

clēaire

ADVANCED EMISSION CONTROLS®

Power-Supply Station

Installation and Maintenance Guide



The instructions, specifications, and recommendations in this manual are based on current information when this manual was released. Cleaire Advanced Emission Controls, LLC reserves the right to make changes at any time without obligation. If you find differences between your system and the information in this manual, contact your Cleaire dealer or call Cleaire at 1-800-308-2111.

The Cleaire logo, *Cleaire Advanced Emission Controls*, *Allmetal*, *Horizon*, *Lonestar*, *LongMile*, *Longview*, *MLC* and *Phoenix* are registered trademarks of Cleaire Advanced Emission Controls, LLC.

This page intentionally left blank

Horizon[®] or Skyline[™]
Power-Supply Station
Installation and Maintenance Guide

Table of Contents

Notices	1
Responsibility	2
Correct Voltage Required	2
Use Only For Horizon or Skyline System	2
Electrical Specifications	3
Power-Supply Station Installation	4
Installation Guidelines	5
Wiring the Power-Supply Station Receptacle.....	5
Inspection and Maintenance	8
At Each Use.....	9
Lubricate Plug and Receptacle Periodically	9

NOTICES

Responsibility



The power-supply station is the responsibility of the customer and their electrical contractor. Failure to meet the Electrical Specifications (page 3) could damage the Horizon or Skyline system and be the basis for denying a warranty claim.

This guide is provided to assist the customer and their electrical contractor in designing and installing the power-supply station. This guide does not address electrical codes or regulations, which are the responsibility of the customer and their electrical contractor. Appropriate safety considerations should always be incorporated in the power-supply station design, installation and use.

Correct Voltage Required

Horizon and Skyline systems are offered in 208-VAC or 240-VAC models. A Horizon or Skyline system should only be plugged into a power-supply station with the correct voltage for that system.

Attention:



Be sure the power-supply is the correct voltage for the Horizon or Skyline. 208-VAC and 240-VAC power ARE NOT INTERCHANGEABLE. Damage to the system caused by plugging in the incorrect voltage may be grounds for denying a warranty claim.

Use Only For Horizon or Skyline System

The wiring of the power-supply receptacle specified in this manual is designed specifically to be used with the power plug on the vehicle or equipment that has a Horizon or Skyline system installed.



DO NOT plug the power-supply receptacle into any other device or equipment. Doing so could damage the other device or equipment and also possibly cause bodily injury.

ELECTRICAL SPECIFICATIONS

The Horizon's or Skyline's electrical demand is 2800 watts at 208-volts single-phase AC and 60 Hz or 2700 watts at 240-volts single-phase AC and 60 Hz.

The maximum allowable variation in the supply voltage is +/- 5 volts at the Horizon or Skyline plug while under load. The electrical contractor should take this requirement into account when designing the electrical supply circuit and sizing the power cord.

The total number of power-supply stations should equal the total number of Horizon or Skyline systems that will be plugged in at the same time.

A transformer may be used to achieve the proper voltage if the facility's power source is outside the range needed for the Horizon or Skyline.

Warning:



Power-supply voltage that does not meet the electrical specification may damage the Horizon or Skyline and may be the basis for denying a warranty claim.

POWER-SUPPLY STATION INSTALLATION

Attention:



Only a qualified electrician may perform the steps in this section.

Installation Guidelines

- The power-supply wiring and breakers must be adequately sized to meet the electrical specifications (see page 3).
- Be sure to follow all applicable electrical codes.
- Display appropriate warning labels for safety.
- The power cord should be 3-wire, appropriately sized and rated. See “Electrical Specifications” on page 3. Cleaire recommends a 10-gauge 3-wire cable for lengths up to 30-ft. Cleaire also recommends that the cord have an oil- and gas-resistant sheath.
- The power cord should be properly supported.
- Choose a location for each power-supply station so that there is a minimum of interference will normal traffic and workflow while the vehicle is parked and the Horizon or Skyline is plugged in. Avoid locations that could lead to power cord damage.
- The total number of stations should equal the number of Horizon or Skyline systems that will be plugged in at the same time.

