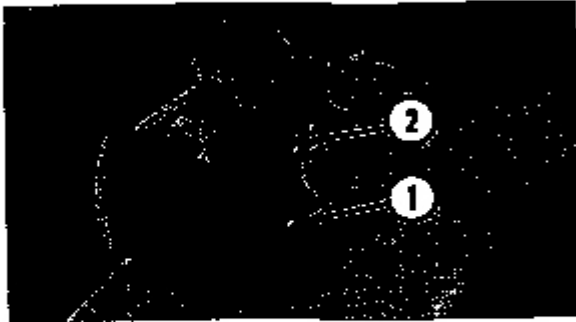


## FUEL SYSTEM

**WATER SEPARATOR (If Equipped):** The water separator is a device which separates the water contamination from the fuel before it enters the engine. The water contamination removed from the fuel, accumulates in the glass cover container where it can be observed and drained before it becomes 1/2 full.



### CAUTION

The engine should never be allowed to run with the water level in the element more than 1/2 full or engine damage may result.

### NOTE

The water separator is not a filter. Replace the fuel filter on a regular scheduled interval.

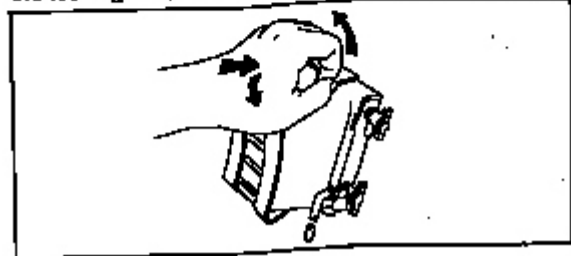
**DRAINING WATER FROM SEPARATOR:** Drain water from the separator daily before starting the engine.

20

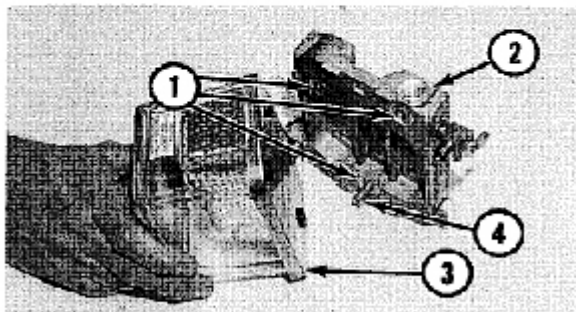
1. Close the fuel supply valve, if equipped.
2. Open the separator drain valve ①.
3. Open the separator vent valve ②.
4. After water is drained, close the vent valve and drain valve, and then open the fuel supply line valve.

**REPLACING WATER SEPARATOR ELEMENT:** Change element anytime water separator becomes contaminated enough that water level cannot be seen through the transparent cover.

1. Shut off the engine and close the fuel supply valve, if equipped.
2. Clean all dirt from the separator and surrounding area.
3. To remove the element, depress the extended tab with the heel of the hand. Then lift the slotted tab from the locking slot, at the top of the base with the fingers.



4. Pull the old element from the base and discard.
5. Clean the three sealing surfaces ① on the base ② with a clean cloth.
6. Install the new element ③ to the base by inserting roll pin ④ into the outlet passage at the bottom of the base, align holes and push into place.
7. Place the lower tab of the clamp in the bottom locking slot of the base. Push the upper tab into the locking slot at the top of the base. Make sure clamp is securely engaged in top and bottom locking slots.

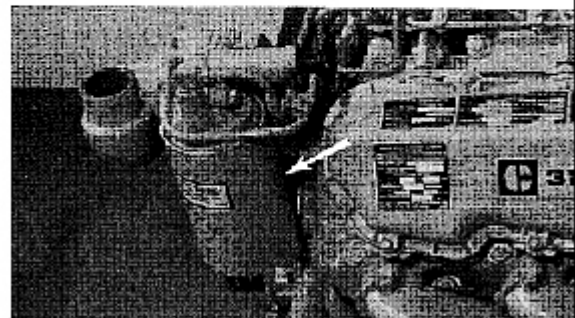


### NOTE

Always install clamp with tabs at the top.

