

VENTURO

OWNER'S MANUAL

INST-28930

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PARTS & INSTALLATION MANUAL

3516E/3515E

Included in this manual:

3516E

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

3515E

- 3,500 lbs Electric Telescopic Service Crane
- 7 – 11 ft Powered, Single-Stage, Boom Extension
- 11 – 15 ft Manual Pullout Boom Extension
- 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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SECTION 100

DESCRIPTION

&

SPECIFICATIONS



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

SPECIFICATIONS

12-volt battery operated

12,000 ft-lb overturning moment (or as limited by truck stability)

Moment overload shut-off system

Electric winch - 1,750 lb single-line capacity with automatic load brake

Electric-hydraulic boom elevation

Electric-hydraulic boom extension - 7 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	9 - 16 ft
BOOM ELEVATION	-5° TO 75°
BOOM HYD EXTENSION	7 ft
BOOM MANUAL EXT	-
CAPACITY	750 lb @ 16 ft
	3500 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

3516E

DATE
02-25-25

SUPERSEDES
-

SECTION
C100

25950

SPECIFICATIONS

12-volt battery operated

12,000 ft-lb overturning moment (or as limited by truck stability)

Moment overload shut-off system

Electric winch - 1,750 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	800 lb @ 15 ft
	3500 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

3515E

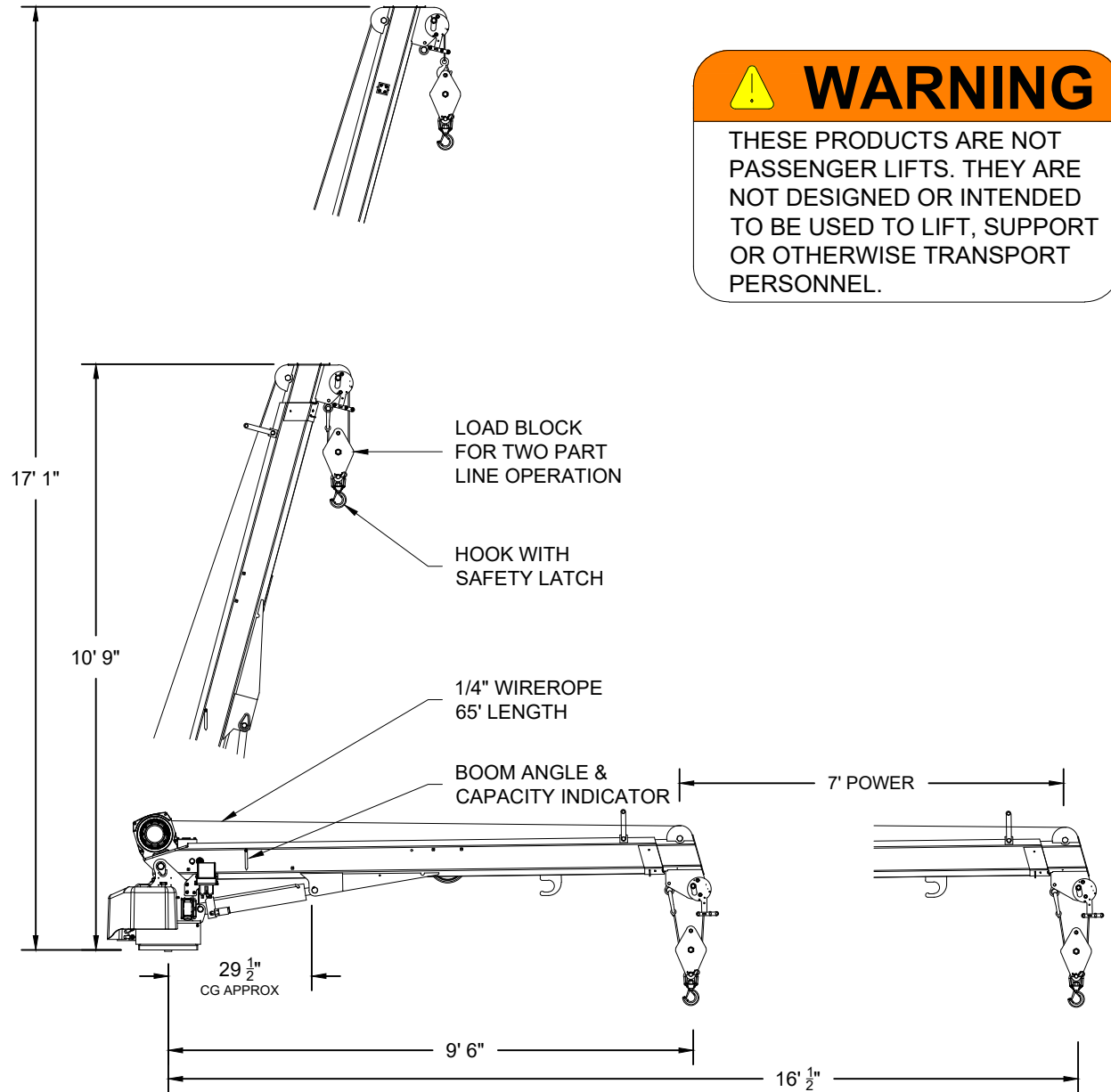
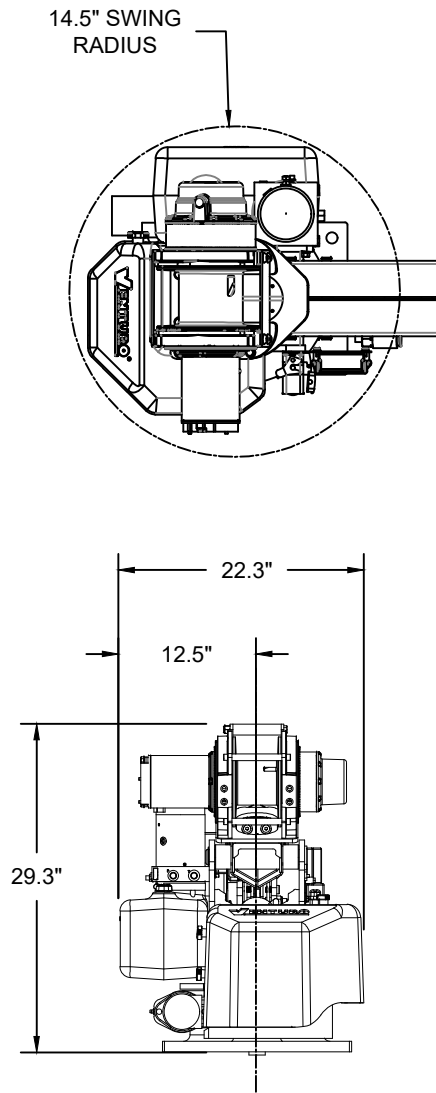
DATE
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SUPERSEDES
-

SECTION
C100

25951

INSTALLATION DIMENSIONS; 3516E



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

3516E

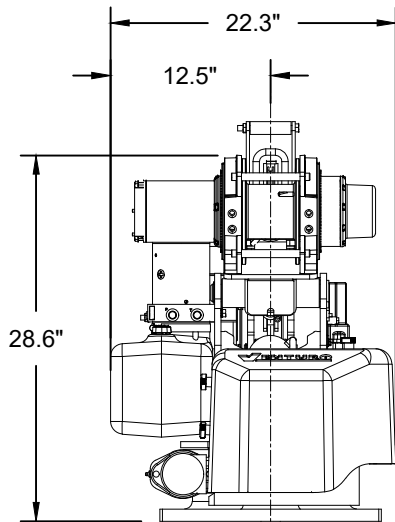
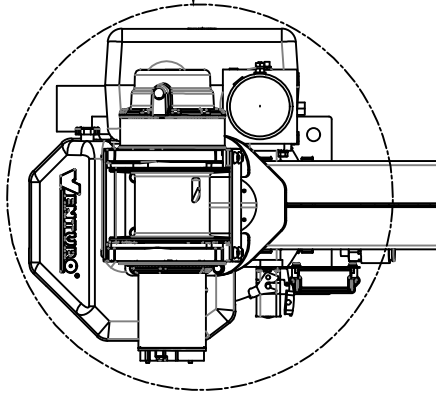
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SUPERSEDES
09-09-24

SECTION
C100

28931

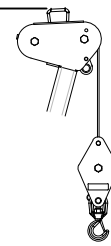
14.5" SWING RADIUS



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



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TITLE
INSTALLATION DIMENSIONS

DATE
10-02-24

SECTION
C100

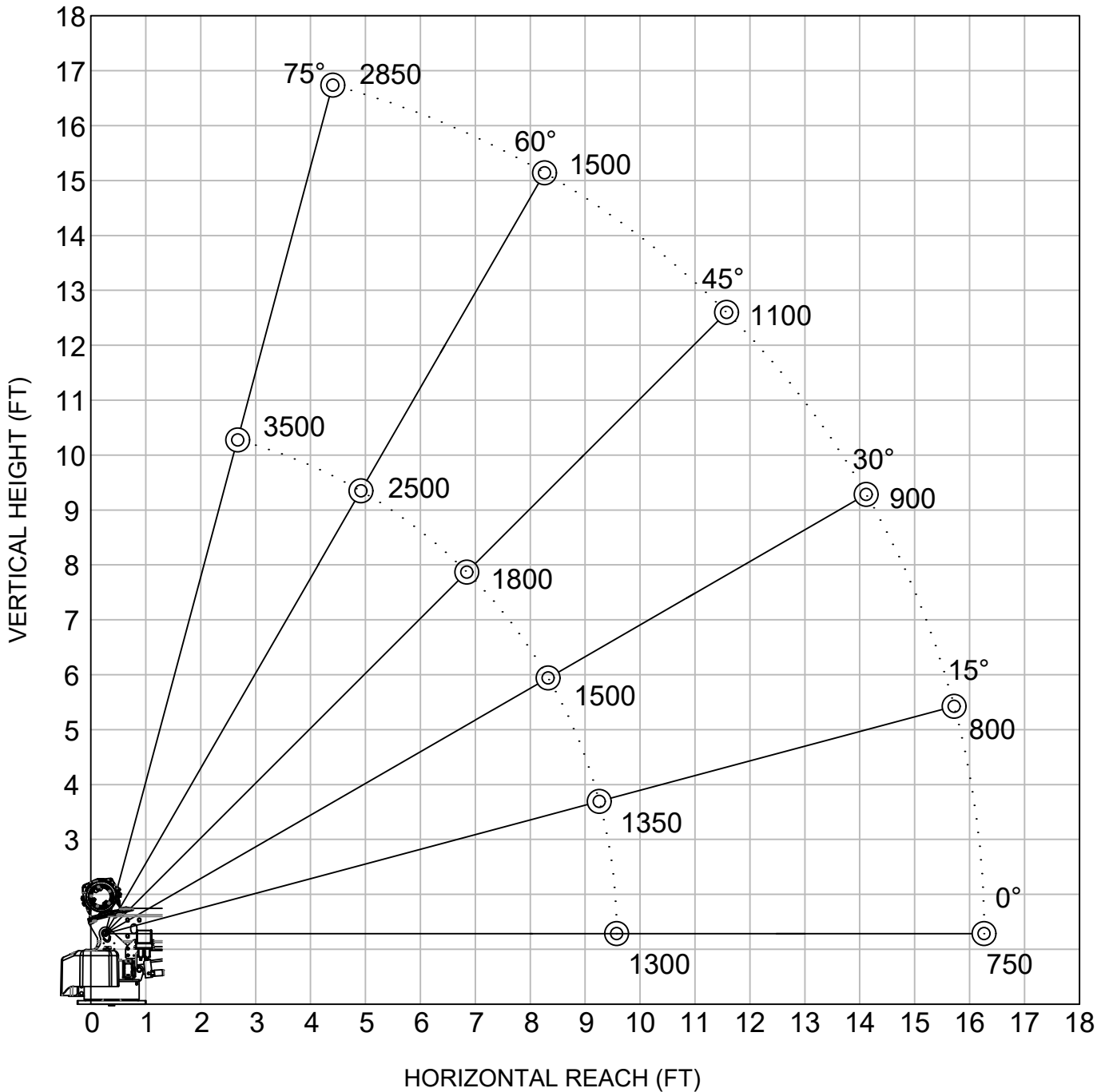
3215E/3515E

SUPERSEDES
-

28960

3516E

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 1750 LBS

2 PART LINE FOR LOADS OF 1750 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 24 LBS



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 CINCINNATI, OHIO

TITLE
MAXIMUM LOAD CAPACITY
 3516E

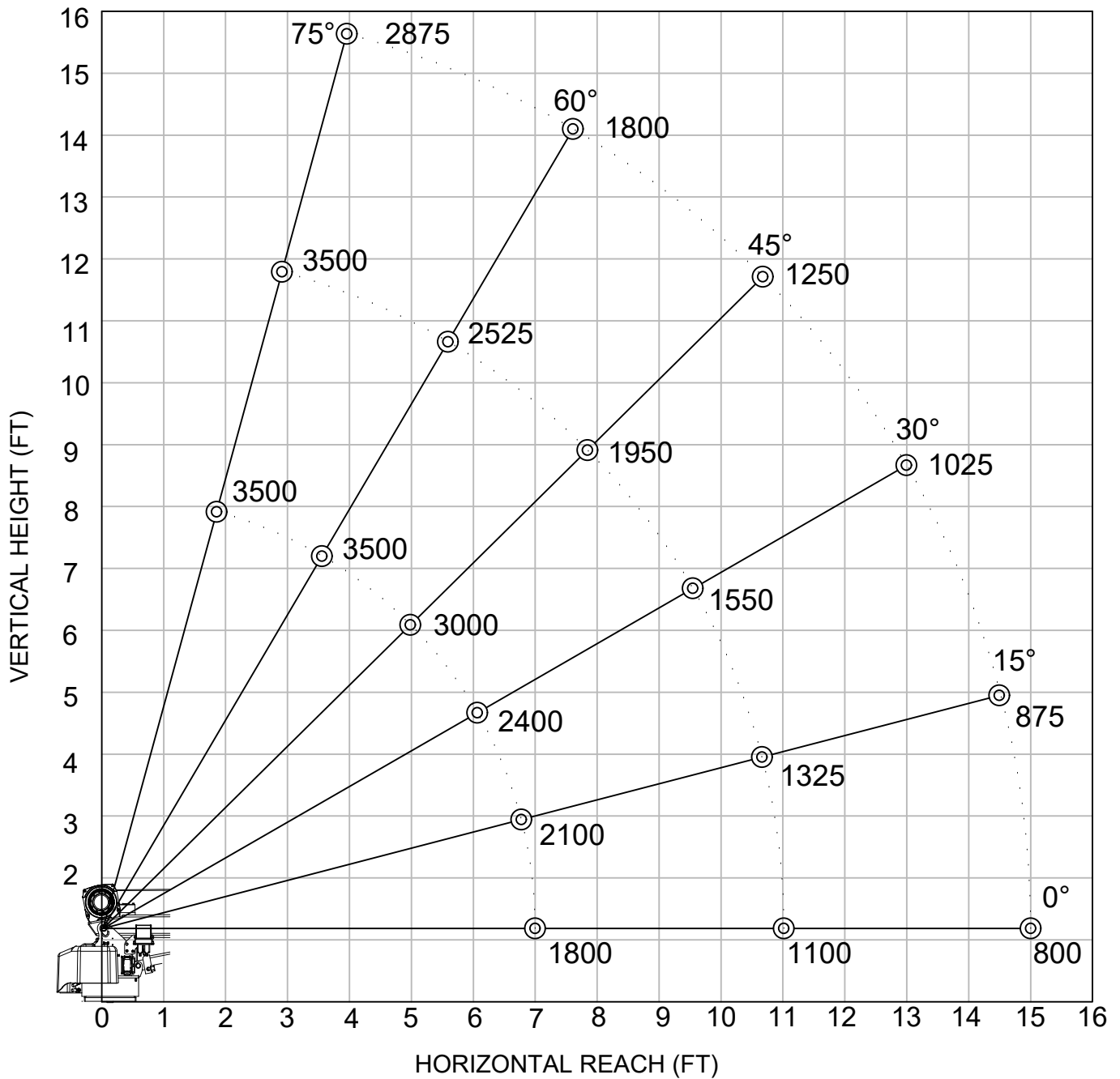
DATE
 09-10-24
 SUPERSEDES
 -

SECTION
C100
28932

3515E

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 1750 LBS

2 PART LINE FOR LOADS OF 1750 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 24 LBS



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
MAXIMUM LOAD CAPACITY

3515E

DATE
11-21-24A

SUPERSEDES
10-02-24

SECTION
C100

28961

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	DATE	SECTION
SAFETY & HAZARDS	01-29-15K	C150
ELECTRIC CRANES	SUPERSEDES 12-20-13J	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

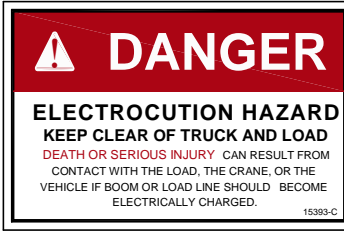
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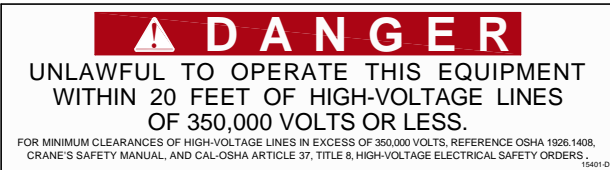
VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
SAFETY & HZRDS, CONT.	01-29-15	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).

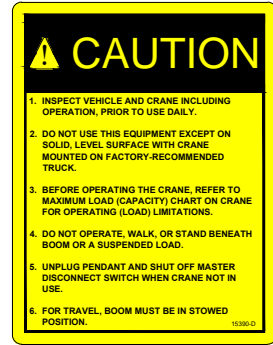
* NOTE: ENVIRONMENTAL CONDITIONS SUCH AS FOG, SMOKE, OR PRECIPITATION MAY REQUIRE INCREASED CLEARANCES



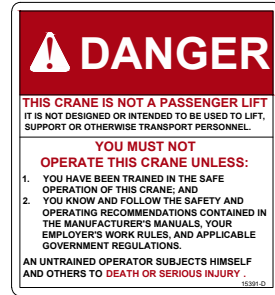
VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

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



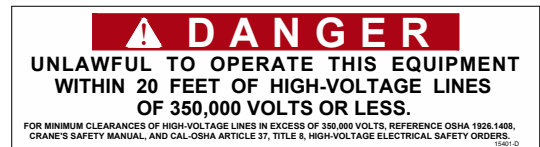
DECAL #: 15391
 DESCRIPTION: DANGER, NOT A PASSENGER LIFT
 PURPOSE: TO INFORM OPERATOR NOT TO LIFT, SUPPORT, OR TRANSPORT PERSONNEL, AND TO ENSURE OPERATOR IS ADEQUATELY TRAINED.
 QUANTITY: 1
 PLACEMENT: REAR COVER OR SIDE OF CRANE



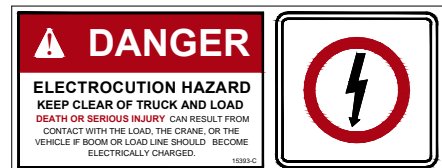
DECAL #: 15392
 DESCRIPTION: DANGER, ELECTROCUTION HAZARD, MACHINE (CRANE)
 PURPOSE: TO INFORM OPERATOR THAT MACHINE (CRANE) REPRESENTS AN ELECTROCUTION HAZARD SHOULD IT COME CLOSE TO OR IN CONTACT WITH AN ELECTRICAL VOLTAGE SOURCE.
 QUANTITY: 1
 PLACEMENT: REAR COVER OR SIDE OF CRANE



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.



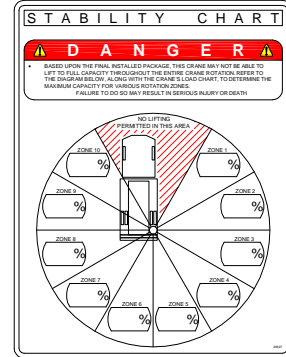
PART NO.: 20927

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.



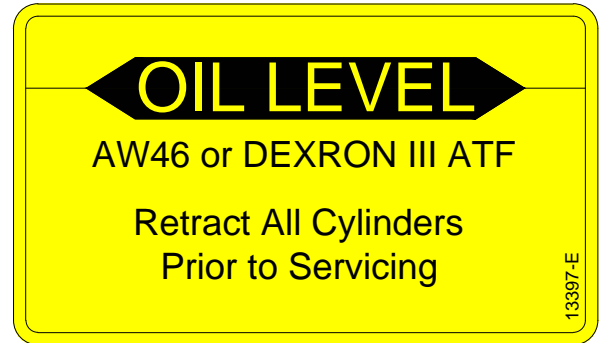
PART NO.: 13397

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

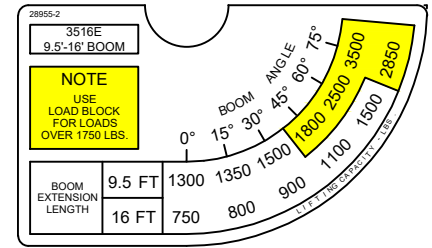
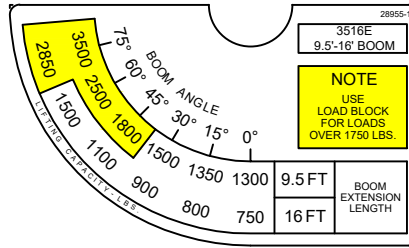
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11-12-19E

SUPERSEDES
12-23-13D

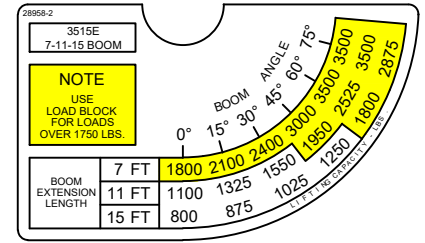
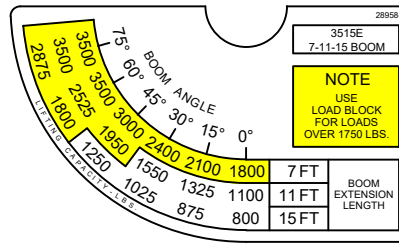
SECTION
C150

21354

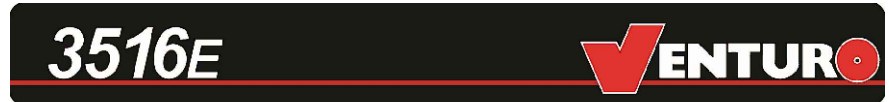
PART NO.: 28955-1 & 28955-2
 DECAL: CRANE CAPACITY 3516E
 FUNCTION: To show the operator the operating capacities of crane.
 QUANTITY: 1
 PLACEMENT: One each side of boom.



