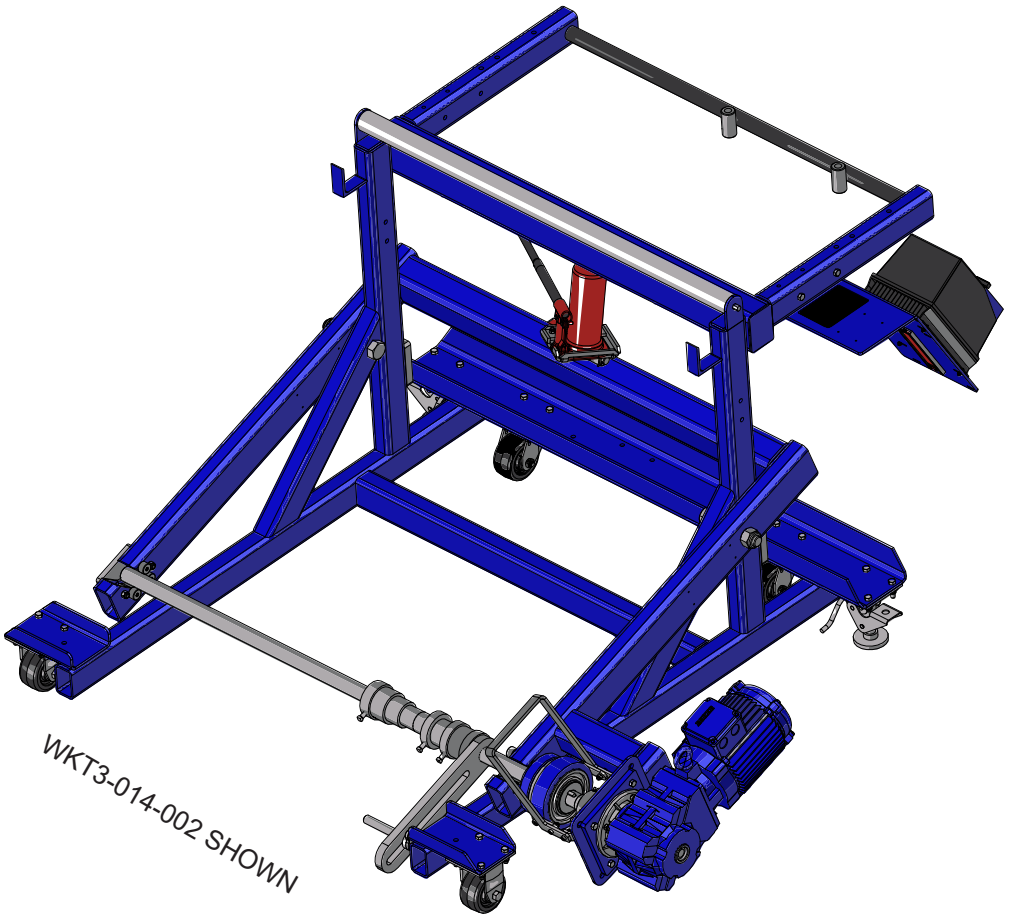
REELPOWER
INDUSTRIAL
PRECISION WINDING EXPERTS

INSTALLATION, OPERATION & MAINTENANCE MANUAL

WKT3 TAKEUP STANDARD



WKT3-014-002 SHOWN

MADE IN USA PRODUCT

ISO 9001 2015 CERTIFIED

MNL-0422-A-0123

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GENERAL INFORMATION

This manual is designed to serve as the operation and maintenance guide for your machine. The contents of this manual should be carefully read before attempting any phase of operation, or maintenance. Failure to follow the outlined procedures could result in personal injury or equipment damage.

All information, specifications, and illustrations within this manual are those in effect at the time of release. **Reel Power Industrial™** reserves the right to change, or make improvements, without incurring any obligation to make changes or add improvements to products previously sold.

To facilitate maintenance, a spare parts list for the machine has been prepared and included within the manual. To request a quotation, place an order, or seek technical assistance, please contact Reel Power Industrial.

Customer Service

For customer assistance, please have the model number and serial number of your machine available.
Contact Customer Service at: 800-221-7335

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RECORD OF REVISIONS

Revision Date	Description
12 / 2003	Update model and operating procedures

TABLE OF CONTENTS

WARRANTY

LIMITED WARRANTY

The goods ordered and agreed to be furnished by Vendor are warranted against defects in material or workmanship for a period of one year following the date of shipment. Vendor's obligation under this warranty is limited to repair or replacement, at vendor's option, of the defective goods at Vendor's factory (point of shipment) and does not extend to goods other than those manufactured by Vendor. This warranty shall not apply to any goods which have been subject to misuse, negligence, accident, or attempted or unauthorized repair or modification or are considered by Vendor to be damaged as a result of normal "wear and tear". Vendor may provide technical information or advise to assist Customer in the proper application and utilization of goods, in which case Vendor disclaims all warranties, express or implied, including without limitation implied warranties of merchantability or fitness for a particular purpose, or compliance with governmental regulations to which customer is subject. Vendor warrants that for a period of one year beginning on the date of invoice, service labor by Vendor technicians shall be free from defects in workmanship. This warranty does not cover damage due to external causes including without limitation accidents, abuse, misuse, problems with electrical power, servicing not authorized by Vendor, usage not in accordance with product instructions, failure to perform required preventive maintenance and problems caused by use of parts and components not supplied by Vendor. Vendor's responsibility is limited to repair or replacement at Vendor's option, at its designated facility. This warranty does not cover replacement or repair of materials due to normal "Wear and Tear."

OTHER THAN AS SPECIFICALLY SET FORTH ABOVE IN THIS SECTION 15, VENDOR MAKES NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ON GOODS OBTAINED FROM VENDOR, AND VENDOR DISCLAIMS ALL SUCH WARRANTIES. FURTHERMORE, NO PERSONNEL OF VENDOR ARE AUTHORIZED TO MAKE WARRANTIES OF ANY NATURE, VERBALLY OR OTHERWISE. ANY ADDITIONAL WARRANTIES MUST BE MADE IN WRITING AND SIGNED BY AUTHORIZED PERSONNEL OF VENDOR IN ORDER TO BE BINDING UPON VENDOR.

