SSBC
PERFORMANCE BRAKE SYSTEMS

INSTALLATION INSTRUCTIONS

REAR DRUM TO DISC BRAKE CONVERSION KIT A130

JEEP CJ SERIES W/AMC-20 REAR AXLES AND 5 x 5-1/2" BOLT CIRCLE

Thank you for choosing STAINLESS STEEL BRAKES CORPORATION for your braking needs. Pleases 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
BRAKE FLUID

These kits use the following pads:

SSBC#: 1047

FMSI#: D-347

Revision 5 3/7/12

Stainless Steel Brakes Corporation • 11470 Main Road • Clarence, NY 14031
Phone: (800) 448-7722 • (716) 759-8666 • Fax: (716) 759-8688
www.ssbrakes.com • info@ssbrakes.com

1) Raise the Jeep until the wheels and tires clear the floor. Support Jeep on jack stands. Remove the rear wheel hub caps, cotter pin and castellated axle nut. Remove wheel and tire assembly from the drum.

2) Remove drum brake assembly as follows:
   a) Pull off brake drum from assembly.

IF THE BRAKE DRUM WILL NOT COME OFF EASILY, RETRACT SHOES BY INSERTING A NARROW SCREW DRIVER THROUGH THE BRAKE ADJUSTING SLOT IN THE BACKING PLATE AND BACK OFF THE ADJUSTING LEVER FROM THE ADJUSTING SCREW.

   b) Remove all shoes and hardware.
   c) Disconnect parking brake cable from actuator and pull through backing plate after compressing retaining clip.
   d) Disconnect rigid brake line from back of wheel cylinder making sure not to strip the ferrule nut. We strongly recommend the use of a tube wrench.

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

3) 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) After axle is out of housing, press axle shaft out of axle flange (CJ axle is two piece with a spline).

PRESS IS HEAVY AND MAY REQUIRE OUTSIDE SERVICE TO REMOVE; BE SURE TO SAVE "KEY" FOR LATER USE.

   d) Remove backing plate assembly and discard.
   e) Save grease seal retainers.
   f) Save shims used between backing plate and axle flange.

4) Axle flange / hub modification:
   a) Flange will require machining of outside diameter to remove approximately ¼" of material on a side.

5) Caliper Mounting Brackets:

INSTALL AND ASSEMBLE THE FOLLOWING BEFORE MOUNTING ROTOR:

   a) Reinstall axle into the housing.
   b) Install caliper mounting brackets. The top of the mounting brackets will tilt towards the

front of the vehicle. At this point, you will re-use the original shims between the mounting bracket and the axle housing.

c) Sandwich mounting bracket between original grease seal outer retaining plate and axle flange and secure to axle housing with (4) ⅜"-24x1-¼" bolts (bolt heads toward center of Jeep) and ⅜"-24 elastic stop nuts. Torque to 40 ft.-lbs.

CERTAIN JEEP MODELS USE A TAPERED ROLLER BEARING INSTEAD OF A ONE PIECE ROLLER BEARING. IF THE AXLE HAS THE TAPERED BEARING, THE "END-PLAY" IS CRITICAL TO PREVENT THE BEARING FROM SEPARATING.

d) Slide the four 7/16" - 20 x 2" bolts into the four outer holes of the bracket. Install four 3/4" long tubular spacers over the bolts. Install the 2 caliper mounting plates onto the bolts so the tabs are facing the rear of the vehicle.

e) Install 1 parking brake cable retainer ("L" shaped) on the bolt nearest the caliper with the long leg of the retainer pointing towards the center of the vehicle. Secure assembly with four 7/16"- 20 elastic stop nuts and torque to 65-70 ft/lbs.

6) Rotors/Axle Flange:

a) Reinstall reworked (or new) axle flange to axle shaft; make sure key is installed in spline. Castellated axle nut must be torqued to 250 ft.-lbs. Install new cotter pin.

b) Install new rotor provided in kit and temporarily secure with at least one lug nut.

7) Caliper assembly and mounting:

a) Calipers are tagged left and right, make sure that they are on the proper sides (bleeders, and parking brake lever should be pointed up).

b) Install flex hoses from kit into brass "banjo" blocks. Orient blocks and hoses as shown in figure 4. Attach blocks to caliper inlet ports using special hollow bolt and one copper washer on each side of block. Torque bolt to 20-30 ft.-lbs.

c) Place caliper over rotor and secure to mounting bracket assembly with (2) 12mm-1 special bolts. Torque to 80-110 ft.-lbs.

