

Arco SW081

ARCO SW081 Solenoid Instruction Manual

Model: SW081

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the ARCO SW081 Solenoid. Please read these instructions carefully before proceeding with installation or use to ensure safety and optimal performance.

The ARCO SW081 is a 12-volt replacement solenoid designed for various applications, including those requiring compatibility with BRP-OMC part numbers 277628 and 378444, and SIERRA part number 18-5807.

2. SAFETY INFORMATION

WARNING:

- Always disconnect the battery's negative terminal before working on any electrical system to prevent electrical shock or short circuits.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the replacement solenoid matches the specifications of the original part.
- Improper installation can lead to equipment damage or personal injury. If unsure, consult a qualified technician.
- This product contains electrical components. Keep away from water and moisture unless specifically designed for such environments.

3. PRODUCT OVERVIEW

The ARCO SW081 Solenoid acts as an electromagnetic switch, typically used in starting circuits of marine engines or other 12-volt systems. It allows a small current from the ignition switch to control a much larger current flow to the starter motor.



Image of the ARCO SW081 Solenoid, a compact electrical component typically used in marine engine applications. This image shows the general appearance and terminals of the solenoid.

4. SETUP AND INSTALLATION

Follow these general steps for installing the ARCO SW081 Solenoid. Specific procedures may vary depending on the equipment. Refer to your equipment's service manual for detailed instructions.

1. **Preparation:** Ensure the engine is off and the battery's negative terminal is disconnected. Gather necessary tools (wrenches, wire cutters, crimpers, electrical tape).
2. **Locate Old Solenoid:** Identify the existing solenoid. Note the wiring connections before removal. It is recommended to take a photograph for reference.
3. **Disconnect Wiring:** Carefully disconnect all wires from the old solenoid. Label each wire to ensure correct re-connection.
4. **Remove Old Solenoid:** Unbolt and remove the old solenoid from its mounting location.
5. **Mount New Solenoid:** Position the ARCO SW081 Solenoid in the same location and secure it using appropriate fasteners. Ensure a clean, solid mounting surface for proper grounding if applicable.
6. **Connect Wiring:** Reconnect the wires to the new solenoid according to your labels or reference photograph. Ensure all connections are clean, tight, and free from corrosion.
 - Typically, there will be two large terminals (one from the battery, one to the starter) and one or two smaller terminals (for the ignition switch/start signal).
7. **Test Connections:** Double-check all connections for security and correct placement.
8. **Reconnect Battery:** Reconnect the battery's negative terminal.
9. **Functionality Test:** Attempt to start the engine or activate the circuit controlled by the solenoid to verify proper operation.

5. OPERATING PRINCIPLES

The ARCO SW081 Solenoid operates by converting an electrical signal into mechanical action. When a small current is applied to its control terminal (typically from the ignition switch), an electromagnetic field is created. This field pulls a plunger, closing a set of heavy-duty contacts. These contacts then allow a high-current flow from the battery to the starter motor, initiating the engine cranking process. Once the ignition switch is released, the control current stops, the electromagnetic field collapses, and the contacts open, disconnecting the starter motor from the battery.

6. MAINTENANCE

The ARCO SW081 Solenoid is designed for durability and typically requires minimal maintenance. However, periodic inspection can extend its lifespan and ensure reliable operation.

- **Terminal Inspection:** Regularly check all electrical connections to the solenoid for tightness and corrosion. Loose or corroded connections can lead to poor performance or failure.
- **Cleaning:** Keep the solenoid and its terminals clean and free of dirt, grease, and moisture. Use a non-conductive cleaner if necessary.
- **Environmental Protection:** While designed for marine environments, avoid prolonged exposure to excessive moisture or corrosive substances where possible.
- **Wiring Integrity:** Inspect the wiring connected to the solenoid for any signs of fraying, cracking, or damage. Replace damaged wires immediately.

7. TROUBLESHOOTING

If you experience issues with your ARCO SW081 Solenoid, consider the following common troubleshooting steps:

Symptom	Possible Cause	Solution
Engine does not crank when ignition is turned.	<ul style="list-style-type: none"> ◦ Loose or corroded battery terminals. ◦ Low battery charge. ◦ Faulty ignition switch. ◦ Faulty solenoid (not clicking or engaging). ◦ Open circuit in control wiring. 	<ul style="list-style-type: none"> ◦ Clean and tighten battery terminals. ◦ Charge or replace battery. ◦ Test ignition switch for continuity. ◦ Test solenoid for proper operation (listen for click, check voltage at starter terminal). ◦ Inspect control wiring for breaks.
Solenoid clicks but starter does not engage.	<ul style="list-style-type: none"> ◦ Low battery voltage (not enough to turn starter). ◦ Corroded or loose main power cables to/from solenoid. ◦ Faulty starter motor. ◦ Internal solenoid contact failure. 	<ul style="list-style-type: none"> ◦ Charge or replace battery. ◦ Clean and tighten all main power cable connections. ◦ Test starter motor directly. ◦ Replace solenoid if internal contacts are suspected to be faulty.
Solenoid remains engaged after ignition is released.	<ul style="list-style-type: none"> ◦ Stuck solenoid contacts. ◦ Faulty ignition switch (sending continuous signal). 	<ul style="list-style-type: none"> ◦ Disconnect battery immediately. Replace solenoid. ◦ Test ignition switch.

Always ensure safety precautions are followed when troubleshooting electrical systems.

8. SPECIFICATIONS

Feature	Detail
Brand	Arco
Model Name	Solenoid
Model Number	SW081
Voltage	12 Volts
Item Weight	1 Pound (approx. 0.45 kg)
Product Dimensions	4 x 3 x 3 inches (approx. 10.16 x 7.62 x 7.62 cm)
Manufacturer	Arco
UPC	693006001647
ASIN	B0000AXUU0
Replaces Part Numbers	BRP-OMC 277628, BRP-OMC 378444, SIERRA 18-5807

9. WARRANTY INFORMATION

ARCO Marine products are manufactured to high-quality standards. For specific warranty terms and conditions applicable to the ARCO SW081 Solenoid, please refer to the official warranty statement provided with your purchase or contact ARCO Marine directly. Warranty coverage typically addresses defects in materials and workmanship under normal use.

Note: Protection plans offered by third parties are separate from the manufacturer's warranty.

10. SUPPORT AND CONTACT

For technical assistance, replacement parts, or further inquiries regarding your ARCO SW081 Solenoid, please contact ARCO Marine customer support.

You can find more information and contact details on the official ARCO Marine store page: [ARCO Marine Store](#)