Thermo-Bob 2™ Installation Manual: KLX250s

Thank you for purchasing the Thermo-Bob 2™ radiator bypass system for the KLX250s. 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.

Read through these instructions completely to familiarize yourself with the hardware names and installation procedure. This will also allow the bike to cool off if ridden recently.

Other than basic tools (small wrenches / screwdrivers), gather the following items that you will need but are not included in the kit: a box cutter or sharp knife, and up to 38 oz. of 50/50 coolant.

Familiarize yourself with the parts in the kit per **Figure 1 below**:

Allen Wrench and Mounting Bolts

Thermo-Bob 2™ housing with brass hose barb

Small, Fat O-Ring

Bypass Tee Fitting with brass hose barb

Thermostat

Small and Large hose clamps

Piece of Bypass Hose

DRAIN THE COOLING SYSTEM

1) Remove left side plastic fairing (3 bolts) that connects the left radiator to the chassis as shown on the right.

2) Carefully remove the radiator cap after the engine is cool and pressure has been relieved from the cooling system. **If you do this while the coolant is still hot, you may burn yourself.**

3) Drain the coolant into a suitable container, remembering to keep it away from children and pets due to the toxicity. The drain plug (10mm head) is in bottom of the coolant pump housing as shown in **Figures 2 and 3**. Approximately 33 fluid ounces of coolant will drain. Reinstall the drain plug with its sealing washer, and torque to 60 to 70 inch-pounds (that's only 5.0 to 5.7 ft-lb).

Figure 2. Locate Drain Plug.

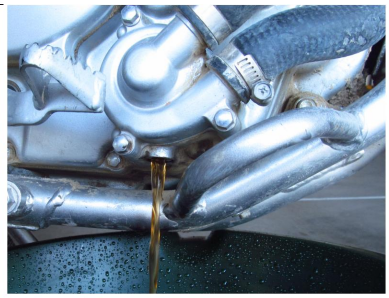

Figure 3. Drain Coolant.

4) **Figures 4 and 5** show a finished installation on the bike to help you visualize where the parts go, with the cooling system hoses color-coded to minimize confusion. The following pages will describe how to remove the original Kawasaki thermostat, how to sandwich the Thermo-Bob 2 housing (with Thermo-Bob 2 thermostat) in-between the cylinder head and the original thermostat housing, install a bypass tee in the "Blue" radiator hose between the right radiator's bottom tank and coolant pump inlet, and install a "Gold" bypass hose between the Thermo-Bob 2 and bypass tee.

