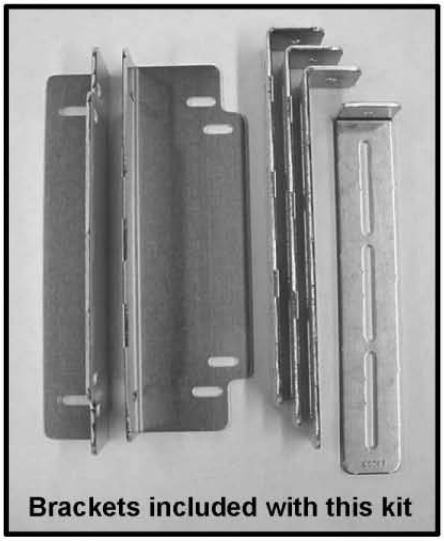
# Monster Fan #293 & #294

## ---------- INSTALLATION INSTRUCTIONS ----------

**The brackets provided with this kit are intended to mount the electric fan to the radiator. Due to the number of variances between vehicles, we cannot guarantee that all the brackets necessary to mount this fan assembly to your vehicle are included with this kit.**

### REMOVE EXISTING FAN & SHROUD ASSEMBLY:

1. Remove plastic radiator cover, and top half of fan shroud (some shrouds are a single piece).
2. Remove fan and clutch assembly. If the clutch is mounted to the pulley, replace the nuts or bolts that hold the pulley on after clutch removal. The clutch may be mounted by a large single nut. It may be possible to remove this clutch by fitting a large wrench to the nut. Place a rag over the fan to avoid personal injury. Hold the fan in place and pull the wrench in the direction of rotation, it may help to give the end of the wrench a sharp strike from a soft-blow hammer to break the nut free without the pulley slipping.
3. Remove the lower shroud.



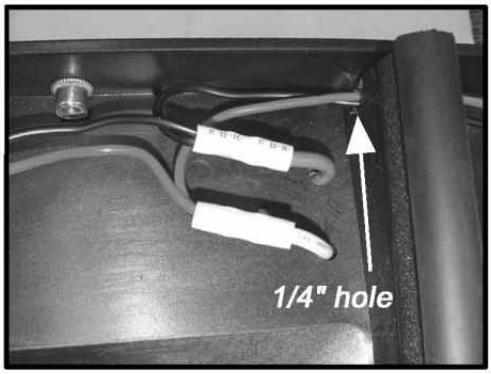
**Brackets included with this kit**

### WIRING INSTRUCTIONS; #294 with controls only.

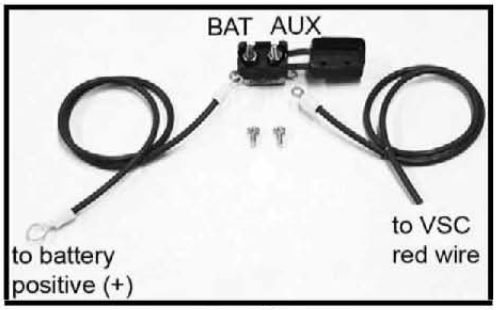
1. Look at the vehicle construction around the radiator for potential mounting points. Mounting points for the fan serve two purposes: to carry the weight of the fan and hold the fan against the radiator core.
2. We do not recommend mounting brackets to the radiator core so that the core carries the weight of the fan. In some applications this can cause damage to the radiator core. Cross braces, radiator trays, front facia, and radiator-mounting points are possible mounting points for these brackets.
3. Locate at least four points to mount the fan to the vehicle that will support the weight and secure the fan to the radiator.

### FOLLOW INSTRUCTIONS CAREFULLY TO AVOID PERMANENT DAMAGE TO THE VARIABLE SPEED CONTROL!

1. It is easiest to attach the Variable Speed Controller (VSC) directly to the top or front face of the fan shroud. Using the holes in the controller cover for a template, drill two 5/32" holes. Secure the VSC with the 2 screws provided.
2. Drill one 1/4" hole in the support rib on the back side of the shroud to pass the motor wires through ***(see Detail 1)***.
3. Place both red motor wires side by side and smoothly twist together. Completely insert pair of wires into one end of a yellow insulated butt connector. Crimp connector to secure. Repeat with black motor wires to another yellow insulated butt connector.
   **Red motor wire is (+) positive and the black is (-) negative.**
4. Feed the thick purple and yellow wires from the control unit through the holes you drilled in step 2.
   ***Insert yellow wire into the open end of butt connector containing the two red motor wires and crimp connector securely. Insert purple wire into the open end of butt connector containing the two black motor wires and crimp connector securely. (see Detail 1 )***




Detail 1




Detail 2

CONTINUE TO BACK SIDE TO COMPLETE THE INSTALLATION

5. Attach fan assembly to points located previously in "Mounting the Electric Fan" instructions. Make sure fan seal is contacting radiator surface and is compressed about 50%.

