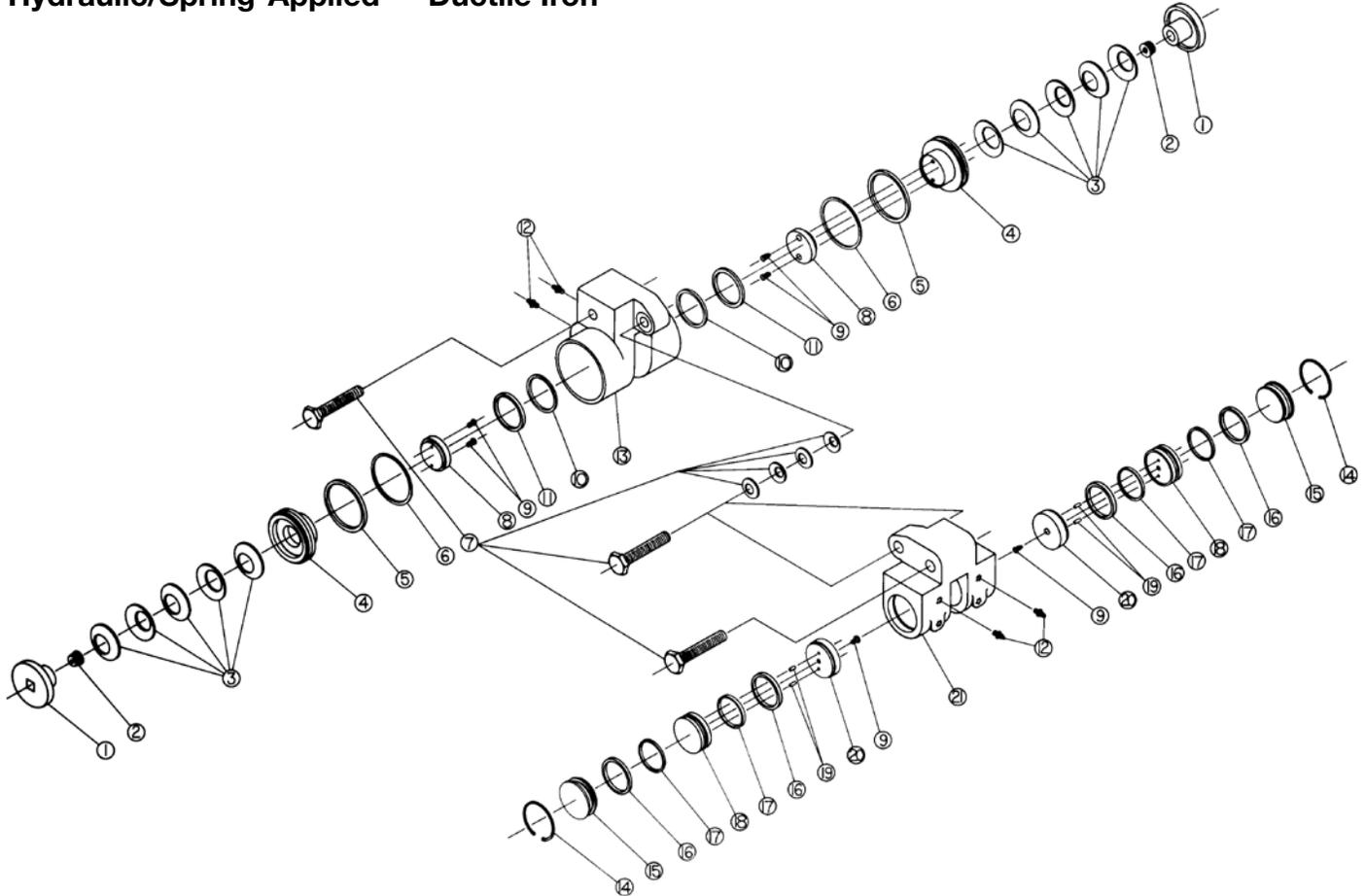


Dual Combination Brake

H595/FS595

Hydraulic/Spring-Applied — Ductile Iron

Model: H595DICQ/FS595DCIKQ 0782-0000



ITEM	PART NO.	DESCRIPTION	0782-0000
1.	0781-1003	Compensator Cap	2
2.	0781-1016	Breather Plug	2
3.	0781-1004	Belleville Spring Washers	10
4.	0781-1002	FS Piston	2
5.	0781-1007	Back-Up Ring, Buna-N, -342	2
6.	1014-1083	O-Ring, Buna-N, -342	2
7.	0777-1001	Hex Head Bolt, Grade 8	3
7a.	0781-1017	Belleville Spring Washers	4
8.	0774-1006	Puck, Friction	2
9.	0720-1006	Flat Head Screw	6
10.	0781-1005	Back-Up Ring, Buna-N, -333	2

ITEM	PART NO.	DESCRIPTION	0782-0000
11.	1309-1012	O-Ring, Buna-N, -333	2
12.	0740-1002	Bleeder Valve	4
13.	0781-1001	FS595 Housing	1
14.	0780-1004	Retaining Ring	2
15.	0780-1003	End Cap	2
16.	0780-1005	Back-Up Ring, Buna-N, -332	2
17.	0768-1005	O-Ring, Buna-N, -332	2
18.	0780-1002	Piston	2
19.	0779-1006	Dowel Pin	4
20.	0779-1004	Puck, Friction	2
21.	0780-1001	H595 Housing	1

LEGEND: **D**=double acting, **C**=brake has hydraulic bleeders, **I**=brake housing is cast iron, **Q**=brake fits a 1-1/2" thick disc, **K**=brake has manual wear compensator. Please consult fluid manufacturer for seal compatibility information.

