
Gleason Reel—DWR (Dual Wire Rope) Motor Reel

Installation, Operation, and Maintenance



Figure 1: Dual Wire Rope Motor Reel

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Introduction

Introduction

Purpose

This document provides installation, operation, and maintenance information for Gleason Reel's DWR (Dual Wire Rope) Motor Reel. The customer and all individuals using and/or maintaining the DWR motor reel product/system must:

- Read and adhere to the information in this manual to install and use the reel safely and professionally.
- Pay particular attention to the safety instructions/warnings and general guidelines for installation and maintenance.
- Keep a copy of this manual available, on site, for reference.

 CAUTION
<ul style="list-style-type: none">• Failure to adhere to the information in this manual may result in injury and/or property damage and may void the warranty.• Gleason Reel advises the installer and customer to fully review this manual prior to product installation and utilization.
Failure to follow these instructions may result in death, serious injury, and/or property damage.

Product/System Overview

The DWR motor reel is an overhead retractable reel for use with commercial electric vehicle charging stations. This reel supports large ceiling and wall-mount charging solutions while occupying a minimum footprint in the facility. Dual diameter drums with a gearbox and intelligent controls allow for variable rate wrapping of the charging cable at a smooth, safe speed. The reel's rugged design allows indoor as well as covered outdoor installation locations for full field flexibility. Additionally, the control panel includes a heating strip for installations in freezing locations. The simple user interface minimizes operator confusion, allowing easy extension and retraction of the electric vehicle charging cable, safely storing it out of harm's way when not in use.



Figure 2: DWR motor reel

Functional System Overview

The DWR motor reel's primary function is to conveniently store electric vehicle charging cables out of the way until required. When needed, actuate the reel via a control panel and pendant installed elsewhere. The user simply presses one of two push buttons, on the pendant, to bring the charging cable down or up from its current location. Should an emergency arise, the pendant includes an emergency stop button to immediately stop the reel's motion.

A limit switch, on the reel, monitors the reel's travel length, preventing accidental extension or retraction, of the reel, too far, in either direction. The reel slowly comes to a stop upon triggering either of the switch's endpoints; only allowing operation in the opposite direction. Should the cable catch somewhere between the limit switch's endpoints, the DWR motor reel's controls detect the resistance and stop the reel's motion, avoiding damage to the cable reel or surroundings.

The interchangeability of the reel's cable clips enables pairing the reel with a wide variety of charge cable sizes, ranging from 0.31 to 2.38 inches in diameter. To obtain new clips for various cable diameters, order the cable clips independently through a Gleason Reel representative.

Physical System Overview

The exploded view of the product below shows the general layout and structure between the various components.

Introduction

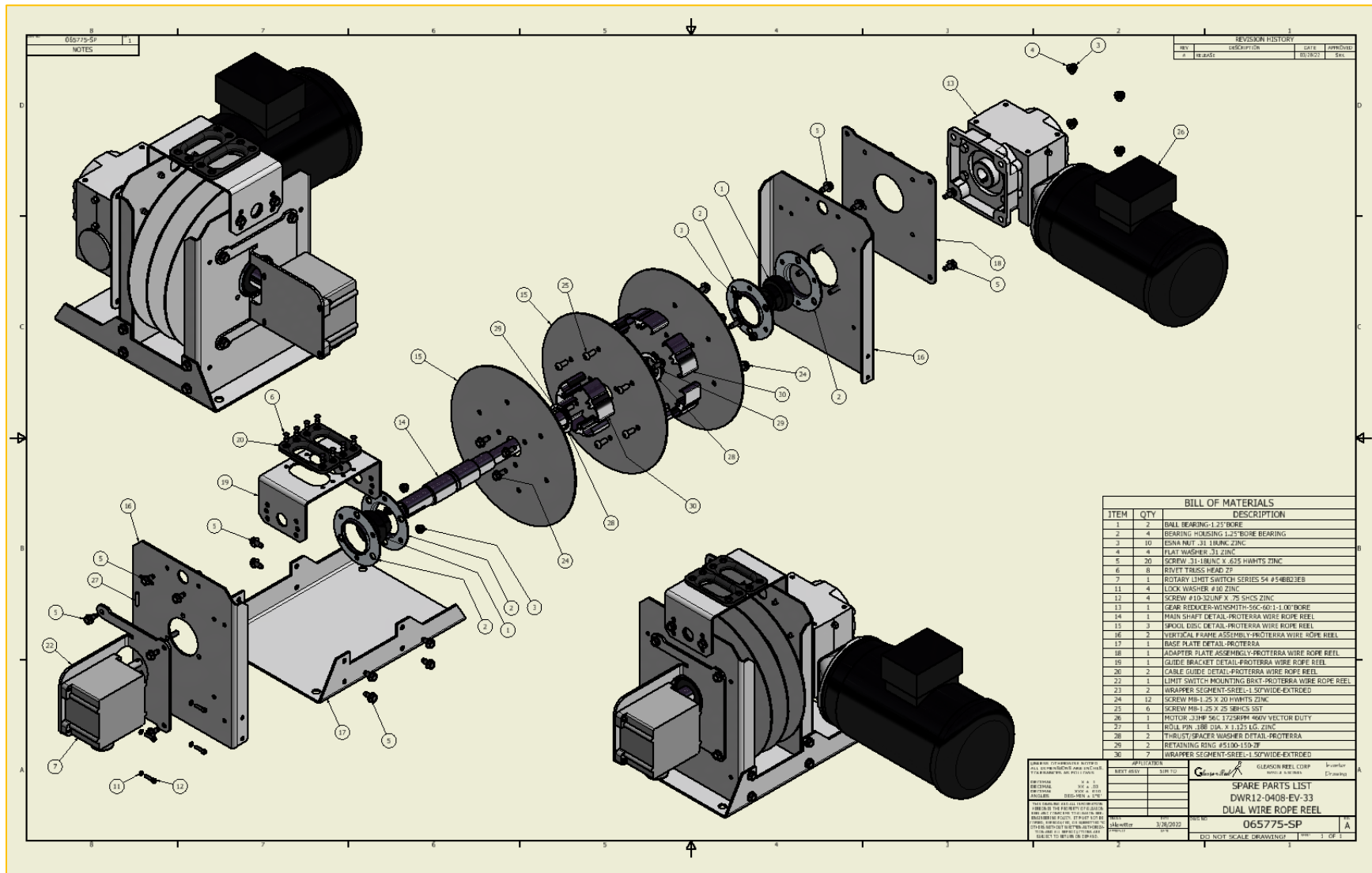


Figure 3: Dual Wire Rope Motor Reel—Exploded View

Nameplate/Product Specifications

Nameplate/Product Specifications

Table 1: Electrical Mechanical and Physical Specifications

Description	Specification
Reel Weight (Approximate)	98 lb
Reel Surface Area (Approximate)	3446 in ²
Reel with Mounting Bracket Weight (Approximate)	128 lb
Reel with Mounting Bracket Surface Area (Approximate)	4800 in ²
Ceiling Mount Canopy System Weight (Approximate)	150 lb
Ceiling Mount Canopy System Surface Area (Approximate)	8869 in ²
Wall Mount Canopy System Weight (Approximate)	163 lb
Wall Mount Canopy System Surface Area (Approximate)	8809 in ²
Control Panel Weight (Approximate)	17 lb
Supply Voltage	480 V ac
Motor Horsepower	0.5 HP
# Phase	3 PH
Frequency	60 Hz
Motor Voltage	460 V ac
Motor Full Load Amps	0.90 A
RPM	1725 RPM
Frame Size	56C
Dual Wire Rope Motor Reel UL Certification	File #: E534497
Motor UL Certification	File #: E323353
Gearbox Gear Ratio	60:1
Limit Switch Gear Ratio	72:1
Limit Switch UL Certification	File #: E100646 VOL. 4
Limit Switch CSA Certification	File #: LR12268 Report #2136610
Control Panel UL Certification	File #: E311614
Control Panel Rating	NEMA Type 3R
DWR Serial Number (Customer Filled)	
Installation Date (Customer Filled)	

NOTE: Enter the DWR motor reel's serial number and the installation date in the table above to maintain a record of this information.

Safety

Safety

Safety Documentation/Protocol

By purchasing and installing this product, the customer assumes all responsibility and risk that the product's usage is as the manufacturer intends. This includes compliance to the safety resources in this document, as well as all third-party safety regulations put forth by the customer and/or geographical location of installation. To guarantee the safety of the product user, it is utterly important to understand and follow the guidelines below. Under no circumstance does the manufacturer assume any liability for deviations from the procedures within this document.

Environmental Safety

For disposal of this product, observe all current local, federal, and state regulations pertaining to discarding/recycling various materials. This product primarily consists of steel. Dispose of these components via local recycling practices. Refer to [Appendix A: Equipment Manuals](#), for subcomponent manuals (variable frequency drive, gearbox, etc.) and their proper disposal requirements.

For inquiries about product disposal, reach out to your Gleason Reel representative.

User Safety


This product requires qualified personnel for installation, operation, and maintenance procedures. Allowing unqualified personnel to install, operate, or maintain this equipment may lead to unsafe operation of the product and potential damage to the unit and/or injury to employees/bystanders.

A qualified person(s) is an individual or individuals who have the proper training in accordance with relevant laws and regulations. All qualified personnel must be familiar with this installation, operation, and maintenance manual prior to performing any work.

Gleason Reel recommends following all applicable OSHA, NFPA, NEC, and local guidelines when working on this product.

NOTE: This equipment has an arc flash potential; follow NFPA 70E.

- The installation's available fault current determines the level of arc protection clothing necessary. The end user must label this equipment accordingly.
- In general terms, the NEC lists low voltage as less than 600 volts.

