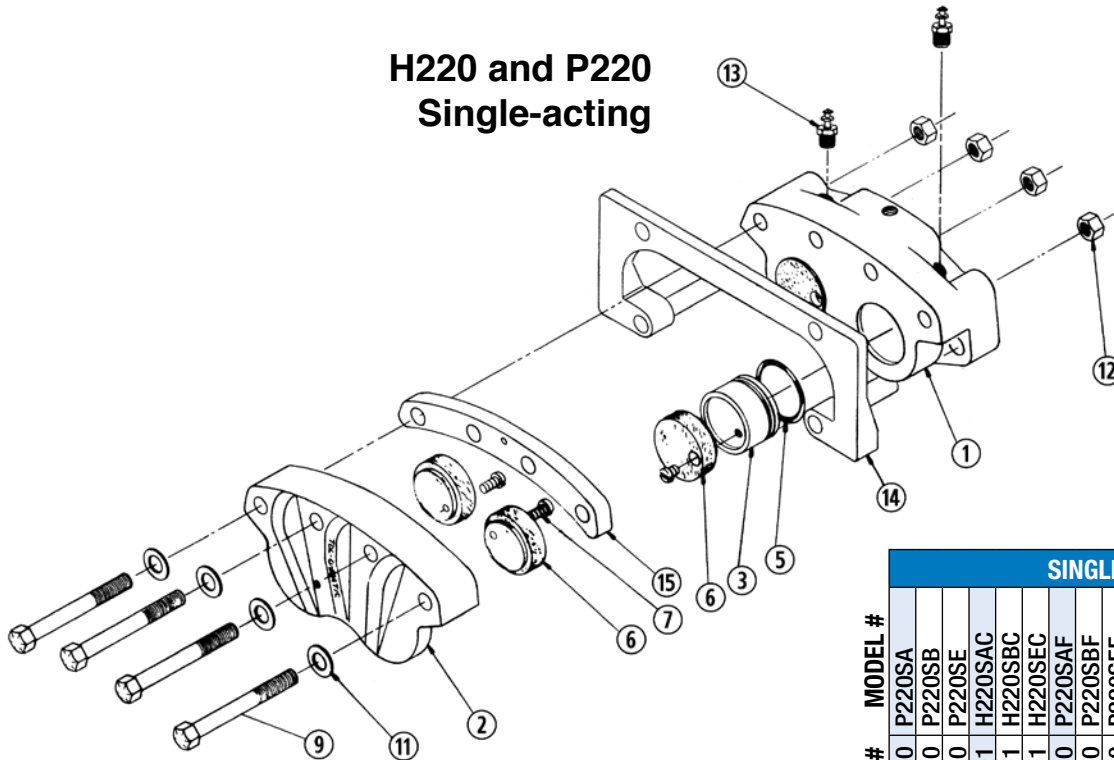


CALIPER DISC BRAKES

PNEUMATIC BRAKE P220 SERIES, HYDRAULIC BRAKE H220 SERIES

MODEL #	ASSY. #	MODEL #	ASSY. #	MODEL #	ASSY. #	MODEL #	ASSY. #	MODEL #	ASSY. #	MODEL #	ASSY. #
P220SA	0733-0000	P220SAF	0733-0020	H220SACG	0733-0006	H220DACG	0735-0103	P220DA	0735-0100	P220DAR	0736-0110
P220SB	0733-0100	P220SBF	0733-0120	H220SBCG	0733-0102	H220DBC	0735-0202	P220DB	0735-0200	P220DBR	0736-0210
P220SE	0733-0200	P220SEF	0733-0220	H220SECG	0733-0202	H220DECG	0735-0302	P220DE	0735-0300	P220DER	0736-0310
H220SAC	0733-0001	H220SAFC	0733-0021	H220SAFCG	0733-0022	H220DARCG	0736-0112	H220DAC	0735-0101	H220DARC	0736-0111
H220SBC	0733-0101	H220SBFC	0733-0121	H220SBFCG	0733-0122	H220DBRCG	0736-0212	H220DBC	0735-0201	H220DBRC	0736-0211
H220SEC	0733-0201	H220SEFC	0733-0221	H220SEFCG	0733-0222	H220DERCG	0736-0312	H220DEC	0735-0301	H220DERC	0736-0311

