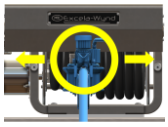
ME9000LH-17/25 EXCELA-WYND™ HOSE REEL (Patent Pending)
INSTALLATION AND OPERATING INSTRUCTIONS

BEFORE INSTALLING THE EXCELA-WYND HOSE REEL PLEASE READ THESE IMPORTANT INSTRUCTIONS

1. Place the laminated, tri-folded Excela-Wynd operating instructions (Form 1176-OP), QR Code Sticker and Placard from the ACCESSORIES BOX in the delivery truck where it will be available to the driver, such as in the equipment binder or glove box.
2. The ME9000LH-17/25 Excela-Wynd hose reel must always be powered by a BASE Engineering VSC9000 variable speed controller.
3. A flexible connection must always be installed between fixed piping and the swivel inlet. MEC recommends a minimum of 12" long flexible connector installed in the horizontal piping.
4. To prevent damage to reel and reduce risk of injury, do not stack hose reels during transportation or storage.
5. The reel must be lifted as shown in the "Lifting and Setting" section of these instructions.
6. An anti-seize compound must be applied to the external threads of all fasteners when installing or servicing the hose reel. MEC recommends using a Nickle-based (copper-free) anti-seize compound.
7. Use only Ø1" ID hose on the ME9000LH-17/25 Excela-Wynd hose reel.
8. Installation or service inconsistent with these instructions may damage the reel, increase the risk of injury or void the warranty.

BEFORE SERVICING THE EXCELA-WYND™ HOSE REEL PLEASE READ THESE IMPORTANT SAFETY WARNINGS

WARNING! Risk of injury from pinch points – Keep hands and fingers away from hose guide.



WARNING! Risk of injury from pinch points – Do Not operate hose reel without gear and chain guards in place.

WARNING! Risk of injury from pinch / sever points – Keep fingers away from inlet flange.

WARNING! This product contains a chemical known to the state of California to cause cancer and birth defects or reproductive harm.

WARNING! Contact BASE Engineering prior to resetting the circuit breaker!

CONTENTS

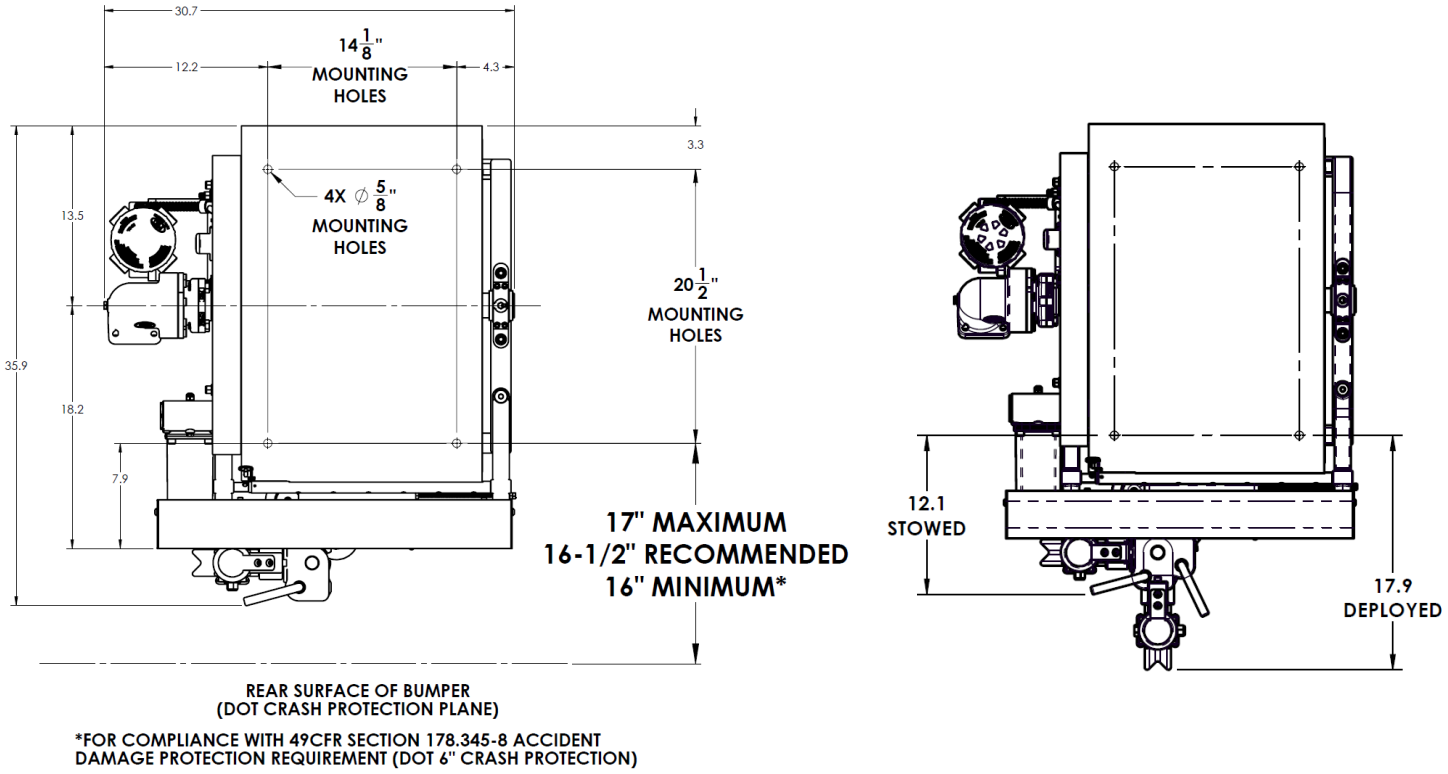
INSTALLING REEL

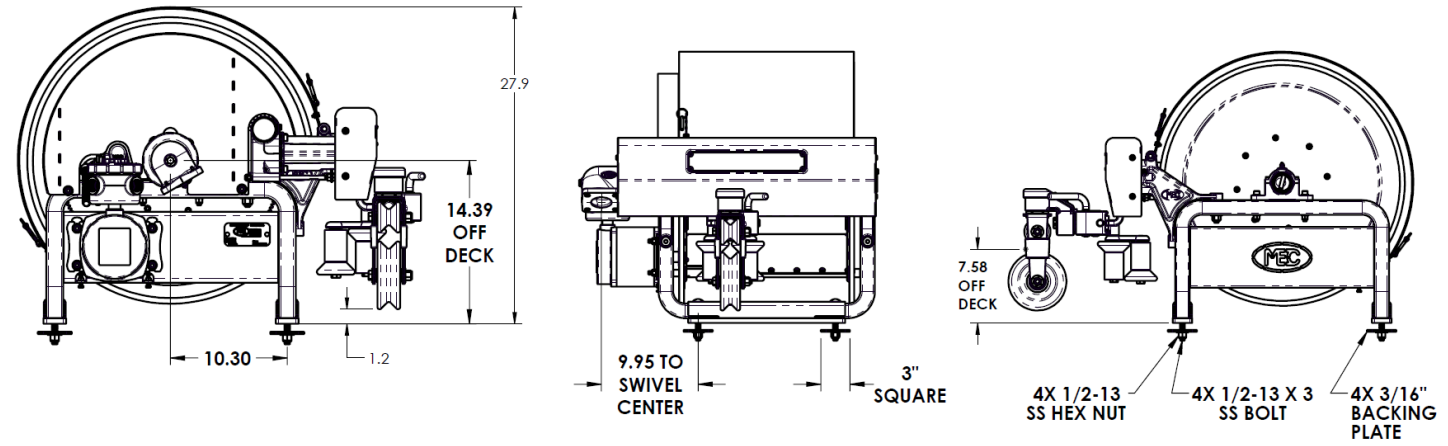
Unboxing - See 1176-UB unboxing instructions located on the shipping box or see "Unboxing" section in the APPENDIX.

Locating Reel on Deck - MEC recommends using the ME9000LH-17/25-DJ Drill and Piping Jig to properly position the reel on the deck and allow piping to be fabricated prior to mounting the reel.

49 CFR Section 178.345-8 Accident Damage Protection **requires that any part of the cargo tank motor vehicle which contains lading during transit must be at least 6 inches horizontally forward of the vertical plane of the outboard surface of the protection device (bumper).**

To assure compliance and proper operation, the ME9000LH-17/25 Excela-Wynd hose reel must be positioned on the deck and installed according to these instructions. Installation inconsistent with these instructions may cause damage to the hose or hose reel, and may void warranty.

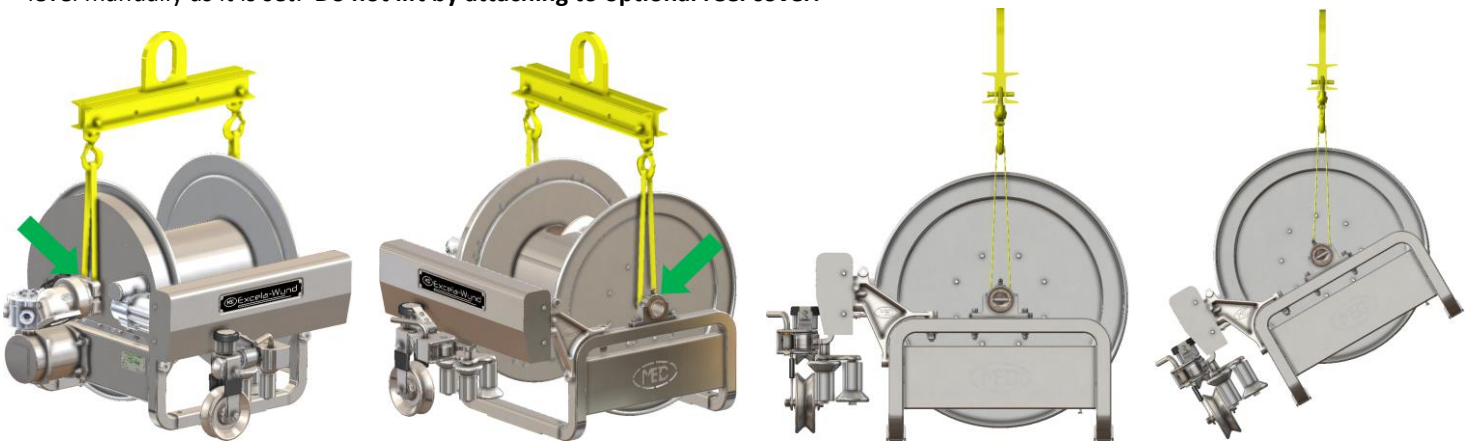




ME9000LH-17/25 EXCELA-WYND™ HOSE REEL (Patent Pending)
INSTALLATION AND OPERATING INSTRUCTIONS

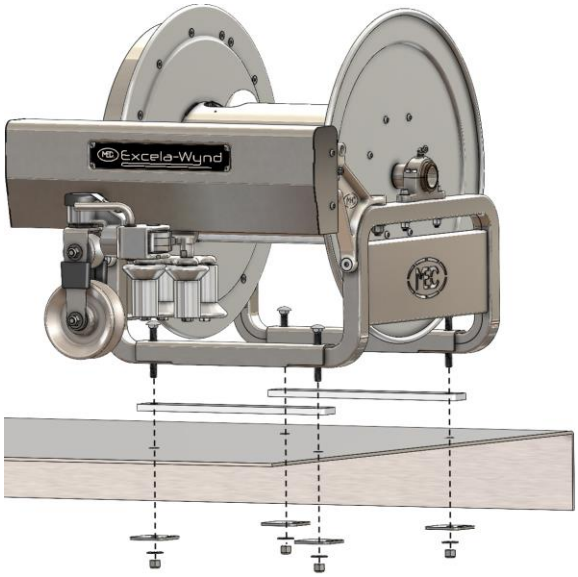
Lifting and Setting Reel - Caution - The Excela-Wynd hose reel weighs approximately 300 pounds. Use a suitable mechanical fork truck, hoist or crane to lift, move and set reel. Use a spreader bar and straps with a minimum working load of 500 lbs connected to the lift points on the axle and inlet shown below to lift the reel and set it on the deck.

