White-Rodgers Ignition Control Module Replacement Kit

for 120vac Super-Saver Heaters

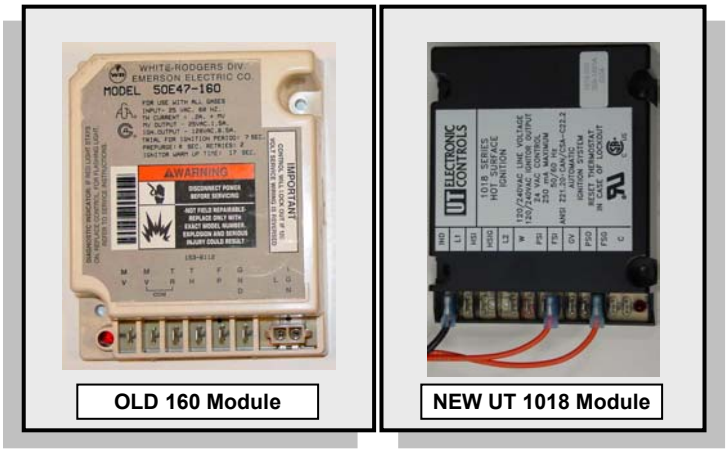


FIGURE 1

Ignition Control Modules

Replacement Kit Number

Part Number	Model
6450-5250	White Rodgers Ignition Control Module Replacement Kit

Tools Required

Philips Screwdriver	Nut-Driver Set
Flat-Head Screwdriver	Needle Nose Pliers
Sta-Con Crimpers	Wire Strippers

NOTE

Do Not Use These Wiring Instructions To Replace Any Other Ignition Control Module Except White Rodgers Model Number 50E47-160.

DESCRIPTION

This kit is provided to replace damaged ignition control modules on Hired-Hand's early model Super-Saver heaters. The kit includes a replacement Ignition Control Module and additional wire harnesses necessary to replace a White Rodgers 50E47-160 model control module with a UT 1018-500 (HHI Part Number 3591-1851) replacement module.

The White-Rodgers Ignition Control Module Replacement Kit is supplied with a UT 1018 module, three precrimped wire Assemblies and crimp terminals.

When the module kit is received, check for shipping damage or missing parts.

The NEW 1018 module does not have the PCB mounted 2-pin male connector as shown on the OLD 160 module. Once the 160 module is removed, the female 2-pin connector will be cut off and replaced with female crimp terminals.

⚠ DANGER

HAZARDOUS VOLTAGES

Failure To Follow These Instructions May Result in Injury Or Death!

- Only A Certified Electrician Should Replace the Ignition Control Module.
- Do Not Clean Or Perform Maintenance Without First Unplugging The Power Cord And Turning OFF The Gas Supply.
- Ensure All Cables And Wiring Are Placed And Secured Before Turning Power And Gas ON.
- Do Not Spray Water Or Other Liquids Directly On Or Near The Control Module And The Igniter Assembly.

CLEAN THE HEATER

Prior to control unit replacement and wire connection, the heater should be cleaned using compressed air.

⚠ WARNING

HAZARDOUS VOLTAGES

Failure To Follow These Instructions May Result in Injury Or Death!

- The Electrical Connections And Grounding Of The Appliance Must Be In Compliance With The National Electrical Code ANSI/NFPA 70. Only A Certified Electrician Should Perform Electrical Wiring Or Modifications.
- Do Not Open Doors, Move The Heater, Or Handle Heater While The Heater Is Hot, Burning, Or Connected To Power Supply.
- Do Not Clean Or Perform Maintenance Without First Unplugging The Power Cord And Turning OFF The Gas Supply.
- Ensure The Power And Gas Remain OFF Until All Cleaning, Replacement, And Wiring Are Completed And Verified To Be Safe And Correctly Installed.

