

## 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 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.**

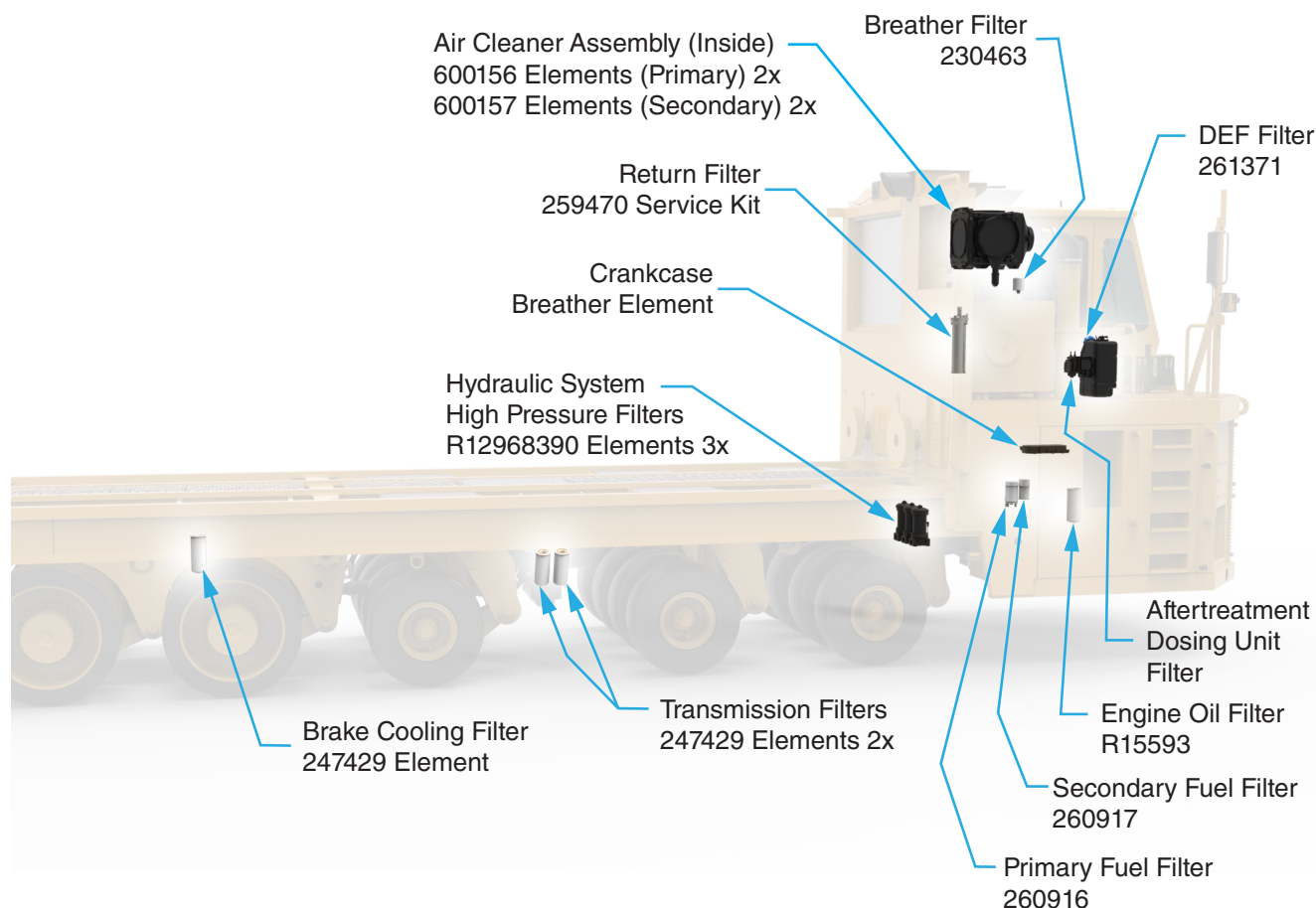


Figure 1 Filter Arrangement

## DEF Tank Suction Filter

**Service Interval:** Inspect semi-annually or every 1,000 hours, whichever occurs first, for possible re-use. Replace annually, or every 2000 hours, whichever occurs first.

The DEF tank is mounted on the right side of the machine. The suction filter is part of the tank head unit assembly, inside the tank. See Figure 2.

## Service Instructions

1. Shut off engine.
2. Unplug the DEF Tank Sensor at the connector shown.
3. Open the fill cap to vent any captive pressure.
4. Remove the tank head unit assembly to inspect the suction filter at the base of the assembly.
5. If the suction filter shows any signs of damage or restriction, it must be replaced.
6. Replace the tank head unit assembly.
7. Inspect the fill neck strainer. Clean or replace as necessary.

