DAVIES, CRAIG PTY. LTD.
INNOVATION - QUALITY - RANGE

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Certified System
Quality
ISO 9001

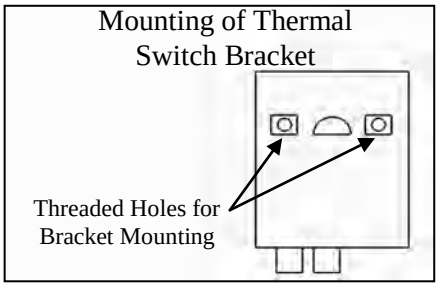
PART NO. 0400 – THERMAL SWITCH INSTALLATION INSTRUCTIONS

BEFORE BEGINNING INSTALLATION, READ THESE INSTRUCTIONS FULLY.

INSTALLATION OF THERMAL SWITCH

1. When the engine is cold, remove the top radiator hose at the radiator end.

2. Mount the Thermal Switch to the bracket using the two small screws provided. Do not remover the two large screws holding the thermal switch together. IF THEY ARE REMOVED THE WARRANTY WILL BECOME VOID.



3. Mount the bracket onto a panel near the radiator so that the stainless steel bulb will easily reach into the top radiator hose. Ensure that the adjustment shaft is accessible. Fix the bracket in place with the two large self-tapping screws provided.

4. Refer to the separate instruction sheet for installing the “All-In-One” Adaptor and fre fit the hose and clam

5. Top up the radiator with the appropriate coolant.

6. For wiring purposes, please refer to appropriate wiring diagram overleaf.

WARNING: Do not use the vehicle’s engine management system or wiring connected to the management system as an ignition source as it may cause failure of the management system and/or the electrical system. The ignition source must be a steady positive supply of 12-14VDC.

SETTING THE ADJUSTABLE THERMAL SWITCH

1. Install control know on the shaft.

2. Turn on the ignition and rotate the adjustment know anti-clockwise until it stops. The fan(s) will run if the engine temperature is above 40°C – if the fan(s) do not cut in, partially warm the engine to bring the engine temperature into the range of the Thermal Switch.

3. Check that the fan(s) rotate in the correct direction. If the fan(s) rotate in the wrong direction, swap the two wires connected to the motor leads (reversing the polarity).

4. Ensure that all electrical connections are permanent and properly insulated and that all wiring is fitted so as to avoid sharp edges and hot parts of the engine.

5. Turn the adjustment know fully clockwise.

6. Run the engine until the engine temperature is about halfway between “normal highway operating temperature” and “too hot”. This will indicate a coolant temperature between 5°C and 10°C higher than normal.

7. Immediately turn the adjustment shaft very slowly anti-clockwise, just until the fan(s) switch on, and no more.

8. Allow the fan(s) to run long enough to reduce the temperature by approximately the thickness of the temperature gauge needle before the Thermal Switch turns the fan(s) off. On a cool day it should run between 30 and 60 seconds at a time, on a hot day somewhat longer.

NOTE: If the fan(s) run for more than a few minutes at a time, turn the adjustment clockwise slightly to increase the cut-in temperature. The fan(s) must be set to cut-in above normal operating temperature otherwise they will run more frequently and for longer periods than necessary, and you may not achieve all the benefits of electric fan cooling.

NOTE: Remember that coolant under pressure in a radiator boils at about 118°C.

FAILURE TO COMPLY WITH ALL THE INSTRUCTIONS OR TAMPERING WITH THE PRODUCT MAY INVALIDATE THE MANUFACTURERS WARRANTY.

If in any doubt about any of these instructions, consult your retailer or DAVIES, CRAIG direct on +61 (3) 9369 1234.

WARRANTY: We hereby guarantee that for a period of 2 years from the date hereof we shall replace your Electronic Thermal Switch, if it is faulty, provided that such a fault is directly attributable to a defect in workmanship or materials used in the manufacture of the Electronic Thermal Switch. Labour and consequential costs are excluded.

Register Warranty at:
http://www.daviescraig.com.au/Warranty-content.aspx

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WATER TEMPERATURE SENSOR 'ALL-IN-ONE' ADAPTOR INSTALLATION INSTRUCTIONS

BEFORE BEGINNING INSTALLATION, READ THESE INSTRUCTIONS FULLY.

'ALL-IN-ONE' ADAPTOR APPLICATIONS

As with other Davies, Craig products the 'All-In-One' adaptor has universal applications.

