**INST-28070** 



EG\*AAC-\*0\*0

Pages 1 - 60

# PARTS & INSTALLATION MANUAL ET12K(X)(P)-15'

### Included in this manual:

### ET12K

- 3,500 lbs Electric Telescopic Service Crane
- 7 11 15 ft Manual, Pullout, Boom Extensions

### ET12KX

- 3,500 lbs Electric Telescopic Service Crane
- 7 11 ft Powered, Single-Stage, Boom Extension
- 11 15 ft Manual, Pullout, Boom Extension

### ET12KXP-15'

- 3,500 lbs Electric Telescopic Service Crane
- 7 11 ft Powered, Single-Stage, Boom Extension
- 11 15 ft Manual, Pullout, Boom Extension
- Proportional Controls

12110 BEST PLACE | CINCINNATI, OHIO 45241 800-226-2238



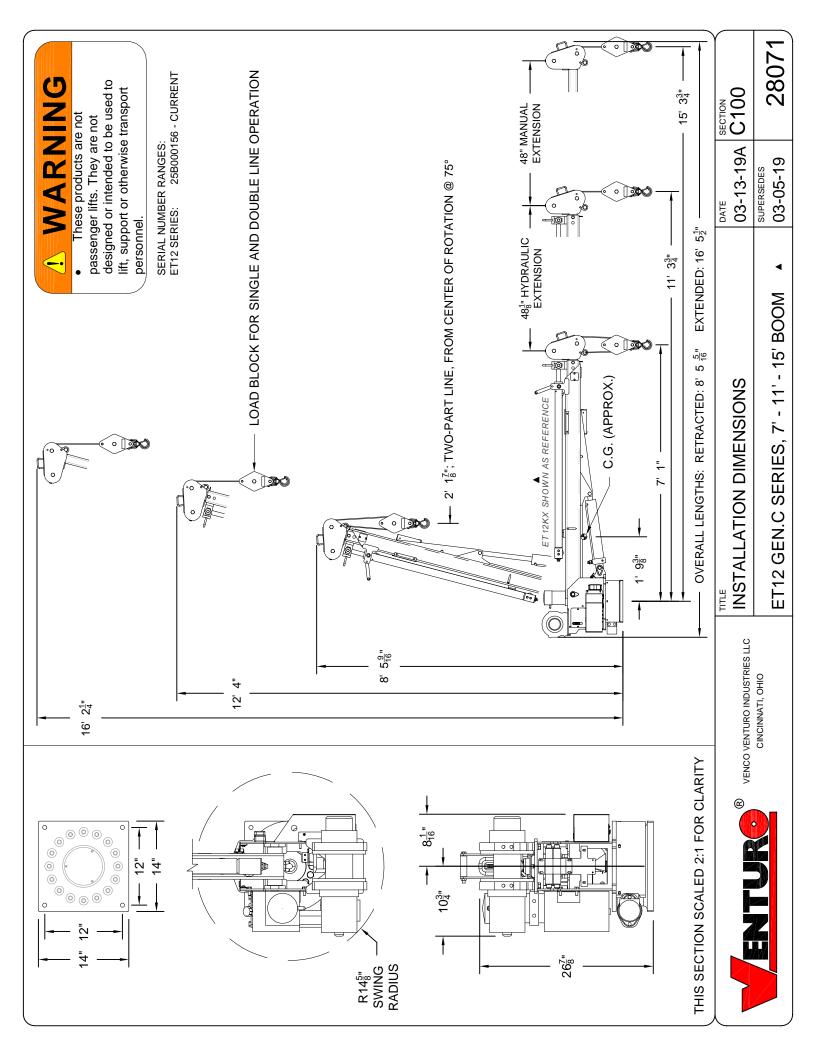
This manual also available online at www.venturo.com.

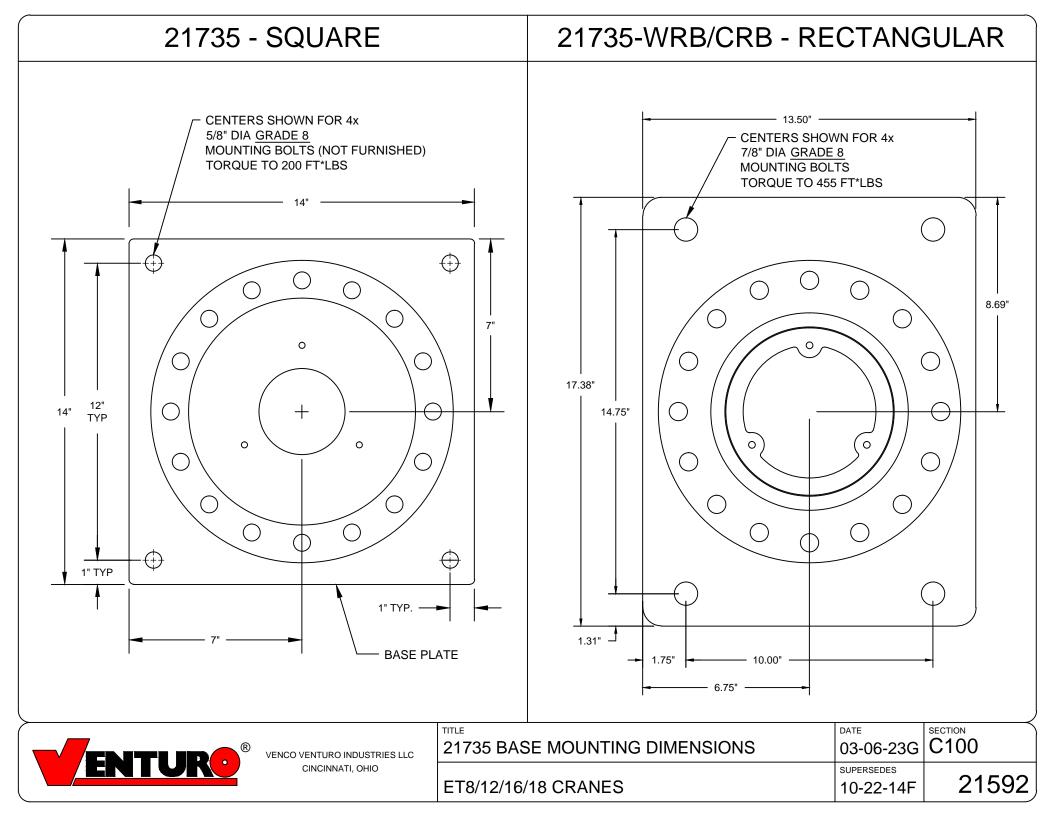
### ET12KX-15' INST-28070 - 8/27/2024 (Rev: E1)

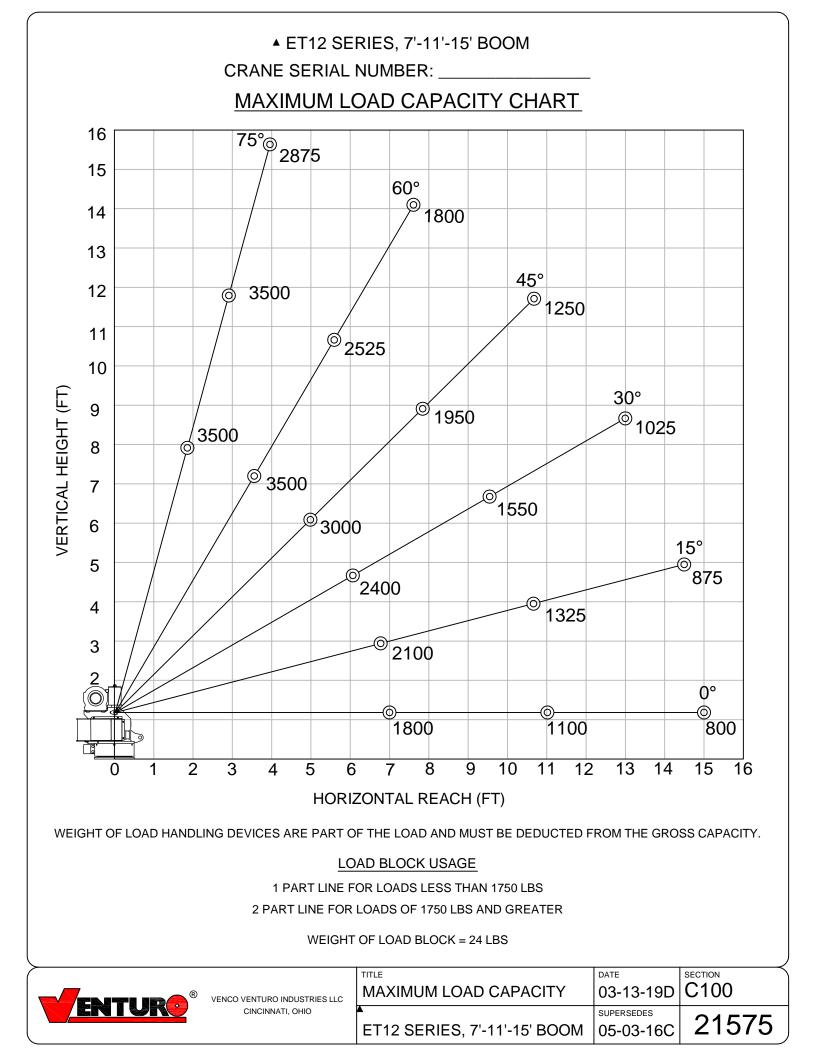
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16941	TYPICAL REINFORCEMENT FOR MOUNTING CRANE ON TOP OF SERVICE BODY
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7607400A 28063 28064 28066 28067 28123 28124 28125 28126 24102 21600 26521 26536 26522 26537 26523 26538 28037 21602 28077 21292 21293 23076 23075 23786 21741 16942 21973 28543 28552 12-00073_VNT1	REPLACEMENT PARTS REPLACEMENT PARTS DRAWING; MECHANISM REPLACEMENT FASTENERS DRAWING; MECHANISM REPLACEMENT FASTENERS LIST; MECHANISM REPLACEMENT FASTENERS LIST; MECHANISM REPLACEMENT FASTENERS DRAWING; BOOM ASSEMBLIES REPLACEMENT PARTS LIST; BOOM ASSEMBLIES REPLACEMENT FASTENERS DRAWING; BOOM ASSEMBLIES REPLACEMENT FASTENERS DRAWING; BOOM ASSEMBLIES REPLACEMENT FASTENERS DRAWING; BOOM ASSEMBLIES REPLACEMENT FASTENERS LIST; BOOM ASSEMBLIES BOOM ROUND CORD REL 28190-2 21515 ELECTRICAL COMPONENT ASSY WIRING DIAGRAM, ET8/12K SERIES CRANES WIRING DIAGRAM, ET8/12K SERIES CRANES WIRING DIAGRAM, ET8/12KX SERIES CRANES WIRING DIAGRAM, ET8/12KX SERIES CRANES W/ WINCH CONTACTOR WIRING DIAGRAM, ET8/12KX SERIES CRANES W/ WINCH CONTACTOR WIRING DIAGRAM, ET8/12KX SERIES CRANES W/ WINCH CONTACTOR WIRING DIAGRAM, ET8/12KX SERIES CRANES W/ WINCH CONTACTOR HYDRAULIC SYSTEM COMPONENTS REPLACEMENT PARTS DRAWING HYDRAULIC SYSTEM SCHEMATIC, NON-PROPORTIONAL REPLACEMENT PARTS LIST; SINGLE / 2-POLE SLIP-RING REPLACEMENT PARTS DRAWING; SINGLE / 2-POLE SLIP-RING 21991 PENDANT; REPLACEMENT PARTS DRAWING / LIST (3 FUNCTION) 21990 PENDANT; REPLACEMENT PARTS DRAWING / LIST (4 FUNCTION) 2158 RADIO; REPLACEMENT PARTS DRAWING / LIST (4 FUNCTION) 2158 RADIO; REPLACEMENT PARTS DRAWING / LIST 20873 HYDRAULIC POWER UNIT REPLACEMENT PARTS DRAWING / LIST 20873 HYDRAULIC POWER UNIT REPLACEMENT PARTS DRAWING / LIST 21735 SLEWING REPLACEMENT PARTS DRAWING / LIST 20873 HYDRAULIC POWER UNIT REPLACEMENT PARTS DRAWING / LIST 21735 SLEWING REPLACEMEN

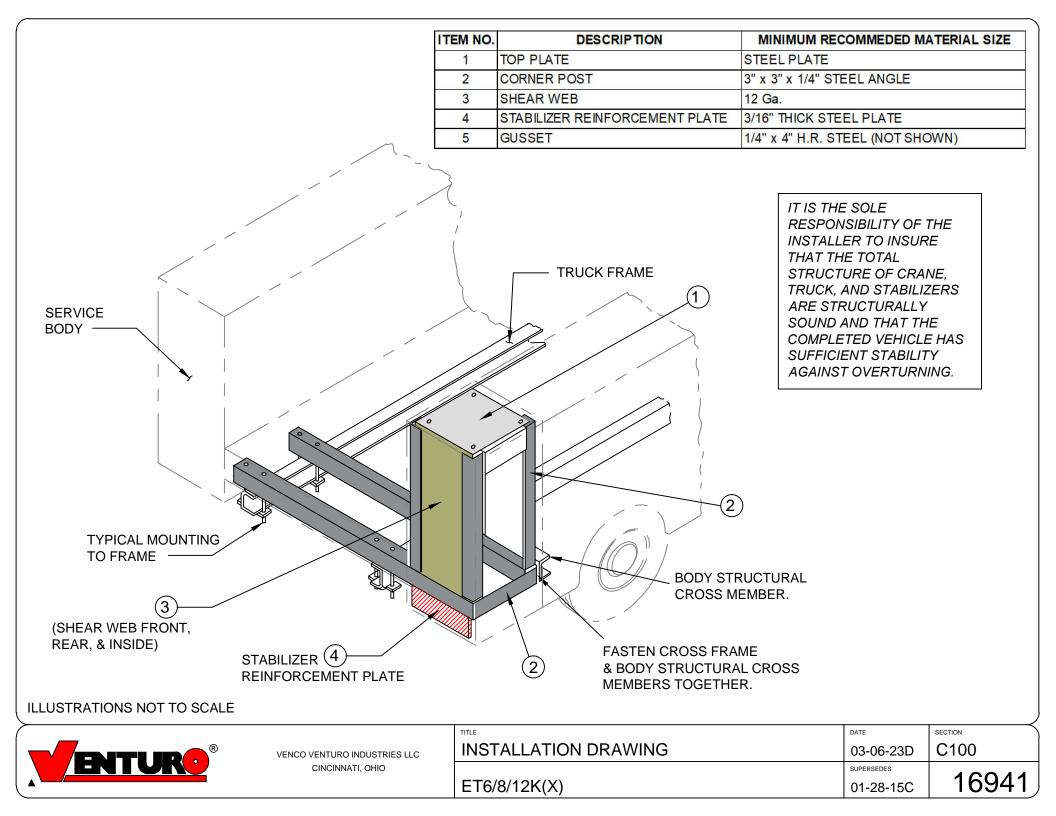
# DESCRIPTION & SPECIFICATIONS

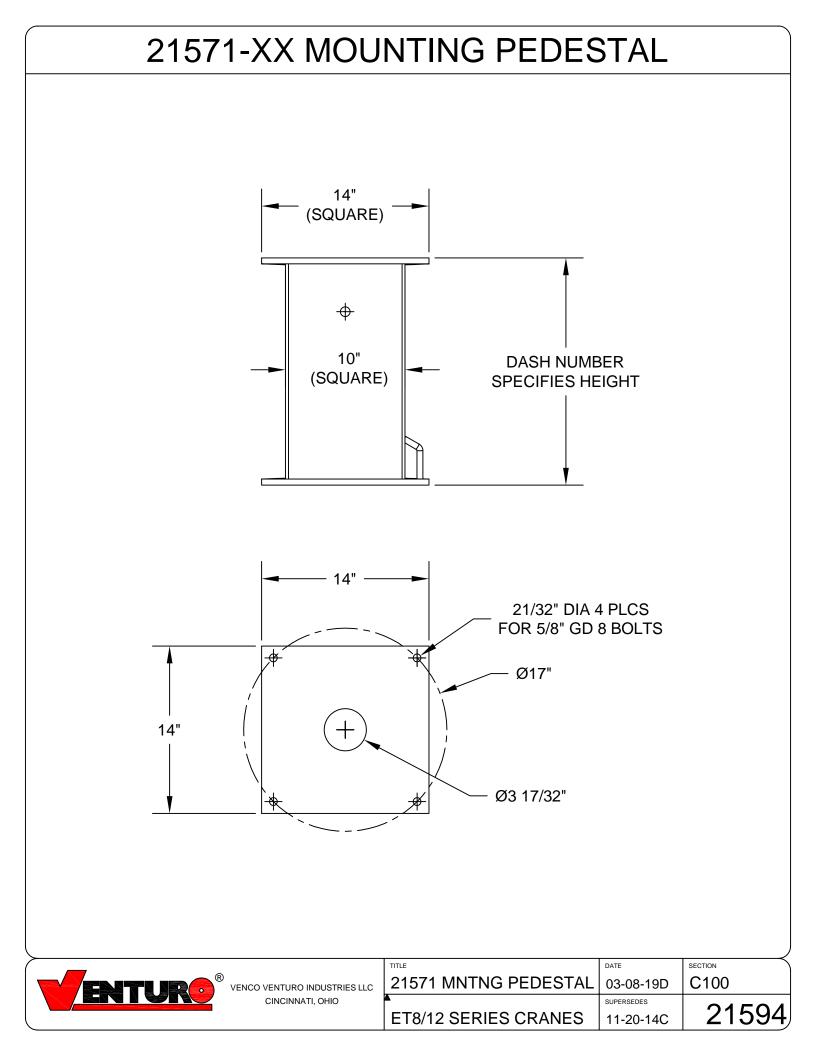












## SAFETY



### CRANE SAFETY AND HAZARDS

### CAUTIONS

- 1. INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY.
- 2. DO NOT USE THIS EQUIPMENT EXCEPT ON FIRM LEVEL GROUND WITH CRANE MOUNTED ON FACTORY-RECOMMENDED TRUCK.
- 3. BEFORE OPERATING THE CRANE, REFER TO MAXIMUM LOAD (CAPACITY) CHART ON CRANE FOR OPERATING (LOAD) LIMITATIONS.
- 4. DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD.
- 5. ATTACH PENDANT CORD SUPPORT SNAP TO ATTACHMENT POINT BEFORE PLUGGING IN PENDANT, IF SO EQUIPPED.
- 6. UNPLUG PENDANT AND SHUT OFF MASTER DISCONNECT SWITCH WHEN CRANE IS NOT IN USE.
- 7. FOR TRAVEL, BOOM MUST BE IN STOWED POSITION.

### DANGER

- THIS CRANE IS NOT A PASSENGER LIFT
- IT IS NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.

### YOU MUST NOT OPERATE THIS CRANE, UNLESS:

- 1. YOU HAVE BEEN TRAINED IN THE SAFE OPERATION OF THIS CRANE, AND
- 2. YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONSCONTAINED IN THE MANUFACTURER'S MANUALS, YOUR EMPLOYER'S WORK RULES, AND APPLICABLE GOVERNMENT REGULATIONS. AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

### ELECTROCUTION HAZARD

- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUSES.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK, OR SAG, AND ELECTRICAL LINE AND LOAD-LINE SWAYING
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.
- YOU MUST MAINTAIN A CLEARANCE OF AT LEAST 10 FEET BETWEEN ANY PART OF THE CRANE, LOAD-LINE, OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 50,000 VOLTS. REFER TO DRAWING 15394 FOR ADDITIONAL INFORMATION.
- **DEATH OR SERIOUS INJURY** WILL RESULT FROM CONTACT OR INADEQUATE CLEARANCES.

