

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



KPC 4CBO-F71 Bolt-On 4-Link Cantilever System 1997-2003 Ford F150 Pickup



Description: Bolt-on 4-link cantilever suspension system for 2007-15 Chevrolet and GMC pickups. Includes 4-link, cantilever, shocks, panhard bar. Optional step notch, air bags and Watts link.

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KPC PHB-F71	Panhard Bar, Bolt-On	16

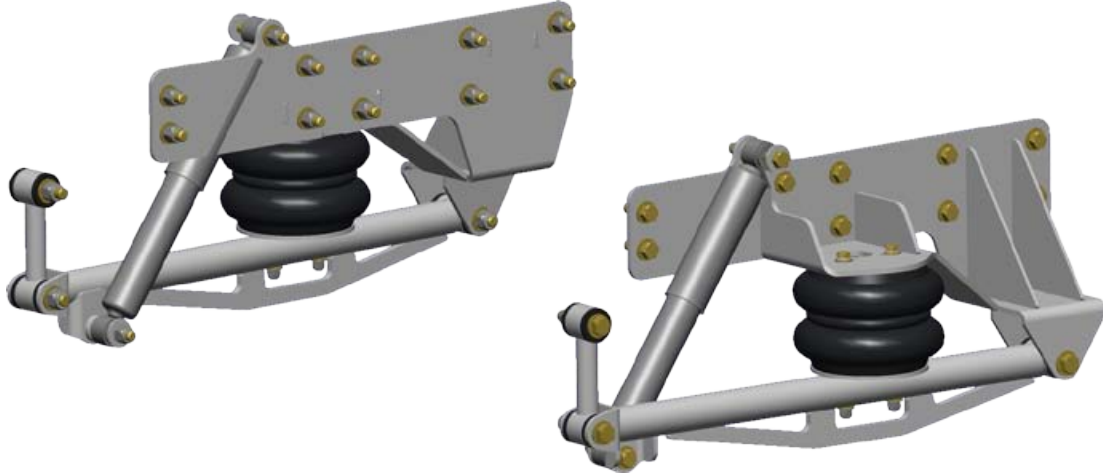
Instructions included for components listed in chart.

INSTALLATION GUIDE

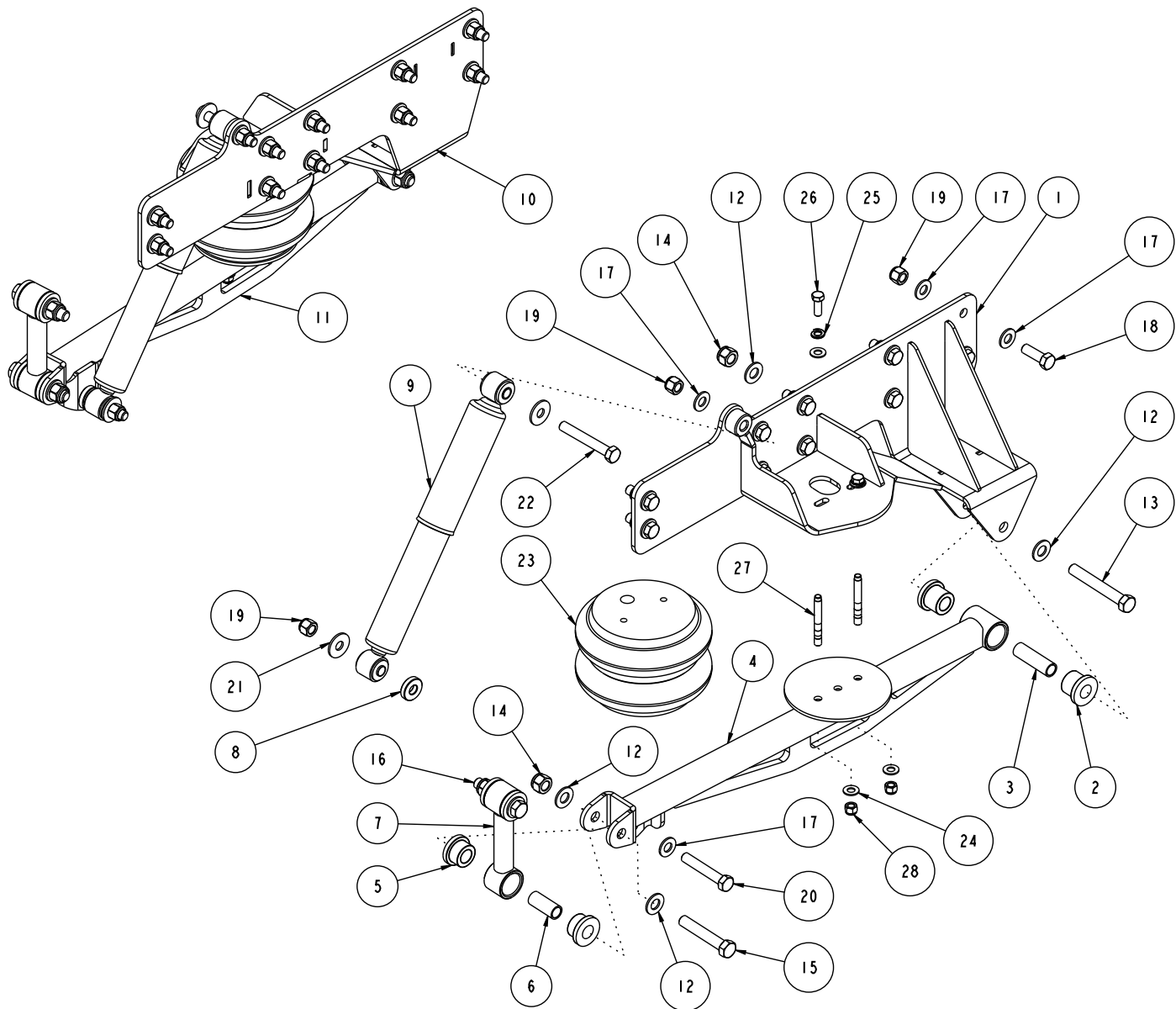


KPC CBO-F71

**Bolt-On Cantilever System
1997-2003 Ford F150 Pickup**



Description: Bolt-on, urethane-bushed cantilever system for 1997-2003 Ford F150. Includes bolt-on frame brackets, cantilever arms, air bags, shock absorbers, dog-bone endlinks, and mounting hardware.