Note: The reel will rotate in the direction shown when lifted. Setting the reel on the deck will bring it back to level or it can be held level manually as it is set. **Do not lift by attaching to optional reel cover.**



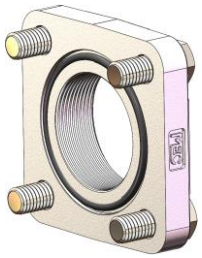
Mounting to Deck - WARNING - **DO NOT use an impact driver to tighten mounting bolts**. Use (4) SS carriage bolts, (4) SS backing plates, (4) SS flat washers and (4) SS locknuts from the HARDWARE KIT and (2) Dielectric Mounts from the ACCESSORIES BOX. Install reel as shown below with dielectric mounts between reel frame and deck and with backing plates below the deck. Install SS carriage bolts through reel frame rail, dielectric mount, deck and backing plate. **Apply anti-seize to threads of carriage bolts**, install SS flat washers and tighten SS locknuts securely.

Note: The off-center holes in the backing plate allow it to be installed when there is an obstruction that interferes with using the center hole.



Connecting Inlet - A flexible connection as shown below must always be installed between fixed piping and the swivel inlet. An ME840SS or ME841SS series Type "A" 4-bolt flange kit (not included) must be used to connect to the swivel inlet flange.

MEC Universal Flange Kit				
Part No.				
WCC A216 Steel	CF8M Stainless Steel	Description *	Flange Type	Weight (lbs.)
ME840-10F	ME840SS-10F	1-1/4" FNPT 4 Bolt Flange Adapter Plate	A	3.0
ME841-10F	ME841SS-10F	1-1/4" Socket Weld 4 Bolt Flange Adapter Plate	A	2.9
ME840-12F	ME840SS-12F	1-1/2" FNPT 4 Bolt Flange Adapter Plate	A	2.8
ME841-12F	ME841SS-12F	1-1/2" Socket Weld 4 Bolt Flange Adapter Plate	A	2.7
ME840-16F	ME840SS-16F	2" FNPT 4 Bolt Flange Adapter Plate	A	2.5
ME841-16F	ME841SS-16F	2" Socket Weld 4 Bolt Flange Adapter Plate	A	2.3



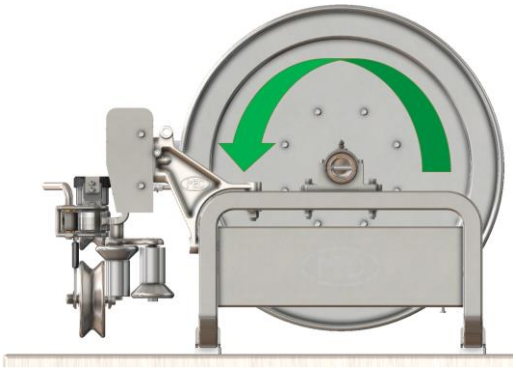
NOTE: Flanges available in Stainless Steel i.e. ME840SS-16F

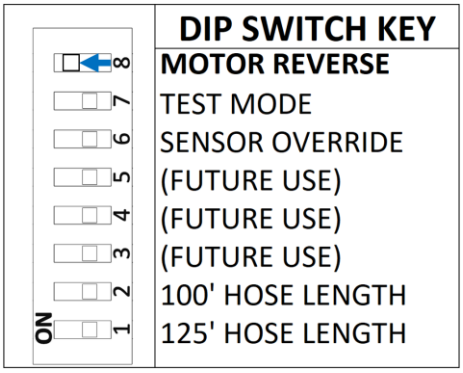
VSC9000 SPEED CONTROLLER

Enclosure - Install the BASE Engineering controller enclosure according to the instructions provided in a location accessible for service.

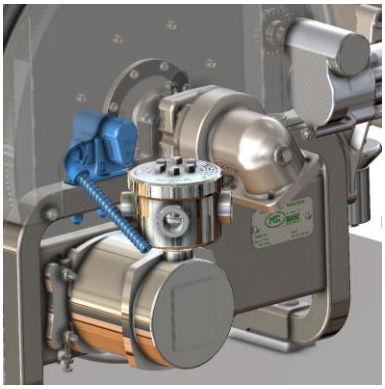
Power - Connect battery **(+)** and ground **(-)** according to the instructions and diagrams provided by BASE Engineering.

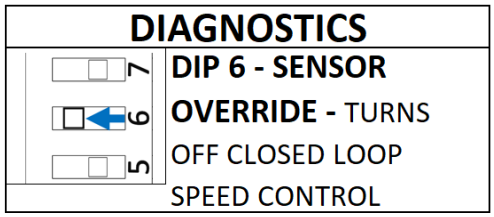
Motor - Connect motor leads to controller according to the instructions and diagrams provided by BASE Engineering.
Note - The motor lead corresponding to **(+)** for REEL IN is marked with **red** and the correct direction of rotation is shown below. If the motor leads are inadvertently switched and the motor rotates in the wrong direction, sliding DIP switch 8 to "ON" will reverse the polarity and direction of rotation eliminating the need to physically reverse the connections. See the Controller Configuration Diagram in the APPENDIX or the decal inside the controller enclosure for details.

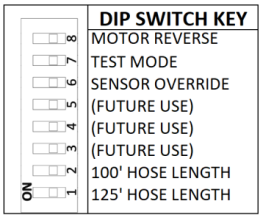




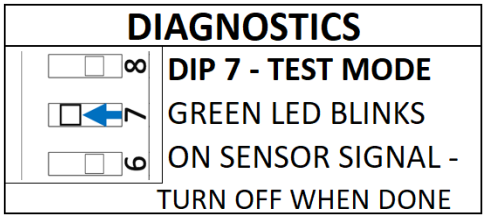
Sensor - Use the MEP801PC/30 extension cable from the ACCESSORIES BOX to connect the sensor to the VSC9000 controller terminal block according to the instructions and diagrams provided by BASE Engineering, the Controller Configuration Diagram in the APPENDIX or the decal inside the controller enclosure.
Note - Sliding DIP switch 6 to "ON" will override the sensor and closed loop speed control. This is useful when running the reel before sensor connections are made, or for diagnostics. With Sensor Override on, Reel-In operation will rotate the reel at the speed at which the controller potentiometer is set. **DIP switch "6" must be moved to "OFF" to return to normal operation.** See the Controller Configuration Diagram in the APPENDIX, or the decal inside the controller enclosure, for details.

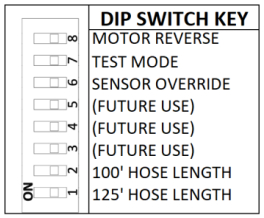






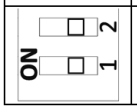
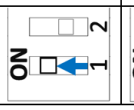
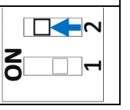
Test Mode - Sliding DIP switch 7 to "ON" enables the sensor test mode. In test mode, the green LED on the controller turns on when the sensor detects rotation. It is useful for confirming that the sensor and wiring are functioning as intended. **DIP switch "7" must be moved to "OFF" to return to normal operation.** See the Controller Configuration Diagram in the APPENDIX, or the decal inside the controller enclosure, for details.

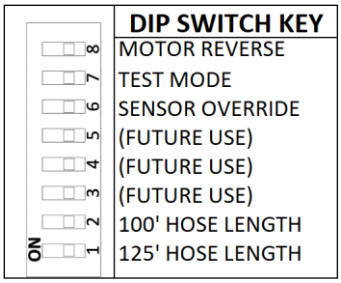




CONFIGURING THE VSC9000 CONTROLLER

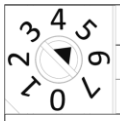
Hose Length - Note - Use only Ø1" ID hose on the ME9000LH-17/25 model Excela-Wynd hose reel. The hose length and size determine the number of wraps of hose on each layer. To assure proper automatic speed changes and maintain the selected hose speed, the controller must be set to match the installed hose length. **The controller is factory set for a 150' long, Ø1" ID hose**, so no change is required when installing a 150' long Ø1" ID hose. To set the hose length, slide the DIP switch corresponding to the length below to ON. See the Controller Configuration Diagram in the APPENDIX, or the decal inside the controller enclosure, for details.

SETTING HOSE LENGTH (FACTORY SETTING IS 150')		
150'	**125'**	**100'**
SW1 OFF	SW1 ON	SW1 OFF
SW2 OFF	SW2 OFF	SW2 ON
		



Hose Speed - Hose reel-in speed can be set to one of eight linear hose speeds ranging from 1.5 to 3.5 MPH. Company policy, seasonal conditions or driver preference may dictate the required speed. **The controller is factory set to a 2.9 MPH hose speed.** See the Controller Configuration Diagram in the APPENDIX, or the decal inside the controller enclosure, for details.

ASKW Remote - To set the hose speed, turn the potentiometer on the controller so the arrow points to the desired setting, below.

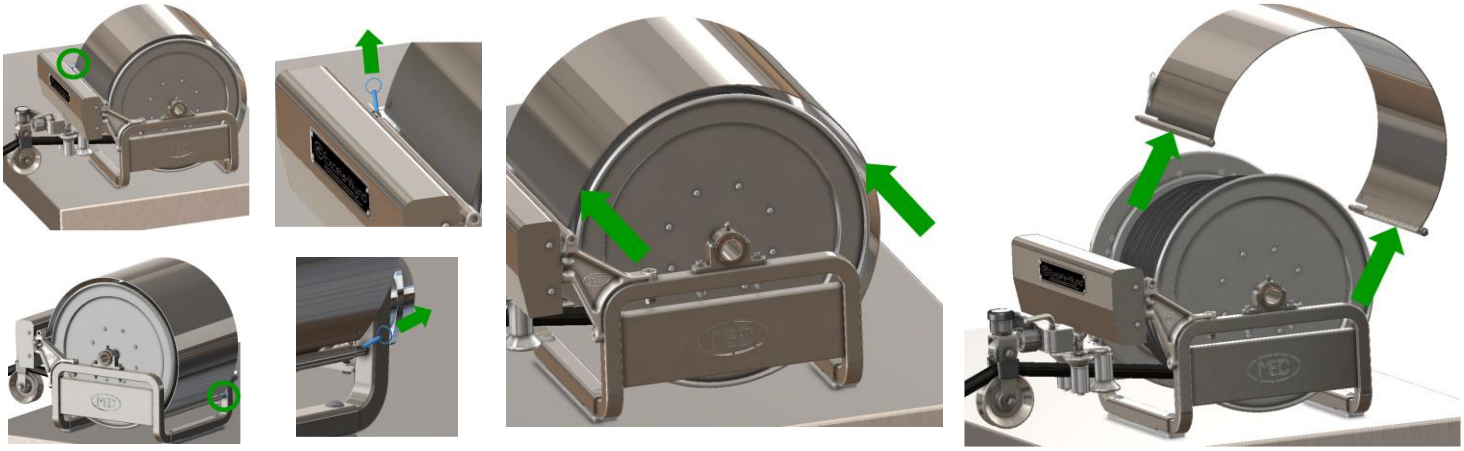


SETTING REWIND SPEED (FACTORY SETTING IS 5)								
POT. SETTING	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
HOSE SPEED (MPH)	**1.5**	**1.8**	**2.1**	**2.4**	**2.6**	**2.9**	**3.2**	**3.5**
USE SCREW DRIVER TO TURN POT. SO ARROW POINTS TO DESIRED SPEED								

PC3 Remote - See Operating Instructions in APPENDIX to set hose speed.
NOTE: The VSC9000 automatically detects PC3 reel speed setting and overrides the speed potentiometer setting.

INSTALLING HOSE

Removing Cover, if installed - Pull both detent pins or remove locking screws, push the cover as shown to compress the spring loaded plungers, move fixed posts away from mounting holes and lift cover off reel.

