INST-23770



EGAADC-P0*0

Pages 1 - 60

PARTS & INSTALLATION MANUAL ET12KXP-16'

Included in this manual:

ET12KXP-16'

- 3,500 lbs Electric Telescopic Service Crane
- 9 16 ft Powered, Single-Stage, Boom Extension
- Proportional Controls



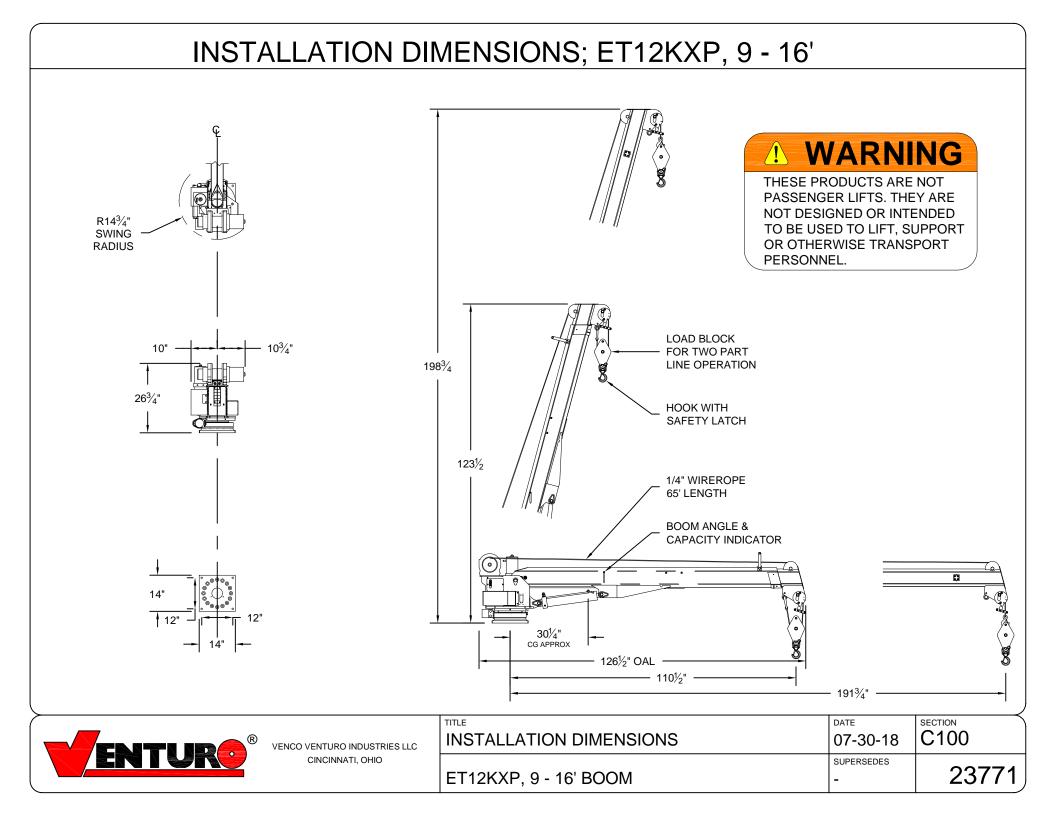


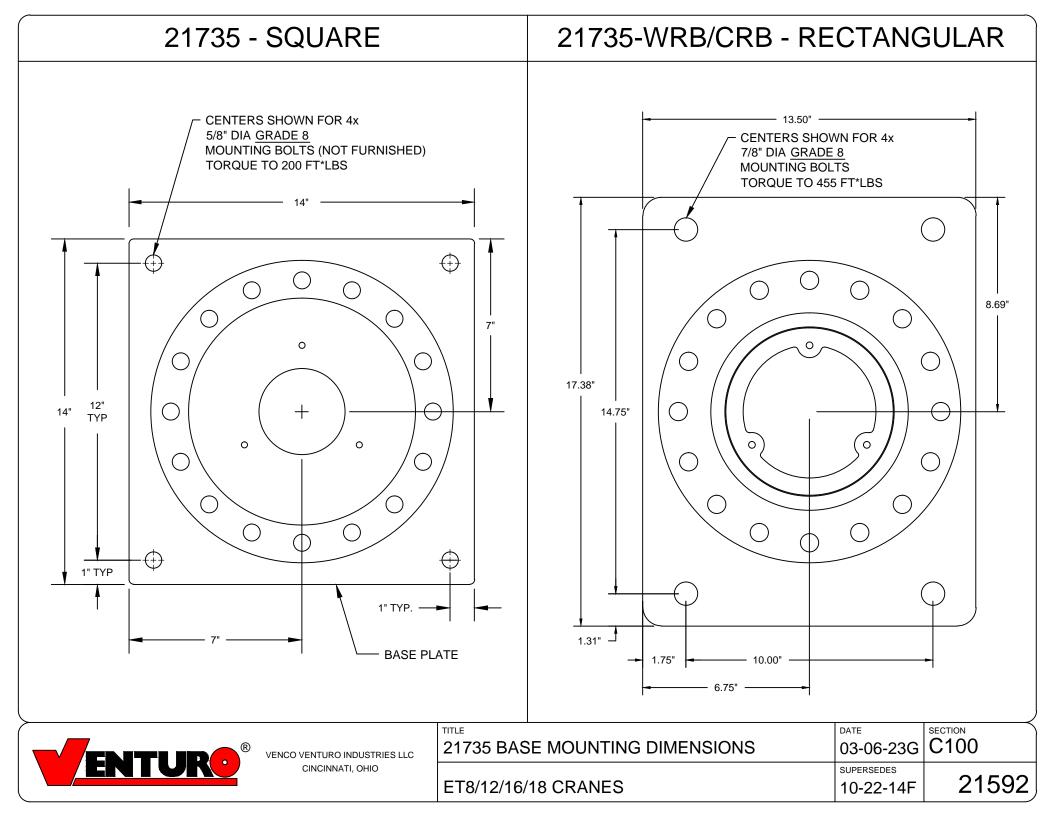
This manual also available online at www.venturo.com.

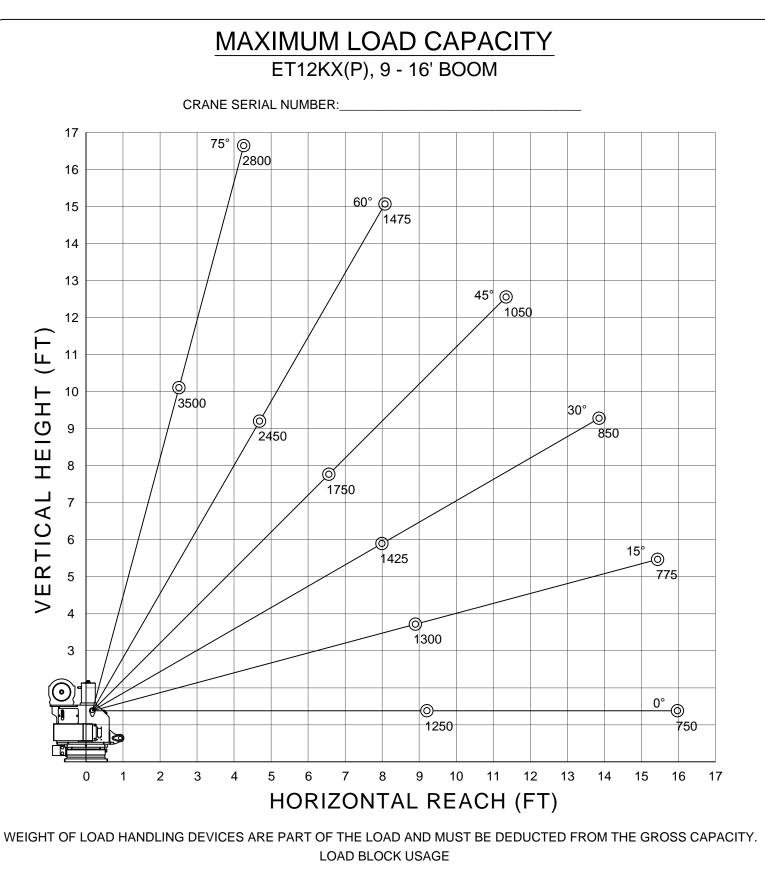
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DESCRIPTION & SPECIFICATIONS







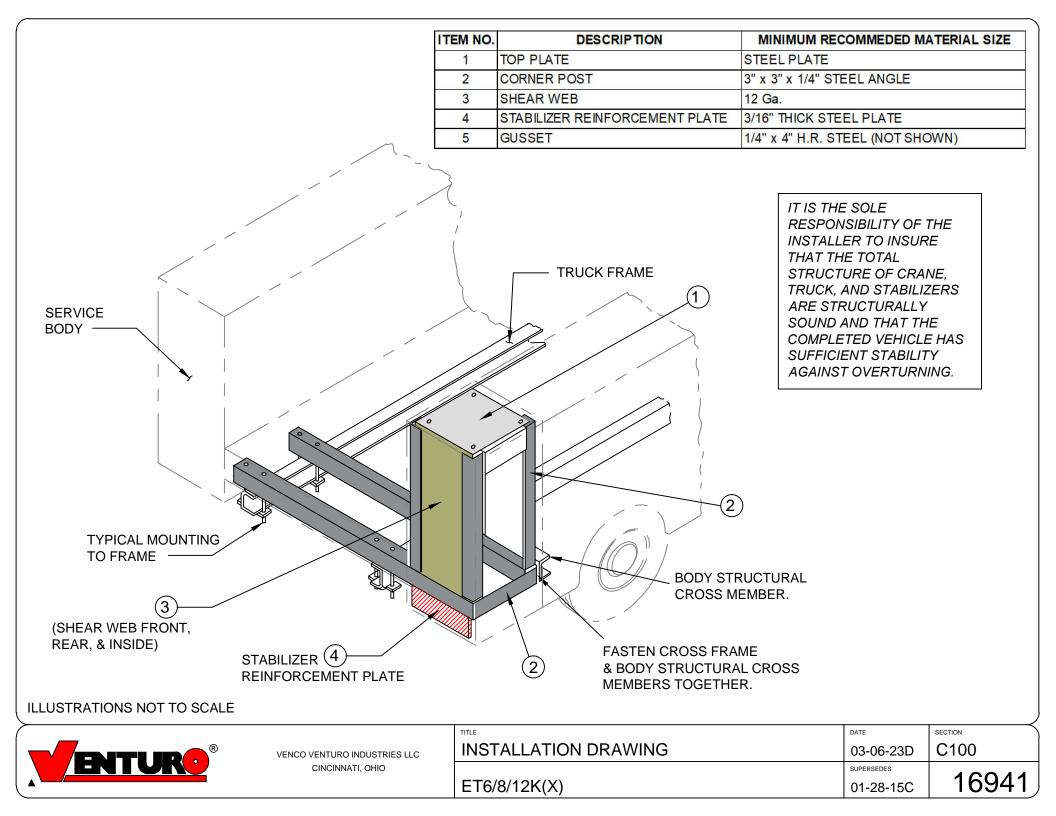


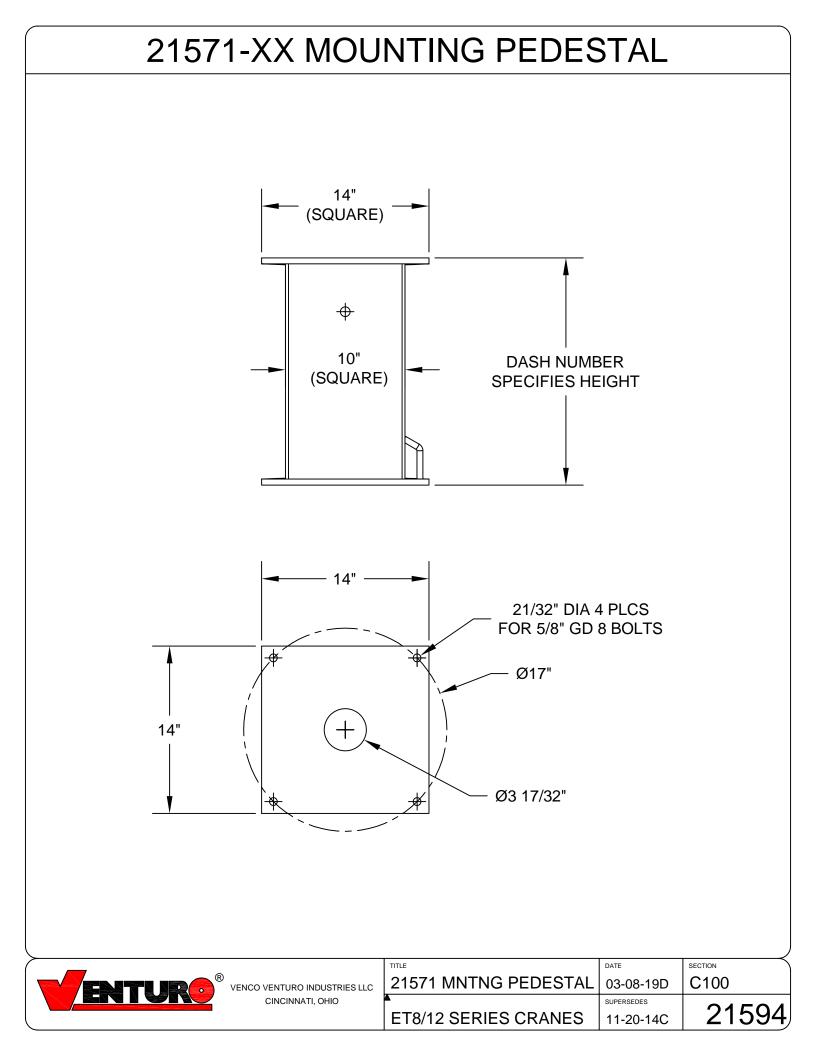
1 PART LINE FOR LOADS LESS THAN 1750 LBS