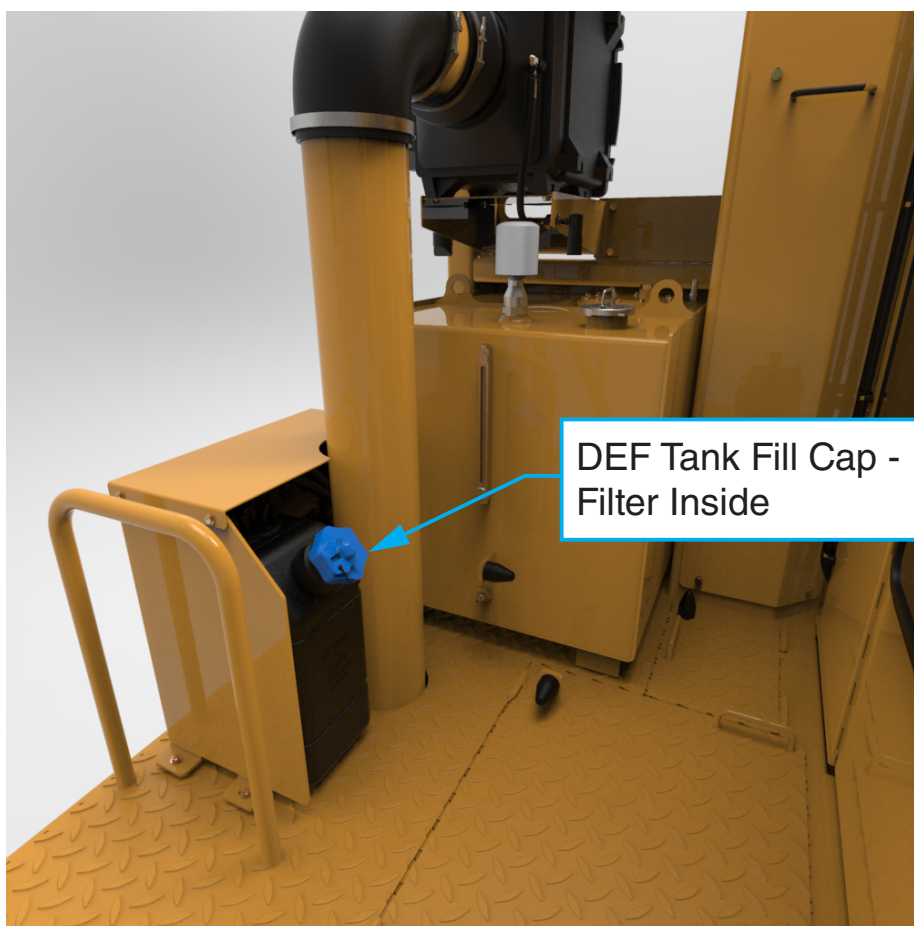


Figure 2 DEF Tank

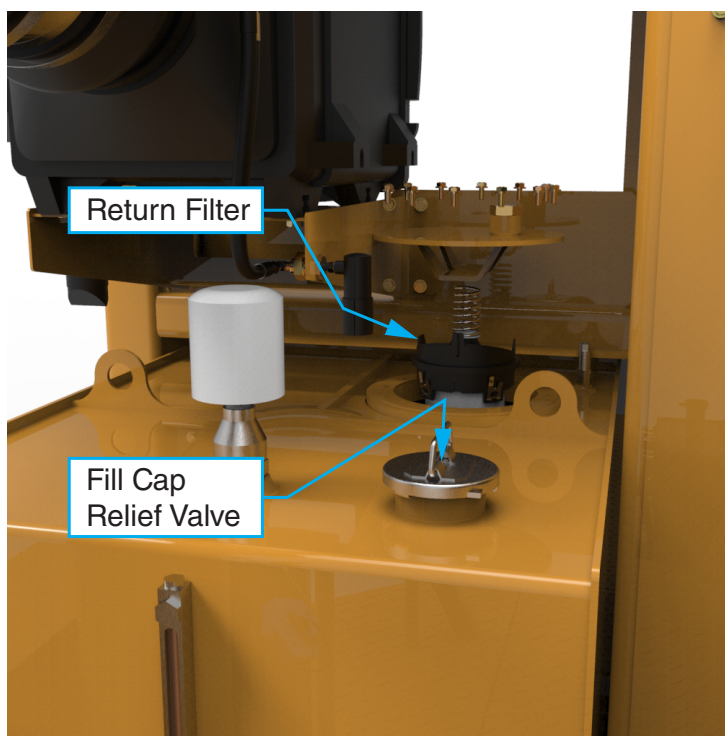


Figure 3 Hydraulic Tank - Return Filter

## Hydraulic Tank Return Filter

**Service Interval:** Quarterly, or every 500 hours, or when warning message appears, whichever occurs first.

The return filter is accessed from the deck on the right side of the machine. See Figure 3.

