

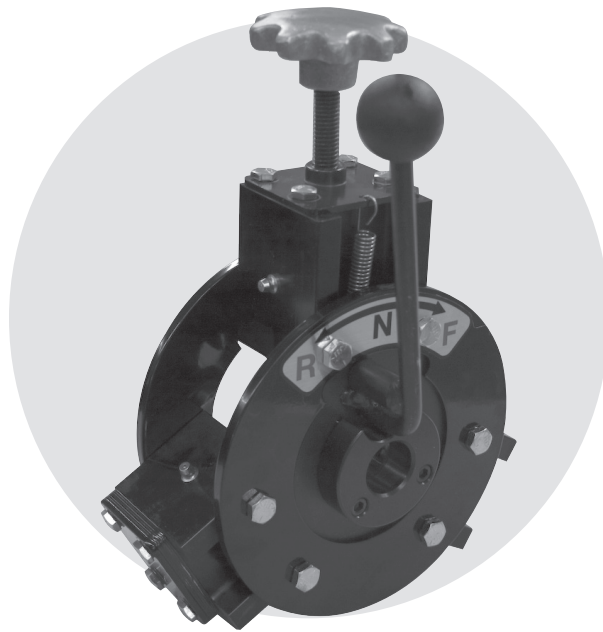


READ MANUAL BEFORE OPERATING
KEEP MANUAL FOR FUTURE REFERENCE

MACHINE MANUAL

★ BUILT **USA** TOUGH ★

PCFR



RIGHT IN THERE WITH YOU.



DURACABLE[®]
— MANUFACTURING CO —

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WARRANTY

Duracable Manufacturing Company warrants the Power Cable Feed & Return (PCFR) machine to be free from defects in material and workmanship for a period of two years from the date of purchase. The PCFR22SER Bearing Kit, including the drive bearing (part number SB1), and the machine bushing (part number WA20); the Thrust Washer (part number PCFR29); and the Thrust Bearing (part number PCFR28) are NOT included in the warranty. Warranty service can be obtained by contacting Duracable Manufacturing Company at the address listed below. If a defect is covered by warranty, Duracable Manufacturing Company will repair or replace the defective machine or component without charge for labor or materials (freight is not included).

Warranty of the equipment is limited to the original purchaser. Duracable Manufacturing Company assumes no responsibility for damage or injury from accident, neglect, abuse, misuse or from damage due to repair or alterations by others. This warranty does not cover damage to the equipment from use of parts other than genuine Duracable brand parts.

Duracable Manufacturing Company's sole obligation and the original purchaser's sole remedy under this warranty shall be for repair or replacement as described above. All other warranties, expressed or implied, including but not limited to, implied warranties of merchantability and fitness for a particular purpose, are disclaimed. In no event shall Duracable Manufacturing Company be liable for any incidental or consequential damages.

PARTS AND SERVICE INSTRUCTIONS

Parts can be purchased from Duracable Manufacturing Company. Service work is also available. Service is performed by trained factory personnel. Machines sent to the factory for evaluation and repair can be estimated and quoted prior to service work. When sending a machine, be sure to include the return address and include instructions on how the repair should be handled. Instructions can either be included with the machine, explained to your account manager over the phone (800-247-4081), or faxed (515-223-6109).

IMPORTANT

Keep this manual in a safe, convenient place for future reference. Important information about this machine, its diagrams and warranty information are included in this manual.

Serial Number: _____

Date of Purchase: _____

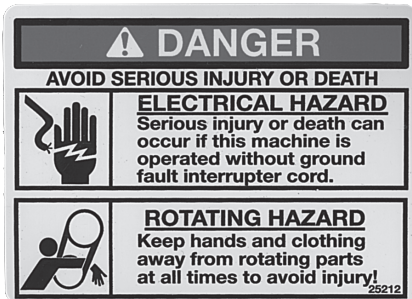
Duracable Manufacturing Company
300 Ashworth Road • West Des Moines, IA 50265

SAFETY LABELS

Duracable Manufacturing uses three signal words on its safety labels and instructions. These words have the following definitions:

DANGER

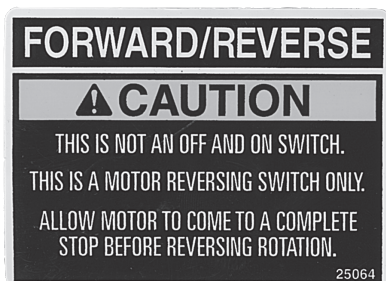
A 'Danger' label indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situation, typically for machine components that, for functional purposes, cannot be guarded. The word 'danger' will be in white letters on a red background.