H220 and P220 Single-acting



SINGLE ACTING

ASSY. #	MODEL #	P220SA	P220SB	P220SE	H220SAC	H220SBC	H220SEC	P220SAF	P220SBF	P220SEF	H220SAFC	H220SBFC	H220SEFC	H220SACG	H220SBCG	H220SECG	H220SAFCG	H220SBFCG	H220SEFCG	
0733-0000	P220SA	1						1	1	1										
0733-0100	P220SB		1																	
0733-0200	P220SE			1																
0733-0001	H220SAC				1															
0733-0101	H220SBC					1														
0733-0201	H220SEC						1													
0733-0020	P220SAF							1	1	1										
0733-0120	P220SBF																			
0733-0220	P220SEF																			
0733-0021	H220SAFC										1									
0733-0121	H220SBFC											1								
0733-0221	H220SEFC												1							
0733-0006	H220SACG													2	2	2	2	2	2	2
0733-0102	H220SBCG																			
0733-0202	H220SECG																			
0733-0022	H220SAFCG																			
0733-0122	H220SBFCG																			
0733-0222	H220SEFCG																			

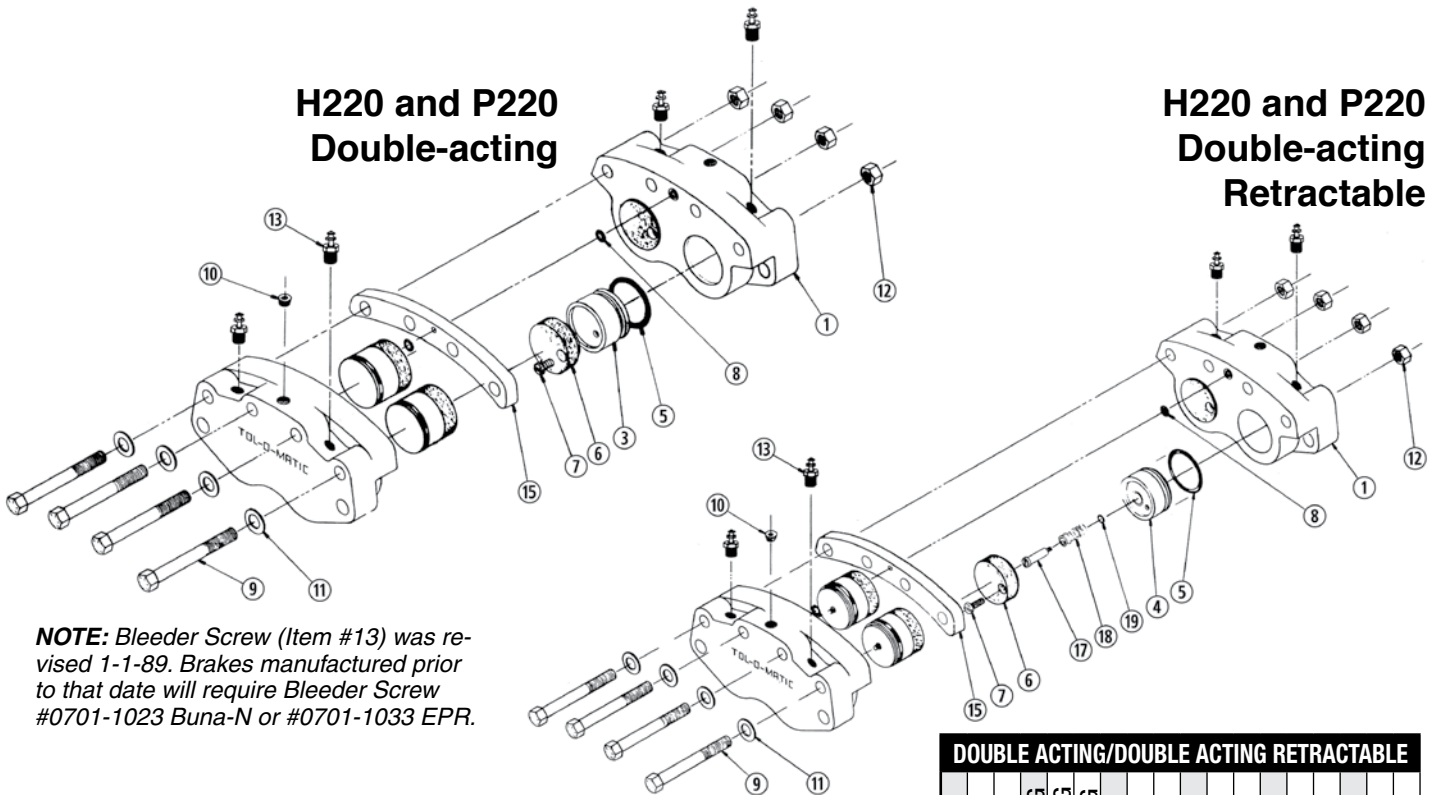
ITEM PART NO. DESCRIPTION

ITEM	PART NO.	DESCRIPTION	0733-0000	0733-0100	0733-0200	H220SAC	H220SBC	H220SEC	P220SAF	P220SBF	P220SEF	H220SAFC	H220SBFC	H220SEFC	H220SACG	H220SBCG	H220SECG	H220SAFCG	H220SBFCG	H220SEFCG	
1.	0733-1033	Housing, P220SR	1	1	1				1	1	1										
	0733-1054	Housing, H220SR				1	1	1				1	1	1	1	1	1	1	1	1	1
2.	0733-1068	Housing, Dead Side	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3.	0720-1027	Piston	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.	0720-1004	O-Ring, Buna-N	2	2	2				2	2	2										
	0720-1155	O-Ring, Buna-N				2	2	2				2	2	2							
	0720-1157	O-Ring, EPR													2	2	2	2	2	2	2
6.	0720-1024	Puck	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
