



# INSTALLATION INSTRUCTIONS

## DUAL TORNADO FANS WITH BRACKET SET

### PART # 16824 & 16834

#### KIT CONTENTS

QTY.	DESCRIPTION	QTY.	DESCRIPTION
2	Tornado Electric Fan	2	Right Hand Bracket
2	Center Bracket	2	Left hand Bracket
2	Right Hand Bracket	8	M6-1.0 x 12mm Bolts
2	Left hand Bracket	8	M6 Square Nut Inserts
2	Center Bracket		

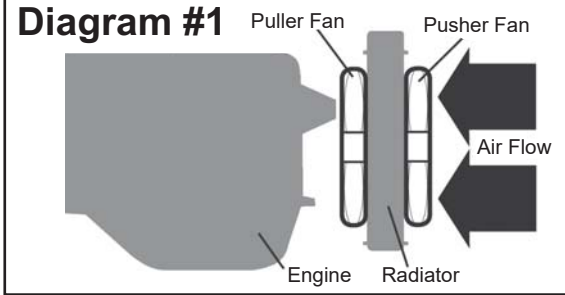
#### TOOLS NEEDED

- 7/16" Open End Wrench
- 7/16" Socket and Ratchet
- Wire Stripper
- Crimping Tool

#### IMPORTANT

This fan assembly is designed for both PULLER and PUSHER APPLICATIONS. (See Diagram #1)

**Diagram #1**



#### PRE-INSTALLATION

##### PRE-INSTALLATION

Important: Tornado Electric Fans come from the factory with a product label installed on one end of the fan shroud. Before installation check the product label to confirm airflow direction and positive electric fan lead color. Airflow direction will be shown with an arrow.

This fan is factory setup for PULLER applications. To change the airflow direction from the factory setting:

1. Remove the Nut or Clip that holds the electric fan blade onto the motor shaft.
2. Carefully remove the fan blade from the motor shaft.

Note: This is an interference fit and requires some effort.

3. Flip the fan blade upside down and reinstall onto the motor shaft. Make sure the roll pin on the motor shaft is aligned with the slot on the fan blade.

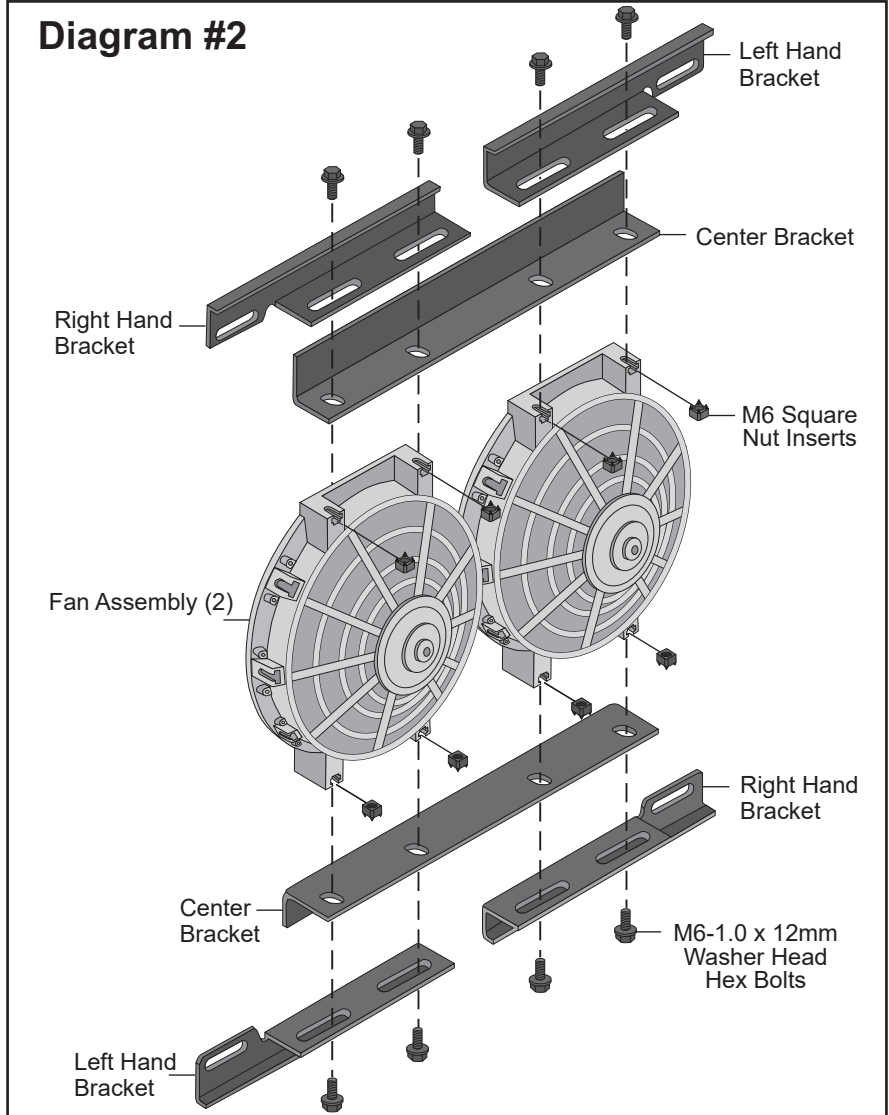
4. Reinstall nut or clip on motor shaft.