CAUTION

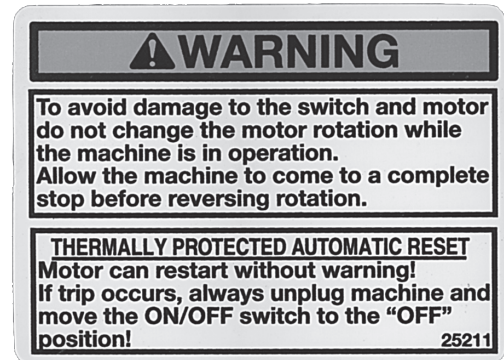
A 'Caution' label indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The word 'caution' will be in black letters on a yellow background.

The safety label format includes the signal word and symbol, a picture (not required), and the message.



WARNING

A 'Warning' label indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices. The word 'warning' will be in black letters on an orange background.



INFORMATION AND SPECIFICATIONS

General Information

The Duracable Power Cable Feed & Return (PCFR) will take the labor out of intensive feeding and retrieving of the cable. The PCFR features: easy lubrication, three positions (forward, neutral, and reverse), easy mounting, the ability to feed cable from 3/8" to 3/4" diameter, and the ability to feed or retrieve at a rate of 0' to 32' per minute.

Cable Sizing

On a properly mounted PCFR, the cable should pass from the revolving arm of the machine over the two lower bearings and through the center hole of the direction disc (#PCFR12) in a straight line.

Once you have determined the desired cable size, find the number of sizing plates (#PCFR20) you must use between the lower housings (#PCFR18) and lower pressure plates (#PCFR21).

NOTE: The cable must be centered in the wear ring (#PCFR33) for the PCFR to operate properly. The drain hole of the lower pressure plate must be toward the bottom of the PCFR.

Operating Instruction

- Position the direction disk lever in the upright, neutral "N" position.
- Release the pressure from the pressure control knob (#PCFR26) to free the cable.
- Start the drain cleaning machine.
- Place the direction disk lever to the forward "F" position and start to tighten the pressure control knob (#PCFR26).
- Once the cable is driving steadily forward, stop turning the pressure control knob.
- Position the direction disk lever in the reverse "R" position and the cable should retrieve steadily.
- Move the direction disk lever to the forward "F" position and let the PCFR do the clearing for you. If the cable starts slipping in the drain line, the pressure control knob may be tightened until the cable is moving again.
- When the blade encounters a blockage, it will slow down or momentarily stop rotation of the cable, reel and/or motor.
- As soon as you feel a reduction in the RPM, move the direction disk lever to the reverse "R" position.
- When the torque is released or diminished, move the direction disk lever into the forward "F" position.
- Move the direction disk lever back and forth between the forward "F" position and the reverse "R" position until the blockage is clear. Remember, it is very important to keep the cable rotating at all times.
- Once you have passed through the blockage and the cable is returned into the reel, tighten the pressure control knob to lock the cable into the reel.
- Position the direction disk lever in the upright, neutral "N" position.

NOTE: Machines with an RPM of 175 or more will feed and retrieve cable at a faster rate. Refer to the parts chart for the proper pulley sizes. **WARNING:** Extreme tightening of the pressure control knob may damage the power feed bearings.

