vertical).
- Position the tower plate on the shock tower box, using a clamp to hold in place as you set the position.
- Simultaneously fit the tube notch to the frame rail tube, and center/fit flush the tower plate on the shock tower. **Note: it will not sit completely flat – you are looking for a 'best fit' scenario. This will be addressed once final welding begins.**





- Once fitted appropriately, tack weld each tower plate to the shock tower as shown in the pictures below.



- Next, tack weld the tower bars to the frame bars



6.) Position & Tack Radiator Support Bar:

- The notches on the radiator support bar are angled to match the taper of the frame bars, instead of being square to the tube. Note the orientation when installing.
- Place the radiator support bar under the frame bars, and align with the intersection of the tower bars.
 - NOTE: The radiator bar can be positioned forward or behind the tower bar junction if desired, however the angle of the frame bars must be changed to accommodate the distance between
- If using a floor jack, apply very light pressure to raise and hold bar in place – but not so much that you break the tacks on the other parts.
- NOTE: if the frame bars don't line up exactly with the radiator support bar, **GINGERLY** spread (or close) the frame bars enough to jack the radiator bar into place. This will most likely require a helper or some creative ratchet-strapping, but it's doable.



- Tack both ends of the radiator bar in place, on the inside and outside of the notch.



- At this point it's good to temporarily hang the fenders to check the alignment before final welding of the assembly.





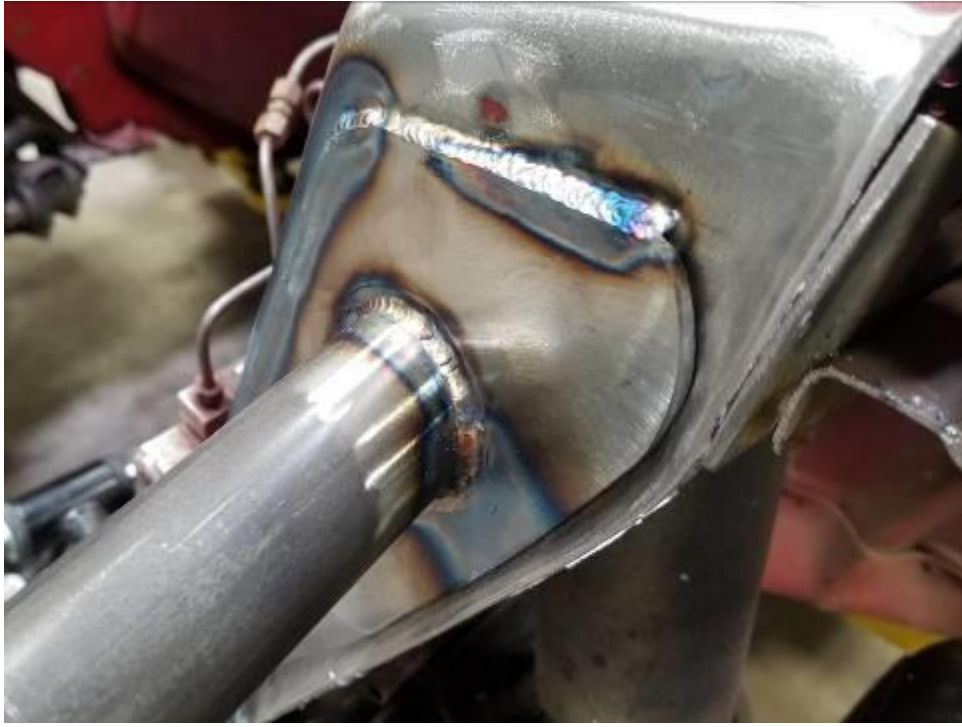
7.) Final Welding:

- After confirming the fitment of the tube assembly, begin final welding with the tower plates.
- Start by welding $\frac{1}{2}$ " long stitch welds working from the inside-bottom to the top, spacing them a few inches apart.
- If necessary, use a clamp to pull the plate and tower together as you work your way up and around the top of the plate.



- Weld perimeter of tower plates. For the installation shown we welded in a counter-clockwise path on the passenger side, and clockwise on the driver side.

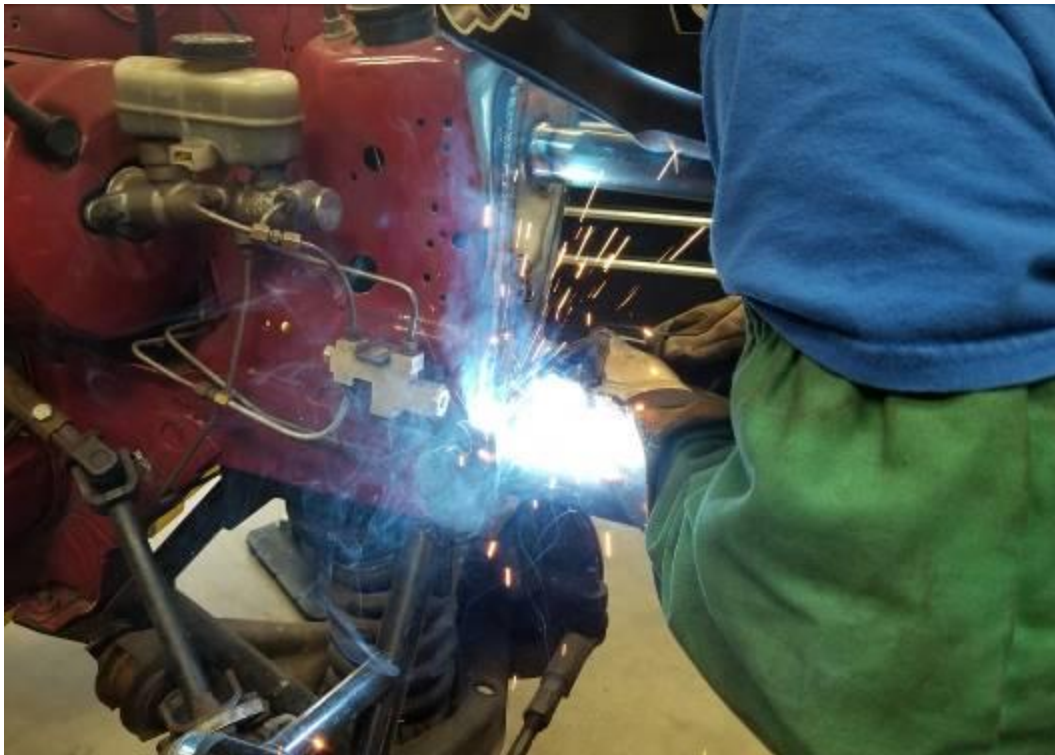




- Weld tower bars and radiator bar.



- Finally, fill in the gap left between the shock tower box and the frame tube mounting plate on both sides.



- Below, Stephen is shown testing the structural integrity of the assembly.



It passed inspection.

...Never a dull moment around the shop...

8.) Deburr frame weld joints:

- Using a 3" flap wheel, sand the weld joints where the frame plates meet the body.









9.) Attach Bumper Support Bar & Tabs:

- Fasten each of the (4) supplied mounting tabs to the fenders and bumper support.
 - Fender tabs fasten with the legs pointed down to the tower bars.
 - Bumper tabs fasten with the legs pointed up to the bumper support bar.
- Position bumper support bar as shown in the picture below, centering the notches on the tower bars and level just behind and above the headlight assemblies. Once positioned, the end of the bumper mount tabs need to be touching the bumper bar.



- Tack tabs and bumper support bar in place, and check fitment.



- Once fitted appropriately, weld in place.



**This completes your RSM Tubular Front End Kit installation
– The rest is up to you!**

