

BRK JL CC5 K Hydraulic Front Brake Kit

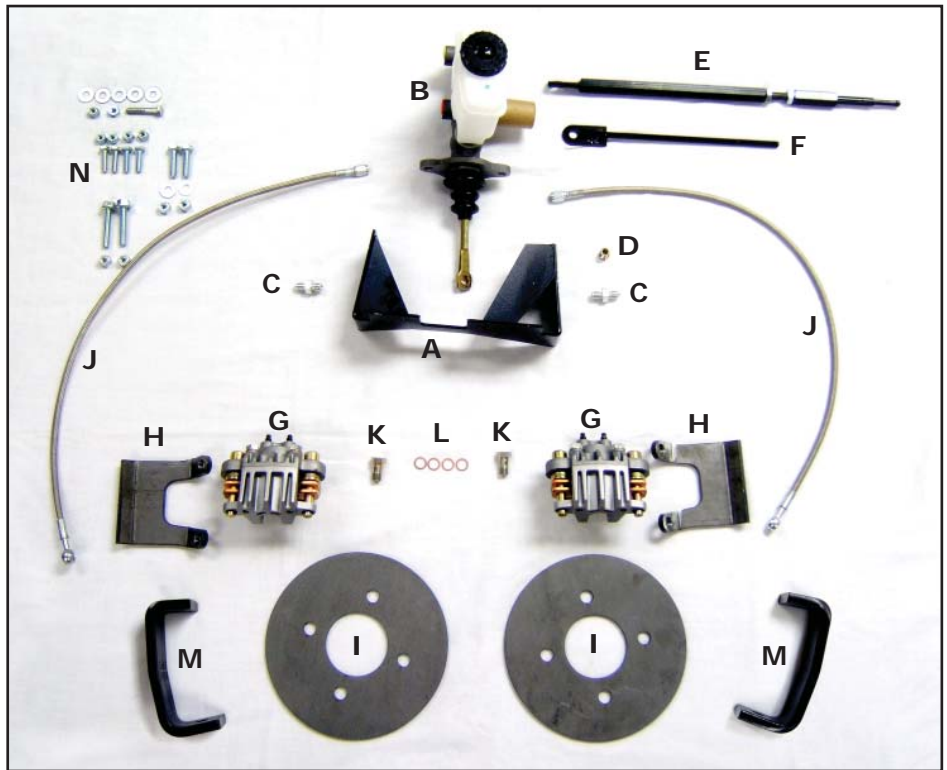
For Club Car 1982-2005 DS Model Installation Instructions



BUGGIES
UNLIMITED

Kit Components:

- A) Master Cylinder Mounting Bracket (x1)
- B) Master Cylinder Assembly (x1)
- C) Brake Line Adaptor (x2)
- D) Flare Plug (x1)
- E) Master Cylinder Linkage (x1)
- F) Pedal Return Linkage (x1)
- G) Brake Caliper w/Pads (x2)
- H) Caliper Mount Bracket (x2)
- I) Brake Rotor (x2)
- J) Brake Line (x2)
- K) Banjo Bolt (x2)
- L) Crush Washer (x4)
- M) Tie Rod Extender (x2)
- N) Hardware Kit:
 - 1-1/2" X 1/4" X 20 Hex Head Bolt (x1)
 - 1/4" X 20 Hex Nut (x1)
 - 1/4" USS Washer (x5)
 - 1/4" X 20 Nyloc Nut (x5)
 - 1" X 1/4" X 20 Hex Head Bolt (x4)
 - 1-1/4" X 5/16" X 18 Hex Head Bolt (x2)
 - 5/16" X 18 Nyloc Nut (x4)
 - 1-1/2" X 5/16" X 18 Hex Head Bolt (x2)
 - 5/16" USS Washer (x2)
 - 3/8" USS Washer (x4)



Tools Required:

- Jack
- Jack Stands
- Needle Nose Pliers
- Mallet
- Torque Wrench
- Drill
- Drill Bits:
 - 1/4"
 - 3/8"
- Ratchet
- Sockets:
 - 3/8"
 - 7/16"
 - 1/2"
 - 9/16"
- Wrenches:
 - 3/8"
 - 7/16"
 - 1/2" (x2)
 - 9/16"
- MIG Welder
- Wire Wheel or Sandpaper

Replacement Part Numbers:

- Brake Rotor (each) – **JL BRK CC 05**
- Brake Pad Set (4 pads) – **BRK XRT 7140**



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Part A: Master Cylinder Installation