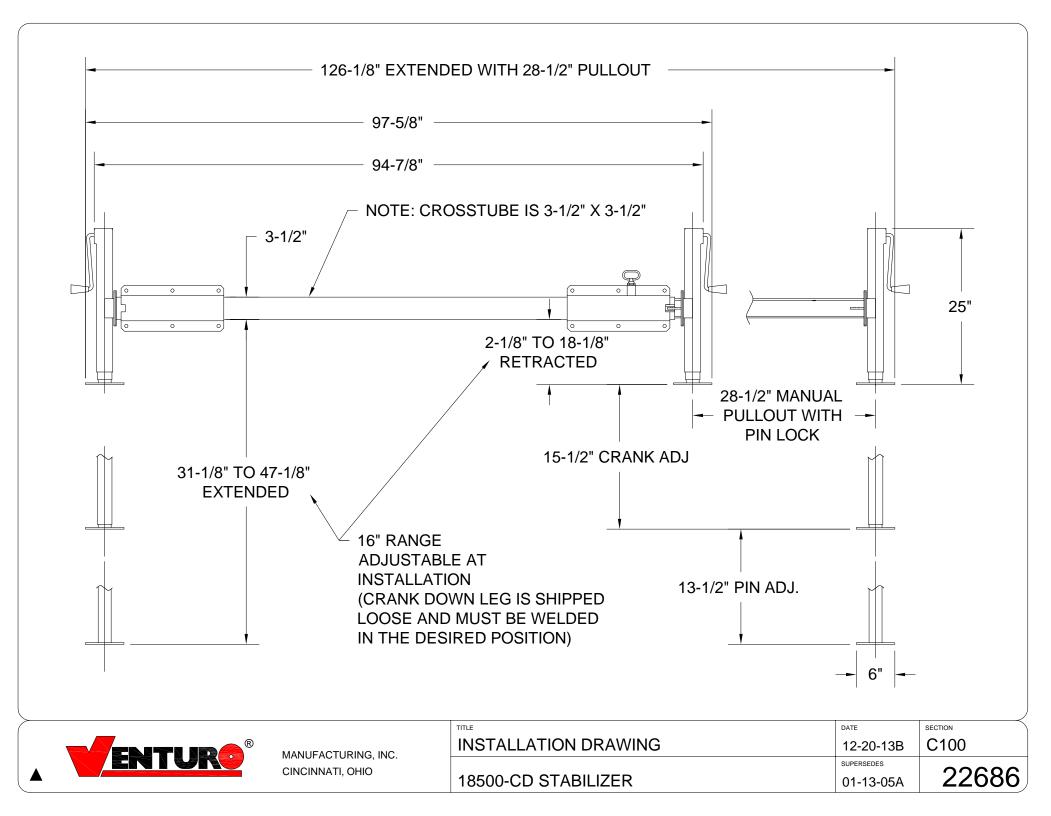
2 PART LINE FOR LOADS OF 1750 AND GREATER

WEIGHT OF LOAD BLOCK = 24 LBS

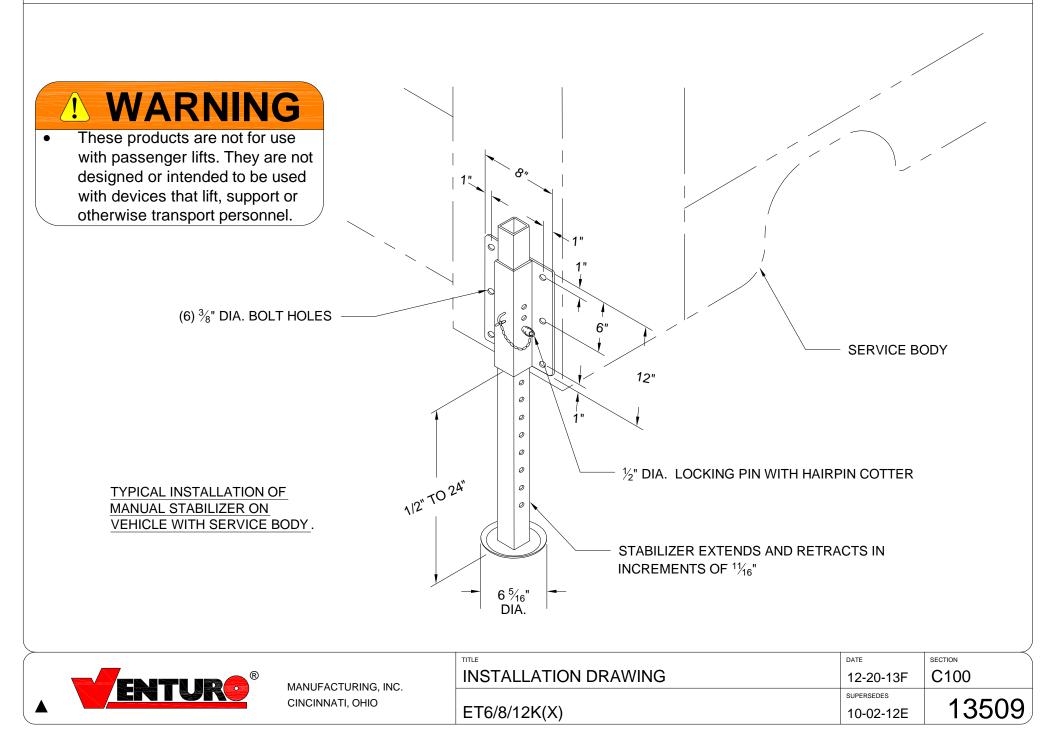
MAXIMUM LOAD CAPACITY	^{date} 06-13-19A	SECTION C100
ET12KX(P), 9 - 16' BOOM	supersedes 07-30-18	23772

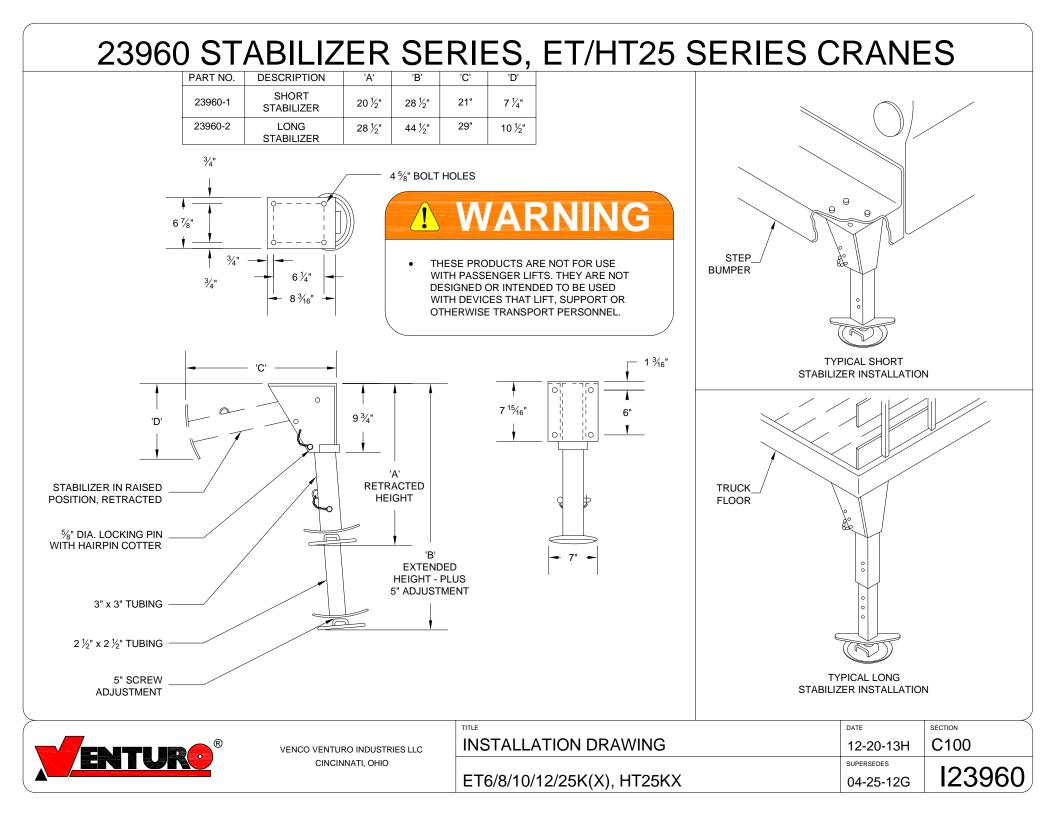






13500 STABILIZER





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

™	^{date}	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

INTENTIONALLY LEFT BLANK

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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	^{DATE} 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	A 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 THE MANUFACTURER'S MANUALS, YOUR
PLACEMENT:	REAR COVER OR SIDE OF CRANE	EMPLOYER'S WORK RULES, AND APPLCABLE GOVERNMENT REGULATIONS. AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY. 1591.0
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:		YOU MUST MAINTAIN A CLEARANCE OR 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 YOLTS, ONE
PLACEMENT:	REAR COVER OR SIDE OF CRANE	FOOT ADDITIONAL CLEARANCE IS REQUIRED FOR EVERY ADDITIONAL 3000 VOLTS OR LESS. DEATH OR SERIOUS INJURY WILL RESULT FROM CONTACT OR INADEQUATE CLEARANCE. 1980 E
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.: 23420				
DECAL: MANUAL OVERRIDE DECAL (ET12K)	XP)			
FUNCTION: To show the manual override ports.	MANUAL	BO	BD	R
QUANTITY: 1	MAOVE	ш	ш	
PLACEMENT: Right side of housing.				
PART NO.: 23421				
DECAL: MANUAL OVERRIDE DECAL (ET12K)	XP)			
FUNCTION: To show the manual override ports. QUANTITY: 1	MANUAL OVERRIDE	Β	BU	RR ²³⁴²¹
PLACEMENT: Left side of housing.				
PART NO.: 27007-04a (ET12KXP)				
DECAL: LOAD BLOCK CAPACITY DECAL			SPECIFICATIONS	
FUNCTION: To show the capacity of load block.		RATED CAPAC 3,500 lb		
QUANTITY: 2			ARNING:	
PLACEMENT: Each side of load block.			DS LESS THAN 1,750 LBS. DS 1,750 LBS. & GREATEF	
▲ PART NO.: 19315-2		V	VARNIN	G!
DECAL: MANUAL OVERRIDE (PROPORTION)	AL)		ALVE IN NORMAL P RIDE POSITION IS IN	
FUNCTION: To show operator how to override prop	ortional valve		EMERGENCY USE	
QUANTITY: 1			PROPORT VALVE ROTATE S	
	em			19315-2
PLACEMENT: Left side of Mechanism, near valve ste		(= 0v		
PLACEMENT: Left side of Mechanism, near valve sto				
PLACEMENT: Left side of Mechanism, near valve st				
PLACEMENT: Left side of Mechanism, near valve st				
PLACEMENT: Left side of Mechanism, near valve st				
PLACEMENT: Left side of Mechanism, near valve st				
PLACEMENT: Left side of Mechanism, near valve st				
PLACEMENT: Left side of Mechanism, near valve ste			DATE 08-30-18A SUPERSEDES	section C150

PART NO: 23414 (LEFT) DECAI: CRANE CAPACITY FUNCTION: To show the operator the operator capacities of crane. QUANTITY: 1 PLACEMENT: One on left side of boom. PART NO: 23415 (RIGHT) DECAI: CRANE CAPACITY FUNCTION: To show the operator the operating capacities of crane. QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 25500 DECAI: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK					
FUNCTION: To show the operator the operating capacities of orane. QUANTITY: 1 PLACEMENT: One on left side of boom. PART NO: 23415 (RIGHT) DECAL: CRANE CAPACITY FUNCTION: To show the operator the operating capacities of orane. QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 28500 DECAL: MODELL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on right side of boom. PART NO:: 28560 DECAL: MODELLET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK			ET12KXP	200 200	8
QUANTITY: 1 PLACEMENT: One on left side of boom. PART NO: 23415 (RIGHT) DECAL: CRANE CAPACITY FUNCTION: To show the operating capacities of crane. QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 28560 DECAL: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. PART NO: 28560 DECAL: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK	DECAL:	CRANE CAPACITY	NOTE	20° 30° 31°	
QUANTITY: 1 PLACEMENT: One on left side of boom. PART NO: 23415 (RIGHT) DECAL: CRANE CAPACITY FUNCTION: To show the operator the operating capacities of crane. QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 2650 DECAL: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK	FUNCTION:			<.15 × .5° / </td <td>8</td>	8
PLACEMENT: One on left side of boom. PART NO: 23415 (RIGHT) DECAL: CRANE CAPACITY FUNCTION: To show the operator the operating capacities of crane. QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 28590 DECAL: MODEL ET12XXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK	QUANTITY:	1	EXTENSION	850 NEOT	
	PLACEMENT:	One on left side of boom.			
	PART NO.:	23415 (RIGHT)			
FUNCTION: To show the operator the operating capacities of crane. QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 28560 DECAL: MODEL ET12XXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK	DECAL:	CRANE CAPACITY		9.5' - 16' BOOM	
QUANTITY: 1 PLACEMENT: One on right side of boom. PART NO: 28560 DECAL: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK MANUFAGTURING, INC. CINCINNAT, OHIO	FUNCTION:		50 50 50° 40°C/E 30° LE 150 15° 0°	FOR LOADS	
PLACEMENT: One on right side of boom. PART NO: 28560 DECAL: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK MANUFACTURING, INC. CINCINNAT, OHIO	QUANTITY:	1	850 77-	FT BOOM EXTENSION	
DECAL: MODEL ET12KXP FUNCTION: To show the model of the crane. QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK	PLACEMENT:	One on right side of boom.	775 750 16	FT	
QUANTITY: 2 PLACEMENT: One on each side of boom. INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK INTENTIONALLY LEFT BLANK MODEL/CAPCTY DECALS 11-15-23 CT150 SUFFICIENCY MANUFACTURING, INC. CINCINNATI, OHIO					
PLACEMENT: One on each side of boom.	FUNCTION:	To show the model of the crane.	-16		
INTENTIONALLY LEFT BLANK	QUANTITY:	2 E T	12 KXP'*		
INTENTIONALLY LEFT BLANK		One on each side of boom			
INTENTIONALLY LEFT BLANK	-				
MANUFACTURING, INC. CINCINNATI, OHIO	ΙΝΤ	ENTIONAL	LY LEFT	ΒL	ANK
MANUFACTURING, INC. MODEL/CAPCTY DECALS 11-15-23 C150 SUPERSEDES SUPERSEDES OO E C 4	ΙΝΤ	ENTIONAL	LY LEFT	ΒL	ANK
CINCINNATI, OHIO					
		MANUFACTURING, INC. CINCINNATI, OHIO			

INSTALLATION



!! IMPORTANT !!

