IMPORTANT
AVOID BATTERY CHARGERS
UNIT WILL BE DAMAGED IF
OPERATING VOLTAGE EXCEEDS
18 VOLTS.
WARRANTY WILL BE VOID
THERE WILL BE A CHARGE FOR
REPAIRS
INSTALLATION

1. DISCONNECT BATTERY+ CABLE.
   Mount FC-2 control box where you can reach to adjust the engine fan via the temperature knob on the FC-2 box. Under the dash is best.

2. Connect the wires from the FC-2 control to your previously wired electric water temperature gauge box as follows:
   
   - BLACK to “GND” or “G” post on gauge
   - RED to “I” post on gauge or ACC power
   - YELLOW to “S” post on gauge
   
   (NOTE: Some gauges use ½ symbol as ground)

3. Connect a wire from the black FC-2 relay NO contact to the positive (+) lead from your fan motor using the female spade lug supplied. [Use 12 gauge for fans unless yours is 12 inches in diameter or less. In that case, use 14 gauge.]

4. Attach a “GROUND” wire from your negative (-) fan motor to chassis ground. Use a heavy wire as per step #3.

5. Connect a heavy gauge wire (as per step #3) to the COM terminal of the FC-2 relay. Use a female spade lug supplied.

6. Connect the wire attached to COM terminal of the FC-2 relay (step 5) directly to your battery (+) post or at the starter solenoid post where battery attaches using our protective FL-3 Fuse Link. Cut your wire to length and strip off 3/8” of the insulation. Crimp the bare wire to the blue splice on FL-3 fuse link. Attach FL-3.

   Reconnect the battery (+) wire then test fan operation.

OPTIONAL wiring

EXT WIRE
The white EXT wire operates the fan relay whenever battery power (+12v) is applied. It can be connected to your A/C trinary switch or to a toggle switch to override the temperature setting of the FC-2 controller.

LAMP WIRE
The green LAMP wire supplies power to operate a external LED to show when the fan has power from the relay. It will not operate an incandescent bulb.

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Centech, Inc
FC-2 PG Fan Control Instructions
Rev 0
OPERATION and ADJUSTMENT

The FC-2 Fan Control Unit operates by turning your fan ON and OFF to regulate the engine temperature. It also can operate your fan from your air conditioner or any 12 volt battery power via the white EXT wire.

Engine temperature is adjusted by the knob on the front of the box. The LED located next to the knob indicates “power” and whether the fan relay is ON or OFF. The optional green LAMP wire can be attached to an LED on your dash to identify when the fan is running.

TEMPERATURE ADJUSTMENT

1. Start the engine and allow it to warm to a temperature where you would like the fan to operate. This temperature must exceed the thermostat temperature by a minimum of 8 degrees. Make certain that the LED on the front of the box is showing GREEN when the engine is cold.

2. Watch the LED on the front of the FC-2 while slowly turning the temperature adjustment knob from fully counter-clockwise to clockwise until the fan just comes on. The LED will turn from GREEN to RED at that time.

3. Watch the engine temperature drop to where the fan turns OFF (LED turns from RED to GREEN). There is approximately a 6 degree difference between where the fan turns ON to where it turns OFF. You will probably need to make a small correction to get the engine temperature exactly where you want it. Remember, your fan will not turn off unless the water temperature drops.

HINTS:

The FC-2 functions much like an oven but provides cooling instead of heat so it is necessary for you to have a cooling system which will cool the engine down to the thermostat temperature. Therefore, it is necessary to operate the fan at a temperature above the thermostat by several degrees. This will vary from gauge to gauge but is normally around 6 degrees between the fan coming ON and OFF.

The FC-2 will attach to your air conditioning Trinary switch. When your A/C wants the fan ON, it closes contacts on the Trinary switch to supply 12 volts to our white EXT wire. Whenever battery voltage is present on the EXT wire, the FC-2 relay will energize and operate your fan even if your gauges are OFF.

Since the FC-2 gathers temperature information from your gauge, a gauge failure or open wire between your gauge and the FC-2 will normally cause the fan to run continuously.
FAN DOES NOT RUN
TROUBLE SHOOTING
CHART 1

TURN ON GAUGES

FC2 LED ON?
No
Yes

Touch white EXT wire to battery +12v

IS LED RED?
No
Yes

BLACK WIRE FROM FC-2 NOT GROUNDED

RED LED COLOR?
GREEN

SEE CHART 2

ITEM A

REMOVE WIRE FROM "NO" TERMINAL OF FC-2 RELAY. USE GROUNDED TEST LAMP TO PROBE "NO" TERMINAL

POWER PRESENT?
Yes
No

CHECK WIRE CONNECTION BETWEEN RELAY "NO" AND FAN POSITIVE CONNECTION

REMOVE WIRE FROM "COM" ON RELAY. USE A GROUNDED TEST LAMP TO PROBE WIRE BETWEEN BATTERY (+) AND "COM" FOR POWER

POWER PRESENT?
Yes
No

CALL Centech TECH LINE FOR SERVICE (610) 754-0740

CORRECT OR REPLACE POWER WIRE FROM BATTERY AND "COM" TERMINAL ON RELAY. MAKE CERTAIN THAT FL-3 FUSELIVIK IS INTACT
FAN DOES NOT OPERATE
TROUBLE SHOOTING

CHART 2

GREEN LED INDICATES
POWER TO FC-2 CONTROL
BOX IS PRESENT BUT FAN
RELAY IS NOT "ON"

CONNECT GROUND POST TO
"S" POST OF WATER
TEMPERATURE GAUGE WITH
A SHORT PIECE OF WIRE

RED LED INDICATES FAN
RELAY IS "ON" AND FAN
SHOULD BE RUNNING
WITH POWER PROVIDED
FROM "NO" TERMINAL
ON RELAY

DOES LED TURN RED?

NO

YES

PROBE YELLOW "SNDR" WIRE AT FC-2 USING A TEST LAMP CONNECTED
TO BATTERY POWER TO TEST FOR "GROUND" FROM SENDER TO BOX.
USE SHARP PIN TO PUNCTURE WIRE NEXT TO FC-2 FOR TEST LAMP.

YELLOW WIRE GROUNDED NEAR BOX?

YES

NO

ALL Centech TECH
LINE FOR FURTHER
HELP
(610) 754-0720

CHECK CONNECTION OF
YELLOW WIRE AT
GAUGE "S" POST.
REPAIR IF NEEDED

GO TO CHART 1
ITEM A

TEST LAMP

Clip to
BATTERY (+)
TO TEST FOR "GROUND"
FAN NOT ADJUSTABLE
TROUBLE SHOOTING
CHART 3

TURN TEMPERATURE KNOB FULLY CLOCKWISE, APPLY POWER TO GAUGES

NO

IS LED RED?

YES

DOES FAN OPERATE?

SEE CHART 2

ROTATE KNOB FULLY COUNTERCLOCKWISE. WARM ENGINE TO A TEMPERATURE THAT YOU WANT TO MAINTAIN. SLOWLY TURN KNOB

YOUR COOLING SYSTEM IS NOT ADEQUATE FOR YOUR ENGINE.

NO

DOES ENGINE TEMPERATURE DECREASE?

YES

CALL TECH LINE AT (610) 754-0740 FOR ADVICE

YES

DID THE ENGINE TEMPERATURE DROP AT LEAST 6 DEGREES?

NO

YOUR COOLING SYSTEM IS NOT ADEQUATE.
CHANGE YOUR THERMOSTAT TO A LOWER TEMPERATURE UNIT OR ADJUST THE KNOB TO OPERATE THE FAN AT A HIGHER TEMPERATURE.