

Thermo-Bob 4™ Installation Manual 'KT5A' Kit

2009-2016 KTM 400/450/500 EXC, XC-W
2012-2016 KTM 350 EXC, XC-W
2008-2011 KTM 530 EXC-R
2011 Husaberg FS510
2013-2014 Husaberg FE501
2014-2016 Husqvarna FE350/450/501

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Thermo-Bob 4™ Installation: KT5A Kit

Proper installation is critical: if you are not familiar with or feel uncomfortable with heated, pressurized liquid cooling systems, you should have a professional install the kit. Improper installation can cause engine overheating and possible engine damage.

Overview of installation: Drain the engine coolant into a suitable container, don't drain it when it's hot, keep it away from pets as it's toxic, refill the cooling system after all parts are installed, double-check that all clamps are tight, and verify that the radiators are full after the first heat-and-cool cycle.

- 1) After draining the coolant, remove the 3 factory clamps that hold the original plastic thermostat housing assembly to the bottom of the upper frame tube, cylinder head and lower tank of the right radiator. Remove the factory plastic thermostat assembly from the motorcycle and set it aside as shown in Figure 1.
- 2) Carefully cut and remove two of the factory crimped clamps from the thermostat assembly (arrows in Figure 1 point to these clamps). A dremel tool with a cutoff wheel, cutting on a 60 degree angle as shown in Figure 2, works best and will minimize damage to the hoses.
- 3) Using the four supplied large clamps, slide the factory upper hose onto the upper barb of the Thermo-Bob 4, and slide the supplied short straight hose section onto the lower barb as shown in Figure 3. Do not tighten clamps yet, but think about the orientation of each clamp to facilitate tightening once installed on the bike.
- 4) Install the Thermo-Bob, with its two current hoses onto the bike's hose barbs on the bottom of the upper frame tube and cylinder head.
- 5) You have two options on how to install the bypass hose: either re-use the factory bypass hose, or the supplied bypass hose in your Thermo-Bob kit to connect from the Thermo-Bob's brass barb to the barb on the right radiator's lower tank. We've seen customers use both methods. Figure 4 shows an installation with the factory bypass hose, and Figure 5 shows an installation using the supplied bypass hose. You may shorten the bypass hose if it makes installation cleaner. **TIP: After determining the proper length and cutting the hose, slide the supplied small clamps an inch or two up the bypass hose, then dip the ends of the hose in a cup of coolant and wipe off the outside. This will lubricate the inside of the bypass hose, making it easier to slide on to the brass barb on the Thermo-Bob, as well as the radiator barb.**
- 6) Tighten all clamps appropriately. Refill the cooling system. Pour the final 10 fluid ounces in slowly, as air is purging through the small bleed hole in the Thermo-Bob's thermostat. Install the radiator cap.
- 7) Re-check that all clamps are tight. Start the engine and let it run for 3 or 4 minutes, running the engine up to 3000 rpm a couple of times over that period to purge any final air into the radiator upper tanks. In this 3-4 minute period, you can inspect the cooling system as it heats for any leaks. Shut off the engine, let the bike completely cool, and remove the radiator cap to top off the system.

GENERAL NOTES:

- Figures 6 and 7 display how to correctly index the thermostat in the housing if it is ever replaced. Early kits have potential interference between a boss inside the housing and the thermostat chassis. If so, Figures 6 and 7 guide you to proper installation.
- The Thermo-Bob 4 housing has an additional threaded port for a KOSO or TRAIL TECH temperature sending unit (BSPP 1/8-28). Since the sensor uses two wires internally, an external ground is not required so it's best to use Teflon tape or a good Teflon sealant on the temperature sensor threads during installation to avoid leaks.
- Since these bikes do not have a coolant overflow tank, the first heat cycle after radiator filling will purge a few fluid ounces of coolant onto the ground due to thermal expansion, just like a stock bike.
- The Thermo-Bob can be left on the bike year-round, it simply holds up minimum coolant temperatures where you want them to be to allow the engine oil to boil off any water that gets past the rings in the natural occurrence of all running engines.



