READ ALL INSTRUCTIONS COMPLETELY AND THOROUGHLY UNDERSTAND THEM BEFORE DOING ANYTHING.
CALL KP COMPONENTS TECH SUPPORT (916) 388-0288 IF YOU NEED ASSISTANCE.

INSTALLATION GUIDE

KP COMPONENTS
INNOVATIVE TRUCK SUSPENSIONS

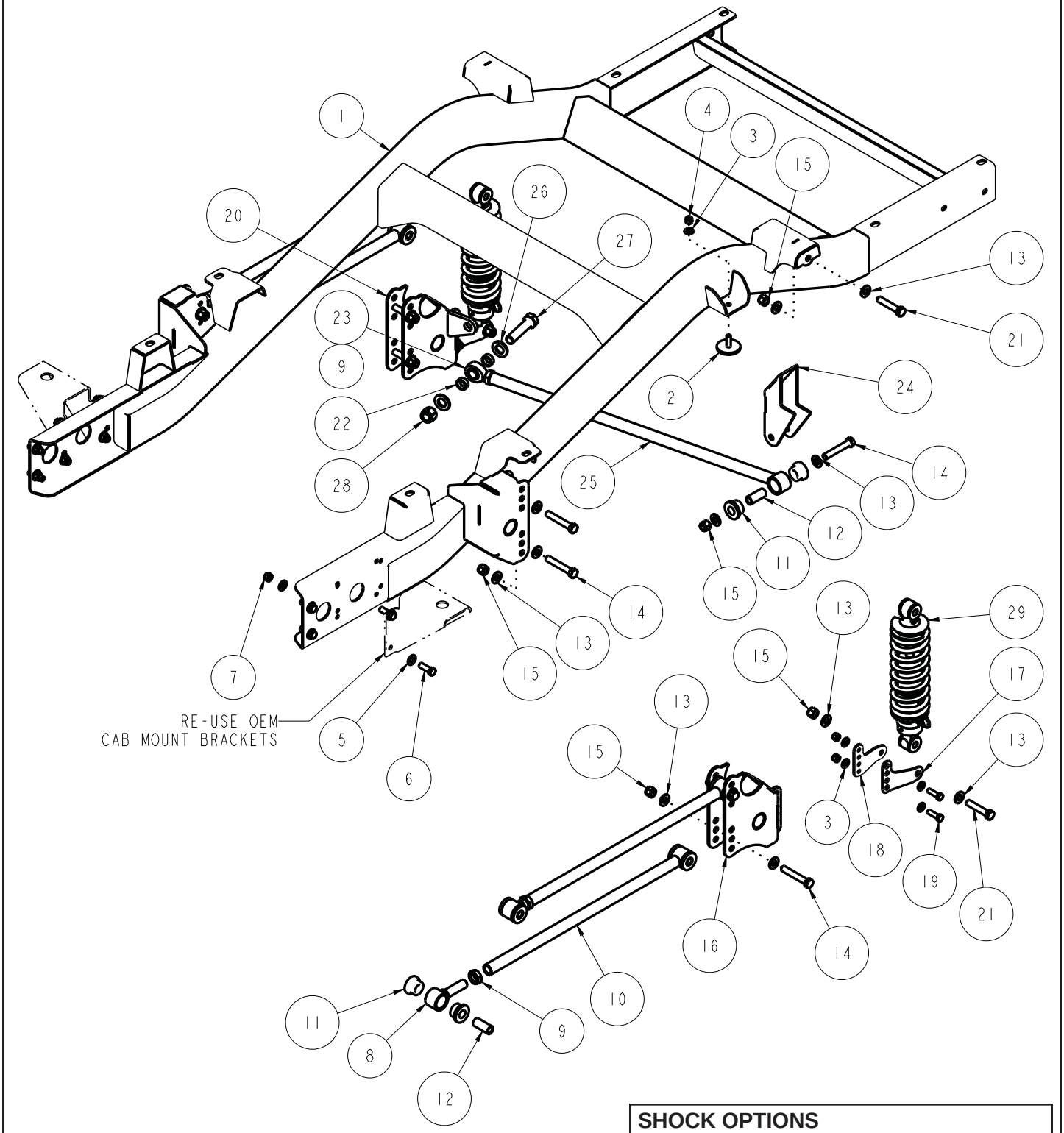
KPC RT4LX-C31

Through-Bed Rear Frame Clip with 4-Link Suspension
1963-1972 Chevrolet C10 Short-Bed Pickup

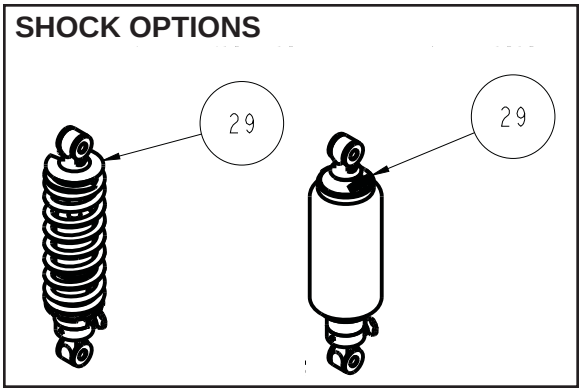
Description: Through-bed rear frame clip and 4-link suspension system for 1963-1972 Chevrolet C10 pickup. Includes frame assembly, axle brackets, 4-link arms, coil-over or air-spring shocks, and panhard bar or Watts link locater. Frame ships as bare steel assembly; mounting hardware included.

Note: Not designed for towing or hauling; bed capacity is 250 lbs.

