

Filter Service

Effective filtration of fluids is vital to the longevity and performance of your Wagner. See the previous section on Preventive Maintenance for the scheduled intervals for filter element replacement where applicable.

Some filter elements (the Air Cleaner elements, for example) do not have an established service interval, but must be changed based on need. Variations in environmental conditions result in different servicing requirements.

See Figure 5-5-1 for the location of the filters on your machine. Refer to the parts manual or suggested stocking guide (SSG) for your machine for part numbers of filter elements. You should always have a full set of replacement elements in stock for your machine. Contact your dealer for details.

Refer to the following pages for timing and procedures of filter element replacement.



WARNING

Lubricating oils are extremely hot while the machine is running, and may cause severe burns or death upon contact. Shut down the machine, employ lockout/tagout procedures, allow the machine to cool and wear appropriate personal protective equipment when changing fluids or filter elements.

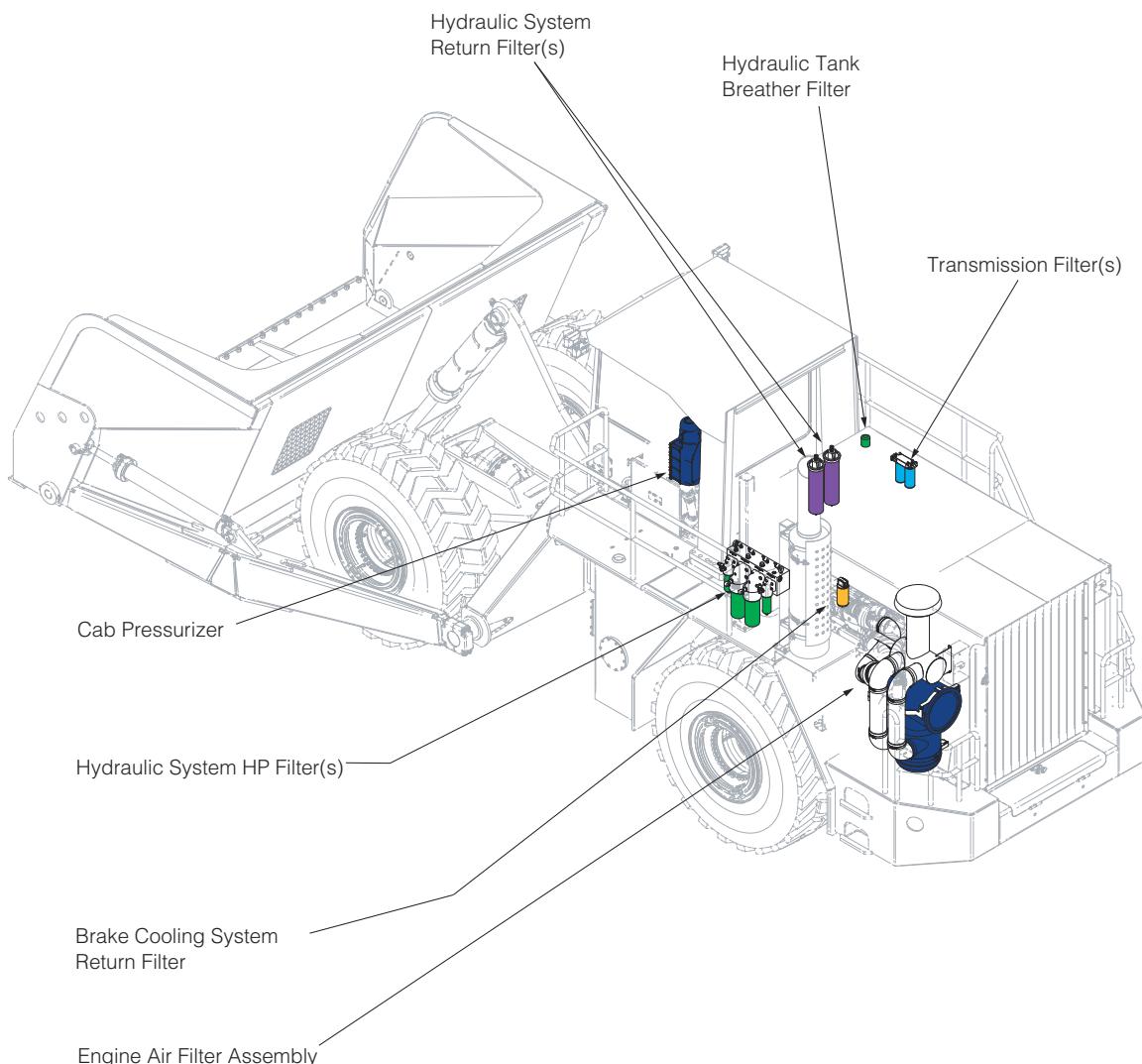


Figure 5-5-1 Filter Arrangement

High Pressure Filters

Service Interval: Quarterly, every 500 hours, or when indicators dictate, whichever occurs first.

Indicators for the high pressure filters are located in the cab (amber overhead lights) and on the filter heads. See Section 5-4-1 for details.

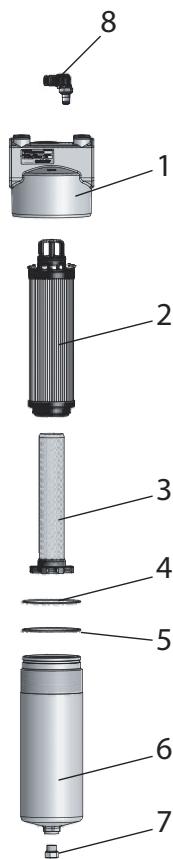