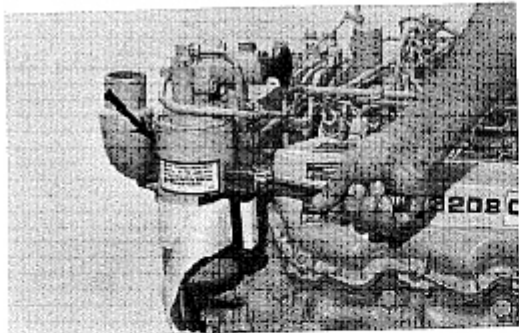
8. Open the fuel valve and start the engine. It may be necessary to prime the fuel system if the engine does not start. Inspect for fuel leaks.

**FUEL FILTER:** A plugged fuel filter will cause the engine to lose power, and run rough. Always replace the fuel filter before checking fuel pressure or fuel injector nozzles.

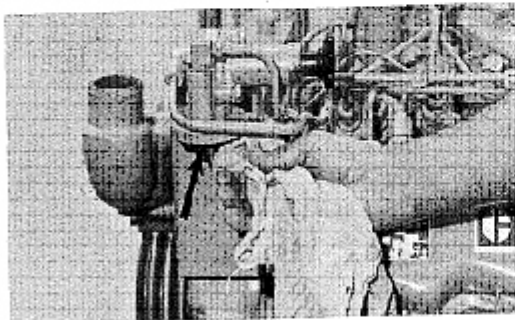


The fuel filter is a spin-on, throw-away unit. To change filter:

**THE MOUNTING OF THE CANISTER FUEL FILTER IN THE INSTRUCTIONS IS DIFFERENT THAN IN A WANDERLODGE, WHERE IT IS LOCATED AT THE REAR OF THE ENGINE NEXT TO THE CATERPILLAR GLASS WATER SEPARATOR**



1. Remove and discard filter (right hand thread).



2. Clean the gasket sealing surface of the filter base.

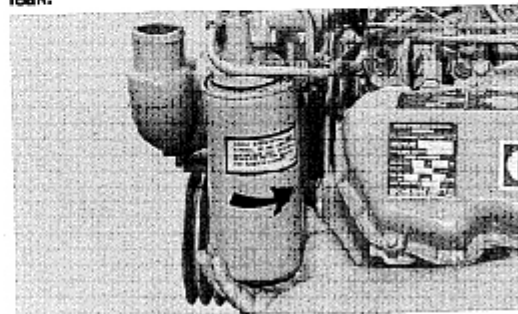
**CAUTION**  
Be sure all of old gasket is removed.

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3. Lubricate the gasket of the new filter with clean fuel.

**CAUTION**  
Do not overtighten filter. Damaged filter may fracture or leak.



4. Tighten filter by hand until gasket contacts base, then tighten  $\frac{1}{2}$  to  $\frac{3}{4}$  turn more.

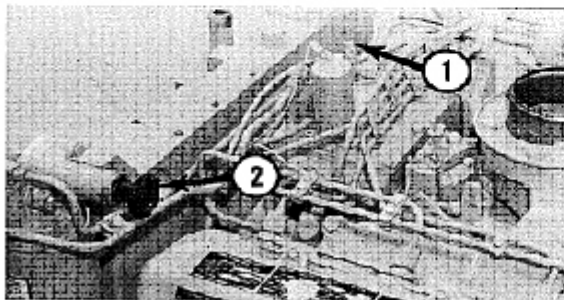
**NOTE**

The filter may have rotation index marks spaced 90° apart. These marks should be used when tightening the filter an additional  $\frac{1}{4}$  to  $\frac{3}{4}$  turn more.

5. Prime the system.

Do not pour fuel into the new filter element before installing. Prime the fuel system as instructed in the topic, TO PRIME THE FUEL SYSTEM.