Allow the machine to warm up. If, after the hydraulic oil is warm, the warning message shown in Figure 4 appears on the Wagner Smart Screen Display, the filter element must be changed before returning the machine to work, even if prior to the quarterly/500 hour interval.

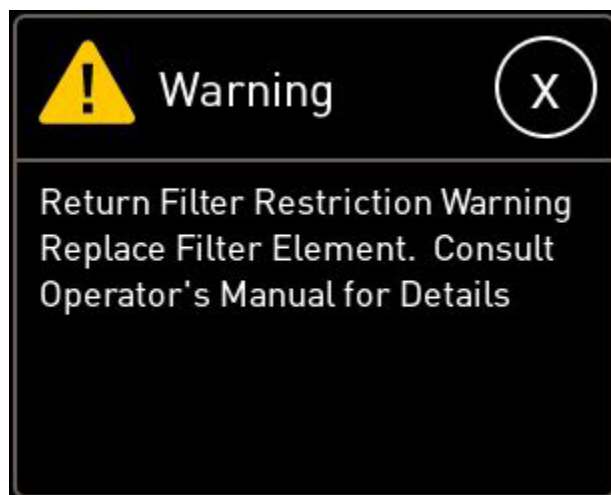


Figure 4 Return Filter Restriction Warning

### Replacing the Filter Element

1. Shut down the machine and vent captive pressure by pressing down on the relief valve at the center of the fill cap. See Figure 3.
2. Clean cover plate and surrounding area.
3. Remove cover plate and gasket.
4. Remove in-tank filter assembly. See Figure 5.
5. Remove contaminated cartridge with a twisting motion.
6. Discard disposable element.

### Before Installing Cartridge

1. Check all seals and tank cover gasket and replace if necessary.

### To Assemble and Install New or Cleaned Cartridge

1. Clean all components.
2. Lubricate and install all seals.
3. Insert new element.
4. Reinstall in-tank return filter into housing (make sure the top spring is secure).
5. Reinstall cover. Torque cover nuts (see 80-1057 Torque Specification Chart).

