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FAQs for Proventia FTF Thermo King Bobtail TRUs

(Rev. 11/4/2010)

Is the Proventia FTF for Bobtail TRUs CARB Verified?

Yes. A copy of CARB's Executive Order DE-08-001-05 verifying the Proventia FTF for Thermo King Bobtail TRUs (reefers) originally issued on May 18, 2009 and updated on October 14, 2010 is attached to this document. The Bobtail (straight truck) FTF brings 1987-2004 CD, JD, KD MD, RD, TD, TS, and XDS Bobtail TRUs into compliance as follows:

2001 and older models:	Compliant through 2015
2002 models:	Compliant through 2016
2003 models:	Compliant through 2017
2004 models:	Compliant through 2018

What model Thermo King TRUs (reefers) does the FTF fit?

ALL 1997-2004 CD, JD, KD, MD, RD, TD, TS, & XDS

After I install the Proventia FTF, how do I verify the installation with CARB?

There are 3 steps to follow. First, during installation, place the VDECS serial number label provided with your FTF installation kit onto the engine where it's readily visible to a CARB inspector when opening the TRU service doors. (See Owner's Manual - Installation section for instructions and illustrations, available online at www.proventiafilters.com/owners_manuals.html.)

Second, the owner of the TRU must also verify that the installer has complied with all of the CARB requirements by completing the "Warranty Registration and Installer's Checklist" online at www.proventiafilters.com/warranty.html. (See your FTF Owner's Manual for a copy of the checklist information needed to complete the online registration form.)

Third, the owner of the TRU should then apply for a CARB IDN (this step is mandatory for California-based TRUs, and recommended for TRUs based out-of-state or out-of-country). Register online using CARB's Equipment Registration (ARBER) system, which immediately issues an IDN for fully compliant TRU/TRU gensets.

To register online, visit: www.arber.ca.gov

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Can I apply for a CARB IDN if my reefer is based out-of-state or out-of-country?

Yes, and this is recommended. While the CARB IDN is not mandatory for reefers based out-of-state or out-of-country, it will make the inspection process go faster for you when your reefer is inspected for compliance within California.

What happens if I'm based out-of-state and I'm inspected, but I don't have a CARB IDN?

Inspection at California weigh stations will take considerably longer. First, the inspector will try to find the VDECS serial number, which is on the CARB VDECS label provided with your filter kit and is to be placed onto the engine during installation. (See Owner's Manual - Installation section for instructions and illustrations.) If the sticker is missing, the inspector will have to climb on top of the TRU (reefer) and try to find the same serial number that's laser cut into the end of the filter. If you have a CARB IDN, none of these steps will be necessary.

I've installed a remanufactured engine in my reefer. Do I still need to install your FTF in order to be compliant?

If the engine was remanufactured to a **pre-Tier 1** spec, then the effective model year is the last year before Tier 1, which is 1998. So, this engine will need to be retrofit with an FTF by December 31, 2009.

If the engine was remanufactured to a **Tier 1** spec, the effective model year is the last year of the Tier 1, which is 2003. So, this engine will need to be retrofit with a ULETRU VDECS by December 31, 2010.

For more information see CARB advisory #08-05: <http://www.arb.ca.gov/diesel/tru/advisories.htm>

Can I use 100% biodiesel fuel, instead of an FTF, in order to be compliant?

No. No biodiesel producer has begun the verification process for B100 biodiesel yet. If a biodiesel producer began a verification right now, it would still be 2010 before the verification could be completed. For more information see CARB advisory #08-08 at <http://www.arb.ca.gov/diesel/tru/advisories.htm>

Do I have to remove the reefer from the lfi W in order to install the new FTF?

No, the FTF installation is designed to be done with the reefer mounted on the trailer. The installation of the FTF and indicator gauge are easily accessible with the reefer mounted on the trailer. See the installation manual (available online at www.proventiafilters.com/owners_manals.html) for complete details.

Do all the FTF kits mount inside the current reefer cowling? Do any installations require cutting the reefer frames?

The Bobtail FTF mounts horizontally inside the current reefer cowling, replacing the current muffler system. **NOTE:** None of the FTF installations require any cutting of the reefer frames or access doors.

How long does FTF installation take?