Safety Instructions

To ensure proper and safe operation of the Duracable PCFR, observe the following rules:

- Before switching on the drain cleaning machine, make sure the direction disk lever is in the upright neutral "N" position. This prevents accidentally running the cable fitting backwards into the power feed and damaging the couplings and / or the drive bearings.
- While operating the PCFR, always wear gloves and keep fingers and foreign objects out of the drive mechanisms.
- For storage, or when the drain cleaning machine and the PCFR are not in use, always tighten the pressure control knob to lock the cable into the reel.
- Maintain the PCFR with proper care. Keep it clean for the best and safest performance. Follow the instructions for lubrication, changing bearings and maintenance.

Lubrication

The PCFR should be given the best of care and if kept clean and properly lubricated, it will provide many years of trouble-free service. Observe the following instructions at all times:

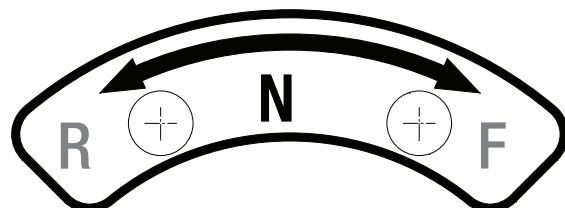
- The drive bearings have been packed at the factory with the proper lubricant and require no additional lubrication.
- Grease all housings equipped with zerk fittings.
- Remove the front disk periodically in order to apply grease to both sides of the direction disk (#PCFR12).

NOTE: If the PCFR is not in use for an extended period of time, spray with WD-40® or an equivalent to prevent parts from oxidizing.

Maintenance Tips

To keep your PCFR in good, clean, safe, operating condition, periodically check the following items:

- Lubricate all sliding, rotating and moving parts.
- Pay special attention to wear on rotation pins and drive bearings.
- Check direction disk lever for wear.
- Inspect, refasten or replace all bolts, nuts, washer, and spring retainers as needed.
- Check the angle and center line alignment of the PCFR.



INFORMATION AND SPECIFICATIONS

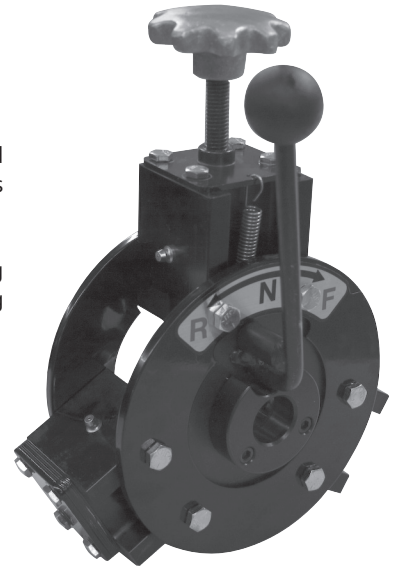
Power Cable Feed & Return

The Power Cable Feed & Return (PCFR) is designed to help you run long lengths of cable into and out of lines. It will help you cut through roots or heavy blockages in any drain line. The PCFR's Length is 6"; Width is 9"; Height is 12"; and Weight is 12 pounds.

The PCFR is standard equipment on the DM175. Note: The recommended grease for the housing blocks is Lps® Thermaplex 70614 or Lubri-Plate® 630-Aa. Lubricate the rotation pin and bearing surface with Lps® 2 Industrial Lubricant 00216, WD-40® Lubricant or equivalent.