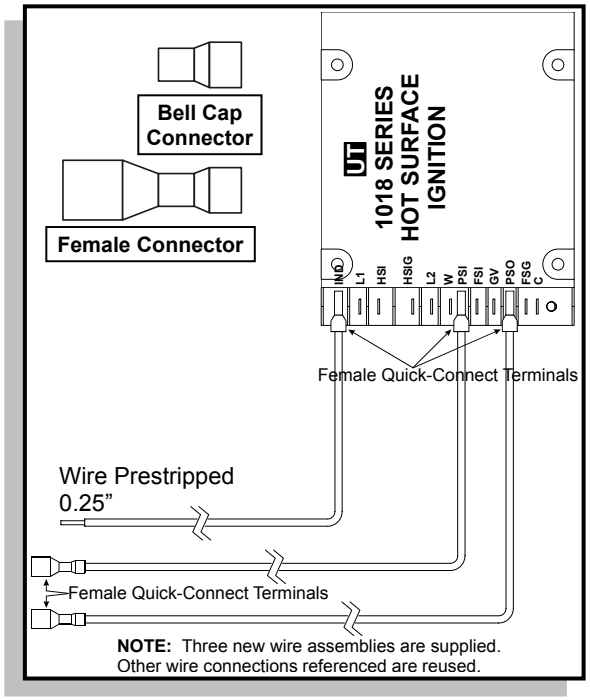


FIGURE 2

INSTALLATION

1. Unplug power and turn off the gas supply to the heater.
2. Lay the new UT 1018 control unit inside the heater near the old control unit and route the three supplied new wires from the module side of the heater thru the back-side to the fan motor side of the heater.

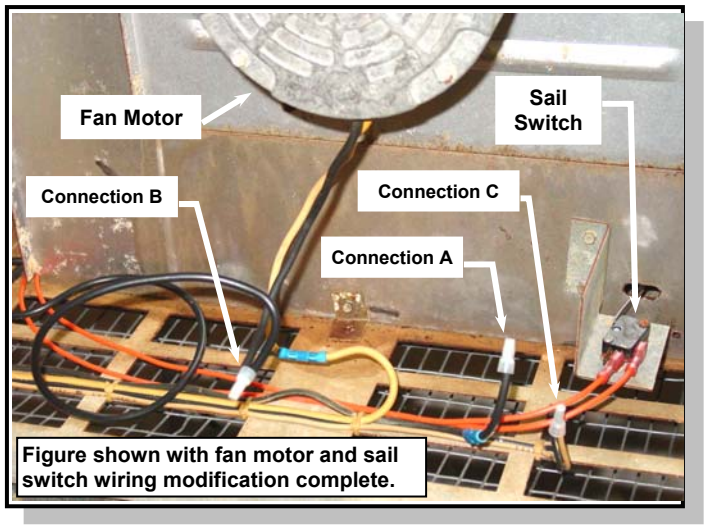


FIGURE 3

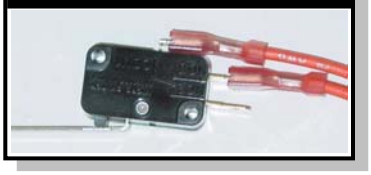
3. Cut the Motor’s Black wire approx. 6” from the Motor and securely crimp a bell-cap connector over the end of the loose wire. **Refer to Connection A.**

CAUTION

Ensure the stripped portion of the wires are completely covered with the crimp connectors and the connectors are securely crimped.

4. Strip the Motor’s Black wire insulation back ¼” and twist together to the NEW controller’s “IND” Black wire. Crimp a bell-cap connector securely over the two wires. **Refer to Connection B.**
5. Notice and record which Sail Switch connections are used then unplug the two wires from the Sail Switch. Cut the connectors off of both wires, strip both wires back ¼”, twist the two wires together, and securely crimp a bell-cap connector over the two wires. **Refer to Connection C.**

Sail Switch Wire Connections



6. Plug the NEW controller’s “PSI” and “PSO” orange wires onto the Sail Switch.

7. Notice and record which wire is “L” and which wire is “IGN” on the OLD controller’s 2-pin quick-connector. Unplug the 2-pin connector from the OLD controller, cut off the 2-pin connector, strip both wires back ¼”, and securely crimp a female connector onto each of the two wires. NOTE: Do Not Connect These Two Wires Together.
8. Plug the “L” wire connector onto the NEW controller’s “L1” connection slot.
9. Plug the “IGN” wire connector onto the NEW controller’s “HSI” connection slot.
10. Unplug the “MV-COM” and the “TR-COM” from the OLD controller. Cut the connectors off of both wires, strip both wires back ¼”, twist the two wires together, and securely crimp a female connector over the two wires. Plug the combined wires onto the NEW controller’s “FSG” connection slot.

Wiring Chart

OLD 160 Control	NEW 1018 Control
MV (Left)	GV
MV-COM (Right)	FSG
TR-COM	
TH	W
FP	FSI
GND	C (Chassis GND)
L	L1
IGN	HSI
- -	IND (To Motor)
- -	PSI (To Sail Switch)
- -	PSO (To Sail Switch)
- -	HSIG (NOT USED)
- -	L2 (NOT USED)