Actual first-time installation requires about 1.5-2 hours for the filter, and 1 hour for the injectors. Once an installer is familiar with the process, total time for both filter and injector installation typically drops to 1.5 to 2 hours total.

What's included in the FTF kits?

Each kit includes:

- FTF with mounting brackets and backpressure fitting
- Exhaust tube with backpressure fittings delete this line
- FTF indicator gauge
- ULSD label for fuel tank
- CARB label with FTF serial number
- Owner's Manual with installation instructions
- All necessary hardware for the installation

NOTE: See the complete owner's manual at www.proventiafilters.com/owners_manuals.html.

What is the shipping cost? How long does delivery take? How big are the packages? How much does the kit weigh?

Ground shipping is \$30 per filter. You can expect your filters to arrive approximately 5-7 days after you place your order, depending on your location. Expedited shipping is available for an additional charge. Each kit weighs about 24 pounds, depending on the model, and is 9"x13"x20"

Can I finance my FTF filters?

Yes, third-party financing options are available. Contact Proventia at 1-800-609-7686 (toll free within the U.S.), 612-284-8106 (international), or by email at proventiafilters@gmail.com for more information.

Whom do I contact to purchase the Proventia Bobtail FTF kits?

Contact Proventia at 1-800-609-7686 (toll free within the U.S.), 612-284-8106 (international), or by email at proventiafilters@gmail.com, or purchase online 24/7 at www.proventiafilters.com/purchase.html. Price is \$2995 per filter (plus \$30 shipping). State sales taxes apply in California, Massachusetts, and Minnesota.

Do I have to verify normal oil consumption before I install the FTF?

Yes, it is a verification requirement of the Executive Order issued by CARB for this FTF that oil consumption rates of no more than 1 quart per 50 hours be verified according to the FTF Owner's Manual prior to installation of the FTF. If the oil consumption rate exceeds the recommended guideline of 1 quart per 50 hours, the engine must be serviced to fix the oil consumption problem before the FTF is installed. Excessive oil consumption can cause the FTF to become clogged with ash (from the burning of the oil) requiring the FTF to be cleaned frequently. **NOTE:** Recent service records (within 90 days of filter installation) documenting normal oil consumption of no more than 1 quart per 50 hours (or from which this normal oil consumption can be calculated) can be used in lieu of the 50-hour oil consumption test.

How soon after the oil consumption test do I need to install the FTF?

Within 4 weeks.

Do I have to change the injectors before I install the FTF?

Yes, it is a requirement of the Executive Order issued by CARB for this FTF that the injector nozzles be remanufactured or replaced ONE TIME, before FTF installation, according to the specifications detailed in the Bobtail Owner's Manual (pages 6-7), which is available online at www.proventiafilters.com/owners_manuals.html. Worn injector nozzles can result in excessive soot in the exhaust, which will cause the FTF to become clogged with soot, requiring the FTF to be cleaned frequently. The injectors do not need to be changed again after the initial installation.

My shop does not do repairs. If I buy your filters, who can I get to install them?

Installation is extremely simple and can be done by anyone who regularly services your vehicles. For a complete manual showing the ease of installation, visit www.proventiafilters.com/owners_manuals.html. Actual first-time installation requires about 1.5-2 hours for the filter, and 1 hour for the injectors. Once an installer is familiar with the process, total time for both filter and injector installation typically drops to 1.5 to 2 hours total.

Do I have to use ULSD fuel if I install the FTF?

Yes, the Ultra Low Sulfur Diesel fuel is required for proper operation of the FTF. The higher sulfur levels in regular off-road diesel fuel will clog the platinum catalyst inside the FTF, and shorten the time until FTF becomes clogged with ash and has to be cleaned out (under normal operation the FTF will go at least 3000-4000 hours before ash would need to be removed from the filter).

How often will I have to clean the FTF of ash?

The FTF will go at least 2000 to 3000 hours before needing to be cleaned of ash. In field tests, the FTF has gone at least 2000 hours without need for ash cleaning. It's possible to go even longer depending on the duty cycle of your reefer. High-speed operation helps to keep the FTF clean, so more door openings and daily loading/unloading of the trailer will generally keep the FTF in the cleanest condition.

How do I clean the FTF of ash?

