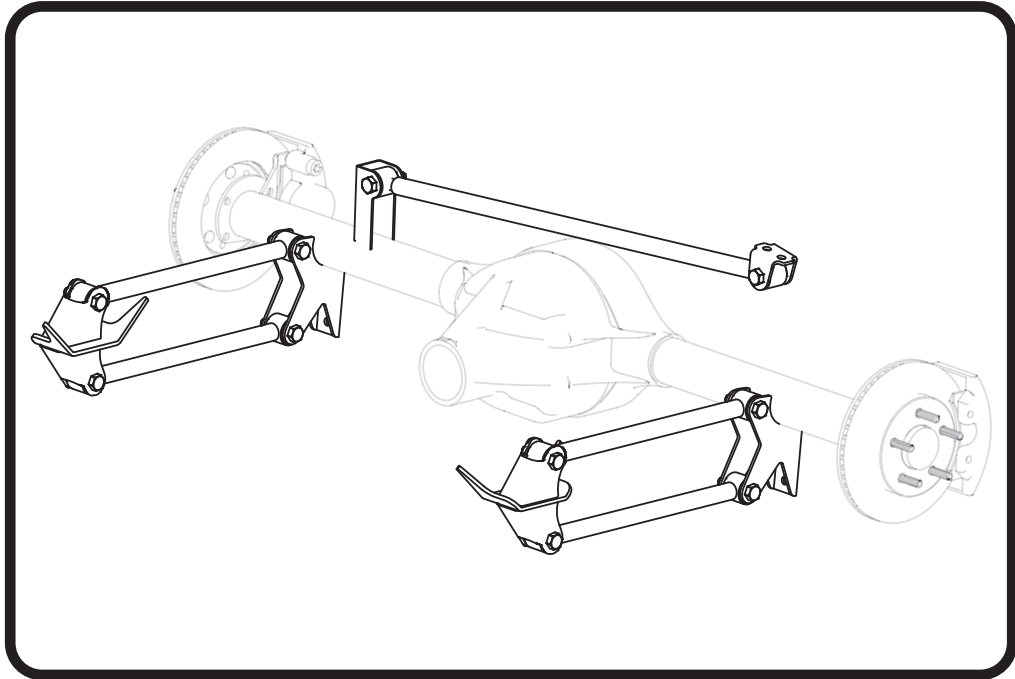




### Part # 18988899 - Universal Parallel 4-Link & Panhard Bar Kit



#### Recommended Tools



# Parallel 4-Link and Panhard Bar Kit Installation Instructions

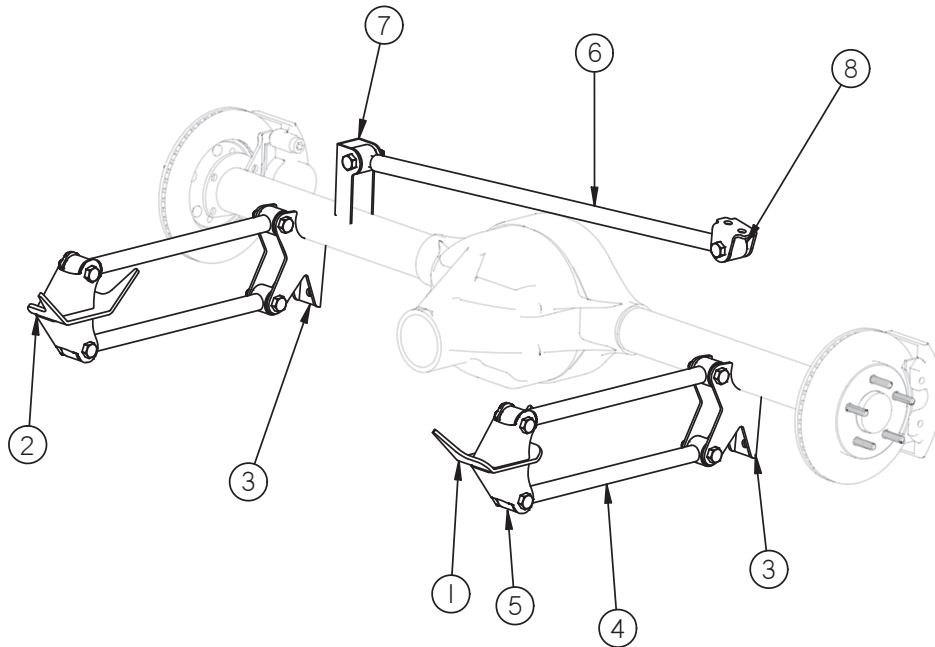
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### Major Components .....In the box

Item #	Part #	Description	QTY
1	90000165	4 link bar frame bracket – Driver side	1
2	90000166	4 link bar frame bracket – Passenger side	1
3	90000160	4 link bar axle bracket	2
4	90001434	4 link bar – TW 21.75" - Set length 23 3/8" to 23 5/8"	4
5	70013364	Threaded R-Joint End (w/ R-Joints installed)	5
6	90002821	Panhard bar – TW 34.25" - Set length 35 7/8" to 36 1/8"	1
7	90000390	Panhard bar axle bracket	1
8	90000332	Panhard bar frame bracket	1
	90001082	Short Bump Stop	2
	70013334	R-Joint Spacers	20
<b>R-Joint Components - assembled in bars and rod ends</b>			
	70013279	Retaining Ring	10
	70013280	Wavo Wave Spring	10
	70013275	Center Pivot Ball	10
	70013276	Composite Cage	10





### Hardware List .....In the box (Kit# 99010024)

The Hardware Kit contains bags to help aid in selecting the correct hardware for the component being installed. The hardware list shows how the hardware is bagged.

