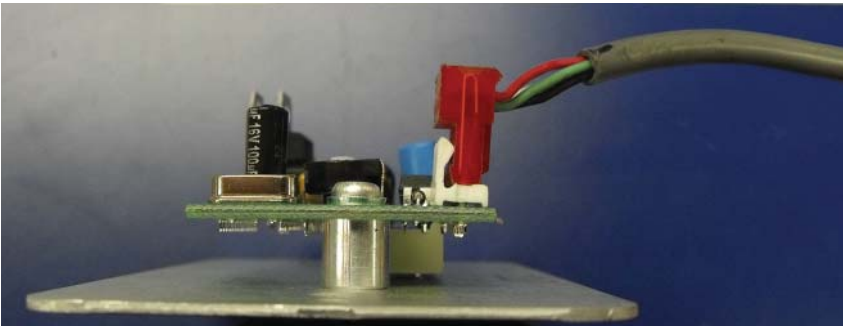


## ECM-VCU TROUBLESHOOTING GUIDE

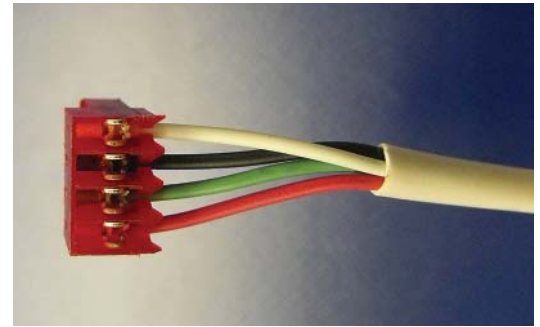
CARNES COMPANY 448 S. Main St., P. O. Box 930040, Verona, WI 53593-0040 Phone: (608)845-6411 Fax: (608)845-6504 www.carnes.com

Symptom:	Possible Reasons:	Solutions:
Motor will not run	High voltage is not being supplied to the vent.	Supply high voltage to the vent.
	Disconnect may be "OFF".	Switch the disconnect to "ON".
	Low voltage control connection to the VCU may be installed backwards.	Verify the wires leaving the connector face away from the control board per <b>Illustration A</b> .
	Low voltage connector to the VCU may be wired incorrectly.	Verify the wire positions on the low voltage control connector matches <b>Illustration B</b> .
	Low voltage connector to the motor may be loose or wired incorrectly.	Verify the low voltage control connector is firmly connected to the motor and the wire positions match that of <b>Illustration C</b> for 1/3, 1/2, 3/4, and 1HP motors and <b>Illustration D</b> for 1/10th HP motors.
	High voltage connector to the motor may be loose or wired incorrectly.	Verify the high voltage connector is firmly connected to the motor and the wire positions match that of <b>Illustration E</b> for 1/3, 1/2, 3/4, and 1HP motors and <b>Illustration F</b> for 1/10th HP motors.
	Red jumper wire may be installed incorrectly.	Verify the red jumper wire is intact for 120-Volt motors ( <b>Illustration E</b> ) or that it is clipped and isolated for 240-Volt motors ( <b>Illustration G</b> ).
VCU displays "OFF"	"ADJUST" potentiometer is fully counter-clockwise.	Use a small, slotted screwdriver to turn the "ADJUST" potentiometer clockwise until the Flow index number is greater than zero.
VCU display is blank	VCU is not receiving 24VAC from transformer.	Verify the BLUE and YELLOW wires from the transformer have 24VAC across them and that they are connected to the "24Vac" and "Neu" terminals. NOTE: they are AC power, so polarity is not an issue.
	Transformer is not receiving high voltage or is connected improperly.	Verify the BLACK and WHITE wires to the transformer are connected when 120VAC is supplied or that the BLACK and ORANGE wires are connected when 240VAC is supplied.
	Transformer is damaged.	Replace transformer.
VCU does not display RPM or RPM is displayed as zero while motor is running.	1/10 HP motor does not support RPM feedback	RPM display will not function with this motor.
	Wires may be loose or improperly terminated.	Verify the wires are terminated properly.

