

# Reliance®

Installation, Operation, & Maintenance Instructions

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CDC -20-055

# Simpliport® 180 Viewing System

For Class I Division 2  
Hazardous Locations



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The **Reliance® Simpliport® 180 LED Illuminator** has been designed to accept 85-264 VAC power sources and for a service life of up to 10 years. The LED Illuminators are weatherproof and are rated safe for use in Class I Div. 2, Groups A,B,C,D T4, Ta= -13F (-25C) to 176F (80C) hazardous locations.

### **STORAGE and HANDLING**

All units should be inspected upon receipt to ensure that no damage has been incurred during transit. If there is a claim due to damage, it should be filed with the carrier immediately. Units should be stored in a dry and sheltered area prior to installation, in a secure manner where they can neither fall, nor be struck by other objects. The temperature for the storage area should not be outside of the acceptable operating temperatures of -40F (-40C) to 170F (77C).

### **COMPONENTS**

There are three main components that make up the Simpliport Illuminator Assembly: the LED Illuminator, the front Viewing Hood, and the Power Supply. Two versions offer either a local mounted Power Supply that is wired near the Illuminator with an included cable or a remote DIN rail mounted Power Supply with a local mounted Junction Box, allowing the customer to supply and install the cabling between the Illuminator and the Power Supply.

The LED Illuminator, Viewing Hood and Power Supply should be checked to ensure that there is no damage and contain no foreign matter.

### **INSTALLATION**

**CAUTION: All LED Illuminators are tagged with the service conditions for that particular unit. This information is located on the Power Supply or Junction Box housings. The ratings should be reviewed prior to installation and again prior to start-up, to ensure proper operation in the installed environment.**

### **IMPORTANT**

**Do NOT make any adjustments to the output of the AC/DC Power Supply! Adjustments will void the warranty.**

**Note: All installation steps should be performed by a qualified electrician and should be executed in accordance with all applicable national and local codes.**

### **Step by step instructions:**

- 1) Install the (4) 5/16-18 Thumb Screws into the mounting lugs on both sides of the Simpliport Gage, leaving approximately ¼” (6mm) unthreaded (Ref. Fig. 1) Note: If retrofitting a new Illuminator and Hood assembly, remove the existing mounting bars before installing the Thumb Screws.
- 2) Install the Illuminator first by attaching the top slots onto the Thumb Screws and lowering the bottom slots into place. The Illuminator is assembled to the back of the gage as you view the level. **Note: The Simpliport Gage must be viewed with the packing nuts facing slightly to the left. Make sure that the Illuminator and Viewing Hood are in the correct orientation to the Simpliport Gage. See Figures 1 and 2.**
- 3) Next assemble the front Viewing Hood to the Simpliport Gage.  
Note: The Viewing Hood is designed to mount outside the Illuminator assembly. Attach the top slots onto the Thumb Screws, then lower the bottom slots into place and tighten the Thumb Screws. The Viewing Hood is now assembled to the front of the gage.
- 4a) Local Power Supply Assembly, (RPWAI-#S-HL) – Mount the Power Supply enclosure within 7 feet (2.1 meter) of the Illuminator by its (4) mounting feet with the cable entry holes positioned downward. See Figure 4. To extend distance, consult factory.

Plug the captive blue output power cable into the connector on the back of the Illuminator and secure by fully screwing it in. Tie wrap or otherwise secure the blue output power cable safely out of the way.

**Warning: Never connect or disconnect the blue output cable with power on. This will result in damage to the LEDs.**

A ½ inch conduit hole is provided in the bottom of the enclosure to install a conduit fitting or cable gland for the mains AC power wiring. Connect the hot AC line to the top of the mains disconnect switch and the neutral and earth safety ground directly to the Power Supply input terminals. Connect incoming power to an AC power source per local and National Electric



Codes. Apply mains power and turn “ON” the mains disconnect switch by toggling the switch handle “UP”. The Illuminator should light. Properly secure the enclosure cover.

