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› Star ES05S 1/2 HP Cast Iron Shallow Well Jet Pump Instruction Manual

Star ES05S

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Model: ES05S

Brand: Star

1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Star ES05S 1/2 HP Cast Iron Shallow Well Jet Pump. Please read all instructions carefully before beginning installation or operation to ensure proper function and longevity of the pump.



Image: Star ES05S 1/2 HP Cast Iron Shallow Well Jet Pump

2. KEY FEATURES

- Cast iron 1/2 HP shallow well jet pump.
- Designed for single pipe shallow wells with suction lifts from 0' to 25 feet.
- Provides up to 930 GPH (3,520 LPH) and pressures up to 50 PSI.
- Sturdy cast iron construction includes ejector for easy serviceability, pressure switch, special priming port for easy priming, carbon/ceramic mechanical shaft seal, and easy access drain plug for winterizing.
- 115/230 dual voltage continuous duty uni-frame 56 motor (NEMA J adaptable) with capacitor start provides maximum starting torque and thermal overload protection.
- 100% factory tested.

3. CHOOSING THE RIGHT PUMP & INSTALLATION CONSIDERATIONS

Selecting the correct jet pump for your well is crucial for optimal performance. Jet pumps draw water from a well using suction. There are different types of jet pumps designed for various well depths:

- **Shallow Well Jet Pumps:** Suitable for maximum water depths of 25 feet. These pumps typically have one inlet/outlet port.
- **Convertible Jet Pumps:** Designed for water depths between 26 and 40 feet.
- **Deep Well Jet Pumps:** Can draw water from depths up to 110 feet. Both convertible and deep well jet pumps feature two ports for stronger pumping action, creating a vacuum to pull water from greater depths.

When replacing an existing pump, it is generally recommended to replace it with the same type (shallow, convertible, or deep well) to ensure compatibility with your well system.

Electrical Requirements

The Star ES05S is a dual voltage pump (115V/230V). Verify your electrical supply at the breaker box. A dual switch indicates 230V, while a single switch indicates 115V. Ensure the pump is correctly wired for your specific voltage to prevent damage.

Ejector Replacement (for Deep Well Pumps)

If you are replacing a deep well pump, it is essential to also replace the ejector located within the well. Each ejector is designed to work with a specific pump type, and an old ejector may be worn out, compromising pump performance.

Foot Valve and Air Tank

A faulty foot valve can cause the pump to lose its prime and fail to pump water. It is recommended to replace the foot valve when installing a new jet pump. Additionally, check the air tank pressure; standard air tanks should be around 40 PSI when the pump is idle. Incorrect air tank pressure can lead to low water pressure or continuous pump cycling.

Informational Videos

Choosing the Right Jet Pump

Your browser does not support the video tag.

Video: This video provides guidance on how to select the appropriate jet pump based on well depth and type, explaining the differences between shallow, convertible, and deep well jet pumps.

Star ES05S 1/2 HP Cast Iron Shallow Well Jet Pump Overview

Your browser does not support the video tag.

Video: A brief overview of the Star ES05S 1/2 HP Cast Iron Shallow Well Jet Pump, highlighting its features and design.

Star Jet Pumps 101

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Video: An introductory guide to Star Jet Pumps, covering fundamental concepts and types of pumps.

4. OPERATING INSTRUCTIONS

After proper installation and priming, the pump will operate automatically based on the pressure switch settings. Ensure the well has sufficient water before starting the pump to prevent dry running, which can cause damage.

1. **Priming the Pump:** Before initial startup or after the pump has run dry, remove the priming plug and fill the pump casing completely with water. Replace the priming plug securely.
2. **Power On:** Turn on the electrical power to the pump at the breaker.
3. **Monitor Pressure:** The pump will start and build pressure. Monitor the pressure gauge to ensure it reaches the cut-off pressure set by the pressure switch (typically 50 PSI for this model).
4. **Automatic Operation:** The pump will automatically turn on when water pressure drops below the cut-in setting and turn off when it reaches the cut-off setting.

5. MAINTENANCE

Regular maintenance ensures the longevity and efficient operation of your jet pump.

- **Winterizing:** In cold climates, drain the pump and piping completely before freezing temperatures to prevent damage. Use the easy access drain plug for this purpose.

- **Check for Leaks:** Periodically inspect all connections and seals for leaks. Even small leaks can affect pump performance.
- **Clean Priming Port:** Keep the special priming port clean and free of debris to ensure easy priming when needed.
- **Pressure Switch Inspection:** Ensure the pressure switch is functioning correctly and maintaining desired pressure ranges.

6. TROUBLESHOOTING

Refer to the following common issues and their potential solutions:

Problem	Possible Cause	Solution
Pump runs but no water is delivered.	Loss of prime, faulty foot valve, air leak in suction line, low water level in well.	Re-prime the pump. Inspect/replace foot valve. Check suction line for leaks. Verify well water level.
Low water pressure.	Clogged impeller, worn pump components, incorrect air tank pressure, undersized piping.	Inspect and clean impeller. Check air tank pressure (should be 40 PSI when idle). Consult a professional for worn components or piping issues.
Pump runs continuously.	System leak, faulty pressure switch, waterlogged air tank.	Check for leaks in the plumbing system. Inspect/replace pressure switch. Check air tank for proper pressure and function.
Pump cycles on and off frequently.	Waterlogged air tank, small leak in system, pressure switch differential too narrow.	Check air tank pressure. Inspect for small leaks. Adjust pressure switch differential if applicable (consult manual or professional).

7. SPECIFICATIONS

Specification	Value
Brand	Star
Model Number	ES05S
Horsepower	1/2 HP
Material	Cast Iron
Power Source	AC/DC (115/230V Dual Voltage)
Maximum Flow Rate	930 Gallons Per Hour (3,520 LPH)
Maximum Lifting Height	25 Feet
Item Weight	36.8 Pounds
Product Dimensions (L x W x H)	11"L x 10.6"W x 11"H
UPC	054757002077

8. WARRANTY & SUPPORT

The Star ES05S 1/2 HP Cast Iron Shallow Well Jet Pump is covered by Star Water Systems' 2-year limited warranty. For detailed warranty information or technical support, please refer to the official Star Water Systems documentation or visit their website.

For more information, visit the [Star Store](#).



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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question