**TO PRIME THE FUEL SYSTEM:** If air is trapped in the fuel system, the engine will either not start, or will misfire. Then it is necessary to prime the system. The fuel priming pump is located either on the engine, or is remote mounted for convenience.

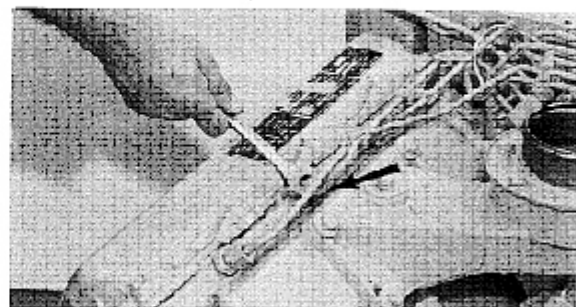


1. Open the vent valve ① on the fuel injection pump housing.

2. Operate the priming pump ② until the flow of fuel from the vent valve is continuous and free of bubbles.

3. Close the vent valve and lock the fuel priming pump.

4. Start the engine. If the engine continues to misfire or smoke, further bleeding is necessary.



5. With the engine running, loosen the fuel line nuts at the cylinder head, one at a time, and allow the fuel to run until free of air bubbles.

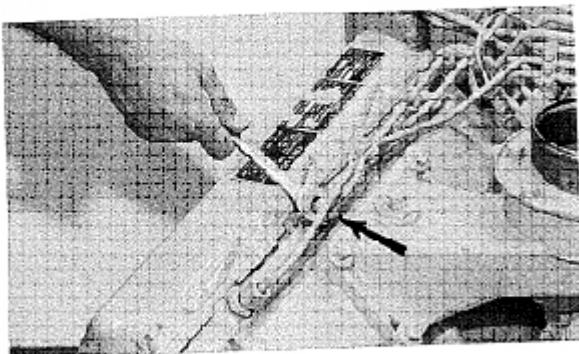
6. Tighten the fuel line nuts.

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**FUEL INJECTION NOZZLES:** Whenever the engine performs in such a manner that a fuel injection nozzle is suspected of causing irregular running, smoking or knocking, test fuel injection nozzles one at a time to isolate a malfunctioning nozzle. To isolate a possible malfunctioning nozzle:

1. Loosen the fuel injection line nut at the cylinder head, one at a time, while the engine is running.



**NOTE**

As each fuel line nut is loosened, observe the exhaust to see if the amount of smoke has decreased. Also, rough (irregular) running is not affected when the fuel line nut to a faulty nozzle is loosened.

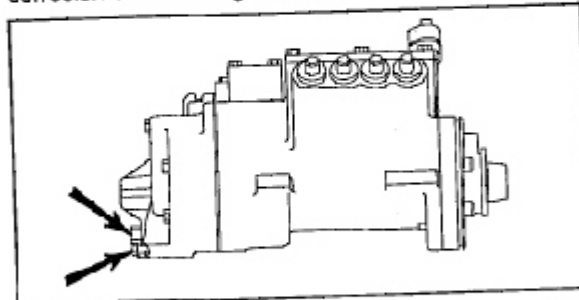
2. When the malfunctioning nozzle is located, stop the engine and install a new nozzle.

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Every 1200 service hours, inspect all fuel injection nozzles, and replace if necessary.

For complete fuel injection nozzle check, and installation instructions, see your authorized dealer.

**DRAINING THE FUEL INJECTION PUMP HOUSING AND GOVERNOR HOUSING:** Some water in the fuel can get by the fuel filter and the water separator, and be held in the fuel injection pump and governor housings. It is necessary to drain these housings to prevent possible corrosion and freezing damage.



1. Remove the plug on the governor housing and the lower bolt that holds the governor housing to the fuel injection housing.
2. Allow the water to drain, then install the plug and the bolt.

