

Turbine Series (all models)

Disassembly, Service, and Rebuild Instructions



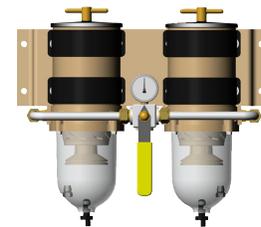
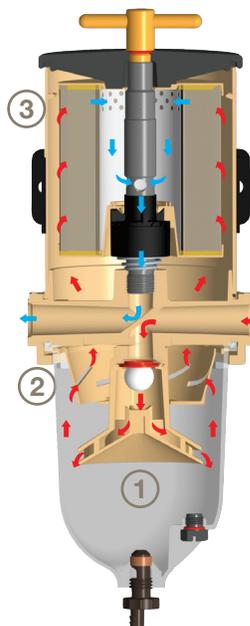
How It works

Turbine Series filter assemblies are designed to be installed on the vacuum side of the fuel transfer pump for best efficiency and protect precision engine components from dirt, rust, algae, asphaltines, varnishes, and especially water, which is prevalent in engine fuels. They remove contaminants from fuel using the following 3-stage process:

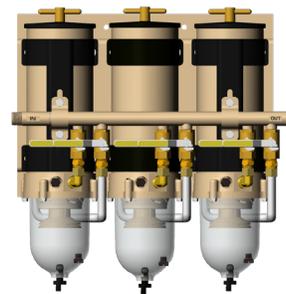
Stage 1: Separation

As fuel enters the filter assembly, it moves through the centrifuge and spins off large solids and water droplets which fall to the bottom of the collection bowl.

Fuel Flow Through
900FH Turbine



75900FHX



791000FHV

Single Assemblies:

500FG
900FH
1000FH

Duplex Assemblies:

75500FGX
75900FHX
731000FH
751000FHX

Triplex Assemblies:

771000FH
791000FHV

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Stage 2: Coalescing

Small water droplets bead-up on the surface of the conical baffle and cartridge element. When heavy enough, they fall to the bottom of the bowl.

Stage 3: Filtration

Proprietary Aquabloc®II cartridge elements repel water and remove contaminants from fuel down to 2 micron (nominal). They are waterproof and effective longer than water absorbing elements.

Getting Started

Read through these instructions first to familiarize yourself with the necessary steps. You may want a complete seal and gasket replacement kit on-hand before servicing (part # on page 2).



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Disassembly

Note: Each item has a service kit noted where available. Clean all parts in a mild solvent or clean diesel fuel. Blow-out all passages with compressed air.

1. Remove T-handle and lid and set aside. Discard T-handle o-ring and lid gasket.

2. Use element bail handles and carefully remove contaminated element with a twisting motion. Discard element.

Note: Element should be replaced every 10,000 miles, 500 hours, every other oil change, annually, or at the first indication of power loss, whichever comes first. Construction and agricultural equipment should change element every 300 hours.

A) Position new element over return tube and push down until it bottoms.

B) Lubricate all new gaskets and o-rings.

Note: Replace lid gasket with every element service (included with new elements). Verify sealing surface is free of debris.

3. Replace lid (with lid gasket) and T-handle (with o-ring). Hand tighten T-handle—do not use tools.

4. Do not over-tighten carriage bolt as this may distort bracket roundness.

5. The hollow aluminum checkball floats up against the seal when fuel is stopped thus preventing fuel bleed-back. If unit loses prime, inspect upstream hose connections first, otherwise, disassemble unit and inspect seal and ball.

5A For applications with little backpressure, order Checkball and Spring Kit (part # **RK11-1978**) to enhance function of one-way checkball valve (900/1000 models only).

Note: On 900/1000 models, lip on checkball gasket points up into housing and flat side faces checkball. On 500 models, the word "TOP" is placed towards the checkball.

