

VENTURO

OWNER'S MANUAL

*EDAAAA-*0*0*

PARTS & INSTALLATION MANUAL

3215E

Included in this manual:

3215E

- 3,200 lbs. Electric Telescopic Service Crane.
- 7 – 11 ft Powered, Single-Stage, Boom Extension
- 11 – 15 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.

| | |
|---------------|--|
| 7607100A | DESCRIPTION & SPECIFICATIONS |
| 25952 | SPECIFICATIONS & OPERATING FEATURES |
| 28960 | INSTALLATION DIMENSIONS |
| 28814 | BASE MOUNTING DIMENSIONS |
| 28971 | CAPACITY CHART |
| 7607150A | SAFETY |
| 850711 | SAFETY & HAZARDS - GENERAL, |
| 850712 | SAFETY & HAZARDS - GENERAL, CONT |
| 15394 | VEHICLE & CRANE ELECTRIC HAZARD INFORMATION |
| 21353 | SAFETY DECALS |
| 21384 | SAFETY DECALS |
| 21354 | DECALS FOR ET CRANES |
| 28972 | MODEL & CAPACITY DECALS 3215E |
| 28819 | ADDITIONAL DECALS |
| 7607200A | INSTALLATION |
| 28933 | TYPICAL REINFORCEMENT FOR MOUNTING CRANE ON TOP OF SERVICE BODY |
| 28820 | CABLE & BATTERY REQUIREMENTS - ET & HT CRANES |
| 28821 | CABLE & BATTERY INSTALLATION DRAWING |
| 20906-3215E | STABILITY TESTING 3515E |
| 20907 | STABILITY CHART |
| 28822 | WIRE ROPE INSTALLATION |
| 7607300B | OPERATION & MAINTENANCE |
| 28852 | OPERATION & MAINTENANCE INSTRUCTIONS (1 OF 3) |
| 28853 | OPERATION & MAINTENANCE INSTRUCTIONS (2 OF 3) |
| 28854 | OPERATION & MAINTENANCE INSTRUCTIONS (3 OF 3) |
| 28826 | MANUAL OVERRIDE INSTRUCTIONS, NON-PROPORTIONAL |
| 28827 | MANUAL OVERRIDE INSTRUCTIONS, PROPORTIONAL |
| 28823 | LUBRICATION & MAINTENANCE CHART |
| 28824 | MINIMUM VOLTAGE TEST |
| 7607400A | REPLACEMENT PARTS |
| 28951 | REPLACEMENT PARTS DRAWING, MECH |
| 28952 | REPLACEMENT PARTS LIST, MECH |
| 28953 | REPLACEMENT HARDWARE DRAWING, MECH |
| 28954 | REPLACEMENT HARDWARE LIST, MECH |
| 28962 | REPLACEMENT PARTS DRAWING; BOOM 28684 |
| 28963 | REPLACEMENT PARTS LIST; BOOM 28684 |
| 28861 | REPLACEMENT PARTS LIST/DWG; A2B (28860-1) |
| 28946 | REPLACEMENT PARTS LIST; LOAD BLOCK 20670 |
| 28835 | 28700 ELECTRICAL COMPONENT ASSY |
| 28836 | WIRING DIAGRAM, 45**E/40**E/351*E/3215E, NON PROP |
| 28837 | WIRING DIAGRAM, 45**E/40**E/351*E/3215E, PROPORTIONAL |
| 28843 | REPLACEMENT PARTS DRAWING, 16780, 2-POLE SLIP-RING |
| 28842 | REPLACEMENT PARTS LIST, 16780, 2-POLE SLIP-RING |
| 28840 | REPLACEMENT PARTS DRAWING / LIST; 21990 PENDANT (NON-PROP, CORDED) |
| 23529 | REPLACEMENT PARTS DRAWING / LIST; 21986-ET (NON-PROP, RADIO) |
| 28841 | REPLACEMENT PARTS DRAWING / LIST; 21988 PENDANT (PROP, CORDED) |
| 23786 | REPLACEMENT PARTS DRAWING / LIST; 22158 (PROP, RADIO) |
| 28980 | HYDRAULIC SYSTEM COMPONENTS REPLACEMENT PARTS DRAWING |
| 28808 | HYDRAULIC VALVE ASSY REPLACEMENT PARTS DRAWING / LIST |
| 28964 | HYDRAULIC SYSTEM SCHEMATIC (NON PROPORTIONAL) |
| 28945 | HYDRAULIC SYSTEM SCHEMATIC (PROPORTIONAL) |
| 28928 | 21556 WINCH REPLACEMENT PARTS DRAWING & LIST |
| 28847 | 21735-1 SLEWING REPLACEMENT PARTS |
| 28848 | 28720 HYDRAULIC POWER UNIT REPLACEMENT PARTS |
| 28965 | DECAL PLACEMENT 3215E/3515E |
| 28976 | FIELD SERVICE LABEL KIT; 3215E |
| 25431 | USER NOTES |
| 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 |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
SPECS & OP. FEATURES

DATE
02-25-25

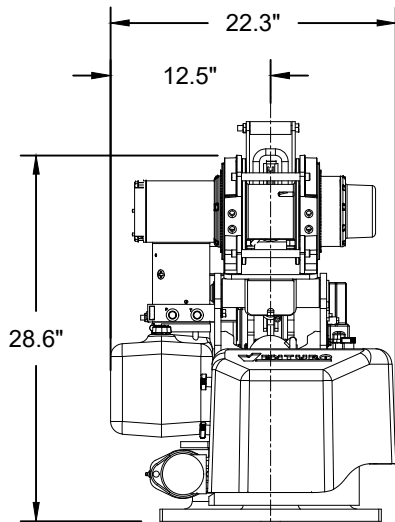
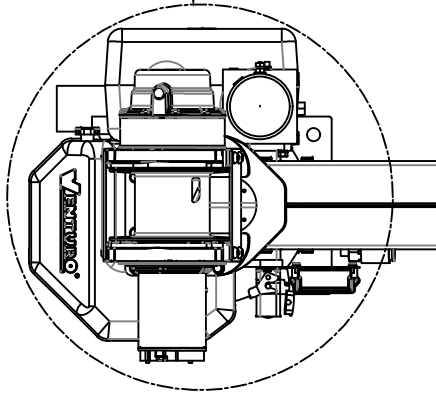
SECTION
C100

3215E

SUPERSEDES
-

25952

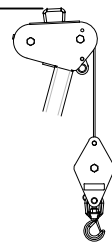
14.5" SWING RADIUS



16' 7"

12' 8"

8' 10"



LOAD BLOCK FOR SINGLE AND DOUBLE LINE OPERATION

HOOK WITH SAFETY LATCH

BOOM ANGLE & CAPACITY DECAL

1/4" WIREROPE

4' POWER

4' MANUAL

C.G. (APPROX.)

24"

7' 1"

11' 1"

15' 1"

OVERALL LENGTHS: RETRACTED: 8' 5" EXTENDED: 16' 5"

WARNING

- THESE PRODUCTS ARE NOT PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
INSTALLATION DIMENSIONS

DATE
10-02-24

SECTION
C100

3215E/3515E

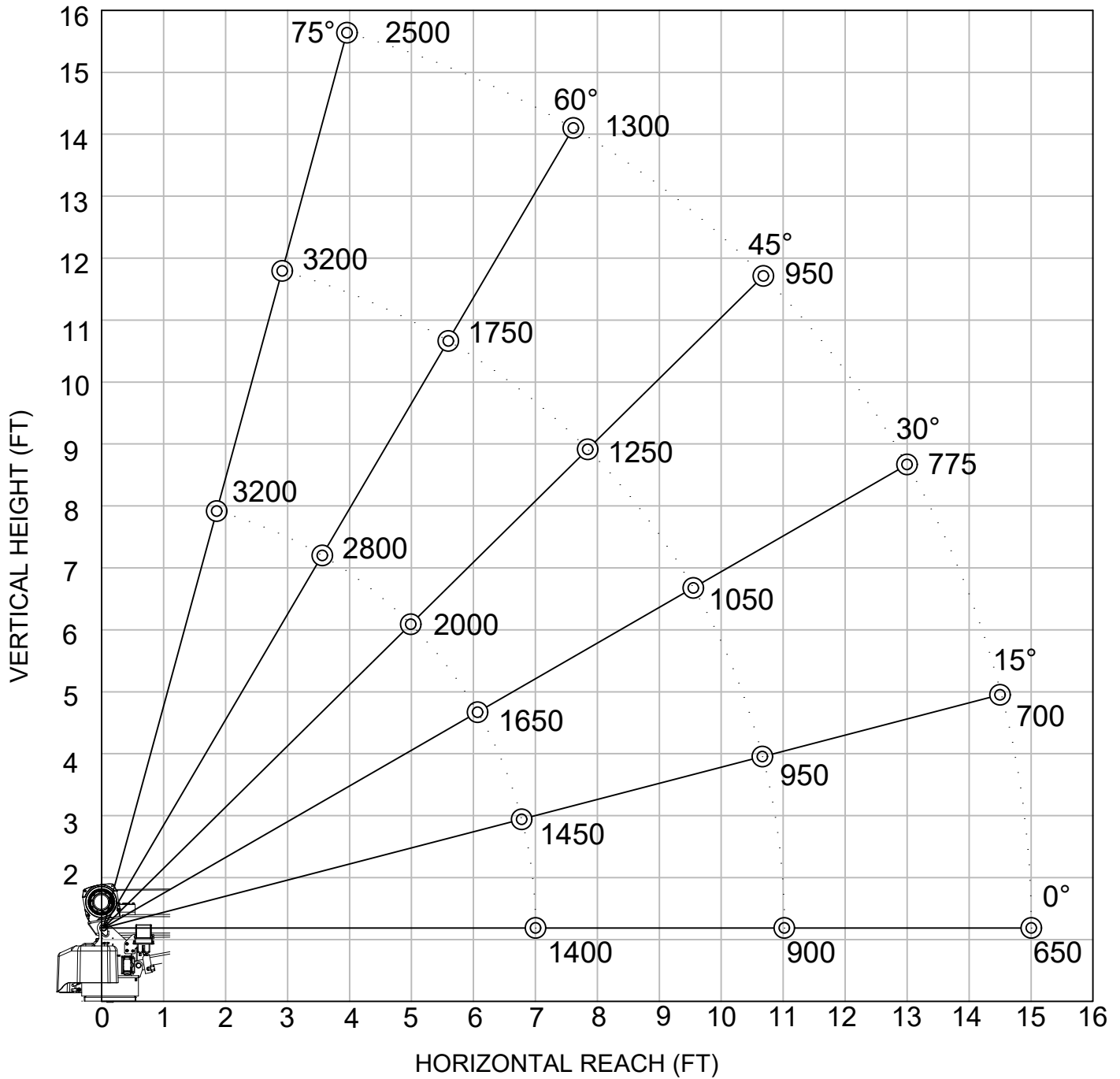
SUPERSEDES
-

28960

3215E

CRANE SERIAL NUMBER: _____

MAXIMUM LOAD CAPACITY CHART



WEIGHT OF LOAD HANDLING DEVICES ARE PART OF THE LOAD AND MUST BE DEDUCTED FROM THE GROSS CAPACITY.

LOAD BLOCK USAGE

- 1 PART LINE FOR LOADS LESS THAN 1600 LBS
- 2 PART LINE FOR LOADS OF 1600 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 24 LBS



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| | | |
|-----------------------|------------|---------|
| TITLE | DATE | SECTION |
| MAXIMUM LOAD CAPACITY | 10-11-24 | C100 |
| 3215E | SUPERSEDES | 28971 |
| | - | |

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 RECOMMENDATIONS CONTAINED 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



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

SAFETY & HAZARDS

DATE

01-29-15K

SECTION

C150

SUPERSEDES

12-20-13J

ELECTRIC CRANES

850711

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



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

SAFETY & HZRDS, CONT.

DATE

01-29-15

SECTION

C150

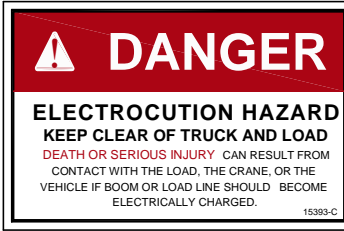
ELECTRIC CRANES

SUPERSEDES

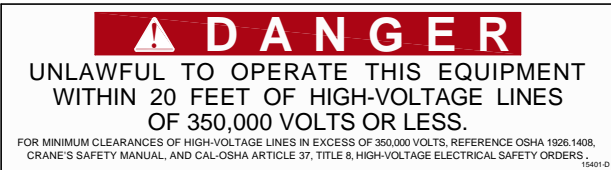
-

850712

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.



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 - Minimum Clearance Distances

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

Table T - Minimum Clearance Distances While Traveling With No Load

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

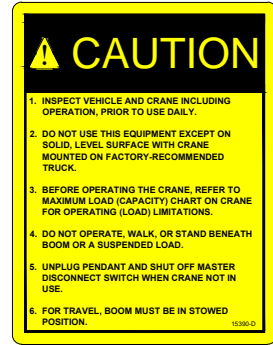
* NOTE: ENVIRONMENTAL CONDITIONS SUCH AS FOG, SMOKE, OR PRECIPITATION MAY REQUIRE INCREASED CLEARANCES



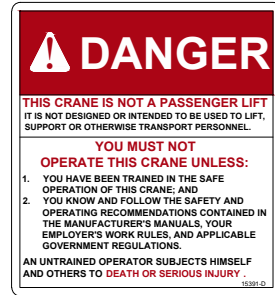
VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| TITLE | DATE | SECTION |
|--------------------|-------------------------|---------|
| HAZARD APPS & INFO | 02-21-14M | C150 |
| ET/HT CRANES | SUPERSEDES 12-20-13L | 15394 |

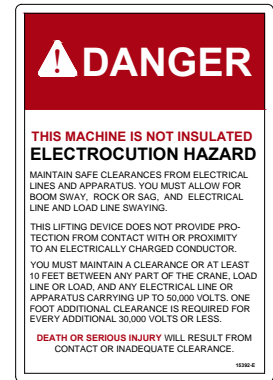
DECAL #: 15390
 DESCRIPTION: CAUTION, INSPECT VEHICLE & CRANE...
 PURPOSE: TO INFORM THE OPERATOR OF KEY OPERATING REQUIREMENTS.
 QUANTITY: 1
 PLACEMENT: REAR COVER OR SIDE OF CRANE



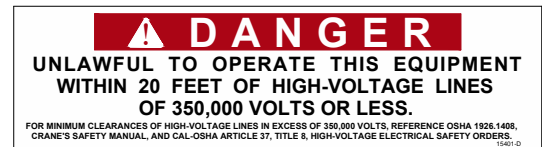
DECAL #: 15391
 DESCRIPTION: DANGER, NOT A PASSENGER LIFT
 PURPOSE: TO INFORM OPERATOR NOT TO LIFT, SUPPORT, OR TRANSPORT PERSONNEL, AND TO ENSURE OPERATOR IS ADEQUATELY TRAINED.
 QUANTITY: 1
 PLACEMENT: REAR COVER OR SIDE OF CRANE



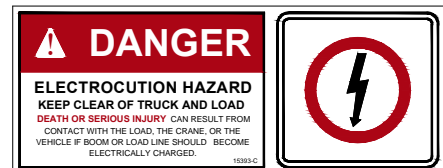
DECAL #: 15392
 DESCRIPTION: DANGER, ELECTROCUTION HAZARD, MACHINE (CRANE)
 PURPOSE: TO INFORM OPERATOR THAT MACHINE (CRANE) REPRESENTS AN ELECTROCUTION HAZARD SHOULD IT COME CLOSE TO OR IN CONTACT WITH AN ELECTRICAL VOLTAGE SOURCE.
 QUANTITY: 1
 PLACEMENT: REAR COVER OR SIDE OF CRANE



DECAL #: 15401
 DESCRIPTION: DANGER, UNLAWFUL TO OPERATE
 PURPOSE: TO INFORM OPERATOR OF PROPER OPERATION IN VICINITY OF ELECTRICAL LINES.
 QUANTITY: 1
 PLACEMENT: RING COVER OR SIDE OF CRANE



DECAL #: 15393
 DESCRIPTION: DANGER, ELECTROCUTION HAZARD, VEHICLE (TRUCK)
 PURPOSE: WARNS OF DANGER FROM ELECTRICALLY CHARGED VEHICLE, CRANE, OR LOAD.
 QUANTITY: 4
 PLACEMENT: EACH SIDE & EACH END OF VEHICLE



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

TITLE
 SAFETY DECALS

VENTURO CRANES

DATE
 04-29-16E

SUPERSEDES
 10-24-13D

SECTION
 C150

21353

PART NO.: 15513

DECAL: MASTER DISCONNECT SWITCH

FUNCTION: To inform the operator of location and operation of master disconnect switch.

QUANTITY: 1

PLACEMENT: On master disconnect switch bracket.



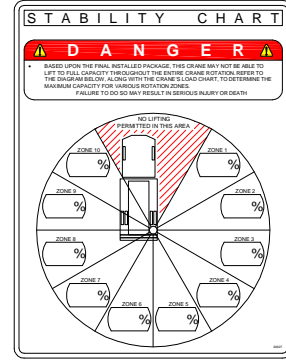
PART NO.: 20927

DECAL: CRANE STABILITY

FUNCTION: To inform the operator of the crane's lifting capacity throughout the entire rotation.

QUANTITY: 1

PLACEMENT: In prominent location, so it is easily seen and readily identifiable.



▲



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| | | |
|---------------|-------------------------|---------|
| TITLE | DATE | SECTION |
| SAFETY DECALS | 06-06-14C | C150 |
| 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.



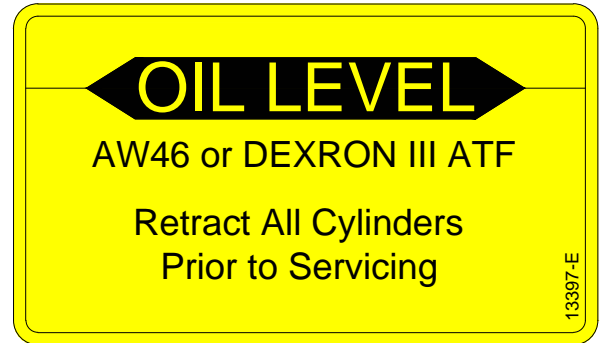
PART NO.: 13397

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.



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
DECALS

ET CRANES

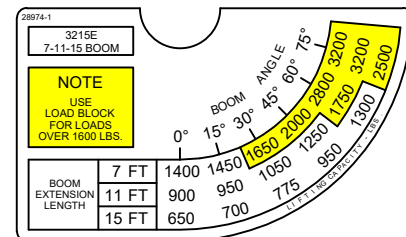
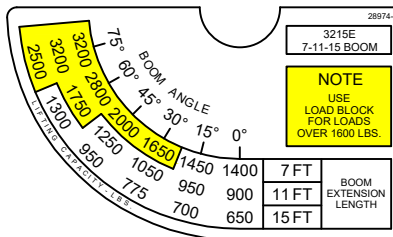
DATE
11-12-19E

SUPERSEDES
12-23-13D

SECTION
C150

21354

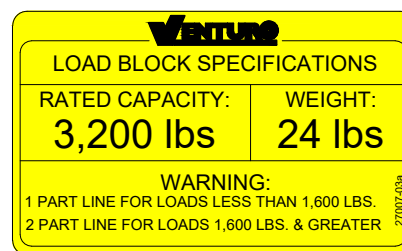
PART NO.: 28974-1 & 28974-2
 DECAL: CRANE CAPACITY 3215E
 FUNCTION: To show the operator the operating capacities of crane.
 QUANTITY: 1
 PLACEMENT: One on each side of boom.



PART NO.: 28973
 DECAL: MODEL 3215E
 FUNCTION: To show the model of the crane.
 QUANTITY: 2
 PLACEMENT: One on each side of boom.



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.



INTENTIONALLY LEFT BLANK

INTENTIONALLY LEFT BLANK



MANUFACTURING, INC.
 CINCINNATI, OHIO

TITLE
 MODEL/CAPCTY DECALS
 3215E

DATE
 09-03-25A
 SUPERSEDES
 10-11-24

SECTION
 C150
 28972

PART NO.: 17813
 DECAL: OVERLOAD SENSING SYSTEM DECAL
 FUNCTION: To advise operator of overload sensing system.
 QUANTITY: 1
 PLACEMENT: Location may vary.