PART NO.: 28958-1 & 28958-2
 DECAL: CRANE CAPACITY 3515E
 FUNCTION: To show the operator the operating capacities of crane.
 QUANTITY: 1
 PLACEMENT: One on each side of boom.



PART NO.: 28956
 DECAL: MODEL 3516E
 FUNCTION: To show the model of the crane.
 QUANTITY: 2
 PLACEMENT: One on each side of boom.



PART NO.: 28957
 DECAL: MODEL 3515E
 FUNCTION: To show the model of the crane.
 QUANTITY: 2
 PLACEMENT: One on each side of boom.



PART NO.: 27007-04a
 DECAL: LOAD BLOCK CAPACITY DECAL
 FUNCTION: To show the capacity of load block.
 QUANTITY: 2
 PLACEMENT: Each side of load block.

VENTURO LOAD BLOCK SPECIFICATIONS	
RATED CAPACITY: 3,500 lbs	WEIGHT: 24 lbs
WARNING: 1 PART LINE FOR LOADS LESS THAN 1,750 LBS. 2 PART LINE FOR LOADS 1,750 LBS. & GREATER	



MANUFACTURING, INC.
 CINCINNATI, OHIO

TITLE
MODEL/CAPCTY DECALS
 3515E/3516E

DATE
 09-03-25A
 SUPERSEDES
 09-16-24

SECTION
 C150
28937

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.

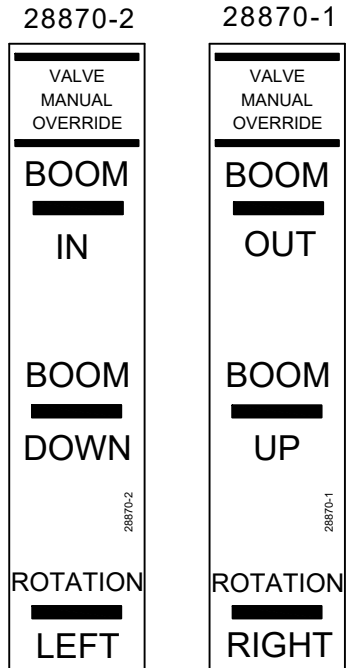
THIS CRANE IS EQUIPPED WITH AN OVERLOAD ALARM SYSTEM

- 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

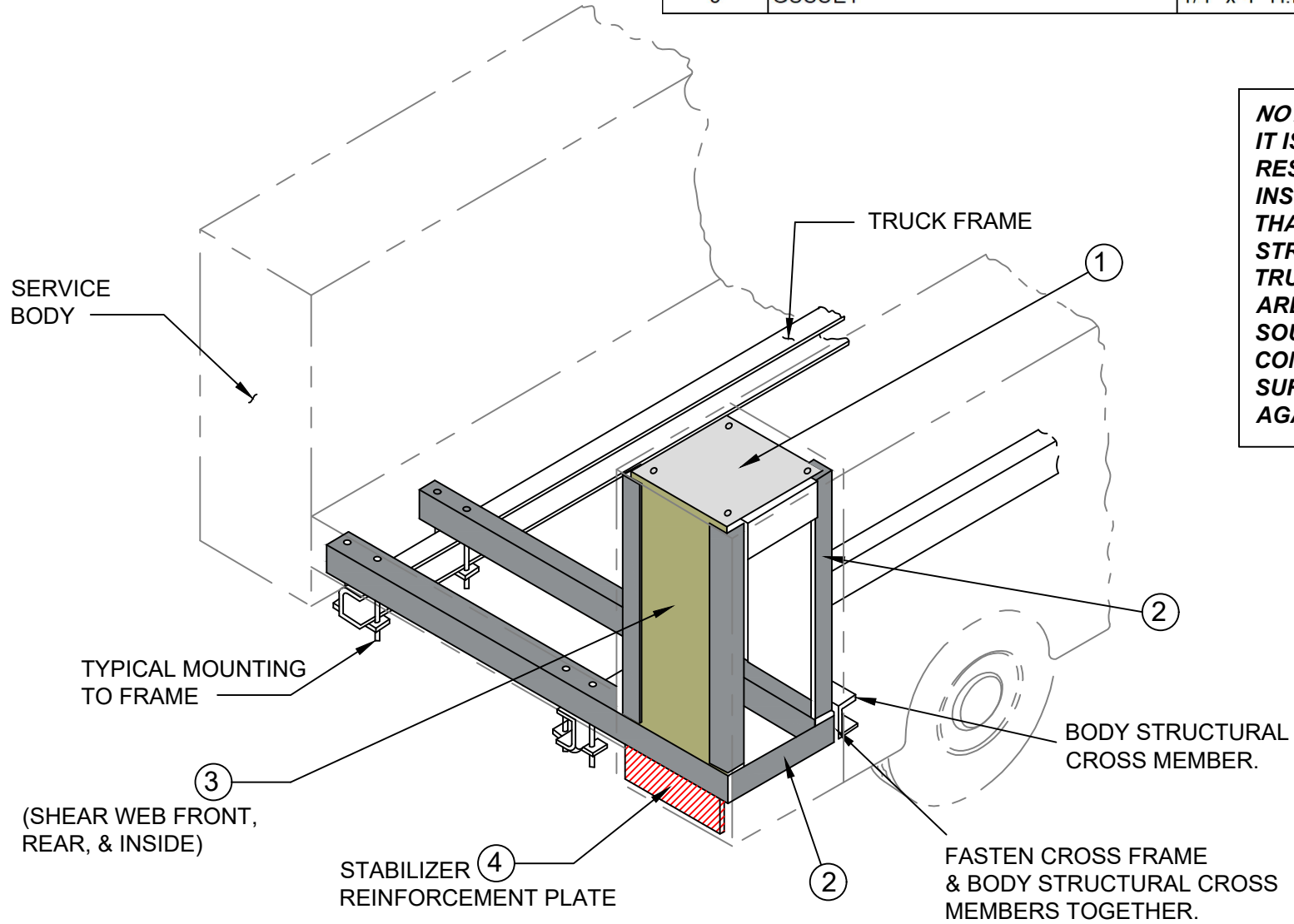
SECTION 200

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	DATE	SECTION
INSTALLATION DRAWING	09-10-24	C100
3215E/351*E	SUPERSEDES	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
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SUPERSEDES	-
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SECTION	C200
---------	------

28820

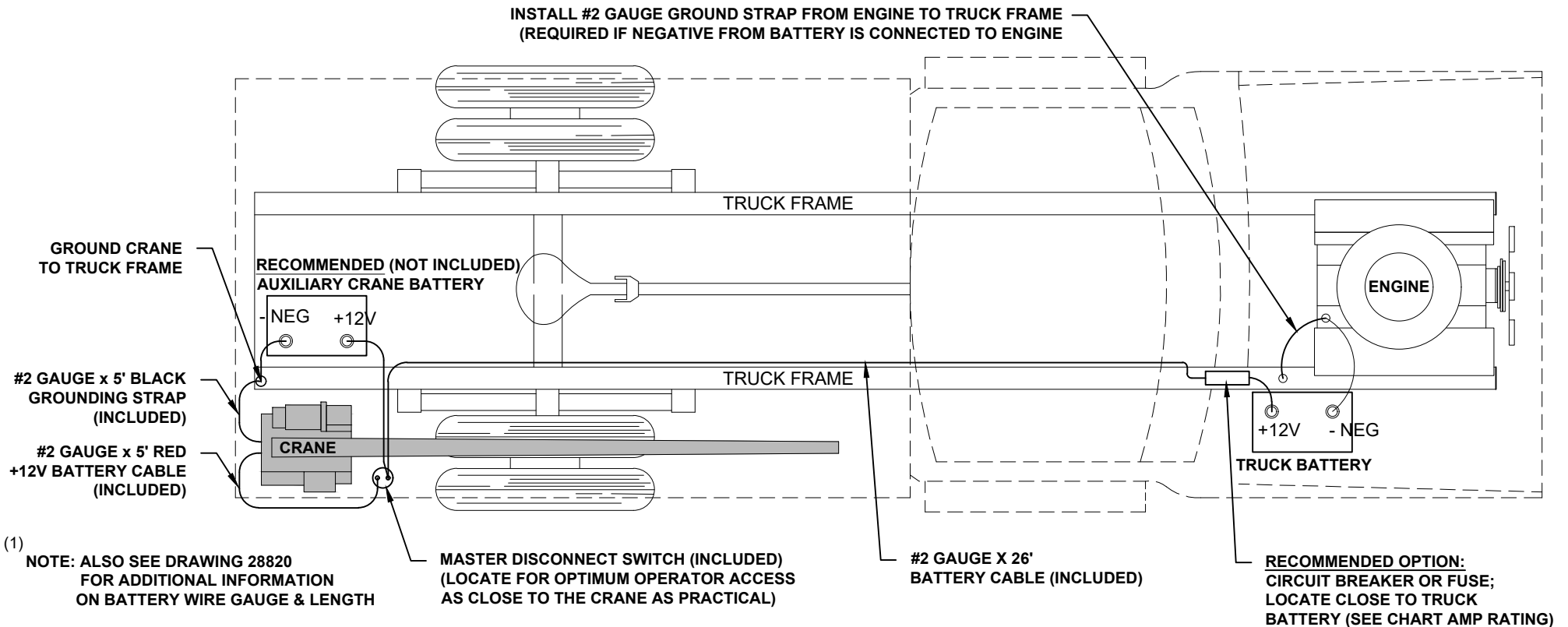
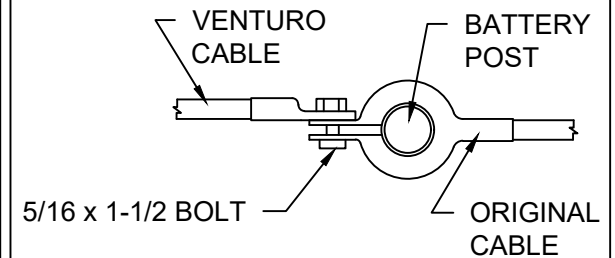
RECOMMENDED CIRCUIT BREAKER TABLE		
CRANE	DESCRIPTION	PART NO.
2010E	300 AMP, MAN RESET	22946-300
3215E	300 AMP, MAN RESET	22946-300
3515E/3516E	300 AMP, MAN RESET	22946-300
4016E/4020E	300 AMP, MAN RESET	22946-300
4516E/4520E	300 AMP, MAN RESET	22946-300
5020E	300 AMP, AUTO RESET	22946-300
6020E	300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

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 **882 lbs**, (includes load block weight of **24 lbs.**) to a **maximum of 925 lbs**.
7. Position the boom level and fully retracted.
8. Referring to the Stability Chart (drawing 20907) rotate the crane to a position between 1 and 2 o'clock (truck cab is facing 12 o'clock) to begin testing.
9. Use the winch to lift the Test Weight; DO NOT allow the weight to be more than 6" off the ground at any time during testing (for safety).
10. Using the test weight, extend the boom slowly, until one of the two conditions occur:
 - 10.1. Full boom extension is reached - Mark the ZONE in question **100%**
 - 10.2. The truck becomes unstable i.e., a tire lifts off the ground
 - 10.2.1. Retract the boom until at least one tire on each corner of the truck is making 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 from the **center of rotation** of the crane housing to the **lifting load hook**.

$$\% \text{ Rated Capacity} = \frac{\text{"Max Stable Reach" in inches}}{192} \times 100$$

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	DATE	SECTION
STABILITY TEST	09-11-24	C200
3516E	SUPERSEDES	20906-3516E
	-	

STABILITY TEST - 3515E

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 **941 lbs**, (includes load block weight of 24 lbs.) to a **maximum of 1000 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**.

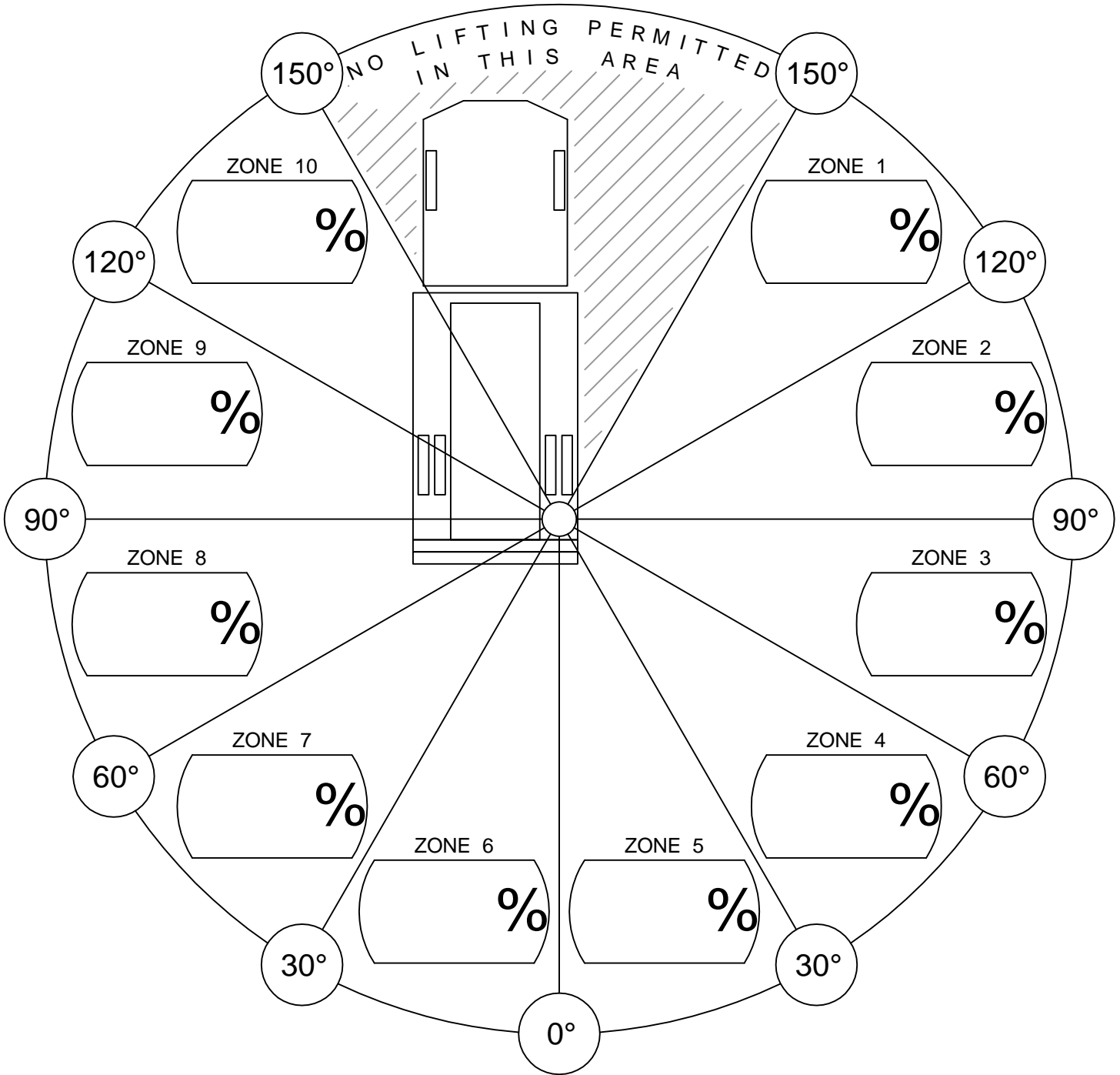
$$\% \text{ Rated Capacity} = \frac{\text{"Max Stable Reach" in inches}}{181} \times 100$$
12. Record the **% of Rated Capacity** in the appropriate blank (region) on the Crane Stability page (ref. 20907) and decal.
13. Repeat Steps 7 through 12 for each ZONE on the stability page.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
STABILITY TEST	10-03-24	C200
3515E	SUPERSEDES	20906-3515E
	-	

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

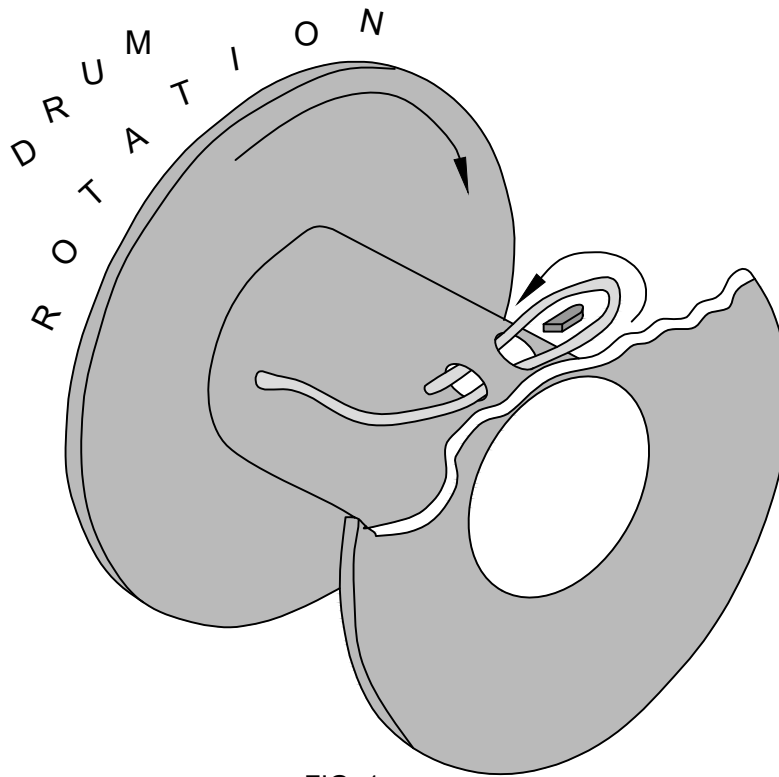


FIG. 1

- 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.