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

8) Brake Lines:

a) Remove original rear axle lines and replace with rigid lines provided in the kit. Standard shift (1977-81) and all 1982-86 vehicles are different from 1977-81 automatic and quadratrac units since the differential unit on the latter are offset from the center. Attach rigid line to axle junction block and flex line. Use at least two wrenches; one a tube wrench.

b) Secure new rigid lines to axle, carefully bending them by hand to fit the axle at original locations tie the line against the axle with tie wraps or large band clamps.

9) 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, trailoring, 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).

BE CAREFUL THAT ALL HYDRAULIC PARTS 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 UNCLEAN INSTALLATION!

DO NOT HOOK UP PARKING BRAKE CABLES UNTIL CALIPERS ARE BLED

10) Filling and Bleeding the System:

a) It is advisable to replace brake fluid if the color is brown and muddy. This condition is due to water that has been absorbed by the fluid which will eventually corrode the brake lines and master cylinder, plus possibly creating a vapor lock under extreme braking conditions. Flush system with clean brake fluid and replace with a good grade of disc brake fluid (DOT 3 or 4 Glycol base) available from SSBC or your distributor.

b) If a new master cylinder is being installed, it should first be individually bench bled. When bench bleeding always hold master cylinder by the ears, not the body. Bleeding is accomplished by pumping the master cylinder spool with a Phillips screwdriver with temporary outlet tubes routed back to its own reservoir.

c) Install master cylinder and fill the reservoir with new fluid; fill system using one of the methods below:

d) If pressure bleeding is employed the correct air pressure regulator setting is 10-15 psi. (max.).

e) If power brakes are fitted, the engine should not be running and the vacuum reserve should be reduced to zero.

f) Tapping the caliper with a rawhide mallet before fluid is flowing out may assist in obtaining a better bleed.

g) Brake bleeding can be simplified and at the same time assure that there are no line restrictions by using the gravity bleeding method, as follows:

1) Leave bleeder screws open when installing calipers.
2) Fill master cylinder reservoir, do not pressurize master cylinder or pump brake pedal; instead observe bleeder ports until brake fluid flows out; then shut off the bleeder valves.
3) No further procedure is required if brake pedal is hard after shutting off all bleeder valves. Make sure that master cylinder is "topped-off."

h) With bleeders closed and system bled, advance caliper pistons as described above and recheck system for air; correct if necessary. A hard pedal with approximately 7/8"-1" end play should be experienced so that at full brake application (engine running, if power brakes are fitted) the toe of your left foot can still be placed between the bottom of the pedal and the floor.

POWER BRAKE JEEPS WILL EXPERIENCE A "DROP OFF" OF THE PEDAL WHEN THE ENGINE IS STARTED. THIS IS A NORMAL CONDITION, AND SIGNIFIES THAT THE BOOSTER IS WORKING CORRECTLY.

PEDAL END-PLAY CAN BE ADJUSTED BY LENGTHENING OR SHORTENING THE PUSHROD BETWEEN THE PEDAL ROD AND THE MASTER CYLINDER. THIS IS THE BEST ACCOMPLISHED UNDER THE DASH ON STANDARD BRAKE JEEPS.

11) Parking brake adjustment:
a) Advance pistons of calipers so that clearance between pads and rotors is 1/32-1/16". Piston should be advanced using the brake pedal, about **30-40 pumps**, instead of cranking parking brake levers.

IF PISTON HAS BEEN EXTENDED TOO FAR, TURN PISTON BACK INTO CALIPER; A STRONG PAIR OF NEEDLE NOSE PLIERS OR A BRAKE PISTON TOOL AVAILABLE FROM YOUR LOCAL PARTS STORE. SCREW PISTON IN CLOCKWISE. ABOUT 30- 40 PUMPS OF THE PEDAL ARE REQUIRED TO EXTEND THE PISTONS TO THE CORRECT CLEARANCE.

b) Make sure that the parking brake lever is in the released position.

12) Parking brake cable:
a) Install clevis and clevis pin, from kit, to caliper parking brake lever with cotter pin supplied.
b) Feed parking brake cable through support bracket and assure that housing clip engages and locks into bracket.
c) Compress cable spring and engage cable into slot of clevis.
d) Take up slack in cables by adjusting the nut on the threaded rod under the Jeep.
e) Test several times so operation is normal, to be assure that the Jeep can't roll.

13) Final Inspection:
   a) Screw at least two lug nuts on lug studs to hold rotor to axle.
   b) Spin rotor to check operation.

MAKE SURE THAT THERE IS NO INTERFERENCES SO THE ROTOR TURNS FREELY.