- 4b) Remote Power Supply Assembly, (RPWAI-#S-HR) – The Junction Box is factory installed onto the back of the Illuminator with the hardware and captive bracket with its cable entry hole upward. The captive blue output power cable has been connected to the back of the Illuminator at the factory. See Figure 3

**Warning: Never connect or disconnect the blue output cable with power on. This will result in damage to the LEDs.**

In the remote location, mount the AC/DC Power Supply and mains AC disconnect switch on a DIN rail in either a power cabinet or standalone enclosure. Connect the hot AC line to the top of the mains disconnect switch and the neutral and earth safety ground directly to the Power Supply input terminals. Connect incoming power to an ac power source per local and National Electric Codes.

A ½ inch conduit hole is provided in the top of the Junction Box to install a conduit fitting or cable gland. Per Figure 3, wire the DC output from the standalone Power Supply to the appropriate terminals in the Junction Box.

Apply AC power and turn “ON” the mains disconnect switch by toggling the switch handle “UP”. The Illuminator should light. Properly secure the enclosure cover.

- 5) Because of the high intensity of the LEDs, you may need to optimize the Viewing Hood to avoid color bleed through from the Red or Green LEDs. The Viewing Hood has been designed to be able to be adjusted for the optimal view. Simply loosen the Thumb Screws and move the Viewing Hood slightly to the left or right until there is no color bleed through and re-tighten the Thumb Screws.

## **OPERATION**

The Simpliport® 180 LED Illuminator can operate continuously. The operating life of the LED’s is up to 10 years under normal conditions.

## **ROUTINE MAINTENANCE**

Keep the viewing receptors on the front Viewing Hood and the glass in the Illuminator assembly clean using commercial glass cleaners, such as Windex® or similar. Never use harsh abrasives, wire brushes, metal scrapers, or any material that could scratch the viewing receptors or the glass.

The Illuminator and Viewing Hood may be removed while in operation to inspect the Simpliport® Gage.

## **SPECIFICATIONS**

Power Supply: 85-264 VAC @ 47-63 Hz

Max Power

Consumption: 1.5 A

Est. Life: Up to 10 years (continuous)

Agency Approvals: ETL US/Canada



Class I Div.2 Grps A,B,C,D T4

Hazardous Locations

Ambient Temp.: -13°F (-25°C) to 176°F (80°C)

Wire Size: Min 22 AWG (.52mm<sup>2</sup>)  
Max 10 AWG (3.31mm<sup>2</sup>)

Consult factory for alternate size AWG size option.

Max dist. from

Power supply to light: 1000’ (305M)

