

A Ford in a Ford... no, we're not talking about a small block or a big block, we're talking about your classic Ford truck's rear suspension. Ford made plenty of thunderbirds, Mercury Cougars, and Lincoln Mark 8's from 1989 through 1998 leaving us with a great supply of Independent Rear Suspensions. These cars came equipped with V8 engines, rear disc brakes and the ever-popular 8.8 rear differential. The IRS assembly from these vehicles is attached to the unibody via (4) 12 mm bolts, making the IRS relatively easy to remove from the donor vehicle.

The following images show the necessary modification to the truck's frame, the installation of the IRS adapter brackets, the installation of the IRS assembly and finally a view of the truck's ride height with the bed installed. For photographic reasons, the adapters were painted white. There are four adapters, two front & two rear adapters. These adapters get welded to the truck's frame, allowing the IRS assembly to bolt in place.

As far as cost, these Independent Rear Suspension units are available between \$150 and \$400. Add this to the cost of the adapters and you get an entire IRS assembly for the cost of a rear disc conversion kit.

Our story begins with the bed removed from this 1956 Ford truck, the rear axle removed and all exhaust, brake lines, etc. moved out of the way. The rear leaf springs remain in place and will be removed in the first step.



- 1) Passenger side view of the truck's frame after leaf spring removal. We cut the rivets holding the shackles with a torch, but other methods may be used to remove the springs. In addition to a level, angle finders comes in very handy during this type of installation. The angle finders are inexpensive and help you keep things level. The IRS assembly is positioned on a rolling cart and placed under the truck frame, as the frame is lowered via the lift.



There is a small hole on the inside of the frame (approx. $\frac{1}{2}$ " dia.). This hole is located on the lower flat surface of the frame on both the passenger & driver side. The hole was previously used to mount a spare tire cross member. This cross member was not structurally integral to the frame and can be removed. The chalk line shown in the photo is made tangent to the rear edge of this hole. Another verification of the location of this chalk line, it is $22 \frac{5}{16}$ " from the rear of the truck's frame.

The measurements above are for the particular truck shown in the install sequence. Ford changed the mounting holes of the years, so to be sure of where you make the vertical line and subsequent cut, measure $14 \frac{1}{2}$ " behind the axle center line.



Following the chalk line from the inside of the frame, continue the line along the lower edge of the frame. Draw a line from the lower edge of the frame upward $1 \frac{3}{4}$ ". The next step is to draw a horizontal line along the outer edge of the frame, towards the truck's cab. The reason we chose $1 \frac{3}{4}$ " is that makes a nice horizontal mounting surface for the rear mount. Ford changed the frame profile over the years. Some were more level, other frames provide more clearance above the rear axle. Regardless of the profile of the frame, the purpose of the vertical line is to provide a mounting surface for the rear mount. Make sure to use a level and a steel straight edge to draw this line.



Clamp the steel straight edge in place along the side of the truck's frame to be assured of a straight cut.



Notice that the cut line extends on either side (fore & aft) of the cross member. This view shows the inside of the truck's frame. The cross member shown in the photo originally located the rear upper shock mounts.



Once the driver & passenger side cuts are complete, remove the entire assembly, including the original cross member. Once the cross member is removed, the frame rail appears as shown here.





Now that the frame has been modified, mate the IRS assemble to the truck's frame to verify fit. This is a view of the passenger side rear mount.



Because the original cross member was removed to allow for the rear mounts to be welded in place, a new cross member needs to be added. This rear cross member is 2" X 2" square tubing. The original Ford frame rails are 34" outside to outside. This new cross member measures 33 11/16" in length. Place this new cross member on top of the rear mounting brackets. Center the ends of this cross member about the rear mounting bolts, make sure it is level, clamp into place and weld to the mounting brackets as well as the frame rails.

As viewed from the rear, verify that the rear mounts are level as well as the new cross member. Once you verify all is level, weld in place.



Here is a photo of the rear mount (driver side) finished welded. This view is from the outside of the frame rail.



