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PARTS & INSTALLATION MANUAL 3215E

Included in this manual:

3215E

- 3,200 lbs. Electric Telescopic Service Crane.
- 6 10 ft Powered, Single-Stage, Boom Extension
- 10 14 ft Manual, Pullout, Boom Extension
- Proportional Controls & Non-Proportional Controls.

VENCO VENTURO INDUSTRIES LLC 12110 BEST PLACE | CINCINNATI, OHIO 45241 800-226-2238



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

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| 12-00073 VNT1 | WARRANTY PAGE |

12-00073_VNT1 WARRANTY PAGE

SECTION 100

DESCRIPTION & SPECIFICATIONS



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

SPECIFICATIONS

12-volt battery operated

10,000 ft-lb overturning moment (or as limited by truck stability)

Moment overload shut-off system

Electric winch - 1,600 lb single-line capacity with automatic load brake

Electric-hydraulic boom elevation

Electric-hydraulic boom extension - 4 ft stroke

Electric-hydraulic continuous power rotation

Corded remote control pendant

Radio remote control pendant (optional)

Master disconnect switch

Accessories (optional):

Stabilizers: 18500, 13500, 11822-2

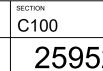
Pedestal: 26027

Boom Rest: 21440

| TELESCOPIC BOOM | 7 - 15 ft |
|---------------------|----------------|
| BOOM ELEVATION | -5° TO 75° |
| BOOM HYD EXTENSION | 4 ft |
| BOOM MANUAL EXT | 4 ft |
| CAPACITY | 650 lb @ 15 ft |
| | 3200 lb @ 3 ft |
| WIRE ROPE | 1/4" x 65 ft |
| PENDANT CORD LENGTH | 25 ft |



TITLE

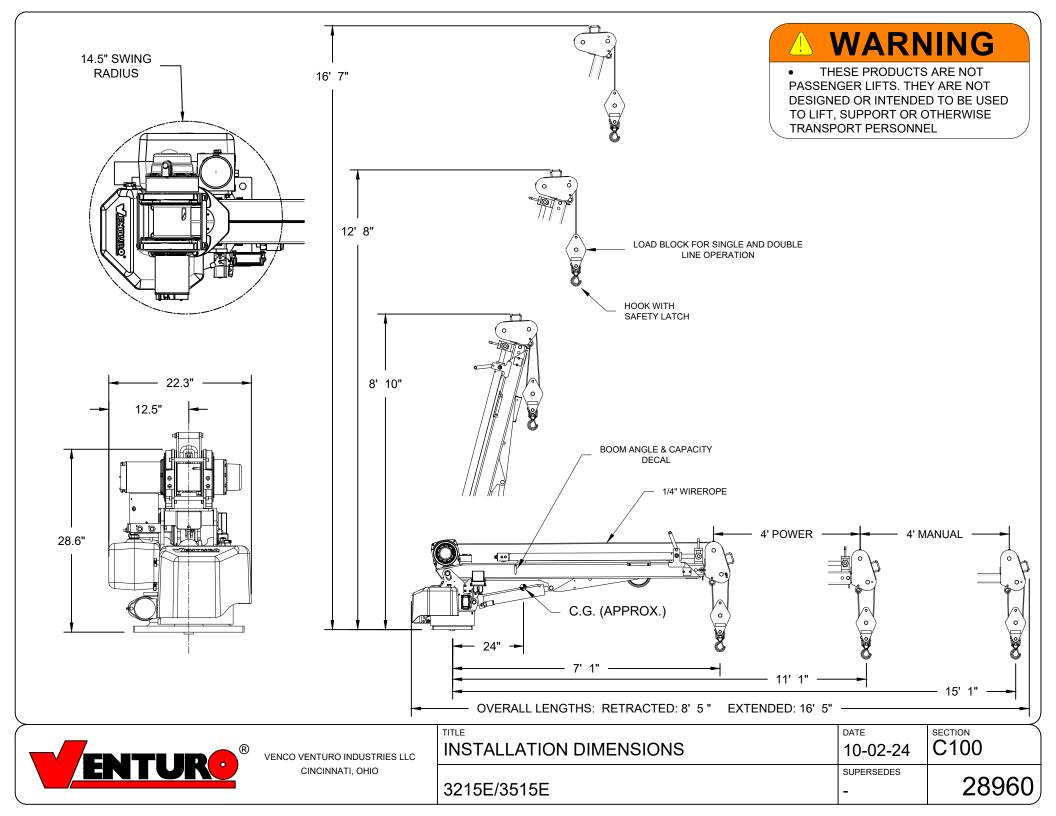


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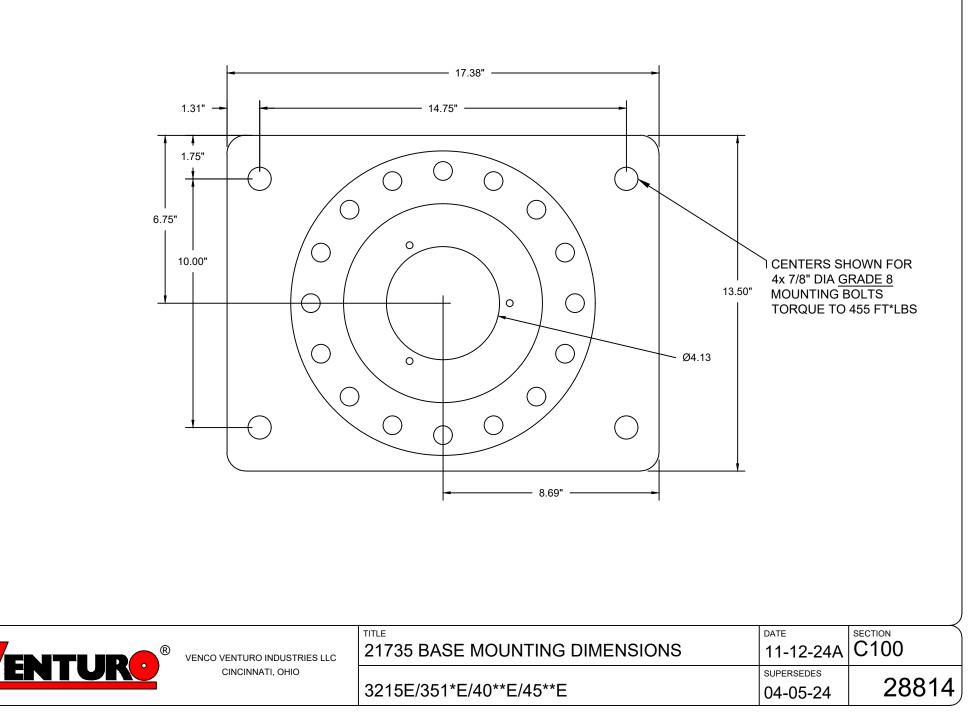
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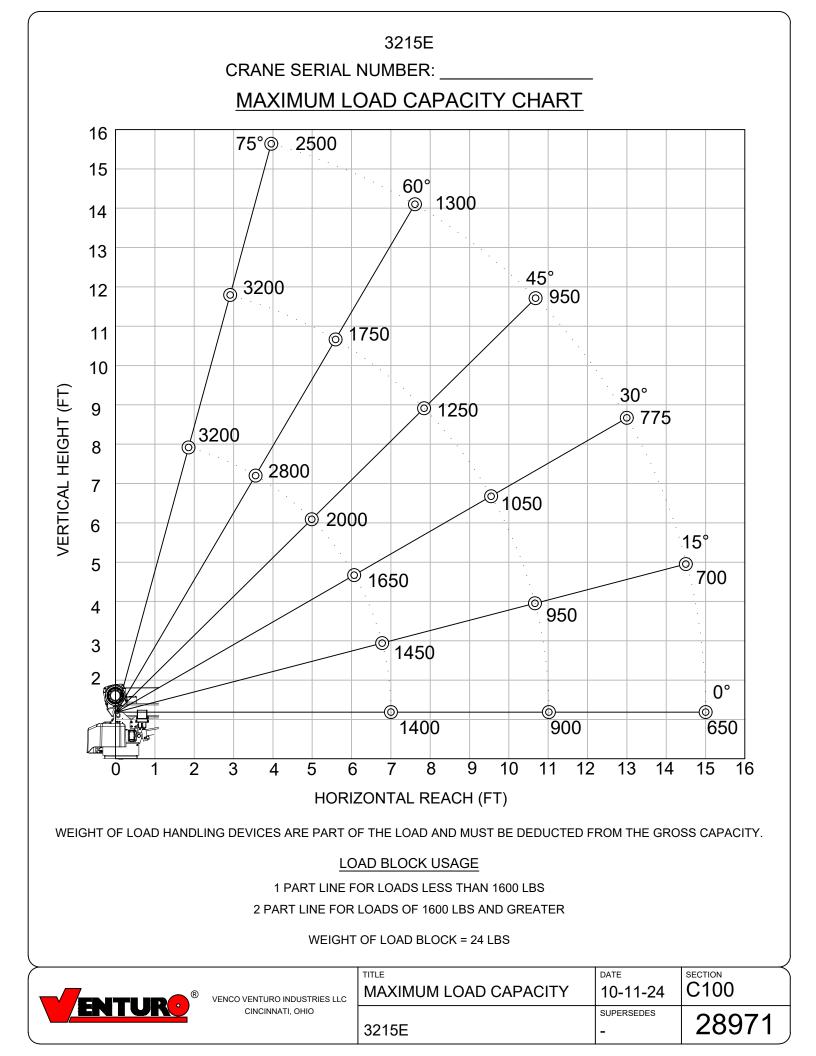
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SUPERSEDES









SECTION 150

SAFETY



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

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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| TITLE | |
|-----------------------|--|
| SAFETY & HZRDS, CONT. | |
| ELECTRIC CRANES | |

| DATE | SECTION |
|------------|---------|
| 01-29-15 | C15 |
| SUPERSEDES | _ |

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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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VENTURO CRANES

SAFETY DECALS

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

| PART NO.: | 15513 | | DISCONNECT |
|-----------|--|--------|---|
| DECAL: | MASTER DISCONNECT SWITCH | | NUST OF FUE |
| FUNCTION: | To inform the operator of location and operation of master disconnect switch. | (| |
| QUANTITY: | 1 | | CHAN OLE WHELE |
| PLACEMEN | : On master disconnect switch bracket. | | MANE NOT IN US |
| PART NO.: | 20927 | | IS T A B I L I T Y C H A R T |
| DECAL: | CRANE STABILITY | | A D A N G E R |
| FUNCTION: | To inform the operator of the crane's lifti capacity throughout the entire rotation. | ng | NOLITING ART TRAITING IN BE ART 200 11 200 11 200 12 200 12 20000000 200 12 200 10 10 200 10 200 1000 10 |
| QUANTITY: | 1 | | |
| | : In prominent location, so it is easily see readily identifiable. | en and | |
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| O VENTURO INDUSTRIES LLC | | DATE 06-06-14C | C150 | |
|--------------------------|--------|-------------------------|-------|--|
| CINCINNATI, OHIO | CRANES | supersedes 04-02-13B | 21384 | |

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.: | 28974-1 & 28974-2 | | | Ň |
|---------------------|------------------------------------|---|---|--|
| DECAL: | CRANE CAPACITY 3215E | 28974-1 3215E 7-11-15 BOOM | 215E 15 BOOM | 4 × - <mark>8 8 9</mark> |
| FUNCTION: | To show the operator the operating | | | 200 3 200 3 2000 3 200 3 2000 3 2000 3 2000 3 20 |
| | capacities of crane. | 75 0° OVER 1600 LBS. 0 0° 1050 1450 1400 ZET | LOADS 1600 LBS. 0° 15° 39 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 650 201 10 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| QUANTITY: | 1 | 27 75 950 900 11FT 270 650 15FT | SION 11 FT 900 950 | 115 |
| PLACEMENT: | One on each side of boom. | | | |
| | | | | |
| PART NO.: DECAL: | 28973 MODEL 3215E | | | |
| FUNCTION: | To show the model of the crane. | 215E | | |
| QUANTITY: | 2 | | | |
| PLACEMENT: | One on each side of boom. | | | |
| | | | | |
| | | | | |
| INT | ENTIONAL | I Y I F F T | ΒI | ANK |
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| INT | ENTIONAL | LY LEFT | ΒL | ANK |
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| INT | ENTIONAL | LY LEFT | ΒL | ANK |
| | | | | |
| | | | | |
| | | ТІТLЕ | DATE | SECTION |
| | MANUFACTURING, INC. | MODEL/CAPCTY DECALS | 10-11-24 SUPERSEDES | C150 |
| | CINCINNATI, OHIO | 3215E | supersedes | 28972 |

PART NO.: 27007-03a

DECAL: LOAD BLOCK CAPACITY DECAL

FUNCTION: To show the capacity of load block.

QUANTITY: 2

PLACEMENT: Each side of load block.

PART NO.: 19315-2

DECAL: MANUAL OVERRIDE (PROPORTIONAL)

FUNCTION: To show operator how to override proportional valve

QUANTITY: 1

PLACEMENT: Inside rear cover

PART NO.: 28870-1 (RIGHT) & 28870-2 (LEFT) DECAL: MANUAL OVERRIDE DECAL

FUNCTION: To show the manual override ports.

QUANTITY: 1

PLACEMENT: Inside rear cover.

PART NO.: 17813

DECAL: OVERLOAD SENSING SYSTEM DECAL

FUNCTION: To advise operator of overload sensing system.

QUANTITY: 1

PLACEMENT: Location may vary.

PART NO.: 14459 (WITH OPTIONAL ALARM)

DECAL: OVERLOAD ALARM SYSTEM DECAL

FUNCTION: To advise operator of overload alarm system.

QUANTITY: 1

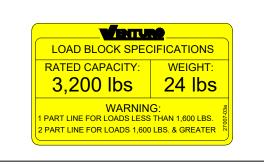
PLACEMENT: Location may vary.