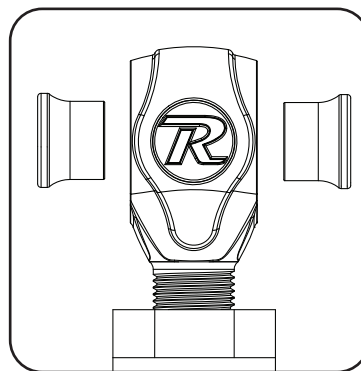
QTY	Part Number	Description	
<b>R-JOINT ROD ENDS</b>			
5	99752004	3/4" -16 Jam Nut	R-Joint Rod Ends
<b>4 LINK BARS</b>			
10	99621003	5/8" -18 x 2 3/4" Gr. 8 Bolt	4-Link Bars to Mounts
10	99622006	5/8" -18 Nylok Jam Nut	4-Link Bars to Mounts
<b>PANHARD MOUNT TO FRAME</b>			
2	99431002	7/16" -14 x 1 1/4" Hex Bolt	Panhard Mount to Frame
2	99433001	7/16" -14 Nylok Nut	Panhard Mount to Frame
4	99433002	7/16" Flat Washer	Panhard Mount to Frame

## R-Joint Spacer Assembly

### R-JOINT SPACER INSTALLATION

Install the Spacers by inserting the SMALL side of the SPACER into the Center Pivot Ball. Push them in until they bottom out and stop.

### ALL OTHER R-JOINTS



## Getting Started.....

1. If you are working on a finished vehicle with a leafspring suspension, consider leaving the leaves in until the four link is installed. This will avoid chasing the rearend around the shop during installation and will preset the location of the rearend. Be sure to double check that the rearend is centered in the car both side to side and front to back.

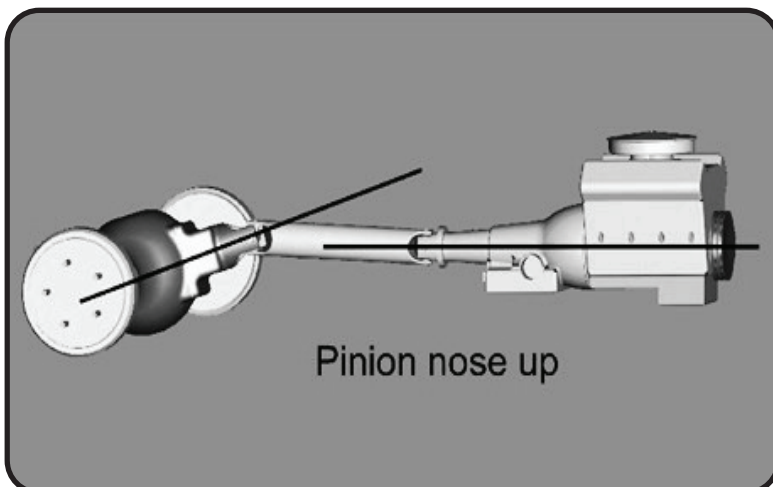
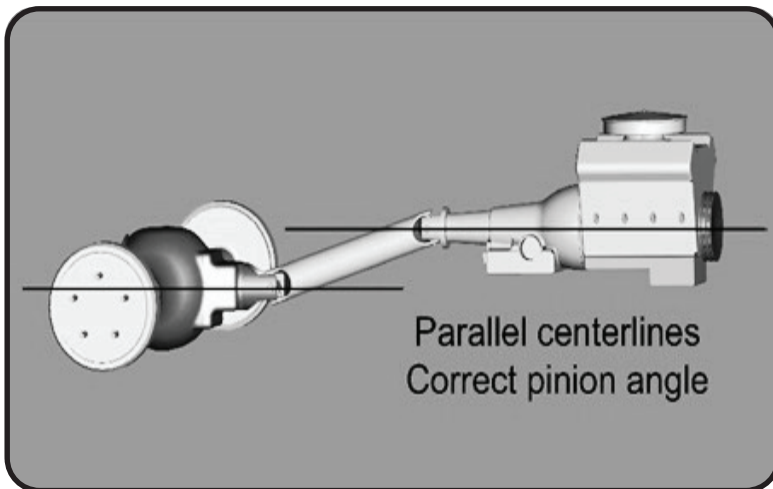
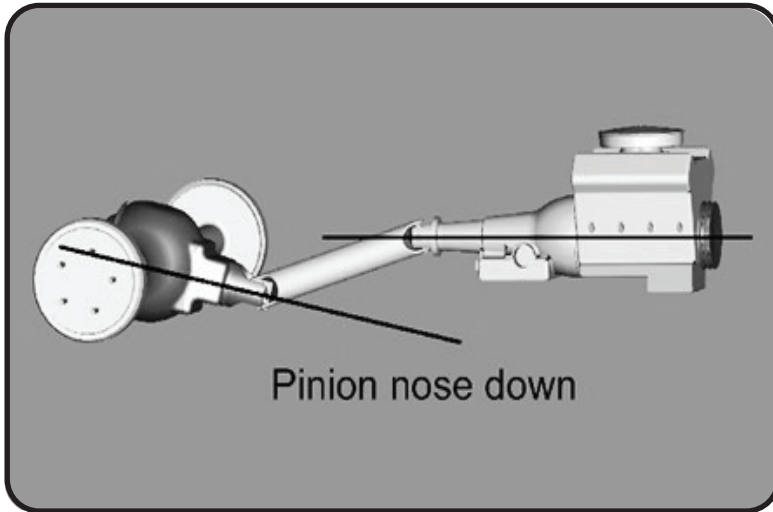