SPECIAL ORDER PART NOT RETURNABLE FOR ANY REASON



SHOCK OPTIONS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	7929-144	4-LINK REAR CLIP, THRU FLOOR, 63-72 CHEVROLET/GMC C10
2	2	3173-03-08-32-S	BUMPSTOP, LOW PROFILE, 2.00 x .475, 3/8-16 x 1.13
3	10	3157-038S-C	WASHER, 3/8 SAE, ZINC PLATED, 13/32 ID x 13/16 OD x 1/16 THICK,
4	6	3101-038-16C	LOCKNUT 3/8-16, GRADE 5, NYLON INSERT, CLEAR ZINC
5	24	3157-044S-C	WASHER, 7/16 SAE, ZINC PLATED, 7/16 ID x 1 1/8 OD x 1/16 THICK
6	12	3100-044C1.25Y	HEX BOLT, 7/16-14 x 1 1/4, GRADE 8, YELLOW ZINC
7	12	3101-044-14C	LOCKNUT 7/16-14, GRADE 5 NYLON INSERT, CLEAR ZINC
8	4	7930-003	POLY EYE WELDMENT, 3/4-16 x 1 1/4 BORE
9	5	3102-075-16RC	JAM NUT, 3/4-16 RIGHT, CLEAR ZINC
10	4	7930-011-24.70	LINK BAR WELDMENT, 24.70 OAL, 3/4-16 x 90□$□, 1.25 ID POLY
11	18	3141-2440-0.88	POLYURETHANE BUSHING 1.63 x .750 x .750
12	9	3140-1624-056	SLEEVE, POLY BUSHING, □n□3/4 x .50 x 1.750
13	26	3157-050S-C	WASHER, 1/2 SAE, ZINC PLATED, 1/2 ID x 1 1/16 OD x 3/32 THICK
14	9	3100-050C3.00Y	HEX BOLT, 1/2-13 x 3, GRADE 8, YELLOW ZINC
15	13	3101-050-13C	LOCKNUT 1/2-13, GRADE 5, NYLON INSERT, CLEAR ZINC
16	1	7929-115	WELDMENT #115, AXLE MNT, WELD-ON, DRV, 63-72 CHEVROLET/GMC C10
17	2	2309	SHOCK MOUNT LOWER BRACKET, RIGHT HAND
18	2	2310	SHOCK MOUNT BRACKET LEFT
19	4	3100-038C1.25Y	HEX BOLT, 3/8-16 x 1 1/4, GRADE 8, YELLOW ZINC
20	1	7929-116	WELDMENT #116, AXLE MNT, WELD-ON, PSGR, 63-72 CHEVROLET/GMC C10
21	4	3100-050C2.50Y	HEX BOLT, 1/2-13 x 2 1/2, GRADE 8, YELLOW ZINC
22	2	D16.120-000.375	CUT TUBE, □n□1 x .120 WALL DOM x .375
23	1	3111-075X075-RT	ROD END, 3/4-16 RIGHT x 3/4 BORE, TEFLON, MTM-12
24	1	7935-100	WELDMENT #100, PANHARD BRKT, THRU FLOOR, 63-72 CHEVROLET/GMC C10
25	1	7935-047	PANHARD BAR WELDMENT, 30.4 OAL, 3/4-16 x 13□$□, 1.25 ID POLY
26	2	3157-075S-C	WASHER, 3/4 SAE, ZINC PLATED, 13/16 ID x 1 15/32 OD x 5/32 THICK
27	1	3100-075F3.25Y	HEX BOLT, 3/4-16 x 3 1/4, GRADE 8, YELLOW ZINC
28	1	3101-075-16C	LOCKNUT 3/4-16, GRADE 5, NYLON INSERT, CLEAR ZINC

SHOCK OPTIONS

29	2	VAS 11222-515	C/O Q2, POLY x POLY, 5.15 TRAVEL
29	2	VAS 132K2-515	SHOCK WAVE, 4, CAP PORT, DA, 5.18 TRAVEL, POLY EYES, STD VALVING

DESCRIPTION:
4-LINK REAR CLIP, COIL OVER, THRU FLOOR, 63-72 CHEVROLET/GMC C10

Chris Alston's **CHASSISWORKS INC.**
8661 YOUNGER CREEK DRIVE
SACRAMENTO, CA 95828
(916) 388-0288 FAX 388-0295

PART NO.
KPC RT4LC-C31

7/12/16 | DWG: KPC_RT4LC-C31

PARTS LIST

KPC RT4LX-C31 - Through-Bed Rear Frame Clip with 4-Link Suspension

Qty	Part Number	Description
1	7925-RX4LC31	4-link suspension components
1	7929-144	Rear frame clip assembly for ‘63-72 C10, through-bed style

7925-RX4LC31 - 4-Link Suspension Components

Qty	Part Number	Description
1	7926-RX4LC31	4-link hardware
1	7929-115	Axle bracket (weld-on), driver side
1	7929-116	Axle bracket (weld-on), passenger side
4	7930-011-24.70	Link bar weldment

7926-RX4LC31 - Hardware Box

Qty	Part Number	Description
2	2309	Shock mount bracket, right
2	2310	Shock mount bracket, left
4	3100-038C1.25Y	Bolt 3/8-16 x 1-1/4” hex head cap screw, yellow zinc
12	3100-044C1.25Y	Bolt 7/16-14 x 1-1/4” hex head cap screw, yellow zinc
4	3100-050C2.50Y	Bolt 1/2-13 x 2-1/2” hex head cap screw, yellow zinc
8	3100-050C3.00Y	Bolt 1/2-13 x 3” hex head cap screw, yellow zinc
6	3101-038-16C	Locknut 3/8-16 nylon insert, clear zinc
12	3101-044-14C	Locknut 7/16-14 nylon insert, clear zinc
12	3101-050-13C	Locknut 1/2-13 nylon insert, clear zinc
4	3102-075-16RC	Jam nut 3/4-16 Grade 5, clear zinc
8	3140-1624-056	Sleeve 1/2” ID x 3/4” OD x 1-3/4” long
16	3141-2440-0.88	Poly bushing .75” bore x .875” OAL
2	3151-1/2OZ	Poly lube 1/2 oz. cup
10	3157-038S-C	Washer flat 3/8” SAE, clear zinc
24	3157-044S-C	Washer flat 7/16” SAE, clear zinc
24	3157-050S-C	Washer flat 1/2” SAE, clear zinc
2	3173-03-08-32-S	Bumpstop 3/8-16 stud, low profile
4	7930-003	Poly eye weldment 3/4-16 x 1-1/4” bore, clear zinc

CAB MOUNT OPTIONS - You will receive one of the following

Qty	Part Number	Description
2	7929-103	Rear cab mount weldment for 1963-66 C10
2	7929-148	Rear cab mount weldment for 1967-72 C10

LOCATER OPTIONS - You will receive one of the following

Qty	Part Number	Description
1	KPC PHFU-C31	Panhard bar locater
1	KPC WLFU-C31-10	Watts link locater for GM 10-bolt rear end
1	KPC WLFU-C31-12	Watts link locater for GM 12-bolt rear end
1	KPC WLFU-C31-F9	Watts link locater for Chassisworks FAB9 rear end

SHOCK OPTIONS - You will receive one of the following

Qty	Part Number	Description
1	VAS 131K2-515	Air-spring poly-eye VariShock, single-adjustable, 5” travel
1	VAS 131K2-515	Air-spring poly-eye VariShock, double-adjustable, 5” travel
1	VAS 11022-515	Coil-over poly-eye VariShock, factory-valved, 5” travel
1	VAS 11122-515	Coil-over poly-eye VariShock, single-adjustable, 5” travel
1	VAS 11222-515	Coil-over poly-eye VariShock, double-adjustable, 5” travel

SPRING OPTIONS (Coil-Over Only) - You will receive one of the following

Qty	Part Number	Description
1	VAS 21-12175	175 lb/in rate coil spring x 12” long
1	VAS 21-12200	200 lb/in rate coil spring x 12” long
1	VAS 21-12250	250 lb/in rate coil spring x 12” long

Options Shown:
- Air-Spring Shocks
- Panhard Bar Locater
- Rear Cab Mounts

Options Shown:
- Coil-Over Shocks
- Watts Link Locater
- Rear Cab Mounts

INSTRUCTIONS

1. After removing the stock bed, place the chassis onto jackstands. You will need a minimum of eight jackstands; four to support the cab and four to support the rear frame.

