

7138

INSTRUCTIONS FOR A-ARM STRAIGHT FRAME, HEAVY DUTY, 3 X 2

<u>ITEM</u>	<u>QTY</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	2	1856	Front frame rail 3 x 2, heavy duty
2	1	1829	Rack & pinion crossmember 3 x 2
3	8	2102	Bracket, A-arm lower 3 x 2
4	8	2125	Frame tab 1/2 inch hole
5	4	2301	Bracket, A-arm lower cap
6	2	1112	Rack and pinion mount Mustang II
7	2	2329	Control arm cap
8	1	1828	Tube 1 1/4 x .083 x 30"
9	2	2001	Frame end cap
10	1	927138	Assembly drawing

YOU NEED A FAIRLY LEVEL GARAGE FLOOR TO OBTAIN GOOD RESULTS!

Your car must have an existing rear frame and a roll cage in order to use this kit.

1. First you must determine exactly where the stock front spindle centerline is located on your car. Measure from this point back to the rocker panel and make a reference mark. This will give you the front spindle centerline after the frame has been removed. Remove the stock frame and suspension but not the front fenders.

2. Determine where you are going to attach the rearward end of the new front frame. The best method is to install a 3 x 2 dropped crossmember between the rocker panels. Position the crossmember 2 to 3 feet forward of the rear end. The rear frame will weld to the backside of the dropped crossmember. The new front frame will attach to the front side of the crossmember.

3. Locate the body off of the floor so it is positioned at the new ride height. Block the rocker panels and rear of the frame so the car will be held steady. You need at least 4 inches of ground clearance from the front bumper to the tire and 24 inches behind the tire. Do not let your car sit too low.

4. Before you can install the frame, you must determine what frame width you need for your tires to clear your fenders.

Step 1: Determine the outside front tire width that you need. Measure the width between the front fenders. You will need 4 to 5 inches of clearance from the side of the tire to the inner front fender lip. Subtract 8 to 10 inches from the inner fender width. This will equal the outside tire width.

Step 2: To determine the hub width, you need to know how much wider the outside of the tire is than the front hub. Put a yardstick across the outside of the tire and measure through the center to the side of the wheel that bolts to the hub. When the wheel is bolted on, it is this much wider than the hub. Multiply this by 2 and subtract this amount from the outside tire width you calculated in step one. This will be the required hub width.

Step 3: Subtract 26 1/4 inches from the hub width to find the outside frame width. The frame cannot be narrower than 26 inches. Write your frame width on the Assembly Drawing.

5. Position the new frame rails in the chassis. The rear end will most likely be too long. If the front of the frame does not clear the grille work, shorten it. Be careful not to cut too much. The end of the frame must be at least 12 1/2 inches forward of the front spindle centerline. The rails should be parallel at the correct width you determined and centered in the frame. Measure diagonally to make sure the frame is square. Measure from the side of the frame to the body in several places to make sure the frame is centered in the body.

The top of the frame rail (measured at the front spindle line) should be 16 1/4 inches off the ground. This will give you 13 1/4 inches of ground clearance on the bottom of the frame. The frame does not have to be level in the engine bay or the driver's compartment. Use whatever frame rake is necessary to attach the rear of the frame correctly. The top of the frame in the engine compartment should be within 3 degrees of level.

6. Measure forward from the marks on the rocker panels that locate the front spindle line and draw a line across the floor (90 degrees to the car centerline) to represent the front spindle centerline. Use a large square or plumb bob to put a line on both sides of the new front frame rails, which will represent the front spindle centerline. All of your brackets will locate off of this line.

7. Using the A-arm assembly tool #6706, install the lower A-arm brackets to the frame. Bolt the brackets together with the correct spacers. See the Assembly Drawing for the correct dimensions. Hold the assembly under the frame and tack it in place. The rear A-arm bracket goes 3/4 of an inch behind the spindle centerline. Use the control arm cap to gusset the front pair of lower A-arm brackets. Use two lower A-arm bracket caps on each rear set of lower A-arm brackets. One caps the bottom of the brackets and the other provides an additional gusset for the top adjustable shock mount. See the Assembly Drawing for the correct location.

8. Cut the 3 x 2 inch tube to the correct length for the rack and pinion crossmember, you will have to cut its ends on an angle. Install it between the front A-arm brackets so it is even with the bottom and front-end rear edges of the front A-arm brackets. Install the rack and pinion mounts per the dimensions on the assembly drawing. If the frame outside width is less than 29 inches, the driver's side rack and pinion mount will actually weld to the lower A-arm bracket. Just tack weld the crossmember in place until after you have checked for bump steer on the front end.

9. Install the upper A-arm brackets and adjustable shock mount (purchased separately). Use the #6706 spacer set to properly space the brackets. See the Assembly Drawing for the correct dimensions. Position the A-arm brackets so the adjustable shock mount is 1/4 inch forward of the front spindle line. Just tack weld the upper mounts in place until after you have installed the A-arms and been able to properly align the front end.

10. Install the forward struts from your roll cage kit. The forward end should be attached to the frame forward of your upper A-arm brackets. Also, tie the frame to the roll cage at the firewall. If your car is lightweight in the front end (under 1500 lbs.), the forward struts are not absolutely necessary but are recommended.

11. Install the complete front suspension and steering less the springs. Align the front end to 1/32 to 1/8 inch toe in, zero degrees camber, and 6 to 10 degrees of caster. Using a machinist level on the spindle flats can align the front end.

12. Move the spindle through its full travel to make sure nothing binds up. Also, check for bump steer. If assembled correctly, all unnecessary bump steer can be removed by shimming the tie rods up and down at the spindle or by raising or lowering the rack and pinion mounts slightly (1/16 of an inch at a time).

13. After everything checks out okay, final weld it all. Use the frame end caps to cap the front open end of the frame. Install the 1 1/4 inch tube supports from the rack and pinion crossmember to the rear lower A-arm bracket.

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