LIMITATION OF WARRANTY

IN NO EVENT, SHALL VENDOR BE LIABLE FOR ANY SPECIAL, INDIRECT, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE LOSSES OR DAMAGES (INCLUDING, WITHOUT LIMITATION, BUSINESS INTERRUPTION, LOST REVENUE OR PROFITS, FEES OR FINES), EVEN IF VENDOR HAS BEEN ADVISED OR MADE AWARE OF THE POSSIBILITY OF ANY SUCH LOSSES OR DAMAGES AND REGARDLESS OF WHETHER THE CLAIM IS BASED ON CONTRACT, TORT, STRICT LIABILITY, OR OTHER THEORY OF LIABILITY. VENDOR'S CUMULATIVE LIABILITY FOR ALL LOSSES AND DAMAGES UNDER THESE TERMS (INCLUDING, WITHOUT LIMITATION, DAMAGES ARISING UNDER A THEORY OF CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, EXPRESS OR IMPLIED WARRANTIES, ETC.) SHALL NOT EXCEED (A) IN THE CASE OF ANY SERVICES PROVIDED OR TO BE PROVIDED BY VENDOR, THE AMOUNT OF THE FEES PAYABLE BY CUSTOMER FOR SUCH SERVICES, AND (B) IN THE CASE OF ANY GOODS PROVIDED OR TO BE PROVIDED BY VENDOR, THE FULL AMOUNT OF VENDOR'S LABOR AND/OR SERVICES ASSOCIATED WITH THE SALE OF THE GOODS.

WARRANTY

WARRANTY REPLACEMENT PARTS PROCESS

Please note, Reel Power Industrial's responsibility is limited to furnishing the customer replacement parts at no cost. The customer is responsible for outward shipping costs, labor to remove and install the part.

The customer may choose to send the reportedly defective part to The Seller for inspection, freight prepaid. Upon inspection, The Seller will either send a new replacement part, return repaired part, freight prepaid, or, if part found non-defective, return the part to customer, freight collect.

If the part is required immediately, a replacement part may be shipped to customer immediately. A customer purchase order is required prior to shipment of warranty replacement parts. The replacement part will be shipped via customer specified freight service, freight collect. The customer is required to return the reportedly defective parts to Oklahoma City, Oklahoma at The Seller's expense, per The Seller's specified freight carrier. When the part(s) is received, inspected, and the manufacturers defect is confirmed, the invoice for the warranty part will be credited. If no defect is found, the original part will be returned to the customer, freight collect and an invoice against the customer's PO will be issued for the replacement part already sent.

SAFETY INFORMATION

WARNINGS

⚠ WARNING All operating personnel must read and understand all safety and procedures prior to the start of equipment operation.

⚠ WARNING Lifting and transport operations should be carried out with extreme caution by trained personnel and by utilizing the proper lifting accessories.

⚠ WARNING Operate equipment with extreme caution. Pay particular attention to pinch points, rotating or moving components, including but not limited to chains, screws, gears, sprockets, reels, etc.

⚠ WARNING Turn off, lock-out, and tag-out the main electrical power before inspecting or servicing the equipment or opening the door of the electrical enclosure. Power must be de-energize before opening electrical enclosures. Potential hazardous voltages and currents are present within the system. Service should be performed only by qualified personnel.

⚠ WARNING Verify all reels are secured in place between the rollers and adjustable collars before attempting to rotate them.

⚠ WARNING Do not operate equipment while wearing loose clothes, jewelry, long hair, facial hair, keychains, etc. Rotating parts can cause serious or fatal injuries.

⚠ WARNING Verify all hardware, tools, spare parts, and loose parts are removed from machinery before rotating or operating. Keep operating area clear of debris.

⚠ WARNING Ensure ground checks are conducted and pass before applying power. Verify voltage requirements before applying power.

⚠ WARNING Power must be de-energize before opening electrical enclosures. Potential lethal voltages and currents are present within the system. Service should be done only by qualified personnel.

SAFETY INFORMATION

PRECAUTIONS

⚠ CAUTION Rotating machinery can be hazardous and should not come into contact with personnel. Personnel should be protected from all rotating machinery at all times. Always avoid contact with moving material at or near the reel as it is winding.

⚠ CAUTION Pressing the emergency stop (E-Stop) will remove all drive control power from each motor. System must be reset via the reset button to enable any powered function.

⚠ CAUTION Moving and lifting heavy reels may cause back injury and/or foot hazards. Always utilize proper lifting techniques and PPE (steel-toe shoes, etc.)

⚠ CAUTION Large and heavy reels can roll uncontrolled on slight inclines and/or uneven surfaces. Always be sure to use reel/wheel chocks or implement measures to secure the reel against unintentional movement. If unsure, please seek information from your facilities manager.

⚠ CAUTION While in operation mode and lifting the spool, make sure to secure spindle arm shaft in place.

SAFETY INFORMATION

LOCKOUT / TAGOUT

⚠ DANGER Follow all lockout/tagout procedures before working on equipment or doing any scheduled maintenance.

⚠ WARNING All appropriate and mandated personal protection equipment shall be used while performing the operation described herein.

This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

SEQUENCE OF LOCKOUT

1. Notify all affected employees that servicing or maintenance is required on a machine, enclosure, panel or equipment. Any machine, enclosure, panel, or equipment must be shut down and locked out to perform the servicing or maintenance.

2. The authorized employee shall refer to the company procedure in order to identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.

3. If the machine, enclosure, panel or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.).

4. Deactivate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

5. Lock out the energy isolating device(s) with assigned individual lock(s).

6. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate.