Allow the machine to warm up. If, after the hydraulic oil is warm, any indicator lights in the cab remain illuminated, or if any indicator on a filter (item 8 below) returns to red after being reset, the filter element(s) must be changed before returning the machine to work, even if prior to the quarterly/500 hour interval.

Service Instructions

1. Stop system power and vent captive pressure.
2. Drain filter assembly.
3. Remove bowl and element assembly.
4. Push down to squeeze tangs and lift element (see Figure 5-5-3).



Figure 5-5-3



1. Filter Head	5. O-Ring, Anti-Extrusion Ring
2. Element	6. Bowl
3. Core	7. Plug, Drain
4. O-Ring, Bowl	8. Filter Indicator

Figure 5-5-2 Parts Identification



Figure 5-5-4

6. Retain reusable core (see Figure 5-5-5).
9. Push element assembly into bowl until tangs snap (see Figure 5-5-7).



Figure 5-5-5



Figure 5-5-7

7. Discard used element.
8. Insert reusable core into new element (see Figure 5-5-6).
10. Inspect o-ring and anti-extrusion ring.
11. Install bowl with new element (see Figure 5-5-8).
12. Torque bowl (25-30 ft-lb/35-40 N-m) and drain plug (25-30 ft-lb/35-40 N-m).
13. Power up and inspect.



Figure 5-5-6



Figure 5-5-8

Return Filters

Service Interval: Quarterly, every 500 hours, or when the indicator dictates, whichever occurs first.

The return filters are accessed from the deck on the right side of the machine. See Figure 5-5-9. The indicator for the return filters located on the valve plate next to brake manifold. See Figure 5-5-10.

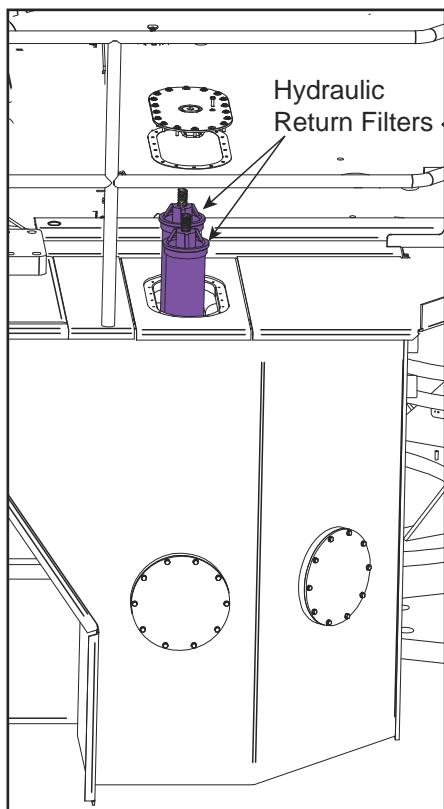


Figure 5-5-9 Return Filters

Allow the machine to warm up. If, after the hydraulic oil is warm, the plunger on the indicator is in the red zone, both filter elements must be changed before returning the machine to work, even if prior to the quarterly/500 hour interval.

