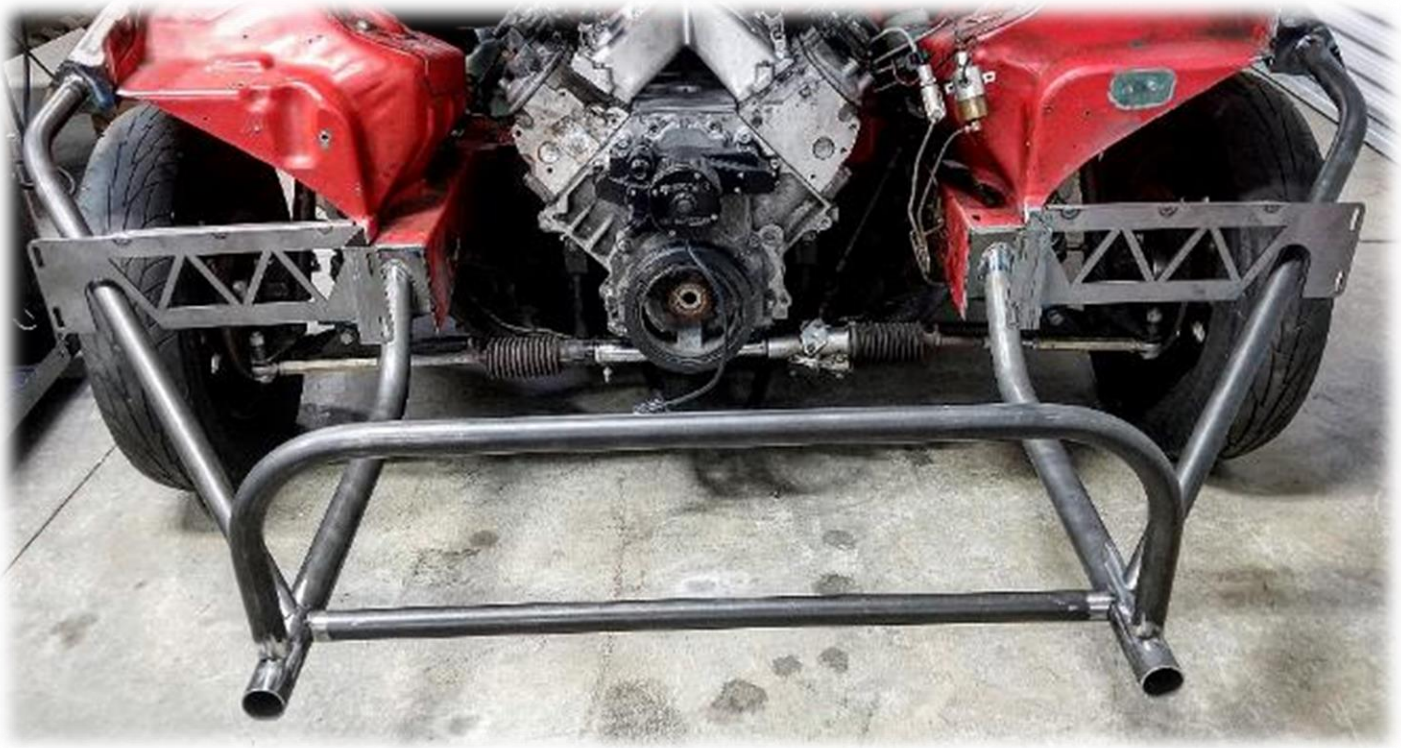


TUBULAR FRONT END KIT
INSTALLATION INSTRUCTIONS

1993 – 2002
CAMARO & FIREBIRD

REVISED 6/7/23

THANK YOU FOR PURCHASING OUR PRODUCT!

WE STRIVE TO PROVIDE AN EXCEPTIONAL KIT FOR YOUR CAR!

OUR WORD OF CAUTION – PLEASE READ:

THE INSTALLATION OF THIS KIT REQUIRES AN ADVANCED SKILL LEVEL AND IS NOT INTENDED AS A BEGINNER'S MODIFICATION.

READ THESE INSTRUCTIONS THOROUGHLY AND UNDERSTAND THEM COMPLETELY BEFORE YOU BEGIN INSTALLATION.

IF, FOR ANY REASON, YOU ARE NOT CONFIDENT OR COMFORTABLE PERFORMING THE MODIFICATIONS NECESSARY TO INSTALL THIS KIT AS DESCRIBED IN THESE INSTRUCTIONS.

- PLEASE -

DO NOT START CUTTING YOUR CAR APART!

THIS PARTICULAR MODIFICATION IS ESSENTIALLY IRREVERSIBLE

YOU ARE 100% RESPONSIBLE FOR YOUR CAR AND ANY MODIFICATIONS DONE TO IT – KNOW YOUR CAPABILITIES AND YOUR LIMITS!

