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> SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (5' Lead) SC39031-021 Instruction Manual

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Instruction Manual

SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (5' Lead) SC39031-021

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the SCOTSMAN ICE SYSTEMS ICE Thickness Sensor, model SC39031-021. This sensor is a critical component designed to accurately measure ice thickness in compatible ice machines, ensuring efficient and consistent ice production. Please read this manual thoroughly before installation or servicing to ensure safe and correct usage.

2. SAFETY INFORMATION

WARNING:

- Always disconnect power to the ice machine before installing, servicing, or cleaning the ice thickness sensor or any other component. Failure to do so can result in serious injury or death from electrical shock.
- Installation and servicing should only be performed by qualified service personnel.
- Ensure all connections are secure and properly insulated to prevent electrical hazards.
- Handle the sensor with care to avoid damage to its components or wiring.

3. PRODUCT OVERVIEW

The SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (SC39031-021) is a replacement part designed for specific SCOTSMAN ice machine models. It features a durable plastic housing, a 5-foot wire lead for flexible installation, and 1/4" push-on terminals for easy connection. The sensor's primary function is to detect when ice has reached the optimal thickness, signaling the ice machine to initiate the harvest cycle.



Image: SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (SC39031-021). This image shows the white plastic sensor unit with a black electrical wire extending from one side, terminating in a red and white push-on terminal. A metal bracket is attached to the bottom of the sensor.

4. SPECIFICATIONS

SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (SC39031-021)

Attribute	Value
Model Number	SC39031-021 (Replacement for 502-1009)
Material	Plastic
Color	White
Length	3 1/8" (79 mm)
Width	2 7/8" (73 mm)
Depth	1 1/4" (32 mm)
Weight	0.265 lb
Terminals	1/4" Push-On Terminals
Wire Lead Length	5 feet
Manufacturer	SCOTSMAN ICE SYSTEMS
UPC	250210021917, 250210029159

5. INSTALLATION AND SETUP

This section outlines the general procedure for replacing an existing ice thickness sensor. Refer to your specific ice machine's service manual for detailed, model-specific instructions.

1. Prepare the Ice Machine:

- Disconnect the ice machine from its power supply.
- Shut off the water supply to the ice machine.
- Allow the machine to cool down and drain any remaining water.
- Access the evaporator area where the ice thickness sensor is located. This may involve removing panels or covers.

2. Remove the Old Sensor:

- Carefully disconnect the electrical wires from the old sensor's terminals. Note their original positions if necessary.
- Unmount the old sensor from its bracket or mounting point.

3. Install the New Sensor:

- Mount the new SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (SC39031-021) into the designated position. Ensure it is securely fastened.
- Connect the electrical wires to the 1/4" push-on terminals on the new sensor. Ensure connections are firm and correct.
- Route the 5-foot wire lead safely, away from moving parts or heat sources.

4. Adjust and Test:

- Some ice thickness sensors may have an adjustment screw. Refer to your ice machine's manual for specific calibration procedures to achieve desired ice thickness.
- Once installed, reassemble any removed panels or covers.
- Restore water and power supply to the ice machine.
- Monitor the first few ice production cycles to confirm the sensor is functioning correctly and ice thickness is optimal.

6. OPERATING PRINCIPLE

The ice thickness sensor operates by detecting the presence and thickness of ice on the evaporator plate. When ice builds up to a predetermined thickness, the sensor sends a signal to the ice machine's control board. This signal initiates the harvest cycle, during which the ice is released from the evaporator and falls into the storage bin. A properly functioning sensor ensures that ice cubes are consistently sized and that the machine operates efficiently, preventing over-freezing or under-freezing conditions.

7. MAINTENANCE

Regular maintenance of the ice thickness sensor helps ensure the longevity and optimal performance of your ice machine. Perform these checks periodically:

- **Visual Inspection:** Periodically inspect the sensor for any visible damage, corrosion, or mineral buildup. Ensure the wiring is intact and connections are secure.
- **Cleaning:** If mineral deposits or scale are present on the sensor, carefully clean it using a soft cloth and a mild descaling solution recommended for ice machines. Always disconnect power before cleaning.
- **Adjustment Check:** If your ice machine produces ice that is consistently too thick or too thin, the sensor's

adjustment may need to be checked and recalibrated according to the ice machine's service manual.

8. TROUBLESHOOTING

If you experience issues with ice production, the ice thickness sensor may be a contributing factor. Here are some common symptoms and potential solutions:

Symptom	Possible Cause	Solution
Ice is consistently too thick.	Sensor not detecting ice thickness correctly; sensor out of adjustment; faulty sensor.	Check sensor for debris/scale; recalibrate sensor per machine manual; replace sensor if faulty.
Ice is consistently too thin or machine harvests too early.	Sensor detecting ice too early; sensor out of adjustment; faulty sensor.	Check sensor for proper placement; recalibrate sensor; replace sensor if faulty.
No ice production or machine not cycling.	Sensor failure; wiring issue; other machine component failure.	Verify sensor connections; test sensor continuity (if applicable); consult a qualified technician for full diagnosis.

For complex issues or if troubleshooting steps do not resolve the problem, it is recommended to contact a qualified ice machine service technician.

9. WARRANTY AND SUPPORT

This SCOTSMAN ICE SYSTEMS ICE Thickness Sensor (SC39031-021) is a replacement part. For specific warranty information, please refer to the documentation provided with your original ice machine or contact SCOTSMAN ICE SYSTEMS directly. Keep your purchase receipt as proof of purchase.

For technical support or service inquiries, please contact SCOTSMAN ICE SYSTEMS or an authorized service provider.