⚠ CAUTION Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

8. The machine or equipment is now locked out.

INSTALLATION

INSTALLATION ENVIRONMENT

ENVIRONMENT	CONDITIONS
Installation area	Indoors
Ambient temperature	-10 °C to +40 °C System reliability improves in environments without wide temperature fluctuations. Do not allow ice to develop in and on the system
Humidity	95% Rh or less and free of condensation
Storage temperature	-20 °C to +60 °C
Surrounding area	Install system in an area free from: • Oil, mist, and dust • Radioactive materials • Harmful gases and liquids • Excessive vibration
Vibration	10 To 20 Hz @ 9.8 M/s² 20 To 55 Hz @ 5.9 M/s²

ELECTRICAL SERVICE REQUIREMENTS

A rated service disconnect style plug and receptacle has been provided on the main electrical enclosure. Power is distributed within the main enclosure.

NOTICE Prior to electrical hookup, equipment/machines must be inspected and comply with all regulations, codes, and requirements set forth by local regulatory bodies.

⚠ WARNING Electrical connections should be performed by qualified electrical personal only. All national and local wiring codes should be adhered to.

⚠ WARNING This unit must be properly grounded to prevent possible electrical shock to personnel. All grounding connections should be checked frequently. A machine frame ground connection has been provided for this purpose; it is the green wire located in the power cord of the machine. Care should be taken to see that it is connected to a system ground terminal at the power outlet device. The manufacturer recommends that additional grounding be attached for maximum operator safety.

NOTICE Connection to a user's power supply should be through a fused disconnect switch, in accordance with the national electrical code and any applicable state and local codes. Final connection to the machine should be through a matching female twist locking receptacle or connector.

SPECIFICATIONS

GENERAL DESCRIPTION

WKT3-014-002, Mobile Shafted take-up machine for reels 20” to 54” diameter x up to 34” wide x 3,000# lifting capacity.

With: 1 HP Variable Speed Drive, 0-70 RPM, 120 Volt, 1 Phase

Includes:

- Manual hydraulic lift jack.
- Operator safety footswitch for engaging the drive by depressing the foot pedal
- Slide drive shaft disconnect for quicker, easier change over from reel to reel or coiler.
- 1 3/8” diameter reel shaft
- Reel shaft bearings
- One set of standard bushings for 2”, 2 ½” and 3” arbor holes.
- Heavy-duty casters and floor locks.
- Wire roller and push handle.

SETUP

NOTICE All electrical connections and maintenance should be performed by a certified electrician from your area. They can advise you of any local code requirements necessary to keep your machinery operating safely.

1. Unpack all parts while checking for damage from shipping.

2. Place and assemble the unit in the area it is to be used. When in use, secure firmly to the floor using the floor locks for mobile units or lagging bolts for stationary units.

3. Connect the unit to a fused disconnect switch of the proper voltage and amperage capacity. Attach a grounding conductor, which is connected to the power system grounding circuit, to the machine frame.

NOTICE The customer is responsible for any receptacle plugs required for installation.

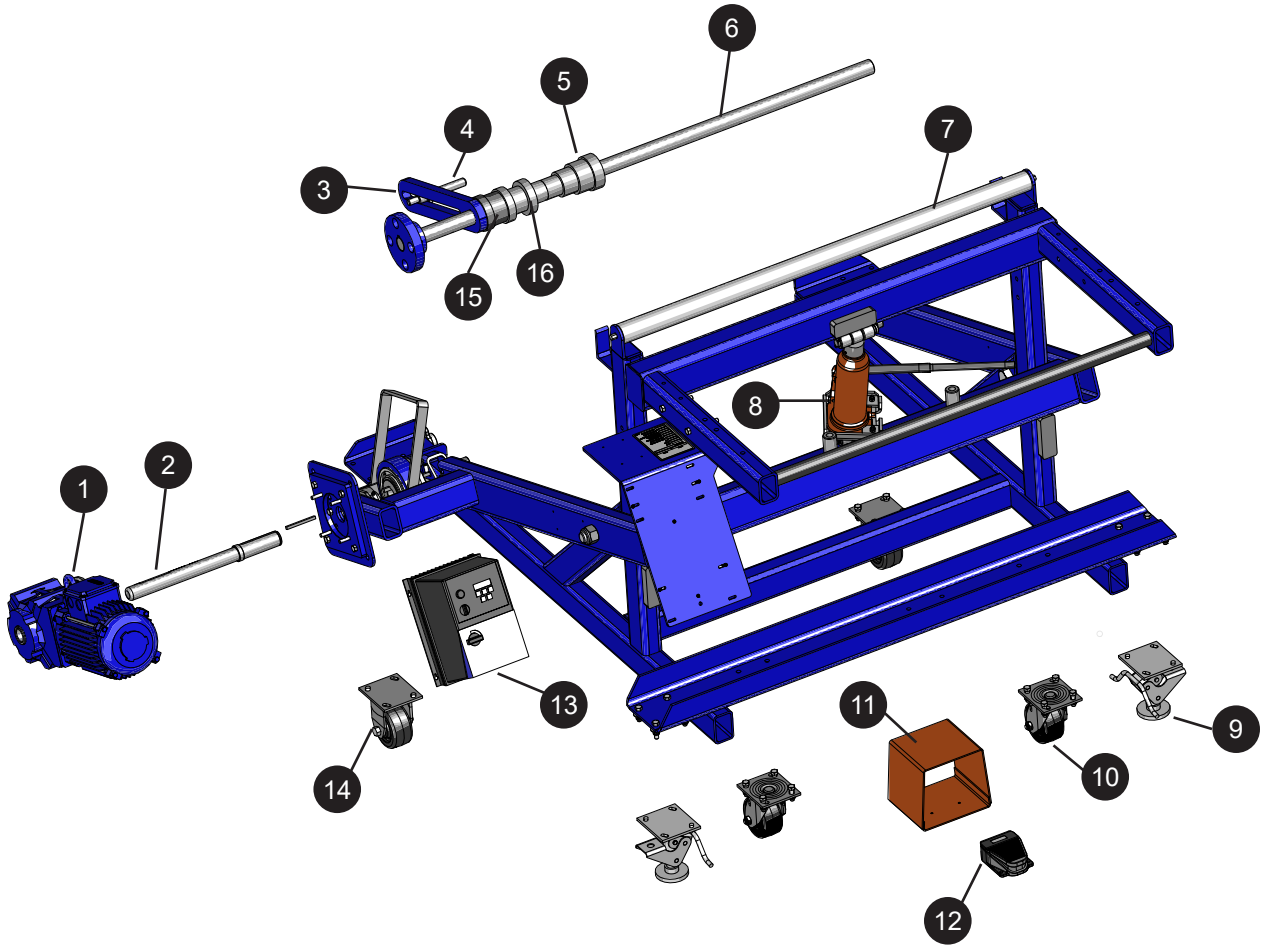
POWER-OFF INSPECTION

NOTICE With all power disconnected, physically inspect all electrical components for proper tightness of connections, pin alignment, and grounding. Inspect all mechanical components and tighten any that may have possibly loosened during shipment.