	! DANGER
	HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH
<ul style="list-style-type: none"> • Apply appropriate PPE (personal protective equipment) and follow safe electrical work practices. See NFPA 70E • Only qualified electrical personnel shall install and service this equipment. • Turn off all power supplying this equipment before working on or inside equipment. • Always use a properly rated voltage sensing device to confirm power is off. • Replace all devices, doors and covers before turning on power to this equipment. 	
<p>Failure to follow these instructions will result in death or serious Injury.</p>	

Standard Safety Procedures

Gleason Reel recommends following standard safety procedures when installing, operating, or maintaining this product. Always check for additional requirements from the employer and/or geographical location. Refer to the following list of recommended safety procedures:

- LOTO (Lock Out Tag Out),
- suitable physical barrier around workplace,
- safety guards in place,
- clear path within and around working area,
- qualified personnel only,
- ensure equipment is clean, and
- utilize proper PPE (personal protective equipment).


Safety

Equipment Specific Warnings

VFD (Variable Frequency Drive)—Leakage Current


Pairing VFDs with AC motors generates leakage current that may flow out of the drive. The cause of this is the capacitances existing between the various components within the system. The leakage current may prematurely trip circuit breakers and relays. For countermeasures and troubleshooting methods associated with leakage current, see section 3.1 on page 38 of the VFD manual.

Variable Frequency Drive (VFD)—Discharge Time

 WARNING
WHEN REMOVING POWER FROM A VFD, THE CAPACITORS RETAIN ELECTRICAL CHARGE FOR SOME TIME.
<p>Do NOT interact with the VFD until after the capacitors have sufficient time to discharge.</p> <p style="padding-left: 40px;">The standard wait time for this process is at least 10 minutes after removing power.</p> <p>Verify the voltage across the main inverter terminals is less than or equal to 30 V dc prior to any interaction.</p>
<p>Failure to follow these instructions may result in death or serious Injury.</p>

For more information, see section 3.5 page 46 of the VFD manual that highlights precautions to take when working with a VFD inverter.

Rotational Bodies—Shaft

 CAUTION
<p>This product utilizes components that rotate. Rotating parts may catch loose clothing, hair, or accessories/jewelry. This can lead to severe injury. Secure loose clothing, jewelry, and any other loose or protruding items before installing or maintaining this product.</p>
<p>Failure to follow these instructions may result in death or serious Injury.</p>

Transportation and Storage

Transportation and Storage

Package Inspection


Upon receiving the product package, review the shipment for any damage or missing items. Take note of any damage and any other observations on receipt of shipment. If required, reach out to your Gleason Reel Representative for any claims for damaged product.

Product Inspection

Inspect the product for any damage from the shipping process. Take note of any observations on receipt of shipment. If required, reach out to your Gleason Reel Representative for any claims for damaged product.

Lifting Guidelines


There are two one-inch diameter through holes within the vertical frame and cable guide brackets. These are the reel's designated lifting points. Gleason Reel recommends that the installer use two lifting hooks through these holes when moving the product. The reel weight is approximately 100 pounds. Use lifting straps of sufficient rating. It is the installer's responsibility to use safe and efficient lifting practices when moving the reel.

 WARNING
HANDLING, LIFTING, AND TOPPLING HAZARD
<ul style="list-style-type: none">• Keep area below the equipment clear of all personnel and property while lifting.• Balance and steady the load to prevent tipping.
Failure to follow these instructions may result in death, severe injury, and/or equipment damage.

Transportation and Storage

Product Storage

The DWR motor reel product is ready for installation upon receipt. Refer to the following information and procedures if storing the product upon reception:

 CAUTION
IMPROPER WORK PRACTICE
If storing equipment prior to installation, protect it from the weather and keep it free of condensation and dust.
Failure to follow this instruction may result in injury or equipment damage.

Short-Term Storage

If installing the product within 6-months of reception, follow these short-term storage practices:

- Store the product with the mounting holes against the resting surface (floor, pallet, etc.) and away from the weather (wind, rain, snow, etc.).
- Gleason Reel strongly recommends storing the product indoors.

Long-Term Storage

Follow long-term storage practices when storing the product longer than 6-months. This includes additional storage requirements beyond the processes in the short-term storage section above.


- Place the product in a location that avoids ambient vibration.
Vibration must not exceed 0.15 in/sec (0.8 mils maximum at 60 hertz) to prevent motor bearing brinelling. If shock or vibration exceeds this, use vibration isolation pads.
- Maintain the storage location's temperature range between 10 °C to 49 °C (50–120 °F) with relative humidity no higher than 60%.
A dry location is preferable to minimize/eliminate moisture buildup.
- Coat all external machined surfaces with a rust preventative material.
- Completely fill the gearbox with Mobil Glygoyle 460 lubricant.
- Cover all shafts/bores with a rust preventative.

Upon installation/startup, follow the instructions for draining the lubricant to the proper level. See the [RD-Speed-Reducer-Installation-Operation-Lubrication manual in Appendix A: Equipment Manuals](#).

Installation

Installation

Precautions

 WARNING
ACCIDENTAL EQUIPMENT OPERATION
<ul style="list-style-type: none">• Provide adequate clearance for working space around operator control stations.• Guard or locate control station so it is not subject to accidental actuation or damage.
Failure to follow these instructions may result in death, injury, or equipment damage.

Only qualified personnel shall install this product. It is the responsibility of the customer to ensure proper structural integrity to support the reel. All installations require sufficient structural support to guarantee safe and efficient installation. This includes any analysis pertaining to outdoor installations and their subsequent weather factors. If there is any concern, Gleason Reel recommends obtaining approval from a structural engineer. Gleason Reel is not liable and takes no accountability for installation errors and their subsequent effects.

Only certified electricians shall make electrical connections in compliance with all international, national, state, and local regulations. Failure to adhere to this requirement may lead to product damage and/or personnel injury, as well as potentially voiding the product warranty.

To maintain this product's UL filing, it is required the DWR motor reel is installed in a location with restricted access and only operated by trained personnel. A location with restricted access is defined as an area where there is no expectation of the general public having access to, and any personnel having access to said location are trained in the operation and risks associated with the device. Upon use of the product, the operator must visually inspect the charge cable for damage or wear. If there is any observed damage to the cable, the reel is to be put out of service until the cable is repaired or replaced.

Installation requirements vary from site to site due to location specific prerequisites. When installing the reel to an overhead I-beam, Gleason Reel requires the beam to be steel with a minimum nominal beam thickness of 0.25" and a maximum flange width of 4.25". If installing to a flat plate, the plate must be steel and a minimum of 0.25" thick. For questions regarding the best practices during installation, contact your Gleason Reel representative.

WARNING

UL FILING REQUIREMENT

- The DWR motor reel must be installed in a location with restricted access and operated only by trained personnel.
- The trained operator of the DWR motor reel must visually inspect the charge cable upon use. If any damage is observed, the product is to be put out of service until the cable is repaired/replaced.

Failure to follow these instructions will result in a void of the UL filing.

Environment

The DWR motor reel is suitable for mounting in various indoor and/or outdoor environments. Conduct a review, prior to installation, to ensure the best installation location. Install the reel where the charging cable is easily accessible in the lower position for vehicle charging, but still out of the way of any moving third-party equipment, if applicable. Gleason Reel recommends installing the reel 2–4 feet from the ceiling mounted charging cable dispenser for optimal storage of the charging cable.

For outdoor locations, consider the weather of the installation environment. The control panel includes a heating strip to allow for operation in colder environments. This gives the product an ambient operating temperature range from -22°F to $+104^{\circ}\text{F}$. In colder environments, where temperatures drop below freezing, the reel requires protection from settling snowfall and ice. If outdoors, ensure the reel has sufficient cover to prevent buildup of the elements on the reel. Gleason Reel recommends using the canopy accessory for all outdoor installations. Furthermore, high wind environments may require extra structural support. If there are any concerns regarding the installation location, Gleason Reel recommends having a structural engineer provide input and approval.

Provided Materials

The DWR motor reel product includes the primary components, consisting of:

- the reel,
- installation mounting bracket,
- the pendant,
- the control panel,
- the saddles, and
- installation hardware.

Installation

NOTE: Gleason Reel can supply the pendant electrical wiring if the customer requests it and provides the cable length for the installation prior to manufacture.

Accessories (Not Included)

The DWR motor reel product does not provide shielding from the elements in outdoor locations. If installing the reel outdoors, Gleason Reel recommends using one of the following mounting accessories:

- ceiling mount canopy

Physical Product Installation

Install the DWR motor reel in the required orientation: See [Figure 4](#) and [Figure 5](#) for the overall dimensions of the reel and the mounting hole pattern. [Figure 6](#) provides the installation adaptor plate mounting hole pattern for all installations. The following sub sections provide installation guidelines.

NOTE: Installation requirements vary from site to site. Review all installation site requirements prior to commissioning.

