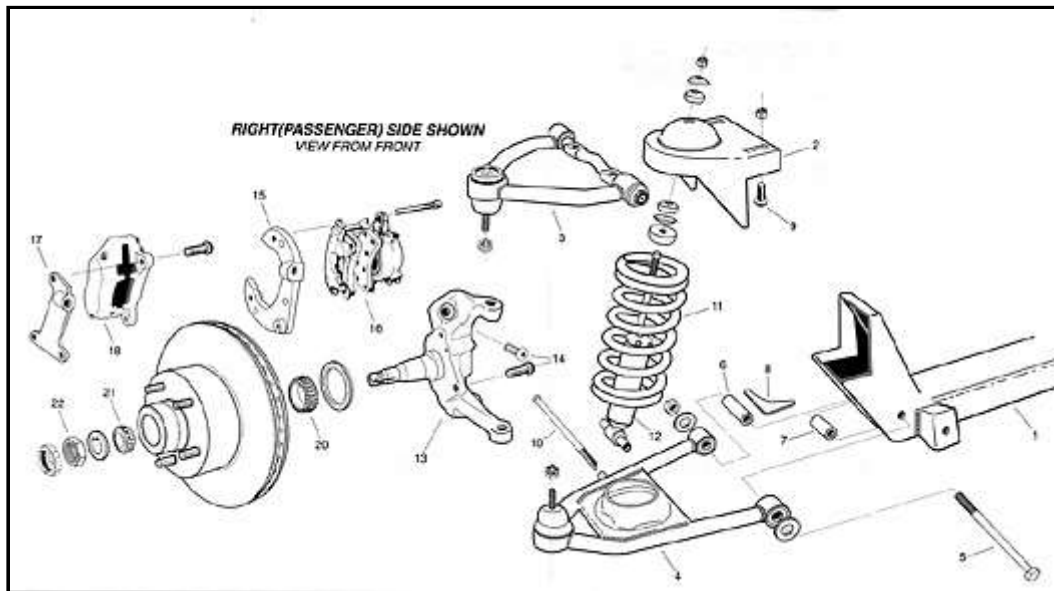




## 1935-'48 Ford Passenger Cars

### Mustang Independent Front Suspension

PLEASE READ THESE INSTRUCTIONS THOROUGHLY BEFORE BEGINNING INSTALLATION



#### Parts List

1. Crossmember	1	9. Stock Upper Control Arm Bolts*	4	17. 4 Piston Caliper Bracket	2
2. Spring Towers	2	10. Shock Mounting Bolt	2	18. 4 Piston Alum. Caliper	2
3. Tubular Upper Control Arm	2	11. Stock Coil Spring*	2	19. Brake Rotor	2
4. Tubular Lower Control Arm	2	12. Stock Shock Absorber*	2	20. Inner Bearing	2
5. Tubular lower Control Arm Bolt	2	13. Spindle (Drop Style Shown)	2	21. Outer Bearing	2
6. Long Tubular Lower Arm Spacer	2	14. Caliper Mount Bolts	4	22. Spindle Nut	2
7. Short Tubular Lower Arm Spacer	2	15. GM Caliper Bracket	2		
8. Spacer Gusset	2	16. GM Caliper	2		

\* (not included)

#### Installation Notes

The installation of Total Cost Involved's Mustang independent front suspension unit is really very simple because Total Cost Involved has engineered all the correct angles and geometries onto the crossmember itself. All that is required are a few careful measurements to locate the crossmember and the spring mounts correctly on your chassis before welding them into position. Minor trimmings may be necessary for some variations in the frame.

We recommend that all of the welding should be done by a qualified welder using the proper techniques. We also recommend that the initial and subsequent wheel alignment should be done by a qualified alignment shop.

#### 1. PREPARING THE FRAME

- Remove all of the old suspension and steering components and mark the axle centerline on frame.
- Tack weld two braces in front of axle centerline on top and bottom of frame rails to prevent movement of frame rails.