**Important:** For Puller applications use the referenced wire colors stated on the product Label. For Pusher applications the two wires **MUST** be reversed to change airflow direction.

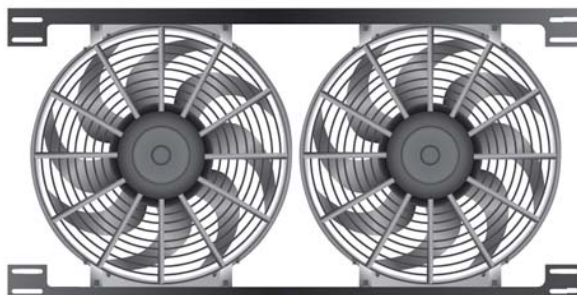
#### ASSEMBLY

1. Slide 2 (two) each M6 Square Nut Inserts into slotted openings into position in flat landings on each end of electric fan assemblies as shown in illustration.
2. Align long slotted holes in Right Hand Bracket and Left Hand Bracket with holes in Center Bracket as shown, then run 2 (two) each M6-1.0 x 12mm Hex Bolts (per fan) through brackets and into M6 square Nut Inserts on fans. Hand-tighten only.

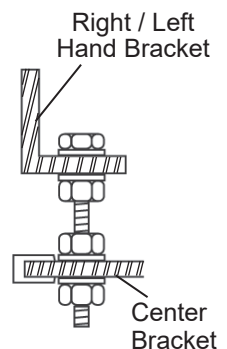
**Diagram #2**



**Diagram #3**



**Diagram #4**



- Repeat Step 2 on opposite side of fan(s) running M6 Bolts first through Right and Left Hand Brackets, Center brackets. Hand tighten all Bolts on each side.
- Place entire fan/bracket assembly on flat surface to "square up" assembly, then carefully tighten all four M6 Bolts snugly. DO NOT OVERTIGHTEN. Dual Fan Assembly is complete.

### **MOUNTING**

- Position the Electric Fan in the desired location. Taking the Angle Brackets supplied determine the best locations for a good rigid mount.
- In some applications where the radiator flange is not right up against the fan assembly, long bolts can be used to space Angle Brackets properly. Hardware not included. (See Diagram #4)

**Note:** In some cases the radiator flange may have to be drilled for proper alignment.

### **WIRING OPTIONS**

**IMPORTANT:** Due to the high amperage of each individual RAD fan on the Dual RAD Fan Assembly, each fan MUST be switched\* individually. Failure to use two different switching devices could cause damage to your vehicle and/or your new Electric Fan Assembly.

\* Switched - Utilizing an automotive rated thermostat or manual switch

There are a few options on how to activate (turn on) your new Electric Fan Assembly.

- Manual Switch - Install a switch in the passenger compartment and turn on Electric Fan as desired.
- Electric Fan Thermostat Switch
  - Adjustable Thermostat - Allows an adjustment range for you to determine optimal turn on temperature.
  - Pre Determined Temperature - Thermostat has a pre determined temp. from the factory that determines turn on temp.