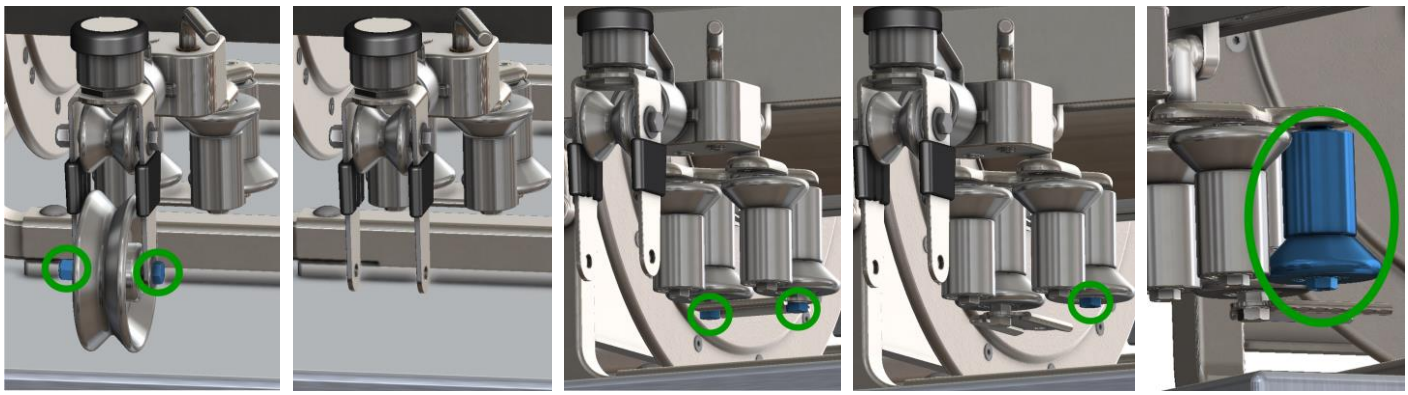


Replacing Cover - Insert plunger tips in holes in frame and level wind bracket, push cover to compress plungers, insert rear fixed post in hole in frame and front fixed post in level wind bracket and replace both detent pins or locking screws.
Note - The cover (sold separately) ships from factory with both detent pins and locking screws installed.

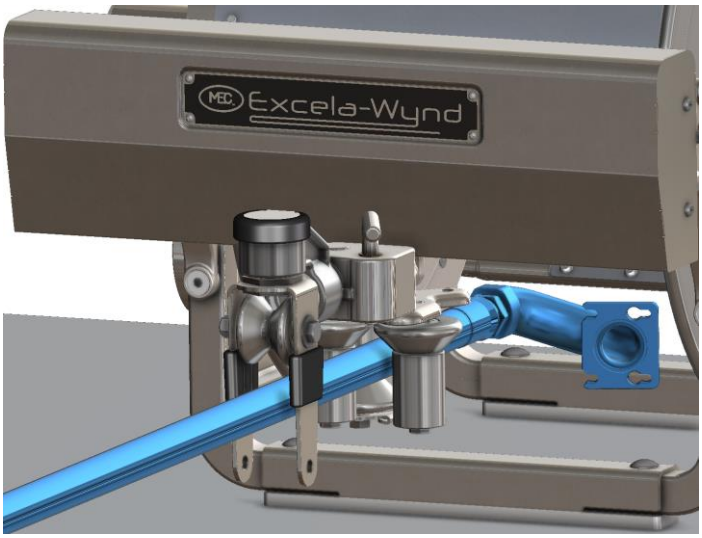
Connecting Hose to Offset Riser - Note - Use only Ø1" ID hose on the ME9000LH-17/25 model Excela-Wynd hose reel. Remove the Offset Riser from the Accessories Box and make the NPT connection using high quality PTFE sealant / tape and tighten securely. **Note -** To improve level wind performance, align riser with curvature of hose, as shown.

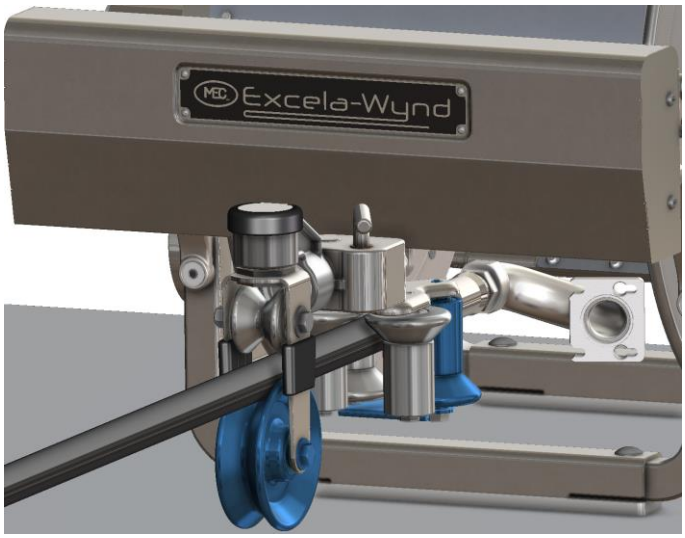


Installing Hose in Gimbal Hose Guide - Using ¾" wrenches, remove the nut, bolt and washers holding the gimbal roller. Remove gimbal roller assembly and set aside. Loosen the (2) screws holding the hose retainer plate and remove the right screw. Remove the right rear vertical roller post assembly and set aside, being careful to retain the internal tooth lock washer.



With riser connected to hose, route hose between vertical rollers and inside gimbal fork. Reinstall gimbal roller assembly and hardware and tighten securely. Reinstall vertical roller post assembly, including internal tooth lock washer, and hose retainer plate with bottom lock washer and hardware, and tighten securely.





Connecting Offset Riser to Inlet Flange - Note - The riser flange bolts are captured with a locknut and shouldn't be removed to service the offset riser.

1. Remove the flange seal from the ACCESSORIES BOX and install it on the outlet flange.
2. Pass the offset riser and hose under the reel drum, position the keyhole slots over the mounting bolts and move it down until the bolt heads clear the flange.
3. Move it fully forward until outlet and offset riser flanges are aligned
4. Push offset riser down to engage alignment boss making sure both flange faces are in contact.
5. **DO NOT use impact drivers on riser bolts**! **Using a 1/4" hex drive and extension**, tighten the flange bolts securely.

1-A

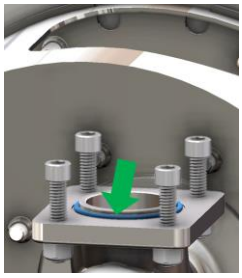
2-A

3-A

4-A

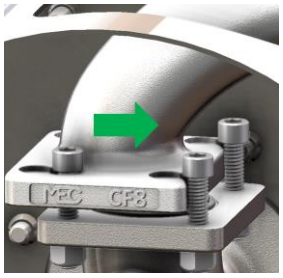
5-A

1-B



2-B

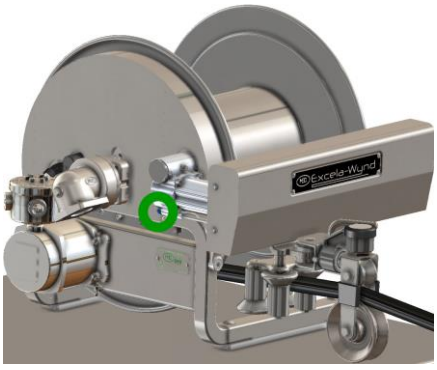
3-B

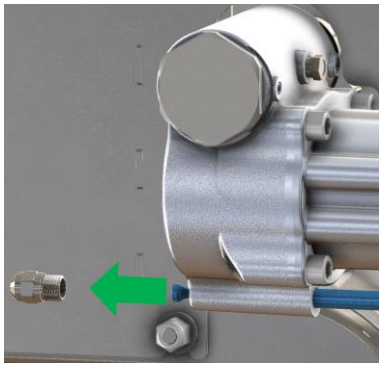


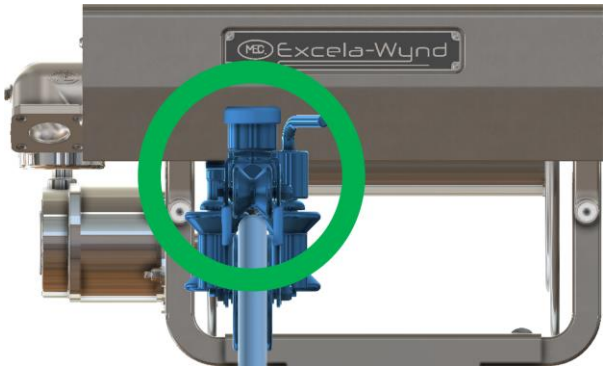
4-B

5-B

Adjusting Carriage - Using a 9/16" wrench, remove and retain the clutch rod cap. Pull and hold the clutch pin out, move the carriage to the position shown and release clutch pin. If carriage doesn't move freely, manually rotate reel until carriage moves freely.

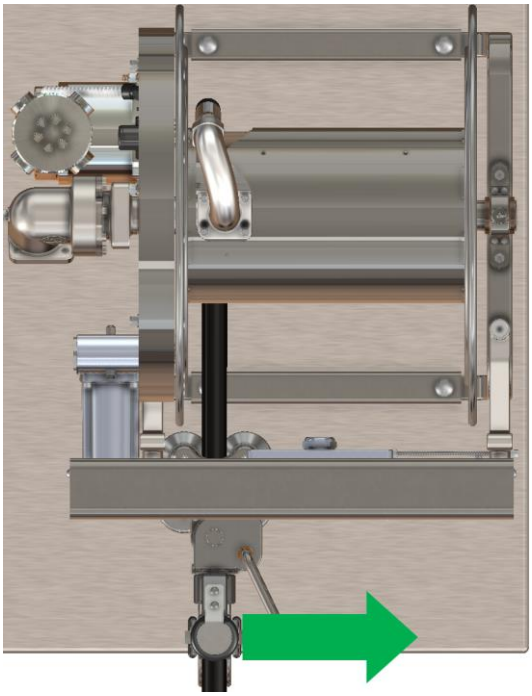


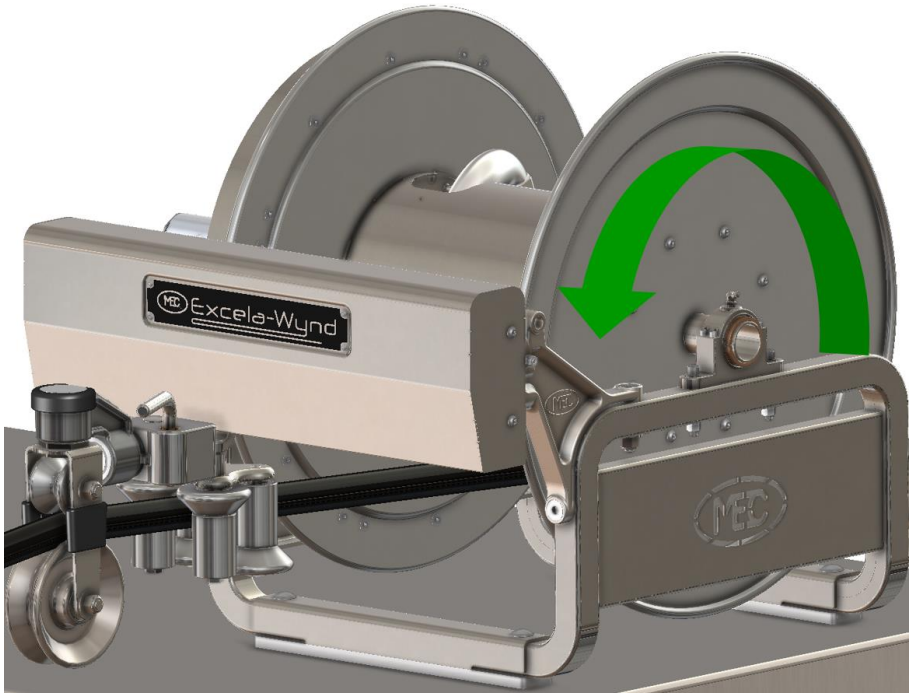




Adjusting Carriage - Continued

Verify that the Gimbal hose guide is in the correct position and immediately moves to the right when the drum is rotated in the direction shown below. Readjust the carriage, if necessary. **Replace the clutch rod cap and tighten securely.**

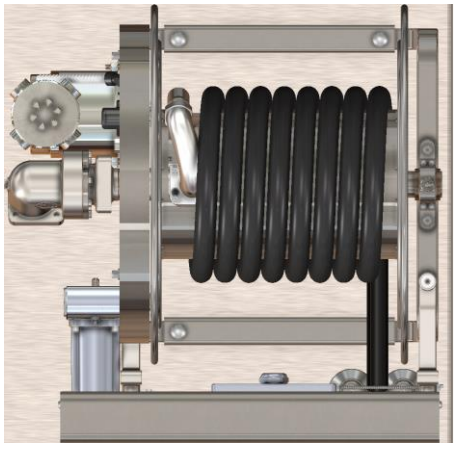


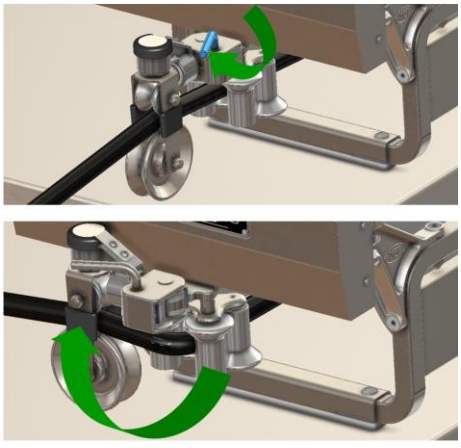


Loading Hose - Connect a hose end valve to open end of hose. Pressurize hose and check for leaks at swivel inlet flange, riser flange, riser / hose connection and hose end valve / hose connection. For improved level wind performance, remove twist due to coiling and storage from hose before loading.