7.	0720-1026	Screw, Pan Head	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
9.	0724-1105	Bolt, Hex 3.75"			4		4			4		4		4				4			4
	0720-1105	Bolt, Hex 4.50"																			
	0732-1106	Bolt, Hex 3.50"	4	4		4	4		4	4		4	4		4	4		4	4		4
11.	0720-1007	Washer	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12.	0720-1008	Lock Nut, flanged	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13.	0740-1002	Screw, Bleeder				2	2	2				2	2	2	2	2	2	2	2	2	2
14.	0734-9001	Bracket							1	1	1	1	1	1					1	1	1
15.	0733-1022	Spacer, B, Single-actg.	1			1			1		1		1		1			1			1
	0733-1023	Spacer, E, Single-actg.		1			1			1			1					1			1
*17.	0728-1029	Screw, Shoulder																			

NOTE: Items marked with capital letters are used only in models with those letter suffixes. 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" indicates the brake is designed to work with a 1/4" (6.35mm) thick disc.
"C" indicates the brake has bleeder fittings.
"D" indicates the brake has double live sides.
"E" indicates the brake is designed to work with a 1/2" (12.7mm) thick disc.
"F" indicates floating mount bracket.
"G" indicates the brake is built with EPR Seals and is DESIGNED TO BE OPERATED WITH AUTOMOTIVE BRAKE FLUID ONLY. (In brakes without the "G" suffix, most petroleum-based, hydraulic fluids may be used).
"R" indicates the brake has retractable piston(s).

H220 and P220 Double-acting

H220 and P220 Double-acting Retractable



NOTE: Bleeder Screw (Item #13) was revised 1-1-89. Brakes manufactured prior to that date will require Bleeder Screw #0701-1023 Buna-N or #0701-1033 EPR.

