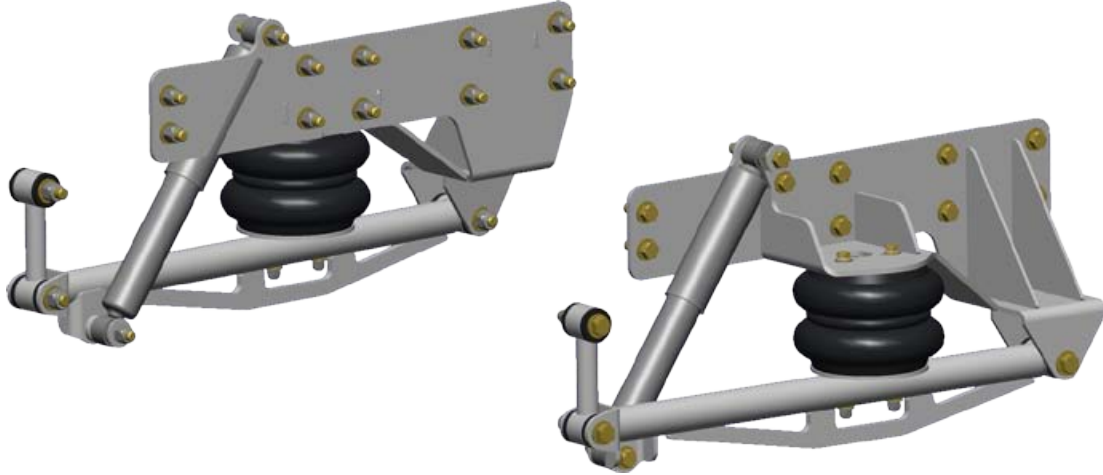


INSTALLATION GUIDE

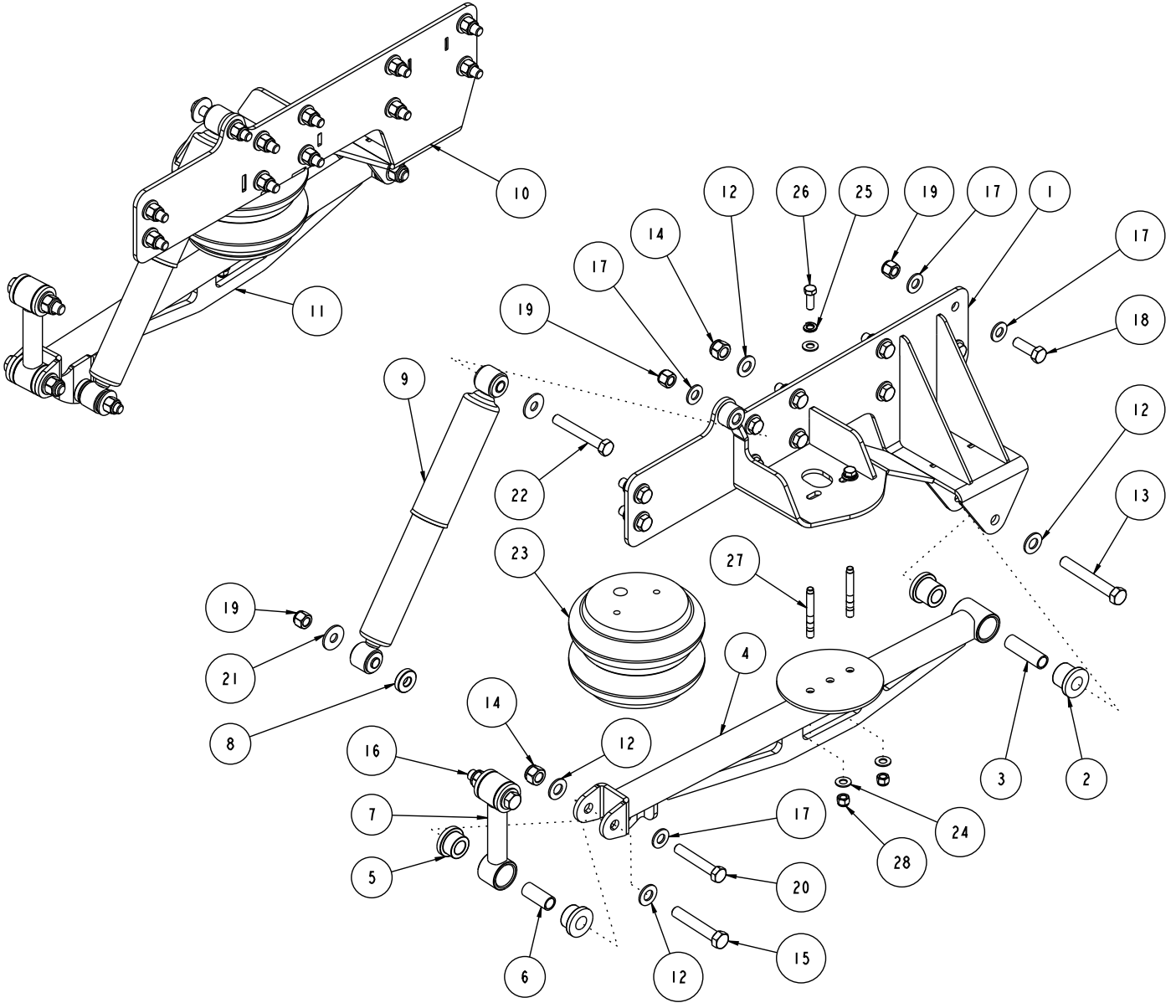


KPC CBO-F71

**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.



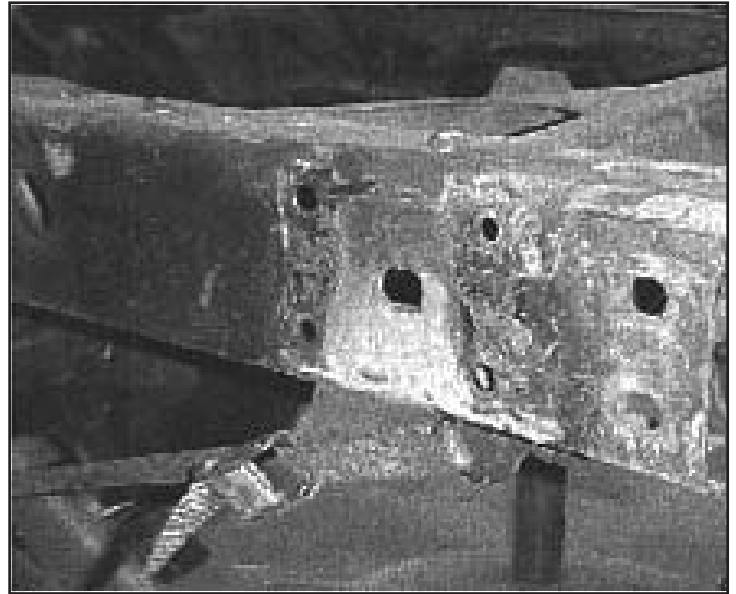
4. Remove each rivet head using a cutting torch or by using a cutoff wheel to grind a deep "X" into the heads of the rivets, and then removing the rivet head with an air chisel.



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.



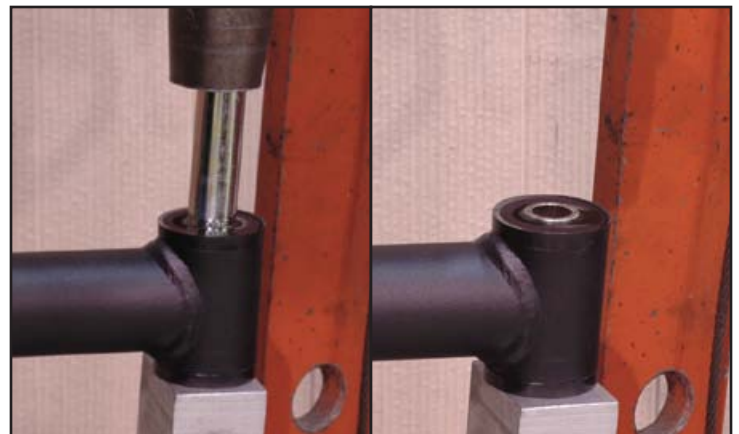
6. Using a 1/2" bit, drill out the four rivet holes closest to the end of the frame rail that were used to mount the leaf-spring bracket.