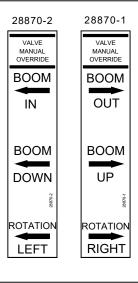
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO TITLE

3215E

ADDITIONAL DECALS



| WAR | NING! | |
|--------------|---|---------------|
| OVERRIDE POS | NORMAL POSITION. ITION IS INTENDED ENCY USE ONLY. | |
| NORMAL | PROPORTIONAL VALVE ROTATE STEM | 19315-2 Rev B |



CRANE IS EQUIPPED WITH AN OVERLOAD SENSING SYSTEM

CANE IS EQUIPPED WITH AN OVERLOAD SENSING STOTEM IF OVERLOADE. THE WINCH PLOOD DOWN, AND (OPTIONAL) BOOM OUT FUNCTIONS WILL AUTOMATICALLY SHUT OFF TO PREVENT INCREASED OVERLOAD. ON CRANES EQUIPPED WITH AN OPTIONAL OVERLOAD AJARNI, TWILL ALSO SOUND. IF AN OVERLOAD OCCURS, USE THE WINCH DOWN, BOOM UP OR BOOM IN FUNCTIONS TO BELIEVE THE OVERLOAD. REVENTION OF TOP LIMPT OF TRAVEL TO RELIEVE THE SOUND ELEVATION IS AT THE BOTTOM OF TOP LIMPT OF TRAVEL TO RELIEVE THE SOUND ELEVATION IS AT UNITED SUBJECT TO REVENTION FOR ELEVATION IS AT SECTION OF TOP LIMPT OF TRAVEL TO RELIEVE THE SOUND TOON, RAISE OR LOWERT THE BOOM SLIGHTLY BEFORE LIFTING THE LOAD. SEE MANUAL FOR TESTING 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

THIS CRANE IS EQUIPPED WITH AN OVERLOAD ALARM SYSTEM OVERLOAD ALARM HORN SOUNDS IF RATED LOAD IS EXCEEDED AT ANY REACH. IF ALARM SOUNDS, RAISE BOOM OR LOWER WINCH TO REMOVE OVERLOAD.

ALWAYS RAISE BOOM SLIGHTLY BEFORE LIFTING LOAD. WARNING SYSTEM INOPERATIVE WHEN CYLINDER IS COMPLETELY BOTTOMED.

ALARM CAN BE TESTED BY TYING DOWN BOOM WITH WINCH CABLE AND OF 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

DATE

11-12-24

SUPERSEDES

SECTION

C150

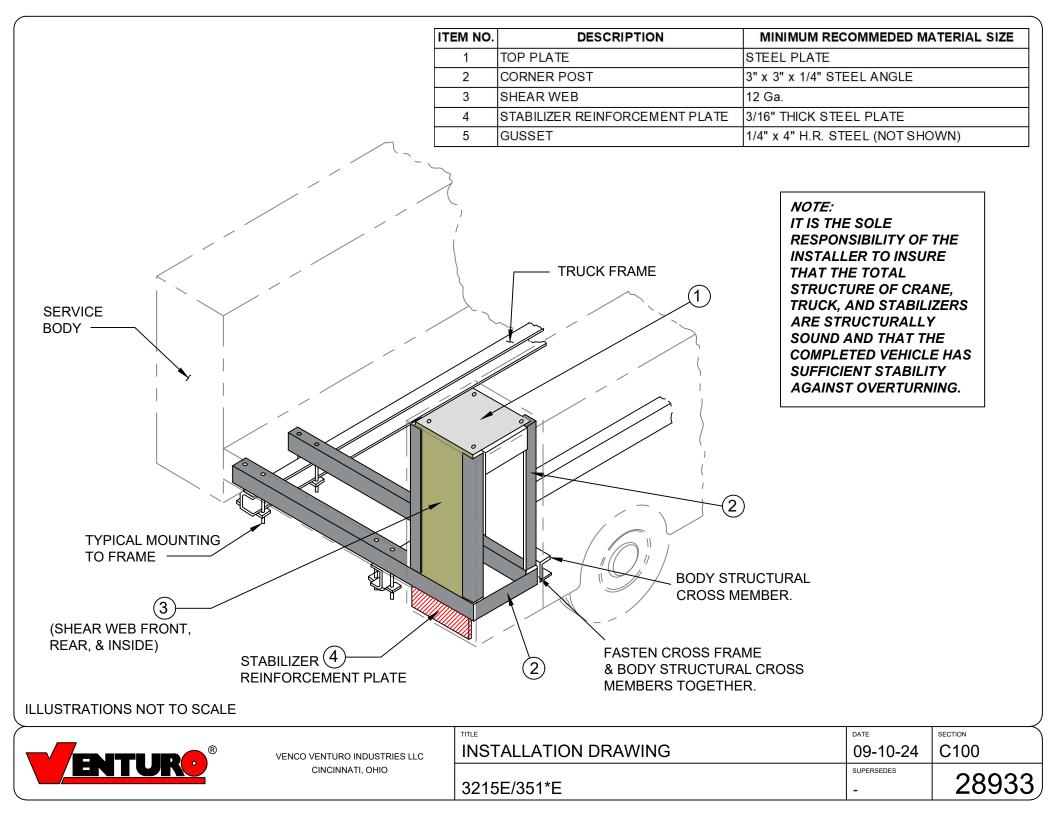
2897

SECTION 200

INSTALLATION



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO



!! IMPORTANT !!

ADEQUATE WIRING IMPERATIVE FOR PROPER OPERATION

- PROPER GROUND PATH SEE DWG 28821 1.
- 2. CURRENT DRAW IS SEVERAL HUNDRED AMPERES -ADEQUATE WIRE SIZE AND BATTERY CAPACITY IS ABSOLUTELY ESSENTIAL (SEE CHART BELOW).

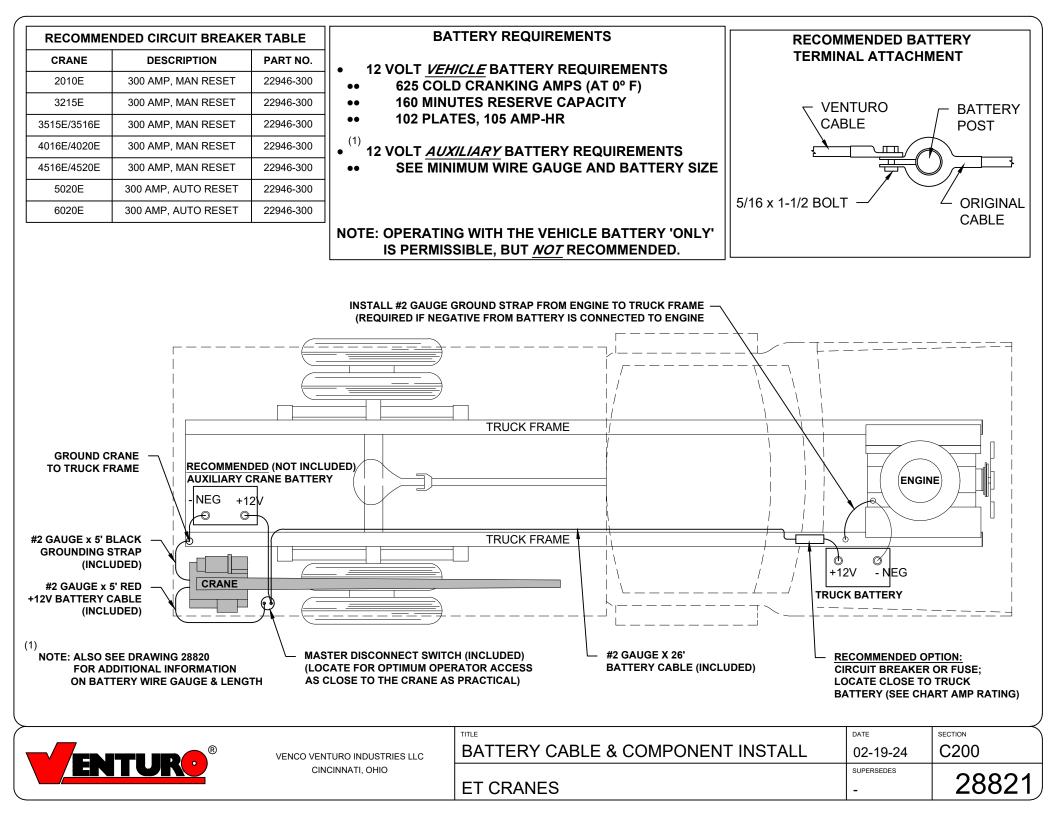
| MINIMUM WIRE GAUGE AND AUXILIARY BATTERY SIZE | | | | | | | | | | |
|---|------------------------------------|-------|-------|-------|-------|--------|-------|------------------------|------------|--------------|
| MODEL | MODEL TOTAL LENGTH OF CABLE (FT) * | | | | | | - | UXILIARY QUIREMENTS | | |
| | 0-20 | 21-25 | 26-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | CCA (A) ** | RC (MIN) *** |
| 2010E | #2 | #2 | #1 | #0 | #00 | NOT R | ECOMN | IENDED | 450 | 100 |
| 3215E 3515E 3516E | 515E | | | | | IENDED | 550 | 150 | | |
| 4016E SEE DRAWING 28821 FOR CABLE AND BATTERY 4020E REQUIREMENTS 4516E 5020E 6020E 020E | | | | | | | | | | |

INCLUDES GROUND CABLE

- 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.

CINCINNATI, OHIO





STABILITY TEST - 3215E

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>764 lbs</u>, (includes load block weight of <u>24</u> lbs.) to a *maximum of 800 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 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:
- 11. Note: The "*Max Stable Reach in inches"* is measured (horizontally) from the *center of rotation* of the crane housing to the *lifting load hook.*

"Max Stable Reach" in inches"

X 100

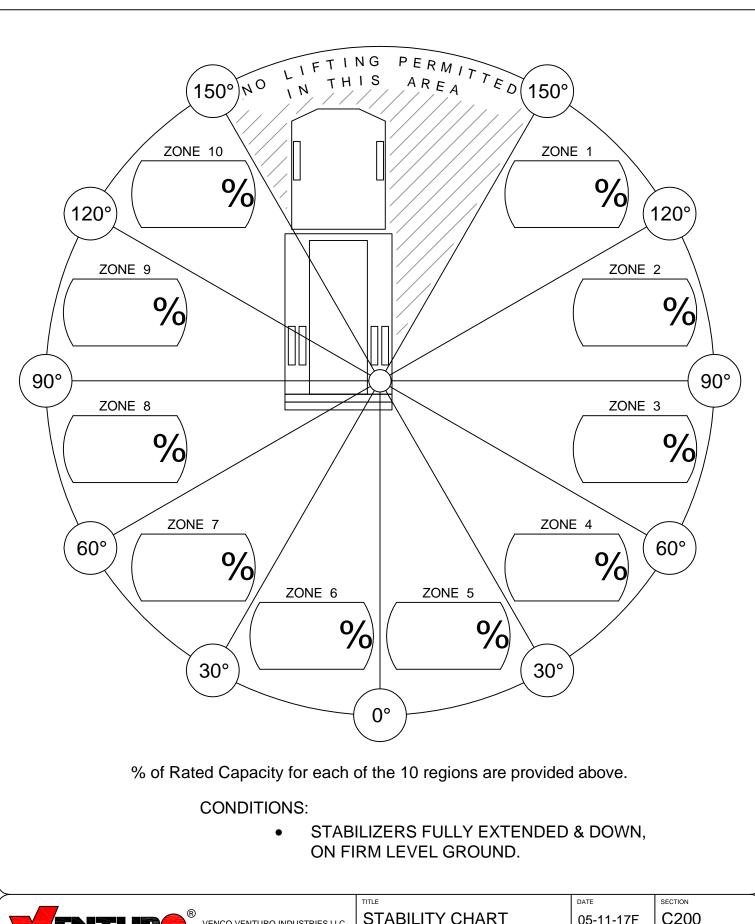
181

- 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 =

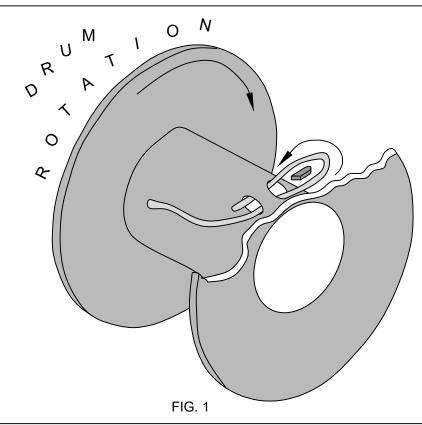
| STABILITY TEST | 10-11-24 | C200 |
|----------------|------------|-------------|
| 3215E | SUPERSEDES | 20906-3215E |
| | | SUPERSEDES |

CRANE STABILITY

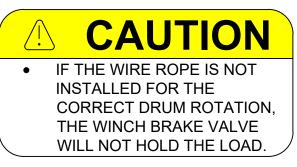


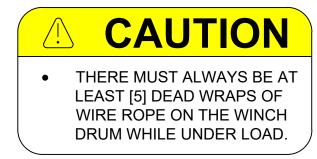
| VENCO VENTURO INDUSTRIES LLC | STABILITY CHART | 05-11-17F | C200 |
|------------------------------|-----------------|------------|-------|
| CINCINNATI, OHIO | VENTURO CRANES | SUPERSEDES | 20907 |
| | VENTURO CRAINES | 02-21-14E | 20001 |

WIRE ROPE INSTALLATION



- STEP 1: UNWIND COIL OF WIRE ROPE BY 'ROLLING' ALONG THE FLOOR. THIS WILL PREVENT 'KINKING'.
- STEP 2: INSERT WIRE ROPE END UP THROUGH ANTI-2-BLOCK (A2B) ASSEMBLY, BETWEEN CHEEK PLATES, OVER THE TOP SHEAVE, AND THROUGH WIRE ROPE GUIDE.
- STEP 3: INSERT WIRE ROPE END INTO POCKET OPENING ON WINCH, WRAP AROUND WEDGE, AND BACK THROUGH POCKET OPENING AS SHOWN IN FIGURE 1.





