Flex-a-lite®

Part #330

Dual Electric Fan with Thermostatic Control and A/C Relay

Setting Pull or Push Configuration:

At the factory, the model 330 is assembled to pull air. To push air, remove the clips that hold the fan blades onto the motor shaft and turn the fan blade over. Reinstall the clips to the motor shafts. Important: See wiring diagram (next page), correct wiring must correspond with push or pull configuration.

Installation Instructions

Through Core Mounting Instructions (see "Diagram A")

Step 1: Position the electric fan against the radiator, and mark the holes for mounting. (Some applications may have A/C condensers and/or transmission coolers on the front of the radiator. Additional adjustments or modifications may be necessary for installation).

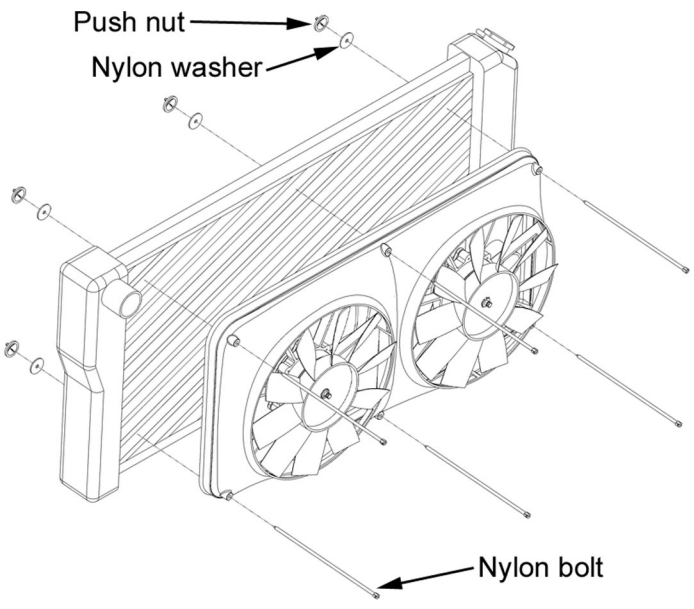
Step 2: Rotate fan blades to make sure they are free of obstructions.

Step 3: With a small Phillips screwdriver, pass through the marked holes, carefully spreading the fins to allow easy passage for the nylon bolts. Pass the bolts through the shroud holes then twist the bolts through the radiator.

Step 4: Slide the washer onto the nylon bolt and push on the push nuts until snug.

Step 5: Trim off any excess length on the nylon bolts with a pair of side cutters, leaving about ¼" beyond the push nut.

Diagram A



Wiring Instructions

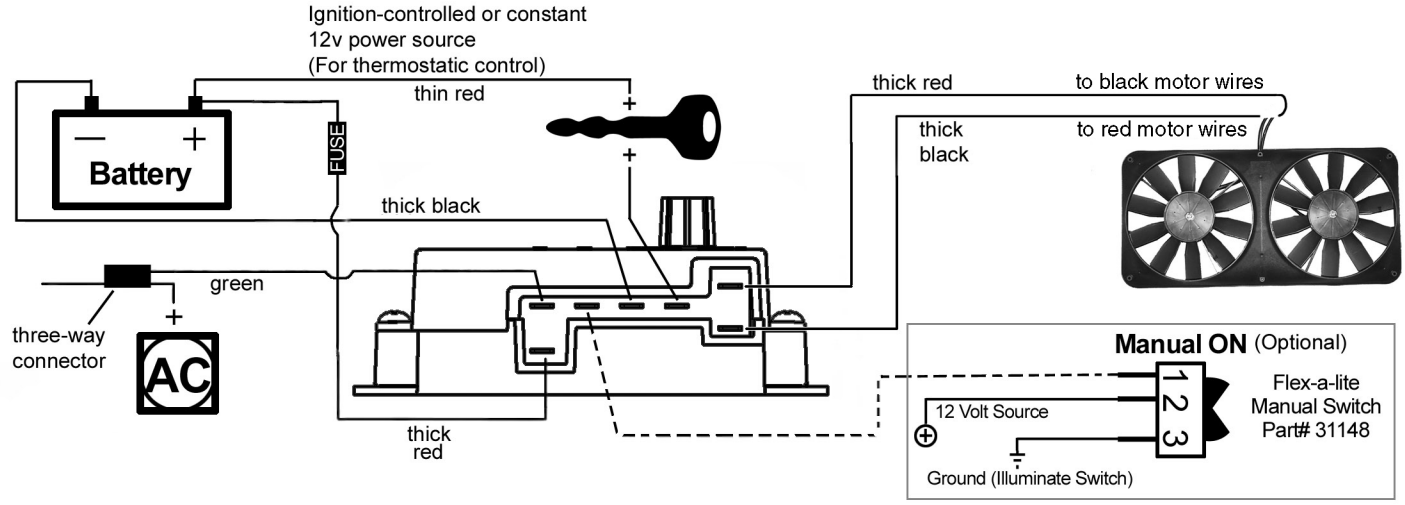
Step 1: Locate mounting point for control

Locate a mounting point for control near inlet side of radiator. The control needs to be placed within 18" of radiator inlet hose. You may want to mount next to radiator on fender well. Mount the control using the screws provided.

Step 2: Wire the fan motors (refer to wiring diagram, below)

Using the yellow butt connectors provided, attach a length of the thick (12 AWG) *red* wire to the *black* motor wires at fan. Attach a length of the thick (12 AWG) *black* wire to the *red* motor wires at the fan. Once the fan is in place, these will attach to the control module. If mounting the control somewhere in the engine compartment, leave enough wire to reach the control module.

Note: Wiring for puller configuration is shown. For pusher configuration, fan blades must be flipped over (see page 1) and wiring to motors reversed (large red to red motor wires, black to black motor wires).



