

7229

**STRUT FRONT; 4-LINK REAR; ROUND FRAME;
4130; INTERMEDIATE; ELIMINATOR CHASSIS**

ITEM	QTY	SIZE/PART NO.	TUBE CODE	DESCRIPTION
1	2	4349		Cage side
2	2	4351		Forward strut
3	1	4343		Main hoop
4	1	4346		Cage top
5	2	4340		Rear frame
6	2	4724		Engine support tubes
7	1	4723		Rack & pinion crossmember
8	2	4341		Front frame
9	1	1 5/8 .065 x 54	F	Long side bar passenger side
10	2	1 5/8 .065 x 23	H	Upper side bar
11	2	1 5/8 .065 x 32	J K	Lower side bar
12	1	1 5/8 .065 x 53	G	Rocker support
13	1	1 5/8 .065 x 54	L	Mid mount
14	1	1 5/8 .083 x 54	C	Main hoop crossmember
15	1	1 5/8 .065 x 55	D	Back brace
16	4	1 5/8 .065 x 23	H I	Frame crossmember
17	1	1 5/8 .065 x 40	J	Long cross brace
18	1	1 5/8 .065 x 60	E	Continuous cross brace
19	1	1 5/8 .065 x 15	L	Short cross brace
20	2	1 5/8 .083 x 18	A B	Cage side extension
21	2	1 5/8 .065 x 12	F G	Foot brace
22	1	1 5/8 .065 x 23	K	Transmission crossmember
23	2	1 1/4 .058 x 20	Q S	4-link support
24	2	1 1/4 .058 x 54	M N	Rocker triangulator
25	2	1 1/4 .058 x 72	O P	Accessories strut
26	2	1 1/4 .058 x 9	M	Rear strut support
27	4	1 1/4 .058 x 6	N S	Roll cage gusset
28	1	1 1/4 .058 x 52	Q	Cage top triangulator
29	2	1 1/4 .058 x 36	R	Forward strut support
30	1	1 1/4 .058 x 42	S	Frame triangulator
31	16	2101		1/2 hole suspension tabs
32	2	2300		Rack & pinion brackets
33	4	3200		Locknut 1/2 - 20
34	4	3100		Bolt 1/2 - 20 x 2 1/4
35	8	1000		Misalignment bushing 1/2
36	1	1 5/8 .083 x 54	A	Long side bar driver's side
37	1	1 5/8 .083 x 53	B	Rocker support driver's side
38	1	927229		Assembly drawing

All straight tubes are cut from the box #4405, it contains the following tubes:

<u>QTY</u>	<u>SIZE</u>	<u>TUBE CODE</u>	<u>ITEM FROM INSTRUCTION</u>
3	1 5/8 x .083 x 72	A	36 and 20
		B	37 and 20
		C	14
9	1 5/8 x .065 x 72	D	15
		E	18
		F	9 and 21
		G	12 and 21
		H	10, 10 and 16
		I	16, 16 and 16
		J	11 and 17
		K	11 and 22
		L	13 and 19
		7	1 1/4 x .083 x 72
N	24, 27, 27 and 27		
O	25		
P	25		
Q	28 and 23		
R	29 and 29		
S	30, 27 and 23		

NOTE: READ ALL INSTRUCTIONS AND MAKE SURE YOU UNDERSTAND THEM BEFORE YOU BEGIN!!! ONLY TACK WELD THE CHASSIS IN CASE YOU MAKE A MISTAKE AND HAVE TO REMOVE SOMETHING!

Remove the body when the chassis is completely tacked together to make welding easier. Construction of a chassis cannot be accomplished without a jig. To assemble the chassis you will need a level surface as large as the car. This should be a steel table. You will need to hold the body up off your surface 4 to 6 inches; the table surface will simulate the ground. Also, weld a little of each joint at a time to help avoid distortion. Cut the straight tubes out as needed and be careful when measuring because lengths may vary a little from the instructions.

Do not assemble your chassis using only the dimensions on the assembly drawing. You must use a body to help in the tube placement. The standard dimensions on the assembly drawing are for a 1982-1990 Camaro or Firebird, and the dimensions in the blue boxes are for the Chevrolet Beretta. To vary the wheelbase, lengthen or shorten the distance from the firewall to the front axle centerline. If your body has a shorter wheelbase, do not shorten the driver's compartment more than is absolutely necessary, you need the leg room for the driver.

The chassis can easily be adapted to fit other intermediate size vehicles. When altering the dimensions on the blueprints for different vehicles, do not change any dimensions that are not inside rectangular boxes. Only the dimensions in boxes should be altered to fit different vehicles.

1. First, you must determine exactly where the stock rear axle centerline is located on your car. Measure from this point forward to the door edge and note this dimension. The dimension will represent the rear axle centerline after the frame has been removed. Also, measure the width of the car at the rocker panels; you will need this dimension later to assure the body is installed at the correct width.