### OVERLOAD SENSING SYSTEM - STANDARD ON ALL CRANES

- 1. IF OVERLOADED, THE WINCH UP, BOOM DOWN, AND (OPTIONAL) BOOM OUT FUNCTIONS WILL AUTOMATICALLY, SHUT OFF TO PREVENT INCREASED OVERLOAD.
- 2. ON CRANES EQUIPPED WITH AN OPTIONAL OVERLOAD ALARM, IT WILL ALSO SOUND.
- 3. IF AN OVERLOAD OCCURS, USE THE WINCH DOWN, BOOM UP OR BOOM IN FUNCTIONS TO RELIEVE THE OVERLOAD.
- 4. THE OVERLOAD SENSING SYSTEM IS INOPERATIVE IF THE BOOM ELEVATION IS AT THE BOTTOM OR TOP LIMIT OF TRAVEL. TO RELIEVE THIS CONDITION, RAISE OR LOWER THE BOOM SLIGHTLY BEFORE LIFTING THE LOAD.
- 5. SEE MANUAL FOR TESTING THE OVERLOAD SYSTEM.

NOTICE - WARRANTY VOID IF DISCONNECTED

THE OVERLOAD SENSING SYSTEM HAS BEEN INSTALLED AS A SAFETY FEATURE TO PROTECT THE EQUIPMENT AND THE OPERATOR.

DO NOT DISCONNECT THIS SYSTEM

™	<sup>date</sup>	section
SAFETY & HAZARDS	01-29-15K	C150
ELECTRIC CRANES	supersedes 12-20-13J	

### **CRANE SAFETY AND HAZARDS - CONT'D**

### **OVERLOAD ALARM SYSTEM - OPTIONAL**

1. OVERLOAD ALARM HORN SOUNDS IF RATED LOAD IS EXCEEDED AT ANY REACH.

- 2. IF ALARM SOUNDS, RAISE BOOM OR LOWER WINCH TO REMOVE OVERLOAD.
- 3. ALWAYS RAISE BOOM SLIGHTLY BEFORE LIFTING LOAD. WARNING SYSTEM INOPERATIVE WHEN CYLINDER IS COMPLETED BOTTOMED.
- 4. ALARM CAN BE TESTED BY TYING DOWN BOOM WITH WINCH CABLE AND OPERATING BOOM UP OR BY RAISING BOOM AGAINST UP LIMIT STOP.

NOTICE - WARRANTY VOID IF DISCONNECTED

THIS ALARM SYSTEM HAS BEEN INSTALLED AS A SAFETY FEATURE TO PROTECT BOTH THE EQUIPMENT AND THE OPERATOR.

DO NOT DISCONNECT THIS SYSTEM

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A		

TITLE	
SAFETY & HZRDS, CONT.	
ELECTRIC CRANES	

DATE	SECTION
01-29-15	C15
SUPERSEDES	_

-

### VEHICLE & CRANE MOUNTED ELECTRICAL HAZARD SIGN APPLICATION & INFORMATION



SIGN NO. 15393 DISPLAYS THE INTERNATIONAL SYMBOL FOR ELECTRICITY AND WARNS OF DANGER FROM AN ELECTRICALLY CHARGED VEHICLE, CRANE, OR LOAD. FOUR ARE RECOMMENDED (ONE FOR EACH SIDE AND ONE FOR EACH END OF VEHICLE) TO BE APPLIED IN LOCATIONS WHICH ARE READILY VISIBLE TO GROUND PERSONNEL.

**A DANGER** UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN 20 FEET OF HIGH-VOLTAGE LINES OF 350,000 VOLTS OR LESS. SIGN NO. 15401 PROVIDES ADDITIONAL WARNING OF LEGAL REQUIREMENTS WHEN OPERATING NEAR HIGH VOLTAGE LINES. THIS SIGN IS PLACED ON THE CONTROL PENDANT SIDE OF BOOM.

Table A - Minimun	n Clearance Distances

Voltage	Minimum clearance distance
(nominal, kV, alternating current)	(feet) *
Up to 50 over 50 - 200 over 200 - 350 over 350 - 500 over 500 - 750 over 750 - 1000 Over 1000	10 15 20 25 35 45 (as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Voltage	While traveling - minimum clearance distance
(nominal, kV, alternating current)	(feet) *
0 - 0.75 over 0.75 - 50 over 50 - 345 over 345 - 750 over 750 - 1000 Over 1000	4 6 10 16 20 (as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

NOTE: ENVIRONMENTAL CONDITIONS SUCH AS FOG, SMOKE, OR PRECIPITATION MAY REQUIRE INCREASED CLEARANCES

O VENTURO INDUSTRIES LLC	HAZARD APPS & INFO	<sup>DATE</sup> 02-21-14M	section C150
CINCINNATI, OHIO	ET/HT CRANES	SUPERSEDES	15394

DECAL #: DESCRIPTION: PURPOSE: QUANTITY: PLACEMENT:	15390 CAUTION, INSPECT VEHICLE & CRANE TO INFORM THE OPERATOR OF KEY OPERATING REQUIREMENTS. 1 REAR COVER OR SIDE OF CRANE	CAUTION     ADD CRAME INCLUDING     OPERATION, PRIOR TO USE DAILY.     ADD CRAME INCLUDING     OPERATION, PRIOR TO USE DAILY.     ADD COMPLEX TRANSPORT     SOLD, LEVEL SURFACE WITH CRAME     MOUTED ON FACTOR/MECOMMENCED     TRUCK.     ADD CRAME CRAME REFER TO     MAXIMUM LOAD (CAPACITY) CHART ON CRAME     PORTONIC DAIL (CAPACITY) CHART ON CRAME     DO NOT OPERATING LOAD. LIMITATIONS.     DO NOT OPERATE, WALK, OR STAND BENEATH     BOOM OR A SUSFENDED LOAD.     UNSUE OPENATION CLANS DHUT OFF MASTER     DISCOMECT SWITCH WHEN CRAME NOT IN     USE.     FOR TRAVEL, BOOM MUST BE IN STOWED     POSITION.	
DECAL #:	15391		
DESCRIPTION:	DANGER, NOT A PASSENGER LIFT	<b>A</b> DANGER	
PURPOSE:	TO INFORM OPERATOR NOT TO LIFT, SUPPORT, OR TRANSPORT	THIS CRANE IS NOT A PASSENGER LIFT IT IS NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL.	
	PERSONNEL, AND TO ENSURE OPERATOR IS ADEQUATELY TRAINED	D. YOU MUST NOT OPERATE THIS CRANE UNLESS: 1. YOU HAVE BEEN TRAINED IN THE SAFE	
QUANTITY:	1	OPERATION OF THIS CRANE; AND 2. YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN	
PLACEMENT:	THE MANUFACTURER'S MANUALS, YOUR		
DECAL #:	15392		
DESCRIPTION:	DANGER, ELECTROCUTION HAZARD, MACHINE (CRANE)		
PURPOSE:	TO INFORM OPERATOR THAT MACHINE (CRANE) REPRESENTS AN	THIS MACHINE IS NOT INSULATED ELECTROCUTION HAZARD	
	ELECTROCUTION HAZARD SHOULD IT COME CLOSE TO OR IN CONT	ACT MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARTUS. YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOAD LINE SWAYING.	
	WITH AN ELECTRICAL VOLTAGE SOURCE.	THIS LIFTING DEVICE DOES NOT PROVIDE PRO- TECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTICALLY CHARGED CONDUCTOR.	
QUANTITY:	LINE OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UFTS 50,00 UTS, ONE		
PLACEMENT:	REAR COVER OR SIDE OF CRANE		
DECAL #:	15401		
DESCRIPTION:	DANGER, UNLAWFUL TO OPERATE	ADANGER	
PURPOSE:	WITHIN	IL TO OPERATE THIS EQUIPMENT 20 FEET OF HIGH-VOLTAGE LINES	
	FOR MINIMUM CLEARANCE CRANES SAFETY MANUA	OF 350,000 VOLTS OR LESS. ES OF HIGH-VOLTAGE LINES IN EXCESS OF 350,000 VOLTS, REFERENCE OSHA 1926.1408, AL, AND CAL-OSHA ARTICLE 37, TITLE 8, HIGH-VOLTAGE ELECTRICAL SAFETY ORDERS	
QUANTITY: PLACEMENT:	1 RING COVER OR SIDE OF CRANE		
DECAL #:	15393		
DESCRIPTION:	DANGER, ELECTROCUTION HAZARD, VEHICLE (TRUCK)	DANGER	
PURPOSE:	WARNS OF DANGER FROM ELECTRICALLY CHARGED		
	VEHICLE, CRANE, OR LOAD.	P CLEAR OF TRUCK AND LOAD 4 OR SERIOUS INJURY CAN RESULT FROM TACT WITH THE LOAD, THE CRUNE, OR THE	
	VEHICLE		
QUANTITY:	4 EACH SIDE & EACH END OF VEHICLE	E IF BOOM OR LOAD LINE SHOULD BECOME ELECTRICALLY CHARGED.	

	ENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO
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EN

VENTURO CRANES

SAFETY DECALS

04-29-16E	C150
SUPERSEDES 10-24-13D	21353

PART NO.: 14473-2

DECAL: CONDUCTIVE GREASE

FUNCTION: To show the operator where to apply grease.

QUANTITY: Varies

PLACEMENT: Near grease fittings.

PART NO.: 13397

DECAL: OIL LEVEL

FUNCTION: To inform the operator of proper oil level to maintain.

QUANTITY: 1

PLACEMENT: Side of hydraulic power unit.

PART NO.: 15398

DECAL: UNPLUG REMOTE CONTROL

FUNCTION: To inform the operator to unplug remote control when not in use.

QUANTITY: 1

PLACEMENT: Near pendant socket.



CONDUCTIVE GREASE

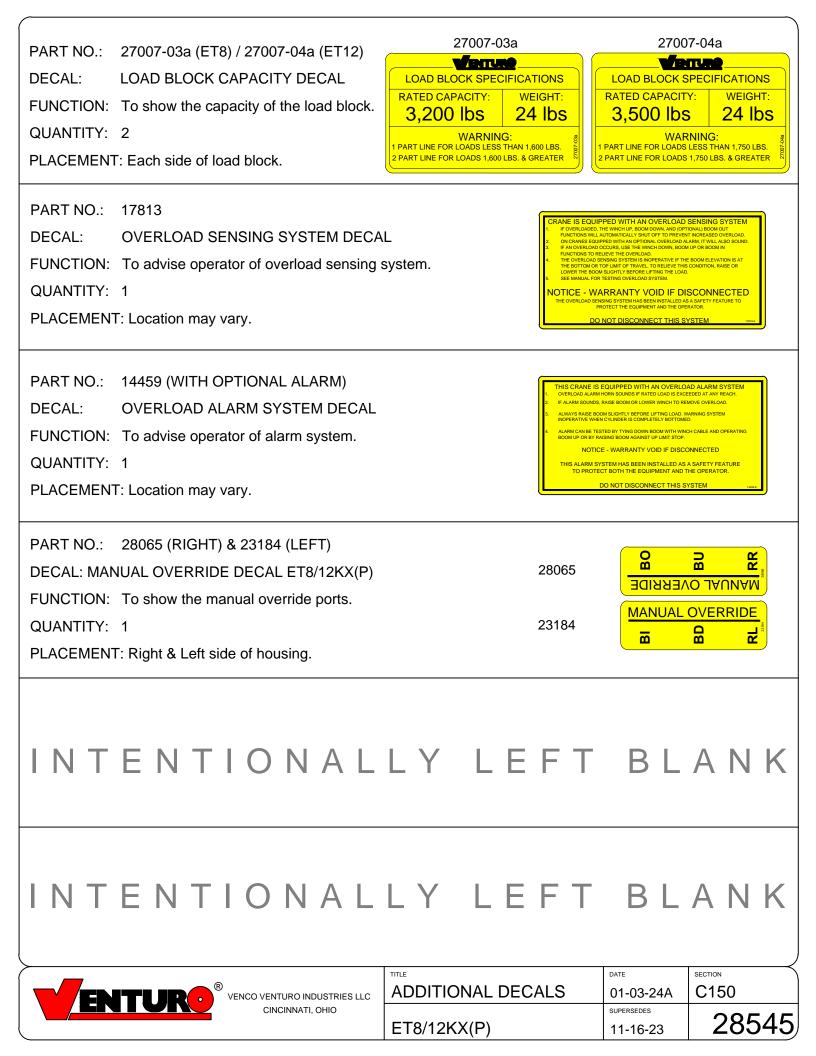
Retract All Cylinders Prior to Servicing





MANUFACTURING, INC. CINCINNATI, OHIO

	TITLE	DATE	SECTION
).	DECALS	11-12-19E	C150
		SUPERSEDES	
	ET CRANES	12-23-13D	21354



PART NO.: DECAL:	21576 (RIGHT) & 21577 (LEFT) CRANE CAPACITY	21576 ET12 SERIES 7-11-15 BOOM	SERIES BOOM	12 2 2 2 2 2 4 L
FUNCTION:	To show the operator the operating		DTE	8, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,
TONCTION.	capacities of crane.	OVER 1000 015° 0° OVER 10005	1750 LBS. 0° 15°	2400 100 100 100 100 100 100 100 100 100
QUANTITY:	1 each	1025         1325         1100         11FT         BOOM EXTENSION LENGTH         BOOM EXTENSION LENGTH         BOOM EXTENSION LENGTH	7 FT 1800 2100 10N 11 FT 1100 132 15 FT 800 87	5 1025 1025 100 EL
PLACEMENT:	One on each side of boom.			
PART NO.:	28550			
DECAL:	MODEL ET12KX-15'	- 45		
FUNCTION:	To show model of crane.	$2kx^{15}$	NTU	R
QUANTITY:	2			
PLACEMENT:	One on each side of boom.			
ΙΝΤ	ENTIONAL	IY I F F T	ΒI	ANK
ΙΝΤ	ENTIONAL	IY IFFT	ΒI	ANK
ΙΝΤ	ENTIONAL	LY LEFT	ΒL	ANK
	_			
	-	TITLE	DATE	SECTION
	Revealed a second secon	MODEL/CAPCTY DECALS	11-15-23 SUPERSEDES	C150
	CINCINNATI, OHIO	ET12-15' SERIES	-	28551

## INSTALLATION



### **!! IMPORTANT !!**

### ADEQUATE WIRING IMPERATIVE FOR PROPER OPERATION

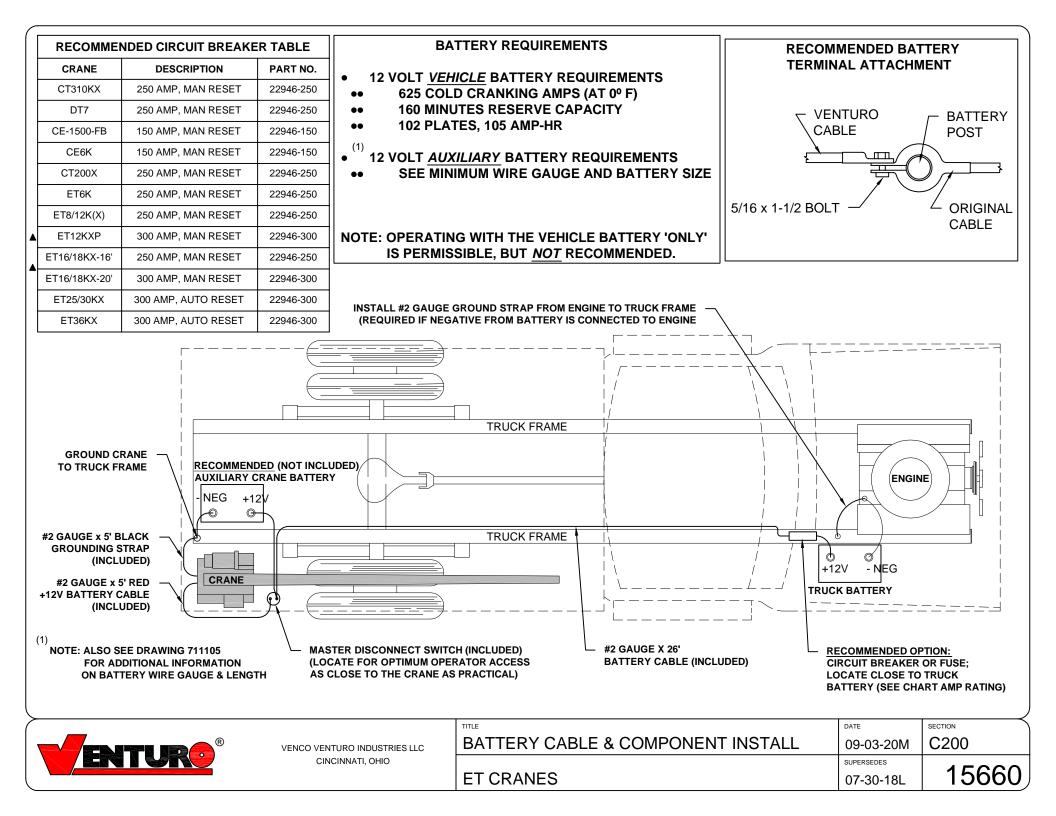
- 1. PROPER GROUND PATH SEE DWG 15660
- 2. CURRENT DRAW IS SEVERAL HUNDRED AMPERES -ADEQUATE WIRE SIZE AND BATTERY CAPACITY IS ABSOLUTELY ESSENTIAL (SEE CHART BELOW).

### ▲ MINIMUM WIRE GAUGE AND AUXILIARY BATTERY SIZE

MODEL			TOTAL	LENGT	H OF C	ABLE (I	FT) *		▲ 12 VOLT A BATTERY RE	AUXILIARY QUIREMENTS
	0-20	21-25	26-30	31-40	41-50	51-60	61-70	71-80	CCA (A) **	RC (MIN) ***
▲ CE1500 CE6K CT2000 CT2003/4/5 DT7K	#4	#4	#2	#2	#1	#0	#0	#00	350	100
ET5500MPB ET5500R ET6KMPB ET6KR ET6K ET8K ET10K ET12K	#2	#2	#1	#0	#00	NOT RECOMMENDED		450	100	
ET8KX ET10KX ET12KX ▲ ET12KXP	#2	#2	#1	#0	#00	NOT RECOMMENDED 5			550	150
ET18K(X) ET25K(X) ET30KX ET36KX										

- \*\* CCA = COLD CRANKING AMPS AT 0° (F).
- \*\*\* RC = RESERVE CAPACITY IN MINUTES AT 25 AMPS AND 80° (F). THE RC RATING IS A MEASURE OF THE PERIOD OF TIME THE BATTERY CAN SUPPLY A GIVEN CURRENT WITHOUT RECHARGING.

VENCO VENTURO INDUSTRIES LLC	CABLE & BATTERY	<sup>DATE</sup> 07-30-18X	section C200
CINCINNATI, OHIO	ELECTRIC CRANES	supersedes 09-27-17W	711105



### STABILITY TEST - ET12-15' SERIES

#### Overview

Venturo follows the guidelines of ANSI B30.5 in defining stability. Generally speaking, a truck is considered stable as long as it is not on the verge of tipping - i.e. with the truck level, at least one tire on each corner of the truck must remain in contact with the ground.

It is important to note that nearly every installation is unique and will, therefore, typically require stability testing.

The procedure outlined below follows ANSI's (B30.5 - 5-1.1.1) specified "maximum load rating" of 85% of truck stability.

