

6270 and 6271
INSTRUCTIONS FOR PRO STREET 4-LINK CROSSMEMBER MOUNT

<u>ITEM</u>	<u>QTY</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	5009	Link - lower tube(long)blue
or	2	5011	Link - lower tube(long)chrome
2	2	5010	Link - upper tube(short)blue
or	2	5012	Link - upper tube(short)chrome
3	4	2137	Crossmember mount 1/2 hole
4	4	2135	Axle mount 1/2 hole
5	4	3226	Jam nut 1-14 right
6	4	1206	Eyebolt 1-14 right 1.0 bore
7	8	3200	Nylock 1/2 -20
8	8	3107	Bolts 1/2 - 20 x 2 3/4
9	2	2014	4 link axle mount gusset
10	16	3532	Urethane bushing 1.0x.625x.563
11	8	1041	Sleeve 5/8 x 1/2 x 1.625
12	2	3507	Grease packet

NOTE: Rod ends must be inspected frequently. If the urethane becomes sloppy, it should be immediately replaced. In the beginning, the rod ends should be watched very closely. Check them after each pass. All cars launch differently so the life of the rod ends will vary considerably. They should be kept well greased. It is also very important to make sure the rod ends or jam nuts are not binding on any of the brackets. The links should be free to rotate and swing throughout the entire suspension travel. The urethane should be replaced at LEAST once a year.

INSTALLATION: Refer to the drawing shipped with your subframe or chassis for the location of the components of the rear suspension.

1. Level your chassis front to rear and right to left. Use some jack stands to position your rear axle housing at the correct height and rearward location according to your assembly drawing. Finally, rotate the pinion until it points toward the engine, block it steady at the correct pinion angle of zero degrees. After completion and prior to running the car, the pinion angle will need to be readjusted to 1° to 3° degrees negative (pinion down in relation to the driveshaft). The axle housing must also be centered in the car. The ends of the housing must be equal distances from the side of the frame rails. Place three 1 5/8 inch long sleeves between a pair of front brackets and bolt the brackets together with the sleeves in the top, center and bottom holes. Tack weld the front mount to the 3 x 2 crossmember at the correct width. Make the brackets as wide as possible with 1-inch clearance for the side of the link bars. The forward edge of the 3 x 2 crossmember is 24 inches forward of the axle centerline. Position the 3 x 2 crossmember between the frame rails and the correct distance forward and height above the ground. Make sure the driveshaft will clear the drop in the crossmember. In many cases the driveshaft is offset to the passenger side. Offset the drop in the crossmember to be centered under the driveshaft if necessary. The drop in the crossmember can be above or below the driveshaft.

2. Bolt a pair of axle brackets together by placing a pair of 1 5/8 sleeves between them and bolting them in the top and bottom holes. Tack weld the brackets to the axle housing so that they are as wide as the front brackets, 90° to the axle centerline and the lower hole is centered on the axle centerline. If your axle housing is larger than 3" OD, the brackets will have to be enlarged to keep the holes in their correct location.

3. Trial fit the links with rod ends in the brackets. You should be able to fit all the combinations and have at least 1 inch of tread engagement in all the rod ends at all times. Press the urethane bushings into the rod ends and link tubes. Use the grease to coat the 1 5/8 sleeve and press it into the urethane. Also grease the sides of the urethane where it touches the brackets. Check all brackets for squareness and to be sure there is no binding in the rod ends or jam nuts. If everything checks out, weld it all up.

4. Use 1/8 x 2 inch strips to cap off the rear axle bracket backside.

5. Use 1/8 x 2 inch strips to cap off the front top and bottom of the chassis mount above and below the dropped crossmember. The top and bottom of the front mount must also be gusseted to the frame so the front mount can't rotate the dropped crossmember. 1 1/4 tubes attached to the top and bottom of the front 4-link mount and the frame will accomplish this.

4-LINK ADJUSTMENTS

Adjusting your 4-link is not that difficult but it must be done carefully. You must adjust for three separate things, rear end location in the chassis, pre load, and intersection point. I will explain each one in detail.