Adjusting PCFR by Cable Size

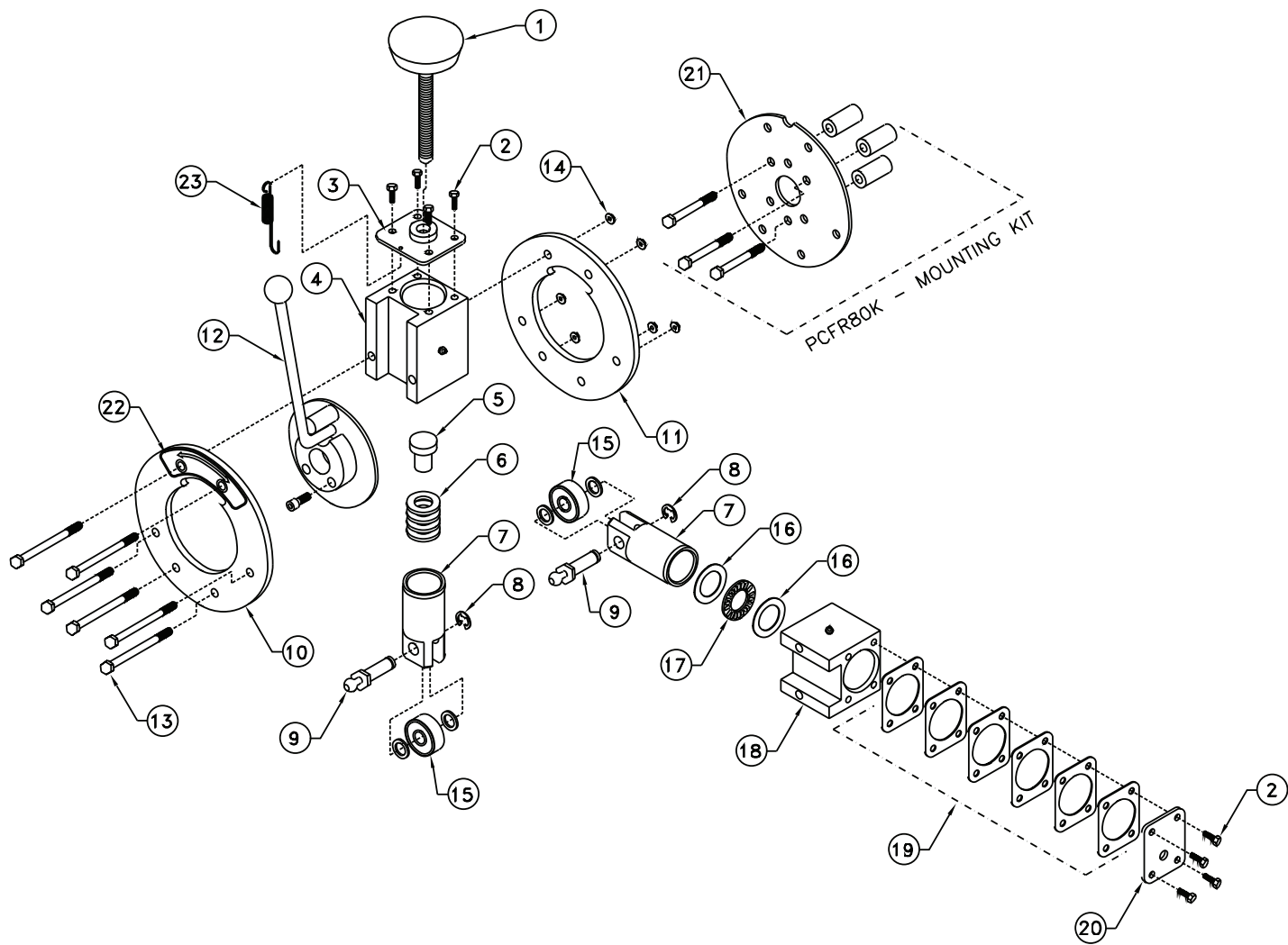
3/4" Cable:	6 Sizing Plates per Block
11/16" Cable:	5 Sizing Plates per Block
5/8" Cable:	4 Sizing Plates per Block
1/2" Cable:	2 Sizing Plates per Block
13/32" Cable:	1 Sizing Plate per Block
3/8" Cable:	0 Sizing Plates per Block




POWER CABLE FEED AND RETURN KITS (OPTIONAL)

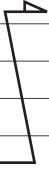


Kit Part #	Description	Included Parts	Quantity	Description of Included Parts
PCFR23SER	Power Cable Feed and Return Piston Kit	PCFR14 PCFR25 RRING1 SB1 WA20	1 1 2 1 2	PCFR Piston PCFR Rotation Pin 11/16" x 1/32" x 11/32" External Retaining Ring PCFR Drive Bearing 1/2" x 3/4" x 1/16" Washer
PCFR22SER	Power Cable Feed and Return Bearing Kit	SB1 WA20	1 2	PCFR Drive Bearing 1/2" x 3/4" x 1/16" Washer
PCFR80K	Power Cable Feed and Return Adapter Kit (for the DM55, DM30 and DM10)	HHCS11 PCFR80A PCFR80B	3 1 3	5/16"-18 X 2" Hex Head Cap Screw Adapter Plate Spacer for Adapter Plate