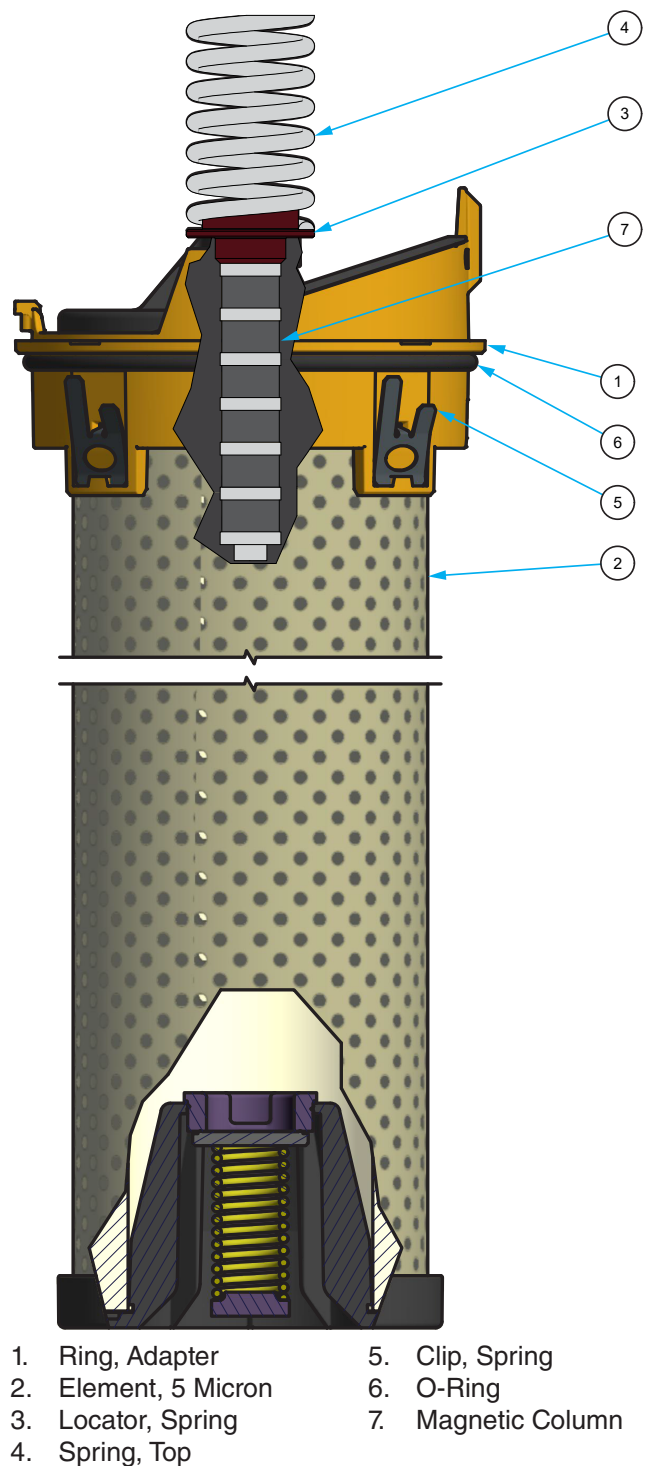


Figure 5 Return Filter Assembly



## Hydraulic Tank Breather Assembly

The hydraulic tank breather assembly consists of a filter, and a check valve assembly. The check valve maintains positive pressure in the hydraulic tank (5 PSI), helping to prevent pump cavitation. Incoming air passes through the filter, keeping your hydraulic oil clean.

Periodic maintenance of the hydraulic tank breather assembly will ensure that your hydraulic system operates at peak efficiency.

**Service Interval:** Monthly, or every 250 hours, whichever occurs first.

### Service Instructions

1. Put the machine in the normal park position.
2. Shut down the machine, and employ lockout/tagout procedures.
3. Relieve pressure in the tank by pressing down on the relief valve at the center of the fill cap. See Figure 6.
4. Using a wrench, remove the breather assembly.
5. Remove the check valve. Discard the old filter in accordance with local regulations. See Figure 7.
6. Clean the check valve with a non-corrosive solvent.
7. Assemble the cleaned check valve with new filter element.
8. Reinstall the breather assembly and ensure that it operates normally during operation.

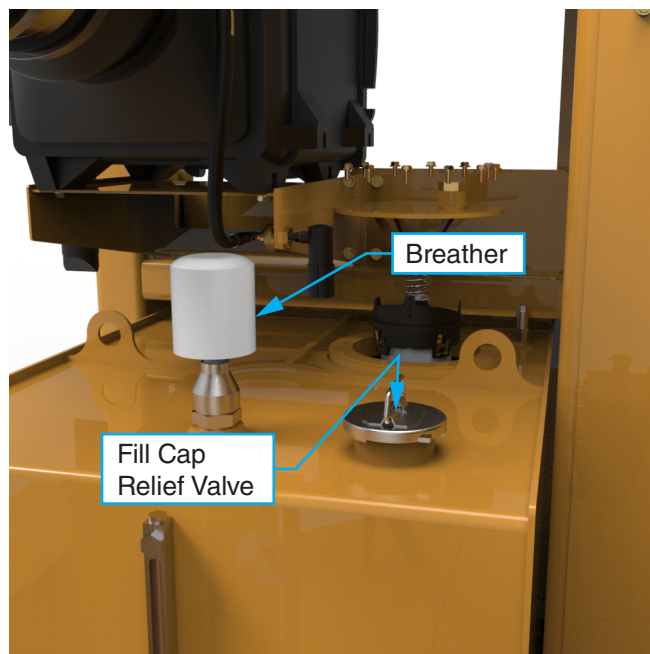


Figure 6 Hydraulic Tank - Breather

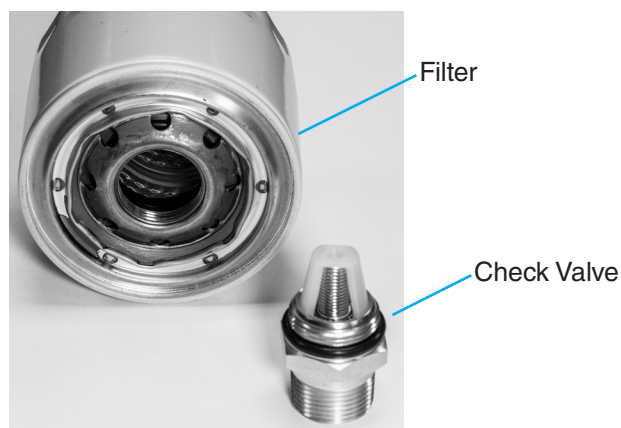


Figure 7 Breather Assembly

## 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 just below and to the right of the air cleaner (see Figure 8), must be checked at least once per shift, and the elements replaced as necessary. The dust ejection valve should be opened daily to remove dust and dirt from the pre-cleaner (see Figure 8).