Wiring the Power-Supply Station Receptacle

1. Open the receptacle cap by unscrewing the lock nut (Figure 1).

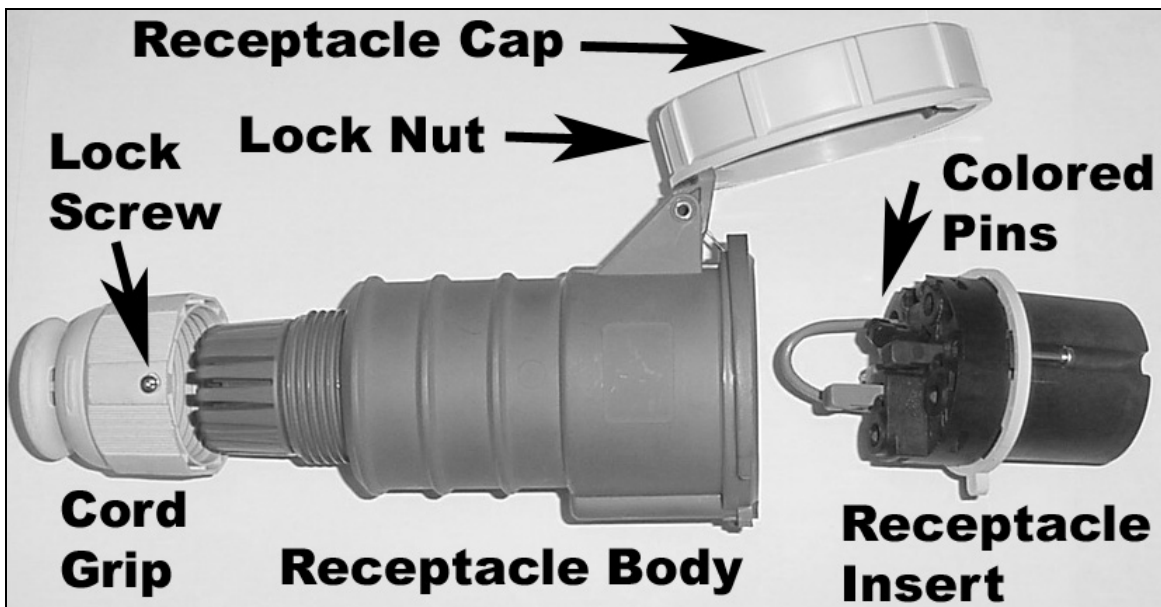


Figure 1: Power receptacle.

2. Unscrew both retaining screws (see Figure 2) and remove the receptacle insert.

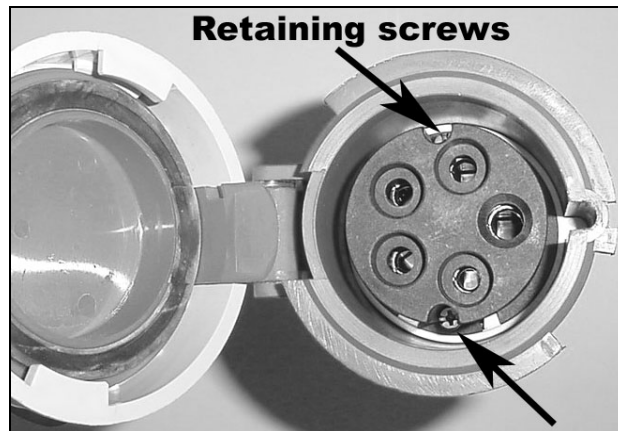


Figure 2: Receptacle insert retaining screws.

3. Remove the cord grip from the receptacle body (see Figure 1).
4. Feed the 3-wire power cord through the cord grip and the receptacle body.
5. Strip the wires 1/2 inch.
6. For 208-VAC systems, insert the wires into the receptacle insert slots shown in Figure 3 according to the wiring diagram shown in Figure 4. For 240-VAC systems, insert the wires into the receptacle insert slots shown in Figure 5 according to the wiring diagram shown in Figure 6.