ADEQUATE WIRING IMPERATIVE FOR PROPER OPERATION

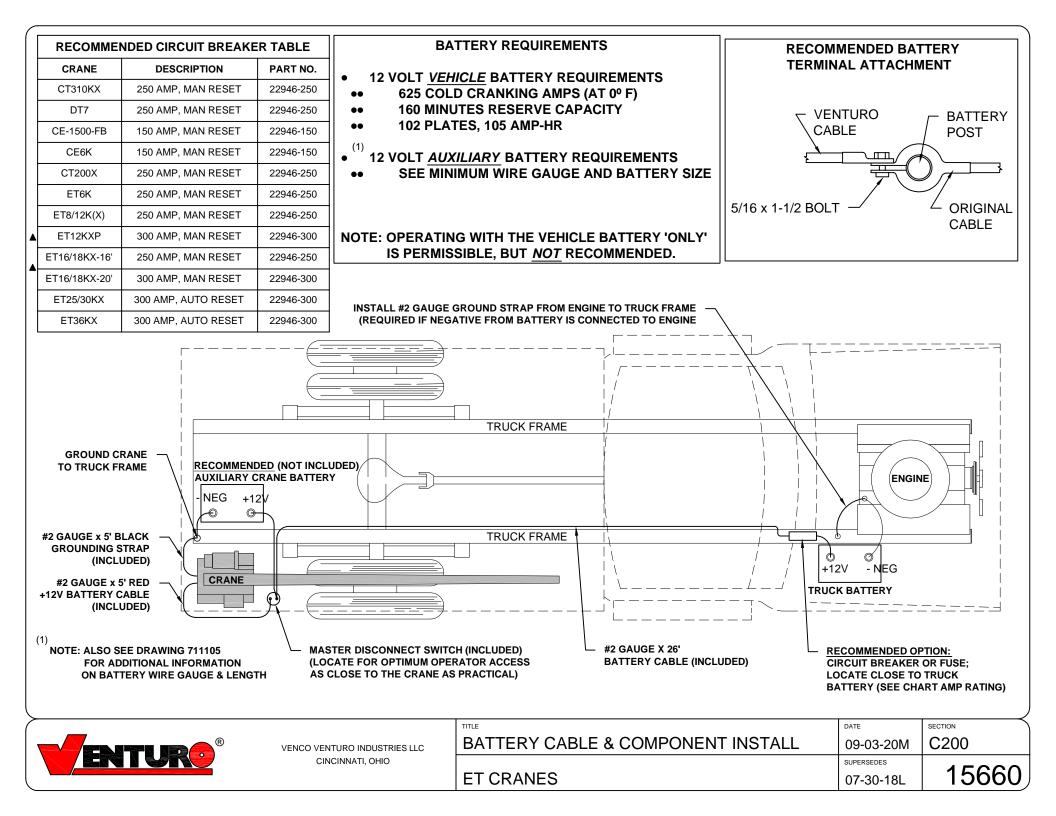
- 1. PROPER GROUND PATH SEE DWG 15660
- 2. CURRENT DRAW IS SEVERAL HUNDRED AMPERES -ADEQUATE WIRE SIZE AND BATTERY CAPACITY IS ABSOLUTELY ESSENTIAL (SEE CHART BELOW).

▲ MINIMUM WIRE GAUGE AND AUXILIARY BATTERY SIZE

MODEL		TOTAL LENGTH OF CABLE (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 R	ECOMN	IENDED	450	100
ET8KX ET10KX ET12KX ▲ ET12KXP	#2	#2	#1	#0	#00	NOT R	ECOMN	IENDED	550	150
ET18K(X) ET25K(X) ET30KX ET36KX 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	^{DATE} 07-30-18X	section C200
	ELECTRIC CRANES	supersedes 09-27-17W	711105	



STABILITY TEST - ET12-16' 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. Note: The black & white wires MUST be reconnected to the Overload Pressure Switch after the stability test has be completed.
- 6. Use a *Test Weight* weighing a *minimum* of <u>882 lbs</u>, (includes load block weight of <u>24</u> lbs.) to a *maximum of* 925 *lbs*.
- 7. Position the boom level and fully retracted.
- 8. 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 the two conditions occur:
- 10.1. Full boom 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.
- 11. Note: The "*Max Stable Reach in inches*" is measured from the *center of rotation* of the crane housing to the *lifting load hook.*

"Max Stable Reach" in inches"

X 100

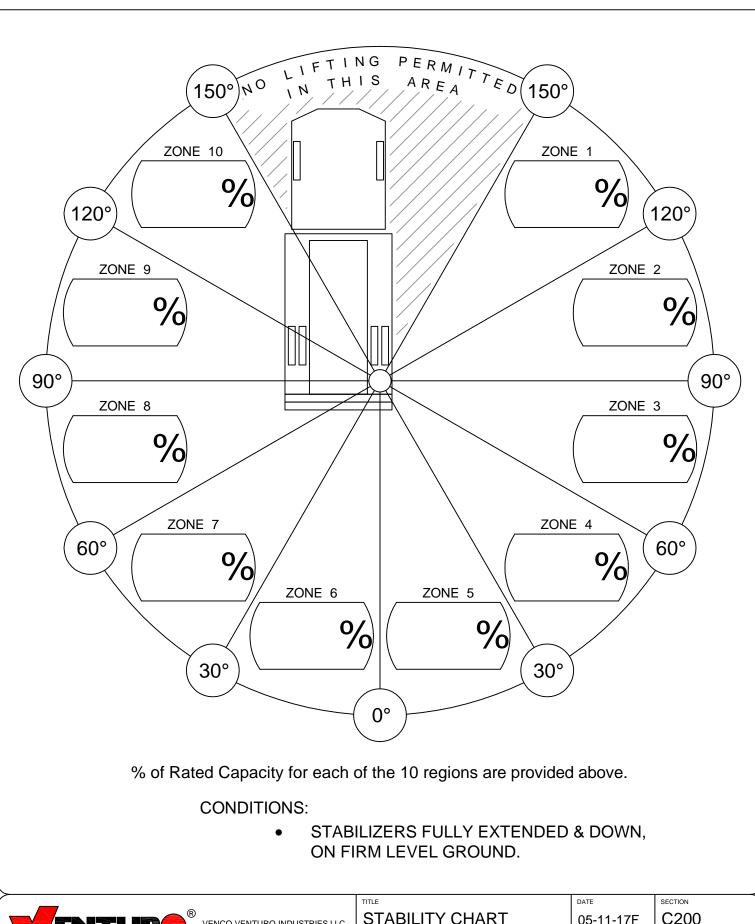
192

- 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.

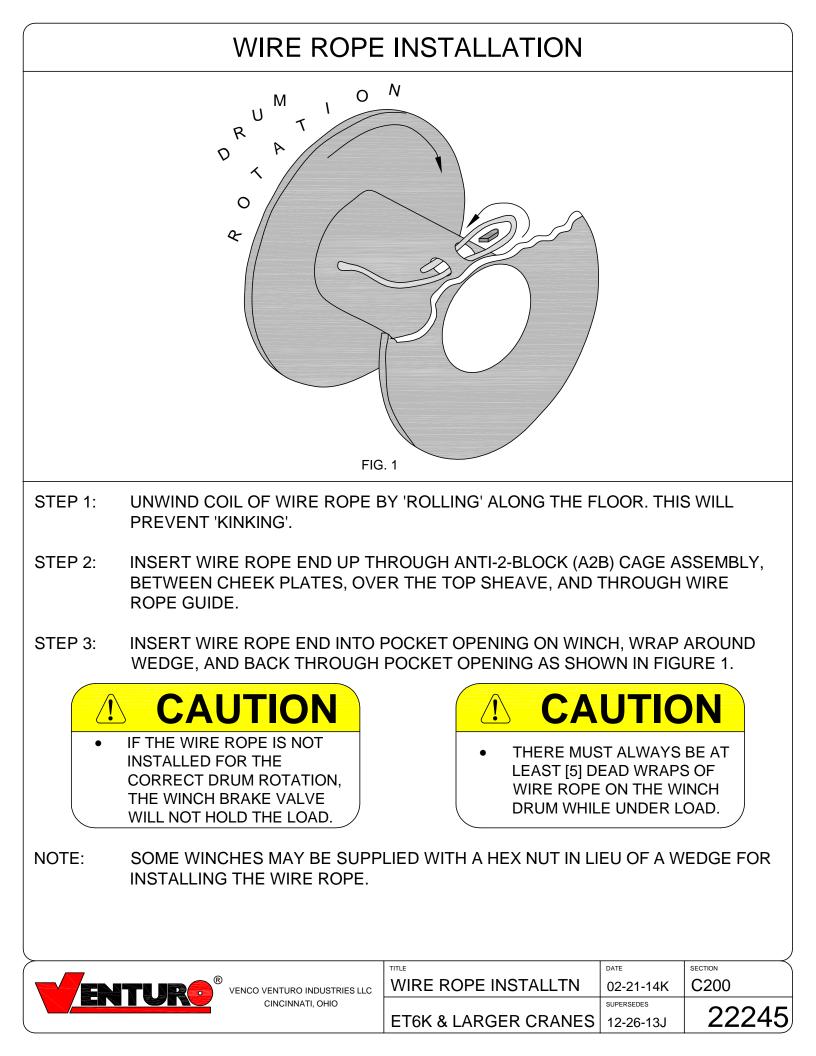
% Rated Capacity =

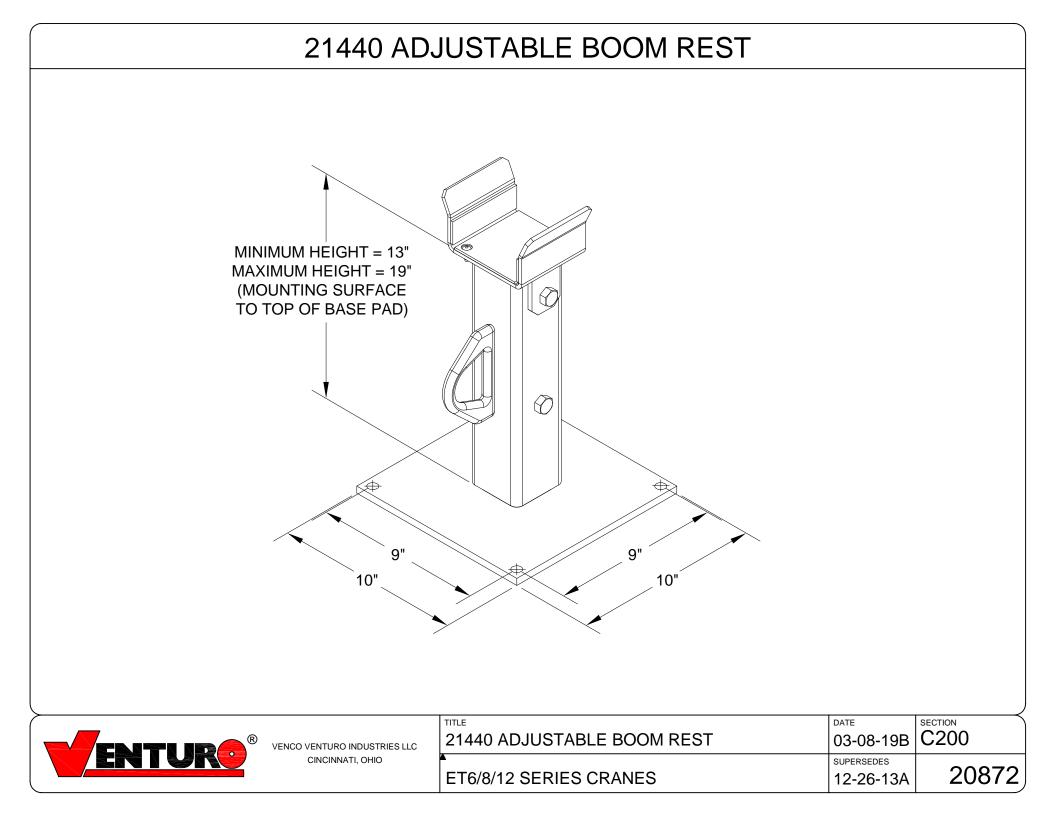
	STABILITY TEST	^{DATE} 03-16-23F	SECTION C200
CINCINNATI, OHIO	ET12-16' SERIES	SUPERSEDES 11-23-21E	20906-12P

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	^{DATE} 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.

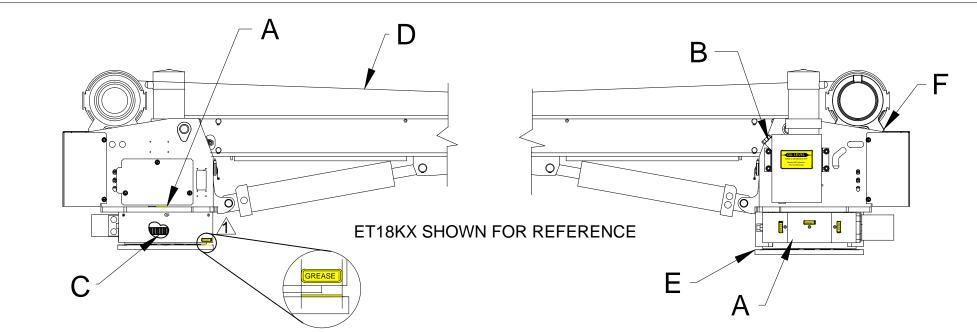


• The pendant (or receiver) plug must be unplugged from the crane socket and the Master Disconnect Switch (power) turned "OFF" when the crane is not in use! Leaving the pendant (or receiver) connected and power on when not in use may result in dangerous, unintentional activation of the crane functions.