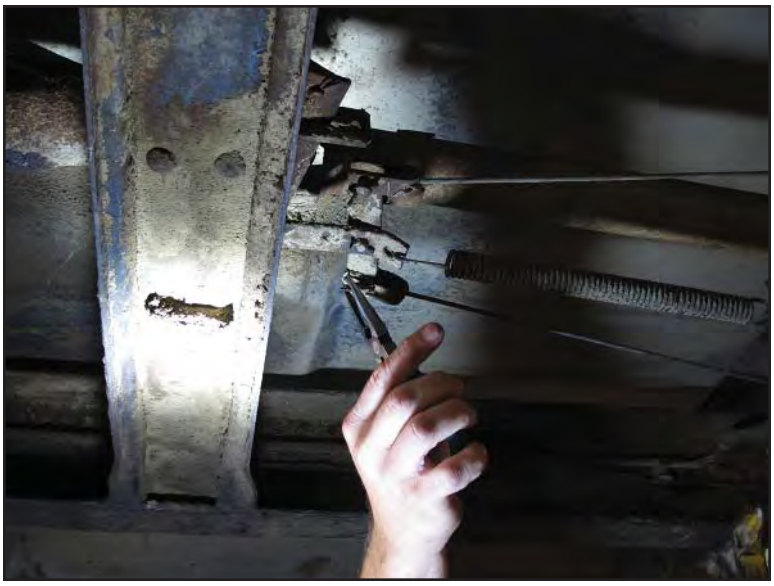
2. Place a jack underneath the rearend to support the weight.

3. Check that the frame is level left to right.

4. The rail underneath the cab must also be level front to rear.

5. Anything bolted to the rear frame must be removed. Here we begin by unbolting the driveshaft from the rearend.

6. Disconnect and remove parking brake cables.

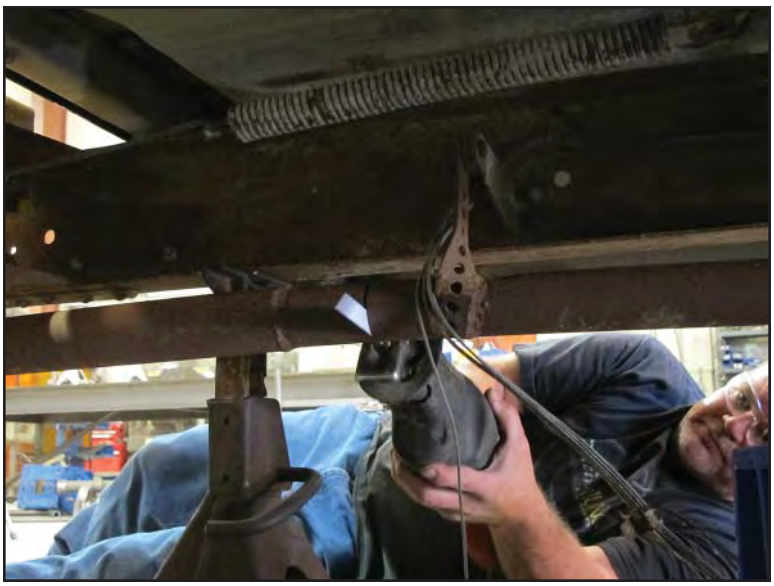


7. Disconnect brake lines.

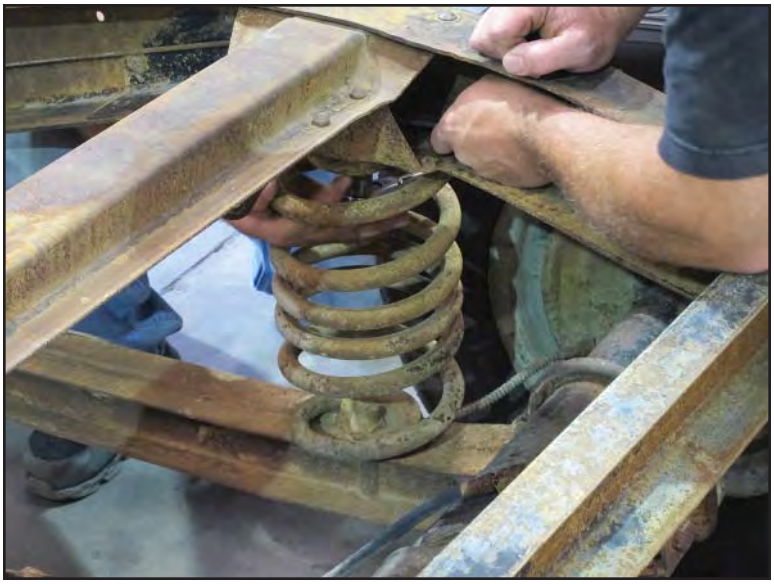
8. Unbolt driveshaft carrier bearing.

9. Remove shocks. Make sure the jack is holding the weight of the rearend before removing the bolts.

10. Remove the exhaust.



11. Unbolt the upper spring retainer.



12. Unbolt the trailing arms from the crossmember.

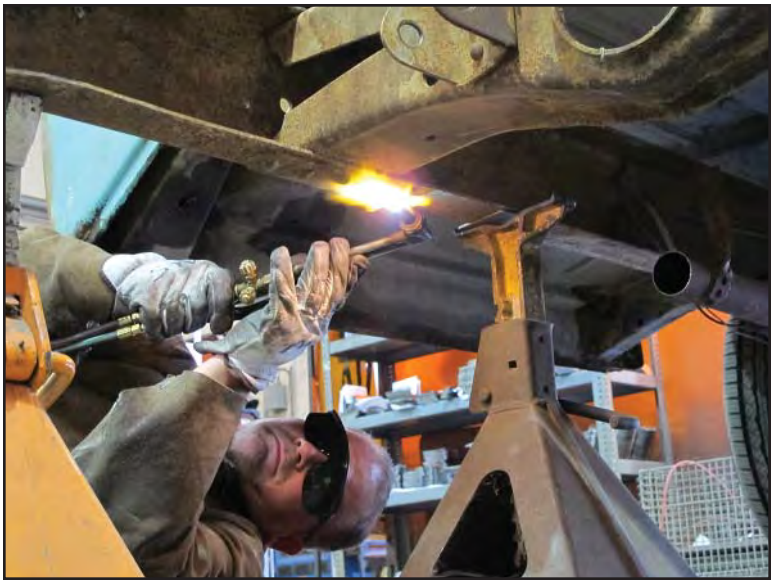
13. Make sure that all cables, lines, and hoses are disconnected before moving the rearend housing and suspension from the frame.

14. Measure the height at the top of the frame rail and record the measurement. We will use this dimension to align the new frame.

15. Measure and record the height of the frame rail at the cab.

16. Remove the rivets that hold the bed mounts closest to the cab. The mount is removed for better access to the suspension crossmember.

17. Remove the rivets that secure the suspension crossmember.



18. Remove the crossmember from the frame.

19. Measure and mark a line 3/8” back from the edge of the cab mount flange.

20. Use a square to extend the line across the top and bottom of the frame rail.

21. Cut both frame rails along the marked lines and remove the frame.

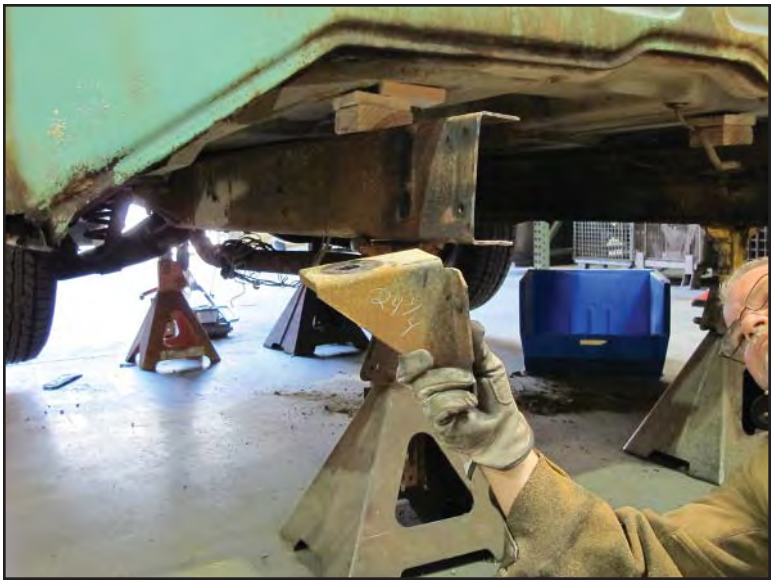
22. Unbolt the rearmost mounts from the cab.