- Remove the original crossmember by drilling out the rivets.
- On '35-'40 frames, box the inside section of frame; on '42-'48 frames, plug the 4 lightening holes with the weld in circular plugs supplied as shown on figure #4.
- Finish grind all welds.

## **2. INSTALLING THE LOWER CROSSMEMBER**

- Fit the lower crossmember squarely on the bottom of the rails with the rack & pinion mount facing to the front of car. The centerline of the cross member should be inline with the axle centerline.
- Basic location of axle centerline is given in figure #3, check your wheel base to determine your particular application.
- Tack weld lower crossmember to frame rails.
- If you are using the Total Cost Involved's tubular lower control arms
  - A. Drill the lower control arm holes in the crossmember to 5/8".
  - B. Position the longer steel spacer on the rear side of the crossmember (using the lower control arm mounting bolts through the crossmember as an alignment guide) with the reinforcing gusset mounted horizontally toward the engine.
  - C. Tack weld the spacer and gusset together and to the crossmember.
- Double check all measurements including wheel base dimension and diagonally for squareness.
- Final weld the crossmember to frame on all sides and final weld the steel spacers and reinforcing gussets for tubular lower control arm to the crossmember.

## **3. INSTALLING SPRING MOUNTS**

- Position the spring mounts on the top, outside edges of the frame rails, with its centers directly over the center of the lower crossmember and axle centerline.
- To determine the left and right sides, the spring mounts should sit slightly lower in the back to maintain the proper antidive geometry.
- On '42-'48 frames, a slight dimple on the top, outside edges of the frame should be made before mounting the upper towers to clear the stock Mustang coil spring as shown on figure #4.
- This dimple can be made by cutting a parting line vertically on the sides and horizontally on the top edges of the frame rails. Next step is to tap the dimple inward, weld the parting line, and grind the excess weld.
- Tack both spring mounts in place, double check your measurements (also diagonally for squareness), and weld all around.

## **4. INSTALLING STRUT ROD BRACKETS**

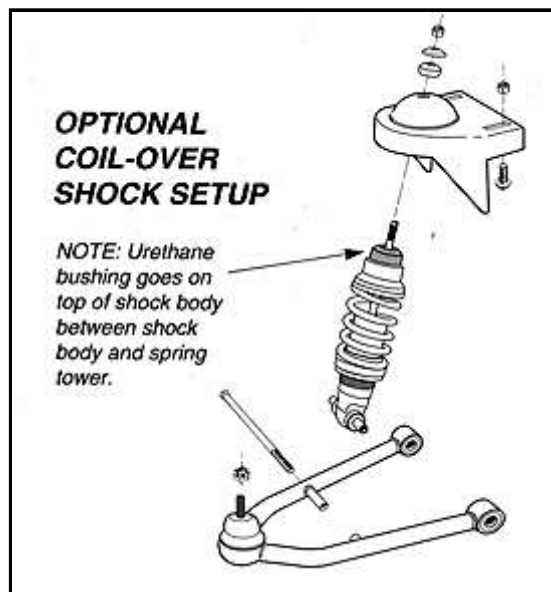
- If you are using Total Cost Involved's tubular strut rods, position the triangulated bracket on the inside of the frame rails with the open side facing down as shown on figure #3 & 4.
- Notice that there is a left side bracket and a right side bracket for the tubular strut rods.
- If you are using the stock Mustang strut rod, minor bending of the strut rod is required to correctly position the strut rod mount under the frame.
  - A. Mock up the stock Mustang lower control arms with the strut rods and bushings into the crossmember for alignment of strut rod bracket.
  - B. Position the flat brackets on the bottom of the frame rails, angled toward the inside of the frame with the triangular gusset mounted toward the rear side of the frame as shown on Figure #4.
  - C. Heat the area around the bend (near the 2 mounting bolt holes) in the strut rod and bend the strut rod so the flat mounting bracket will line up to the bottom of the frame rails as shown an figure #5.
- Tack brackets in place and double check alignment and interference. Final weld the bracket all around.