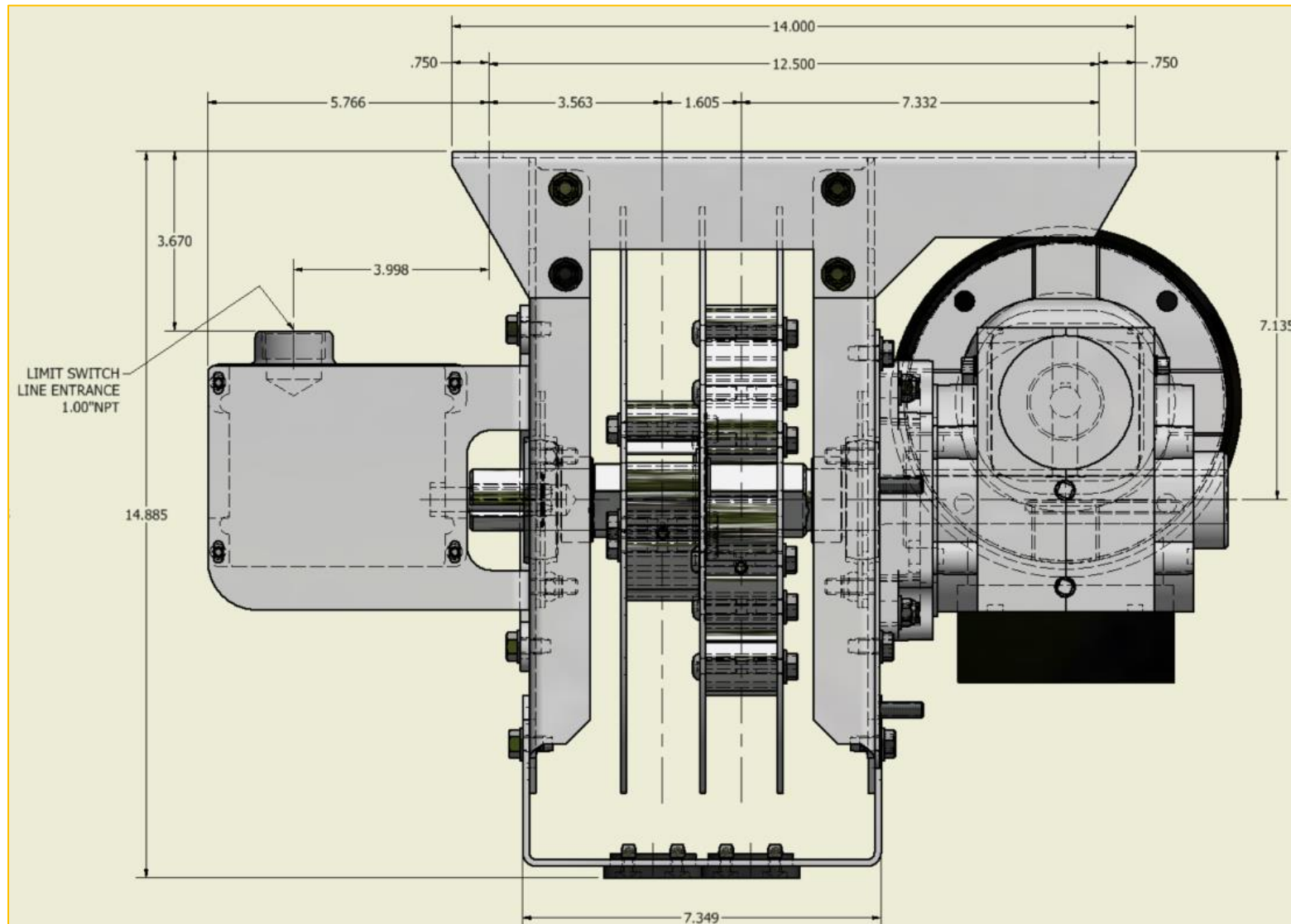


Figure 4: Dual Wire Rope Motor—Overall Reel Dimensions

Installation

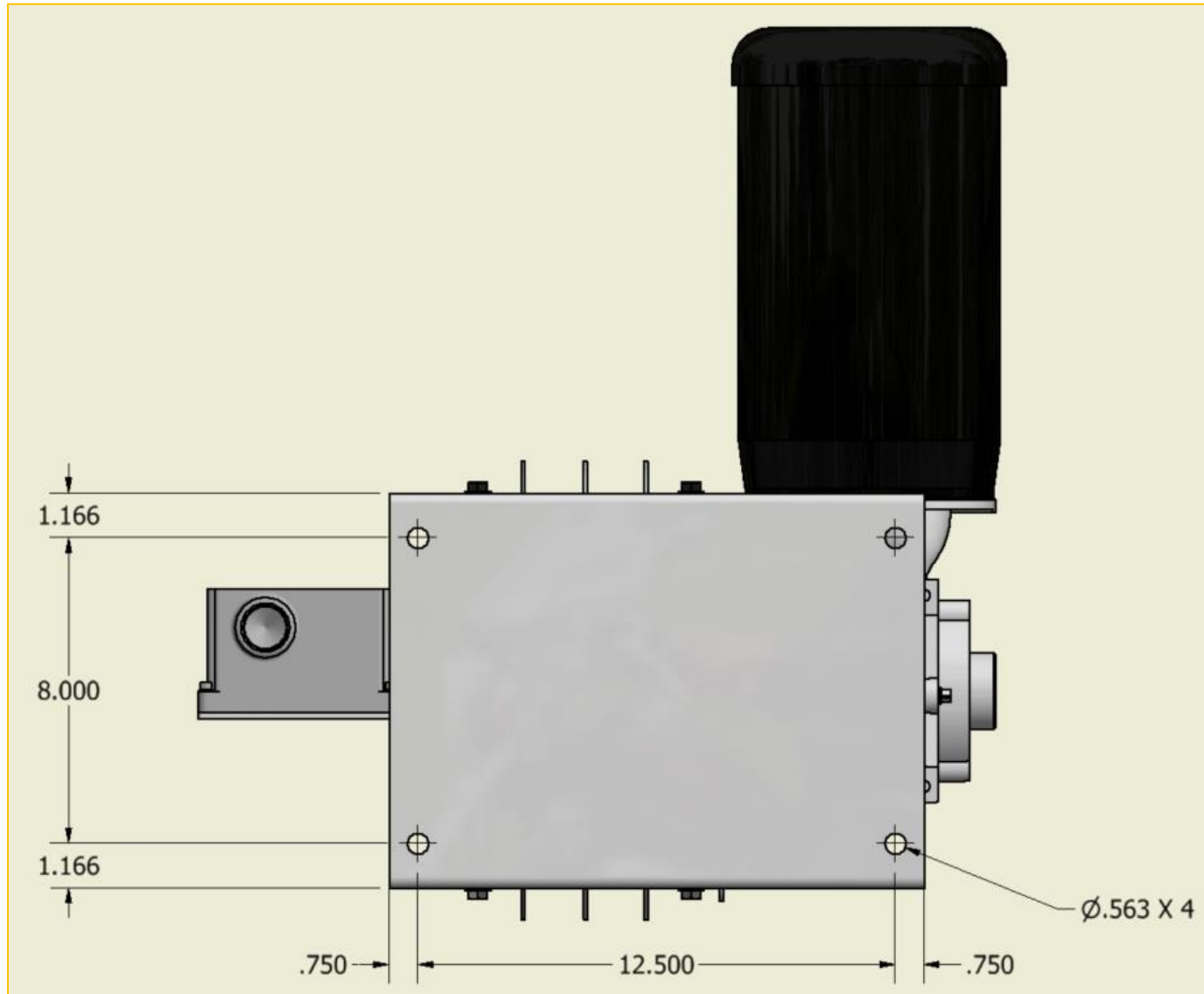


Figure 5: Dual Wire Rope Motor Reel—Mounting Bolt Pattern

Installation

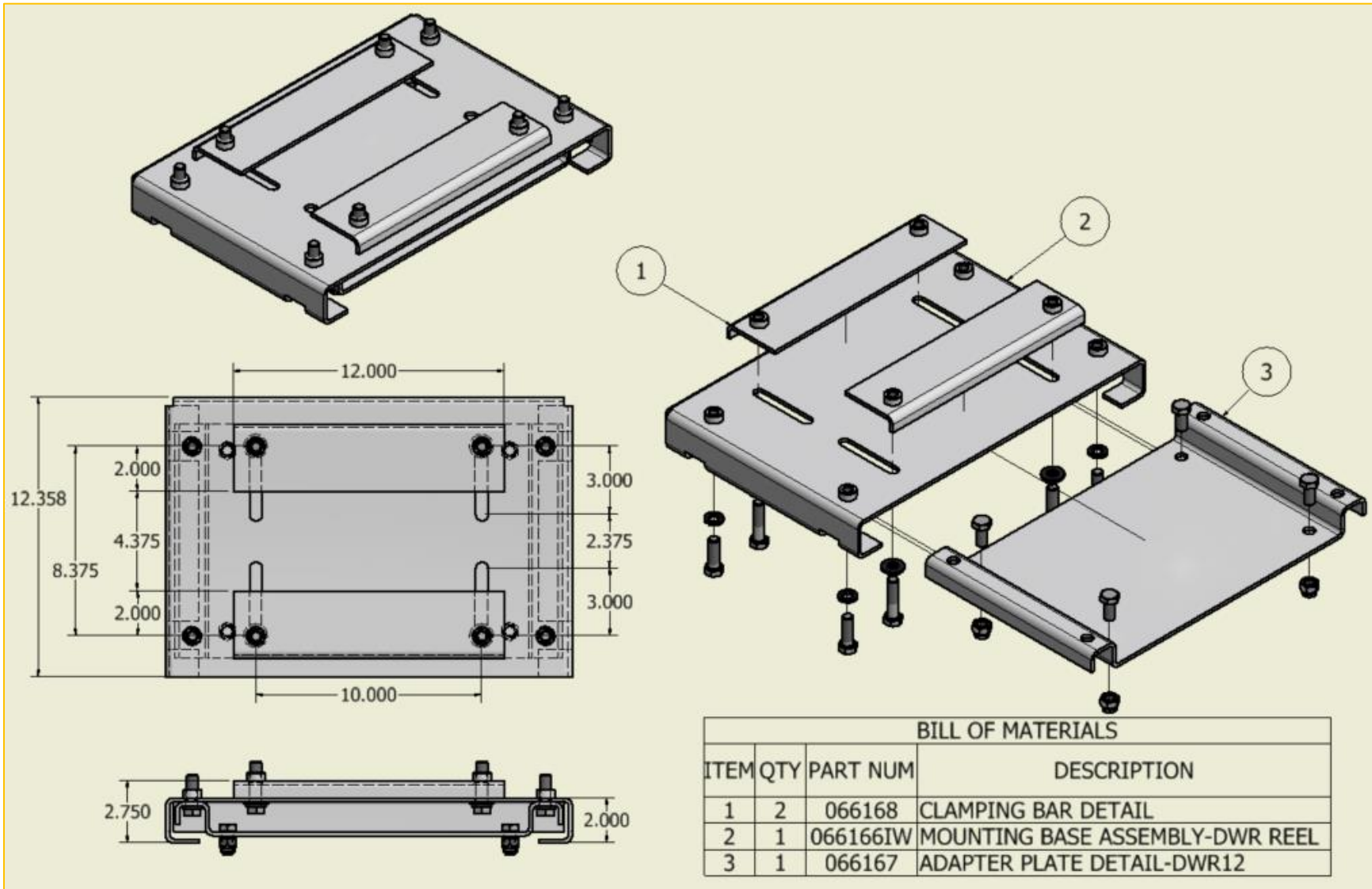


Figure 6: Mounting Plate Detail

Installation

Reel—Overhead Installation

 WARNING
The reel includes a mounting adaptor assembly: Use this assembly for all overhead mounting installations to provide extra safety and installation ease when aligning the reel to the mounting fixture.
Failure to follow these instructions may result in death, injury, or equipment damage.