23. Blocks are used to maintain the spacing after the body bushings are removed.

24. Remove the four rivets securing the rear cab mounts.

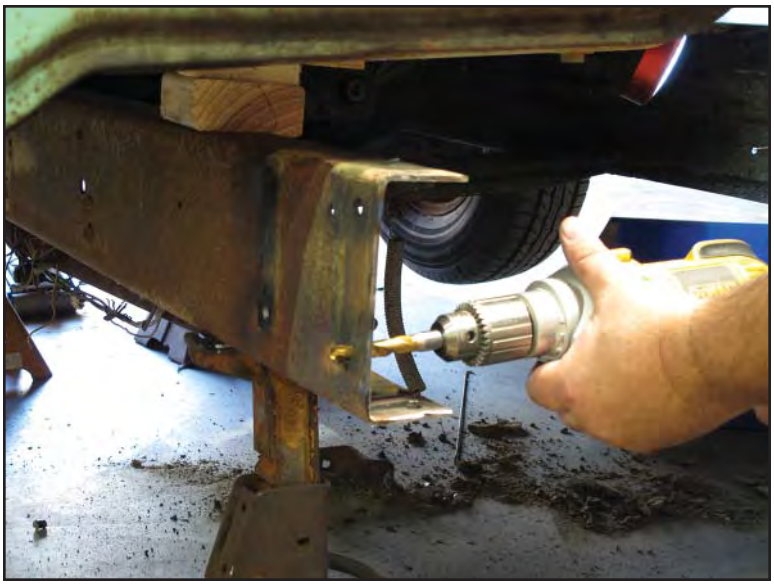
25. After the rivets heads were ground flush, an air hammer was used to knock the rivets loose.

26. We recommend using the optional KP replacement cab mounts. However, the factory cab mounts can be reused if they are in good condition.



27. Drill out the four cab mount holes in the frame and cab mount using a 7/16” drill bit.

28. We recommend cleaning the inside surfaces of the channel with a scotch-brite wheel to remove any rust or debris. The clean surface makes inserting the new rear frame much easier.



29. To make fitting the new frame easier, the end flanges of the factory rail are flared slightly.

30. A slightly oversized rod or block can be wedged in the frame channel forward of the bracket area to spread the flanges.

31. The new arrives as a bare steel factory-welded assembly.

32. With some help, move the frame into postion.

33. The new frame sits inside the factory frame channel. Once the rear frame is inserted, it must be shifted forward.

34. The lower two cab mount holes will line up with the frame in the correct position. A pin or large screwdriver is used to nudge the frame the last little bit.

35. With both sides aligned with the factory mounting holes, the frame will be square to the cab.

36. Compare the height at the top edge of the rail to the dimension from the factory frame taken earlier. Make any shimming adjustments to the jack stands at this time.

37. Compare the height of the frame rail at the cab to the previous measurement.

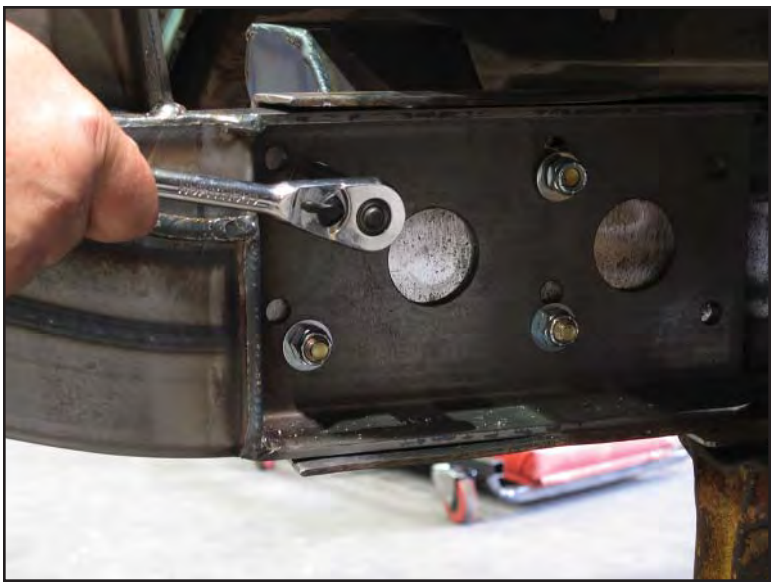
38. With the front and rear heights correct, the rearmost section of the frame should be level.

39. Bolt the rear cab mounts through the frame joint. Begin with one bolt and tighten to hold the mount in position.

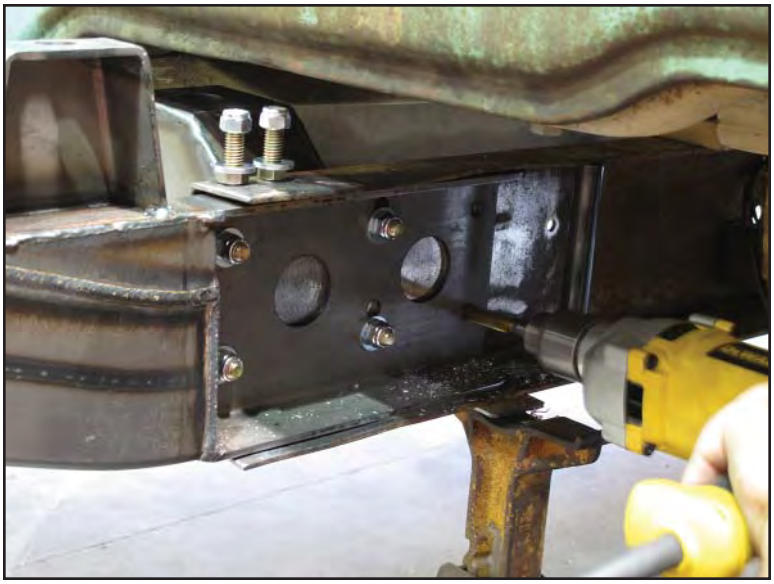
40. Using the cab mount as a jig, drill out the next hole with 7/16” bit to ensure perfect alignment.