The differential pressure indicator in Figure 5-5-10 indicates the elements are in working condition. As the elements collect contamination, the indicator plunger will rise into the red zone, indicating that the elements must be replaced.



Figure 5-5-10 Differential Pressure Indicator

Replacing the Filter Elements

1. Shut down the machine and vent captive pressure by opening the petcock at the breather. See Figure 5-5-9.
2. Clean cover plate and surrounding area.
3. Remove cover plate and gasket.
4. Remove in-tank filter assemblies.
5. Remove the bypass spring assembly (see Figure 5-5-11).
6. Remove contaminated cartridge with a twisting motion.
7. a. Discard disposable element.
b. Wash sleeve in non-caustic solvent. Compressed air can be used to prevent damage to the element during cleaning.

Before Installing Cartridge

1. Clean magnetic core (insert assembly) with a lint free cloth.
2. Check all seals and tank cover gasket and replace if necessary.

To Assemble and Install New or Cleaned Cartridge

1. Lubricate all seals
2. Insert new element into clean sleeve.
3. Assemble insert assembly and cartridge.

Note: For ease of mounting, hold the cartridge away from the magnetic core until the stud is through the hole in the bottom of the cartridge. Then slide the cartridge up to securely seat with the top of the bridge of the insert assembly.

4. Install bypass spring assembly or non-bypass plate (tighten until snug).
5. Reinstall in-tank return filter into housing (make sure the top spring is secure).
6. Reinstall cover. Torque cover nuts (see 80-1057 Torque Specification Chart).
7. Close the petcock.

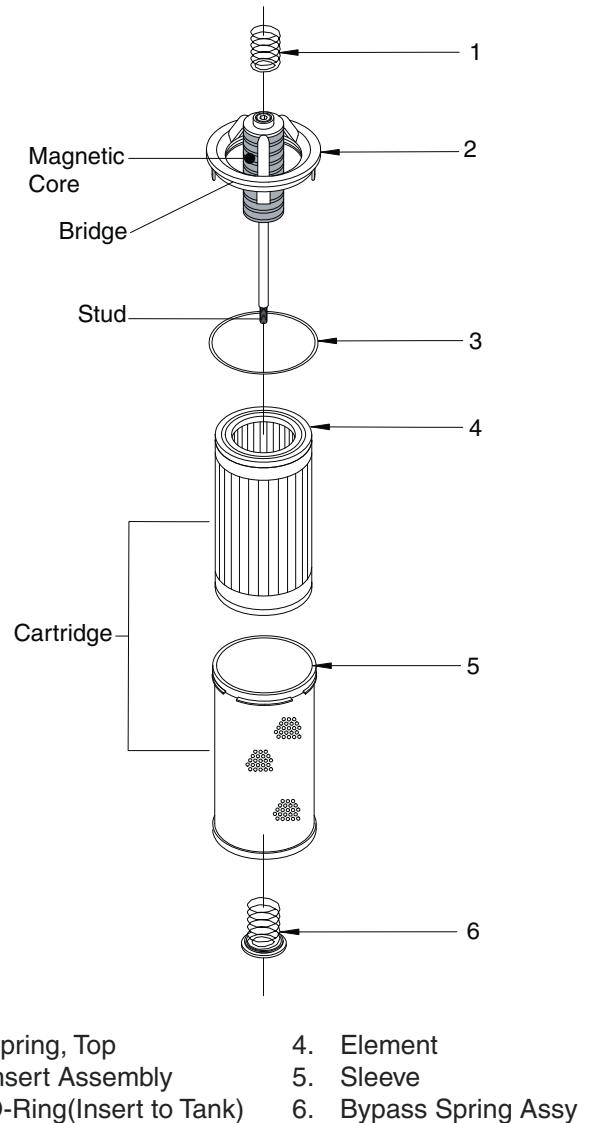


Figure 5-5-11 Return Filter Assembly

Engine Filters

Engine filters include the engine oil filter, the cooling filter, fuel/water separator/fuel filter. All are mounted on the engine. See Figure 5-5-12.

Service Intervals:

Fuel and Coolant Filters: Monthly, every 250 hours, or as dictated by a fault code, whichever occurs first.