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Figure 1  
Typical Assembly

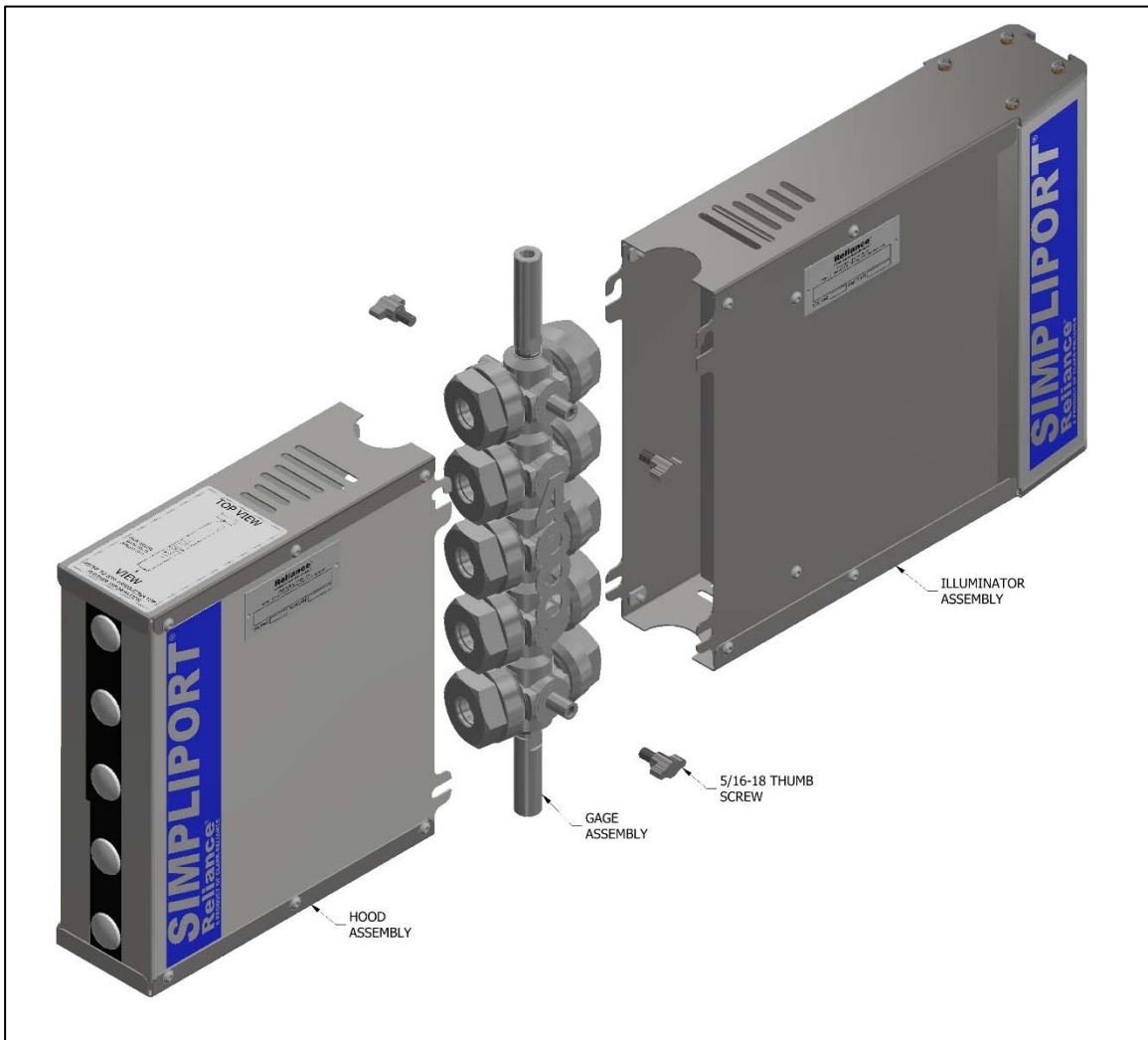
