



INSTALLATION INSTRUCTIONS

R1 REAR CONVERSION KIT

INSTRUCTION FOR ASSEMBLY OF JEEP CJ SERIES W/AMC 20 REAR AXLES,
5 x 5-1/2" BOLT CIRCLE WITH A130-4 FULL FLOATING AXLE OR
A130-5 (1 PIECE AXLE)

Thank you for choosing STAINLESS STEEL BRAKES CORPORATION for your braking needs. Please take the time to read and carefully follow these instructions to insure the ease of your installation as well as the proper performance of the complete system.

Before beginning your installation, please verify you have received all the parts indicated on the packing slip. If you believe anything to be missing or incorrect, please call our Customer Service Department at 716-759-8666.

To assure your installation will go safely and smoothly, have the following items on hand to assist you:

JACK & JACK STANDS
LUG WRENCH
TORQUE WRENCH
SOCKET SET
BRAKE CLEANER

WRENCH SET
TUBE WRENCHES
MALLET
WHEELBEARING GREASE
BRAKE FLUID

These kits use the following pads:

SSBC#: 10113

FMSI#: D-154

Revision 2 4/24/12

TIP: BEFORE BEGINNING INSTALLATION, TURN ALL FITTINGS & FASTENERS WITH PENETRATING OIL.

1) Drum Brake Removal

- a) Raise the car until the tires and wheels clear the floor and support the car on jack stands. Remove the tire and wheel assemblies from the drum.
- b) Remove the brake drums from the axle. If the brake drum will not come off easily, retract the shoes by inserting a narrow screwdriver through the brake adjusting slot and disengage the adjusting lever from the adjusting screw. While holding the lever away from the adjusting screw, back off the adjuster.
- c) Remove the brake shoes and all the brake hardware.
- d) Disconnect parking brake cable from the actuator and pull through backing plate after compressing the retaining clip.
- e) Clamp off the flex line with a hose clamp. Do not use vise grip pliers. They can damage the hose.
- f) Disconnect the rigid brake line from the back of the wheel cylinder. Be sure to use plenty of penetrating oil on the fitting prior to removal and always use a tube wrench.



BE CAREFUL NOT TO GET BRAKE FLUID ON THE PAINT. IT CAN CAUSE SEVERE DAMAGE.

2) Remove axle and backing plate as follows:

- a) Remove four nuts and bolts holding the backing plate to the axle flange.
- b) Pull out axle shaft carefully, to prevent damage to the shaft seal, shaft bearing or splines.
- c) Remove axle shaft and flange.
- d) Discard backing plate and shoe assembly.
- e) Remove grease seal retainers.
- f) Remove shims used between backing plate and axle flange.

3) Full Floating Axle module modification (A130-1 kit only):



MINOR MACHINING IS REQUIRED ON THE AXLE FLANGE FOR THE ROTOR TO FIT PROPERLY!

- a) Full floating axle module will require machining of outside diameter to reduce to $6.635+0.010 / -0.000$ " diameter, modify both left and right sides.

4) Assembly of caliper mounting bracket (both kits):

- a) The base caliper mounting bracket must be installed between the retainer plate and the bearing. These parts should have been supplied with your new axles. Be sure to check the bracket orientation before pressing the bearing on. The brackets should be clocked slightly towards the front of the Jeep when installed on the housing. Refer to the instructions supplied with your axles for further details and proper procedure for pressing the bearing.

- b) Install the 7/16" bolts in the base bracket before installing the axle in the housing.
- c) Coat both sides of the base bracket with RTV sealant to prevent gear oil leakage. Install the axle assembly in the axle housing. Secure assembly by using four 3/8-24 x 1-1/2" bolts, and elastic stop nuts provided in hardware kit. Torque to 50 ft/lbs.
- d) Install one of the supplied tube spacers on each of the 7/16" bolts on the base bracket. Install the caliper mounting bracket. Install "L-shaped" parking brake cable retainer bracket, long leg pointing toward center of Jeep, on bolts nearest to the front. Secure with the provided 7/16" nuts and torque to 75 ft/lbs.

5) Rotors:

- a) Install new rotor provided in kit, be careful it is a close fit, and temporarily secure with at least one lug nut.

6) Caliper assembly and mounting:

- a) Slide the caliper over the rotor and secure with the provided slider bolts. Torque to 50 ft/lbs.
- b) Install flex hoses supplied in the kit. Attach blocks to caliper inlet ports using special hollow bolt and one copper washer on each side of block. Do not tighten at this time.



DO NOT ADJUST OR PLAY WITH PARKING BRAKE LEVER! PARKING BRAKE SYSTEM WILL BE AUTOMATICALLY ADJUSTED ONCE HYDRAULIC SYSTEM IS FILLED AND FULLY BLED.

