

INSTRUCTIONS

1935-40 FORD BOLT-IN MUSTANG II CROSSMEMBER

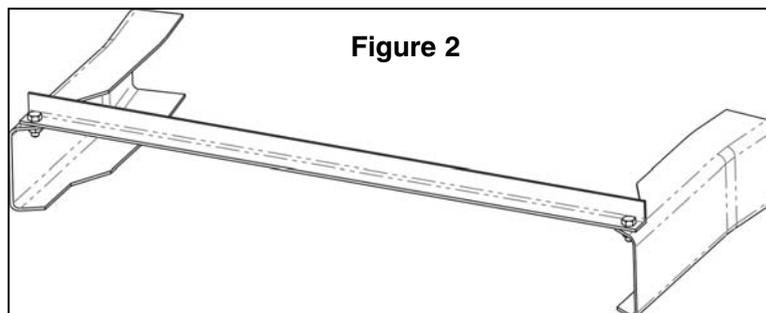
PLEASE READ INSTRUCTORS COMPLETELY BEFORE STARTING YOUR INSTALLATION

This bolt in Mustang II crossmember will fit 1935-1940 Ford cars and 1935-1941 Ford ½ ton pickups.

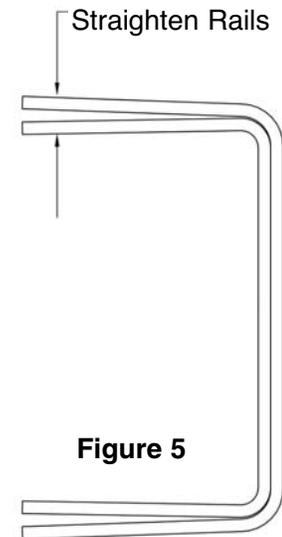
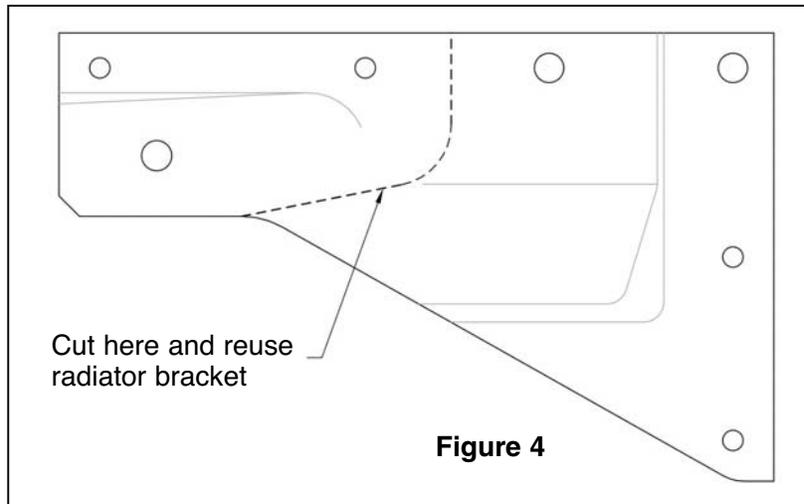
PARTS LIST

INDEX NO.	DESCRIPTION	QTY.
1	Frame brace	1
2	Crossmember assembly	1
3	Left spring tower with adjuster	1
4	Right spring tower with adjuster	1
5	Left frame boxing plate	1
6	Right frame boxing plate	1
7	Inner boxing plate	2
8	3/8"-16 x 1" HHCS Gr. 5 Hex head cap screw	16
9	3/8"-16 Nylock nut	28
10	3/8"-16 x 1-1/4" HHCS Gr. 5 Hex head cap screw	12
11	3/8"-16 Hex nut (for set up use only)	12
12	5/16"-18 x 3/4" HHCS Gr. 5 Hex head cap screw	6
13	5/16"-18" Nylock nut	6
14	5/16" Flat washer	2
15	1/8" Grease zerk	2
16	1/4"-28 set screw	2