Use REEL IN to load the first layer of hose on reel with hose feeding straight into hose guide. Stop reel at end of layer to confirm even placement on reel drum. If the first layer isn't as shown below, use REEL OUT and pull hose off or loosen hose manually and adjust position of hose and hose guide until the hose is tight to the drum and evenly spaced. Use REEL IN to load remaining hose onto reel. Replace cover, if provided. Latch gimbal guide in the stowed position.

Note - See "Rewinding Hose" and "Pulling Hose Out" sections of Operating Instructions in APPENDIX.





SPECIFICATIONS

Swivel

Agency Approval:	UL Listed
Pressure Rating:	400 PSI
Inlet Connection:	MEC 4-Bolt Flange, Type "A"

Reel

Length:	16.5"
Diameter:	25.25"
Hose Capacity:	150 ft., Ø1" ID hose
Hose Connection:	1" Female NPT
Pressure Rating:	400 PSI

Motor

Construction:	Totally Enclosed Explosion Proof
Agency Approval:	UL Listed
Rating:	Hazardous Location Class I, Div I, Group D
Hp:	2/3
Voltage:	12 DC
Current:	75 Amps
Speed:	500 RPM
Drive Ratio:	12.25:1

Junction Box

Agency Approval:	QPS Certified
Rating:	Hazardous Location Class I, Groups C & D Class II, Groups E, F & G Class III Type 4 Enclosure
Volume:	35 Cubic Inches
No. of Hubs:	5
Hub Size:	¾" NPT

Reel Dimensions

Width:	30.7"
Depth:	35.9"
Height:	27.9"
Weight:	270 lbs.
Shipping Weight:	310 lbs.

MATERIALS OF CONSTRUCTIONS

Wetted Surfaces

Swivel:	CF8M stainless steel (316 SS)
Inlet Casting:	CF8M stainless steel (316 SS)
Riser:	CF8 stainless steel (304 SS)

Frame

Motor Plate:	3/16" stainless steel
Mounting Rails:	3/16" wall stainless steel
Tubing:	1-1/2" Square 11 Ga stainless steel
Stud Retainer:	Tempered stainless steel
Mounting Hardware:	Stainless steel
Backing Plates:	Stainless steel
Gear Guard:	Welded, polished stainless steel
Level Wind Cover:	Welded, polished stainless steel

Spool

Reel Ends:	Hardened, marine grade aluminum
Drum:	Welded stainless steel
Axle:	Stainless steel, 1-1/2" pipe
Reel Bearings:	CF8 SS pillow block / split bronze bushings with grease fitting

Drive-Train

Motor Gear:	Hardened stainless steel
Gear Segments:	Hardened, polished stainless steel
Level Wind Gear:	Stainless steel
Motor Shaft:	Stainless steel

Level Wind

Carriage:	CF8 stainless steel (304 SS)
Mounting Brackets:	CF8 stainless steel (304 SS)
Gimbal Bearings:	(6) Sealed 25mm stainless steel
Roller Bearings:	(26) Sealed 17mm stainless steel
Rod Roller Bearings:	(12) Sealed 8mm stainless steel
Guide Rods:	Hardened stainless steel
Rod Rollers:	Hardened stainless steel
Retainer Plate:	Stainless steel
Drive Chain:	Stainless steel
Drive Sprockets:	Stainless steel
Shafts:	Hardened stainless steel
Worm Screw:	Hardened alloy steel
Worm Wheel:	Bronze
Clutch Pins:	Stainless steel
Connecting Pin:	Stress proof 1144 alloy steel
Slider Bearings:	Lubricated UHMW PE
Bearing Retainers:	CF8 stainless steel (304 SS)
Hose Rollers:	Hardened, anodized aluminum
Frame:	Hardened, anodized aluminum
Fasteners:	Stainless steel

Cover (Optional)

Mounting Rods:	Stainless steel
Plate:	1/8" hardened, polished or powder coated aluminum plate

MAINTENANCE

Marshall Excelsior's Excela-Wynd™ hose reels are constructed of heavy-duty, corrosion resistant materials that provide a 10 year safe-service-life under normal conditions with proper maintenance. However, they are subject to wear, vibration, contaminants, corrosion and aging of seals that will eventually render them inoperative. Harsh environments, heavy use, abuse and inadequate maintenance will shorten their safe-service-life. Be aware of the hazards that can arise from using aging equipment and reduce associated risks by regularly inspecting and properly maintaining this equipment.

WARNING! - Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death. MEC equipment must be installed, operated and maintained in accordance with federal, state and local codes, and manufacturer's instructions. The installation in most states must also comply with NFPA No. 58 and ANSI/CGA-2.1. Only personnel trained in the proper procedures, codes, standards and regulations of the LP-Gas industry should install and service this equipment.

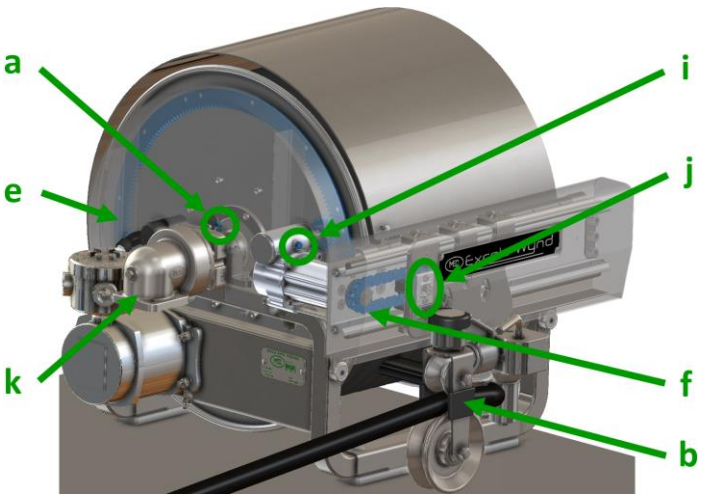
WARNING! - DISCONNECT POWER AND RELIEVE SYSTEM PRESSURE PRIOR TO SERVICING REEL AND CONTROLLER

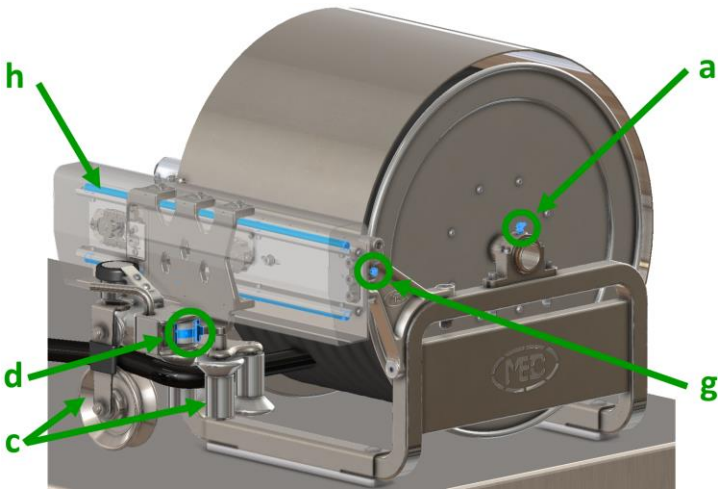
Recommended Service Schedule

Item	Description	Required Inspection / Service / Capacity	Recommended Frequency		
			Every Month	Every Year	Every 5 Years
a	Split Bronze Bearings	Grease both axle Zerk fittings as required*	✓		
b	Hose Guards	Inspect for excessive wear, replace as needed	✓		
c	Hose Rollers	Inspect for damage, replace as required	✓		
d	Gimbal Latch	Clean and lubricate with grease*	✓		
e	Gear Drive	Clean and lubricate with grease*		✓	
f	Level Wind Chain	Clean and lubricate with grease*		✓	
g	Chain Tensioner	Inspect and adjust as required		✓	
h	Carriage Bearing Rods	Inspect for excessive wear, replace as needed		✓	
i	Gearbox	Clean, inspect for wear or damage, replace as needed			✓
j	Carriage Slider Bearings	Clean, but DO NOT Grease - Permanently lubricated			✓
k	Inlet Swivel	See Form 1172 for swivel installation, maintenance & repair	---	---	---

*MEC recommends using a high quality lithium grease, such as Mystik® Lubricants JT-6® high temp #2, or equivalent.

Notes
1) See the SERVICE KITS section of this manual for a list of available service parts and kits.
2) All ball bearings in the Level Wind hose guide and rollers are permanently lubricated, sealed stainless steel bearings.
3) Follow the hose manufacturer's instructions for installation, maintenance and repair of hose.
4) An anti-seize compound must be applied to the external threads of all fasteners when servicing the hose reel. MEC recommends using a Nickle-based (copper-free) anti-seize compound.





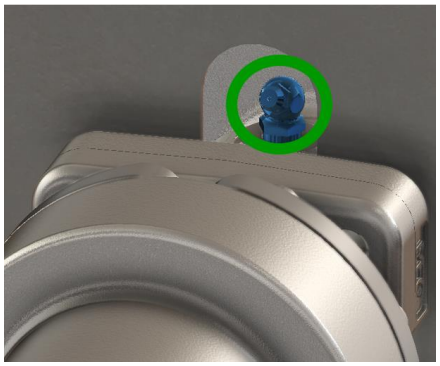
Monthly Service - The following items should be inspected and serviced at least monthly. More frequent inspection and service is required in harsh environments or with heavy use.

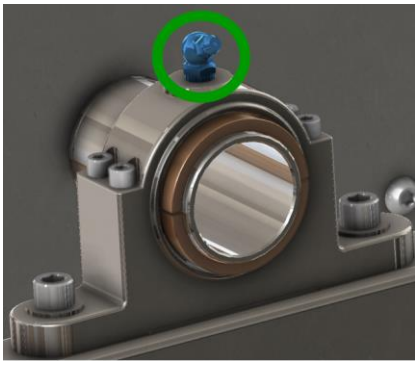
See the SERVICE KITS section of this manual for a list of available service parts and kits.

WARNING! - DISCONNECT POWER PRIOR TO PERFORMING THE FOLLOWING SERVICE

a) Split Bronze Bearings
Note: When properly maintained, bearings should not need to be replaced within the 10 year safe-service-life of the reel.

