

Condenser (Radiator) Fan activation + adding sensor to older units

On older units, the Condenser (Radiator) Electric Fan Relay and the Compressor clutch are both activated at the same time by the Binary Pressure Switch on the Receiver/Dryer. The Fan cycles with the Compressor clutch.

The current RigMasters activate this Fan whenever AC is selected, it runs whether the Compressor is cycling or not. This is achieved by moving the Fan Relay's activation wire from the Binary Switch on the Receiver/Dryer to the beginning of the circuit where the AC Clutch Control wire leaves the Power Module (J1 Connector, 2nd Wire down on right side of plug - Green Wire).

To activate your RigMaster Condenser (Radiator) Electric Fan with engine temperature and whenever AC is selected, install: Fan Temp Sensor - RP7-214, Relay RP7-084 and sub harness RP13-079.

Installation of Fan Temp Sensor - RP7-214, Relay RP7-083 (and sub harness RP13-079).

To change this to a system where a Temperature Sensor cycles the Electric Fan before overheating, install the parts that are underlined above.

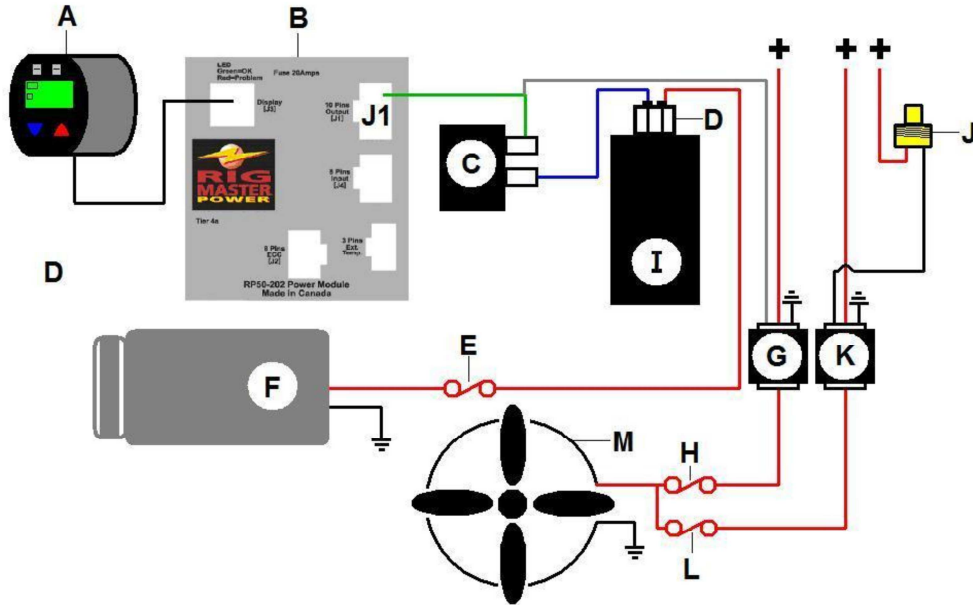
There is a threaded hole in the water pump that is blocked where the sensor can be installed. The Sensor will provide a GROUND for the FAN RELAY when it activates.

NOTE:

