

## Shortening Recirculation System Installation PITCO LJ-FBG Frying System

The Shortening Recirculation System directs cleaned shortening from the filter pan, through the fryer drain, back to the filter pan. This allows the required 10-minute filter cycle to run at the same time that frypot is being cleaned. It is estimated to take 3-4 hours to install. For installation help, please call 603 225-6684 Service/Parts

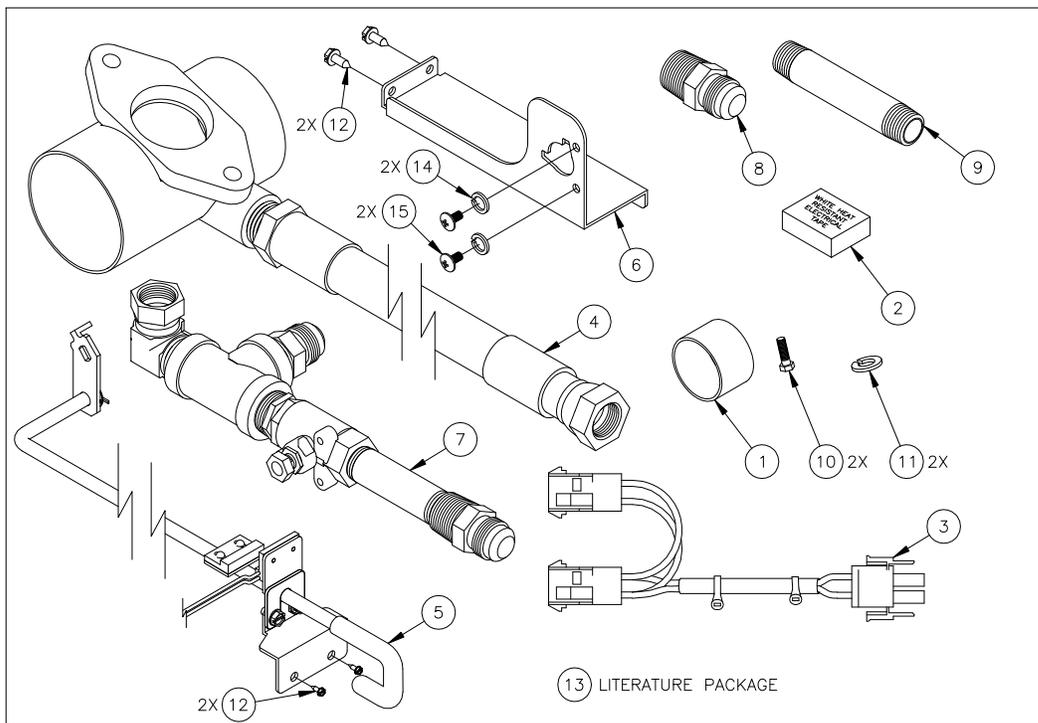


FIGURE 1 Shortening Recirculation System Kit Contents:

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| <ol style="list-style-type: none"> <li>1. 60059302 Spare drain line gasket.</li> <li>2. PP10775 Heat resistant fiberglass tape.</li> <li>3. B6746301 Filter pump power jumper</li> <li>4. Drain line tie in assembly w/ flex hose</li> <li>5. Operator handle w/ pump switch and valve handle</li> <li>6. Valve assembly support bracket</li> <li>7. Recirculation valve assembly</li> <li>8. Fitting, 45 flare x 3/4 NPT-spare</li> </ol> | <ol style="list-style-type: none"> <li>9. Pipe, 3 1/2"x 1/2" black iron</li> <li>10. Bolt, 5/16" x 1.25</li> <li>11. Washer, lock 5/16"</li> <li>12. Screw, #10 self drilling</li> <li>13. Literature package (NOT SHOWN): Installer instructions and laminated operating instruction card to be left with Store RGM/ MIC.</li> <li>14. Washer, lock #10</li> <li>15. Screw, #10-24x 3/8"</li> </ol> |
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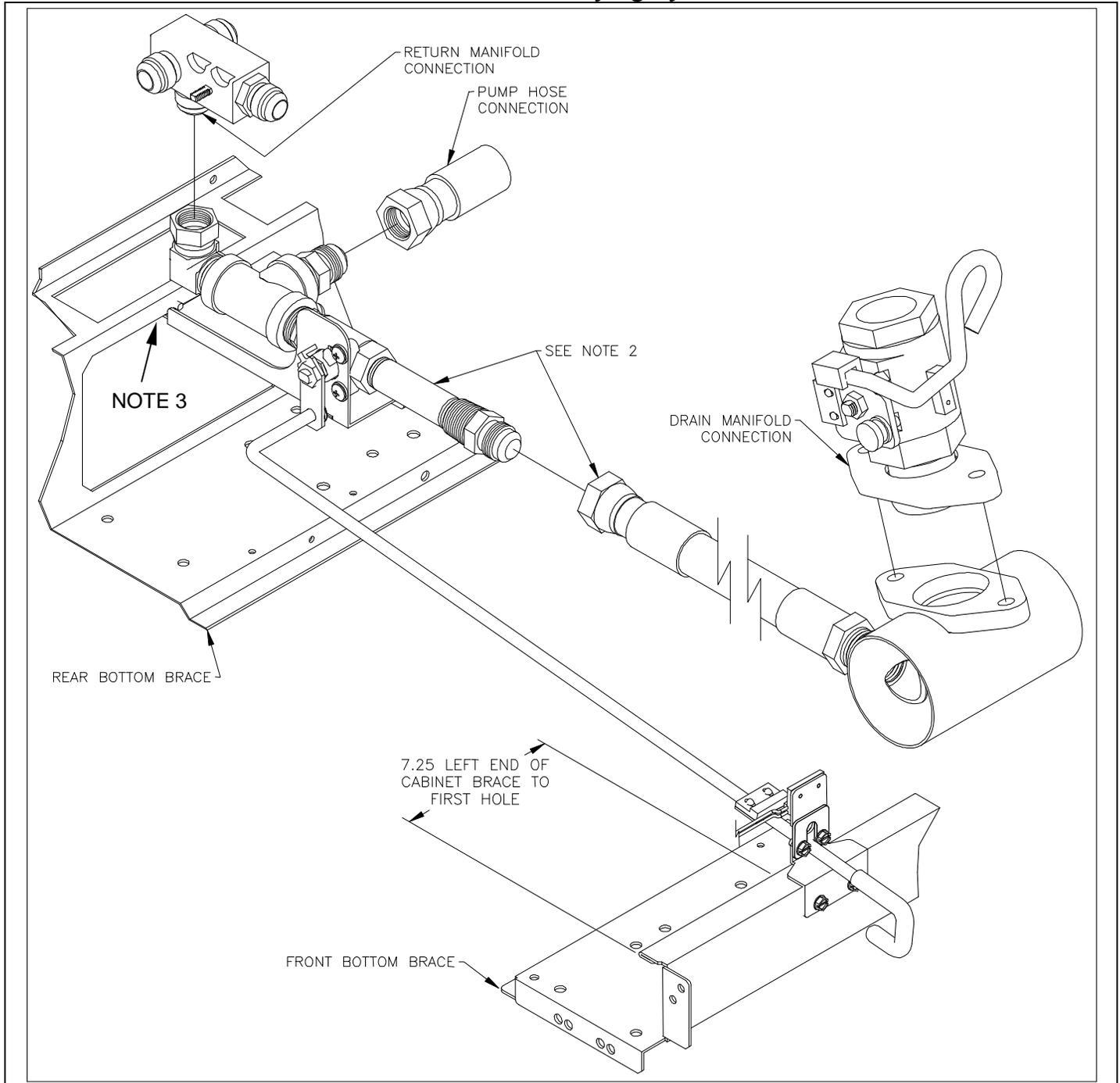


**Shortening Recirculation System Operator Handle**-Pulling blue handle starts pump and shortening is recirculated in the filter pan.



Recirculation system is to be added to fryer containing filter pump.

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**Fig 2: Assembly view of shortening recirculation system**

**Notes:**

1. Fryer cabinet and gas train removed for clarity.
2. Change this pipe to use the shorter 3 ½ " NPT pipe if flex hose bows up or down. See section 8 INSTALL RECIRCULATION VALVE ASSEMBLY, step 4-4.A
3. Support bracket under and to the rear of cabinet cross member.

**Tools and Materials Needed to Install Shortening Recirculation Kit:**

- Typical hand tools
- Large open end wrenches, sizes 7/8" 15/16" 1 1/16"  
7/16" deep style socket
- Extra large water pump pliers
- Electric drill with 5/16" hex driver attachment.