INSTALLATION

- When mounting the H595/FS595 combination brake, care must be taken to ensure that the puck faces are parallel to the disc. The proper clearance between the pucks and disc is from a minimum of 0.020 inch to a maximum of 0.030 inch. To prevent excessive wear, be certain that the disc does not rub against the housing or against the pucks when they are in the retracted position.
- Install the Bleeders (#12) in the brass bodies and tighten in place.
- The H595/FS595 brake may be operated hydraulically up to a maximum pressure of 1,500 PSI (103.4 bar) for the hydraulic side and 2,000 PSI (137.9 bar) for the spring-applied side. Note that the release pressure for the Spring-Applied Brake is 1,410 PSI (97.2 bar) and that any fluctuation below that figure could result in puck drag on the disc. Each unit of the brake should be operated on separate hydraulic systems.
- When mounting the brake, connect the fluid pressure to a Pressure port (#12) on the spring-applied side, applying no more than 40 PSI (2.76 bar). Open the uppermost Bleeder Port to allow any trapped air to escape.
- Pressure on the hydraulic side of the brake must be relieved when the brake is off. **Do not operate the brake with master cylinders WITH residual pressure valves. Residual pressure valves will cause drag and excess wear to the brake pucks.**

MAINTENANCE

- Remove hydraulic pressure line.
- As spring-applied brakes wear, their torque output diminishes. Therefore, at least twice between every replacement of Brake Pucks (#8), the Spring-applied brake must be adjusted for wear.
- To compensate the spring-applied side, insert a 3/4" x 3/4" keystick or a 3/4" socket extension into each Compensator Cap (#1). Turn *both* Compensator Caps clockwise for one quarter turn. Reapply hydraulic pressure and measure the clearance between the pucks (#8) and disc. Repeat the procedure until a clearance of 0.030 inch between the pucks and each side of the disc is reached. The brake is now returned to its original rated release pressure and torque capacity.

Replacement of Pucks and Seals**Spring-Applied Side**

- Detach the spring-applied section from the brake by loosening the three long Bolts (#7). When doing this, take care to maintain the order of the Belleville Spring Washers (#7a) in order.
- Insert two 3/4" by 3/4" keystocks or two 3/4" socket extensions into the Compensator Caps (#1) and turn them counter-clockwise one-half turn at a time until the disc turns freely.
- Remove the brake from the mounting.
- Continue to unscrew the Compensator Caps (#1) at an equal rate until they are fully loosened. It is suggested that each cap be turned, *one-half turn* at a time, alternating between the two.
- Remove the Compensator Caps and the Belleville Spring Washers (#3) from the Brake Housing (#13). Note the position of the Belleville Spring Washers in relationship to each other and the FS Piston (#4). Place the stacked Belleville Washers aside with the piston side down, for ease in reassembly.
- Pushing from the puck side, slide the Piston (#4) out of its housing, taking care not to brush the seals against the threads on the Housing (#13). Examine the seals for possible replacement.

- Remove the Flat Head Screws (#9) and the Pucks (#8) and install the new Pucks. Coat the Flat Head Screw threads with Loctite® and reinstall.
- Reverse the disassembly procedure to rebuild the brake and then follow the Installation Instructions.

Hydraulic Side

- Remove hydraulic pressure line.
- To replace the Pucks (#20) and Seals, unbolt the brake from its mounting (#7).
- Remove the Retaining Rings (#14) from the Brake Housing (#21) with a pair of snap-ring pliers. *Gently* apply pressure by hand to the Puck face. This will cause the End Cap (#15) and the Piston (#20) to slide out of the Housing (#21).
- Inspect the Back-Up Rings (#16) and the Piston O-Rings (#17) for signs of wear or damage. Replace them if necessary.
- Inspect the Pucks (#20) for wear and replace if necessary. Apply Loctite® to the Flat Head Screw threads (#9) when mounting the Pucks to the Pistons.
- Thoroughly clean bores and grooves before relubrication.
- To reassemble, liberally coat the bore of the Brake Housing, the Piston O-Ring (#17) and Back-Up Ring (#16) and End Cap (#15) with a lubricant such as Lubriplate® 105 and then replace them in the housing in the reverse order they were taken out.
- Replace the Retaining Ring (#14) and remount the brake.

FS 595 RELEASE PROCEDURES

The FS595 Brake can be released without hydraulic pressure in situations where the hydraulic pressure is lost and machinery must still be moved.

- A hydraulic hand pump may be used to create a temporary pressure supply.

If a hydraulic hand pump is not available:

- Insert 3/4" by 3/4" keystocks or 3/4" socket extensions into the Compensator Caps (#1) and turn them counter-clockwise while simultaneously attempting to move the affected machinery.

When the brake is used on a vehicle, wheel chocks are strongly recommended to keep the vehicle from moving while this operation is being performed.

This second procedure should only be used in an emergency situation. It is NOT RECOMMENDED for use under normal conditions.

- Prior to restoring hydraulic pressure, return the FS595 to its original operating condition by using the 3/4" keystocks or 3/4" socket extensions to tighten the Compensator Caps (#1) to the point that there is 0.030 inch between each side of the disc and pucks when pressure is applied.

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