NOTE: SOME WINCHES MAY BE SUPPLIED WITH A HEX NUT IN LIEU OF A WEDGE FOR INSTALLING THE WIRE ROPE.



| с | WIRE ROPE INSTALLTN | 02-20-24 SUPERSEDES | C200 |
|---|-----------------------|------------------------|--------|
| | 2010E & LARGER CRANES | - | 28822) |

SECTION 300

OPERATION & MAINTENANCE



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

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 2010E, or

1600 lbs. for the 3215E, or

1750 lbs. for the 3515E/3516E 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.



| | TITLE | DATE | SECTION |
|-------------|-------------------|------------|---------|
| USTRIES LLC | INSTALLATION DWG | 09-12-24 | C200 |
| OHIO | | SUPERSEDES | 00000 |
| | 2010E/3215E/351*E | - | 28939 |

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

CONTROL FUNCTIONS

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

POWER EXTENSION - "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.

POWER ROTATION - "L" and "R" control the direction of rotation. The 2010E. 3215E or 351*E can be rotated continuously thru 360° or more. There are no restrictions on the number of rotations in any direction.

CONTROL PRIORITY SYSTEM (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.

CINCINN

TRIGGER (351*E) - 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.



| | INSTALLATION DWG | ^{DATE} 09-12-24 | SECTION C200 |
|--------------------------------|-------------------|--------------------------|-----------------|
| O INDUSTRIES LLC IATI, OHIO | INSTALLATION DWG | U9-12-24 | 0200 |
| | 2010E/3215E/351*E | - | 28940 |

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.

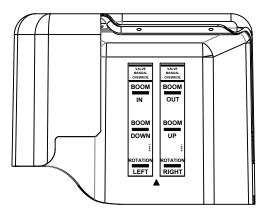


MANUFACTURING, INC CINCINNATI, OHIO

| TITLE | DATE | SECTION |
|-------------------|------------|---------|
| INSTALLATION DWG | 09-12-24 | C200 |
| 2010E/3215E/351*E | SUPERSEDES | 28941 |

MANUAL OVERRIDE INSTRUCTIONS 3215E/351*E/40**E/45**E 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 inside the plastic cover near the valve assembly. These decals provide a visual aid that helps the operator determine the function designations.

2-STATION FUNCTIONS:

BI

BD

RL

1.

2.

2.1. 2.2.

=

=

=

Procedure:

Boom In

Rot. Left

Boom Down BU

Turn Master disconnect switch to "ON"

RADIO - Press green ON button

Power up the pendant / radio

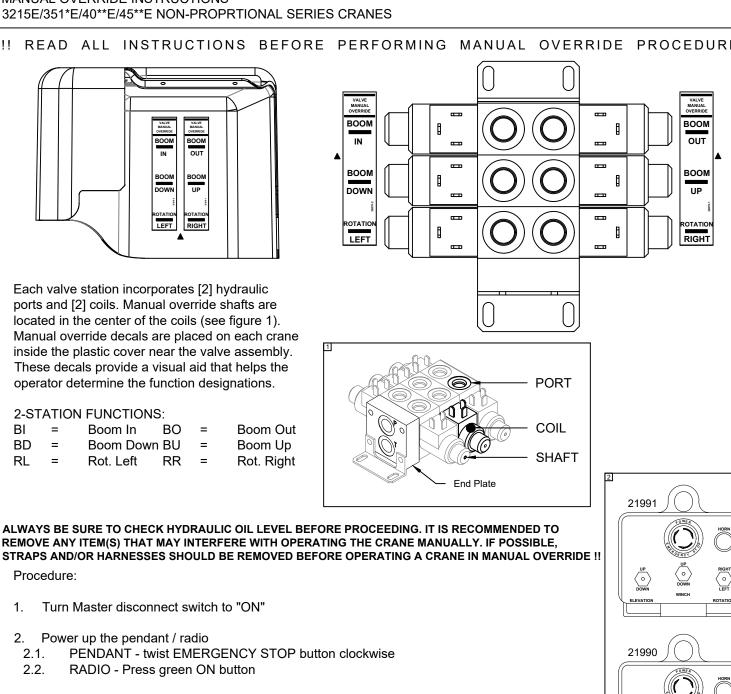
BO

RR

=

=

=



3. Inside the plastic cover, reference the function you wish to perform using the manual override decal

TITLE

MAN. OVERRIDE INSTR.

NON-PROPORTIONAL VALVE

3215E/351*E/40**E/45**E

Using a tool with a diameter of 1/8" or smaller, press the shaft inward and hold 4.

Boom Out

Boom Up

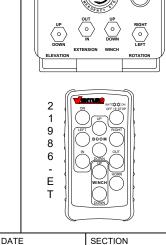
Rot. Right

- Reference the functions listed on your pendant or radio (see figure 2) 5.
- 6. Press the switch or button for the same function
- If you need to change function, 7.
- Release switch or button 7.1.
- 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.



| ENCO VENTURO INDUSTRIES LLC |
|-----------------------------|
| CINCINNATI, OHIO |



C200

28826

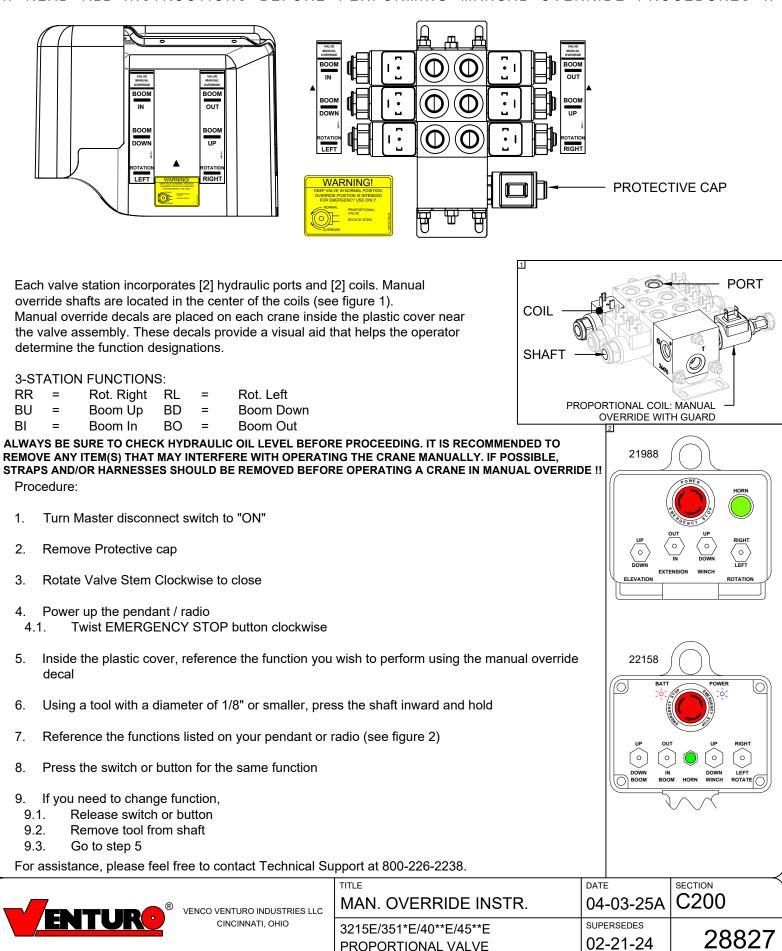
04-03-25A

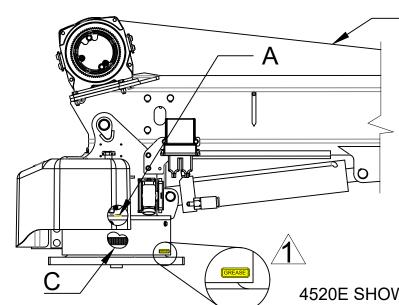
SUPERSEDES

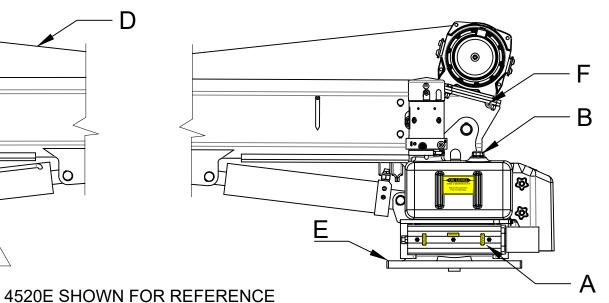
02-21-24

MANUAL OVERRIDE INSTRUCTIONS 3215E/351*E/40**E/45**E PROPORTIONAL SERIES CRANES

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







ATTENTION:

D

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

| Location | Service Required | Note | | Service Interval | |
|----------|---|---|---|--|--|
| A | | Use FUCHS Renolit Aluminum Com | Use FUCHS Renolit Aluminum Complex Grease, or equivalent | | |
| | Grease fitting With Pressure Grease Gun | | | | |
| В | 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 | |
| С | Lubricate Gear Teeth | Remove Cover & Use Chase | Time of Truck Service | | |
| D | Check Wire Rope and Hook | Rope should be free of kinks and fraying | | Time of Truck Service | |
| E | Check Torque of Base Mounting Bolts | Square Base: Torqued to 20 | Time of Truck Service | | |
| - | Check Torque of Base Mounting Bolts | Rectangular Base: Torqued | Time of Truck Service | | |
| F | Check Torque of Winch Mounting Bolts | Bolts should be torqued to 35 ft-lbs* | | Time of Truck Service | |

* 32 FT-LBS FOR 3215E/351XE WITH GTD-2200 COMEUP WINCH. SEE PAGE 28846 FOR WINCH IDENTIFICATION.



| TITLE | DATE | SECTION |
|---------------------------------|------------|---------|
| LUBRICATION & MAINTENANCE CHART | 02-20-24 | C300 |
| 3215E/351*E/40**E/45**E | SUPERSEDES | 28823 |

MINIMUM VOLTAGE TEST

ONE OF THE MOST COMMON ELECTRICAL PROBLEMS ENCOUNTERED ON 12 VOLT ELECTRICAL CRANES IS INSUFFICIENT VOLTAGE AT THE MOTOR WHEN DRAWING THE LARGE CURRENT THAT EXISTS AT FULL LOAD

EXTEND BOOM CYLINDER – AGAINST "UP" STOP (RELIEF VALVE WILL OPEN)

VOLTAGE AT MOTOR TERMINAL WHEN OPERATING AGAINST RELIEF VALVE SHOULD BE A MINMUM OF 9 VOLTS

BOOM ELEVATING – ELECTRIC HYDRAULIC POWER UNIT

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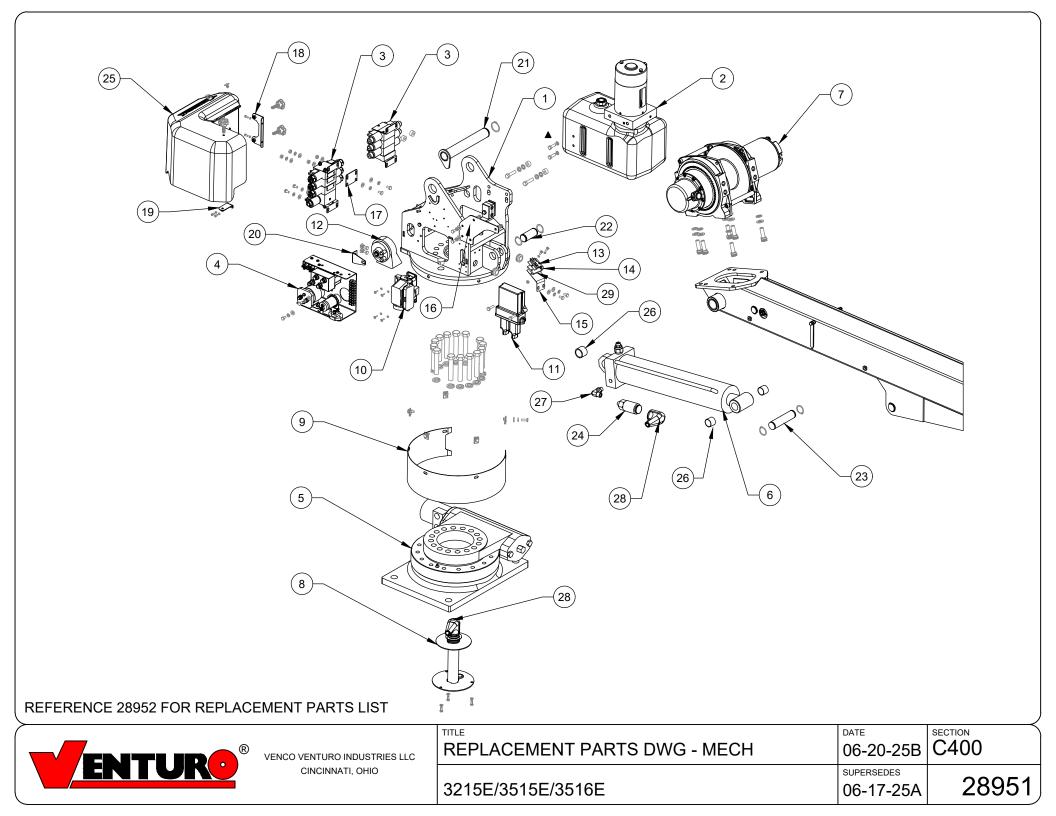
| MANUFACTURING, INC. | MINIMUM VOLTAGE TEST | DATE 02-20-24 | section C300 |
|---------------------|----------------------|------------------|-----------------|
| CINCINNATI, OHIO | ET SERIES CRANES | SUPERSEDES | 28824 |