Please remember to wear appropriate eye protection

1. Raise and support the vehicle with jack stands.
2. Disconnect battery or batteries.
3. Remove the tie rod connecting the two spindles by removing the cotter pins, removing both castle nuts, and separating the ball joints from the spindles. (See Figure 1)
4. Locate the Master Cylinder Mounting Bracket (A) in between the front I-Beams of the car behind the front suspension. (See Figure 2)
5. Slide the bracket towards the front of the car until the tapered edges seat snugly against the I-Beams. (See Figure 2)
6. Make sure the bracket is seated as high up on the inside of each frame rail as possible. The top edge of the bracket should be pressed against the underside of the top lip of each I-beam frame rail. (See Figure 3)
7. Mark where the four bracket mounting holes will need to be drilled. (See Figure 4)
8. Drill holes using a 1/4" bit.
9. Unwrap the Master Cylinder (B) and discard the actuation rod.
10. Install the Brake Line Adaptors (C) into the two ports at the end of the cylinder and tighten until snug. (See Figure 5)
11. Install the Flare Plug (D) into the larger unused port in the middle of the cylinder and tighten until snug. (See Figure 6)
12. Using the supplied 5/16" bolts, secure the Master Cylinder to the Master Cylinder Mounting Bracket. (See Figure 7)
13. While holding the Master Cylinder in place, tighten the bolts to 14 pound feet.
14. Use the supplied 1" X 1/4" X 20 bolts and lock nuts to attach the Master Cylinder Mounting Bracket / Master Cylinder assembly to frame. (See Figure 8)
15. While holding bracket in correct position, tighten each nut and bolt to 6-9 foot pounds.



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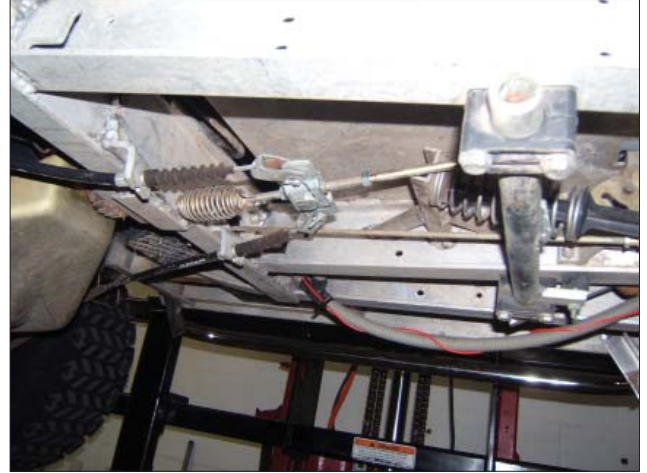
Part B: Master Cylinder Linkage Installation

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16. Loosen the brake cable adjuster jam nuts. (See Figure 9)
17. Relieve all tension from the brake cables. (See Figure 9)
18. Remove brake cable rod from pedal linkage, brake cables, and return spring. (See Figure 10)
19. Install Master Cylinder Linkage (E) over top of tubular chassis member and into the Master Cylinder rubber boot. (See Figure 11)
20. Using the 1 1/2" X 1/4" X 20 bolt, three washers, and a hex nut, secure the Master Cylinder Linkage to the brake pedal linkage. The order is; bolt, washer, master cylinder linkage, washer, nut, washer, brake pedal linkage. (See Figure 12 & 14)
21. Hand-tighten the 1/4" hex nut against the Master Cylinder Linkage.
22. Thread the rear brake cable adjuster and jam nuts onto the Pedal Return Linkage (F). (See Figure 13)
23. Install the pedal return spring onto the Pedal Return Linkage. (See Figure 13)
24. Secure the Pedal Return Linkage to the brake pedal linkage using two washers and a lock nut. (See Figure 14)
25. Tighten the lock nut and check for movement of linkages. If the nut is over tightened and linkages jam, loosen nut until free movement is established.



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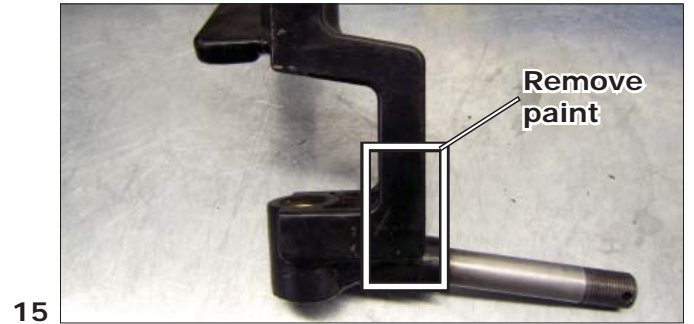
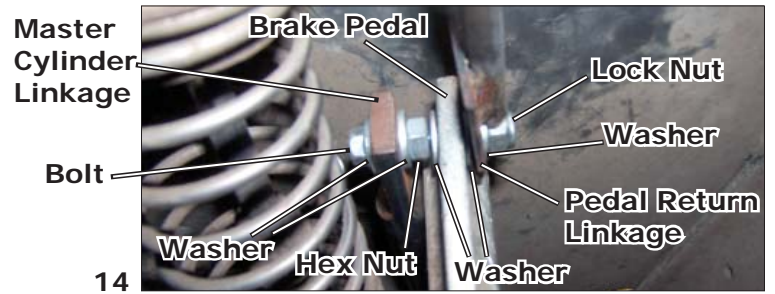
Part C: Brake Caliper and Rotor Installation