DOUBLE ACTING/DOUBLE ACTING RETRACTABLE

ITEM	PART NO.	DESCRIPTION	MODEL #																					
			ASSY. #	H220DAG	H220BCG	H220DECG	H220DARCG	H220DBRCG	H220DERCG	P220DA	P220DB	P220DE	H220DAC	H220DBC	H220DEC	P220DAR	P220DBR	P220DER	H220DARC	H220DBRC	H220DERC			
1.	0733-1037	Housing, P220DR							2	2	2				2	2	2							
	0733-1058	Housing, H220DR	2	2	2	2	2	2				2	2	2						2	2	2		
2.	0733-1068	Housing, Dead Side																						
3.	0720-1027	Piston	4	4	4				4	4	4	4	4	4										
5.	0720-1004	O-Ring, Buna-N							4	4	4				4	4	4							
	0720-1155	O-Ring, Buna-N										4	4	4						4	4	4		
	0720-1157	O-Ring, EPR	4	4	4	4	4	4																
6.	0720-1024	Puck	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
7.	0720-1026	Screw, Pan Head	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	0720-1003	O-Ring, Buna-N							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8.	0720-1013	O-Ring, EPR	2	2	2	2	2	2																
	0720-1105	Bolt, Hex 4.50"	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
9.	0720-1012	Bolt, Hex 5.00"							4										4					4
	1014-1065	Plug, Pipe	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11.	0720-1007	Washer	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12.	0720-1008	Lock Nut, flanged	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13.	0740-1002	Screw, Bleeder	4	4	4	4	4	4				4	4	4								4	4	4
15.	0733-1024	Spacer, A, Double-actg.	1			1			1			1			1				1					
	0733-1025	Spacer, B, Double-actg.		1					1			1			1				1					1
	0733-1027	Spacer, E, Double-actg.			1				1			1			1				1					1
*17.	0728-1029	Screw, Shoulder				4	4	4							4	4	4	4	4	4	4	4	4	4
18.	0728-1008	Spring, Compression				4	4	4							4	4	4	4	4	4	4	4	4	4
19.	0720-1154	O-Ring, .010, Buna-N													4	4	4	4	4	4	4	4	4	4
	0720-1056	O-Ring, .010, EPR				4	4	4																

* For Brakes manufactured after 6/1/94. For Brakes manufactured prior to 6/1/94 part number is 0910-1493.

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"R" indicates the brake has retractable piston(s).

INSTALLATION

FLOATING BRACKET MOUNT

If your caliper includes the floating bracket use Grade 5 Bolts for Pneumatic Calipers and Grade 8 Bolts for Hydraulic Calipers.

1. Mount the Caliper Unit with the four SAE hex head bolts. See diagram for dimensions. Tighten nuts to 30 Ft.-Lbs. on Grade 5 bolts and 40 Ft.-Lbs. on Grade 8 bolts. Care must be taken in mounting the calipers to be sure puck faces are parallel with the disc. Use shims if required. To prevent excessive wear, be sure disc does not rub against the pucks in the "Off" position, or against the housing.

FLOATING DISC MOUNT

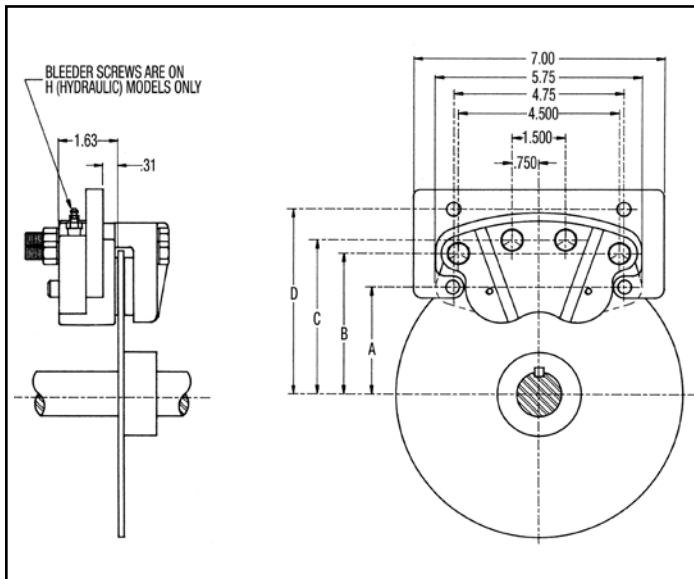
If using a floating disc mount.