ITEM	QTY	PART NO.	DESCRIPTION
1	1	7931-045	FRAME BRACKET #45 WELDMENT, DRV, CANTILEVER, 97-03 FORD F150
2	4	3141-2440-1.19	POLYURETHANE BUSHING 1.63 x .750 x .938
3	2	3140-1824-080	SLEEVE, POLY BUSHING \varnothing 9/16 x 3/4 x 2 1/2
4	1	7931-016	CANTILEVER BAR, 26" CENTERS, DRIVER, 2.5" SHOCK MOUNT
5	8	3141-2440-0.88	POLYURETHANE BUSHING 1.63 x .750 x .750
6	4	3140-1824-056	SLEEVE, POLY BUSHING, \varnothing 9/16 x 3/4 x 1 3/4
7	2	7931-005	DOG BONE LINK WELDMENT, 20 RIM
8	2	7931-084	SPACER, \varnothing 1 1/4 OD x \varnothing 1/2 ID x .300 LONG
9	2	KPC SANS-UF	STEEL BODY SHOCK, UNIVERSAL FRONT, C-51 CANTILEVER
10	1	7931-046	FRAME BRACKET #46 WELDMENT, PSGR, CANTILEVER, 97-03 FORD F150
11	1	7931-017	CANTILEVER BAR, 26" CENTERS, PASSENGER, 2.5" SHOCK MOUNT
12	12	3157-056S-C	WASHER, 9/16 SAE, ZINC PLATED, 19/32 ID x 1 5/32 OD x 3/32 THICK
13	2	3100-056C4.00Y	HEX BOLT, 9/16-12 x 4, GRADE 8, YELLOW ZINC
14	6	3101-056-12C	LOCKNUT, 9/16-12, GRADE C, NYLON INSERT, CLEAR ZINC
15	2	3100-056C3.25Y	HEX BOLT, 9/16-12 x 3 1/4, GRADE 8, YELLOW ZINC
16	2	3100-056C3.00Y	HEX BOLT, 9/16-12 x 3, GRADE 8, YELLOW ZINC
17	44	3157-050S-C	WASHER, 1/2 SAE, ZINC PLATED, 1/2 ID x 1 1/16 OD x 3/32 THICK
18	20	3100-050C1.50Y	HEX BOLT, 1/2-13 x 1 1/2, GRADE 8, YELLOW ZINC
19	24	3101-050-13C	LOCKNUT 1/2-13, GRADE 5, NYLON INSERT, CLEAR ZINC
20	2	3100-050C3.00Y	HEX BOLT, 1/2-13 x 3, GRADE 8, YELLOW ZINC
21	4	899-044.51-1.36	STEEL WASHER \varnothing 1.360 x .510 ID x .105 THICK
22	2	3100-050C3.50Y	HEX BOLT, 1/2-13 x 3 1/2, GRADE 8, YELLOW ZINC
23	2	3470-RE7	AIR BAG, 200 PSI, 7" DIAMETER
24	8	3157-038S-C	WASHER, 3/8 SAE, ZINC PLATED, 13/32 ID x 13/16 OD x 1/16 THICK,
25	4	3108-038L-C	LOCK WASHER, HELICAL SPRING \varnothing 3/8, STEEL, ZINC
26	4	3100-038C1.00Y	HEX BOLT, 3/8-16 x 1, GRADE 8, YELLOW ZINC
27	4	3163-06C-3.00B	STUD 3/8-16 x 3.0 OAL 7/16 THREAD - 1 3/8 THREAD, 1/4 NOSE
28	4	3101-038-16C	LOCKNUT 3/8-16, GRADE 5, NYLON INSERT, CLEAR ZINC

DESCRIPTION		CANTILEVER SYSTEM, BOLT-ON FORD F-150 PICKUP	
<i>Chris Alston's</i> CHASSISWORKS INC. 8661 YOUNGER CREEK DRIVE SACRAMENTO, CA 95828 (916) 388-0288 FAX 388-0295		PART NO. KPC CBO-F71	
		3/23/09	DWG: 7927-CBO-F71

PARTS LIST

KPC CBO-F71 - Bolt-on Cantilever System, '97-03 F150

Qty	Part Number	Description
1	7931-016	26" cantilever bar, 2-1/2" shock mount, driver side
1	7931-017	26" cantilever bar, 2-1/2" shock mount, passenger side
1	7931-045	Cantilever frame-bracket weldment, driver side
1	7931-046	Cantilever frame-bracket weldment, passenger side

KPC CDL-XX - Cantilever Dog-bone Link

Qty	Part Number	Description
1	7931-XXX	Dog-bone link weldment (part number is based on selected tire size)

7926-CBOF71 - Hardware Bag

Qty	Part Number	Description
4	3100-038C1.00Y	Bolt 3/8-16 x 1" hex head cap screw
20	3100-050C1.50Y	Bolt 1/2-13 x 1-1/2" hex head cap screw
2	3100-050C3.00Y	Bolt 1/2-13 x 3" hex head cap screw
2	3100-050C3.50Y	Bolt 1/2-13 x 3-1/2" hex head cap screw
2	3100-056C3.00Y	Bolt 9/16-12 x 3" hex head cap screw
2	3100-056C3.25Y	Bolt 9/16-12 x 3-1/4" hex head cap screw
2	3100-056C4.00Y	Bolt 9/16-12 x 4" hex head cap screw
4	3101-038-16C	Locknut 3/8-16 nylon insert
24	3101-050-13C	Locknut 1/2-13 nylon insert
6	3101-056-12C	Locknut 9/16-12 nylon insert
4	3108-038L-C	Lock washer 3/8" regular
4	3140-1824-056	Sleeve 9/16 ID x 3/4 OD x 1-3/4" long
2	3140-1824-080	Sleeve 9/16 ID x 3/4 OD x 2-1/2" long
8	3141-2440-0.88	Poly bushing .75 bore x .875" OAL
4	3141-2440-1.19	Poly bushing .75 bore x .1.188" OAL
2	3151-1/2OZ	Poly lube 1/2 oz. cup
8	3157-038S-C	Washer flat 3/8" SAE plated
44	3157-050S-C	Washer flat 1/2" SAE plated
12	3157-056S-C	Washer flat 9/16" SAE plated
4	3163-06C-3.00B	Stud 3/8-16 x 3.0" OAL
2	7931-084	Spacers 1-1/4 x 1/2 x .300" long
4	899-044.51-1.36	Steel washer .510 ID x 1.360 OD x .105" thick plated

Shock and Bag Options

Qty	Part Number	Description
2	KPC SANS-UCR	Shock, steel body
1	VAS 12122-715	VariShock, billet-aluminum body, single adjustable
1	VAS 12222-715	VariShock, billet-aluminum body, double adjustable
2	3470-SS7	Air bag, 250 psi, 7" diameter (optional)

INSTRUCTIONS

1. Raise the truck and support with jack stands placed under the frame, between the cab and front of the bed mounting brackets.