Engine Oil Filters: Monthly, every 250 hours, or as dictated by a fault code, whichever occurs first.

The normal service intervals will be sufficient in most cases. Occasionally, the engine may throw a fault code indicating that a filter element needs to be replaced sooner. The filter element must be replaced prior to returning the machine to work, even if prior to the scheduled interval.

Refer to Section 2 of your Wagner Service Manual for the fault codes for your machine.

Refer to the Operation and Maintenance Manual supplied with your engine for filter change procedures.

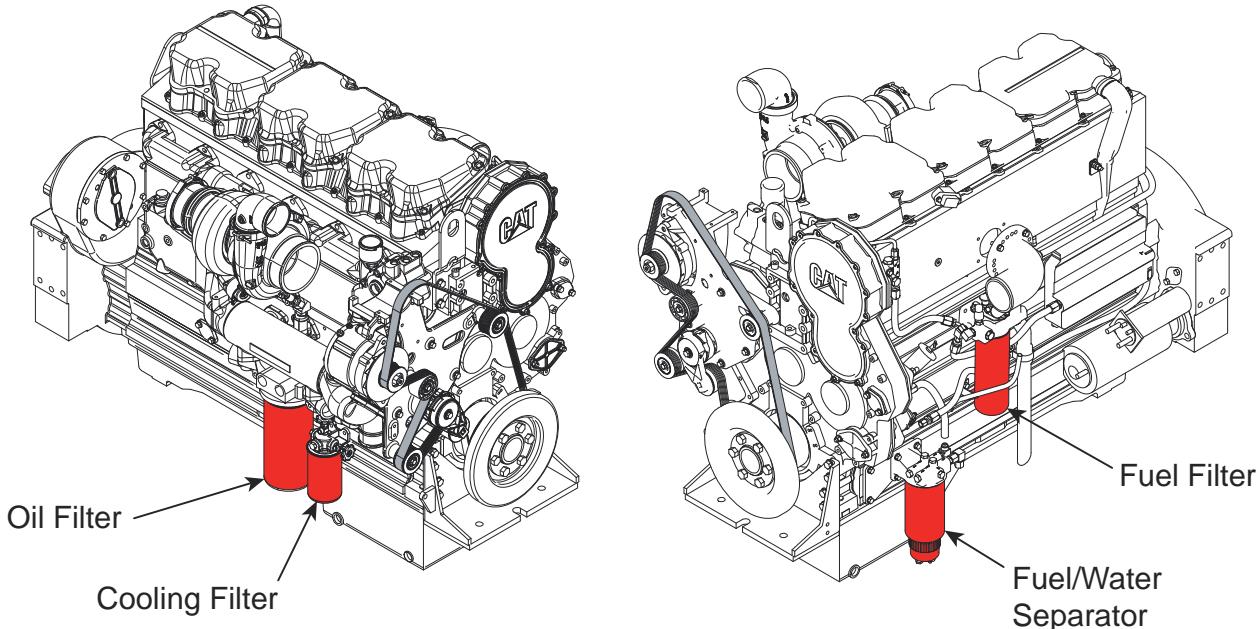


Figure 5-5-12 Engine Filters

Transmission Filters

The transmission filters are located in the Right Side engine compartment. See Figure 5-5-13.

Service Interval: Quarterly or every 500 hours, whichever occurs first.