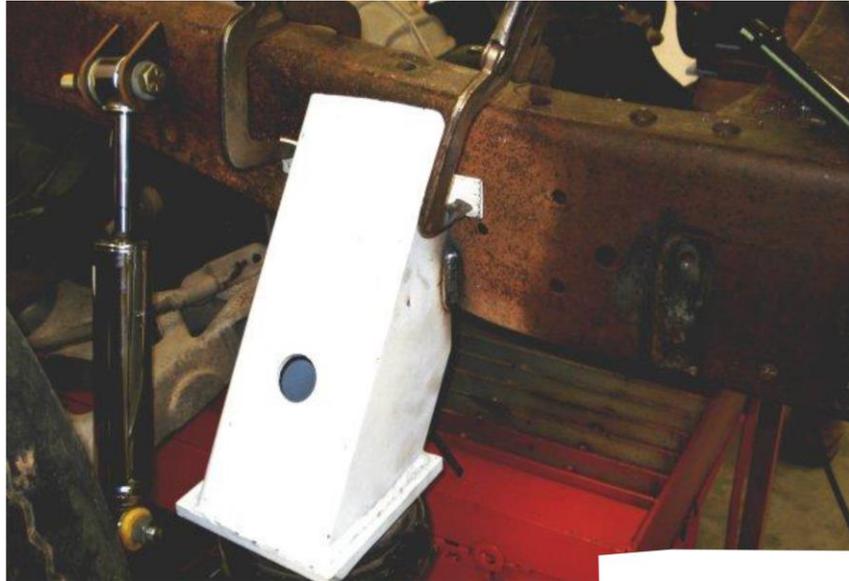
This view of the driver side (inside) frame rail shows the finish weld along the rear mount and the frame rail.



Triangular gussets are welded between the rear mount and the outside of the frame rail.



The rear mounts are welded in place, time to address the front mounts. Like before, make sure that the IRS assembly is level. The forward mounts no longer include the mounting tabs, as they are not necessary for fitment. You will also notice the shock located just behind the front mount on the passenger side.



Just to reinforce the point, make sure the front mount is level prior to welding to the truck's frame.



This view of the passenger side shows the front mount and upper shock mounts again. The location of the shock mount tabs is determined as follows:

Make sure the lower control arm's inner mount and outer mounts are in line with each other. This is where the lower control arm wants to be for optimal performance. As a point of reference, the Lincoln Mark 8 lower control arm air spring bucket to the underside of the rear mount is 10 ¼".

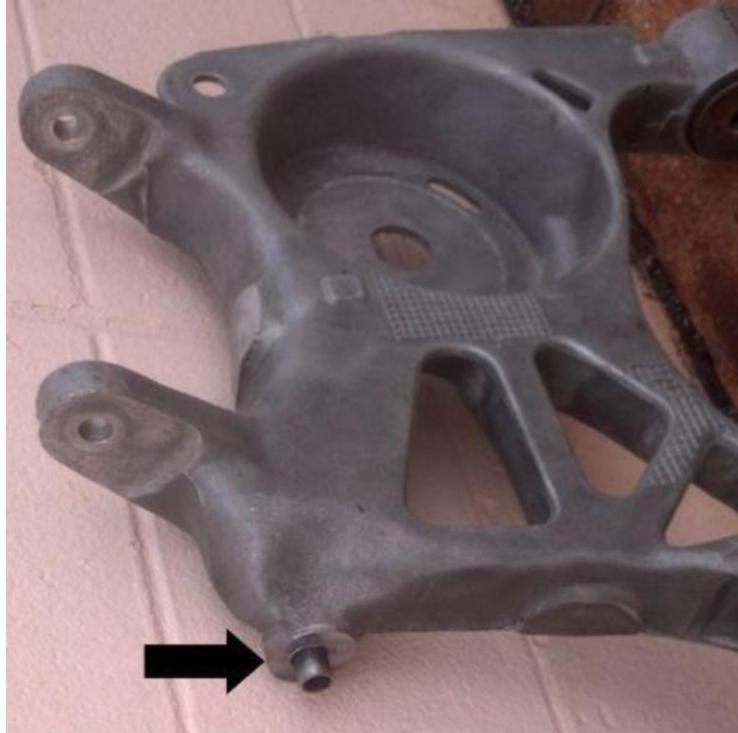
With the lower control arm properly positioned, attach the mounting tabs to the shock and extend the shock to its ride height position of 12". This will allow proper compression and extension of the shock as the suspension moves through its range.



The factory shock uses 15mm or 16mm mounting bolts to mount the shock to the lower control arm. To use the recommended shocks which use ½" mounting nuts and bolt, we recommend drilling out the lower control arm's shock mounting hole to 5/8".



Then insert the 1.75" long, thin walled tube (5/8" OD x 1/2" ID) into the lower control arm. These tubes are provided in the TruckIRS kit. Note that the tube should be completely inserted. The tube is shown slightly out to indicate location.