#### **Testing Procedure**

- 1. Locate the truck on firm, level ground and set parking brake.
- 2. Fully deploy stabilizers, making sure they are firmly in contact with supportive ground; use stabilizer pads as required. The tires of the truck should remain in full contact with the ground.
- 3. Inspect wire rope and other key components of crane (consult owners manual for more information).
- 4. Conduct an operational check of all crane functions.
- 5. Locate the Overload Pressure Switch at the base of the elevation cylinder
- 5.1. Disconnect the black & white wires from the housing and then connect the black & white wires together to by-pass the Overload Pressure Switch for the stability test. <u>Note: The black & white wires MUST be</u> reconnected to the Overload Pressure Switch after the stability test has been completed.
- 6. Use a *Test Weight* weighing a *minimum* of <u>941 lbs</u>, (includes load block weight of <u>24</u> lbs.) to a *maximum of 1000 lbs*.
- 7. Position the boom level and fully retracted.
- Referring to the Stability Chart (drawing 20907) rotate the crane to a position between 1 and 2 o'clock (truck cab is facing 12 o'clock) to begin testing.
- 9. Use the winch to lift the Test Weight; DO NOT allow the weight to be more than 6" off the ground at any time during testing (for safety).
- 10. Using the test weight, extend the boom slowly, until one of two conditions occur:
- 10.1. Full extension is reached Mark the ZONE in question 100%
- 10.2. The truck becomes unstable i.e., a tire lifts off the ground
  - 10.2.1. Retract the boom until at least one tire on each corner of the truck is making contract with the ground
  - 10.2.2. Use the formula below to determine the allowable % of Rated Capacity for the ZONE in question:
- Note: The "<u>Max Stable Reach in inches"</u> is measured (horizontally) from the center of rotation of the crane housing to the lifting load hook.

"Max Stable Reach" in inches"

% Rated Capacity =

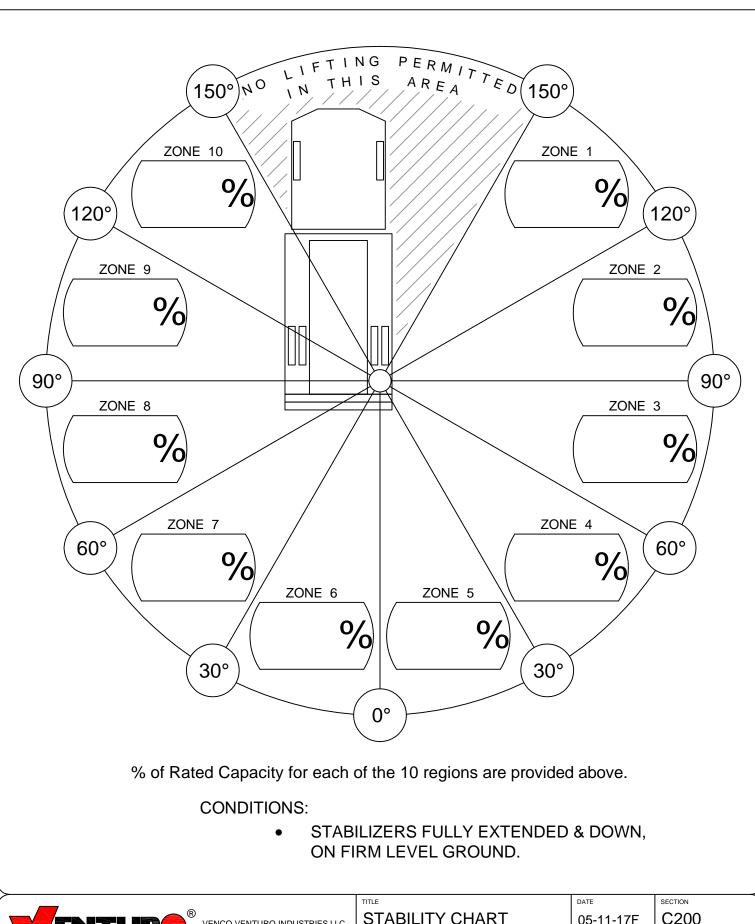
X 100

184

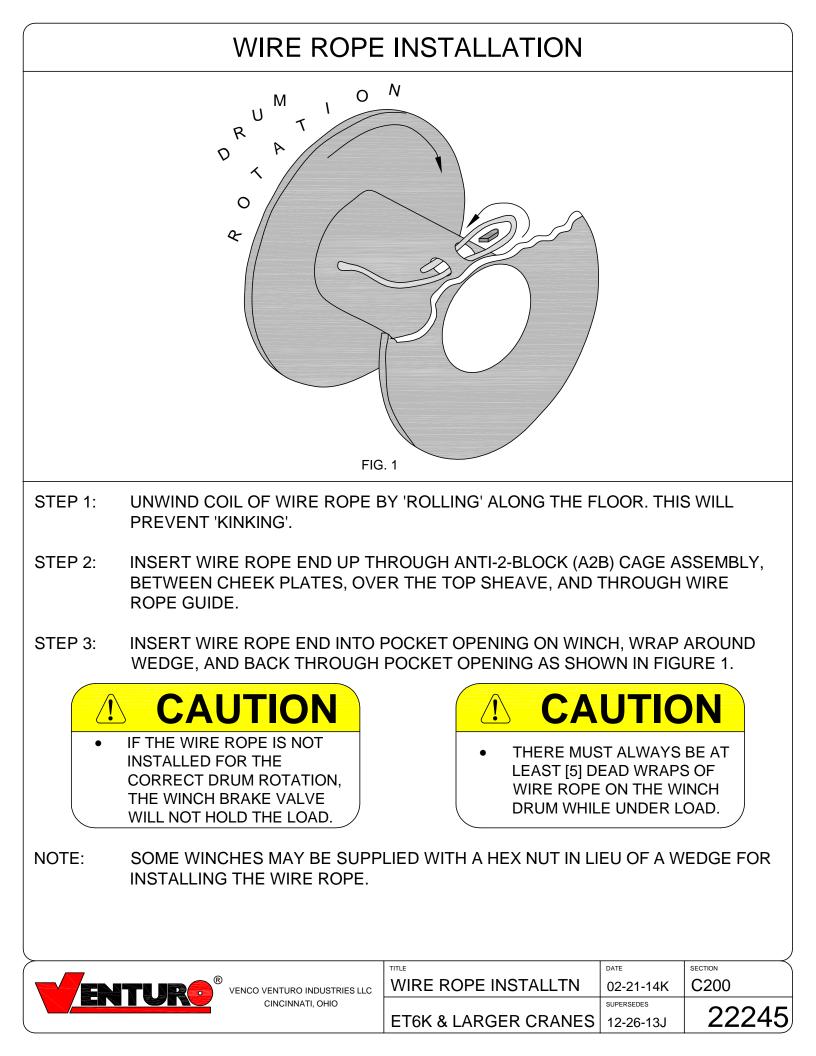
- 12. Record the <u>% of Rated Capacity</u> in the appropriate blank (region) on the Crane Stability page (ref. 20907) and decal.
- 13. Repeat Steps 7 through 12 for each ZONE on the stability page.

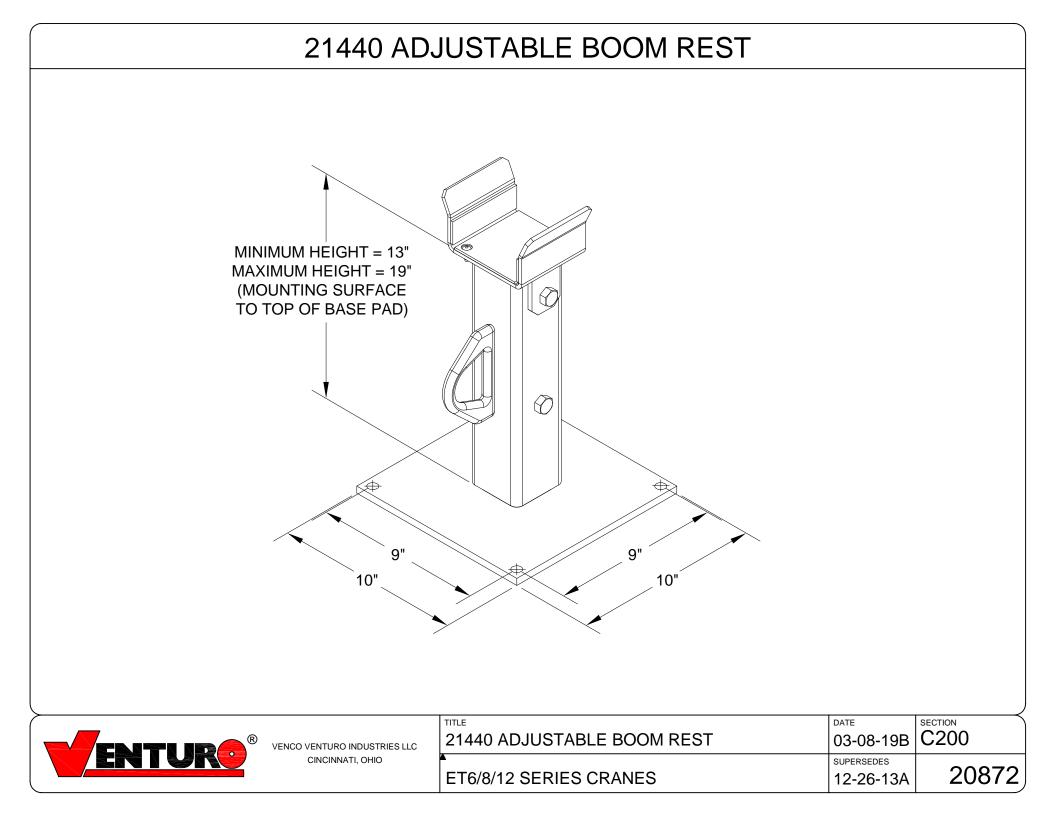
	TITLE STABILITY TEST	<sup>DATE</sup> 03-16-23H	C200
<b>ENTURO</b> Venco venturo industries LLC cincinnati, ohio	ET12-15' SERIES	SUPERSEDES 11-23-21G	20906-12

### CRANE STABILITY



VENCO VENTURO INDUSTRIES LLC	STABILITY CHART	05-11-17F	C200
CINCINNATI, OHIO	VENTURO CRANES	SUPERSEDES	20907
	VENTURO CRAINES	02-21-14E	20001





## MAINTENANCE

### &

## SERVICE



### CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

### SAFETY

Before operating this crane, read and understand these instructions, the "CRANE SAFETY AND HAZARDS" pages, and review all safety and instruction labels on the crane.

### **CRANE INSPECTION**

Before operating this crane, inspect for wear, damage, and oil leakage. After the wire rope has been run out, check for wear, kinks, and broken strands. Check the hook and safety latch for damage. Correct problems before using the crane.

### CAPACITY

Before operating this crane, review the capacity charts on the sides of the boom to relate the load to be lifted to the boom length and angle. The boom angle is indicated by a gravity arrow.

### LOAD BLOCK

If the load exceeds:

1000 lbs. for the ET6K, or

1600 lbs. for the ET8 Series and ET10K(X), or

1750 lbs. for the ET12 Series,

or if reduced winching speed for better control of smaller loads is required, use the load block to rig the crane for two-part line operation. Refer to your crane's "MAXIMUM LOAD CAPACITY" page within this manual.

### CONTROLS

This crane is operated by a remote control pendant. The pendant should be unplugged and stored in a compartment or the cab when the crane is not in use.

Before plugging the pendant in, inspect the plug, socket, cord, pendant head, and switches for damage. Actuate all switches in both directions to verify that they all have the same feel and sound, and that they return to the center position.

Plug the pendant into the socket on the right side of the crane and, if applicable, snap the strain relief tether to the crane housing.

Turn on the Master Disconnect Switch. Use "WINCH DOWN" to release tension on the wire rope and unhook it from the storage tie-down position.

Use "BOOM UP" to elevate the boom from the boom rest position.

Check all control functions to see that they are working correctly.



	INSTALLATION DWG	<sup>DATE</sup> 06-22-23K	C200	
ICINNATI, OHIO	ET6/8/12 SERIES CRANES	SUPERSEDES	900530A	

### CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

### CONTROL FUNCTIONS

WINCH UP and WINCH DOWN - Raises and lowers the load with the wire rope.

<u>POWER EXTENSION</u> - "Up" raises the boom elevation by operating the valves and the electric hydraulic power unit. "DOWN" operates a solenoid release valve mounted on the cylinder to lower the load and/or boom by gravity at a controlled rate. A check valve on the cylinder prevents the boom from coming down if a hose breaks. A flow control valve controls the lowering rate.

<u>POWER ROTATION</u> - "L" and "R" control the direction of rotation. The ET6K, ET8K(X), ET10K(X) or ET12K(X) can be rotated continuously thru 360° or more. There are no restrictions on the number of rotations in any direction.

<u>CONTROL PRIORITY SYSTEM</u> (NON-PROPORTIONAL SYSTEMS) - As a built in safety feature, the operator can perform only one major and one minor function at any one time. Major functions include rotation, winching up of a load, and elevating, extending, and retracting the boom. Minor functions include winching down and lowering the boom.

- a. "WINCH UP" has priority over "BOOM UP", "BOOM OUT", "BOOM IN", and "ROTATION."
- b. "BOOM UP" has priority over "BOOM OUT", "BOOM IN", and "ROTATION."
- c. "BOOM OUT" and "BOOM IN" have priority over "ROTATION."
- d. "BOOM DOWN" and "WINCH DOWN" can be operated with any function.
- TRIGGER (ET12KXP Only) Varies the flow rate delivered to the crane valve. The farther the trigger is pulled, the faster the selected crane function operates.

### OVERLOAD SENSING SYSTEM

This crane is equipped with an Overload Sensing System. If the capacity of the crane is exceeded, the "Winch Up", "Boom Down", and "Boom Out" functions will be shut down. The "Winch Down", "Boom Up", and "Boom In" functions will continue to operate and can be used to relieve the overload condition. The "Rotation" function also will continue to operate.

#### TWO-BLOCK SENSING SYSTEM

This crane is equipped with an anti two-block device that is mounted at the tip of the boom. If the load block / overhaul weight contacts the device the "Winch Up", "Boom Down", and "Boom Out" functions are disabled. The "Winch Down",

Boom Up", and "Boom In" functions will continue to operate and can be used to relieve the two-block condition.

### **CRANE OPERATION**

Avoid rapid reversal of the winch and rotation control switches. The high inrush current to the motors during reversal can reduce the life of the contactors, motor brushes, and commutators.

When operating "WINCH UP", "BOOM DOWN", or "BOOM OUT," always maintain clearance between the boom head and the load block or hook.

Do not lift or drag a load sideways using any of the crane funcitons. The boom has much lower bending strength sideways than in a vertical direction.



CINCINNATI, OHIO	▲ ET6/8/12 SERIES CRANES	supersedes 07-30-18G	900530B
R VENCO VENTURO INDUSTRIES LLC	INSTALLATION DWG	03-08-19H	C200
	TITLE	DATE	SECTION

### CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

### OVERLOAD ALARM SYSTEMS (OPTIONAL)

This crane may be equipped with an optional overload alarm system.

- 1. Overload alarm horn sounds if rated load is exceeded at any reach.
- 2. If alarm sounds, RAISE boom or LOWER winch to remove overload.
- 3. Always RAISE boom slightly before lifting load warning system INOPERATIVE when cylinder is completely bottomed.
- 4. Alarm can be tested by raising boom against up limit stop.

### MANUAL TELESCOPIC BOOM

The 6' -14' and 7' - 15' booms have a 4' manual telescoping section in addition to the 4' power extension. A toggle pin locks the boom into either the extended or retracted position.

### **TRUCK SETUP & STABILIZERS**

- 1. The truck should be parked on firm level ground when using the crane.
- 2. The center of the crane should be positioned close enough to the job so that it can be operated at a reach that puts the load within the rated capacity of the crane.
- 3. Set the vehicle parking brake and put the vehicle transmission in "park" (automatic transmission) or low gear (manual transmission), unless the engine is to be left running.
- 4. Deploy the stabilizers to stabilize the vehicle against rocking or overturning when lifting with the crane.

### PREPARATION FOR TRAVEL

- 1. Return the stabilizers to the stowed position. Install and secure all pins.
- 2. Stow the crane boom in the boom support.
- 3. Hook the winch line to a tie down point on the body or pedestal and apply tension.
- 4. TURN OFF MASTER DISCONNECT SWITCH.
- 5. Unplug the control pendant and store in a body compartment or the cab.

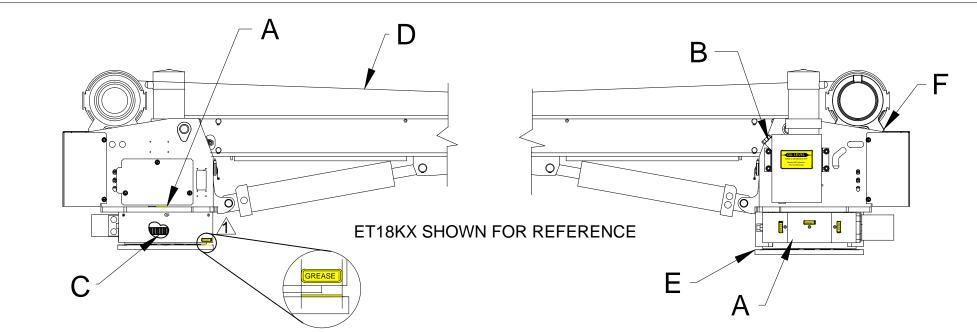


• The pendant (or receiver) plug must be unplugged from the crane socket and the Master Disconnect Switch (power) turned "OFF" when the crane is not in use! Leaving the pendant (or receiver) connected and power on when not in use may result in dangerous, unintentional activation of the crane functions.