SECTION 400

REPLACEMENT PARTS

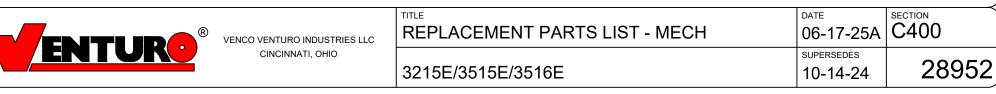


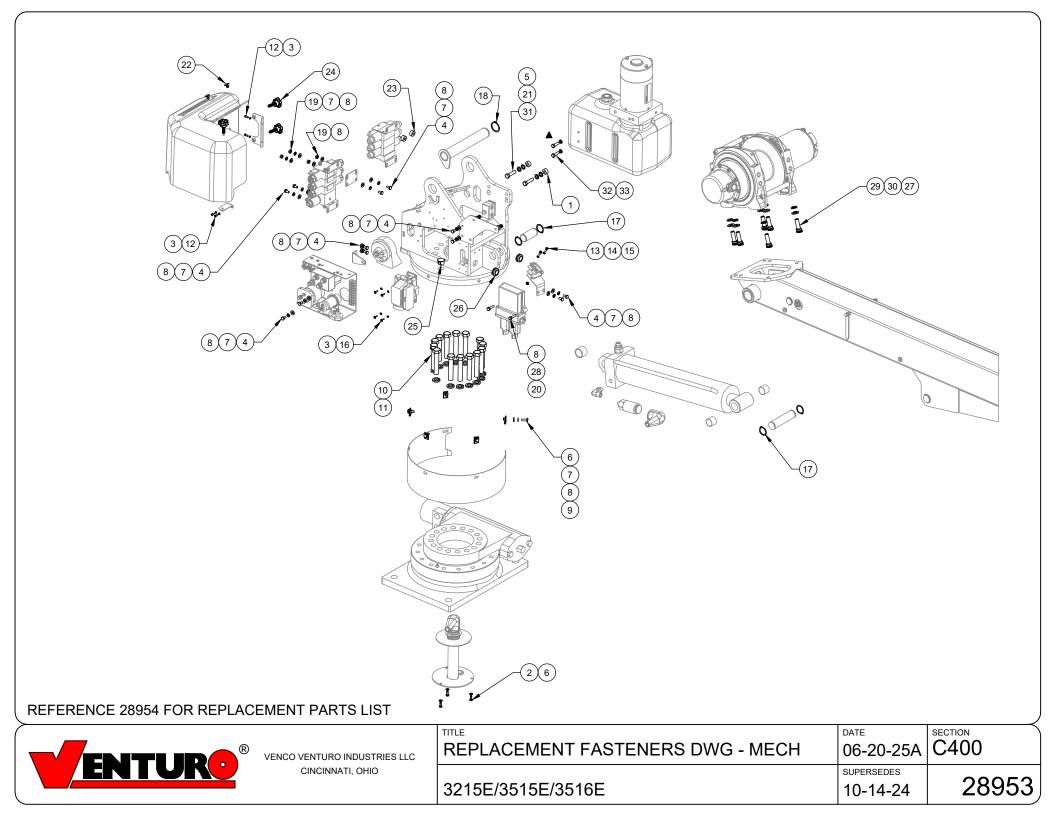
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO



| ITEM NO. | NON-PROP | PROP | | DESCRIPTION | | | | | |
|----------|----------|------|-----------|--|----------|-------|-------|-------|---------------------------|
| | QT | Υ. | | DESCRIPTION | | | | | |
| 1 | 1 | 1 | 28637 | HOUSING WELDMENT ASSEMBLY | | | | | |
| 2 | 1 | 1 | 28720 | HYDRAULIC POWER UNIT | | | | | |
| 3 | - | 1 | 28800 | VALVE BLOCK ASSY; 3-SPOOL W/ PROP VALVE. | | | | | |
| 3 | 1 | - | 28801 | VALVE BLOCK ASSY; 3-SPOOL W/ NON-PROP V. | | | | | |
| 4 | 1 | 1 | 28700 | ELECTRICAL COMPONENT PANEL | | | | | |
| 5 | 1 | 1 | 21735-1 | SLEWDRIVE W/ CAST RECTANGULAR BASE | | | | | |
| 6 | 1 | 1 | 23059 | ELEVATION CYLINDER | | | | | |
| 7 | 1 | 1 | 21556 | ELECTRIC WINCH | | | | | |
| 8 | 1 | 1 | 16780-2P8 | ASSY; 2-POLE SLIP-RING | | | | | |
| 9 | 1 | 1 | 21185 | ROTATION GEAR GUARD | | | | | |
| 10 | 1 | 1 | 22480 | SOCKET ASSY; 16 + 1 POLE | | | | | |
| | - | 1 | 22158 | RADIO, ET, PROPORTIONAL | | | | | |
| 11 | 1 | - | 21986-ET | RADIO, ET, NON-PROPORTIONAL | | | | | |
| 12 | 1 | 1 | 21948 | HORN | | | | | |
| 13 | 1 | 1 | 19918 | BOOM SHUT OFF SWITCH | | | | | |
| 14 | 1 | 1 | 19917 | BOOM SHUT OFF SWITCH BRACKET | | | | | |
| 15 | 1 | 1 | 28641 | SHUT OFF SWITCH ADJUSTABLE BRACKET | | | | | |
| 16 | 1 | 1 | 28642 | BRACKET; RADIO RECEIVER. | | | | | |
| 17 | - | 1 | 28803 | ADAPTER PLATE, PROP VALVE ASSY | | | | | |
| 18 | 1 | 1 | | PLASTIC COVER BACK BRACKET WELDMENT | | | | | |
| 19 | 1 | 1 | 28647 | PLASTIC COVER SIDE BRACKET WELDMENT | | | | | |
| 20 | 1 | 1 | 22000 | BRACKET; HORN | | | | | |
| 21 | 1 | 1 | 28690 | BOOM PIVOT PIN - WELDMENT | | | | | |
| 22 | 1 | 1 | 21172 | ELEVATION CYLINDER INBOARD PIN | | | | | |
| 23 | 1 | 1 | 21547 | ELEVATION CYLINDER OUTBOARD PIN | | | | | |
| 24 | 1 | 1 | SEE TABLE | PRESSURE SWITCH | | 3215E | 3515E | 3516E | |
| 25 | 1 | 1 | 28740 | PLASTIC COVER | ITEM NO. | | QTY. | | |
| 26 | 3 | 3 | 21789 | POLY BEARING - ELEVATION CYLINDER | | 1 | - | - | 17460-2200-2 ² |
| 27 | 1 | 1 | | FITTING, ADAPTER, 90°, 6MOFS-6MORB | 24 | - | 1 | 1 | 17460-2400-21 |
| 28 | 1 | 1 | 17012 | BOOT: PRESSURE SWITCH | | 1 | I | . · | |
| 29 | 1 | 1 | | TOP ANGLE SWITCH BLOCK | | | | | |

REFERENCE 28951 FOR REPLACEMENT PARTS DRAWING





| 20900 TOR RELEASEMENT FARTS DRAWING | | | |
|-------------------------------------|-----------------------------------|------------|---------|
| | TITLE | DATE | SECTION |
| | REPLACEMENT FASTENERS LIST - MECH | 06-20-25B | C400 |
| | | SUPERSEDES | 00054 |
| | 3215E/3515E/3516E | 02-25-25A | 28954 |

REFERENCE 28953 FOR REPLACEMENT PARTS DRAWING

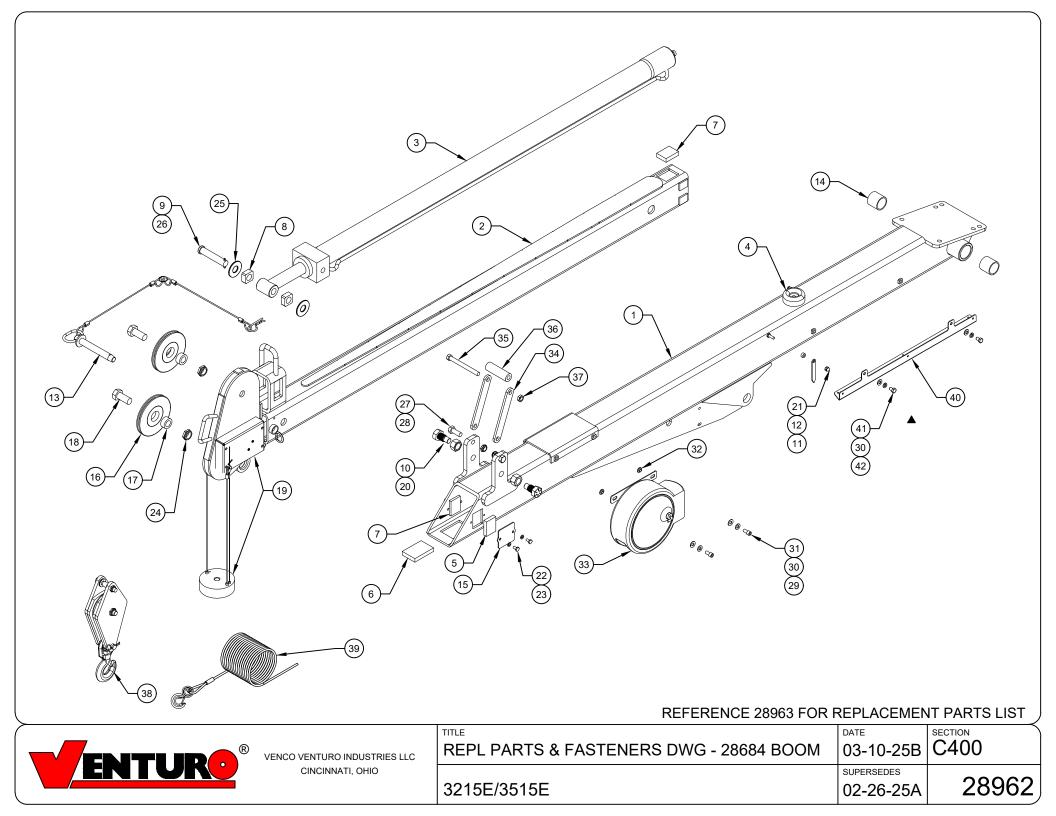
NON-PROP

PROP

* : USED WITH KTI HPU ONLY

** · USED WITH BUCHER HPU ONLY

ITEM NO. PART NUMBER DESCRIPTION QTY. 1* 2 2 28804 ALUMINUM SPACER 2 3 3 ILWSH-025-STAR-SS LOCK WASHER, 1/4" STAR, SS 3 8 8 !LWSH-08S LOCK WASHER; #08, SS 4 10 12 !HHCS02520050S HEX HEAD CAP SCREW 1/4-20 X 1/2 LG, SS 5 2 2 !LWSH-038-STAR LOCK WASHER, 3/8" STAR, ZINC 6 8 8 !HHCS02520075S HEX HEAD CAP SCREW 1/4-20 X 3/4 LG, SS 7 16 18 !LWSH-025S LOCK WASHER: 1/4". SS 8 17 21 !FWSH-025S FLAT WASHER: 1/4". SS 9 5 5 U-NUT; 1/4-20, LOCKING TYPE, ZINC !UNUT-02520-LKG 10 14 14 !HHCS06311350-5 HHCS; 5/8-11 X 3-1/2 LG, GR 5, ZINC LOCK WSHR: 5/8, ZINC 11 14 14 !LWSH-063 12 4 4 !SHCS#0832038S SHCS, #8-32 X 0.38" LG, SS 13 2 2 PHILLIPS HEAD PAN, #10-24 X 1/2LG, SS !PHPMS#1024050S 14 2 2 !HNUT-#1024S HEX NUT, 10-24, SS 15 2 2 !LWSH-#10S LOCK WASHER - #10, SS 16 4 4 !SHPMS#0832050S SLOT HEAD, #8-32 X 1/2 LG, SS 17 2 2 SNAP RING - 1-1/8" IN - PLATED !SRNG-113 !SRNG-138 SNAP RING - 1-3/8 IN - PLATED 18 1 1 19 2 4 !HNUT-02520S HEX NUT 1/4-20. SS 20 2 2 !HHCS02520100S HEX HEAD CAP SCREW 1/4-20 X 1.0 LG, SS 21 2 2 !LWSH-038 LOCK WASHER; 3/8", ZINC PUSH-IN RIVETS WITH RIBBED SHANK, 0.25" 22 2 2 28741 23 2 2 28802 NYLON SPACER 24 3 3 28742 KNOB, HAND, 5-POINT 25 2 2 25019 HOLE PLUG - 7/8 OD 26 2 2 20889 GROMMET: RUBBER, BLACK 27 4 4 !FWSH-M12 M12 FLAT WASHER, ZINC 28 2 2 JNUT, NYLON INSERT, 1/4-20, SS **!JNUT-02520NS** 29 4 4 25922 SHCS M12-175x35mm Gr.12.9, ZINC 4 4 30 M12 LOCK WASHER, ZINC !LWSH-M12-8.8 2 2 !HHCS03816150-8 HHCS 3/8-16 X 1-1/2 LG GR 8, ZINC (KTI HPU) 31 2 2 !HHCS03816125-8 HHCS 3/8-16 X 1-1/4 LG GR 8, ZINC (BUCHER HPU) 32** 2 2 !LWSH-031S LOCK WASHER; 5/16", S/S 33** 2 2 !HHCS3118100S HEX HEAD CAP SCREW 5/16-18 X 1.0 LG, S/S