IF YOU DECIDE YOU SHOULD NOT COMPLETE THE INSTALLATION YOURSELF, PLEASE CONTACT US AND WE WILL WORK TO FIND A CAPABLE INSTALLER NEAR YOU. WE ARE AVAILABLE MONDAY THROUGH FRIDAY, 8 – 5 EST., CALL US @ 980-635-1930

THANKS,
THE RSM TEAM

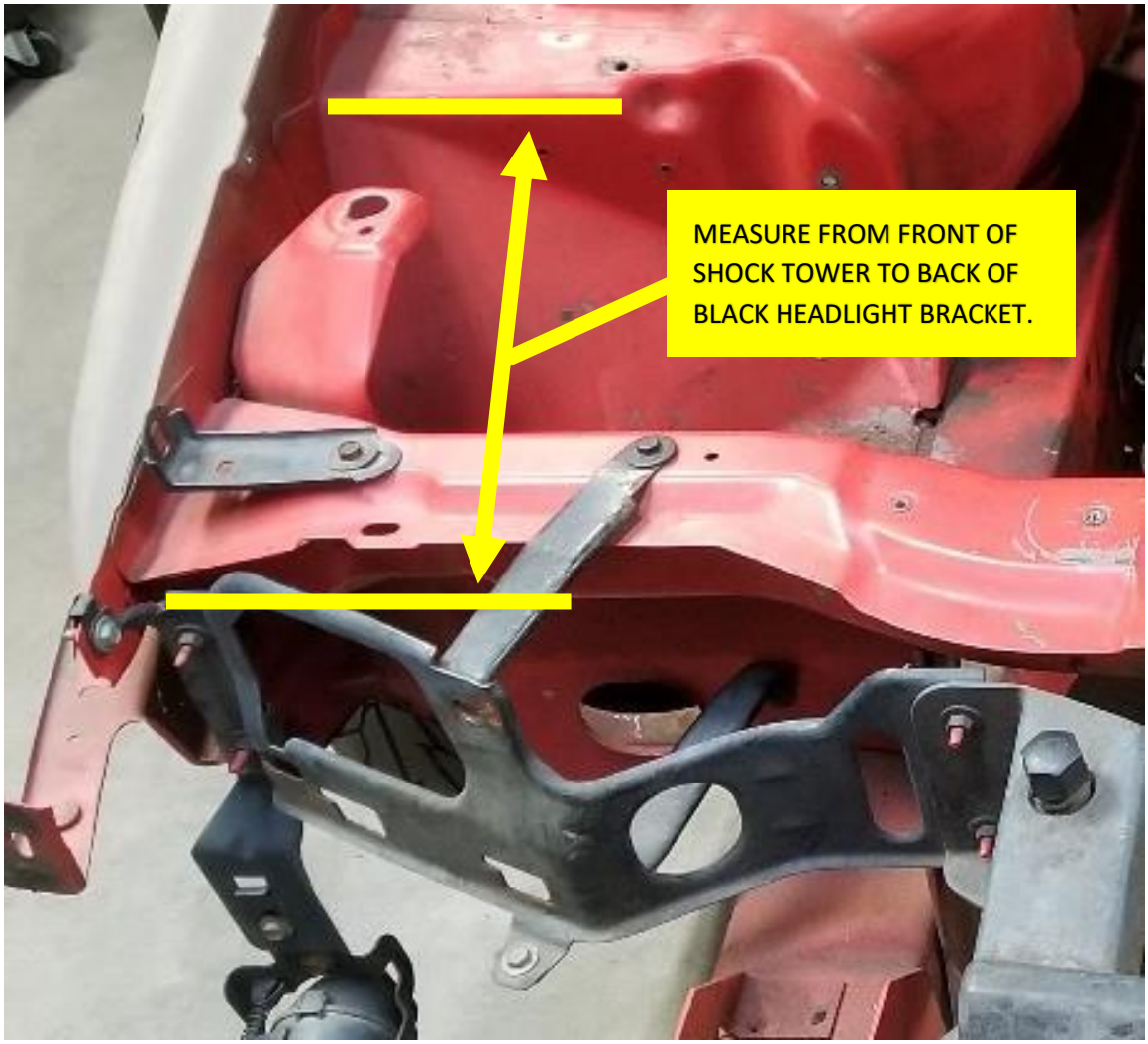
Pre-Installation Notes & Recommendations:

A. Before disassembly, remove anything within the engine bay that can be removed; this will give the most room to perform the installation.

B. Spray penetrating lubricant on any suspect fasteners.

C. Necessary Tools:
- Small steel ruler, 6”
- Tape Measure
- Plumb Bobs
- Chalk Line Reel
- Bullet levels – the more, the merrier
- 2’ & 4’ level (Optional, makes life easier)
- Small Square
- Welding Magnets
- Metric wrenches & Socket set
- Screwdrivers & pry bars
- Hammers
- Cutting tool – abrasive wheel, reciprocating saw, body saw, etc. - note that the frame can be cut by a variety of methods, all of which will net the desired result. The example shown in these instructions is a combination of reciprocating saw, body saw, and abrasive cut-off tool, which many DIY-er’s will most probably use. Make sure the tooth-count on your reciprocating saw bladed are at least 16 tooth-per-inch. Any less TPI and it will mutilate the sheet metal and blade quickly.
- Floor jack
- Jack Stands or other means to support tube kit during assembly (wood blocks, boxes, be creative)
- Various clamps & locking pliers
- Angle grinder or right-angle air grinder with sanding wheels
- Air die grinder with small stone
- Wire Brush
- Hand-held drill with small drill bit
- Welder – TIG welder highly recommended! MIG welder can be used but may prove to be more difficult for final welding of assembly.