1. Traverse and feed arm travel limits have been provided for safety of machine. Ensure they are in good working order and that adjustment fixtures are not slack or loose.

2. Inspect all interface cabling and make sure it has all been properly terminated and in good shape.

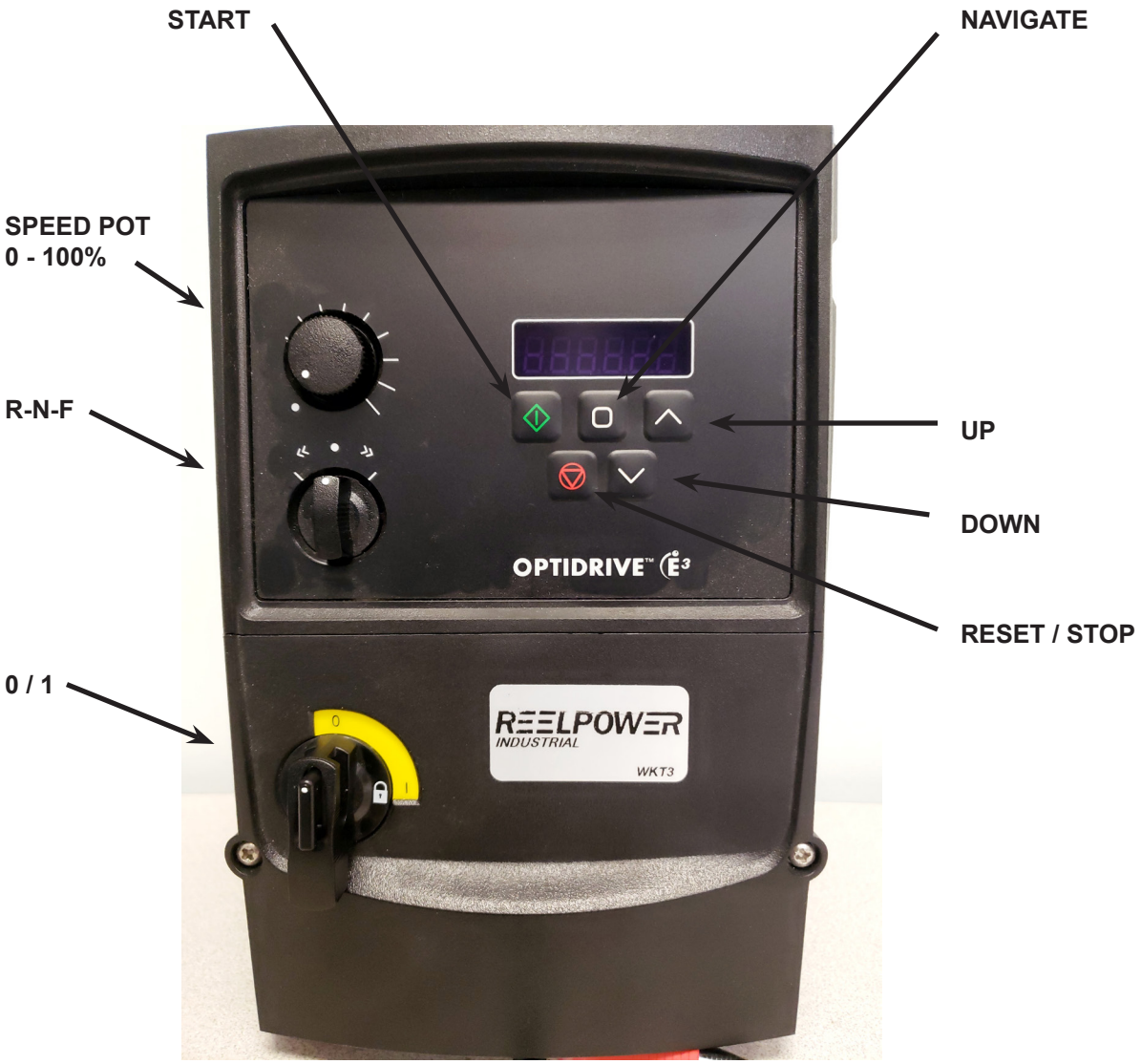
COMPONENTS



Item Number	Qty	Part Number	Description
1	1	100025466	Gear Motor
2	1	1034-212	Drive Shaft
3	1	1080-116	Drive Arm
4	1	1080-006	Drive Pin
5	1	0100-041	Step Bushing Mk1 2”, 2.5”, 3” O.D.
6	1	1034-119	Shaft
7	1	15141-146	Roller Conveyor
8	1	13150-01	8-Ton Bottle Jack
9	2	12250-02	Floor Locks 4"
10	2	10925-01	Swivel Caster 4"
11	1	0110-113	Foot Guard
12	1	12285-01	Foot Switch
13	1	11285-599	Invertek Control
14	2	10925-01	Fixed Caster 4”
15	1	0100-192	Arbor Bushing Mk4 3” O.D.
16	1	0100-042	Arbor Bushing Mk3 2.5” O.D.

COMPONENTS

INVERTEK CONTROLLER



All pictures are for illustration purposes only. Due to product enhancements all actual products may vary. Configuration of WKT series is a trademark of Reel Power.

OPERATING PROCEDURE

TAKE-UP OF MATERIAL

1. Turn on the machine by switching from 0 to 1 on the controller. Toggle the forward / reverse switch after power up to run.