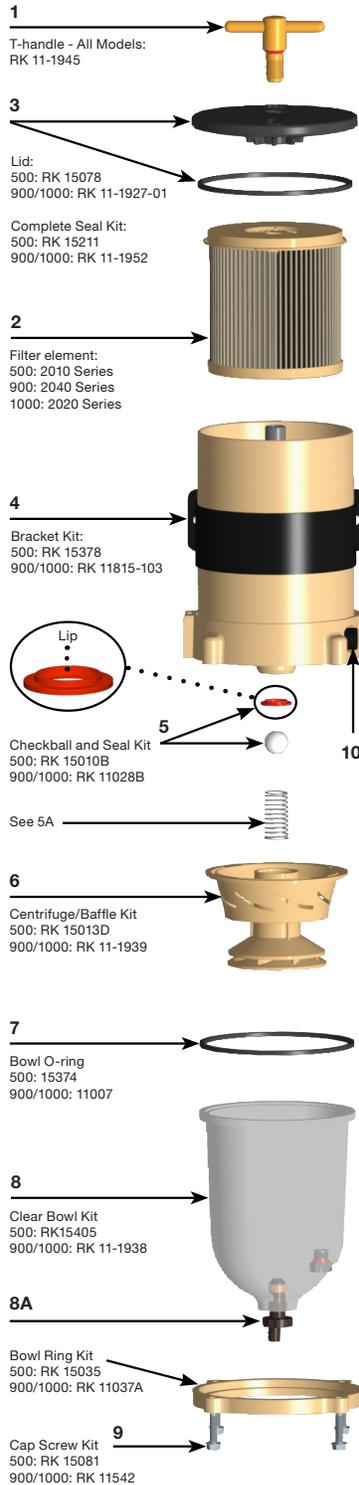
6. In a counter-clockwise rotation, unthread centrifuge and baffle and set aside for reassembly. Checkball and seal should also come out at this time.

Note: 1. If checkball seal appears distorted or damaged at inside diameter, install a new one. 2. Inspect inside of centrifuge for debris. Remove or clean out as necessary.

7. Remove bowl gasket and discard. Lubricate new gasket provided and install into gland in filter housing.

8. Clean bowl in a mild solvent or with clean diesel fuel. New bowl kits come with drain and water sensor port plug. Contact distributor for water sensor probe options.

8A The fluorocarbon seal mechanically secures drain knob in place while providing an excellent seal. To clear drain of fouling, use compressed air (2-5 PSI) pointed inside drain's bottom opening.



9. Do not over-tighten self-tapping screws, this may strip the base threads. Upon reassembly, start screws by hand prior to using tools.
Maximum torque: 55-65 in. lbs.

10. Heater feed-thru O-ring must not be damaged or swollen. Maximum torque: 15-20 in. lbs.

Note: O-ring sealing surfaces must be smooth without scratches or debris.

Priming Instructions

Note: If element is changed or assembly drained for any reason, repriming assembly (filling with fuel) may be necessary. Fill to just above top of element before replacing lid.

A. Remove T-handle and lid from top of Turbine assembly.

B. Fill Turbine assembly with clean fuel.

C. Lubricate lid gasket and T-handle O-ring.

D. Replace lid and T-handle and tighten snugly by hand—do not use tools.

E. Follow engine manufacturer's service instructions to complete system priming.

F. Start engine and check for leaks; correct as necessary with engine off.

Troubleshooting

Refer to fuel system vacuum gauge (**RK11-1676E**) if equipped. If restriction is high, replace element or check for fuel line obstructions upstream of the gauge.

Excessive bubbles (more than a champagne bottle) from the turbine indicate high system restriction or an upstream air leak. Check the in-tank strainer for plugging.

It is normal for fuel level inside housing to be about 1/2 full after lid removal. If level is lower and engine was stalling, check fuel tank level and verify fuel delivery valves are open. Verify T-handle and lid gasket are correctly installed, bowl fasteners and fuel fittings are tight, and bowl drain is closed.

For some systems with low back-pressure, use check ball seal and spring kit **#RK11-1978**.

Important Information

Never operate a filter assembly without element in place. Element safety valve on fuel return tube will not expose outlet hole if element is removed. Instead, punch emergency tab on top of element and leave in place.

Warning! Puncturing emergency tab will bypass all filtration and send unfiltered fuel to your engine. Service element as soon as possible to avoid harmful contaminants flowing downstream to engine.