41. Install hardware then proceed to drill out remaining holes.

42. Verify that all bolts have been tightened.



43. There are two additional holes further forward in the KP frame. Drill 7/16” holes through.



44. Install and tighten the front two bolts.

45. Use a clamp to close up any gap between the rails and tack weld securely.

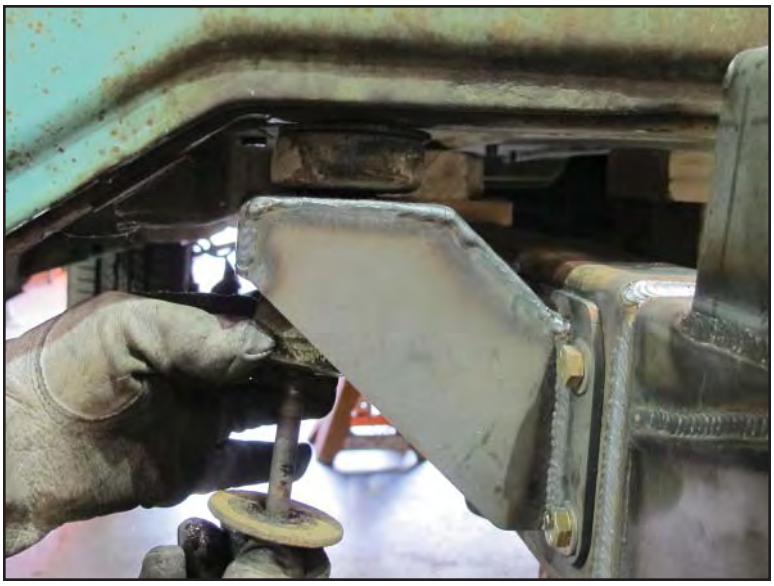
46. Weld completely along the top, side and bottom of the seam.

47. The two large holes in the KP frame are for rosette welds.

48. Weld completely around both holes.

49. Stitch weld along the top and bottom edges as well as the front edge below the cab.

50. Install the body mounts.



Rearend Housing Preparation

51. Remove suspension links from the housing and place on jackstand or suitable work area.

52. Use a cut-off wheel to cut along the weld beads on the panhard bar bracket. Be extremely careful not to cut into the axle tube.

53. After cutting the welds the panhard bar bracket can be removed.

54. Cut the trailing arm brackets from the axle tube.

55. Smooth out the remaining welds using a grinder and prep the area for the new axle brackets.

Watts Link Mount (OPTION)

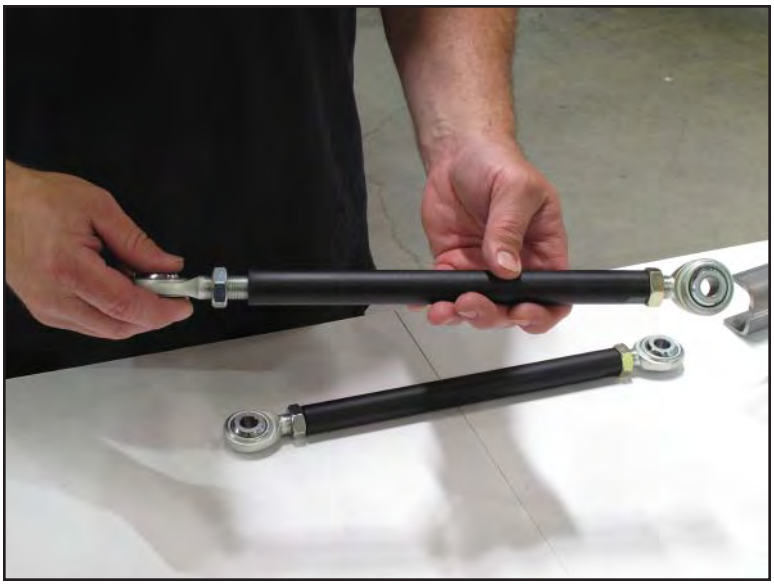
Refer to the installation guide included with the Watts link for detailed instructions and parts list.

56. Remove the bolts from the differential cover plate.

57. Install the Watts link housing mount over the factory differential cover. Use the hardware supplied with Watts link.

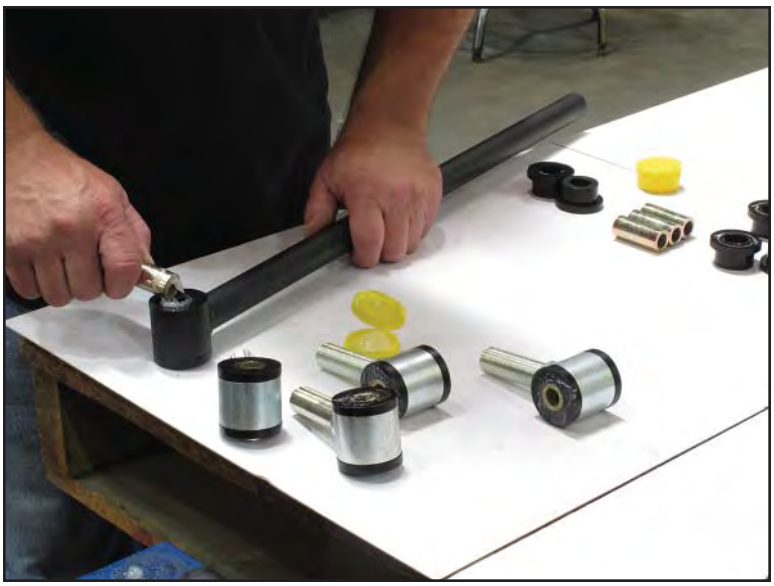
58. Install the pivot link.

59. Assembly the link tubes at set aside until needed.



4-Link Installation

60. Install the bushings and sleeves into the suspension link and bushing eyes. Use poly lube on all contact surfaces.



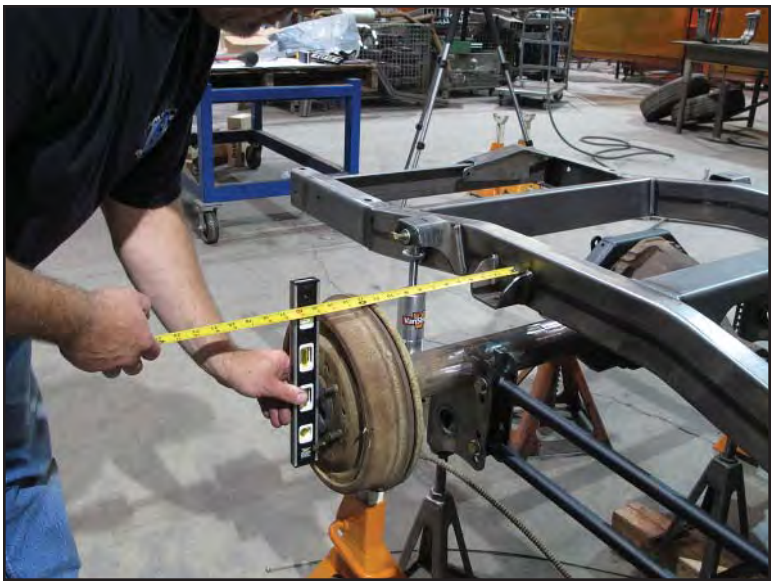
61. Screw the poly-bushing eyes completeley into the link tubes.

62. Position the housing onto jackstands below the frame and install all four suspension links.

63. Adjust or shim the jackstands so that the top of the axle tube is 2-3/4” below the bottom of the bumpstop bracket.

64. Install the lower shock mounts and shocks. To being the shock mounts should be position at the middle position. This can be moved later for different ride heights.