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CINCINNATI, OHIO

TITLE
WIRE ROPE INSTALLTN
2010E & LARGER CRANES

DATE
02-20-24

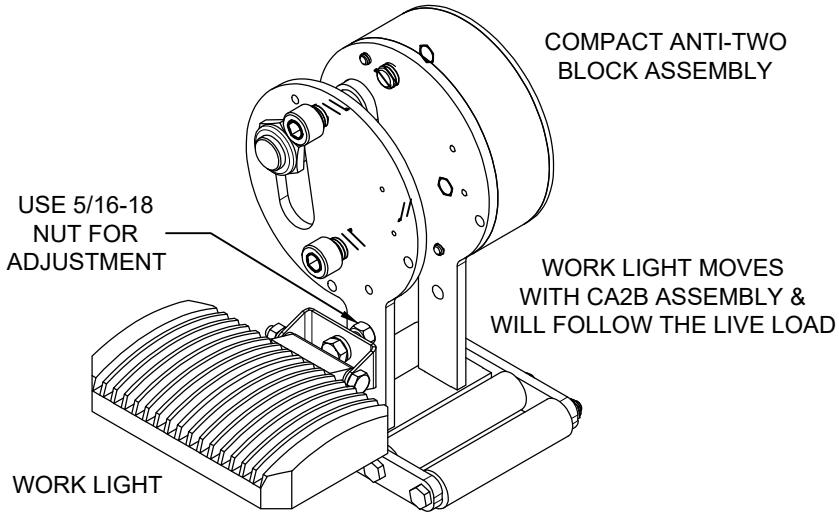
SUPERSEDES

-

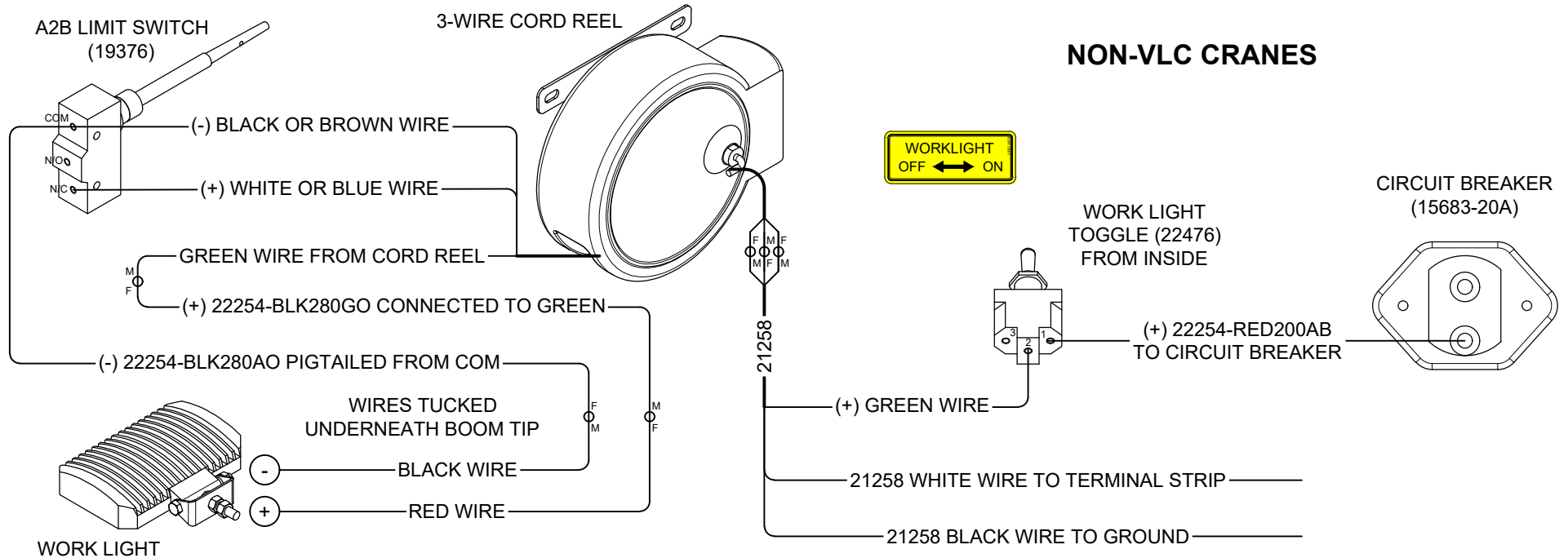
SECTION
C200

28822

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



BILL OF MATERIALS		-1	28240
#	DESCRIPTION		PART NUMBER
1	IDWG; WORK LIGHT INSTALLATION, NON-VLC CRANES	1	28199
2	LED WORK LIGHT	1	27483
3	TERMINAL; 16G, FEMALE, QUICK-CONNECT	3	!TERM16G250QCFI
4	TERMINAL; 16G, MALE, QUICK-CONNECT	4	!TERM16G250QCM
5	WIRE ASS'Y; 16G, BLACK, 28", #6 RING - STRIPPED END	1	22254-BLK280AO
6	WIRE ASS'Y; 16G, BLACK, 28", QCF - STRIPPED END	1	22254-BLK280GO
7	TOGGLE SWITCH; ON / OFF, IP-RATED	1	22476
8	HALF-BOOT, FOR IP-RATED TOGGLE SWITCH	1	19793
9	DECAL; ON/OFF, OPTIONAL WORK LIGHT W/ TOGGLE	1	28307
10	WIRE ASS'Y; 16G, RED, 20", #6 RING - #10 RING	1	22254-RED200AB
11	TERMINAL; 16G, #6 RING, CLOSED-END	1	!TERM16G#6RG



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CINCINNATI, OHIO

TITLE
WORK LIGHT INSTALLATION, 3-WIRE CORD REEL
NON-VLC CRANES

DATE
09-13-24

SECTION
C400

SUPERSEDES
-

28855

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

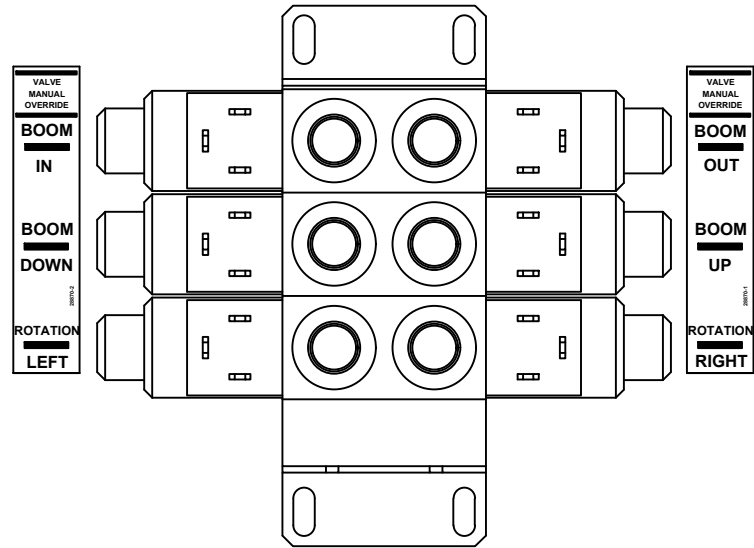
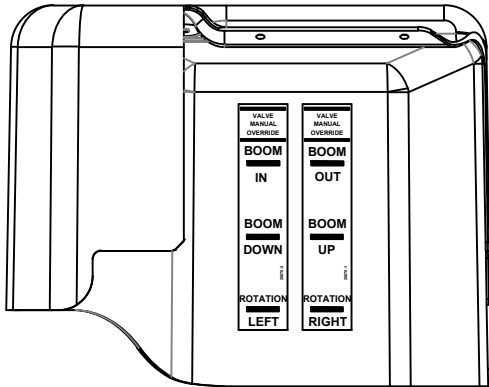
TITLE
OP & MAINT INSTR 3/3
ET CRANES SERIES ▲

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

SECTION
C300
28854

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

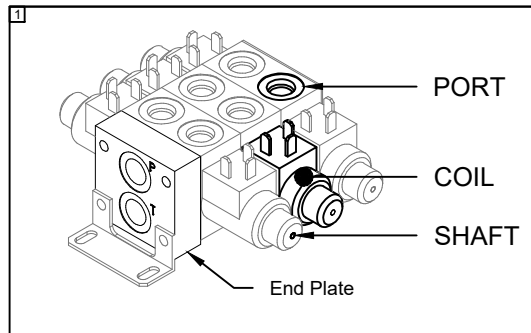
!! READ ALL INSTRUCTIONS BEFORE PERFORMING MANUAL OVERRIDE PROCEDURES !!



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:

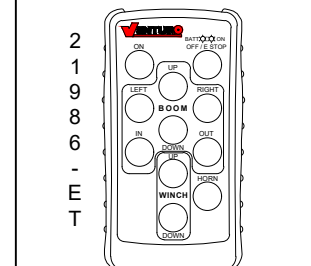
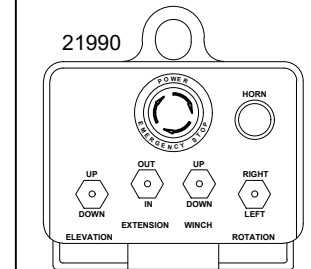
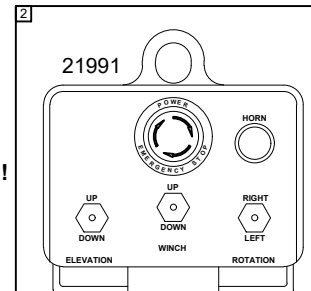
- BI = Boom In BO = Boom Out
- BD = Boom Down BU = Boom Up
- RL = Rot. Left RR = Rot. Right



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

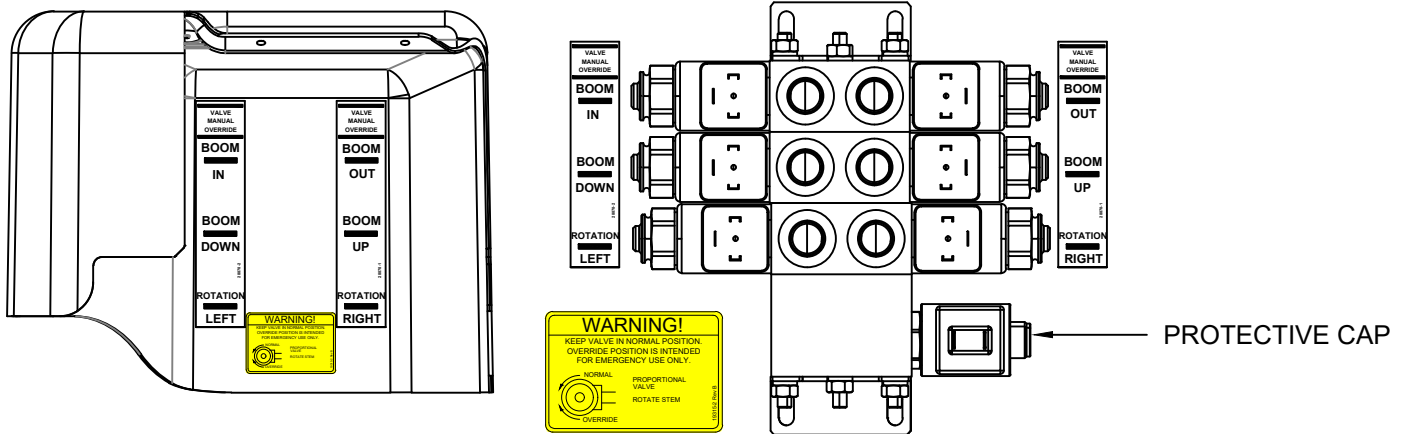
TITLE
MAN. OVERRIDE INSTR.
 ET CRANES
 NON-PROPORTIONAL VALVE ▲

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:

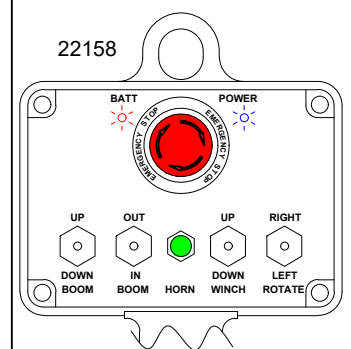
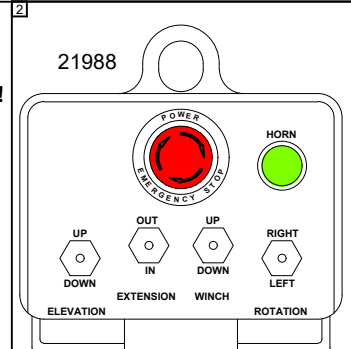
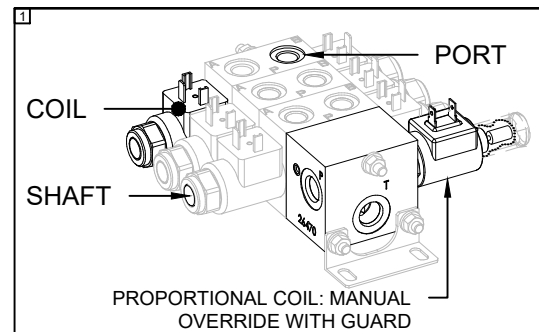
- RR = Rot. Right RL = Rot. Left
- BU = Boom Up BD = Boom Down
- BI = Boom In BO = Boom Out

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:

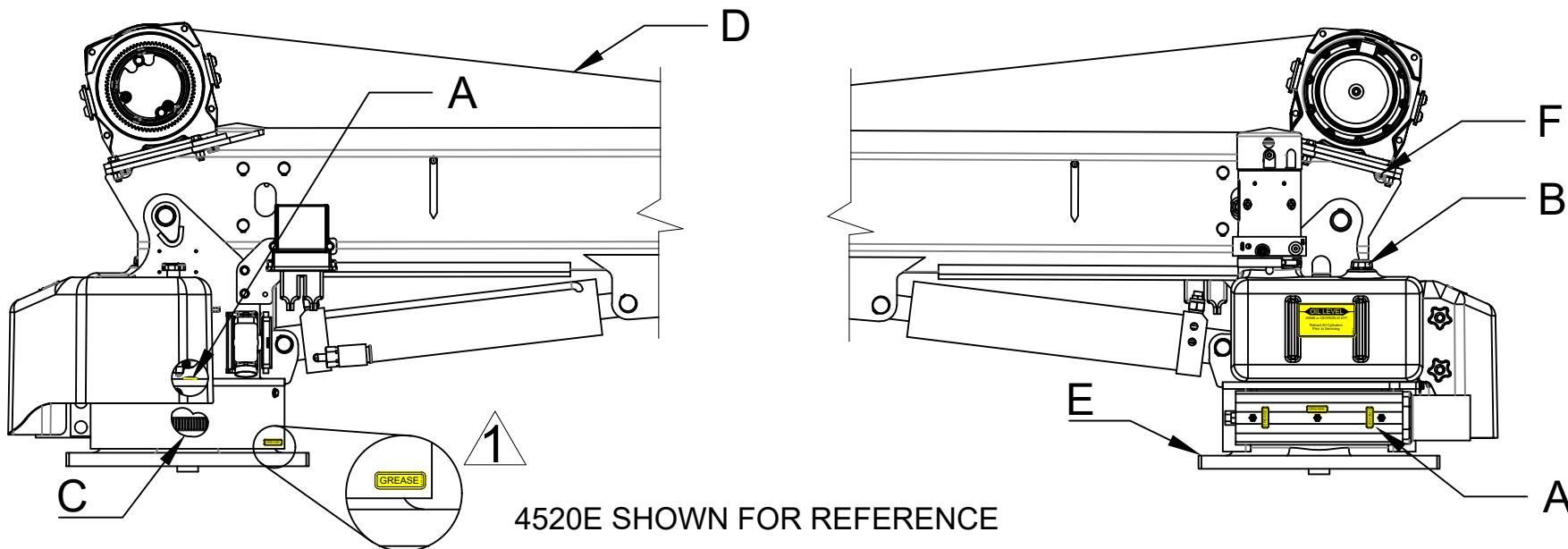
1. Turn Master disconnect switch to "ON"
2. Remove Protective cap
3. Rotate Valve Stem Clockwise to close
4. Power up the pendant / radio
 - 4.1. Twist EMERGENCY STOP button clockwise
5. Inside the plastic cover, reference the function you wish to perform using the manual override decal
6. Using a tool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

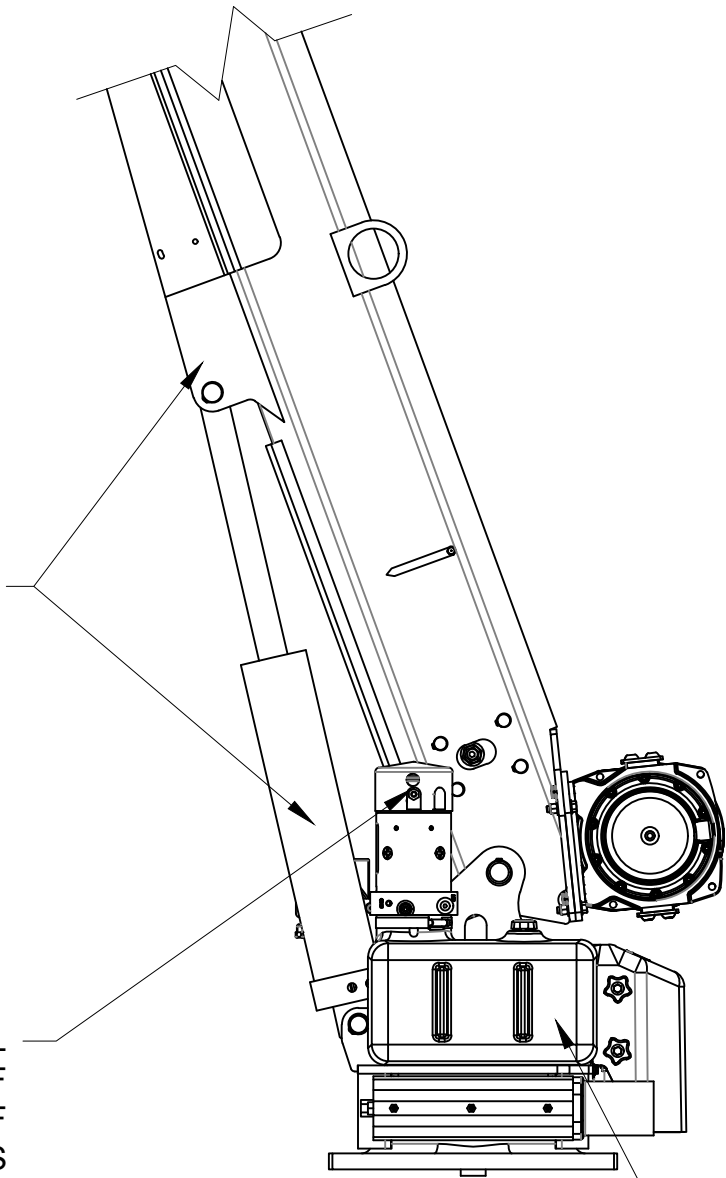
28823

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

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

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



BOOM ELEVATING
ELECTRIC HYDRAULIC
POWER UNIT



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
MINIMUM VOLTAGE TEST
ET SERIES CRANES

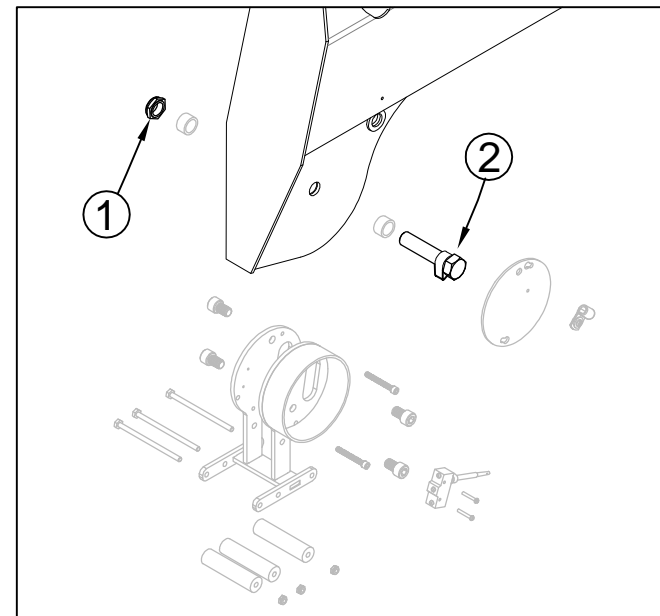
DATE
02-20-24
SUPERSEDES
-

SECTION
C300
28824

Compact A2B with Stowage Cut-out, Install/Adjustment Instructions (Kit: 28375)

The purpose of the Stowage Cut-out system is to prevent a situation whereby the wire rope is over-tensioned when the load block / wire rope is attached to the stowage hook on the bottom of the primary boom assembly. **However, the OPERATOR is ultimately responsible for ensuring that the wire rope is not over-tensioned when stowing the wire rope and boom assembly into the boom rest.**

1. Initially, apply a light torque to the nyloc full nut Item #1 (P/N !LNUT-07510), such that the axle bolt & cam welded assembly can be rotated / adjusted in the steps below.
2. Position the cam **lobe** Item #2 (P/N 28362) so that it is pointing towards the housing / mechanism
3. Hang the load block on the open stowage hook under the primary boom.
4. Thread the wire rope through the load block in a two-line configuration; the wire rope end / eyelet is pinned in the standard position on the tertiary boom tip
5. Actuate the Winch Up function until the load block and wire rope are **taut** enough to prevent the load block from bouncing during transit, **but do not tighten excessively so as to prevent damage to the wire rope.**
6. Rotate the axle bolt & cam welded assembly towards the housing (clockwise in standard configuration) until the cam lobe makes contact with and trips the wobble micro switch and actuates the A2B function.
7. Once adjusted, torque the nyloc full nut (Item #1) to 100 ft*lbs to prevent further rotational movement of the axle bolt & cam welded assembly.
8. Test the A2B trip-point by slackening and tightening the wire rope / load block assembly by actuating Winch Up/Down. **NOTE: The point at which the A2B trips WILL vary to some degree, depending upon the winch up speed. It is recommended to actuate the winch up function slowly, which will yield a consistent and repeatable result, in terms of wire rope tension when stowed.**



