

Installation Instructions
for the

Manifold Electronic Control System

MSA-M

MSA-S

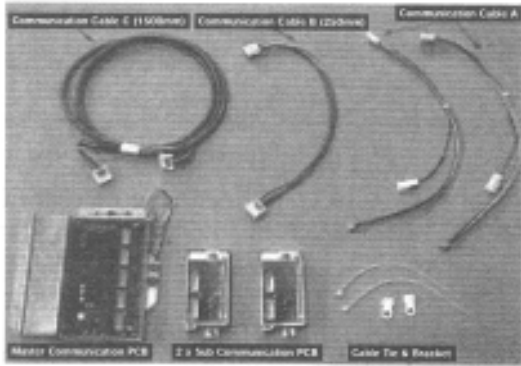
Rinnai Continuum 2424



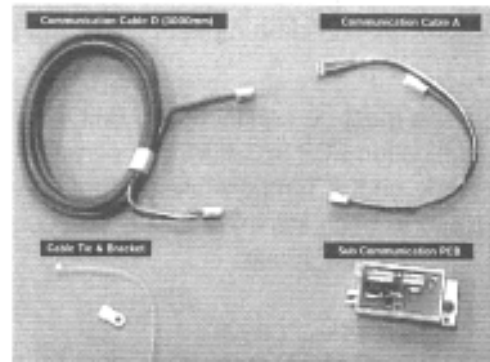
Note:

- A maximum of 5 Continuum units can be manifolded together using 1 MSA-M controller.
- For use with Rinnai Continuum 2424.

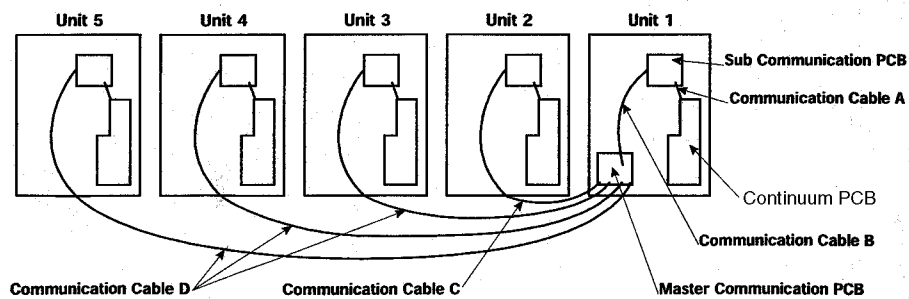
Manifold Electronic Control System Pack A Parts List - Units 1 and 2 (MSA-M)



Manifold Electronic Control System Pack B Parts List - Units 3, 4, and 5 (MSA-S)



TYPICAL INSTALLATION



Warning: Disconnect all Continuum 2424 water heaters from their power source before carrying out the following installation procedures.

Installation Procedure Unit 1(Master)

Note: The front cover panels of each Continuum 2424 water heater must be removed prior to completing the following installation procedures.

- 1) Remove (2) screws from lower left hand side of burner cover panel. (Fig 1)