65. Center the housing between the frame rails.



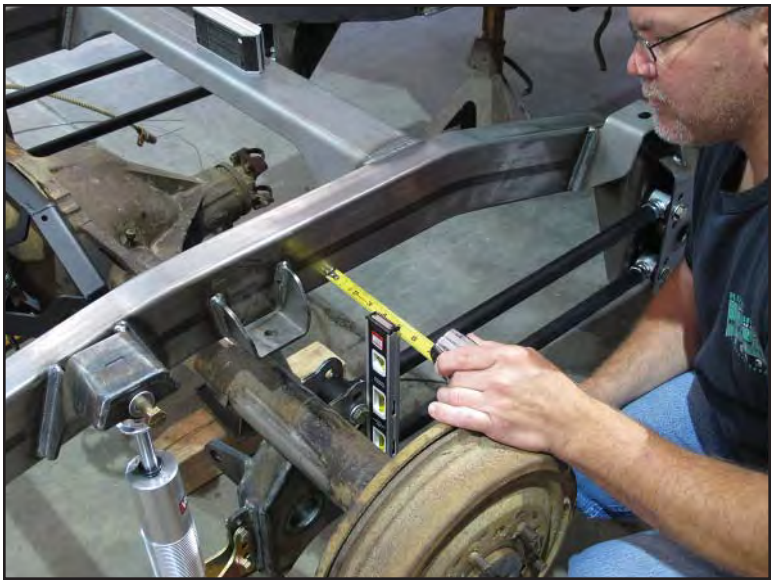
66. Measure the engine's crankshaft at the lower pulley. This measurement is used to set the pinion angle.

67. Raise or lower the pinion until the angle matches the measurement taken at the crankshaft.

68. Measure and record the outside distance of the forward suspension mounts.

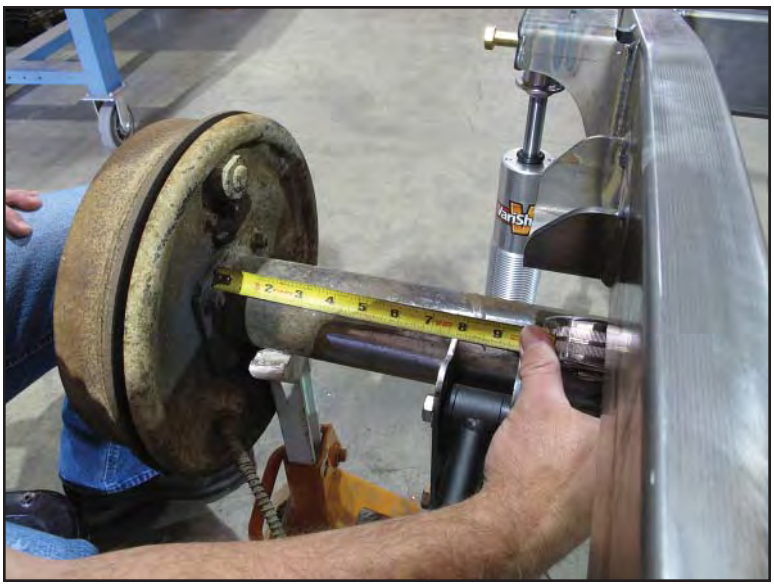
69. Measure and record the distance from the frame rail to the outside of the forward suspension mount.

70. Move the rear suspension bracket in or out to match the distance to the frame rail at the front mount.



71. Verify that the outside axle bracket distance matches the measurement from the front.

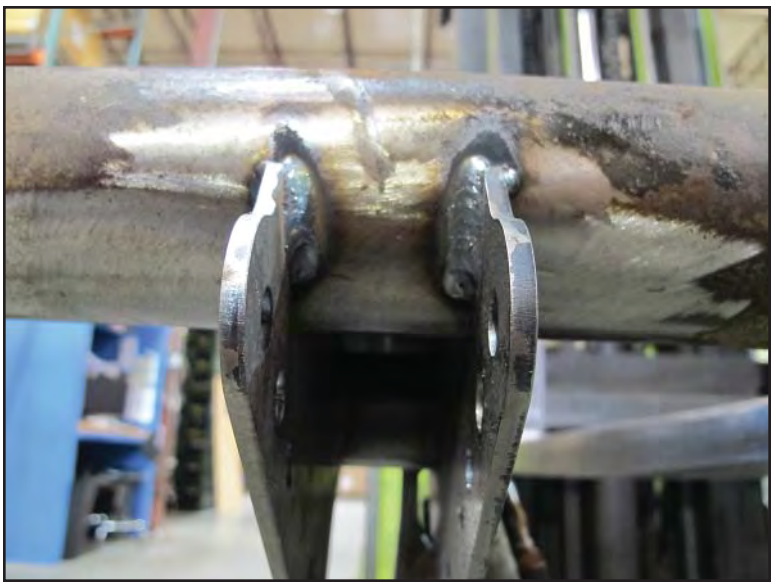
72. As a final check, measure from each housing end to the axle bracket to verify that the suspension brackets are centered on the housing.



73. Use a level to make sure the brackets are perfectly square to the axle tube, then tack weld.

74. Unbolt the suspension links from the housing and move the housing to a clear area to finish welding.

75. Weld along the inside of the brackets.

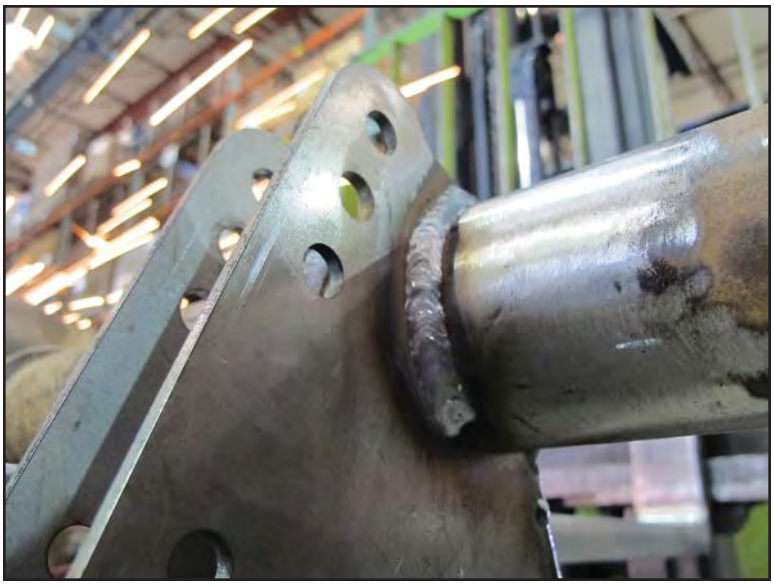


76. Weld along the top edge.

77. Weld completely around the outside.

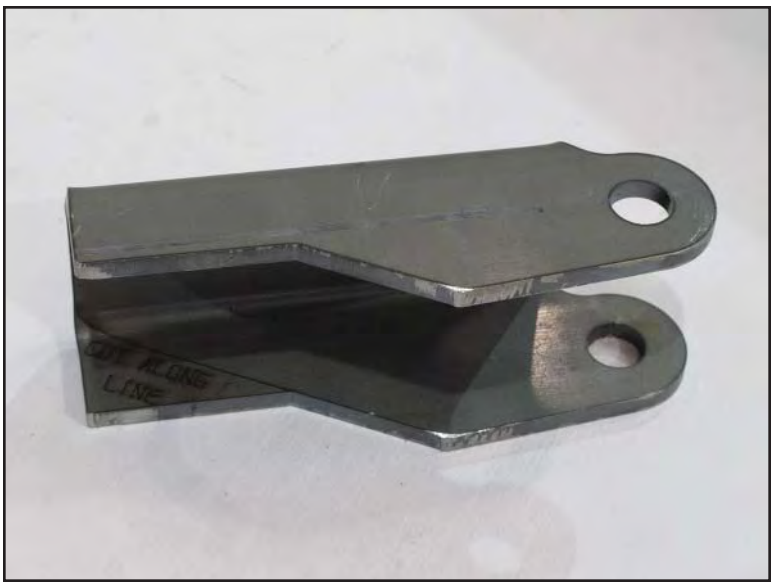
78. After the welds have cooled, the housing can be placed back under the frame.