CRANE IS EQUIPPED WITH AN OVERLOAD SENSING SYSTEM

- IF OVERLOADED, THE WINCH UP, BOOM DOWN, AND (OPTIONAL) BOOM OUT FUNCTIONS WILL AUTOMATICALLY SHUT OFF TO PREVENT INCREASED OVERLOAD.
- ON CRANES EQUIPPED WITH AN OPTIONAL OVERLOAD ALARM, IT WILL ALSO SOUND.
- IF AN OVERLOAD OCCURS, USE THE WINCH DOWN, BOOM UP OR BOOM IN FUNCTIONS TO RELIEVE THE OVERLOAD.
- 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.
- 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

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.

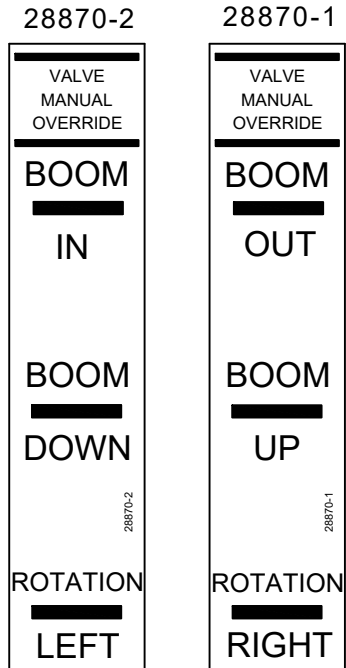
THIS CRANE IS EQUIPPED WITH AN OVERLOAD ALARM SYSTEM

- 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 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

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.: 19315-2
 DECAL: MANUAL OVERRIDE (PROPORTIONAL)
 FUNCTION: To show operator how to override proportional valve.
 QUANTITY: 1
 PLACEMENT: Location may vary.

WARNING!

KEEP VALVE IN NORMAL POSITION.
 OVERRIDE POSITION IS INTENDED FOR EMERGENCY USE ONLY.

PROPORTIONAL VALVE
 ROTATE STEM

19315-2 Rev B

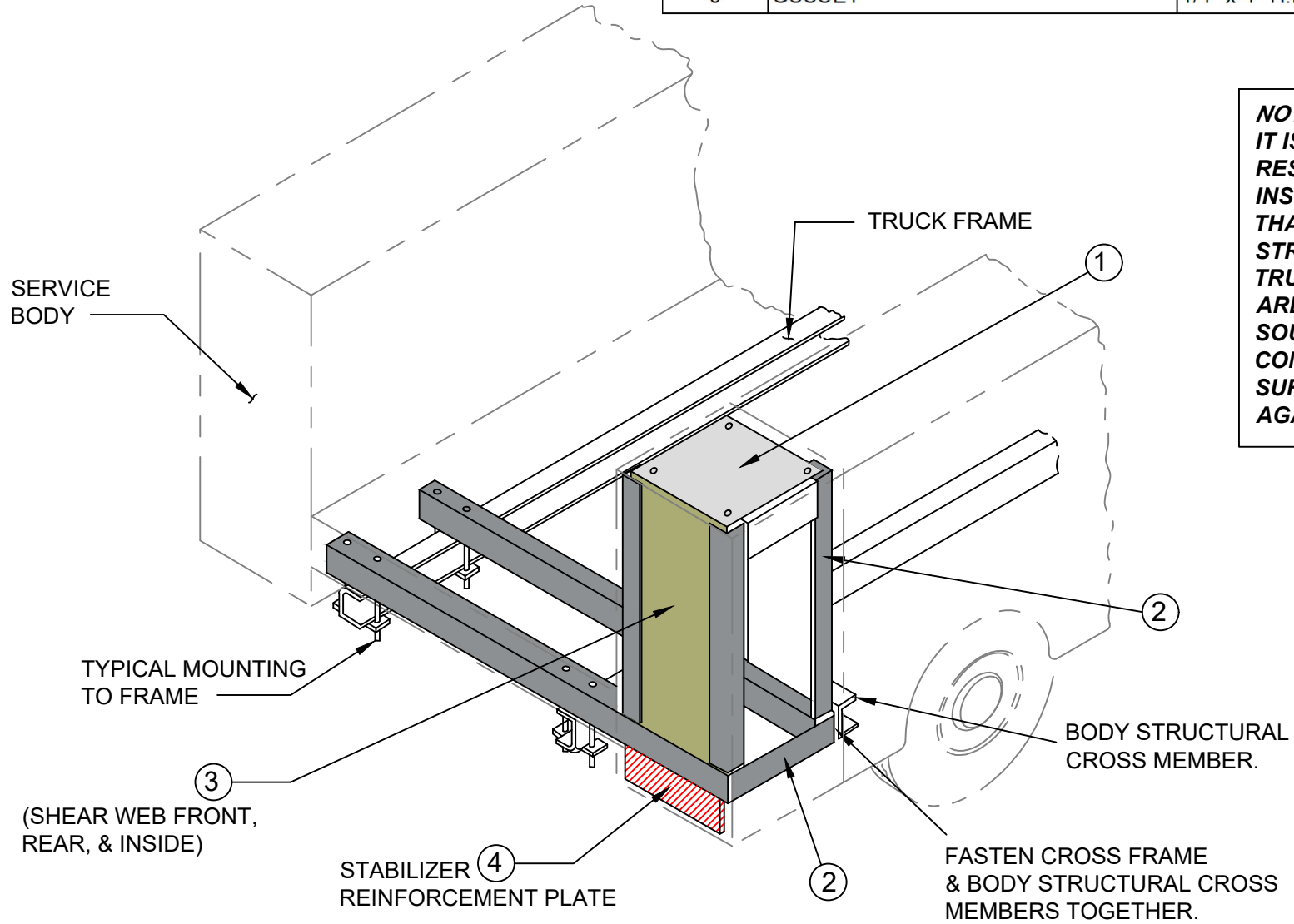
SECTION 200

INSTALLATION



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| ITEM NO. | DESCRIPTION | MINIMUM RECOMMENDED MATERIAL SIZE |
|----------|--------------------------------|-----------------------------------|
| 1 | TOP PLATE | STEEL PLATE |
| 2 | CORNER POST | 3" x 3" x 1/4" STEEL ANGLE |
| 3 | SHEAR WEB | 12 Ga. |
| 4 | STABILIZER REINFORCEMENT PLATE | 3/16" THICK STEEL PLATE |
| 5 | GUSSET | 1/4" x 4" H.R. STEEL (NOT SHOWN) |



NOTE:
IT IS THE SOLE RESPONSIBILITY OF THE INSTALLER TO INSURE THAT THE TOTAL STRUCTURE OF CRANE, TRUCK, AND STABILIZERS ARE STRUCTURALLY SOUND AND THAT THE COMPLETED VEHICLE HAS SUFFICIENT STABILITY AGAINST OVERTURNING.

ILLUSTRATIONS NOT TO SCALE



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

TITLE
 INSTALLATION DRAWING

3215E/351*E

DATE
 09-10-24

SUPERSEDES
 -

SECTION
 C100

28933

!! IMPORTANT !!

ADEQUATE WIRING IMPERATIVE FOR PROPER OPERATION

1. PROPER GROUND PATH - SEE DWG 28821
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 AUXILIARY BATTERY REQUIREMENTS | |
|--|--|-------|-------|-------|-------|-----------------|-------|-------|--|--------------|
| | 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 RECOMMENDED | | 450 | 100 | |
| 3215E 3515E 3516E | #2 | #2 | #1 | #0 | #00 | NOT RECOMMENDED | | 550 | 150 | |
| 4016E 4020E 4516E 4520E 5020E 6020E | SEE DRAWING 28821 FOR CABLE AND BATTERY REQUIREMENTS | | | | | | | | | |

* 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.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| | |
|-----------------|-----------------|
| TITLE | CABLE & BATTERY |
| ELECTRIC CRANES | |

| | |
|------|----------|
| DATE | 02-19-24 |
|------|----------|

| | |
|------------|---|
| SUPERSEDES | - |
|------------|---|

| | |
|---------|------|
| SECTION | C200 |
|---------|------|

28820

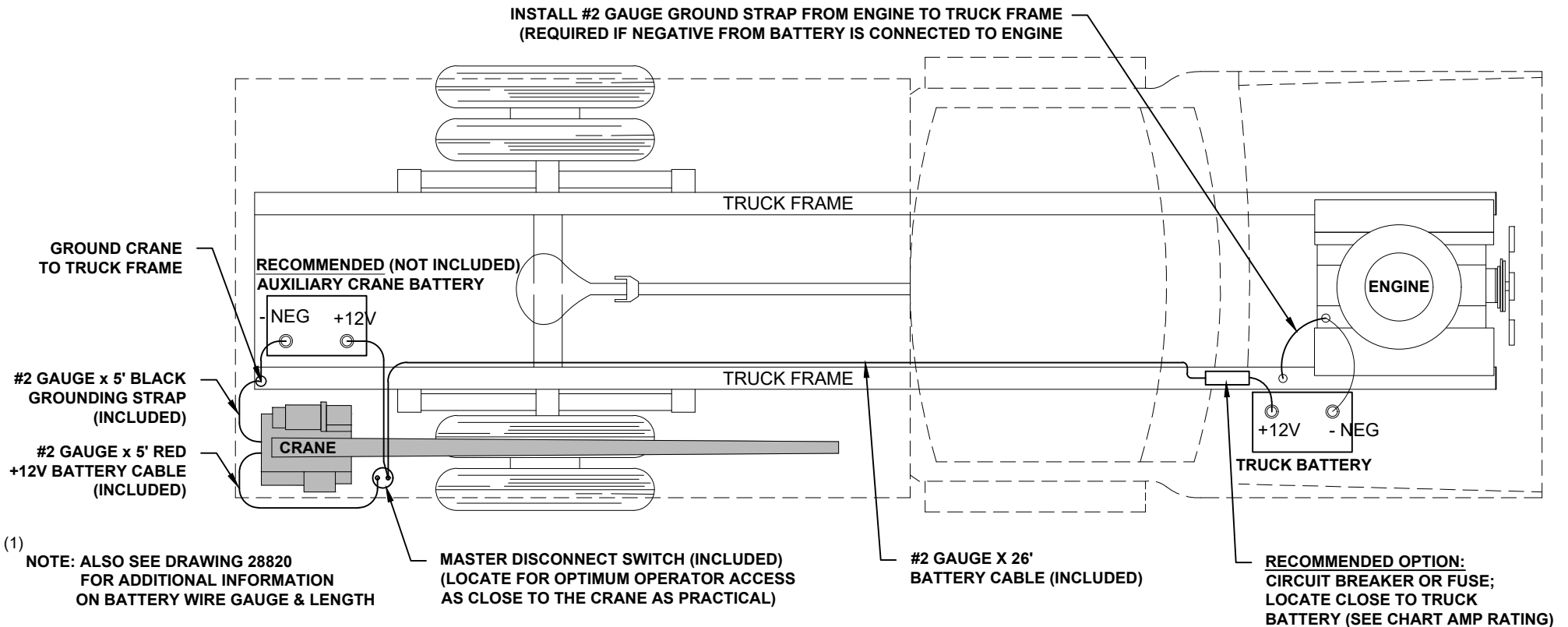
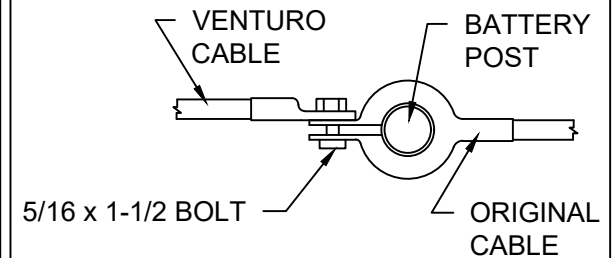
| RECOMMENDED CIRCUIT BREAKER TABLE | | |
|-----------------------------------|---------------------|-----------|
| CRANE | DESCRIPTION | PART NO. |
| 2010E | 300 AMP, MAN RESET | 22946-300 |
| 3215E | 300 AMP, MAN RESET | 22946-300 |
| 3515E/3516E | 300 AMP, MAN RESET | 22946-300 |
| 4016E/4020E | 300 AMP, MAN RESET | 22946-300 |
| 4516E/4520E | 300 AMP, MAN RESET | 22946-300 |
| 5020E | 300 AMP, AUTO RESET | 22946-300 |
| 6020E | 300 AMP, AUTO RESET | 22946-300 |

BATTERY REQUIREMENTS

- 12 VOLT VEHICLE BATTERY REQUIREMENTS
 - 625 COLD CRANKING AMPS (AT 0° F)
 - 160 MINUTES RESERVE CAPACITY
 - 102 PLATES, 105 AMP-HR
- (1)
- 12 VOLT AUXILIARY BATTERY REQUIREMENTS
 - SEE MINIMUM WIRE GAUGE AND BATTERY SIZE

NOTE: OPERATING WITH THE VEHICLE BATTERY 'ONLY' IS PERMISSIBLE, BUT NOT RECOMMENDED.

RECOMMENDED BATTERY TERMINAL ATTACHMENT



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

BATTERY CABLE & COMPONENT INSTALL

ET CRANES

DATE

02-19-24

SUPERSEDES

-

SECTION

C200

28821

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. **Note: The black & white wires MUST be reconnected to the Overload Pressure Switch after the stability test has been completed.**
6. Use a **Test Weight** weighing a **minimum** of **764 lbs**, (includes load block weight of 24 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 contact 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**.

$$\% \text{ Rated Capacity} = \frac{\text{"Max Stable Reach" in inches}}{181} \times 100$$

12. Record the **% of Rated Capacity** 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.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

STABILITY TEST

DATE

10-11-24

SECTION

C200

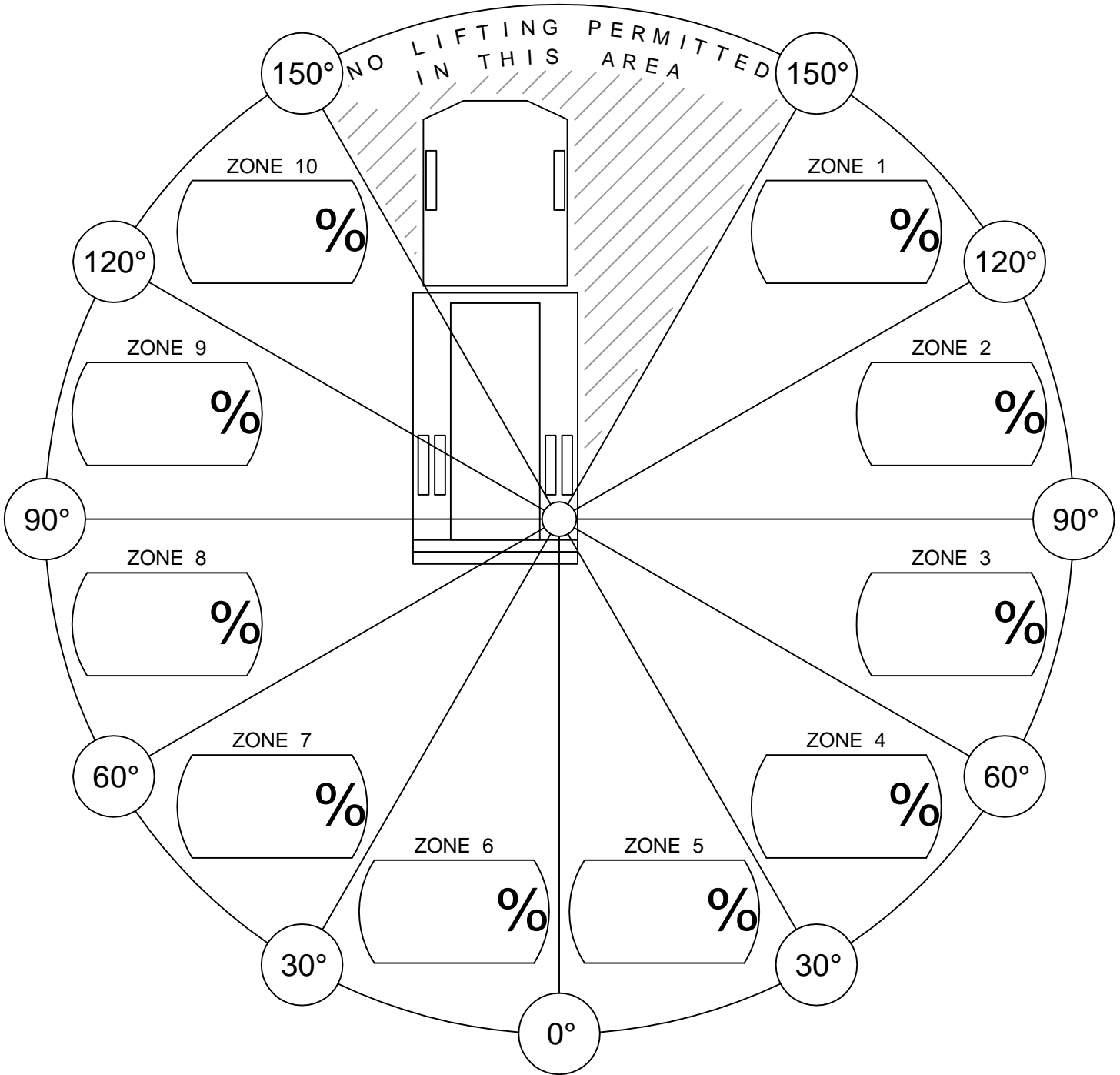
3215E

SUPERSEDES

-

20906-3215E

CRANE STABILITY



% of Rated Capacity for each of the 10 regions are provided above.

CONDITIONS:

- STABILIZERS FULLY EXTENDED & DOWN, ON FIRM LEVEL GROUND.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
STABILITY CHART

VENTURO CRANES

DATE
05-11-17F

SUPERSEDES
02-21-14E

SECTION
C200

20907

WIRE ROPE INSTALLATION

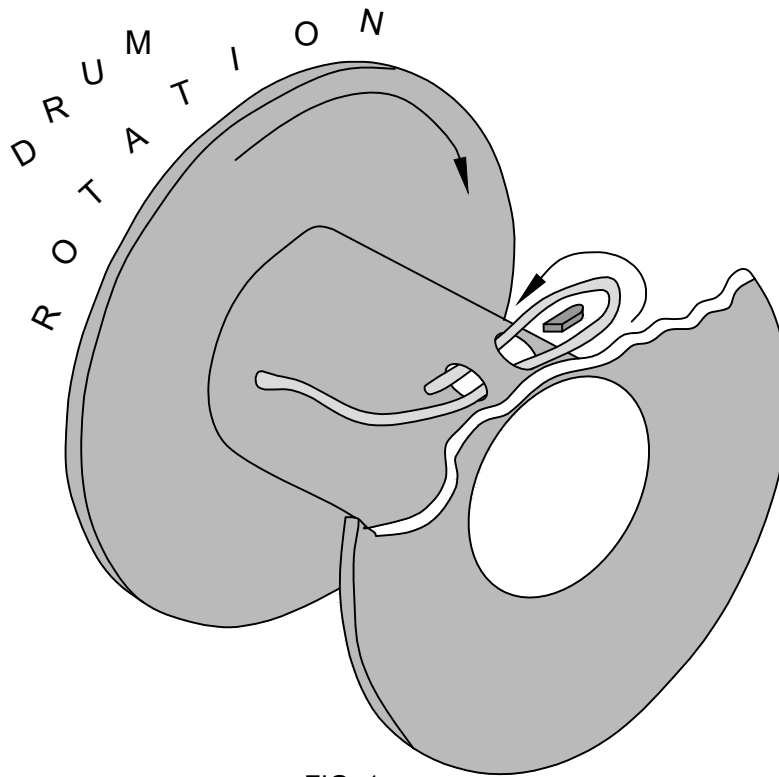


FIG. 1

- 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.



CAUTION

- IF THE WIRE ROPE IS NOT INSTALLED FOR THE CORRECT DRUM ROTATION, THE WINCH BRAKE VALVE WILL NOT HOLD THE LOAD.



CAUTION

- THERE MUST ALWAYS BE AT LEAST [5] DEAD WRAPS OF WIRE ROPE ON THE WINCH DRUM WHILE UNDER LOAD.

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



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
WIRE ROPE INSTALLTN
2010E & LARGER CRANES

DATE
02-20-24

SUPERSEDES
-

SECTION
C200

28822

SECTION 300

OPERATION

&

MAINTENANCE



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

SAFETY

Before operating this crane, read and understand these instructions, the "CRANE SAFETY AND HAZARDS" pages, and review all safety and instruction decals 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 the one-part line rating as shown on the "MAXIMUM LOAD CAPACITY" page in this manual *or* if reduced winch line speed for better control of loads is desired, use the load block to rig the crane for two-part line operation.