Clean the FTF by removing the FTF from the reefer and blowing compressed air into the FTF outlet in the direction opposite of the exhaust flow. IMPORTANT: The ash that is blown out of the FTF must be collected into a chamber with a HEPA filter that collects all of the removed particulates, for eventual disposal as a hazardous waste.

When cleaning the FTF of ash, is the residue considered a hazardous waste and how do I dispose of it?

Yes, it is considered a hazardous waste. Follow ash handling guidelines as prescribed by CARB at: <http://www.arb.ca.gov/diesel/tru/documents/ashguide.pdf>

Does the FTF increase fuel consumption or engine backpressure?

The effect on fuel consumption is not measurable (less than a 1% increase). The FTF does cause the average engine backpressure to increase slightly, however this small increase has no effect on the engine components or engine wear. By comparison, an engine with a muffler (and without an FTF) will normally run with about 1-1.5 psi engine backpressure. In engine tests, no ill effects on engine performance have been observed at backpressure levels exceeding 20-25 psi.

Does the FTF make the engine run hotter? Will it affect reefer engine performance?

No, the FTF does not make the engine run hotter, cause any loss of horsepower, or have any other effect on reefer engine performance.

There is a slight increase in exhaust temperature of about 10-20F, due to the increase in engine backpressure.

Can the FTF cause engine seals to blow?

No. Engine crankshaft seals are primarily affected by the amount of exhaust blowby gas (the exhaust that leaks past the piston rings, due to worn rings), not by the exhaust backpressure.

Why is there a small hole in the FTF where exhaust is coming out?

This is to eliminate the intrusion of rainwater into the engine. The hole in the FTF that's blowing exhaust is on the 'clean' side of the FTF.

Can you provide test data?

Yes, we can provide test data for a 1500 hour field test upon request. The data demonstrate that the FTF slowly increases engine exhaust backpressure, then cleans itself during normal operation, reducing backpressure again to a normal level.

If my reefer averages between 2000 to 3000 hours per year, how long will the FTF last?

The FTF doesn't ever get used up, it will last indefinitely. The FTF contains a metal filter medium that is catalyzed with platinum. The platinum is not used up or depleted over time, however it does become coated with ash residue over time. Under recommended operating conditions, the FTF will need to have the ash residue cleaned out after 2000 to 3000 hours or longer. After the ash is cleaned out, the FTF returns to like-new condition and functioning.

NOTE: Fuel additives, high sulfur fuel, and excessive burning of engine oil can cause excessive ash production, which results in the need for more frequent cleaning of the FTF.

If oil consumption rates increase as the engine ages, the FTF may need to be cleaned more frequently, due to the increased levels of burned engine oil and resulting accumulated ash.

What kind of warranty does the Bobtail FTF have?

Three years or 1600 hours, whichever comes first.

Is a CARB-verified filter available for Thermo King Trailer Reefers?

Yes, CARB's Executive Order DE-08-001-01 verifying the Proventia FTF for Thermo King Trailer TRUs (reefers) was issued on June 11, 2008 and updated with Executive Order DE-08-001-05 on October 14, 2010. The Proventia Trailer FTF brings all 2003 and older Thermo King trailer models SB, Super II, and Sentry into compliance as follows:

2001 and older models:	Compliant through 2015
2002 models:	Compliant through 2016
2003 models:	Compliant through 2017

No special skill or training is required for installation (which takes 3-4 hours including injectors; reducing to 2-3 hours with experience).

The price is \$3995 plus \$30 shipping (add sales tax in CA, MA, and MN); volume discounts are available for quantities of 5 or more filters. For more information, contact Proventia at 1-800-609-7686 (toll free within the U.S.), 612-284-8106 (international), by email at proventiafilters@gmail.com, or on the web at www.proventiafilters.com.

Is a CARB-verified filter available for APUs?

Yes, Proventia's EHDPF for APUs is CARB-Verified at Level 3, achieving more than 85% PM reduction. It will be available for Thermo King Tri-Pac APUs in March 2011. The EHDPF can also be made to work on other APU models, including Mantis, Ponypack, Coolride, and Kohler 3-APUs. The EHDPF APU filter must be installed by an authorized dealer or installer; installation takes 3 hours. For more information contact Proventia at 1-800-609-7686 (toll free within the U.S.), 612-284-8106 (international), or by email at proventiafilters@gmail.com.