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### DISASSEMBLY:

1. Working behind frying system:
  - A. Disconnect gas supply hose(s), gas hose strain lanyard, and unplug fryer electric cord(s).
  - B. Working on the fryer with the pump, Cut white glass tape holding heat tape from pump to frypot return valve.
  - C. Disconnect pump flex hose flare fitting from the frypot return valve.
  - D. Remove bolts holding BACK end of filter pan guide rail ( see fig.3)



Fig 3

### Return to the front of the fryer:

2. Remove filter pan and cover from fryer.
3. Remove remaining bolts attaching filter pan guide rail to front of cabinet.
4. Unplug pump power cord, and heat tape electrical connectors from circuit breaker box.

### 5. REMOVE PUMP:

#### 5.A



Remove filter pan socket, and retaining bracket from pump support rods.

#### 5.B



Support pump assembly with hand as shown while removing pump support rods with other hand.

#### 5.C



Lower pump assembly out of cabinet, motor end first.

### NOTES REGARDING PUMP REMOVAL:

1. Some rotation of the pump assembly to the right as it is lowered will allow discharge hose to pass around internal gas hoses.
2. Pump assembly is heavy, support it adequately while pulling rods out to protect yourself and the pump. Use care when lowering the pump to prevent damage to the flexible gas line for fryer control valve

### 6. CONVERSION OF FILTER PUMP DISCHARGE PIPING:

1. Cut away white glass tape holding heat tape to pump flex hose.
2. Remove flare elbow from outer end of braided flex hose.
3. Remove braided flex hose, (to be reinstalled in step 5) outer elbow and short pipe from pump discharge.
4. Remove the outer elbow and 2" nipple. LEAVE REMAINING ELBOW IN PUMP.



Fig 4: Pump after discharge piping converted. Reapply heat tape to flex hose when finished re-piping pump outlet.

5. Clean threads on flex hose, apply high temp Fluoropolymer thread sealer, and insert threaded end of flex hose into elbow remaining in pump discharge port. **See Fig 4**

6. Re-attach heat tape to hose with white tape provided.  
**NOTE: Heat rises. Always apply heat tape so it's positioned under the oil line in it's "installed position".**

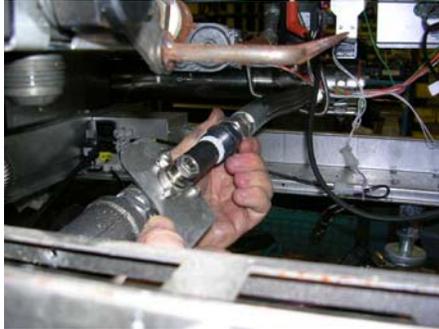
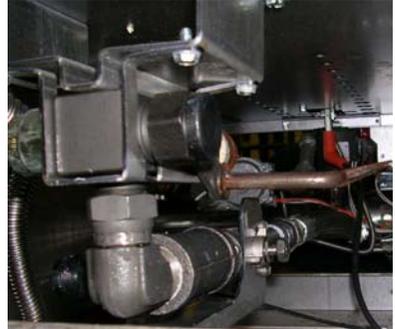
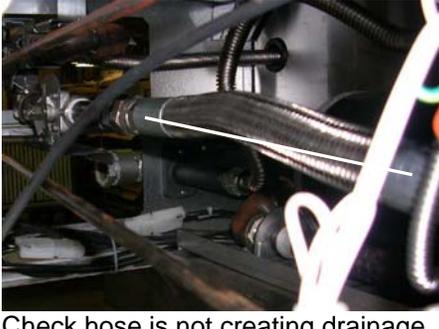
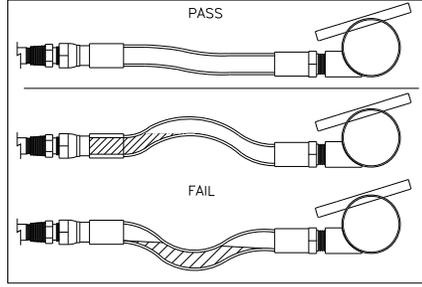
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### 7. CHANGE DRAIN LINE "T" FITTING:

<p>1.</p>  <p>Use a 7/16" deep socket to loosen drain line clamp and slide both the clamp and red gasket to left.</p>	<p>2.</p>  <p>Remove bolts holding drain T to the flange on drain valve.</p>
<p>3.</p>  <p>Use a screwdriver as a wedge between drain T and upper flange to separate them from the drain valve.</p>	<p>4.</p>  <p>Pull the drain piping out around the drain valve and slide the Drain T out of the drain line socket.</p>
<p>5.</p>  <p>The new drain fitting is put in with hose end towards REAR of fryer.</p>	<p>6. Install new drain "T" by reversing steps 1-4. 7. Check that drain "T" and drain line looks straight as it runs from left to right. Adjust if needed. 8. Tighten flange bolts so that drain line is straight and flanges stay parallel to each other.</p> <p><b>NOTE:</b> Wipe ALL shortening from drain tubes parts before installing red gasket. Leaving a film of shortening on tube parts may allow gasket to slip off over time.</p>
<p>9.</p>  <p>Install a new drain line gasket, reattach clamp, and install thread cap on clamp bolt.</p>	<p><b>NOTE:</b> Be certain to reinstall thread cap on clamp tensioning bolt to protect operators!</p>

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### 8. INSTALL RECIRCULATION VALVE ASSEMBLY:

<p>1.</p>  <p>1. Attach mounting bracket to the recirculation valve assembly with # 10 x3/8" screws (fig1 item 12). Leave screws loose.</p>	<p>2.</p>  <p>Attach flare connection between flex hose and valve assembly. <b>Leave joint hand tight for now.</b></p>	<p>3.</p>  <p>Attach elbow from valve assembly to fryer valve hand tight.</p>
<p>3.</p>  <p>Hold valve assembly straight, attach support bracket to cabinet with driller screws (item12).</p>	<p>3.A</p>  <p>Support bracket -installed view. Holes in bracket create a drilling guide for attaching to cabinet.</p>	<p>4.</p>  <p>Check hose is not creating drainage trap (white line). This hose will allow piping to drain.</p>
<p>4.A</p>  <p>This hose creates a drainage trap (white line) that will allow shortening to harden in line. <b>See step 5</b></p>  <p><b>Figure 5</b></p>	<p>5.</p> <p><b>NOTE: If trap is present figure 5, Refer to Fig 2, note 2 to correct trap before proceeding to step 6.</b></p> <p>It may be necessary to remove the valve assembly from the fryer to change to the 3 1/2" x 1/2" pipe.</p>	<p>6.</p>  <p>Tighten all flare fittings. Support hose as shown while tightening.</p> <p>Tighten screws holding valve assembly to support bracket</p>

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### 9. REINSTALL FILTER PUMP.

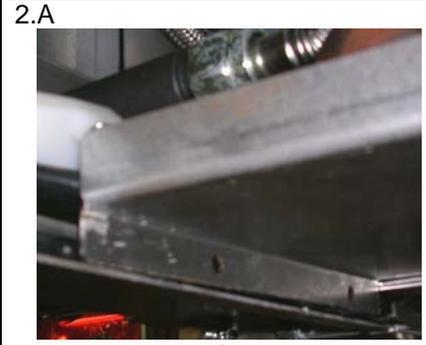
**NOTE: USE CARE TO PREVENT DAMAGE TO ELECTRIC CABLES WHILE INSTALLING PUMP:** Tie off cabinet to cabinet electrical jumpers front and rear to prevent pinching when reinstalling pump assembly.



Wrap pump electrical leads as shown to prevent pinching.



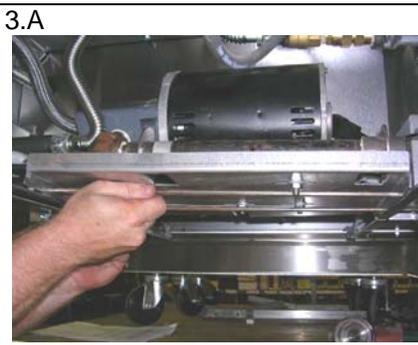
Lift pump assembly into cabinet. Flex hose goes on top of gas line.



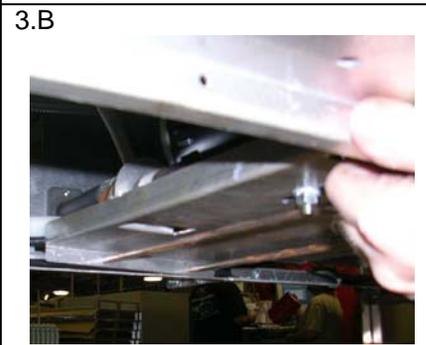
Rest pump end of motor assembly on flange of cross brace.