Example KT5 Installations

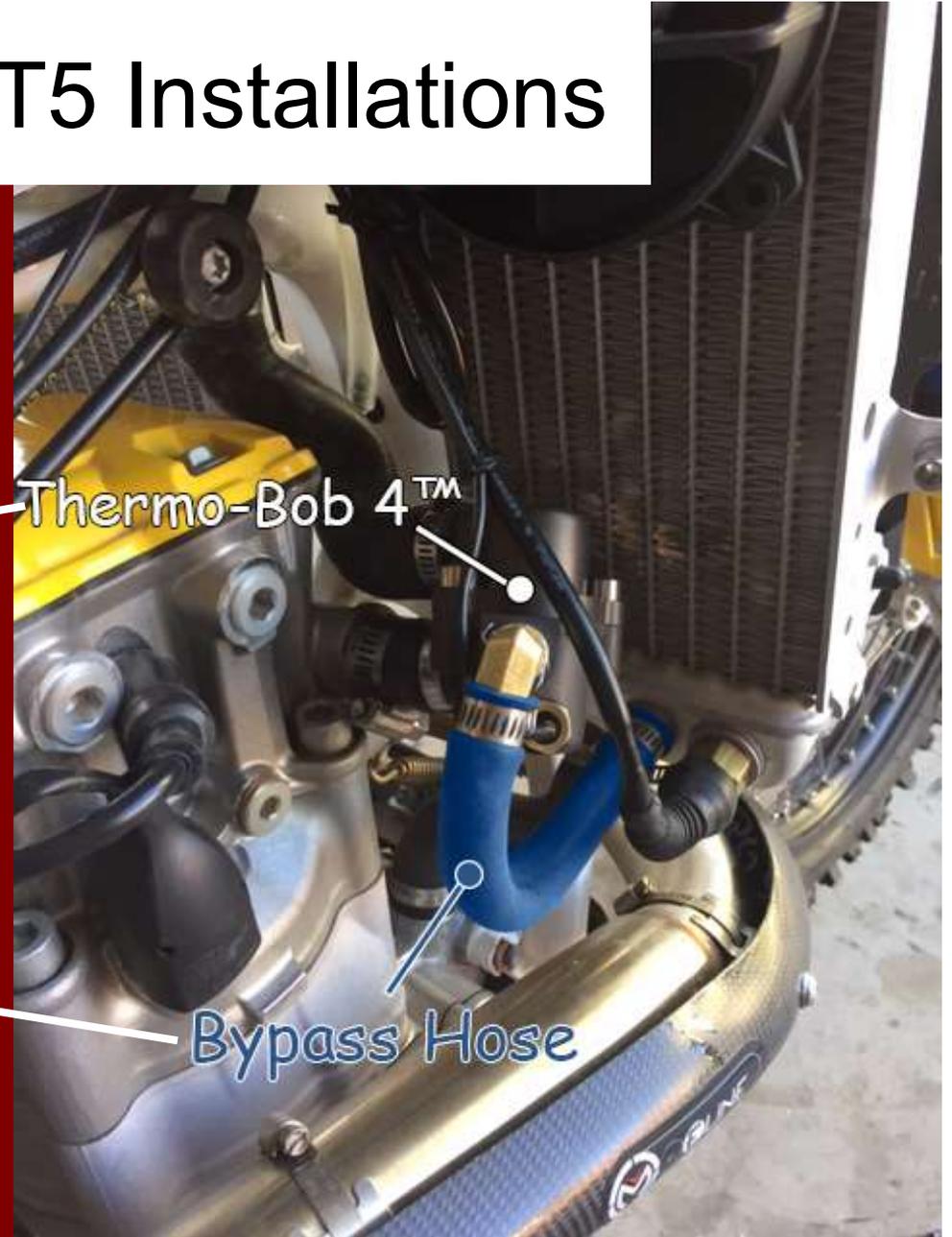


Figure 4: Installation using factory bypass hose

Figure 5: Installation using supplied bypass hose

If you ever replace your thermostat, pay attention to orientation...

(This only affects early Thermo-Bob 4s: most newer housings have clearance and the 'stat can be placed at any angle).



Figure 6: Improperly indexed thermostat
Will not seat properly.

Figure 7: Properly indexed thermostat
Will sit flush.