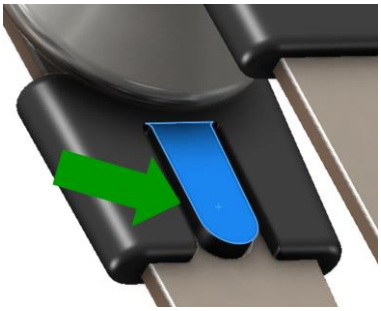
1. Clean and inspect bearings for wear
2. Replace damaged bearings with Split Bronze Bearing kit **ME9000-SBK**
3. **Grease the Zerk fitting** on each axle pillow block bearing until excess grease is visible
4. Remove excess grease and wipe clean

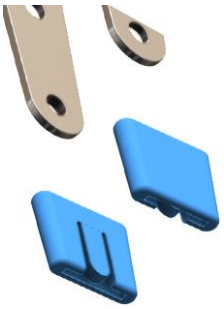




b) Hose Guards - Inspect for wear that could damage hose. To replace worn guards:

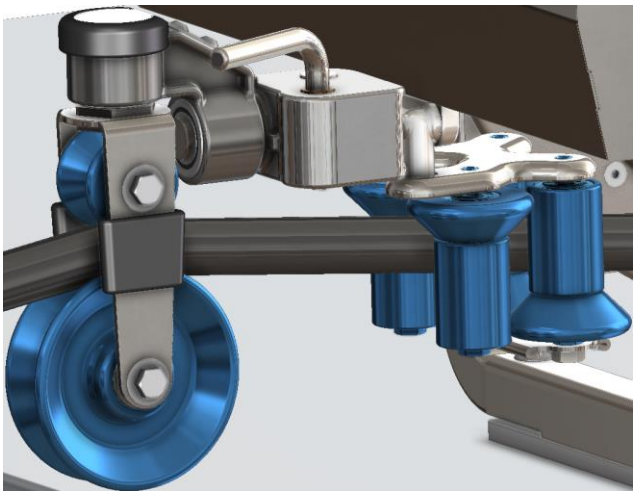
1. Using two ¾"wrenches, remove the Gimbal axle and roller
2. Pry the tab up and slide the guards off
3. Install new **ME9000-HGS** hose guards pressing tab firmly into hole in fork
4. Reinstall Gimbal roller and axle and tighten securely





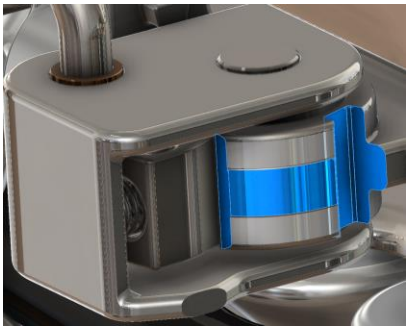
c) Hose Rollers - Inspect for damage, rough or sharp edges that could damage hose. To replace damaged rollers:

1. Using ¾"wrenches, remove the axle(s) or stud(s) and retaining plate supporting the damaged roller(s)
2. Remove the damaged roller(s)
3. Install new **ME9000-GMS** Gimbal roller(s) and **ME9000-GRS** Guide rollers, as required
4. Reinstall axle(s) or stud(s) and retaining plate, washers, lock washers, hex head screws and locknuts, tighten securely
5. Make sure all roller(s) spin freely



d) Gimbal Latch

1. Clean and inspect Gimbal Latch for wear
2. Apply a light coat of grease to all highlighted surfaces
3. Wipe off excess



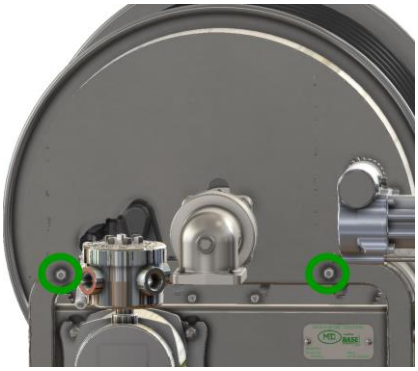
Annual Service - The following items should be inspected and serviced at least once every year. More frequent inspection and service is required in harsh environments or with heavy use.

See the SERVICE KITS section of this manual for a list of available service parts and kits.

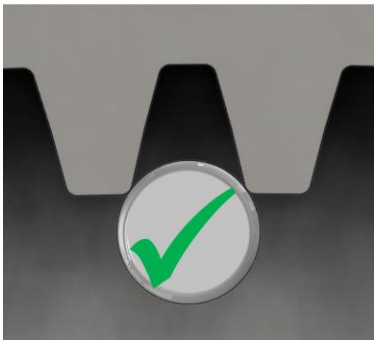
WARNING! - DISCONNECT POWER PRIOR TO PERFORMING THE FOLLOWING SERVICE

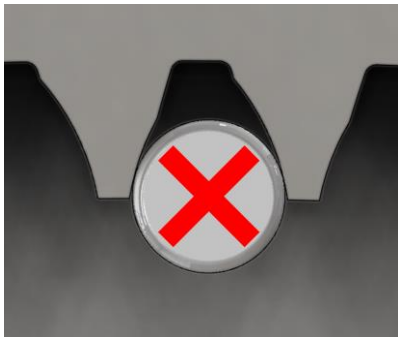
e) Gear Drive

1. Remove Gear Guard using a **9/16"** socket:
   a. **For Gear Guards secured by Bolts**: Remove the (2) bolts and lock washers
   b. **For Gear Guards secured by Locknuts**: Loosen the locknuts 2 to 3 turns, but don't remove them
2. Slide the Gear Guard up and off the reel to access gears
3. Remove any debris and inspect drive gear segment and level wind gear teeth for excessive wear



4. When a **Ø1/4"**dowel pin goes more than half way into the gap between teeth on the gear segments, consider replacing the gears. MEC recommends replacing the Gear Segments **ME9000-GSK** (4 req'd per reel), Motor Gear **ME9000-MGK** and Level Wind Gear **ME9000-LWG** at the same time.
5. Apply grease to teeth of drive gear segments and level wind gear
6. Reinstall Gear Guard
   a. **For Gear Guards secured by Bolts:** Install bolts and washers and tighten securely
   b. **For Gear Guards secured by Locknuts**: Tighten locknuts securely

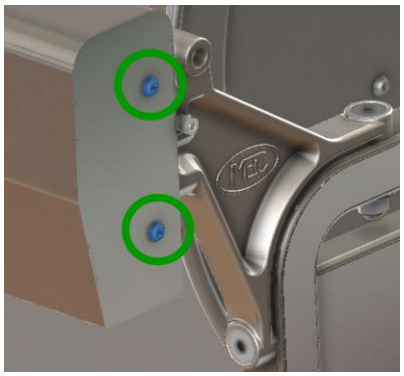


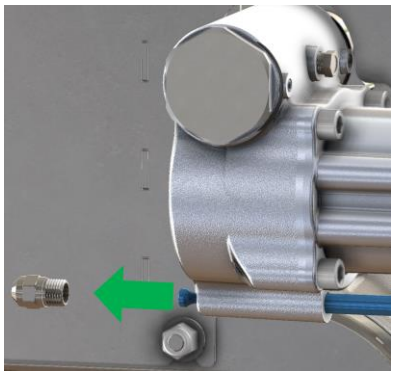


f) Level Wind Chain

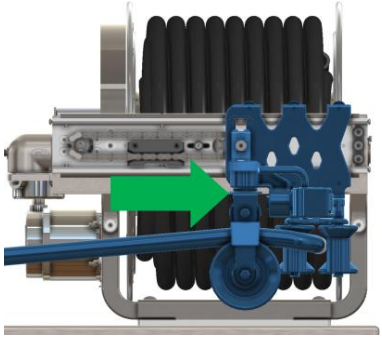
Note: When properly maintained, the chain should not need to be replaced within the 10 year safe-service-life of reel.

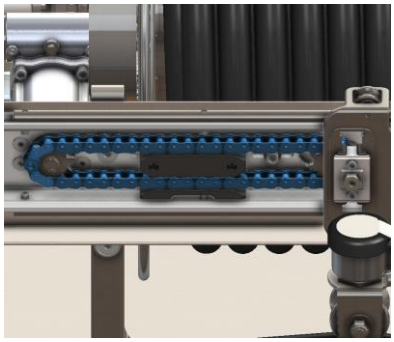
1. Using a **T40** Torx drive, remove the 4 cover mounting screws
2. Slide the cover up and off
3. **Mark the position of the carriage** so it can be realigned when service is complete
4. Using a **9/16"** wrench, remove the clutch rod cap





5. Pull and hold the clutch rod out to disengage the clutch and move the carriage assembly to the right
6. Remove any debris from the chain and inspect for damage
7. Replace damaged chain assembly with Level Wind Chain Kit **ME9000-LCK**
8. Apply grease to roller chain



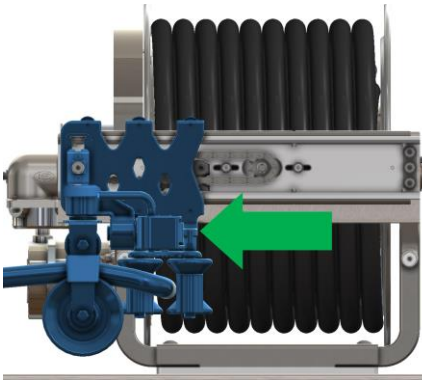


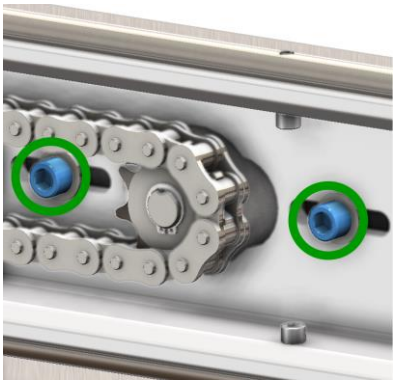
g) Chain Tensioner

Note: Over time, the chain will "stretch" due to wear. Do not adjust chain tension unless necessary. Over-tightening can cause increased loads and wear leading to premature chain failure.

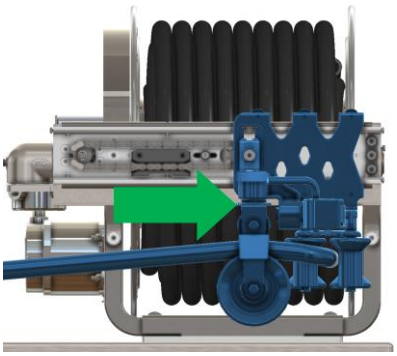
To adjust chain tension:

1. While holding the clutch pin out, move the carriage assembly to the left
2. Using a **5/16"** hex wrench, loosen both idler hub bolts **one-half turn**





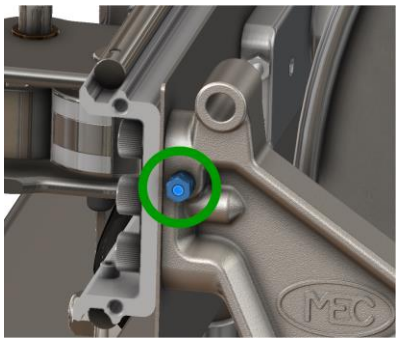
3. Using a **7/16"** wrench, loosen the jam nut on the tensioner rod and back nut off approximately ¼"
4. While holding the clutch pin out, move the carriage assembly to the right

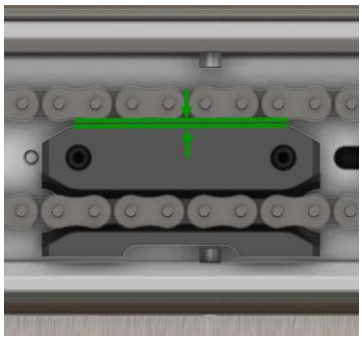


5. Using a **7/16"** wrench, turn the tensioner adjustment nut clockwise **until chain just lifts off of the guide**

   DO NOT OVER-TIGHTEN CHAIN!

6. While holding adjustment nut, tighten jam nut securely
7. Tighten both idler hub bolts securely

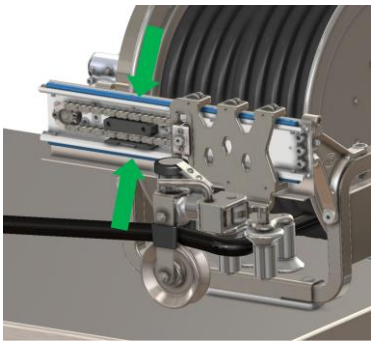


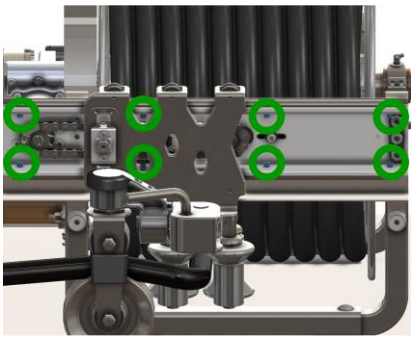


h) Carriage Bearing Rods

Note: The clearance fit between the carriage and bearing rods helps to tolerate buildup and contamination without binding.