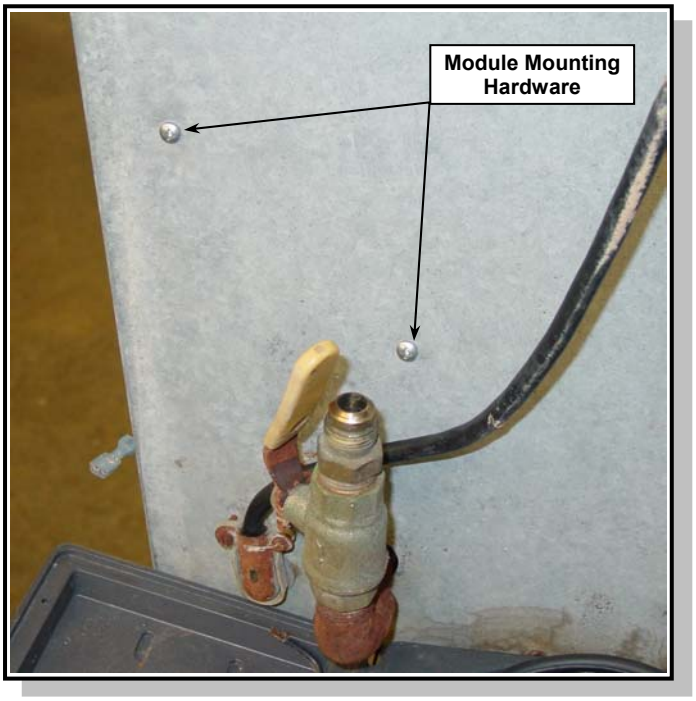
TABLE A

11. Using **Table A** as a guide, unplug one wire connector at a time from the OLD controller and plug into the NEW controller until all connections are complete.

NOTE: The NEW controller’s “L2” and “HSIG” connection slots are NOT USED.

12. Remove the OLD Module from the heater chassis by loosening the module mounting hardware. Secure the NEW Module in the same position starting with the upper left screw. **Refer to Figure 4.**
13. When installing the upper left screw, ensure the required wire ring terminal is installed. **Refer to Figure 5.**

NOTE: Extra mounting holes may be drilled as required.