Upon receipt, the DWR motor reel's orientation is with the mounting plate flat on the ground or shipping pallet. Prior to lifting the reel, ensure all necessary equipment is readily available and the area is clear of all obstructions.

1. Install the mounting adaptor assembly's mounting base (and clamping bars if installing to an I-beam) to the support structure using four ½" flat and lock washers with ½-13 UNC minimum grade-5 hex-bolts.

The clamping bars have PEM® nuts preinstalled.

NOTE: The mounting base has slotted holes to account for various support structure widths. One end of the mounting base is open. Ensure the open end is in the proper orientation for the adapter plate to slide in.

2. Rotate the reel and install the mounting adaptor assembly's adaptor plate to the DWR motor reel using four ½-13 UNC minimum grade-5 hex-bolts and four ½-13 ESNA nuts.
3. Lift the reel from the shipping/storage pallet and position the adaptor plate so the flat face is oriented upwards.
4. Raise the reel up to the mounting base and slide the adaptor plate into the mounting base, aligning the bolt pattern on the adaptor plate with the corresponding bolt pattern on the mounting base.

NOTE: Slide the adaptor plate into the mounting base from the end necessary to orient the motor on the desired side.

5. Secure the adaptor plate to the mounting base using four ½" lock washers with ½-13 UNC minimum grade-5 hex-bolts. The mounting base has PEM® nuts preinstalled.

Installation

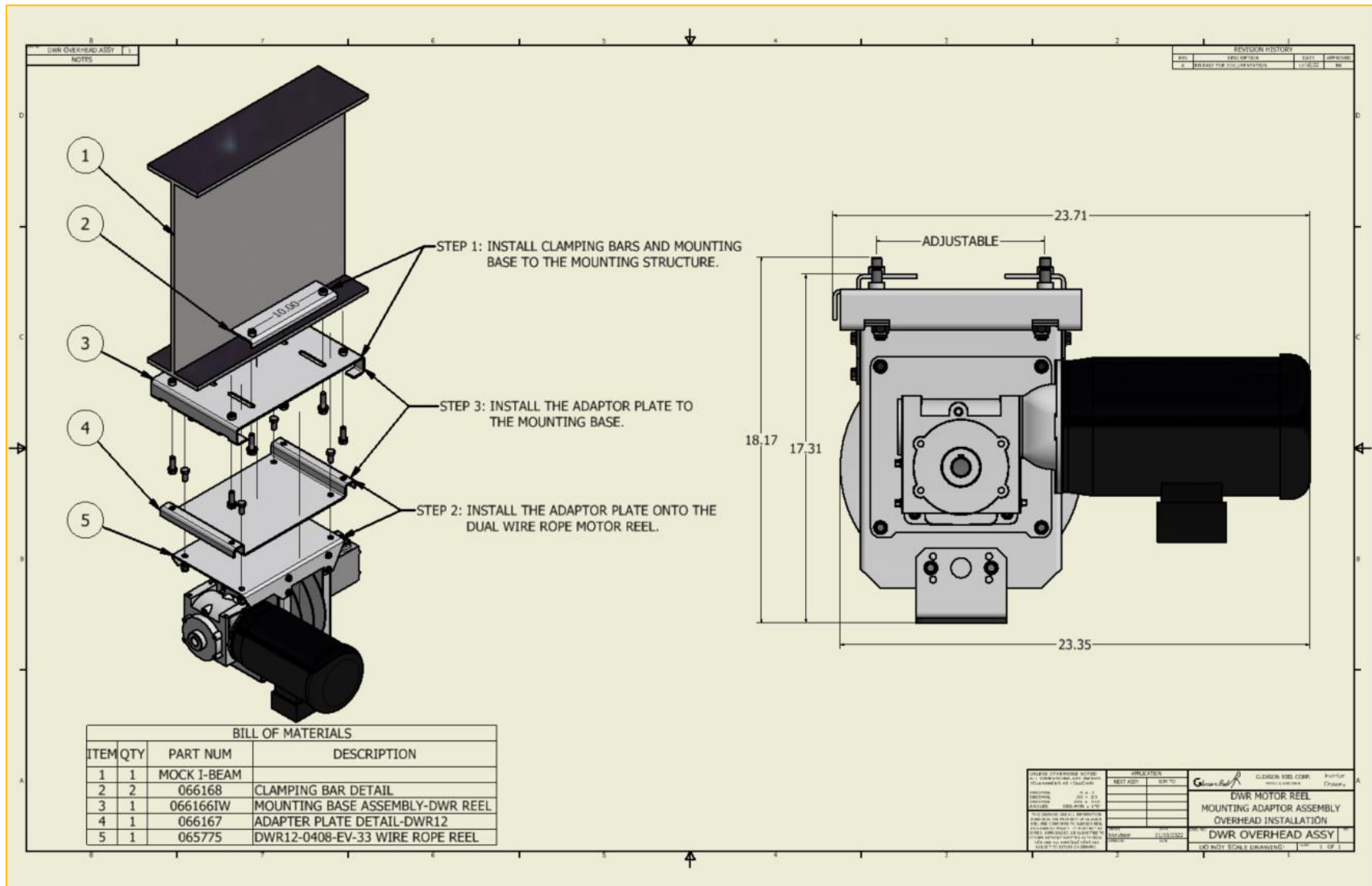


Figure 7: Overhead Mounting with Mounting Adaptor Assembly

Installation

Reel—Overhead Installation with Canopy

Upon receipt, the DWR motor reel's orientation is with the mounting plate flat on the ground or shipping pallet. Prior to lifting the reel, ensure all necessary equipment is readily available and the area is clear of all obstructions.

1. Install the mounting adaptor assembly's mounting base and overhead canopy ceiling mount (and clamping bars if installing to an I-beam) to the support structure using four ½" flat and lock washers with ½-13 UNC minimum grade-5 hex-bolts. Position the canopy between the clamping bars and mounting base with the flanges facing downward.

The clamping bars have preinstalled PEM® nuts.

NOTE: The mounting base and canopy ceiling mount have slotted holes to account for various support structure widths. One end of the mounting base is open. Ensure the open end is facing towards the covered area under the canopy.

2. Rotate the reel and install the mounting adaptor assembly's adaptor plate to the DWR motor reel using four ½-13 UNC minimum grade-5 hex-bolts and four ½-13 ESNA nuts.
3. Lift the reel from the shipping/storage pallet and position the adaptor plate so the flat face is oriented upwards.
4. Raise the reel up to the mounting base and slide the adaptor plate into the mounting base, aligning the bolt pattern on the adaptor plate with the corresponding bolt pattern on the mounting base.

NOTE: Slide the adaptor plate into the mounting base from the end that positions the motor under the canopy.

5. Secure the adaptor plate to the mounting base using four ½" lock washers with ½-13 UNC minimum grade-5 hex-bolts.

The mounting base has preinstalled PEM® nuts.

6. Secure the overhead canopy end panels to the canopy ceiling mount using two ¼-20 UNC hex washer head tap screws for each plate.

NOTE: The canopy end panel goes inside the canopy ceiling mount flanges.

7. Secure the overhead canopy side panels to the canopy ceiling mount and end panels using four ¼-20 UNC hex washer head tap screws for each plate.

NOTE: The side panels go over the end panels, but still reside within the ceiling mount flanges.