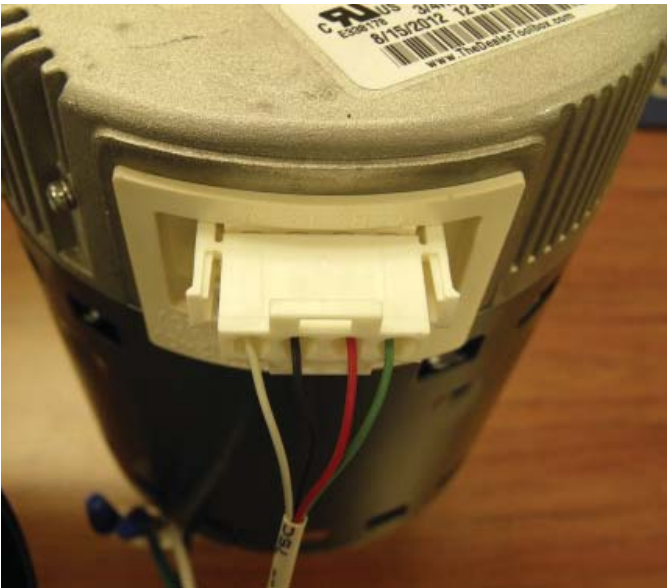
# ILLUSTRATIONS



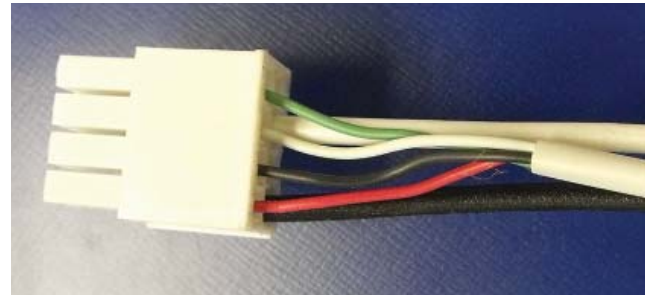
**Illustration A** - Low Voltage Control Connection



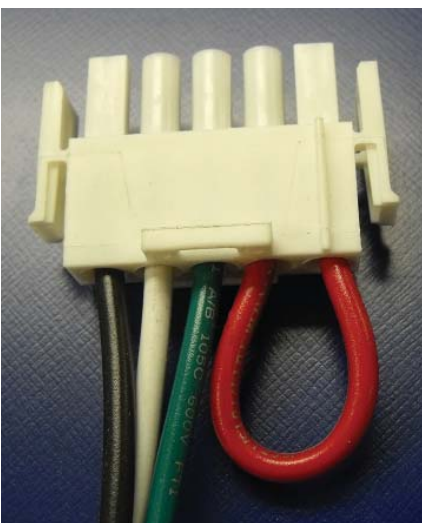
**Illustration B** - Low Voltage Control Terminations



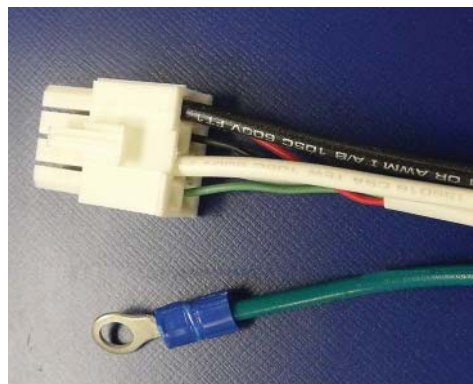
**Illustration C** - Low Voltage Connection to 1/3, 1/2, 3/4 and 1 HP Motors



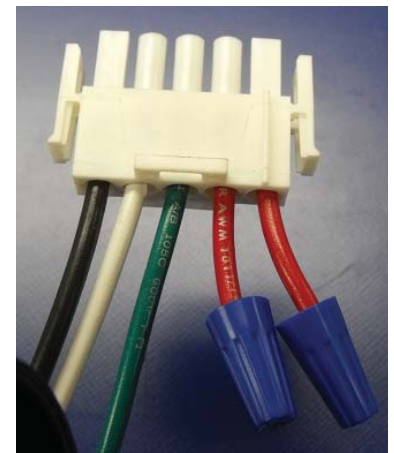
**Illustration D** - Low Voltage Connection to 1/10 HP Motors



**Illustration E** - High Voltage Connector for 1/3, 1/2, 3/4 and 1 HP Motors - With Red Jumper Intact for 120-Volt Use



**Illustration F** - High Voltage Connections for 1/10th HP Motors



**Illustration G** - High Voltage Connector for 1/3, 1/2, 3/4 and 1 HP Motors - With Red Jumper Clipped and Isolated for 240-Volt Use