D. Disconnect the wiring harness from each component starting from the passenger side and remove it from the chassis, working toward the driver side.
E. Lay the free portion of the harness back away from work area. (On this installation we removed the harness from the firewall connection, however it is not required.)
F. Position the car so that the front unibody frame rails are level front to rear, and side to side. This will help with installing the tube components.
G. **MEASURE THE HEADLIGHT BRACKET POSITION!**
    - Verify the position of the headlight brackets front-to-rear and write it down as a reference for installing the RSM supplied headlight brackets.
    - You can measure the distance from the front face of the shock tower to the back of the headlight mounting bracket surface. (See picture below)
    - The measurement should be approximately **12-3/4" – still verify on your car!**



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1.) Remove Front Bumper & Fenders:

A. Remove the (2) bolts at the bottom rear of each fender at the body, and the bolt at the top rear just ahead of the side mirrors. The top bolts can be reached with the door open.
B. Remove the bolts attaching the top of the fenders along the interior of the engine bay.
C. There will be (3) or (4) fasteners on either side that connect the bumper cover to each of the fenders – remove them.
D. Remove the remaining fasteners attaching the bumper cover to the car.
E. Separate the bumper cover from the fender and sub frame brackets and remove it.
F. Remove fenders.

2.) Remove Headlights:

A. You may find it easier to remove the headlights separately from their individual mounting brackets. The Camaro (as shown) has the headlights removed but the brackets left in place – those will be removed and reinstalled on the supplied RSM brackets later.