Contact Venturo Tech Support for assistance. 1-800-226-2238 ext. 124



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

A2B Stowage Cut-out

DATE

10-04-21B

SECTION

C400

ET/HT Cranes w/ Comp. A2B

SUPERSEDES

08-03-21A

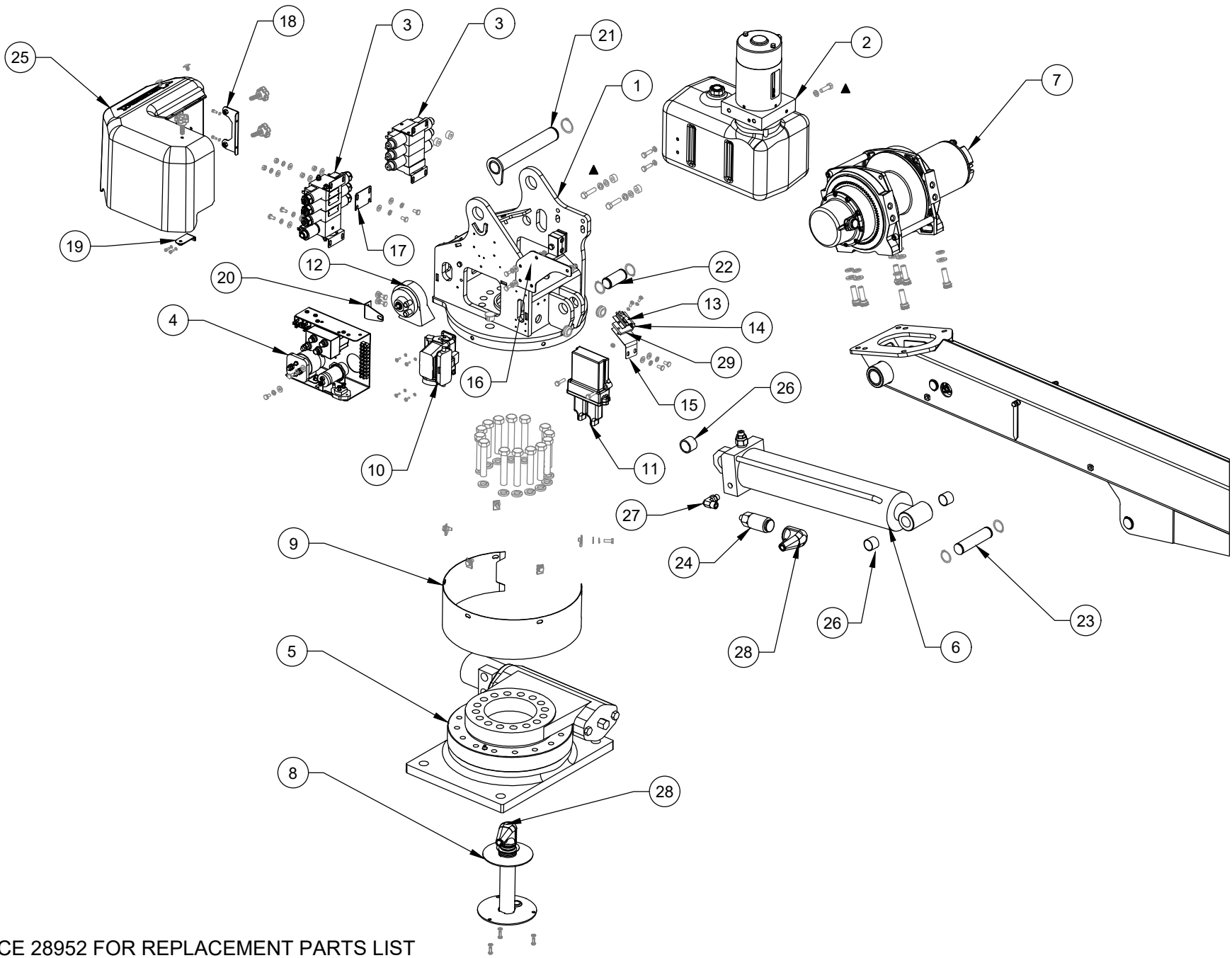
28239

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

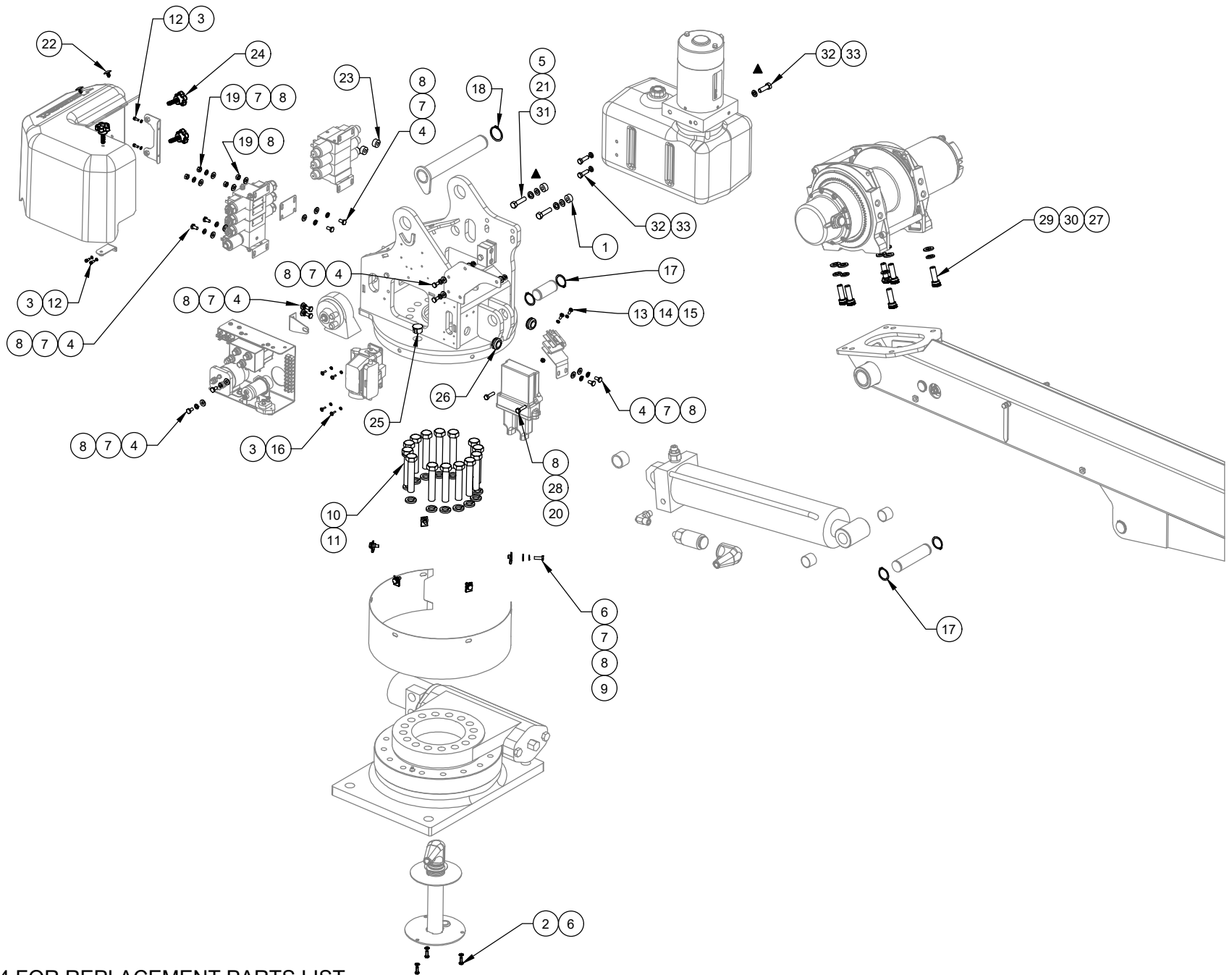
DATE
06-17-25A

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

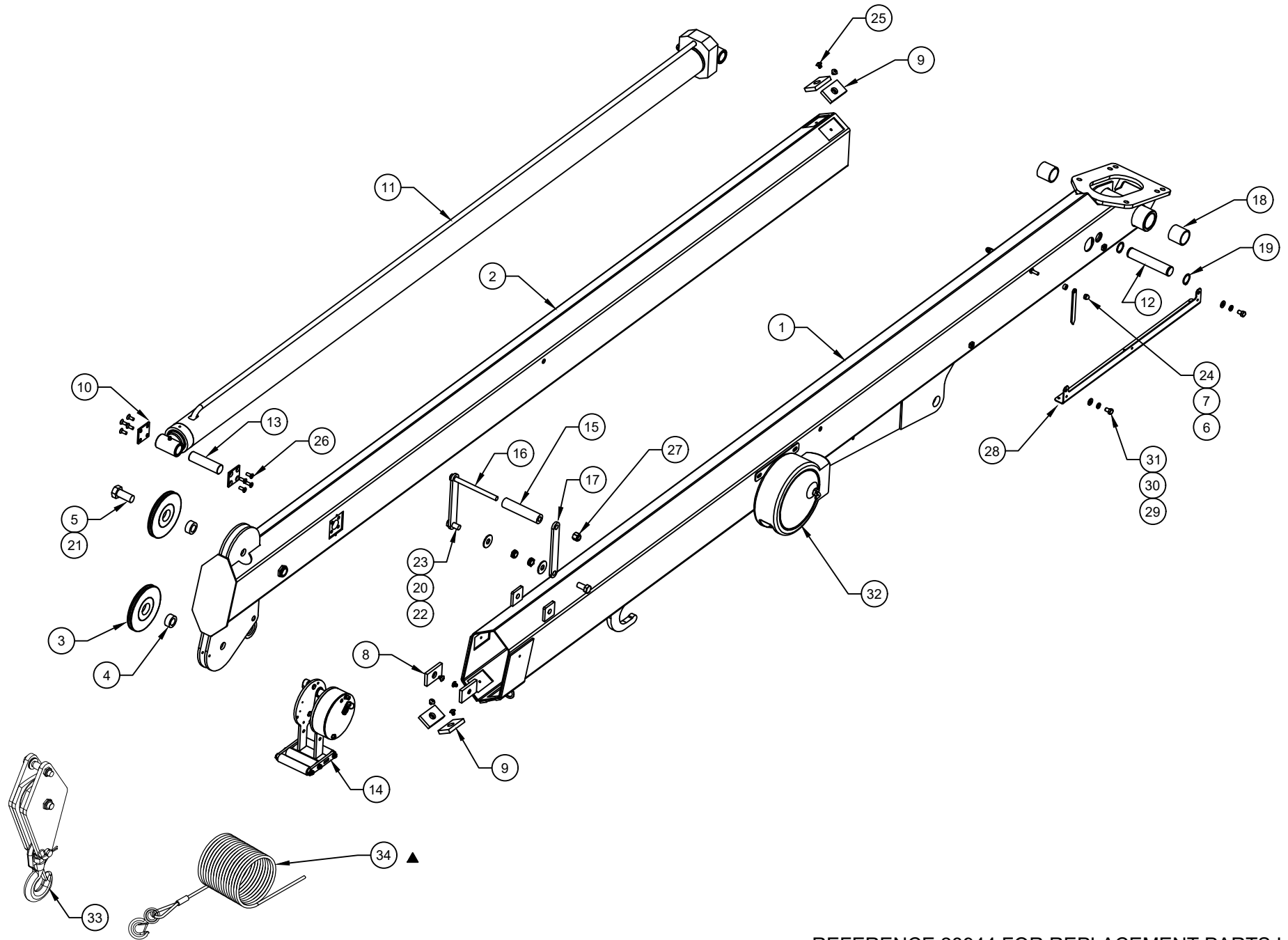
** : USED WITH BUCHER HPU ONLY

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 28944 FOR REPLACEMENT PARTS LIST



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPL PARTS & FASTENERS DWG - 28673 BOOM

DATE
02-26-25A

SECTION
C400

3516E

SUPERSEDES
09-12-24

28943

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	28665	PRIMARY BOOM WELDMENT
2	1	23702	SECONDARY BOOM WLDMNT
3	2	21630	CABLE SHEAVE - PLASTIC
4	2	20536	SPACER - 20537 SHEAVE
5	1	17059-4	SHEAVE AXLE
6	2	22490	SPACER, BOOM ARROW 1/2" O.D.
▲ 7	2	13459-1	BOOM ARROW 3-3/16 LONG
8	2	23710-2	BOOM PAD 1.5 X 2.5 - .31 THK
9	4	23710-3	BOOM PAD 1.5 X 2.5 - .38 THK
10	2	23706	CYLINDER PIN RETAINING PLATE
11	1	23692	EXTNSION CYL 2.50" BORE X 78" STROKE
12	1	23708	INBOARD EXT CYL PIN
13	1	23709	OUTBOARD EXT CYL PIN
14	1	27469-L-C-00	ASSY; COMPACT A2B
15	1	21560	ROLLER,UHMW GUIDE
16	1	!HHCS04414550	HEX HEAD CAP SCREW - 7/16-14 X 5-1/2", ZINC
17	2	21936	FLAT,MOUNT;WIRE ROPE GUIDE
18	2	21206	POLY BEARING - PRIMARY BOOM PIVOT
19	2	!SRNG-100	RETAINING RING - 1" SHAFT DIA.
20	2	!FWSH-050	FLAT WASHER 1/2", ZINC
21	1	!LNUT-07510	LOCKNUT 3/4-10, ZINC
22	2	!JNUT-05013N	1/2-13 NYLON INSERT JAM NUT, ZINC
23	2	!HHCS05013100-5	HEX HEAD CAP SCREW 1/2-13 X 1 LG GR5, ZINC
24	2	!ANUT-02520S	ACORN NUT 1/4-20 S/S
25	6	!THCS02520038S	TRUSS HEAD PHILLIPS SCREW 1/4-20 X 3/8" S/S
26	8	!CACS02520050S	CACS; 1/4-20 X 1/2", S/S
27	1	!LNUT-04414	NYLON INSERT LOCK NUT - 7/16-14, ZINC
28	1	26940-2	HEX BOOM CABLE GUARD BRACKET
29	2	!FWSH-031S	FLAT WASHER; 5/16", S/S
30	2	!LWSH-031S	LOCK WASHER; 5/16", S/S
31	2	!HHCS03118050S	HEX HEAD CAP SCREW - 5/16 X 1/2" S/S
32	1	26577-1-20	COMPLETE CORD REEL REELCRAFT ALL MODELS
33	1	20670	LOAD BLOCK ASSEMBLY
34	1	21639	WIREROPE; 1/4 X 65' W/ EYHOOK & SAFETY LATCH

REFERENCE 28943 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS LIST - BOOM 28673

