REPLACEMENT PROCEDURE FOR THE GEARBOX OIL FILTER
SAFETY

J.C. Steele and Sons equipment is designed to process large amounts of heavy products. To accomplish many of the required operations of our customers, high horsepower and heavy components are required. A great deal of time and effort has been invested into our equipment to make them as safe as practically possible. The safety features are no substitute of caution and common sense. A careless moment is all that is needed to cause a serious accident. Please refer to the machine’s Owner’s Manual for a detailed list of safety precautions.

GENERAL DESCRIPTION

Parker Hannifin, the current owner of Gresen, has discontinued the manufacture of the filter heads and cartridges used on nearly all of the J C Steele gearboxes with circulating oil systems. J C Steele will supply a spin on filter that has better filtering capabilities and is easier to replace. The new filter heads will hang from the same bracket and use the same plumbing as the old filter heads.

The new filter heads, and “spin on” filters are made by Stauff. They include differential pressure indicators to inform the machine operator when the filters are being bypassed. The new filter has four improvements over the old filters:

1. The new spin-on filter contains a fiber element that filters to a nominal 10 microns. The old screen filters filtered to only 200 microns. This will make the returning oil cleaner, thus extending the life the oil and the moving components of the gearbox.

2. The spin on design is easier to replace. There are no loose gaskets to contend with. And there is no casing to clean.

3. The filter head can take a number of different filter cans from several manufacturers should a Stauff filter not be available.

4. The indicator requires no effort to determine if the filter is being bypassed. If the indicator touches in the red band, the filter needs replacing.
The kit contains the following items. * indicates part of assembly.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>*FILTER BYPASS INDICATOR</td>
<td>PBH-S-1087-CB</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>*INDICATOR BRACKET</td>
<td>DSD-S-0750-SH</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>*CONNECTOR STRAIGHT 1/8 NPT TO ¼ TUBE</td>
<td>PPF-S-8400-PP</td>
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<tr>
<td>4</td>
<td>2</td>
<td>*CONNECTOR ELBOW 1/8 NPT TO ¼ TUBE</td>
<td>PBJ-S-1036-SP</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>*1/4 O.D. TUBING</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>*TUBING SLEEVE</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>*FILTER BODY</td>
<td>PFB-S-1141-CB</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>GASKET FLAT O-RING TYPE</td>
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<tr>
<td>9</td>
<td>1</td>
<td>25 MICRON SPIN ON FILTER CANISTER</td>
<td>PFB-B-1144-CB</td>
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<tr>
<td>10</td>
<td>2</td>
<td>*5/16 – 18 X 1 HEX HD. SCREWS</td>
<td>PSA-S-1570-SP</td>
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<tr>
<td>11</td>
<td>2</td>
<td>*5/16 FLAT WASHER</td>
<td>PWB-S-2020-SP</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>1 – ¼ NPT TO ¾ NPT REDUCING BUSHING</td>
<td>PPF-S-8023-SP</td>
</tr>
</tbody>
</table>

FIG 1: New filter kit
SPECIAL TOOLS NEEDED

- Loctite PST (or equivalent pipe sealant)
- Propane torch
- Solder/soldering iron
- Clean oil or grease

MANPOWER ESTIMATE

This procedure will require 1 man for 1 hour, depending on ease of access.

PROCEDURE

1. Locate the Gresen cartridge filter.
   - Usually the filter is located high on the gearbox near the discharge side of the oil pump.
   - Note the orientation of the inlet and outlet sides of the filter.
2. Locate the pipe unions on the supply and discharge sides of the filter.
3. Loosen the pipe unions.
4. Loosen and remove the screws that hold the top of the filter to the bracket.
5. The filter with two lengths of pipe should be removed as a unit.
6. Make a note of which pipes are plumbed to the inlet and outlet sides of the Gresen filter, and then remove the pipes by unscrewing them from the reducing bushings.
7. Remove the screws in the filter assembly but leave the hoses connected.
8. Hold the Stauff filter body in the place where the Gresen filter was installed. Orient the inlets and outlets correctly.
   - Most Gresen filters were installed so that the inlet was on the left side of the filter. The part number for a left side inlet is FPB-D-1500-CB.
If the inlet is on the right, the Stauff filter body must be oriented the same way. The part number for a right side inlet is FPB-D-1501-CB.

The body will fit under the cast bracket used to hold the Gresen filter. The indicator will fit on top with the green bar on the left.

9. Clean the threaded fittings and apply a pipe sealant like Loctite PST.
Do not use sealant on the pipe unions.
Do not use Teflon tape on any fitting.

10. Install the **reducing bushings**. Snug them but do not tighten at this time.
11. Loosely thread the **pipes** into the **reducing bushings** on the **Stauff filter body**.
12. Place the **filter body** with **pipes** attached on the **gearbox** where the old one was removed.
13. Align the **pipe unions** and **bolt holes** by **tightening** the appropriate fittings and making bracket adjustments. If everything aligns without bending the **pipes** go to **Step 14**. If the **pipes** do not align, do the following:
   - If alignment is not possible, first measure the amount of misalignment.
   - Next, remove the assembly and unscrew the **pipes** from the **bushings**. Leave the **bushings** in the **filter head**.
   - Clean all of the **oil** and **sealant** from the outside and inside of the **pipes** and **fittings**.
   - With a **propane torch** remove the **threaded pipe fitting** from both **pipes**. While the **pipes** and **fittings** are hot remove the excess **solder**.
   - Remove the **sealant** from the inner threads of the **bushings** in the **filter head**.
   - If necessary, cut off the **pipe** that is too long.
   - Thread the **adapters** into the **bushings** and tighten.
   - Install the **assembly** again. Tighten the **pipe unions** and thread the **mounting bolts** into the top of the **filter body**.
   - Solder the **adapters** to the **pipes**.
   - Remove the **assembly** and take the **pipes** off the **filter head**. Make a note of how many turns were needed to remove each **pipe**.
   - Apply **sealant** to the **adapter threads**.
   - Thread the **pipes** back into the **bushings** using the same number of turns that were used to remove them.
   - Install the **assembly** but do not tighten **unions** and **bolts**. Check for fit.
14. If the **assembly** fits, tighten the **unions**.
15. Install and tighten the **bolts**.
16. Be sure that the **filter body** is spotless where the **filter** and the **O-ring** fit.
17. Install the **O-ring**.
18. Apply clean **oil** or **grease** to the **O-ring**.
19. Thread the **filter can** on. Tighten ¾ turns after the **O-ring** makes contact.