7. Bolt the driver-side cantilever frame bracket to the frame using four 1/2-13 x 1-1/2" hex bolts, flat washers, and locknuts. Use flat washers under each bolt head 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.



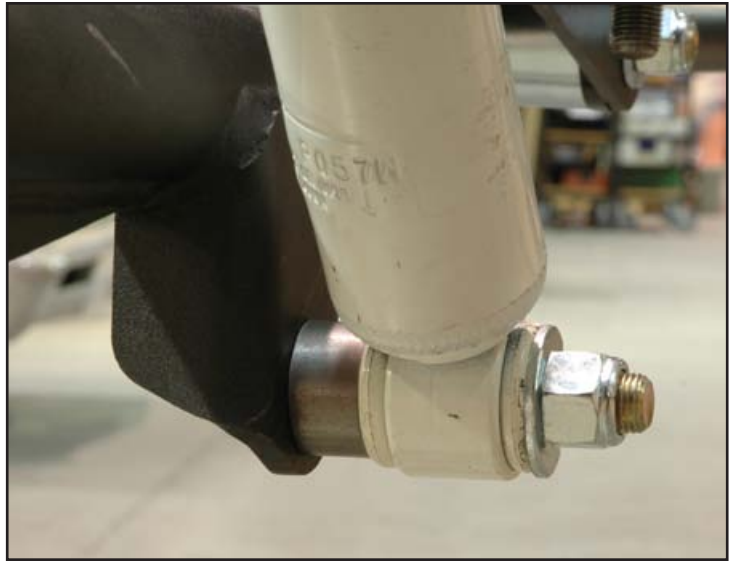
13. Thread the short end of the 3/8" x 3" studs into the outside holes at the bottom of the air bags. Do not overtighten the studs. Overtightening the studs will damage the air bag.
14. Orient the bag so that the air inlet at the top of the bag goes toward the inside of the frame bracket.
15. Mount the 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:

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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