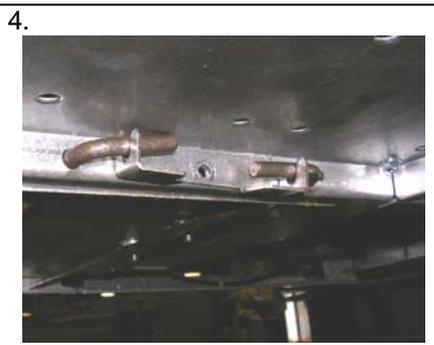
Slide support rods through holes in cabinet cross member and pump mounting plate.



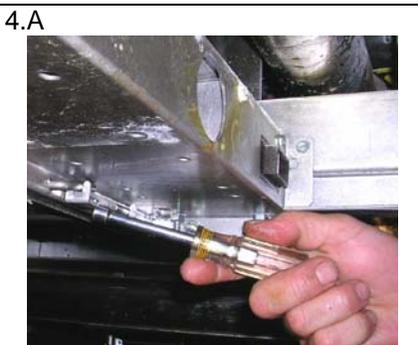
Pull rods through holes in pump end of mounting plate. Rods will stick out of mounting plate and aid next step.



Pull mounting plate to front until it falls between cabinet braces. Push rods through holes in back cross brace



4. Install support rod retainer bracket.



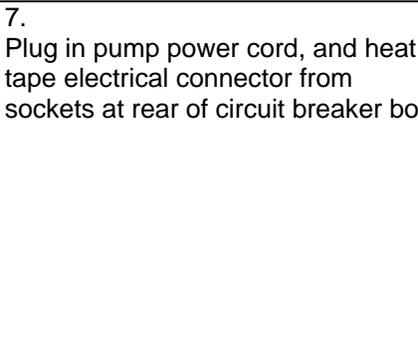
Fasten bracket to cabinet brace.



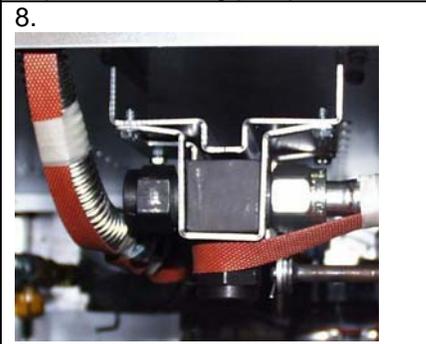
Attach hose, tighten with 2 wrenches to prevent twisting pump hose.



Install filter pan fitting.



Plug in pump power cord, and heat tape electrical connector from sockets at rear of circuit breaker box.



Rewrap heat tape from pump to "T" of valve assembly back to original valve on fryer.

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### 10. INSTALL OPERATOR HANDLE AND CONNECT SWITCH TO PUMP WIRING.

<p>1.</p>  <p>Attach handle rod bracket at cabinet cross member with LH screw hole 7.25" from LH end of cross brace. Refer to Fig 2.</p>	<p>2.</p>  <p>Install actuator rod handle on recirculation valve. Tighten the 9/16" valve stem nut tightly, approx. 20-30 in/lbs.</p>	<p>3.</p>  <p>Install new "Y" jumper into existing pump switch line ( jumpers coming from yellow handle).</p>
<p>4.</p>  <p>Connect wires from handle switch to open end of new Y jumper.</p>	<p>5.</p>  <p>Reattach LH pan guide, filter pan cover, and set up filter pan per instruction card "Pitco FBG Series Filtering Instructions."</p>	<p>6.</p> <p>Reconnect fryer electrical and gas connection(s).</p>
<p>7.</p>  <p>Check that operator handle starts pump when pulled OUT. <b>NOTE:</b> Clearance from magnet on blue handle to actuator on bracket is no more than .25".</p>	<p>8.</p> <p>Use wire ties as needed to tie off or reroute any wires that may be touching moving parts such as the yellow or blue operator handles.</p>	

