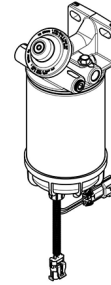


## A3FE Fuel/Water Separator

### Tech Tip #18-1028



Cummins



Racor

### Fuel/Water Separator Filter Won't Remove From Base

Blue Bird has changed vendors for the fuel/water separators used on their Cummins diesel product from the Racor (BB# 10054027) to Cummins own (BB#10047406)

We have had reports on the All American product that the method in which the Cummins filter mounts to the separator base creates an issue when the filter needs to be changed as part of PM maintenance.

On the All American product the assembly mounts above the rear axle. We believe that the road debris coupled with the winter chemicals creates an added bond between the white metal/aluminum base and plastic filter housing when it becomes very difficult to remove the filter without first removing the assembly from the vehicle and/or damaging the filter base.

Evidence of this can be seen looking at the filter housing in Figure #1.

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We have researched to find any changes in the system which would affect changing a unit back to the Racor assembly and found that the only actual change is in the fuel line fittings.

Blue Bird has moved to a ½ “quick-connect” SAE J2044 fitting on their fuel lines where previously a “barb” type fitting was used.



**Cummins Assy #10047406**

**Racor Assy #10054027**

**Adapter #9325-06-14x1.5**

Figure #1

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When changing from the Cummins Assy to the Racor Assy, the first thing that must be understood is how the “quick-connect” fittings work so that they can be reused.

To remove it is a 2-step process:

#1 – Pull up on the “safety lock” as in Figure #2

#2 – Push down on the release as in Figure #3 and this will allow the line to be removed from the fitting

To reinstall simply push the line back on the fitting and you will feel it “clip” in. Once it is clipped, push the safety lock back down.....NOTE: The Safety Lock cannot be pushed down if the line fitting is not pushed on completely.



Figure #2



Figure #3

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The only other issue when changing from the Cummins to Racor assy., is the fitting size in the housing where the fuel lines attach. The Cummins assy. utilizes a metric 14X1.5 “O” ring style while the Racor assy. uses a 3/8” pipe thread. Seeing as the “Quick” connect fitting is threaded for the Cummins unit we have sourced an adapter which can be used. (Figure #4)

The 2 electrical connections are “plug & play” using the harness provided with the assy., you can simply match the connections and plug them in.

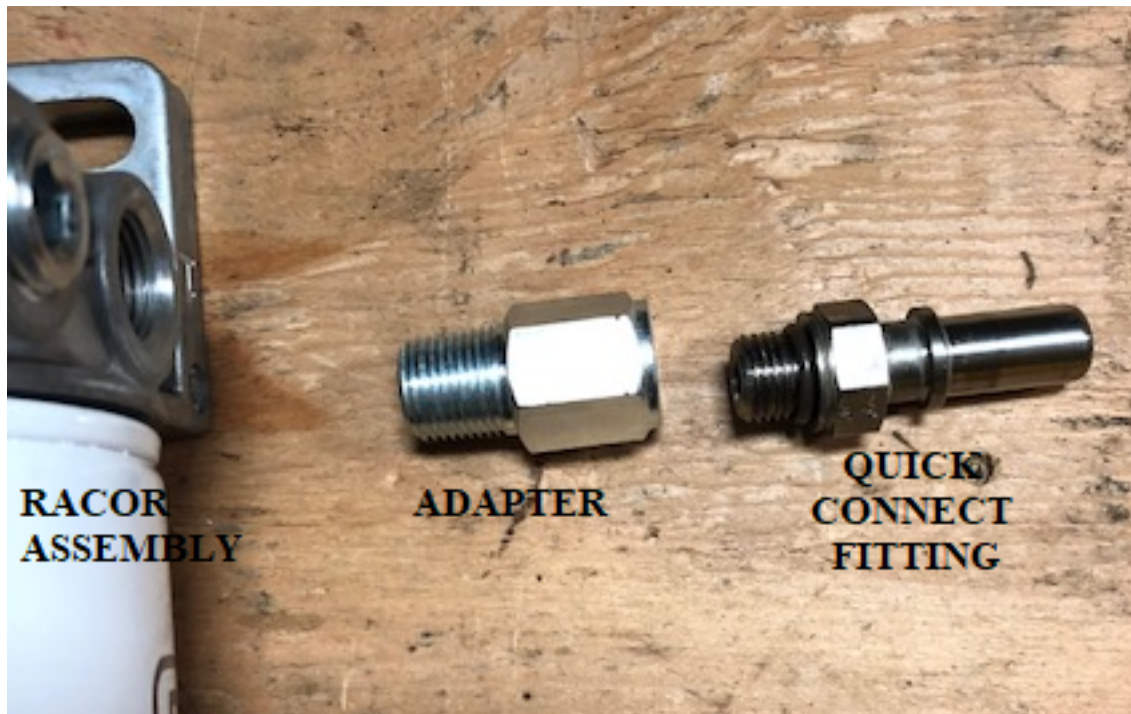


Figure #4

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PLEASE NOTE: Attention should be paid to how the fuel lines are hooked up with the Racor assy. as there are 2 ports which can used for fuel supply and 2 for fuel delivery. The housing has arrows cast into it (Figure #5). The Green arrows show fuel supply (line from the fuel tank should be connected to one of these ports) and Red arrows indicate fuel delivery (line to the engine should be connected to one of these ports).

