SPAL DUAL BRUSHED HIGH CFM 16" ELECTRIC FAN & SHORUD **Z40124**

'06 - '10 GM TRUCK W/ 6.6L DURAMAX

MECHANICAL FAN/SHROUD REMOVAL:

1. Make sure the engine is cool, and then remove negative battery cable.
2. **DO NOT GROUND transmission control module (TCM)**. Remove the TMC cover that is attached to the factory shroud and place it out of the way. **Note:** You may need to remove the plastic belly pan on the underside of the chassis.
3. Remove the bolts and plastic rivets to remove the top half of the factory shroud.
4. The factory fan/clutch assembly can now be removed. A large wrench needs to be used on the nut and pull the wrench in the direction of rotation. **Note:** We suggest using a rag to hold the fan blade as you pull the wrench.
5. Remove the plastic belly pan and then remove the remainder of the factory shroud. The radiator mounts will need to be loosened to get the shroud out. It should come out the top, not the bottom.

SHROUD MOUNTING:

1. Place the aluminum shroud between the radiator and engine so that the fan pigtails are facing down.
2. Use a clamp or locking pliers to secure the shroud lip to the radiator lip that runs parallel along the top/bottom.
3. With the shroud secured by the clamps, you can use the self-tapping screws supplied to screw the shroud to the radiator. **SEE PHOTO 1**.

PHOTO 1: Shroud Mount

TEMPERATURE SWITCH:

1. The temperature switch can be screwed into the aluminum temperature splicer. Use a small amount of pipe thread compound to prevent leaks.
2. The upper radiator hose needs to be cut to install the temperature splicer.
3. Use the hose clamps provided to secure the splicer into the upper radiator hose. **SEE PHOTO 2**. **Note:** The temperature switch activates "ON" at 195°F and shuts off when the temperature drops to 175°F. **DO NOT** use Teflon pipe tape on the temperature switch threads as it will insulate the metal to metal contact required for a proper ground.
4. Run a wire from the splicer to ground. The temperature switch won't work if the sensor is not grounded.

PHOTO 2: Upper Radiator Hose

WIRING: (SEE PHOTO 3)

FUSE HOLDER: Connect to (+) power supply within 12" of the battery.

BLUE WIRE: Connect to the fuse holder. **Note:** Use minimum of 12 gauge wire from fuse holder.

GREEN WIRE: Connect to the chassis ground by crimping a 12 gauge lead to the yellow butt connector. Seal the shrink tube case with hot air.

BLACK WIRE: IMPORTANT: Connect the black leads from each relay so there are effectively two black leads (set). Connect one black wire to ignition switch (+) 12 volt DC source. Connect the other one to your override or temperature switch. **Note:** The two leads are interchangeable and it does not matter which black lead you choose for the 12 volt (+).

AIR CONDITIONING RELAY: (SEE PHOTO 4)

KEEP ALL WIRING AWAY FROM MOVING PARTS AND HOT ENGINE COMPONENTS!

INSTALLATION INSTRUCTIONS

1. Locate A/C Relay on grounded metal surface close to the A/C Compressor.
2. Drill 1/8" pilot hole to match mounting flange on A/C Relay.
3. Scrape paint off area around hole for the ring terminal to assure a good ground. Fasten the wires with the ring terminal and A/C Relay using sheet metal screw and flat washer make sure the ring terminal is grounded to the bare metal.
4. Next locate the wire(s) running to the front of the A/C Compressor Clutch. Select the wire that carries current that engages the clutch when the A/C is turned on. Cut that wire close to the A/C Relay location, strip the loose ends and crimp one of the 3-way connectors included.
5. Run a New wire from the 3-way connector to the terminal marked 86 on the A/C Relay (You will find the marking on the blade side of the Relay with it unplugged). Run a wire from the terminal marked 87 on the A/C Relay to either the ground wire on the fan motor or the temperature switch. Wiring contacts should point downward.
6. Secure all loose wires with cable ties.