REPLCEMENT PARTS LIST; 28684 BOOM

| ITEM NO. | QTY. | PART NUMBER | DESCRIPTION | |
|----------|-------|------------------------|---|--|
| 1 | 1 | 28680 | PRIMARY BOOM WELDED ASSEMBLY | |
| 2 | 1 | 28015 | TERTIARY & SECONDARY BOOM ASSEMBLY | |
| 3 | 1 | 21754 | BOOM EXTENSION CYLINDER | |
| 4 | 1 | 20285 | BUMPER - BOOM | |
| 5 | 1 | 21209 | BOOM PAD - 1-1/2 X 2 X 7/16 | |
| 6 | 1 | 21208 | BOOM PAD - 2 X 3 X 1/2 | |
| 7 | 2 | 21538 | BOOM PAD - 1-1/2 X 2 X 1/2 | |
| 8 | 2 | 21734 | THRUST ROLLER | |
| 9 | 1 | 13401-2A | ROD PIVOT PIN - 3/4 x 3-3/4 | |
| 10 | 2 | 17487 | PNOT BOLT | |
| 11 | 2 | 22490 | SPACER, BOOM ARROW 1/2" O.D. | |
| 12 | 2 | 13459-1 | BOOM ARROW 3-3/16 LONG | |
| 13 | 1 | 23042-B-14-14 | ASSY; PIN / LANYARD | |
| 14 | 2 | 21206 | POLY BEARING - PRIMARY BOOM PIVOT | |
| 15 | 2 | 21528 | BOOM PAD CAP | |
| 16 | 2 | 21630 | CABLE SHEAVE | |
| 17 | 2 | 20536 | SPACER - 20537 SHEAVE | |
| 18 | 2 | 17059-4 | SHEAVE AXLE | |
| 19 | 1 | 28860-1 | ANTI-TWO-BLOCK HOUSING ASSEMBLY | |
| 20 | 2 | !HNUT07516 | HEX NUT; 3/4-16, ZINC | |
| 21 | 2 | !ANUT-02520S | ACORN NUT 1/4-20 SS | |
| 22 | 4 | !HHCS02520050 | HEX HEAD CAP SCREW 1/4-20 X1/2 LG, ZINC | |
| 23 | 4 | !LWSH-025 | LOCKWASHER, 1/4", ZINC | |
| 24 | 2 | !LNUT-07510 | LOCKNUT 3/4-10, ZINC | |
| 25 | 2 | !FWSH-075 | FLAT WASHER 1/4", ZINC | |
| 26 | 1 | !RPIN-016125 | ROLL PIN, 5/32 X 1-1/4 | |
| 27 | 2 | | HEX HEAD CAP SCREW 1/2-13NC X 1-1/4 LG, ZINC | |
| 28 | 2 | INUT-05013N | 1/2-13 NYLON INSERT JAM NUT, ZINC | |
| 29 | 2 | 01016 | FIBER WASHER | |
| 30 | 4 | !FWSH-031S | FLAT WASHER; 5/16", SS | |
| 31 | 2 | ISHCS03118063S | | |
| 32 | 2 | 28198 | INSULATING SLEEVE WASHER - 5/16" | |
| 33 | 1 | 26577-1-20 | CORD REEL ASSEMBLY | |
| 34 | 2 | 21936 | FLAT,MOUNT;WIRE ROPE GUIDE | |
| 35 | 1 | 21330 !HHCS04414450 | HEX HEAD CAP SCREW 7/16-14 X 4-1/2 LG, ZINC | |
| 36 | 1 | 27088 | ROLLER, UHMW GUIDE | |
| 37 | 1 | IJNUT-04414N | NYLON LOCK-JAM NUT - 7/16-14, ZINC | |
| | 1 | 20670-2 | LOAD BLOCK ASSEMBLY FOR 3215E | |
| 38 | 1 | 20670 | LOAD BLOCK ASSEMBLY FOR 3213E | |
| 39 | 1 | 21639 | WIREROPE; 1/4 X 62' W/ EYEHOOK & SAFETY LATCH | |
| | 1 | 26720 | RECTANGULAR BOOM CABLE GUARD BRACKET | |
| 40 | 2 | 20720 !LWSH-031S | LOCK WASHER; 5/16", S/S | |
| 41 | L 2 | 1 1000-0313 | | |

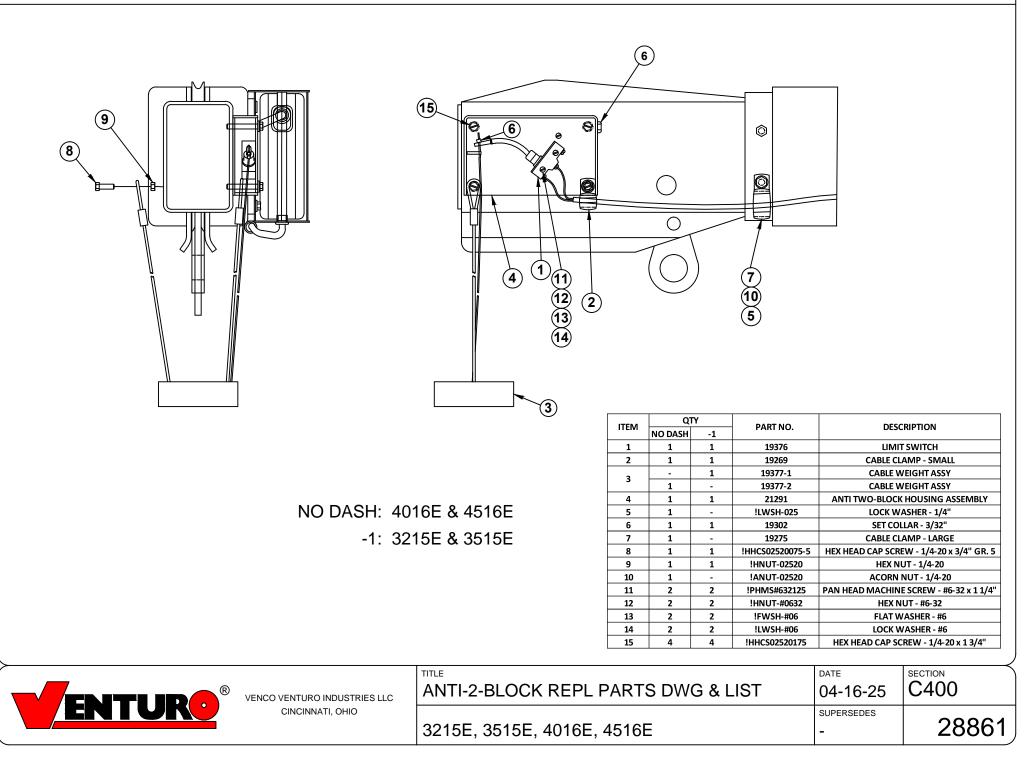
REFERENCE DWG #28962 FOR REPLACEMENT PARTS DRAWING



TITLE

| ^{date} 03-10-25A | section C400 |
|------------------------------|--------------|
| SUPERSEDES | 00000 |
| 10-03-24 | 28963 |
| | |

ANTI-TWO-BLOCK ASSY



REPLACEMENT PARTS LIST - 20670 LOAD BLOCK

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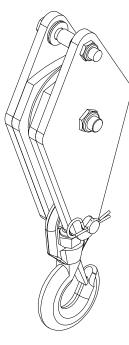
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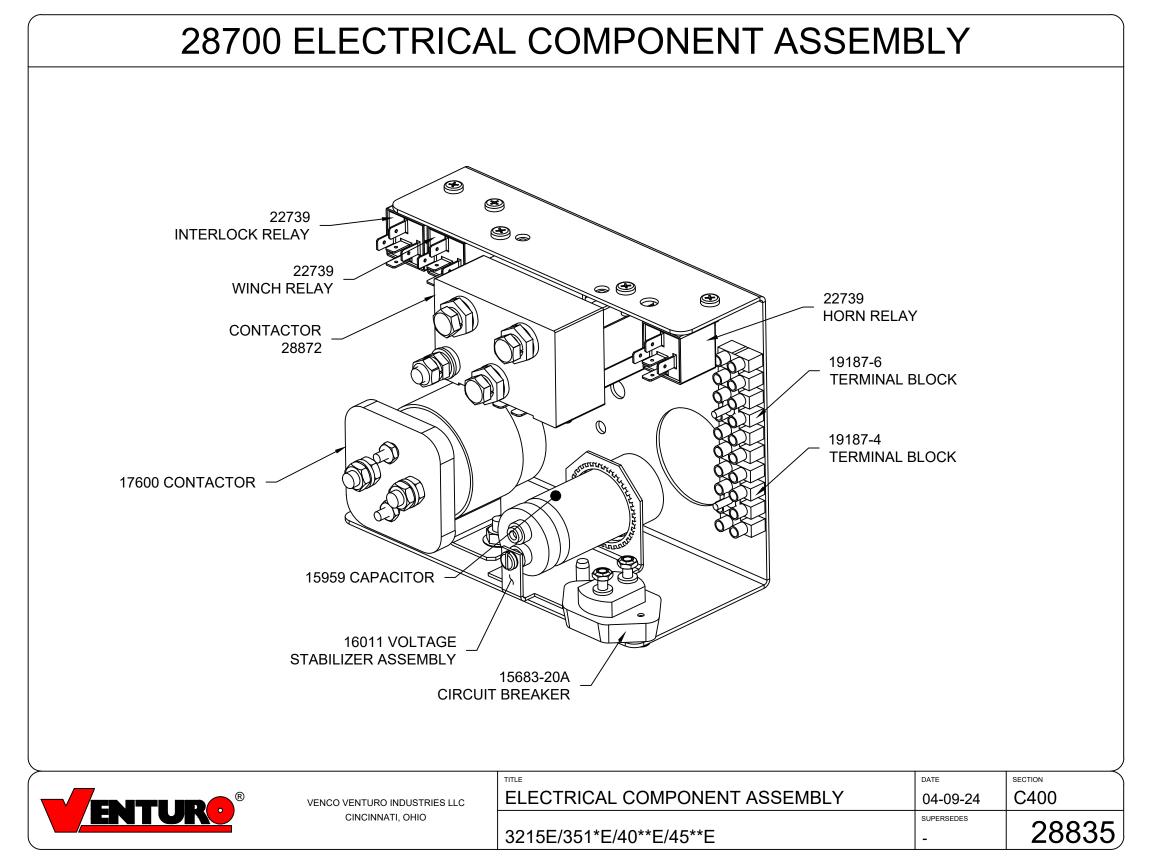
(10)-

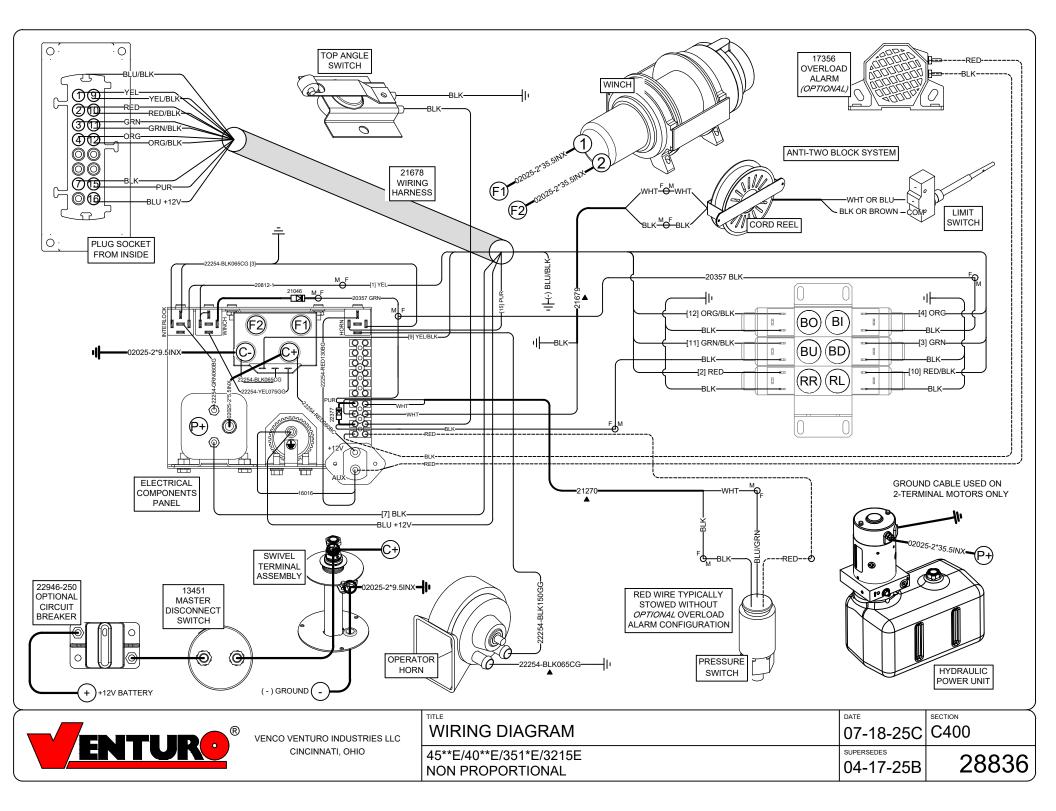
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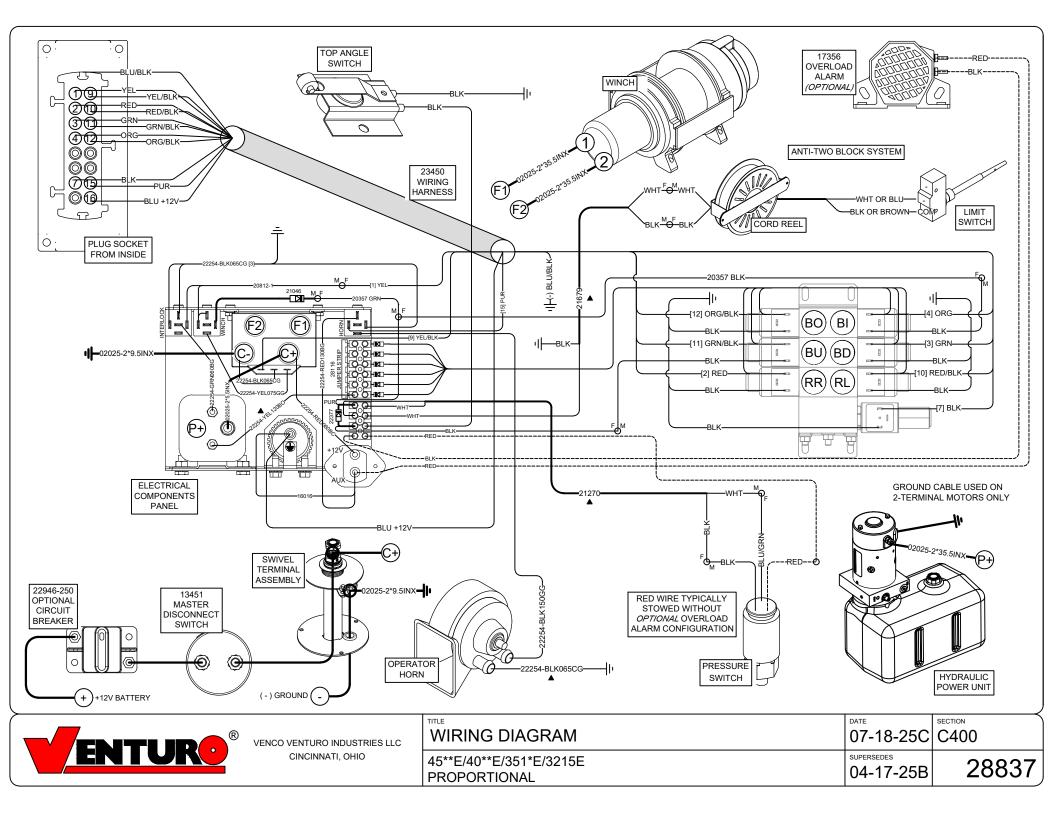