2. Remove the rear bumper and the bed.

The 4-link kit must be installed before installing the cantilever kit.

Note: Photos shown may not match your exact application.

3. The rear leaf-spring bracket must be removed by taking out the factory rivets.



4. Remove each rivet head using a cutting torch or by using a cutoff wheel to grind a deep "X" into the heads of the rivets, and then removing the rivet head with an air chisel.



5. Once the rivet heads are removed, a round-tip air-hammer tool can be used to drive the rivets clear of the bracket and frame.



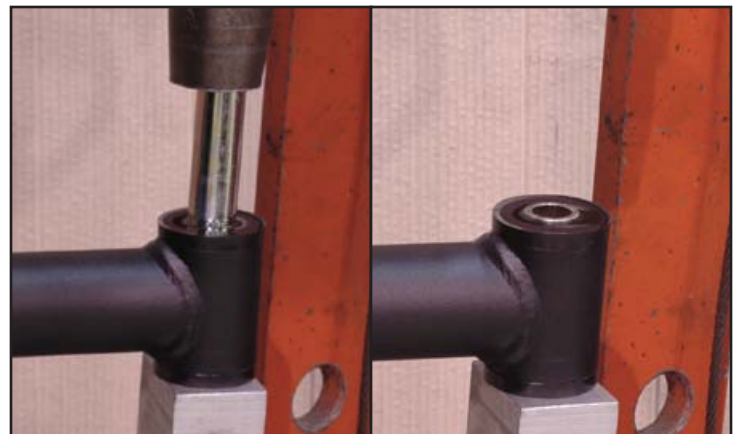
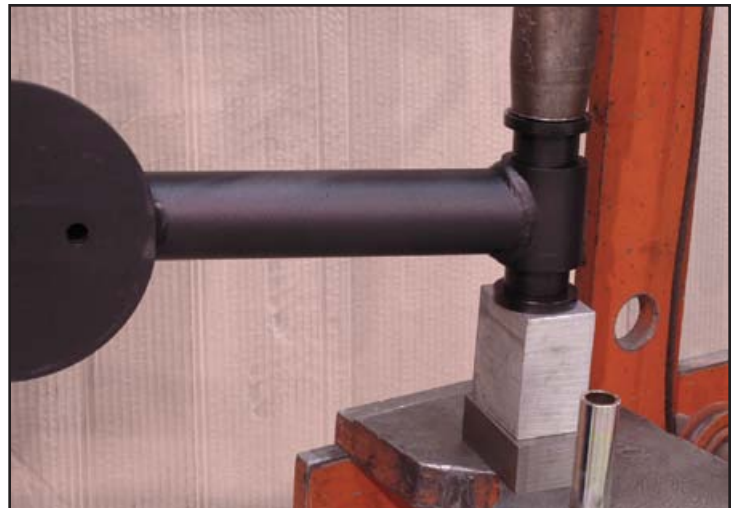
6. Using a 1/2" bit, drill out the four rivet holes closest to the end of the frame rail that were used to mount the leaf-spring bracket.
7. Bolt the driver-side cantilever frame bracket to the frame using four 1/2-13 x 1-1/2" hex bolts, flat washers, and locknuts. Use flat washers under each bolt head and locknut. Torque to 45 lb-ft.
8. Drill the six forward holes in the frame using the cantilever frame bracket as a guide.
9. Install the remaining six 1/2-13 x 1-1/2" hex bolts, flat washers, and locknuts. Use flat washers under each bolt head and locknut. Torque to 45 lb-ft.



NOTE: The forward two bolts on the driver's side cantilever bracket also attach the panhard bar bracket (which must be installed at this time) and therefore do need washers.

10. Repeat procedure for the passenger side of the truck.

11. Press the 1-3/16"-long poly bushings into the cantilever arms until fully seated.
12. Apply a small amount of poly lube to the outside of the 2-1/2" long sleeve and press it into the poly bushings until centered.



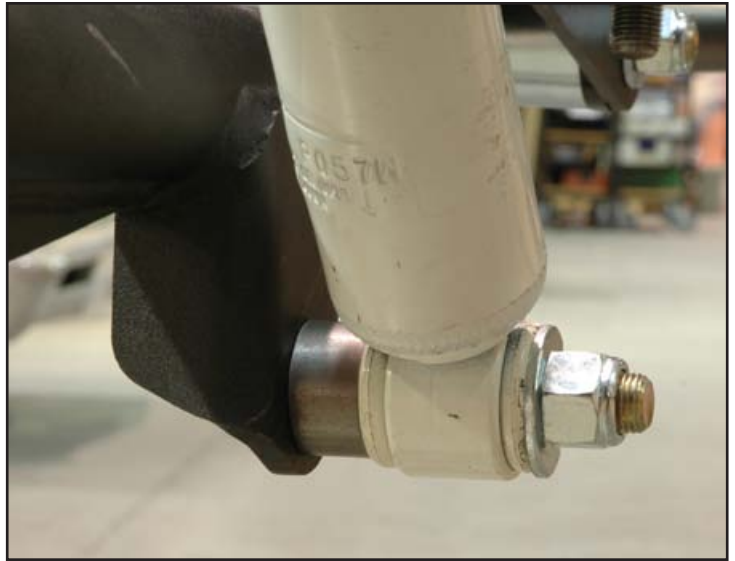
13. Thread the short end of the 3/8" x 3" studs into the outside holes at the bottom of the air bags. Do not overtighten the studs. Overtightening the studs will damage the air bag.
14. Orient the bag so that the air inlet at the top of the bag goes toward the inside of the frame bracket.
15. Mount the air bag to the frame bracket using two 3/8-16 x 1" bolts, lock washers, and flat washers. Leave the bolts loose at this time.
16. Mount the driver-side cantilever arm to the air bag by inserting the studs through the arm and securing with 3/8-16 locknuts and flat washers. Leave the locknuts loose at this time.
17. Mount the rear cantilever-arm eye into the frame-bracket clevis and secure using 9/16-12 x 4" hex bolt, flat washers, and locknut. Use a flat washer under the bolt head and locknut. Leave hardware loose at this time.
18. Once the cantilever arm is in place you can tighten the upper air bag bolts, lower studs and cantilever bolt.