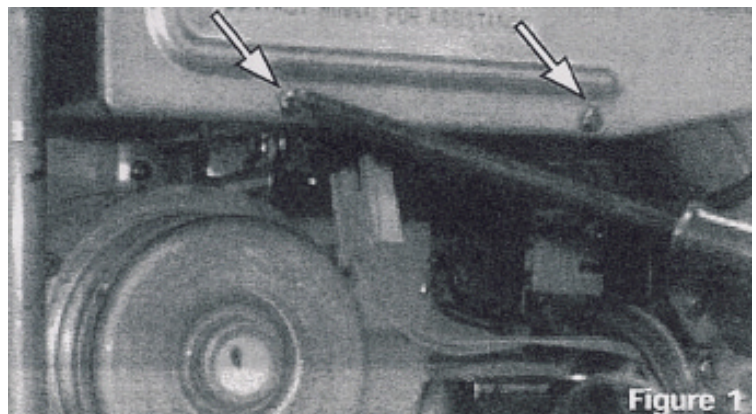
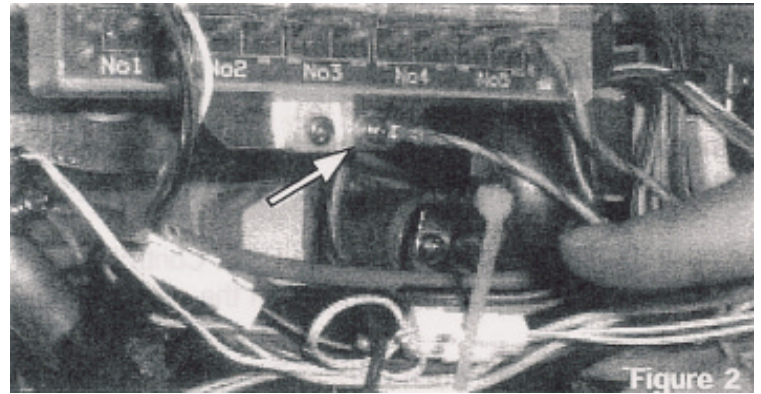


Figure 1

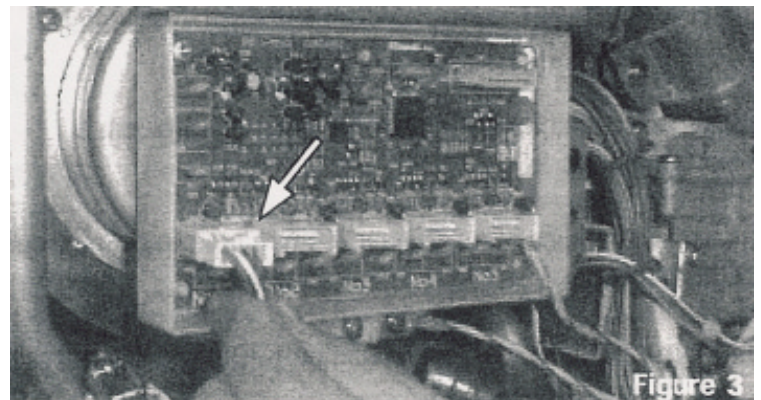
- 2) Mount Master Communication PCB to the lower left hand side of the burner cover, using the mounting screws removed in step 1.

Note: When mounting the Master Communication PCB to the Continuum Unit, the green/yellow earth lead (Fig. 2) must be secured under the right hand screw.



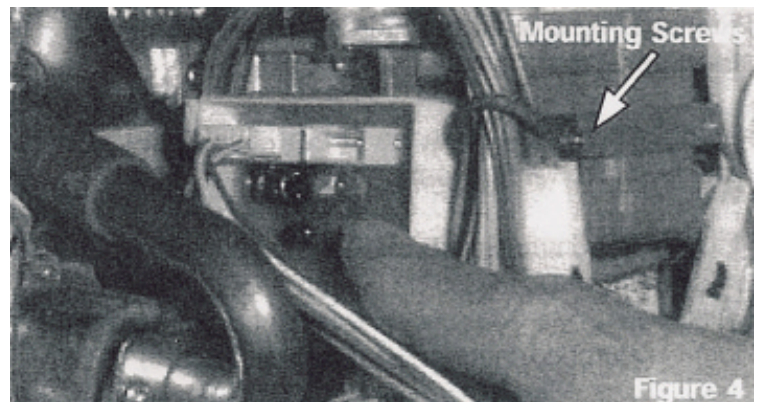
- 3) Connect Communication Cable B (4 wire) to socket No. 1 on Master Communication PCB. (Fig. 3)

- 4) Remove the screw on the left of the Gas Control and carefully move wiring loom away from the control.