2. Place the appropriately sized shaft and arbor bushings through the spool. Make sure the drive pin on the shaft is aligned with the drive pin hole on the spool.

3. Align the shaft above the cradles on the machine's arms.

4. Using the hydraulic jack, raise the arms of the machine so that the shaft is cradled and the spool is lifted.

5. Ensure that the shaft is secure in the saddles.

6. Move the slide drive into position, coupling the shaft with the motor. Make sure the slide drive pins are aligned with the holes in the shaft hub, and the locking handle is fully engaged.

7. Select the start position (R-N-F).

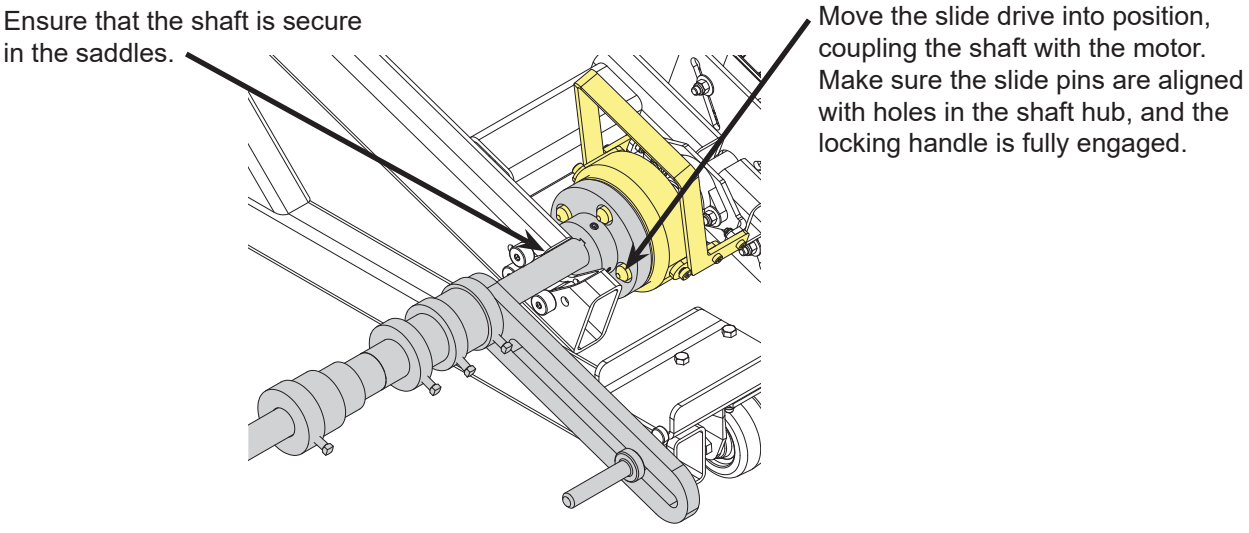
8. Select the speed 0 - 120 HZ.

9. Press the foot switch to start the rotation of the coiler SEE ITEM 14,15 on page 12.

10. Once the operation is complete, The DC injection is applied and this will hold the coiler in position. Disconnect power when not in use.

11. To release the DC injection, turn the switch to neutral.

NOTICE The DC injection will stay active until the switch is moved to the neutral position. It is recommended to turn off the machine when not in use.



MAINTENANCE

⚠ CAUTION Service should be done only by qualified personnel.

Your Reel Power machine has been designed to require a minimum amount of maintenance, but a regularly maintained machine will prolong the life of the equipment.

Daily Maintenance:

1. Clean surfaces of debris and grime. This ensures proper operation.

2. Inspect all pendant buttons and switches.

3. Visually inspect the unit for loose nuts, bolts, or fittings that might have vibrated loose. Check electrical system for loose or damaged wires, and verify that connections are tight and protected as required.

Monthly Maintenance:

1. Grease all non-sealed bearings, bearing bosses, and shafts with industrial grade all-purpose grease. Visually inspect all other bearings and replace or apply grease as needed.

Periodical Maintenance:

1. Inspect roller chains for proper lubrication and adjustment

2. Do periodically inspect dust filters on all electrical boxes to make certain screws are tight enough to keep dust covers from entering and fouling electrical contacts.

GENERAL TIGHTENING TORQUES

Tightening torques depend on bolt grade, thread friction and bolt head area. The values given in the following tables are for guidance. These values should only be used if no other values are specified in the relevant sections of the Operating Instructions or in the spare parts pages.

⚠ CAUTION You must always use bolts of the same size and grade when you have to replace bolts. Bolts with adhesive in the locking threads and self-locking nuts must always be replaced after removal.

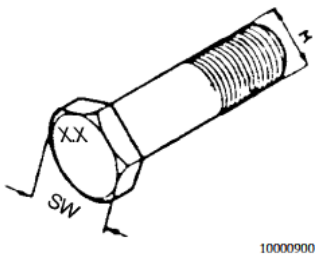
The following tables give the maximum tightening torques Md [ft lb] and (Nm) for a friction factor μtot = 0.14, for a lightly oiled or lightly greased thread.

NOTICE All tightening torque valves listed should be multiplied by a factor of 1.1 for bolts with locking adhesive in the threads.