Top Radiator Hose:

30 to 35 mm inside diameter – use adaptor without sleeves.

36 to 42 mm inside diameter – use sleeves included in the kit.

42+mm inside diameter – contact Davies, Craig.

Sensor Fittings:

To suit Davies, Craig Thermal Switch part #0401 or part #0404 with brass sensor OR EWP Controllers Part #8010 or part #8020 – use 1/4" (larger) olive fitting, supplied installed inside the compression fitting.

To suit Davies, Craig Thermal Switch part #0401 or part #0404 with stainless steel sensor – use 6 mm (smaller) olive, supplied loose in the kit.

Temperature Sensor units with 1/4" BSPT thread (not supplied in kit) will readily screw into the 'All-In-One' adaptor. For other sizes, the treaded hole can be sealed with a 1/4" BSPT plug, available from most plumbing outlets. Drill and tap a thread to suit the specific sender unit type.

'ALL-IN-ONE' ADAPTOR INSTALLATIONS

1. **Sensor fitting**

Remover locknut and olive of compression fitting body supplied in the kit. Fit the brass compression fitting body into the threaded black nylon adaptor and tighten.

Note: Apply PTFE sealant tape (not supplied) on to the threaded body before tighten to the adaptor

Select olive required to suit the sensor (ie 1/4inch or 6mm diameter) – see above sensor fittings information.

Slide sensor though locknut then through olive. Insert sensor through compression fitting so that approximately 15mm will be located in the coolant flow. Tighten locknut. It is important that whilst tightening locknut, the compression fitting body is held stationary to avoid over-tightening.

2. **Hose Fitting**

When the cooling system is cold, remove the top radiator hose and confirm that the inside diameter of your top radiator hose is between 30mm to 42mm prior to cutting hose.

If the parts provided (adaptor and/or sleeves) in the kit are not suitable for your top radiator hose diameter, please contact Davies, Craig before proceeding any further.

If the parts supplied (adaptor and/or sleeves) are suitable, cut your radiator hose to remove around 17mm in length at an appropriate location. Preferably select a location in a straight section on the hose.

Temporarily slide radiator hose clamps on each end of the hose. Fit both cut ends of the hose onto the adaptor (with or without the sleeves as appropriate). If fitting is tight, use silicon based grease or petroleum jelly to assist fitment of adaptor to hoses.

Install sensor to the compression fitting with the olive and firm it from the locknut.

Refit the top radiator hose, ensure not twisting of the hose, and tighten all hose clamps.

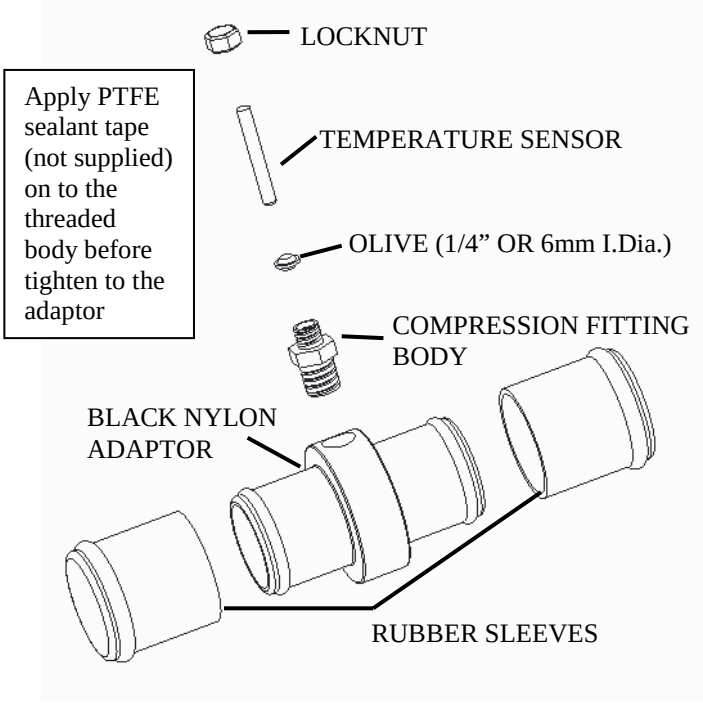
Start engine to confirm no leakage at the radiator hose, compression fitting, or sensor.

After running vehicle, again confirm no leakages and re-torque radiator hose clamps.

