MARS 10585

MARS 10585 1/3 HP 115V Direct Drive Blower Motor Instruction Manual

Model: **10585** | Brand: **MARS**

1. Introduction

This manual provides essential information for the safe and effective installation, operation, and maintenance of your MARS 10585 Direct Drive Blower Motor. This motor is designed for use in HVAC systems as a replacement blower motor, featuring 1/3 horsepower, 115V operation, and three speeds.

2. Safety Information

WARNING: Risk of Electric Shock and Injury.

- Always disconnect power to the appliance before installing, servicing, or performing any maintenance on the motor. Failure to do so can result in severe personal injury or death.
- Installation and servicing should only be performed by qualified and experienced personnel.
- Ensure all wiring connections are secure and comply with local electrical codes.
- Handle capacitors with care. Capacitors can store a charge even after power is disconnected. Discharge them safely before handling.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves, during installation and maintenance.

3. Product Overview

The MARS 10585 is a Permanent Split Capacitor (PSC) type motor, commonly used in residential and light commercial HVAC applications. It features an open enclosure and is designed for direct drive blower applications.

Image of the MARS 10585 blower motor, showing its compact design and electrical connections.

Key Features:

- **Motor Type:** PSC (Permanent Split Capacitor)
- **Enclosure:** Open
- **Horsepower:** 1/3 HP (Max)
- **Voltage:** 115V
- **Speeds:** 3
- **Frequency:** 60 Hz
- **Rotation:** Reversible
- **RPM Range:** 1075
- **NEMA Frame Size:** 48
- **Phase:** Single
- **Standards:** cUL listed

4. Specifications

Specification	Value
Brand	MARS
Model Name	FURNACE BLOWER MTR 1/3 HP 115V

Specification	Value
Voltage	115 Volts
Horsepower	0.33 Horsepower (1/3 HP)
Material	Metal
Item Weight	1 Pounds
Manufacturer	MARS - Motors & Armatures, Inc.
UPC	685744105855
Part Number	1012514
Product Dimensions	5.5 x 3 x 5.5 inches
Item Model Number	10585

5. Installation and Setup

Before beginning installation, ensure you have all necessary tools and a new capacitor (typically 5 microfarad/370VAC) as it is not included with the motor. Always refer to the wiring diagram printed on the motor's label for the most accurate connection information.

Installation Steps:

1. **Disconnect Power:** Locate the main power switch for your HVAC system or furnace and turn it OFF. For added safety, turn off the corresponding breaker at your electrical panel. Verify power is off using a voltage tester.
2. **Access Old Motor:** Open the access panel to your furnace or air handler to expose the blower motor.
3. **Document Wiring:** Before disconnecting any wires, take clear photographs of the existing motor's wiring connections. Note the color of each wire and where it connects. Pay close attention to the capacitor connections.
4. **Remove Old Motor:** Disconnect all wires from the old motor and capacitor. Carefully remove the mounting bolts or straps securing the old motor and slide it out of the blower housing.
5. **Install New Motor:** Slide the new MARS 10585 motor into the blower housing. Secure it with the appropriate mounting hardware. Ensure the motor shaft is properly aligned with the blower wheel.
6. **Wiring Connections:** Connect the new motor's wires according to the diagram on the motor label and your documented old wiring. A common wiring scheme for this motor type is as follows:
    - **Brown Wire:** Connect to one terminal of the new capacitor.
    - **Brown/White Stripe Wire:** Connect to the other terminal of the new capacitor.
    - **Yellow Wire:** Connect to the common or neutral terminal on the furnace control board.
    - **Green Wire:** Connect to the ground terminal.
    - **Black Wire:** Typically the high-speed setting (often used for cooling).
    - **Blue Wire:** Typically the medium-speed setting (often used for heating).
    - **Red Wire:** Typically the low-speed setting.

    Connect the appropriate speed wire (Black, Blue, or Red) from the motor to the corresponding speed

terminal on your furnace control board (e.g., 'COOL', 'HEAT', 'FAN'). If your old motor had a white common wire and this motor does not, a jumper may be needed from the brown-with-white-stripe wire to the common terminal on the furnace panel.

7. **Secure Capacitor:** Mount the new capacitor securely within the furnace compartment.
8. **Verify Connections:** Double-check all wiring connections for tightness and correctness. Ensure no bare wires are exposed.
9. **Restore Power:** Close the access panel. Restore power to the furnace at the breaker and main switch.
10. **Test Operation:** Test the furnace or air conditioner to ensure the blower motor operates correctly at all desired speeds.

6. Operation

The MARS 10585 motor is designed for continuous operation within its specified voltage and load limits. It offers three distinct speeds, allowing for flexibility in airflow control for heating, cooling, and continuous fan operation. The motor's rotation is reversible, which is typically set during installation based on the blower wheel's design and desired airflow direction.

Speed Selection:

- The specific speed (high, medium, low) is selected by connecting the corresponding colored wire (Black, Blue, or Red) to the appropriate terminal on your HVAC system's control board.
- High speed (Black wire) is typically used for maximum airflow, often during cooling cycles.
- Medium speed (Blue wire) is commonly used for heating cycles.
- Low speed (Red wire) can be used for continuous fan operation or specific heating/cooling requirements.

7. Maintenance

Regular maintenance helps ensure the longevity and efficient operation of your blower motor.

- **Keep Clean:** Periodically inspect the motor and blower housing for dust, dirt, and debris accumulation. Clean as necessary to prevent overheating and maintain proper airflow.
- **Check Airflow:** Ensure that the air filters in your HVAC system are clean and replaced regularly. Restricted airflow can cause the motor to work harder and overheat.
- **Inspect Wiring:** Annually inspect all electrical connections for signs of wear, corrosion, or looseness. Tighten any loose connections.
- **Listen for Unusual Noises:** Pay attention to any new or unusual noises coming from the motor, such as grinding, squealing, or excessive humming. These could indicate a developing issue.

8. Troubleshooting

If you encounter issues with your MARS 10585 blower motor, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Motor does not start	No power, faulty wiring, faulty capacitor, motor overload protection tripped.	Check power supply and circuit breaker. Verify all wiring connections. Test or replace the capacitor. Allow motor to cool if overload tripped.
Motor hums but does not turn	Faulty capacitor, obstructed blower wheel, seized bearings.	Replace the capacitor. Check for and remove any obstructions in the blower wheel. If bearings are seized, motor replacement may be necessary.
Motor is excessively loud or vibrates	Loose mounting, unbalanced blower wheel, worn bearings, foreign object.	Check and tighten motor mounting. Inspect blower wheel for balance and damage. Check for foreign objects. If bearings are worn, motor replacement may be necessary.
Motor overheats and shuts off	Restricted airflow, excessive load, dirty motor, improper voltage.	Check and replace air filters. Ensure blower wheel is clean and unobstructed. Clean motor exterior. Verify correct voltage supply.

If troubleshooting steps do not resolve the issue, contact a qualified HVAC technician.

9. Warranty and Support

For warranty information and technical support regarding your MARS 10585 Direct Drive Blower Motor, please refer to the documentation provided at the time of purchase or contact MARS - Motors & Armatures, Inc. directly through their official website or customer service channels. Keep your purchase receipt as proof of purchase for any warranty claims.