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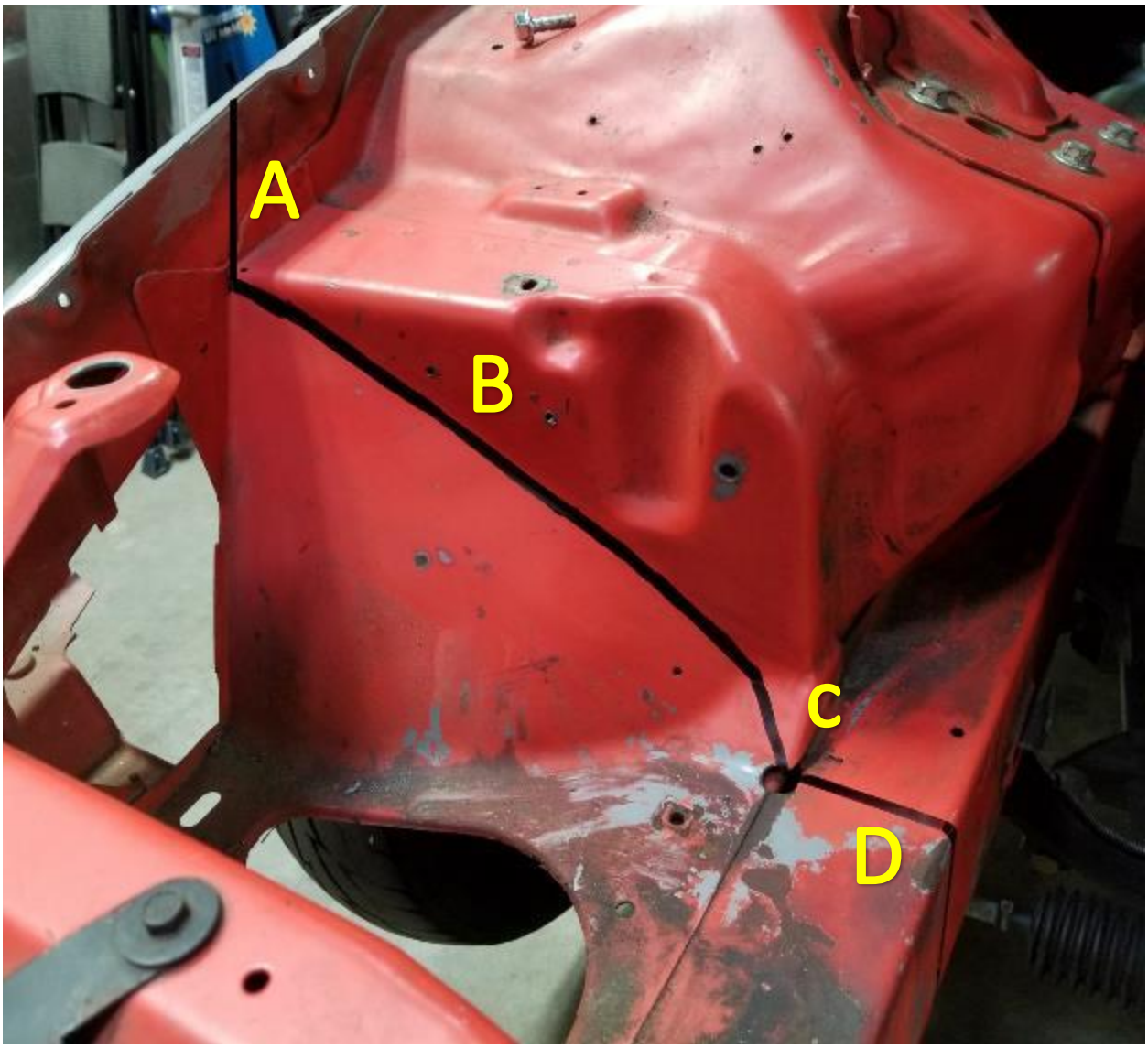
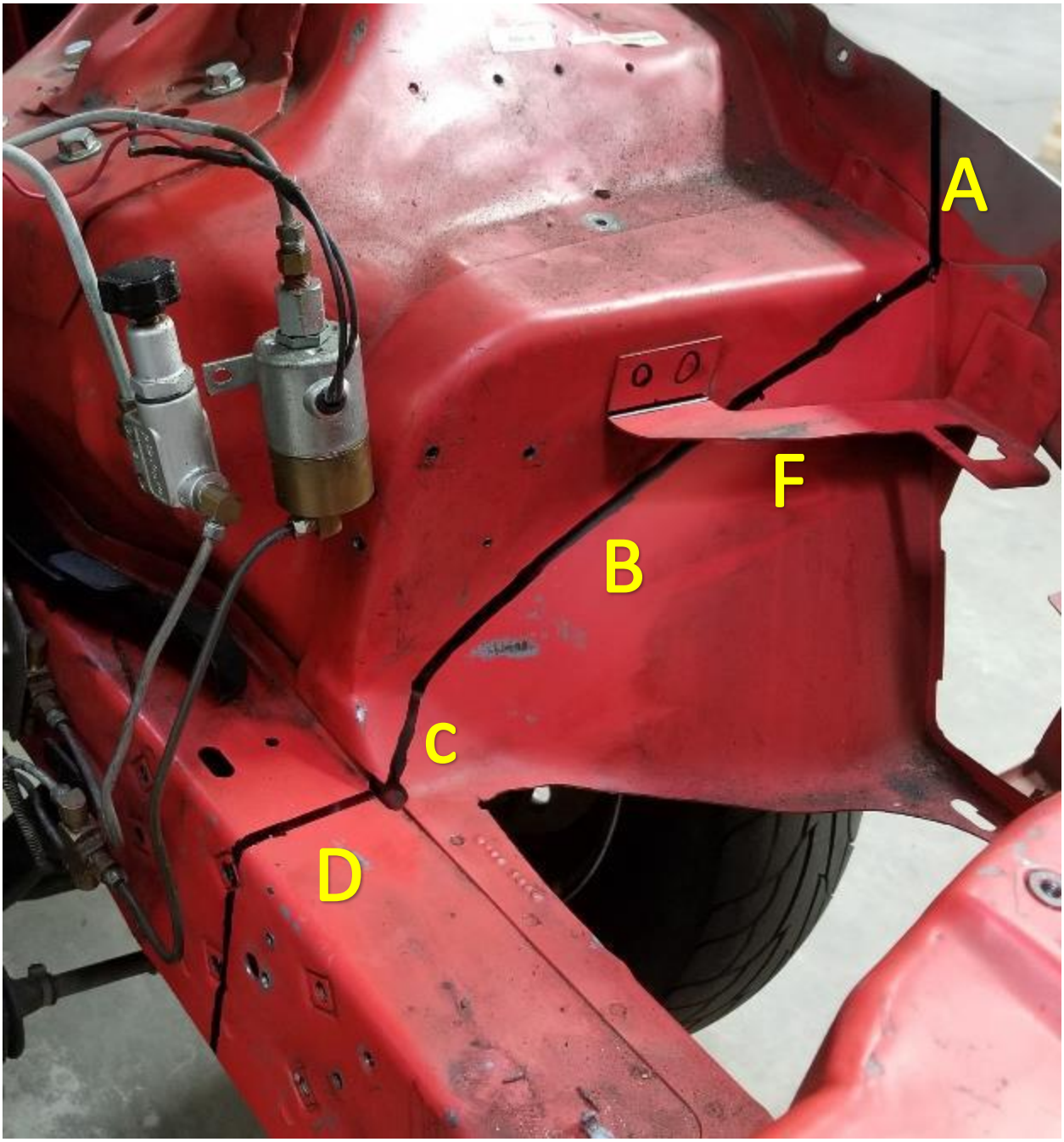
3.) Mark the Cutting Lines:

A. Following the forward most top corner of the shock tower, mark a vertical line on the inside of the fender structure/box.
B. Mark from that corner, following the formed curve down toward the frame-rail.
C. Just over an inch from the frame rail, that curve will meet a separate indentation; follow it diagonally to the corner it makes right at the frame rail junction – there will be a hole at the end. Stop the mark at that corner.
D. At that corner junction, mark a line straight across the frame rail using a square; then mark a vertical line down the inside of the rail as a guide.
E. Repeat these steps for the opposite side.
F. Remove Bracket from driver side shock tower before cutting (see picture on next page.)