### Parallel 4 Link Installation

2. If you are starting from scratch, set the vehicle up at a comfortable working height and place the rearend under the car at ride height. Keep in mind that with an air ride system you will be able to drop the car approx. 4" from this height by deflating the system.
3. Center the rearend side to side in relation to the frame. This is usually done by measuring from the frame to the wheel mounting or bearing flange of the rearend and making these measurements equal.
4. Center the rearend in the wheel openings. The rough position should be centered in the wheel openings, but the final adjustment should make sure that the rearend is square to the frame and that the distance between the axle centerlines [front to rear] are equal on each side of the car.
5. The pinion angle should be roughly set parallel with the transmission. This will allow you enough adjustment to fine tune the pinion angle when the installation is complete. **Page 5** has some information on setting pinion angle.
6. Steps 3,4, and 5 may have to be double checked and repeated to ensure the rearend is correctly placed under the car. When you are satisfied with the placement, make sure the rearend won't move during installation. [We tack ours to the jackstands.]
7. When the rearend is correctly placed, the lower bracket /bar assembly can be placed. The 4 link kit is installed with the lower bars beside the frame either inside or outside. To determine the proper location, assemble the axle bracket, upper and lower bar, and the frame bracket together and place the lower axle bracket against the axle tube. Apply anti-sieze to the threads of the R-joint ends. Assemble the bars with 1/4" of thread showing on the shaft. This will allow for final adjustment. With the lower bar level with the car, determine the best location for the frame bracket against the frame.
8. When the lower frame bracket location has been determined, tack them into place. [Don't weld fully yet]
9. Place the axle brackets onto the axle tube at the same distance apart as the lower frame brackets. The back of these brackets should be plumb, [Perpendicular to the ground] and must be level with each other! One way to accomplish this is to tack one bracket and then use a piece of angle that is clamped across the back of the bracket to check the angle of the other. This will ensure that the lower 4 link mounting points are even from front to back.
10. With a floorjack, raise and lower the rearend through its travel to check for interference or binding of the rod ends. If the rearend moves freely, final welding may now be done.
11. The panhard bar will secure the axle from side to side. With the axle still centered under the vehicle and at ride height, determine the best place for the panhard bar. At ride height, the bar should be as level as possible. This will minimize the bar from pulling the axle sideways during suspension travel. One end will be attached to the axle and the other end will be attached to the frame. The bar may have to be trimmed for length. The Threads in the bar and on the R-Joint are 3/4"-16. If you have to cut the bar short enough to cut the threads of the bar off, it can be retapped with a 3/4"-16 tap.



### Setting Pinion Angle



How do you set the pinion angle? On a single-piece shaft you want to set it up where a line drawn through the center of the engine crankshaft or output shaft of the transmission and a line drawn through the center of the pinion are parallel to each other but not the same line.

Your transmission angle should be around 3 degrees down in the rear. If it is more or less than 3 degrees, you might want to consider changing it. Too little angle on the transmission reduces the amount of oil getting to the rear bushing. Too much transmission angle will increase the working angles of the u-joints which will increase the wear. With the transmission at 3 degrees down in the rear, you will want to set the pinion 3 degrees up in the front.

A simple way to do this is to place a digital angle finder or dial level on the front face of the lower engine pulley or harmonic balancer. This will give you a reading that is 90 degrees to the crank or output shaft unless you have real problems with your balancer. At the other end, you can place the same level or angle finder against the front face of the pinion yoke that is also at 90 degrees to the centerline. If you rotate the yoke up or down so both angles match, you have perfect alignment.

Road testing will tell you if you have it right. If you accelerate and you get or increase a vibration, then the pinion yoke is too HIGH. Rotate it downward in small increments of a degree or two until the problem goes away. If you get or increase a vibration when decelerating, then the pinion yoke is too LOW. Rotate it upward to correct it.