

6194

VARISTRUT TIE ROD TUBES

9. To check the bump steer, put the caliper mounting bracket on the strut. Cut a piece of tubing or angle iron 28" long. Drill a 3/8" hole so the tube or angle iron is centered in the spindle centerline. Bolt the tube or piece of angle iron to the caliper bracket making sure it is level front to rear. Put a mark on the tube or angle iron 12-1/2" from each side of the spindle centerline. This is roughly the diameter of your front tire.

10. Start with the strut in the fully compressed position and measure from your chassis centerline to the inside of the piece mounted to the caliper bracket on the marks. Record these dimensions starting a chart for front & rear measurements for three positions.

11. Move the strut down to the ride height position. Measure as you did above and record dimensions on the chart.

12. Move the strut down to the fully extended position. Measure as you did above and record dimensions on the chart.

13. Calculate the toe-in for the three positions by subtracting the front dimension from the rear dimension.

14. The toe in should not vary more than 1/16" between the three positions measured. If it does, using the aircraft washers supplied one at a time, space the tie rod down until the 1/16" difference is achieved. You may have to space the rack up. Use a 1/16" shim if moving the tie rod end down does not correct the toe-in change. This may take several times shimming the rack or tie rod end to get the correct adjustment. Continue moving the tie rod end or rack until you have reduced the toe-in change to 1/16" or less.

15. It is important that when the strut moves from full extension to full compression the tire only toes-in if there is a change. **You do not want the tire to toe-out during bump or compression travel of the strut.**

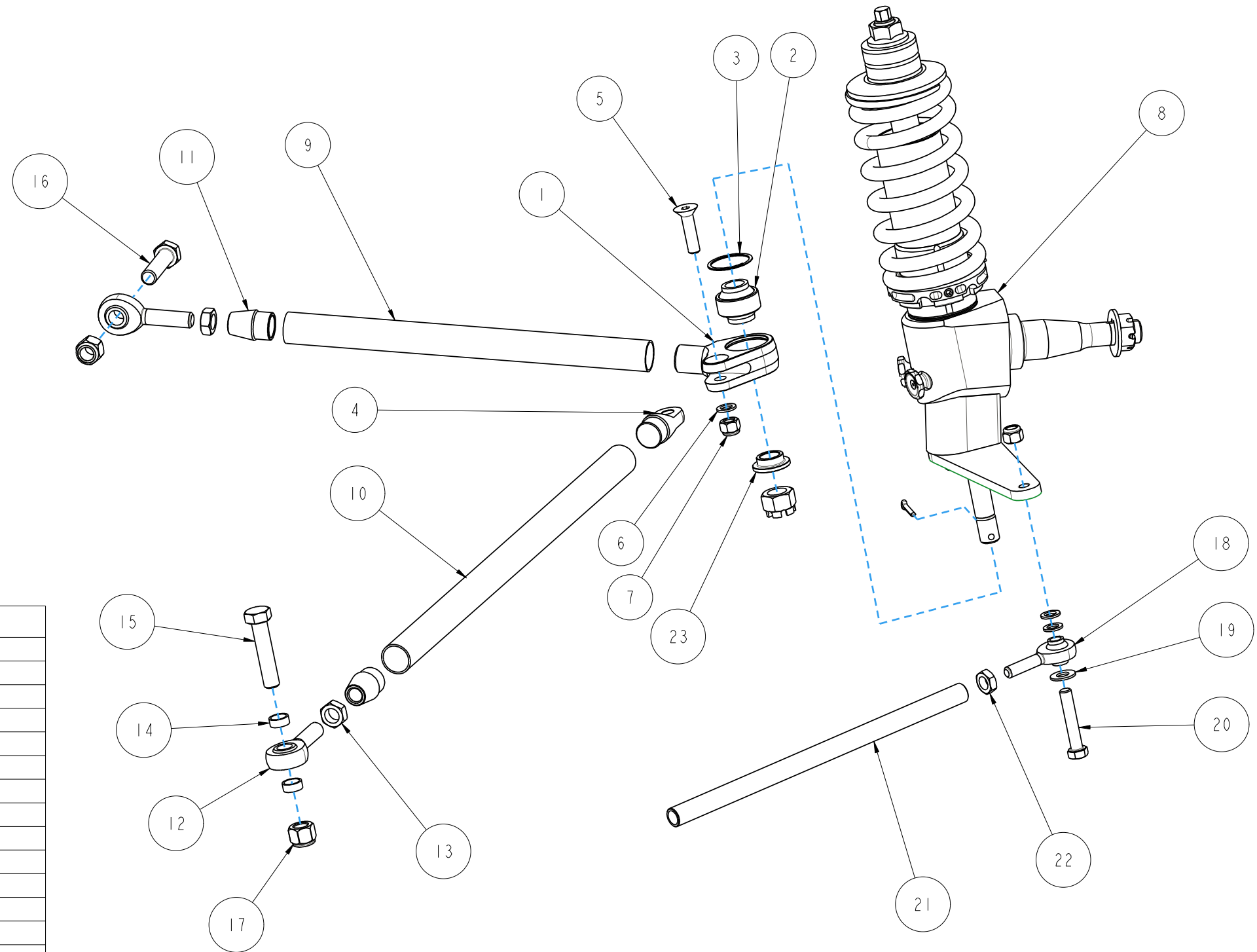
ITEM	QTY	PART NO.	DESCRIPTION
1	2	1001	Tie rod tubes
2	2	3128	Bolt 3/8-24 x 2" hex cap screw
3	2	3204	Right hand jam nut 7/16-20
4	2	3209	Locknut 3/8-24 nylon insert
5	4	3217	Aircraft washer 3/8 - .062
6	2	3253	Stainless 3/8 washer .406 x .812 OD
7	2	3386	3/8 x 7/16 right high misalignment rod end

This tie rod kit is designed to be used with Chassisworks' 6119 New Pinto Rack & Pinion.