REAR END LOCATION IN THE CHASSIS: The first step is to correctly position the rear end in the chassis. To do this, you need to position a string centerline under the chassis. (NOTE: The methods described here will work provided your chassis was correctly assembled and is not bent. If there is any doubt that your chassis is straight, you should first solve that problem.) First, your car must be complete and ready to race. Remove the rear tires and place jackstands under the axle housing that will hold it at the correct ride height and level right to left. At this point the pinion angle should be set to 1° to 2° negative and the rear end should be in the correct location for the wheel base. An easy way to do that is to set the axle centerline 22 inches behind the 4-link front mount crossmember. Drop a plumb bob from the center of the frame in the front and the rear of the chassis. Mark the garage floor where the plumb bob point touches the floor. Place a string centerline under the car between the points. A 20-foot piece of string tied to two bricks will work fine. This string will represent the center of the chassis. Next, attach a plumb bob to the center of each axle on its face. To adjust the rear end to be centered in the chassis lengthen or shorten the track locator until each plumb bob is an equal distance from the string centerline. Next, adjust the rear end to be exactly 90° to the string centerline. Measure forward from the rear axle 6 feet and draw an "X" on the floor where 6 feet and the centerline meet. This is just to establish an arbitrary reference for the next step. Now measure from the plumb bobs attached to each axle flange up to the "X" on the floor. The object is to adjust the length of the 4-link bars until the length on each side is the same. This concludes step 1.

ADJUSTING PRELOAD: The best method to adjust preload is to adjust your chassis for no preload then add preload if necessary. This can only be determined by test launching the car for 60 to 100 foot passes. With no preload in the chassis, it should be very easy to twist the top right (passenger's side) link bar. With the jam nuts loose you should be able to feel it rotate in the threads and a 1/4 turn in either direction should make the link bar tighter. (NOTE: Raising or lowering an adjustable coil spring seat will also preload the chassis. This is not the preferred method.) To determine if you need preload, test launch the car. If it does not initially drive straight off the line, you can add preload in the top right (passenger's side) bar. If your car continually drives to the right, shorten the upper right link bar. If it continually drives to the left, lengthen the upper right link bar. To adjust preload, loosen the jam nuts and rotate the link bar 1/4 turn at a time. Finer adjustments of 1/8 turns may be necessary. If you need over 1 1/2 turns of preload it's a good indicator that something is probably wrong.

ADJUSTING INTERSECTION POINTS: This is one of the most misunderstood adjustments in drag racing. The first thing to do is to map all possible intersection point locations. We have provided a map that lists all intersection points, length in front of the axle centerline, and heights above the ground (minus numbers are below the ground). There are two maps, one is with the front 4-link mount four inches off the ground. This would normally be the case in an Eliminator chassis. The second map is with the front 4-link mount 6 inches off the ground. This would normally be the case in a back-half subframe chassis like part #7114. Use the map that most closely represents your vehicle's front mount height above the ground. Drawing 926270 (provided) shows one location drawn out to clarify the map.

Unfortunately there is no way to tell exactly what intersect point your chassis will like without experimenting. There are no rules of thumb that apply because there are lots of things that affect the ideal intersect point. A brief list would include gear ratio, converter, ignition timing, cam shaft, tire size, track condition, shock absorbers, torque curve, vehicle weight, weight distribution, center of gravity, height, plus many more. Therefore, any attempt to over simplify the determination of the intersection point is not going to be valid. The racer must test to determine the correct intersection point. By providing you with a map and some guidelines to help you select locations, we hope to get you started in the right direction. The amount of time and energy you are willing to put into testing will definitely determine your success. To help you get going, we suggest you start at location A-2 (bottom bar) E-7 (top bar). This will provide an intersection point of $47 \frac{1}{2}$ inches (length) $7 \frac{5}{8}$ inches height above the ground. To adjust from there you need to know that as the intersection gets shorter and higher, the chassis will tend to shock the tire slower. As the intersection gets longer and lower, the chassis will tend to shock the tire faster. You need to move slowly from the start point. Large changes will just get you lost. The object is to shock the tires as hard and as fast as possible without causing too much tire spin. The intersection point will have a considerable affect on your elapsed time through the first gear change on high horsepower cars. Therefore, you can get a lot of good testing in on only 100 feet or so. Remember that the intersection point adjustment is only part of the combination. You will have to also adjust other things to optimize your combination.