## **5. COMPONENTS ASSEMBLY**

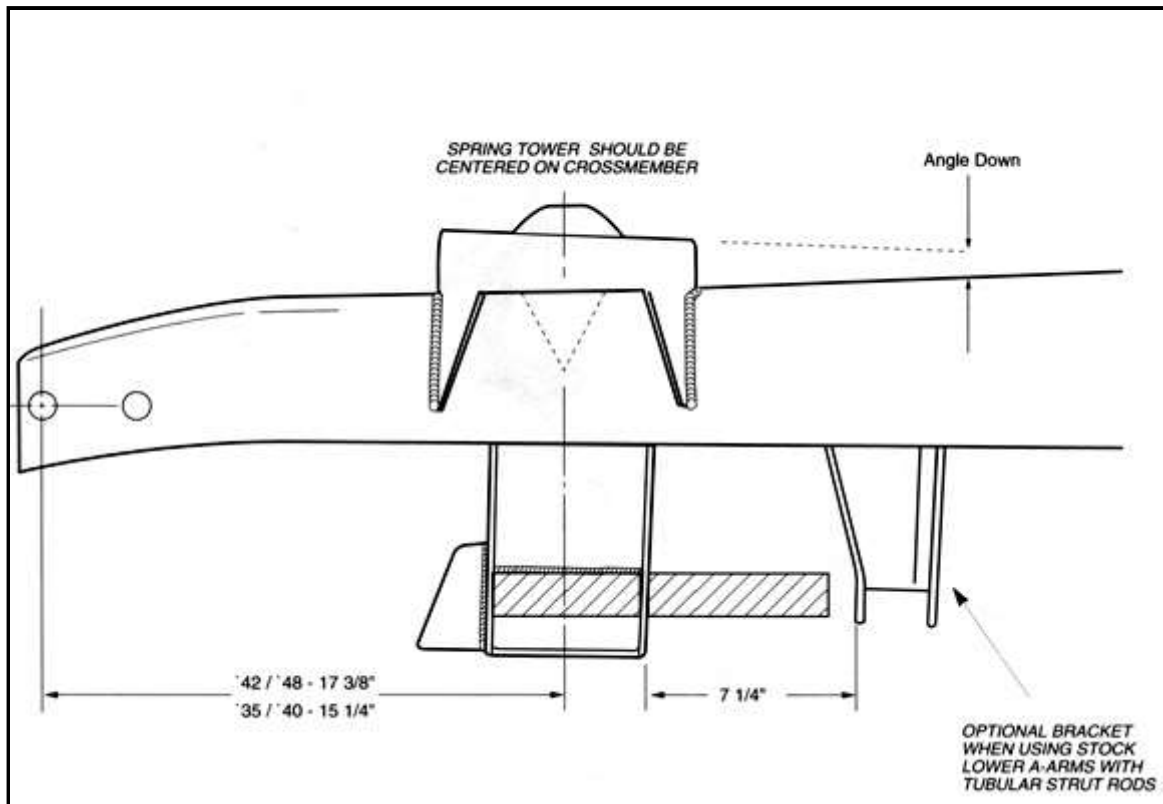
- Install the lower control arms and strut rods, if applicable, into the crossmember. Tubular control arms should be mounted with the shock bolts toward the rear side.
- Install the upper control arms, with the serrated side of the cross shaft facing down, using the special button head bolt, FORD #385713-S-101.
- Install the coil springs and spindles, with the steering arms toward the front side.
- Install brake rotors, calipers and brackets, rack & pinion steering unit, and shock absorbers.