14) Final Assembly:
   a) Take lug nuts off studs.
   b) Mount wheel, torque lug nuts to proper specifications.
   c) Spin wheel to assure that there are no interferences.
   d) Lower the Jeep to ground.
   e) Test drive and apply brakes frequently to seat pads.
   f) **(optional)** Set adjustable proportioning valve (by adjusting the knob) until the front and rear brakes feel as though they are grabbing at exactly the same time, with no rear wheel brake lockup. (Do not be afraid to fully adjust the valve one way or another.)

DO NOT DRIVE YOUR JEEP UNTIL BRAKES STOP THE JEEP WITH OUT A SPONGY PEDAL FEELING. INITIAL BRAKING TESTS SHOULD BE DONE IN A SAFE OPEN AREA. IF BRAKES DO NOT OPERATE CORRECTLY CONTACT ONE OF OUR TECHNICIANS FOR ASSISTANCE.

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

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

NOW ENJOY TRUE PERFORMANCE BRAKING!

Stainless Steel Brakes Corporation
11470 Main Road
Clarence, NY 14031
(716) 759-8688
Fax: (716) 759-8689
www.ssbrakes.com
tech@ssbrakes.com

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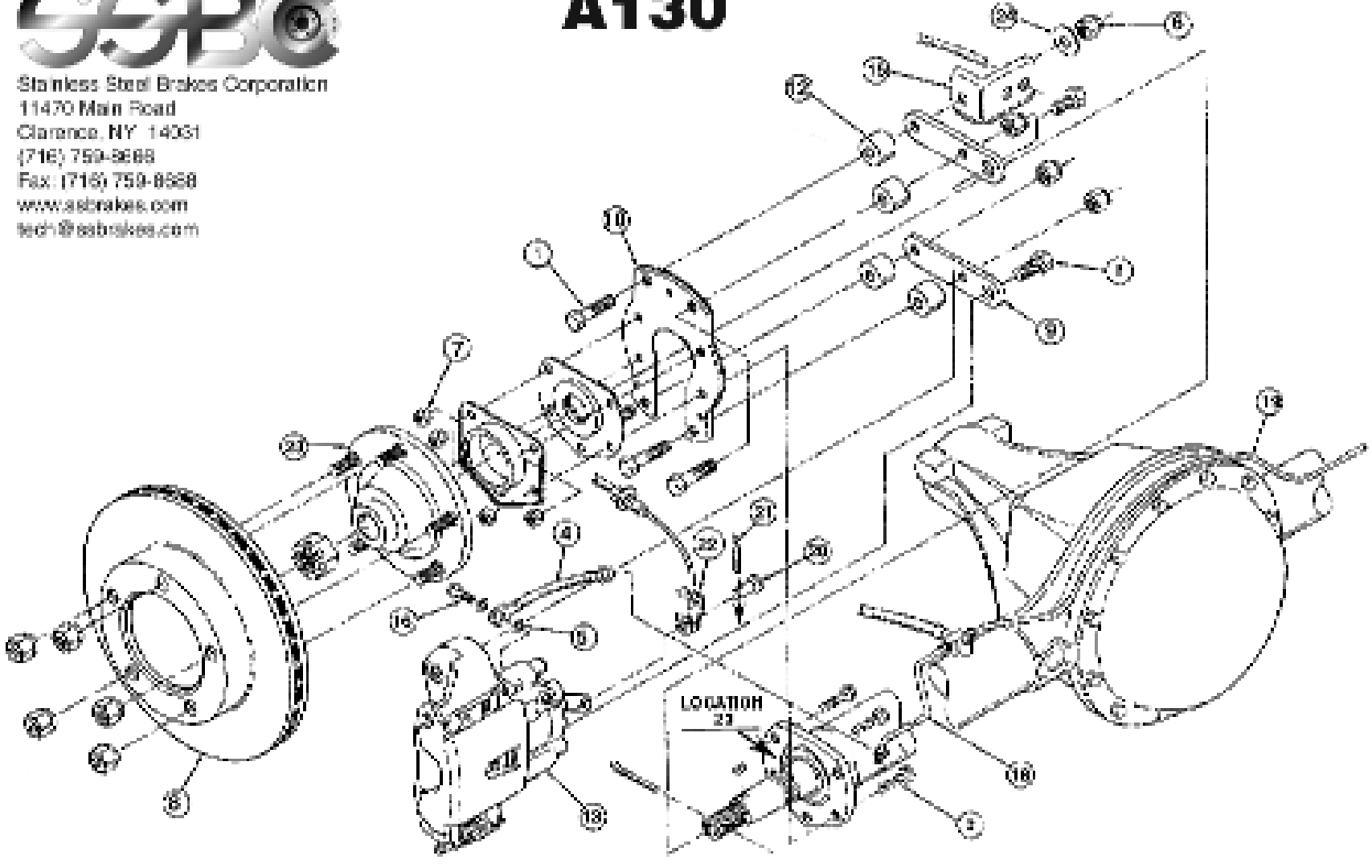