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:

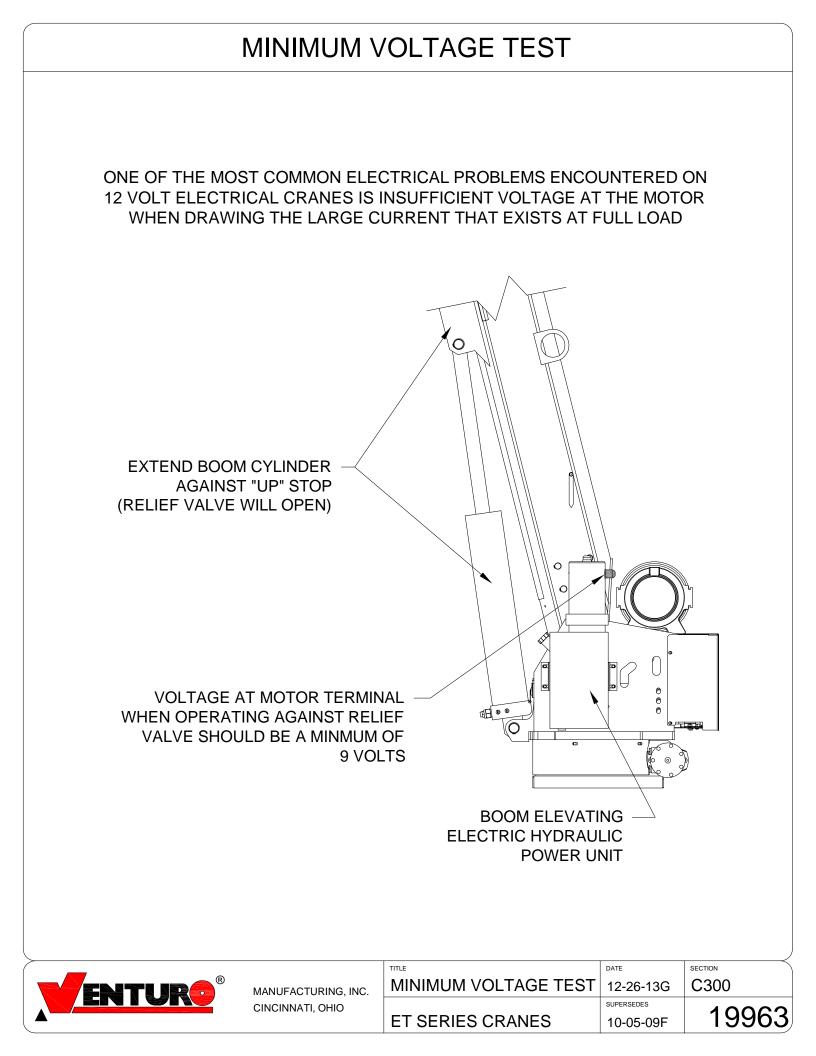
NEVER WASH THIS CRANE WITH CHEMICAL PRODUCTS OR HIGH PRESSURE WATER JETS, AS THEY CAN CAUSE DETACHMENT OF DECALS OR ENTRANCE OF WATER INTO ELECTRICAL OR SLEWING RING COMPONENTS

Service Required	No	Service Interval	
Grease fitting With Pressure Grease Gun	Use FUCHS Renolit Aluminum	Time of Truck Service	
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 & I	Time of Truck Service	
Check Wire Rope and Hook	Rope should be fre	Time of Truck Service	
Check Torque of Base Mounting Bolts	Square Base: To	Time of Truck Service	
Check Torque of Base Mounting Bolts	Rectangular Base:	Time of Truck Service	
Check Torque of Winch Mounting Bolts	Bolts should be to	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	21306)



WIRE ROPE ASSEMBLY	LOAD BLOCK AS	LOAD BLOCK ASSEMBLY			
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 PROPRTIONAL SERIES CRANES

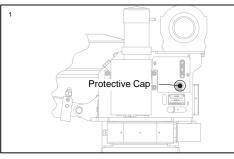
!! READ ALL INSTRUCTIONS

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:

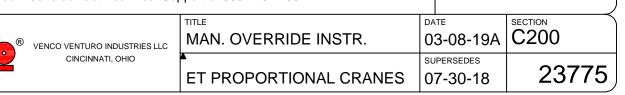
- 1. Turn Master disconnect switch to "ON"
- 2. Remove Protective cap (see figure 1)
- 3. Rotate Valve Stem Clockwise to close (see figure 2)
- 4. Power up the pendant / radio
- 4.1. Twist EMERGENCY STOP button clockwise
- 5. On the crane, reference the function you wish to perform using the manual override 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

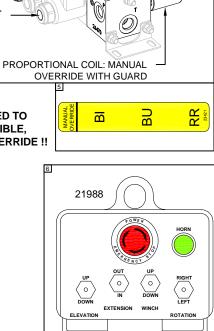
9. If you need to change function,

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

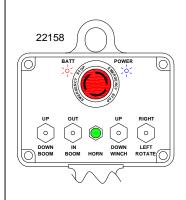
For assistance, please feel free to contact Technical Support at 800-226-2238.





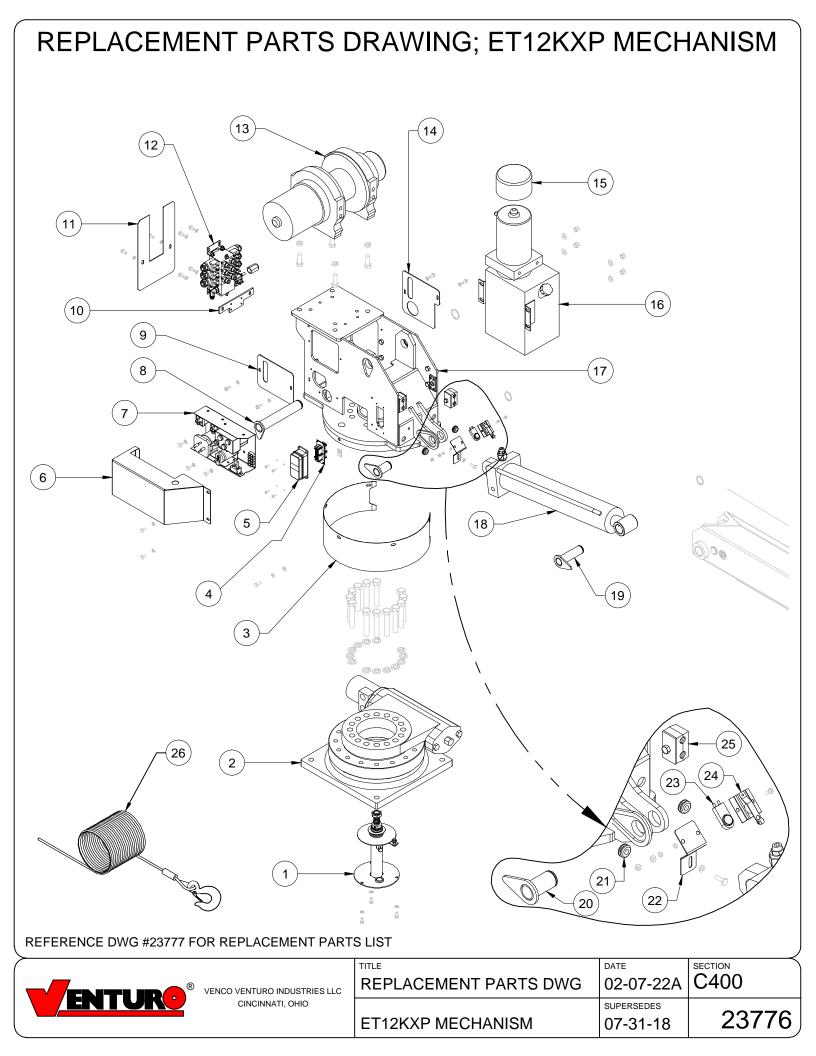


PORT



REPLACEMENT PARTS





REPLACEMENT PARTS LIST; ET12KXP MECHANISM, 9 - 16' BOOM

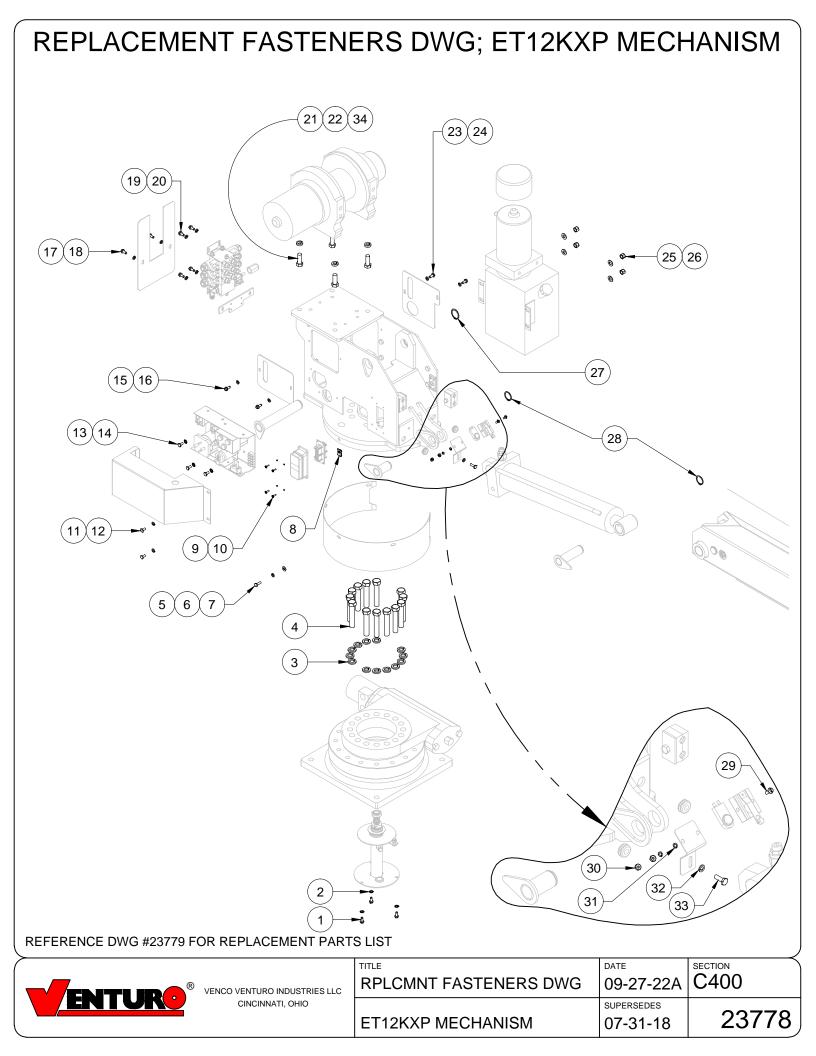
ITEM NO.	QTY	PART NO.	DESCRIPTION
1	1	16780-2P8	SLIP RING; 2-POLE, SWIVEL ASSY
0*	4	21735	SLEW DRIVE; SQUARE BASE
2*	1	21735-1	SLEW DRIVE; RECTANGULAR BASE
3	1	21735	SLEW DRIVE; ET8/12/16/18
4	1	22482	FEMALE INSER; 16 + 1 POLE
5	1	22481	SOCKET CASE W/ HOOD
6	1	MB21621	ELECTRICAL ENCLOSURE W/ INSULATOR
7	1	21515	ASSY; ELECTRICAL COMPONENT PANEL
8	1	21540	PIVOT PIN; PRIMARY BOOM, MAIN
9	1	28113	COVER PLATE; RIGHT SIDE
10	1	28110	ADAPTER PLATE; HYD. CONTROL VALVE
11	1	28112	COVER PLATE; REAR
12	1	26479	ASSY; VALVE BLOCK, 3-SPOOL, PROP
13	1	21556	WINCH; DC1600
14	1	28114	COVER PLATE; LEFT SIDE
15	1	16143-3	MOTOR COVER; 2 HOLES
16	1	26489	HYDRAULIC POWER UNIT; 2800 PSI, 13-250 & 08196
17	1	28122	WELDED ASSY; UNIVERSAL UPPER HSNG
18	1	23059	ASSY; ELEVATION CYLINDER W/ COMPOSITE BEARING
19	1	23704	WELDMENT; ELEVATION CYL. PIN, OUTBOARD
20	1	23703	WELDMENT; ELEVATION CYL. PIN, INBOARD
21	2	14883	GROMMET; 3/8" ID, 5/8" OD, 3/16" GROOVE
22	1	21545	BRACKET; BOOM SHUT-OFF SWITCH
23	1	19918	SWITCH; TOP POSITION
24	1	19917	BRACKET; TOP POSITION SWITCH
25	2	21612	ASSY; HOSE CLAMP
26	1	21639	WIREROPE; 1/4 X 65' W/ EYEHOOK & SAFETY LATCH
27	1	23700	BOOM FINAL ASSY; ET12KXP 9.5' - 16'
28	1	20670	ASSY; SWIVEL LOAD BLOCK, 3500 LBS.