3516E

DATE

05-01-26A

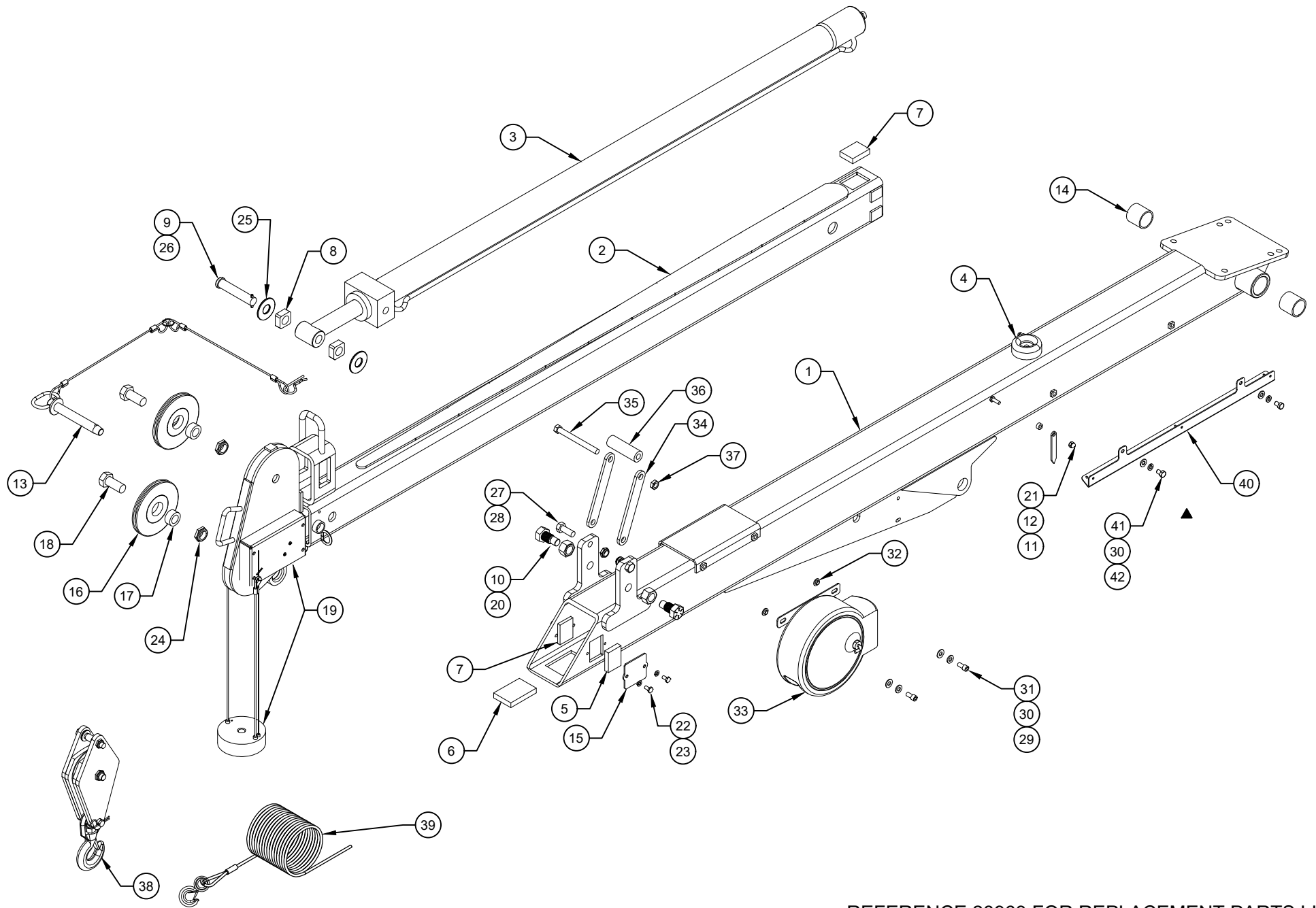
SUPERSEDES

09-12-24

SECTION

C400

28944



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

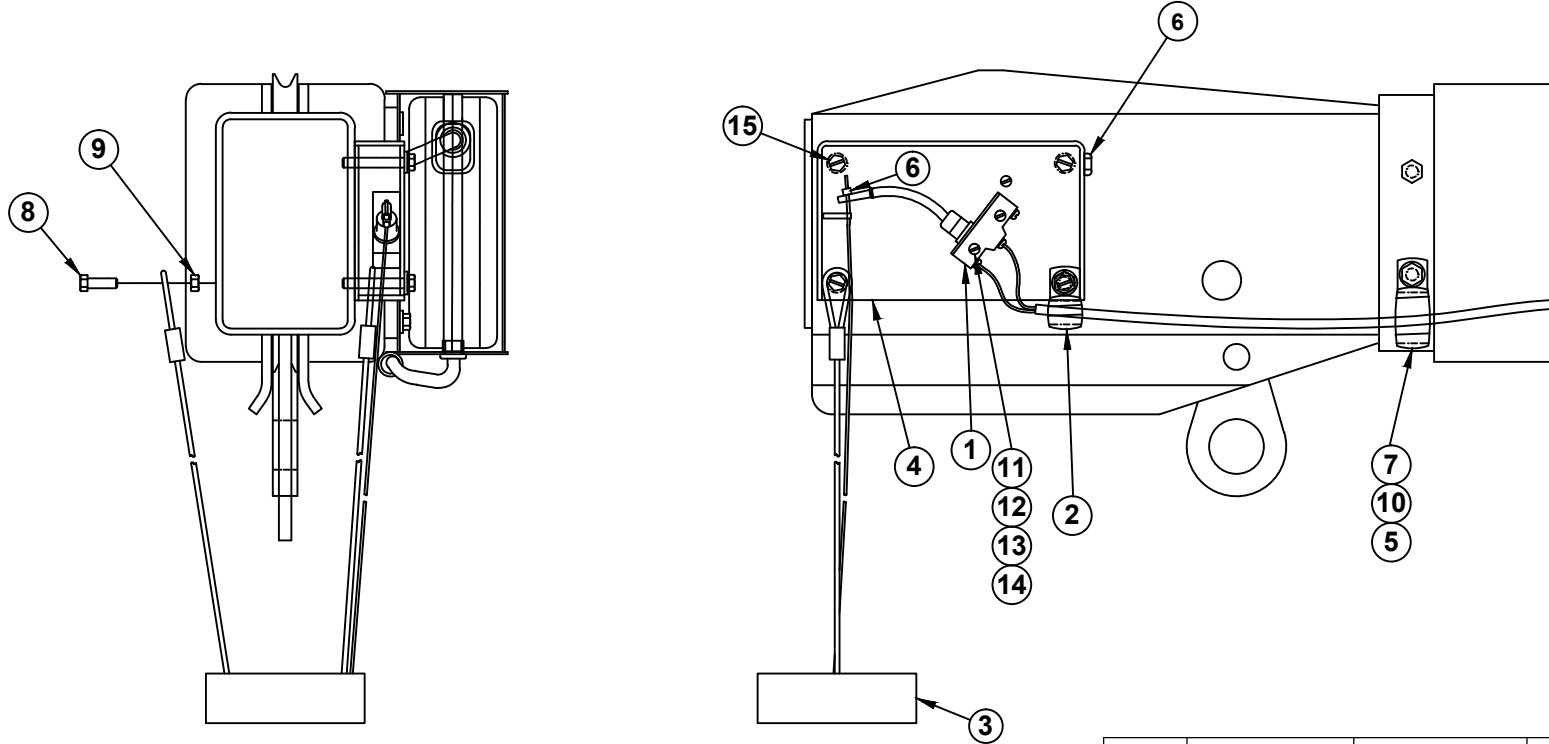
REFERENCE DWG #28962 FOR REPLACEMENT PARTS DRAWING



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

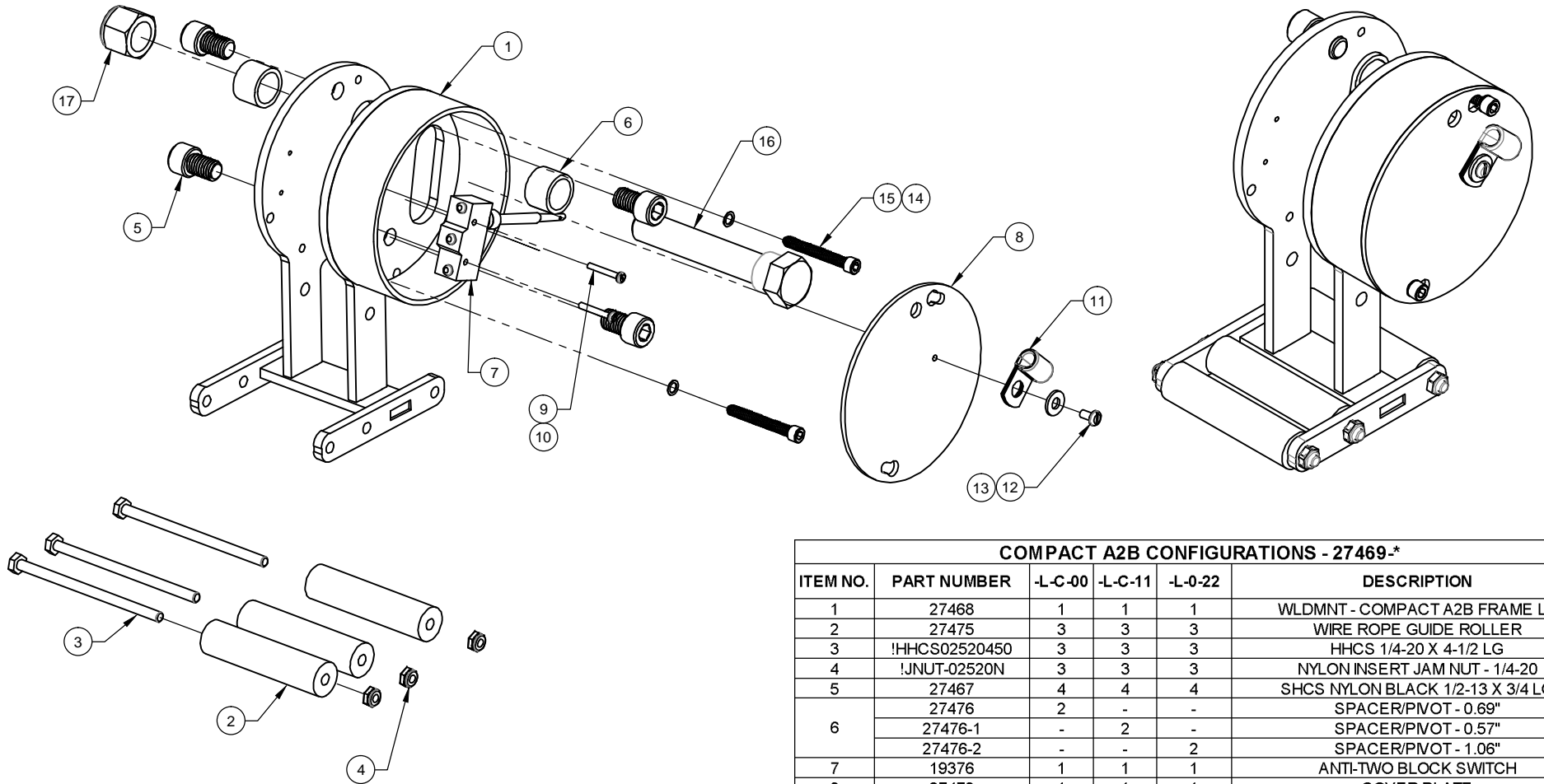
04-16-25

SECTION

C400

28861

COMPACT A2B - 27469-* - REPLACEMENT PARTS LIST



COMPACT A2B CONFIGURATIONS - 27469-*

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



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS LIST

COMPACT A2B - 27469-*

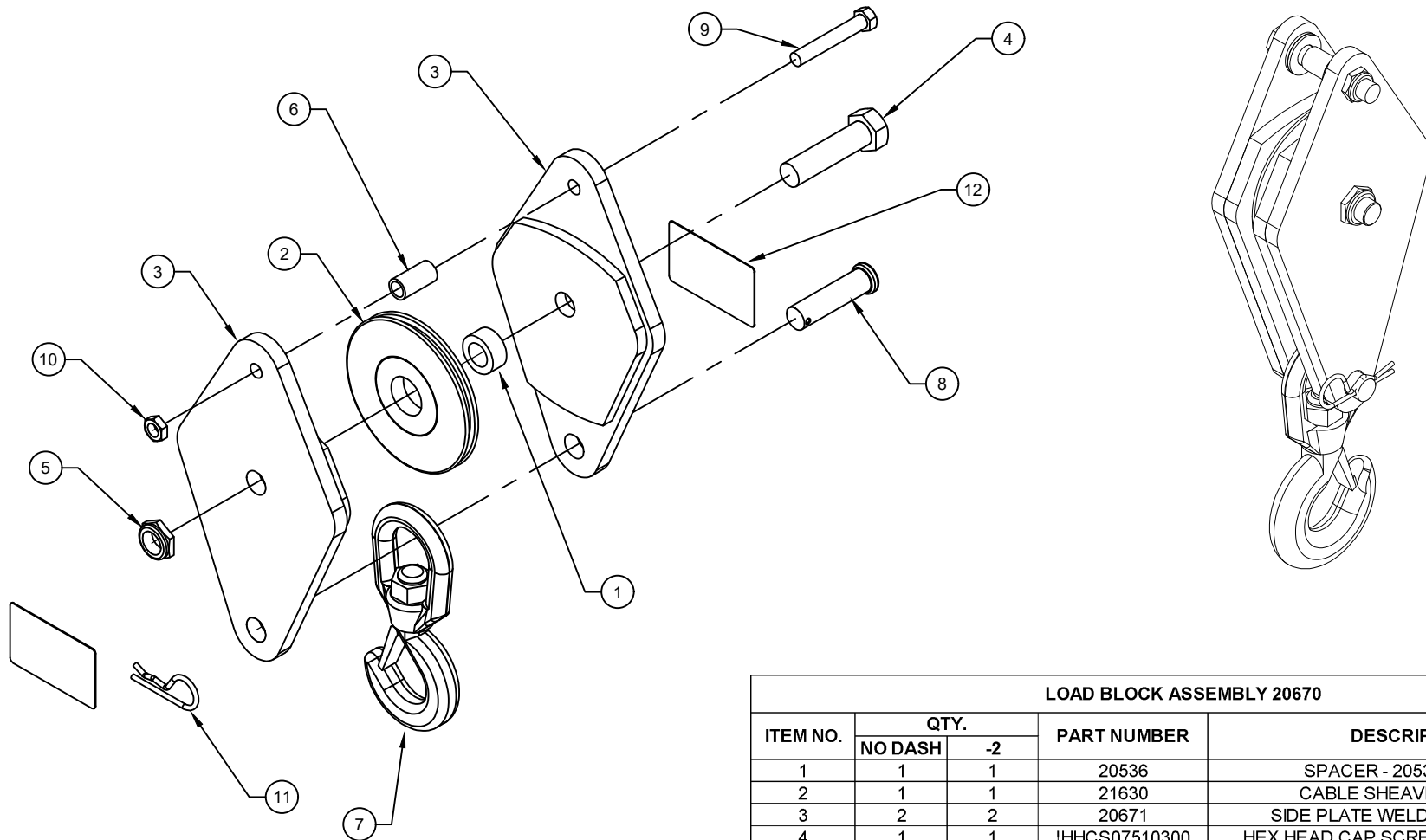
DATE
7-10-24A

SUPERSEDES
06-11-24

SECTION
C400

26942

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

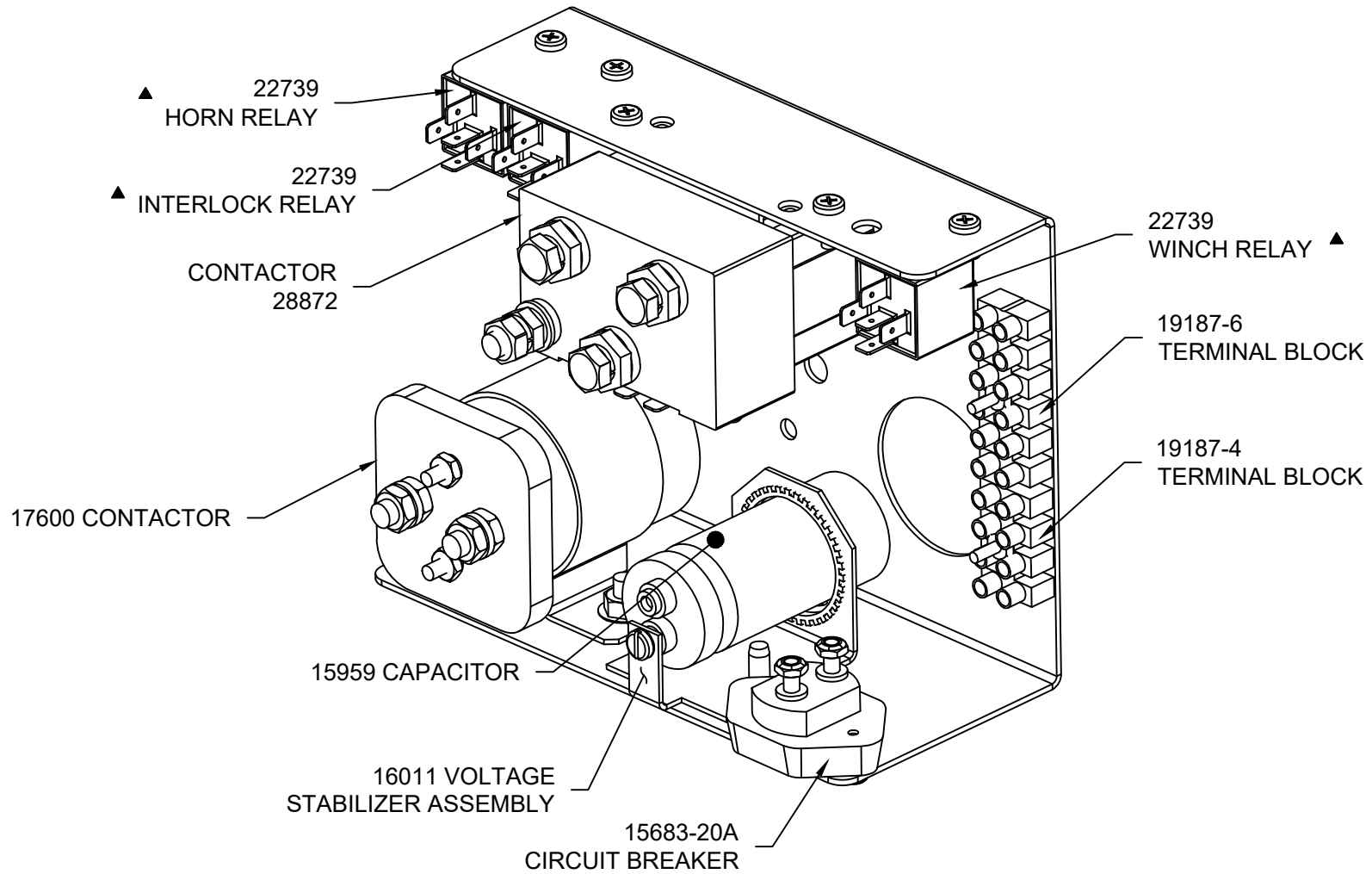
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SECTION

C400

28946

28700 ELECTRICAL COMPONENT ASSEMBLY



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
ELECTRICAL COMPONENT ASSEMBLY

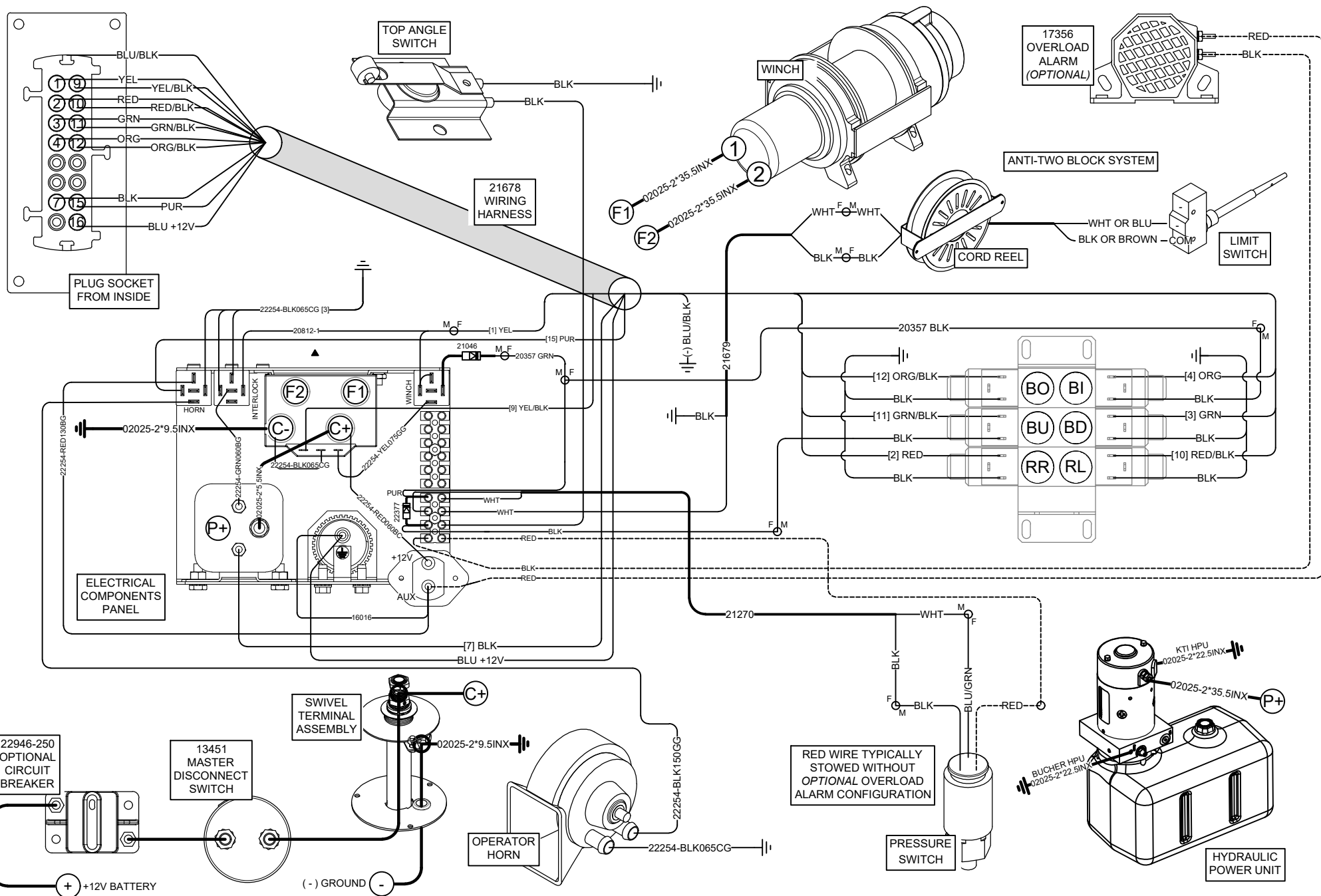
3215E/351*E/40**E/45**E

DATE
10-07-25A

SUPERSEDES
04-09-24

SECTION
C400

28835



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
WIRING DIAGRAM

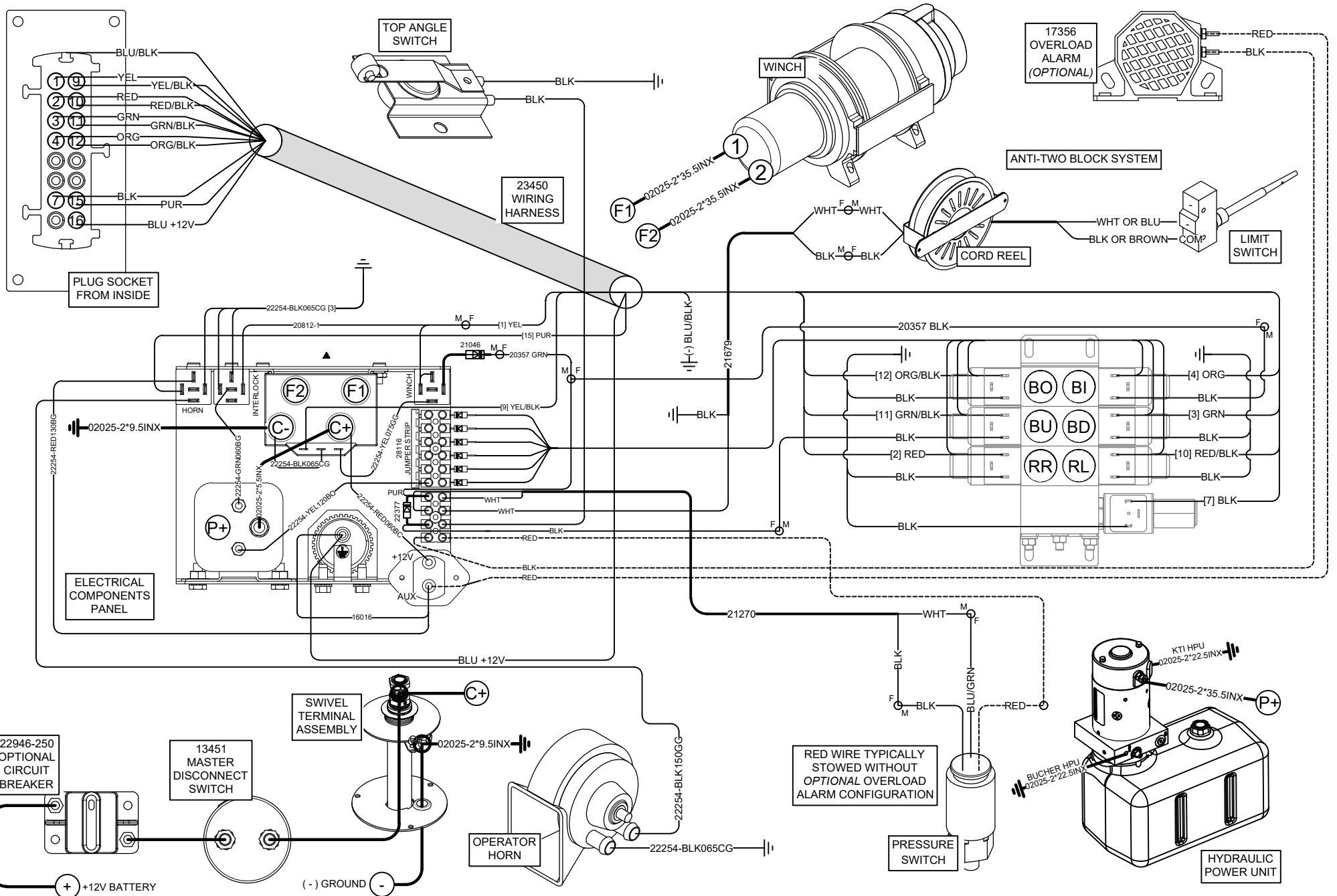
45**E/40**E/351*E/3215E
NON PROPORTIONAL