MANUFACTURING, INC. CINCINNATI, OHIO

ET6/8/10/12 SERIES	12-26-13E	900
	SUPERSEDES	<u></u>
INSTALLATION DWG	03-08-19F	C200
TITLE	DATE	SECTION



ATTENTION:

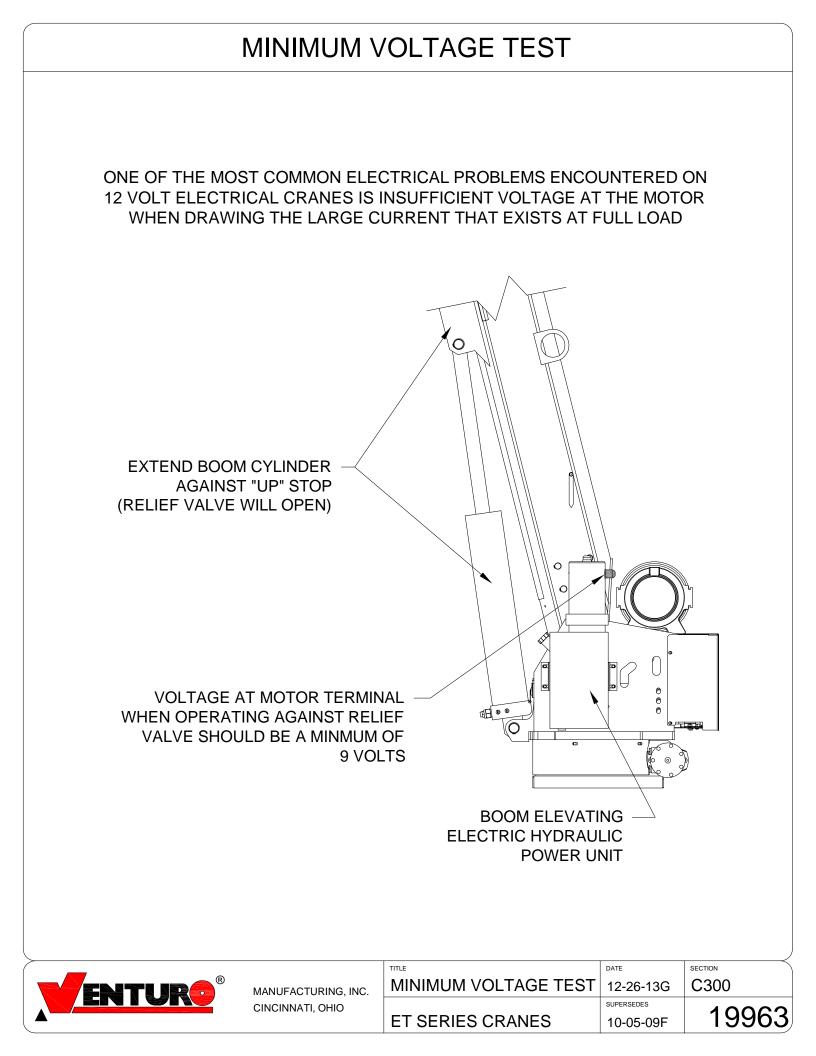
NEVER WASH THIS CRANE WITH CHEMICAL PRODUCTS OR HIGH PRESSURE WATER JETS, AS THEY CAN CAUSE DETACHMENT OF DECALS OR ENTRANCE OF WATER INTO ELECTRICAL OR SLEWING RING COMPONENTS

Service Required	No	ote	Service Interval
Grease fitting With Pressure Grease Gun	· · · · ·		Time of Truck Service
	ALIGNMENT: To align hole w/ fitting, line up grease decals on lower cover and base gusset.		
Fill Oil Reservoir to Oil Level with Boom Down and Boom In.	Use Dextron ATF for Ambient Temperatures Between -22° F and 30° F	Use ISO Viscosity Grade 68 or Equivalent for Ambient Temperatures Between 10°F and 125°F	Time of Truck Service and as required by changes in the ambient temperature range
Lubricate Gear Teeth	Remove Cover & Use Chassis Grease		Time of Truck Service
Check Wire Rope and Hook	Rope should be free of kinks and fraying		Time of Truck Service
Check Torque of Base Mounting Bolts	Square Base: Torqued to 200 ft-lbs		Time of Truck Service
Check Torque of Base Mounting Bolts	Rectangular Base: Torqued to 455 ft-lbs		Time of Truck Service
Check Torque of Winch Mounting Bolts	Bolts should be to	orqued to 35 ft-lbs*	Time of Truck Service
	Grease fitting With Pressure Grease Gun Fill Oil Reservoir to Oil Level with Boom Down and Boom In. Lubricate Gear Teeth Check Wire Rope and Hook Check Torque of Base Mounting Bolts Check Torque of Base Mounting Bolts	Grease fitting With Pressure Grease GunUse FUCHS Renolit AluminumALIGNMENT: To alig grease decals on loweALIGNMENT: To alig grease decals on loweFill Oil Reservoir to Oil Level with Boom Down and Boom In.Use Dextron ATF for Ambient Temperatures Between -22° F and 30° FLubricate Gear TeethRemove Cover & ICheck Wire Rope and HookRope should be freCheck Torque of Base Mounting BoltsSquare Base: ToCheck Torque of Base Mounting BoltsRectangular Base:	Grease fitting With Pressure Grease GunUse FUCHS Renolit Aluminum Complex Grease, or equivalentALIGNMENT: To align hole w/ fitting, line up grease decals on lower cover and base gusset.Fill Oil Reservoir to Oil Level with Boom Down and Boom In.Use Dextron ATF for Ambient Temperatures Between -22° F and 30° FUse ISO Viscosity Grade 68 or Equivalent for Ambient Temperatures Between 10°F and 125°FLubricate Gear TeethRemove Cover & Use Chassis GreaseCheck Wire Rope and HookRope should be free of kinks and frayingCheck Torque of Base Mounting BoltsSquare Base: Torqued to 200 ft-lbsCheck Torque of Base Mounting BoltsRectangular Base: Torqued to 455 ft-lbs

\* 32 FT-LBS. FOR ET8/12 WITH GTD-2200 COMEUP WINCH. SEE PAGE 21741 FOR WINCH IDENTIFICATION.



TITLE	DATE	SECTION
LUBRICATION & MAINTENACE CHART	03-06-23L	C300
	SUPERSEDES	21306
ET8/12/16/18 SERIES CRANES	01-30-23K	Z1306)



WIRE ROPE ASSEMBLY	LOAD BLOCK AS	SEMBLY
ET6K WIRE ROPE: 3/16" DIA, 50' LONG GAC 7X19 LHRL-IWRC, SB 4200 LBS • ET8/12 SERIES WIRE ROPE: 1/4" DIA, 65' LONG GAC 7X19 IPS-LHRL-IWRC, SB 7000 LBS • $\int \int \partial G \nabla \nabla$	AA A ET8/12 SE RAT DIMENSIO AA ET8/12 SE RAT DIMENSIO COLOR	BRANDAACDCROSBY2.00"7.75"6.12"ERIES LOAD BLOCK HOOK:FING: 2 TONNE (4410 LBS)DNS:
ENTURO VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	LE VIRE ROPE & HOOKS SPECIFICATIONS	DATE SECTION 03-08-19G C300 SUPERSEDES 05-09-16F 23225

#### MANUAL OVERRIDE INSTRUCTIONS ET NON-PROPRTIONAL SERIES CRANES

#### **!! READ ALL INSTRUCTIONS BEFORE PERFORMING MANUAL OVERRIDE PROCEDURES !!**





Each valve station incorporates [2] hydraulic ports and [2] coils. Manual override shafts are located in the center of the coils (see figure 1). Manual override decals are placed on each crane near the valve assembly. These decals provide a visual aid that helps the operator determine the function designations (Reference figure 2).

2-STATION FUNCTIONS:

RR = Rot. Right RL = Rot. Left BU = Boom Up BD = Boom Down

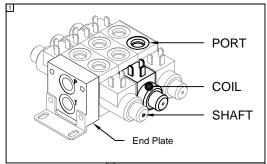
3-STATION FUNCTIONS include previous functions, plus: BI = Boom In BO = Boom Out

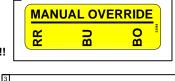
ALWAYS BE SURE TO CHECK HYDRAULIC OIL LEVEL BEFORE PROCEEDING. IT IS RECOMMENDED TO REMOVE ANY ITEM(S) THAT MAY INTERFERE WITH OPERATING THE CRANE MANUALLY. IF POSSIBLE, STRAPS AND/OR HARNESSES SHOULD BE REMOVED BEFORE OPERATING A CRANE IN MANUAL OVERRIDE !!

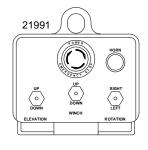
Procedure:

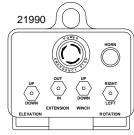
- 1. Turn Master disconnect switch to "ON"
- 2. Power up the pendant / radio
- 2.1. PENDANT twist EMERGENCY STOP button clockwise
- 2.2. RADIO Press green ON button
- 3. On the crane, reference the function you wish to perform using the manual override decal
- 4. Using a tool with a diameter of 1/8" or smaller, press the shaft inward and hold
- 5. Reference the functions listed on your pendant or radio (see figure 3)
- 6. Press the switch or button for the same function
- 7. If you need to change function,
- 7.1. Release switch or button
- 7.2. Remove tool from shaft
- 7.3. Go to step 3













For assistance, please feel free to contact Technical Support at 800-226-2238.



<b>B</b>	VENCO VENTURO INDUSTRIES LLC	TITLE MAN. OVERRIDE INSTR.	<sup>DATE</sup> 03-08-19A	C200
	CINCINNATI, OHIO	ET NON-PROP CRANES	SUPERSEDES 02-09-17	23084

#### MANUAL OVERRIDE INSTRUCTIONS ET PROPRTIONAL SERIES CRANES

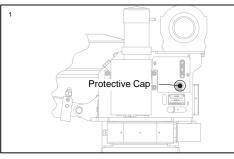
#### !! READ ALL INSTRUCTIONS

### NS BEFORE PERFORMING MANUAL OVERRIDE PROCEDURES !!

4

COIL

SHAF





Each valve station incorporates [2] hydraulic ports and [2] coils. Manual override shafts are located in the center of the coils (see figure 4). Manual override decals are placed on each crane near the valve assembly. These decals provide a visual aid that helps the operator determine the function designations (Reference figure 3 & 5).

#### **3-STATION FUNCTIONS:**

RR	=	Rot. Right	RL	=	Rot. Left
ΒU	=	Boom Up	BD	=	Boom Down
BI	=	Boom In	BO	=	Boom Out

#### ALWAYS BE SURE TO CHECK HYDRAULIC OIL LEVEL BEFORE PROCEEDING. IT IS RECOMMENDED TO REMOVE ANY ITEM(S) THAT MAY INTERFERE WITH OPERATING THE CRANE MANUALLY. IF POSSIBLE, STRAPS AND/OR HARNESSES SHOULD BE REMOVED BEFORE OPERATING A CRANE IN MANUAL OVERRIDE !!

Procedure:

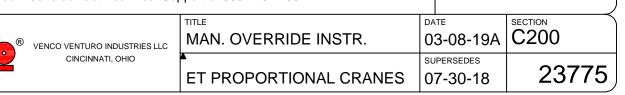
- 1. Turn Master disconnect switch to "ON"
- 2. Remove Protective cap (see figure 1)
- 3. Rotate Valve Stem Clockwise to close (see figure 2)
- 4. Power up the pendant / radio
- 4.1. Twist EMERGENCY STOP button clockwise
- 5. On the crane, reference the function you wish to perform using the manual override decal (see figure 3)
- 6. Using a tool with a diameter of 1/8" or smaller, press the shaft inward and hold
- 7. Reference the functions listed on your pendant or radio (see figure 6)
- 8. Press the switch or button for the same function

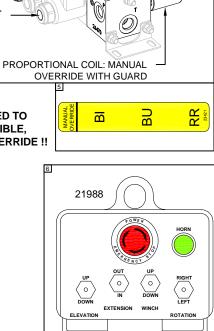
#### 9. If you need to change function,

- 9.1. Release switch or button
- 9.2. Remove tool from shaft
- 9.3. Go to step 5

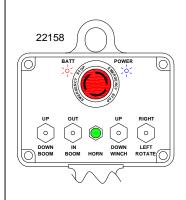
For assistance, please feel free to contact Technical Support at 800-226-2238.





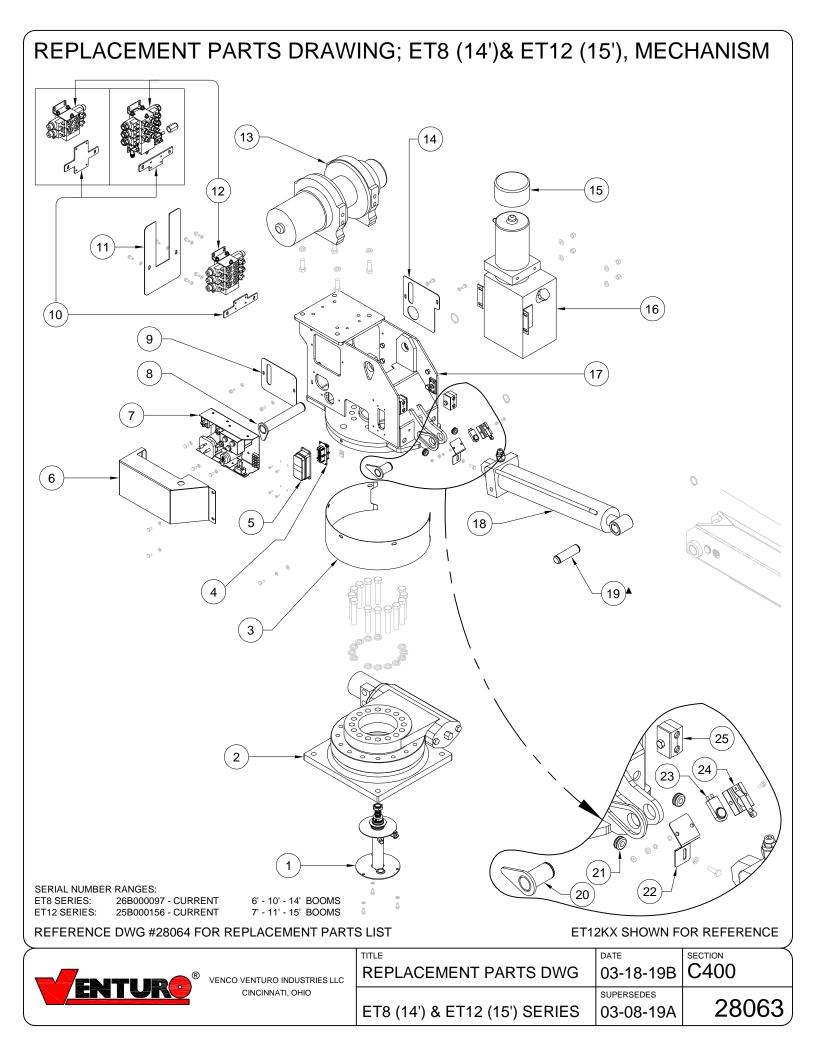


PORT



# REPLACEMENT PARTS





### REPLACEMENT PARTS LIST; ET8 (14') & ET12 (15') SERIES - MECHANISM

ITEM	ET8K QTY	ET8KX QTY	ET12KX QTY	ET8KX QTY	E12KX QTY	PART NO.	DESCRIPTION
1	1	1	1	1	1	16780-2P8	SLIP RING; 2-POLE, SWIVEL ASSY
					21735	SLEW DRIVE; SQUARE BASE	
2*	1	1	1	1	1	21735-1	SLEW DRIVE; RECTANGULAR BASE
3	1	1	1	1	1	21185	ROTATION GEAR GUARD
4	1	1	1	1	1	22482	FEMALE INSERT; 16 + 1 POLE
5	1	1	1	1	1	22481	SOCKET CASE W/ HOOD
6	1	1	1	1	1	MB21621	ELECTRICAL ENCLOSURE W/ INSULATOR
7	1	1	1	1	1	21515	ASSY; ELECTRICAL COMPONENT PANEL
8	1	1	1	1	1	21540	PIVOT PIN; PRIMARY BOOM, MAIN
9	1	1	1	1	1	28113	COVER PLATE; RIGHT SIDE
	-	1	1	1	1	28110	ADAPTER PLATE; HYD. CONTROL VALVE (ET8/12KX)
10	1	-	-	-	-	28110-1	ADAPTER PLATE; HYD. CONTROL VALVE (ET8K ONLY)
11	1	1	1	1	1	28112	COVER PLATE; REAR
	-	1	1	-	-	21614	ASSY; VALVE BLOCK, 3-SPOOL, NON-PROP (ET8/12KX ONLY
12	1	-	-	-	-	21615	ASSY; VALVE BLOCK, 2-SPOOL, NON-PROP (ET8K ONLY)
	-	-	-	1	1	26479	ASSY; VALVE BLOCK, 3-SPOOL, PROPORTIONAL
13	1	1	1	1	1	21556	WINCH; DC1600
14	1	1	1	1	1	28114	COVER PLATE; LEFT SIDE
15	1	1	1	1	1	16143-3	MOTOR COVER; 2 HOLES
16	1	1	1	1	1	20873	HYDRAULIC POWER UNIT; 2600 PSI
17	1	1	1	1	1	28122	WELDED ASSY; UNIVERSAL UPPER HSNG
10	-	-	1	-	1	23059	ASSY; ELEV. CYL., COMPOSITE BRNGS (ET12 SERIES)
18	1	1	-	1	-	21788	ASSY; ELEV. CYL., COMPOSITE BRNGS (ET8 SERIES)
19	1	1	1	1	1	21547	PIN; ELEVATION CYL., OUTBOARD
20	1	1	1	1	1	23703	WELDMENT; ELEVATION CYL. PIN, INBOARD
21	2	2	2	2	2	14883	GROMMET; 3/8" ID, 5/8" OD, 3/16" GROOVE
22	1	1	1	1	1	21545	BRACKET; BOOM SHUT-OFF SWITCH
23	1	1	1	1	1	19918	SWITCH; TOP POSITION
24	1	1	1	1	1	19917	BRACKET; TOP POSITION SWITCH
25	2	2	2	2	2	21612	ASSY; HOSE CLAMP
26	1	1	1	1	1	23700	BOOM FINAL ASSY; ET12KXP 9.5' - 16'
27	1	1	1	1	1	20670	ASSY; SWIVEL LOAD BLOCK, 3500 LBS.