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26. Remove the front wheels.
27. Remove front spindles from car.
28. Remove paint from spindle area shown. (See Figure 15)
29. Unwrap the Brake Caliper (G) – pads are pre-installed in caliper – and remove the slide pins using a 3/8" Allen wrench.
30. Discard the gold mounting tab.
31. Install the caliper and pads onto new Caliper Mount Bracket and tighten slide pin bolts. (See Figure 16)
32. In order to weld Caliper Mount Brackets (H) to spindles and ensure proper wheel clearance, the wheel, spacer, rotor, and Caliper Mount Bracket must be jigged together.
33. To properly jig the brake assembly,
 - A) First install the Rotor (I) onto the bare hub. (See Figure 17)
 - B) Next install a 2" wheel spacer on top of the rotor and secure with four lug nuts. (See Figure 18)
 - C) Position Caliper over Rotor and align flat surface of Caliper Mount Bracket with the flat mounting surface on the spindle. (See Figure 19)
 - D) Lastly, install the wheel over the spacer, caliper, and rotor, securing with four lug nuts. (See Figure 20)

Caution: Whenever you are welding, watch for fire, ensure proper ventilation, and make sure to have a fire extinguisher in case of emergency.

34. Tack weld the Caliper Mount Bracket in place.
35. Spin the wheel on the hub to check for caliper to wheel clearance.
36. If there is rubbing, remove tack welds, realign Caliper Mount Bracket, and re-weld.
37. If there is no rubbing, fully weld Caliper Mount Bracket to spindle.
38. As a final precaution, check wheel to caliper clearance after final welding.
39. Repeat steps 27-36 for the opposite spindle.



Note: If you are uncomfortable with the procedure or do not have the proper tools, bring the components and these instructions to a local fabrication shop and have this step professionally done.

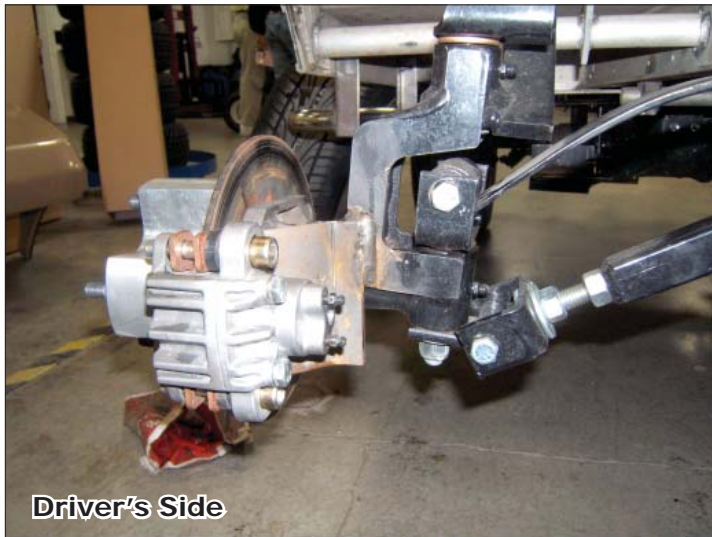
40. Remove wheels, spacers, calipers, and rotors from spindles.
41. Paint any exposed metal on the Caliper Mounting Bracket and spindles to prevent rust.
42. Reinstall spindles onto car.
43. Reinstall rotors, calipers and pads, spacers and wheels. (See Figure 21)
44. Connect the -3 AN female end of the Brake Lines (J) to the Adaptors in the Master Cylinder and tighten. (See Figure 22)
45. Using the supplied Banjo Bolts (K) and Crush Washers (L) secure the banjo fitting of the Brake Lines to each caliper. (See Figure 23)
46. Installation is as follows: Banjo Bolt, Crush Washer, Brake Line, Crush Washer, Caliper.
47. Tighten Banjo Bolts.