Hex Screws - Standard Machine Hardware

Bolt Size (Inches) in-tpi	 Grade 2		 Grade 5		 Grade 8	
	N m	ft-lb	N m	ft-lb	N m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12
1/4" - 28	8.5	6	13	10	18	14
5/16" - 18	15	11	24	17	33	25
5/16" - 24	17	13	26	19	37	27
3/8" - 16	27	20	42	31	59	44
3/8" - 24	31	22	47	35	67	49
7/16" - 14	43	32	67	49	95	70
7/16" - 20	49	36	75	55	105	78
1/2" - 13	66	49	105	76	145	105
1/2" - 20	75	55	115	85	165	120
9/16" - 12	95	70	150	110	210	155
9/16" - 18	105	79	165	120	235	170
5/8" - 11	130	97	205	150	285	210
5/8" - 18	150	110	230	170	325	240
3/4" - 10	235	170	360	265	510	375
3/4" - 16	260	190	405	295	570	420
7/8" - 9	225	165	585	430	820	605
7/8" - 14	250	185	640	475	905	670
1" - 8	340	250	875	645	1230	910
1" - 12	370	275	955	705	1350	995
1 1/8"- 7	480	355	1080	795	1750	1290
1 1/8"- 12	540	395	1210	890	1960	1440
1 1/4"- 7	680	500	1520	1120	2460	1820
1 1/4"- 12	750	555	1680	1240	2730	2010
1 3/8"- 6	890	655	1990	1470	3230	2380
1 3/8"- 12	1010	745	2270	1670	3680	2710
1 1/2"- 6	1180	870	2640	1950	4290	3160
1 1/2"- 12	1330	980	2970	2190	4820	3560

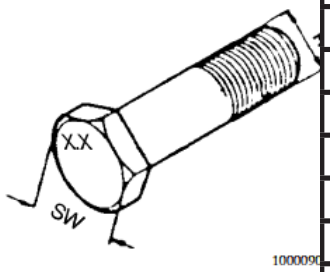
Hex Screws - Metric Triangular Thread



SW = Width across flats
X.X = Grade 8.8, 10.9, 12.9

	Dimensions [mm]		Tightening Torque Md [Ft-Lb]			Tightening Torque Md [Nm]		
	M	**SW**	**8.8**	**10.9**	**12.9**	**8.8**	**10.9**	**12.9**
	M 4	7	2.22	3.26	3.77	3.0	4.4	5.1
	M 5	8	4.37	6.44	7.4	5.9	8.7	10
	M 6	10	7.4	11.1	13.3	10	15	18
	M 8	13	18.5	26.6	31.8	25	36	43
	M 10	17	36.3	53.3	62.2	49	72	84
	M 12	19	62.9	92.5	107	85	125	145
	M 14	22	99.9	148	174	135	200	235
	M 16	24	155	229	270	210	310	365
	M 18	27	222	318	370	300	430	500
	M 20	30	315	451	525	425	610	710
	M 22	32	429	607	710	580	820	960
	M 24	36	540	777	903	730	1050	1220
	M 27	41	814	1147	1332	1100	1550	1800
	M 30	46	1073	1554	1813	1450	2100	2450

Hex Screws - Metric Precision Thread



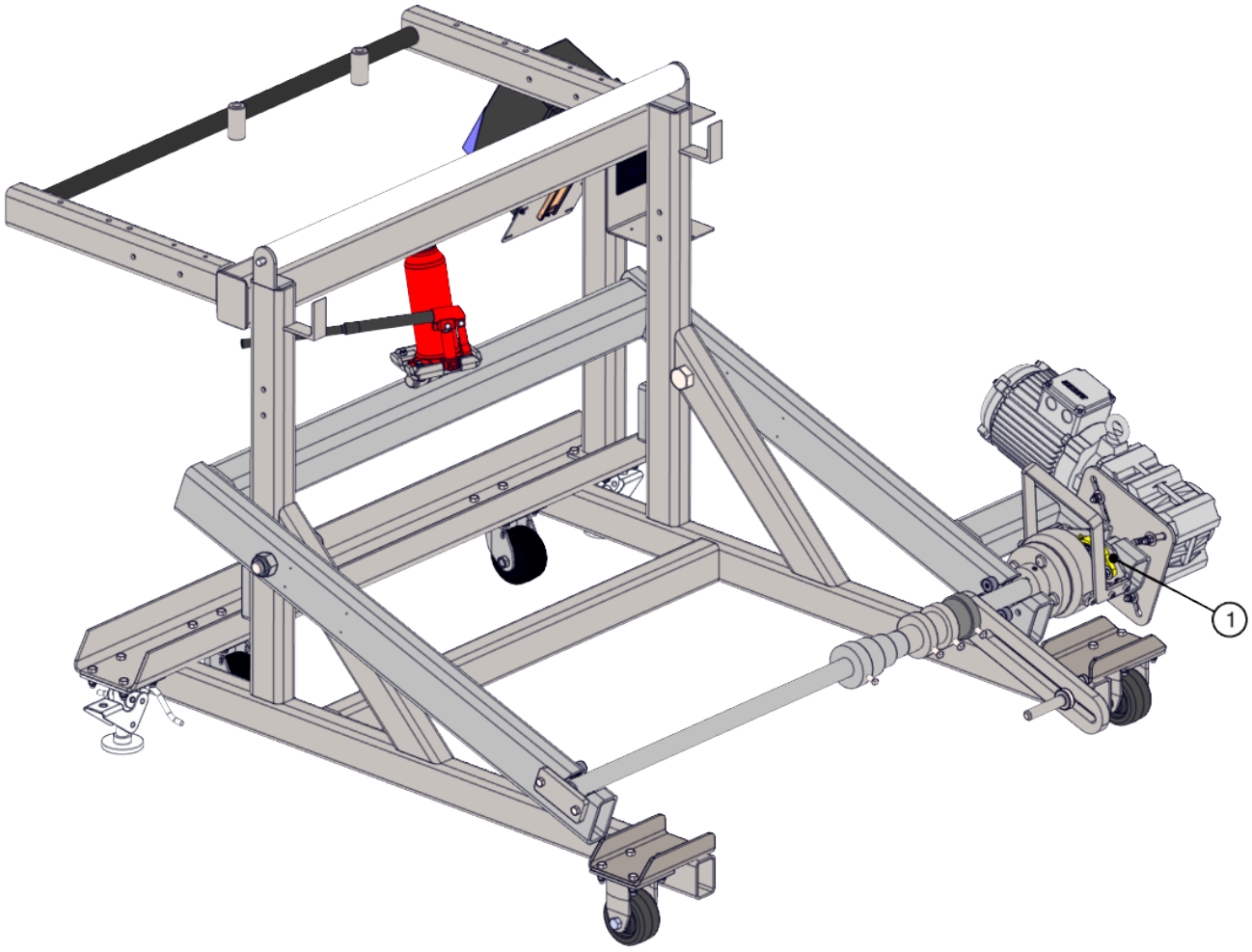
SW = Width across flats
X.X = Grade 8.8, 10.9, 12.9