* EITHER 21735 OR 21735-WRB DEPENDING ON CONFIGURATION

REFERENCE DWG #23776 FOR REPLACEMENT PARTS DWG



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO



REPLACEMENT FASTENER LIST; ET12KXP 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		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		REAR COVER & ADAPER PLATE TO HOUSING
19	!HHCS02520063S	HEX HEAD CAP SCREW; 1/4-20 X 5/8, S/S		VALVE BLOCK TO ADAPTER PLATE & HSNG
20	!LWSH-025-S	LOCK WASHER; 1/4, S/S		VALVE BLOCK TO ADAPTER PLATE & HSNG
21°	!HHCSM12125035-8.8	HEX HEAD CAP SCREW; M12-125 X 35MM, GR. 8.8		WARN WINCH TO HOUSING
21*	25920	SHCS; M10-150 X 50MM, GR. 12.9	6	COMEUP WINCH TO HOUSING
22°	!LWSH-M12	LOCK WASHER; M12, GRADE 8.8		WARN WINCH TO HOUSING
22*	!LWSH-M10-18.1MM-OD	LOCK WASHER; M10, 10.7MM ID, 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	!HNUT-#1024S	HEX NUT; #10-24, S/S	2	TOP POS. BRCKT TO BOOM SHUT-OFF BRCKT
32	!LWSH-025-S	LOCK WASHER; 1/4, S/S	1	BOOM SHUT-OFF SWITCH BRACKET TO HSNG
33	!HHCS02520075S	HEX HEAD CAP SCREW; 1/4-20 X 3/4, S/S	1	BOOM SHUT-OFF SWITCH BRACKET TO HSNG
34°	!FWSH-M12-8.8	FLAT WASHER; M12	4	WARN WINCH TO HOUSING
34*	!FWSH-M10-18MM-OD	FLAT WASHER; M10, 10.5MM ID, 18MM OD	6	COMEUP WINCH TO HOUSING

° = WARN DC2500 WINCH MOUNTING

* = COMEUP GTD-2800 WINCH MOUNTING

REFERENCE DWG #23778 FOR REPLACEMENT FASTENER DRAWING

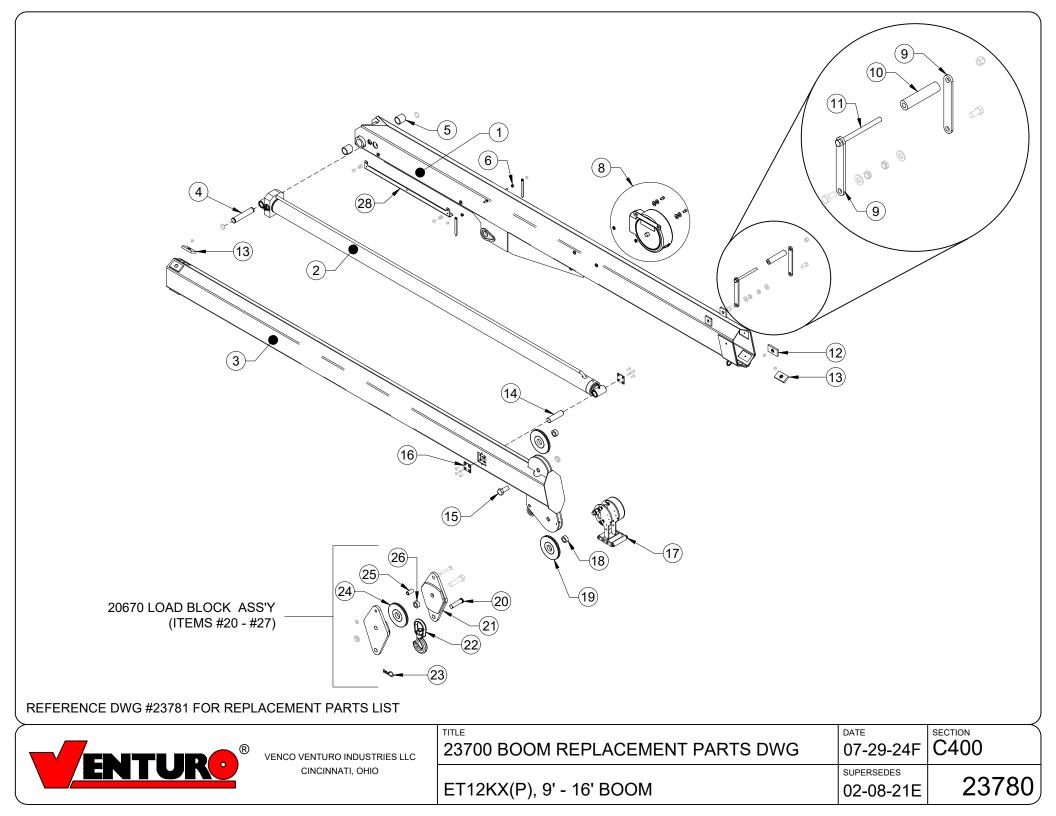


RPLCMNT FASTENER LIST

ET12KXP

TITLE

^{date} 09-27-22A	section C400
supersedes 07-31-18	23779



REPLCEMENT PARTS LIST; 23700, 9-16' BOOM

1	ITEM NO.	QTY	PART NO.	DESCRIPTION
	1	1	23701	WELDMENT; PRIMARY BOOM, 9-16' BOOM
	2	1	23692	EXTENSION CYLINDER; 9-16', 78" STROKE
	3	1	23702	WELDMENT; SECONDARY BOOM, 9-16'
	4	1	23708	PIN; EXTENSION CYLINDER, INBOARD
	5	2	21785	BEARING; MRP COMPOSITE, PRIMARY BOOM
	6	2	22490	SPACER; BOOM ARROW
	7	2	13459-2	ARROW; 4.44" OVERALL LENGTH
	8	1	26577-1-20	COMPLETE CORD REEL
	9	2	21936	WIRE ROPE GUIDE; FLAT MOUNT
	10	1	21560	ROLLER; UHMW GUIDE
	11	1	!HHCS04414550	HEX HEAD CAP SCREW - 7/16-14 X 5-1/2 LG
	12	2	23710-2	BOOM PAD; 1.5 X 2.5 X 0.31
	13	4	23710-3	BOOM PAD; 1.5 X 2.5 X 0.38
	14	1	23709	PIN; EXTENSION CYLINDER, OUTBOARD
	15	1	17059-4	SHEAVE AXLE; 1.69" LG, 0.50" SHANK
	16	2	23706	CYL. PIN RETAINER PLATE; SEC. BOOM WLDMNT
	17	1	27469-L-C-00	COMPACT A2B
	18	2	20536	SPACER; SHEAVE
	19	2	21630	SHEAVE; POLY CABLE W/ BUSHING
	20	1	20675	CLEVIS PIN
	21	1	20671	WELDED ASS'Y; SIDE PLATE
	22	1	17291	HOOK; SWIVEL W/ SAFETY LATCH
	23	1	21-07	HAIRPIN COTTER
	24	1	21630	SHEAVE; POLY CABLE W/ BUSHING
	25	1	20674	SPACER
	26	1	20536	SPACER; SHEAVE
	27	2	27007-04a	DECAL; CAPACITY, 4000LBS. (NOT SHOWN)
	28	1	26940-2	HEX BOOM CABLE GUIDE

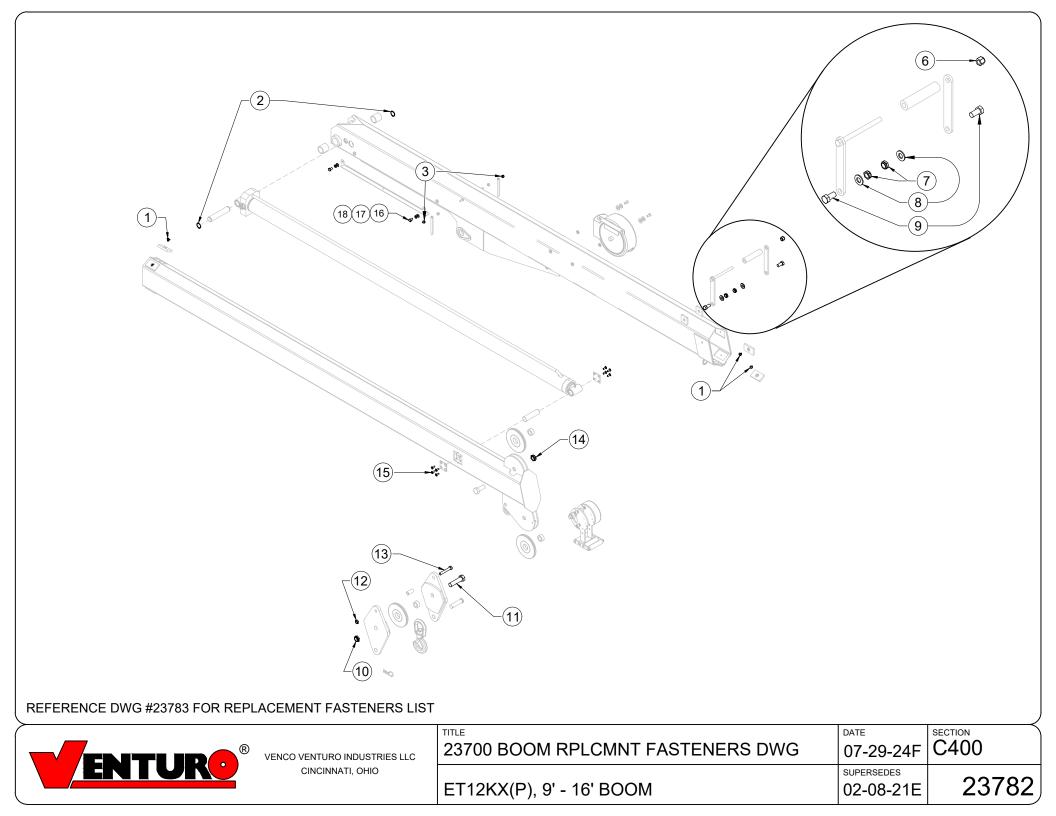
ITEMS #20-26

LOAD BLOCK ASSEMBLY 20670

REFERENCE DWG #23780 FOR REPLACEMENT PARTS DRAWING



23700 RPLCMNT PARTS LIST	^{date} 09-10-24G	section C400
ET12KXP, 9-16' BOOM	supersedes 07-29-24F	23781



REPLACEMENT FASTENER LIST; ET12KX(P), 23700 BOOM, 9-16'

ITEM #	PART #	DESCRIPTION	QTY	INSTALLATION / LOCATION
1	!THCS02520038 SS	TRUSS HEAD PHILLIPS SCREW; 1/4-20 X 3/8 S/S	6	BOOM PADS
2	!SRNG-100	SNAP RING; 1", PLATED	2	INBOARD EXT. CYL. PIN TO PRIMARY BOOM
3	!ANUT-02520S	ACORN NUT; 1/4-20, S/S	2	ARROW TO PRIMARY BOOM
-	-	-	-	-
-	-	-	-	-
6	!LNUT-04414	LOCK NUT; 7/16-14, NYLON INSERT	1	WELDED W/R GUIDE TO FLAT MOUNT W/R GUIDE
7	!JNUT-05013N	JAM NUT; 1/2-13, NYLON INSERT	2	WIRE ROPE (W/R) GUIDES TO PRIMARY BOOM
8	!FWSH-050	FLAT WASHER; 1/2, ZINC PLATED	2	WIRE ROPE GUIDES TO PRIMARY BOOM
9	!HHCS05013100-5	HEX HEAD CAP SCREW; 1/2-13 X 1" LG, GR. 5, PLTD	2	WIRE ROPE GUIDES TO PRIMARY BOOM
10	!JNUT-07510N	JAM NUT; 3/4-10, NYLON INSERT, GR. 5, PLTD	2	ITEM #11 AND ITEM #21
11	!HHCS07510300	HEX HEAD CAP SCREW; 3/4-10 X 3" LG, GR. 5, ZINC	1	LOAD BLOCK SIDE PLATES / SHEAVE
12	!JNUT-04414N	JAM NUT; 7/16-14, BYLON INSERT, GR. 5, ZINC	1	LOAD BLOCK SIDE PLATES / SPACER
13	!HHCS04414275	HEX HEAD CAP SCREW; 7/16-14 X 2-3/4, GR. 5, ZINC	1	LOAD BLOCK SIDE PLATES / SPACER
14	!LNUT-07510	LOCK NUT; 3/4-10, NYLON INSERT, GR. 5, ZINC	1	17059-4 SHEAVE AXLE
15	!CACS02520050S	C'SINK ALLEN HEAD CAP SCREW; 1/4-20 X 1/2, S/S	8	CYLINDER PIN RETAINER PLATES
16	!FWSH-031S	FLAT WASHER; 5/16" STAINLESS	2	CABLE GUIDE
17	!LWSH-031S	LOCK WASHER; 5/16" STAINLESS	2	CABLE GUIDE
18	!HHCS03118050S	HEX HEAD CAP SCREW - 5/16 X 1/2, S/S	2	CABLE GUIDE