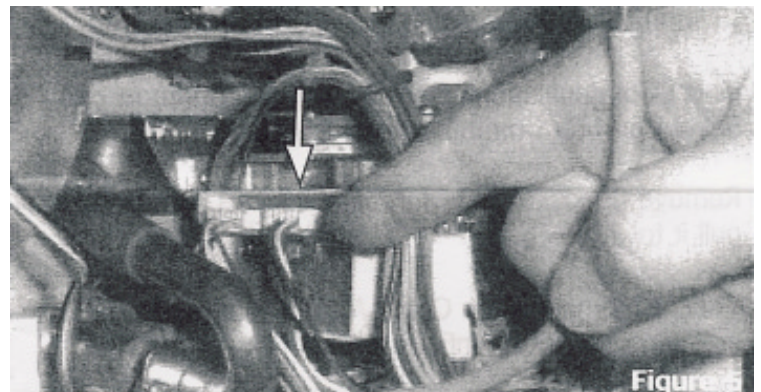


- 5) Fit the Sub Communication PCB in position along the left side of the Gas Control. Secure PCB bracket in position with Gas Control screw ensuring that wiring loom is returned to its original position. (Fig. 4)

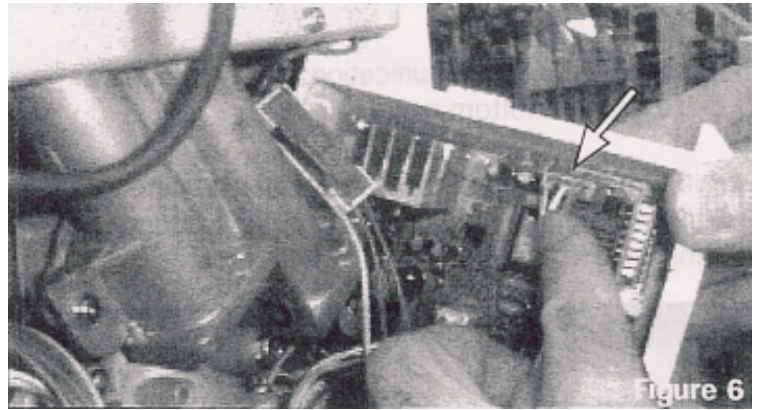
- 6) Insert Communication Cable A (6 pin) plug into (6 pin) socket on Sub Communication PCB. (Fig. 4)



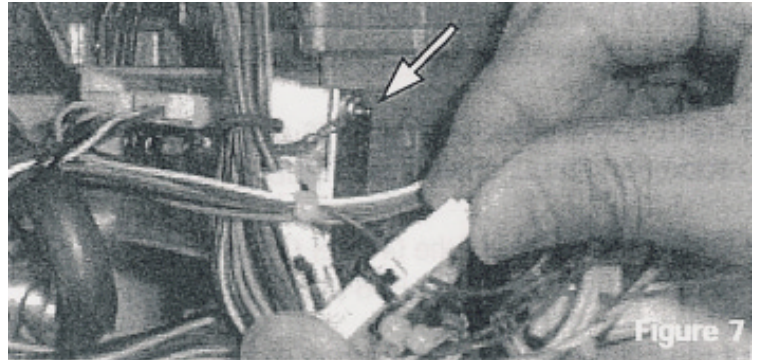
- 7) Connect other end of the (4 wire) Communication Cable B to Sub Communication PCB (5 pin) socket. (Fig. 5)



- 8) Remove (2) top and bottom screws from the Continuum PCB and carefully pull it towards you.
- 9) Insert Communication Cable A (5 wire) plug into matching socket on Continuum PCB. (Fig. 6)



- 10) Insert Communication Cable A (2 pin) connector in the middle of the harness into matching plug located in Continuum wiring loom. (Fig. 7)
- 11) Carefully push Continuum PCB back into position and secure with (2) screws. Ensure that there is no strain on any of the wires.