\* EITHER 21735 OR 2175-1 DEPENDING ON CONFIGURATION ITEMS 26 & 27 NOT SHOWN ON DRAWING

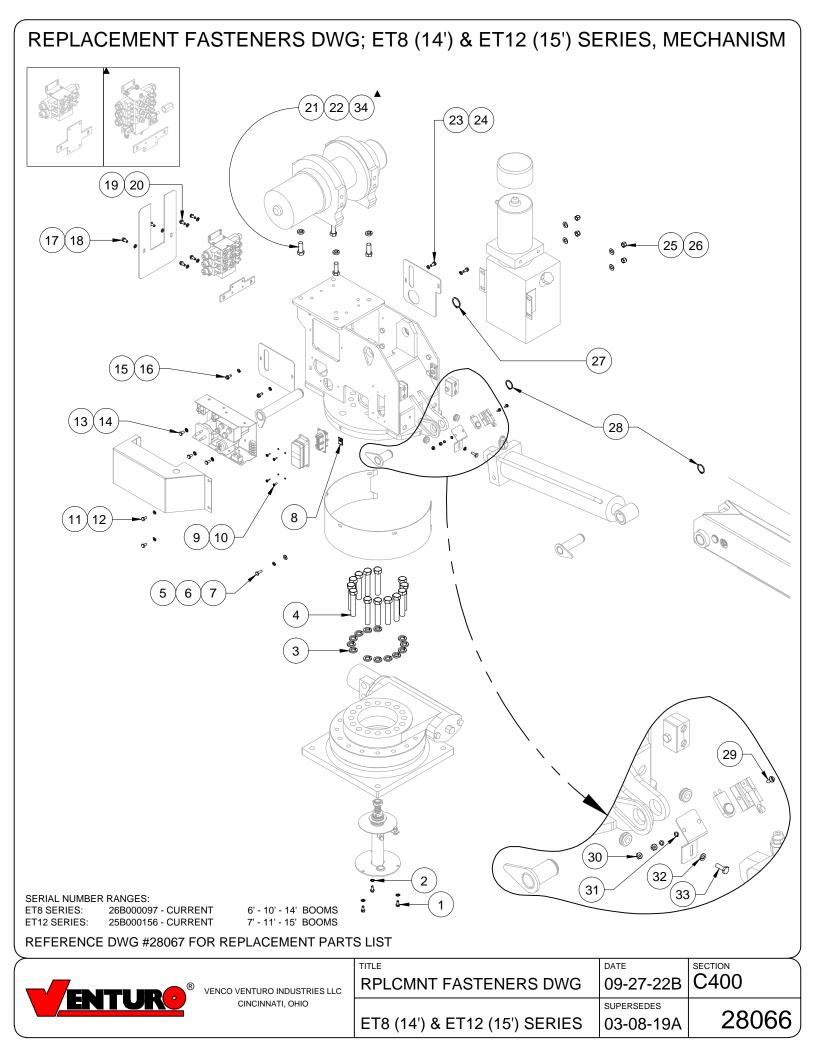
#### REFERENCE DWG #28063 FOR REPLACEMENT PARTS DWG



 TITLE
 DATE
 SECTION

 RPLCMNT PARTS LIST - MECH
 08-03-23G
 C400

 ET8 (14') & ET12 (15') SERIES
 03-06-23F
 28064



## REPLACEMENT FASTENER LIST; ET8 (14') & ET12 (15') SERIES, MECHANISM

ITEM #	PART #	DESCRIPTION	QTY	INSTALLATION / LOCATION
1	!HHCS02520063S	HEX HEAD CAP SCREW; 1/4-20 X 5/8 S/S	3	CANDLESTICK TO CRANE BASE
2	!LWSH-025-STAR-SS	LOCK WASHER; 1/4", EXTERNAL STAR, S/S	3	CANDLESTICK TO CRANE BASE
3	!LWSH-063	LOCK WASHER; 5/8", GR. 5, ZINC	13	HOUSING TO SLEW RING
4	!HHCS06311350	HEX HEAD CAP SCREW; 5/8-11 x 3-1/2, GR. 5, ZINC	13	HSNG TO SLEW RING (TORGUE 160 LBS.)
5	!HHCS02520075S	HEX HEAD CAP SCREW; 1/4-20 X 3/4, S/S	5	ROTATION GEAR GUARD TO HOUSING
6	!LWSH-025S	LOCK WASHER; 1/4", S/S	5	ROTATION GEAR GUARD TO HOUSING
7	!FWSH-025S	FLAT WASHER; 1/4", S/S	5	ROTATION GEAR GUARD TO HOUSING
8	!UNUT-02520-LKG	U-NUT; 1/4-20, LOCKING	5	LOWER GUARD MOUNTING RING (HSNG)
9	!SHPMS#0832050S	SLOT-HEAD PAN MACHINE SCREW; #8-32 X 1/2, S/S	4	SOCKET CASE W/ HOOD TO HOUSING
10	!LWSH-#08S	LOCK WASHER; #08, S/S	4	SOCKET CASE W/ HOOD TO HOUSING
11	!HHCS02520063S	HEX HEAD CAP SCREW; 1/4-20 X 5/8, S/S	2	ELECTRIC PANEL COVER TO HOUSING
12	!LWSH-025S	LOCK WASHER; 1/4, S/S	2	ELECTRIC PANEL COVER TO HOUSING
13	!HHCS02520063	HEX HEAD CAP SCREW; 1/4-20 X 5/8, S/S	3	ELECTRICAL COMPONENT PANEL TO HSNG
14	!LWSH-025-STAR	LOCK WASHER; 1/4, EXTERNAL STAR	3	ELECTRICAL COMPONENT PANEL TO HSNG
15	!HHCS02520050S	HEX HEAD CAP SCREW; 1/4-20 X 1/2, S/S	2	RIGHT SIDE COVER PLATE TO HOUSING
16	!LWSH-025-S	LOCK WASHER; 1/4, S/S	2	RIGHT SIDE COVER PLATE TO HOUSING
17	!HHCS02520063S	HEX HEAD CAP SCREW; 1/4-20 X 5/8, S/S	2	REAR COVER & ADAPTER PLATE TO HOUSING
18	!LWSH-025-S	LOCK WASHER; 1/4, S/S	2	REAR COVER & ADAPER PLATE TO HOUSING
19	!HHCS02520063S	HEX HEAD CAP SCREW; 1/4-20 X 5/8, S/S	4	VALVE BLOCK TO ADAPTER PLATE & HSNG
20	!LWSH-025-S	LOCK WASHER; 1/4, S/S	4	VALVE BLOCK TO ADAPTER PLATE & HSNG
21°	25922	SHCS; M12-175 X 35MM, GR. 12.9	4	WARN WINCH TO HOUSING
21*	25920	SHCS; M10-150 X 50MM, GR. 12.9	6	COMEUP WINCH TO HOUSING
22°	!LWSH-M12-8.8	LOCK WASHER; M12, GRADE 8.8	4	WARN WINCH TO HOUSING
22*	!LWSH-M10-18.1MM-OD	LOCK WASHER; M10, 18.1MM OD	6	COMEUP WINCH TO HOUSING
23	!HHCS02520063S	HEX HEAD CA SCREW; 1/4-20 X 5/8, S/S	2	LEFT SIDE COVER PLATE TO HOUSING
24	!LWSH-025-S	LOCK WASHER; 1/4, S/S	2	LEFT SIDE COVER PLATE TO HOUSING
25	!LNUT-03816	LOCK NUT; 3/8-16, NYLON INSERT	4	HYDRAULIC POWER UNIT TO HOUSING
26	!FWSH-038SAE	FLAT WASHER; 3/8 SAE, ZINC PLATED	4	HYDRAULIC POWER UNIT TO HOUSING
27	!SRNG-125	SNAP RING; 1-1/4, PLATED	1	MAIN BOOM PIVOT PIN
28	!SRNG-113	SNAP RING; 1-1/8, PLATED	2	ELEVATION CYLINDER PIVOT PINS
29	!PHPMS#1024050S	PHILLIPS HEAD PAN MACH. SCREW; 10-24 X 1/2, S/S	2	TOP POS. BRCKT TO BOOM SHUT-OFF BRCKT
30	!LWSH-#10S	LOCK WASHER; #10, S/S	2	TOP POS. BRCKT TO BOOM SHUT-OFF BRCKT
31		HEX NUT; #10-24, S/S	2	TOP POS. BRCKT TO BOOM SHUT-OFF BRCKT
	!HNUT-#1024S			
32	!HNU1-#1024S !LWSH-025-S	LOCK WASHER; 1/4, S/S	1	BOOM SHUT-OFF SWITCH BRACKET TO HSNG
32 33		LOCK WASHER; 1/4, S/S HEX HEAD CAP SCREW; 1/4-20 X 3/4, S/S	1	BOOM SHUT-OFF SWITCH BRACKET TO HSNG BOOM SHUT-OFF SWITCH BRACKET TO HSNG
	!LWSH-025-S			

° = WARN DC2500 WINCH MOUNTING

\* = COMEUP GTD-2800 WINCH MOUNTING

### **REFERENCE DWG #28066 FOR REPLACEMENT FASTENER DRAWING**



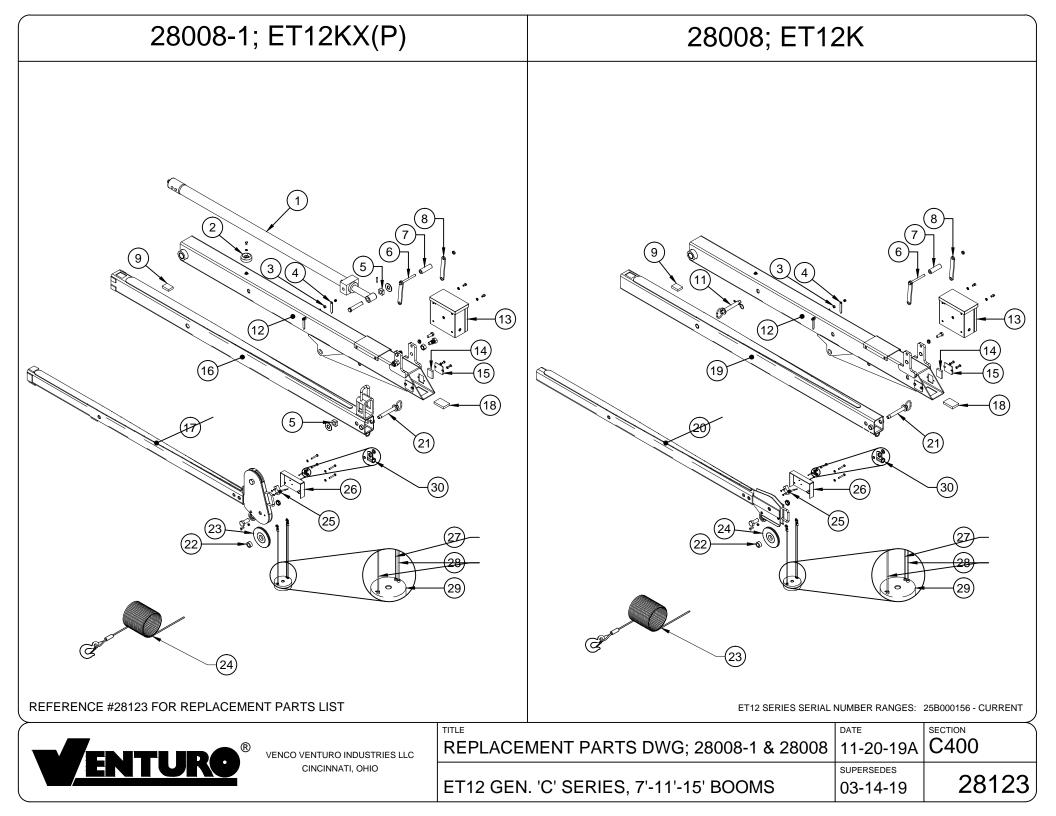
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TITLE **RPLCMNT FASTENER LIST** 

ET8 (14' & ET12 (15') SERIES

DATE SECTION C400 09-27-22B SUPERSEDES 03-08-19A

28067





REPLACEMENT PARTS LIST; 28008, ET12K										
ITEM #	QTY	PART #	DESCRIPTION							
1	-	-	-							
2	-	-	-							
3	2	22490	SPACER; BOOM ARROW							
4	2	13459-1	ARROW; 3.19" LONG							
5	-	-	-							
6	1	27089	WELDED ASSY; WIRE ROPE GUIDE							
7	1	27088	ROLLER; UHMW, WIRE ROPE GUIDE							
8	1	21936	FLAT MOUNT; WIRE ROPE GUIDE							
9	1	21538	BEARING; UHMW, BOOM, 2 X 1.5 X 0.5							
10	-	-	-							
11	1	23042-B-34-34	ASSY; PIN / LANYARD							
12	1	28010	WELDED ASSY; PRIMARY BOOM							
13	1	22683	ASSY; CORD REEL, LEFT							
14	2	21209	BEARING; UHMW, BOOM, 2 X 1.5 X 0.44							
15	2	21528	BEARING CAP							
16	-	-	-							
17	-	-	-							
18	1	21208	BEARING; UHMW, BOOM, 3 X 2 X 0.5							
19	1	21550	WELDED ASSY; SECONDARY BOOM							
20	1	21551	WELDE ASSY; TERTIARY BOOM							
21	1	23042-B-14-14	ASSY; PIN / LANYARD							
22	1	20536	SPACER; SHEAVE							
23	1	21639	WIRE ROPE; 1/4 X 65 FT W/ EYEHOOK							
24	1	20537	SHEAVE W/ BUSHING							
25	1	19376	SWITCH; ANTI-2-BLOCK							
26	1	21291	HOUSING; ANTI-2-BLOCK							
27	1	20929	CABLE HANGER; ANTI-TWO BLOCK							
28	2	20951-1	CABLE HANGER; 16 <sup>1</sup> / <sub>2</sub> " LG							
29	1	20950	WEIGHT; ANTI-TWO BLOCK							
30	1	19269	CLAMP; 1/4"							
	Ŧ	ET12 SERIES S	ERIAL NUMBER RANGES: 25B000156 - CURRENT							



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

### REPLACEMENT PARTS LIST - 28008-1 & 28008 11-20-19A C400

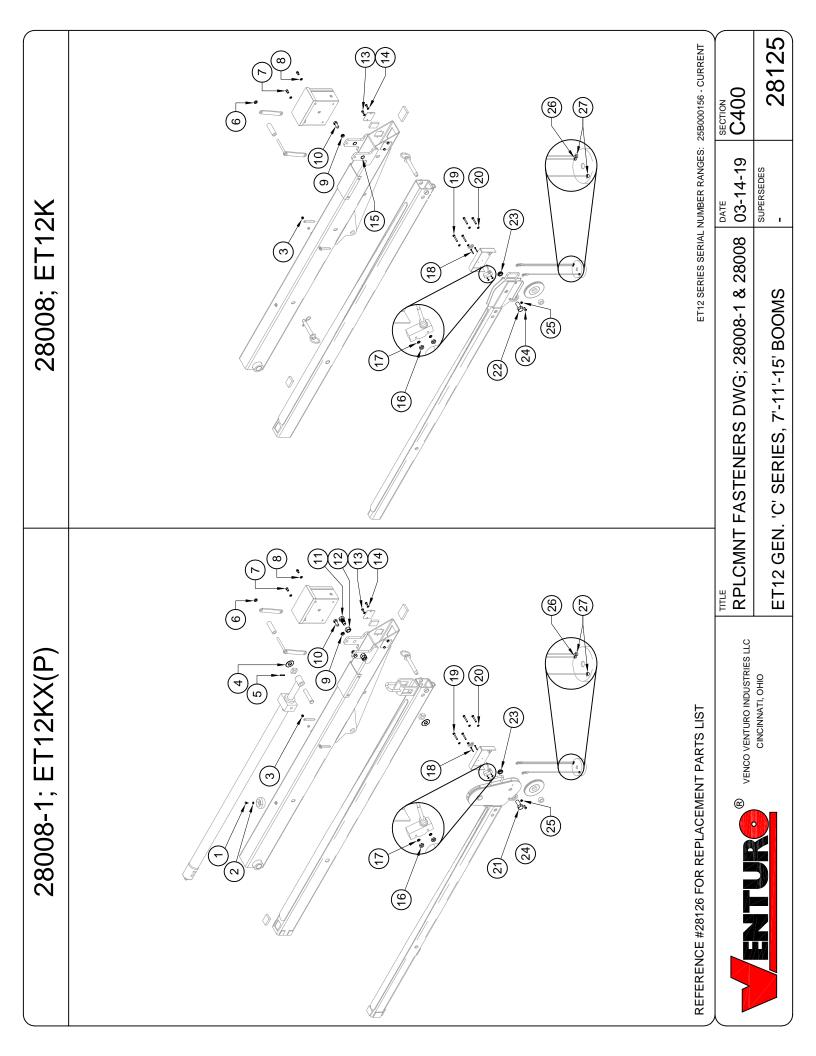
ET12 GEN. 'C' SERIES, 7' - 11' - 15' BOOMS

DATE SECTION

28124

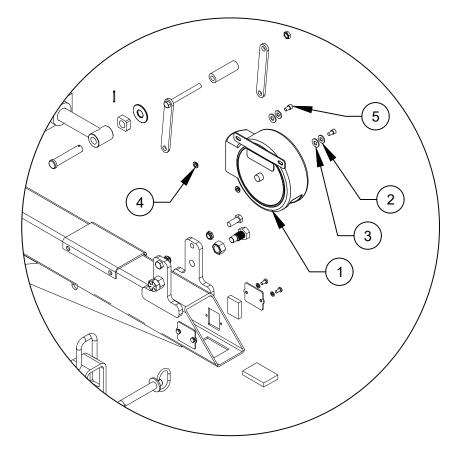
SUPERSEDES

03-14-19



1																							(0						 L	$\gamma$	9
	7							6-18 X 1/2", S/S			X 1-1/4", ZINC			X 1/2", S/S					V; #06-32 X 1-1/4"	X 1-3/4", S/S			SHEAVE AXLE; HHCS07510200,1" SPCL SHLDR, S/S		X 3/4", S/S				25B000156 - CURRENT	SECTION C400	28126
r; 28008, ET12K	DESCRIPTION			1/4-20, S/S			-14, NYLON	SOCKET HEAD CAP SCREW; 5/16-18 X 1/2", S/S	R; 5/16", S/S	13, NYLON	HEX HEAD CAP SCREW; 1/2-13 X 1-1/4", ZINC			HEX HEAD CAP SCREW; 1/4-20 X 1/2", S/S	R; 1/4", S/S	HOLE	-32, S/S	R; #06, S/S	PHILIPS HEAD MACHINE SCREW; #06-32 X 1-1/4"	HEX HEAD CAP SCREW; 1/4-20 X 1-3/4", S/S	R; 1/4", S/S		; HHCS07510200,1	10, NYLON	HEX HEAD CAP SCREW; 1/4-20 X 3/4", S/	, S/S	3/32" DIA.	5/32" DIA.	ET12 SERIES SERIAL NUMBER RANGES: 1	DATE 03-14-19	SUPERSEDES -
ASTENERS LIST			1	ACORN NUT; 1/4-20, S/S			JAM NUT; 7/16-14, NYLON	SOCKET HEAL	LOCK WASHER; 5/16", S/S	JAM NUT; 1/2-13, NYLON	HEX HEAD CA			HEX HEAD CA	LOCK WASHER; 1/4", S/S	PLUG; 11/16" HOLE	HEX NUT; #06-32, S/S	LOCK WASHER; #06, S/S	PHILIPS HEAD	HEX HEAD CA	LOCK WASHER; 1/4", S/S		SHEAVE AXLE	JAM NUT; 3/4-10, NYLON	HEX HEAD CA	HEX NUT; 1/4", S/S	SET COLLAR; 3/32" DIA.	SET COLLAR; 5/32" DIA.	: SERIES SERIAL N	-1 & 28008	SMOC
REPLACEMENT FASTENERS LIST; 28008, ET12K	PART #		I	IANUT-02520S			!JNUT-04414N	ISHCS03118050-SS	iLWSH-031S	IJNUT-05013N	IHHCS05013125			iHHCS02520050S	iLWSH-025S	28019	S2E30#-TUNH!	iLWSH-#06S	iPHMS#0632125	iHHCS02520175S	iLWSH-025S		17059-6	INUT-07510N	iHHCS02520075S	iHNUT-025S	19302	20952	E112	; LIST - 28008-1	7' - 11' - 15' BOOMS
	αту			2			-	7	2	5	2			4	4	4	2	2	7	4	4		1	2	-	-	2	2		VERS	RES.
	ITEM #	-	2	3	4	5	9	7	ω	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		ASTEI	SEF
		0						S																						L L N	Z IJ
		, S/S						X 1/2", S/			4", ZINC			, S/S					:-32 X 1-1/4"	4", S/S		. SHLDR, S/S			, S/S					RPLCMNT FASTENERS LIST	ET12 G
TENERS LIST; 28008-1, ET12KX(P)	DESCRIPTION	HEX HEAD CAP SCREW; 1/4-20 X 5/8", S/	FLAT WASHER; 1/4", S/S	ACORN NUT; 1/4-20, S/S	FLAT WASHER; 3/4", S/S	ROLL PIN; 5/32 X 1-1/2"	JAM NUT; 7/16-14, NYLON	SOCKET HEAD CAP SCREW; 5/16-18 X 1/2", S/S	LOCK WASHER; 5/16", S/S	JAM NUT; 1/2-13, NYLON	HEX HEAD CAP SCREW; 1/2-13 X 1-1/4", ZINC	ECCENTRIC PIVOT BOLT; 3/4-16	HEX NUT; 3/4-16, S/S	HEX HEAD CAP SCREW; 1/4-20 X 1/2", S/S	LOCK WASHER; 1/4", S/S	1	HEX NUT; #06-32, S/S	LOCK WASHER; #06, S/S	PHILIPS HEAD MACHINE SCREW; #06-32 X 1-1/4"	HEX HEAD CAP SCREW; 1/4-20 X 1-3/4", S/S	LOCK WASHER; 1/4", S/S	SHEAVE AXLE; HHCS07510169, SPCL SHLDR, S/S		JAM NUT; 3/4-10, NYLON	HEX HEAD CAP SCREW; 1/4-20 X 3/4", S/S	HEX NUT; 1/4", S/S	SET COLLAR; 3/32" DIA.	SET COLLAR; 5/32" DIA.	CEMENT FASTENERS DRAWING		CINCINNATI, OHIO
REPLACEMENT FASTENERS LIST; 28008-1, ET12KX(P)	PART # DESCRIPTION		IFWSH-025S FLAT WASHER; 1/4", S/S	IANUT-02520S ACORN NUT; 1/4-20, S/S	IFWSH-075S FLAT WASHER; 3/4", S/S	IRPIN-016150 ROLL PIN; 5/32 X 1-1/2"	IJNUT-04414N JAM NUT; 7/16-14, NYLON	ISHCS03118050-SS SOCKET HEAD CAP SCREW; 5/16-18 X 1/2", S/	ILWSH-031S LOCK WASHER; 5/16", S/S	IJNUT-05013N JAM NUT; 1/2-13, NYLON	IHHCS05013125 HEX HEAD CAP SCREW; 1/2-13 X 1-1/4", ZINC	17487 ECCENTRIC PIVOT BOLT; 3/4-16	IHNUT-07516S HEX NUT; 3/4-16, S/S		ILWSH-025S LOCK WASHER; 1/4", S/S		IHNUT-#0632S HEX NUT; #06-32, S/S	ILWSH:#06S LOCK WASHER; #06, S/S	iPHMS#0632125 PHILIPS HEAD MACHINE SCREW; #06-32 X 1-1/4"	IHHCS02520175S HEX HEAD CAP SCREW; 1/4-20 X 1-3/4", S/S	ILWSH-025S LOCK WASHER; 1/4", S/S	SHLDR,		IJNUT-07510N JAM NUT; 3/4-10, NYLON	-	IHNUT-025S HEX NUT; 1/4", S/S	19302 SET COLLAR; 3/32" DIA.	20952 SET COLLAR; 5/32" DIA.	28125 FOR REPLACEMENT FASTENERS DRAWING		CINCINNATI, OHIO
REPLACEMENT FASTENERS LIST; 28008-1, ET12KX(P)		HEX HEAD CAP SCREW; 1/4-20 X 5/8",									HEX HEAD CAP SCREW; 1/2-13 X 1-1/			HEX HEAD CAP SCREW; 1/4-20 X 1/2",	LOCK WASHER; 1/4",				PHILIPS HEAD MACHINE SCREW; #06	HEX HEAD CAP SCREW; 1/4-20 X 1-3/4		SHEAVE AXLE; HHCS07510169, SPCL SHLDR,			HEX HEAD CAP SCREW; 1/4-20 X 3/4",			SET COLLAR;	REFERENCE #28125 FOR REPLACEMENT FASTENERS DRAWING		