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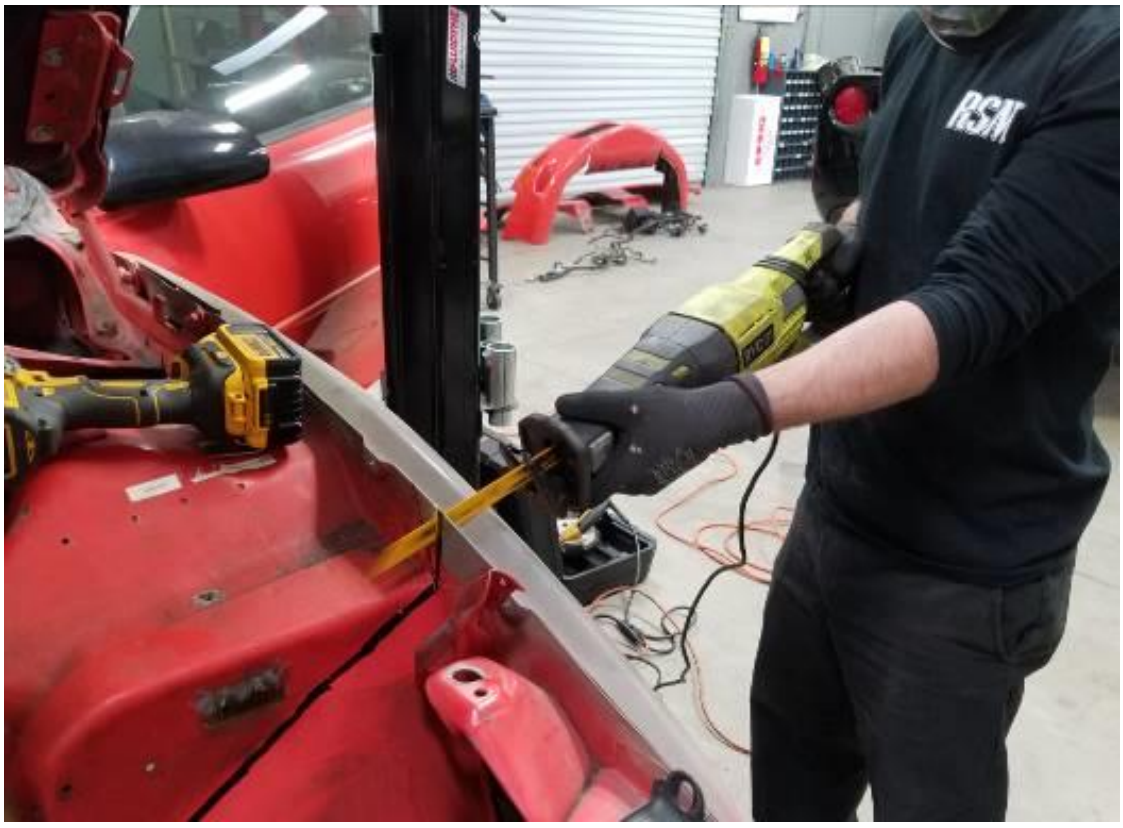
4.) Cut the Front Sub-Frame:

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 done with a reciprocating saw and a pneumatic body saw, which many DIY-er's will most probably use.

Helpful Tip – make a preliminary group of cuts FORWARD of the marked line to remove the bulk of the front structure before making a final 'finished' cut at the marked areas. This gets rid of the bulk of the weight that would hang off the cuts, and also allows you to get in between the frame rails for easier working.

A. Support the front sub frame with a jack or jack stands during the cutting process.
B. If you are not certain that you can maintain a square cut through the fender structure/box, transfer a square line to the outside as a guide.
C. Begin the cut at the top of the sub-frame with the reciprocating saw, being careful to cut straight down and square with the mark.



D. Once through the fender box, follow the line down the front face of the shock tower.
E. Note: a body saw was used for this installation, however any of the other tools listed above could be used.

F. Begin the frame rail cuts, taking care to stay forward of the threaded bosses on the driver side (see “D” on mark instruction pictures.)
G. Below is the removed chunk (minus the crash bar which was previously removed):

A. The front end removed:

5.) Lay Out Chassis Centerline:

Establish a chassis centerline – this is important in that the centerline will be used to align the entire tube front kit from side to side.

A. Using a plumb bob, drop a plumb mark from the following positions:
   - (Rear) Inside face of body-side lower control arm mounts at the mounting bolt.
   - (Front) Inside face of boxed frame section just behind the cut off portion at the front end.

B. Find and mark the center between the rear (2) marks, and then the front (2) marks.

C. Line up the two center marks with a chalk line and pop the centerline on the floor. Be sure to extend the line about 3ft forward of the cut areas to be able to measure off of the frame tubes once installed.

D. We typically go back and run over the line with a permanent marker and a long ruler to keep the chalk from disappearing. You can also spray over with hairspray or clear spray-paint.

6.) Position, Tack & Weld Frame Tubes:

A. 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 – a mini air belt sander is best for getting inside the boxed structures. **Be sure to sand through the manufacturer's rust prohibitive coating, and ensure that the base metal is clean before welding.**

A. Once sanded, use a wire brush to hit the hard-to-reach places where the sander could not reach.

B. With the use of jack-stands, locate each tube frame rail; **the mounting plates are different side to side, so note the installed position of the corners - up and to the outside.** We use a triangle magnet underneath the frame rail to hold the bottom edge of the tube plate.