We recommend using two thermostats therefore activating Fan #1 at an earlier temperature than Fan #2. This will help spread the major amp draw on your vehicles electrical system.

**Important:** When purchasing a thermostat always consider the maximum amp draw. Some thermostats are not designed to properly handle 25 amps.

**Note:** When installing the Electric Fan with a Thermostat always follow manufacturer's instructions for specific details. In some cases you will not need the supplied relay harness.

### **WIRING INSTALLATION USING RELAY(S) (NOT SUPPLIED)**

Repeat for both Fan #1 and Fan #2

**RED Wire** - Attach to the Positive side of Battery (+)

**BLACK Wire** - Attach to a good Chassis ground (-)

**ORANGE Wire** - Attach to the BLUE Positive Electric Fan Lead (Fan +)

**YELLOW Wire** - Attach to (+) 12V Switched Power (Thermostat or Manual Switch)

**GREEN Wire\*** - (OPTIONAL) Attach to the Positive feed from the A/C Clutch

\*This wire will allow you to turn on the Electric Fan every time the vehicles air conditioning is turned on. If you do not wish to use this option, please disregard the Green wire.

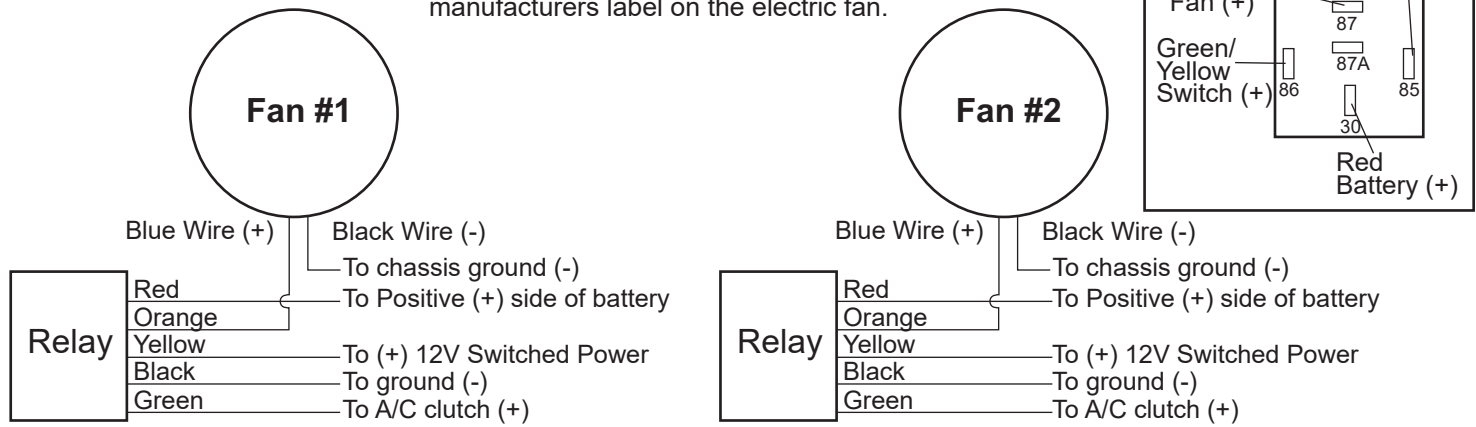
### **ELECTRIC FAN**

**BLUE Wire** - (+) Positive Fan lead Attach to the ORANGE wire coming from the relay harness

**BLACK Wire** - (-) Negative Fan Lead Attach to a good Chassis ground (See Diagram #5)

### **Diagram #5 Wiring Diagram Using Relays (Not Supplied)**

**NOTE:** To confirm color of positive fan leads see Red/Silver manufacturers label on the electric fan.



**Warning:** Installation of accessories should only be undertaken by those with mechanical knowledge and are familiar with working on vehicles. Always use eye protection (goggles, safety glasses or shield). Park the vehicle in a well lit area, on level ground and apply the parking brake. Only work on a cold vehicle that has been sitting overnight, failure to do so will result in severe burns and injury. Before starting the vehicle, make sure no tools or any other items are left under hood that could interfere with or be drawn into moving parts of the engine. Failure to follow instructions can lead to severe damage and personal injury.