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Driver's Side

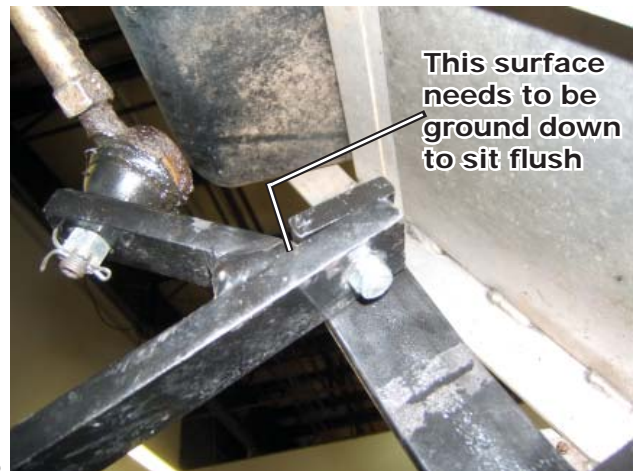


Passenger's Side

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Part D: Tie Rod Extender Installation

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48. Install the Tie Rod Extenders (M) using the supplied 5/16" bolts, washer, and lock nuts. (See Figure 24)
49. To ensure the Tie Rod Extender sits flush against the spindle, some clearance of the extender may be necessary to fit over the welds on some spindles. (See Figure 25 & 26)
50. Tighten bolts to 14 pound feet.
51. Install tie rod upside down on the bottom of the extenders. (See Figure 27)
52. You may need to use the provided washers to shim the tie rods in order to fully seat the ball joints.
53. Tighten tie rod nuts and reinstall cotter pins.
54. Remove jack stands and lower vehicle.
55. Check front wheel alignment and adjust as necessary.

Note: By locating the tie rod under the I-Beams, this may compromise suspension movement in severe applications. If you desire the full potential wheel movement, the Tie Rod Extenders will need to be moved as follows:

- A) Remove Tie Rod Extenders from original mounting location.
- B) Move Tie Rod Extender down spindle arm towards wheel. (See Figure 28)
- C) When the distance between the top of the tie rod and the bottom of the frame is satisfactory, mark where the new mounting holes will need to be drilled.
- D) Drill holes using 3/8" drill bit.
- E) Reinstall Tie Rod Extenders and tighten bolts to 14 foot pounds.

We also recommend welding the Tie Rod Extenders to the spindles if you expect to travel at exceptional speeds or in extreme environments. This provides extra stability and safety.

Part E: Brake Bleeding

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56. Remove the plastic Master Cylinder reservoir cap and fill using fresh DOT 3 brake fluid.
57. Use the bleeder screw on the top of each caliper and bleed the brakes. (See Figure 29)
58. Check for leaks and tighten fittings accordingly.
59. Continue bleeding the brake lines of air until significant pedal resistance is reached.

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Part F: Brake Bias Adjustment

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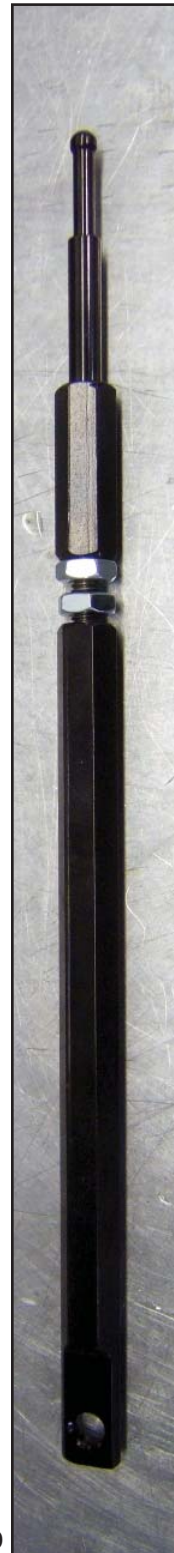
60. Front bias is adjusted using the Master Cylinder Linkage.
61. By extending the rod, the Master Cylinder is engaged sooner; providing more front braking force. This decreases stopping distances and increases front pad wear. (See Figure 30)
62. Making the linkage shorter, delays activation of the Master Cylinder and will reduce front braking ability. This will reduce braking performance and extend front pad life. (See Figure 31)
63. Rear bias is adjusted using the Pedal Return Linkage.
64. By removing slack from the rear brake cables, the rear brakes engage sooner and provide more stopping force.
65. By adding slack, the rear brakes engage later and can be deactivated for stability under hard braking.

Note: By adjusting the front to rear brake bias, the optimum balance of braking performance, stability, and pad life for YOUR application can be reached.

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Shortening
rod decreases
front brake
force



31

Lengthening
rod increases
front brake
force