	Dimensions [mm]		Tightening Torque Md [Ft - Lb]			Tightening Torque Md [Nm]		
	M	**SW**	**8.8**	**10.9**	**12.9**	**8.8**	**10.9**	**12.9**
	M 8 x 1	13	19.98	28.86	34	27	39	46
	M 10 x 1.25	17	38.48	56.24	66.6	52	76	90
	M 12 x 1.25	19	68.82	99.9	118.4	93	135	160
	M 12 x 1.5	19	65.86	96.2	114.7	89	130	155
	M 14 x 1.5	22	107.3	159.1	188.7	145	215	255
	M 16 x 1.5	24	166.5	244.2	288.6	225	330	390
	M 18 x 1.5	27	251.6	358.9	421.8	340	485	570
	M 20 x 1.5	30	351.5	503.2	574.6	475	680	790
	M 22 x 1.5	32	466.2	666	777	630	900	1050
	M 24 x 2	36	592	851	999	800	1150	1350
	M 27 x 2	41	851	1221	1443	1150	1650	1950
	M 30 x 2	46	1221	1739	2035	1650	2350	2750

LUBRICATION

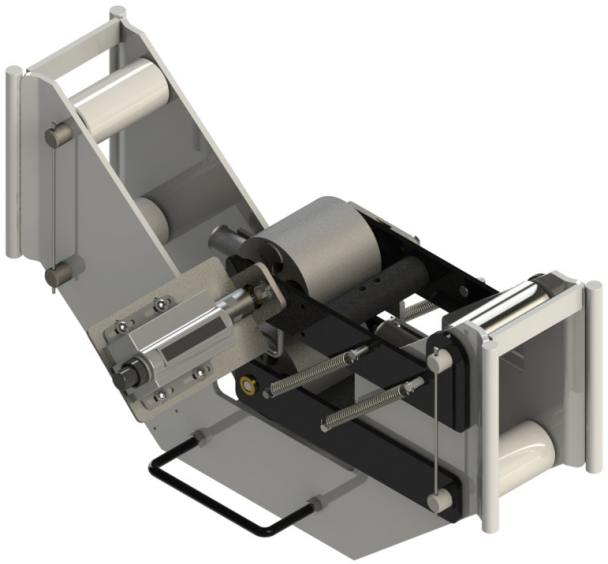
1. Grease bearings with industrial grade all-purpose grease.

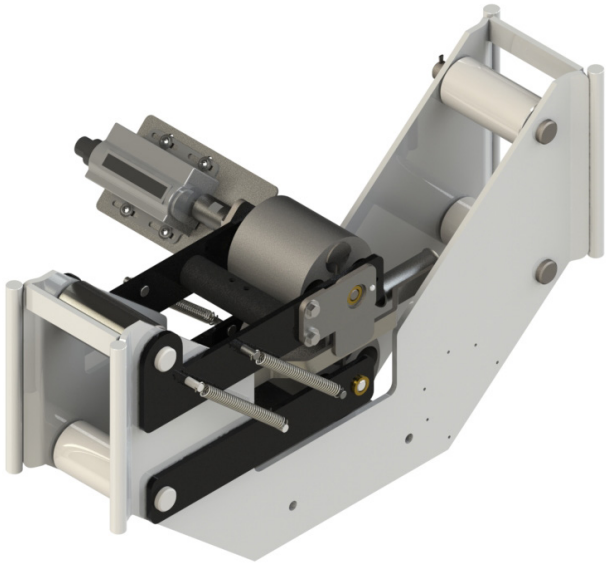
NOTICE Do not use any type of dry lubricant such as PTFE powder, graphite powder, etc.



APPENDIX A

1700 / 1704 SERIES MEASURER





APPENDIX A

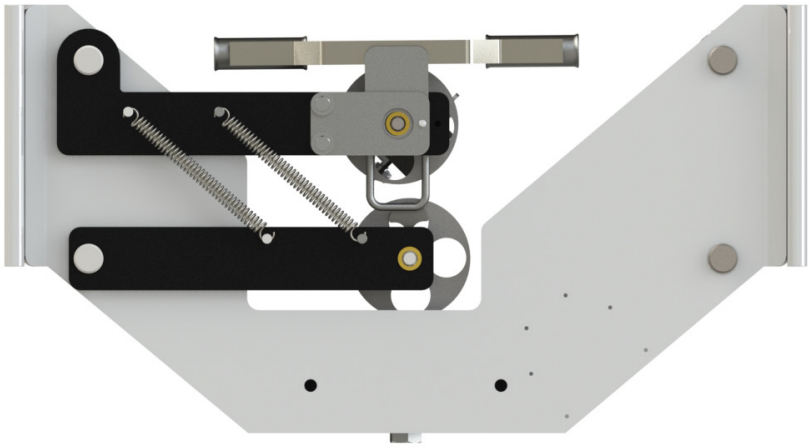
SMALL WIRE FAIRLEAD SETUP

The small wire fairlead tube extends capacity of measurers from ½” to 2” (1700 series) and ½” to 4” (1704 model) to materials down to 1/8”.

The fairlead tube mounts permanently onto the measurer and is quickly moved from “Stored” down to “In-use” position as shown.

When in the stored position, lift the upper measuring wheel arm and rotate the fairlead tube into position as shown.