79. Remeasure to ensure the housing is centered between the rails.



Watts Link Brackets (OPTION)

80. The short Watts link frame bracket must be trimmed before positioning onto the frame. The cut line is laser etched on the inside of the bracket.



81. Using a band saw, cut through both corners along the etched line.

82. Measure from the crossmember that sits rearward of the housing to the outside edges of the pivot link. The crossmember is tilted back, so a level is used to measure from a vertical line off the bottom corner of the crossmember.

83. Moving to the passenger side frame rail, measure and mark two lines the same distance as the pivot link's outside edges.

84. Extend the lines along the full height of the rail.

85. Align the bracket with the lines and tack weld into position.

86. Follow the same procedure when measuring for the lower end of the pivot. The level is extending a vertical line from the bottom corner of the crossmember from which to measure.

87. The measurements are transferred to the driver side frame rail.

88. Position the long Watts link frame bracket, then tack weld into position.

89. The lower Watts link tube can now be installed to adjust to the correct length.

90. Each rod end uses two spacers and two flat washers.

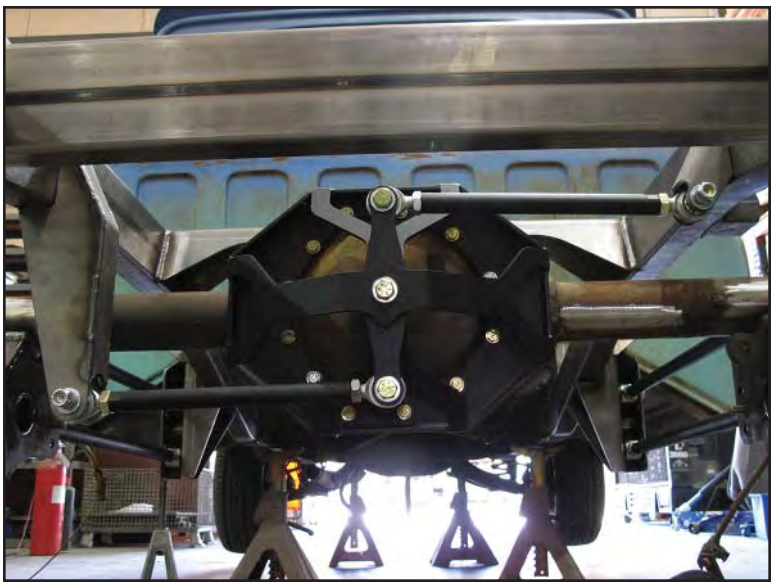
91. Lengthen or shorten the adjustment length until the pivot link is vertical.

92. Install the upper link tube, adjusting the length until it aligns with the frame bracket.

93. Once everything is correctly adjusted, unbolt the links at the frame brackets and completely weld the bracket to the frame.

94. Welds must run along the bottom of the frame rail, along both sides and across the top.

95. Corrections to the housing position can be made by lengthening one link and shortening the opposite by an equal amount. Tighten jam nuts after adjusting.

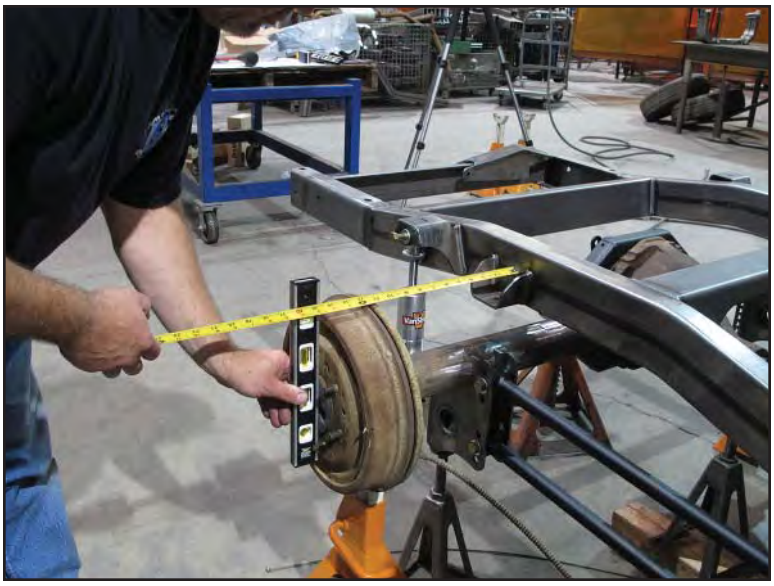


Panhard Bar (OPTION)

Refer to the installation guide included with the panhard bar for detailed instructions and parts list.

96. Assemble the panhard bar link tube. Leave approximately 6-8 thread showning above the jam nut.

97. Center the housing between the frame rails.



98. Bolt the spherical-bearing end of the panhard bar to the tab at the passenger side axle bracket.

99. The bushing end bolts to the loose frame bracket and will determine the bracket's mounting location.

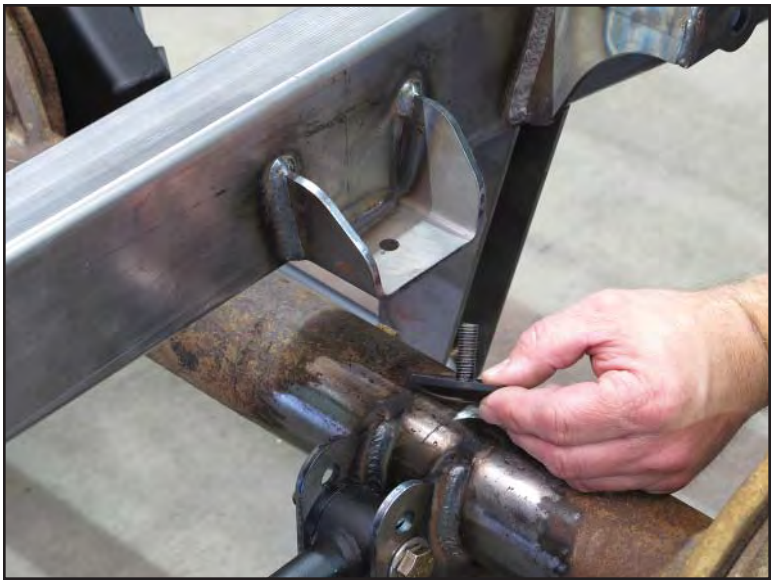
100. With the panhard bar bolted in place, tack weld the bracket.

101. Unbolt the panhard bar before fully welding the bracket to the frame rail.

102. Minor corrections to center the rearend housing can be made by unbolting the spherical-bearing end of the bar and screwing or unscrewing the rod end. Tighten the jam nut after adjusting.