Installation

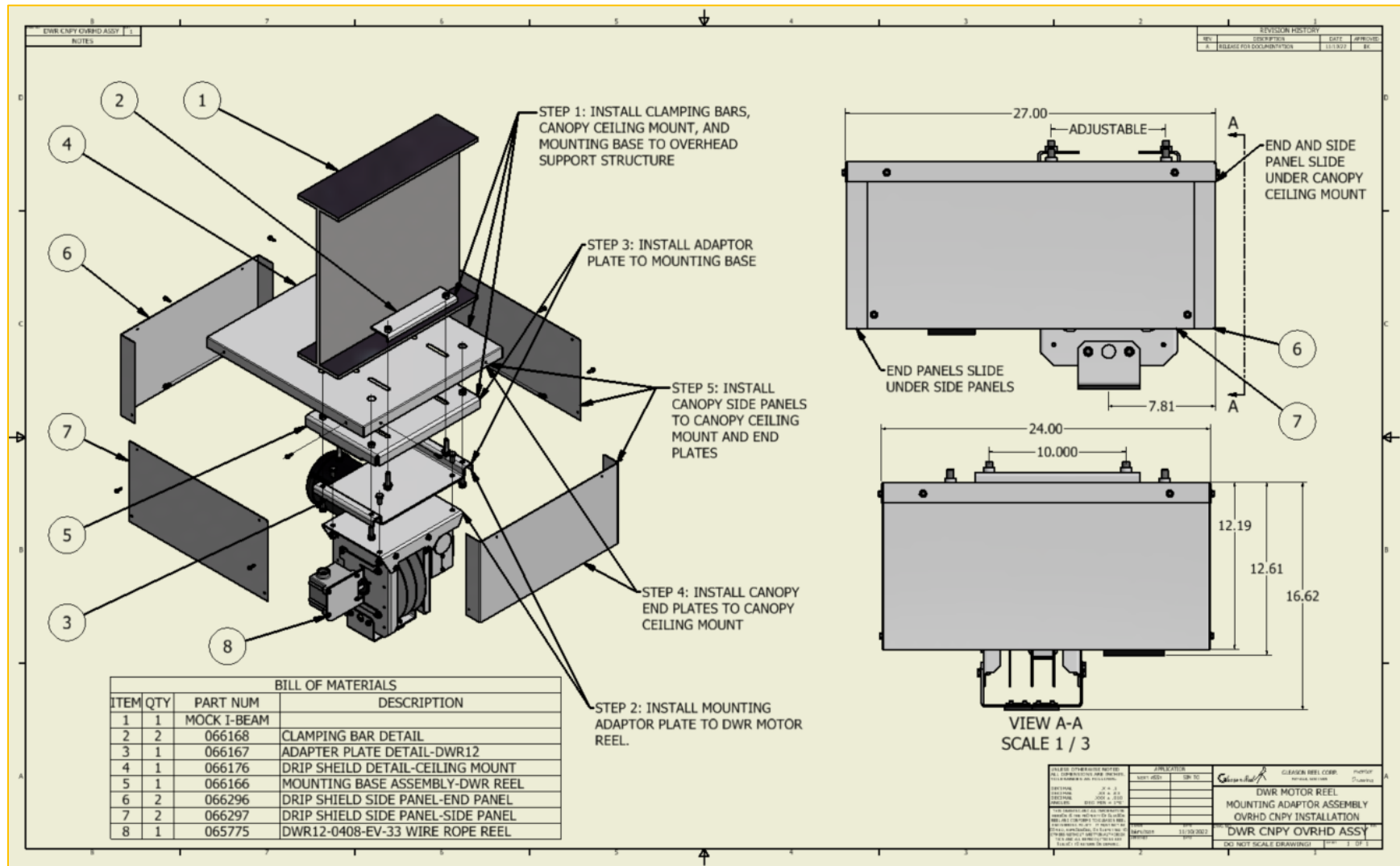


Figure 8: Overhead Mounting with Mounting Adaptor Assembly and Canopy

Installation

Reel—*Improper Installation*

Do not allow the cable to come out/off the reel at a sharp angle. Always lower and raise the charging cable vertically out of the cable guide. Any deviation from this may stress the cable through usage cycles of the product, shortening the cable's life.

Saddles—Ceiling Mounted Charging Cable

Tighten and clamp down the two saddles to the electric vehicle charging cable:

Locate the first saddle 4-feet back and the second saddle 11.5-feet back from the charger head; leaving 7.5-feet of the charge cable between the two saddles.

This may require later adjustment for customer preferences of the charging cable hanging loop height.

Saddles—Floor/Low Mounted Charging Cable

Tighten and clamp down a single saddle to the electric vehicle charging cable:

Locate the saddle 9.5 feet back from the base of the charger head.

This may require later adjustment for customer preferences of the charging cable hanging loop height.

Control Panel

Install the control panel vertically in a secure location.

- The mounting location must provide sufficient clearance for electrical connections to enter/exit the control panel.
- The chosen positions for the electrical connection entries should provide the electrician with the easiest access to each component's terminal blocks.
- Modifications to the enclosure are the responsibility of the customer and must effectively seal the enclosure to maintain the NEMA Type 3R rating.

Figure 9 shows the overall dimensions of the control panel along with the mounting hole pattern.

Installation

Pendant

Position and install the control pendant where it is easily accessible.

- Install the pendant close to the control panel to minimize the amount of required cable.
- Installing the pendant too far from the reel will require the user to travel longer distances to lower/raise the charging cable.
- Install the pendant rigidly to a flat surface.

Gleason Reel recommends keeping the pendant within line-of-sight of the reel. This allows the driver to visually observe the reel while lowering/raising the charging cable. If something goes wrong, the driver will see the problem and press the emergency stop button. See [Figure 10](#) for the pendant dimensions for mounting.