C. Place the notched 1-1/4" cross bar between the frame tubes, approximately **23-3/8"** on center from the face of the frame rail cut. **Use a ratchet strap looped across the frame tubes to hold the cross-tube snug in place.**

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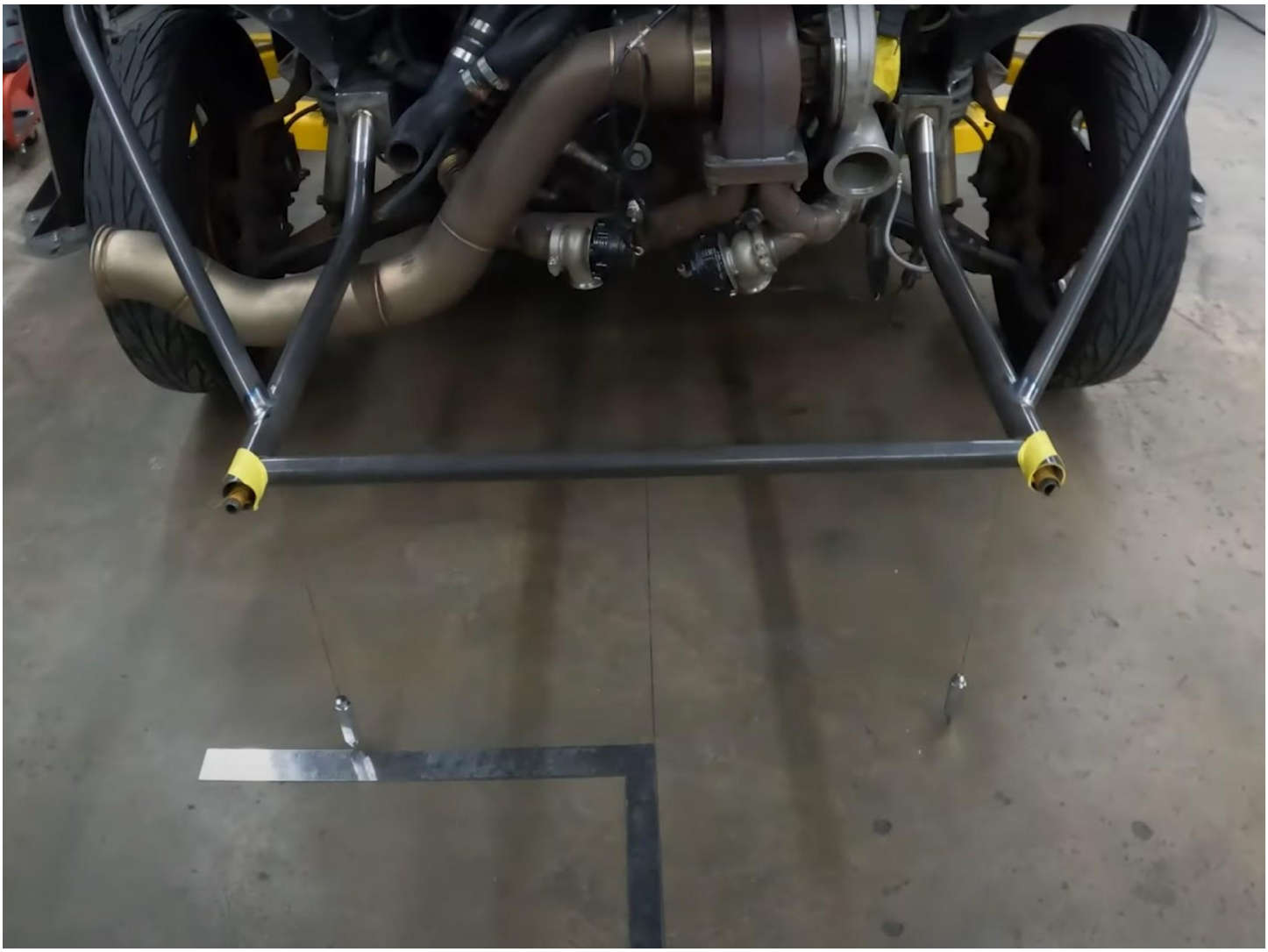
D. Drop a plumb bob from the inside of each frame tube at the very end, and secure them in place. Measure the distance between them, and find the center. (Will be approximately 31-3/4" ID width, and 15-7/8" to center)



E. Adjust the left-to-right position of the frame tubes so that their plumb bobs measure an equal distance on each side to the chassis centerline. **This takes a gentle hand to not send everything flying apart.**
F. Once centered, ensure that the frame tubes are level side to side and front to rear – then begin to tack their mounting plates to the body structure. Check the tubes after every few tacks to be sure they don't pull one way or another. If they do pull, just cut the tack and repeat the process.
G. Tack-weld the cross tube in place. **We recommend leaving it tacked until you decide on a final position for it.** Depending on what you plan to mount within the engine bay, the cross bar might need to be positioned farther forward, or even slightly rearward.
H. Don't fully weld the tubes until the entire tube front has been tacked together firmly.

7.) Position, Tack & Weld Fender Tubes:

Verify the fitment of each fender tube against the frame tube and the already trimmed body structure – and compare how good the mounting plate aligns with the cut. **Note: they never completely line up without additional sanding, it is what it is.**

A. Position a fender tube with the notch aligned on the frame tube, and then slide it up against the cut outer fender structure.
B. Rotate the tube & plate **with the tube notch still in contact with frame tube** until the plate is aligned with the fender structure.
C. Note if there are any significantly high or low spots – those will need to be sanded.
D. Check the fitment of both sides before doing any sanding; you can observe which side needs to be trimmed more than the other, and trim both sides accordingly to ensure they're sanded back equally (where one tube/plate is not farther forward than the other).
E. Sand the cut area as needed until the fender plate sits as flush as possible against the body structure – while the notch on the other end of the tube remains in proper contact/alignment with the frame tube.