Completing the Suspension

103. Install the bumpstops at this time.

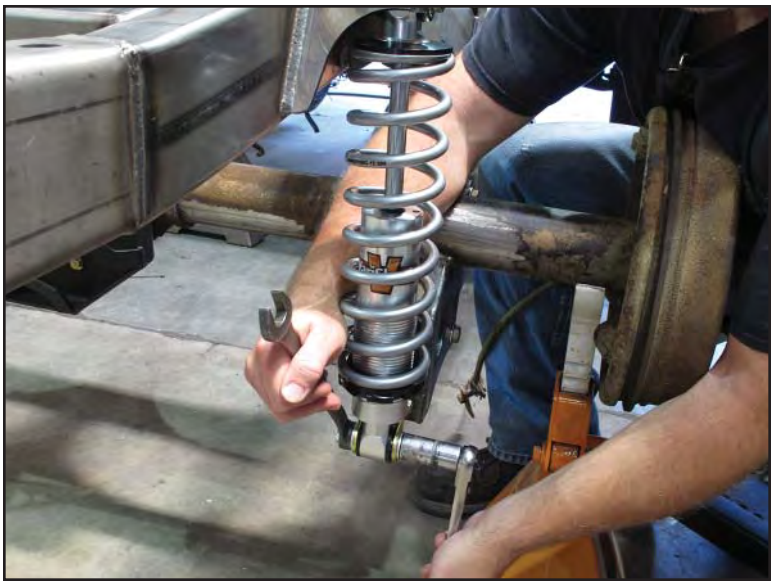


104. Initially, the suspension should be installed with the top links in the upper holes and the lower links in the bottom holes. This provides the most torque control. Link position may change at one or both ends when tuning for performance purposes.

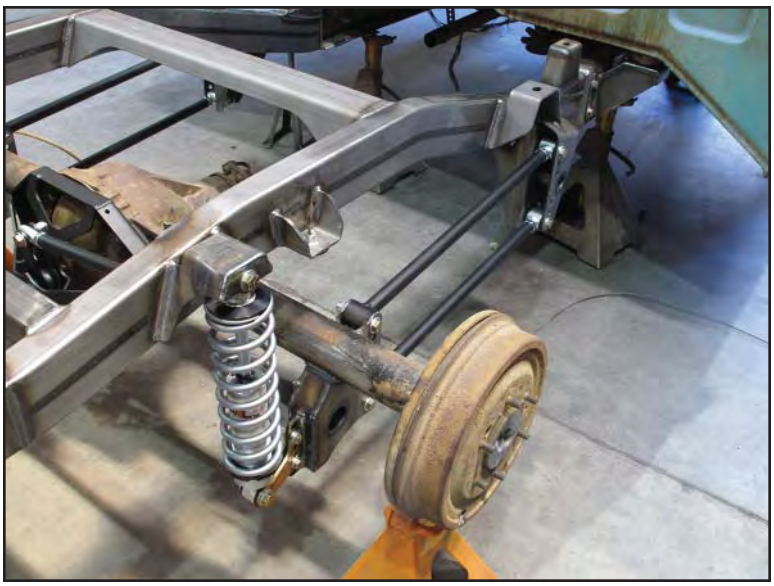
105. Fully assembled shocks can now be installed.

106. Lower shock mounts can be raised, lowered, or inverted to achieve a broad range of ride heights. Changing the mount position affects ride height only. Shock travel will remain the same. Bumpstops should be shimmed or modified to prevent the shocks from bottoming out.

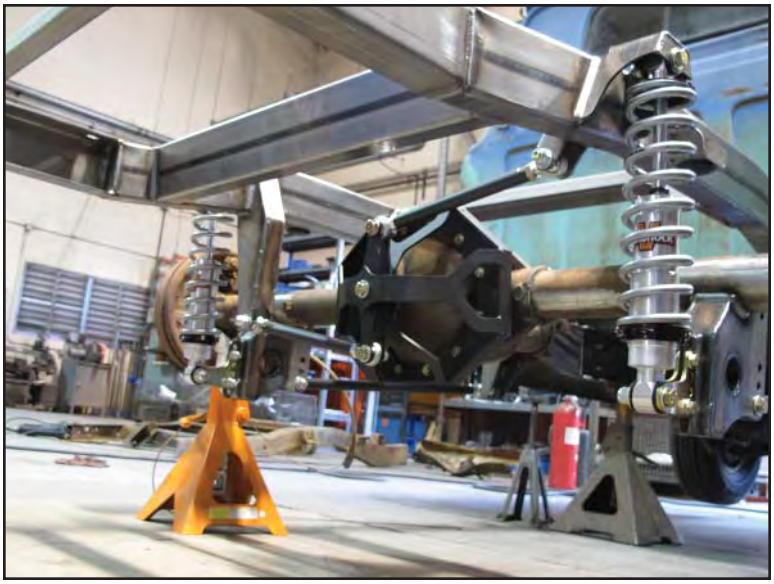
107. Tighten shock mounting hardware and spring seat set screws.



108. Completed suspension installation.

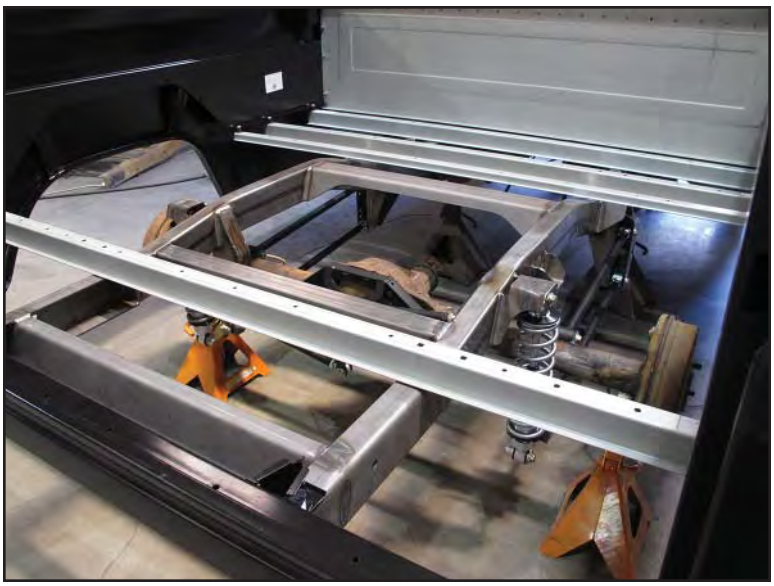


109. Please refer to individual component installation guides for detailed adjustment information.



110. The bed can now be installed.

111. This photo shows the under-bed version of the frame. Through-bed frames will require modification to the bed floor for clearance.



112. Bed mounts are located in the factory positions and accept standard hardware.

113. Completed installation.

NOTES

NOTES

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There are NO WARRANTIES, either expressed or implied. Neither the seller nor manufacturer will be liable for any loss, damage or injury, direct or indirect, arising from the use or inability to determine the appropriate use of any products. Before any attempt at installation, all drawings and/or instruction sheets should be completely reviewed to determine the suitability of the product for its intended use. In this connection, the user assumes all responsibility and risk. We reserve the right to change specification without notice. Further, Chris Alston's Chassisworks, Inc., makes **NO GUARANTEE** in reference to any specific class legality of any component. **ALL PRODUCTS ARE INTENDED FOR RACING AND OFF-ROAD USE AND MAY NOT BE LEGALLY USED ON THE HIGHWAY**. The products offered for sale are true race-car components and, in all cases, require some fabrication skill. **NO PRODUCT OR SERVICE IS DESIGNED OR INTENDED TO PREVENT INJURY OR DEATH**.

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