Attention: The jumper between L3 and Neutral is a DC circuit used to enable the starter lock-out in the Horizon or Skyline system. **AN AC NEUTRAL IS NOT REQUIRED. DO NOT CONNECT A CONDUCTOR WITH AC VOLTAGE AS DAMAGE WILL RESULT.**

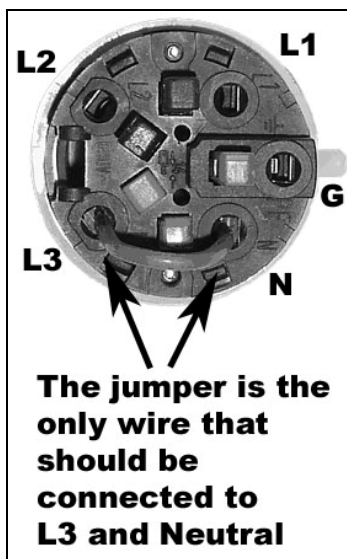


Figure 3: Pin side of 208-VAC receptacle insert.

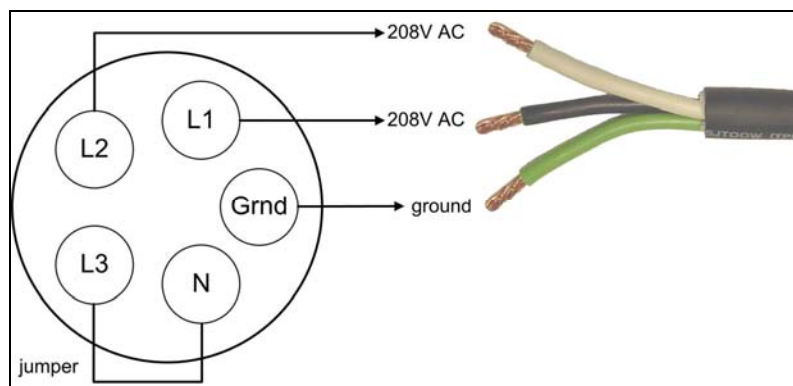


Figure 4: 208-VAC receptacle insert wiring diagram.

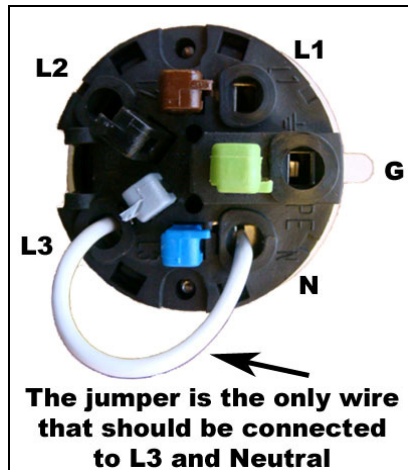


Figure 5: Pin side of 240-VAC receptacle insert.

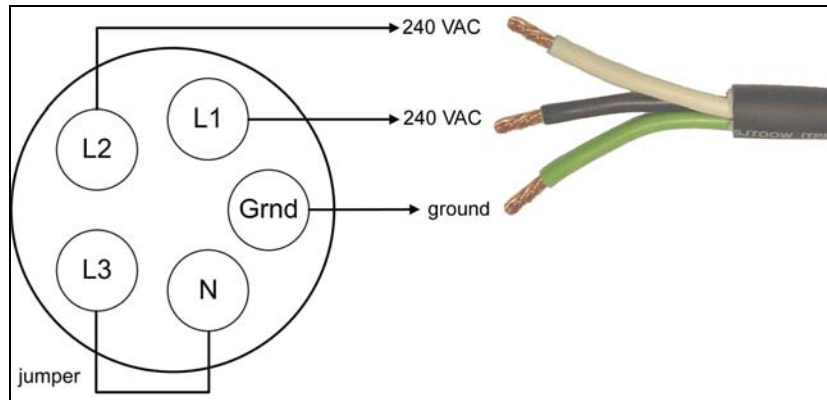


Figure 6: 240-VAC receptacle insert wiring diagram.

7. Push the colored quick-connect pins into the receptacle to lock the wires in place. (Note: pins can be pulled out with a screwdriver to release a wire if required.)
8. Gently push the insert into the body and partially tighten the retaining screws.
9. Screw down the cord grip (Figure 1) onto the receptacle body until it is completely sealed against the power cord.
10. Tighten the lock screw on the cord grip.
11. Tighten the receptacle insert retaining screws.
12. Close the cap and tighten the lock nut.
13. Turn the power breaker back on before plugging in the Horizon or Skyline.
14. Connect the receptacle to the plug on a Horizon or Skyline for which it is known that the starter lockout is working. Attempt to start the engine. If the engine starts, the jumper is not wired correctly in the receptacle. Correctly wire the jumper as shown in this guide.