1. Remove any debris from the carriage bearing rods and inspect for wear
2. Replace worn or damaged rods with Bearing Rod Kit **ME9000-BER** by removing 8 mounting screws.
3. Apply grease to exposed surfaces of both bearing rods

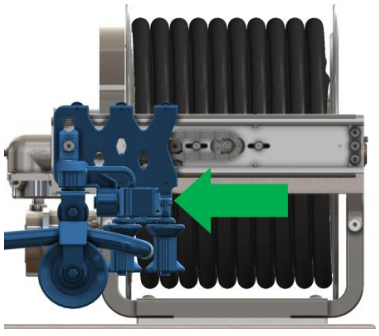


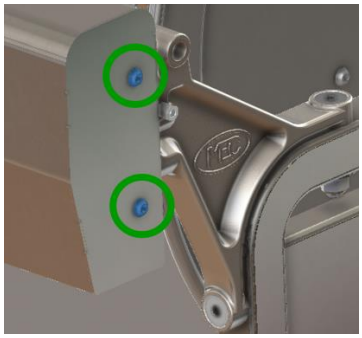


4. While holding the clutch pin out, move the carriage assembly back to the position marked before servicing

Note: See Adjusting Carriage section of this manual for details

5. Reinstall clutch rod cap and tighten securely
6. Reinstall cover and tighten all 4 mountings screws securely





Five Year Service - The following items should be inspected and serviced at least every five years. More frequent inspection and service is required in harsh environments or with heavy use.

See the SERVICE KITS section of this manual for a list of available service parts and kits.

WARNING! - DISCONNECT POWER PRIOR TO PERFORMING THE FOLLOWING SERVICE

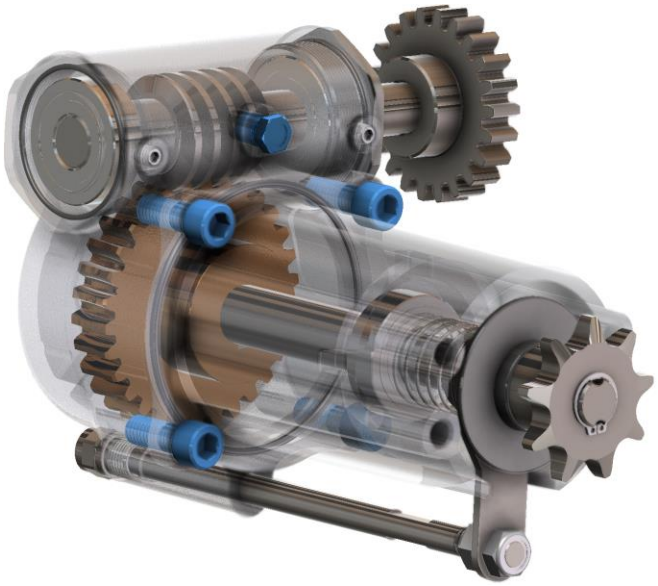
i) Gearbox

Note: Under normal use, the gearbox drive system (gears, bearings, shafts and lubricant) should not need to be serviced or replaced within the 10 year safe-service-life of the reel.

1. Replace worn or damaged gearbox with Gearbox Kit **ME9000-GBK**

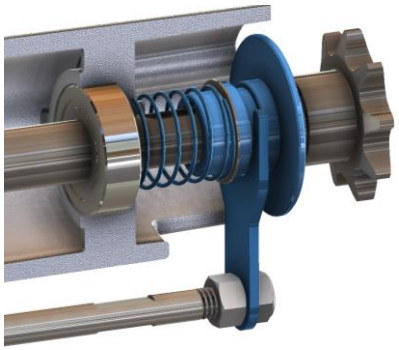
To change gearbox oil:

2. Using a **5/16"** hex wrench, loosen the 4 bolts 3 to 4 turns and slide the gearbox housing and mount apart slightly to drain the oil then retighten the 4 bolts securely
3. Using a **7/16"** wrench, remove the vent plug
4. Using a fill tube inserted in the vent port, add **2 oz.** of Valvoline **Synthetic 75W-90 gear oil**, or equivalent
5. Reinstall vent plug using thread sealant



Clean the Disengagement Clutch

6. Using a **9/16"** wrench, remove the clutch rod cap
7. Clean the clutch using pressurized air or a Tetrachloroethylene based brake cleaner
8. Apply a dry film silicone lubricant or WD-40 (Water Displacement, 40th formula) to clutch bushing and shaft
9. Cycle the clutch by pulling the clutch rod in and out until it moves freely
10. Reinstall clutch rod cap and tighten securely

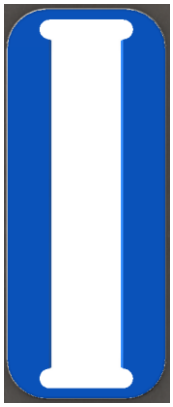


j) Carriage Slider Bearings

Note: Under normal use, the Carriage Slider Bearings should not need to be serviced or replaced within the 10 year safe-service-life of the reel.

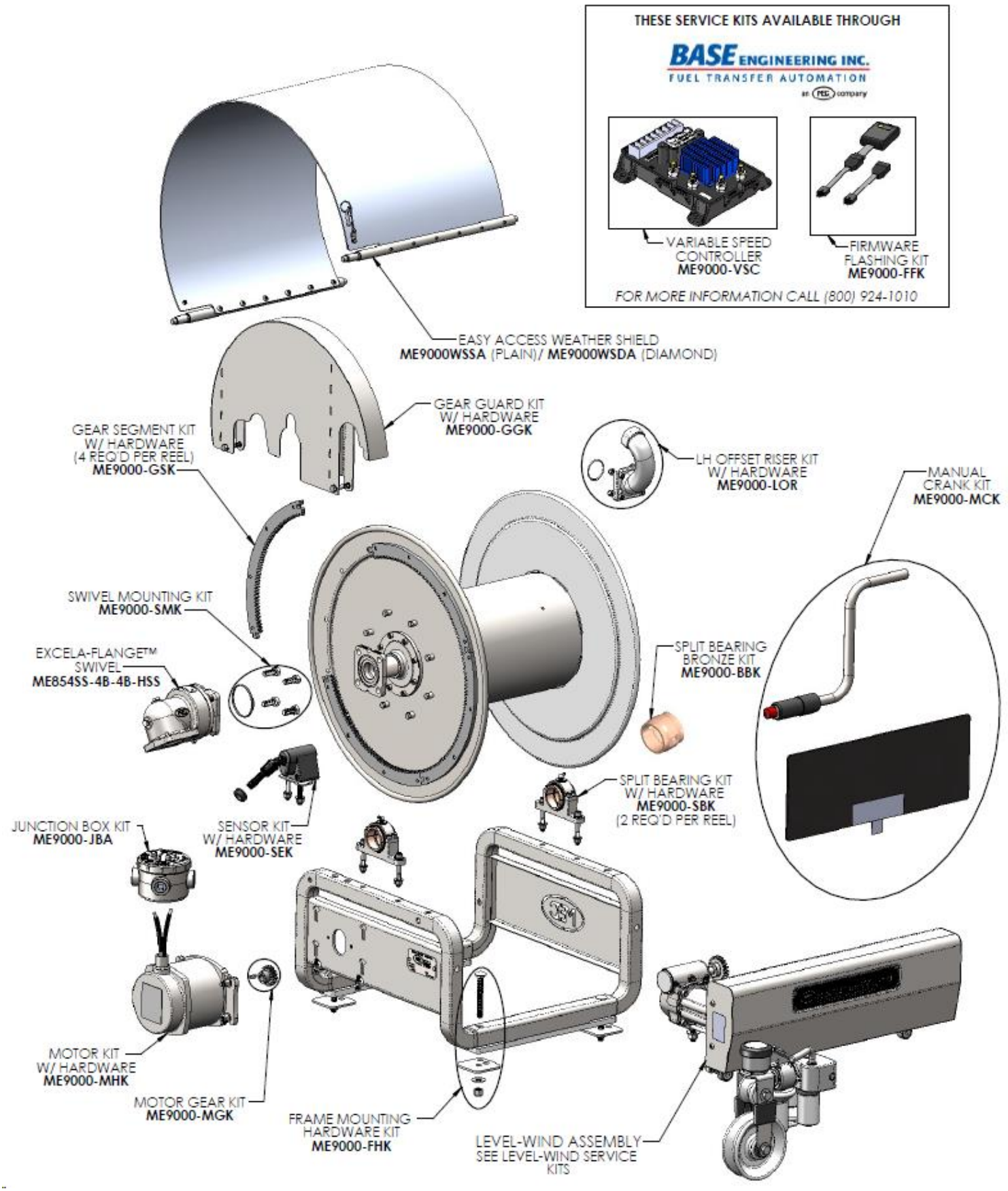
Clean the slider and guide:

1. Inspect slider and guide for excessive wear or damage.
2. Clean the bearing guide by removing any contamination or debris
3. Replace worn or damaged bearings with Slider Bearing Kit **ME9000-CBK**

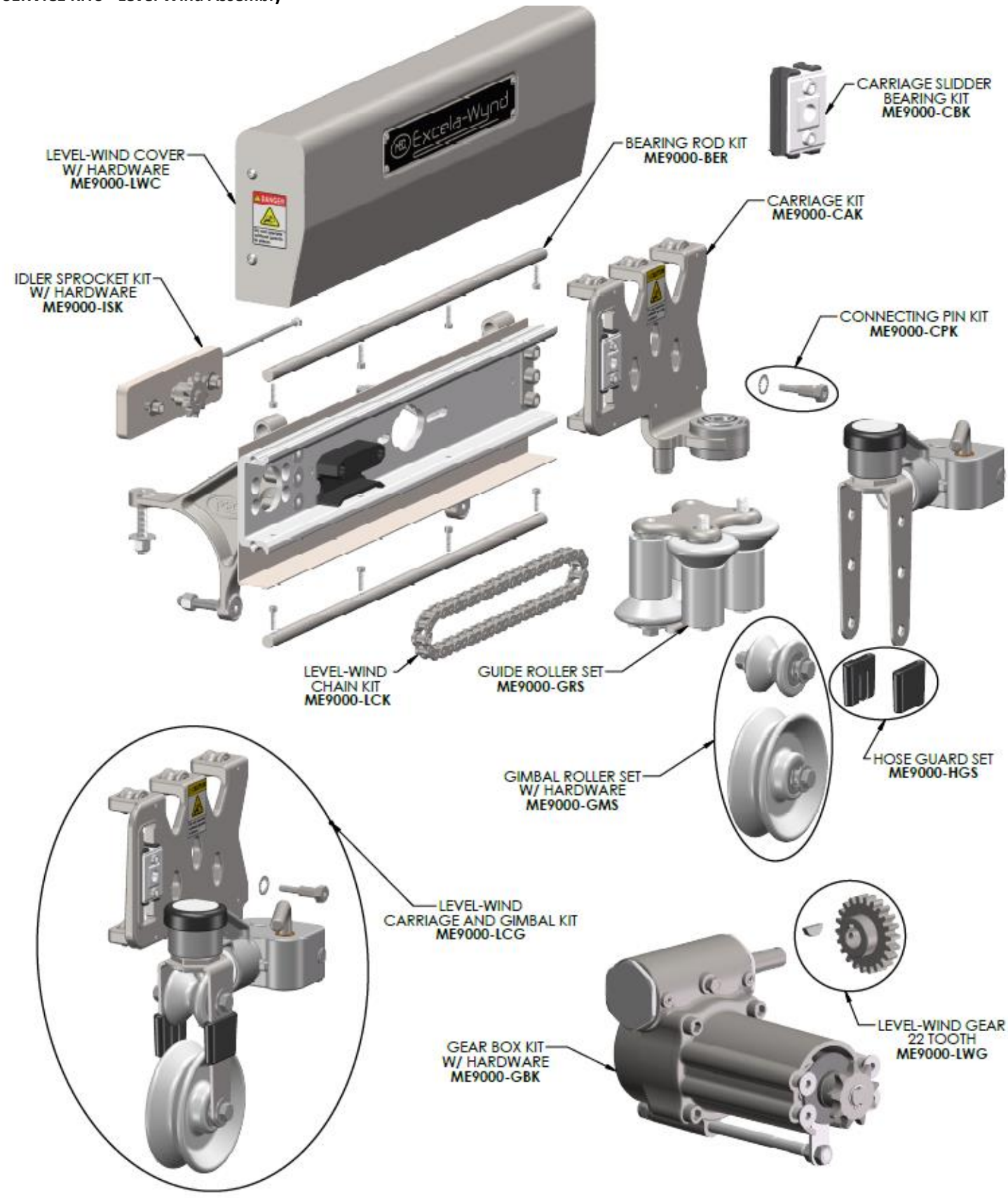


k) Inlet Swivel - See Form 1172 for swivel installation, maintenance & repair

SERVICE KITS



SERVICE KITS - Level Wind Assembly



WARRANTY INFORMATION

WARNING

Marshall Excelsior's products are mechanical devices made of materials such as rubber and metal, and are subject to wear, the effects of contaminants, corrosion, and aging, and these devices will eventually become inoperative. Regular inspection and maintenance is essential. Marshall Excelsior's products have a long record of quality and service, and therefore LP-Gas dealers may forget hazards that can arise from using aging devices that have outlived their safe service life. The safe service life of these products will be affected by the environment and the conditions of their use. The LP-Gas dealer knows better than anyone what this environment and the conditions of use are.