DATE
10-08-25E

SECTION
C400

SUPERSEDES
09-23-25D

28836



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

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

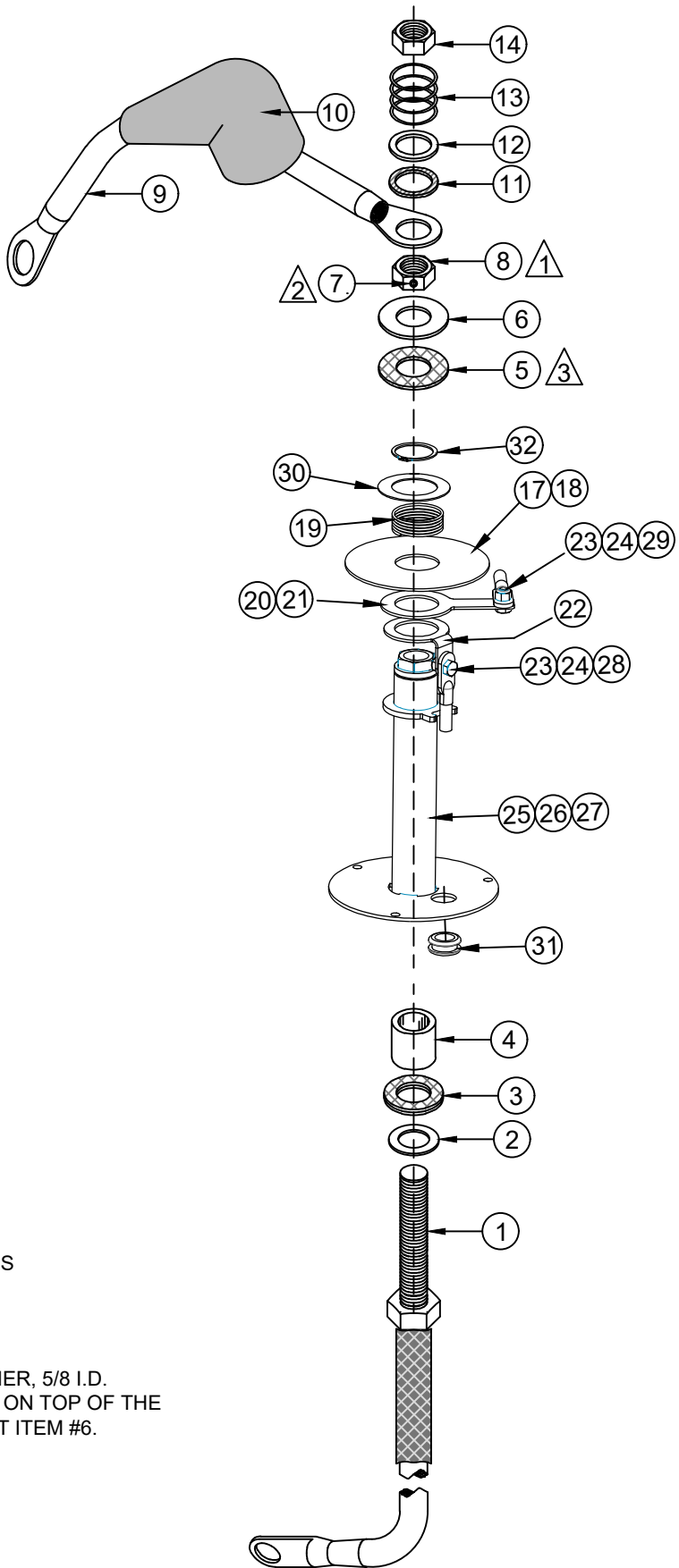
DATE
10-09-25E

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

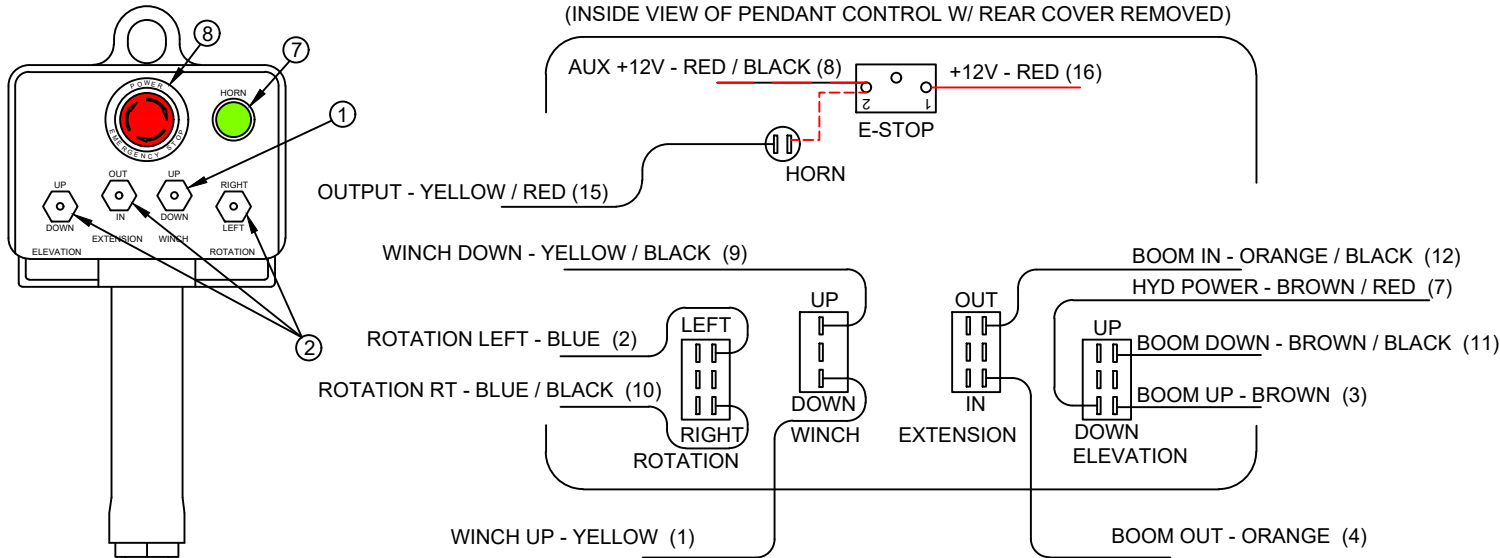
ET CRANES

SUPERSEDES
04-23-24

28842

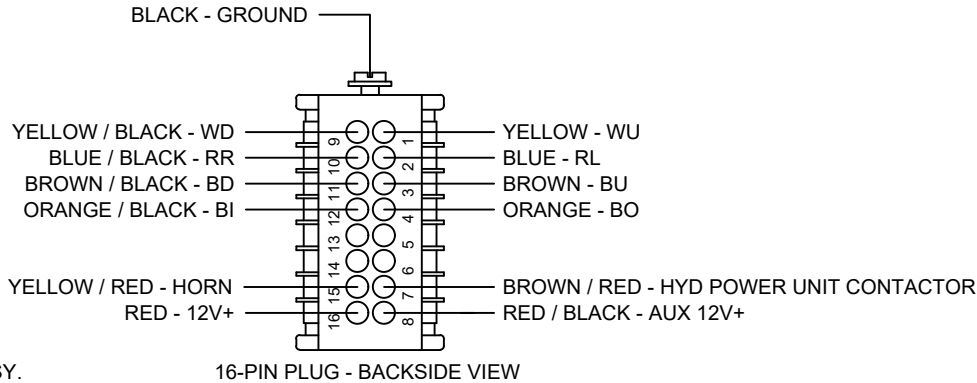
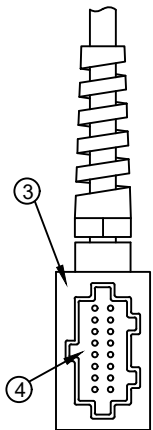
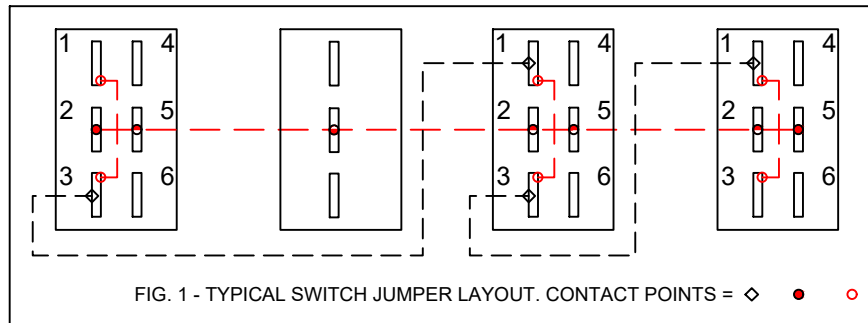
21990 PENDANT; 4 FUNCTION ET CRANES, E-STOP / HORN

(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

21990 PNDNT; 4 FNCTN ET CRNS, ESTP/HRN

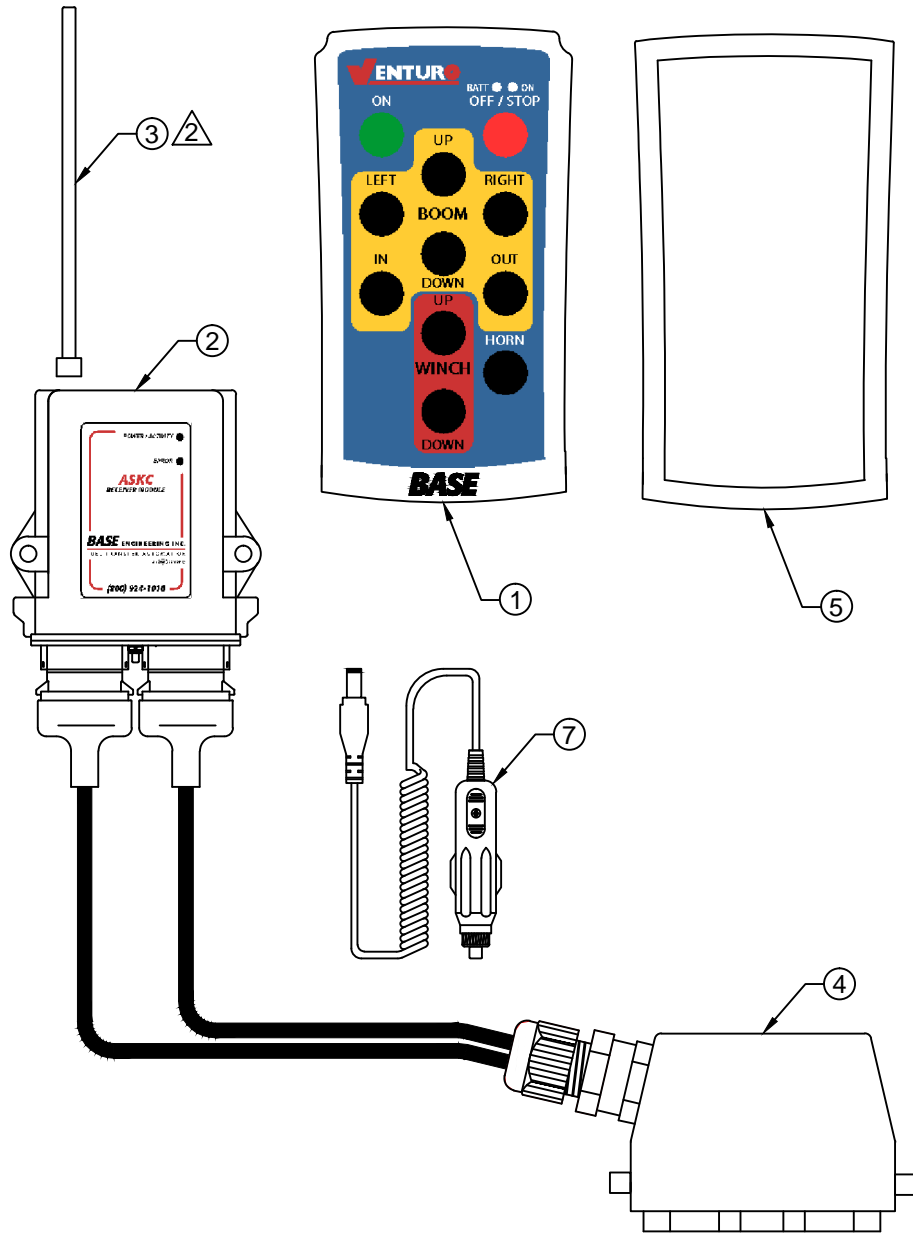
DATE
04-22-24

SUPERSEDES

SECTION
C400

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

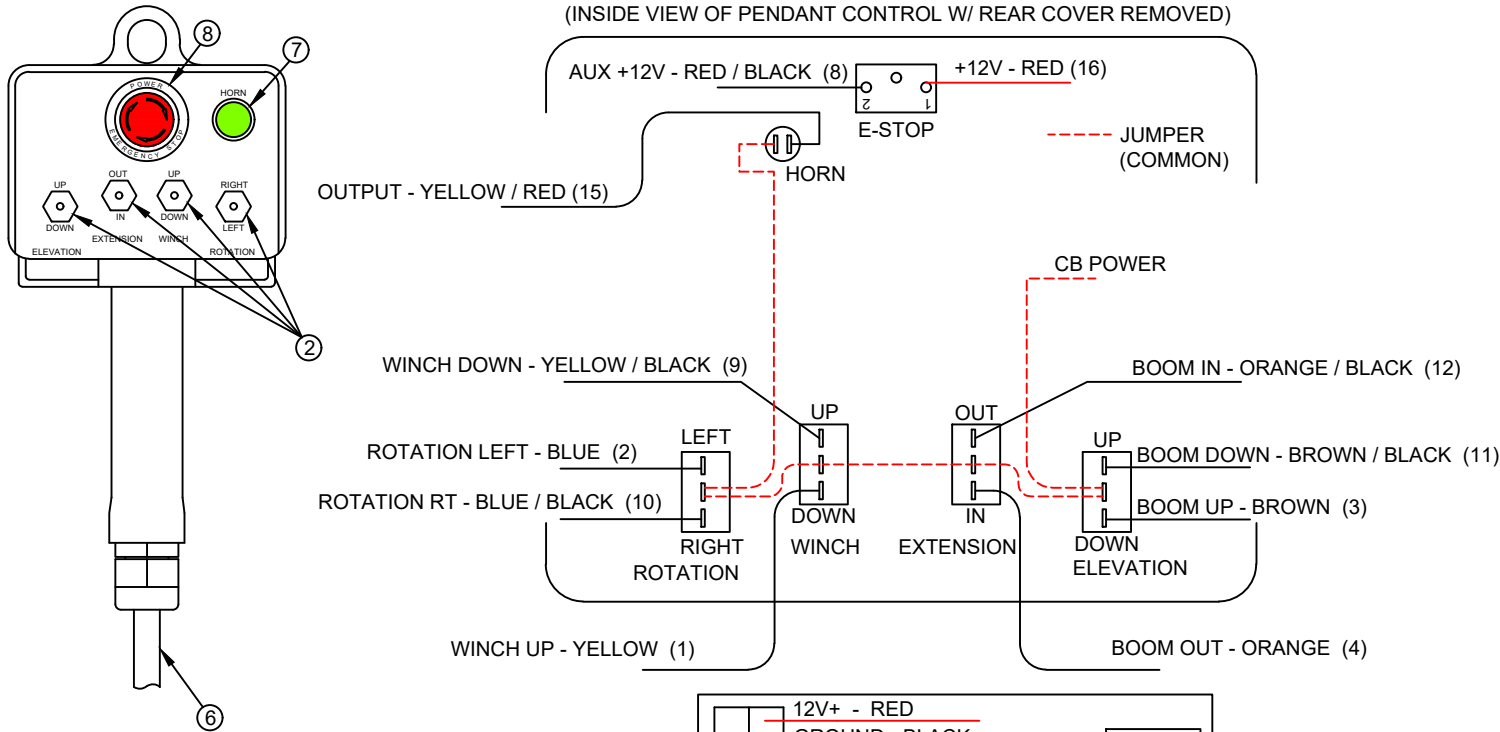
TITLE
REPLACEMENT PARTS DWG & LIST
ET NON-PROPORTIONAL CRANES

DATE
08-05-25
SUPERSEDES
-

SECTION
C400
23529

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

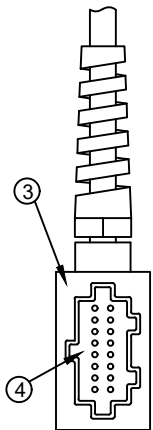
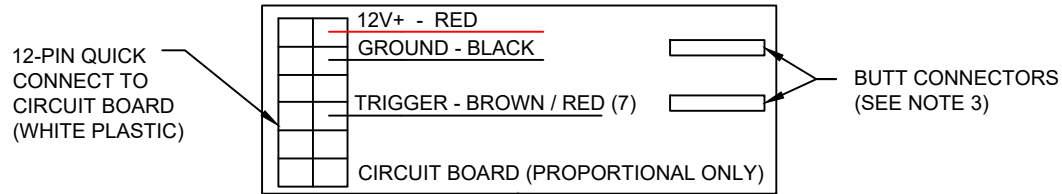
(INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED)



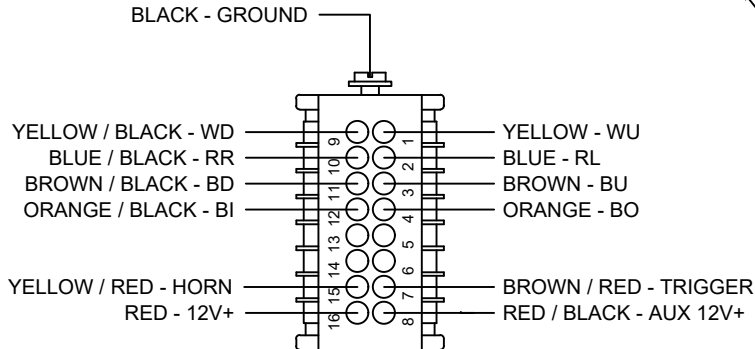
NOTE 1:
WIRE TERMINALS TO BE INSTALLED 'AFTER'
ROUTING REPLACEMENT CORD ASSY
THROUGH PENDANT HEAD AND PLUG
HOUSING.

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

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

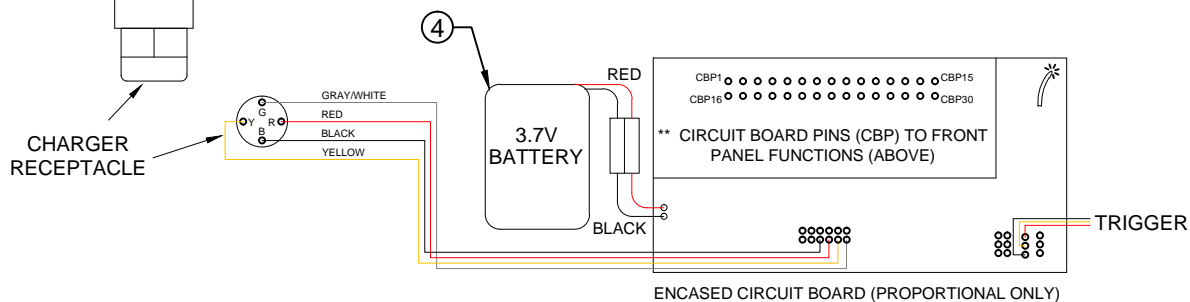
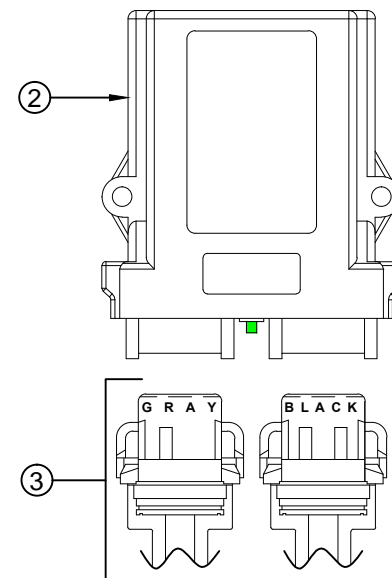
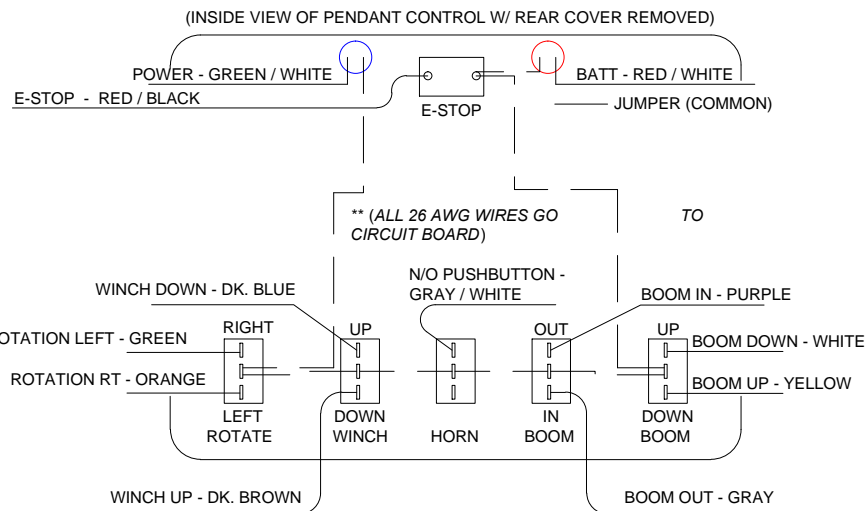
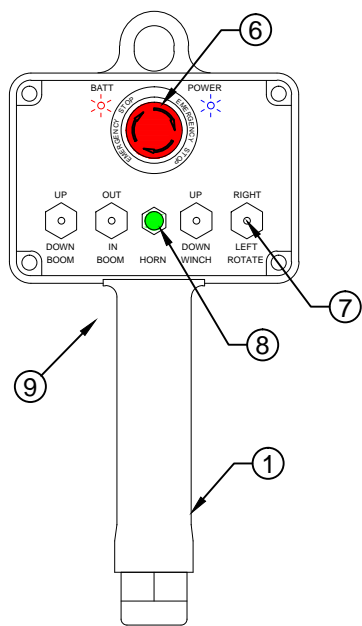
DATE
04-22-24

SUPERSEDES

SECTION
C400

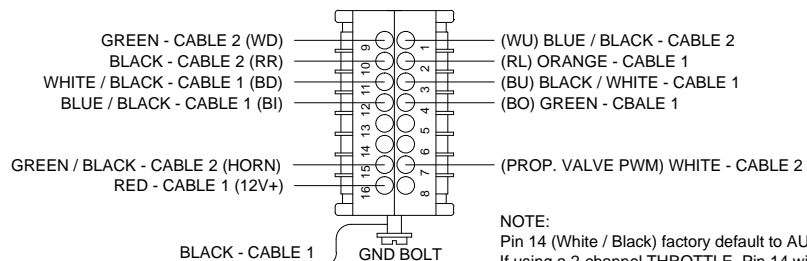
28841

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

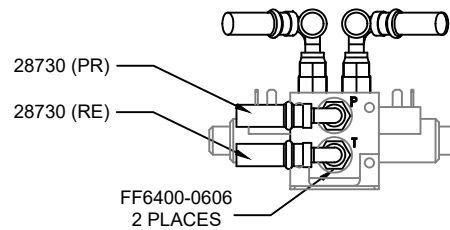
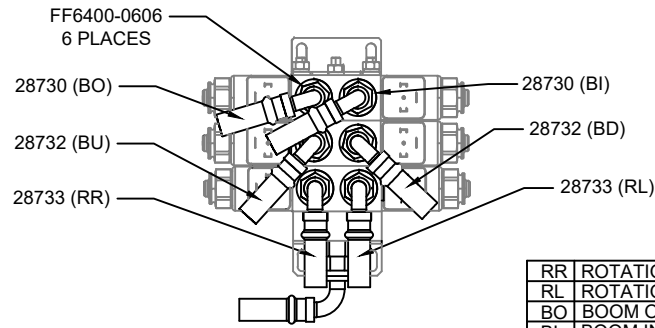
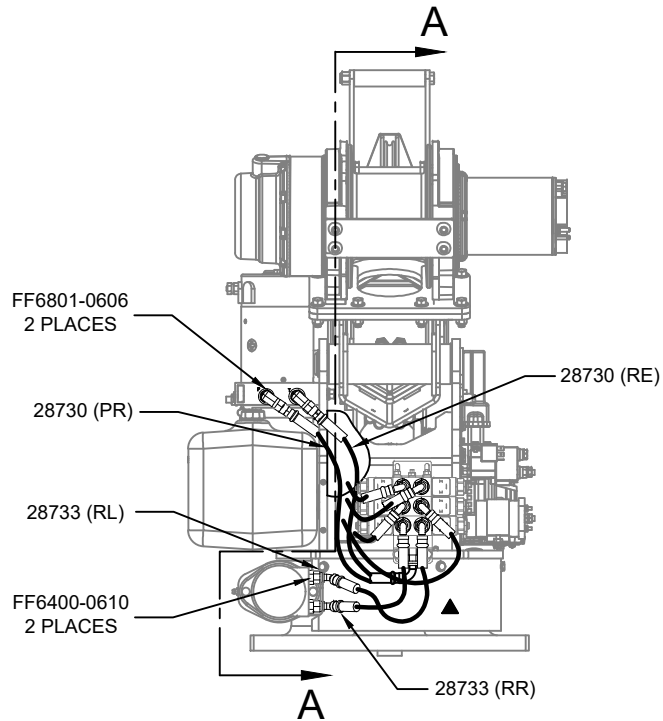
DATE
 09-04-25B

