

## Troubleshoot Intermatic P1353ME 3-channel timer.

Troubleshoot timer that worked before and stopped functioning.

1) Load rating for timer is 3 HP. Timer has 1 year limited warranty. Contact Intermatic:

2) Locate fuse on back of timer next to voltage selector.

Buy cheap multimeter from local box store, install battery in multimeter, set multimeter to read ohms, and test across fuse ends to see if current passes through fuse. Replace fuse

3) Check that ribbon cable from control face to circuit board is connected.

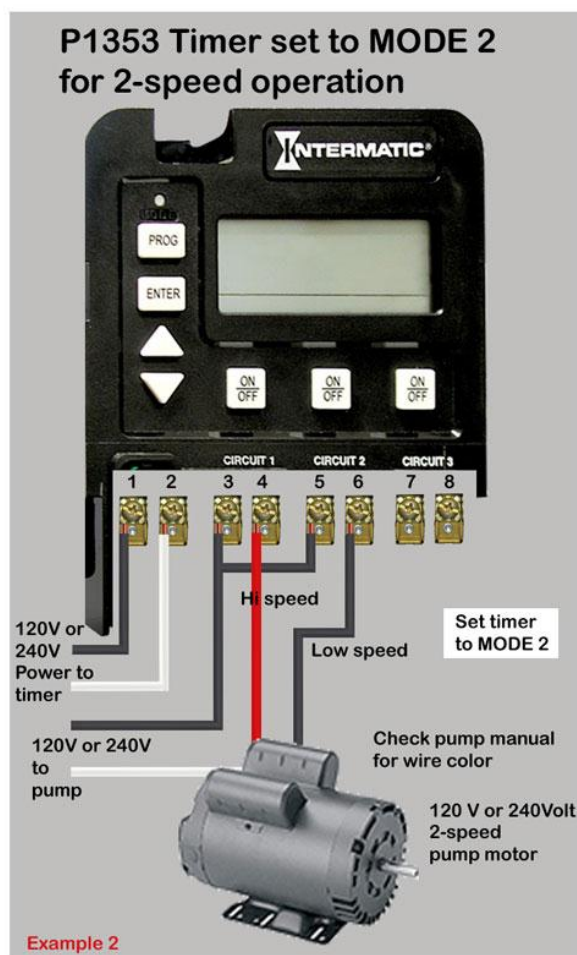
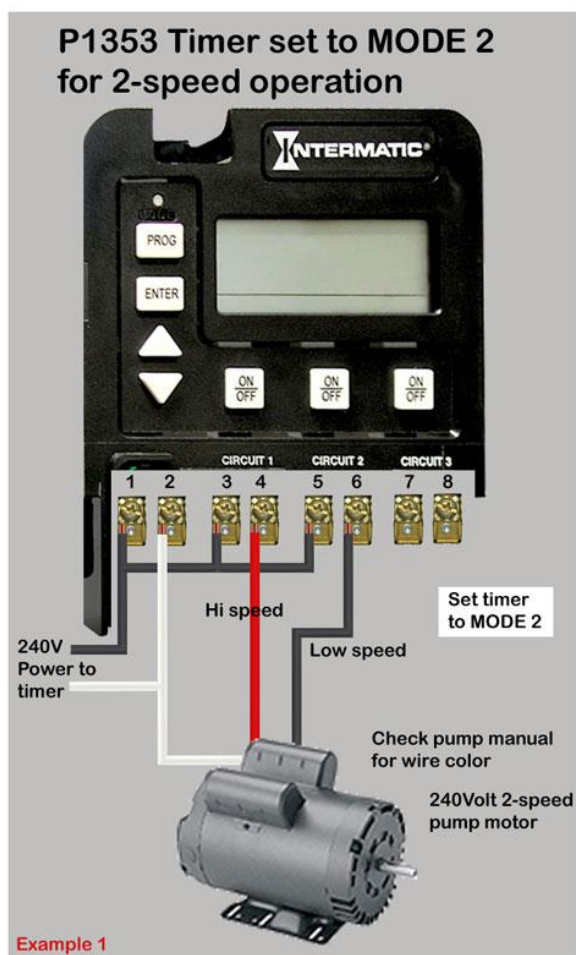
4) Verify that yellow wires from transformer are connected to circuit board.