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INTERSECT POINTS WHEN FRONT MOUNT IS 4" ABOVE GROUND

BOTTOM BAR		TOP BAR		INTERSECTION POINT	
<u>AXLE</u>	<u>CHASSIS</u>	<u>AXLE</u>	<u>CHASSIS</u>	<u>LENGTH</u>	<u>HEIGHT</u>
A	1	E	8	91 1/4	-7
A	1	E	7	60	-1 3/4
A	1	E	6	44	1
A	1	E	5	34 1/2	2 5/8
A	1	E	4	28	3 3/4
A	1	D	8	171 1/4	-20 5/8
A	1	D	7	82	-5 1/2
A	1	D	6	53 1/4	-5/8
A	1	D	5	39	1 7/8
A	1	D	4	30 1/4	3 3/8
A	2	E	8	62 1/2	1 3/8
A	2	E	7	46	3 1/4
A	2	E	6	36 1/4	4 3/8
A	2	E	5	29 1/2	5 1/8
A	2	E	4	24 3/4	5 5/8
A	2	D	8	86 1/2	-1 3/8
A	2	D	7	60	2 1/8
A	2	D	6	41	3 7/8
A	2	D	5	32	4 7/8
A	2	D	4	26	5 1/2
A	3	E	8	47 3/4	5 5/8
A	3	E	7	37 3/4	6 1/4
A	3	E	6	30 3/4	6 5/8
A	3	E	5	26	7
A	3	E	4	22 1/4	7 1/8
A	3	D	8	58 1/4	5
A	3	D	7	42 1/2	6
A	3	D	6	33 1/2	6 1/2
A	3	D	5	27 1/4	6 7/8
A	3	D	4	22 3/4	7 1/8
B	1	E	8	152 1/4	-24 3/4
B	1	E	7	76 3/4	-7 3/4
B	1	E	6	50 3/4	-1 7/8
B	1	E	5	37 1/2	1 1/4
B	1	E	4	29 1/4	3
B	1	D	8	8638 1/2	-1939 3/8
B	1	D	7	135 1/2	-21
B	1	D	6	67 1/4	-5 1/2
B	1	D	5	44	1/4
B	1	D	4	32 1/4	2 3/8
B	2	E	8	81 1/2	-4 1/4
B	2	E	7	53 1/2	1/2
B	2	E	6	39 1/2	2 7/8
B	2	E	5	31	4 3/8

BOTTOM BAR		TOP BAR		INTERSECTION POINT	
AXLE	CHASSIS	AXLE	CHASSIS	LENGTH	HEIGHT
B	2	E	4	25 1/4	5 3/8
B	2	D	8	149 1/2	-15 3/4
B	2	D	7	72	-2 1/2
B	2	D	6	47	1 3/4
B	2	D	5	34 1/4	3 3/4
B	2	D	4	26 3/4	5
B	3	E	8	56	3 1/4
B	3	E	7	41 1/2	4 7/8
B	3	E	6	32 1/2	5 7/8
B	3	E	5	26 1/2	6 1/2
B	3	E	4	22 1/4	7
B	3	D	8	76 1/4	7/8
B	3	D	7	49 1/2	4
B	3	D	6	36 1/4	5 1/2
B	3	D	5	28 1/4	6 3/8
B	3	D	4	23	7
C	1	E	8	1109 1/4	-302 3/4
C	1	E	7	121	-23 3/8
C	1	E	6	63	-7
C	1	E	5	42	-1
C	1	E	4	31	2
C	1	D	8	NO INTER	SECTION
C	1	D	7	1113 1/2	-304
C	1	D	6	103 1/2	-18 1/2
C	1	D	5	53 1/4	-4 1/4
C	1	D	4	35 1/4	7/8
C	2	E	8	134 1/4	-19 1/2
C	2	E	7	68	-4 1/2
C	2	E	6	45	5/8
C	2	E	5	33 1/4	3 1/4
C	2	E	4	26	5
C	2	D	8	7461 1/2	-138 7/8
C	2	D	7	117 1/4	-15 3/4
C	2	D	6	58 1/4	-2 3/8
C	2	D	5	38 1/4	2 1/8
C	2	D	4	28	4 1/2
C	3	E	8	72 1/4	-1 1/2
C	3	E	7	47 1/2	2 3/4
C	3	E	6	35 1/4	4 3/4
C	3	E	5	27 1/2	6
C	3	E	4	22 1/2	7
C	3	D	8	130 3/4	-11 1/2
C	3	D	7	62 3/4	1/8
C	3	D	6	40 3/4	3 7/8
C	3	D	5	30	5 3/4
C	3	D	4	23 1/4	6 7/8