CONTROLS

This crane is operated by either a corded or radio remote control pendant. If corded, the pendant should be unplugged and stored in a compartment or the cab when the crane is not in use.

With the Master Disconnect Switch in the OFF position, inspect pendant head and switches for damage; for corded remote controls also inspect the plug, socket, and cord. Actuate all switches or buttons in both directions to verify that they all have the same feel and sound, and that they return to the center or resting position.

Plug the pendant into the socket on the right side of the crane.

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.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| TITLE | DATE | SECTION |
|----------------------|------------------------|---------|
| OP & MAINT INSTR 1/3 | 08-11-25A | C300 |
| ET CRANES SERIES ▲ | SUPERSEDES 02-18-25 | 28852 |

CONTROL FUNCTIONS

WINCH - "WINCH UP" raises the wire rope and "WINCH DOWN" lowers the wire rope. An integrated brake holds the load in place when the winch is not in operation and controls the lowering speed of the load.

ELEVATION - "BOOM UP" raises the boom (increases the boom angle) and "BOOM DOWN" lowers the boom (decreases the boom angle). A counterbalance valve on the cylinder prevents the boom from coming down if a hose breaks and controls the rate at which the boom lowers.

EXTENSION - "BOOM OUT" extends the boom and "BOOM IN" retracts the boom. A counterbalance valve on the cylinder prevents the boom from retracting if a hose breaks and controls the rate at which the boom retracts.

ROTATION - "ROTATE LEFT" and "ROTATE RIGHT" control the direction of rotation. The crane can be rotated continuously. The rotation system is self-locking when not in operation.

TRIGGER (Proportional Only) - Varies the flow rate delivered to the hydraulic functions (elevation, extension, and rotation). The farther the trigger is pulled, the faster the selected hydraulic function operates.

CONTROL PRIORITY SYSTEM - When operating "Winch Up", all hydraulic functions (elevation, extension, and rotation) will be disabled to limit the total current (amp) draw.

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 Left" and "Rotation Right" functions also will continue to operate.

The warning system is INOPERATIVE when the elevation cylinder is fully retracted ("bottomed out"). Use "BOOM UP" to extend the elevation cylinder and ensure that the overload system is active.

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 will be 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 switch. The high in-rush current to the motor during reversal can reduce the life of electrical components.

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

Never lift or drag a load sideways ("side load") using any of the crane functions; it could cause permanent damage to the crane.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| TITLE | DATE | SECTION |
|----------------------|------------------------|---------|
| OP & MAINT INSTR 2/3 | 08-11-25A | C300 |
| ET CRANES SERIES ▲ | SUPERSEDES 02-18-25 | 28853 |

OVERLOAD ALARM (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, use "WINCH DOWN", "BOOM UP", or "BOOM IN" to remove the overload.
3. The warning system is INOPERATIVE when the elevation cylinder is fully retracted ("bottomed out"). Use "BOOM UP" to extend the elevation cylinder and ensure that the overload system is active.
4. Overload alarm can be tested by raising boom to full elevation.

MANUAL TELESCOPIC BOOM

If your crane has a manual telescoping section, use toggle pin to position the boom in either the extended or retracted position. Never operate the crane without the toggle pin secured in place.

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).
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 rest.
3. Hook the winch line to a tie-down point on the body or pedestal and apply light tension.
4. Turn OFF Master Disconnect Switch.
5. If using corded control pendant, unplug pendant and store in body compartment or cab.



WARNING

Master Disconnect Switch (power) must be turned "OFF" when the crane is not in use! If corded, the pendant must be unplugged from the crane socket. Failure to follow these steps may result in dangerous, unintentional activation of the crane functions.



MANUFACTURING, INC.
CINCINNATI, OHIO

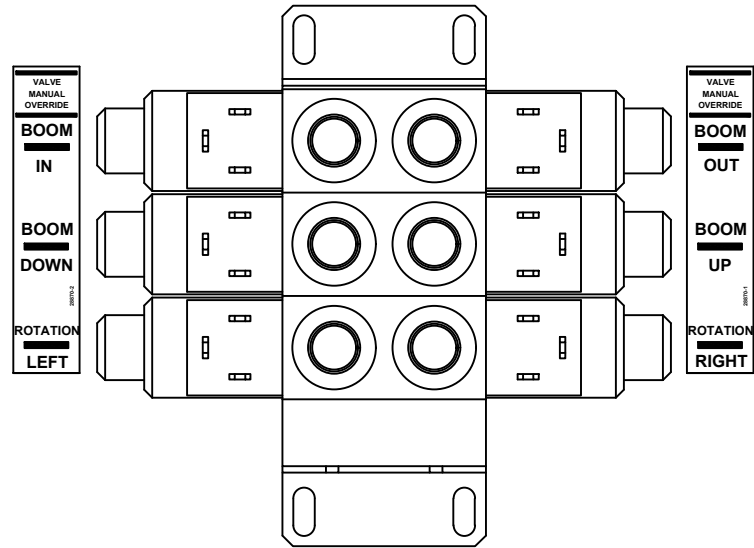
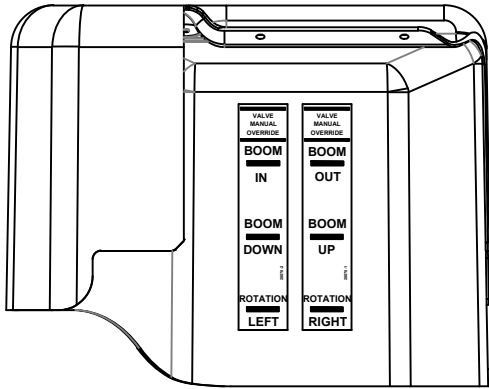
TITLE
OP & MAINT INSTR 3/3
ET CRANES SERIES ▲

DATE
08-11-25A
SUPERSEDES
02-18-25

SECTION
C300
28854

MANUAL OVERRIDE INSTRUCTIONS
 ET CRANES, NON-PROPRTIONAL SERIES CRANES ▲

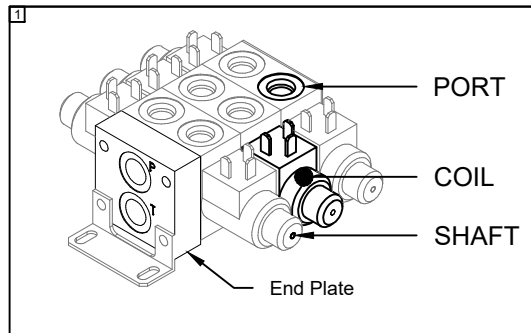
!! READ ALL INSTRUCTIONS BEFORE PERFORMING MANUAL OVERRIDE PROCEDURES !!



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:

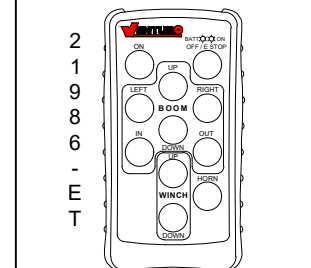
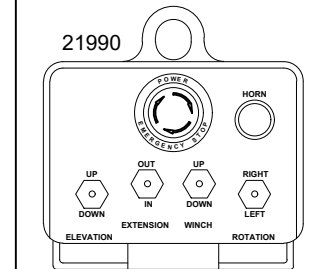
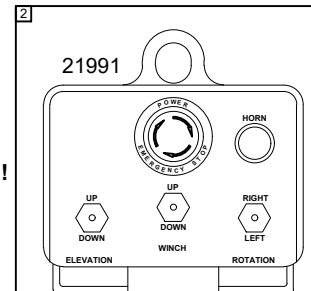
- BI = Boom In BO = Boom Out
- BD = Boom Down BU = Boom Up
- RL = Rot. Left RR = Rot. Right



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 HARNESSSES SHOULD BE REMOVED BEFORE OPERATING A CRANE IN MANUAL OVERRIDE !!

Procedure:

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



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



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

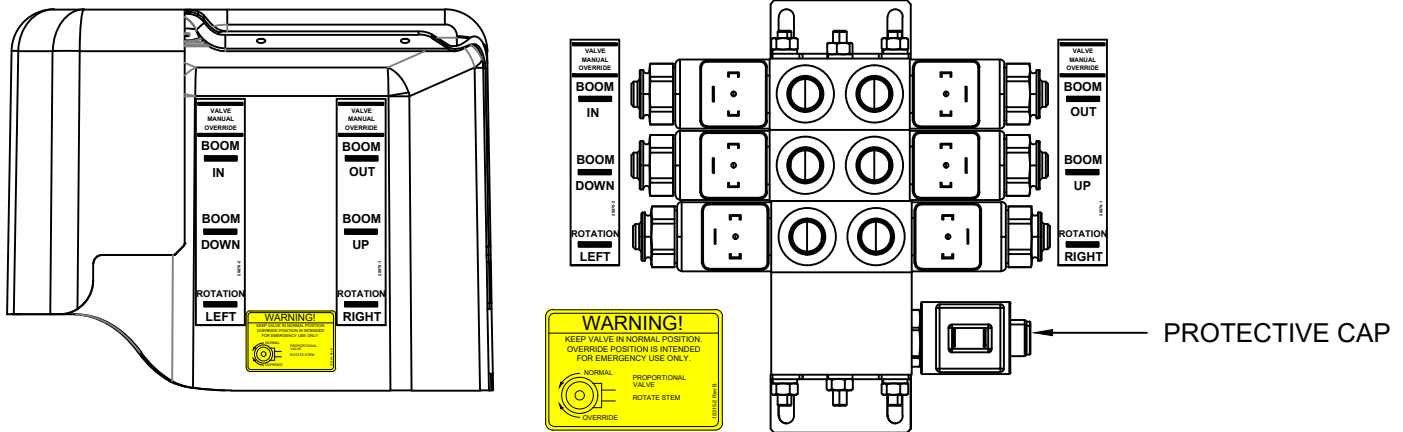
TITLE
MAN. OVERRIDE INSTR.
 ET CRANES
 NON-PROPORTIONAL VALVE ▲

DATE
08-11-25B
 SUPERSEDES
04-03-25A

SECTION
C200
28826

MANUAL OVERRIDE INSTRUCTIONS
 ET CRANES, PROPORTIONAL 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.

3-STATION FUNCTIONS:

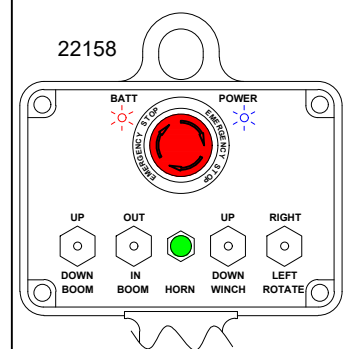
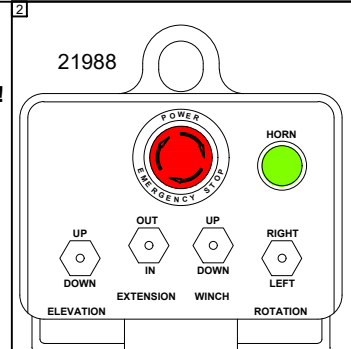
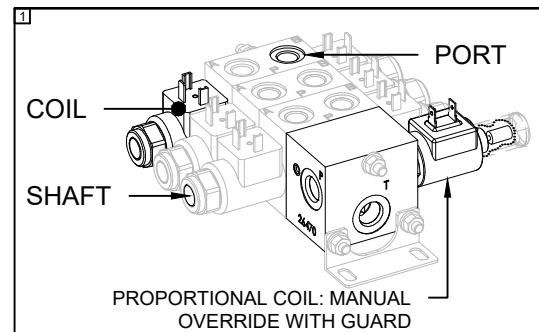
- RR = Rot. Right RL = Rot. Left
- BU = Boom Up BD = Boom Down
- BI = Boom In BO = Boom Out

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 HARNESSSES SHOULD BE REMOVED BEFORE OPERATING A CRANE IN MANUAL OVERRIDE !!

Procedure:

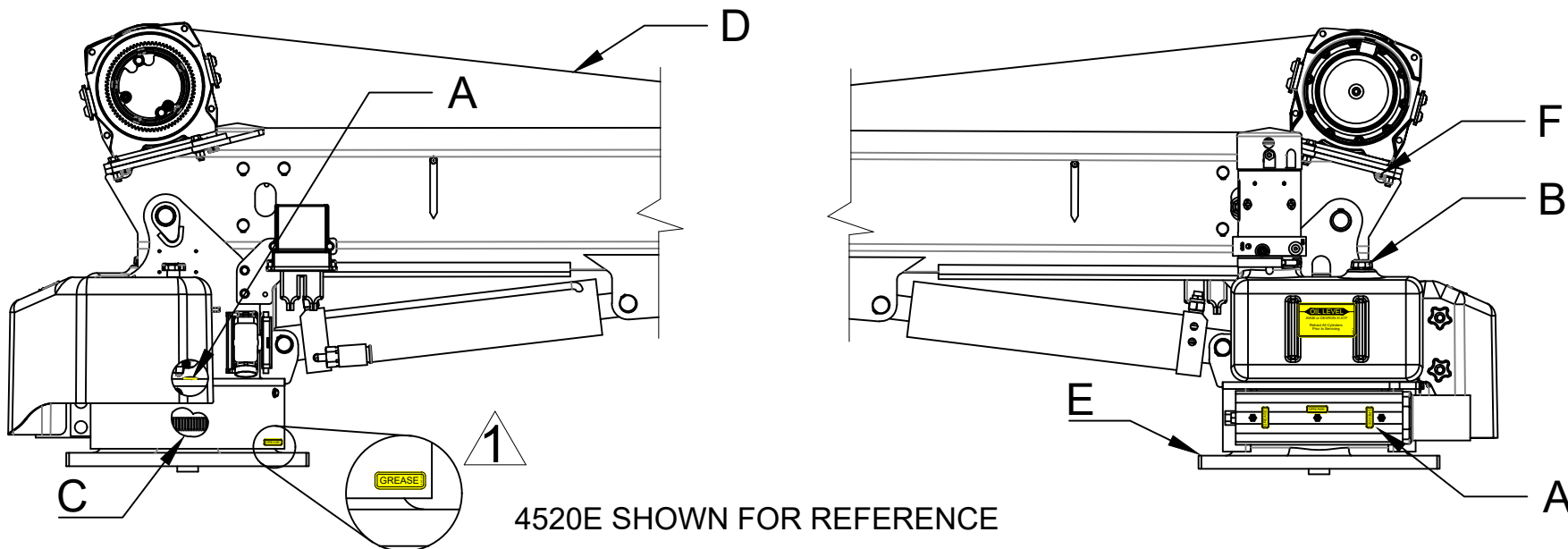
1. Turn Master disconnect switch to "ON"
2. Remove Protective cap
3. Rotate Valve Stem Clockwise to close
4. Power up the pendant / radio
 - 4.1. Twist EMERGENCY STOP button clockwise
5. Inside the plastic cover, reference the function you wish to perform using the manual override decal
6. Using a tool 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 2)
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.



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

| | | |
|----------------------|------------|---------|
| TITLE | DATE | SECTION |
| MAN. OVERRIDE INSTR. | 08-11-25B | C200 |
| ET CRANES | SUPERSEDES | |
| PROPORTIONAL VALVE ▲ | 04-03-25A | 28827 |



4520E SHOWN FOR REFERENCE

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

| Location | Service Required | Note | | Service Interval |
|----------|---|--|--|---|
| A | Grease fitting With Pressure Grease Gun | Use FUCHS Renolit Aluminum Complex Grease, or equivalent ▲ ALIGNMENT: To align hole w/ fitting, remove Cover, line up grease decals on lower cover and base gusset. | | Time of Truck Service |
| B | 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 |
| C | Lubricate Gear Teeth | Remove Cover & Use Chassis Grease | | 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 200 ft-lbs | | Time of Truck Service |
| - | Check Torque of Base Mounting Bolts | Rectangular Base: Torqued to 455 ft-lbs | | 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 28928 FOR WINCH IDENTIFICATION. ▲



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
LUBRICATION & MAINTENANCE CHART

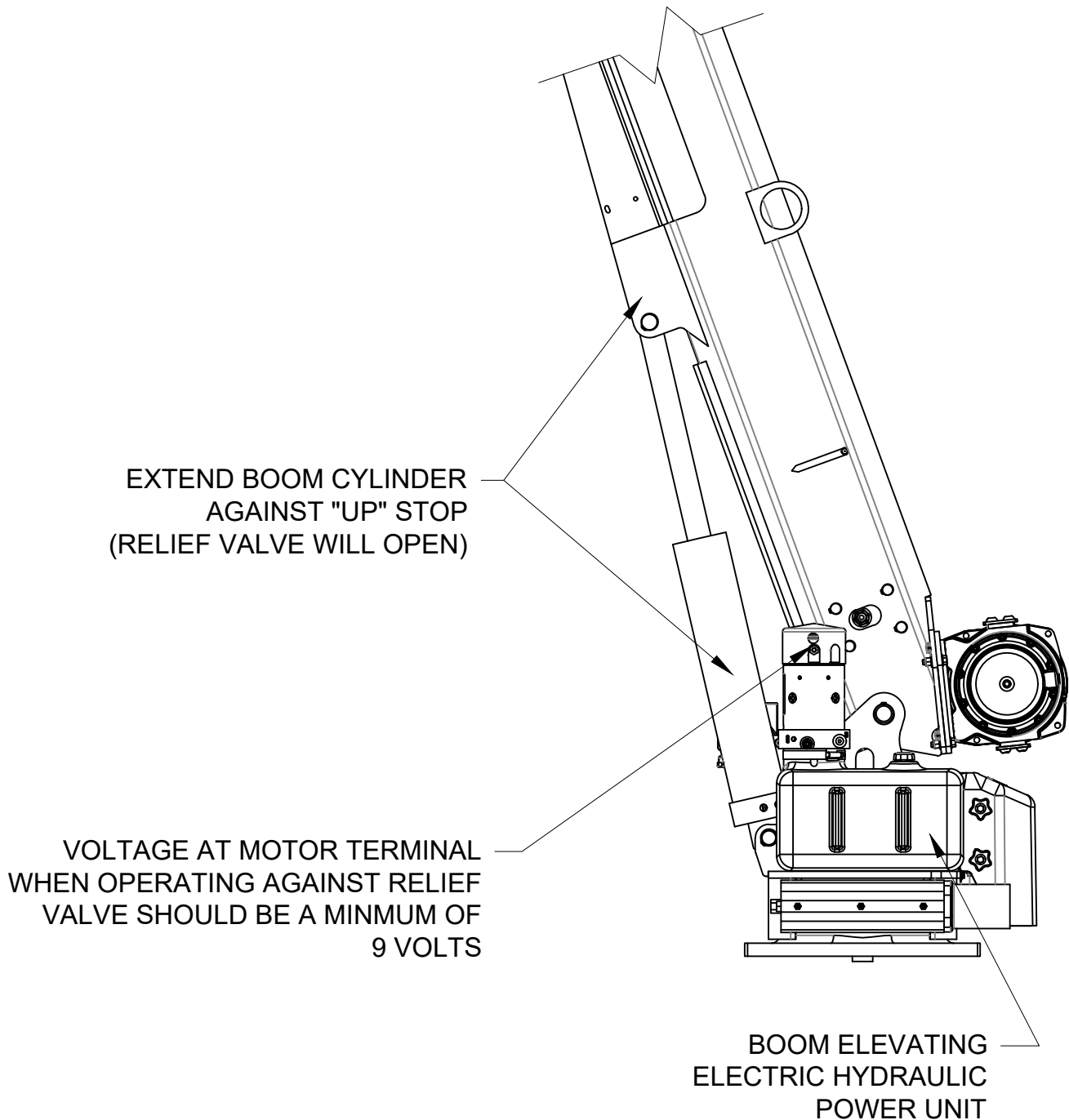
3215E/351*E/40**E/45**E

DATE
09-04-25A SECTION
C300

SUPERSEDES
02-20-24 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 WHEN DRAWING THE LARGE CURRENT THAT EXISTS AT FULL LOAD



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
MINIMUM VOLTAGE TEST
ET SERIES CRANES

