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US Car Tool Frame Connector Instructions

Short Version
1. Remove the seats (Front & Rear) and the carpet
2. Safely lift the car
3. Test fit the frame connectors to the floor
4. Modify the driver side connector for the emergency brake cable (if necessary)
5. Clean contact area of undercoating and / or paint
6. Adjust as necessary by grinding the high spots or pressing down on the floor
7. Place car weight on the suspension and check fitment
8. Hold in place with screws or tack welds
9. Weld into position, 1" at a time moving 12" away and cooling weld areas

Long Version
Thank you for purchasing the finest frame connectors available. US Car Tool takes great pride in producing the best tools and products possible. If you have any questions about one of our products or a suggestion for how we can make something better, please do not hesitate to call. You can also call just to say Hi, or tell us how the installation went. We're car folks too!

Remove the Seats and Carpet

You will be welding the frame connectors to the floor, in between the front torsion bar support and the rear frame rail. Most of the floor area that you will weld to is in direct contact with the carpet, so it really does need to be removed. Taking the seats out is to provide access to the carpet for removal and it is also a great time to clean the interior! If you plan to screw or tack weld the connectors into place and then take you car to a muffler shop or welding shop to be welded in, you can skip this step until you are ready to do the welding, but it is a lot easier to take all the stuff out now, then put just the driver seat back in for the drive!

Safely lift the front of the car

If you have access to a lift, installing the frame connectors can be easily done with your car on a lift, either a frame lift or a four post drive on style. If you do not have access to a lift, it is best to raise the car in the air to provide adequate access to the floorboard and torsion crossmember area. Please use jack stands and be safe.

Visualize how you will install the connectors and look for any potential tight spots. Can you get all the parts in without dropping the exhaust system? You will need a plan to deal with the emergency brake cable. Also consider any routine maintenance that might be best performed now. Do you need to change the front U-joint or install a driveshaft loop? This is the perfect time!

Clean contact area of undercoating and / or paint

Mark the area on the floor pan where the frame rail connector will be in contact with the floor and remove any undercoating or paint. You may need to test fit the connector again after this step. Try to get the tightest fit you can get to the floor. We have had good results using a wire wheel and a scraper to remove the undercoating, but it is a messy / dirty job under the best of circumstances. Be careful, wear eye protection and be careful of fumes and open flames!!

Adjust as necessary by grinding the high spots or pressing down on the floor

You want the gap between the frame rail connector and the floor pan to be as small as possible. This may mean you will have to grind away some of the high spots on the connector. Hold the connector in place (use a floor jack from below with slight upward pressure) and measure the gap. If you have no gap along the seams (inboard and outboard) then proceed with the next step. If there are gaps, take the high points (no gap area) down a little at a time with a grinder until the connector fits tightly up against the floor pan. Use a sharpie marker to mark the high spots and then remove the connector and grind the high spots a little at a time. Remember, adding metal back is harder than grinding it off !

Place car weight on the suspension and check fitment

If you are using a frame lift or have the car on jack stands under the frame, remove the car from them and lower it onto the tires. This will “load” the suspension and with the car at its correct ride height, you can check the fitment of the frame connectors. If you are using a 4-post lift and the tires are in contact with the “runways” or have jack stands positioned under the suspension, you are already at the ride height and have the suspension loaded.

If your car is not fully assembled, no worries in the case where the engine, transmission and rear end are removed you will need to support the car with jack stands/lift in an area of the frame where no substantial weight will be “hanging/not supported”

Example: If you have your access to 4 or more jack stands, placing them under the frame rails in these positions will eliminate any flex/bow of the chassis.

Front: In front of torsion bar crossmember right behind the section of frame-rail that starts to curve upward.

Rear: Behind the rear spring hanger mount on the section of frame-rail or on the pinch weld of the rocker in the same area.

Hold in place with screws or tack welds

Once you have the connector fitted nicely to the floor pan, you can tack weld in position, or use some sheet metal screws to hold it in position. Test fit the frame connectors to the floor

Hold the connector up to the floor pan under the car. There is a left and a right connector, they are not marked, but you can only install the right connector on the car's right side. Chances are that the connector will be close but not perfect and will need some grinding on the high spots. Production tolerances, prior floor repairs or replacement make the floor pans just a little different on every car. We have found that using a floor jack under the frame connector to hold it upwards with "slight" pressure helps to evaluate the fit. It can also help to add some weight to the car to force the floor pan down slightly – CAREFUL the car is on jack stands, be safe!!

All frame connectors have slots cut into the bend lines for minor adjustment during Installation these slots need to welded fully.

The E-Body frame connectors are shipped with a front & rear lower "flap" that is not welded. This allows you to adjust for individual car fitment. After final fitment, tack weld the flaps in position and seam weld the flap to the sides using the same method described below to weld the sides to the original car floorpan.

The E-body Frame Connectors are designed to be installed following the angle of the rear frame rails, NOT parallel to the rocker sill. The front of the E-Body frame connectors will be approximately ¾" outboard of the torsion bar socket when it is installed in the design location.

B-Body frame connectors have notches at the front inner edge of the frame connectors. These notches allow the frame connector to clear the factory fuel line on one side and the factory brake line on the other side. You may want to remove those lines and add a splice connector to re-install them after the frame rail is welded in place. It will be difficult to maneuver the factory lines in or out after the frame connectors are welded in, so think about it now!

A-Body frame connectors have a rear "flap" and several areas along the frame connector that are an inch or more away from the floor. These areas are designed to clear the fuel and brake lines as run by the factory on some A-body cars (there is no lack of structural strength, even with these drop outs). Almost every year has a different routing for the brake and fuel lines, so you will most likely need to reroute yours. Plan now before you weld in the frame connectors!

65-66 Mustang frame connectors have a rear plate included to cap the back section of the frame connector.

Modify the driver side connector for the emergency brake cable (if necessary)

If you are running an emergency brake, the cable will want to pass right through one of the frame connectors. You can drill two holes to permit the cable to pass through the frame rail connector. Most of the time, you will be able to get the frame rail connector in place and the cable will run beneath it – mark the entry and exit points and drill a sizeable (3/4") hole at these points to permit the cable to pass through.
Weld into position, 1" at a time moving 12" away and cooling weld areas

Before you begin to perform the welding, be sure there are no flammable materials touching the top of the floor (like carpeting) or you will surely have a fire inside the car. You will be welding about one sixteenth of an inch away from the carpet (if it is left in the car) and it will catch on fire.

Weld small areas, no more than a 1" bead and cool the area around the weld with a damp rag. Move to the other end of the frame connector and weld no more than a 1" bead. Go around the connector and check for any warping as you are welding. Continue to move around the frame connector until you have completely welded it to the front torsion cross member, the floor pan and the rear frame rail.

Hint #1. Welding overhead can be a lot tougher than it looks. If you are not 100% positive in your ability to weld overhead, consider taking the car to a local muffler shop. They weld overhead all the time and are used to welding 12 and 14 gauge material. They almost always have a 4-post style drive on lift with runways, so the suspension will be fully loaded, plus they will probably think your car is pretty cool and give you a break on the welding $$.

Hint #2. Do not weld your car with the frame supported on jack stands and the tires hanging in mid air. Support the car on the suspension (under the rear axle tube and front lower control arms is a good spot for Mopars) so it is "loaded" and have the doors closed while you weld the frame connectors in.

If you need pictures to help on your installation, there are pictures on our website under the pictures section.

Questions or comments?

Call your dealer or call us – we'll help!

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