End of Installation Procedure for Unit 1 (Master)

Installation Procedure for Units 2, 3, 4, and 5 (Slave Units)

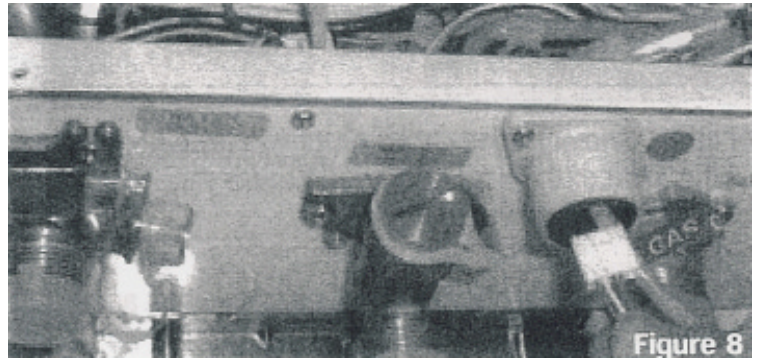
Note: The front cover panels of all Continuum 2424 Units should already be removed. If they are not, they must be removed prior to completing the following installation procedures.

Warning: Disconnect all Continuum 2424 water heaters from their power source before carrying out the following installation procedures.

The following installation procedures must be completed for each Continuum slave unit.

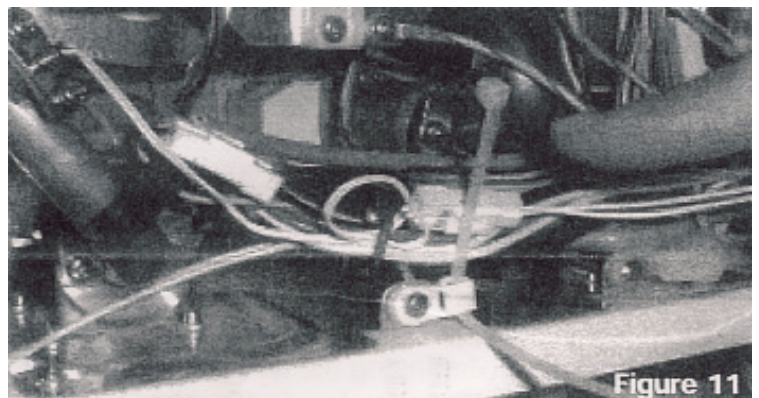
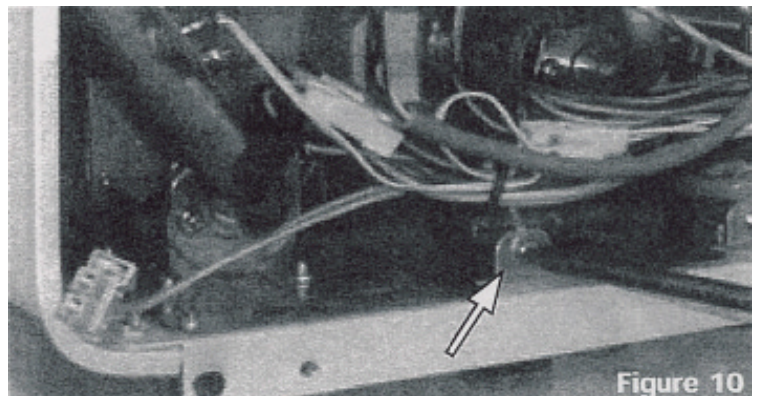
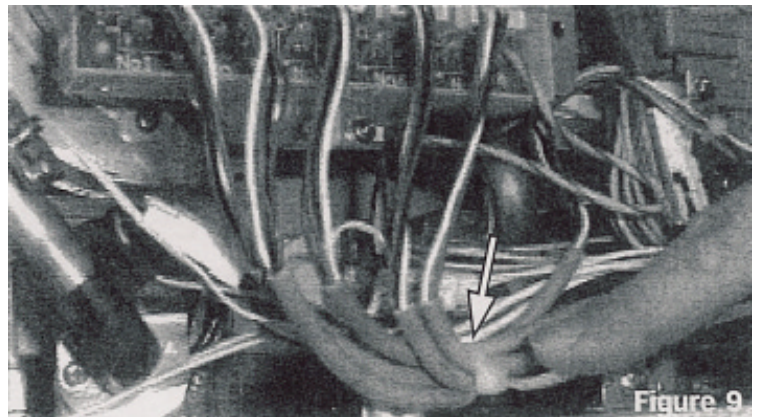
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| <ol style="list-style-type: none"> 1) Remove the screw on the left of the Gas Control and carefully move wiring loom away from the control. 2) Fit the Sub Communication PCB in position along the left side of the Gas Control. Secure PCB bracket in position with Gas Control screw ensuring that wiring loom is returned to its original position. (Fig. 5) 3) Connect the end of the Communication Cable C (5 wire) to Sub Communication PCB (5 pin) socket. 4) Insert Communication Cable A (6 pin) plug into (6 pin) socket on Sub Communication PCB. | <ol style="list-style-type: none"> 5) Remove (2) screws from the Continuum PCB and carefully pull it towards you. 6) Insert Communication Cable A (5 pin) plug into matching socket on Continuum PCB. (Fig. 6) 7) Insert Communication Cable A (2 pin) connector in the middle of the harness into matching plug located in Continuum wiring loom. (Fig. 7) 8) Carefully push Continuum PCB back into position and secure with (2) screws. Ensure that there is no strain on any of the wires. 9) Feed the end of Communication Cable C through cable entry in bottom panel of Continuum. |
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- 10) Run Communication Cable C neatly behind pipework and feed end through cable entry in the bottom panel of Continuum Unit 1. (Fig. 8)
- 11) Connect end of Communication Cable C to socket No. 2, 3, 4, or 5 on the Master Communication PCB. (Use socket No. 2 for Slave Unit No. 2, Socket No. 3 for Slave Unit No. 3, etc.)