**HERE ARE SOME TIPS FROM MEMBERS OF THE WANDERLODGE FORUM;**

Re: [wanderlodge] No fuel to engine problem

fill the glass filter with fuel, and install it quickly!, then on top of the injector pump you will find a "T" valve, open the T and pump the hand pump until clear fuel runs out onto the ground under the engine, tighten the T valve, tighten the hand pump, and start it up.

i don't remember the first post, why did you change the first filter in a bad area to start with?

Randy

RE: [wanderlodge] No fuel to engine problem

There are two bleed valves on the filter housing. Make sure neither one is partly open. That's just the way mine acts when a bleed is open. I had one come open after service. We just shut down in the middle lane of Western Center drive here in Fort Worth. Took me a few panicky minutes to figure out what was going on.

Chuck Wheeler -

82 FC 31 SB

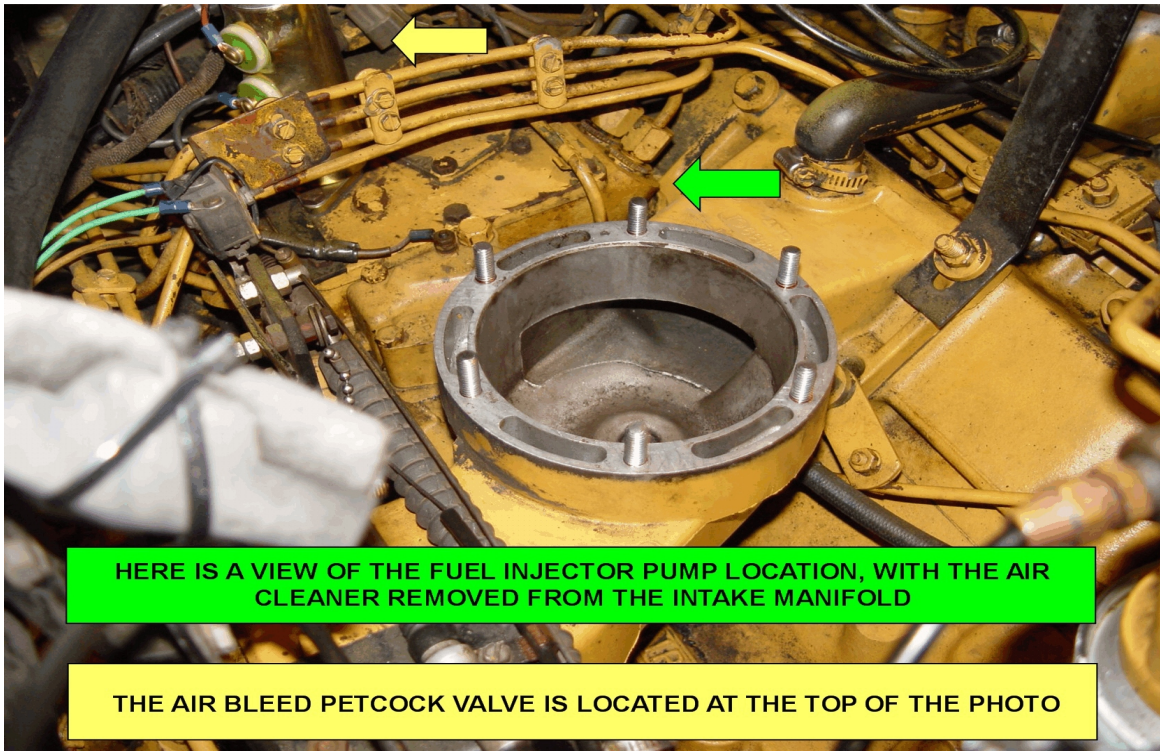
Fort Worth, TX





THE INSET PHOTO SHOWS THE WHITE SPIN ON CANISTER FUEL FILTER ON THE LEFT AND THE CATERPILLAR GLASS WATER SEPARATOR FILTER ON THE RIGHT. THE ROUND KNOB HAND PUMP HANDLE IS LOCATED DIRECTLY ABOVE THE CANISTER FUEL FILTER