6. Find the thick red and black wire in the kit. Use the large yellow butt connectors to crimp the red wire to the short red wire on the VSC, and the black wire to the short black wire on the VSC (***see wiring diagrams below***).

7. Determine the length needed to connect the red and black power leads to the battery terminals and trim appropriately. Crimp a large yellow ring connector to the end of the black wire and connect to the negative (-) battery terminal, but ***do not*** connect the red wire yet.

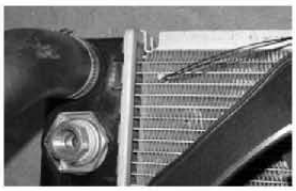
8. Find a convenient place to mount the circuit breaker between the VSC and the battery positive (+) terminal and use the two screws provided to mount it. Cut the red wire at the point where you mounted the breaker. Find the red boot and lay it on the breaker as shown in ***(see Detail 2)***.Connect small ring connectors to the ends of the wires and attach them to the circuit breaker. ***NOTE: BE SURE TO CONNECT THE END COMING FROM THE JUNCTION BOX (+) TO THE "BAT" TERMINAL ON THE BREAKER (COPPER COLORED).*** Now press the top of the boot over the breaker terminals to protect from arcing. Connect a large ring connector to the junction box end and connect it to the terminal as shown.

9. Locate fuse box. Find a circuit that is "hot " when the key is in the "ON" position. ***NOTE: DO NOT use the DRL or brake/taillight fuse!*** Attach the included fuse tap to fuse. Attach a female connector to the thin red wire included and connect to the fuse tap. Trim the wire so that it will reach the VSC. Attach pink female connector to end of wire and connect to **terminal #9** on VSC.

10. Locate wires going to A/C clutch. Determine which wire is ground and which is positive. Determine if the clutch is activated by a positive or negative signal. Attach supplied thin green wire by way of piggyback connector to the wire that activates the A/C clutch. If the wire is a positive signal, attach wire to terminal #8. If it's a negative signal, attach wire to terminal #7. ***Only one of the terminals will be used, not both***.

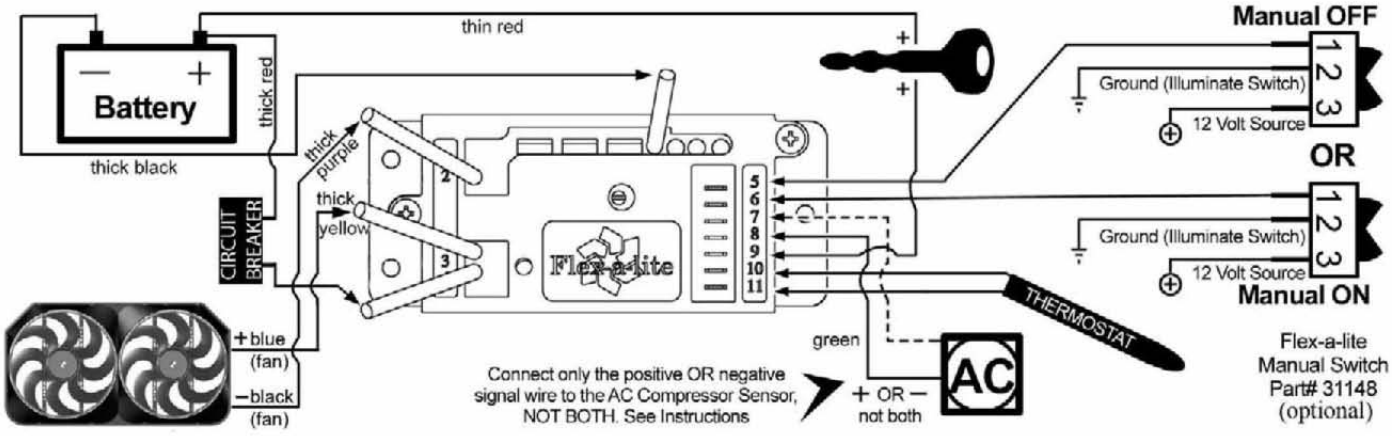
11. Locate the temperature probe. Gently push probe through fins in radiator as close to the upper radiator hose as possible, leaving about ¼" of the probe protruding out of the core. The rubber cap will not be used in this application. Determine length of wire needed to reach VSC. **IMPORTANT:** Strip the insulation back about 1" and fold the wire onto itself to effectively double the thickness of the wire before connecting the pink female connectors. Then attach these wires to terminals #10 & 11. Both wires need to be connected but it doesn't matter which wire goes to each terminal.