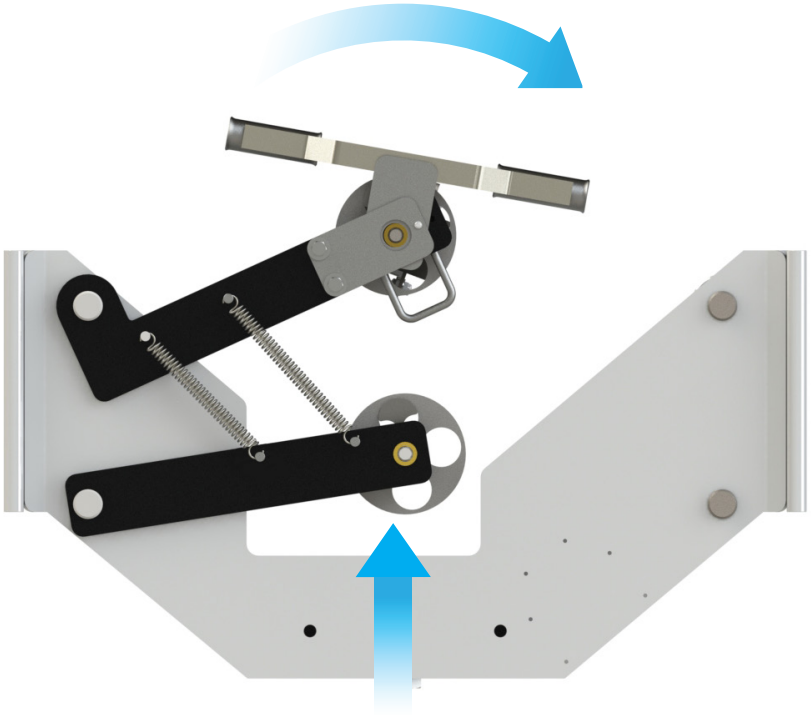
Stored Position



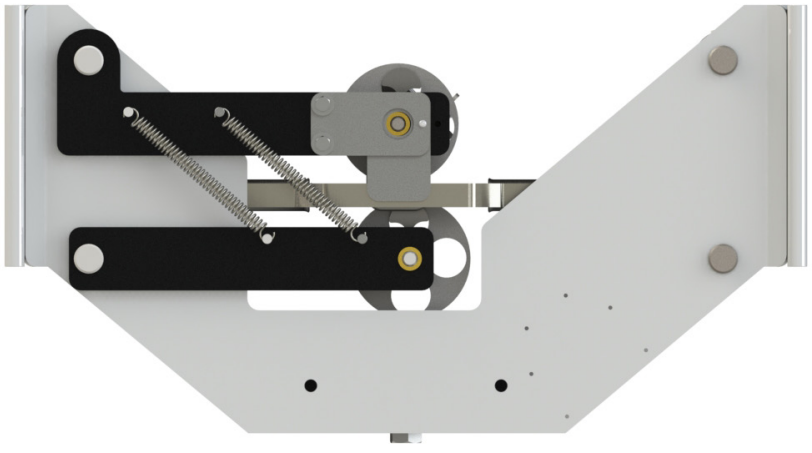
NOTICE

Do not bend the encoder mounting bracket, do not use the encoder as a handle for lifting the measurer arm. Grasp the upper wheel or the base of the encoder bracket where it is bolted to the mearurer arm as shown.

APPENDIX A



In-use Position



APPENDIX A

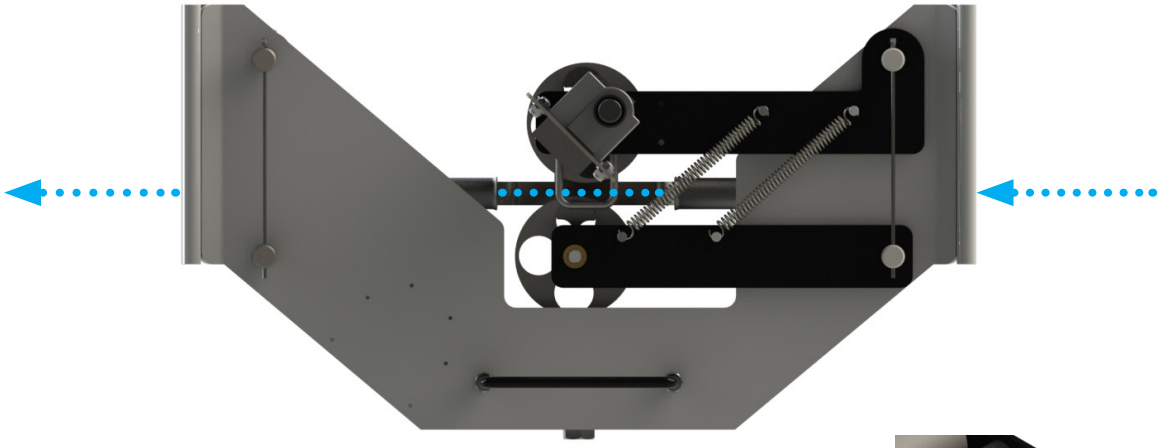
MEASURER OPERATION

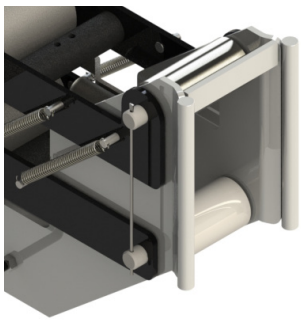
1. Pull the material to be reeled from the pay-out source to the measurer. If the material to be measured is 1/2” in diameter or smaller, it is recommended that the material be threaded through the fairlead tube on the measurer. If the material is larger than 1/2” the fairlead tube should not be used.

2. When the fairlead tube is not being utilized on larger wire it is stored at the top of the measurer. Lift the measuring wheel arm and rotate the fairlead tube to its upright position.

3. Thread the material through the measuring wheels (and the fairlead tube if used).

NOTICE Material enters from arm mounting end as indicated by the arrow.





4. To allow room for cutting and to provide a cutting reference point, pull the material 3” beyond the exit side of the measurer and reset the counter. If the operator maintains some consistency with this process, a respectable amount of accuracy will be obtained and shortages will be kept to a minimum.

SEQUENCE OF RESTORING

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

1. Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.

2. Check the work area to ensure that all employees have been safely positioned or removed from the area.

3. Verify that the controls are in a neutral position.

4. Remove the lockout devices and reenergize the machine or equipment.

NOTICE The removal of some forms of blocking may require re-energization of the machine before safe removal.

5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

Reel Power Industrial™ reserves the right to change, or make improvements, without incurring any obligation to make changes or add improvements to products previously sold.

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