### 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.

### Air Filter Service Indicator

This gauge indicates filter element condition without filter disassembly (see Figure 9). 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.

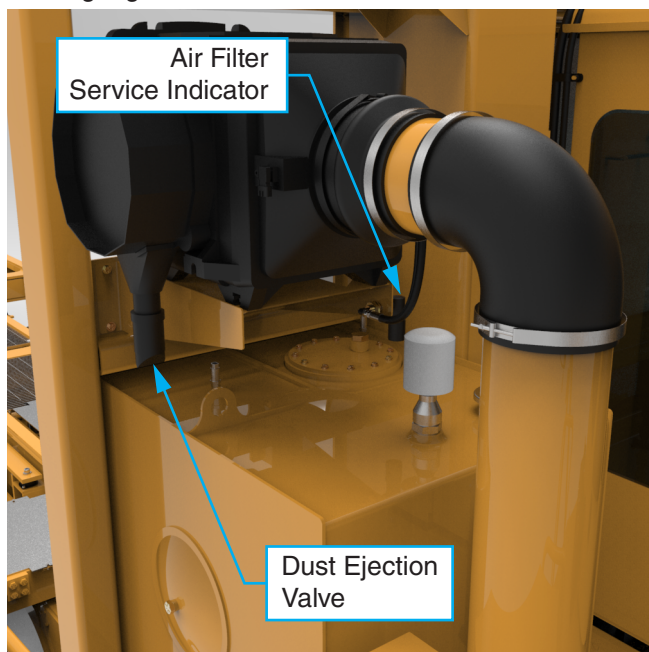


Figure 8 Air Cleaner



Air Filter Service Indicator

Figure 9 Air Filter Service Indicator

### 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. Shut off engine. Unlatch the 8 metal latches around the filter service cover.



Figure 10 Air Cleaner



2. Remove the filter service cover.



*Figure 11 Remove Service Cover*

3. Remove the two primary filter elements. Discard in accordance with local regulations.



*Figure 12 Remove Primary Elements*

4. Remove the two secondary filter elements. Discard in accordance with local regulations.



*Figure 13 Remove Secondary Elements*

5. Clean the inside of the housing with a damp cloth.
6. Replace the two secondary and two primary filter elements with new elements.
7. Replace the filter service cover and close the metal latches.

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## Engine Filters

Engine filters include the engine oil filter, and the primary and secondary fuel filters. All are located on the sides of the engine. See Figure 14.