NOTE: The temperature switch gets wired by tapping into the wire between the A/C relay and the fan motor using 3-way connectors. If installing an auxiliary switch it should also get wired to this same spot.

Fan Terminal Harness Diagram:

Dual Fan Diagram:

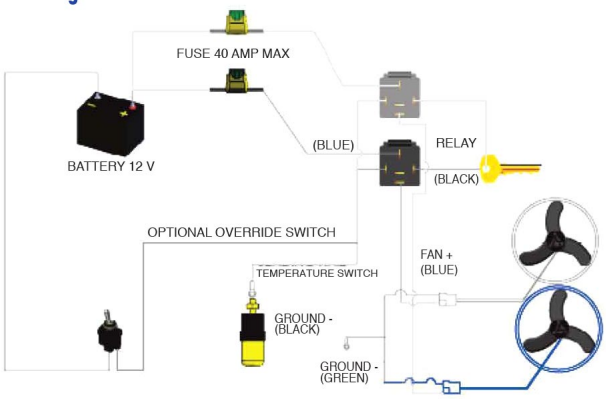

PHOTO 3: Wiring

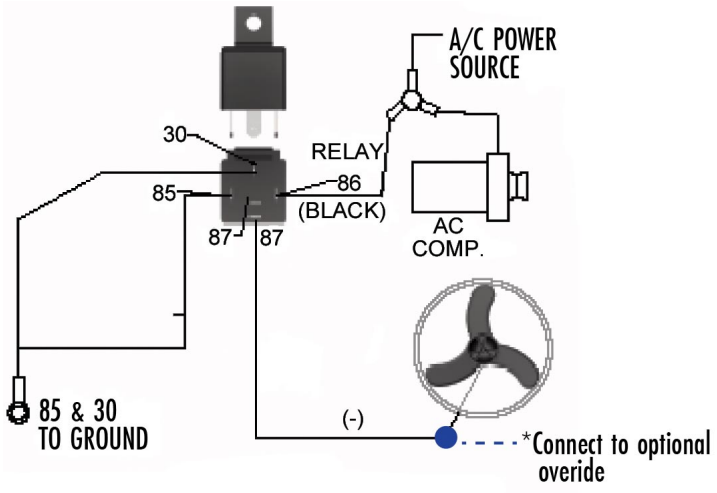

PHOTO 4: Relay

TRANSMISSION MODULE RELOCATION:

1. The aluminum brackets for the TCM needs to be mounted on the top of the fuse box lid and side using the rivets provided.

Note: It is crucial that the TCM is mounted so the truck hood is not touching it when shut. Beware of this when mounting the TCM. **SEE PHOTO 5**

PHOTO 5: Mounting TCM

FINISHING TOUCHES:

1. Zip ties are provided in the kit to help tidy up the engine bay of wires.
2. Be sure to check coolant level after install as some coolant was probably lost in the install of the temperature splicer.
3. Double check clearance of all the wires from moving parts i.e.; pulleys, belts, steering components.
4. Reinstall the plastic belly pan on the underside of the chassis.
5. Reconnect the negative battery cable.

INITIAL START:

1. Start the truck with the A/C off and let it idle. The fans should be off at this time.
2. Turn on the A/C. The fans will initially spin for a split second and then stop. This is normal, the computer is finding home on the fan. After finding home, the fans will begin to speed up if the A/C coil is active. Once the coil is deactivated, the fans will begin slowing to a stop.
3. Turn off the A/C and bring the truck up to temperature . Under cool temperature conditions, idling may not bring the engine temperature up enough to turn the fans on. The fans will kick on at 175°F to low duty cycle. **Note:** The factory gauge is NOT accurate. To get an accurate reading of engine temperature you will need a tuner capable of reading engine temperature or a diagnostic computer.
4. The fans are variable speed and will begin to speed up as the temperature reaches higher levels.
5. When fans are on the lower duty cycle of their capabilities the A/C being turned on will ramp them up to full duty cycle. This is normal.
6. After the first couple trips of normal driving conditions, be sure to double check the shroud screws for tightness. As well as check for wiring that may have moved and needs to be secured.