

# PARTS & INSTALLATION MANUAL

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## HT45KX-20

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Included in this manual:

### HT45KX-20 (VLC)

- 7,800 lb Hydraulic Telescopic Service Crane
- Venturo Logic Control System w/ Proportional Control
- 20 ft Fully-Powered, Two-Stage, Boom Extension



# HT45KX-20' VLC

INST-24040 - 12/4/2023 (Rev: D3)

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12-00073_VNT1	WARRANTY PAGE





**SECTION 100**

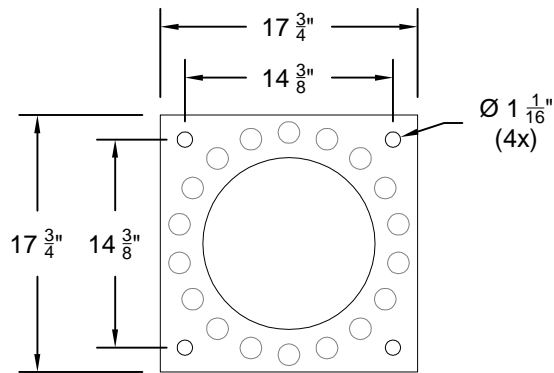
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**&**

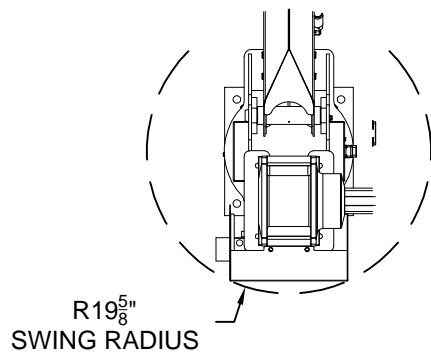
**SPECIFICATIONS**



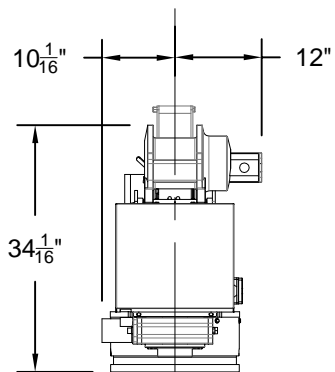
VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO



BASE MOUNTING DIMENSIONS

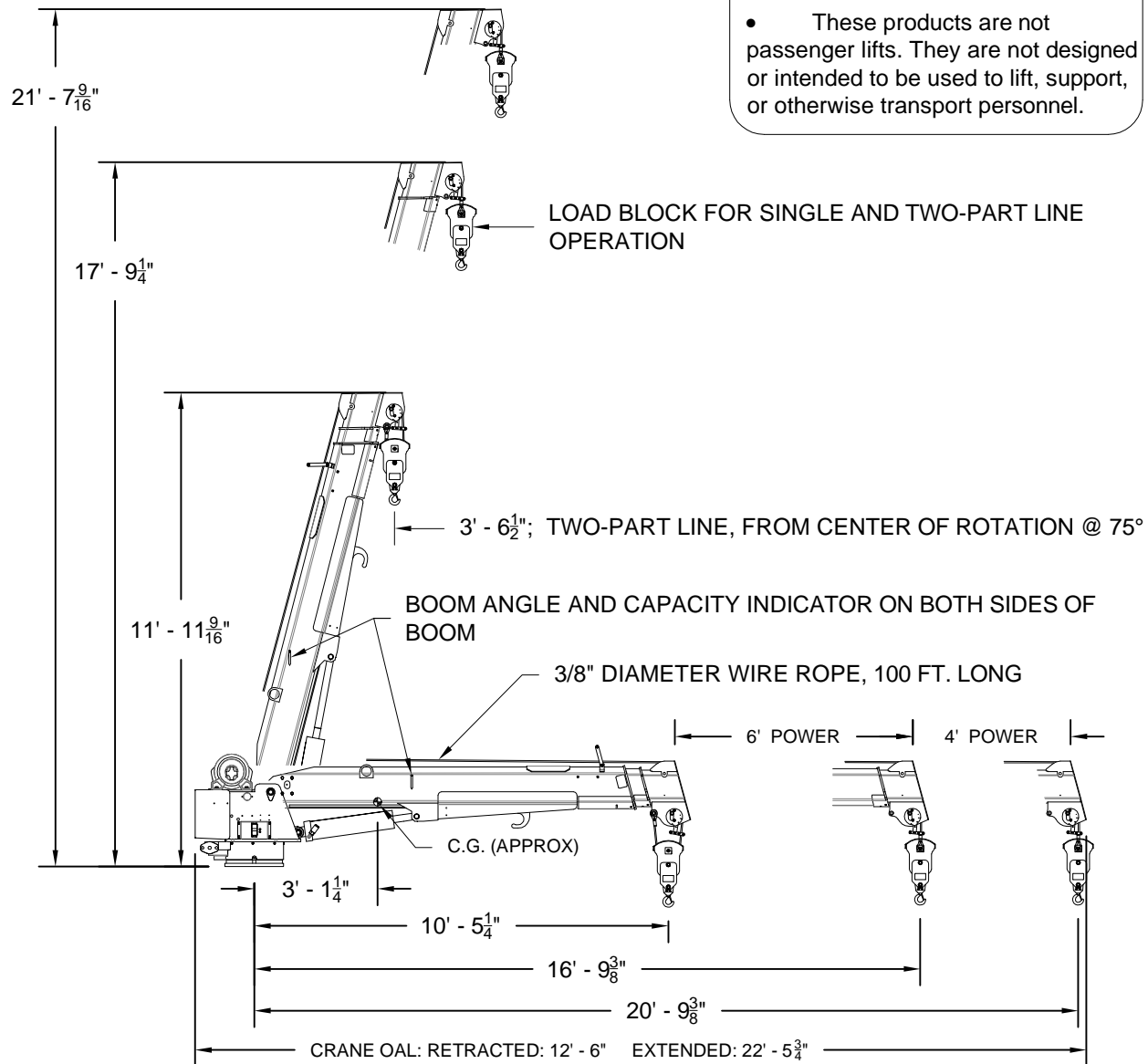


R19<sup>5</sup>/<sub>8</sub>" SWING RADIUS



CENTER OF ROTATION

THIS SECTION SCALED 2:1 FOR CLARITY