SUPERSEDES
 03-11-19A

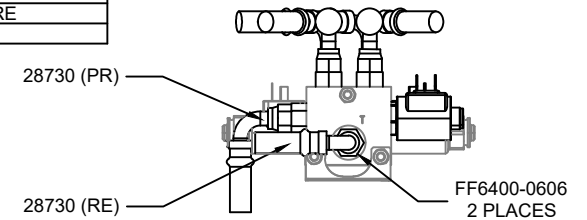
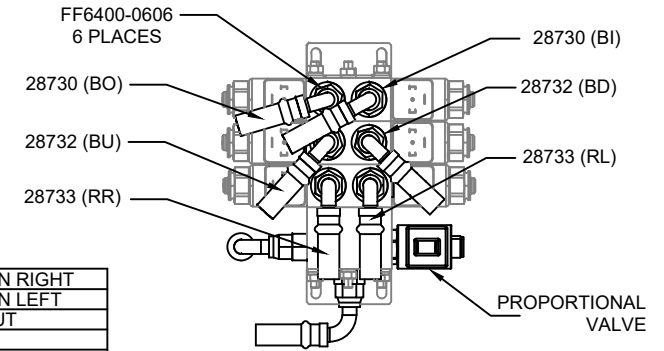
SECTION
 C400

23786

HYDRAULIC COMPONENTS DRAWING

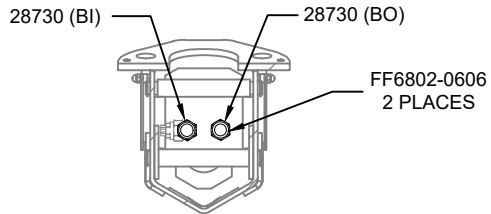


RR	ROTATION RIGHT
RL	ROTATION LEFT
BO	BOOM OUT
BI	BOOM IN
BU	BOOM UP
BD	BOOM DOWN
PR	PRESSURE
RE	RETURN

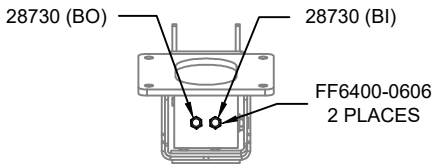


NON-PROPORTIONAL

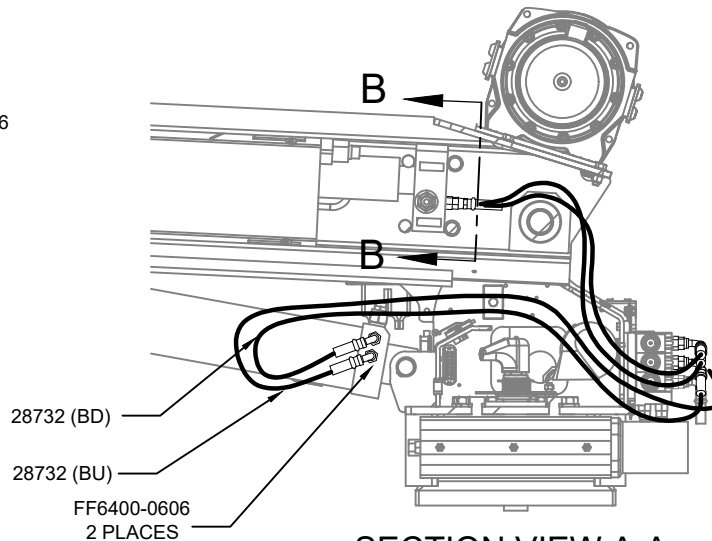
PROPORTIONAL



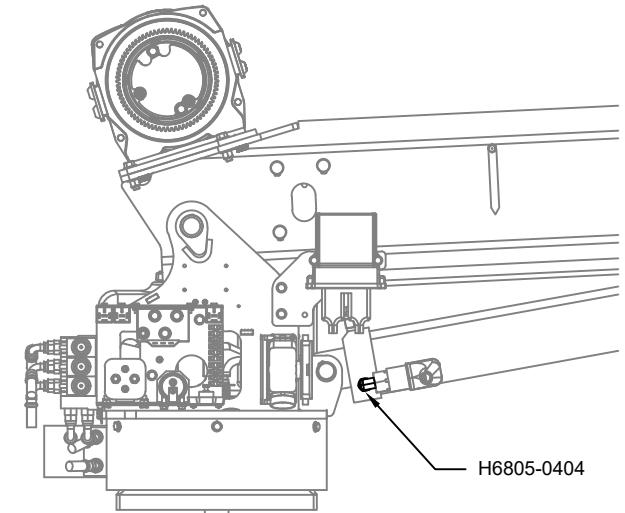
SECTION VIEW B-B
20' BOOM



SECTION VIEW B-B
16' BOOM



SECTION VIEW A-A



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
HYDRAULIC COMPONENTS DRAWING

45**E/40**E/3516E

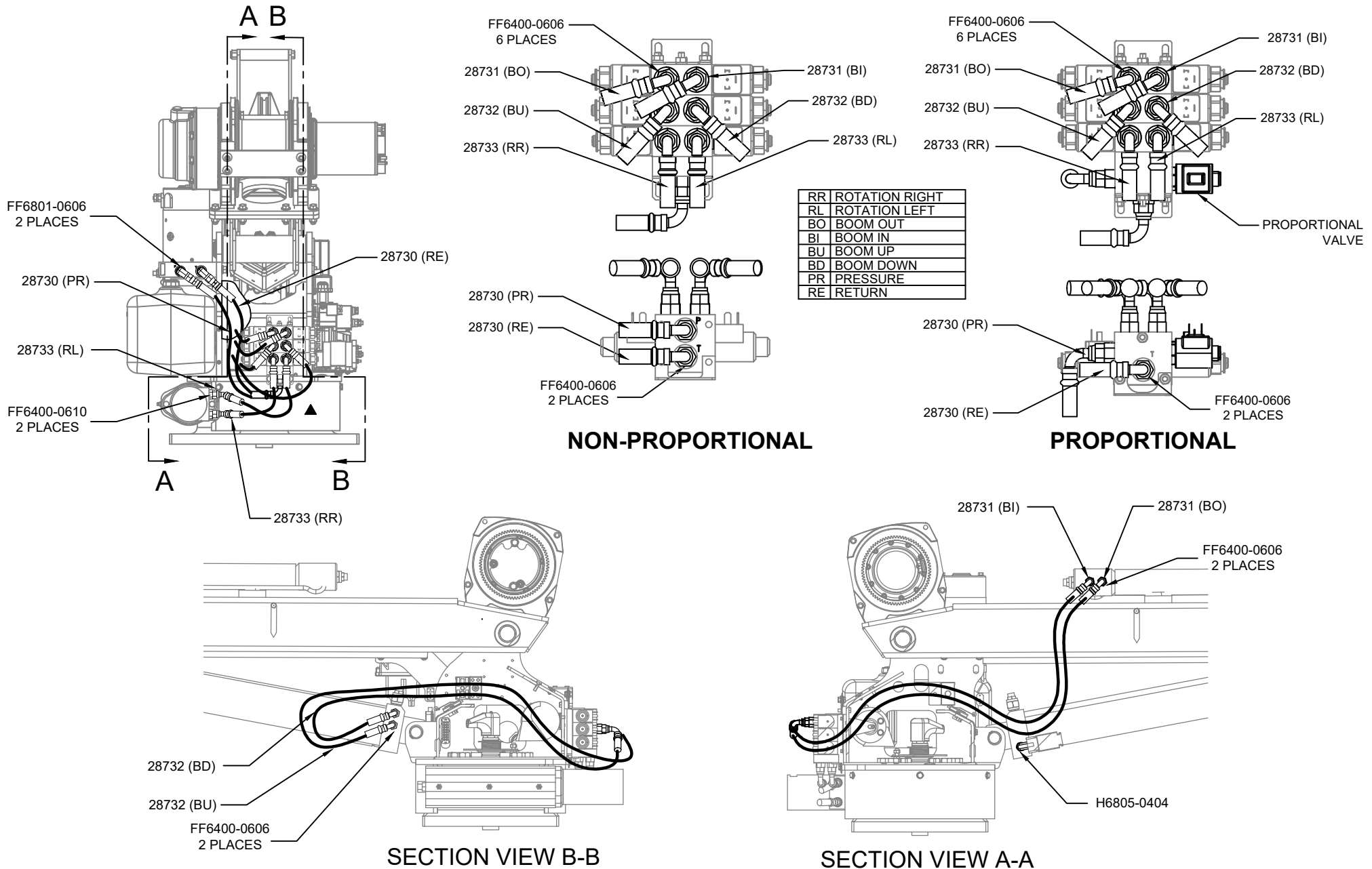
DATE
05-01-26B

SUPERSEDES
03-06-25A

SECTION
C400

28838

HYDRAULIC COMPONENTS DRAWING



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
HYDRAULIC COMPONENTS DRAWING

3215E/3515E

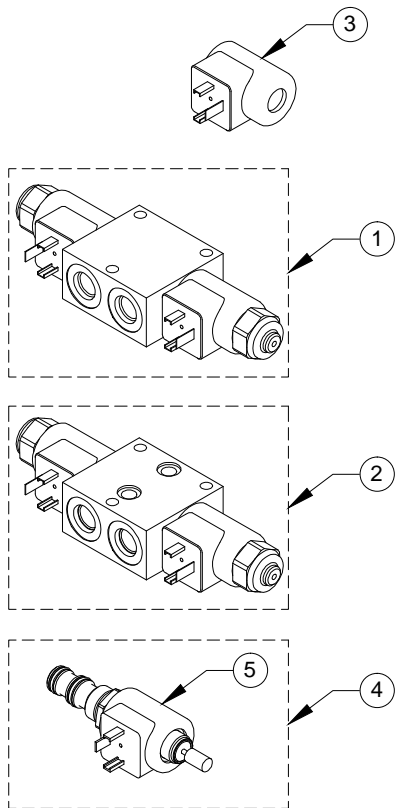
DATE
05-01-26A

SUPERSEDES
10-17-24

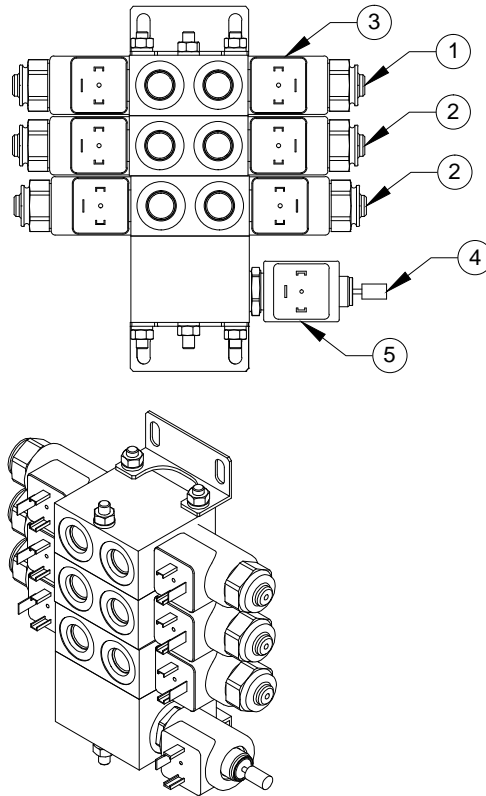
SECTION
C400

28980

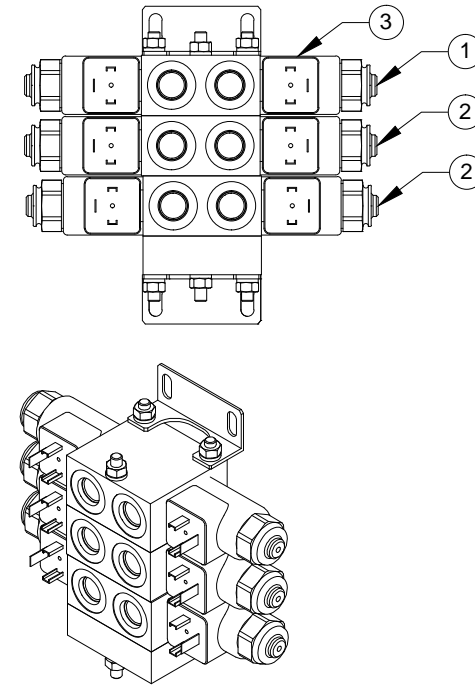
28800 / 28801 / 28805 VALVE ASSY REPLACEMENT PARTS



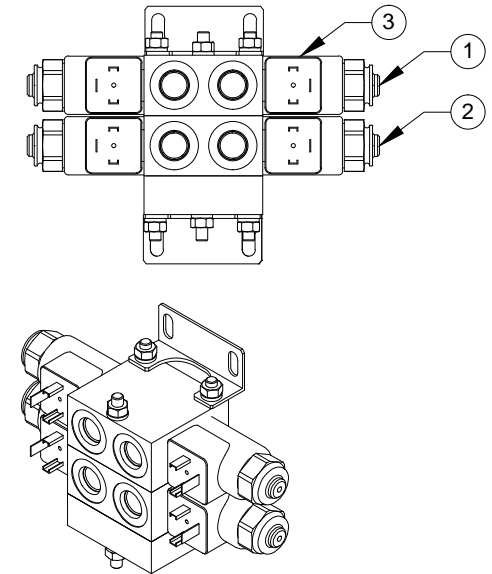
28800
3-SPOOL
PROPORTIONAL



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

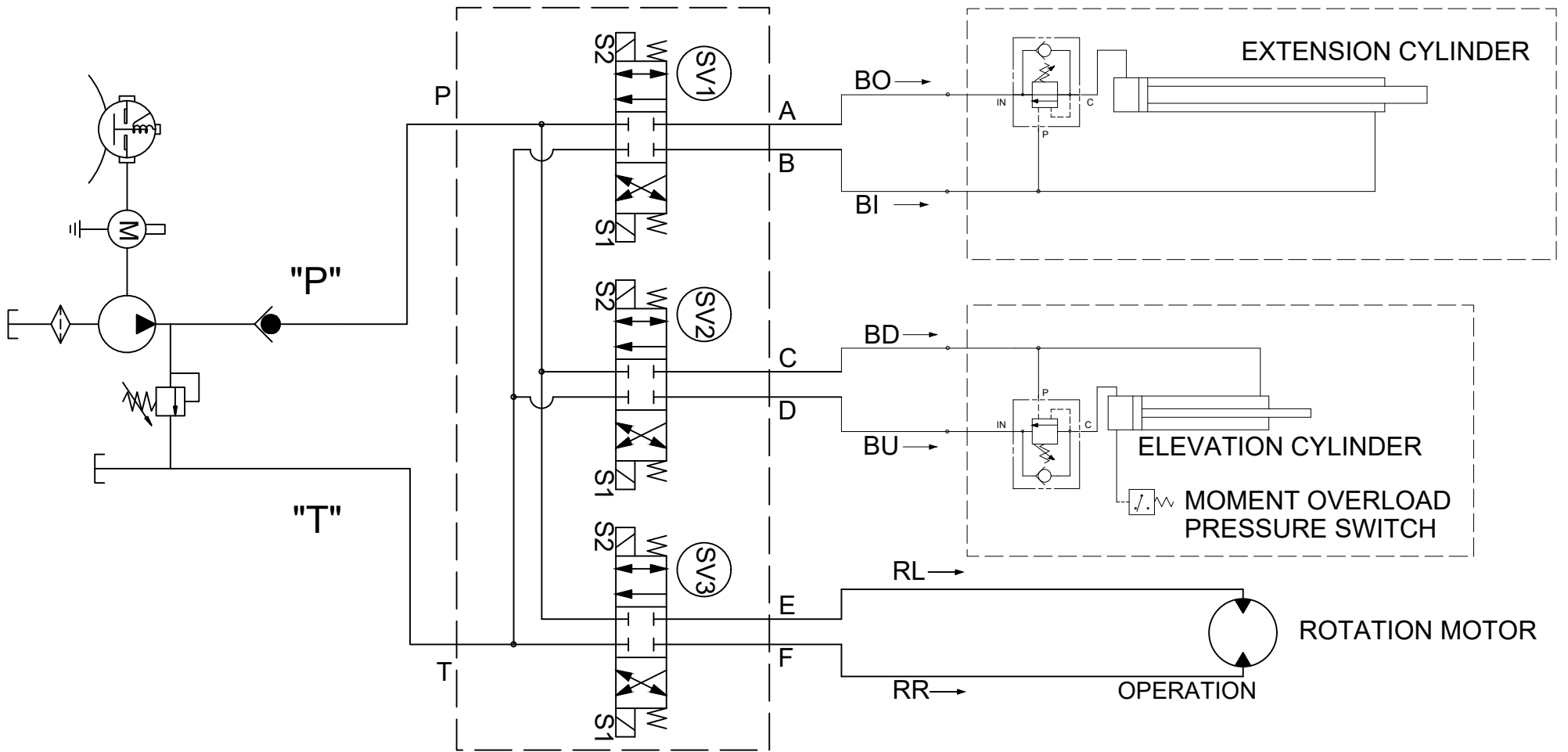
ET CRANES

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

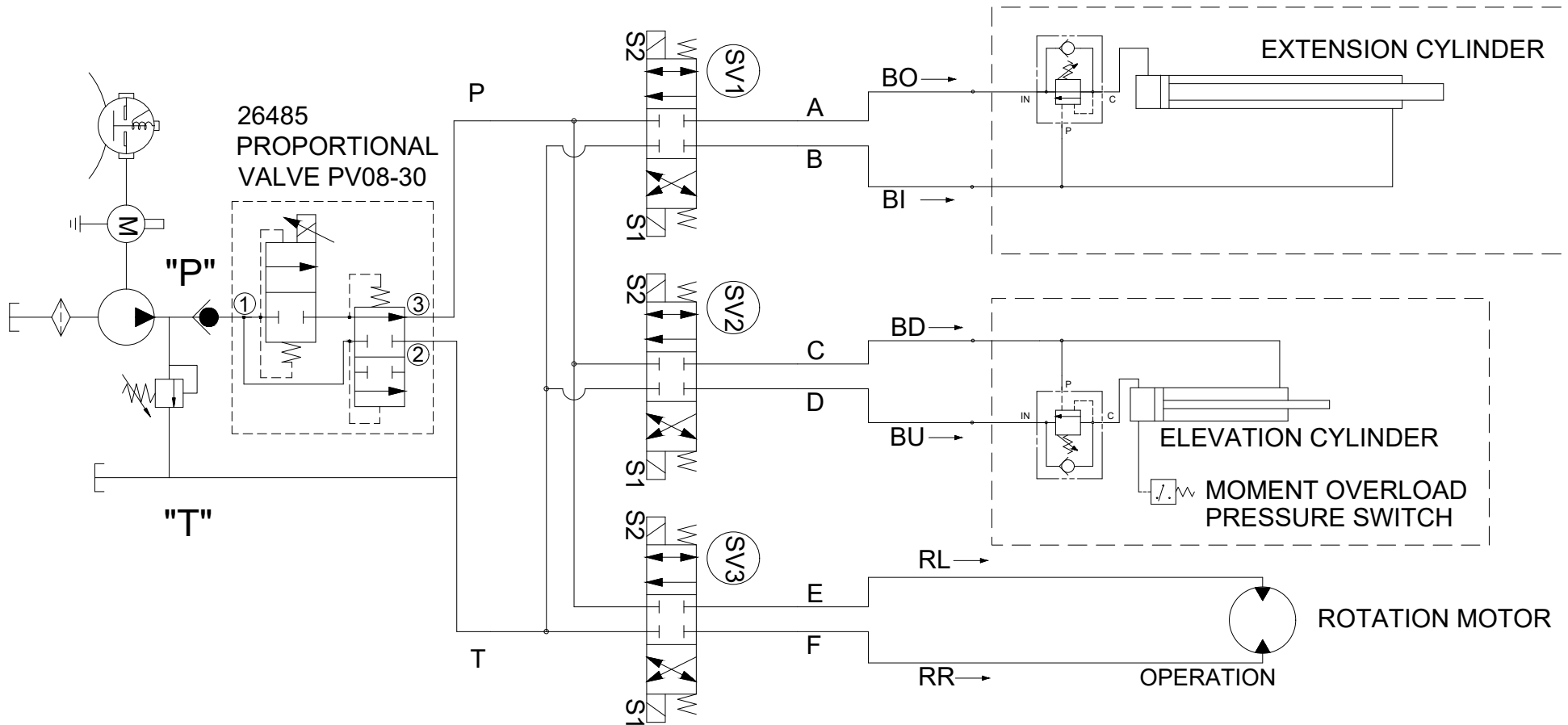
TITLE
 HYDRAULIC SYSTEM DIAGRAM

ET CRANES, NON-PROPORTIONAL ▲

DATE
 08-11-25A C400

SUPERSEDES
 10-03-24

28964



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

DATE
08-11-25A SECTION
C400

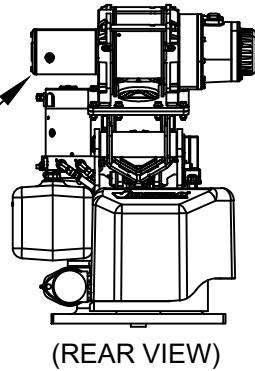
SUPERSEDES
09-13-24

28945

21556 WINCH REPLACEMENT PARTS

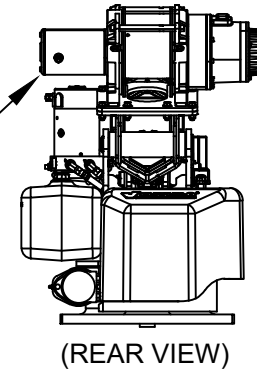
WARN DC1600

MOTOR ON LEFT
WHEN VIEWED
FROM REAR



COMEUP GTD-2200

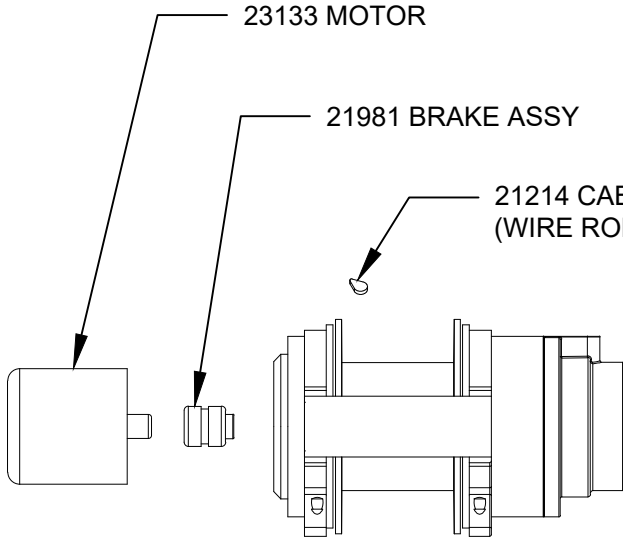
MOTOR ON LEFT
WHEN VIEWED
FROM REAR



23133 MOTOR

21981 BRAKE ASSY

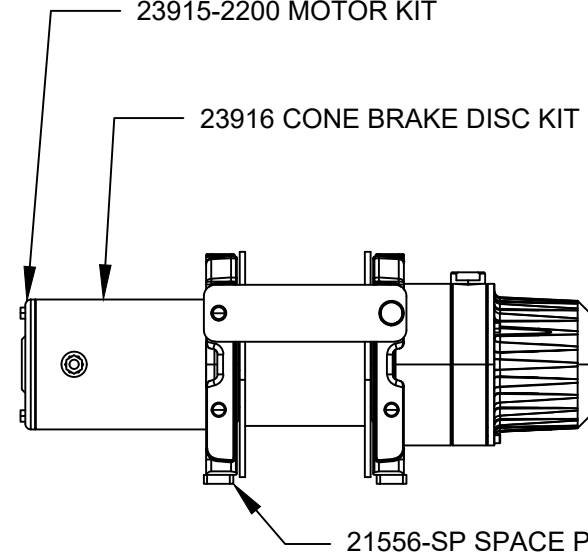
21214 CABLE WEDGE
(WIRE ROPE ANCHOR)