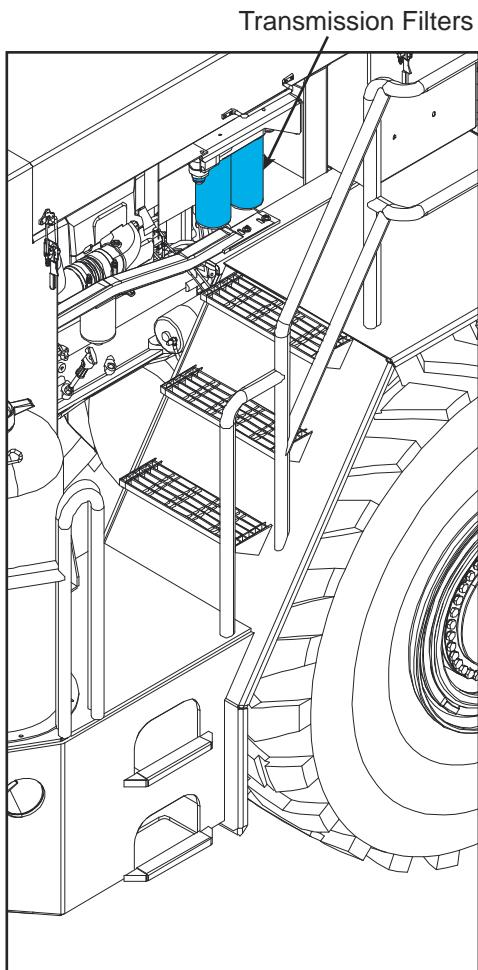


Figure 5-5-13 Transmission Filters

Service Instructions

1. Shut down the machine.
2. Clean the area around the filter elements before removing.
3. Using a filter wrench, remove the transmission filter elements and discard.
4. Clean the mating surface of the filter head before installing the new filter elements.
5. Using a filter wrench, install the new transmission filter elements.

Brake Cooling Return Filter

Service Interval: Quarterly or every 500 hours, whichever occurs first.

The brake cooling return filter is accessed from the right hand chassis wall, inside. See Figure 5-5-14.

Service Instructions

1. Shut down the machine.
2. Open vent on hydraulic tank to relieve residual pressure
3. Clean the area around the filter element before removing.
4. Using a filter wrench, remove the brake cooling filter element and discard.
5. Clean the mating surface of the filter head before installing the new filter element.
6. Using a filter wrench, install the new brake cooling filter elements.
7. Close vent on hydraulic tank before starting vehicle.

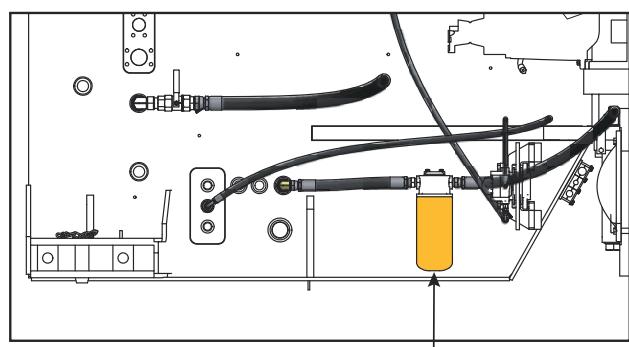


Figure 5-5-14 Brake Cooling Return Filter

Air Cleaner

Service Interval: When indicator dictates.

Variations in environmental conditions do not allow for any set interval to be established for replacement of the air cleaner elements. Obviously, dustier environments will require more frequent element changes.

Therefore, the indicator must be used to determine when it's time to replace the elements. This indicator, mounted on the air cleaner housing (see Figure 5-5-15), must be checked at least once per shift, and the elements replaced as necessary.

General

The air cleaner is critical to the life of the engine. It prevents dust and debris from entering the engine air system, causing premature engine wear and possible failure. When a two stage, dry type air cleaner is used, air passes through the outer, primary filter elements installed; both are required to fully protect the engine from contamination.



Figure 5-5-15 Air Cleaner Indicator

Air Filter Service Indicator

This gauge indicates filter element condition without filter disassembly. The service sight gauge indicates filter contamination by showing "red" or "green" in the sight gauge. The visible amount of red on the indicator will increase as the dust in the element increases.

For maximum engine performance, the filter should be changed or cleaned immediately after the "red" signal locks in full view.

To reset the service gauge, press the button on the top of the gauge.

Air Cleaner Connections

Check the intake tubes between the air cleaner outlet and the turbocharger for cracks or wear, and that all clamps are in place and are tight.

Replace any worn or damaged tubes and tighten any loose clamps.

Service Instructions

1. Empty the Dust Cup

Empty dust cup and visually inspect gasket between dust cup and lower body — if worn or damaged, replace.



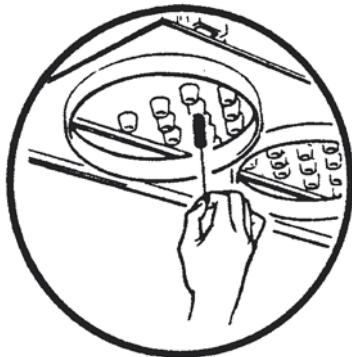
Figure 5-5-16

2. Inspect Pre-Cleaning Tubes

With the dust cup removed, check the tubes. Generally, the tubes are self-cleaning and need no service, but under unusual circumstances, plugging can occur. A visual inspection is usually adequate

If the tubes carry light dust, remove it with a stiff brush. If plugging with fibrous material is evident, remove the Strata™ or Donaclone section. Clean it with compressed air or water no hotter than 160 °F / 72 °C.