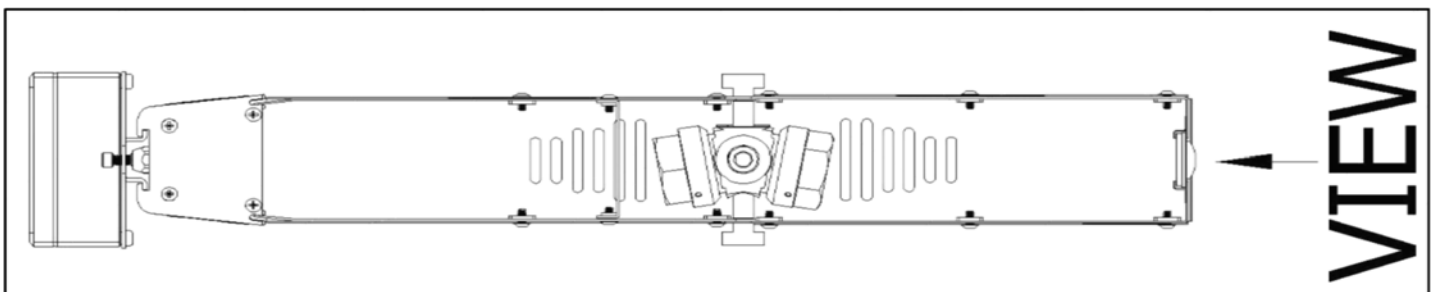
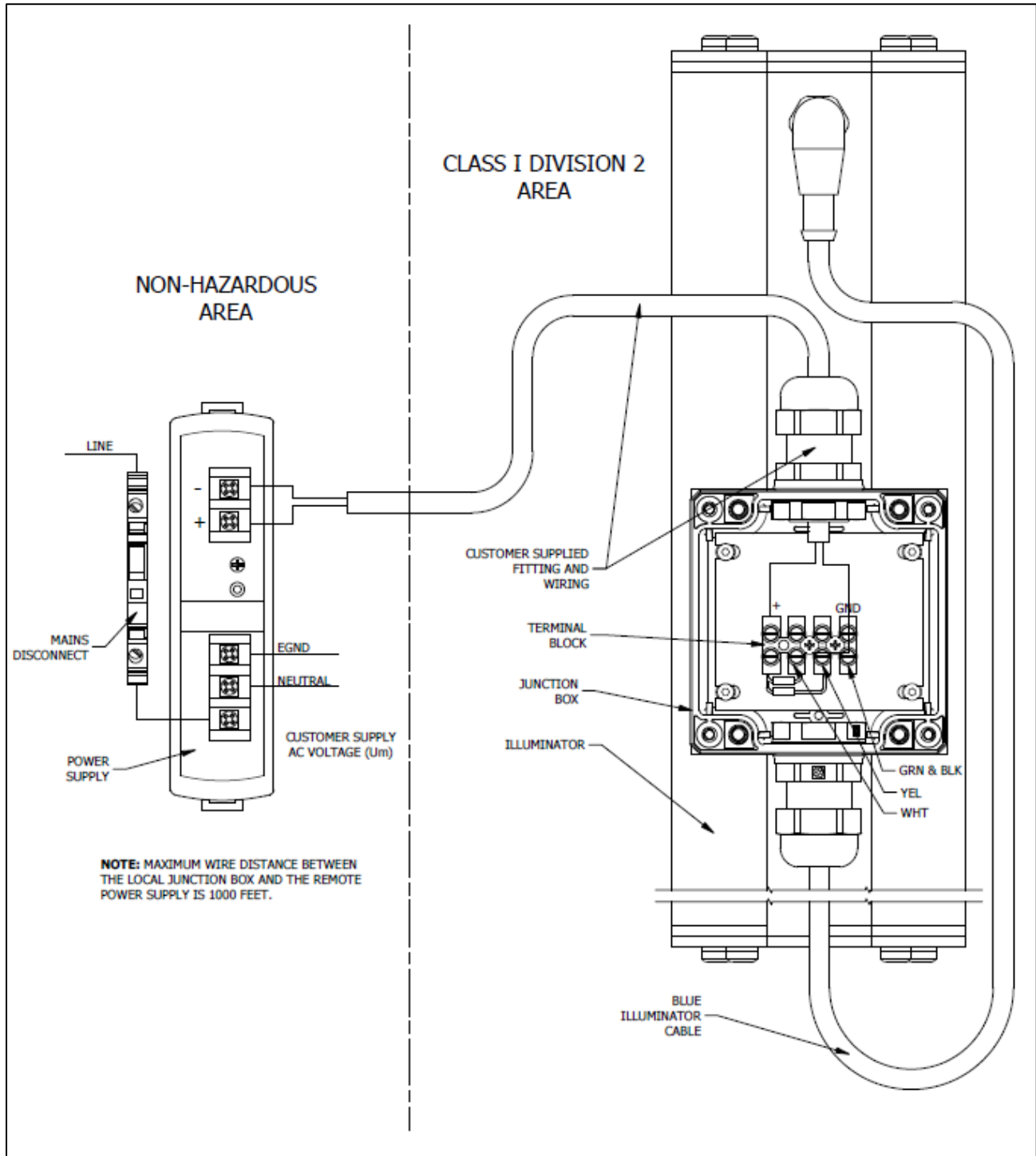