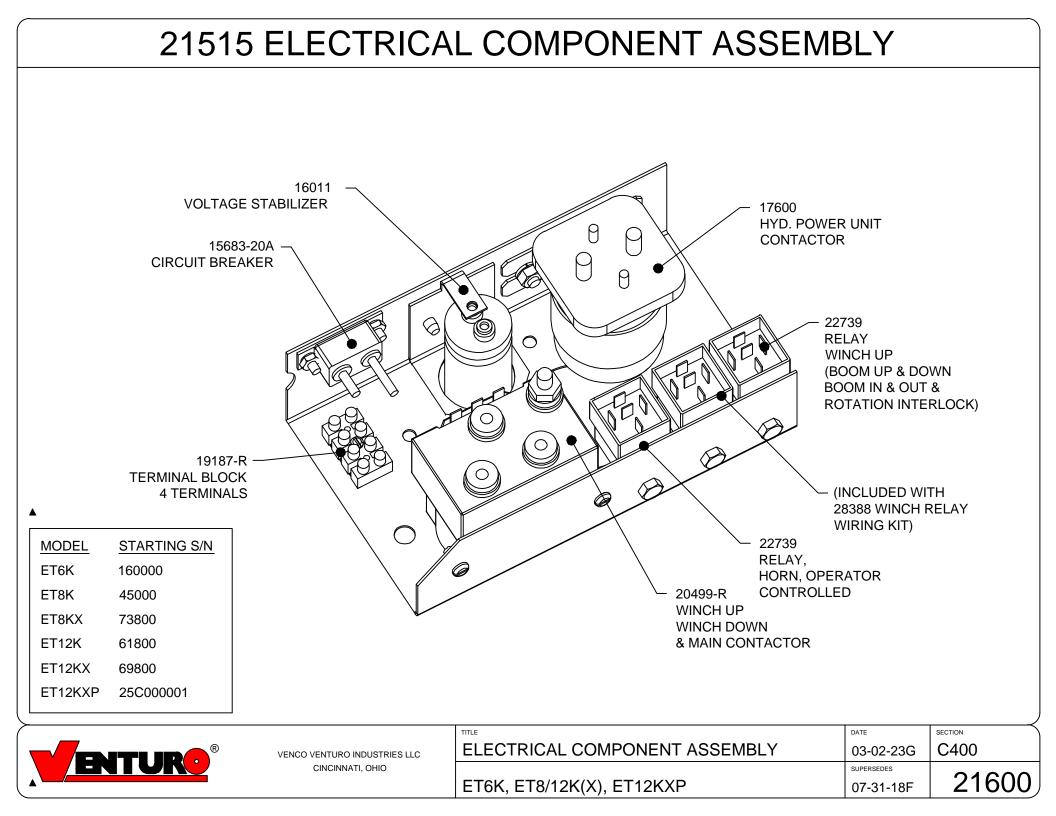
## BOOM ROUND CORD REEL 28190-2

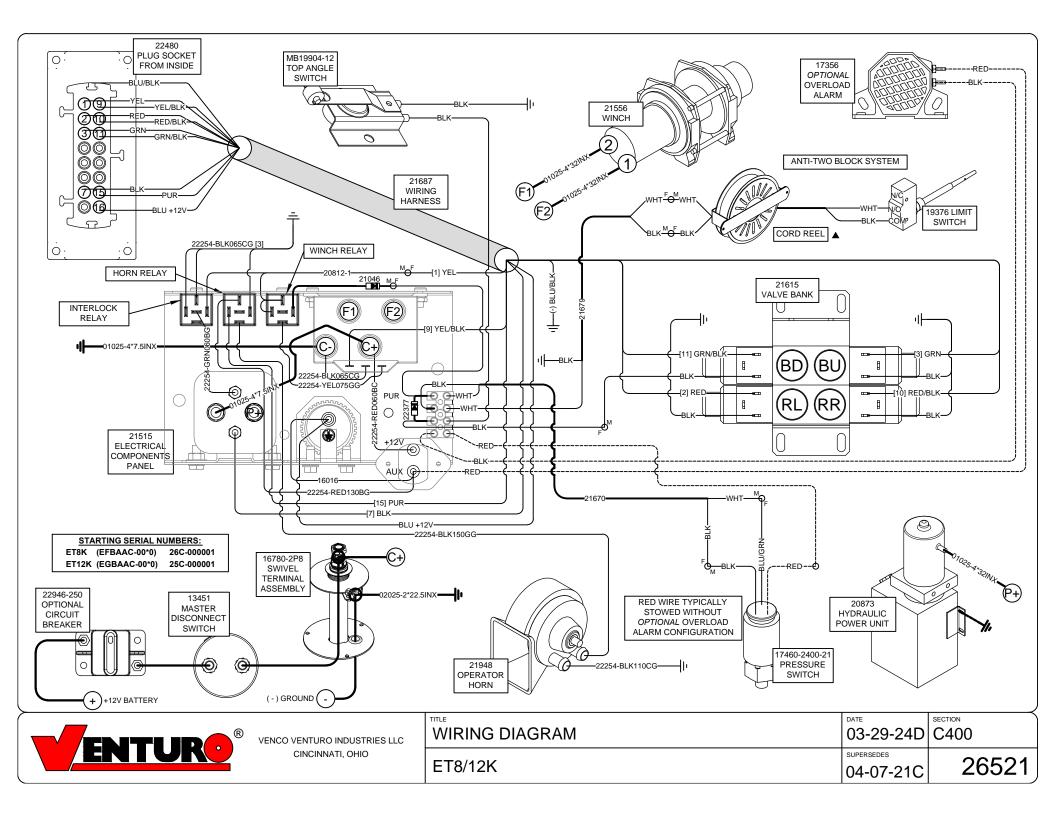


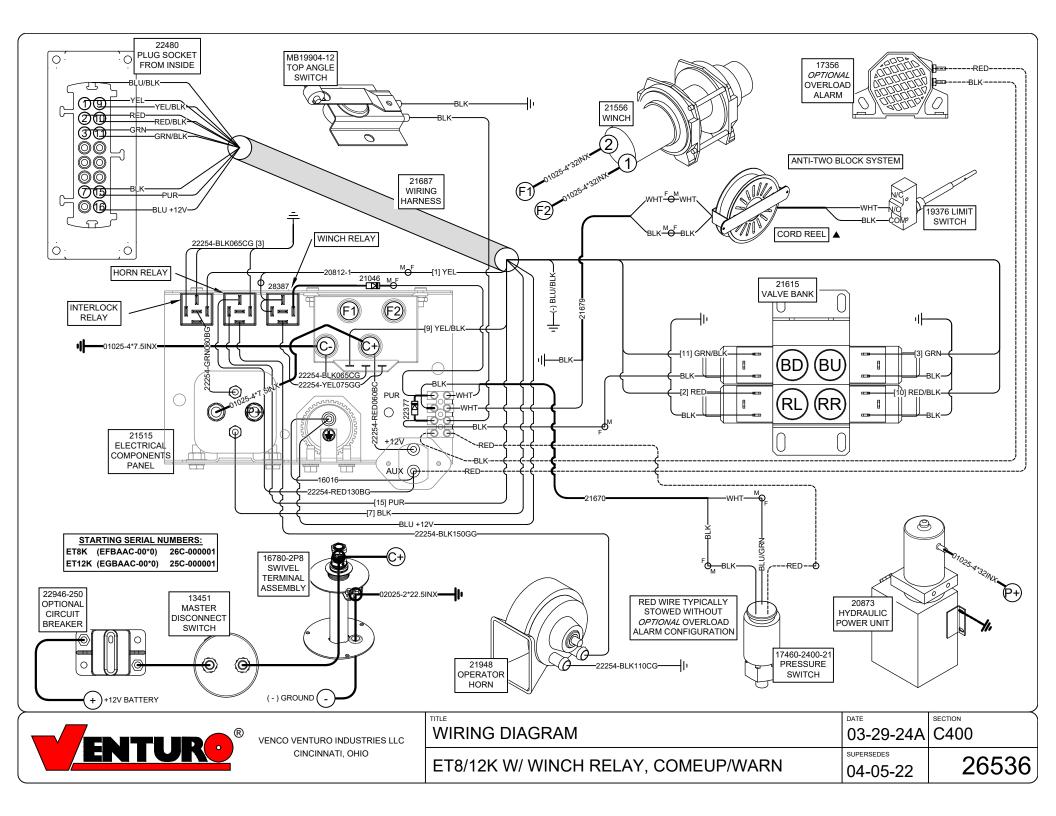
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION				
1	1	28190-2	CORD REEL				
2	2	!FWSH-031	WASHER FLAT; 5/16"X.75 O.D., 304 S/S				
3	2	01016	FIBER WASHER				
4	2	28198	INSULATING SLEEVE WASHER; 5/16"				
5	2	ISHCS03118063S	SHCS; 5/16"-18X5/8"LG.S/S				

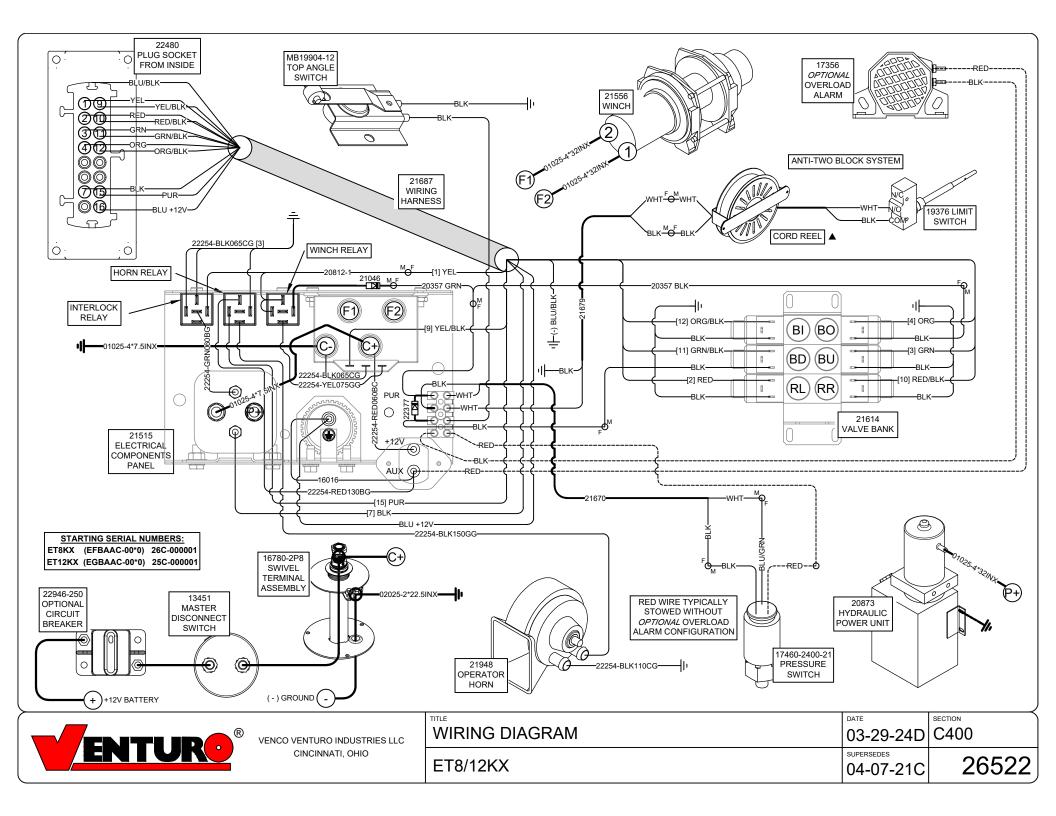
	VENCO VENTURO INDUSTRIES LLC	BOOM ROUND CORD REEL 28190-2	<sup>DATE</sup> 02-13-24	C400
UN	CINCINNATI, OHIO	ET12KX -15', ET8KX(P)-14'	SUPERSEDES	24102