COMPLETE SLAVE UNIT INSTALLATION STEPS 1-11 FOR EACH CONTINUUM SLAVE UNIT BEFORE GOING ON TO STEP 12.

- 12) Secure Communication Cables in Continuum Unit 1 with cable tie. (Fig. 9)
- 13) Remove (1) screw from left hand loom restraint for each Continuum Unit. (Fig. 10)
- 14) Fit a cable tie bracket to left hand loom restraint in each of the Continuum Units. Replace the screw for the left hand loom restraint, securing the cable tie and bracket in place. (Fig. 11)
- 15) Pull excess cable back into Continuum Units 2, 3, 4, and 5 (as appropriate) and secure with the cable tie.
- 16) Secure the front cover panels of all Continuum 2424 Units with (4) screws and then restore power to the units.



End of Installation Procedure for Units 2, 3, 4, and 5 (Slave Units)

System Operation

- The MSA-M Master Communication PCB has five connection points to enable up to 5 manifolded units to be used together.
- There is an indicator light at each connection point to show that a unit is connected.
- The indicator light shows the current system settings. A continuous light above A connection point shows that this unit is ready and will be one of the first units activated depending on the flow demand.
- A flashing light at intervals of 1.5 seconds above a connection point indicates that this unit is on standby and will activate when and if required.
- The control panel randomly selects 3 units at the ready stage and 2 on standby. The system rotates the ready and standby units after 10 operations.
- The Master Communication PCB calculates the current water flow demand. Flow demands over 2.6 gpm will activate all three ready units for a period of 10 seconds. At this time adjustments are made in relation to flow demand.
- At maximum flow Unit 4 will activate after the initial 10 second period, for a period of 10 seconds after which time Unit 5 will activate.
- Gas valve modulation of each unit is performed equally via the Master Communication PCB so that no unit is working harder than the next unit. This calculation is performed in relation to water flow.

Dipswitch Settings

Dipswitch settings on unit 1 with the Master Communication PCB determine the output temperature of all units irrespective of the individual unit dipswitch settings. For further information on dipswitch settings contact the Rinnai Helpline.

Temperature Control Panels

Up to 3 Temperature Control Panels can be connected to the manifolded system. Kitchen controller, Bathroom controller and Bathroom sub-controller (MC-45, BC-45 and BSC-45) will provide temperature control to all units.

The control panels must be connected to Unit 1 with the Master Communication PCB installed. Temperature adjustments made on the Temperature Control Panels will be communicated to each Continuum resulting in accurate temperature control of each unit.

Note: Temperature Control Panels cannot be used with supply and return systems.