When completed, the power-supply receptacle wired to the power cord should meet the following criteria:

- ✓ The power cord is 3-wire of sufficient rating for its length and load.
- ✓ The receptacle **does not** require a neutral wire.
- ✓ The jumper wire must be in place.
- ✓ The jumper wire is the **only** wire connected to the “N” and “L3” contacts.
- ✓ The receptacle’s high-voltage (208 or 240 VAC single-phase) contacts will supply power to the related contacts on the Horizon’s or Skyline’s plug on the vehicle.
- ✓ The engine will not start when the receptacle is plugged into the Horizon or Skyline.

INSPECTION AND MAINTENANCE

At Each Use

Each time before plugging in the Horizon or Skyline, always be sure the electrical power cord, receptacle, and plug are in good condition and have no damage. Make repairs if needed. If necessary, contact a qualified electrician.

Be sure to screw the cap back onto the receptacle after unplugging it (also screw the cap back onto the power plug on the vehicle).

Be sure the warning tag (Figure 7) is on the power-supply receptacle. If it is missing, order a replacement tag from Cleaire and attach it to the receptacle.

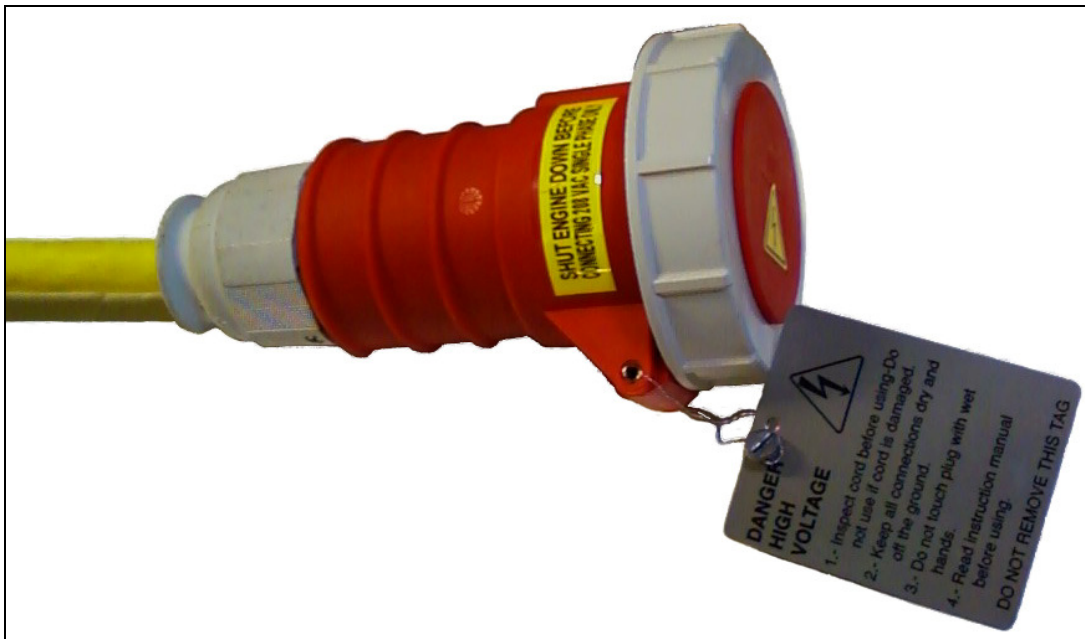


Figure 7: Warning tag on receptacle.

Lubricate Plug and Receptacle Periodically

Lubricating the Horizon plug and receptacle on a regular basis makes it easy to plug and unplug and ensures good electrical contact. Cleaire recommends CorrosionX spray lubricant which is available in aerosol (PN CUT-118-6) or pump (PN CUT-118-16) containers (Figure 8).



Figure 8: CorrosionX spray lubricant.

Follow all the manufacturer's instructions. Lubricate both the plug pins and receptacle sockets as shown in Figure 9 and Figure 10. Wipe up any excess with a shop rag.



Figure 9: Lubricate the plug.



Figure 10: Lubricate the receptacle.



Cleaire Advanced Emission Controls, LLC
14333 Wicks Blvd.
San Leandro, CA 94577
1-800-308-2111