19. Press the 7/8"-long poly bushings into the ends of each dog-bone link until fully seated.
20. Apply a small amount of poly lube to the outside of the 1-3/4"-long sleeves and press it into the poly bushings until centered.
21. Install one end of the dog-bone link into the cantilever-arm clevis using the 9/16-12 x 3-1/4" hex bolt, flat washers, and locknut. There should be washers under the bolt head and locknut.
22. Raise the cantilever arm to install the dog-bone link into the 4-link axle bracket tabs.
23. Use 9/16-12 x 3" hex bolt, flat washers, and locknuts to secure the dog-bone link.
24. Tighten all three 9/16" hex bolts on the cantilever arm to 55 lb-ft.
25. Repeat steps for the passenger side of the truck.



26. Slide the 1.360 OD washer over the 1/2-13 x 3-1/2" hex bolt. Place the bolt through the upper shock eye and through the shock mount boss on the cantilever frame mount bracket. Secure with 1/2" flat washer, and locknut.
27. Slide a 1/2" flat washer onto the 1/2-13 x 3" hex bolt.
28. Insert the bolt through the shock mount tab on the cantilever arm.
29. Place the 1-1/4"-OD spacer over the bolt followed by the shock, 1.360"-OD flat washer, and locknut. Torque to 45 lb-ft.
30. This completes the installation.



VariShock Installation

Follow the same procedure above for the VariShock adjustable shocks. Note the knobs need to be positioned as shown.



WARRANTY NOTICE:

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KP Components
 A Chris Alston's Chassisworks Inc., Brand
 8661 Younger Creek Drive
 Sacramento, CA 95828
 Technical Support: KPtech@cachassisworks.com



KPC 4LBO-F71 97-03 FORD F-150 BOLT ON 4-LINK

INSTALLATION INSTRUCTIONS

1. Jack the vehicle and support it with stands under the frame on all four corners. The suspension must be left handing.
2. Remove the bed and rear bumper.
3. Remove the rear sway bar (if applicable) and the rear shocks.
4. Support the rear axle to facilitate removal of the leaf springs. (cargo straps work well for this) Figure 1.
5. Remove and discard the factory U-bolts and the bolts securing the leaf springs to the hangers.
6. Remove and discard the rear leaf springs leaving the axle hanging in the cargo straps.
7. Remove and discard the forward and rear factory leaf spring brackets.
8. Install the forward 4-link brackets where the forward leaf spring brackets were (using the existing rivet holes left empty in step 7) with the supplied hardware, eight $\frac{1}{2}$ " x $1\frac{1}{4}$ " bolts, eight $\frac{1}{2}$ " flat washers (place between the frame and the nuts) and eight $\frac{1}{2}$ " locking nuts. Figure 2.
9. Install the rear 4-link brackets on the axle as shown in Figure 3 with the supplied U-bolts, black $\frac{9}{16}$ " washers and black $\frac{9}{16}$ " nuts. Torque U-bolt nuts to 120 lbs.
Note: The axle bracket with the panhard bar attachment installs on the passenger's side.
10. Assemble the 4-link bars and ends by installing the urethane bushings, steel sleeves, and jam nuts. Then screw the adjustable ends into the bars. The heim end is for the panhard bar. Figure 4 A and B. Caution: All 4-link steel sleeves have an inner diameter of $\frac{1}{2}$ ". All cantilever steel sleeves have an inner diameter of $\frac{9}{16}$ ".
11. Install the nonadjustable ends of the 4-link bars into the rear 4-link brackets using four $\frac{1}{2}$ " x 3" bolts and four $\frac{1}{2}$ " locking nuts.
Note: These four bolts must be installed from the center of the truck out to avoid hitting the frame.
12. Install the adjustable ends of the 4-link bars into the forward brackets using four $\frac{1}{2}$ " x 3" bolts and four $\frac{1}{2}$ " locking nuts.
Note: Route your emergency brake cable between the upper and lower 4-link bars on your driver's side.
13. Attach the adjustable (heim) end of the pre-assembled panhard bar to the passenger side axle bracket as shown in Figure 5. Using one $\frac{3}{4}$ " x $2\frac{1}{2}$ " bolt, one $\frac{3}{4}$ " flat washer, and one $\frac{3}{4}$ " locking nut.
14. Attach the "panhard to frame" bracket to the nonadjustable end of the panhard bar using one $\frac{1}{2}$ " x 3" bolt and one $\frac{1}{2}$ " locking nut. Figure 6.
15. Temporarily place the pan hard bar frame mount inside the frame rail. You'll want the angle of the pan hard bar to keep the bar appx. 1 inch away from the differential. (If you're running a step notch, this might require you trimming the notch to make room for the pan hard bar frame bracket). Mark or punch the mounting holes prior to drilling.
16. Drill two $\frac{1}{2}$ " holes and the install the frame mount using two $\frac{1}{2}$ " x $1\frac{1}{2}$ " bolts, flat washer, and $\frac{1}{2}$ " locking nuts. Figure 7.
Note: If you're installing a KP Components cantilever system, the pan hard bar frame mount will utilize the two forward mounting holes on the cantilever bracket.
17. Now install your bed and rear bumper and your installation is complete.