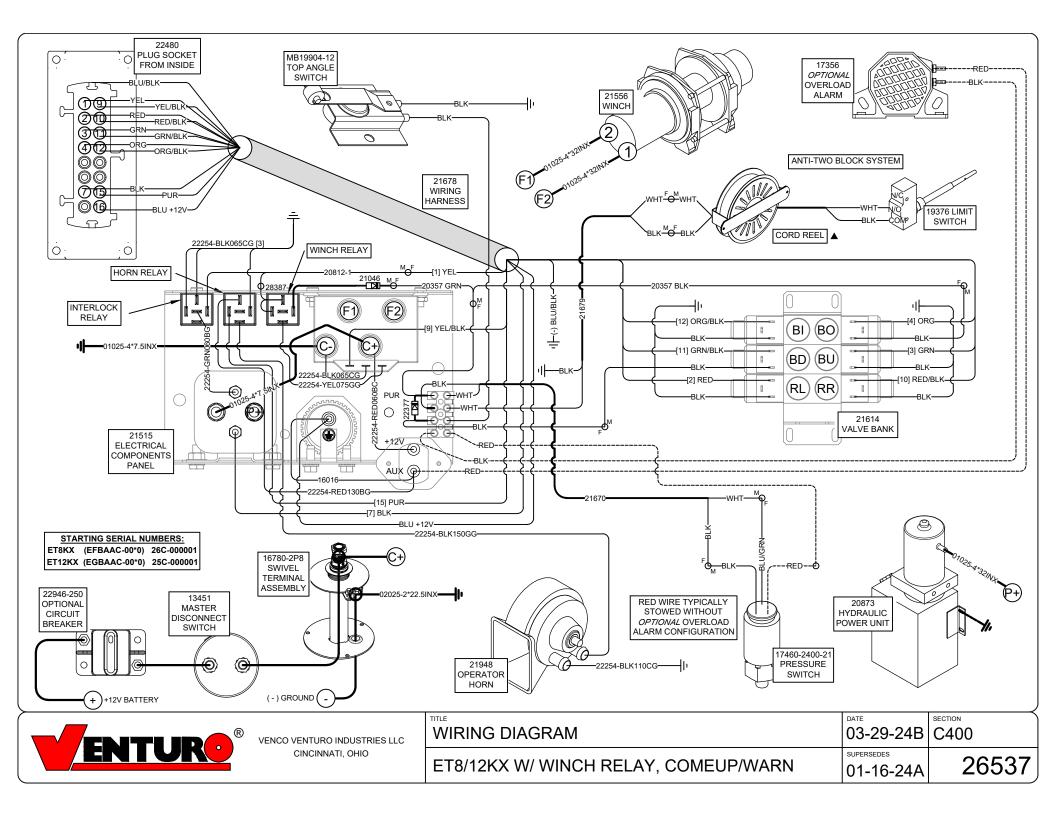


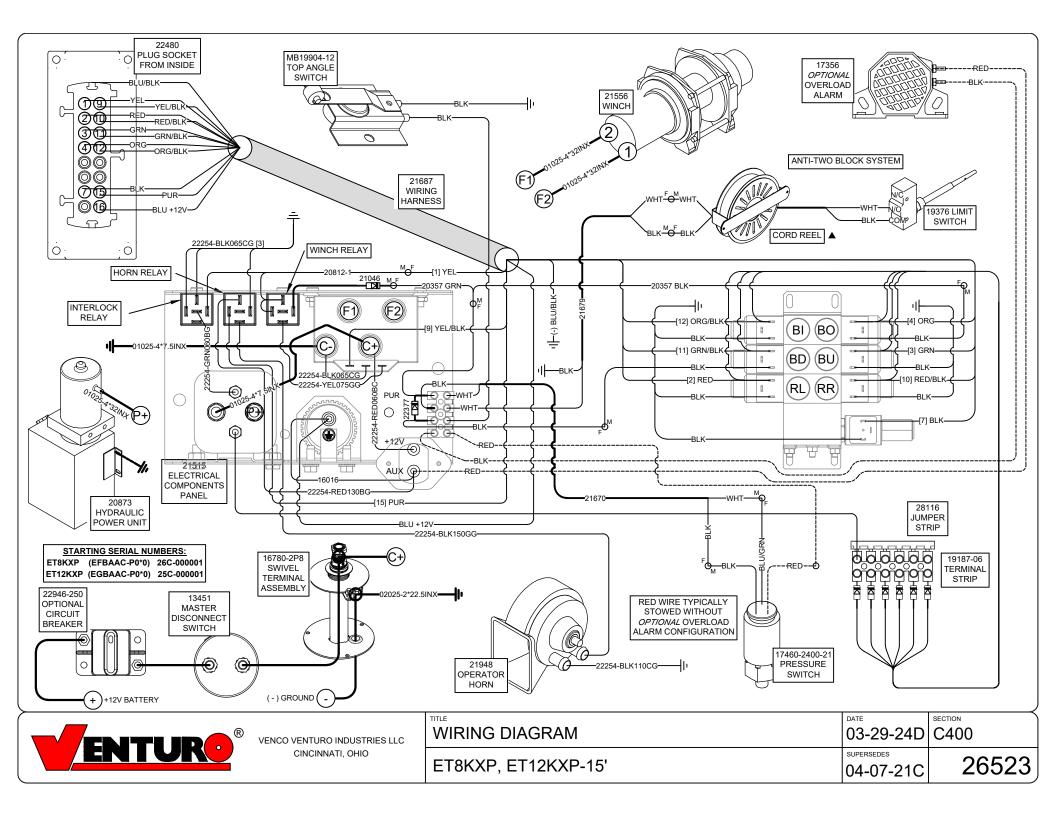


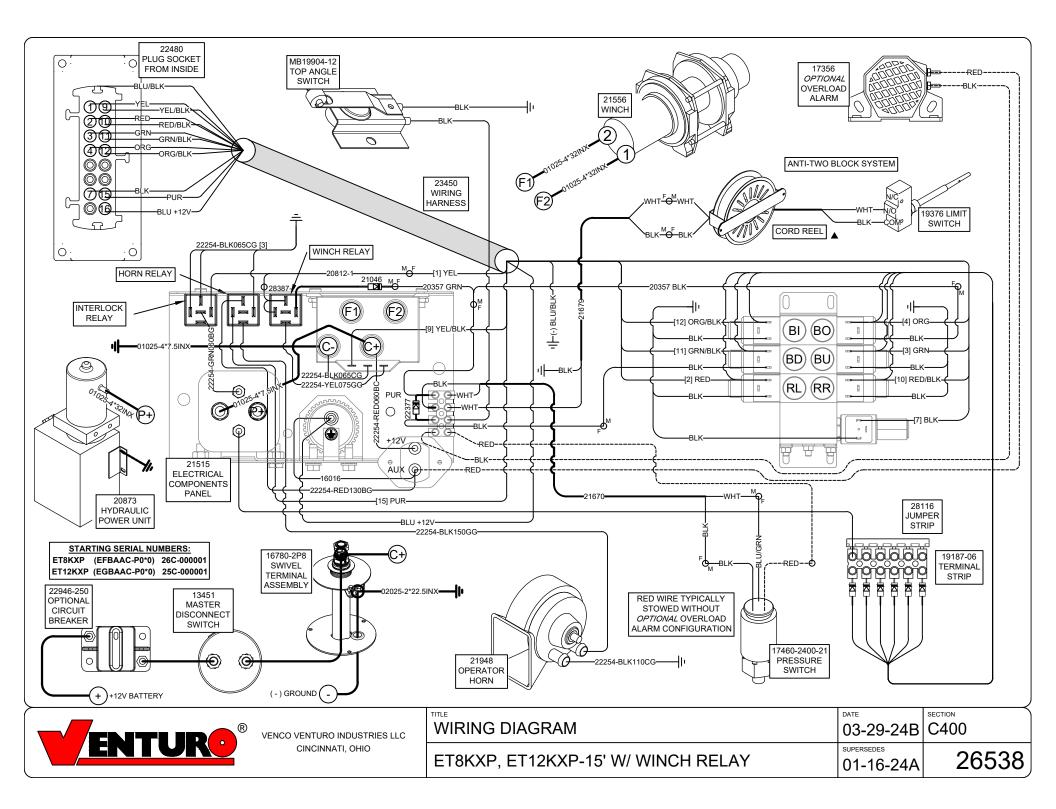




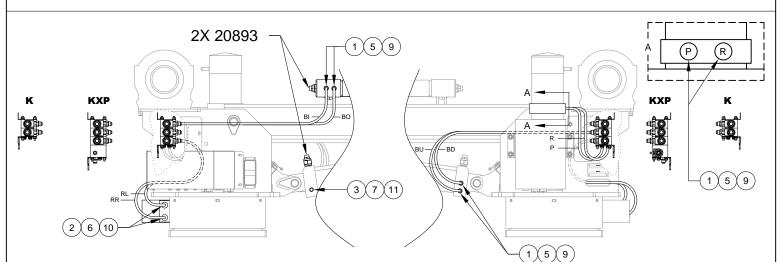








### REPLACEMENT PARTS; HYDRAULIC COMPONENTS, ET8 (6-10-14) & ET12 (7-11-15) GEN 'C' SERIES



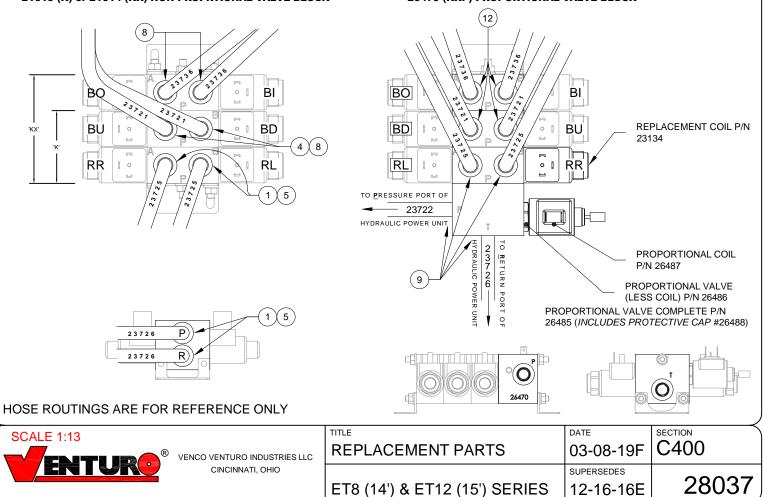
	23737 - ET8K GENERATION 'C', NON-PROPORTIONAL, 6' - 10' - 14'									
ITEM	PART #	# QTY DESCRIPTION								
1	FF6400-0606	8	FITTING; ADAPTER, STRAIGHT, 60FS-6MO							
2	FF6400-0610	2	FITTING; ADAPTER, STRAIGHT, 60FS-10MO							
3	H6805-0404	1	FITTING; ADAPTER, 90° ELBOW, 4MO-4FP							
4	FF6802-0606	2	FITTING; ADAPTER, 45° SWIVEL, 6MOFS-6MORB							
23734	1 - ET8KX (6'-10'-1	4') & ET	12KX (7'-11'-15') GEN. 'C', NON-PROPORTIONAL							
ITEM	PART #	QTY	DESCRIPTION							
5	FF6400-0606	10	FITTING; ADAPTER, STRAIGHT, 60FS-6MO							
6	FF6400-0610	2	FITTING; ADAPTER, STRAIGHT, 60FS-10MO							
7	H6805-0404	1	FITTING; ADAPTER, 90° ELBOW, 4MO-4FP							
8	FF6802-0606	4	FITTING; ADAPTER, 45° SWIVEL, 6MOFS-6MORB							

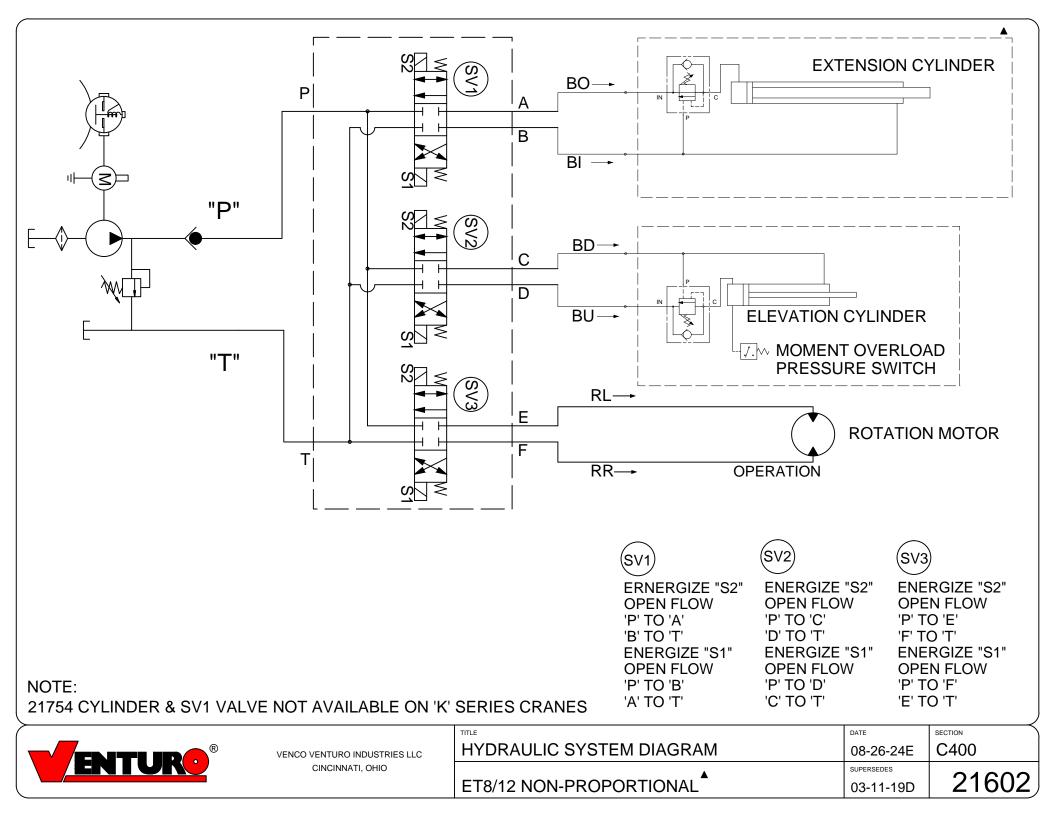
#### 21615 (K) or 21614 (KX) NON-PROPRTIONAL VALVE BLOCK

	23735 - ET8KXP	9 (6'-10'-14') & ET12KXP	(7'-11'-15'), GEN.	'C', PROPORTIONAL
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ITEM	PART #	QTY	DESCRIPTION
9	FF6400-0606	10	FITTING; ADAPTER, STRAIGHT, 6OFS-6MO
10	FF6400-0610	2	FITTING; ADAPTER, STRAIGHT, 6OFS-10MO
11	H6805-0404	1	FITTING; ADAPTER, 90° ELBOW, 4MO-4FP
12	FF6802-0606	4	FITTING; ADAPTER, 45° SWIVEL, 6MOFS-6MORB

#### 26479 (KXP) PROPORTIONAL VALVE BLOCK





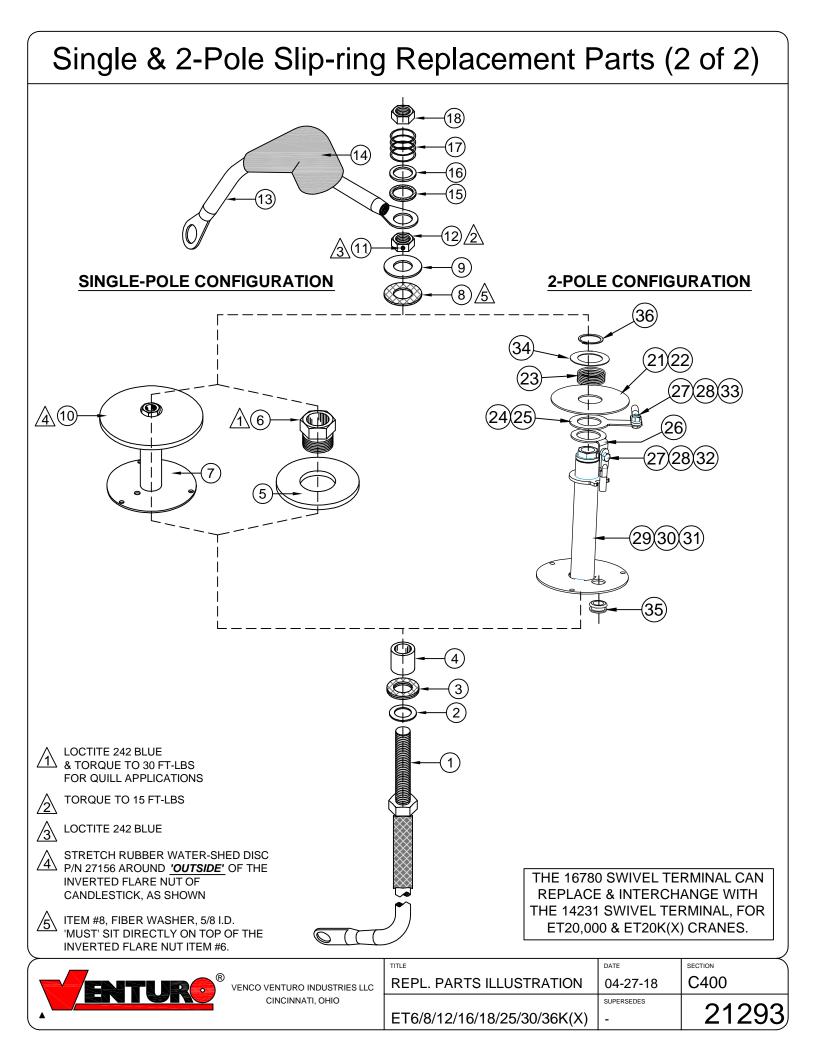
QN ≥         SV1       SV2       SV3         ERNERGIZE "S2"       ENERGIZE "S2"       ENERGIZE "S2"         OPEN FLOW       'P' TO 'A'       'P' TO 'C'       'P' TO 'E'         'B' TO 'T'       'D' TO 'T'       'P' TO 'T'       'P' TO 'T'         'B' TO 'T'       'D' TO 'T'       'F' TO 'T'       ENERGIZE "S1"         OPEN FLOW       'P' TO 'T'       'F' TO 'T'       ENERGIZE "S1"         OPEN FLOW       'P' TO 'T'       'F' TO 'T'       ENERGIZE "S1"         OPEN FLOW       'P' TO 'T'       'P' TO 'F'       'P' TO 'F'         'A' TO 'T'       'C' TO 'T'       'E' TO 'T'       'E' TO 'T'         'A' TO 'T'       'C' TO 'T'       'E' TO 'T'       'E' TO 'T'	26485 PROPORTIONAL VALVE PV08-30 "T"	$BO \rightarrow BO \rightarrow$	
	<b>ENTURIO</b> ENCLOSES VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	ERNERGIZE "S2" ENERGIZE "S OPEN FLOW 'P' TO 'A' 'P' TO 'C' 'B' TO 'T' 'D' TO 'T' ENERGIZE "S1" ENERGIZE "S OPEN FLOW 'P' TO 'B' 'P' TO 'D' 'A' TO 'T' 'C' TO 'T'	S2" ENERGIZE "S2" OPEN FLOW 'P' TO 'E' 'F' TO 'T' S1" ENERGIZE "S1" OPEN FLOW 'P' TO 'F' 'E' TO 'T'

# Single & 2-Pole Slip-ring Replacement Parts (1 of 2)

Quill Rotation	Slew Rotation Single Pole Slip-Ring	Slew Rotation 2-Pole Slip- Ring (ET6K ONLY)	Slew Rotation 2-Pole Slip- Ring (ET8-18KX)	Slew Rotation 2-Pole Slip- Ring (ET25-36KX)	ALL CRANES		16780 B	ILLS OF MATERIALS			
16780	16780 - 1	16780 - 2P6	16780 - 2P8	16780 - 2P25	16780 - KIT						
		Q	TY			#	PART	DESCRIPTION			
1	1	1	1	1		1	<mark>1</mark> 6783	PIGTAIL AND STUD ASSEMBLY			
1	1	1	1	1	1	2	12534-5	ZINC BUSHING; 5/8" I.D. X 1" O.D. X 14 GAUGE			
2	2	2	2	2	2	3	14357-1	FIBER WASHER; 5/8" I.D. X 1 1/16" O.D. X 1/16"			
1	1	1	1	1	1	4	14233	INSULATING BUSHING; 5/8" I.D. X 7/8" O.D. X 7/8"			
1	-				2	5	14318	FLAT WASHER; 1 3/16" I.D. X 2 3/4" O.D. X 3/16"			
1		-	-	0-0		6	14232	INVERTED FLARE NUT; 1 3/16"-16			
-	-	-	-	-	-	7	27568	WELDED ASSY. CANDLESTICK			
1	1	1	1	1	1	8	14357-2	FIBER WASHER; 5/8" I.D. X 1 1/4" O.D. X 1/16"			
1	1	1	1	1	1	9	!FWSH-063SAE FLAT WASHER; 5/8" SAE				
-	1	-	-	-	-	10	27156 RUBBER WATER SHIELD; 1/8" THICK				
1	1	1	1	1	1	11	SHCS02528025KC SET SCREW W/ KNURLED CUP; 1/4"-28 X 1/4				
1	1	1	1	1	1	12	21273 BRASS JAM NUT; 5/8"-11				
-	-	-	-	-	-	13	26035-2 PIGTAIL; SWIVEL TERMINAL				
	-	-	-		-	14	17012	RUBBER BOOT; SWIVEL TERMINAL			
1	1	1	1	1	1	15	5612-162-62	TEFLON WASHER			
1	1	1	1	1	1	16	5714-113-62	BRASS WASHER			
1	1	1	1	1	1	17	LC-098K-00	SPRING; 0.845" O.D. X 0.098" WIRE X 1.00 F.L.			
1	1	1	1	1	1	18	!JNUT-06311N	JAM NUT; 5/8"-11, NYLON NUT			
1	1	1	1	1	1	19	LOCTITE-24205	REMOVABLE THREAD LOCKER: 0.5ML			
1	1	1	1	1	1	20	19368	IDWG; 16780 SWIVEL TERMINAL			
-	-	1	-	-	-	20	27456	UHMW WATER SHIELD, (ET6K ONLY)			
-	-	-	1	1	-	22	27456-1	UHMW WATER SHIELD, (ET8 - ET36)			
-		1	1	1		23	27461	SPRING, (-) SLIP-RING ASSY.			
-	-	-	1	1	-	24	27441-1	COPPER SLIP-RING, (ET8 - ET36)			
-	-	1	-	- 1		25 26	27441 27449-1	COPPER SLIP-RING, (ET6K ONLY) BRASS SLIP-RING (ET6 - ET36)			
-	-	1	1	1	-	26	27449-1 !HHCS03118075-B	BRASS SLIP-RING (E16 - E136) BRASS HHCS			
-	-	1	1	1	-	28	!HNUT-03118-B	BRASS NYLOC NUT			
-	÷.	1	-	-	-	29	23255	SLIP-RING, WELDED ASSY, ET6K			
-			1	-	=	30	23255-1	SLIP-RING, WELDED ASSY, ET8 - 18K(X)			
-	-	- 1	- 1	1	-	31 32	23255-2 02025-2*96.5INX	SLIP-RING, WELDED ASSY, ET25 - 36K(X) (-) WELDING CABLE ASSY, BRASS SLIP-RING			
-	-	1	1	1	-	33	02025-2*22.5INX	(-) WELDING CABLE ASSY, DRASS SEP-RING (-) WELDING CABLE ASSY, COPPER SLIP-RING			
5	Ξ.	1	1	1	Ξ	34	27463	SHIM, WIDE RIM, 18GA, 2-1/4 O.D. X 1-1/2 I.D.			
-	Ξ.	1	1	1	-	35	20889	RUBBER GROMMET			
-	-	1	1	1	-	36	ISRNG-150	SNAP-RING, EXTERNAL, 1-1/2"			

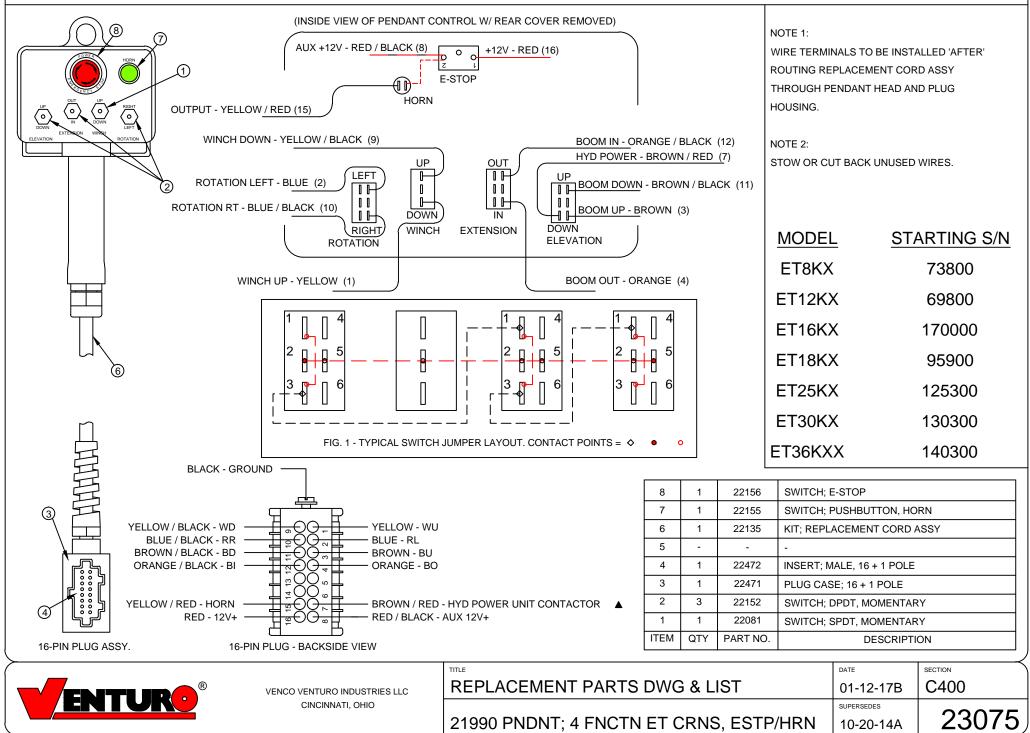
O VENTURO INDUSTRIES LLC CINCINNATI, OHIO
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TITLE	DATE	SECTION
16780 REPLACEMENT PARTS	03-29-19A	C400
	SUPERSEDES	04000
ET6/8/12/16/18/25/30/36K(X)	04-27-18	21292