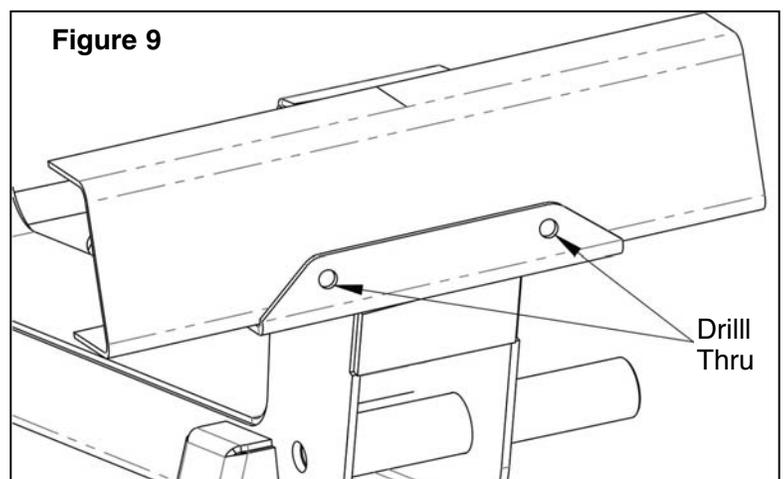
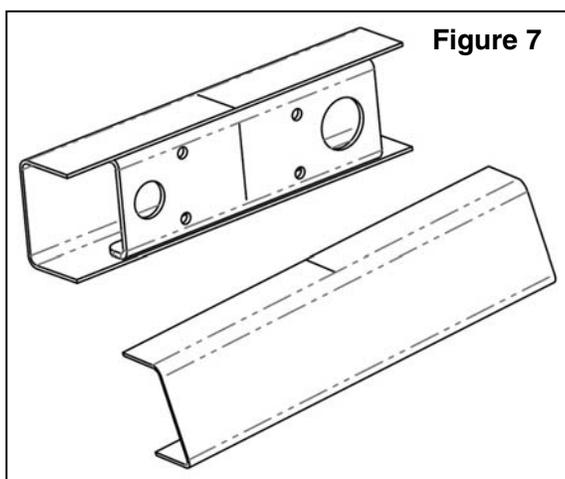
1. Start by supporting the car on four jack stands. The frame should be sitting on approximately the same angle as it does on the ground. There should be two axle snubber holes on the bottom of your frame directly above the axle. Use these holes for identifying your axle center line or if the suspension is still in the vehicle using a plum line scribe a mark on top of the frame rail. On year models '35-'36 and '39-'40 the axle center line was typically ½" back from the center of the snubber hole. On year models '37-'38 the axle center line was typically ¾"-1" back from the center of the snubber hole. If you are unsure of your axle center line, check your wheelbase. It should be 112". If it's not, move the scribed axle center line accordingly.
2. Support the front of the frame rails by bolting the frame brace (#1) to the front of the frame rails right above the radiator support using two 5/16"-18 x 3/4" bolts (#12), two 5/16" nylock nuts (#13) and two 5/16" flat washers (#14). (See Fig. 2)
3. Remove the front crossmember and radiator support by removing the rivets. This can be done by grinding the head of the rivets flush with the frame rail, then center punch the center of the rivets and drill a 5/16" diameter hole about 1/4" deep. Using a hammer and punch you can drive out the rivets. You can also remove the steering box.