THE ARROW AT THE TOP IS SHOWING THE APPROXIMATE LOCATION OF THE FUEL INJECTOR PUMP



HERE IS A VIEW OF THE FUEL INJECTOR PUMP LOCATION, WITH THE AIR CLEANER REMOVED FROM THE INTAKE MANIFOLD

THE AIR BLEED PETCOCK VALVE IS LOCATED AT THE TOP OF THE PHOTO



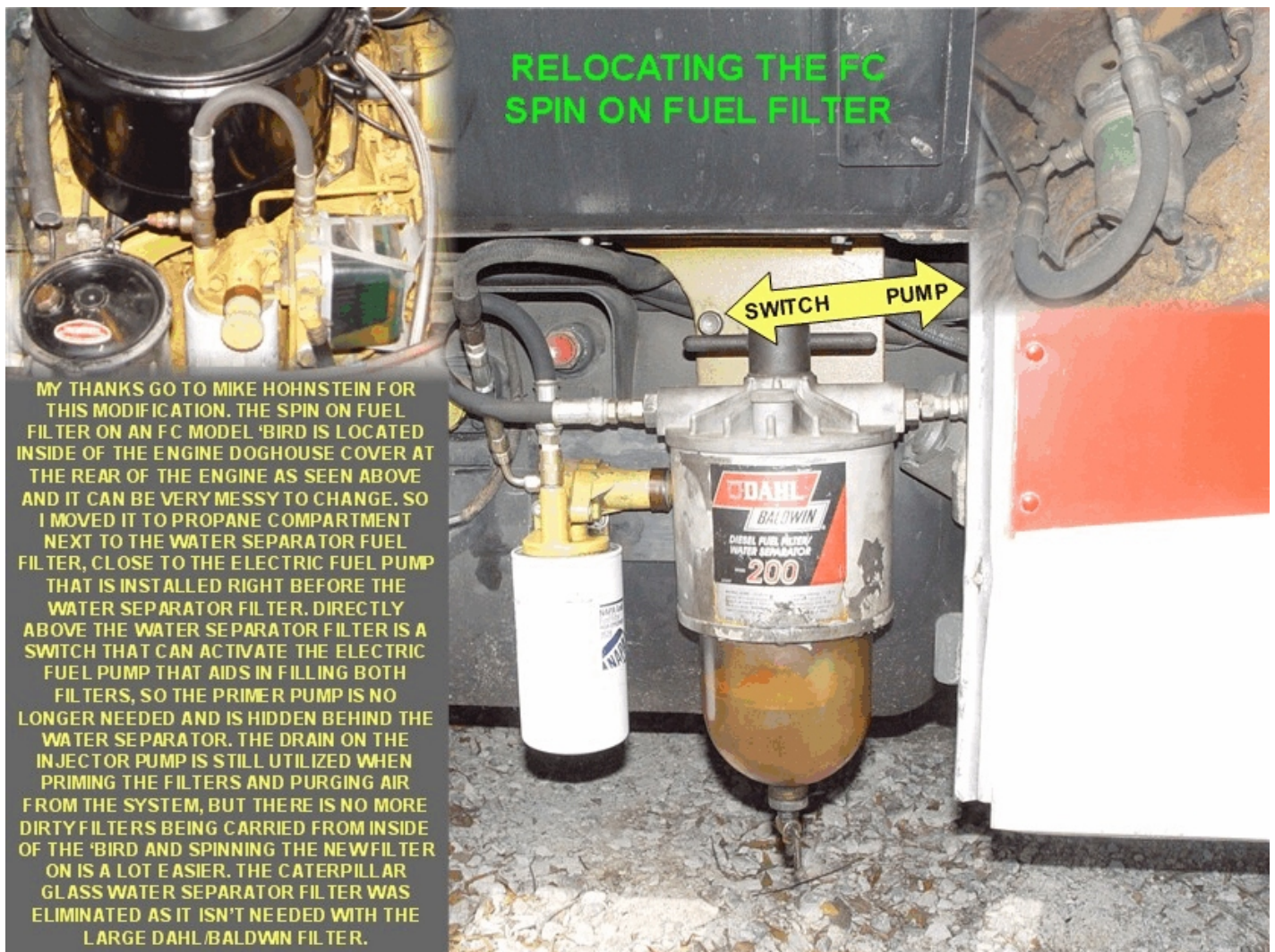
I find that filling the canister fuel filter with automatic transmission fluid helps eliminate some of the hand pump priming required to bleed the system of air. Some people claim that this will also introduce contaminants into the system, but I have not experienced this myself.

