Pentair PEN355086Z

Pentair 355086 Impeller Assembly User Manual

Model: PEN355086Z

Introduction

This manual provides essential information for the installation, operation, and maintenance of the Pentair 355086 Impeller Assembly. This component is a replacement part designed for specific Pentair and Sta-Rite pool and spa pumps. Please read this manual thoroughly before attempting any installation or maintenance.
The Pentair 355086 Impeller Assembly is compatible with:

- Pentair Challenger high flow pool and spa inground pumps, model CFII-NI-2A.
- Pentair Pinnacle high flow pool and spa inground pumps, model CFII-NI-2A.
- Pentair SuperFlo pool and spa pumps.
- Sta-Rite SuperMax pool and spa pumps.

It is designed for use with 1-1/2F, 2-horsepower motors.

Product Overview



Figure 1: Front view of the Pentair 355086 Impeller Assembly. This image shows the main body of the impeller with its central threaded opening.



Figure 2: Side view of the Pentair 355086 Impeller Assembly. This view highlights the impeller vanes and the cylindrical hub.

The impeller assembly is a critical component in pool and spa pumps, responsible for creating the centrifugal force that moves water. Proper functioning of the impeller ensures efficient water circulation and filtration.

Safety Information

Always disconnect power to the pump before performing any service or maintenance. Failure to do so can result in serious injury or death. Consult a qualified professional if you are unsure about any procedure.

- Ensure the pump is completely de-energized and locked out before beginning work.
- Wear appropriate personal protective equipment (PPE), such as gloves and eye protection.

- Keep children and pets away from the work area.
- Refer to your specific pump's manual for additional safety guidelines.

Setup and Installation

This section outlines the general steps for replacing an impeller. Specific procedures may vary slightly depending on your pump model. Always refer to your pump's original instruction manual for detailed disassembly and reassembly instructions.

Required Tools:

- Screwdrivers (Phillips and/or flathead)
- Wrenches (adjustable or specific sizes for pump housing bolts)
- Sealant (if recommended by pump manufacturer for reassembly)
- New pump seal kit (often recommended when replacing impeller)

Installation Steps:

1. **Disconnect Power:** Turn off all power to the pump at the circuit breaker. Verify power is off using a voltage tester.
2. **Drain Pump:** If applicable, drain water from the pump housing.
3. **Disassemble Pump:** Carefully remove the pump housing bolts and separate the motor from the wet end of the pump. This typically involves removing the volute and diffuser.
4. **Remove Old Impeller:** Access the old impeller. It may be threaded onto the motor shaft or secured with a bolt. Use appropriate tools to unthread or unbolt the old impeller. Note the direction of rotation for removal.
5. **Inspect Components:** Inspect the motor shaft, diffuser, and volute for any damage or wear. Replace any worn components as necessary, especially the pump seal.
6. **Install New Impeller:** Thread the new Pentair 355086 Impeller Assembly onto the motor shaft. Ensure it is securely tightened, but do not overtighten.
7. **Reassemble Pump:** Reassemble the pump in reverse order of disassembly. Ensure all gaskets and O-rings are properly seated and lubricated if required. Tighten all bolts evenly.
8. **Reconnect Power:** Once the pump is fully reassembled and all connections are secure, restore power at the circuit breaker.
9. **Test Operation:** Prime the pump according to your pump's manual and test for proper operation and leaks.

Operating Considerations

The impeller assembly itself does not have operational controls. Its function is integral to the pump's operation. Ensure the pump is properly primed before starting to prevent dry running, which can damage the impeller and other pump components.

- Always ensure adequate water flow to the pump.
- Avoid running the pump dry.
- Monitor pump performance for unusual noises or reduced water flow, which could indicate an issue with the impeller or other pump parts.

Maintenance

Regular maintenance of your pool or spa pump, including the impeller, is crucial for longevity and efficient operation.

- **Regular Inspection:** Periodically inspect the impeller for signs of wear, cracks, or debris accumulation. This typically requires disassembling the wet end of the pump.

- **Cleaning:** If debris (hair, leaves, small stones) is found lodged in the impeller vanes, carefully remove it. Blockages can significantly reduce pump efficiency and cause damage.
- **Seal Replacement:** It is highly recommended to replace the pump shaft seal whenever the pump is disassembled for impeller replacement or inspection. A worn seal can lead to leaks and motor damage.
- **Winterization:** Follow your pump manufacturer's guidelines for winterizing your pump to prevent damage from freezing water, which can affect the impeller and housing.

Troubleshooting

Issues related to the impeller often manifest as reduced pump performance or unusual noises. This section provides general troubleshooting tips.

Problem	Possible Cause	Solution
Reduced Water Flow / Low Pressure	◦ Clogged impeller ◦ Damaged impeller (cracked, broken vanes) ◦ Air leak in suction line ◦ Pump not primed	◦ Inspect and clean impeller ◦ Replace impeller ◦ Check and seal suction line connections ◦ Re-prime pump
Loud Noise from Pump	◦ Debris in impeller ◦ Worn bearings (motor issue) ◦ Cavitation (lack of water)	◦ Inspect and clean impeller ◦ Consult a motor repair specialist ◦ Ensure pump is fully primed and suction line is clear
Pump Leaking	◦ Worn pump seal ◦ Loose connections/gaskets	◦ Replace pump seal ◦ Check and tighten all connections; replace gaskets/O-rings

If troubleshooting steps do not resolve the issue, contact a qualified pool professional or Pentair customer support.

Specifications

Attribute	Value
Model Number	PEN355086Z
Part Number	355086
Product Dimensions	5 x 5 x 2.25 inches
Item Weight	4 ounces
Compatibility	Pentair Challenger, Pinnacle (CFII-NI-2A), SuperFlo; Sta-Rite SuperMax pumps
Motor Horsepower	1-1/2F, 2-horsepower

Warranty Information

Pentair products are manufactured to high-quality standards. For specific warranty details regarding the 355086 Impeller Assembly, please refer to the warranty documentation included with your original pump purchase or visit the official

Pentair website. Warranty coverage typically applies to manufacturing defects and does not cover damage due to improper installation, misuse, or normal wear and tear.
It is recommended to retain your purchase receipt as proof of purchase for any warranty claims.

Customer Support

For technical assistance, replacement parts, or further information, please contact Pentair customer support:

- **Website:** www.pentair.com
- **Phone:** Refer to the Pentair website for regional contact numbers.
- **Authorized Dealers:** Contact your local authorized Pentair dealer for service and parts.

When contacting support, please have your product model number (PEN355086Z) and any relevant purchase information ready.

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