There are developing trends in state legislation and proposed national legislation making the owner of products responsible for replacing products before they outlive their safe service life. LP Gas dealers should be aware of such legislation as it affects them.

All Marshall Excelsior products must be installed, inspected and maintained by a trained and experienced professional adhering to all installation instructions, product and safety warnings, local, state, and federal regulations, codes and standards and any other standards set by, but not limited to, NFPA, DOT or ANSI.

LP-Gas is a highly explosive and flammable gas that should never be vented near a possible ignition source.

LIMITED WARRANTY

THIS WARRANTY for Marshall Excelsior manufactured products is provided by Marshall Excelsior, Inc., 1506 George Brown Drive, Marshall, MI 49068. Marshall Excelsior, unless otherwise specified in writing, warrants to the original buyer that for a period of three (3) years from the date of manufacture its products and repair kits will be free from defects in material and workmanship under normal service and use. This warranty covers manufacturing defects only, and does not cover defects and product non-compliance due to, misuse, alteration, neglect, accident, fire, or other external causes, alterations, or repairs. This limited warranty also does not cover normal wear and tear. During this warranty period, if a defect arises in the product, and you follow the instructions for returning the product, Marshall Excelsior will, at its option, to the extent permitted by law, either (i) repair the product using either new or refurbished parts, (ii) replace the product with a new or refurbished product that is equivalent to the product that is to be replaced, or (iii) refund to you all or part of the purchase price of the product. This limited warranty applies to the extent permitted by law, to any repair, replacement part or replacement device for the remainder of the original warranty period or for ninety (90) days whichever period is longer. All replaced parts and products for which a refund is given shall become the property of Marshall Excelsior. This is the only warranty or representation made by Marshall Excelsior, and the sole basis for liability respecting quality, performance, defects, repair, delivery, and replacement of products and repair kits. The foregoing shall constitute Marshall Excelsior's sole liability.

Marshall Excelsior does not warrant any product or part that has been altered, accidentally damaged, disassembled, modified, misused, neglected, not properly maintained or installed. Marshall Excelsior does not warrant cosmetic issues including but not limited to dents, scratches, product discoloration, color fading or any other imperfection that does not affect the functionality of the product. Marshall Excelsior does not warranty any product or part not installed according to Marshall Excelsior's installation instructions or installed in violation of any regulation or warning by state, local, or federal regulators, or in violation of any standard or code set by, but not limited to, NFPA, DOT or ANSI requirements. The foregoing shall constitute Marshall Excelsior's sole liability to distributors, vendees and end users. NOTE: Warranty does not include hose, as it is not manufactured by MEC.

LIMITATIONS

TO THE EXTENT PERMITTED BY LAW, THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES, AND MARSHALL EXCELSIOR SPECIFICALLY DISCLAIMS ALL STATUTORY OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND AGAINST HIDDEN OR LATENT DEFECTS. IF MARSHALL EXCELSIOR CANNOT LAWFULLY DISCLAIM STATUTORY OR IMPLIED WARRANTIES, THEN TO THE EXTENT PERMITTED BY LAW, ALL SUCH WARRANTIES SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY AND TO REPAIR OR REPLACEMENT AND SERVICE.

MARSHALL EXCELSIOR IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR UNDER ANY OTHER LEGAL THEORY.

MARSHALL EXCELSIOR'S LIABILITY (EXCEPT AS TO TITLE) ARISING OUT OF THE SALE, USE OR OPERATION OF PRODUCTS OR REPAIR KITS, WHETHER ON CLAIMS FOR BREACH OF WARRANTY, CONTRACT, NEGLIGENCE OR OTHERWISE (INCLUDING CLAIMS OF CONSEQUENTIAL OR INCIDENTAL DAMAGES) SHALL NOT IN ANY EVENT EXCEED THE COST OF FURNISHING OR REPLACEMENT OF THE DEFECTIVE PRODUCT OR REPAIR KIT.

WARRANTY CLAIMS AND NOTICE

Warranty claims shall be made in writing to Marshall Excelsior's Home Office at 1506 George Brown Drive, Marshall, Michigan 49068 by the distributor, vendee or end user within twenty (20) days of discovery of the defect and the product must be postmarked and shipped F.O.B. origin to Marshall Excelsior's Home Office within thirty (30) days of the discovery of the defect. Marshall Excelsior

will not accept any products or repair kits that does not have a Return Material Authorization (RMA) number from the Home Office in Marshall, Michigan. After Marshall Excelsior has inspected the product and deemed the product to be defective, at its discretion, Marshall Excelsior will repair, replace or refund the purchase price of the defective product or repair kit. If the buyer does not comply with the above stated requirements the buyer will waive unconditionally and absolutely any and all claims arising out of the alleged defect.

COMPLIANCE

Marshall Excelsior manufactures all of our products to the highest industry standards. All of our products meet or exceed the requirements of the Compressed Gas Association (CGA), the National Fire Protection Association (NFPA), American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME) or Underwriters Laboratories, Inc. (UL) where indicated.

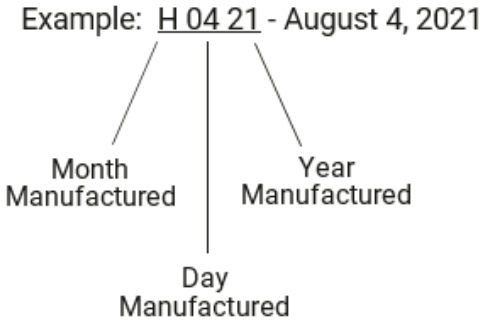
PRODUCT CHANGES

Marshall Excelsior reserves the right to change product specifications at any time. We are constantly evaluating our products and incorporating engineering advances to ensure our products perform and comply with changes in market conditions, government mandates, and code changes. Marshall Excelsior shall not be required to modify any equipment already sold or in service.

DETERMINING PRODUCT AGE

To determine the product's age, check the product for a date code consisting of a series of letters and numbers.

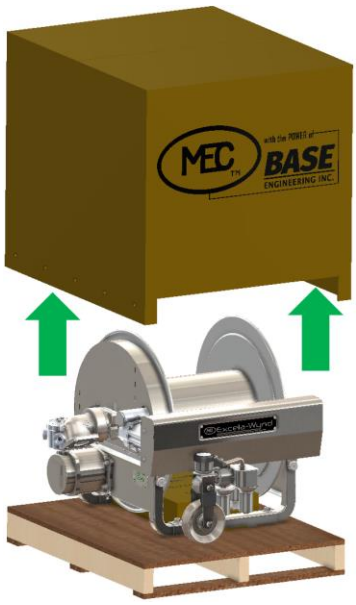
A = January	E = May	I = September
B = February	F = June	J = October
C = March	G = July	K = November
D = April	H = August	L = December