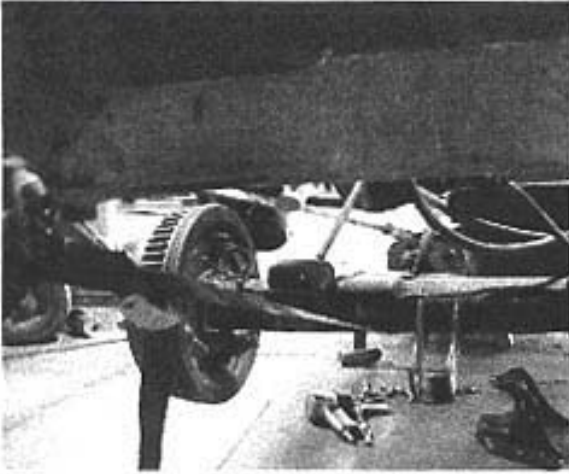


Figure 1

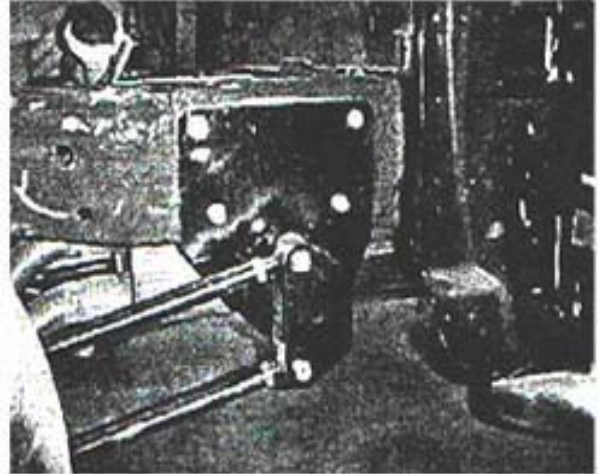


Figure 2

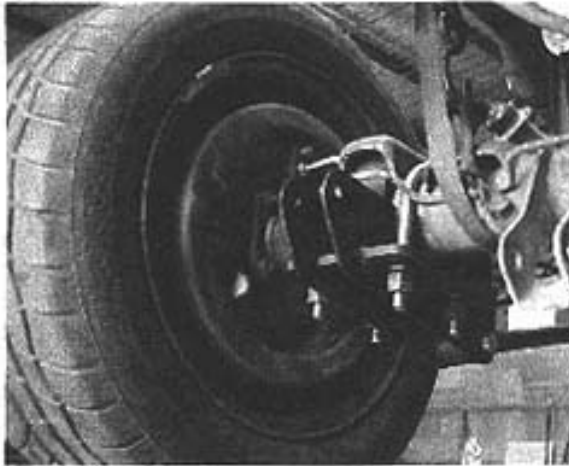


Figure 3

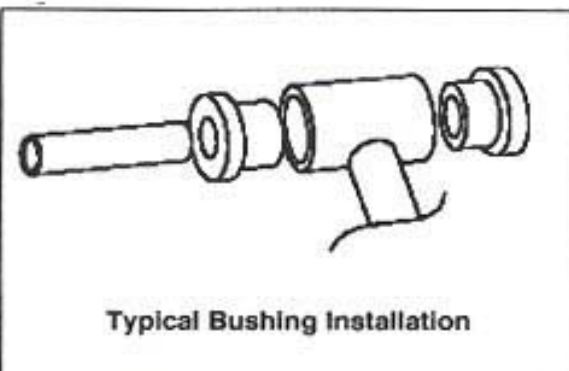


Figure 4A



Figure 4B

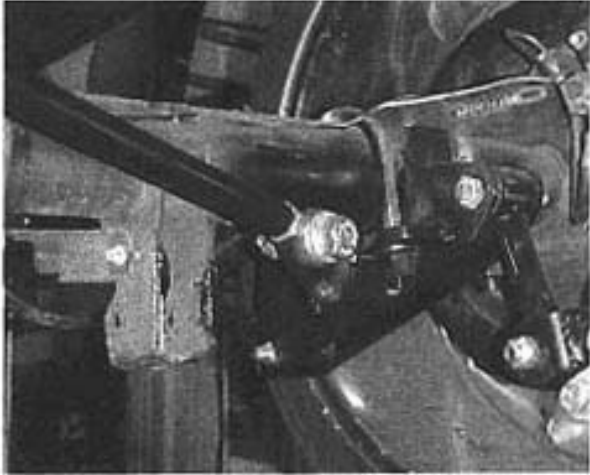


Figure 5

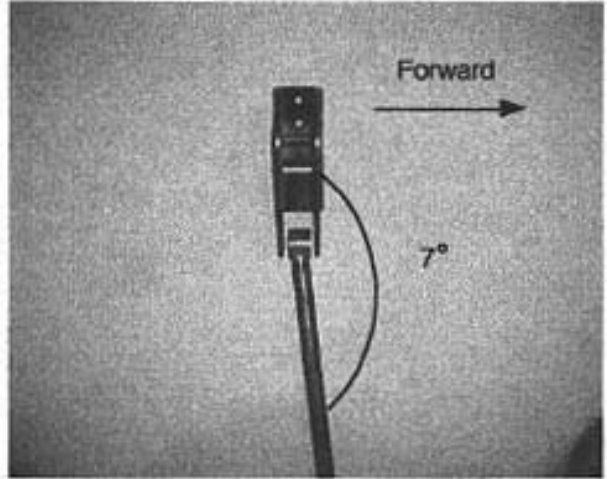


Figure 6

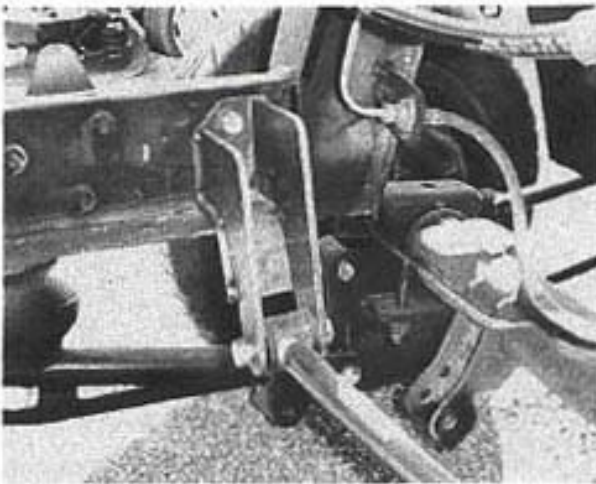
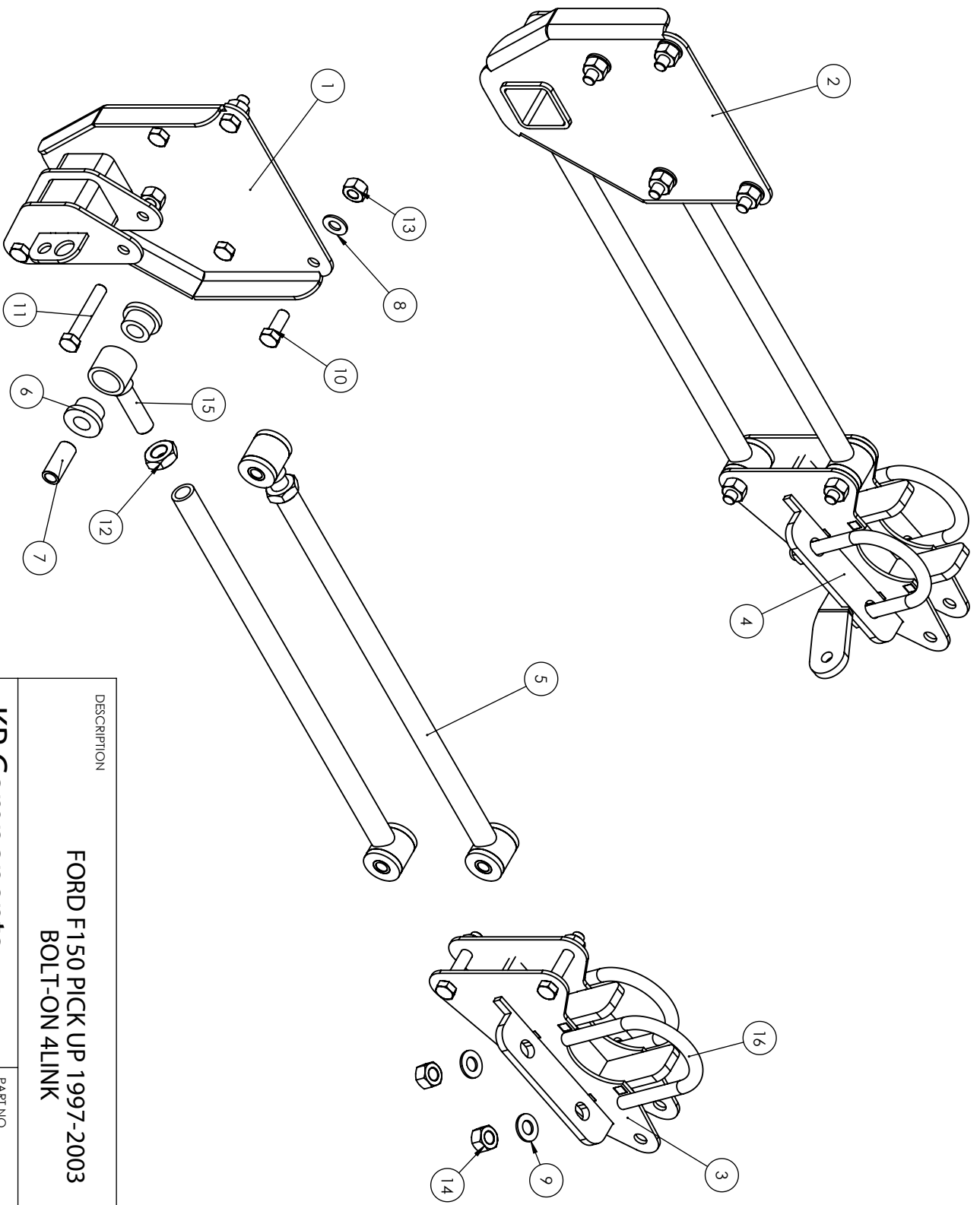


Figure 7



DESCRIPTION

FORD F150 PICK UP 1997-2003
BOLT-ON 4LINK

KP Components

8661 Younger Creek Drive
Sacramento, CA 95828
KPrech@cachassisworks.com

PART NO

KPC 4LBO-F71

SHEET 1 OF 2

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	BO4L-04-07	97-02 FORD F150 PICK UP FRONT 4LINK DRIVER SIDE BRACKET ASSEMBLY	1
2	BO4L-04-09	97-02 FORD F150 PICK UP FRONT 4LINK PASSENGER SIDE BRACKET ASSEMBLY	1
3	BO4L-04-12	97-02 FORD F150 PICK UP 4LINK DRIVER SIDE AXLE BRACKET ASSEMBLY	1