The upper shock mounts are welded in place.



This view from the rear passenger side shows all 4 mounts in place. The upper shock mounts and cross member are also welded.



The factory Ford Thunderbird coil springs are installed between the lower control arms and the rear mounts.



This view from the tops shows the IRS assembly. Nice & clean install.



And another view looking down onto the IRS assembly, ready for the bed to be lowered onto it.



This view of the passenger side shows the wheel/tire properly positioned in the fenders.



This fender level view shows the tires tucked neatly in the rear fenders.



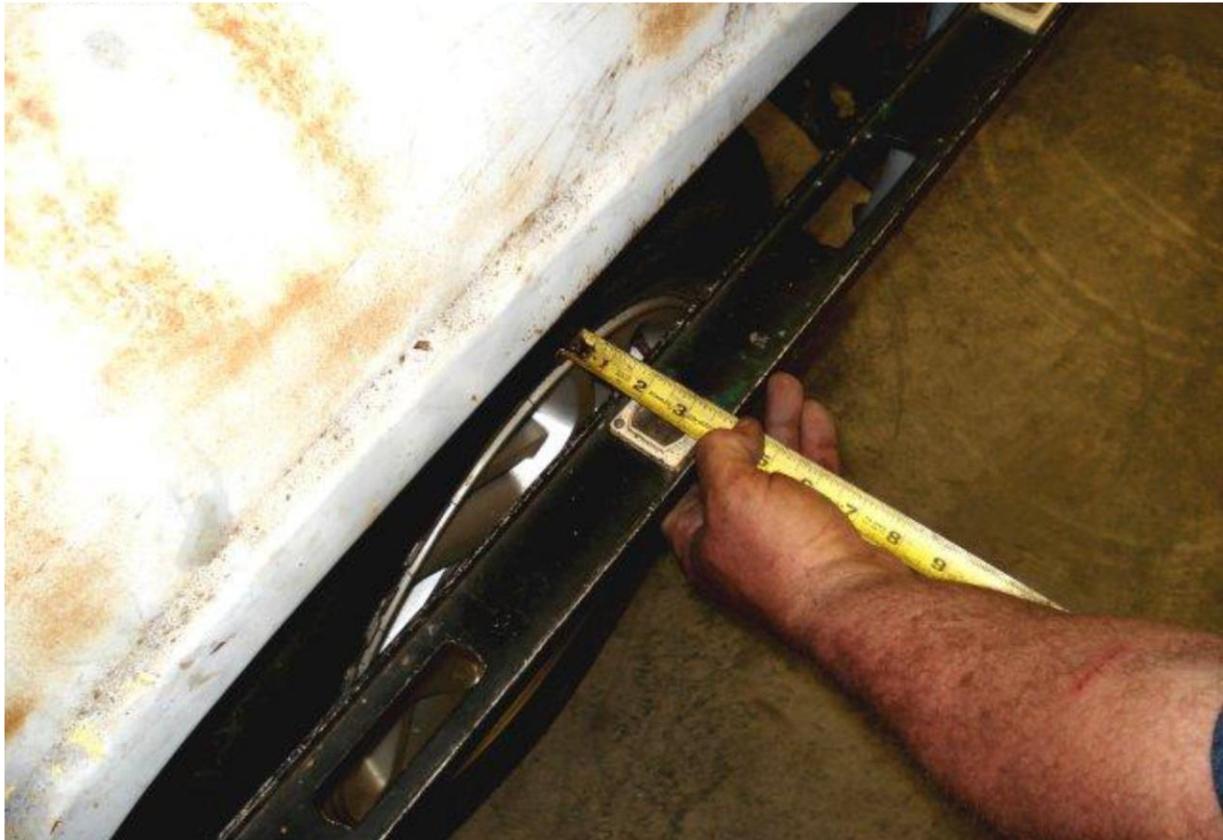
This bed is not suitable for hauling anything, but allows an excellent view of the IRS.



Removing the rear fender reveals the clearance between the outside of the bed and the tire. The factory Ford Thunderbird wheels/tires clear the outside of the bed by about 2".



With the rear fenders back on the truck, a straight edge is placed on the outside lip of the rear fender. There is about 1 1/2" of clearance from the outside edge of the tire and the outer lip of the fender.



With the truck back up on the lift and the suspension supported at ride height, notice there are no clearance issues. No interference between the IRS assemble and the truck's frame, and adequate spacing for exhaust pipes.



THE END... The rear end anyway!