Any time the Donaclone tube lower body is removed, the body gaskets should be replaced. When reinstalling the dust cup, be sure it seals 360° around the air cleaner body.



NOTICE

Never clean Donaclone tubes with compressed air unless both the primary and safety filters are installed in the air cleaner.

Do not steam-clean Donaclone or Strata tubes.

Figure 5-5-17

3. Remove the Primary Filter and Visually Inspect the Safety Filter.

Unlatch the service cover to access the filters. Loosen the wing nut and remove the primary filter. The wing nut on the old filter should be held in place with a clip. Visually inspect the safety filter but do not remove the filter unless it is damaged or due for change-out.

The safety filter should be replaced every three primary filter changes.



Figure 5-5-18

NOTICE

NOTE: Remove any excess dirt and wipe out the housing before removing the safety (or secondary) filter.

4. Always Clean the Inside of the Filter Housing

Dirt left in the air cleaner housing can be harmful for your engine. Starting with the sealing surfaces, use a clean, damp cloth to wipe the inside surfaces clean. An improper gasket seal is one of the most common causes of engine contamination, so make sure that all hardened dirt ridges are completely removed.



Figure 5-5-19

5. Install the New Filters

The safety filter should be replaced every three primary filter changes or as denoted by the SafetySignal™ service indicator. When replacing the safety filter, install the new filter immediately or cover the inlet with a cloth so that dirt is not ingested.

Before installing the new filters, inspect them for shipping damage and gasket integrity. If a filter is damaged, do not install it. If the safety filter is being replaced, and a SafetySignal is used, secure it in place with a cotter (split) pin.

Secure the primary filter in place with the wing nut (hand tighten) using a new gasket washer. Use a new wing nut clip and reset the filter service indicator.



Figure 5-5-20

6. Inspect Air Cleaner System

Finally, inspect and tighten all air cleaner system connections. If there are holes or damage, replace immediately. Inspect all air ducting for worn spots or damage. Annual replacement of air cleaner system gaskets is recommended.

Cab Pressurizer Filter Element

The cab pressurizer is mounted on the left side of the cab. See Figure 5-5-21.

Service Interval: Semi-annually, every 1,000 hours, or when a noticeable drop in cab pressure occurs, whichever occurs first.

Service Instructions

1. Disconnect flex hose from air outlet. Plug or cover end of hose to prevent contaminants from entering the HVAC system.
2. Unlatch the six clips which hold the lid in place.
3. Once the lid is removed, examine the rubber gasket that seals the lid to the filter housing. If the rubber gasket is torn or missing replace it.



Figure 5-5-21 Cab Pressurizer

4. Remove the filter retention clip by (1) pressing clip towards the filter's outer ring, then by (2) lifting the clip out by pulling up on tab. DO NOT DISCARD THE CLIP! You will need this clip to reinstall the new filter.
9. Reinstall filter retention clip by pushing filter retention clip into place. Clip will snap and lock into place.



Figure 5-5-22



Figure 5-5-23

5. Remove the filter by applying pressure in a motion away from the outlet of the filter box. The filter is held firmly by the rubber "O" ring seal and will require gentle but firm pressure to remove.
6. Bag and seal used filter element and dispose of according to local regulation.
7. Remove loose debris using suitable vacuum unit and clean rags - never use compressed air.
8. Lubricate O-ring seal on filter element (lubricant provided with new filter). Place in housing with open end of filter towards outlet, lift slightly with fingers to align with inside of outlet and shift towards outlet until you feel positive abutment and the O-ring seats into the groove inside the outlet.

10. Replace the lid.
11. Latch the six lid clips to seal unit
12. Reattach the flex hose to the outlet, ensuring that contamination of tubing, HVAC, and cabin air does not occur. Take care not to overtighten clamps, as this could cause "crush" damage.



CAUTION

Do not clean or reuse filter elements. Replace with new elements only. Reusing filter elements may create a health hazard.

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