4	BO4L-04-13	97-02 FORD F150 PICK UP 4LINK PASSENGER SIDE AXLE BRACKET ASSEMBLY	1
5	BO4L-04-16	97-02 FORD F150 PICK UP 4LINK PARALLEL BAR ASSEMBLY	4
6	BP-1	SHORT POLY BUSHING	16
7	BS-1	.5000 ID X .7500 OD X 1.7500 LONG SLEEVE	8
8	FW 0.5	1/2" FLAT WASHER	8
9	FW 0.5625	9/16" FLAT WASHER	8
10	HF BOLT 0.5-20X1.25X1.25-N	1/2"-20 X 1 1/4" FINE THREAD G8 BOLT	8
11	HF BOLT 0.5-20X3X1.25-N	1/2"-20 X 3" FINE THREAD G8 BOLT	8
12	HHJNUT 0.7500-16-D-N	3/4"-16 RIGHT HAND JAM NUT	4
13	HHNUT 0.5000-20-D-N	1/2"-20 FINE THREAD SELF LOCKING NUT	16
14	HHNUT 0.5625-18-D-N	9/16" U-BOLT NUT	8
15	RE 01	THREADED ROD END	4
16	UB 325	3.25" U-BOLT	4

DESCRIPTION
**97-03 FORD F150 PICK UP BOLT-ON 4LINK
BILL OF MATERIALS**

KP Components

8661 Younger Creek Drive
Sacramento, CA 95828
KPrech@cachassisworks.com

PART NO
KPC 4LBO-F71

SHEET 2 OF 2

WARRANTY NOTICE:

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INSTALLATION GUIDE



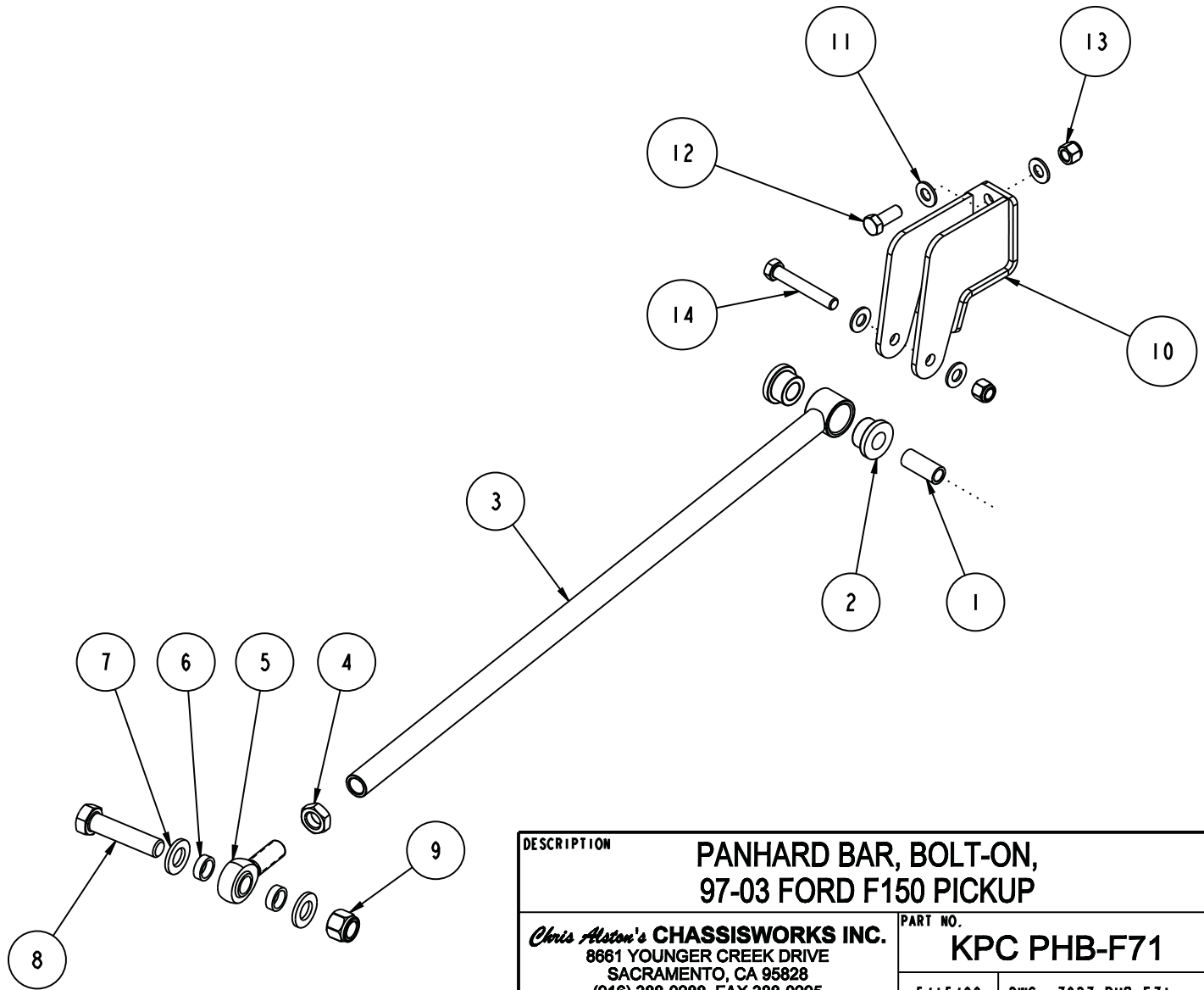
KPC PHB-F71

**Bolt-On Panhard Bar
1997-2003 Ford F150 Pickup**



Description: Bolt-on, urethane-bushed panhard bar for 1997-2003 Ford F150 pickup. Includes bolt-on frame bracket, adjustable-length link, urethane end bushings, and mounting hardware. Axle mount tab is part of KP 4-link bracket weldment.

ITEM	QTY	PART NO.	DESCRIPTION
1	1	3140-1624-056	SLEEVE, POLY BUSHING, $\varnothing 3/4$ x .50 x 1.750
2	2	3141-2440-0.88	POLYURETHANE BUSHING 1.63 x .750 x .750
3	1	7935-002	PANHARD BAR WELD, 9° x 1 5/8 32.987 LONG x 3/4-16 THREAD
4	1	3102-075-16RC	JAM NUT, 3/4-16 RIGHT, CLEAR ZINC
5	1	3111-075X075-RT	ROD END, 3/4-16 RIGHT x 3/4 BORE, TEFLON, MTM-12
6	2	D16.120-000.313	CUT TUBE, $\varnothing 1$ x .120 WALL DOM x .313
7	2	3157-075S-C	WASHER, 3/4 SAE, ZINC PLATED, 13/16 ID x 1 15/32 OD x 5/32 THICK
8	1	3100-075F3.25Y	HEX BOLT, 3/4-16 x 3 1/4, GRADE 8, YELLOW ZINC
9	1	3101-075-16C	LOCKNUT 3/4-16, GRADE 5, NYLON INSERT, CLEAR ZINC
10	1	7935-011	PANHARD FRAME BRACKET ASSY, 97-03 FORD F150
11	6	3157-050S-C	WASHER, 1/2 SAE, ZINC PLATED, 1/2 ID x 1 1/16 OD x 3/32 THICK
12	2	3100-050C1.25Y	HEX BOLT, 1/2-13 x 1 1/4, GRADE 8, YELLOW ZINC
13	3	3101-050-13C	LOCKNUT 1/2-13, GRADE 5, NYLON INSERT, CLEAR ZINC
14	1	3100-050C3.25Y	HEX BOLT, 1/2-13 x 3 1/4, GRADE 8, YELLOW ZINC