### Service Intervals:

**Fuel Filters:** Quarterly, or every 500 hours, or as dictated by a fault code, whichever occurs first.

**Engine Oil Filters:** Quarterly, or every 500 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.

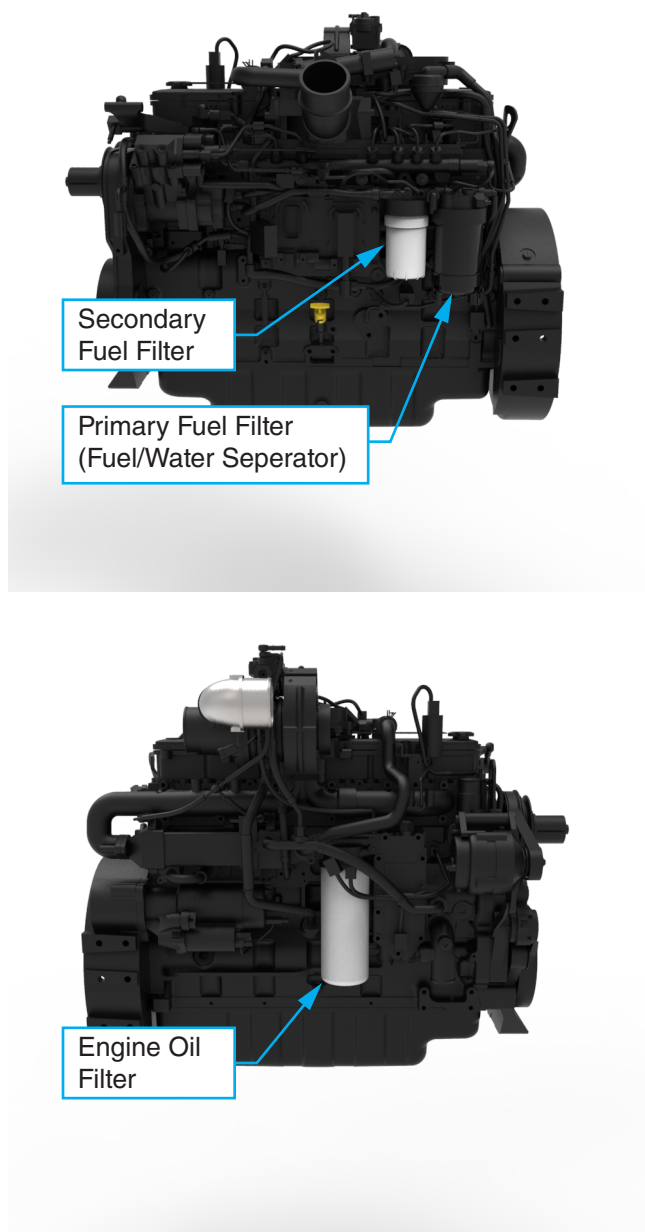


Figure 14 Engine Filters

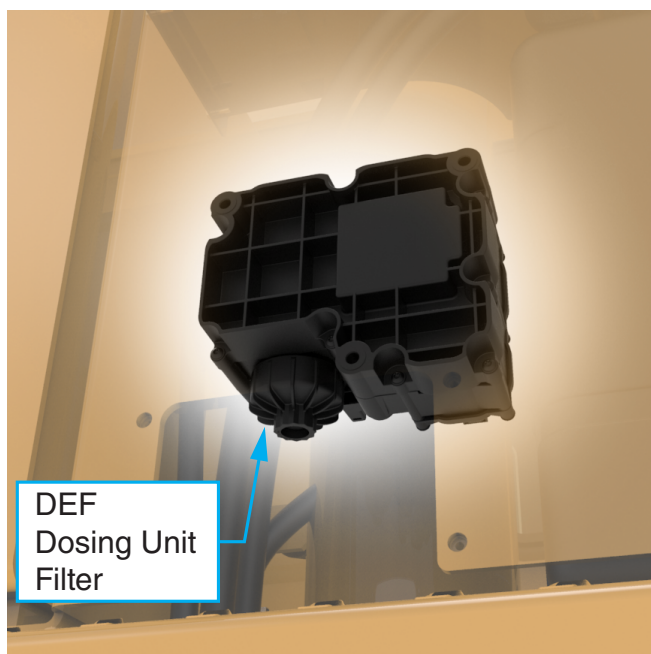


Figure 15 Aftertreatment Dosing Unit Filter

## Aftertreatment Dosing Unit Filter

**Service Interval:** Every 3 years or every 4,500 hours, whichever occurs first.

The Aftertreatment Dosing Unit is mounted inside the DEF tank box, next to the DEF tank. See Figure 15.

Consult with the Operation and Maintenance Manual supplied with your engine for servicing procedures.

## Crankcase Breather Element

**Service Interval:** Annually, or every 2000 hours, whichever occurs first. \*

The crankcase breather element is accessed on the top of the engine. See Figure 16.

Consult with the Operation and Maintenance Manual supplied with your engine for servicing procedures.

\* Service interval may be reduced if the ECM indicates excessive crankcase pressure.

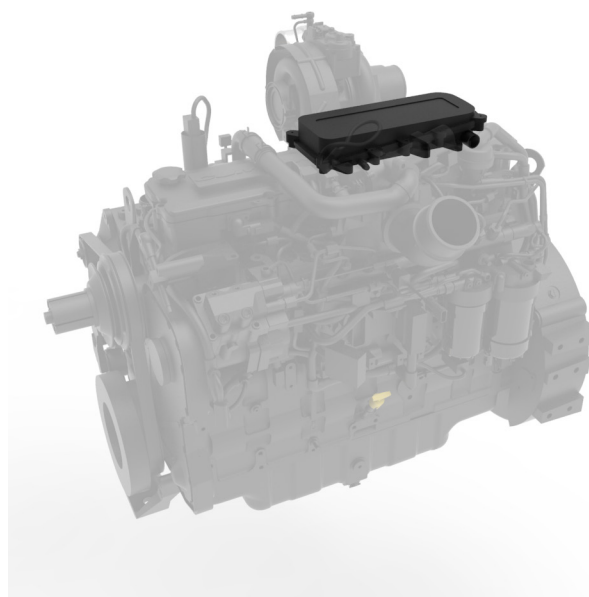


Figure 16 Crankcase Breather Element



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## Brake Cooling Return Filter

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

The brake cooling return filter is accessed from underneath the vehicle, inboard of the right front pair of drive wheels, just behind the front axle. See Figure 17.

### Replacing the Filter Element

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. Hand-tighten the filter element until it makes contact with the filter head, then an additional 1/2 turn with a filter wrench.
7. Close vent on hydraulic tank before starting vehicle.