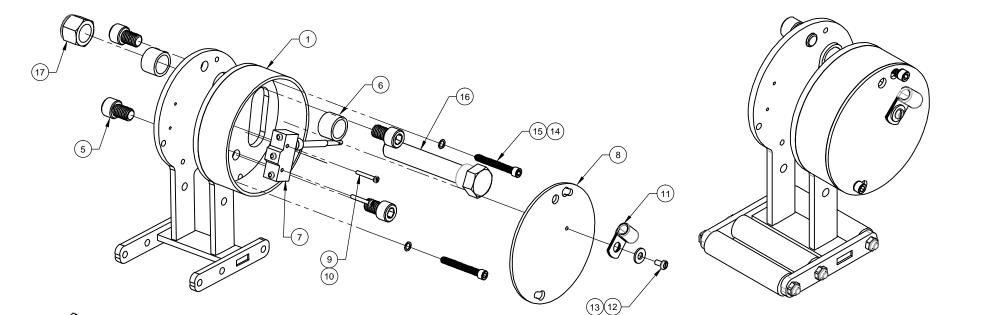
ITEMS #10-13

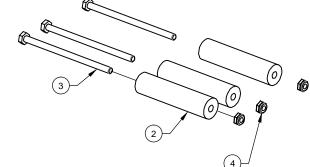
HARDWARE FOR LOAD BLOCK #20670

REFERENCE DWG #23782 FOR REPLACEMENT FASTENER DRAWING

RPLCMNT FASTENER LIST	^{DATE} 07-29-24F	SECTION C400
ET12KX(P), 23700 BOOM, 9-16'	SUPERSEDES 02-08-21E	23783

COMPACT A2B - 27469-* - REPLACEMENT PARTS LIST





	COMPACT A2B CONFIGURATIONS - 27469-*								
ITEM NO.	PART NUMBER	-L-C-00	-L-C-11	-L-0-22	DESCRIPTION				
1	27468	1	1	1	WLDMNT - COMPACT A2B FRAME LH				
2	27475	3	3	3	WIRE ROPE GUIDE ROLLER				
3	!HHCS02520450	3	3	3	HHCS 1/4-20 X 4-1/2 LG				
4	!JNUT-02520N	3	3	3	NYLON INSERT JAM NUT - 1/4-20				
5	27467	4	4	4	SHCS NYLON BLACK 1/2-13 X 3/4 LG				
	27476	2	-	-	SPACER/PIVOT - 0.69"				
6	27476-1	-	2	-	SPACER/PIVOT - 0.57"				
	27476-2	-	-	2	SPACER/PIVOT - 1.06"				
7	19376	1	1	1	ANTI-TWO BLOCK SWITCH				
8	27473	1	1	1	COVER PLATE				
9	!PHCS#0632100	2	2	2	PHILLIPS HEAD CAP SCREW 6-32 X 1 LONG				
10	!LWSH-#06	2	2	2	LOCK WASHER - 6				
11	19269	1	1	1	WIRE CLAMP, 3/8 ID VIBRATION DAMPING				
12	!PHCS#1032038	1	1	1	PAN HEAD CAP SCREW 10-32 X 3/8 LONG				
13	!FWSH-025	1	1	1	FLAT WASHER - 1/4				
14	!SHCS02520200SS	2	2	2	SHCS, 1/4-20 X 2.00 LONG, STAINLESS STEEL				
15	23379	2	2	2	WASHER, NYLON, BLACK, .375" O.D. X .25" I.D.				
40	28362	1	1	-	COMPACT A2B CUT-OUT CAM WELDED ASSY				
16	!HHCS07510450	-	-	1	HHCS, 3/4-10 X 4.50 LONG, GR.5				
17	LNUT-07510	1	1	1	NYLON INSERT LOCK NUT - 3/4-10				

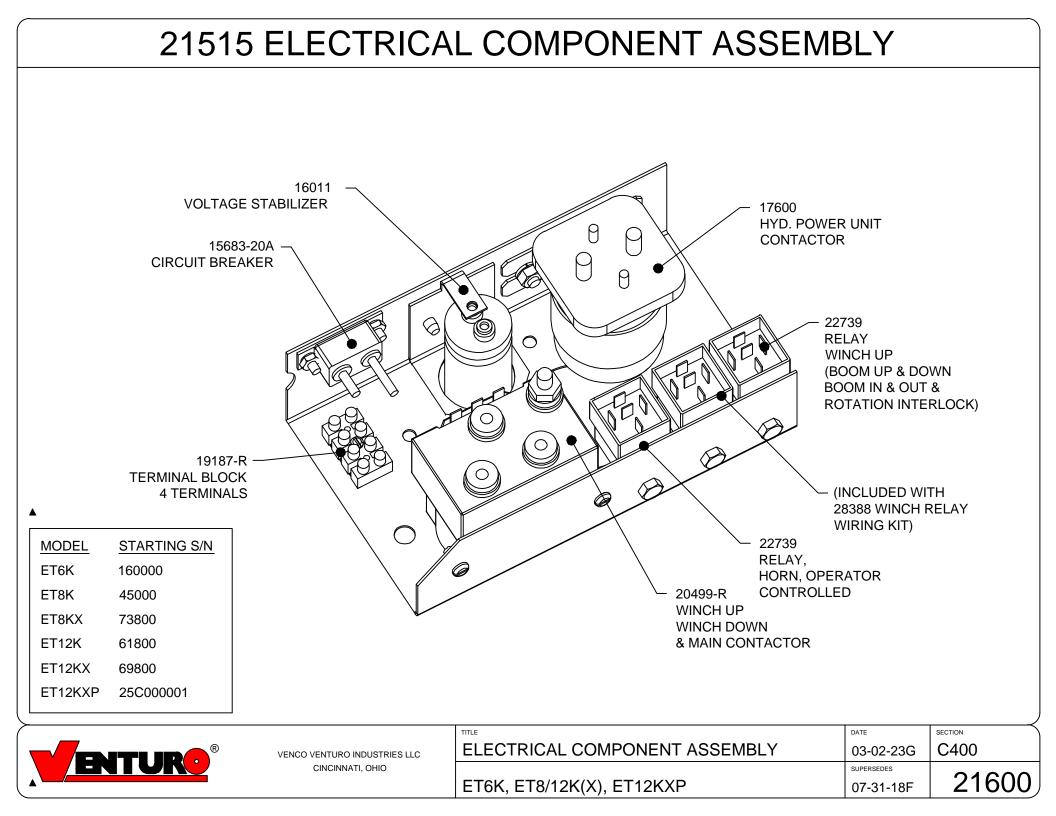


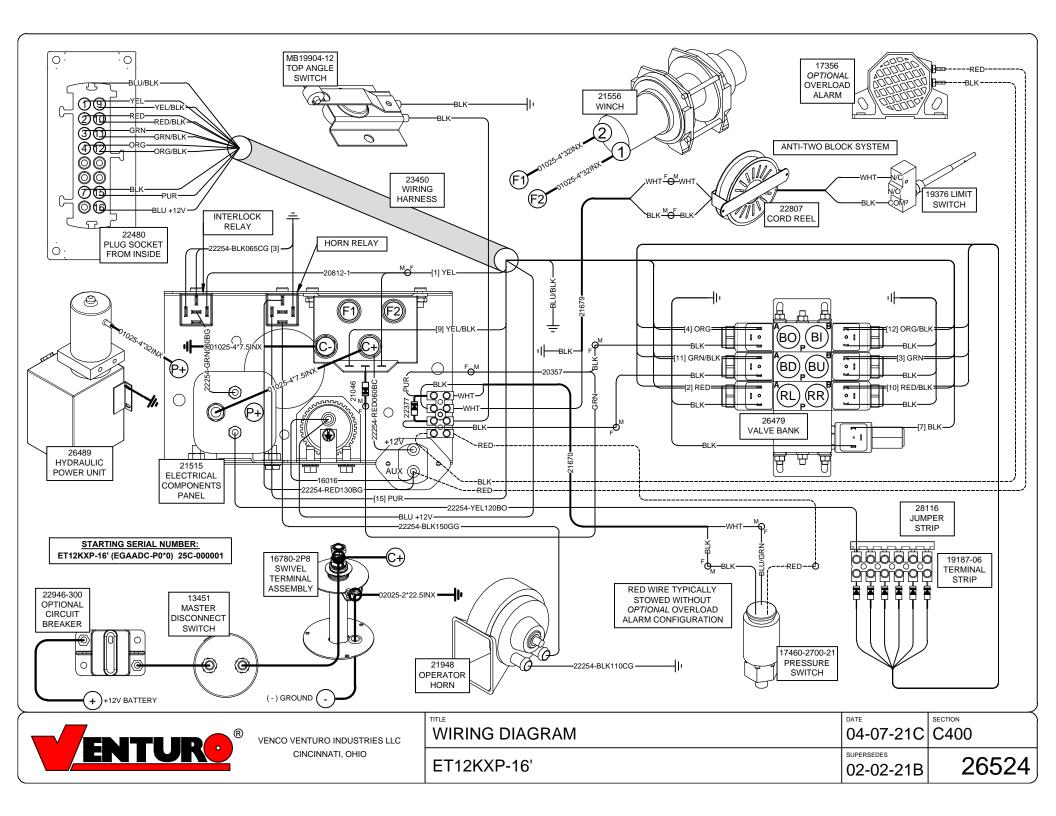
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO REPLACEMENT PARTS LIST