DATE
02-20-24
SUPERSEDES
-

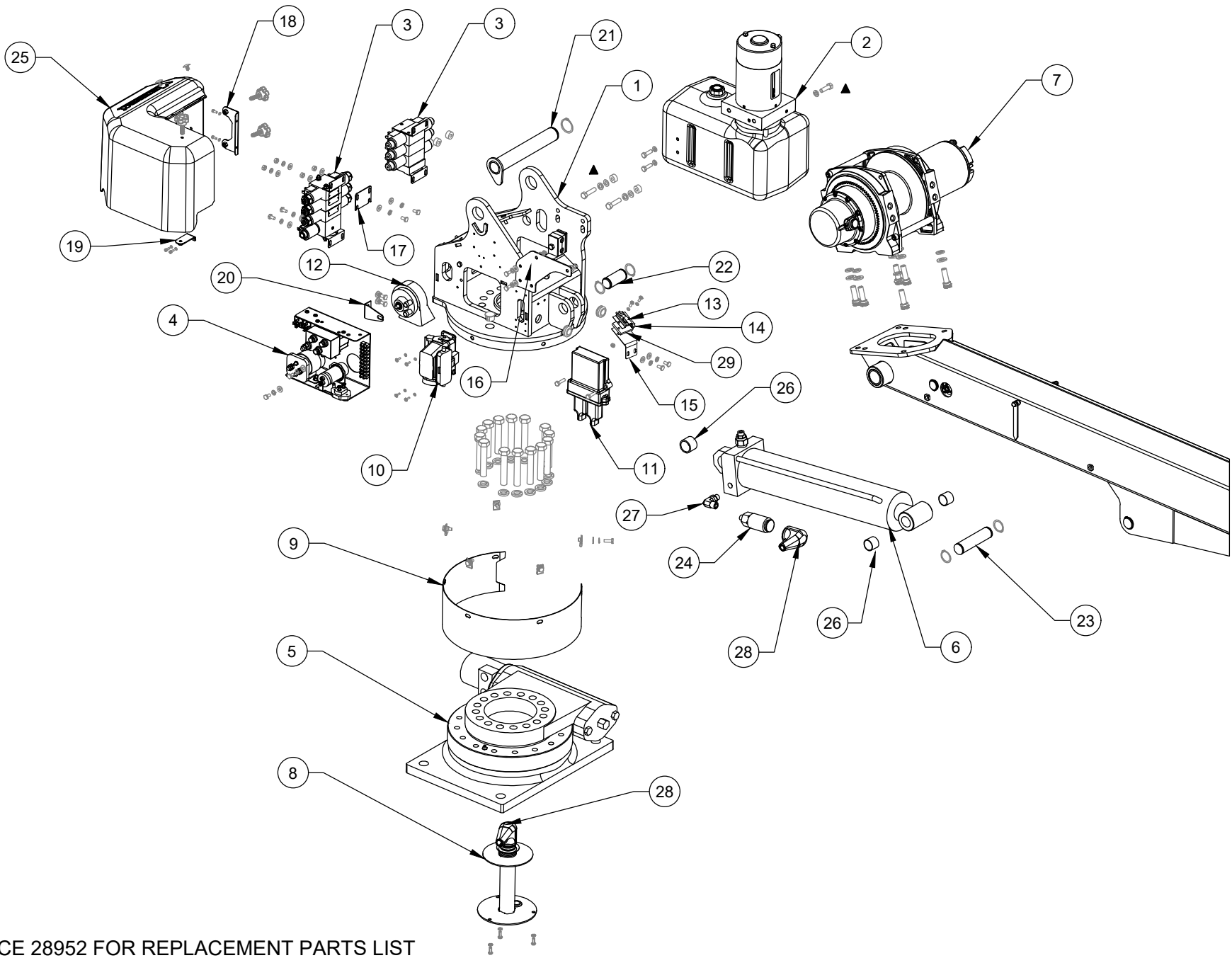
SECTION
C300
28824

SECTION 400

REPLACEMENT PARTS



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO



REFERENCE 28952 FOR REPLACEMENT PARTS LIST



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS DWG - MECH
3215E/3515E/3516E

DATE
09-22-25C
SUPERSEDES
06-20-25B

SECTION
C400
28951

| ITEM NO. | NON-PROP | PROP | PART NUMBER | DESCRIPTION |
|----------|----------|------|-------------|--|
| | QTY. | | | |
| 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. |
| | 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 |
| 11 | - | 1 | 22158 | RADIO, ET, PROPORTIONAL |
| | 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 | 28646 | 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 |
| 25 | 1 | 1 | 28740 | PLASTIC COVER |
| 26 | 3 | 3 | 21789 | POLY BEARING - ELEVATION CYLINDER |
| 27 | 1 | 1 | FF6801-0606 | FITTING, ADAPTER, 90°, 6MOFS-6MORB |
| 28 | 1 | 1 | 17012 | BOOT: PRESSURE SWITCH |
| 29 | 1 | 1 | 20896 | TOP ANGLE SWITCH BLOCK |

| ITEM NO. | 3215E | 3515E | 3516E | PART NUMBER |
|----------|-------|-------|-------|---------------|
| | QTY. | | | |
| 24 | 1 | - | - | 17460-2200-21 |
| | - | 1 | 1 | 17460-2400-21 |

REFERENCE 28951 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS LIST - MECH

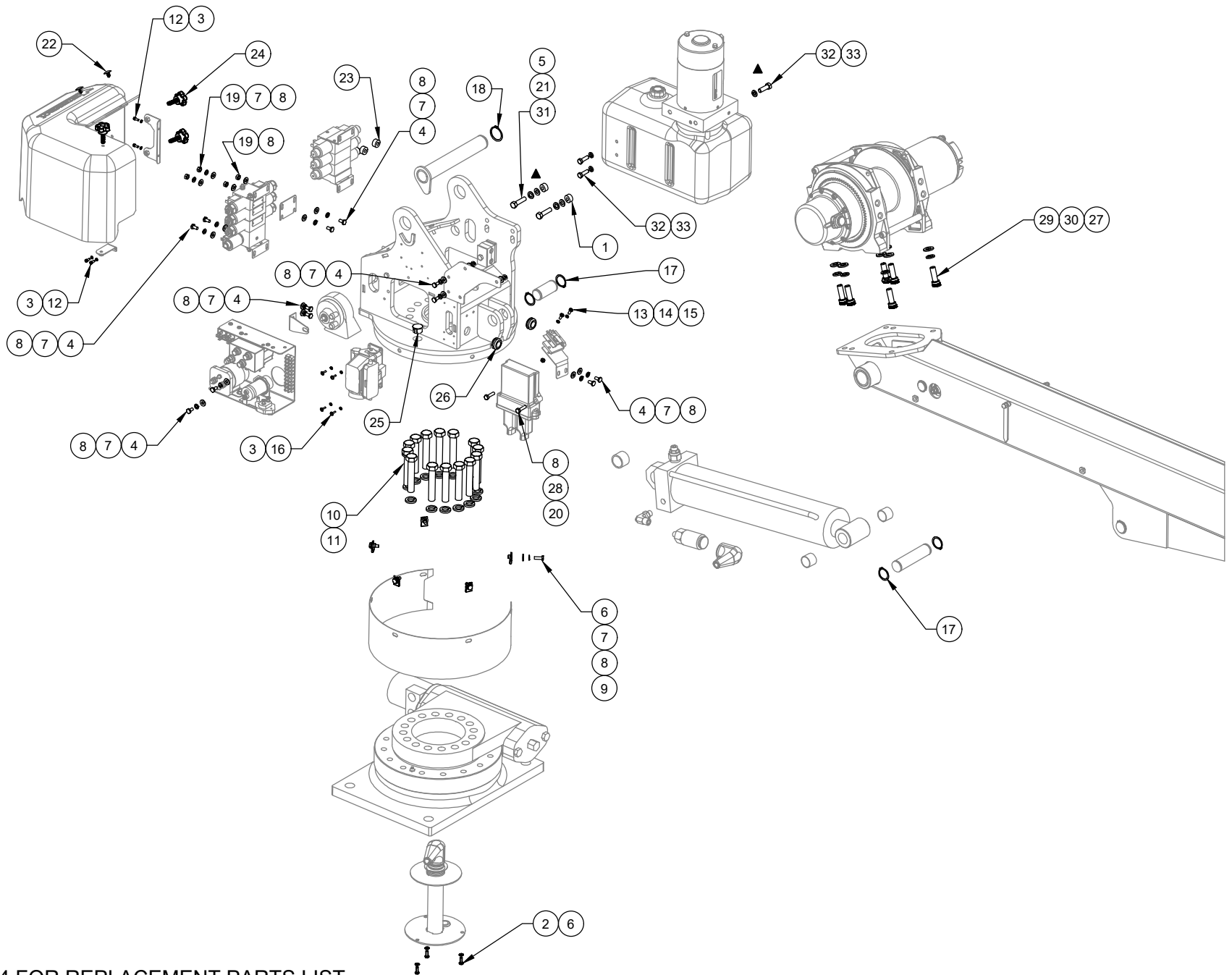
DATE
06-17-25A

SECTION
C400

3215E/3515E/3516E

SUPERSEDES
10-14-24

28952



REFERENCE 28954 FOR REPLACEMENT PARTS LIST



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT FASTENERS DWG - MECH

DATE
09-23-25B

SECTION
C400

3215E/3515E/3516E

SUPERSEDES
06-20-25A

28953

| ITEM NO. | NON-PROP | PROP | PART NUMBER | DESCRIPTION |
|----------|----------|------|-------------------|---|
| | QTY. | | | |
| 1* | 2 | 2 | 28804 | ALUMINUM SPACER |
| 2 | 3 | 3 | !LWSH-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 | !FWSH-038 | FLAT WASHER; 3/8, ZINC |
| 6 | 8 | 8 | !HHCS02520075S | HEX HEAD CAP SCREW 1/4-20 X 3/4, SS |
| 7 | 16 | 18 | !LWSH-025S | LOCK WASHER; 1/4, SS |
| 8 | 17 | 21 | !FWSH-025S | FLAT WASHER; 1/4, SS |
| 9 | 5 | 5 | !UNUT-02520-LKG | U-NUT; 1/4-20, LOCKING TYPE, ZINC |
| 10 | 14 | 14 | !HHCS06311350-5 | !HHCS; 5/8-11 X 3-1/2, GR 5, ZINC |
| 11 | 14 | 14 | !LWSH-063 | LOCK WASHER; 5/8, ZINC |
| 12 | 4 | 4 | !SHCS#0832038S | SHCS, #8-32 X 0.38, SS |
| 13 | 2 | 2 | !PHPMS#1024050S | PHILLIPS HEAD PAN, #10-24 X 1/2, SS |
| 14 | 2 | 2 | !HNUT-#1024S | HEX NUT, 10-24, SS |
| 15 | 2 | 2 | !LWSH-#10S | LOCK WASHER - #10, SS |
| ▲ 16 | 4 | 4 | !PHPMS#0832050S | PHILIPS HEAD PAN, #8-32 X 1/2", SS |
| 17 | 4 | 4 | !SRNG-113 | SNAP RING - 1-1/8 - PLATED |
| 18 | 1 | 1 | 24842-138 | SPIRAL RETAINING RING - 1-3/8 - STAINLESS |
| 19 | 2 | 4 | !HNUT-02520S | HEX NUT 1/4-20, SS |
| 20 | 2 | 2 | !HHCS02520100S | HEX HEAD CAP SCREW 1/4-20 X 1, SS |
| 21 | 2 | 2 | !LWSH-038 | LOCK WASHER; 3/8, ZINC |
| 22 | 2 | 2 | 28741 | PUSH-IN RIVETS WITH RIBBED SHANK, 0.25 |
| 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-02520NS | JNUT, NYLON INSERT, 1/4-20, SS |
| 29 | 4 | 4 | 25922 | SHCS M12-175x35mm Gr.12.9, ZINC |
| 30 | 4 | 4 | !LWSH-M12-8.8 | M12 LOCK WASHER, ZINC |
| 31 | 2 | 2 | !HHCS03816150N | HHCS 3/8-16 X 1-1/2 GR 5, ZINC, NYLON PATCH |
| 32** | 3 | 3 | !LWSH-031S | LOCK WASHER; 5/16, S/S |
| 33** | 3 | 3 | !HHCS3118100S | HEX HEAD CAP SCREW 5/16-18 X 1, S/S |

* : USED WITH KTI HPU ONLY

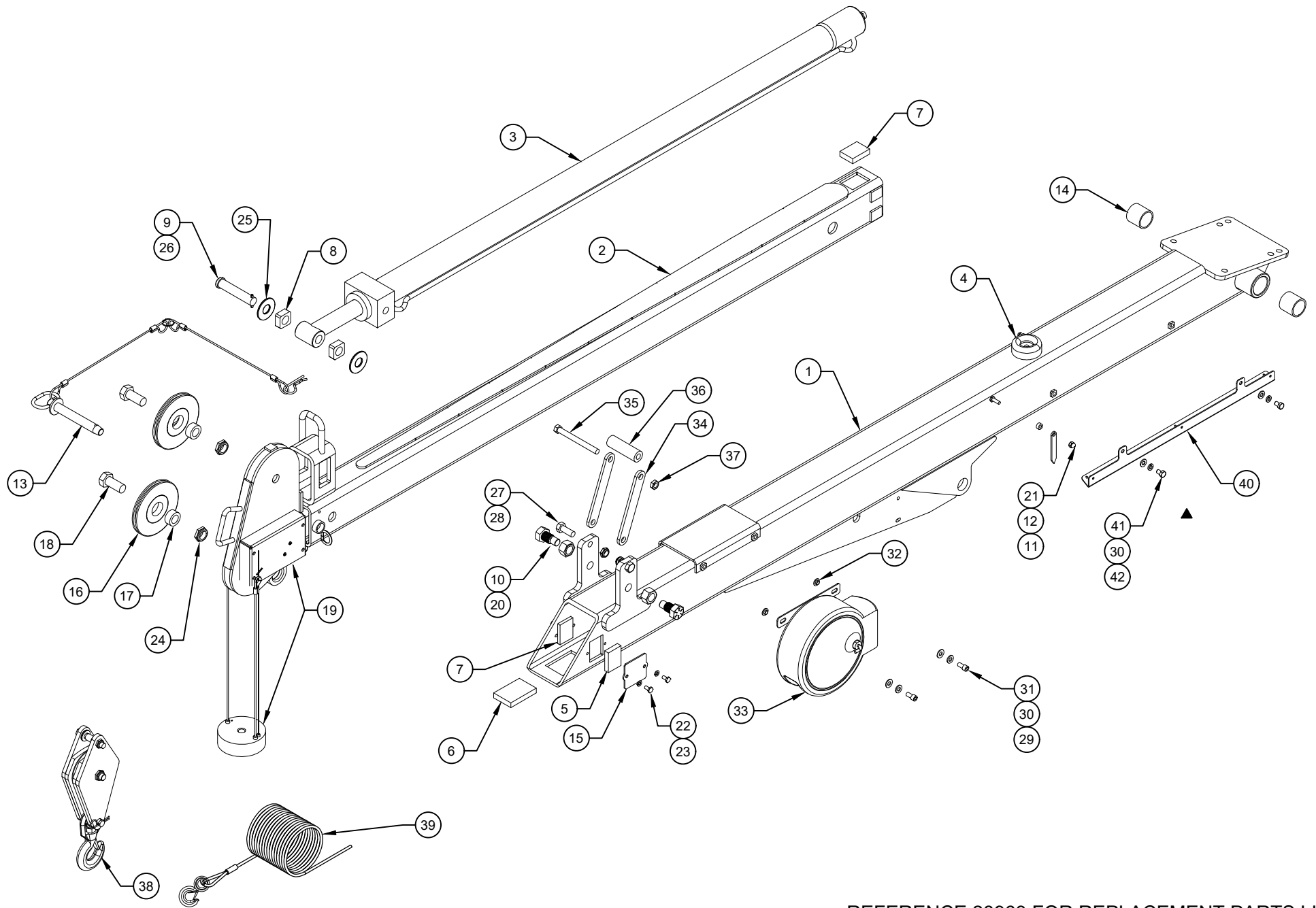
** : USED WITH BUCHER HPU ONLY

REFERENCE 28953 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| | | |
|-----------------------------------|-------------------------|---------|
| TITLE | DATE | SECTION |
| REPLACEMENT FASTENERS LIST - MECH | 10-13-25E | C400 |
| 3215E/3515E/3516E | SUPERSEDES 09-23-25D | 28954 |



REFERENCE 28963 FOR REPLACEMENT PARTS LIST



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| | |
|-------------|---|
| TITLE | REPL PARTS & FASTENERS DWG - 28684 BOOM |
| 3215E/3515E | |

| | |
|------------|-----------|
| DATE | 03-10-25B |
| SUPERSEDES | 02-26-25A |

| | |
|---------|------|
| SECTION | C400 |
| 28962 | |

REPLACEMENT 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 | PIVOT 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 X 1/2 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 | !HHCS05013125-5 | HEX HEAD CAP SCREW 1/2-13NC X 1-1/4 LG, ZINC |
| 28 | 2 | !JNUT-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 | !SHCS03118063S | SHCS 5/16-18 X 1/2 LONG, SS |
| 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 | !HHCS04414450 | HEX HEAD CAP SCREW 7/16-14 X 4-1/2 LG, ZINC |
| 36 | 1 | 27088 | ROLLER, UHMW GUIDE |
| 37 | 1 | !JNUT-04414N | NYLON LOCK-JAM NUT - 7/16-14, ZINC |
| 38 | 1 | 20670-2 | LOAD BLOCK ASSEMBLY FOR 3215E |
| | 1 | 20670 | LOAD BLOCK ASSEMBLY FOR 3515E |
| 39 | 1 | 21639 | WIREROPE; 1/4 X 62' W/ EYEHOOK & SAFETY LATCH |
| 40 | 1 | 26720 | RECTANGULAR BOOM CABLE GUARD BRACKET |
| ▲ 41 | 2 | !LWSH-031S | LOCK WASHER; 5/16", S/S |
| 42 | 2 | !HHCS03118050S | HEX HEAD CAP SCREW - 5/16 X 1/2 LONG S/S |

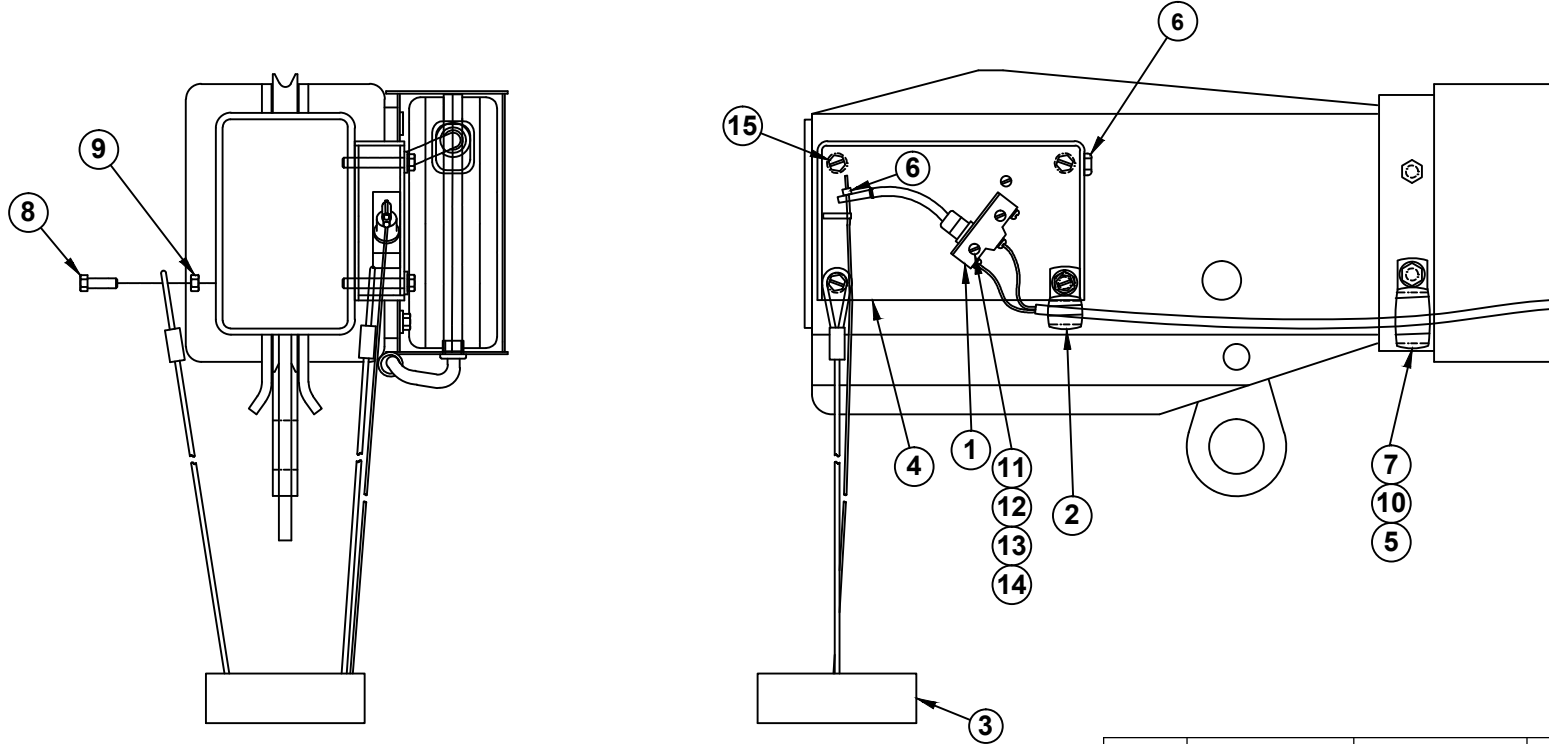
REFERENCE DWG #28962 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

| TITLE | DATE | SECTION |
|---------------------------|------------------------|---------|
| RPLCMNT PARTS & FAST LIST | 03-10-25A | C400 |
| 3215E/3515E | SUPERSEDES 10-03-24 | 28963 |