5) Turn off circuit breaker and then re-power

6) Replace one or both 145T145A Omron relays if timer no longer turns on pump.

7) By-pass timer and see if pump works correctly on each speed.

To do this, refer to typical wiring diagram below: Disconnect wires on terminals 4 and 6. Connect terminal 6 wire to terminal 5 and turn power ON to check low speed. Next, disconnect terminal 6 wire from terminal 5. Connect terminal 4 wire to terminal 3 and turn power ON to check high speed.



8) Use by-pass wiring and circuit breaker to control pump until timer is replaced.

## Section 7:

## Checking Out and Troubleshooting the System

After you have completed installation and programming, make sure the system is working OK by completing the procedures listed below. Later on, if problems develop in using the system, going over these same procedures will help you troubleshoot the problem.

### Check time of day setting

<i><b>What to do</b></i>	<i><b>If it doesn't work</b></i>	<i><b>Reference/Procedure</b></i>
Verify that display on Three-Circuit Clock Mechanism ( <i>P1353ME</i> ) is showing correct time of day.	Verify that power is ON to the panel.	<ol style="list-style-type: none"><li>1. Turn the main circuit breaker that feeds the panel to the ON position.</li><li>2. Use a voltmeter to verify that voltage is present at the buss terminals. See page 13.</li></ol>
	Verify that the breaker is turned on for the clock.	Use a voltmeter to verify that voltage is present at the breaker and Timer Power terminals. See pages 15-17, and 25.
	Verify power is wired to the three-circuit clock.	Check that the proper wires and voltage are connected to terminals 1 & 2 on the three-circuit clock. See pages 15-17, and 25.
	Verify the voltage select jumper, on the back of the clock, is in the proper position.	<ol style="list-style-type: none"><li>1. Remove the mechanism.</li><li>2. Verify that the voltage jumper is in the correct position for the input voltage. See page 15-17, and 26.</li></ol>
	Verify that the F1 Fuse is not blown.	<ol style="list-style-type: none"><li>1. Remove the mechanism.</li><li>2. Use an ohmmeter to verify that the fuse on the back is not blown open. See page 26.</li><li>3. If the fuse is bad, replace fuse.</li></ol>
	Follow instructions for setting the correct time.	See page 31.
	Replace Clock if unsuccessful.	Replace the <i>P1353ME</i> mechanism. See page 7 for ordering information.