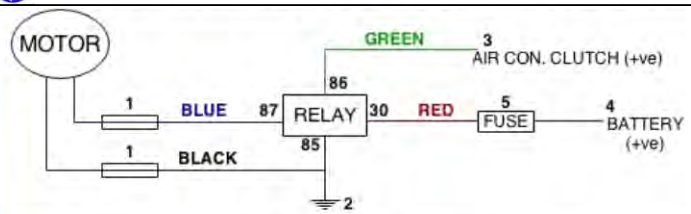
COMPLETION OF INSTALLATION

On completion of 'All-In-One' adaptor, installation of Thermal Sensor or EWP Controller should be completed in accordance with separately supplied fitting instructions.

ILLUSTRATION



DAVIES, CRAIG PTY. LTD. THERMATIC FAN WIRING DIAGRAMS

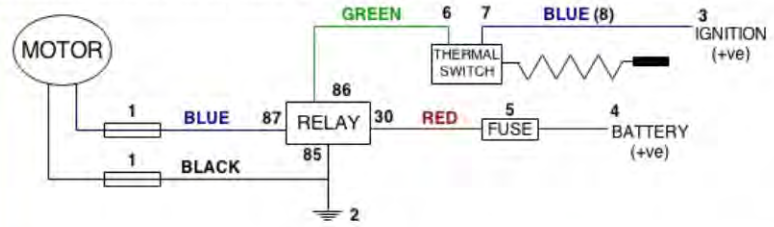


1 ONE FAN, CONDENSER ONLY

1 BLUE CONNECTOR (FROM FAN KIT)
2 SELF TAPPER (FROM FAN KIT)
3 SCOTCHLOCK (FROM FAN KIT)
4 RING TERMINAL (FROM FAN KIT)
5 FUSE HOLDER & FUSE (FROM FAN KIT LOOM)

PURCHASE: 1 FAN KIT

WARNING: ENSURE IGNITION SOURCE IS NOT CONNECTED TO THE ENGINE MANAGEMENT SYSTEM

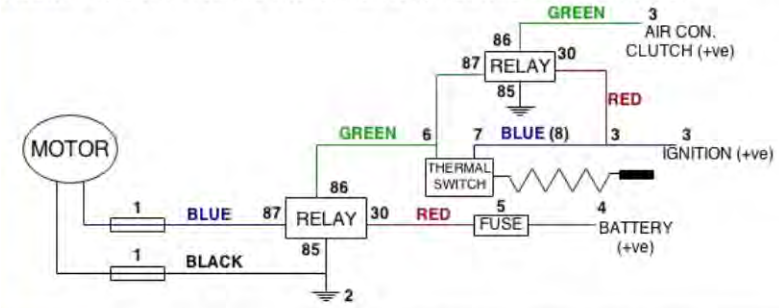


2 ONE FAN, THERMATIC ONLY

1 BLUE CONNECTOR (FROM FAN KIT)
2 SELF TAPPERN (FROM FAN KIT)
3 SCOTCHLOCK (FROM FAN KIT)
4 RING TERMINAL (FROM FAN KIT)
5 FUSE HOLDER & FUSE (FROM FAN KIT LOOM)
6 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
7 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
8 COILED BLUE WIRE (FROM THERMAL SWITCH KIT)

PURCHASE: 1 FAN KIT, 1 THERMAL SWITCH KIT P/NO: 0401

WARNING: ENSURE IGNITION SOURCE IS NOT CONNECTED TO THE ENGINE MANAGEMENT SYSTEM

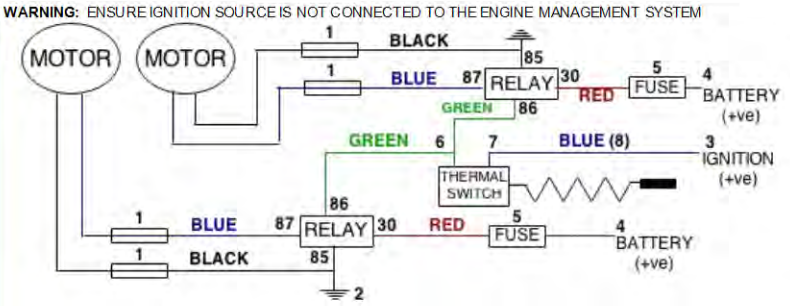


3 ONE FAN, CONDENSER AND / OR THERMATIC

1 BLUE CONNECTOR (FROM FAN KIT)
2 SELF TAPPER (FROM FAN & THERMAL SWITCH KIT)
3 SCOTCHLOCK (FROM FAN & THERMAL SWITCH KIT)
4 RING TERMINAL (FROM FAN KIT)
5 FUSE HOLDER & FUSE (FROM FAN KIT LOOM)
6 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
7 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
8 COILED BLUE WIRE (FROM THERMAL SWITCH KIT)