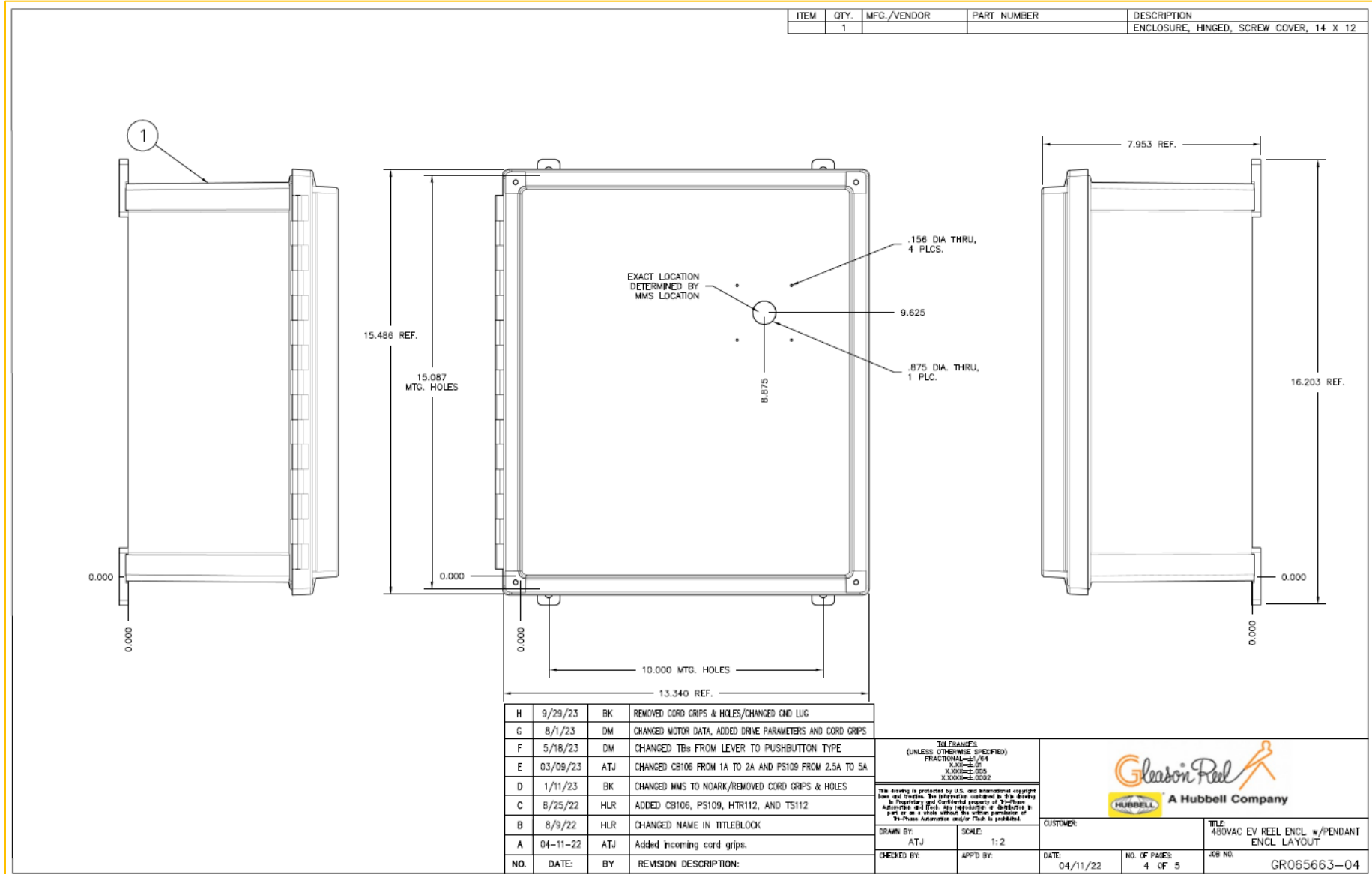


Figure 9: Control Panel Mounting & Overall Dimensions

Installation

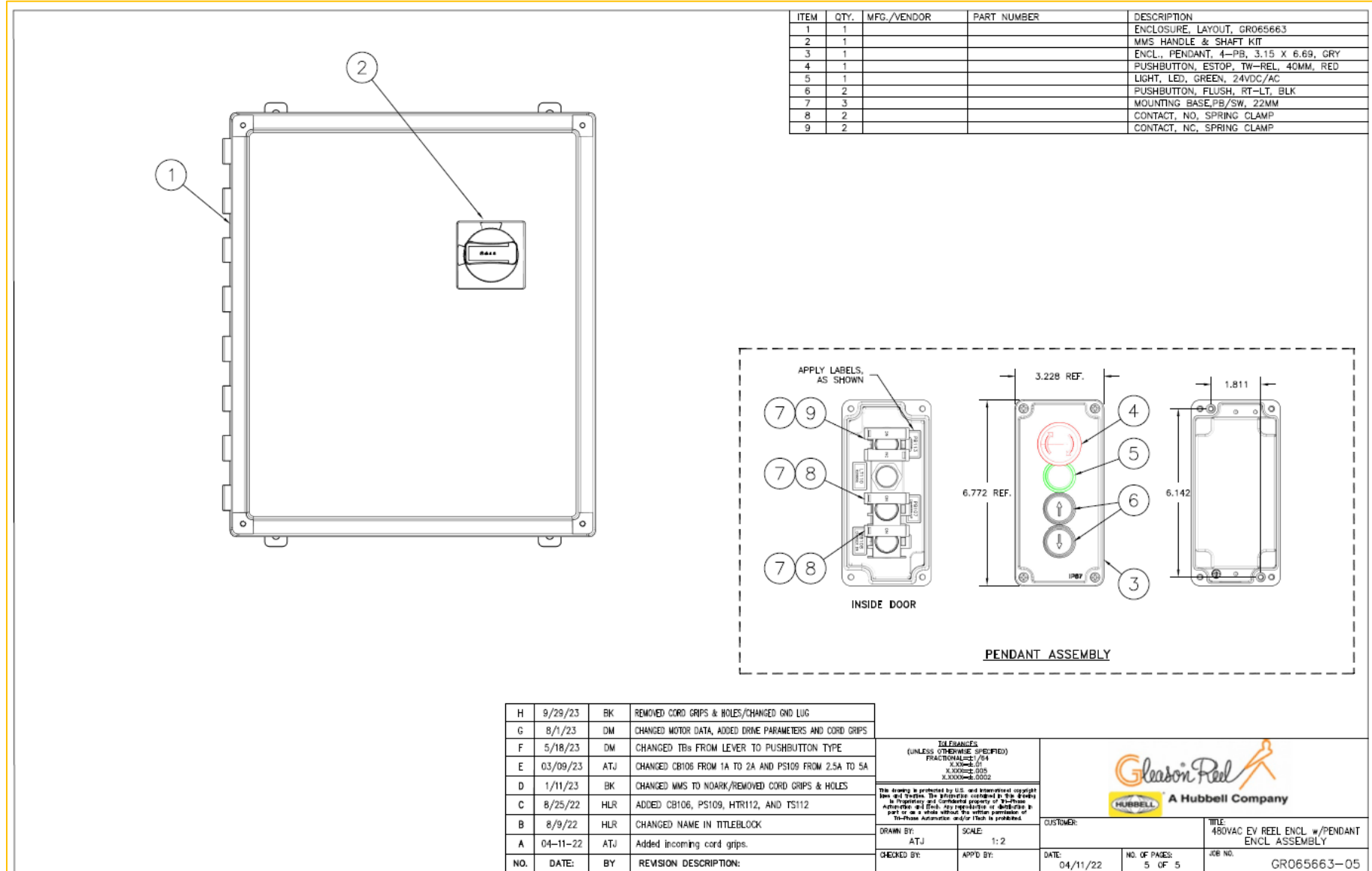


Figure 10: Control Panel Cord Grip Specifications & Pendant Dimensions


Installation

Electrical Connections

The electrical wiring diagram in [Figure 11](#) and the control panel layout in [Figure 12](#) provide information for certified electricians to wire the termination points on the equipment. The control panel will be supplied without any knockouts or cable glands. It is the responsibility of the customer/certified electrician to install the required connections to/from the control panel and motor reel. The supply voltage and motor line voltage are required to be installed in rigid or flexible conduit only. All other connections may use standard SOOW 600V insulated cable. It is recommended to use rigid or flexible conduit for all electrical connections. Any electrical connections to/from the control panel must maintain the NEMA Type 3R rating to sustain UL Recognition.

Gleason Reel recommends the below entry locations into the control panel for the various electrical connections:

1. The pendant and limit switch wiring enter/exit from the lower left of the control panel.
2. The incoming power enter/exit from the upper right of the control panel.
3. The motor's power conductors enter/exit the lower right of the control panel.

 CAUTION
Refer to the wiring diagram for the minimum cable gage requirements. Using an incorrect wire gage may result in product malfunctions due to voltage loss and/or thermal buildup in the cable.
Failure to follow these instructions may result in injury or equipment damage.

When wiring to the limit switch, connect the wiring to the **A** terminals of each switch. These are the center termination points on the switches. Failure to wire in this orientation will prevent the pendant from raising/lowering the charging cable when the reel is between the limit switch's endpoints.

Overhead Installations:

1. Terminate the upper switch, in the wiring diagram, to the limit switch terminal, in the top portion of the enclosure.
2. Terminate the lower switch, in the diagram, to the switch terminal near the bottom portion of the enclosure.

WARNING

Ensure that the control panel has a quality ground that is sufficient and maintained. The equipment within the control panel has leakage current that exceeds 3.5 mA. Improper grounding practices may lead to severe injury or death. Always follow proper grounding regulations and electrical practices.

Failure to follow these instructions may result in death or severe injury.