**! 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

HT45KX-20' BOOM

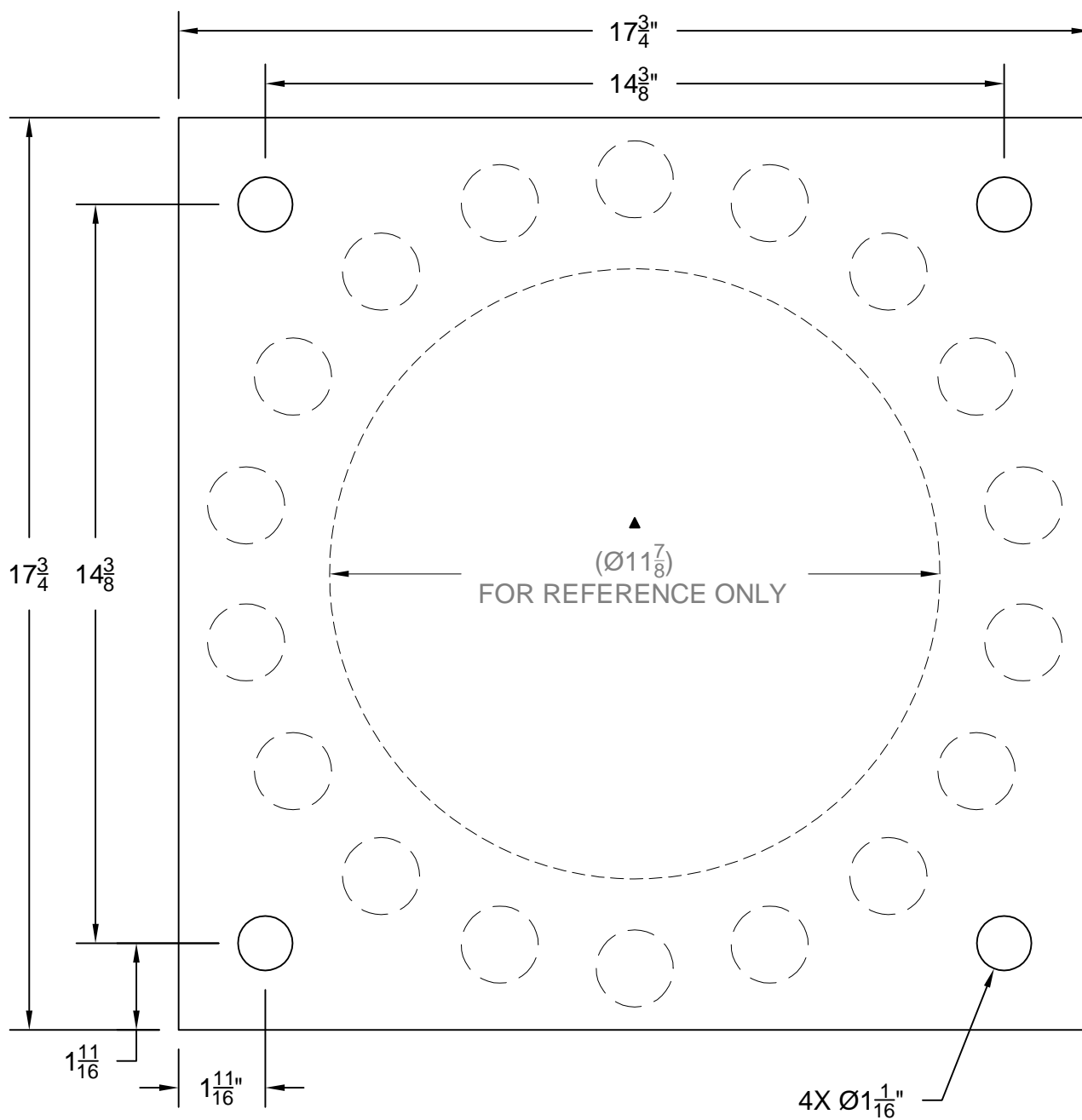
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SUPERSEDES  
-