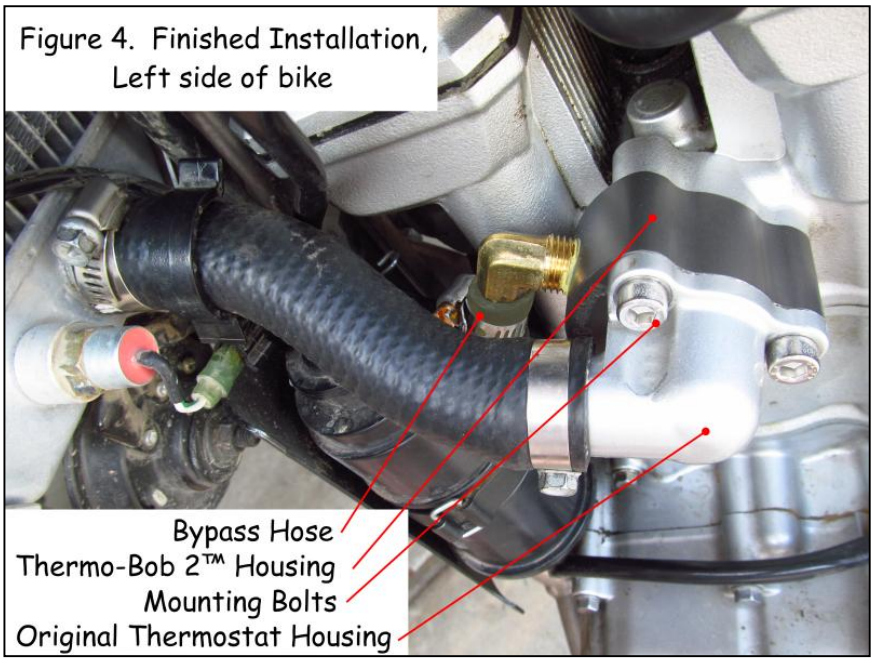

Figure 4. Finished Installation, Left side of bike

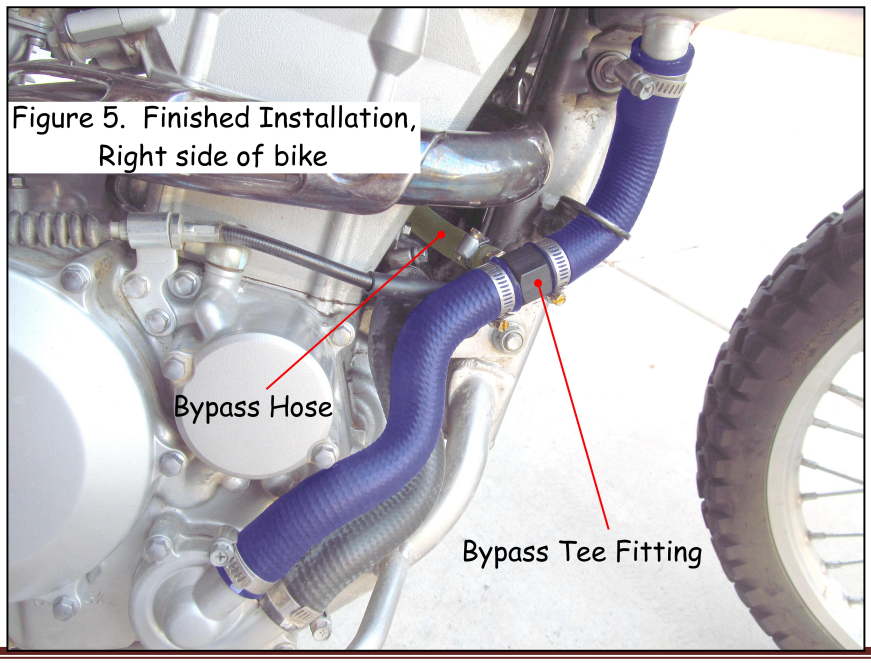

Figure 5. Finished Installation, Right side of bike

OLD THERMOSTAT REMOVAL AND INSTALLATION OF THERMO-BOB 2™

5) Remove the three bolts (8mm head) on the original thermostat housing – the bolts are circled in yellow in **Figure 6.** Lift the factory thermostat housing away from the cylinder head. In the side of the cylinder head, you'll see the original thermostat and gasket as shown in **Figure 7**. Remove them as shown in **Figure 7A**. **They will not be reinstalled.**

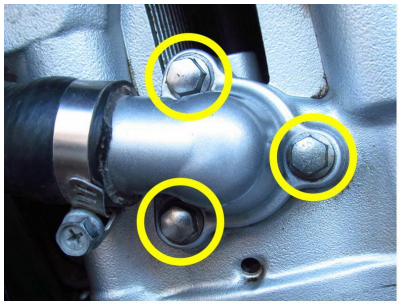

Figure 6. Original Thermostat Housing is restrained by 3 bolts.

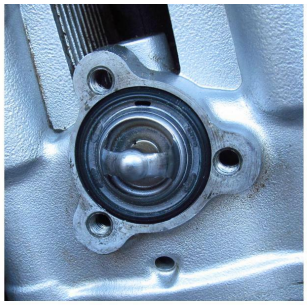

Figure 7. Original Thermostat.

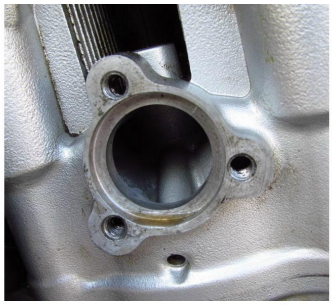

Figure 7A. Remove Original Thermostat.

Figure 8. Install Thermo-Bob 2 thermostat in Thermo-Bob 2 Housing.

6) Install the supplied thermostat into the Thermo-Bob 2 housing as shown in **Figure 8**. Slide the bypass hose onto the brass fitting that is part of the Thermo-Bob 2, and install a small clamp (supplied) and tighten. (Orient the clamp as shown in Figure 4).

7) Next, you'll need to rotate the factory coolant hose that goes from the factory thermostat housing to the bottom of the left radiator. Loosen both clamps that hold this hose on each end, and work the hose free of the radiator tank barb, as well as the factory thermostat housing. The hose will be reinstalled in step 9.