2. Prepare the body by cutting out the entire floor and firewall, and by removing the doors, deck lid, windows, fenders and suspension. The body should be cut up so all that remains are the panels in the roof, door pillars, rocker panels and quarter panels. When you are finished, the body only needs to mount to the chassis in 6 places, they are: 2 points attaching the rear frame rails to the taillight panels; 2 points attaching the main hoop to the rocker panels; and 2 points attaching the bend in the cage side to the "A" pillar just below the windshield. When your chassis is done and these 6 points attach the body, the body will seem very unstable. Do not add more attachments. After the firewall, wheel wells and floor are installed; the body will be very rigid.

3. Locate the body off of the jig at the correct ride height. Block the rocker panels and rear of the body so that the car will be held steady. Your jig will need a centerline from the rear of the car to a point forward of the front axle centerline.

4. Install the main hoop crossmember in the chassis between the rocker panels. To position the main hoop crossmember in the car, you must place the backside 22 inches forward of the rear axle centerline. The rocker supports need to be cut to length and installed with the main hoop crossmember. Fit the main frame with the front crossmember and the main hoop crossmember tube at the same time so that you can tack the main hoop crossmember to the main frame to hold it up. Fit the main frame per the assembly drawing.

5. Next, install the rack and pinion mounts to the rack and pinion crossmember. Determine the center of the crossmember and mark where the brackets go according to the dimensions on the assembly drawing. Tack the brackets to the crossmember at the correct dimensions, namely, 90 degrees to the crossmember and both at the same height. Cut the legs off the crossmember to locate the rack and pinion brackets at the correct distance above the frame. Tack weld the crossmember above your frame rails at the correct location. It will be necessary to grind on the rack and pinion brackets to make them fit the crossmember properly. Next, install the 8 suspension tabs that attach to the frame. The centerline of their hole should be above the top of the frame. Install the brackets at the correct angle and spacing according to the assembly drawing. The forward control arm brackets require some grinding to fit. The forward arm of the strut determines the angle that they are to the frame. It is best to install the brackets with the strut and control arm installed. This will make it easier to get the angle correct. In some cases, the forward bracket will have to attach to the forward strut tube in order to fit the chassis per the assembly drawing.

6. Install the main hoop. It stands straight up and attaches to the top of the rocker support at the junction with the main hoop crossmember.

7. Install the seat back brace in the center of the bend on the main hoop.

8. Install the rear rails per the assembly drawing. They will be shortened at the rear per the assembly drawing. The width can be changed to accommodate different tires.

9. Install the frame crossmembers, one at the rear of the frame and one in the center for a shock mount. Install shock mounts at the correct width and distance from the frame. Install the forward crossmember per the assembly drawing, just above the 4-link chassis bracket.

10. Install the cage top per the assembly drawing.

11. Tack the cage sides in place. Keep the lower leg of the cage side and the frame as close to 90 degrees as possible. This will make installation of the firewall easier.

12. Install the cage side extension and front brace per the assembly drawing; the driver and passenger sides are the same. The rocker supports should be installed under the cage side extension and main hoop. The rocker supports should be positioned so the front and rear ends are open. This will give you an effective and protective tube to run your battery cable and fuel lines through to the front of the chassis.

13. Install the mid mount bar at the correct height.
14. Install all three pieces of the X-brace.
15. Install both rear frame accessory struts so that the lower end is centered over the rear. In some cases, the rear end will be forward of the rear crossmember in order to clear the back window. The upper end attaches to the main hoop frame.
16. Install the rear strut supports between the rear frame and shock crossmember.
17. Install all 3 pieces of the door bar x-braces.
18. Install the main hoop to the 4-link support tubes.
19. Install the forward struts per the drawing. If you are using a different body than an 82-90 Camaro or Firebird, you will have to adjust the width of the top strut mount. Because of the large number of wheel and tire combinations, it is a good idea to verify the width with your wheel, tire, and body, even with Camaros and Firebirds. You will need at least 4 inches of tire clearance between the side of the tire and inside of the fender.
20. Install the forward strut support tube and rocker triangulator per the assembly drawing.
21. Install the cage top triangulator.
22. Install the front and rear cage gussets.
23. Install the chassis front mounts for the 4-link, part of kit #6205. Use a rod end to determine the correct distance between the mounts. The brackets are centered under the frame 3/16 of an inch inboard from each side of the frame.
24. Install the engine support tubes at the mid mount per the drawing (each "U" bend makes 2 parts). If the engine is too far back, it can be moved forward for more windshield clearance. The mid plate attaches to the front of the engine support tubes. Install the tubes at 2 degrees from perpendicular to the frame. Remember, the engine runs uphill to the rear 2 degrees. Install the front engine support tubes with the motor plate to assure the correct location.
25. Install the transmission crossmember, and frame triangulator when you are installing the transmission.
26. Recheck all dimensions, remove the body and finish welding the chassis.
27. Chris Alston's Chassisworks, Inc., carries a complete line of accessories to make completion of your car easier.

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