POWER CABLE FEED AND RETURN (PCFR) SCHEMATIC



PCFR SCHEMATIC

 The entire line item in **bold** identifies the name of an entire assembly. The “Z” shaped arrow identifies all the parts that make up that assembly. You can purchase the entire assembly, or just the individual parts.

ITEM	QTY.	PART#	DESCRIPTION
1	1	KNOB3	Knob, Pressure Control
2	12	HHCS29	1/4"-20 x 3/4" Hex Head Cap Screw
3	1	PCFR15	Pressure Plate, Upper
4	1	PCFR13	Housing Block, Upper
5	1	PCFR17	Spring Pad
6	1	PCFR16	Compression Spring
7	3	PCFR14	Piston, Upper and Lower
8	3	RRING1	External "E" Ring
9	3	PCFR25	Rotation Pin
10	1	PCFR10	Mounting Disc, Front
11	1	PCFR11	Mounting Disc, Rear
12 	1	PCFR12	Direction Disc Assembly
	1	PCFR12E	Direction Disc
	1	KNOB2	Knob, Black Plastic
	1	PCFR33	Wear Ring
	2	SHCS6	1/4"-28 x 5/8" Socket Head Cap Screw
13	6	HHCS12	5/16"-18 x 3-1/2" Hex Head Cap Screw
14	6	FLNUT3	5/16"-18 Hex Flange Nut, Locking
15 	3	PCFR22SER	PCFR Bearing Kit
	1	SB1	Drive Bearing
	2	WA20	Machine Bushing
16	4	PCFR29	Thrust Washer
17	2	PCFR28	Thrust Bearing
18	2	PCFR18	Housing Block, Lower
19	12	PCFR20	Sizing Plate (lower housing blocks only)
20	2	PCFR21	Pressure Plate, Lower
21 	1	PCFR80K	PCFR Adapter Kit
	1	PCFR80A	Adapter Plate
	3	PCFR80B	Spacers
	3	HHCS11	5/16"-18 x 2" Hex Head Cap Screw
22	1	PCFR9	Decal, Reverse/Neutral/Forward
23	1	MM35	Extension Spring
	3	PCFR23SER	PCFR Piston Kit (kit includes items 7, 8, 9, and 15)

PCFR BEARING KIT

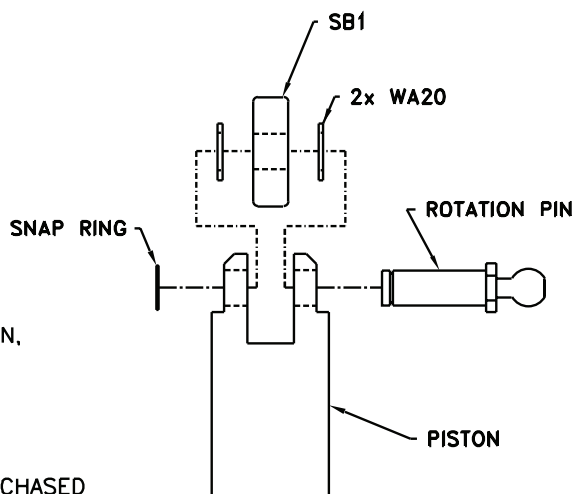
THE PCFR22SER BEARING KIT INCLUDES THE FOLLOWING:

- * (1) SB1 BEARING
- * (2) WA20 SPACERS

IF THE PCFR WAS PURCHASED AND/OR MANUFACTURED ON OR PRIOR TO 1995 OR IF ONE OF THE FOLLOWING CONDITIONS OCCUR WHILE INSTALLING THE BEARING KIT:

- 1) THE SB1 BEARING FITS LOOSELY ON THE ROTATION PIN,
- 2) THE SB1 BEARING RUBS OR TOUCHES THE PISTON,
- 3) THE SB1 BEARING WILL NOT ROTATE WHEN INSTALLED,

THEN THE PCFR23SER PISTON KIT WILL NEED TO BE PURCHASED SEPARATELY TO COMPLETE THE REPAIR TO THE PCFR. IT REQUIRES THREE (3) PCFR23SER KITS TO PERFORM A COMPLETE REPAIR.