2. The floating type disc must be free to move axially so that the moveable pucks will push in against the fixed pucks, otherwise unequal wear or bending of the disc will result. Proper clearance between the puck and disc is .010" min. per side to a max. of .031" per side when new.
3. Discs must be free of dirt and grease for maximum life and braking action.
4. (H)(P)220D and (H)(P)220DR brakes have internal porting between the two cylinder housings making it necessary to run only one fluid line to the caliper assembly.

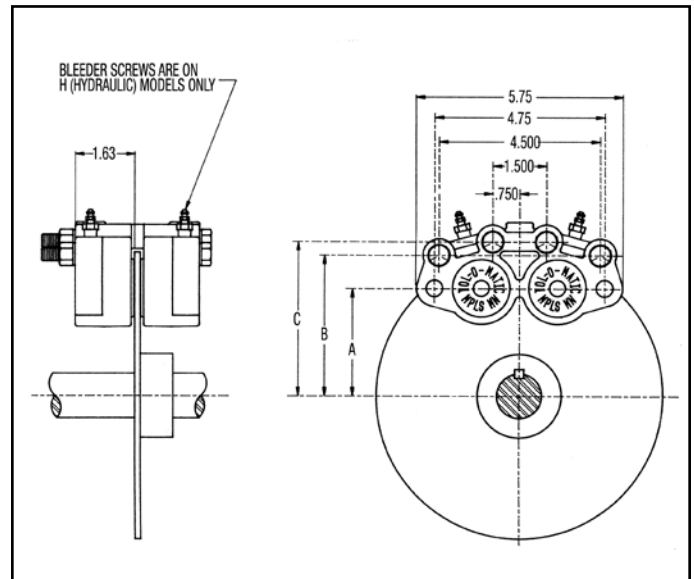
5. Pneumatically operated brakes must be connected to a source of clean, dry, filtered air at a pressure not to exceed 150 PSI. The use of an in-line mist lubricator is recommended to provide a very slight amount of lubrication. Any mineral base lubricating oil compatible with Buna-N Seals may be used.
6. Hydraulically operated brakes may be operated at pressures up to 1500 PSI using a mineral base hydraulic fluid compatible with Buna-Seals. If caliper has a suffix "G" use automotive brake fluid only. Also, when replacing seals, if automotive brake fluid is being used order EPR seals.
7. When plumbing the fluid system, use a minimum amount of pipe thread sealant on joints to prevent the sealant from entering the system.
8. Pressure in the brake cylinder must be relieved when the brake is off. This can be accomplished by using a three-way control valve. Any back pressure in the cylinder will cause drag and excess heat which will result in reduced puck life. If used with master cylinders, residual pressure checks must be removed.
9. Hydraulically operated brakes are provided with bleeder valves. Bleeding is done by loosening one valve screw at high point of brake cylinder. Incomplete bleeding results in sluggish braking action.

NOTE: Do not pressure bleed with more than 5 PSI.

MOUNTING DIMENSIONS



H 220 AND P220 SF, SRF



H 220 AND P220 D, DR

DISC DIA. (IN.)	A	B	C	D
6-5/16	2.13	3.07	3.45	4.30
8	3.00	3.94	4.32	5.17
10	4.00	4.94	5.32	6.17
12	5.00	5.94	6.32	7.17
16	7.09	8.03	8.41	9.26



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