| LOAD BLOCK ASSEMBLY 20670 | | | | | |
|--|---------|----|---------------|---|--|
| ITEM NO. | | Ύ. | PARTNUMBER | DESCRIPTION | |
| | NO DASH | -2 | | DESCRIPTION | |
| 1 | 1 | 1 | 20536 | SPACER - 20537 SHEAVE | |
| 2 | 1 | 1 | 21630 | CABLE SHEAVE - PLASTIC | |
| 3 | 2 | 2 | 20671 | SIDE PLATE WELDED ASSEMBLY | |
| 4 | 1 | 1 | !HHCS07510300 | HEX HEAD CAP SCREW 3/4-10 X 3" ZINC | |
| 5 | 1 | 1 | !JNUT-07510N | NYLON LOCK-JAMNUT 3/4-10, ZINC | |
| 6 | 1 | 1 | 20674 | SPACER | |
| 7 | 1 | 1 | 17291 | SWIVEL HOOK W/ SAFETY LATCH | |
| 8 | 1 | 1 | 20675 | CLEVIS PIN - 3/4" X 2-3/4" | |
| 9 | 1 | 1 | !HHCS04414275 | HEX HEAD CAP SCREW 7/16-14 X 2-3/4", ZINC | |
| 10 | 1 | 1 | !JNUT-04414N | NYLON LOCK-JAM NUT - 7/16-14, ZINC | |
| 11 | 1 | 1 | 21-07 | HAIRPIN COTTER | |
| 12 | - | 2 | 27007-03a | DECAL LOAD BLOCK, 3200 LBS. | |
| 12 2 - 27007-04a DECAL LOAD BLOCK, 3500 LBS. | | | | | |

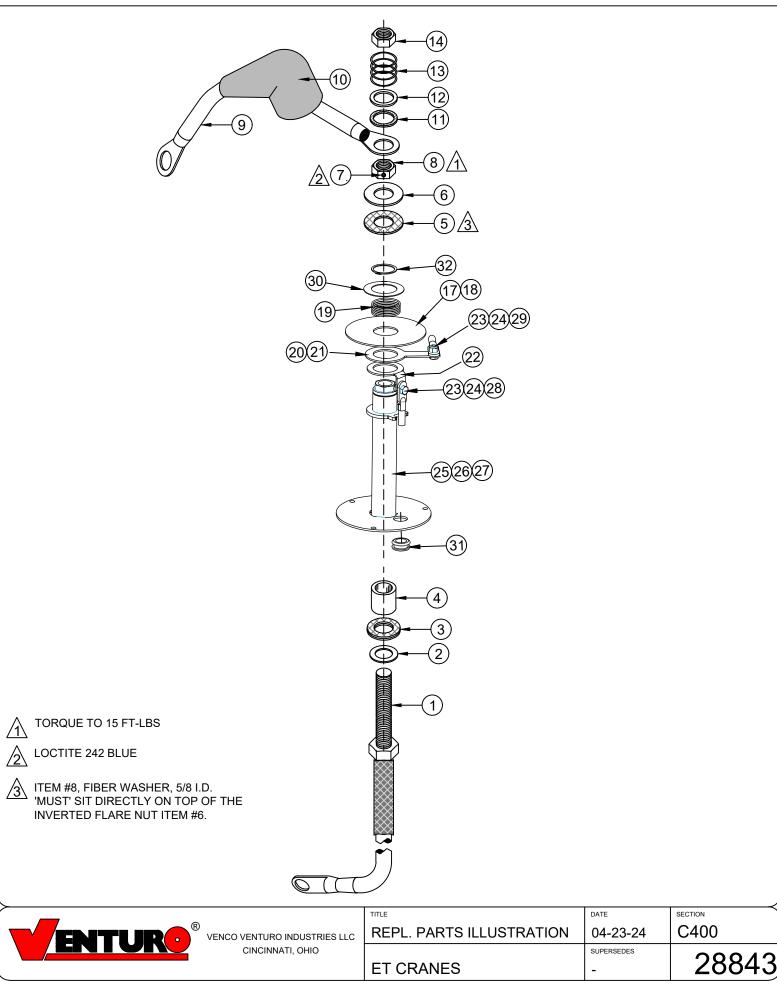
| | TITLE REPLACEMENT PARTS LIST -20670 LOAD BLOCK | ^{DATE} 09-13-24 | C400 |
|------------------|---|-----------------------------|-------|
| CINCINNATI, OHIO | 3215E/351*E | SUPERSEDES | 28946 |





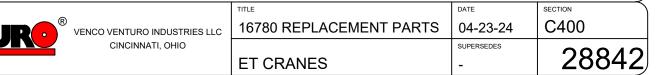


2-Pole Slip-ring Replacement Parts



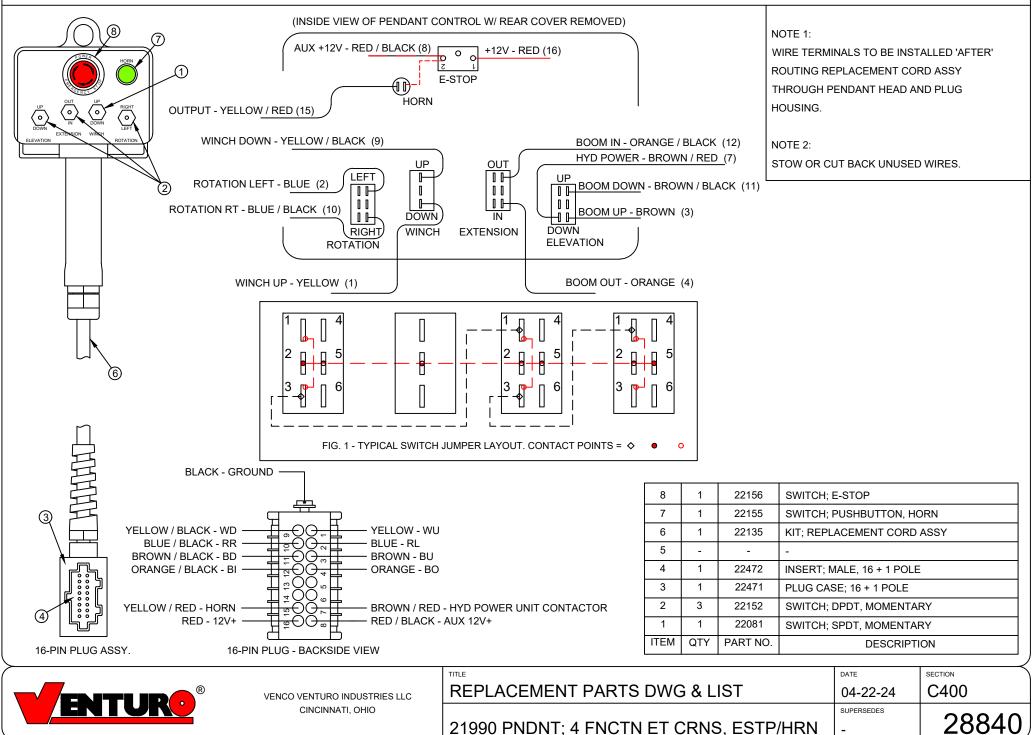
2-Pole Slip-ring Replacement Parts

| 6 Slew Rotation 2-Pole Slip-Ring (2010E ONLY) | 8 Slew Rotation 2-Pole Slip-Ring (3215E/351*E/40**E/45**E) | 25 Slew Rotation 2-Pole Slip-Ring (5020E/6020E) | T ALL CRANES | 16780 BILLS OF MATERIALS | | | | |
|--|--|---|--------------|--------------------------|--|--|--|--|
| 16780 - 2P6 | 16780 - 2P8 | 16780 - 2P25 | 16780 - KIT | | | | | |
| | | | | # | PART | DESCRIPTION | | |
| 1 | 1 | 1 | - | 1 | 16783 | PIGTAIL AND STUD ASSEMBLY | | |
| 1 | 1 | 1 | 1 | 2 | 12534-5 | ZINC BUSHING; 5/8" I.D. X 1" O.D. X 14 GAUGE | | |
| 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 | 4 | 14233 | INSULATING BUSHING; 5/8" I.D. X 7/8" O.D. X 7/8" | | |
| 1 | 1 | 1 | 1 | 5 | 14357-2 | | | |
| | | | | | | FIBER WASHER; 5/8" I.D. X 1 1/4" O.D. X 1/16" | | |
| 1 | 1 | 1 | 1 | 1.05.0 | 6 !FWSH-063SAE FLAT WASHER; 5/8" SAE | | | |
| 1 | 1 | 1 | 1 | | 7 ISHCS02528025KC SET SCREW W/ KNURLED CUP; 1/4"-28 X 1/4" | | | |
| 1 | 1 | 1 | 1 | 8 | 8 21273 BRASS JAM NUT; 5/8"-11 | | | |
| _7 | - | - | - | 9 | 9 26035-2 PIGTAIL; SWIVEL TERMINAL | | | |
| - | - | - | - | 10 | 10 17012 RUBBER BOOT; SWIVEL TERMINAL | | | |
| 1 | 1 | 1 | 1 | 11 | | | | |
| 1 | 1 | 1 | 1 | 12 | 5714-113-62 | BRASS WASHER | | |
| 1 | 1 | 1 | 1 | 13 | 3 LC-098K-00 SPRING; 0.845" O.D. X 0.098" WIRE X 1.00 F.L. | | | |
| 1 | 1 | 1 | 1 | 14 | IJNUT-06311N | JAM NUT; 5/8"-11, NYLON NUT | | |
| 1 | 1 | 1 | 1 | 15 | LOCTITE-24205 | REMOVABLE THREAD LOCKER; 0.5ML | | |
| 1 | 1 | 1 | 1 | 16 | 19368 | IDWG; 16780 SWIVEL TERMINAL | | |
| 1 | 1 | 1 | 1 | 17 | 27456 | UHMW WATER SHIELD, (ET6K ONLY) | | |
| - | 1 | 1 | - | 18 | 27456-1 | UHMW WATER SHIELD, (ET8 - ET36) | | |
| 1 | 1 | 1 | - | 19 | 27461 | SPRING. (-) SLIP-RING ASSY. | | |
| - | 1 | 1 | - | 20 | 27441-1 | COPPER SLIP-RING, (ET8 - ET36) | | |
| 1 | - | - | - | 21 | 27441 | COPPER SLIP-RING, (ET6K ONLY) | | |
| 1 | 1 | 1 | | 22 | 27449-1 | BRASS SLIP-RING (ET6 - ET36) | | |
| 1 | 1 | 1 | - | 23 | IHHCS03118075-B | BRASS HHCS | | |
| 1 | 1 | 1 | - | 24 | IHNUT-03118-B | | | |
| 1 | - 1 | - | - | 25 26 | 25 23255 SLIP-RING, WELDED ASSY, ET6K | | | |
| - | - | - 1 | - | 20 | | | | |
| 1 | 1 | 1 | - | 28 | 02025-2*96.5INX | (-) WELDING CABLE ASSY, BRASS SLIP-RING | | |
| 1 | 1 | 1 | - | 29 | 02025-2*22.5INX | (-) WELDING CABLE ASSY, COPPER SLIP-RING | | |
| 1 | 1 | 1 | - | 30 | 27463 | SHIM, WIDE RIM, 18GA, 2-1/4 O.D. X 1-1/2 I.D. | | |
| 1 | 1 | 1 | - | 31 | 20889 | RUBBER GROMMET | | |
| 1 | 1 | 1 | - | 32 | ISRNG-150 | SNAP-RING, EXTERNAL, 1-1/2" | | |