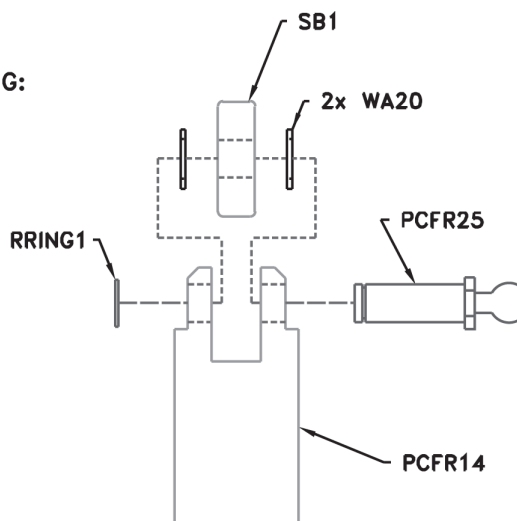
How to Install the PCFR22SER Bearing Kit

1. Remove the six hex flange nuts (FLNUT3).
2. Remove the rear disk (PCFR11).
3. Slip the upper housing (PCFR13) and/or the lower housings (PCFR18) from the hex bolts.
4. Remove the upper piston (PCFR14) and /or the lower pistons (PCFR19).
5. Remove the spring retainer (PCFR23).
6. Pull out the rotation pin (PCFR25).
7. Remove the spacers (PCFR24) and the drive bearing (PCFR22).
8. Clean all the parts in kerosene or a cleaning solvent.
9. Lubricate all moving parts and grease the housings provided with zerk fittings.

PCFR PISTON KIT

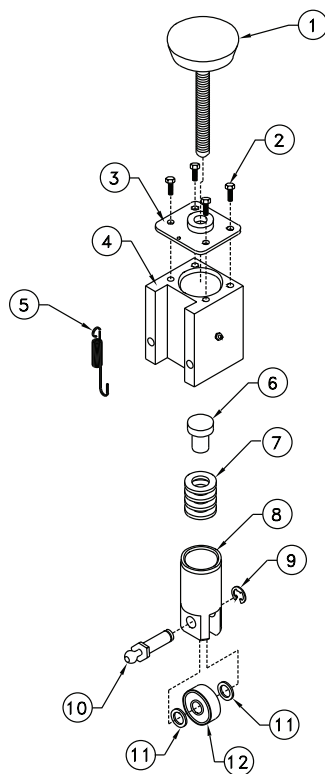
THE PCFR23SER PISTON KIT INCLUDES THE FOLLOWING:

- * (1) PCFR14 UPPER/LOWER PISTON
- * (1) RRING1 "E"-RING CLIP
- * (1) SB1 BEARING
- * (2) WA20 SPACERS
- * (1) PCFR25 ROTATION PIN



** THREE (3) PCFR23SER KITS ARE REQUIRED TO PERFORM A COMPLETE REPAIR OF THE PCFR.

PCFR SPRING KIT



No.	Qty.	Part No.	Description
1	1	KNOB3	PRESSURE CONTROL KNOB
2	4	HHCS29	1/4-20 x .75 HEX HD CAP SCRW
3	1	PCFR15	UPPER PRESSURE PLATE
4	1	PCFR13	UPPER HOUSING BLOCK
5	1	MM35	EXTENSION SPRING
6	1	PCFR17	SPRING PAD
7	1	PCFR16	COMPRESSION SPRING
8	1	PCFR14	UPPER/LOWER PISTON
9	1	RRING1	EXTERNAL "E" RING
10	1	PCFR25	ROTATION PIN
11	2	WA20	MACHINE BUSHINGS
12	1	SB1	DRIVE BEARING