When crimping the temp. probe wires, strip back the insulation, then fold wire back on itself to double thickness.



Install the temp. probe near the inlet hose, leaving ¼" of the probe protruding from the core.

## WIRING DIAGRAM




CONTINUE TO NEXT PAGE FOR ADJUSTMENT PROCEDURE

**12.** If manual switches (Flex-a-lite #31148) have been purchased, attach them as following. To override engine temperature to turn fans off, connect the switch to terminal #5 on VSC to send a ground signal. To override engine temperature to turn fans on, connect the switch to terminal #6 on the VSC so that a ground signal is sent.

## Initial Start-up and Adjustment Procedure

**1.** Turn ignition on. After 5-6 seconds, LED #4 should light up. If not, check to make sure that you have 12 Volts at terminal #9 on VSC. The delay is to allow starter to start the vehicle without the fans drawing any power.

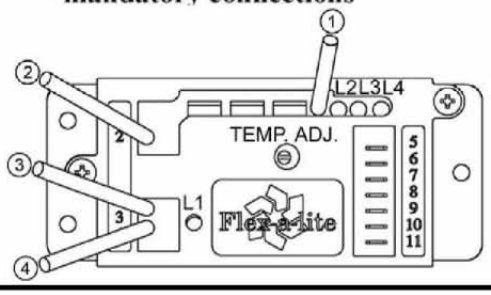
**2.** With your engine running, engage the A/C. Your fans should come on and cycle with the A/C clutch. LED's #1, 3 and 4 should be lit when fans are running. If they do not turn on, verify that the A/C clutch is engaged and make sure that you have the appropriate wire connected to correct terminal on the VSC. Shut off A/C and let engine continue to idle until you reach operating temperature.

**3.** Verify that operating temperature has been reached by feeling upper radiator hose and checking the temperature gauge. Hot coolant should be flowing through hose into the radiator. When the desired temperature is reached, adjust the screw on the VSC just until the fans come on, then back the other direction just until the fans shut off. Once the desired temperature is set, let engine continue to idle to make sure the fans will cycle to maintain desired temperature. When fans are running, LED's #1 and 4 should be lit.

**WIRING CONNECTIONS**

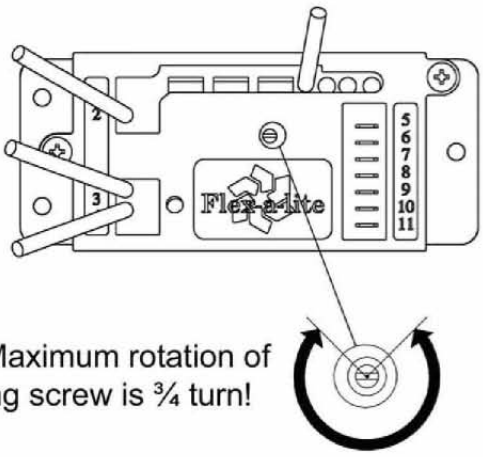
**#1 Battery Negative***
**#2 Negative to Fan***
**#3 Positive to Fan***
**#4 Battery Positive***
**#5 Negative Override Signal OFF**
**#6 Negative Override Signal ON**
**#7 A/C Compressor Negative Signal**
**#8 A/C Compressor Positive Signal**
**#9 Ignition Positive Signal***
**#10 Temp Sensor Wire***
**#11 Temp Sensor Wire***
**L1 Fan Output Indicator**
**L2 Override Condition Indicator**
**L3 A/C Signal Indicator**
**L4 Ignition Signal Indicator**

*** mandatory connections**




## The Variable Speed Control has new features!

**When you set the on temperature, the fans will come on at 60%; this reduces the load on your charging system. If the temperature rises, the fan speed will increase. If your set temperature is 195°F, then between 195° and 205° the fan speed will increase from 60% to 100%. So after a 10-degree rise from the set point, the fans will be running at 100%.**




*NOTE:* Maximum rotation of adjusting screw is ¾ turn!

CONTINUE TO BACK SIDE FOR #293 WIRING INSTRUCTIONS

# WIRING INSTRUCTIONS; #293 with out controls

1. Wire the fan motors to power source (control unit or switchand relay if desired). Connect the ***Blue*** wire from the fan motors to a 12v. positive (+) source. Connect the ***Black*** motor wires to a ground (-) source.

***NOTE: Failure to do this will result in incorrect operation and damage to the fan motors!***

2. **Connect an inline fuse holder;** Be sure to connect a fuse holder in-line with the positive (+) power wire to protect the fan motors and your vehicle's electrical system from damage.