ANTI-TWO-BLOCK ASSY



NO DASH: 4016E & 4516E
 -1: 3215E & 3515E

| ITEM | QTY | | PART NO. | DESCRIPTION |
|------|---------|----|-----------------|--|
| | NO DASH | -1 | | |
| 1 | 1 | 1 | 19376 | LIMIT SWITCH |
| 2 | 1 | 1 | 19269 | CABLE CLAMP - SMALL |
| 3 | 1 | 1 | 19377-1 | CABLE WEIGHT ASSY |
| 4 | 1 | 1 | 21291 | ANTI TWO-BLOCK HOUSING ASSEMBLY |
| 5 | 1 | - | !LWSH-025 | LOCK WASHER - 1/4" |
| 6 | 1 | 1 | 19302 | SET COLLAR - 3/32" |
| 7 | 1 | - | 19275 | CABLE CLAMP - LARGE |
| 8 | 1 | 1 | !HHCS02520075-5 | HEX HEAD CAP SCREW - 1/4-20 x 3/4" GR. 5 |
| 9 | 1 | 1 | !HNUT-02520 | HEX NUT - 1/4-20 |
| 10 | 1 | - | !ANUT-02520 | ACORN NUT - 1/4-20 |
| 11 | 2 | 2 | !PHMS#632125 | PAN HEAD MACHINE SCREW - #6-32 x 1 1/4" |
| 12 | 2 | 2 | !HNUT-#0632 | HEX NUT - #6-32 |
| 13 | 2 | 2 | !FWSH-#06 | FLAT WASHER - #6 |
| 14 | 2 | 2 | !LWSH-#06 | LOCK WASHER - #6 |
| 15 | 4 | 4 | !HHCS02520175 | HEX HEAD CAP SCREW - 1/4-20 x 1 3/4" |



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

TITLE
 ANTI-2-BLOCK REPL PARTS DWG & LIST

3215E, 3515E, 4016E, 4516E

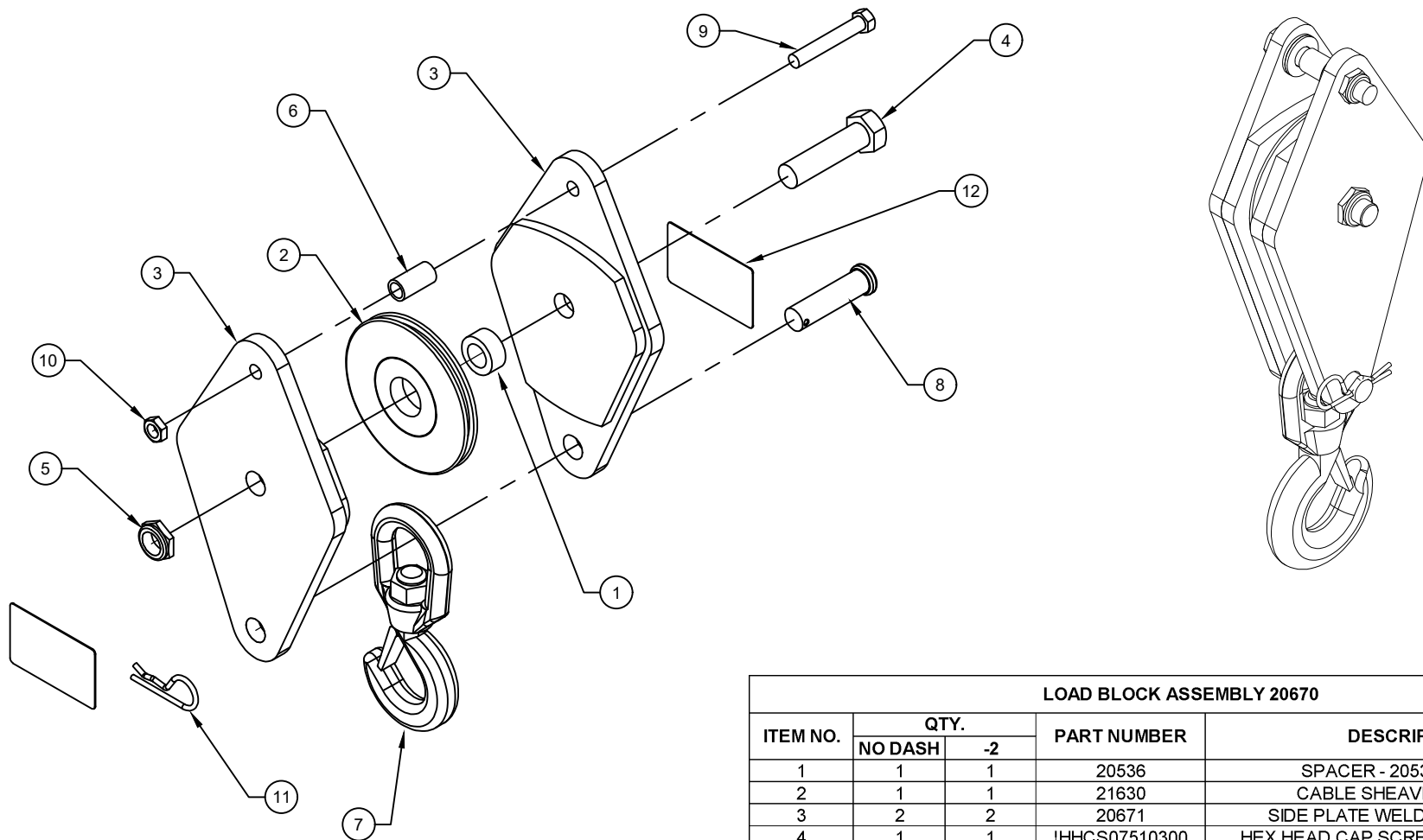
DATE
 08-18-25A

SUPERSEDES
 04-16-25

SECTION
 C400

28861

REPLACEMENT PARTS LIST - 20670 LOAD BLOCK



| LOAD BLOCK ASSEMBLY 20670 | | | | |
|---------------------------|---------|----|---------------|---|
| ITEM NO. | QTY. | | PART NUMBER | DESCRIPTION |
| | NO DASH | -2 | | |
| 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 | SWMEL 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. |
| | 2 | - | 27007-04a | DECAL LOAD BLOCK, 3500 LBS. |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS LIST -20670 LOAD BLOCK

3215E/351*E

DATE

09-13-24

SUPERSEDES

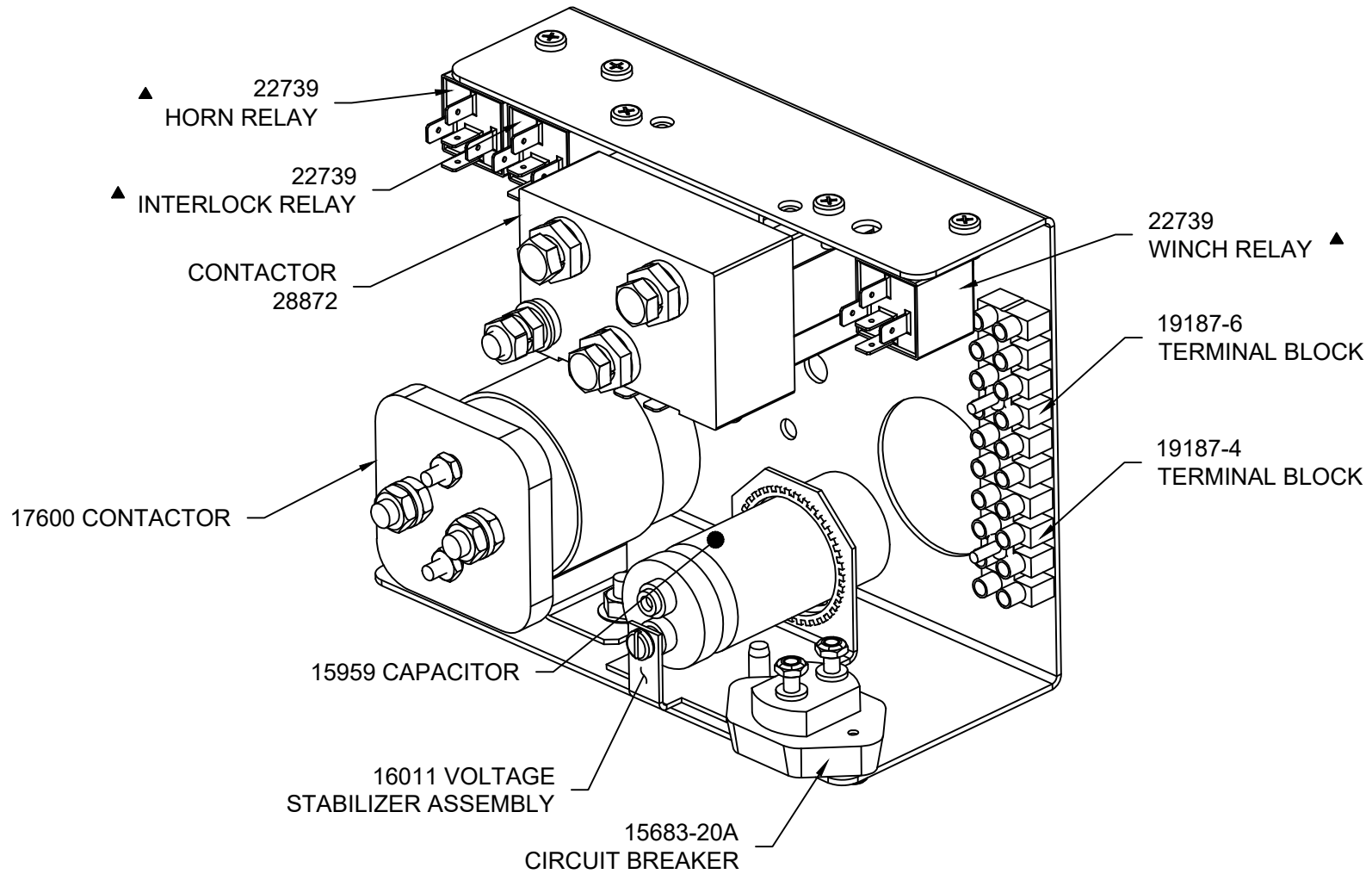
-

SECTION

C400

28946

28700 ELECTRICAL COMPONENT ASSEMBLY



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
ELECTRICAL COMPONENT ASSEMBLY

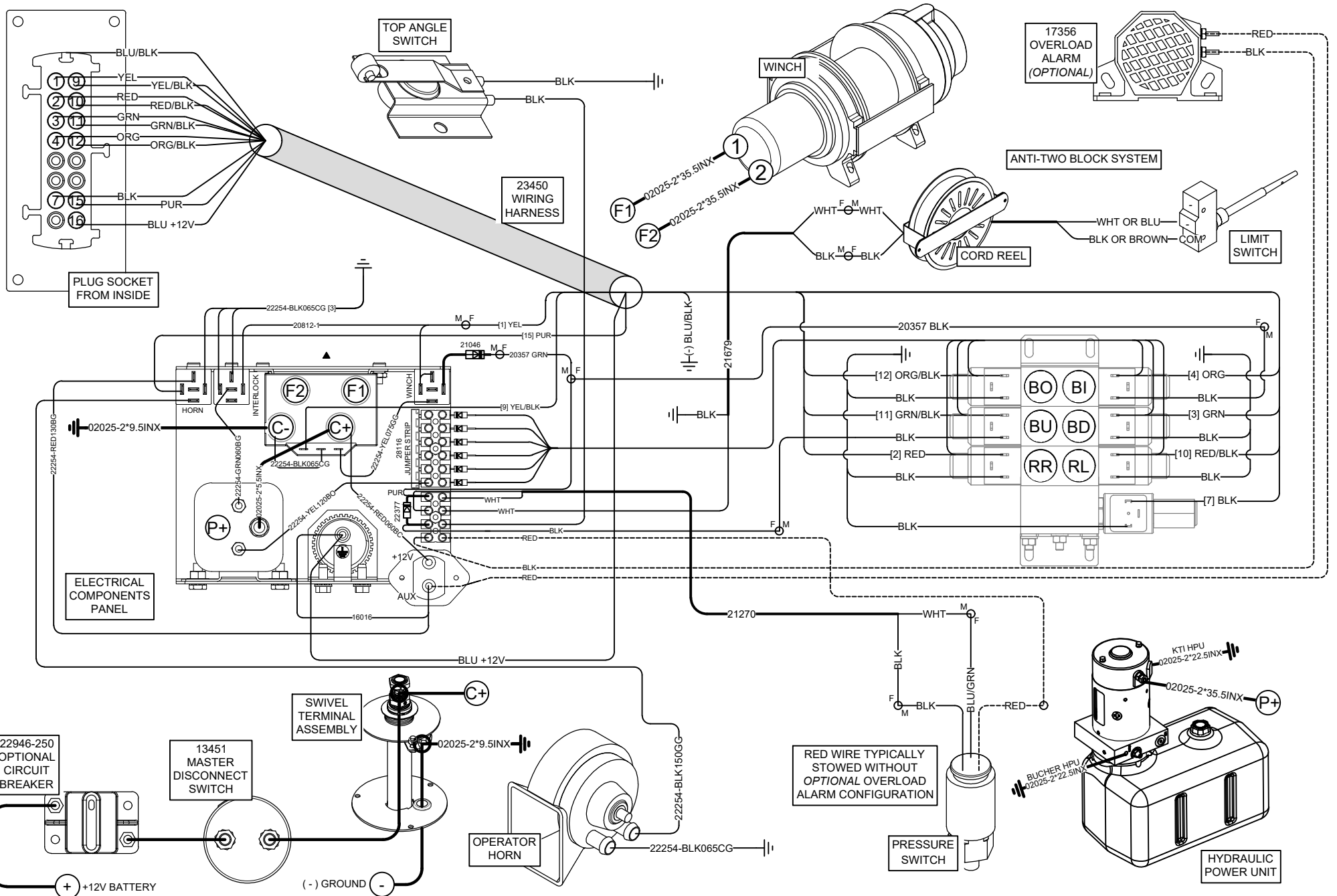
3215E/351*E/40**E/45**E

DATE
10-07-25A

SUPERSEDES
04-09-24

SECTION
C400

28835



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
WIRING DIAGRAM
45**E/40**E/351*E/3215E
PROPORTIONAL

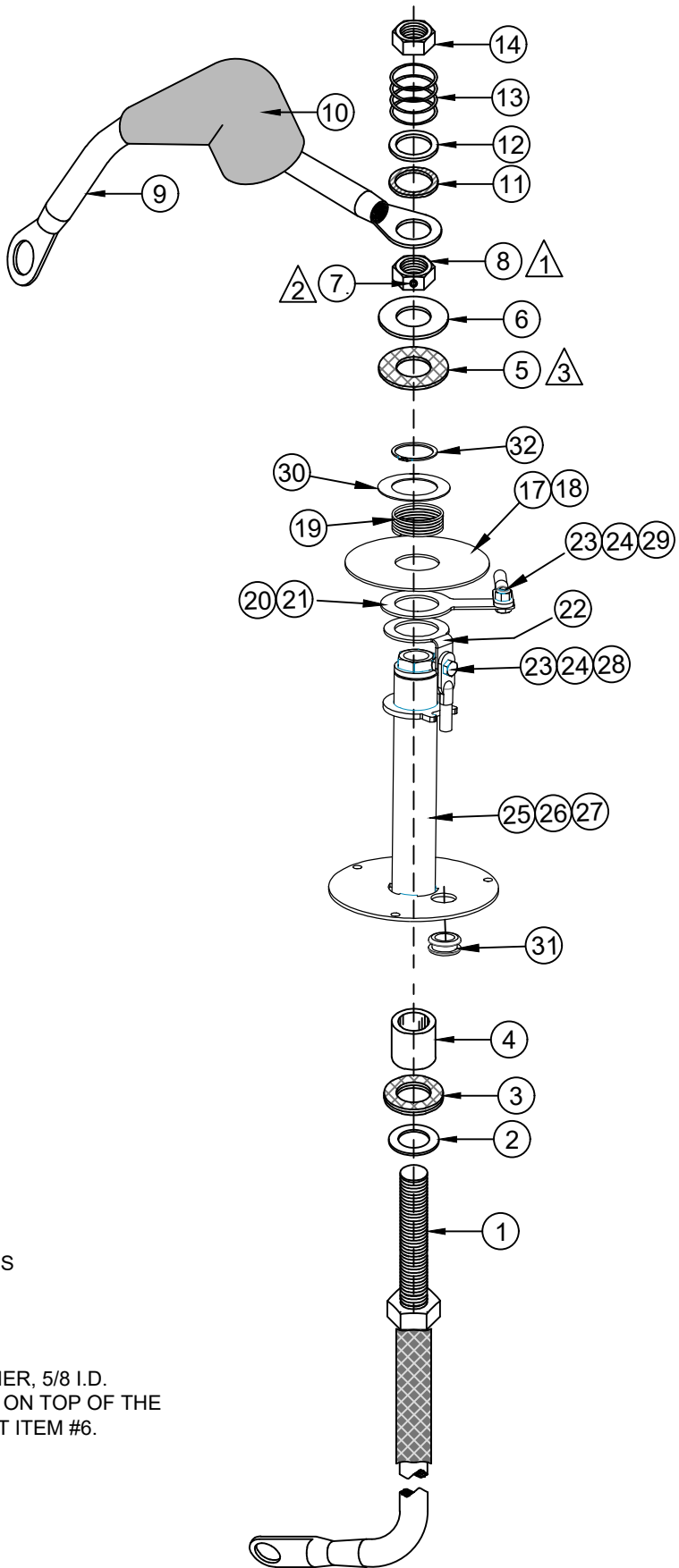
DATE
10-09-25E

SECTION
C400

SUPERSEDES
09-23-25D

28837

2-Pole Slip-ring Replacement Parts



- 1 TORQUE TO 15 FT-LBS
- 2 LOCTITE 242 BLUE
- 3 ITEM #8, FIBER WASHER, 5/8 I.D. 'MUST' SIT DIRECTLY ON TOP OF THE INVERTED FLARE NUT ITEM #6.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPL. PARTS ILLUSTRATION
ET CRANES