DESCRIPTION		PANHARD BAR, BOLT-ON, 97-03 FORD F150 PICKUP	
Chris Alston's CHASSISWORKS INC. 8661 YOUNGER CREEK DRIVE SACRAMENTO, CA 95828 (916) 388-0288 FAX 388-0295		PART NO. KPC PHB-F71	
		5/15/09	DWG: 7927-PHB-F71

PARTS LIST

KPC PHB-F71 - Bolt-on Panhard Bar, '97-03 F150

Qty	Part Number	Description
1	7935-005	Panhard bar frame bracket
1	7935-007	Panhard bar weldment 36-1/4" OAL

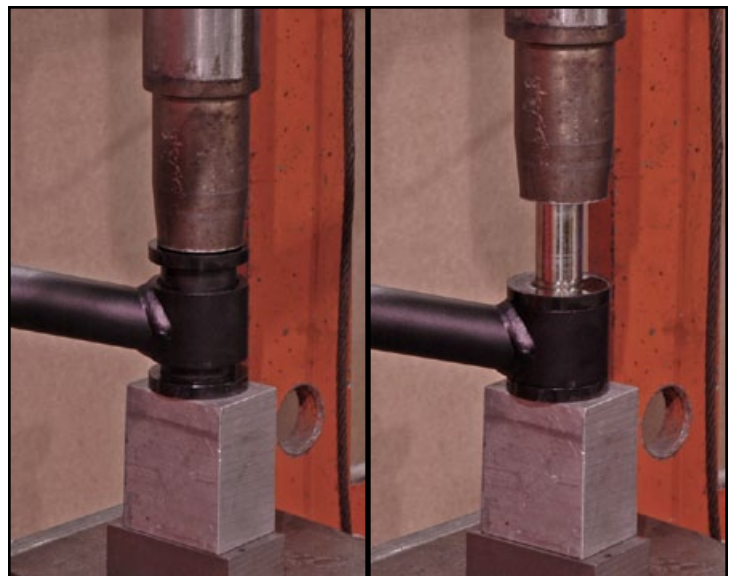
7926-PHBF71 - Hardware Bag

Qty	Part Number	Description
2	3100-050C1.25Y	Bolt 1/2-13 x 1-1/4" hex cap screw Grade 8
1	3100-050C3.25Y	Bolt 1/2-13 x 3-1/4" hex cap screw Grade 8
1	3100-075F3.25Y	Bolt 3/4-16 x 3-1/4" hex cap screw Grade 8
3	3101-050-13C	Locknut 1/2-13 nylon insert
1	3101-075-16C	Locknut 3/4-16 nylon insert
1	3102-075-16RC	Jam nut 3/4-16 clear zinc
1	3111-075x075-RT	Rod end 3/4 x 3/4-16 RH, Teflon
1	3140-1624-056	Sleeve 1/2 ID x 3/4 OD x 1-3/4" long for poly bushing
2	3141-2440-0.88	Poly bushing .75 bore x .875" OAL
1	3151-1/2OZ	Poly lube 1/2 oz. cup
6	3157-050S-C	Washer 1/2" SAE flat
2	3157-075S-C	Washer 3/4" SAE flat
2	D16.120-000.313	Spacer 1" OD x 3/4" ID x .313" inches long

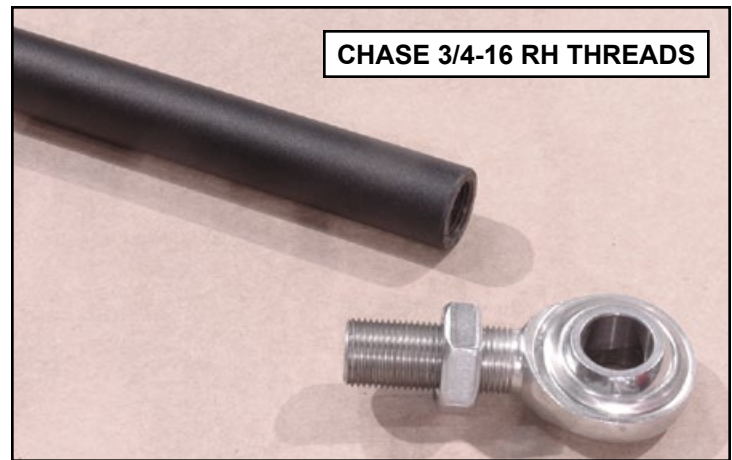
INSTRUCTIONS

The 4-link suspension must be installed and the axle housing positioned at ride height before beginning installation.

1. Press the poly bushings into both sides of the pivot link until they are fully seated.
2. Apply a small amount of poly lube to the outside of the 1-3/4" sleeve and press it into the bushings until centered.



3. Use a 3/4-16 right-hand tap and die to chase the panhard bar female threads and rod end male threads.
4. Thread the jam nut onto the rod end until there are 5-7 threads between the jam nut and the rod-end bearing housing.
5. Apply a small amount of anti-seize to the rod-end threads and screw it into the panhard bar until the jam nut contacts the tube.
6. Insert the urethane-bushed end of the panhard bar into frame bracket and secure with the 1/2-13 x 3-1/4" hex bolt, flat washers, and locknut. There must be a flat washer under the bolt head and locknut. The panhard bar must angle toward the front of the truck.
7. Verify that the axle housing is at ride height before centering the housing relative to the frame.
8. Using a straight-edge along the axle flange, measure from the frame rail to the straight-edge.
9. Record and compare the measurements from each side of the vehicle.
10. Shift the axle housing so that both measurements are equal and the housing is centered between the frame rails.
11. Attach the panhard bar rod end to mounting tab on the passenger side axle bracket.
12. Secure the rod end to the tab with a 3/4-16 x 3-1/4" hex bolt, two 1/4" wide spacers, two flat washers, and a locknut. There must be one spacer on each side of the rod end and flat washers under the bolt head and locknut.
13. Move the axle through its complete range of travel to check for binding. Correct any issues before continuing.
14. Use a 1/2" bit to drill the two holes in the frame, using the panhard-bar bracket as a guide. Drill one hole at a time.
15. Install the 1/2-13 x 1-1/4" hex bolt, flat washers, and locknut in each hole as drilled.
16. Verify that the housing is still centered at ride height, then tighten the jam nut and mounting bolt on the rod end side of the panhard bar.



WARRANTY NOTICE:

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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