**INTERSECT POINTS
WHEN FRONT MOUNT IS 6" ABOVE GROUND**

BOTTOM BAR TOP BAR INTERSECTION POINT

<u>AXLE</u>	<u>CHASSIS</u>	<u>AXLE</u>	<u>CHASSIS</u>	<u>LENGTH</u>	<u>HEIGHT</u>
A	1	E	8	96 1/2	1 1/2
A	1	E	7	62 1/4	4
A	1	E	6	45 1/2	5 1/8
A	1	E	5	35 3/4	5 7/8
A	1	E	4	29	6 3/8
A	1	D	8	190	-5 3/8
A	1	D	7	86 1/2	2 1/4
A	1	D	6	55 1/2	4 1/2
A	1	D	5	40 1/4	5 1/2
A	1	D	4	31 1/4	6 1/4
A	2	E	8	65	7 3/8
A	2	E	7	47 1/2	7 5/8
A	2	E	6	37 1/4	7 7/8
A	2	E	5	30 1/4	8
A	2	E	4	25 1/2	8
A	2	D	8	91	6 7/8
A	2	D	7	60	7 1/2
A	2	D	6	42 1/4	7 3/4
A	2	D	5	33	8
A	2	D	4	26 3/4	8
A	3	E	8	49	10 1/4
A	3	E	7	38 1/2	9 7/8
A	3	E	6	31 1/2	9 5/8
A	3	E	5	26 1/2	9 1/2
A	3	E	4	22 3/4	9 3/8
A	3	D	8	60	10 5/8
A	3	D	7	43 3/4	10 1/8
A	3	D	6	34 1/4	9 3/4
A	3	D	5	28	9 1/2
A	3	D	4	23 1/4	9 3/8
B	1	E	8	170 1/2	-12 1/4
B	1	E	7	81 1/2	-3/4
B	1	E	6	53	2 7/8
B	1	E	5	39	4 3/4
B	1	E	4	30 1/4	5 3/4
B	1	D	8	NO INTER	SECTION
B	1	D	7	151 1/2	-9 3/4
B	1	D	6	71 1/2	1/2
B	1	D	5	46	3 3/4
B	1	D	4	33 1/2	5 3/8
B	2	E	8	86 1/4	3 3/8
B	2	E	7	56	5 5/8
B	2	E	6	41	6 5/8

<u>BOTTOM BAR</u>		<u>TOP BAR</u>		<u>INTERSECTION POINT</u>	
<u>AXLE</u>	<u>CHASSIS</u>	<u>AXLE</u>	<u>CHASSIS</u>	<u>LENGTH</u>	<u>HEIGHT</u>
B	2	E	5	32	7 1/4
B	2	E	4	26	7 3/4
B	2	D	8	167	-2 1/2
B	2	D	7	76 1/4	4
B	2	D	6	49	6

B	2	D	5	35 1/2	7
B	2	D	4	27 1/2	7 5/8
B	3	E	8	58 1/4	8 5/8
B	3	E	7	42 1/2	8 7/8
B	3	E	6	33 1/2	9
B	3	E	5	27 1/4	9 1/8
B	3	E	4	22 3/4	9 1/4
B	3	D	8	80 1/4	8 1/8
B	3	D	7	51 1/4	8 3/4
B	3	D	6	37 1/4	9
B	3	D	5	29	9
B	3	D	4	23 1/2	9 1/4
C	1	E	8	16,148 3/4	-2966 5/8
C	1	E	7	135 1/4	-14 1/8
C	1	E	6	67	-1 5/8
C	1	E	5	44	2 5/8
C	1	E	4	32 1/4	4 7/8
C	1	D	8	NO INTER	SECTION
C	1	D	7	NO INTER	SECTION
C	1	D	6	116 1/4	10 5/8
C	1	D	5	57	1/4
C	1	D	4	37	4
C	2	E	8	150 1/2	-8 1/2
C	2	E	7	72	1 1/2
C	2	E	6	47	4 3/4
C	2	E	5	34 1/2	6 3/8
C	2	E	4	27	7 3/8
C	2	D	8	NO INTER	SECTION
C	2	D	7	131	-6
C	2	D	6	62	2 7/8
C	2	D	5	40	5 5/8
C	2	D	4	29	7
C	3	E	8	76 1/2	5 1/4
C	3	E	7	49 1/2	7 1/8
C	3	E	6	27 1/4	8 1/8
C	3	E	5	28 1/2	8 3/4
C	3	E	4	23 1/4	9
C	3	D	8	145	1/4
C	3	D	7	66 1/4	6
C	3	D	6	42 1/2	7 5/8
C	3	D	5	31	8 1/2
C	3	D	4	24	9