DATE
04-23-24
SUPERSEDES
-

SECTION
C400
28843

| # | PART | ALL CRANES | | | | DESCRIPTION |
|----|-----------------|------------|-----------|----------------|---------------|--|
| | | 16780-KIT | 16780-2P6 | 16780-2P8 | 16780-2P25 | |
| | 16780 | | 2010E | 3215E TO 4520E | 5020E & 6020E | SWIVEL TERMINAL ASSEMBLIES |
| # | PART | QUANTITY | | | | DESCRIPTION |
| 1 | 16783 | - | 1 | 1 | 1 | PIGTAIL AND STUD ASSEMBLY |
| 2 | 12534-5 | 1 | - | - | - | ZINC BUSHING; 5/8" I.D. X 1" O.D. X 14 GAUGE |
| 3 | 14357-1 | 2 | - | - | - | FIBER WASHER; 5/8" I.D. X 1 1/16" O.D. X 1/16" |
| 4 | 14233 | 1 | - | - | - | INSULATING BUSHING; 5/8" I.D. X 7/8" O.D. X 7/8" |
| 5 | 14357-2 | 1 | - | - | - | FIBER WASHER; 5/8" I.D. X 1 1/4" O.D. X 1/16" |
| 6 | !FWSH-063SAE | 1 | - | - | - | FLAT WASHER; 5/8" SAE |
| 7 | !SHCS02528025KC | 1 | - | - | - | SET SCREW W/ KNURLED CUP; 1/4"-28 X 1/4" |
| 8 | 21273 | 1 | - | - | - | BRASS JAM NUT; 5/8"-11 |
| 9 | 26035-2 | - | - | - | - | PIGTAIL; SWIVEL TERMINAL |
| 10 | 17012 | - | - | - | - | RUBBER BOOT; SWIVEL TERMINAL |
| 11 | 5612-162-62 | 1 | - | - | - | TEFLON WASHER |
| 12 | 5714-113-62 | 1 | - | - | - | BRASS WASHER |
| 13 | LC-098K-00 | 1 | - | - | - | SPRING; 0.845" O.D. X 0.098" WIRE X 1.00 F.L. |
| 14 | !JNUT-06311N | 1 | - | - | - | JAM NUT; 5/8"-11, NYLON NUT |
| 15 | LOCTITE-24205 | 1 | - | - | - | REMOVABLE THREAD LOCKER; 0.5ML |
| 16 | 19368 | 1 | - | - | - | IDWG; 16780 SWIVEL TERMINAL |
| 17 | 27456 | - | 1 | - | - | UHMW WATER SHIELD, (ET6K ONLY) |
| 18 | 27456-1 | - | - | 1 | 1 | UHMW WATER SHIELD, (ET8 - ET36) |
| 19 | 27461 | - | 1 | 1 | 1 | SPRING, (-) SLIP-RING ASSY. |
| 20 | 27441-1 | - | - | 1 | 1 | COPPER SLIP-RING, (ET8 - ET36) |
| 21 | 27441 | - | 1 | - | - | COPPER SLIP-RING, (ET6K ONLY) |
| 22 | 27449-1 | - | 1 | 1 | 1 | BRASS SLIP-RING (ET6 - ET36) |
| 23 | !HHCS03118075-B | - | 1 | 1 | 1 | BRASS HHCS |
| 24 | !HNUT-03118-B | - | 1 | 1 | 1 | BRASS NYLOC NUT |
| 25 | 23255 | - | 1 | - | - | SLIP-RING, WELDED ASSY, ET6K |
| 26 | 23255-1 | - | - | 1 | - | SLIP-RING, WELDED ASSY, ET8 - 18K(X) |
| 27 | 23255-2 | - | - | - | 1 | SLIP-RING, WELDED ASSY, ET25 - 36K(X) |
| 28 | 02025-2*96.5INX | - | 1 | 1 | 1 | (-) WELDING CABLE ASSY, BRASS SLIP-RING |
| 29 | 02025-2*22.5INX | - | 1 | 1 | 1 | (-) WELDING CABLE ASSY, COPPER SLIP-RING |
| 30 | 27463 | - | 1 | 1 | 1 | SHIM, WIDE RIM, 18GA, 2-1/4 O.D. X 1-1/2 I.D. |
| 31 | 20889 | - | 1 | 1 | 1 | RUBBER GROMMET |
| 32 | !SRNG-150 | - | 1 | 1 | 1 | SNAP-RING, EXTERNAL, 1-1/2" |
| 33 | 16780-KIT | - | 1 | 1 | 1 | KIT; SWIVEL TERMINAL, CONTAINS H/W, ETC. |



VENCO VENTURO LLC
CINCINNATI, OHIO

TITLE
SWIVEL TERMINAL ASS'Y

DATE
03-20-26A

SECTION
C400

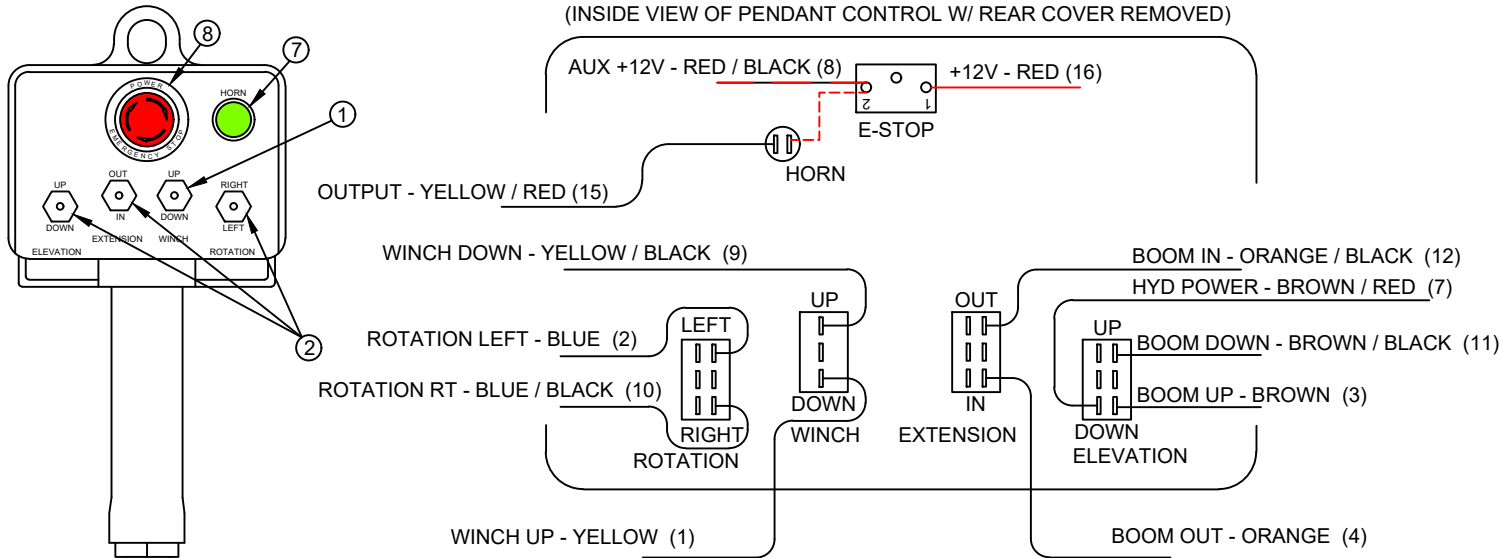
ET CRANES

SUPERSEDES
04-23-24

28842

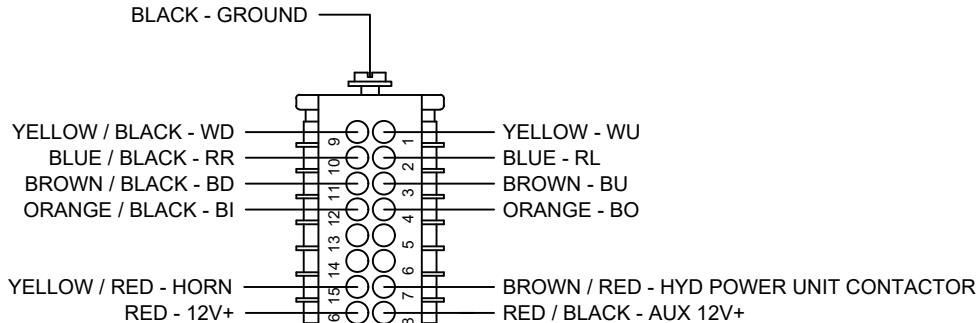
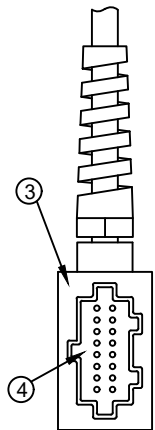
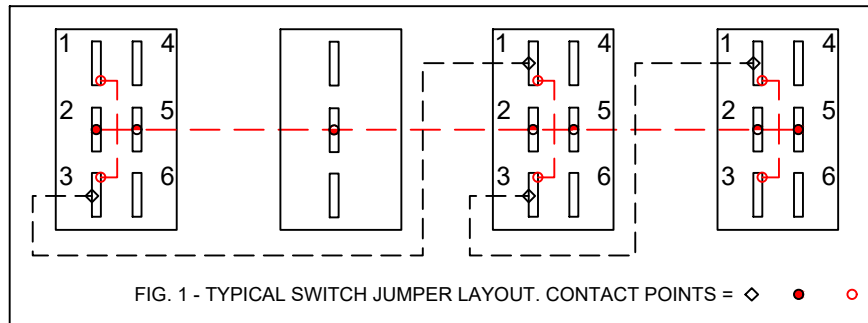
21990 PENDANT; 4 FUNCTION ET CRANES, E-STOP / HORN

(INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED)



NOTE 1:
WIRE TERMINALS TO BE INSTALLED 'AFTER'
ROUTING REPLACEMENT CORD ASSY
THROUGH PENDANT HEAD AND PLUG
HOUSING.

NOTE 2:
STOW OR CUT BACK UNUSED WIRES.



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|----------------------------|
| 8 | 1 | 22156 | SWITCH; E-STOP |
| 7 | 1 | 22155 | SWITCH; PUSHBUTTON, HORN |
| 6 | 1 | 22135 | KIT; REPLACEMENT CORD ASSY |
| 5 | - | - | - |
| 4 | 1 | 22472 | INSERT; MALE, 16 + 1 POLE |
| 3 | 1 | 22471 | PLUG CASE; 16 + 1 POLE |
| 2 | 3 | 22152 | SWITCH; DPDT, MOMENTARY |
| 1 | 1 | 22081 | SWITCH; SPDT, MOMENTARY |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS DWG & LIST

DATE
04-22-24

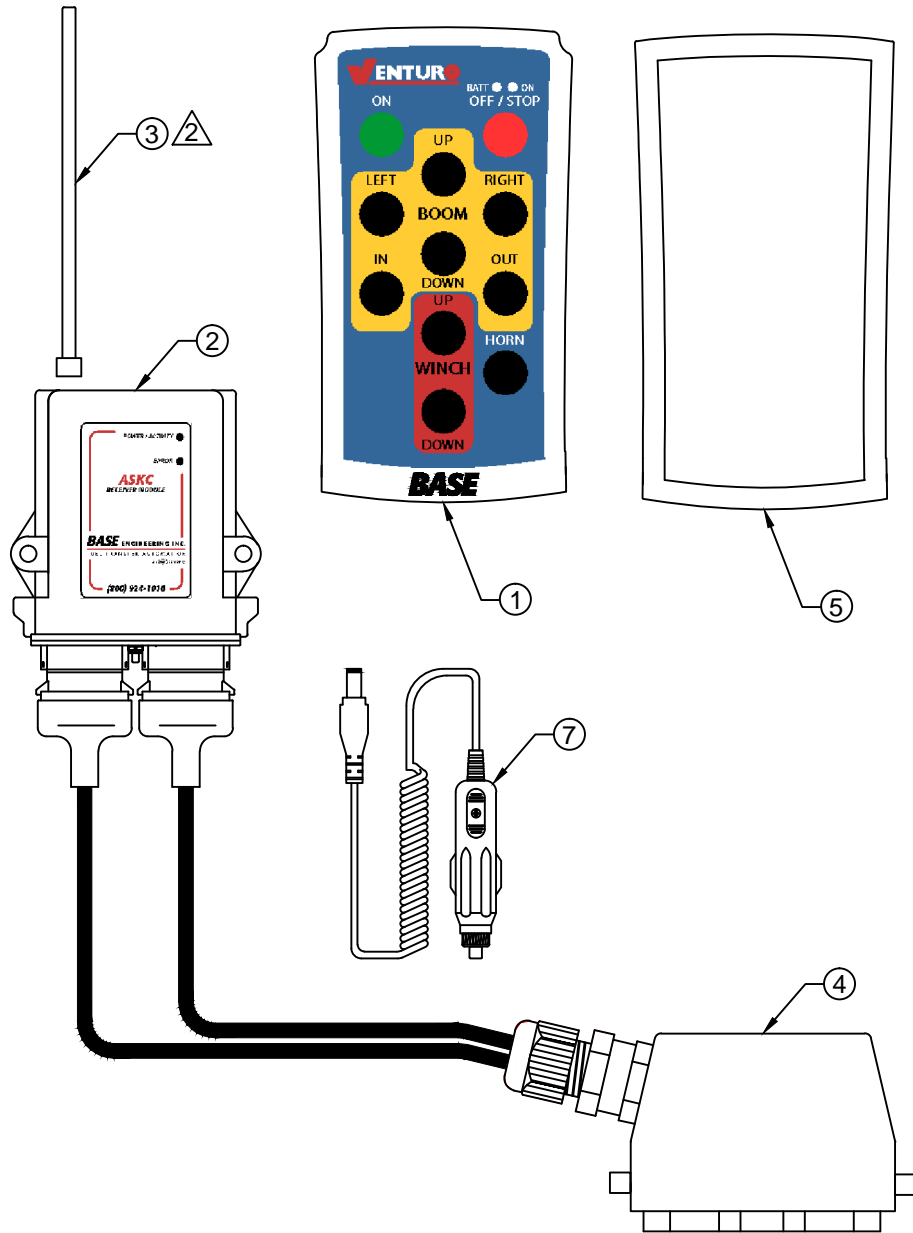
SECTION
C400

21990 PNDNT; 4 FNCTN ET CRNS, ESTP/HRN

SUPERSEDES

28840

21986-ET/-HT RADIO; NON-PROP, NON-CAN, NO ENG CTRL, W/ HORN



| COMPONENTS | | |
|------------|-------------|----------------------|
| ITEM NO. | PART NO. | DESCRIPTION |
| 1 | 21986-TX | TRANSMITTER |
| 2 | 21986-RX-ET | RECEIVER - ET CRANES |
| | 21986-RX-HT | RECEIVER - HT CRANES |
| 3 | 21986-ANT | ANTENNA |
| 4 | 21986-HN | HARNESS |
| 5 | 21986-CASE | CASE |
| 6 | 22910-BATT | BATTERY |
| 7 | 22910-CHGR | CHARGER |

⚠
⚠

- ⚠ 21986-RX-** DOES NOT INCLUDE 21986-ANT
- ⚠ ASKCEX1200RX (INTRODUCED 07/2025) HAS PROVISION FOR EXTERNAL WHIP ANTENNA; EARLIER ASKC1100RX & ASKC1200RX CANNOT USE EXTERNAL ANTENNA



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

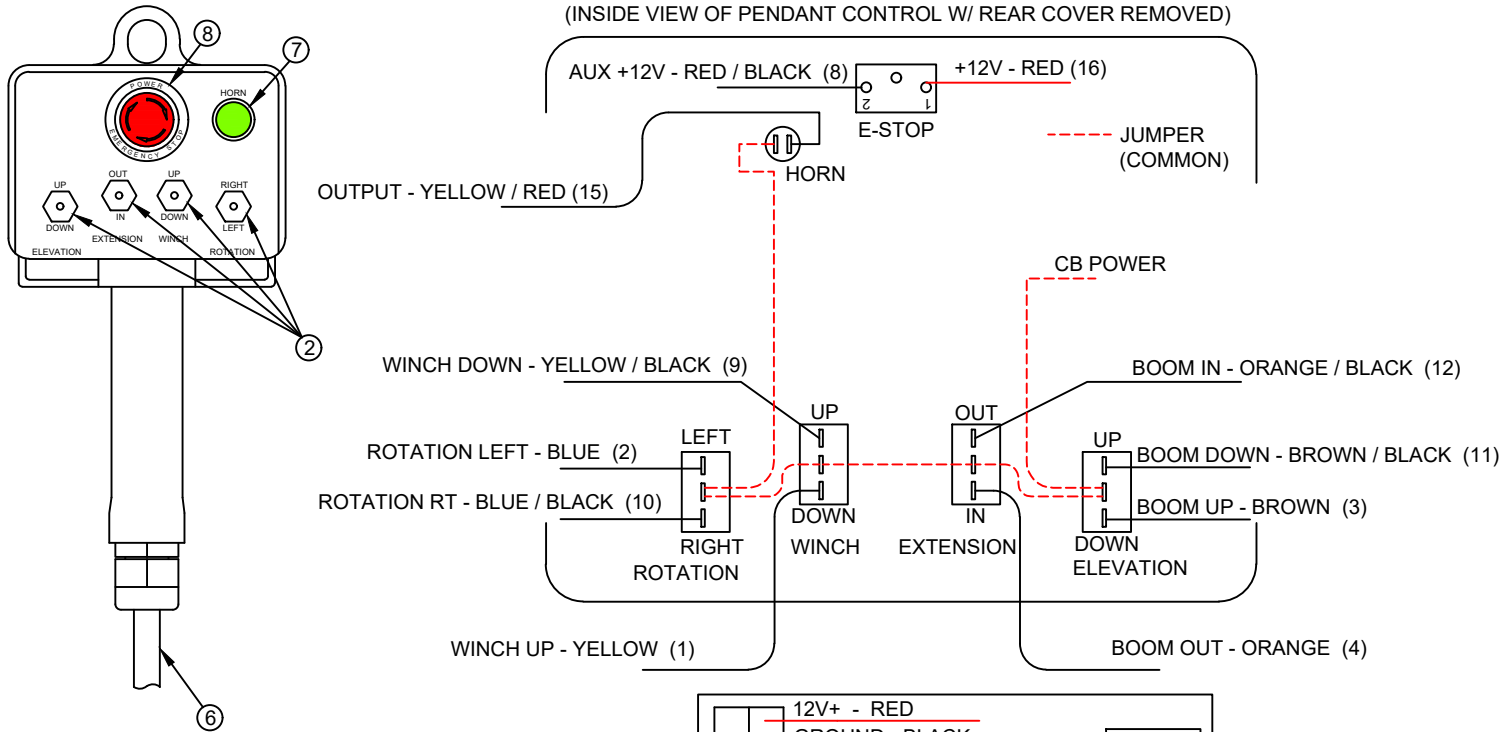
TITLE
REPLACEMENT PARTS DWG & LIST
ET NON-PROPORTIONAL CRANES

DATE
08-05-25
SUPERSEDES
-

SECTION
C400
23529

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

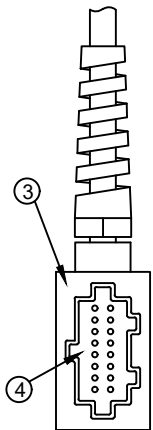
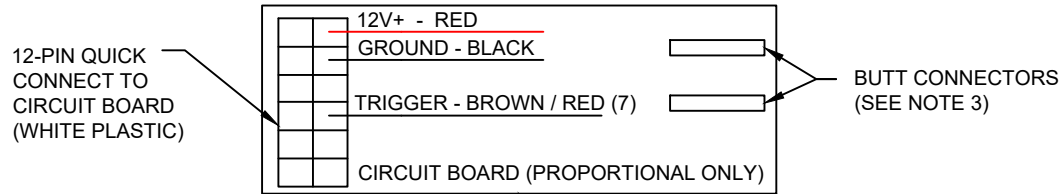
(INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED)



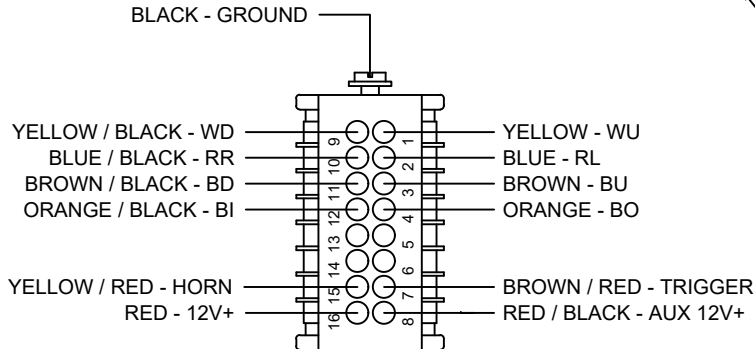
NOTE 1:
WIRE TERMINALS TO BE INSTALLED 'AFTER'
ROUTING REPLACEMENT CORD ASSY
THROUGH PENDANT HEAD AND PLUG
HOUSING.

NOTE 2:
STOW OR CUT BACK UNUSED WIRES.

NOTE 3:
WHEN REPLACING CORD ASSY, CUT BLACK
AND BLACK / RED WIRES FROM 12-PIN QUICK
CONNECT AND INSTALL 'BUTT CONNECTORS';
MATCH UP BLACK TO BLACK WIRES AND
BLACK / RED TO BLACK / RED WIRES FROM
REPLACEMENT CORD ASSY.



16-PIN PLUG ASSY.