PCFR-KIT1 = (3)(5)

PCFR-KIT2 = (3)(4)(5)

PCFR-KIT3 = (2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)

PCFR-KIT4 = ALL ITEMS AS SHOWN

PCFR MOUNTING INSTRUCTIONS

(A) ATTACH ADAPTER PLATE TO HEAD CASTING:

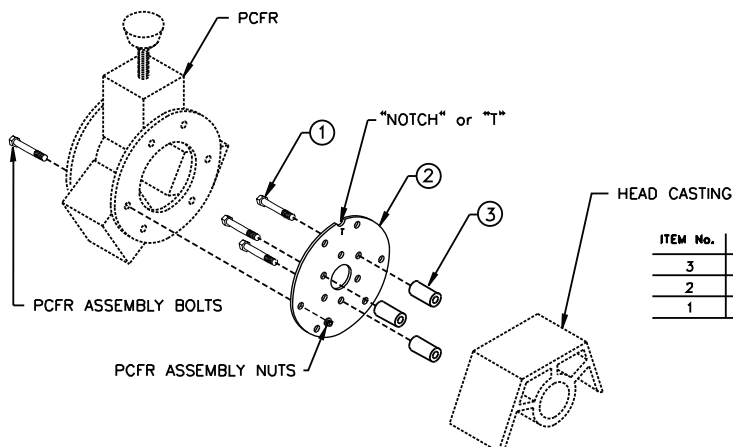
1. PLACE SPACERS [3] BETWEEN HEAD CASTING AND ADAPTER PLATE [2], AS SHOWN.
2. USE 5/16-18 x 2.000 HEX BOLTS [1] TO MOUNT ADAPTER PLATE [2] TO HEAD CASTING.

NOTE: (REFER TO DETAIL "A")

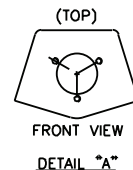
THE ADAPTER PLATE MUST BE IN THE TOP POSITION WHEN MOUNTING TO THE HEAD CASTING. THE "NOTCH" OR "T" STAMPED ON THE ADAPTER PLATE INDICATES THE TOP OF THE PLATE.

(B) ATTACH PCFR TO ADAPTER PLATE:

1. REMOVE PCFR ASSEMBLY NUTS FROM PCFR ASSEMBLY BOLTS.
(DO NOT REMOVE BOLTS OR REAR DISC FROM PCFR.)
2. ALIGN PCFR ASSEMBLY BOLTS W/ CORRESPONDING ADAPTER PLATE HOLES.
3. REPLACE PCFR ASSEMBLY NUTS AND TIGHTEN.



NOTE HOLE LOCATIONS OF HEAD CASTING.



ITEM No.	QTY.	PART No.	DESCRIPTION
3	3	PCFR80B	SPACERS
2	1	PCFR80A	ADAPTER PLATE
1	3	HHCS11	5/16-18 x 2.000 BOLT

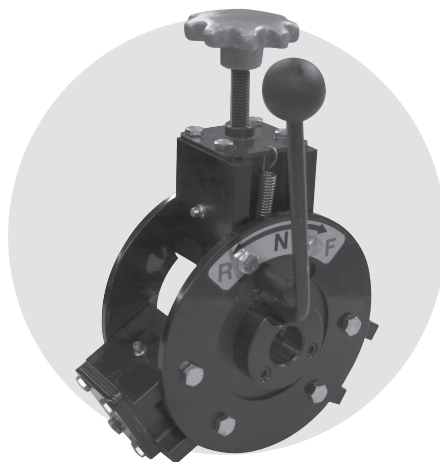
Notes

Notes

PCFR MACHINE MANUAL

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PCFR



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300 ASHWORTH ROAD
WEST DES MOINES, IOWA 50265

DURACABLE.COM ——— 800.247.4081

ANSWER LINE: 877.257.1781
FAX: 515.223.6109

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