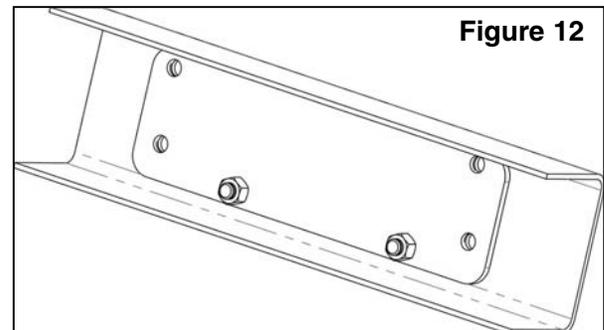
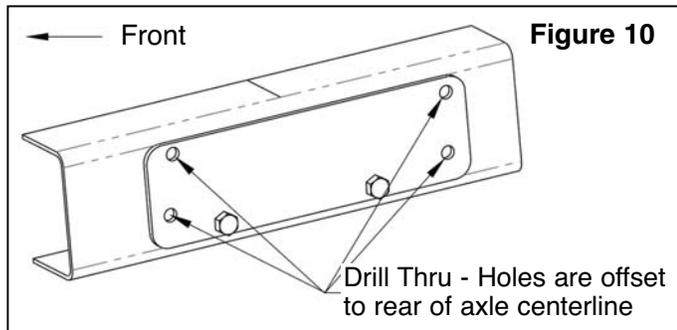
4. Trim the radiator supports and bolt them back into the chassis using the 5/16"-18 x 3/4" bolts (#12) and 5/16" nylock nuts (#13). (See Fig. 4)
5. Your frame rails now have to be straightened. The frame is made of two layers of steel that are sandwiched together. After several years, rust will form between the layers of the frame which causes them to swell and separate. It will be necessary to squeeze them back together using a vise-grips or hammer and dolly. Make sure the frame rail edges are 90° to the side of the frame. (See Fig. 5)



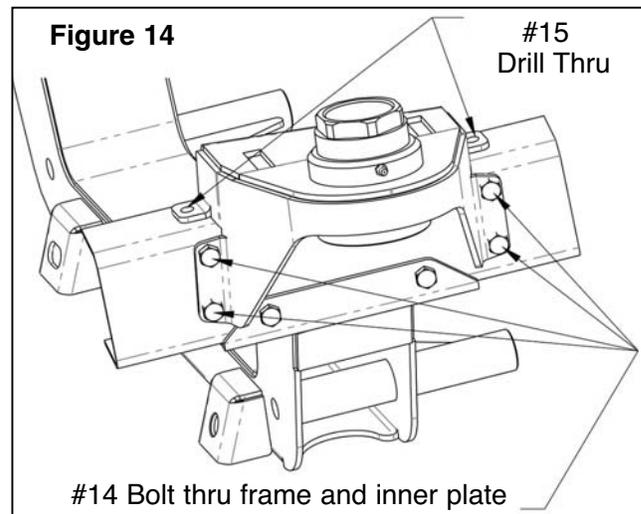
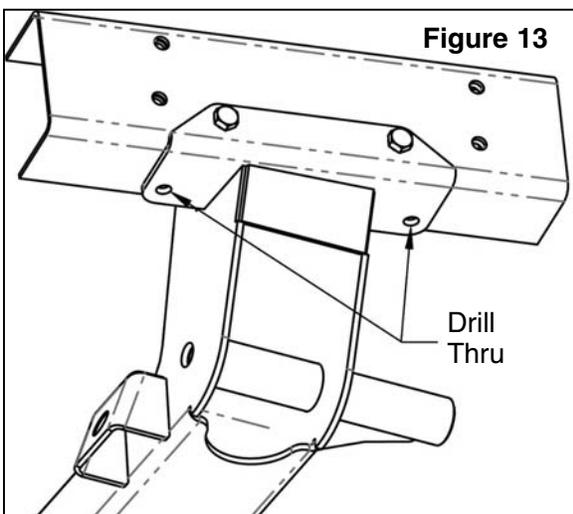
6. Take the two channeled boxing plates and draw a line 5-1/8" back from the front edge of the boxing plate. The boxing plates have two access holes in them, 1-3/4" and 1-1/4", the smaller 1-1/4" hole is on the front side of the boxing plate. The boxing plates also have holes in both the top and bottom flanges. The wider hole spacing (8.72") is the top of the boxing plate.
7. Slide the boxing plates in between the frame rails lining up the mark on the boxing plate with scribed axle center line. (See Fig. 7)
8. Slide the crossmember up in between the frame rails and into position lining up the eight mounting holes on the crossmember with the holes in the boxing plates. Use a large C-clamp to pull the crossmember and the frame rails together to line up the bolt holes. Using the 3/8"-16 x 1" bolts (#8) and the 3/8"-16 set up nuts (#11) temporarily bolt the crossmember to the boxing plates.
9. Using a 25/64" drill, drill out the four outer holes of the crossmember through the frame rails. (See Fig. 9) When completed remove the C-clamps and the crossmember.