16-PIN PLUG - BACKSIDE VIEW

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|--------------------------------------|
| 8 | 1 | 22156 | SWITCH; E-STOP |
| 7 | 1 | 22155 | SWITCH; PUSHBUTTON, HORN |
| 6 | 1 | 22135 | KIT; REPLACEMENT CORD ASSY |
| 5 | 1 | 22082 | CIRCUIT BOARD; PROP VALVE CONTROLLER |
| 4 | 1 | 22472 | INSERT; MALE, 16 + 1 POLE |
| 3 | 1 | 22471 | PLUG CASE; 16 + 1 POLE |
| 2 | 4 | 22081 | SWITCH; SPDT, MOMENTARY |
| 1 | - | - | - |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS DWG & LIST

DATE
04-22-24

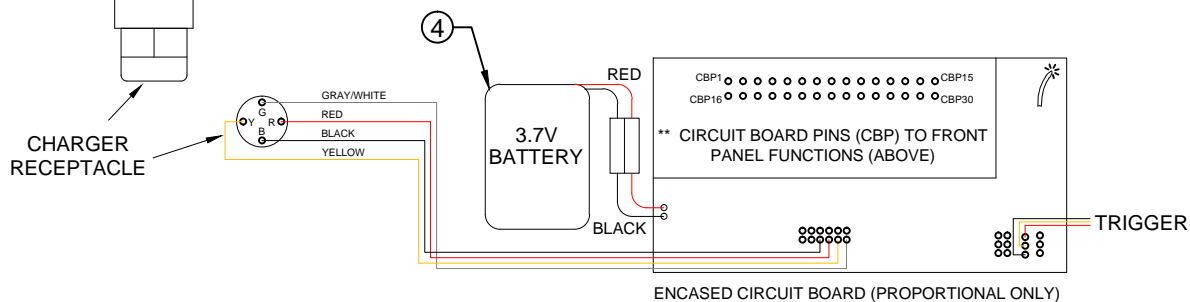
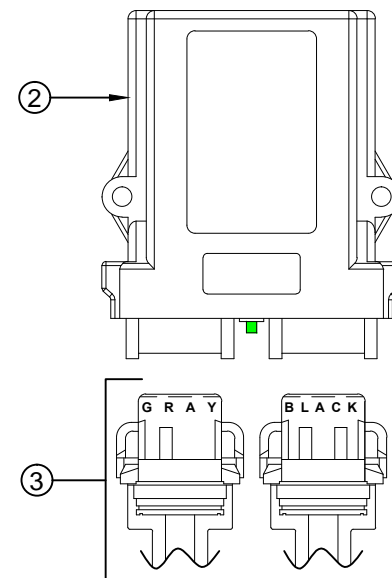
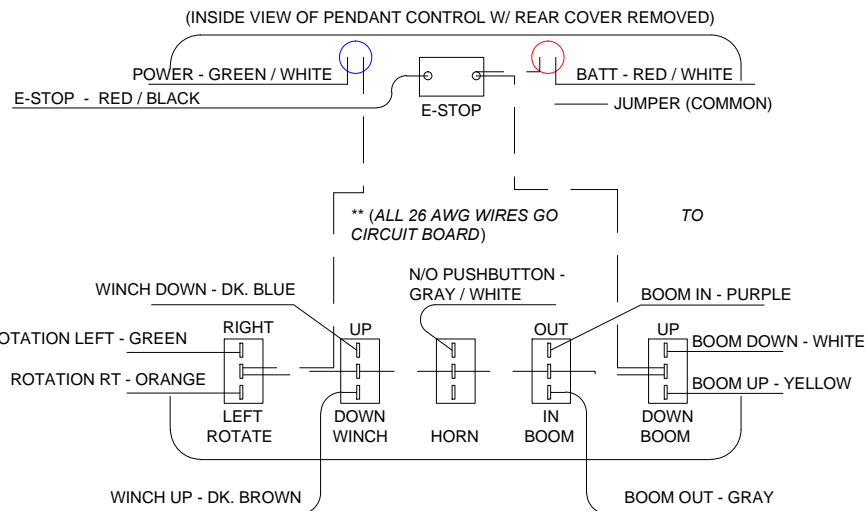
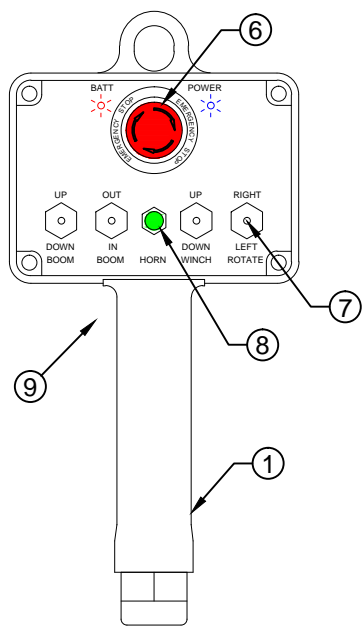
SECTION
C400

21988 PNDNT; PROP, NO ENG CNT, ESTP/HRN

SUPERSEDES

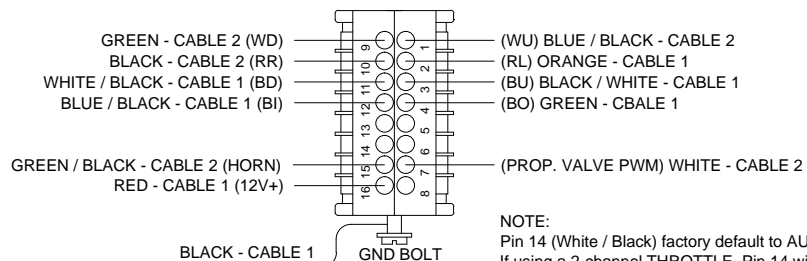
28841

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

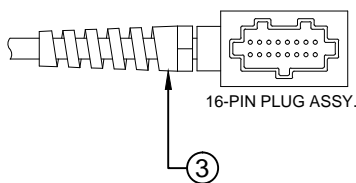


CABLE 1 = GRAY CONNECTOR
 CABLE 2 = BLACK CONNECTOR

16-PIN PLUG - BACKSIDE VIEW



NOTE:
 Pin 14 (White / Black) factory default to AUX. ON/OFF
 If using a 2-channel THROTTLE, Pin 14 will be THROTTLE DOWN.



| COMPONENTS | | |
|------------|------------|--------------------------|
| ITEM NO. | PART NO. | DESCRIPTION |
| 1 | 22158-TX | TRANSMITTER |
| 2 | 22158-RX | RECEIVER |
| 3 | 21983-HN | HARNES |
| 4 | 22965-BATT | BATTERY |
| 5 | 22965-CHGR | CHARGER (NOT SHOWN) |
| 6 | 21983-STP | E-STOP BUTTON |
| 7 | 21983-TOG | FUNCTION TOGGLE |
| 8 | 21983-HOR | HORN BUTTON & BOOT |
| 9 | 23234 | PROP TRIGGER (NOT SHOWN) |



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

TITLE
 REPLACEMENT PARTS DWG & LIST

ET PROPORTIONAL SERIES CRANES

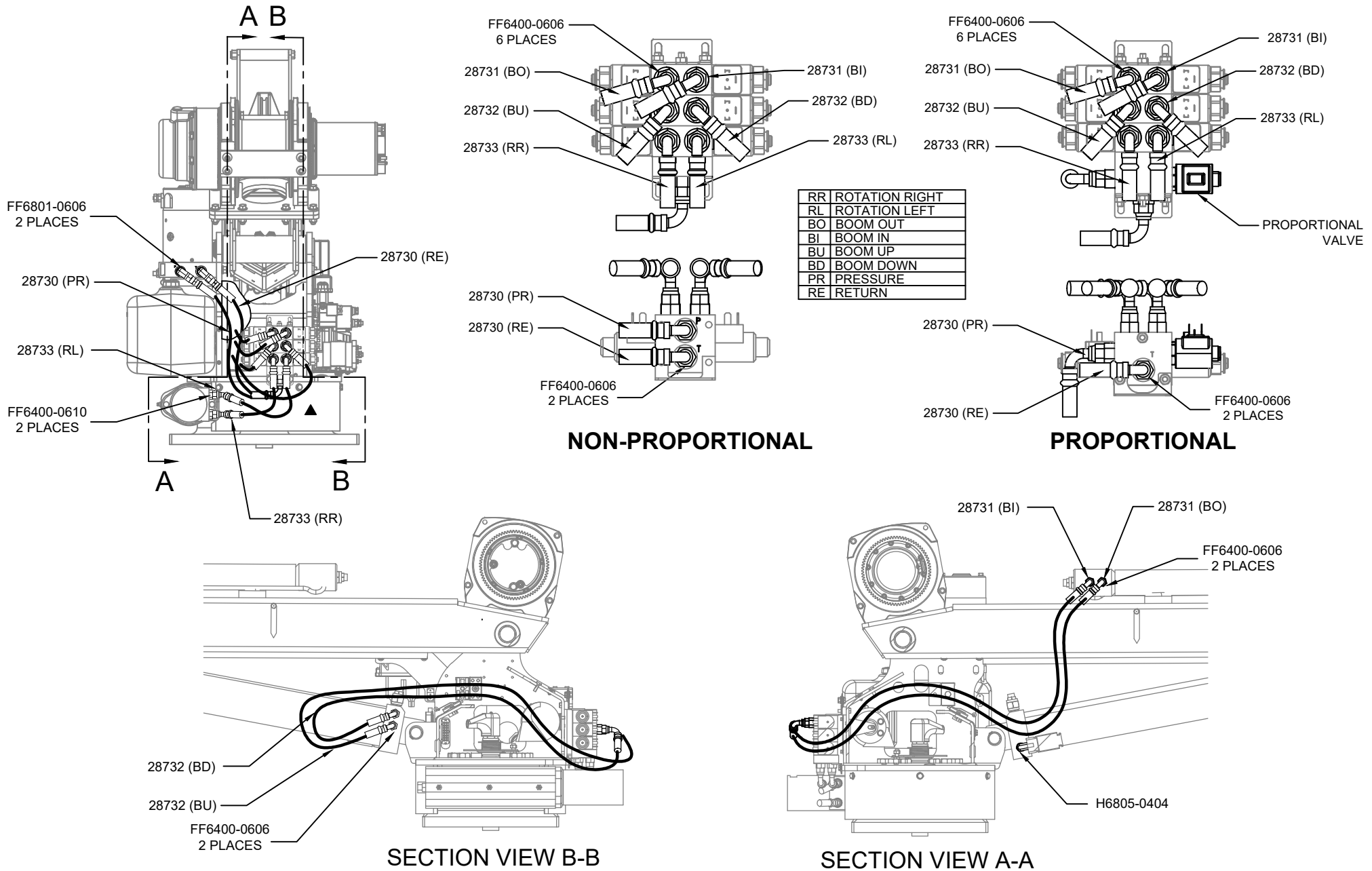
DATE
 09-04-25B

SUPERSEDES
 03-11-19A

SECTION
 C400

23786

HYDRAULIC COMPONENTS DRAWING



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
HYDRAULIC COMPONENTS DRAWING

3215E/3515E

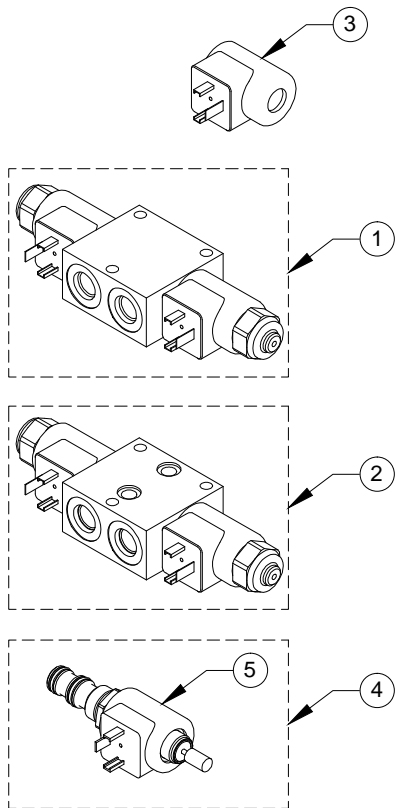
DATE
05-01-26A

SUPERSEDES
10-17-24

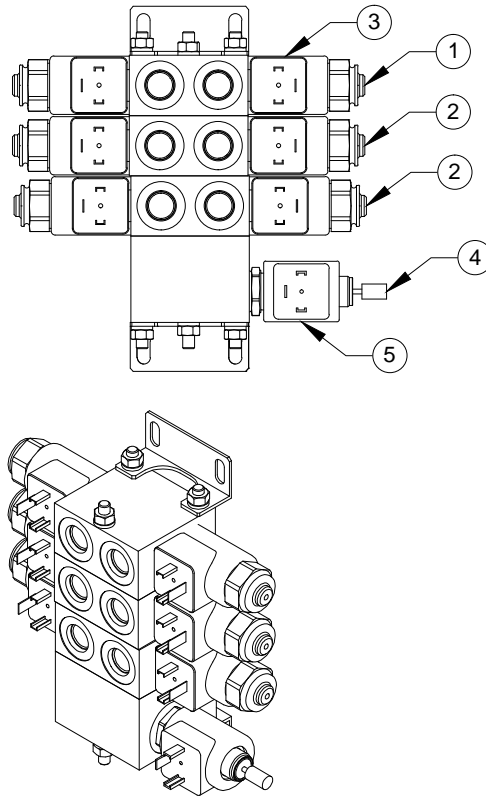
SECTION
C400

28980

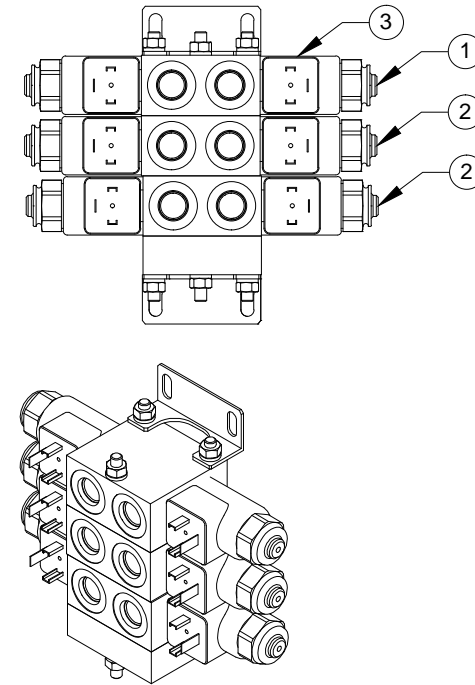
28800 / 28801 / 28805 VALVE ASSY REPLACEMENT PARTS



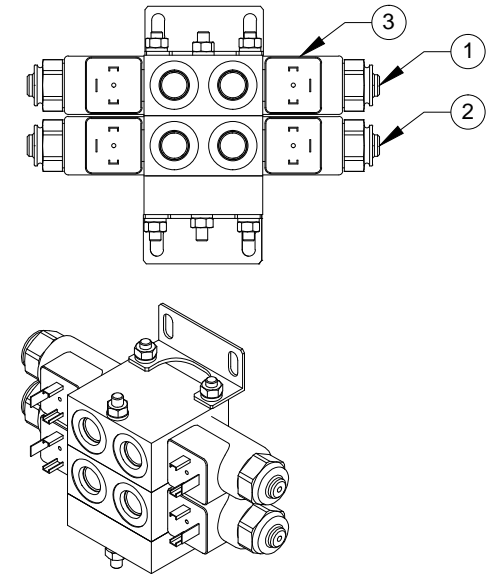
28800
3-SPOOL
PROPORTIONAL



28801
3-SPOOL
NON-PROPORTIONAL



28805
2-SPOOL
NON-PROPORTIONAL



| ITEM # | PART # | DESCRIPTION |
|--------|---------|---|
| 1 | 28807 | END SECTION W/ SPOOL AND COILS |
| 2 | 28806 | INTERMEDIATE SECTION W/ SPOOL AND COILS |
| 3 | ▲ 21944 | FUNCTION COIL (ONLY) |
| 4 | 26485 | PROPORTIONAL VALVE AND COIL |
| 5 | 26487 | PROPORTIONAL COIL (ONLY) |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
28800/28801/28805 REPL PARTS DWG & LIST

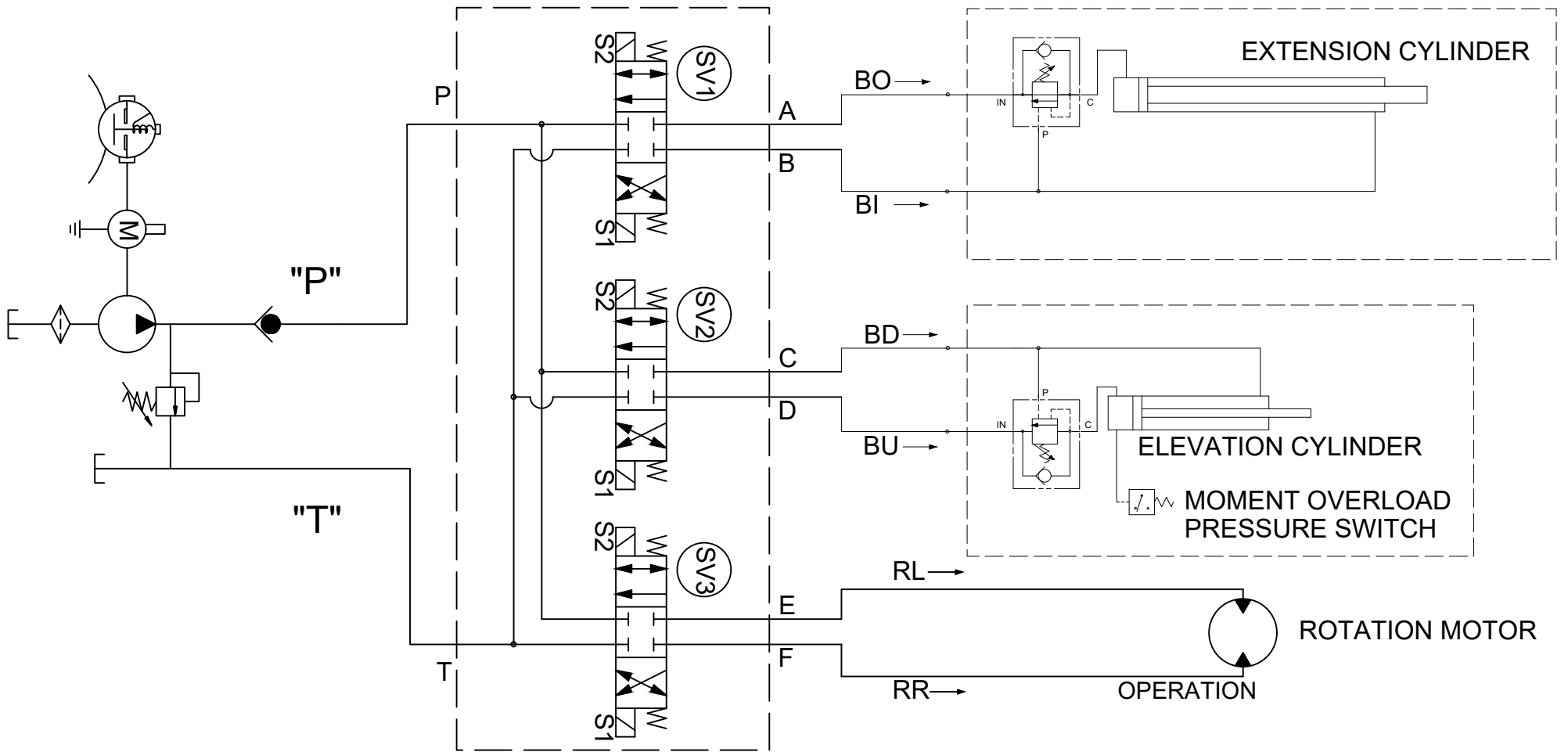
ET CRANES

DATE
10-09-25A

SUPERSEDES
10-08-25

SECTION
C400

28808



SV1

ENERGIZE "S2"
 OPEN FLOW
 'P' TO 'A'
 'B' TO 'T'
 ENERGIZE "S1"
 OPEN FLOW
 'P' TO 'B'
 'A' TO 'T'

SV2

ENERGIZE "S2"
 OPEN FLOW
 'P' TO 'C'
 'D' TO 'T'
 ENERGIZE "S1"
 OPEN FLOW
 'P' TO 'D'
 'C' TO 'T'

SV3

ENERGIZE "S2"
 OPEN FLOW
 'P' TO 'E'
 'F' TO 'T'
 ENERGIZE "S1"
 OPEN FLOW
 'P' TO 'F'
 'E' TO 'T'



