

Thermo-Bob 4™ Installation Manual

‘KT35A’ Kit

Watt-man.com November 2020

IM_KT35A_V2

Thermo-Bob 4™ Installation: KT35A 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.

Figure 1 on the next page shows a completed installation. Details are described below:

- 1) Remove the factory 'S-shaped' radiator hose that connects the engine exit to the barb under the top frame tube: Reinstall the upper end of the hose back on the frame barb, but rotate the hose 90° CCW (from above, looking at the ground) so the open end of the factory hose can be connected to the Thermo-Bob 4 exit as shown in Figure 1. Re-use your two KTM hose clamps, one on each end of the S-hose, but don't tighten them yet.
- 2) Take the supplied U-Bend (colored as reddish-brown in Figure 1) and connect the engine exit to the Thermo-Bob inlet as shown. The "long end" of the U-bend goes on the Thermo-Bob. Install, but don't tighten two of the large supplied clamps, one on each end of the U-bend.
- 3) Remove a 5/8 inch (16 mm) long section of the factory lower hose that exits the bottom of the left radiator and insert the supplied bypass tee as shown in Figure 1. Use the other two supplied large clamps, again not tight yet.
- 4) Rotate the bypass tee in the lower hose to best aim the bypass tee's brass barb at the Thermo-Bob 4's brass barb. Cut the supplied bypass hose (colored blue in Figure 1) to length (usually around 2.5 inches, or 64 mm) and slide it onto each of the brass bars as shown. **TIP: Slide the supplied small clamps onto the center of the bypass hose first, then dip both ends of the hose in coolant and wipe off the outside. This will lubricate the inside of the bypass hose ends, making it easier to slide on to the brass bars.**
- 5) NOW you can tweak everything into their final position and tighten all 8 clamps (2 KTM, 6 with the Thermo-Bob kit) to factory specification.
- 6) 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.
- 7) Refill the cooling system. NOTE: the U-bend will clearly trap some air upon initial fill. Thus, after filling the radiators, leave the radiator cap off, and start the engine. Vary engine speed slowly from idle to 2500 rpm and back a few times. Shut the engine off after 45 seconds or so of this operation. The trapped air should now be in the upper tanks of the radiators, thus you will be able to add more coolant to top off the system. After doing that, Install the radiator cap.
- 8) 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. If the hoses become stiff from internal pressure, this is further indication that all air has been purged.

GENERAL NOTES:

- 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.
- Since these bikes do not have a radiator fan, you will need forward motion or a box fan in the garage on the radiators to generate cooling airflow. Otherwise idling at 0 mph for an extended time will result in very high coolant temperatures, 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.

Thermo-Bob 4™ Installation of a TB4-KT35A Kit

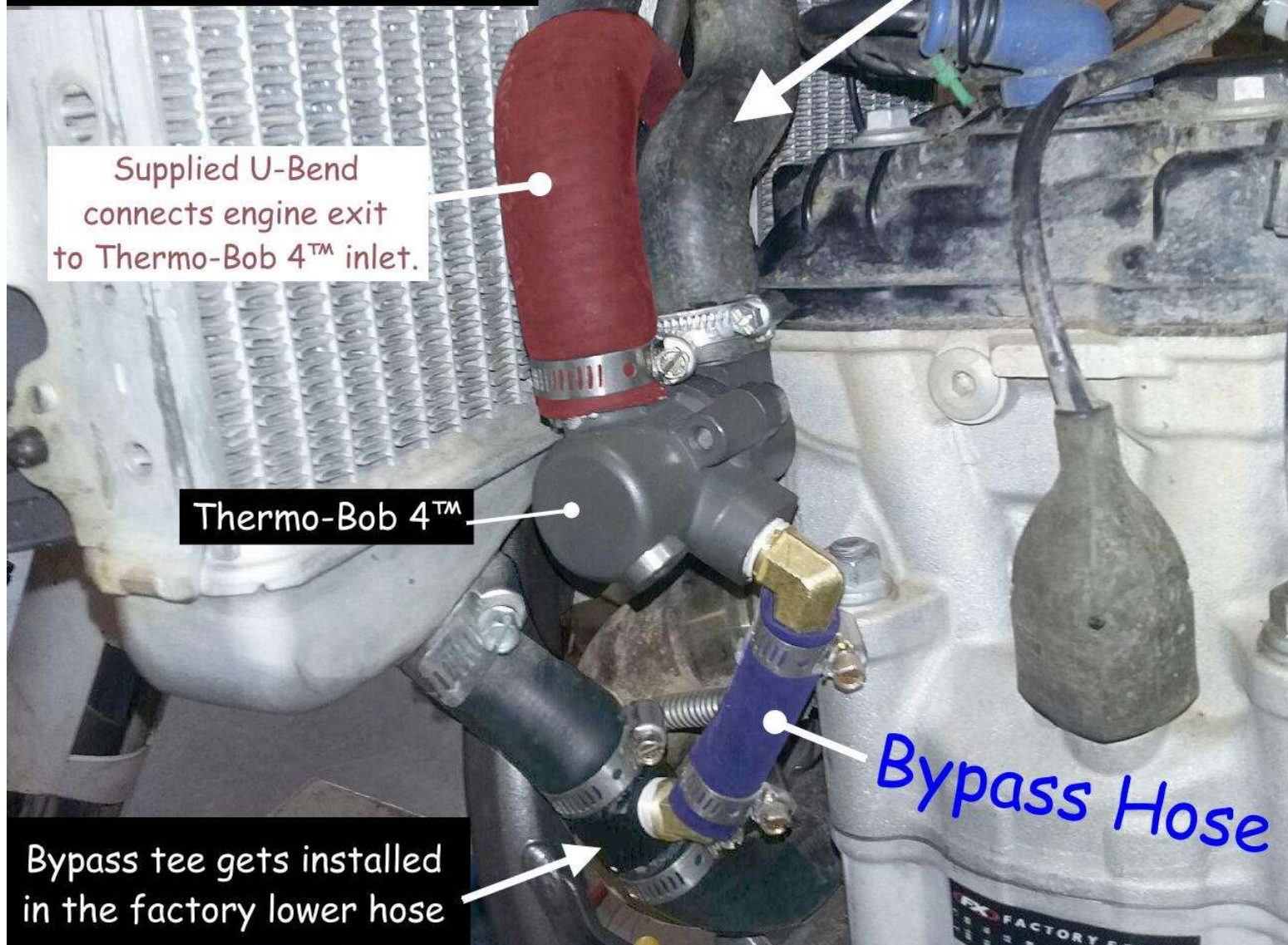


Figure 1.

Completed Installation.

Hoses supplied with Thermo-Bob kit are colored in this Figure for easy identification.