SPRING-ACTUATED BRAKE
FS220BIXJK
CAST IRON

**Models:**
- FS220BIAJK 0740-0006
- FS220BIBJK 0740-0007
- FS220BILJK 0740-0008
- FS220BIEJK 0740-0009

**Parts List**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
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<td>1.</td>
<td>0740-1020</td>
<td>Retractor Screw</td>
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- **NOTE:** If caliper was manufactured before December 1, 1991, parts 9 and 17 must be replaced as a set.

**NOTE:** Model number letter suffixes have the following meanings:
- **A** indicates the brake is designed to work with a 5/32" (3.97mm) thick disc.
- **B** FIRST LETTER: indicates the brake has a release pressure of 750 PSI (51.7 bar).
- **B** SECOND LETTER: indicates the brake is designed to work with a 1/4" thick disc.
- **E** indicates the brake is designed to work with a 1/2" (12.7mm) thick disc.

- **I** indicates the brake is built with cast iron housings.
- **J** indicates the brake is built with Manual Retractor.
- **K** indicates the brake is built with Manual Compensator.
- **L** indicates the brake is designed to work with a 3/8" (9.53mm) thick disc.
### Mounting Dimensions – FS220BIXJK

**WARNING:** This caliper disc brake is under spring tension. Do not remove bolts without first pressurizing the brake to retract the brake pistons. After disassembly, release the pressure slowly. Do not attempt to retract the pistons by tightening bolts on reassembly. Use hydraulic pressure instead.

**Note:** Do not pressurize this brake above 2,000 PSI (137.9 Bar).

When plumbing the fluid system, use a minimum amount of pipe thread sealant on joints to prevent sealant from entering the hydraulic system.

#### Tangential Parking Force and Release Pressure vs Combined Wear of FS220BIXJK and FS220BI

**Recommended Wear Compensation Interval:** 0.06 in.

<table>
<thead>
<tr>
<th>COMBINED WEAR (INCHES)</th>
<th>TANGENTIAL FORCE</th>
<th>RELEASE PRESSURE</th>
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**OPERATION**

**Should loss of hydraulic pressure be experienced,** the brake is provided with a manual retractor (#4). To manually retract the caliper, loosen the Jam Nut (#2) and turn the Retractor Screw (#1) clockwise until the disc is free.

The retractor mechanism should only be used when the pressure is not available to the vehicle and the vehicle must be moved by an external source. Be certain the retractor is disengaged, the Nut (#2) is tightened and the brake is set before operating the vehicle in the normal fashion.

**To compensate for friction puck wear,** the brake is also equipped with a Manual Wear Compensator which enables adjustment of the Belleville Spring stacks. To use the Compensator, release the pressure from the brake and adjust the Compensator Bolts (#3) clockwise in equal increments, preferably in half turns. Consult the chart below for proper wear compensation intervals. Then, pressurize the brake and check the disc clearances as listed in step two under mounting.

**TANGENTIAL FORCE RELEASE PRESSURE**

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**TO REASSEMBLE:**

1. Insert Friction Puck (#21) into Dead Side Housing (#26). Insert and tighten Brass Screws (#22) through the Friction Puck and into the Dead Side Housing.

2. Insert Bolts (#32) and Washers (#27) into the Dead Side Housing (#26). When completed, lay the Dead Side Housing onto the work surface with the threaded bolts pointing upward.

3. Insert Pistons (#9) into the piston bores of the Live Side Housing (#12). Insert and tighten Brass Screws (#22) through the Friction Puck and into the Dead Side Housing.

4. Lubricate O-Rings (#11) with a good O-Ring grease, such as Lubriplate 105, and place into the grooves in the Live Side Housing (#12).

5. Lubricate O-Rings (#10) and Backup Rings (#33) along with the internal diameters of the bores on the Live Side Housing (#12). Place O-Rings and Backup Rings onto the Pistons (#9). **Note the back-up ring must be on the non-pressure side of the piston with the concave surface of the back-up ring mating with the O-ring.**

6. Insert Pistions (#9) into the piston bores of the Live Side Housing (#12),
7. Slide over the Spring Holder (#17); a Thrust Bearing (#16), Thrust Washer (#15), Belleville Spring Washer Stack (#14), Spacer Ring (#29) and second Thrust Washer (#15).

8. Apply Thread Locker (Blue 242) to the piston threads and screw the entire assembly together, with the Piston (#9) into the Spring Holder (#17). Use a spanner tool on Spring Holder and torque to 150 in-lbs (203.4 Nm).

9. Screw Compensator Plates (#18) onto the Spring Holders (#17); hand tight only. NO THREADLOCKER ON THIS JOINT! Note: Left hand threads.

10. Install Gasket (#6) and Housing Spacer (#19) over the spring stack assembly onto the Live Side Housing (#12). (See drawing for orientation.)

11. Check height of spring stack assemblies with flat piece of material over the top of Compensator Plates (#18). Adjust if needed by turning the Compensator Plate.

12. Align holes in Compensator Plates (#18) to Friction Puck (#20) and attach with Brass Screws (#23) into Compensator Plates.

13. Apply small amount of Thread Locker (Blue 242) into the threads of the Live Side Housing (#12) and not on the threads of the brass portion of Bleeder (#13). Install Bleders into the housing. Do not apply any thread locker to the small steel portion of the Bleeder.

14. Lay the dead side and live side assemblies on the bench and install the live side over the Bolts (#32) of the Dead Side Housing (#26).

15. Place Belleville Spring Washers (#8) into the Live Side Housing (#12) oriented so the center of the Washer will contact the Piston (#9) and the outside of the Washer will contact the Retaining Ring (#7).


17. Install Gasket (#6) over the Bolts (#32).