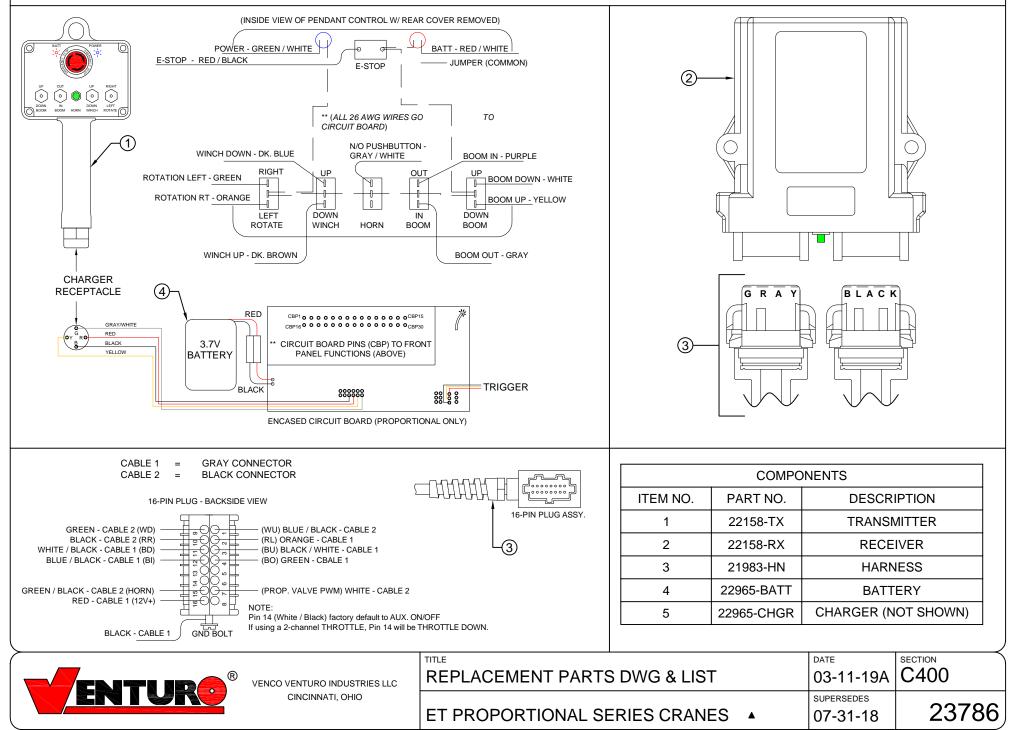


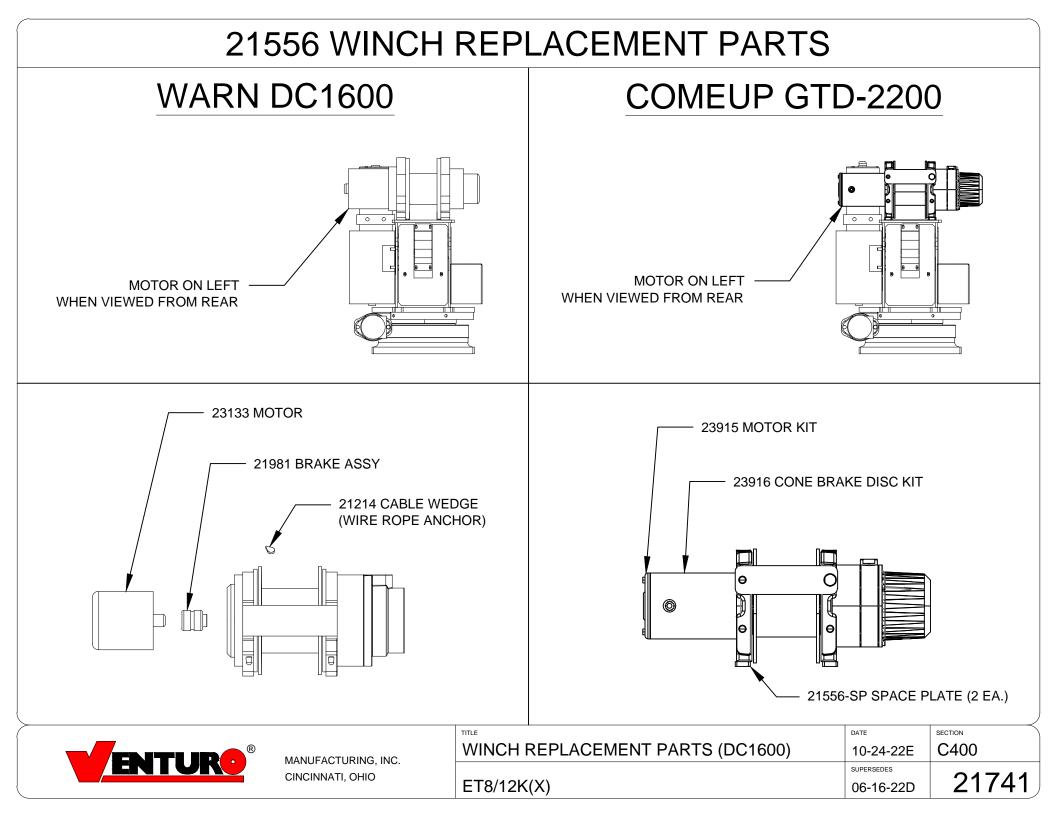
HORN	STALLED 'AFTER' ORD ASSY AND PLUG	ED WIRES.		STARTING S/N	160000	45000	61800	HORN	D ASSY		TARY	-ARY	TION	section C400	23076
STOP / I	NOTE 1: WIRE TERMINALS TO BE INSTALLED 'AFTER' ROUTING REPLACEMENT CORD ASSY THROUGH PENDANT HEAD AND PLUG HOUSING.	NOTE 2: STOW OR CUT BACK UNUSED WIRES.		MODEL S.	ET6K	ET8K	ET12K	SWITCH; E-STOP SWITCH; PUSHBUTTON, HORN	KIT; REPLACEMENT CORD ASSY	INSERT; MALE, 16 + 1 POLE PLIIG CASE: 16 + 1 POLE	SWITCH; DPDT, MOMENTARY	SWITCH; SPDT, MOMENTARY	DESCRIPTION	рате 10-03-14	HRN -
21991 PENDANT; 3 FUNCTION ET CRANES, E-STOP / HORN	(INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED) AUX +12V - RED/BLACK (8) - +12V - RED (16) (INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED) AUX +12V - RED/BLACK (8) - +12V - RED (16) (INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED) NOTE NO	Image: Ninch Down - Yellow/BLack (9)     HYD POWER - BROWN / RED (7)       Image: Notation Left - BLUE (2)     Image: Notation Left - BLUE (2)     Image: Notation Left - BLUE (2)       Image: Notation RT - BLUE / BLACK (10)     Image: Notation RT - BLUE / BLACK (10)     Image: Notation RT - BLUE / BROWN / BLACK (11)       Image: Notation RT - BLUE / BLACK (10)     Image: Notation RT - BLUE / BLACK (10)     Image: Notation RT - BLUE / BROWN / BLACK (11)       Image: Notation RT - BLUE / BLACK (10)     Image: Notation RT - BLUE / BROWN / BLACK (11)     Image: Notation RT - BLUE / BROWN / BLACK (11)	WINCH UP - YELLOW (1)				FIG. 1 - TYPICAL SWITCH JUMPER LAYOUT. CONTACT POINTS = 🔷 🔹 o		V T VELLOW / BLACK - WD P POO P VELLOW - WU		VELLOW / RED - HORN - HORN - BROWN / RED - TRIGGER	The set of the s	16-PIN PLUG ASSY. 16-PIN PLUG - BACKSIDE VIEW		CINCINNATI, OHIO 21991 PNDNT; 3 FNCTN ET CRNS, ESTP/HRN

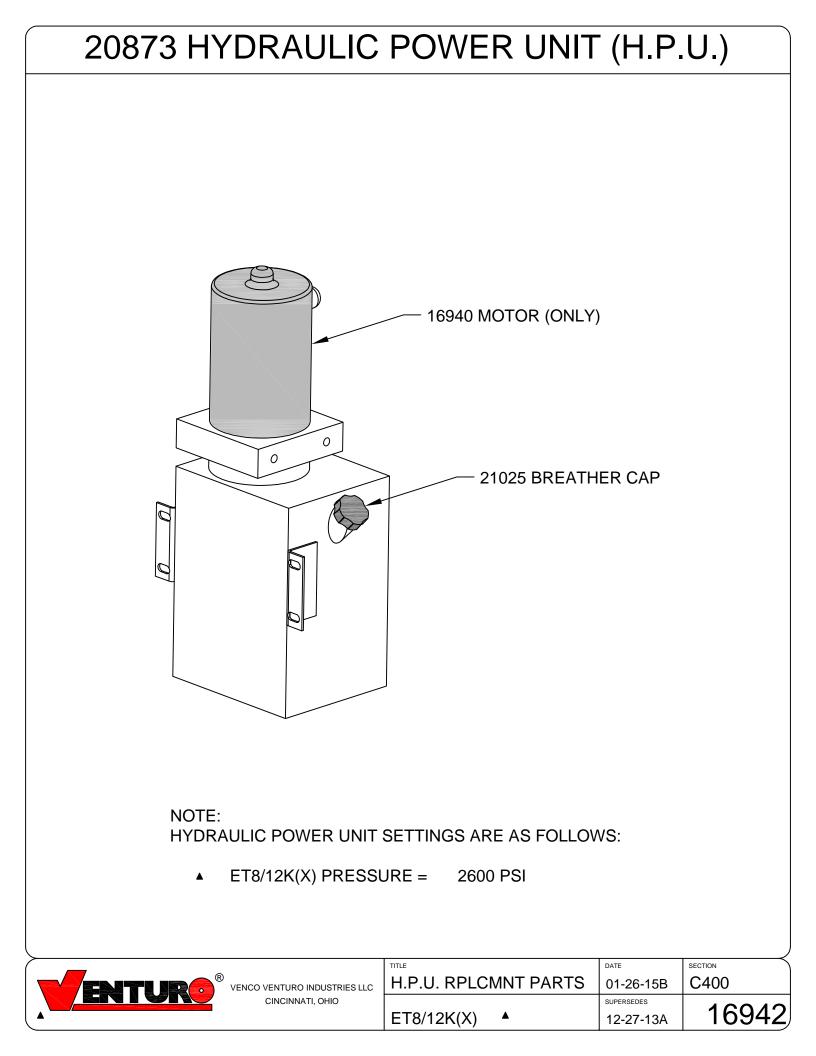
# 21990 PENDANT; 4 FUNCTION ET CRANES, E-STOP / HORN

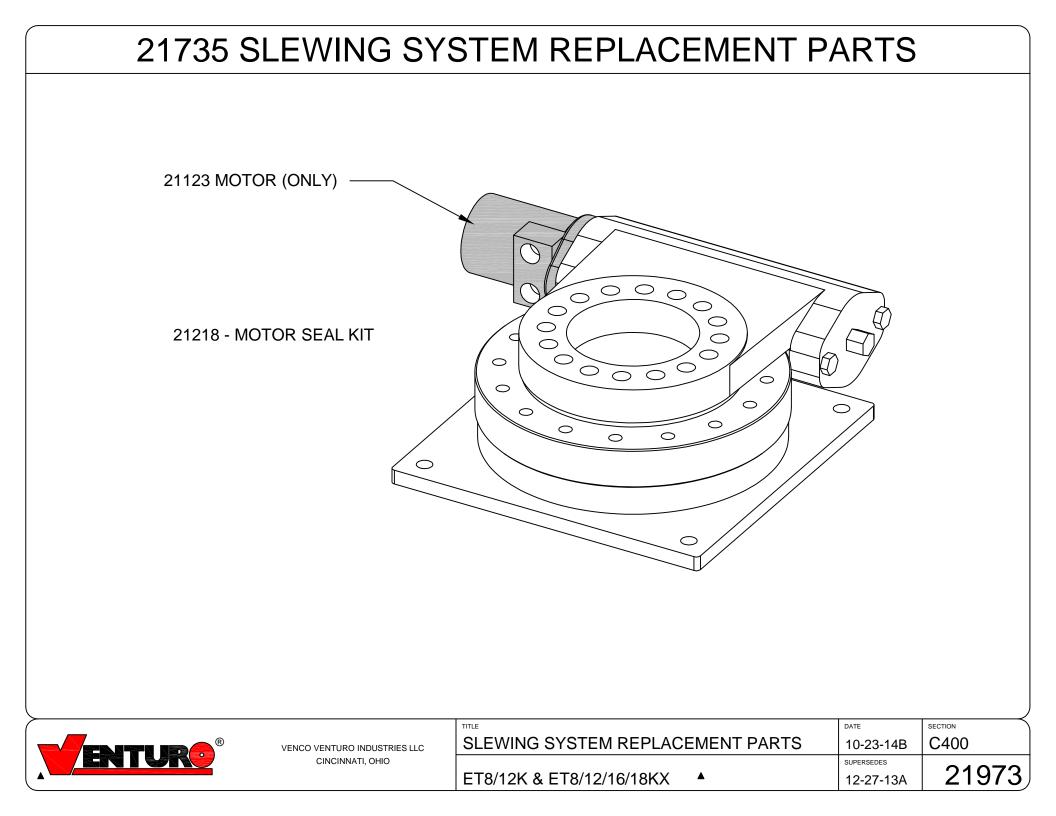


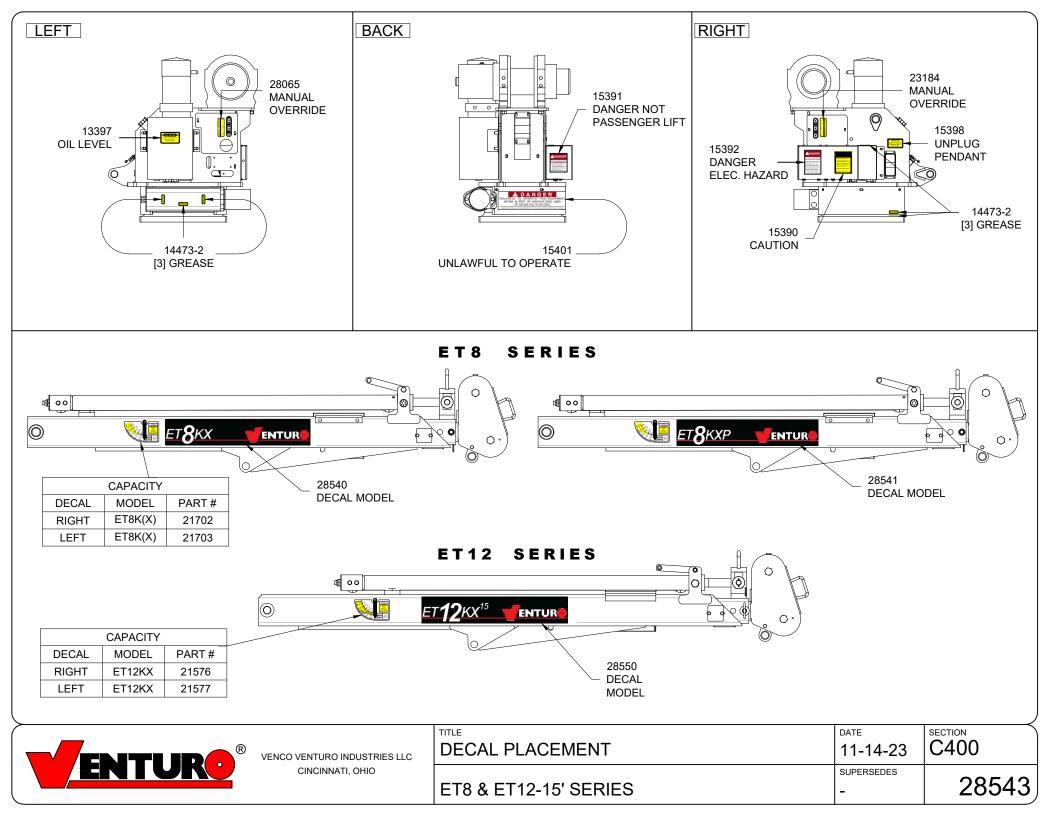
## 22158 RADIO; PROP, NON-CAN, NO ENG CNTRLS, E-STOP/HORN











# FIELD SERVICE LABEL KIT; ET12KX-15'

21586; FIELD SERVICE LABEL KIT, ET12KX							
SERIAL RANGE: 68900 - CURRENT							
PART #	QTY	DESCRIPTION					
14473-2	6	DECAL; GREASE					
28550	2	DECAL; VENTURO, ET12-15'					
21576	1	DECAL; BOOM CAPACITY, ET12 SERIES, RIGHT					
21577	1	DECAL; BOOM CAPACITY, ET12 SERIES, LEFT					
13397	1	DECAL; OIL LEVEL					
28065	1	DECAL; MANUAL OVERRIDE, RIGHT					
23184	1	DECAL; MANUAL OVERRIDE, LEFT					
17813	1	DECAL; OVERLOAD SENSING SYSTEM					
16184-1	1	DECAL; HORN RELAY					
28552	1	IDWG; FIELD SERVICE LABEL KIT LIST					
28543	1	IDWG; DECAL PLACEMENT					
INST-23233	1	SAFETY MANUAL, VENTURO CRANES					
15397	1	KIT; ACCIDENT PREVENTION SIGNS					

	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE FIELD SERVICE LABEL KIT	date 11-15-23	C400	
ENTUR		ET12KX-15'	SUPERSEDES	28552	

### VENTURO CRANES LIMITED WARRANTY POLICY



Venturo products are built to last...we guarantee them. As a purchaser of any new Venturo product covered by warranty, you will receive 1 year of the most complete coverage available...and, at no added cost to you.

### **<u>1-Year Limited Warranty Policy</u>**

This limited policy warrants new products of Venturo to be free from defects in material and workmanship for a period of one (1) year from date of original installation. OEM products or accessories purchased by Venturo as part of or offered with our product will carry the OEM manufacturer's respective warranty. Our warranty covers:

- Repair or replacement of product
- Labor to repair or replace product
- Freight to return and/or replace product

We shall not be liable for any contingent liabilities arising out of the improper function of any products. Warranty shall become void if the product is improperly installed, modified, damaged, abused or used for application other than intended use. There is no warranty of merchantability, fitness for a particular purpose, warranty arising from course of dealing or usage of trade, or any other implied or expressed warranty, except as made specifically herein. This warranty supersedes all previous warranties, written or implied.

### Warranty Claims

Venco Venturo Industries LLC will make a good faith effort for prompt correction or other adjustment with respect to any product, which proves to be defective after our inspection and within the warranty period. Before any repairs are attempted or before returning any product, your Venturo Distributor is required to obtain a warranty claim number. This number is necessary for any claim to be considered. To obtain a warranty claim number, Venturo requires the model and serial number. Only authorized Venturo Distributors can perform warranty. For the name and address of your local Venturo Distributor call the **Warranty Claim Department - 513-772-8448.** 

**WARNING** - It is the responsibility of the installer to ensure the installation is completed according to the manufacturer's recommendations, ensure the ultimate user understands how to operate product in a safe manner, and understands the need for regular service and maintenance by an authorized Venturo Distributor. No modifications or alterations may be made to any Venturo product without the expressed written consent of Venco Venturo Industries LLC. Installation of any Venturo product must be done by an authorized Venturo Distributor, to the standards of the industry; including maintenance, service and affixing of all instruction, safety and warning decals. Users should be instructed as to the safe operation at time of delivery. Maintenance, service, operation and safety warning decals are available on request from Venco Venturo Industries LLC.

### **VENCO VENTURO INDUSTRIES LLC**

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