Figure 2  
Viewing the Gage



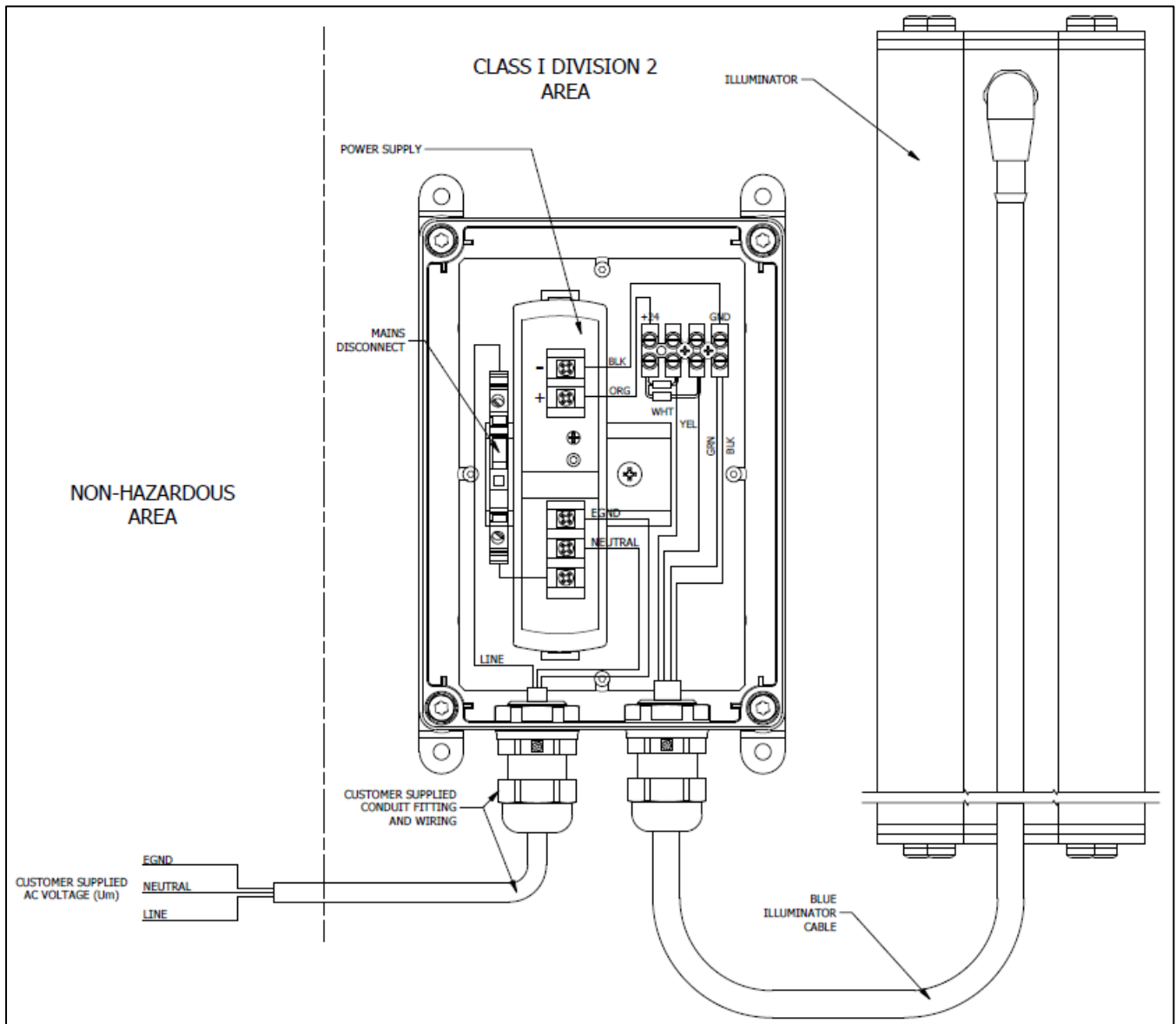
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Figure 3  
Remote Mount Power Supply



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Figure 4  
Local Mount Power Supply



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# Spare Parts

Note: ## in part number is equal to the number of gage ports from 5 to 10. Gages with more than 10 ports require multiple Illuminators and Viewing Hoods.

<b>Part Number</b>	<b>Description</b>	<b>Qty required for (1) assembly</b>
RPWA-40-##	Local Mount Power Supply Assembly	1
RPWAI-##S-HL	LED Assembly with Local Mount Power Supply	1
RPWA-43-##	Junction Box Assembly for Remote Mount Power Supply	1
RPWAI-##S-HR	LED Assembly with Remote Mount Power Supply	1
RPWAI-##S-LPS	Led Sub-Assembly – No Power Supply	1
E-PS-60W24V-#	Power Supply	1
V21906-1.5	Remote Mount Power Cord (Junction Box to LED Assy)	1
V21906-8	Local Mont Power Cord (Power Supply to LED Assy.)	1
E-SW-SPSTDIN	Din Mount Disconnect Switch	1
E-SW-DINEND	Disconnect Switch Cover	1
RPWA-34	SS Thumb Screws (For Mounting to Gage)	4
V20601	1.5ft Power Extension Cord	As Required
V20601-6.5	6.5ft Power Extension Cord	As Required
V20601-16	16ft Power Extension Cord	As Required
V20601-32	32ft Power Extension Cord	As Required
V20601-48	48ft Power Extension Cord	As Required





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Boiler Safety Instruments

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Steam Separators & Traps  
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