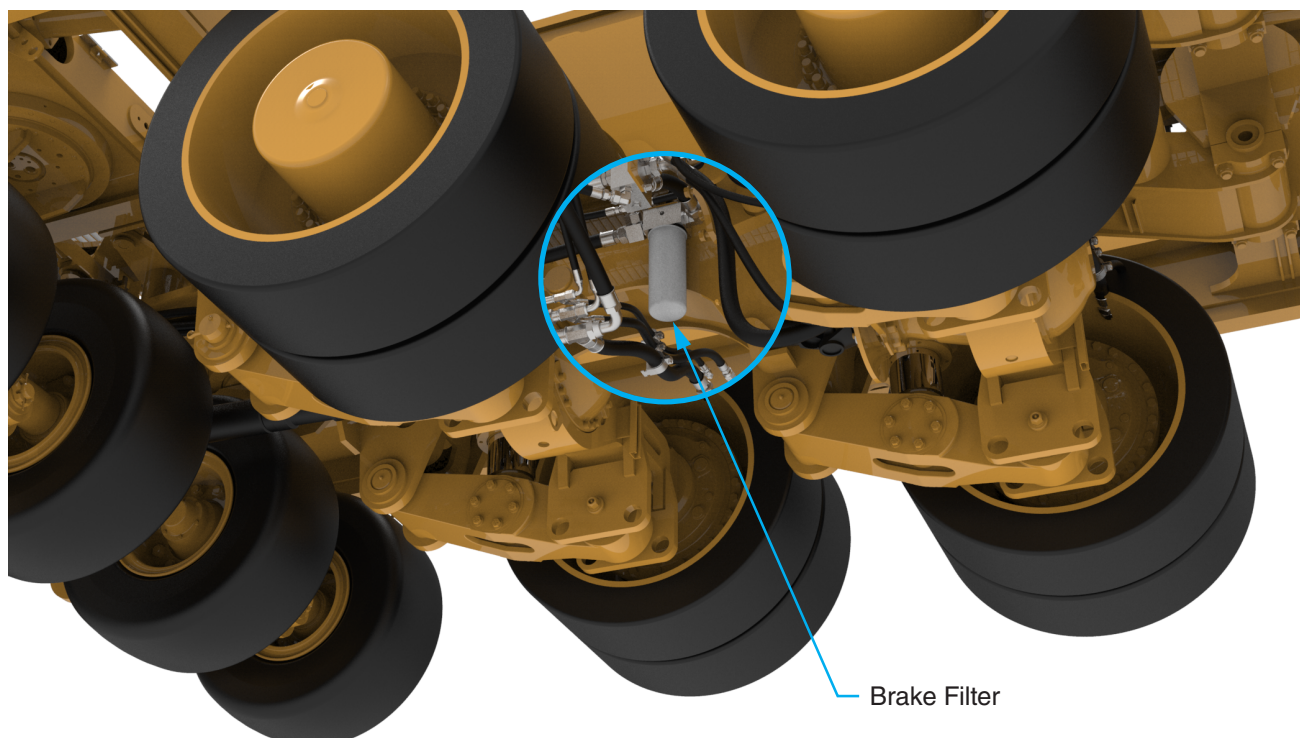


Figure 17 Brake Cooling Return Filter

## Transmission Filters

The transmission filters are located on the right side of the chassis, between the 2nd and 3rd set of steering axles. See Figure 18.

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

### 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. Hand-tighten the filter element until it makes contact with the filter head, then an additional 1/2 turn with a filter wrench.

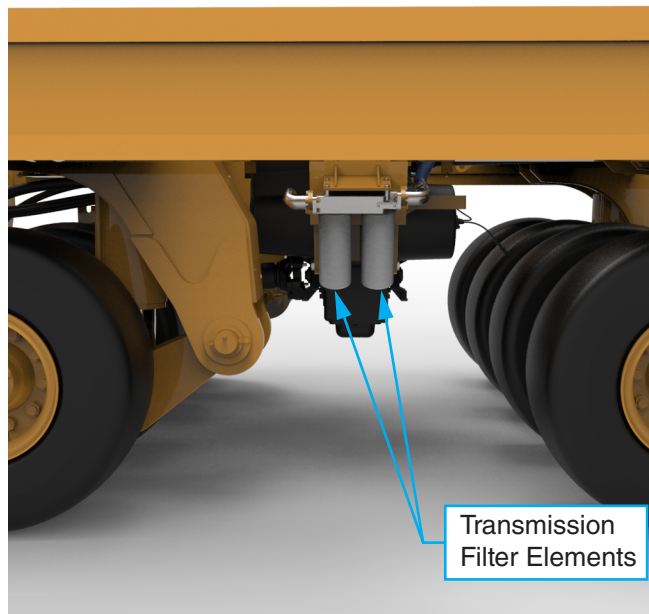


Figure 18 Transmission Filters

## High Pressure Filter Service Instructions

**Service Interval:** Quarterly, every 500 hours, or when a warning appears on the Wagner smart screen, whichever occurs first.