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

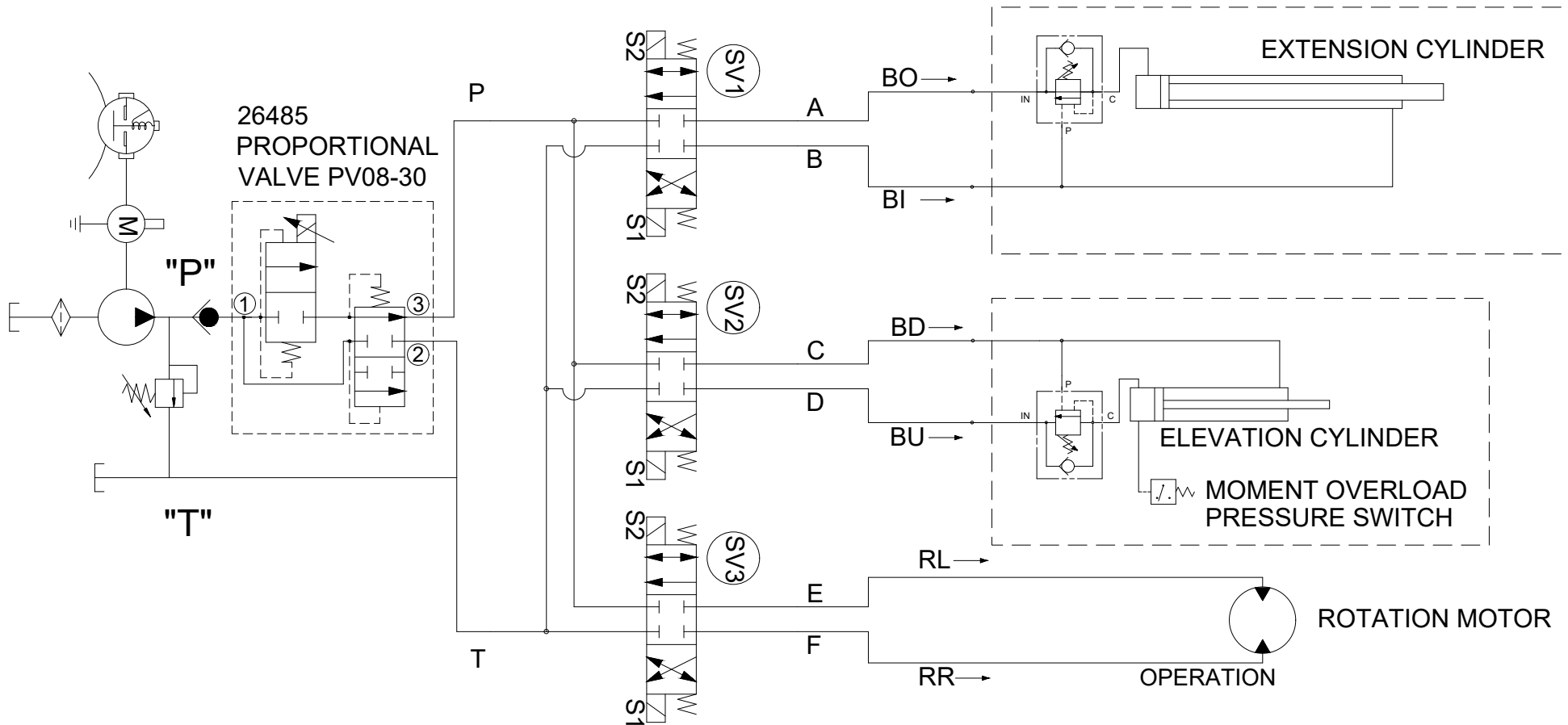
TITLE
 HYDRAULIC SYSTEM DIAGRAM

ET CRANES, NON-PROPORTIONAL ▲

DATE
 08-11-25A SECTION
 C400

SUPERSEDES
 10-03-24

28964



- | | | |
|---------------|---------------|---------------|
| (SV1) | (SV2) | (SV3) |
| ENERGIZE "S2" | ENERGIZE "S2" | ENERGIZE "S2" |
| OPEN FLOW | OPEN FLOW | OPEN FLOW |
| 'P' TO 'A' | 'P' TO 'C' | 'P' TO 'E' |
| 'B' TO 'T' | 'D' TO 'T' | 'F' TO 'T' |
| ENERGIZE "S1" | ENERGIZE "S1" | ENERGIZE "S1" |
| OPEN FLOW | OPEN FLOW | OPEN FLOW |
| 'P' TO 'B' | 'P' TO 'D' | 'P' TO 'F' |
| 'A' TO 'T' | 'C' TO 'T' | 'E' TO 'T' |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
HYDRAULIC SYSTEM DIAGRAM

ET CRANES, PROPORTIONAL ▲

DATE
08-11-25A SECTION
C400

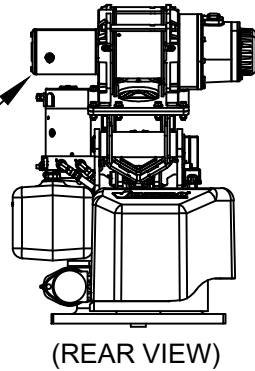
SUPERSEDES
09-13-24

28945

21556 WINCH REPLACEMENT PARTS

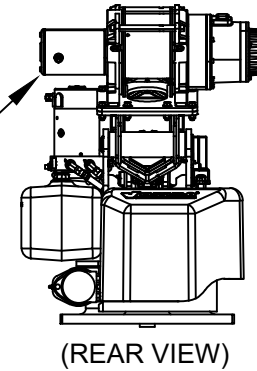
WARN DC1600

MOTOR ON LEFT
WHEN VIEWED
FROM REAR



COMEUP GTD-2200

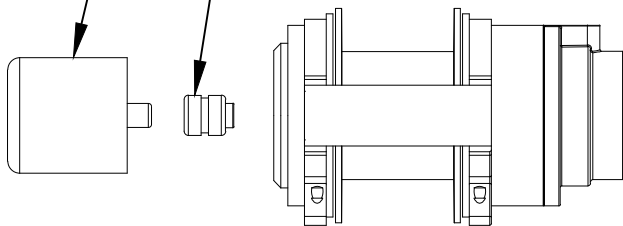
MOTOR ON LEFT
WHEN VIEWED
FROM REAR



23133 MOTOR

21981 BRAKE ASSY

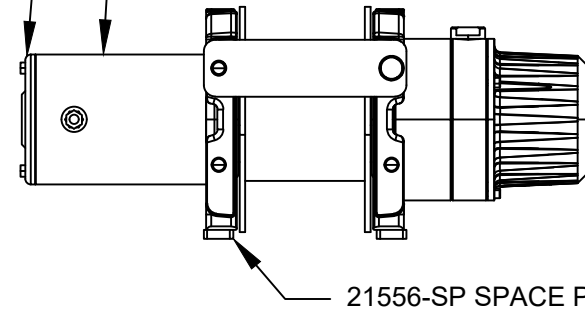
21214 CABLE WEDGE
(WIRE ROPE ANCHOR)



23915-2200 MOTOR KIT

23916 CONE BRAKE DISC KIT

21556-SP SPACE PLATE (2 EA.)



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

WINCH REPLACEMENT PARTS

3215E/3515E/3516E

DATE

10-15-24

SUPERSEDES

-

SECTION

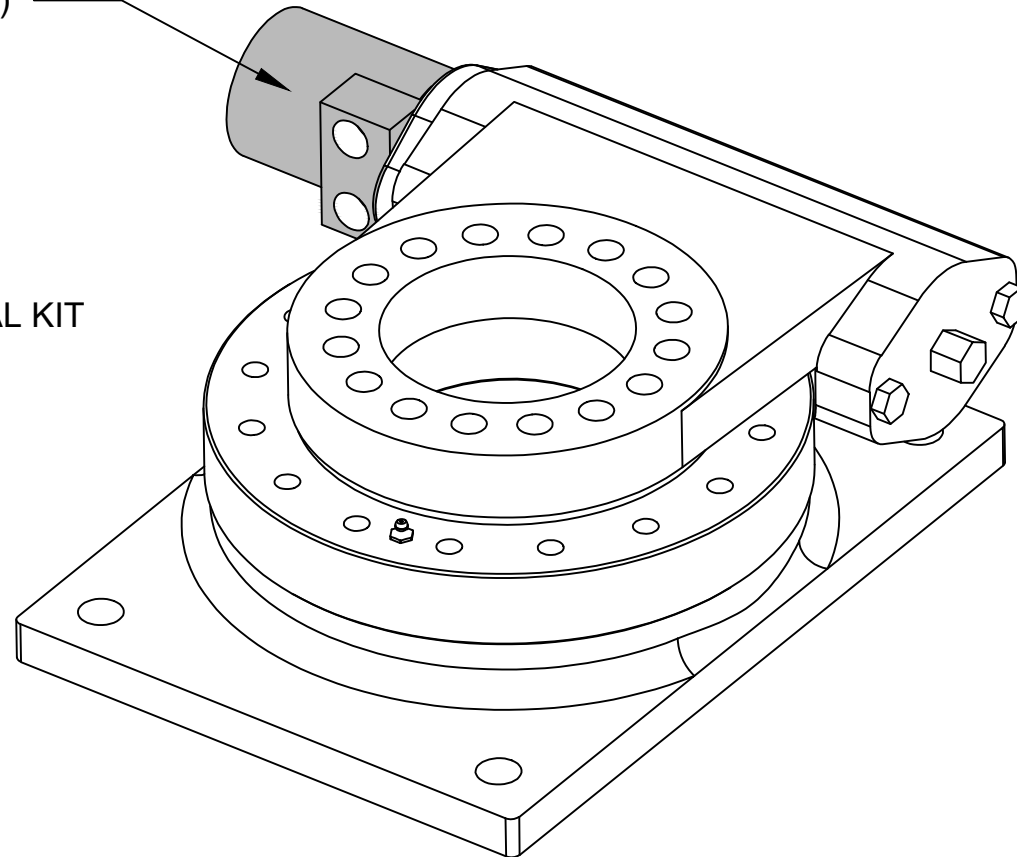
C400

28928

21735-1 SLEWING SYSTEM REPLACEMENT PARTS

21123 MOTOR (ONLY)

21218 - MOTOR SEAL KIT



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

SLEWING SYSTEM REPLACEMENT PARTS

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

DATE

04-24-24

SUPERSEDES

-

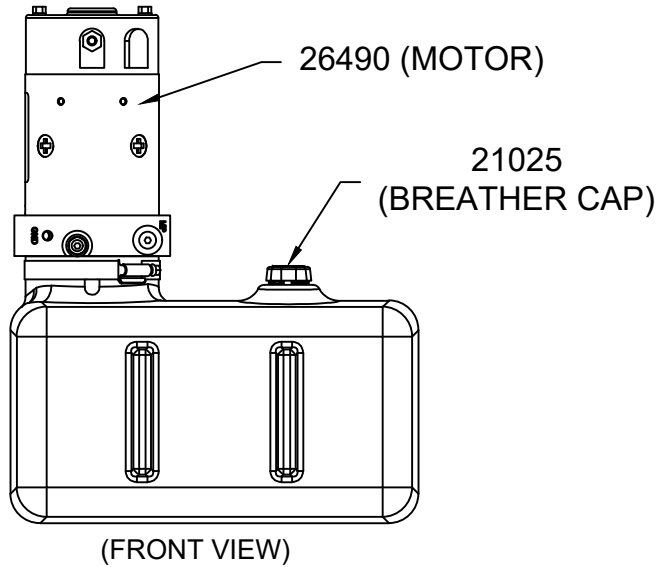
SECTION

C400

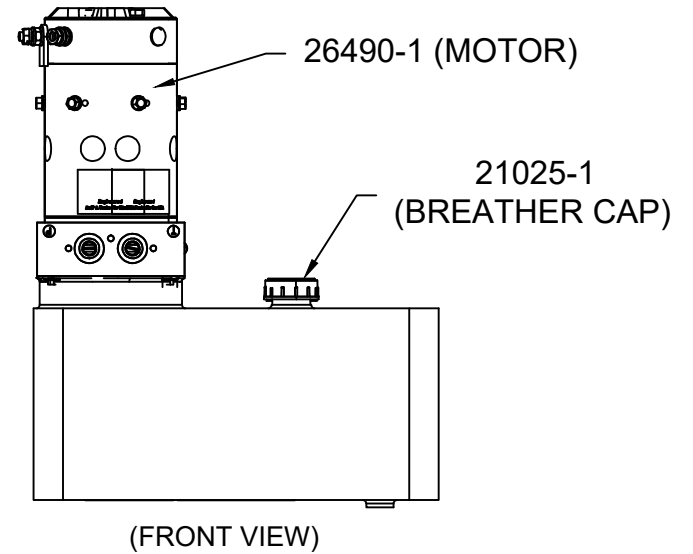
28847

28720 HYD. POWER UNIT REPLACEMENT PARTS

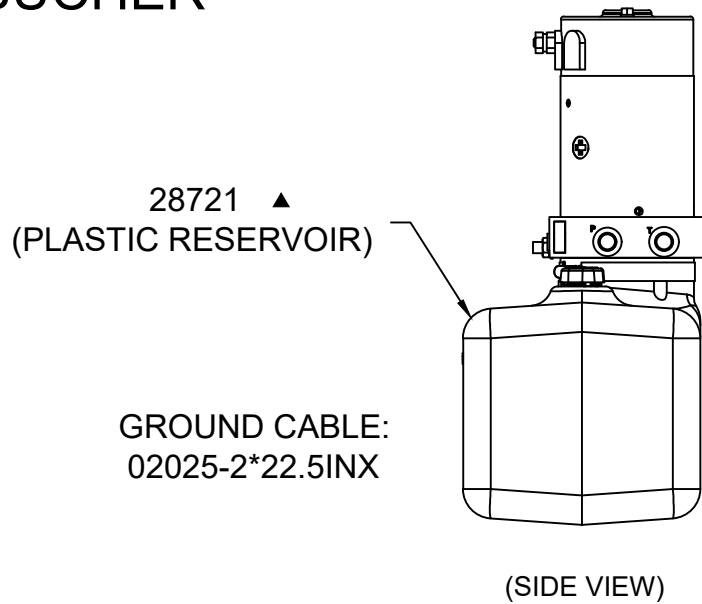
BUCHER



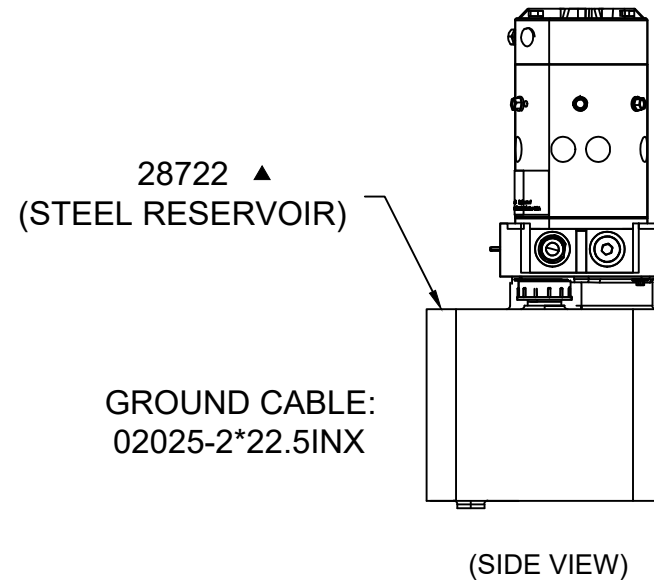
KTI



BUCHER



KTI



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
HYDRAULIC POWER UNIT REPLACEMENT PARTS

DATE
03-03-26B C400

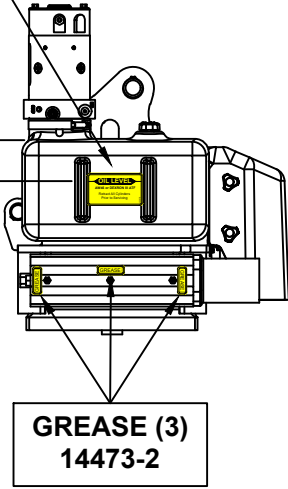
ET CRANES

SUPERSEDES
09-23-25B

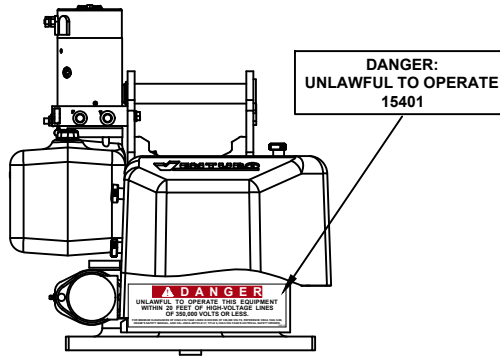
28848

OIL LEVEL
13397

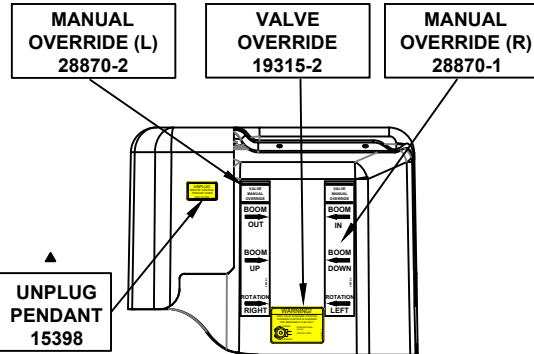
3.0"
FROM TOP TO
OIL LEVEL



LEFT



BACK



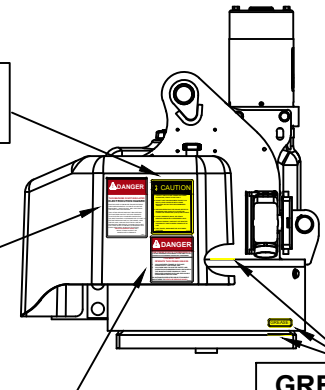
INSIDE THE COVER

CAUTION
15390

**DANGER:
ELEC. HAZARD**
15392

**DANGER: NOT
PASSENGER LIFT**
15392

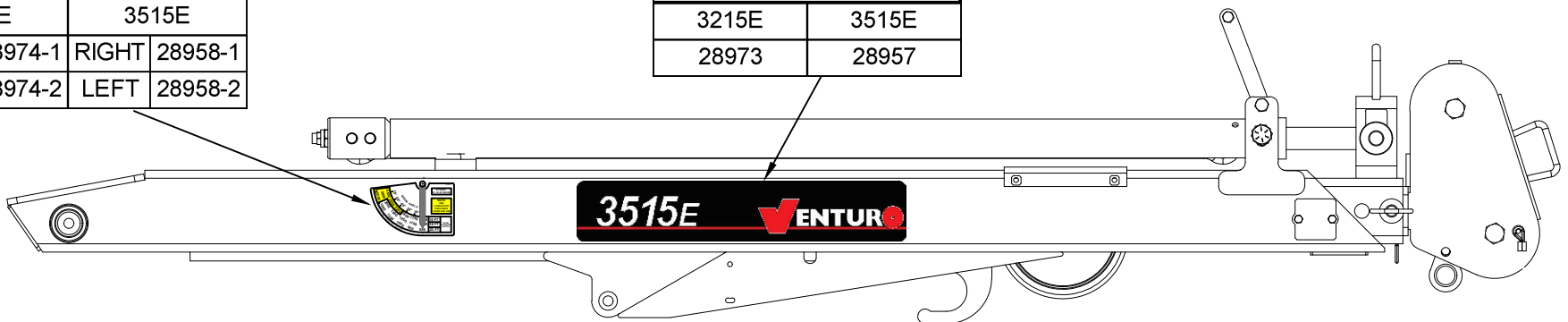
GREASE (3)
14473-2



RIGHT

| CAPACITY DECALS | | | |
|-----------------|---------|-------|---------|
| 3215E | | 3515E | |
| RIGHT | 28974-1 | RIGHT | 28958-1 |
| LEFT | 28974-2 | LEFT | 28958-2 |

| MODEL DECALS | |
|--------------|-------|
| 3215E | 3515E |
| 28973 | 28957 |



BOOM



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
DECAL PLACEMENT
3215E/3515E

DATE
07-22-25B
SECTION
C400
SUPERSEDES
05-19-25A

28965

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 |



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
FIELD SERVICE LABEL KIT

DATE
10-14-24

SECTION
C400

3215E

SUPERSEDES
-

28976



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.

1-Year Limited Warranty Policy

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