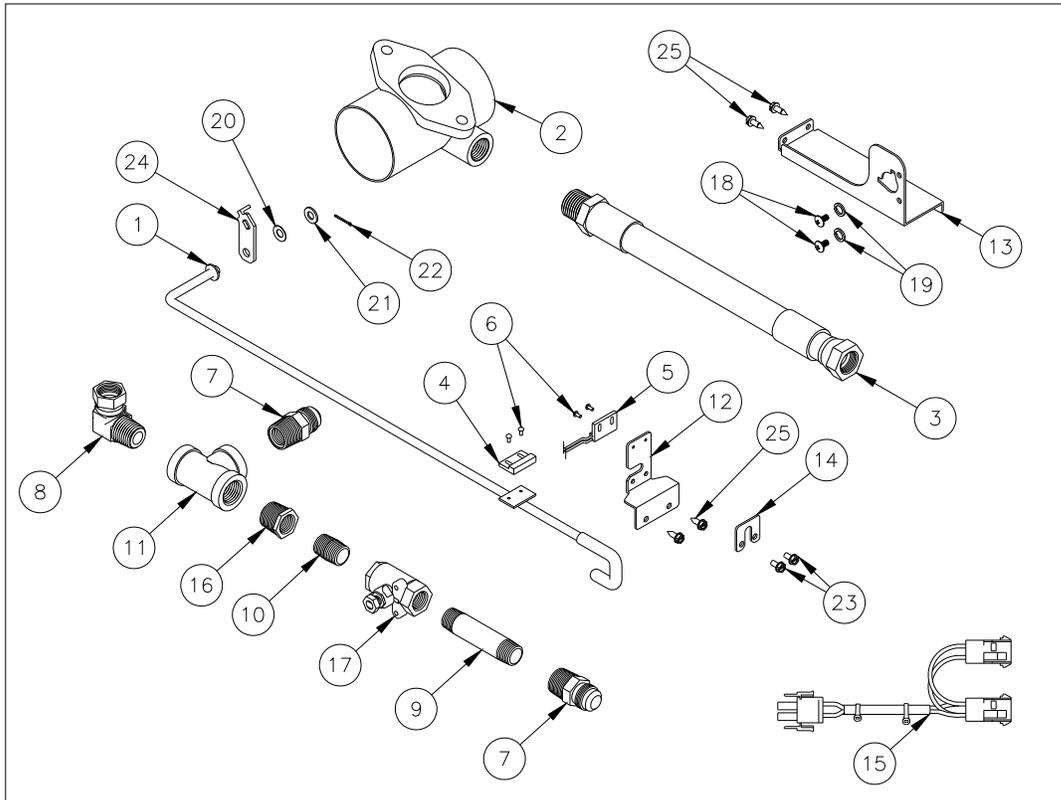
To finish installation:

1. Start fryer, heat to operating temperature.
2. Filter fryer. Refer to enclosed card, Pitco FBG Series Filtering Instructions.
3. While the filter is operating for the 10 minutes, check piping system for leaks and that the new handle operates the pump properly. Correct as needed.
4. Leave laminated card "Pitco FBG Series Filtering Instructions" with Manager in Charge or RGM.
5. Parts removed during installation can be discarded.

For technical help on kit installation please call 800 258-3708. Ask for Steve Savage, Charlie Pierce, or Warren Runde.

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### Shortening Recirculation Parts Identification



Item #	P/N	Desc
1	B4006101	HDL,FLTR RTN POLISH FBG
2	B6683001	FLTR,WLDMT DRN TEE POLISH FBG
3	60132201	HOSE,FLUROPOLYMER F SWIVEL X MPT
4	PP10263	SW,PROXIMITY ACTUATOR
5	B5305003	ELEC ASSY,DVI 17.50
6	PP10266	SCR,4-40 X .250 RDH ZN
7	60129901	FTG,ADPTR MALE FLARE 45XMPT
8	A8033803	PG,ELB 15/16 F X 3/4NPT M
9	P7037096	NIP,BLK 1/2 X 3 1/2
10	P7037090	NIP,BLK 1/2 CL
11	P7036860	TEE,BLK 3/4
12	A4026501	HDL,BRKT FR POLISH FBG
13	A4026601	HDL,BRKT RR POLISH FBG
14	A7028601	FLTR,RTN BRKT FR DG14T
15	B6746301	WRG,RETURN OR HOSE JMPR SG 24V
16	P7036013	BSHG,RDCR HEX 3/4X1/2 NPT BLK
17	PP10574	VLV,BALL 1/2 SST APOLLO
18	60072101	SCR,10-24 X .375 RDH SS PHL
19	P0082400	WSHR,LOCK #10 ZN (SPLIT)
20	60131901	WSHR,SPR 5/8 5/16 HOLE
21	P0080750	WSHR,FLAT 5/16 ZN SAE
22	P0190200	PIN COTTER 1/16X3/4 ZN
23	P0075400	SCR,10-24 X 1/2 SELF TAP
24	A4026701	HDL,BRKT VLV POLISH FBG
25	P0075300	SCR,10-16 x 5/8 HEX SLF DR