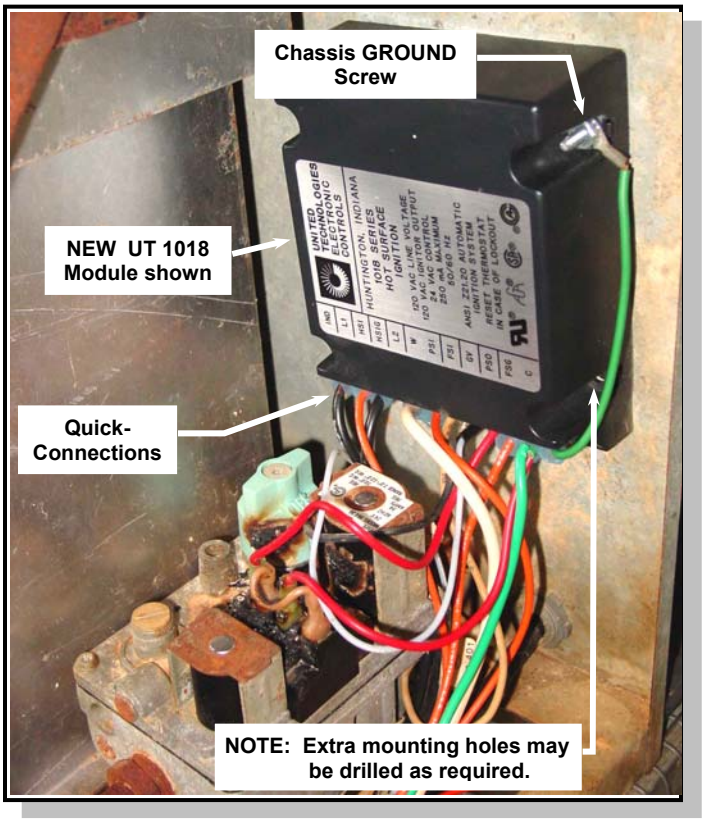


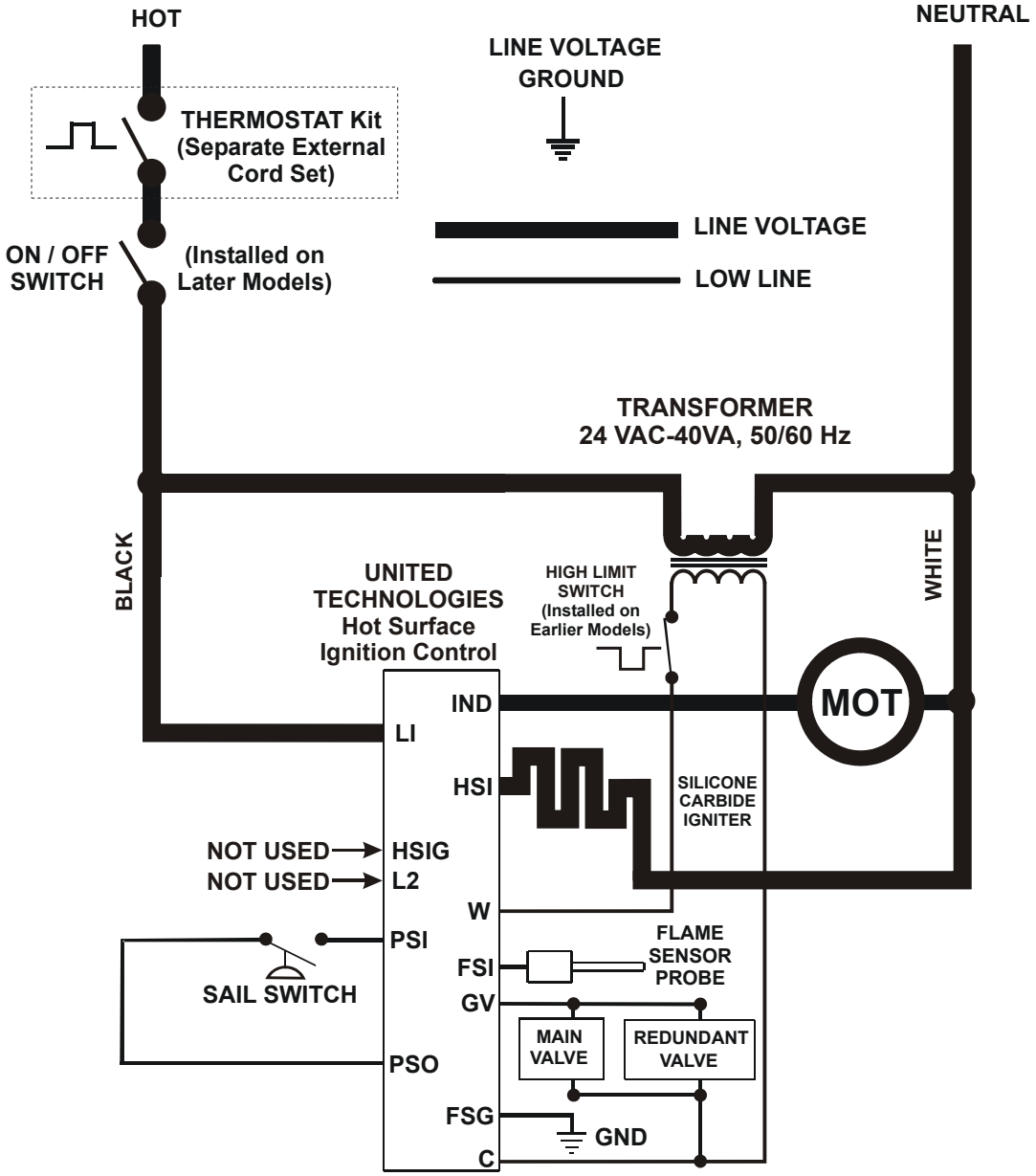
FIGURE 5

NOTE

Ensure the wires are routed and secured away from hot surfaces.

14. Recheck all wire connections and mounting screws for accurate connections and screw tightness.
15. Reconnect power and gas to the heater, check for gas leaks, and test the heater for proper operation.

REPLACEMENT COMPLETED



NOTE: This wiring diagram generically represents several early model heaters after the modifications are performed to install the UT 1018 Control Module. This wiring diagram does not represent late model heaters which already have the UT 1018 Control Modules installed.

UT 1018 Series Hot Surface Ignition

Status Indicator Error Conditions

The status indicator LED will not be lit with power applied to the board and the control operating properly. However, if the control is not operating properly, the status indicator LED will flash in one of the following error codes.

1. **Status Indicator Flashing One Time**
   When the status indicator LED shows the error code of a single repeated flash, the control is in lock-out, because the sail switch was stuck closed.

2. **Status Indicator Flashing Two Times**
   When the status indicator LED shows the repeating error code of two flashes, the control is in lock-out because the control circuits did not receive the “closed” signal from the sail switch within the required amount of time.

3. **Status Indicator Flashing Three Times**
   When the status indicator LED shows the repeating error code of three flashes, the control is in lock-out due to either a failed ignition attempt, a gas valve error, or a false flame sensed during the pre-purge of warm-up periods. If false flame has been sensed, the control will return to normal operation, and begin a new ignition sequence when the false flame is no longer present.

4. **Status Indicator Flashing Four Times**
   When the status indicator LED shows the repeating error code of four flashes, the control has gone into lock-out due to a failure within the control board.

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