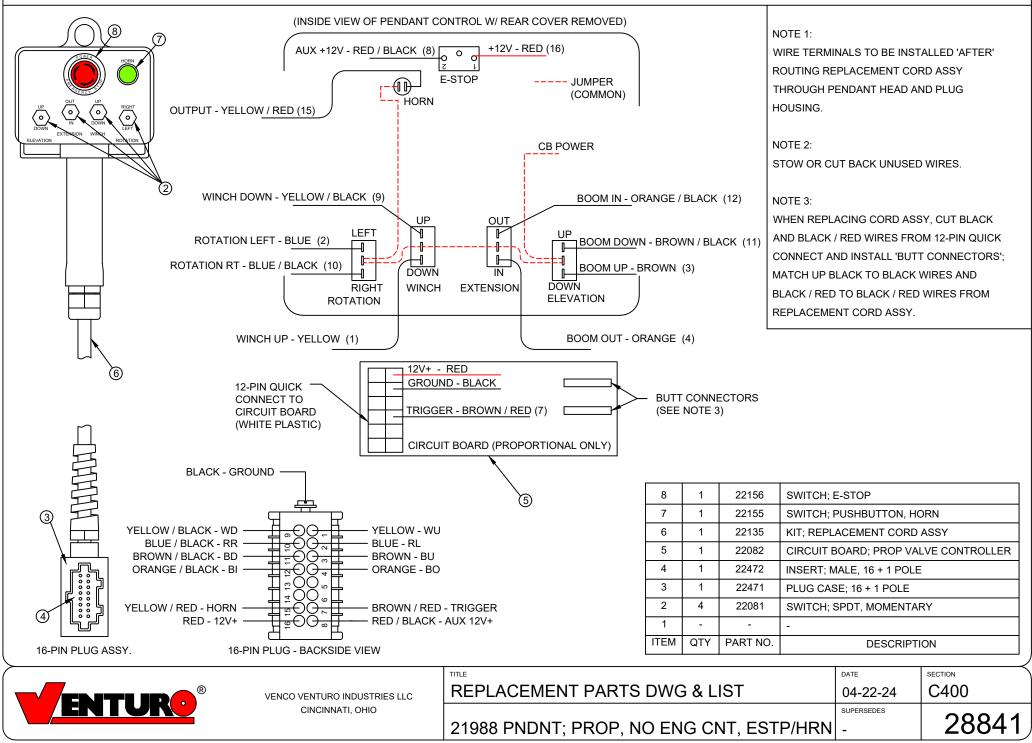




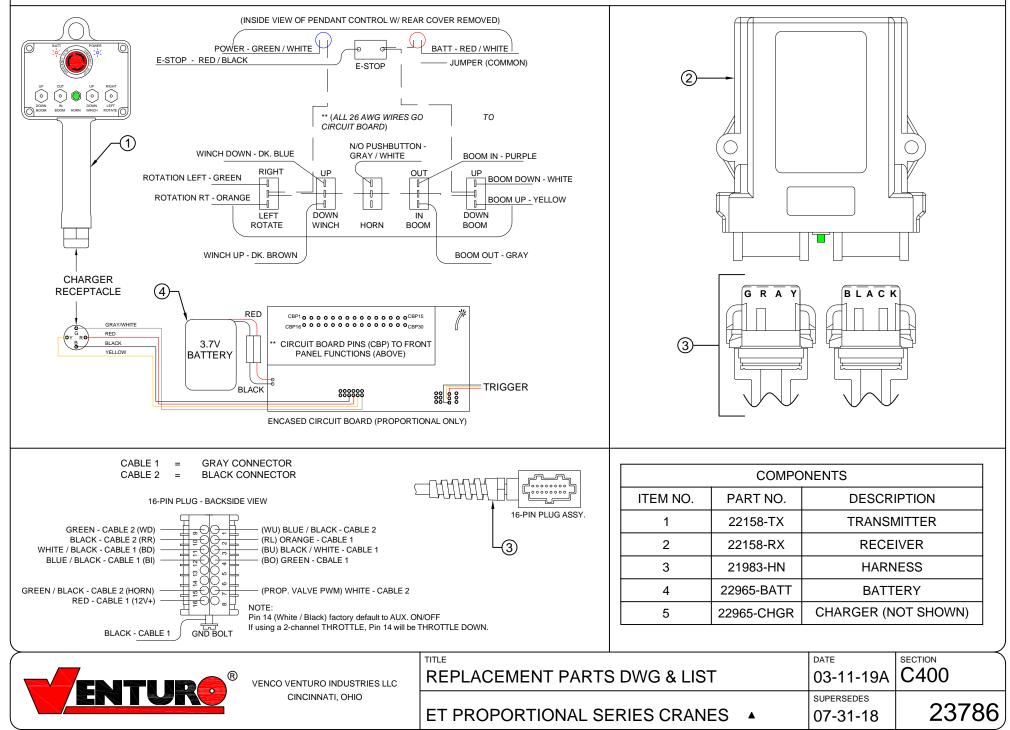
21990 PENDANT; 4 FUNCTION ET CRANES, E-STOP / HORN



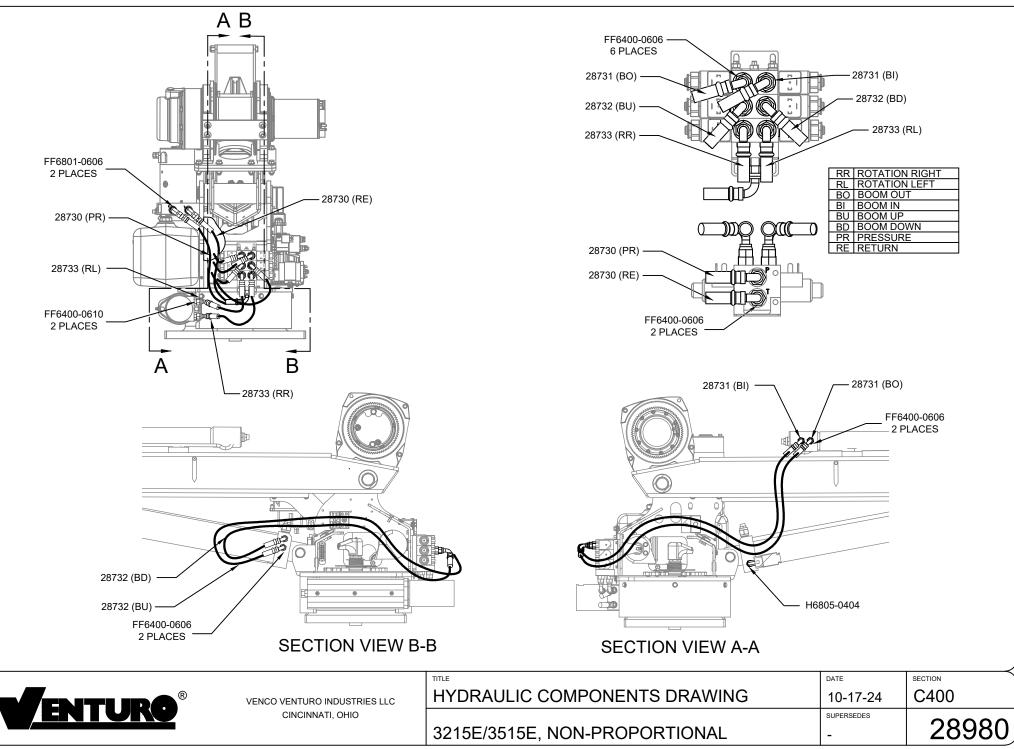
21988 PENDANT; PROP, NO ENG CNTRL, E-STOP / HORN



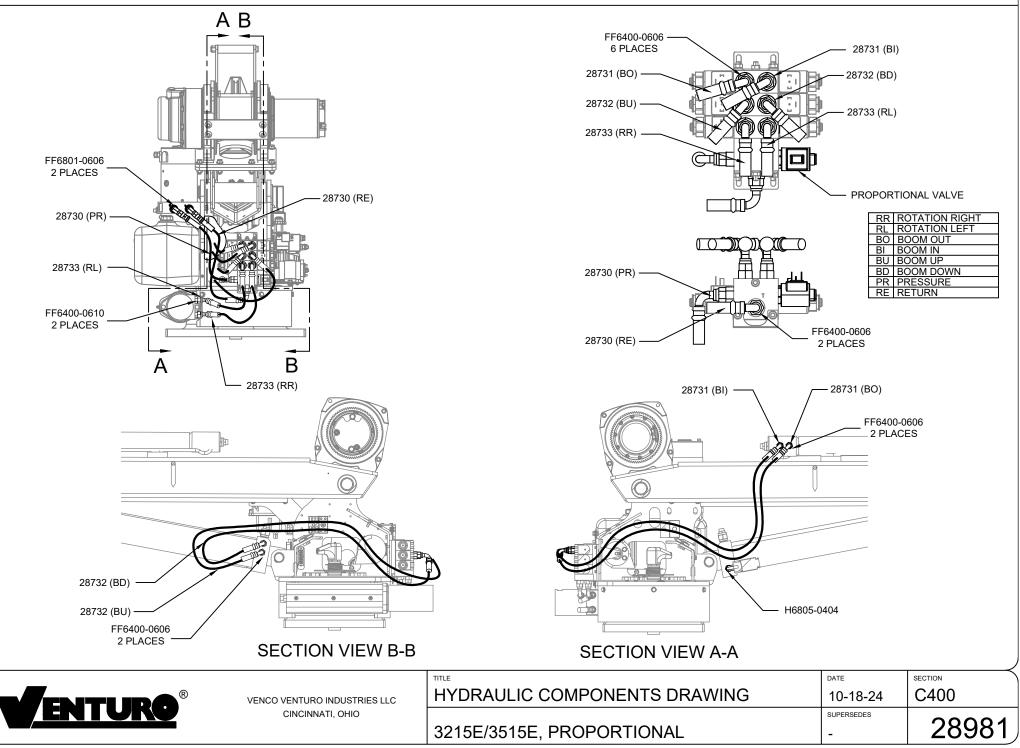
22158 RADIO; PROP, NON-CAN, NO ENG CNTRLS, E-STOP/HORN

