



Dear valued Customer,

Thank you for purchasing the “*Ultimate Cooling Fan*”. Our Unique designs have provided the **Slimmest, Quietest, Highest air-flowing & Most efficient Fans & shrouds** on the market since 1993. We’ve had the honor of being the ultimate choice of top builders for the last 25 years.

Installation

Even if you have installed 100 fans before... Please, first, read the following instructions carefully to achieve best results and avoid any inconvenience.

- To ensure maximum efficiency of the fan shroud, you need to **trim off the excessive flanges** around the shroud. We highly recommend cutting the one close to the inlet tank of the radiator. (**Top; for down flow radiators**) Cutting other flanges, would be your choice for mounting and aesthetic purposes. Best way to cut, would be using a table saw with a reversed blade. A jig-saw, with a PVC rating blade, works as well.
- **Do not cut the whole flange off.** Always leave some of the flat flange [at least 1/4 of it] for the integrity of the shroud. Cutting all the flange may result in deformation of the shroud and contact of the blade with it which could result in severe damage and not covered by warranty.
- **Make sure the measurements are accurate before cutting** and remember to leave room for mounting hardware. Use the sheet metal screws provided to attach the fan to the metal lips on your radiator.
- On some radiators, the metal lip is recessed; in this case, you will need to make a metal shim to fill the gap. In the rare cases that the radiator does not have a lip; you will need to make an angled bracket to attach the fan to the frame or other fixed surface.
- The best position to install the shroud is to have the dome of the shroud begin as close as possible to the inlet tank and trimming the flat flange (Not all of it!) in this area would be necessary to avoid blocking the hottest part of the radiator with a flat surface.
- If there is any area at the **bottom of the core** (in down-flow radiators), **not covered** by the shroud (towards the outlet tank in cross-flows); **Leave it uncovered!** It will be more efficient down the road and technically if you cover 2/3 of the hotter side radiator, the other 1/3 must be already cool.
- **Avoid using soft materials like rubber or foam for isolation or filling up the gaps.** Use of foam or rubber would bend and warp the shroud and may cause severe damage and voids the warranty.
- Shroud must be installed totally flat with absolutely no stress or force on it after tightening the screws
- **Shroud must be secured permanently** [with screws or other permanent kind of fixture on **at least on 4 points** (2 on each side). Shroud can not be mounted by sliding into the radiator side lips or brackets. Such installations void the warranty
- The fan shroud combination is meant to be used as a puller. If, for any reason, the fan shroud is installed in front of the radiator, we shall not accept any warranty nor liability for possible consequences or damages.
- The only fans that can also be used as a pusher, are CCI-12, CCI-14 & CCI-17 Fan assemblies which have No shrouds and come in basket cages. Back of the fan motor should face the radiator when used as a pusher with no changes in wiring.

Wiring

All our **12, 14 & 17 Series** fans are equipped with **high current two speed motors**. Hence, there are three wires. Gray, Brown and Black. **Either of the gray and brown are low speed, separately.** To go on hi-

speed, both must be engaged. The type of controller or relay system you use, defines your fan as a single or two speed.

Perfect wiring has a great effect on best performance. **For best results, we highly recommend using our wiring kits as we hard wire everything** (crimp & solder in relay kits) and if you need to extend the wires use a higher gauge wire to do so. [10 gauge for the main wires]

- **Black – Ground – Needs to go directly to a negative battery cable**
- **Gray – Primary** - Goes to **Output 1 (Fan 1 or Low speed)** on two speed controllers (SS-2)
- **Brown – Secondary** - Goes to **Output 2 (Fan 2 or High speed)** on two speed controllers (SS-2)
- With a single speed controller, such as **SS-1 or FR-70**, you should **tie the gray and brown wires together to make the fan run on high-speed.**
- **(90% of electrical failures are due to bad grounds!) Core support or frame are not good grounds** for this application and will be compromised over time even if they work fine for a while.
- **If you are using a different control unit, other than ours**, you must use a **70A** relay and a **40A** circuit breaker for single speed configuration or at least two **40A** relays and two **30A** circuit breakers for two speed operation. Use of lower capacity relay or fuse may work for a while but result in immediate void of the warranty
- There is a **surge of 56A** on high-speed start up for less than one second. Then the current drops to **23A on normal run.** Therefore, **make sure you are using at least a 100A alternator.**
- Make sure your battery and alternator **do not generate more than 14.5V** or it will burn the motor quickly and no warranty can be claimed
- **CCI-1730 customers;** check the clearance of the fan blade against the radiator; if the fan is mounted flat against the radiator, you may need to use a spacer to keep the blade from rubbing the radiator.