## Check circuits on the Three-Circuit Clock Mechanism (P1353ME)

<i>What to do</i>	<i>If it doesn't work</i>	<i>Reference/Procedure</i>
<p>Run this procedure for each circuit on the mechanism:</p> <ol style="list-style-type: none"> <li>1. Press the Circuit #1 ON/OFF button on the face of the mechanism.</li> <li>2. Wake up the Hand-Held Receiver by pushing any button. Verify the Hand-Held Receiver shows circuit #1 has powered ON. The number 1 will illuminate on the screen indicating circuit #1 has turned ON.</li> <li>3. Verify the wired load that corresponds with the circuit pushed activates properly. (e.g., pump, light, etc.)</li> <li>4. Turn Circuit #1 OFF using the ON/OFF button on the Hand-Held Remote Transceiver.</li> <li>5. Verify the Hand-Held Receiver shows circuit #1 has powered OFF. The number 1 will disappear on the screen indicating circuit #1 has turned OFF.</li> </ol> <p>If you can't complete this procedure successfully, follow the steps in the next column to troubleshoot.</p>	Verify the Hand-Held Remote Transceiver is working.	<p>See "Verify the Hand-Held Remote Transceiver is working properly" troubleshooting on page 56.</p> <p><b>NOTE:</b> You must push any button on the Hand-Held Remote Transceiver to wake it from its sleep state. Failure to do so will result in no display!</p>
	Verify that power is ON to the panel.	<ol style="list-style-type: none"> <li>1. Turn the main circuit breaker that feeds the panel to the ON position.</li> <li>2. Use a voltmeter to verify that voltage is present at the buss terminals. See page 13.</li> </ol>
	Verify that the breaker is turned ON for each wired load.	Use a voltmeter to verify that voltage is present at the breaker and Timer Power Circuit terminals. See pages 15-17, and 25.
	Verify that the input voltage jumper, on the back of the mechanism, is in the correct position.	<ol style="list-style-type: none"> <li>1. Remove the mechanism.</li> <li>2. Verify that the voltage jumper is in the correct position for the input voltage. See pages 15-17, and 26.</li> </ol>
	Verify that the F1 Fuse is not blown.	<ol style="list-style-type: none"> <li>1. Remove the mechanism.</li> <li>2. Use an ohmmeter to verify that the fuse on the back is not blown open. See page 26.</li> <li>3. If the fuse is bad, replace fuse.</li> </ol>
	Verify that the wiring is correct to the load.	<p>Retrace your wiring and verify that all lines and loads are wired properly. See pages 15-19 and 27-30.</p> <p><b>NOTE:</b> Remember this mechanism breaks only one side to the load. Make sure you fully understand how to wire this mechanism prior to hooking up Line and Load wires.</p>
	Verify that you have set the correct Mode for the installation.	See pages 25 and 27-30.
	Verify that the relay associated with the circuit is closing when turned on.	<ol style="list-style-type: none"> <li>1. Remove all power except power to the Three-Circuit Clock mechanism.</li> <li>2. Remove the line and load of the suspect circuit, from the Three-Circuit Clock.</li> <li>3. Put one probe of an ohmmeter on the LINE side of the circuit.</li> <li>4. Put the other probe on the LOAD side of the circuit.</li> <li>5. Push the ON/OFF button to the ON position and check if the contacts short.</li> <li>6. If not, replace the mechanism.</li> </ol>

<i><b>What to do</b></i>	<i><b>If it doesn't work</b></i>	<i><b>Reference/Procedure</b></i>
	Verify that the mechanism works independently of the Panel-Mounted Transceiver.	<ol style="list-style-type: none"> <li>1. Remove power from the system by turning off the main breaker.</li> <li>2. Disconnect the Panel-Mounted Transceiver from the back of the mechanism.</li> <li>3. Verify all line and load wires are connect properly. See item 6 above.</li> <li>4. Reapply power. Does the mechanism work now?</li> <li>5. If not, repeat Reference/Procedures 1, 2, 3, 4, &amp; 5. If yes, reconnect Panel-Mounted Transceiver and try the wireless control again.</li> <li>6. If unit still doesn't work, proceed to the next item.</li> </ol>
	Verify that the Hand-Held Remote Transceiver is linked up to the Panel-Mounted Transceiver.	<ol style="list-style-type: none"> <li>1. Check that the display panel on the Hand-Held Remote Transceiver says <b>STAT OK</b>, not just <b>STAT</b>.</li> <li>2. If not, reprogram the Hand-Held Remote Transceiver. See pages 41-43.</li> <li>3. Replace the Hand-Held Remote Transceiver if unable to successfully program.</li> <li>4. Replace the Panel-Mounted Transceiver if still not able to establish communication with the replacement Hand-Held Remote Transceiver.</li> </ol>
	Verify that the other two circuits work properly.	If all three circuits fail to work properly, replace the <i>P1353ME</i> mechanism. See page 7 for ordering information.