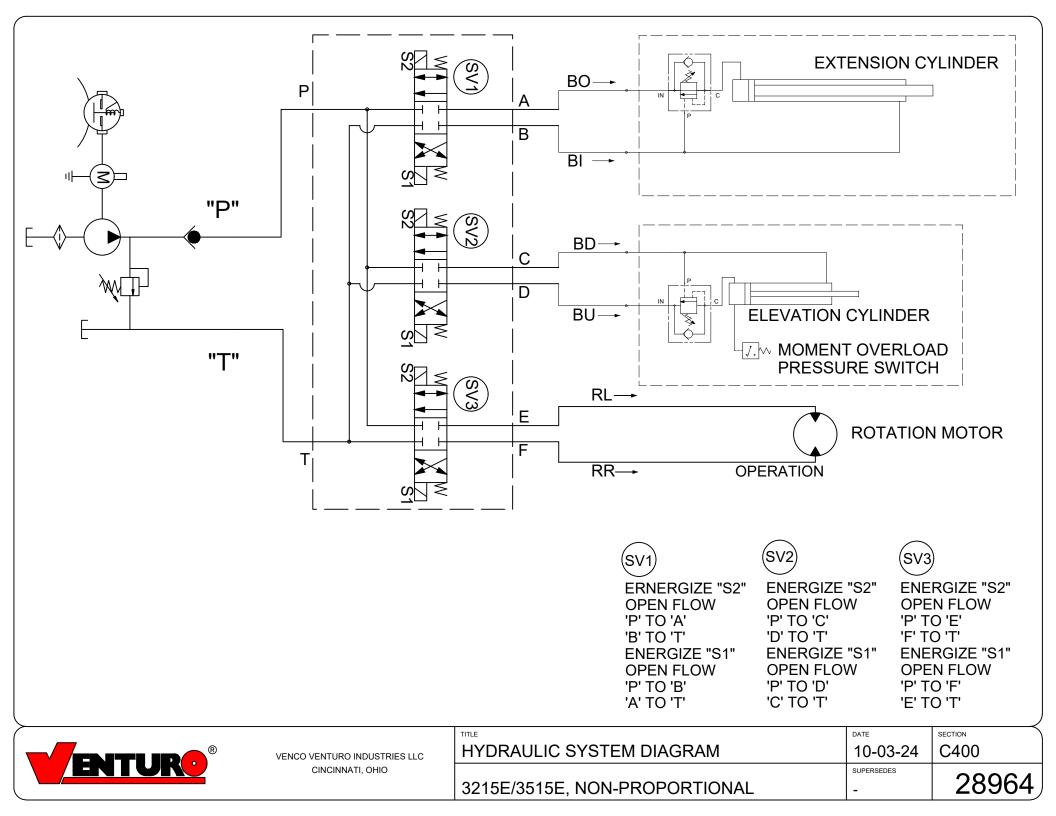


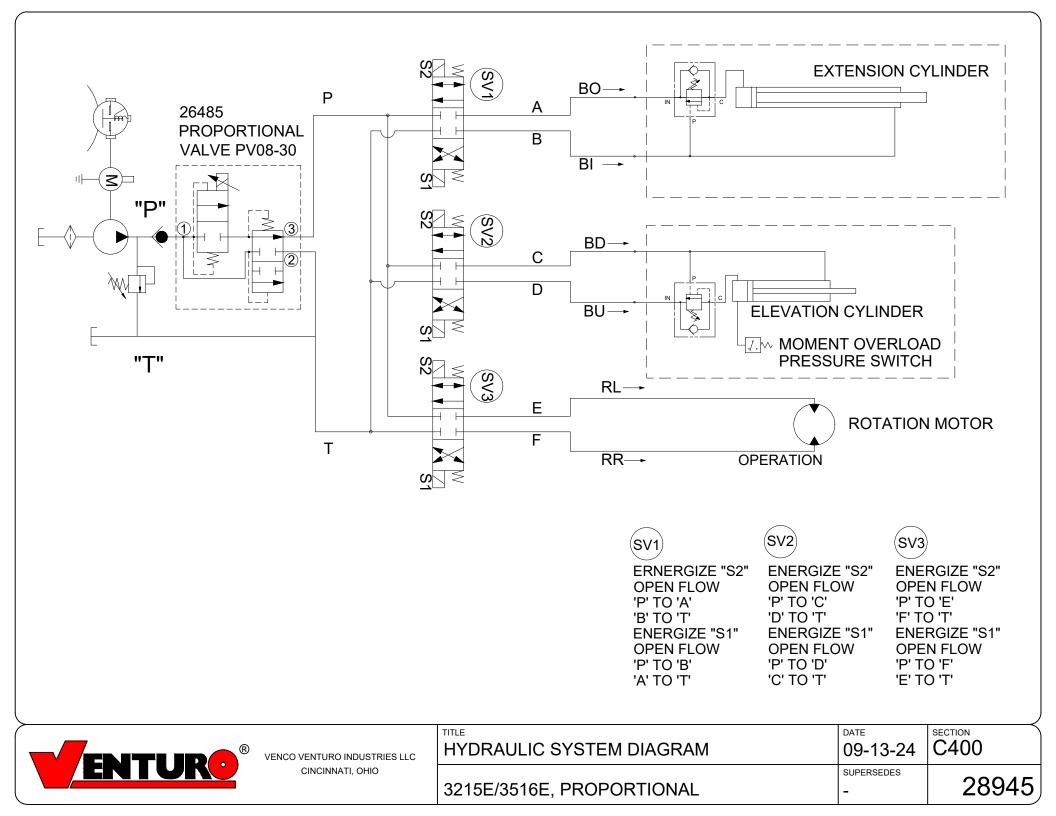
HYDRAULIC COMPONENTS DRAWING



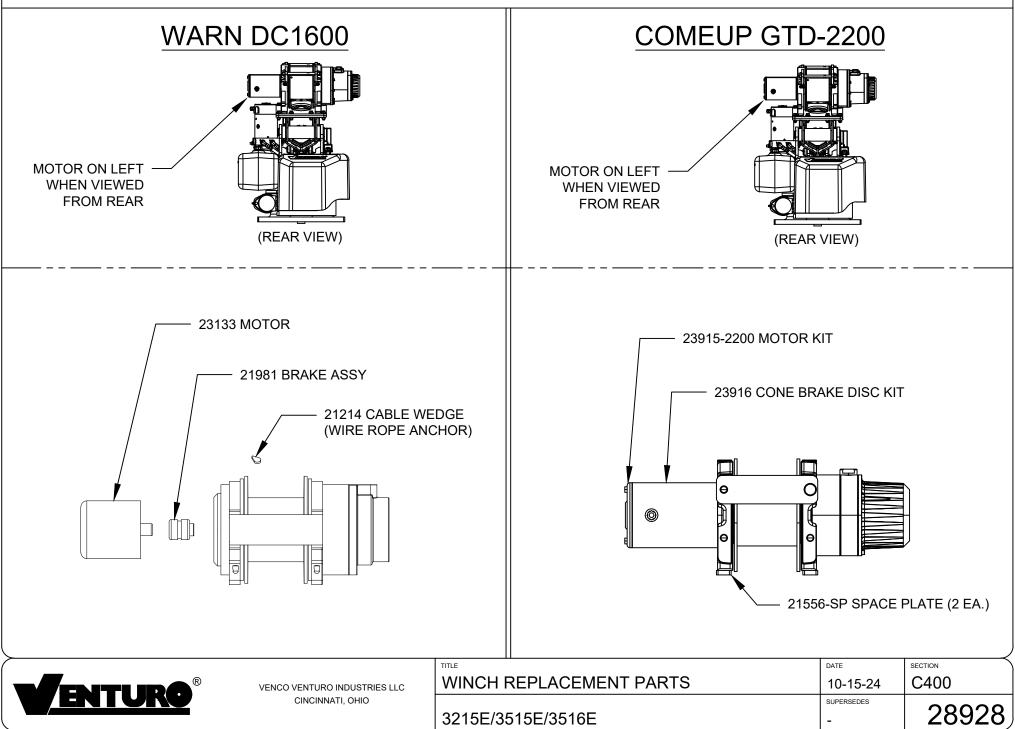
HYDRAULIC COMPONENTS DRAWING

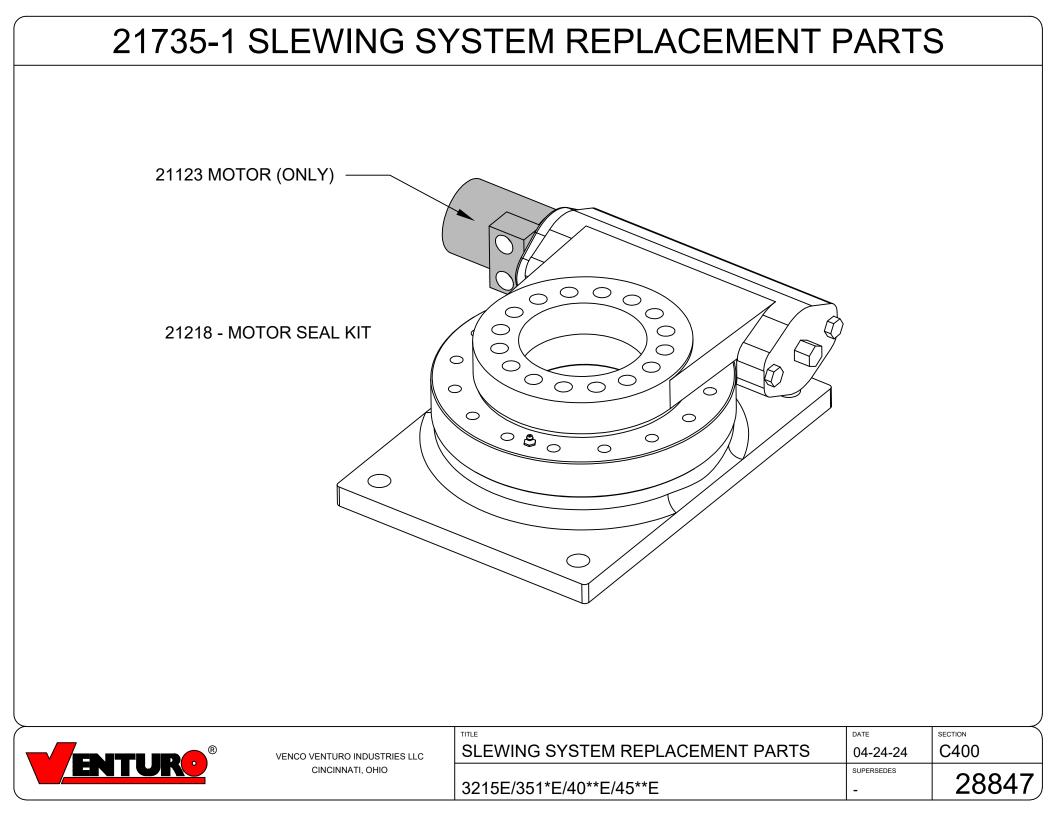


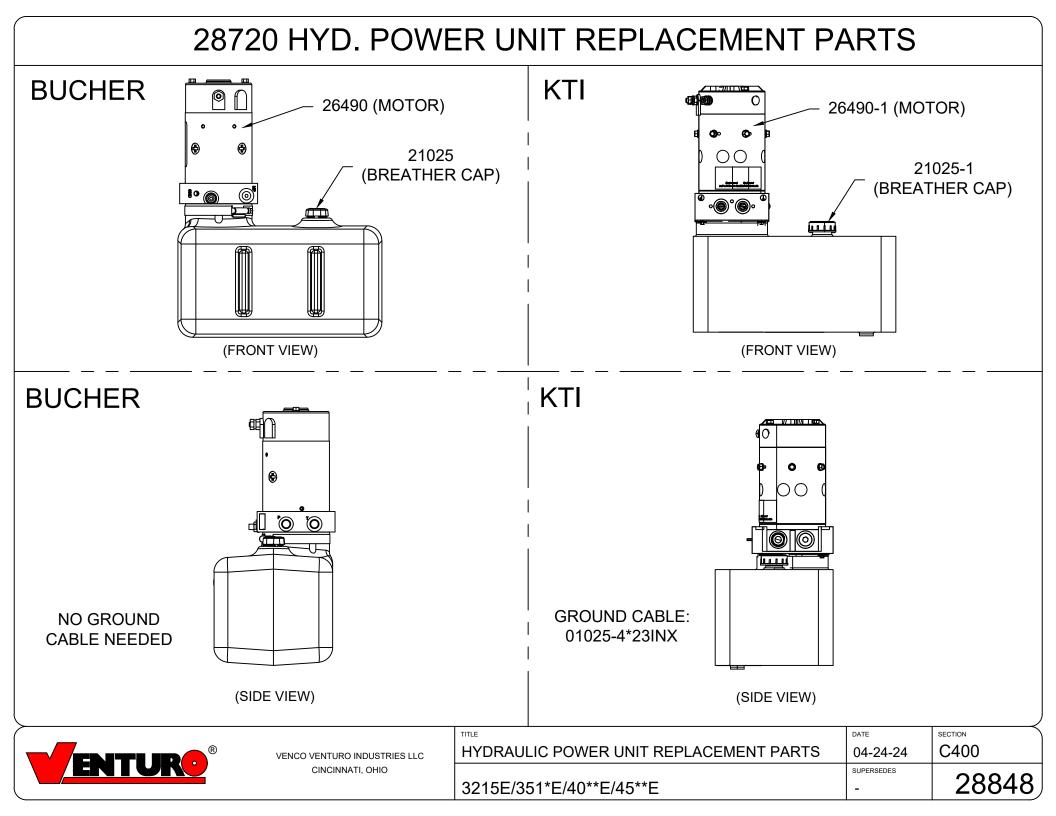


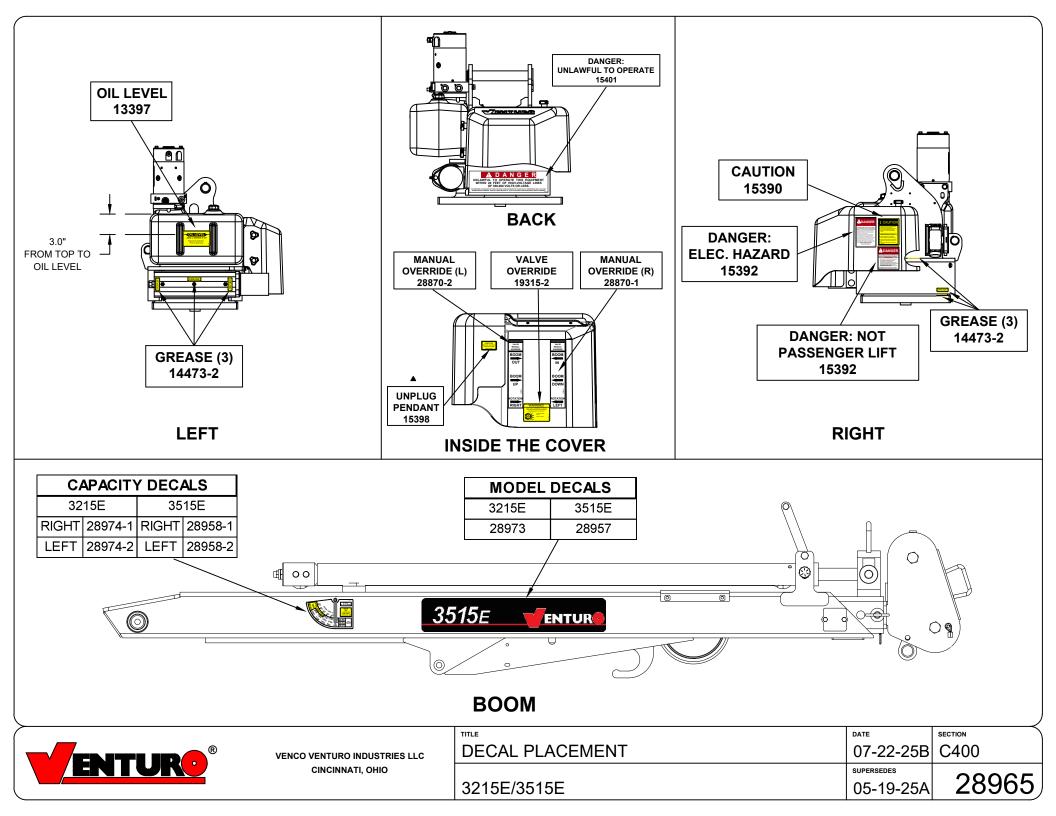


21556 WINCH REPLACEMENT PARTS









FIELD SERVICE LABEL KIT; 3215E

| 28975: FSLK 3215E NON PROP | | | | |
|----------------------------|------|------------------------------------|--|--|
| PART NO. | QTY. | DESCRIPTION | | |
| 16184-1 | 1 | DECAL; HORN RELAY | | |
| 14473-2 | 6 | DECAL; GREASE | | |
| 28973 | 2 | DECAL; VENTURO, 3215E | | |
| 28974-1 | 1 | DECAL; BOOM CAPACITY, RIGHT, 3215E | | |
| 28974-2 | 1 | DECAL; BOOM CAPACITY, LEFT, 3215E | | |
| 13397 | 1 | DECAL; OIL LEVEL | | |
| 28870-1 | 1 | DECAL; MANUAL OVERRIDE, RIGHT | | |
| 28870-2 | 1 | DECAL; MANUAL OVERRIDE, LEFT | | |
| 17813 | 1 | DECAL; OVERLOAD SENSING SYSTEM | | |
| 28976 | 1 | IDWG: FIELD SERVICE LABEL KIT LIST | | |
| 28965 | 1 | IDWG; DECAL PLACEMENT | | |
| INST-23233 | 1 | SAFETY MANUAL, VENTURO CRANES | | |
| 15397 | 1 | KIT; FIELD SERVICE LABELS | | |

| 28975-1: FSLK 3215E PROP | | | | |
|--------------------------|------|------------------------------------|--|--|
| PART NO. | QTY. | DESCRIPTION | | |
| 16184-1 | 1 | DECAL; HORN RELAY | | |
| 14473-2 | 6 | DECAL; GREASE | | |
| 28973 | 2 | DECAL; VENTURO, 3215E | | |
| 28974-1 | 1 | DECAL; BOOM CAPACITY, RIGHT, 3215E | | |
| 28974-2 | 1 | DECAL; BOOM CAPACITY, LEFT, 3215E | | |
| 13397 | 1 | DECAL; OIL LEVEL | | |
| 28870-1 | 1 | DECAL; MANUAL OVERRIDE, RIGHT | | |
| 28870-2 | 1 | DECAL; MANUAL OVERRIDE, LEFT | | |
| 17813 | 1 | DECAL; OVERLOAD SENSING SYSTEM | | |
| 28976 | 1 | IDWG: FIELD SERVICE LABEL KIT LIST | | |
| 28965 | 1 | IDWG; DECAL PLACEMENT | | |
| INST-23233 | 1 | SAFETY MANUAL, VENTURO CRANES | | |
| 15397 | 1 | KIT; FIELD SERVICE LABELS | | |
| 19315-2 | 1 | DECAL: PROP MANUAL OVERRIDE | | |

| <u>NTUR</u> ® | | TITLE FIELD SERVICE LABEL KIT | ^{DATE} 10-14-24 | SECTION C400 |
|---------------|------------------|----------------------------------|-----------------------------|--------------|
| | CINCINNATI, OHIO | 3215E | SUPERSEDES | 28976 |

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| USER NOTES | | | |
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| > | | DATE | |
| VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO | USER NOTES | DATE 02-23-16 | PAGE - |
| | INSTALLATION MANUALS | SUPERSEDES | 25431 |

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

12110 BEST PLACE | CINCINNATI, OHIO 45241 P: 800-226-2238 | F: 513-326-5427 www.venturo.com

Revised: January 2015

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