7) Brake lines:

- a) Remove original rear axle lines and replace with rigid lines provided in the kit. Attach rigid line to axle junction block and flex line. These lines can easily be bent by hand. Use at least two wrenches to tighten; one a tube wrench.
- b) Secure new rigid lines to axle at original locations (under spring perch and differential).
- c) Tighten both ends of the flex line. Make sure the flex line will not rub on the suspension.

8) Parking brake cable:

- a) Feed parking brake cable over axle and through support bracket pt.# 1209 and assure that housing clip engages and locks into bracket.
- b) Make sure that the parking brake lever is in the released position.
- c) Take up slack in cables by adjusting the nut on the threaded rod under the Jeep.
- d) Test several times so operation is normal, to be assure that the Jeep can't roll. ***Lift kits or larger wheels may require longer (special) cables.***

9) Master cylinder/proportioning valve:

- a) An adjustable proportioning valve is available from SSBC as an extra cost option. If installed it must be located in the brake line leading to the rear. Our road tests indicate the valve is not normally required.



BE CAREFUL THAT ALL HYDRAULIC COMPONENTS ARE KEPT CLEAN AND FREE OF DEBRIS INSIDE AND OUT. REMEMBER: DIRT IS THE ENEMY OF HYDRAULIC SYSTEMS, AND WE WILL NOT BE RESPONSIBLE FOR SYSTEM FAILURES DUE TO UNCLEAR INSTALLATION!

10) Proportioning valve, (this allows full pressure to rear calipers) optional

- a) The factory installed fixed proportioning valve is part of the distribution block, typically located below the master cylinder. Our road test show that it is not necessary but will help in situations that require heavy breaking (big tires, trailering, steep grades).
- b) Unscrew hex plug (it has a rubber center).



BE CAREFUL, IT IS SPRING LOADED!

Remove spring, seat, and rubber seal from piston. Push tapered end of piston back into the hex nut. It should slide inside the nut.

- c) Reassemble the block. It will be necessary to rebleed the system after this is done (refer to bleeding instructions).

11) Filling and Bleeding system

- a) It is advisable to replace the brake fluid if the color is brown or muddy. This is due to water that has been absorbed by the fluid which will eventually corrode the brake lines and master cylinder. This absorbed moisture can also cause a vapor lock situation under extreme braking conditions. Flush system with clean brake fluid and replace with a good grade of disc brake fluid. DOT 3 or DOT 4 fluids are acceptable.
- b) The simplest and most effective way to bleed your brakes is to use the gravity bleeding approach as follows:
 - 1) With calipers installed, make sure all fittings are tight and master cylinder is topped off.
 - 2) Open one bleeder screw at a time starting at the wheel farthest from the master cylinder and working your way back around the wheel closest to the master. With bleeder screw open, observe bleeder. At first the fluid will begin to escape with intermittent air bubbles. When the air bubbles stop and a steady flow of fluid is observed for several seconds, close the bleeder valve and move on to the next wheel.



MAKE SURE TO KEEP A CLOSE WATCH OVER THE FLUID LEVEL INSIDE THE MASTER CYLINDER DURING THE BLEEDING PROCESS. NEVER LET THE RESERVOIR RUN DRY. ALWAYS KEEP IT AT LEAST 1/3 FULL.

- 3) After bleeding both wheels and topping of the master cylinder make 20-30 applications of the brake pedal. If a hard pedal is experienced, no further bleeding is required. If pedal is spongy, repeat bleeding process until a hard pedal is achieved.
- 4) With all bleeding complete, there should be approximately 3/4" to 1" of end play.
- 5) Power brake cars will experience a "drop off" of the pedal when the engine is started. This is a normal condition that signifies the booster is working.
- 6) Pedal end play can be adjusted by lengthening or shortening the pushrod between the pedal rod (or power brake output shaft) and the master cylinder.

This is best accomplished under the dash on standard brake cars and between the booster and the master cylinder on power brake cars.

FINAL INSPECTION

- a) Once a hard pedal is achieved, all fittings and connections must be inspected to make sure there are no leaks. Also check the level in both reservoirs of the master cylinder and top off, if needed.
- b) Put wheels back on the car and turn wheel by hand to insure that the wheel spins freely and does not interfere with any brake components. If any interferences are detected, **DO NOT** drive vehicle until problem can be identified and corrected.
- c) When you are sure there are no interferences and the pedal is firm, torque the lug nuts and lower the car back onto the ground. Test drive the car and apply the brakes frequently to seat the pads.

NOTE: DO NOT USE ANTI-SQUEAK ADHESIVE ON BACKS OF PADS. THIS WILL DEGRADE THE PERFORMANCE OF THE CALIPER!

DO NOT DRIVE IN TRAFFIC UNTIL THE BRAKES SAFELY STOP THE CAR A SAFE DISTANCE WITHOUT A SPONGY PEDAL FEEL!

BRAKING TESTS SHOULD ALWAYS BE DONE IN A SAFE OPEN AREA!