## **6. SUSPENSION ALIGNMENT**

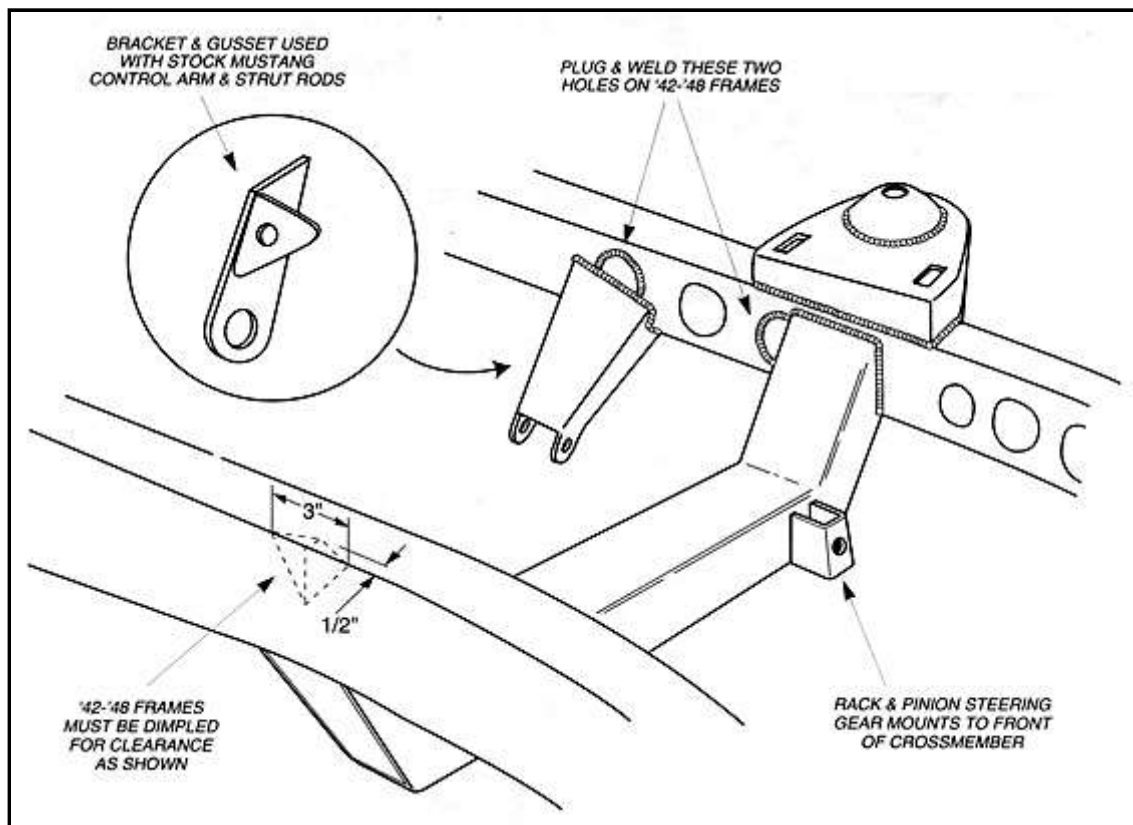
- Set ride height so the lower control arms are horizontal to the ground and align the wheel with the following specifications:  
 Camber at 0°    Caster at 1°    Toe in at 1/16"



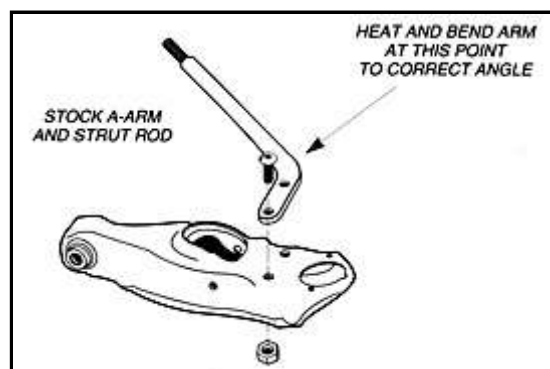
**Positioning Crossmember on Frame Rail** (Figure #3)



**Figure #4**



**Figure #5**



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