Installation

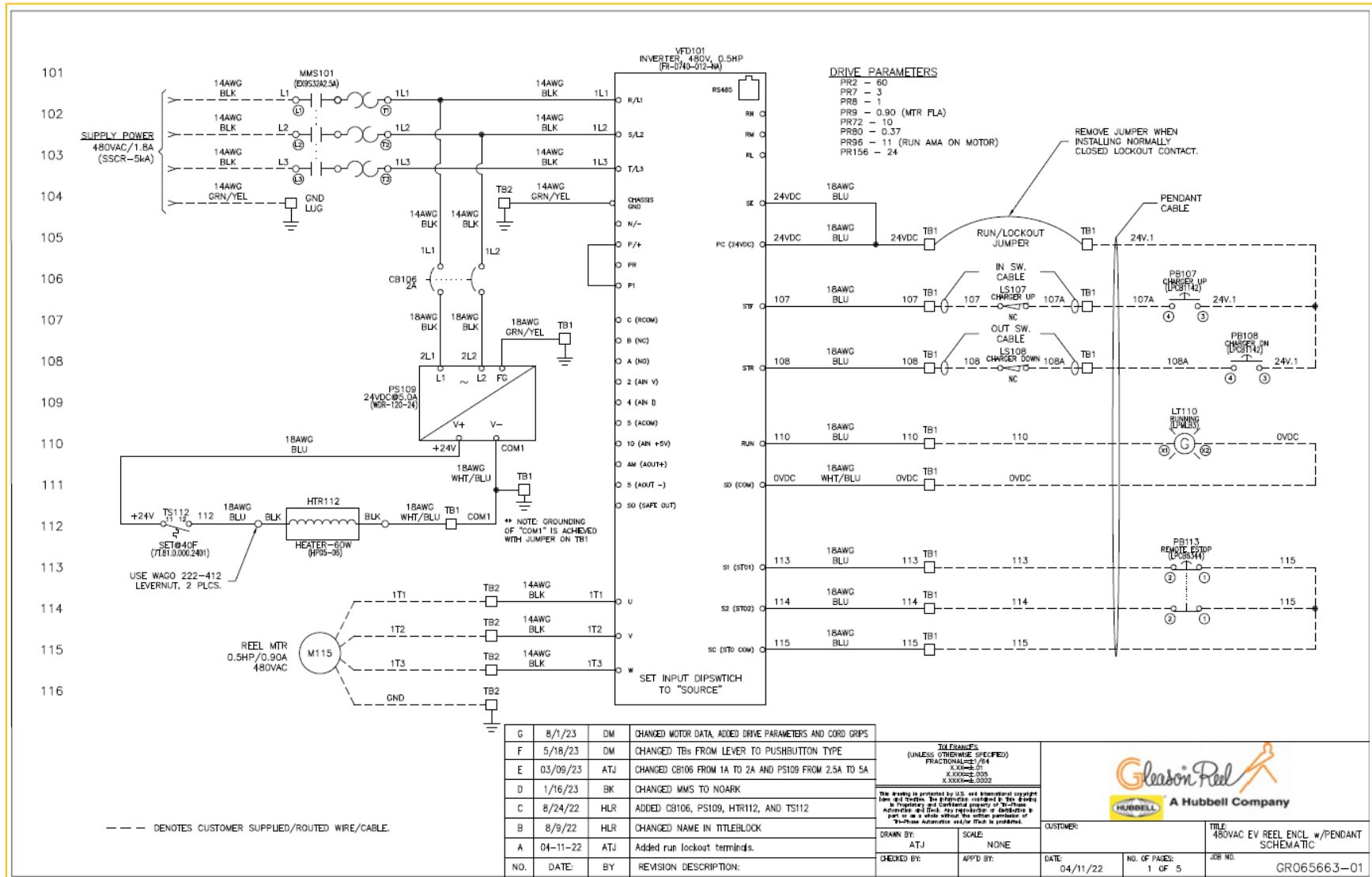


Figure 11: Control Panel Electrical Wiring Diagram

Installation

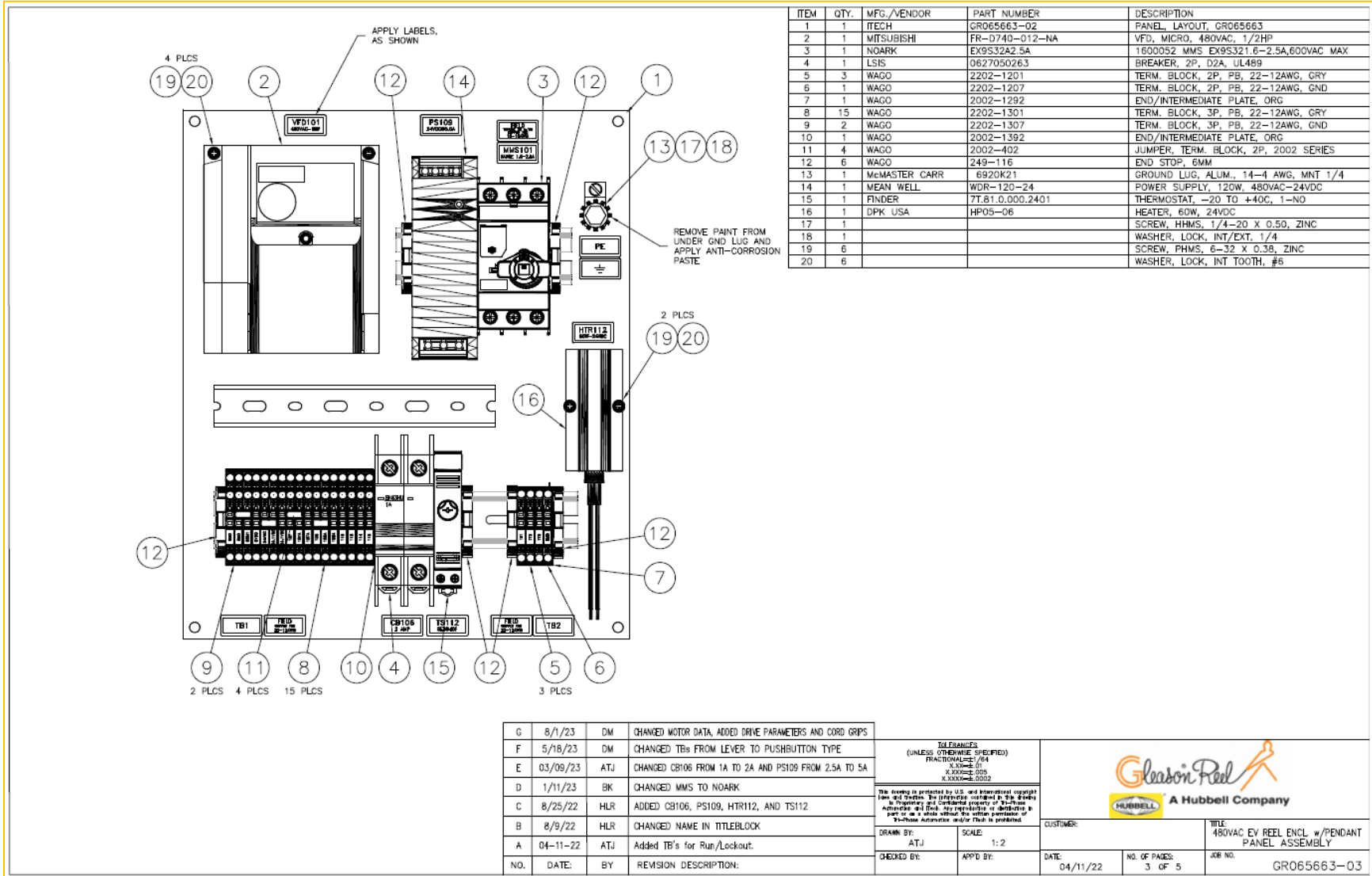


Figure 12: Control Panel Assembly Drawing

Installation

Configuration

NOTE: The instructions below refer to the DWR motor reel configuration with a ceiling mounted charge cable and two saddle locations. For floor/low mounted charge cable and single saddle installations, follow the instructions below with exclusion to actions specific to the second saddle, farther up the cable from the charge head. Additionally, remove the wire rope connection to the larger diameter drum and only use the wire rope connected to the smaller diameter drum.

Upper Limit Switch Setpoint

The DWR motor reel requires adjustment to the limit switch setpoints after installation. These setpoints are not set to any specific customer's application height prior to shipment, as this parameter varies for every location. To begin setting the upper limit switch endpoint:

1. Remove the limit switch cover.
2. Slightly loosen the two bronze screws securing the gears until they are free to rotate.
Do not fully remove the screws.
3. Remove the red adjustment tool from the enclosure.
4. Use the adjustment tool to rotate the upper and lower gears to center the raised edge on the gear, in the view slot, on the back plate.

This is the slotted portion roughly 45° off the securing bolt that was previously loosened. [Figure 13](#) below shows the view slots and the bronze securing screw locations.

5. Actuate the reel in the upward direction until the wire rope cables are about 9 inches from the cable guide.

NOTE: The two wire rope cables are at the same length in the upper position. Be cautious not to raise the reel too far, causing the available cable to run out and potentially damage the reel.

6. Rotate the upper gear clockwise using the gear adjustment tool until the upper switch emits a click sound.

This is the setpoint of the switch.

7. Hold the gear in place after hearing the click and re-tighten the upper gear's bronze securing screw.

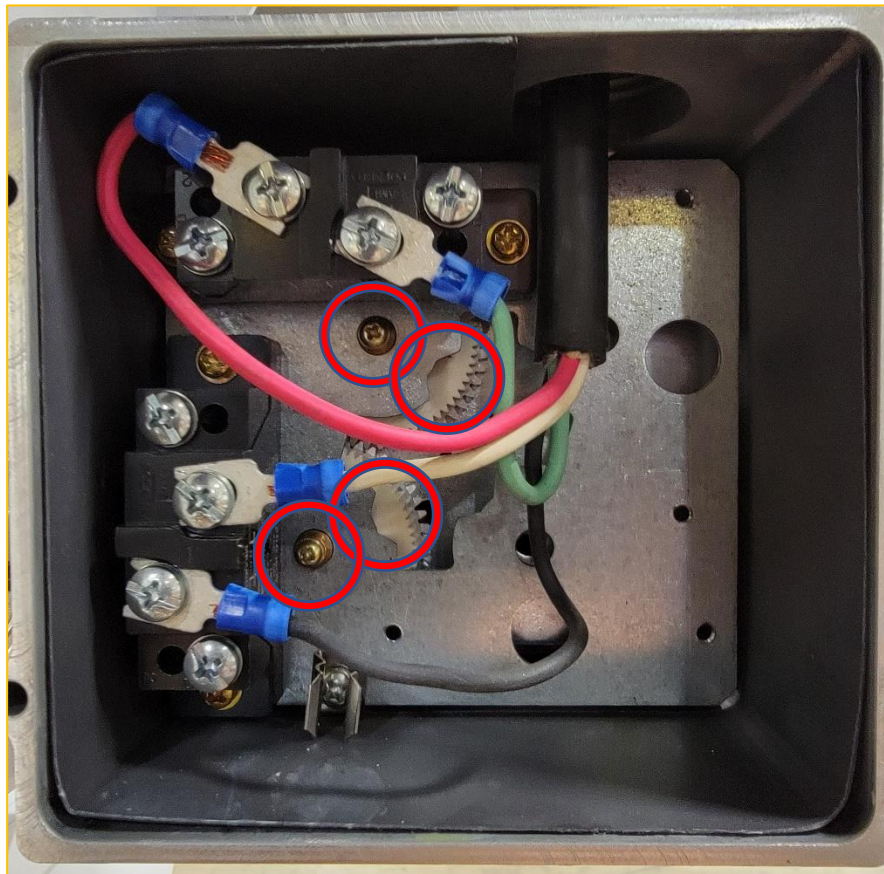


Figure 13: Limit Switch Interior

Lower Limit Switch Setpoint

The lower setpoint of the limit switch may vary drastically, depending on the customer's installation location and preferences.

1. Dispense the wire rope cable, from the reel, until the lower of the two wire rope cables reaches the customer's preferred height. Fine tuning of the cable end height is done at a later step.

NOTE: Do not lower the reel past the point where the wire rope cable runs out, causing the cable to backwind in the opposite direction and potentially lock up the reel. This may require testing, usage, and readjustment to obtain the customer's preferred height.

2. Connect the lower of the two wire rope cables to the saddle closest to the charge cable head.
3. Connect the higher of the two wire rope cables to the saddle farther up the charge cable.
4. Raise/Lower the reel until the charge cable head is in position to charge the vehicle.

NOTE: The ideal charging height may require adjustment of the saddle installation locations on the charge cable. See the Saddle Locations section for instructions.

Installation

5. Rotate the lower gear until the switch emits a click sound.

This is the setpoint of the switch.

6. Hold the gear in place, after hearing the click, and tighten the lower bronze securing screw.
7. Put the red adjustment tool back into the enclosure and reinstall the cover.

Saddle Locations

Depending on customer preference, more or less of the charging cable loop may hang down from the motor reel.

- Set this height by adjusting the distance of the saddles from the charging cable head.
- Move the saddles farther apart to increase the overall loop length and decrease the height to the bottom of the loop.
- Move the saddles closer together to decrease the overall loop length and increase the height to the bottom of the loop.

The limit switch lower setpoint may need adjustment to compensate for the new saddle locations. The ideal loop height and charge cable head location may require a combination of saddle location and lower limit switch setpoint adjustments.

Product Programming

Gleason Reel pre-programs the VFD for the customer. The programming includes product specific safety features and controls that Gleason Reel has tested and approved.

- Gleason Reel strongly advises customers to contact their Gleason Reel representative for guidance if they need a change in the motor reel's programming.
- Gleason Reel can review the customer's requested change(s) and provide the process to implement the change(s).

CAUTION

- Modifying the VFD's program without proper documentation and necessary test equipment may make the VFD non-functional.
- The only way to restore the VFD's programming is to import the default program file back onto the drive. This requires specific product knowledge and equipment that is not standard for field maintenance crews.
- Closely monitor the reel during operation immediately after making any parameter changes within the VFD program.
Verify the reel's standard functionality has no unexpected or undesirable changes.
- Without Gleason Reel's consent, modifications to the VFD program may void the warranty. Gleason Reel takes no liability for damage/injury caused by modifying the standard product without approval.

Failure to follow these instructions may result in injury or equipment damage.

System Startup

Safely start operating the system after completing the physical and electrical installation processes:

- Monitor the initial system startup for any faults in the equipment and/or installation process.
- Raise and lower the charging cable, while ensuring the reel does not travel too far in either direction.

If the limit switch setpoints are set incorrectly, damage may occur as the reel continues to extract/extend the cable after it has run out of cable length.

- Test that the reel safely stops at the previously set endpoints of the limit switch.
- Test the emergency button on the pendant.
- Ensure the reel comes to a safe stop upon pressing the button.

After satisfactory configuration of the reel and ensuring it is operating properly and safely; the product is ready for use in standard operation.

Installation Checklist

Table 2: Installation Checklist

Installation Step	Brief Description	✓
Dual Wire Rope Motor Reel Mounting	<ul style="list-style-type: none"> • Use the support mounts to install the reel. • Secure the reel to a fixture with sufficient structural support. • The reel’s orientation is in the correct direction. • If outdoors, the reel has appropriate coverage from the elements and/or has a canopy. • Attach and secure the saddles to the charging cable at the required distances. 	
Control Panel Mounting	<ul style="list-style-type: none"> • Secure the control panel to a fixture with sufficient structural support. • Leave adequate spacing on the sides for electrical connections to enter the control panel. • Verify the enclosure still meets NEMA Type 3R requirements after finishing electrical installation. 	
Pendant Mounting	<ul style="list-style-type: none"> • Pendant is easily accessible. • The reel is within view of the pendant. • Electrical connections use SO or SOOW, 600V insulated cable. 	
Electrical Wiring	<ul style="list-style-type: none"> • Use the proper gage wire for each section. • Terminate the limit switch connections to the correct terminals. • Use SO or SOOW, 600V insulated cable for all electrical wiring runs, outside of electrical enclosures. • All connections are independently grounded. 	
Limit Switch	<ul style="list-style-type: none"> • Locate the upper limit setpoint so that the wire rope cables are a safe distance from the cable guide and at the same relative height. • Locate the lower limit setpoint at the proper vehicle charging height. 	