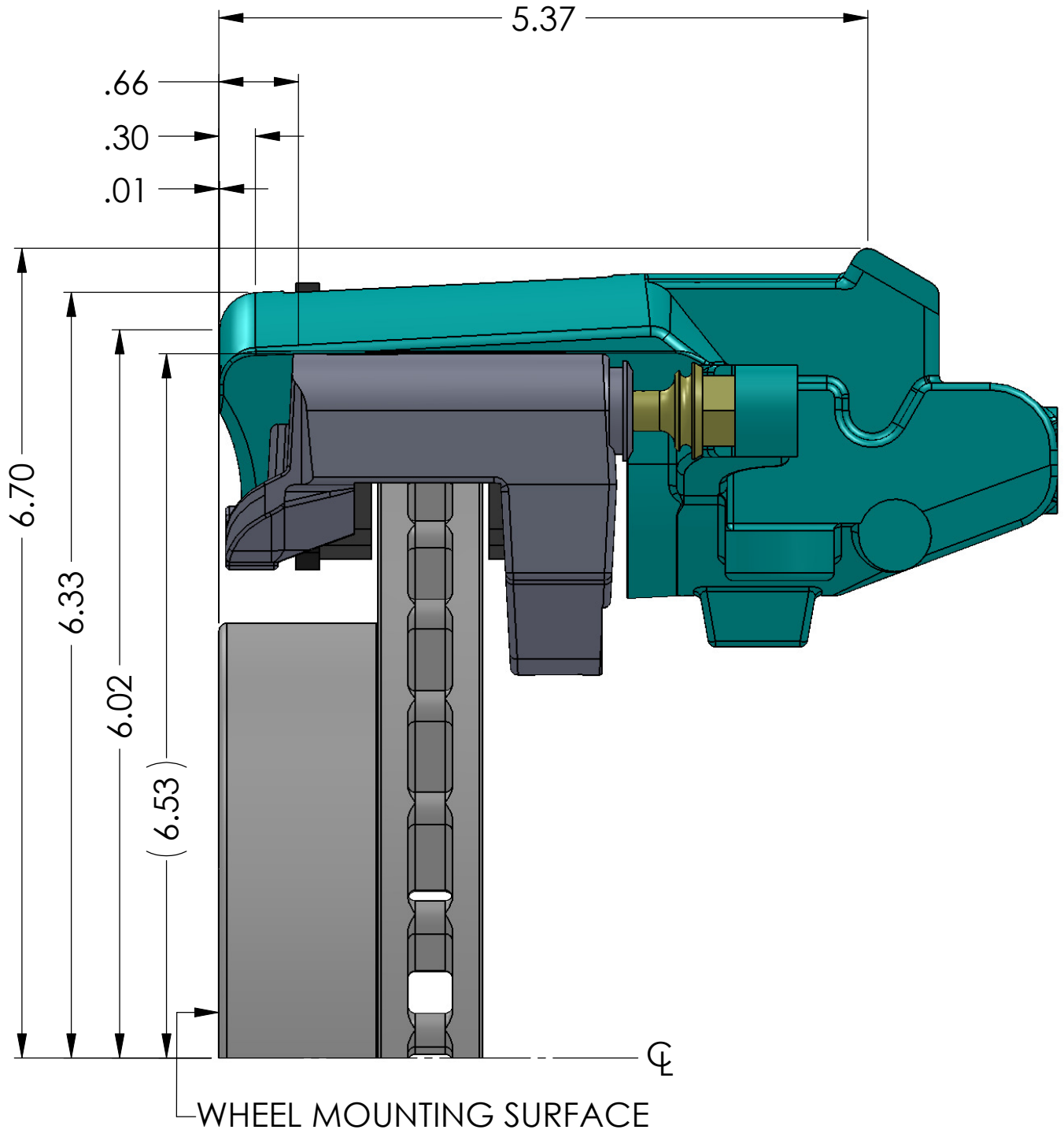

DIMENSIONS ARE IN INCHES

TEMPLATE NO.		REV
T-046	DO NOT SCALE DRAWING	-

SSBC
STAINLESS STEEL BRAKE CORP.
CLARENCE, NEW YORK 14031-1720
Ph: 716-759-8666 / 800-448-7722 ~ Fx: 716-759-8688
WWW.SSBRAKES.COM