1. Remove the rubber boots from the rack & pinion before starting.
2. Install the rack & pinion in the car making sure it is centered in the chassis. To center the steering box, rotate the splined shaft clockwise until it bottoms out. Next, rotate it counter clockwise until it bottoms out on the other side. Make sure you count the number of revolutions it makes. Divide the number of revolutions by 2 and rotate the spline shaft clockwise that amount.
3. Position the front steering arms on each spindle so the tire will be straight forward.
4. Thread the jam nuts on the rod ends so approximately 5 threads are left. Apply light oil or WD-40™ to tube ends. Do not force the rod ends. If they are tight, chase the thread with a 7/16-20 tap. Screw the rod ends into the tie rod tubes.
5. Bolt the rod ends to the steering arms with 3/8x2" hex head bolts and locknuts. The rod end mounts underneath the steering arm. The large 3/8" washer goes under the tie rod end.
6. Position the tie rod tube and rack & pinion tie rod beside each other to determine where to cut the stock rack & pinion rods. With a new Pinto rack & pinion (part #6119); the stock tie rod has to be cut off just even with the outside recess for the rubber boot. The recess in the tie rod then slips into the new tie rod tube. You want the weld joint to be covered by the rubber boots when reassembling the rack. If the tie rod tube is too long, you will have to shorten it. If it is shortened considerably, you will have to redrill the end out 15/32" to be able to slip the stock rod inside the new tube. Repeat for both sides making sure the spindle and steering arms are facing straight forward.
7. Replace the rubber boots. The smaller boot clamp will not be big enough to go around the tie rod tube so we suggest using a small plastic tie wrap for this.
8. Adjust the toe-in to approximately 1/32" to 1/8". Next you will need to check the bump steer.

Revision Date: June 29, 2004





ITEM	QTY	PART NO.	DESCRIPTION
1	1	899-052-205	PIVOT HOUSING DRIVER, STRUT CONTROL ARM, INTEGRAL SPINDLE STRUT
2	1	899-029-63-1.20	SPHERICAL BEARING HINIOT .856 OD x .625 BORE, 1.200 LENGTH
3	1	3679	RETAINING RING, DOUBLE TURN 1.442 OD x .043 THICK x .095 RADIAL WALL
4	1	1126	WELD EYE .880 TUBE ID x .375 WIDE x 3/8 HOLE
5	1	3471	FLAT HEAD SCREW 3/8-24 x 1.500
6	3	3217	AIRCRAFT WASHER, 3/8 x .062 THICK
7	2	3209	LOCKNUT 3/8-24 NYLON INSERT PLATED
8	1	883H400-CC0D	STRUT, INTEGRAL SPINDLE (GM) 4.00 TRAVEL, STUD MOUNT, Q2
9	1	A16.058-012.000	TUBE Ø1 x .058 4130 x 12
10	1	A16.058-018.000	TUBE Ø1 x .058 4130 x 18
11	2	1125	TUBE ADAPTER .88 x 1/2-20 RIGHT
12	2	3330	ROD END 1/2 x 1/2 RT 4130 TEFLON JMX8T
13	2	3206	1/2-20 HEX JAM NUT PLATED
14	2	1000	MISALIGNMENT BUSHING Ø1/2 BORE x .250
15	1	3100	BOLT, 1/2-20 x 2 1/4 HEX CAP SCREW, GRADE 8, PLATED
16	1	3102	BOLT, 1/2-20 x 2 HEX CAP SCREW, GRADE 8, PLATED
17	2	3200	LOCKNUT 1/2-20 NYLON INSERT PLATED
18	1	3386	ROD END 3/8 4340 RT MALE HRSMX6T
19	1	3253	WASHER, 3/8 STAINLESS, .812 OD x .406 ID x 1/16 THICK
20	1	3128	BOLT, 3/8-24 x 2 HEX CAP SCREW, GRADE 8, PLATED
21	1	1001	TIE ROD TUBE PINTO RACK AND PINION
22	1	3204	7/16-20 HEX JAM NUT PLATED
23	1	899-052-204	PIVOT SPACER LOWER STRUT PIVOT

DESCRIPTION		CONTROL ARM AND TIE ROD, VARISTRUT	
Chris Alston's CHASSISWORKS INC. 8661 YOUNGER CREEK DRIVE SACRAMENTO, CA 95828 (916) 388-0288 FAX 388-0295		PART NO. 6191 & 6194	
		6/28/04	DWG: 916191