Step 3: Connect the wires crimped in **Step 2** to the control module using supplied female connectors (Red wire to the "**M+**" terminal and black wire to the "**M-**" terminal).

Step 4: Disconnect the negative battery lead for safety while finishing the wiring. Use the thick red wire to run power directly from the battery positive (+) terminal to the "**B**" terminal on the control module. Connect the fuse holder in-line with this wire, as shown, but do not insert the fuse yet. Use the blue female, ring, and butt connectors provided.

Step 5: Use the thick black wire to run from the negative (-) battery terminal to the "**G**" terminal on the control module. Use the blue female connector and ring connector provided.

Step 6: Use the thin (18 AWG) red wire to connect the "**+**" terminal on the control module. Connect the other end to a positive power source. ***NOTE: Attaching this wire to an ignition-controlled source will shut off the fan when the engine is turned off. Attach this wire to an uninterrupted (always hot) power source to allow the fan to continue running after the engine is shut off.*** Use the blue female connector and fuse taps (included) if necessary.

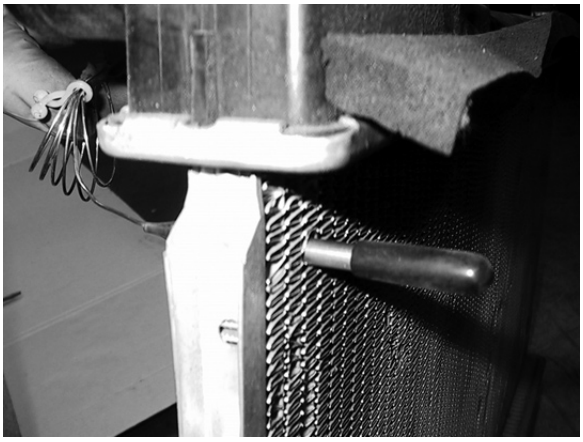
Step 7: *(Optional)* For air conditioning control (if desired) connect the "**C**" terminal on the control module to the *positive* wire that triggers the A/C compressor using the thin (18 AWG) green wire. Using a voltmeter, determine which wire coming from the compressor is the *positive* trigger wire. Use the 3-way connector (included) to tap into this wire and send a signal to the fan control module. The fan will cycle on and off with the A/C clutch when the A/C is turned on.

Step 8: *(Optional)* For manual switch operation, use Flex-a-lite p/n 31148. Connect the switch as shown on the wiring diagram (previous page). Connect the "**M**" terminal on the control module to the "**#1**" terminal on the switch. Connect the "**#2**" terminal on the switch to a positive 12v power source. Connect terminal "**#3**" on the switch to a good ground (for switch illumination). ***NOTE: To prevent thermostatic activation (if only manual switch operation is desired), omit the lead to the "+" terminal of the control box. "B", "G", "M+" and "M-" must remain connected. If not using a Flex-a-lite manual switch, do not connect a ground wire to the switch!***

Step 9: Use the zip ties provided to secure the wires and prevent them from interfering with fan blades, belts, and pulleys in the engine compartment. Reconnect the battery and insert the fuse provided.

Step 10: Locate the temperature sensor. Gently push probe through fins in radiator as close to the upper radiator hose as possible. The rubber insulator cap should be used when possible to insulate any of the probe coming through the front side of the radiator.

Install temp. probe near inlet hose...



then install the insulator cap.

Step 11: If you disconnected any hoses or drained coolant to install the fan, reconnect the hoses and refill the radiator. Press the control knob (included in wiring kit) onto the control box shaft. Turn the knob clockwise until it stops. Start the engine and allow it to idle. Using a hand held temperature sensor (positioned near the inlet hose) or the vehicle's temperature gauge, monitor the temperature. When the coolant temp. is slightly above normal (or desired temp.), turn the knob counter-clockwise just until the fan turns on. From now on, the fan should activate at this temperature setting. Adjust as necessary to maintain desired temperature.

Troubleshooting the electric fan

Problem	Possible Cause	How to find out	Solution
Fan does not turn on regardless of temperature	"+" terminal on control box not connected to proper source	Trace wire connected to the "+" terminal. Use a voltmeter or test light to check for voltage.	If there is no power to the "+" terminal, find an ignition-switched or constant 12v. power source and wire it to the "+" terminal on the control box.
Fan still does not turn on	Fuse to battery positive post blown. Wires to terminals "B" and "G" aren't properly hooked up.	Inspect the fuse in the holder. Check for power and ground through lines hooked to terminals "B" & "G".	Replace fuse. Hook up wires for terminals "B" & "G" to battery and ground respectively.
Fan still does not turn on	Motor wired improperly	Check to see that the blue motor wire runs to the "M+" terminal and the black motor wire runs to the "M-" terminal on the control box.	Connect wires to correct terminals.
Fan does not come on until the temperature is very hot	Temp. probe not located in optimum position Temperature set to high	Check location of temp. probe. Locate temperature adjusting knob on top cover of control box	Temp. probe should be located nearest the upper radiator hose. Turn knob counter-clockwise to set the control box to a lower temperature.
Fan was working properly but suddenly shut down	Usage of a chassis ground and/or alternate source for power other than positive terminal on battery	Trace wire from terminals "B" and "G" to find source.	Move to posts on the battery.
When engine is started, fan comes on even though engine is cold	Constant (always "hot") 12v source hooked to "C" terminal A/C or defrost turned on	Trace the wire connected to the "C" terminal and make sure it is spliced into the positive trigger wire from the A/C compressor clutch. Check if defrost activates a/c or if the a/c is on.	Splice into the positive trigger wire to the A/C clutch and connect to the "C" terminal on control box. Shut off a/c or leave on as this is normal operation.