8.) Headlight bracket installation:

Mounting the headlight brackets is the most difficult step on this kit, and care must be taken with their positioning to locate the headlights appropriately. The RSM brackets are provided with slots to allow some vertical movement of the headlight mounts, however the front-to-rear positioning must be set by the customer during installation.

For the 93–97-year models, it is also possible to retain the OEM plastic bracket that connects between the headlights and ties back to the bumper cover. For those who wish to omit that part RSM offers a laser cut plate (same plate used for 98-02 Camaro).

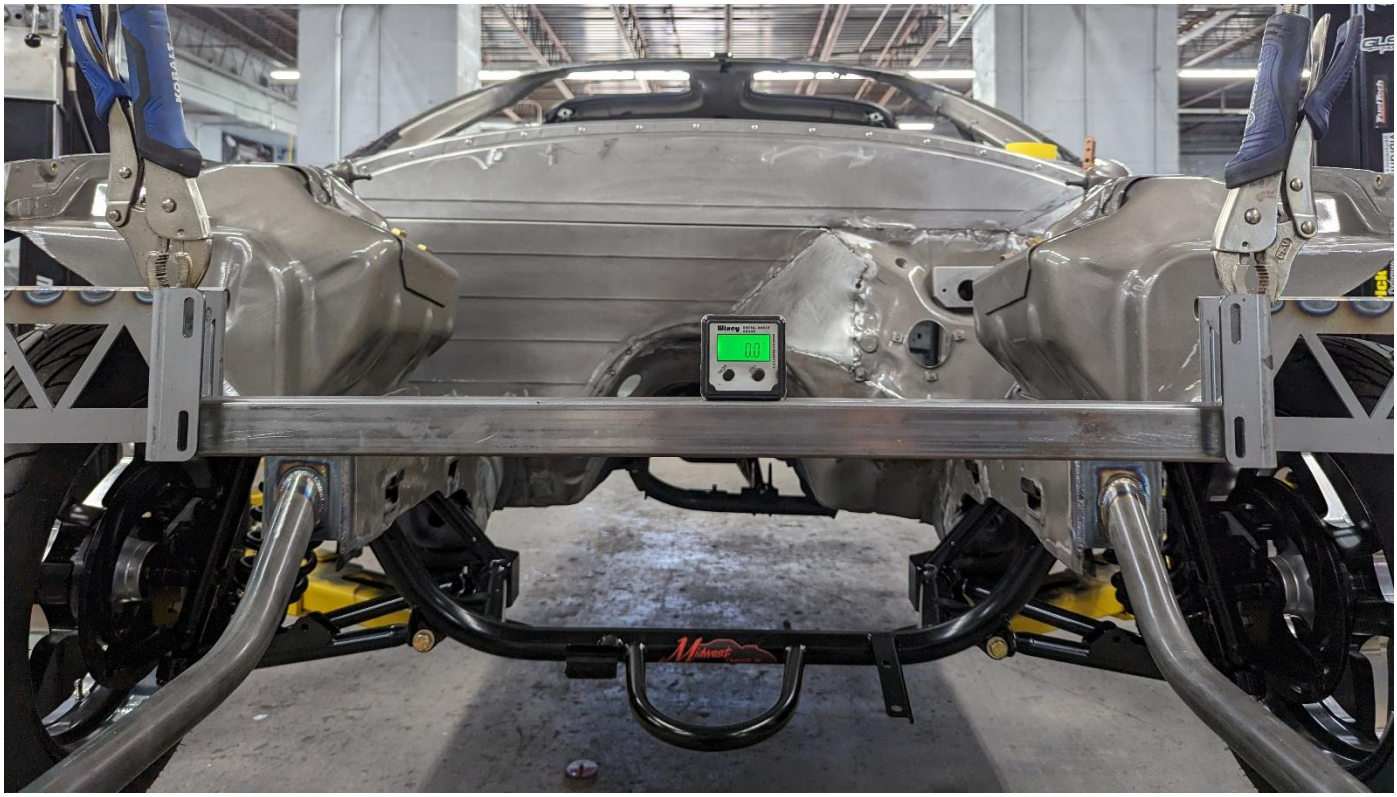
Note: This section of the installation instructions has been revised to include the use of a basic mounting fixture/spacer to assist with the location of the headlight brackets. If you have not purchased one from RSM, or wish to make your own, the overall width is **29-1/4"**

A. Attach the headlight brackets together using the 29-1/4" wide spacer fixture (see picture below) and clamp them together from the bottom to allow you to close the hood and check the alignment of the lights with the rest of the body panels.
B. Align and square the brackets with each other; they can be laid against a table surface or 4ft level to line up – then clamp them in place. Ensure that they are clamped tight enough to be handled freely without moving.
C. Support the clamped assembly in position in the general area to be mounted – and centered referencing the chassis centerline. It's easiest to place something under the mounting fixture and move as needed. (Picture shows brackets mounted & welded)