I believe that if you have NOT screwed the hand pump back into the closed and locked position, that it will draw air back into the system through the priming pump. I have had to crack open a few of the injector journals along the head to eliminate air from the system.

When priming the system to eliminate air, I only open the air bleed petcock valve on the injector pump and listen for fuel running out onto the ground while pumping the primer pump handle.

I have removed the Caterpillar glass water separator and then relocated the fuel filter to the LP Gas compartment and since I don't have a Fascet pump near the fuel tank, I also installed an additional electric pump just before the Racor style water separator filter, mine is a DAHL / BALDWIN model, that can be used to prime the complete system after the bleed valve on the injector pump has been opened, or I usually just leave the fuel filter slightly loose and prime the filters with the electric fuel pump until fuel starts to overflow the filter catching the overflow in a drain pan, then I tighten the filter.

John Finn  
82 FC35RB



**JOHN FINN'S - '82 FC35RB CAT 3208NA FILTERS**

**POWER STEERING RESIVOIR (1);**

85430 (CARQUEST)

1430 (NAPA)

51430 (WIX)

P186 (BALDWIN / FLEETPRIDE)

HF6195 (CUMMINS / FLEETGUARD)

**CAT ENGINE FUEL FILTER [RELOCATED](1);**

1R0750 (CATERPILLAR)

3528 (NAPA GOLD)

33528 (WIX)

LFF 3347 (LUBERFINER)

FF5320 (CUMMINS / FLEETGUARD)

BF7633 (BALDWIN / FLEETPRIDE)

**DAHL/BALDWIN 200 FUEL FILTER - WATER SEPERATOR (1);**

201 (BALDWIN / FLEETPRIDE)

3119 (NAPA GOLD)

L22008F (LUBERFINER)

FS1279 (CUMMINS / FLEETGUARD)

**CAT ENGINE OIL FILTER (2);**

8N9586 (CATERPILLAR)

9N-5570 (CATERPILLAR)

1268 (NAPA GOLD)

51268 (WIX)

LFP 5570 (LUBERFINER)

BT-230 (BALDWIN / FLEETPRIDE)

LF3342 (CUMMINS / FLEETGUARD)

**CAT ENGINE AIR FILTER 3208NA**

LAF506 (LUBERFINER)

2914 (NAPA)

2N1990 (CAT)

42914 (WIX)

PA11922FN (FLEETPRIDE)

AF477K (CUMMINS / FLEETGUARD)

**ALLISON TRANSMISSION**

MT643 RM (REMANUFACTURED)

S/N 9208071167

P/N 29500353

WW WILLIAMS PARTS

ALLISON SERVICE KIT #29538489 \$54.82 (FOR USE WITHOUT EXTERNAL FILTER)

ALLISON INTERNAL FILTER (1)

P/N 29538474

ALLISON EXTERNAL FILTER [RELOCATED](1);

1268 (NAPA GOLD)

51268 (WIX)

LFP 5570 (LUBERFINER)

BT-230 (BALDWIN / FLEETPRIDE)

LF3342 / LF3789 SYNTHETIC MEDIA (CUMMINS / FLEETGUARD)

[REMOVED]CAT ENGINE WATER SEPERATOR [REMOVED] (1);

8N9803 (CATERPILLAR)

LFF 1131 (LUBERFINER)

FIL3369 (NAPA)

33369 (WIX)

BF912 (BALDWIN / FLEETPRIDE)

FS1205 (CUMMINS / FLEETGUARD)