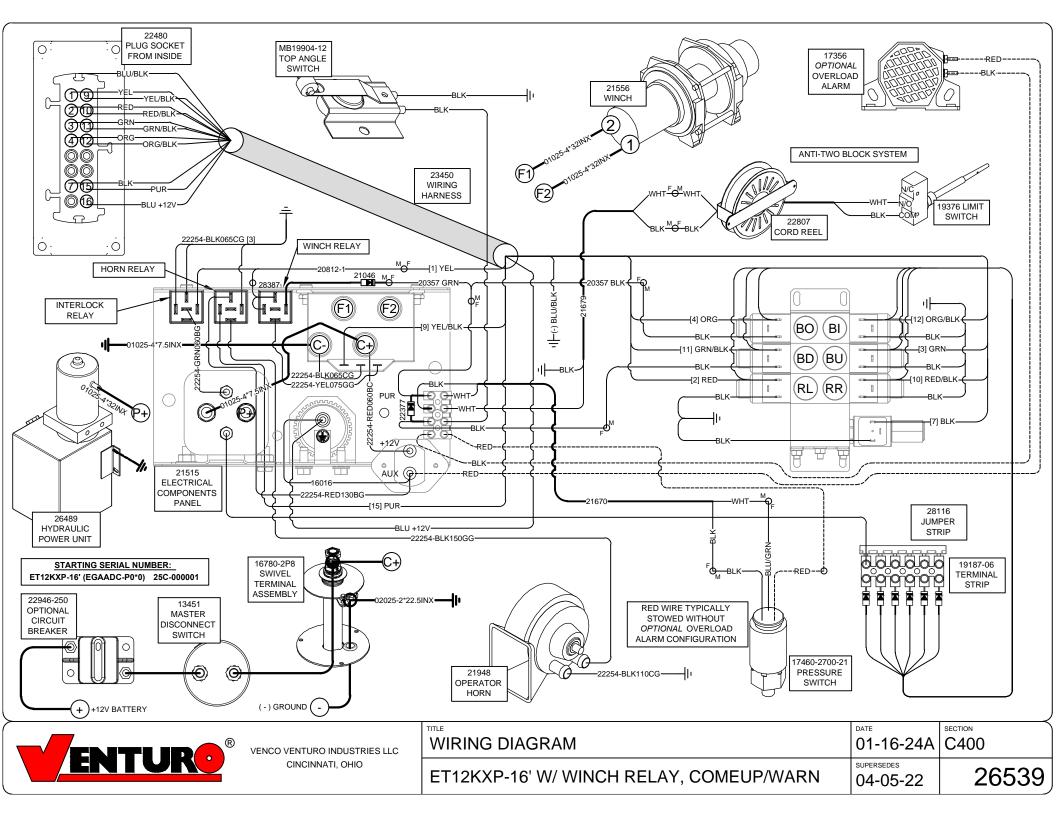
COMPACT A2B - 27469-*

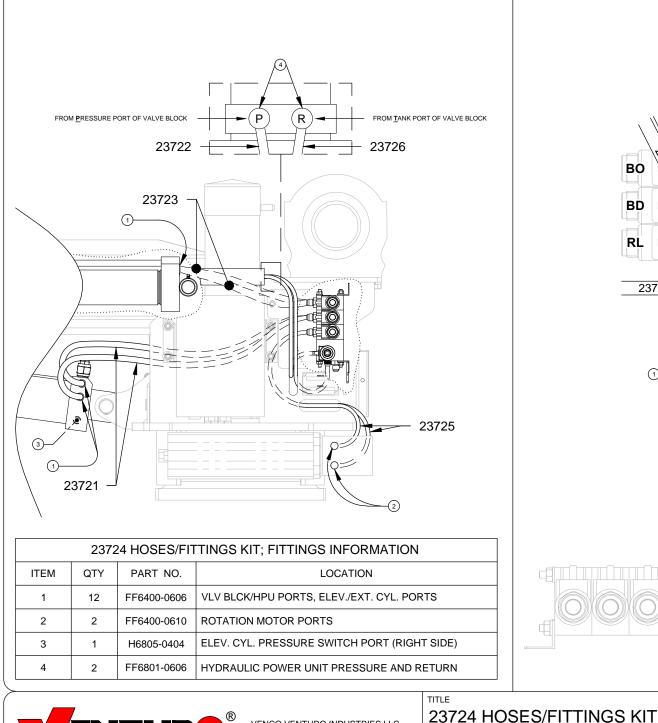
TITLE

DATE SECTION 7-10-24A C400 SUPERSEDES 06-11-24 26942

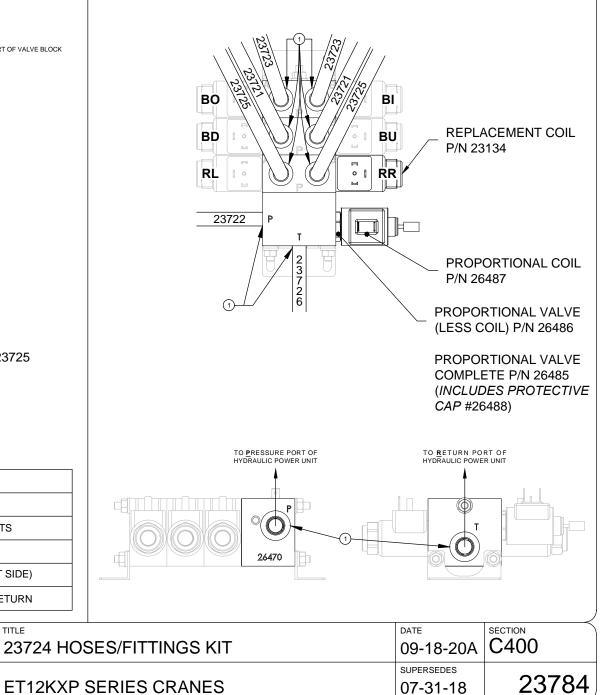




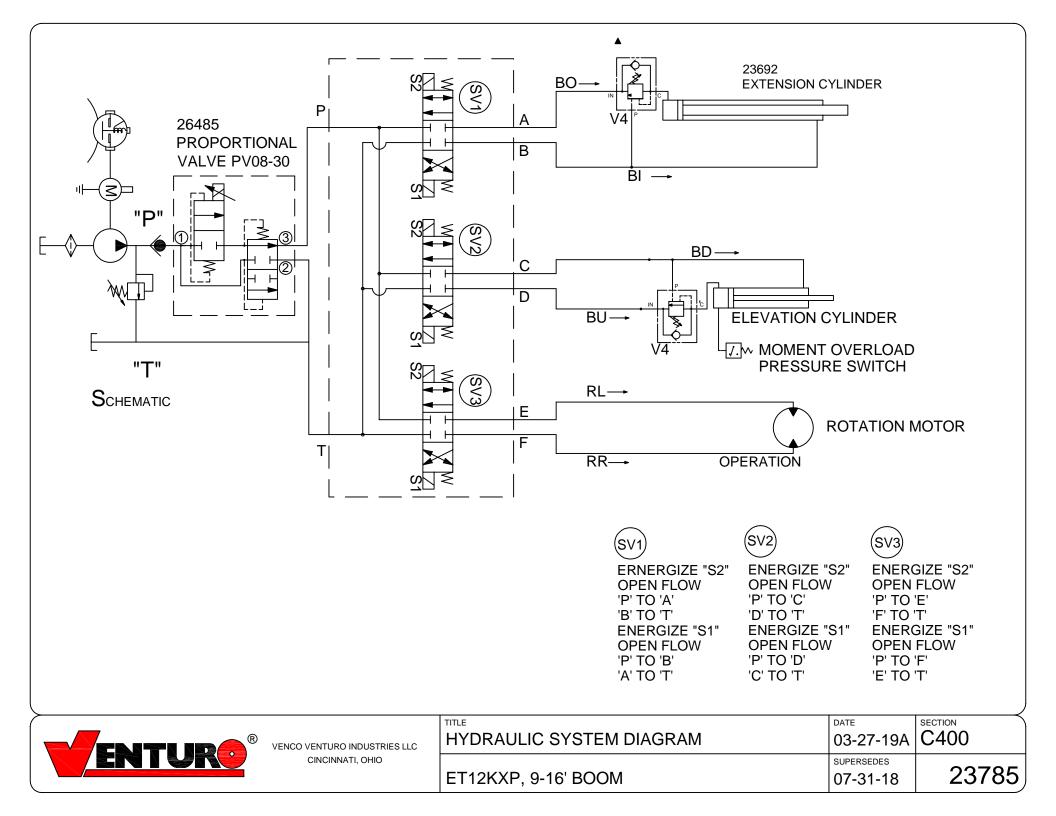




VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO



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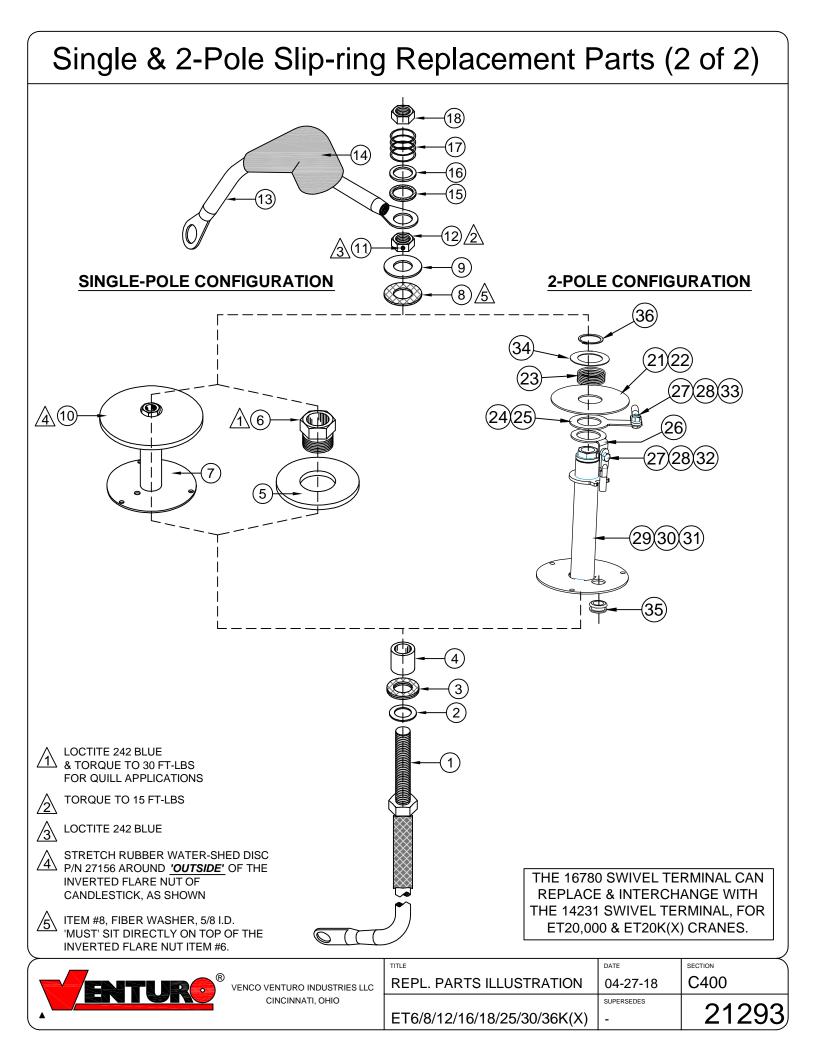


Single & 2-Pole Slip-ring Replacement Parts (1 of 2)

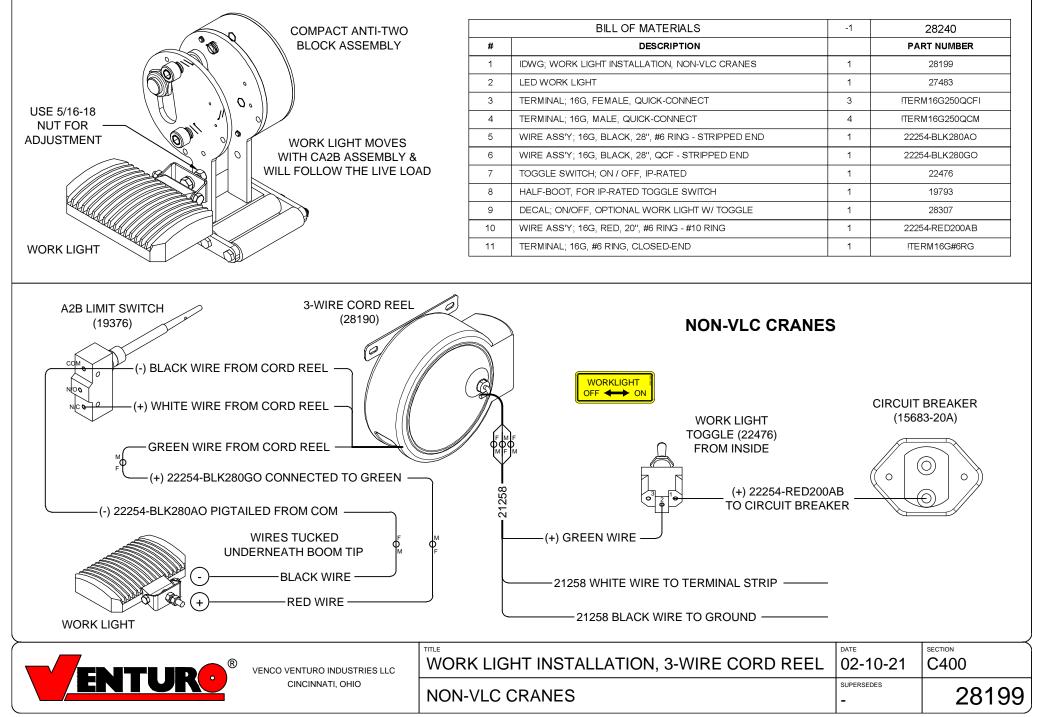
Quill Rotation	Slew Rotation Single Pole Slip-Ring	Slew Rotation 2-Pole Slip- Ring (ET6K ONLY)	Slew Rotation 2-Pole Slip- Ring (ET8-18KX)	Slew Rotation 2-Pole Slip- Ring (ET25-36KX)	ALL CRANES		16780 B	ILLS OF MATERIALS			
16780	16780 - 1	16780 - 2P6	16780 - 2P8	16780 - 2P25	16780 - KIT						
		Q	TY			#	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	15 5612-162-62 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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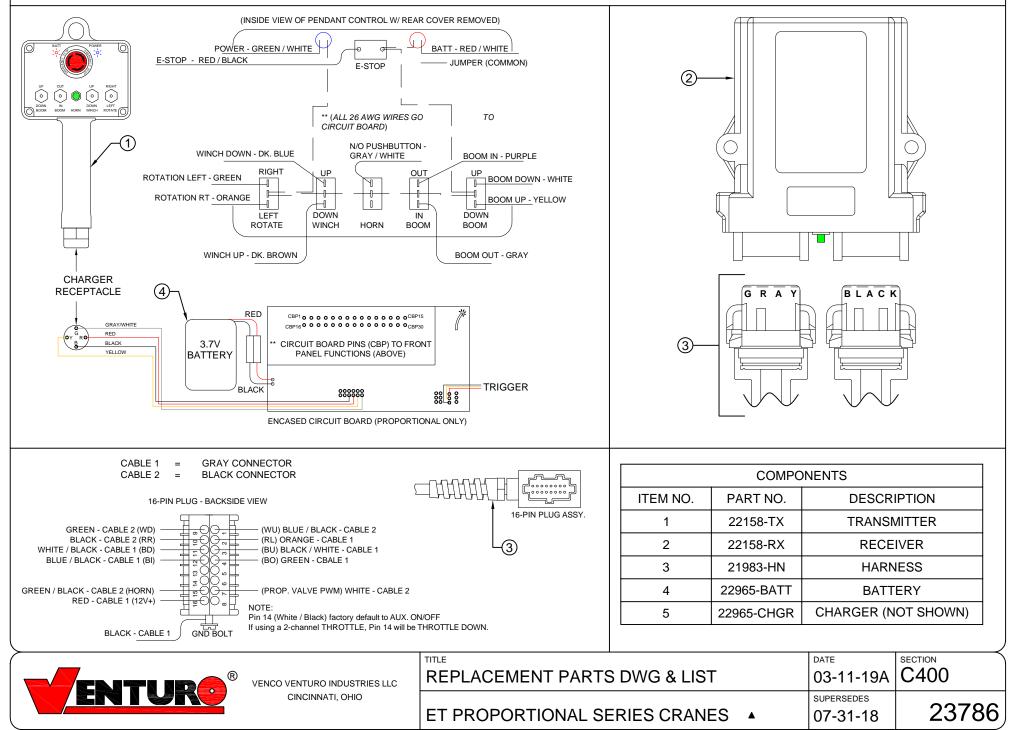
TITLE	DATE	SECTION
16780 REPLACEMENT PARTS	03-29-19A	C400
	SUPERSEDES	04000
ET6/8/12/16/18/25/30/36K(X)	04-27-18	21292



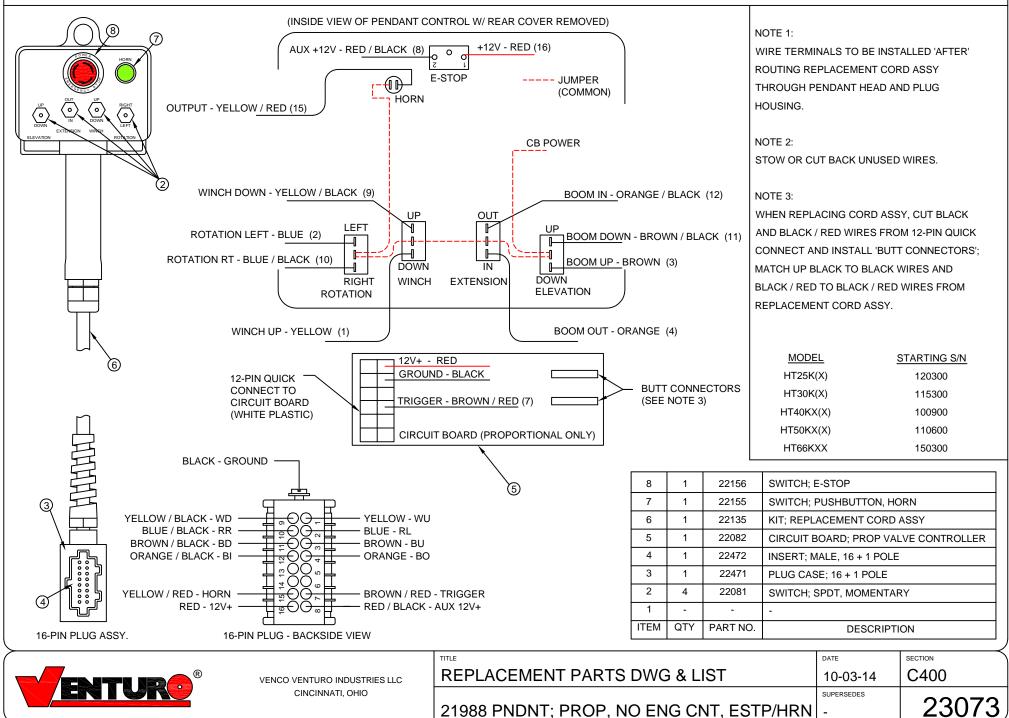
WORK LIGHT INSTALLATION: 28240-1 (3-WIRE CORD REEL ON NON-VLC CRANES)