NOTE: For frequently asked questions and technical reference information please visit the tech section of our website at www.ssbrakes.com.

TECH LINE -- If technical help is required, please call 716-759-8666.



View of axle housing with the axle and brakes removed.



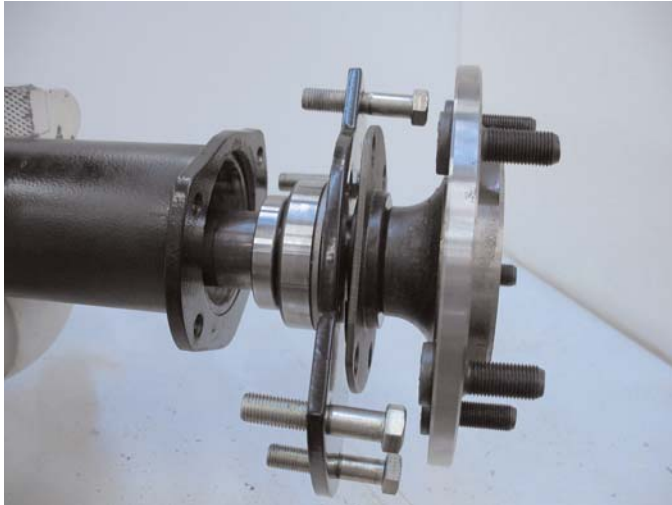
Install the bearing seal supplied with your new axles in the axle housing.



Install the spacer ring supplied with your new axles into the axle housing.



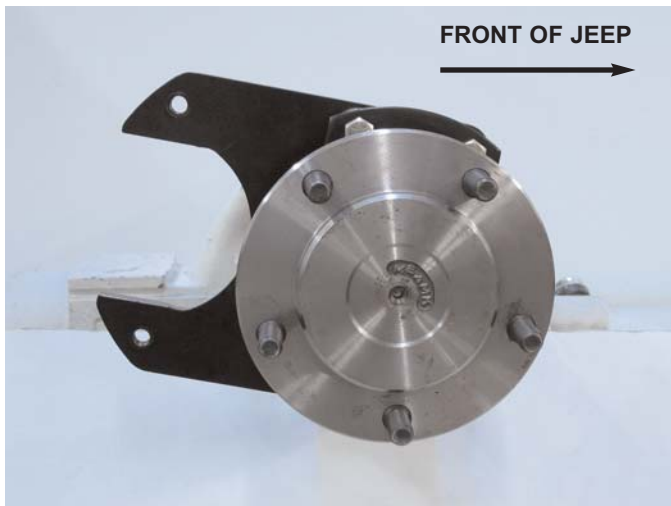
The base caliper mounting bracket must be installed between the retainer plate and the bearing. Those parts are supplied with your new axles not the brake kit. Be sure to check the bracket orientation before pressing the bearing on. The brackets should be clocked slightly towards the front of the Jeep when installed on the housing. Refer to the instructions supplied with your axles for further details and proper procedure for pressing the bearing.



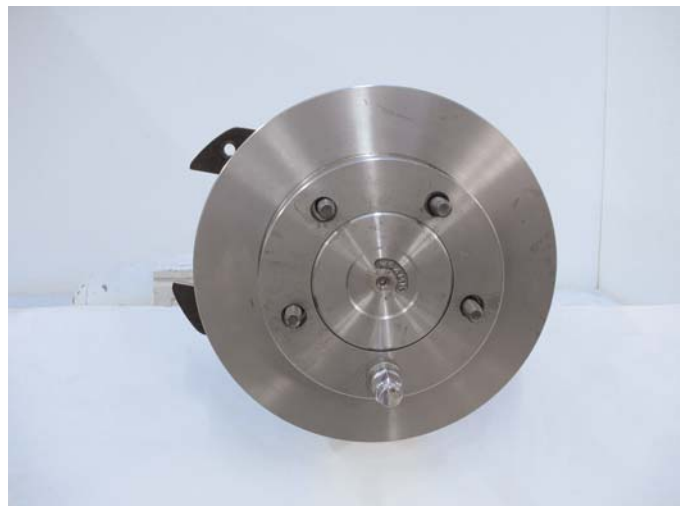
Install the supplied 7/16" bolts in the bracket. Slide the axle back in the housing and secure with the supplied 3/8" bolts and nylon lock nuts. Torque to 50 ft/lbs. Be sure to check the axle end play as per the instructions supplied with the axles.



Slide one of the supplied tube spacers over each one of the 7/16" bolts.



Install the caliper bracket on the four 7/16" bolts. Secure with the supplied nuts and torque to 75 ft/lbs.



Slide a rotor on the axle and temporarily secure with at least one lug nut.



Slide the caliper over the rotor and secure with the provided slider bolts. Torque to 50 ft/lbs.



Rear view of the completed assembly.