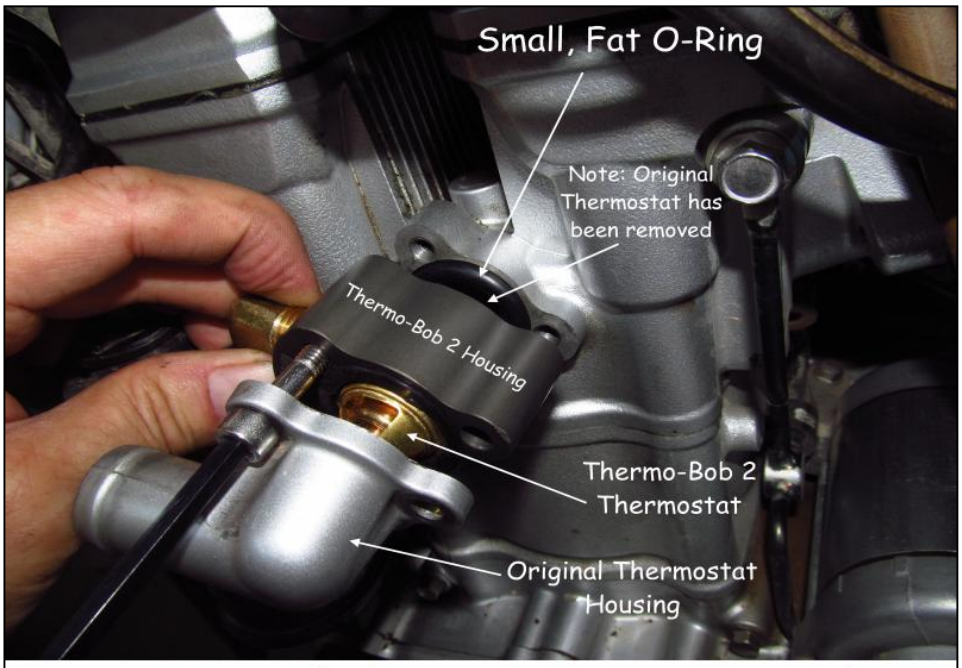

Figure 9. Install Thermo-Bob 2 Housing as shown.

8) As shown in **Figure 9**, place the supplied small, fat o-ring in place of the original Kawasaki thermostat, place the Thermo-Bob 2 housing (with TB2 thermostat already installed per **Figure 8**) on top of that, and place the original thermostat housing on top of the assembly. Use the three supplied 40mm long bolts to mount this sandwich of parts to the side of the cylinder head. **IMPORTANT: Be careful installing this –**

run the bolts down finger tight, then turn each bolt ½ turn at a time in succession to slowly seat the assembly against the cylinder head, then torque to 60 to 70 INCH-pounds (only 5.0 to 5.7 ft-lb).

9) As shown in **Figure 4**, reinstall the factory radiator hose that connects the original thermostat housing with the lower tank of the left radiator, using both stock hose clamps, and tighten.

LOWER HOSE MODIFICATION, AND BYPASS HOSE INSTALLATION

10) Note the radiator hose that is colored blue in **Figure 5** and where the supplied bypass tee will be installed - about half-way along in a straight section of the hose. Mark the hose accordingly and remove a 5/8 inch section of the hose.

11) Before installing the bypass tee into the blue hose, conduct a trial fit of step 12 to see if the supplied bypass hose should be shortened. We tend to ship a slightly-long hose on purpose so it can be custom fit to each application. You will most likely find that you need to shorten the bypass hose by 1/2" to 3/4" for the bypass tee to fit comfortably in the gap created in the "blue" hose.

12) Install the bypass hose onto the bypass tee's barb with a small clamp (supplied). Try to match the clamp orientation shown in **Figure 5** and tighten the small clamp. Place the bypass tee fitting in place of the 5/8" long removed section of **Figure 5**'s hose with the two large clamps (supplied) and tighten.

13) Verify that all hose clamps are tight one final time.

REFILL THE COOLING SYSTEM

14) If you would like to drain the coolant overflow tank that is behind the battery on the left side of the bike, siphon out what is in the tank and pour in 5 fluid ounces of 50/50 coolant, then replace and tighten the tank cap.

15) The engine and radiator cooling system typically holds about 33 fluid ounces: fill the right radiator to the top by pouring in 50/50 coolant. If you are not able to pour in all 33 fluid ounces in a single transfer, start and run the engine between 1000 and 2000 rpm for less than 30 seconds. This will allow any air to be purged in the system, and the coolant level will drop in the right radiator. Shut off the engine and you then should be able to complete the fill to have poured in 33 fluid oz. total. Replace the radiator cap, being sure it is on correctly. Start the engine and ride the bike 2 or 3 miles to allow the cooling system to heat and pressurize itself so you can conduct leak checks. Then shut off the engine, and after the bike cools completely you should remove the radiator cap one last time and top off the coolant. Be sure to re-install the radiator cap correctly.

16) Reinstall the left side radiator fairing that was removed in step 1.

Installation is complete. If you have any comments or questions, contact me at watt-man@cox.net.

REPLACEMENT PARTS
(Recommended replacement frequency: every 5 years or 40,000 miles, whichever comes first)

Older models of the "Thermo-Bob Original" use a STANT automotive thermostat, but your Thermo-Bob 2 uses a thermostat that is available at www.watt-man.com.

If you have any questions, contact me at watt-man@cox.net.

IM TB2X V3