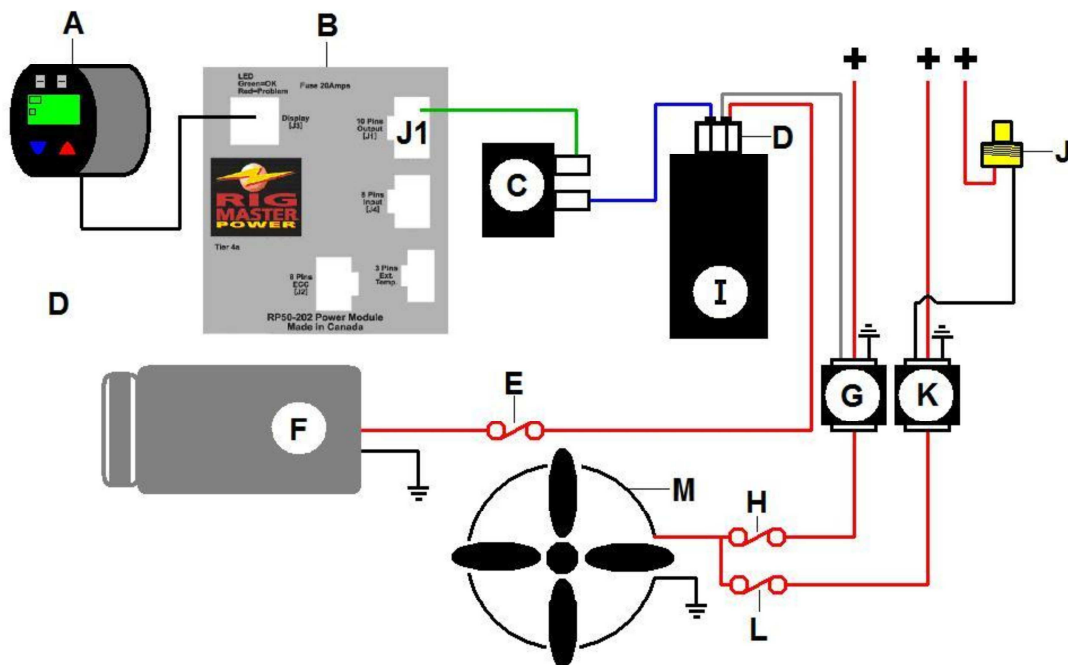
- The RigMaster APU relies on the APU cover being installed to maintain its temperature by moving air through the engine cabinet from one side to the other. Operating the RigMaster with the cover removed will cause overheating.
- The "Engine Overheat Temp sensor" (single pin sensor – "clip on" terminal) will remain in the system to protect the engine against overheating. When this sensor activates, the RigMaster is turned OFF and "Error Code 5" will be displayed.

The schematics below detail the circuit that supplies the air conditioning compressor with power. The electric condenser/radiator fan is integrated into this circuit.

Air Conditioning Electrical Circuit Diagram - MTS Models trigger Condenser (Radiator) electric fan relay using the GREEN wire (J1, 2nd wire down on the right side of connector) leaving the Power Module before the thermostatic switch.



Air Conditioning Electrical Circuit Diagram - RMP/RMC Models – activate their Condenser (Radiator) electric fan relay using the Binary Pressure Switch on the receiver drier that also activates the compressor clutch at the same time.



Item	Component	Operation
A	Cabin Controller	Houses the climate control thermostat and sends signals to the power module to control the ON/OFF cycle of the compressor
B	Power Module	Receives inputs from the cabin controller and outputs voltage through the J1 connection point (green wire, pin number 2) to the evaporator thermostatic switch to power the AC system
C	Evaporator Thermostatic Switch	Monitors the temperature of the evaporator and regulates power to the binary pressure switch to prevent the evaporator core from freezing.
D	Binary Pressure Switch	Allows voltage to pass to the compressor and AC controlled fan relay when the pressure in the system is within an acceptable range (between 28 and 450 PSI)
E	7.5 Amp Compressor Fuse	Fuses the AC compressor
F	Compressor	Receives its power from the binary switch through 7.5 amp in-line fuse
G	AC Controlled Fan Relay	MTS units activate this Fan relay when AC is selected. RMP/RMC units activate this Fan relay (along with the compressor clutch) using the binary switch.
H	35 Amp Electric Fan Fuse	Fuses the electric fan
I	Receiver/Dryer	Removes moisture from the refrigerant
Engine Temperature Switch Circuit		
J	Coolant Temperature Switch RP7-214	Activates Condenser/Rad electric Fan relay when engine temperature reaches 180F. Standard equipment on MTS models, can be added to RMP models
K	Engine Temperature Controlled Fan Relay	Receives its signal from the coolant temperature switch ensuring that the electric fan operates when engine temperature rises above the switches threshold. Standard equipment on MTS models, can be added to RMP/RMC units along with RP7-214 sensor.
L	35 Amp Electric Fan Fuse	Fuses the electric fan
M	Electric Fan	Cools the Condenser/Radiator
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