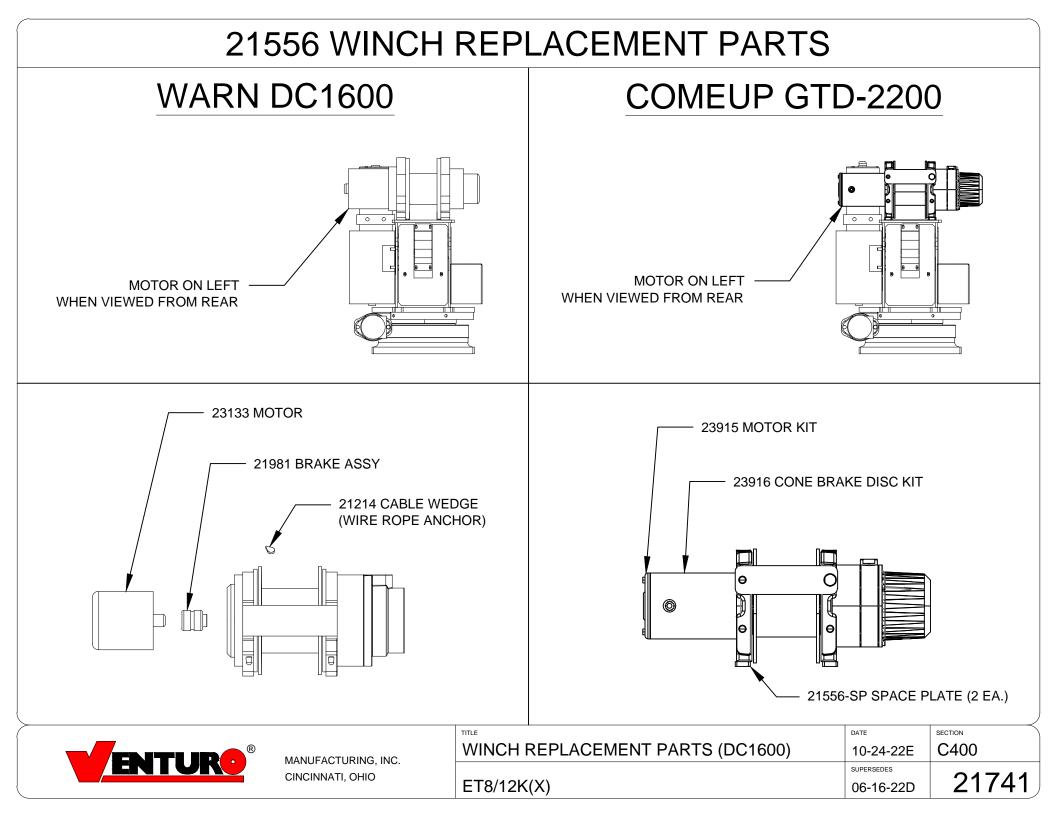


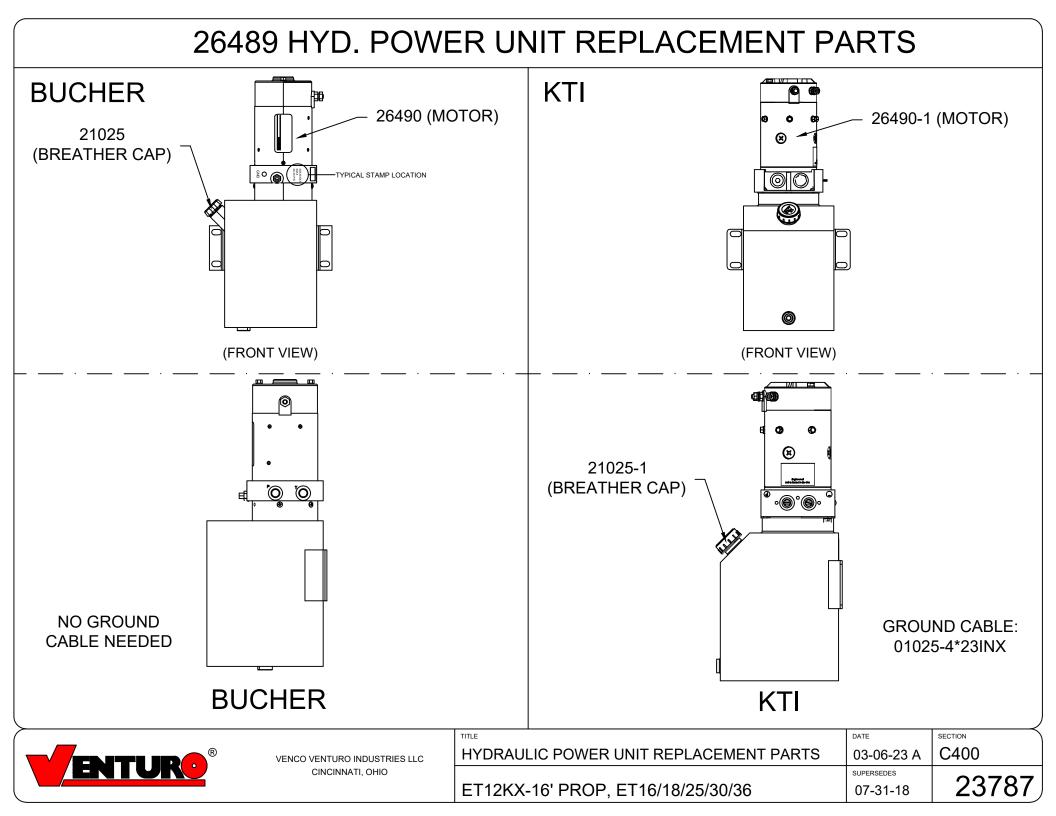
22158 RADIO; PROP, NON-CAN, NO ENG CNTRLS, E-STOP/HORN

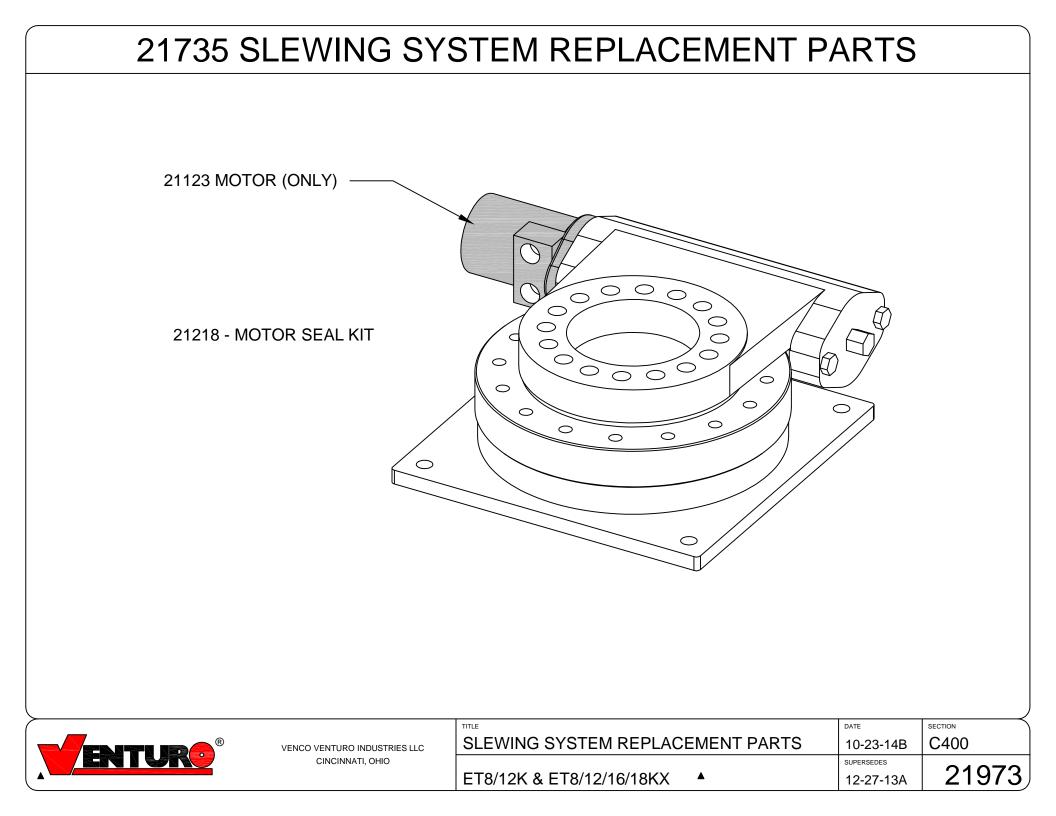


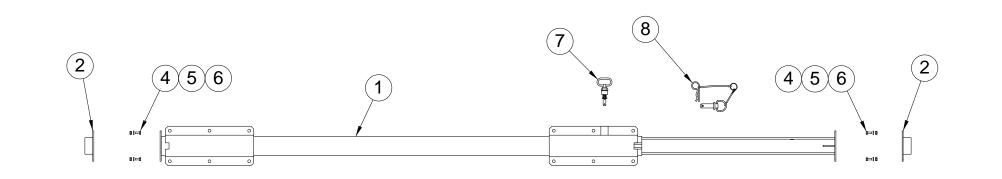
21988 PENDANT; PROP, NO ENG CNTRL, E-STOP / HORN

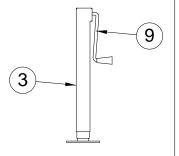












SECTION

C400

22689

9	2	18586-HANDLE	HANDLE, CRAND-DOWN LEG
8	1	24981	STABILIZER SECURITY PIN
7	1	18520	SPRING LOADED ASSEMBLY
6	8	!LWSH-031	LOCKWASHER - 5/16
5	8	!HNUT-03118	HEX NUT - 5/16-18
4	8	!HHCS03118075	HEX HEAD CAP SCREW - 5/16-18 X 3/4" LONG
3	2	18586	CRANKDOWN LEG
2	2	18587	CRANKDOWN LEG ADAPTER
1	1	18501	TUBE - STABILIZER ASSEMBLY
ITEM	QTY	PART NO	DESCRIPTION

DATE

12-27-13D

07-28-10C

SUPERSEDES

18500-CD MANUAL STABILIZERS

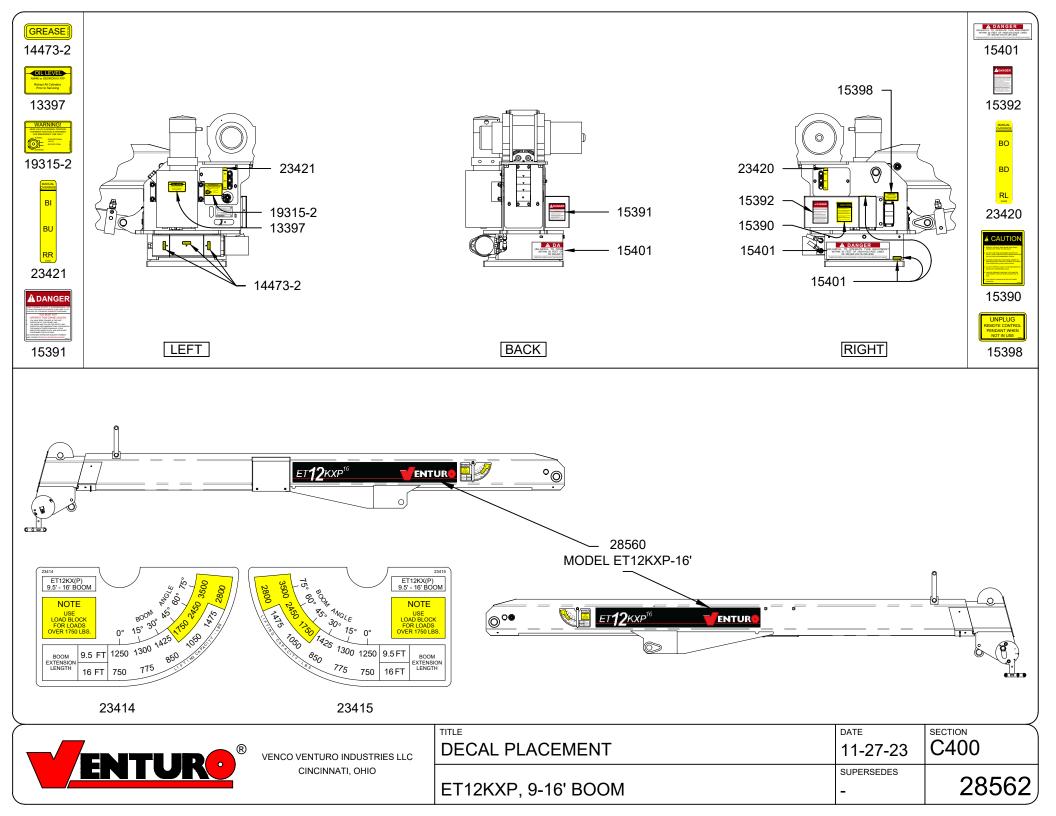
REPLACMENT PARTS DRAWING & LIST

TITLE



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23417 (ET12KXP) FIELD SERVICE LABEL KIT

PART NO.	QTY	DESCRIPTION
14473-2	6	DECAL; GREASE
28560	2	DECAL; MODEL ET12KXP-16'
23415	1	DECAL; BOOM CAPACITY, RIGHT, ET12KXP 9-16' BOOM
23414	1	DECAL; BOOM CAPACITY, LEFT, ET12KXP 9-16' BOOM
13397	1	DECAL; OIL LEVEL
23420	1	DECAL; DIRECTIONAL VALVE, MANUAL OVERRIDE, RIGHT
23421	1	DECAL; DIRECTIONAL VALVE, MANUAL OVERRIDE, LEFT
19315-2	1	DECAL; PROPORTIONAL VALVE MANUAL OVERRIDE
16184-1	1	DECAL; HORN RELAY
28563	1	IDWG; FIELD SERVICE LABEL KIT
28562	1	IDWG; DECAL PLACEMENT
INST-23233	1	SAFETY MANUAL; VENTURO CRANES
15397	1	KIT; ACCIDENT PREVENTION SIGNS



TITLE

FIELD SERVICE LABEL KIT	11-27-2
	SUPERSEDES
ET12KXP, 9-16' BOOM	-

DATE

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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Revised: January 2015

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