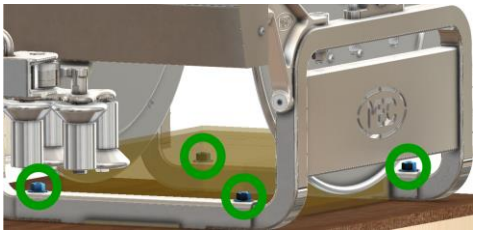
APPENDIX - UNBOXING INSTRUCTIONS

1. REMOVE SCREWS FROM BOX

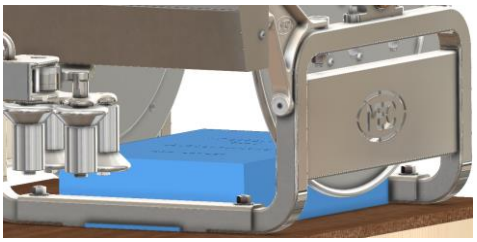
2. LIFT BOX OFF PALLET



3. **USE A 3/4" WRENCH** TO REMOVE SHIPPING HARDWARE



4. REMOVE AND RETAIN ACCESSORIES BOX

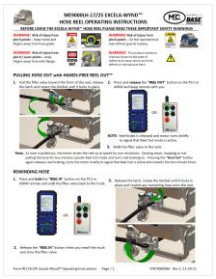


5. **KEEP ACCESSORIES BOX WITH REEL**

ACCESSORIES BOX

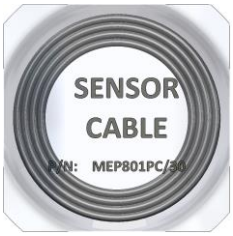
ACCESSORIES BOX CONTENTS

OPERATORS MANUAL



INSTALLATION MANUAL

SENSOR CABLE



MOUNTING HARDWARE

DIELECTRIC MOUNTS

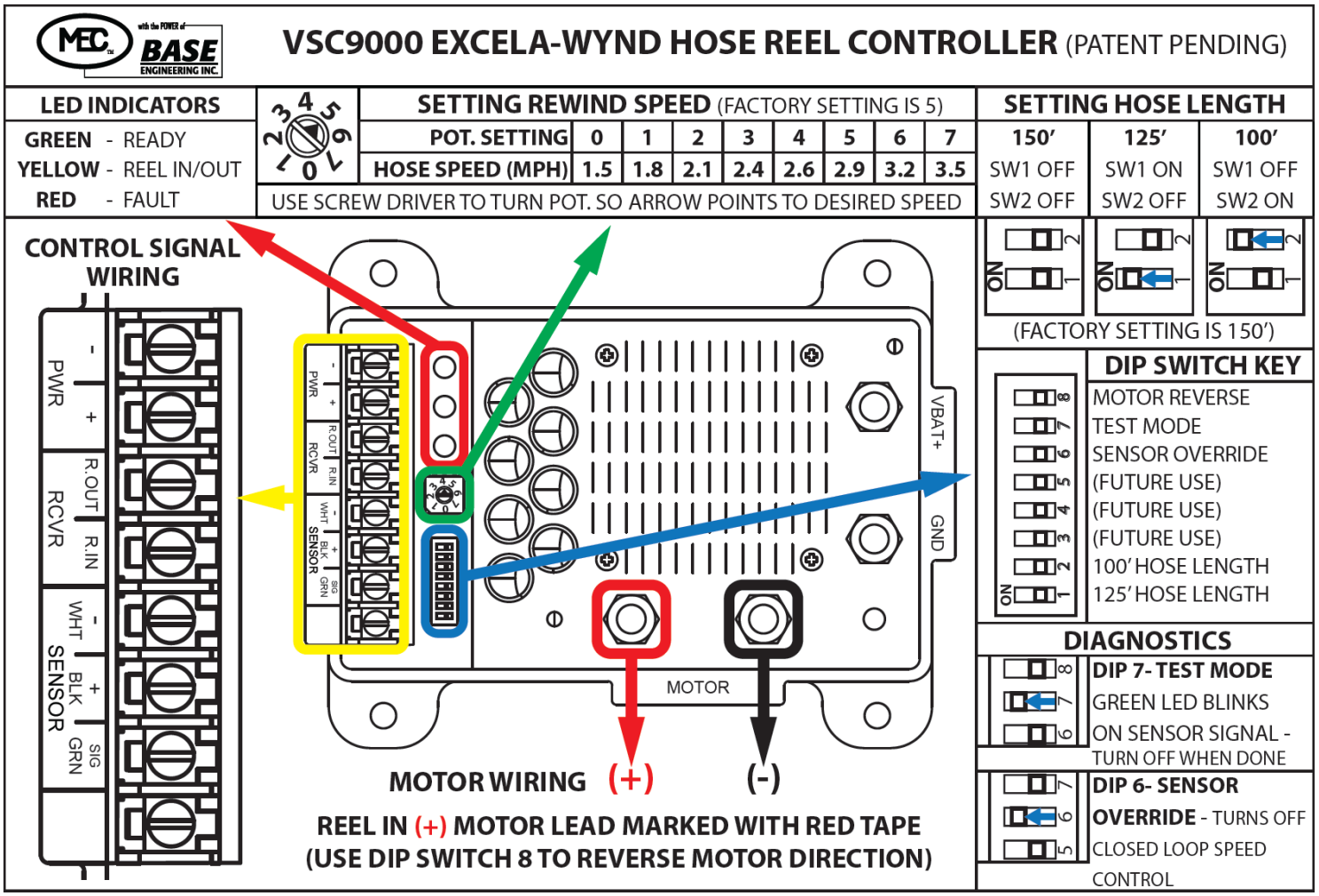
RISER AND FLANGE SEAL

MANUAL CRANK

MANUAL CRANK STORAGE POUCH

6. **RECYCLE OR DISCARD**: SHIPPING BOX, PALLET AND STEEL SHIPPING NUTS, BOLTS AND WASHERS

VSC9000 Controller Configuration Diagram



STATUS INDICATORS

The VSC9000 has LED's that light to indicate status or a fault condition when the controller is powered on:
NOTE: As safety interlocks, power is removed from the VSC9000 if either the Park brake is NOT set or the ignition is off.

a. **Green LED** on
   i. **Solid Green**- Controller is powered on, no fault condition has occurred and controller is ready for operation.
   ii. **Blinking Green -** Voltage on input power lugs (VBAT+ and GND) is less than 10 VDC due to low vehicle battery voltage or faulty ground connection.

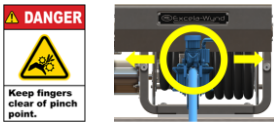
b. **Yellow LED** on - Controller is powered on, no fault condition has occurred and REEL IN or REEL OUT is active.
   NOTE: The yellow indicator stays on when the two minute Reel Out timer is running after REEL OUT is pressed.

c. **Red LED** on - A fault condition has occurred:
   i. **Solid Red**
      a. An extremely high motor load lasting more than 15 seconds has triggered software over-current protection. This fault automatically resets after (5) seconds and normal function resumes.
      b. Hardware power supply 170 amp over-current protection triggered (extremely rare). This fault is reset when power to the controller is cycled by turning the ignition off and back on .
      c. Hardware motor controller fault (extremely rare). Resets when power is cycled.
      d. Voltage on input power lugs (VBAT+ and GND) is critically low (4 to 6 VDC) and preventing operation.
   ii. **Blinking Red** - Motor is driving for 10 seconds with no sensor signal received. Indicates reel is not turning or sensor or sensor wiring is faulty. Use Sensor Override mode (DIP switch 6 ON) until sensor is serviced.

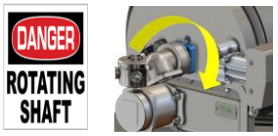
OPERATING INSTRUCTIONS

BEFORE USING THE EXCELA-WYND™ HOSE REEL PLEASE READ THESE IMPORTANT SAFETY WARNINGS

WARNING! Risk of injury from pinch points – Keep hands and fingers away from hose guide.



WARNING! Risk of injury from pinch / sever points – Keep fingers away from inlet flange.

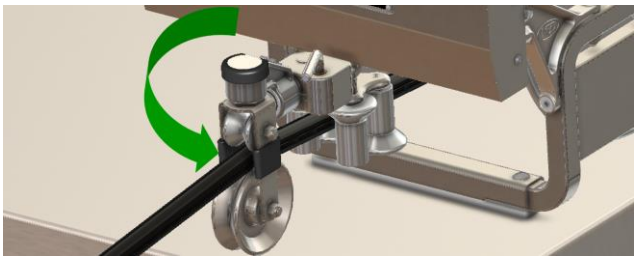


WARNING! Risk of injury from pinch points – Do Not operate hose reel without gear and chain guards in place.

WARNING! This product contains a chemical known to the state of California to cause cancer and birth defects or reproductive harm.

PULLING HOSE OUT

1. Pull the filler valve toward the front of the reel, release the latch and rotate the Gimbal until it locks in place.



2. Press and **release** the "**REEL OUT**" button on the PC3 or ASKW and keep remote with you.

OR

NOTE: Reel brake is released and motor turns briefly to signal that Reel Out mode is active.

3. Walk the filler valve to the tank.

Note: When starting to pull hose out, the motor drives the reel up to speed to reduce pulling effort. Slowing down or stopping during Reel Out activates reel braking to keep excess hose from unspooling. Reel braking is automatically released after one second to allow more hose to be pulled out. Not pulling hose out for two minutes cancels Reel Out. Pressing the **"Reel Out"** button again releases reel braking, signals that it's ready and restarts the two minute timer.

REWINDING HOSE

WARNING! Contact BASE Engineering prior to resetting the circuit breaker!

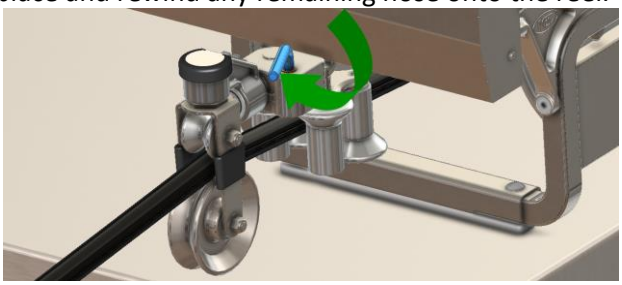
1. Press and **hold** the "**REEL IN**" button on the PC3 or ASKW remote and walk the filler valve back to the truck.

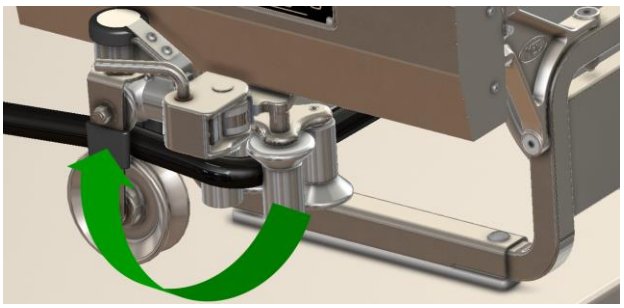
NOTE: To prevent accidental operation while filling, REEL IN is disabled when the PTO is running.

OR

2. Release the "**REEL IN**" button when you reach the truck and stow the filler valve.

3. Release the latch, rotate the Gimbal until it locks in place and rewind any remaining hose onto the reel.



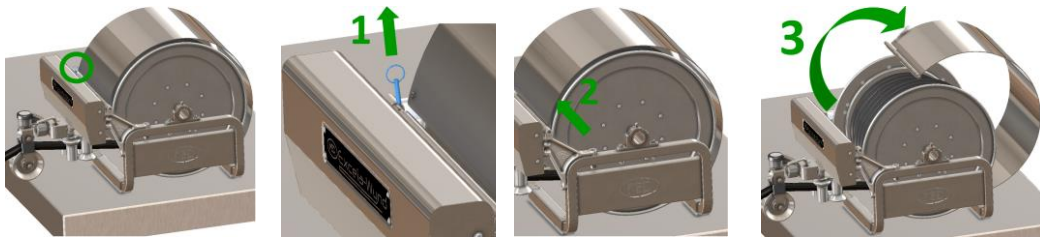


ME9000LH-17/25 EXCELA-WYND™ HOSE REEL (Patent Pending)
INSTALLATION AND OPERATING INSTRUCTIONS

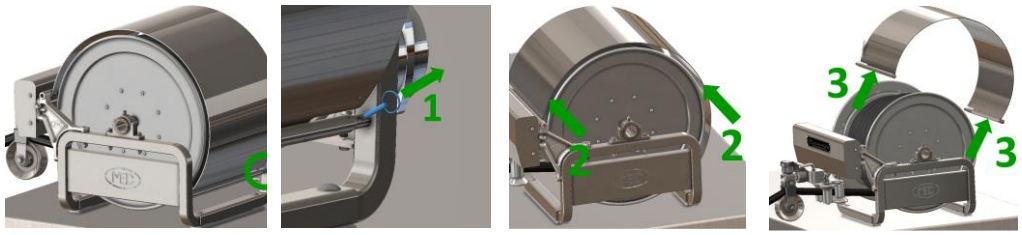
TIPS for Operating the EXCELA-WYND™ Hose Reel

- When using an ASKW remote, your service provider can adjust the rewind speed to match driver or seasonal needs.
- Avoid twisting the hose excessively to prevent binding on the reel and assure reliable automatic loading.
- If you have a loss of truck battery power to the reel controller while the hose is pulled out, such as when using the emergency shut down, when the power is restored the hose reel speed controller will temporarily rewind at a slower speed. Once the hose is fully rewound on the reel, turning the truck ignition off and back on will reset the rewind speed.

TO RAISE THE COVER - Pull the front detent pin, push the front of the cover to the left to release it, and rotate it upward. Latch and pin cover when done.



TO REMOVE THE COVER - Pull both detent pins, push the cover to the left to release it, and lift it upward. Latch and pin cover when done.



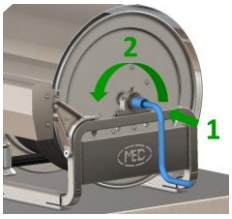
TO USE THE MANUAL CRANK - (Remove crank from storage pouch and remove red safety cap)

1) Insert the safety collar into the axle.

2) Push in and turn to engage drive pin.

When the hose is loaded, remove crank, replace safety cap and place in storage pouch.

Note: Turning the truck ignition off releases the reel brake making it easier to turn.

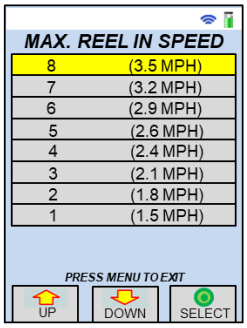


TO CHANGE REEL IN SPEED USING A PC3 REMOTE

1) Press the **"REEL SPEED"** button to bring up the Reel In speed screen.

2) Use the **"UP"** and **"DOWN"** arrows to highlight the desired speed.

3) Use **"SELECT"** to accept the highlighted speed.



TROUBLESHOOTING

Note: If troubleshooting your remote, please refer to your BASE Engineering product manual or contact BASE Engineering support.

PROBLEM	POSSIBLE CAUSES AND SOLUTIONS
• The reel brake doesn't release when pressing **REEL OUT** • The reel won't turn at all when pressing **REEL IN**	• The batteries in the remote may be too low to transmit or may transmit only a short distance - Recharge or replace batteries. • The truck ignition may be off, removing power from the controller - Make sure the ignition is on and the brake is set. • The PTO may be on - To prevent accidental operation while filling, REEL IN is disabled when the PTO is on - Turn the PTO off before activating REEL IN.
• The reel stops turning while pressing **REEL IN** (Rewind)	• An extremely high motor load may have triggered the over-current protection - It will automatically reset after (5) seconds. • The hose may be stuck on an obstruction - Check for and clear any obstructions. • The hose may have bound in the reel due to excessive twisting - If the hose is bound or not evenly layered on the reel, pull out any hose that is bound, remove excessive twist and rewind hose.