Operation

Operation

Product Usage

The DWR motor reel is for use with daily charging requirements of electric vehicles. Typical operation of the reel is to raise/lower the cable as vehicles require charging and to store the cable away in times when not in use. Gleason Reel anticipates this to occur several times per day. This usage does not limit the duty cycle of the charger. A pendant, typically near the reel, controls the reel.

Charging an Electric Vehicle

A driver requiring a vehicle recharge needs to:

1. Position their vehicle in the charging zone.
2. Walk up to the reel's pendant to lower the vehicle charging cable stored conveniently overhead.
3. Press the lower button and confirm the power light is active while holding the lower button down.
4. Continue pressing the lower button until the reel reaches the lower end setpoint, of the limit switch.
5. Watch the cable as it unwinds and visually inspect the cable for any damage or wear.

If any damage is observed, put the DWR motor reel out of service until the cable is repaired or replaced.

6. Press the emergency stop button, on the pendant, if anything goes wrong.

Once lowered, the vehicle charging cable head is at the proper height for connection to the vehicle. The driver can now:

7. Walk back to the vehicle and connect the charge cable to the vehicle to begin charging.

When charging is complete, the driver needs to:

1. Disconnect the charge cable from the vehicle.
2. Walk back to the reel's pendant.
3. Press the raise button and confirm the power light is active while holding the raise button down.
4. Continue pressing the raise button until the reel reaches the upper end setpoint, of the limit switch.
5. Watch the cable as it winds.
6. Press the emergency stop button, on the pendant, if anything goes wrong.

Once raised, the vehicle charging cable is out of the way until the next vehicle needs charging.

Conventional Errors—Diagnostics and Troubleshooting

Table 3 references potential errors that may occur in the field, along with respective tests and solutions. The table is not all encompassing. Use it as an initial reference if the product exhibits any issues. Contact your Gleason Reel representative for product support for any issues this section does not cover.

Table 3: Diagnostic and Troubleshooting Table

Error/Symptom	Potential Cause	Test	Solution
Reel will not lower/raise	No power to control panel	Verify incoming power lines are supplying sufficient power.	Turn on/correct power quantity to control panel.
	Limit switch set incorrectly	Review limit switch setpoints to verify correct positioning.	Reset the limit switch setpoints per the application requirements.
	Pendant emergency stop triggered	Review the pendant emergency stop.	Disable the emergency stop on the pendant.
	Cable is stuck, tripping the drive	Check the drive for an over current fault.	Free the cable and assure it is in the proper orientation. Clear the restriction that caught the cable. Power cycle the control panel.
Cable is not out of vehicle path	Improper saddle placement	Verify if moving the saddle up/down the charging cable positions the cable out of the vehicle path.	Modify the saddle locations and hanging cable loop height per the application.
	Limit switch incorrectly set	Review the limit switch's setpoints to verify correct positioning.	Reset the limit switch setpoints per the application requirements.

Operation

	Reel is too close to dispenser	After moving the saddle locations and adjusting the limit switch setpoints, the cable is still not in the ideal location.	Move the reel further away from the dispenser to adjust the hanging loop length.
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A list of all VFD fault or alarm codes is in the drive's instruction manual, starting on page 247. This list refers to the proper section within the manual for recommended actions. Reference [Appendix A: Equipment Manuals](#) for information if there is an unexpected error on the drive's interface.

Maintenance

Maintenance

Table 4 below provides necessary maintenance procedures along with their recommended service intervals. Reference the table below to maintain the DWR motor reel. Failure to follow proper product maintenance may lead to equipment damage not covered under warranty.

NOTE: The table below contains Gleason Reel’s recommended maintenance procedures and frequencies. The installation site may dictate additional longer/shorter maintenance intervals and/or additional maintenance procedures.

NOTE: Only certified individuals shall perform all maintenance work.

Table 4: Maintenance Table

Equipment	Area	Maintenance Description	Interval
Gearbox	Lubrication	Check if the gearbox needs reapplication of lubricant. If so, lubricate the gearbox using Mobil Glygoyle 460 or other compatible PAG (Polyalkylene glycol) synthetic lubricant.	Bi-Annually
	Sealing	Verify the integrity of the gearbox seal. Proper sealing prevents lubricant leakage and contaminant entry.	Annually
	Torque Check	Assure the bolts connecting the gearbox to the reel are tight and secure.	Annually
Motor	Connections	Inspect contacts to assure tightness and proper contact.	Bi-Annually
	Bearing Inspection	Check bearings for any abnormal vibration, noise, or overheating.	Annually
	Supply Power	Confirm supply voltage magnitude to motor.	Annually
	Mounting	Assure the mounting of the motor to gearbox/reel are tight and secure.	Annually
Reel	Wire Rope Cable	Inspect cable for any wear or areas of concern. If seen, replace wire rope cable.	Bi-Annually
	Wire Rope Termination Points	Inspect the wire rope cable clips for wear or damage. Replace worn or damaged clips immediately	Annually
	Limit Switch	Confirm endpoints of limit switch are set as desired.	Monthly
Control Panel	Enclosure	Ensure the enclosure has a proper seal that meets NEMA Type 3R requirements.	Annually
	Wiring Termination Points	Check wiring termination points within the panel for any loose connections. Re-secure all loose cables.	Annually
All Electrical	Grounding	Ensure proper grounding throughout the product.	Annually

Spare Parts List

Spare Parts List

Table 5, below, references a list of parts considered to be replaceable in the event of product damage. Contact your Gleason Reel representative for a formal quote for all replacement part requirements.


 <b style="font-size: 1.2em;">CAUTION
<ul style="list-style-type: none"> Replacing any components of the DWR spring reel with products not supplied by Gleason Reel may lead to product failure and result in injury and/or property damage. Replacing any components of the DWR spring reel with products not supplied by Gleason Reel may subject the product to a void of warranty. Gleason Reel takes no liability for damage/injury caused by modifying the standard product without approval.
<p>Failure to follow these instructions may result in death, serious injury, and/or property damage.</p>

Table 5: Spare Parts List

Part	Part Number
Wire Rope	GR065618
Motor	GR065778
Saddle	Varies
Gearbox	GR065777IW
Limit Switch	GR065795
Control Panel/Pendant	GR065663

Product Warranty

Product Warranty

Gleason Reel warrants, for a period of twelve (12) months after date of shipment, that all goods it manufactures to be free from defects in material and workmanship. If, within such warranty period, any such goods are shown, to Gleason's satisfaction, to be defective, such goods shall be repaired or, at Gleason's options, replaced f.o.b. Gleason's factory, without charge. Gleason's obligation hereunder shall be confined to such repair or replacement and shall be further conditioned upon Gleason's receiving written notice of any alleged defect within 10 days after its discovery and, at Gleason's option, the return of the allegedly defective goods to Gleason, f.o.b. its factory.

The foregoing warranty shall not apply to goods not manufactured by Gleason, or to goods which shall have been repaired or altered by others than Gleason so as, in Gleason's judgement, adversely affect the same, or which shall have been subject to other than normal care, or storage. With respect to goods furnished but not manufactured by Gleason, the warranty obligations of Gleason shall in all respects conform and be limited to the warranty extended to Gleason by the supplier.

The foregoing warranty is in lieu of all other express or implied warranties (except of title) and of all other obligations of Gleason.

Warranty Guarantee

The Purchaser has a reasonable time to ascertain whether the apparatus is as represented. Tests made by the Purchaser shall be made within 60 days from date of shipment. The conditions of such tests shall be mutually agreed upon and the Company shall be notified of and reserves the right to be represented at any test. Attempts to disassemble or repair equipment by the customer will invalidate all intended warranty. There are no warranties after acceptance, but the Company will repair or replace F.O.B. factory, any part which under normal and proper use proves defective in workmanship or material within one year from date of shipment. The correction of such defects by repair or replacement shall constitute fulfillment of all the Company's obligations with respect to the apparatus sold hereunder. With respect to goods furnished but not manufactured by Gleason, the warranty obligations of Gleason shall in all respects conform and be limited to the warranty extended to Gleason by the supplier.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF QUALITY WHETHER WRITTEN, ORAL, OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Warranty Inquiries/Claims

For any inquiries regarding this products warranty or to submit a warranty claim, please contact your Gleason Reel representative.

UL/CUL Certification

UL/CUL Certification

Gleason Reel manufactures this product to the standards and regulations put forward by UL 2594, Standard for Electric Vehicle Supply Equipment, Edition 2, and CSA C22.2 No. 280, Standard for Electric Vehicle Supply Equipment, Edition 2. The UL/CUL certification is in UL's product sourcing and certification database under filing # TBD

Hubbell provides the above data and information in good faith based upon current knowledge and experience but makes no warranty that such data or information is free from error, is complete, or is sufficient for user's intended purpose even if made known to Hubbell.

Appendix A: Equipment Manuals and Additional Resources

Appendix A: Equipment Manuals and Additional Resources

For additional information, please refer to Gleason Reel's website at:

<https://www.hubbell.com/gleasonreel/en>

Address requests for specific information, not found in this document or on our website, to your Gleason Reel Representative. If this contact information is not available, contact our primary office for inquiries at the following phone number: **(920) 387-4120**.

If any of the below links are no longer available, please reach out to your Gleason Reel representative for the equipment manuals.

Variable Frequency Drive:

<http://dl.mitsubishielectric.com/dl/fa/document/manual/inv/ib0600366eng/ib0600366engg.pdf>

Motor:

<https://www.techtopcana.com/Content/pdf/Techtop-Installation-Maintenance-Manual.pdf?d=637957327461490536>

Winsmith Gearbox:

<https://2nvqmp1nhr00342f9u3kwnau-wpengine.netdna-ssl.com/wp-content/uploads/2021/12/RD-Speed-Reducer-Installation-Operation-Lubrication.pdf>

Limit Switch:

https://hubbellcdn.com/installationmanuals/GLEASON_626382.pdf