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Troubleshooting Procedures for Hatch RST™ Electronic Metal Halide Ballasts

This troubleshooting guide can be used to determine if the Hatch RST™ Electronic Metal Halide Ballast is not operating properly or another problem exists. Assisting you in troubleshooting please read and fully understand the following features of the Hatch RST™ Electronic Metal Halide Ballast:

1. SHUTDOWN FEATURE

The Hatch RST™ Electronic Metal Halide Ballast has a highly advanced protection system that will immediately shut down the ballast in any of the following events: open circuit (no lamps), short circuit, defective lamp, rectifying currents, partial glow discharges, lamp end-of-life (high voltages). The rapid shutdown feature (within 3 seconds) prevents damage to fixture components and eliminates potential safety hazards, as compared to magnetic ballasts with no shutdown feature or some electronic ballasts, which take up to 39 minutes before shutting down under adverse conditions.

NOTE: The input power to the ballast must be reset by turning the power off and then back on to restore ballast power to the lamp.

2. WIRING REQUIREMENTS

The Hatch RST™ Electronic Metal Halide Ballast CANNOT HAVE THE SCREW-SHELL of the lamp holder connected back to neutral. If either “lamp” lead is shorted or miss-wired to neutral (white or chassis ground), the ballast will FAIL.

3. LAMP COMPATIBILITY

Not all Metal Halide Lamps have been tested on or are compatible with Hatch RST™ Electronic Metal Halide Ballast. “Ceramic” arc tube metal halide lamps are recommended. If standard “quartz” metal halide lamps are used, please consult both the manufacturer of the lamps and Hatch for approval before using non-ceramic lamps of the proper wattage.



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turn off the ballast if the fixture or ballast becomes overheated.

4. THERMAL PROTECTION

The Hatch RST™ Electronic Metal Halide Ballast has an automatic resetting thermal protector, which will

Caution: Disconnect power before servicing or changing lamps.

Recommended troubleshooting sequence:

Problem	Check	Corrective Action
Lamps do not start and known “good” replacement lamp does not start when installed.	1. Due to the ballast shutdown feature, the ballast output may be turned off.	Install the new lamps; reset power to see if new lamps come on. Note, lamps that were previously lit may need to cool down up to 20 minutes before they restrike. This is a typical operating characteristic of metal halide lamps.
	2. Check lamp type, must be the proper wattage and should be the ceramic metal halide type or an “approved” quartz type.	Replace with approved ceramic type lamps or consult with lamp manufacturer or Hatch to see if lamp is compatible “quartz” type. YOU MUST RESET POWER TO THE FIXTURE ONCE A LAMP HAS BEEN REPLACED.
	3. Check if input voltage to the ballast is within +/- 10% of rated ballast voltage.	Correct Voltage problem. If 277V was applied to 120V ballast, internal fuse has been blown and the ballast must be replaced.
	4. With power turned off to the fixture, measure resistance from both lampholder contacts to “ground.” Both of the measurements should be “open” or have very high meg-ohm readings. If a “short” or low ohms is measured, the fixture or lampholder wiring is defective.	The “short-to-ground” in the fixture must be eliminated before new ballast can be installed. The ballast is not warranted for a short caused by connecting a lamp lead to ground.



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Random starting patter	Lamps that start today and not the next day and vice versa are typically caused by end-of-life lamps or non-compatible lamps.	Replace with new approved ceramic lamp type or consult with lamp manufacturer or Hatch to see if lamp is a compatible “quartz” type. ALWAYS RESET POWER AFTER LAMP REPLACEMENT.
New lamps operate with green or blue hue	Check lamp wattage and ballast wattage to ensure that they are the same. Lamps will typically operate with a “cooler” color temperature when driven with significantly lower wattages than rated. For example, a 70W lamp on a 39W ballast will be driver at approximately 40W which will make the lamp appear green or blue as compared to the normal warm 3000K color.	<ul style="list-style-type: none"> • Check the ballast label to see if it is the correct ballast for the lamps. • Check to see if the power voltage ballast is being used. • Replace with proper ballast.
Lamp initially starts, but the lamp will cycle on and off.	1. Check if the input voltage to the fixture or track is within +/- 10% of rated fixture/ballast voltage.	Correct the voltage problem.
	2. Check if fixture is located in a higher than normal temperature area (near heating ducts, etc.) which can cause the fixture to be hotter than normal and cause the ballast thermal protector to function.	Move the fixture to a cooler location
	3. If this is a downlight fixture, check to see if the fixture has an auxiliary backup lamp that is staying “lit.”	Remove the auxiliary lamp and check to see if the fixture runs properly. If okay, then troubleshoot the defective auxiliary sensing circuit.



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	4. If this is a “non-IC” downlight fixture, check to see if “insulation” has been placed around or has fallen down on the fixture. This can cause heat to be trapped around fixture, which then causes either the fixture or the ballast thermal protectors to function.	Remove or space the insulation away from the fixture.
Lamp has noticeable flicker	1. Immediately check to see if an INCANDESCENT (halogen) lamp has been mistakenly used. When halogen PAR type lamps are also used in the same area, they can easily be mistaken for HID PAR lamps.	Replace the INCANDESCENT lamps with the proper HID lamps IMMEDIATELY as they could damage or cause the ballast to fail.
	2. If “flicker” is noticed on 277V ballasts, check if in line conditioner is being used in combination with a step-up transformer or variac to convert 120V to 277V. Some instability has been seen in certain line conditioners/regulators when using step-up transformer means.	Bypass the line conditioner and use UN-regulated 120V power to the step-up means. Hatch electronic HID ballasts have their own internal regulator circuit so additional line conditioners or regulators are usually not needed.

If any of the above procedures and corrective actions do not resolve the problem, the ballast may be defective. Please contact Hatch at:

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