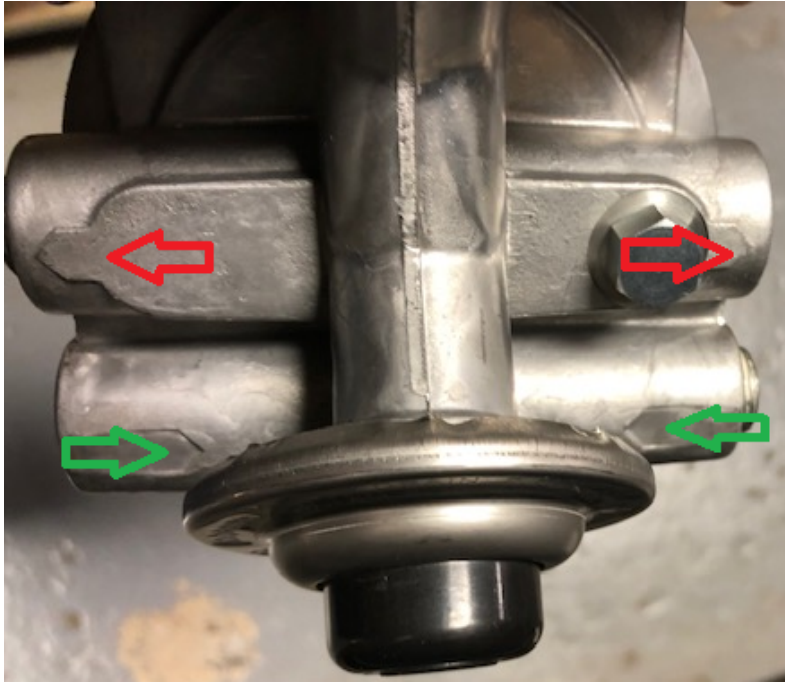


Figure #5

Thank you to Scotty Sweeney and the guys at Carthage Central School for letting us know about this

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Figure #6



Figure #7



Figure #8

PLEASE NOTE: Dan and Jason from Liverpool Central School brought up concern about the fact that they did not feel the chamfer for on the fitting was deep enough for the “O” ring to sit into. We researched further to find that it is acceptable but there is also a “dody” seal and also another fitting available with a deeper chamfer. Should you feel the need to change, either of these can be purchased through Omni Services-

**Dody Seal - #9500-14MM**

**Deeper Chamfer Fitting - #9325-06-14 X 15**

Figure #6 shows the “O”-Ring and Dody seal, Figure #7 shows the fittings installed with the “O”-ring and Figure #8 shows fittings installed with the Dody seal.

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## CONTACT OUR SERVICE OR PARTS DEPARTMENT WITH ANY QUESTIONS

### SERVICE

**Chittenango:** 800-962-5768

Daryl Wallace or Brian Lamaitis

**Rochester:** 800-463-3232

Dave Schaub

**Albany:** 866-867-1100

Ben Reiling

**Lower Hudson Valley Region:**

845-609-7070

Marc Matwijec

**Warranty:** 800-962-5768

Morgan Jenkins

### Customer Service Representatives

**Eastern Region:**

Gary Bigness

845-500-3707

**Central Region:**

Josh Coon

315-263-0765

**Western Region:**

Mike Panzica

716-908-3186

### PARTS

**Director of Parts**

Jim Hogan

[jhogan@newyorkbussales.com](mailto:jhogan@newyorkbussales.com)

607-227-5794

**Chittenango:** 800-962-5768

Gari McQuade

[gmcquade@newyorkbussales.com](mailto:gmcquade@newyorkbussales.com)

Bill Cox

[bcox@newyorkbussales.com](mailto:bcox@newyorkbussales.com)

John Lewin

[jlewin@newyorkbussales.com](mailto:jlewin@newyorkbussales.com)

Dave Grant

[dgrant@newyorkbussales.com](mailto:dgrant@newyorkbussales.com)

**Albany:** 866-867-1100

Sean Conway

[sconway@newyorkbussales.com](mailto:sconway@newyorkbussales.com)

Pat Murphy

[pmurphy@newyorkbussales.com](mailto:pmurphy@newyorkbussales.com)

**Rochester:** 800-463-3232

Tim Gross

[tgross@newyorkbussales.com](mailto:tgross@newyorkbussales.com)

Steve Hibbard

[shibbard@newyorkbussales.com](mailto:shibbard@newyorkbussales.com)

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