The High Pressure Filters are located at the left side of the machine, inside an access door beneath the cab area. See Figure 20.

### Service Instructions

When servicing the high pressure filter, use the following procedure.

1. Shut down the machine.
2. Relieve any pressure in the filter or line.
3. If desired, oil can be drained from filter housing by removing the drain port plug located in the head. See Figure 19.
4. Rotate the cover counterclockwise and remove.
5. Remove element from housing.
6. Place new, clean element into housing centering element over locator.
7. Inspect cover o-ring and replace if necessary.
8. Apply cover to filter and tighten to 45-50 ft. lbs.
9. Replace drain plug and tighten 20-25 ft. lbs.

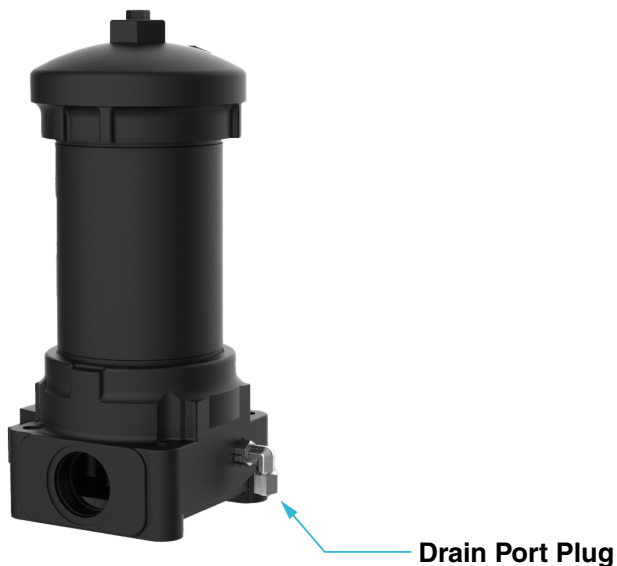


Figure 19 High Pressure Filter (Drain Port Plug)

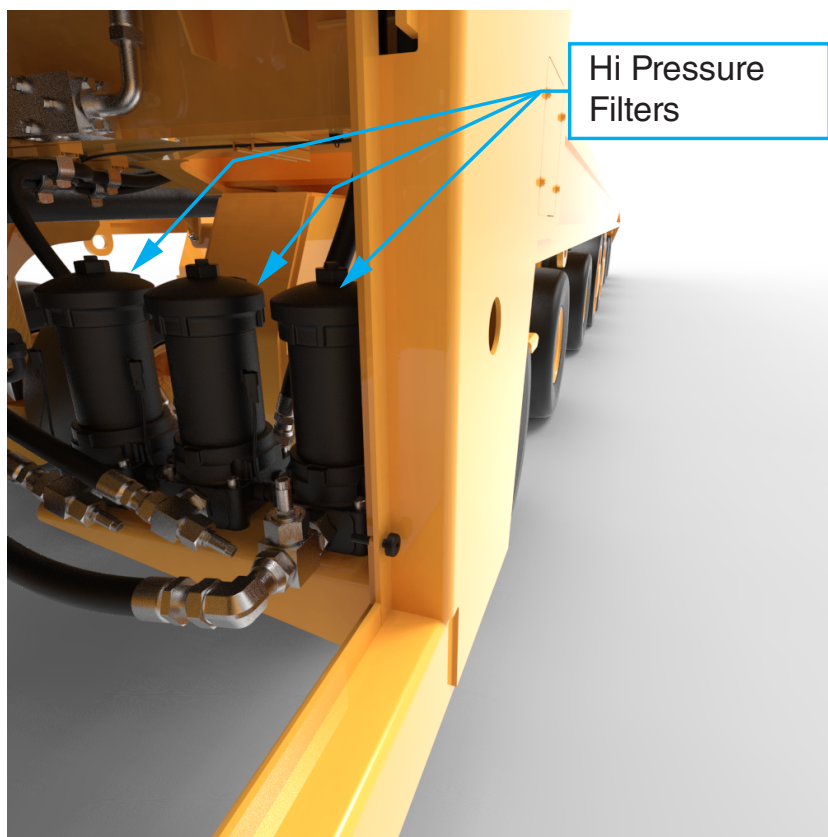


Figure 20 High Pressure Filter