10. Using the inner plates as a template, temporarily bolt them to the outside of the frame rails using the 3/8"-16 x 1-1/4" bolts (#10) and 3/8" set up nuts (#11), install them into the lower 3/8" holes. The inner plates can be bolted on two different ways, so make sure they are orientated correctly before drilling the holes. The outer holes on the inner plates are for mounting the spring towers. These four holes are offset to the rear of the axle center line. NOTE: Make sure the inner plates are mounted correctly before drilling. Using a 25/64" drill, drill the outer four holes on each boxing plate through the frame rails. (See Fig. 10)
11. Remove the inner plates from the outside of the frame rails and reinstall the crossmember. Again using a large C-clamp to pull the crossmember and the frame rails together in order to line up the bolt holes. Using eight 3/8"-16 x 1" bolts (#8) and the 3/8"-16 nylock nuts (#9) bolt the crossmember to the boxing plates.
12. Slide the inner plates in between the frame rails and install the four lower 3/8"-16 x 1-1/4" (#10) bolts and nylock nuts (#13) through the frame and the inner plates. (See Fig. 12)



13. Using a 25/64" drill, drill out the four crossmember holes on the bottom of the frame rail and install the 3/8"-16 x 1" bolts and nylock nuts. (See fig. 13)
14. Bolt both spring towers onto the frame rails using the outer eight holes. Use the 3/8"-16 x 1-1/4" bolts (#10) and 3/8"-16 nylock nuts (#13). NOTE the spring towers are taller in the front and angle downward toward the rear. (See Fig. 14)
15. Using a 25/64" drill, drill out the four upper spring tower holes and install the 3/8"-16 x 1" bolts and nylock nuts. (See fig. 14)



16. Double check that all the 3/8" bolts and nylock nuts are tight. Torque them to 35 ft. lbs.
17. Install the adjuster sleeve by threading it in from the bottom side of the spring tower and adjusting it to the midpoint. Install the grease zerks (#15) and the set screws (#16) into the adjuster ring and grease the adjusters.
18. Remove the frame brace.

19. Install all the Mustang II suspension components to complete the installation. This bolt in cross member is designed to use the after market type full lower control arms only.
20. To adjust the height, take all the weight off the springs. This means jacking the front suspension up off the ground and possibly unhooking the shocks. A spring compressor may also be helpful in this procedure. Make sure you support the car with jack stands. Loosen the set screw and turn the adjusting sleeve to the new position. (An adjusting wrench is available from Speedway Motors part number 910-34613). The adjustment can be used to raise or lower the car, but it is designed to compensate for differing springs. For the correct geometry the lower control arms should be parallel to the ground with all the weight on the suspension.
21. Once the ride height is set have the front end aligned.

Caster 1° + for manual steering
Caster 3° + for power steering
Camber $\frac{1}{2}^{\circ}$ +
Toe in + or - $\frac{1}{8}$ "

22. Once you have a couple of hundred of miles on the car it may be necessary to once again adjust the ride height due to the setting of the new front coil springs. The lower control arms must remain parallel to the ground for good geometry and prolonged ball joint life. Remember to loosen the set screw and grease the adjuster.