## Check circuits on the Valve/Pump Switch Mechanism (P4243ME)

<i>What to do</i>	<i>If it doesn't work</i>	<i>Reference/Procedure</i>
<p>Run this procedure for each circuit on the mechanism.</p> <ol style="list-style-type: none"> <li>1. Press the Relay #1 ON/OFF button on the face of the mechanism.</li> <li>2. Wake up the Hand-Held Receiver by pushing any button. Verify the Hand-Held Receiver shows circuit #4 has powered ON. The number 4 will illuminate on the screen indicating circuit #4 has turned ON.</li> <li>3. Verify the wired load that corresponds with the circuit pushed activates properly. (e.g., pump, light, etc.)</li> <li>4. Turn Relay #1 OFF using the ON/OFF button on the Hand-Held Remote Transceiver.</li> <li>5. Verify the Hand-Held Receiver shows circuit #1 has powered OFF. The number 4 will disappear on the screen indicating circuit #1 has turned OFF.</li> <li>6. Repeat steps 1 thru 4 for Relay #2 (number 5 on the Hand-Held Remote Transceiver).</li> </ol> <p>If you can't complete this procedure successfully, follow the steps in the next column to troubleshoot.</p>	Verify that the Hand-Held Remote Transceiver is working.	<p>See "Verify the Hand-Held Remote Transceiver is working properly" troubleshooting on page 56.</p> <p><b>NOTE:</b> You must push any button on the Hand-Held Remote Transceiver to wake it from its sleep state. Failure to do so will result in no display!</p>
	Verify that power is ON to the panel.	<ol style="list-style-type: none"> <li>1. Turn the main circuit breaker that feeds the panel to the ON position.</li> <li>2. Use a voltmeter to verify that voltage is present at the buss terminals. See page 13.</li> </ol>
	Verify that the breaker is turned ON for each wired load.	Use a voltmeter to verify that voltage is present at the breaker associated with the loads.
	Verify that the primary of the transformer is wired to proper voltage.	Check that the proper wires on the primary of the transformer are wired to the proper voltage. See pages 15-17.
	Verify that the wiring is correct to the load.	Retrace your wiring and verify that all lines and loads are wired properly. See pages 15-19 and 27-30.
	Verify that the mechanism works independently of the Panel-Mounted Transceiver.	<ol style="list-style-type: none"> <li>1. Remove power from the system by turning off the main breaker.</li> <li>2. Disconnect the Panel-Mounted Transceiver from the back of the mechanism.</li> <li>3. Verify all line and load wires are connect properly. See item 6 above.</li> <li>4. Reapply power. Does the mechanism work now?</li> <li>5. If not, repeat Reference/Procedures 1, 2, 3, 4, &amp; 5. If yes, reconnect Panel-Mounted Transceiver and try the wireless control again.</li> <li>6. If unit still does not work, proceed to the next item.</li> </ol>
	Verify that the relay associated with the load is closing when turned ON.	<ol style="list-style-type: none"> <li>1. Remove all power except power to the Pump/Valve Switch mechanism.</li> <li>2. Remove the line and load of the suspect circuit, from the Pump/Valve Switch.</li> <li>3. Put one probe of an ohmmeter on the LINE side of the circuit.</li> <li>4. Put the other probe on the LOAD side of the circuit.</li> <li>5. Push the ON/OFF button to the ON position and check if the contacts short.</li> <li>6. If not, proceed to the next item.</li> </ol>
	Verify that the wiring is connected to the internal relays.	<ol style="list-style-type: none"> <li>1. Remove all power from the system.</li> <li>2. Remove the Pump/Valve Switch Mechanism and examine the wires going to the two Omron relays. Compare the wire locations to the wire identifiers on the front pad of the Pump/Valve Switch. Are they connected to the correct terminals on the relay?</li> </ol>
	Verify that the control pad is connected to the circuit board.	Check that the ribbon cable from the Control Face is connected to the circuit board. See page 37 to identify the Control Face Plug In.
	Verify that each relay coil wire is connected to the circuit board.	Verify the coil wires from each of the Omron relays are connected to the circuit board. See page 37 to identify the Omron connections.