PURCHASE: 1 FAN KIT, 1 THERMAL SWITCH & RELAY KIT P/NO: 0404

WARNING: ENSURE IGNITION SOURCE IS NOT CONNECTED TO THE ENGINE MANAGEMENT SYSTEM

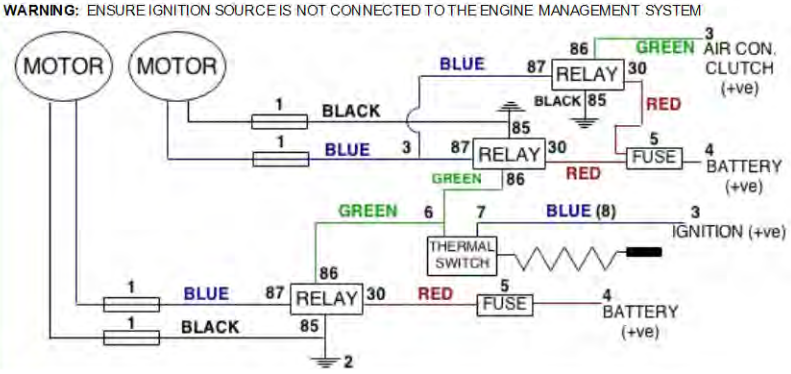


4 TWIN FANS, THERMATIC ONLY

1 BLUE CONNECTOR (FROM FAN KITS)
2 SELF TAPPER (FROM FAN KITS)
3 SCOTCHLOCK (FROM FAN KITS)
4 RING TERMINAL (FROM FAN KITS)
5 FUSE HOLDER & FUSE (FROM FAN KITS)
6 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
7 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
8 COILED BLUE WIRE (FROM THERMAL SWITCH KIT)

PURCHASE: 1 FAN KIT, 1 THERMAL SWITCH KIT P/NO: 0401

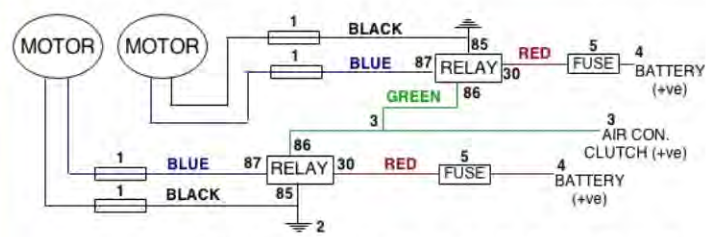
WARNING: ENSURE IGNITION SOURCE IS NOT CONNECTED TO THE ENGINE MANAGEMENT SYSTEM



5 TWIN FAN, THERMATIC SINGLE FAN CONDENSER

1 BLUE CONNECTOR (FROM FAN KITS)
2 SELF TAPPER (FROM FAN & THERMAL SWITCH KIT)
3 SCOTCHLOCK (FROM FAN KITS)
4 RING TERMINAL (FROM FAN KITS)
5 FUSE HOLDER & FUSE (FROM FAN KITS)
6 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
7 FEMALE SPADE BLUE (FROM THERMAL SWITCH KIT)
8 COILED BLUE WIRE (FROM THERMAL SWITCH KIT)

PURCHASE: 2 FAN KITS, 1 THERMAL SWITCH & RELAY KIT P/NO: 0404



6 TWIN FANS, CONDENSER ONLY

1 BLUE CONNECTOR (FROM FAN KIT)
2 SELF TAPPER (FROM FAN KITS)
3 SCOTCHLOCK (FROM FAN KITS)
4 RING TERMINAL (FROM FAN KITS)
5 FUSE HOLDER & FUSE (FROM FAN KITS)

PURCHASE: 2 FAN KITS

Note: Colour of motor leads depends on fan location (upstream/downstream)
If in doubt, refer to the rotation and polarity chart.
The two terminals on the thermal switch are equivalent. It does not matter which goes to the ignition and which goes to the relay. When the switch closes it connects the two terminals.