D. Height = **12-1/2”** from the top of the frame tubes to the top edge of the brackets

E. Front-to-rear = Your measurement taken before teardown – or approx. **12-3/4”** from the face of strut tower to the front face of the long leg of headlight bracket. (**~15-1/2”** from the sheet metal seam on top of the strut box – see pic below)

F. Ensure that the brackets are level and plumb.



G. Verify the position of the brackets by mounting the headlights to the brackets and then installing the fenders, bumper cover, and hood.
   - This process will take a few tries as you will be all these components at the same time – it is tedious.
   - You may find it beneficial to temporarily support the front bumper from underneath to help with headlight fitment. The bumper covers usually sag, which will affect the fitment of the headlights around the opening (98-02 camaro)
   - Once you get the body panels to an acceptable position, confirm the headlight brackets are indeed in the right spot and firmly hold their place.

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H. Once the headlight brackets are located, use the supplied 3/4” tubes to attach them to the fender tubes. For this installation, we trimmed the tube and welded it as shown. It is much easier to fit the tubes with the fenders removed.

I. **Note: we have supplied the 3/4” bars with extra length to allow for a variety of installation positions – chose what best fits your needs.**

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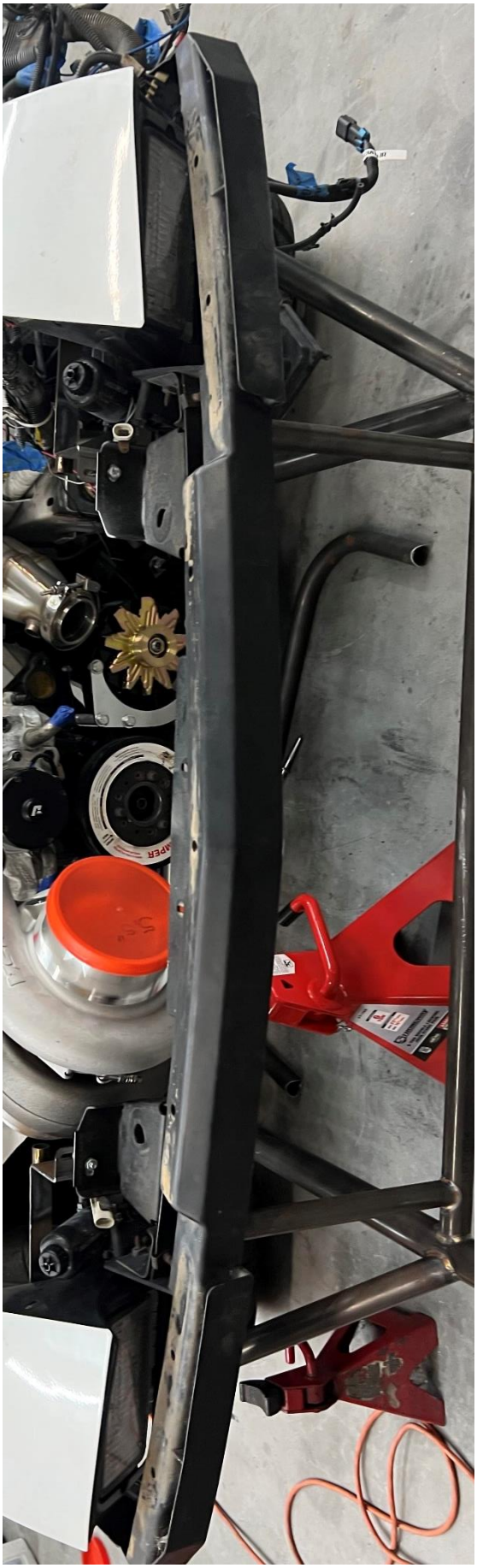
J. Below are pictures showing the 98-02 Camaro OEM headlight brackets attached to the RSM brackets. The 98-02 Firebird/Trans-Am headlights attach in a nearly identical fashion. There is some slight trimming required from the OEM brackets to sit flush on the RSM brackets. (See next page for 93-97 cars)

K. If you choose to retain the plastic bumper and headlight support on the 93–97-year model cars, you will need to trim the support assembly (refer to pics below)



9.) Hoop Placement & Welding the Assembly:

A. If the kit you purchased includes the front hoop, you can position it now. You may position it as needed front to rear relative to the fender tube junction.
   A. (98-02 cars - Note that depending on your setup if it is placed in a spot other than directly in front of the fender tube node it will be difficult to attach the bumper mounting/support plate).

B. At this point you can go back and fully weld the kit. If you know where the cross tube needs to be final located, weld it in as well.

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10.) Bumper Support Plate

If you purchased the bumper support/mount plate, then at this point you will want to reinstall the fenders & bumper cover to mount it.

A. Bolt the support plate to the bumper cover
B. Confirm the bumper cover position, and measure the distance between the hoop and the plate at (4) spots (see pic below). With the supplied ¼" rod (or other material if you prefer), cut to the measured lengths and tack in place.

C. Remove the bumper cover and fully weld the bumper plate support tubes.

10.) OPTIONAL – Fuse Box Bracket:

Below is a picture of a typical fuse box bracket installation:

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