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

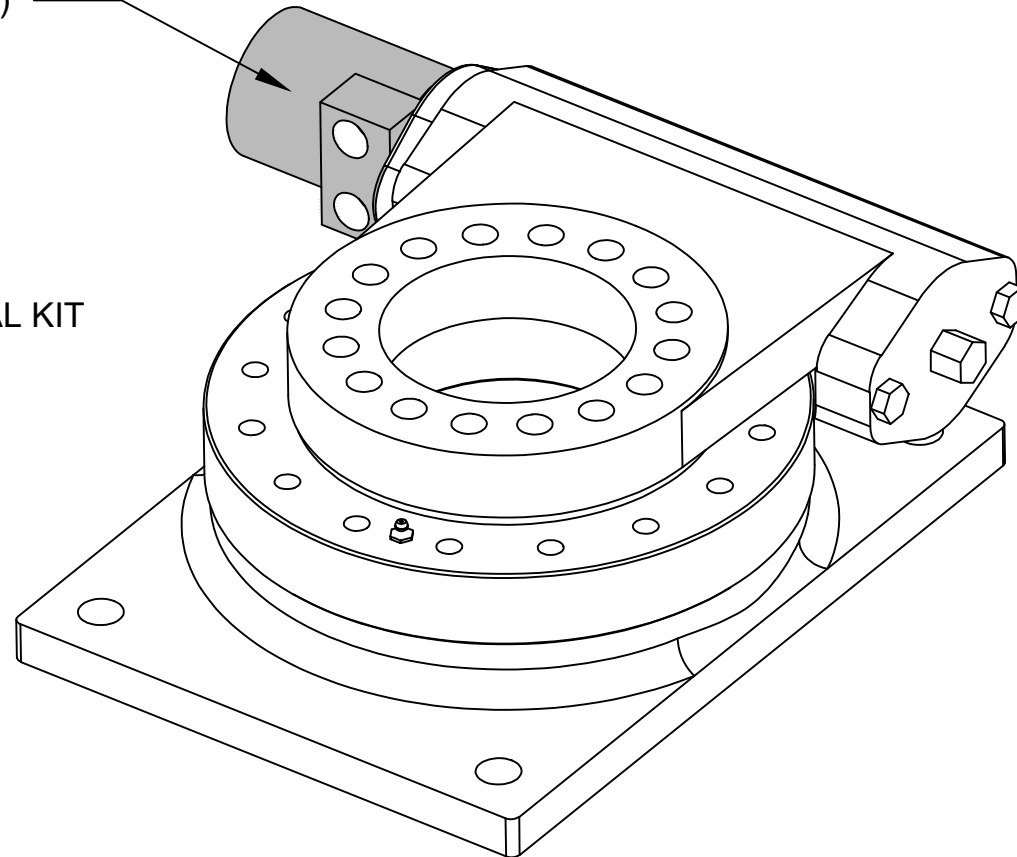
C400

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

-

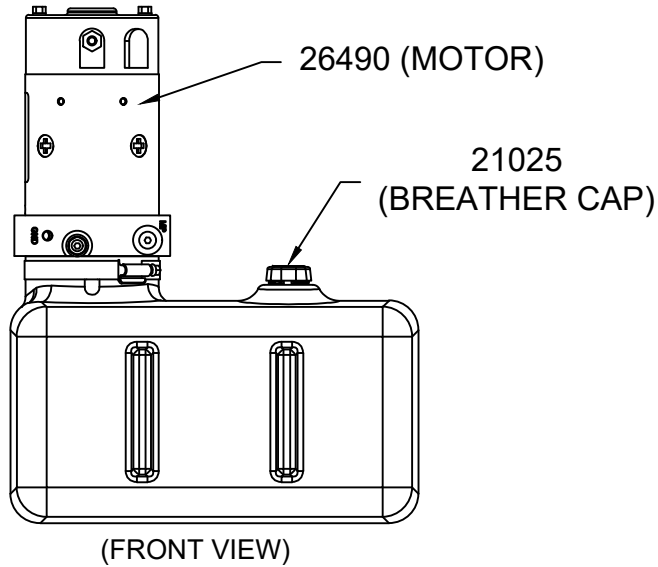
SECTION

C400

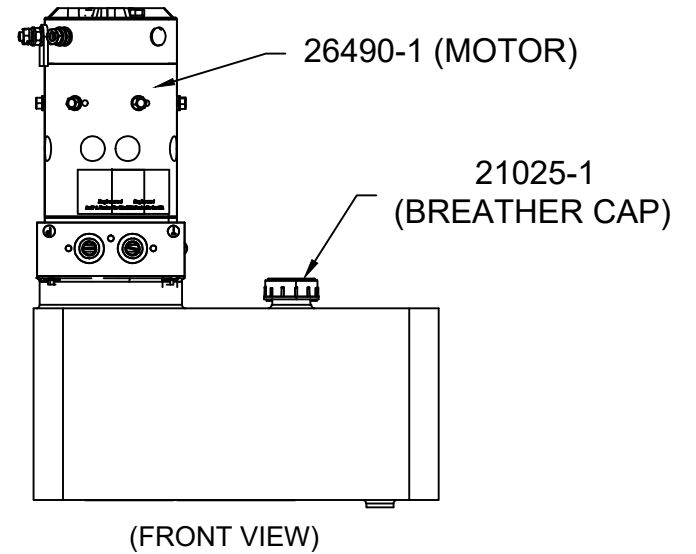
28847

28720 HYD. POWER UNIT REPLACEMENT PARTS

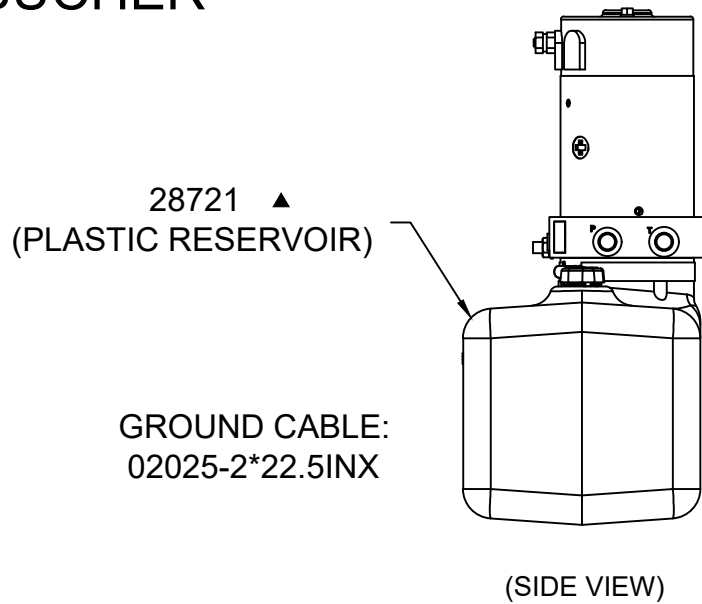
BUCHER



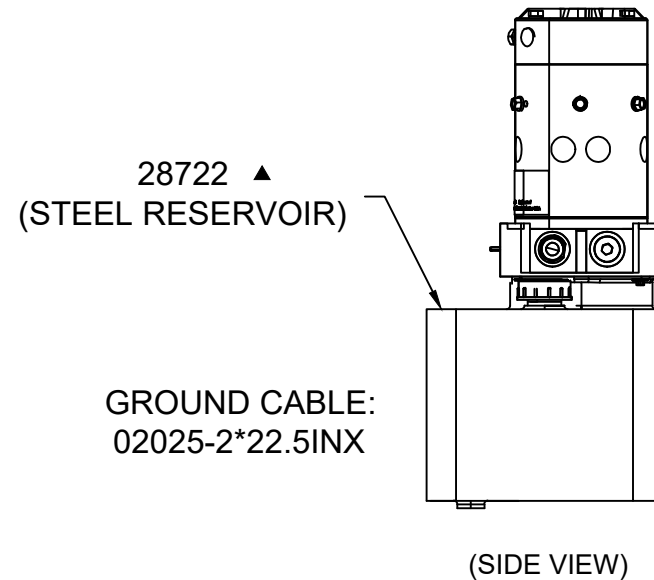
KTI



BUCHER



KTI



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

HYDRAULIC POWER UNIT REPLACEMENT PARTS

ET CRANES

DATE

03-03-26B

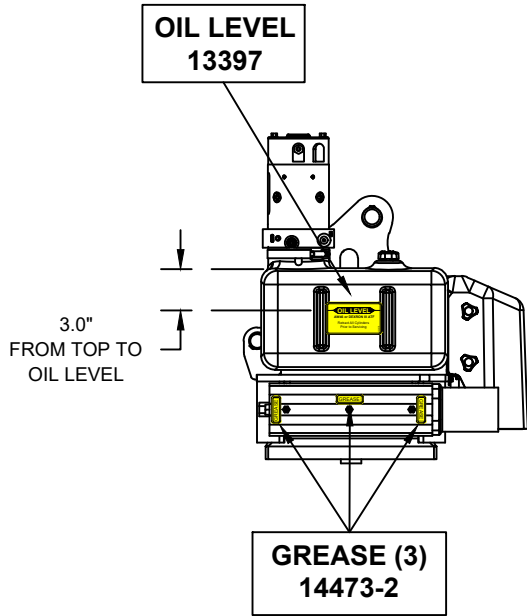
SUPERSEDES

09-23-25B

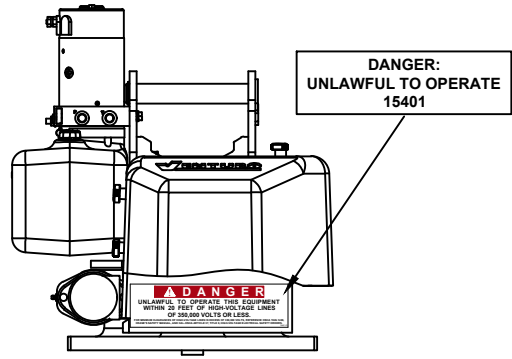
SECTION

C400

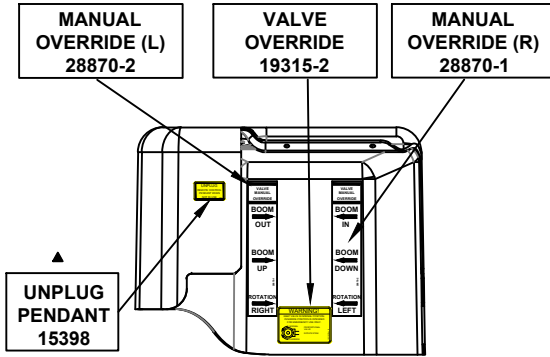
28848



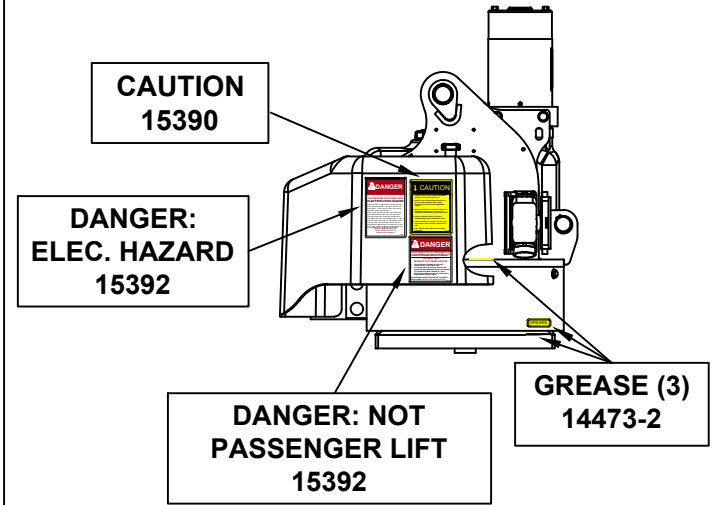
LEFT



BACK

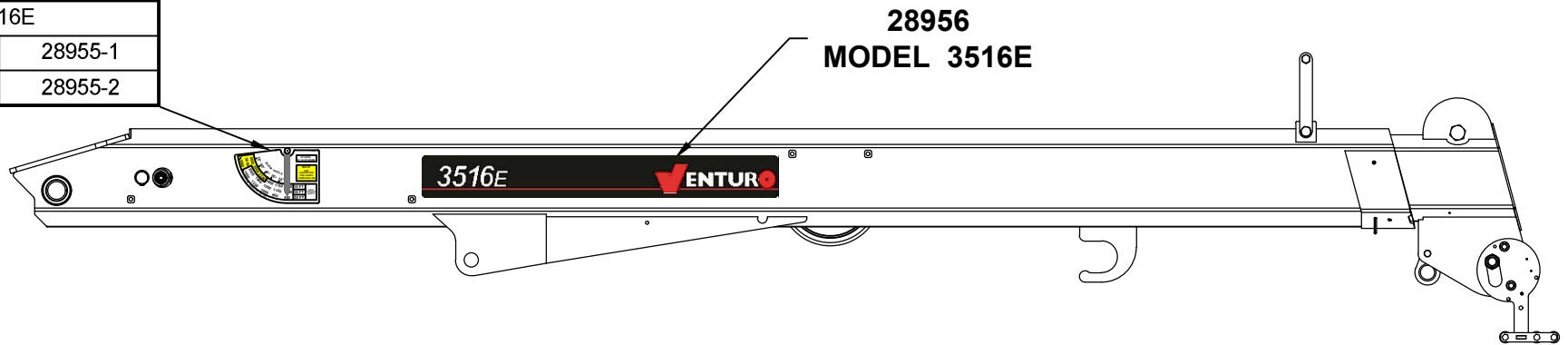


INSIDE THE COVER



RIGHT

CAPACITY DECALS	
3516E	
RIGHT	28955-1
LEFT	28955-2



BOOM



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
DECAL PLACEMENT

3516E

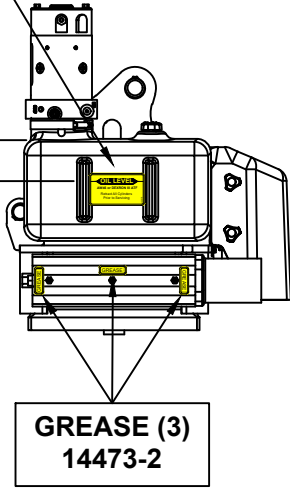
DATE
07-22-25A C400

SUPERSEDES
09-17-24

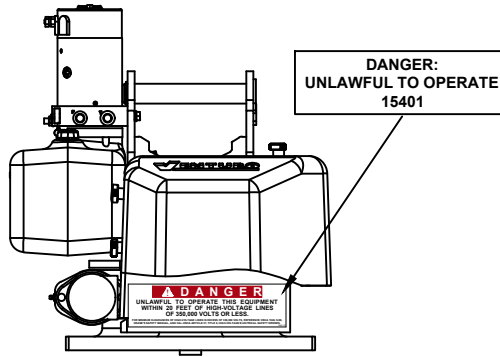
SECTION
28947

OIL LEVEL
13397

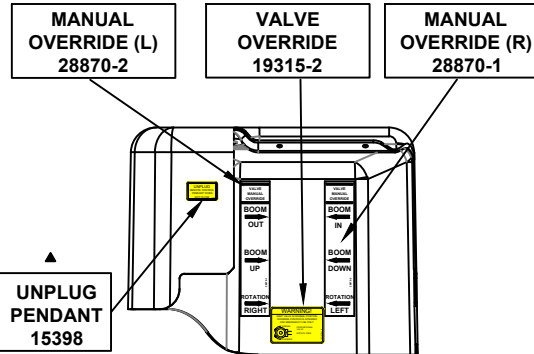
3.0"
FROM TOP TO
OIL LEVEL



LEFT



BACK



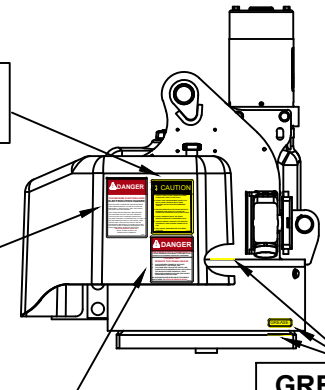
INSIDE THE COVER

CAUTION
15390

**DANGER:
ELEC. HAZARD**
15392

**DANGER: NOT
PASSENGER LIFT**
15392

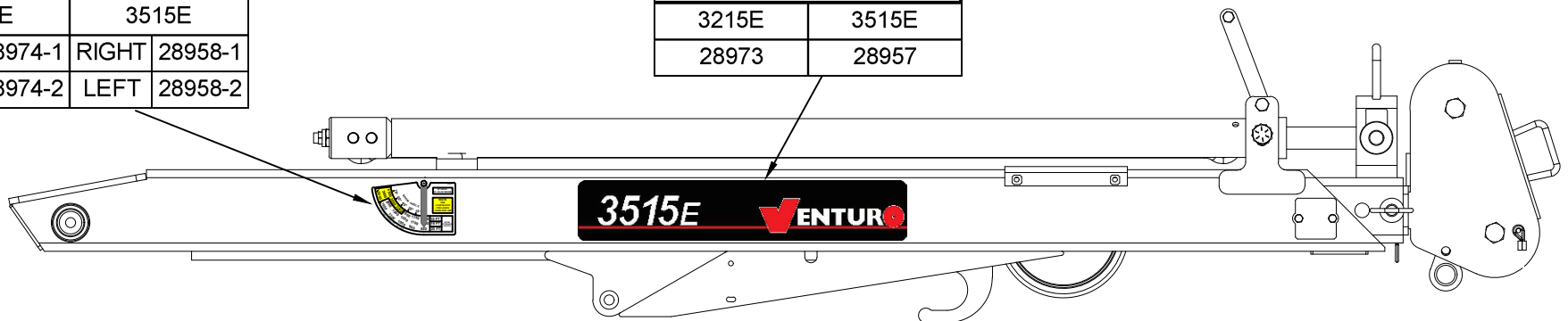
GREASE (3)
14473-2



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 C400

SUPERSEDES
05-19-25A **28965**

28948 FIELD SERVICE LABEL KIT

PART NO.	QTY	DESCRIPTION
16184-1	1	DECAL; HORN RELAY
14473-2	6	DECAL; GREASE
28956	2	DECAL; MODEL 3516E
28955-1	1	DECAL; BOOM CAPACITY, RIGHT, 3516E BOOM
28955-2	1	DECAL; BOOM CAPACITY, LEFT, 3516E BOOM
13397	1	DECAL; OIL LEVEL
28870-1	1	DECAL; DIRECTIONAL VALVE, MANUAL OVERRIDE, RIGHT
28870-2	1	DECAL; DIRECTIONAL VALVE, MANUAL OVERRIDE, LEFT
19315-2	1	DECAL; PROPORTIONAL VALVE MANUAL OVERRIDE
28949	1	IDWG; FIELD SERVICE LABEL KIT
28947	1	IDWG; DECAL PLACEMENT
INST-23233	1	SAFETY MANUAL; VENTURO CRANES
15397	1	KIT; ACCIDENT PREVENTION SIGNS



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
FIELD SERVICE LABEL KIT

DATE
09-17-24

SECTION
C400

3516E

SUPERSEDES
-

28949

FIELD SERVICE LABEL KIT; 3515E

PART NO.	QTY.	DESCRIPTION
16184-1	1	DECAL; HORN RELAY
14473-2	6	DECAL; GREASE
28957	2	DECAL; VENTURO, 3515E
28958-1	1	DECAL; BOOM CAPACITY, RIGHT, 3515E
28958-2	1	DECAL; BOOM CAPACITY, LEFT, 3515E
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
28967	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



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
FIELD SERVICE LABEL KIT

DATE
10-04-24

SECTION
C400

3515E

SUPERSEDES
-

28967



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.

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