SECTION  
C100

24041

# HT45KX VLC SERIES MOUNTING DIMENSIONS



▲ NOTE: A SIX INCH (6") CENTER HOLE IS SUGGESTED FOR HOSE CLEARANCE.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
MOUNTING DIMENSIONS

DATE  
06-20-19B

SECTION  
C100

HT45KX VLC SERIES

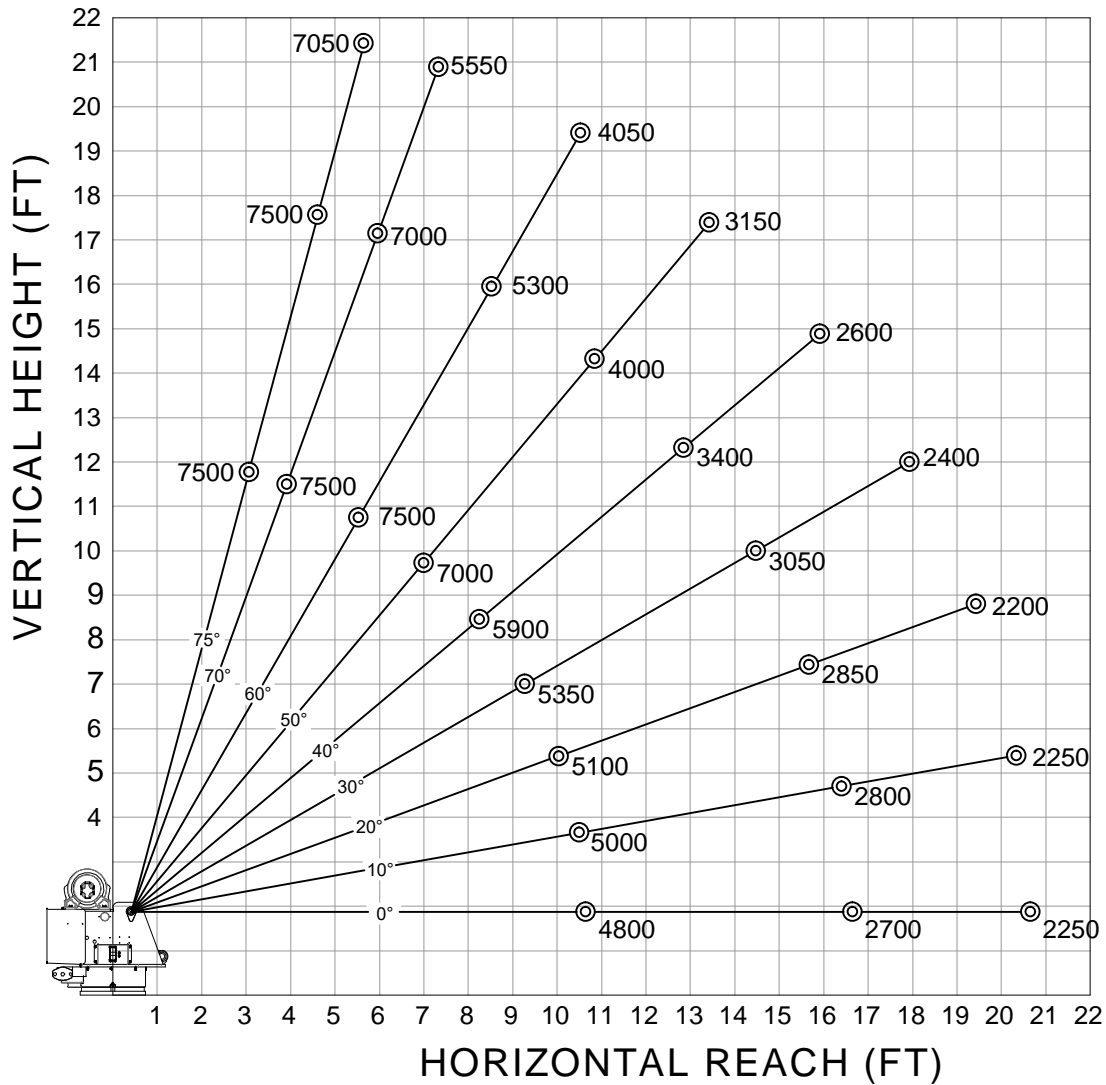
SUPERSEDES  
04-26-19A

24246

HT45KX, 10' - 16' - 20' BOOM, WITH VENTURO LOGIC CONTROL SYSTEM  
AND 7,500 LB CAPACITY

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 3000 LBS

2-PART LINE FOR LOADS OF 3000 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 51 LBS



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TITLE	DATE	SECTION
MAXIMUM LOAD CAPACITY	05-02-22A	C100
HT45KX-20', VLC, 7,500 LB CAP.	SUPERSEDES 05-13-19	24042

DATE	SECTION
05-02-22A	C100
SUPERSEDES 05-13-19	24042

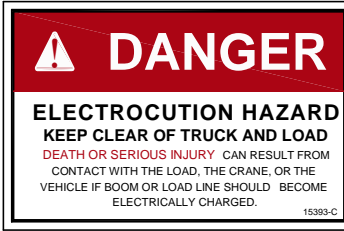
# SECTION 150

## SAFETY

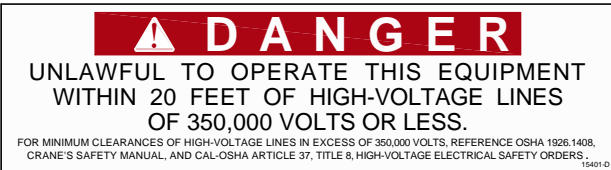


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# VEHICLE & CRANE MOUNTED ELECTRICAL HAZARD SIGN APPLICATION & INFORMATION



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



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



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

# CRANE SAFETY AND HAZARDS

## HT SERIES CRANES

### **CAUTIONS**

1. INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY.
2. DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE 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.
6. UNPLUG PENDANT AND DISENGAGE PTO SYSTEM WHEN CRANE 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**

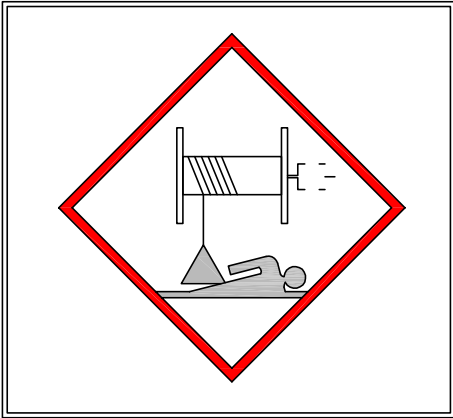
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.
- YOU MUST MAINTAIN A CLEARANCE OF AT LEAST 20 FEET BETWEEN ANY PART OF THE CRANE, LOADLINE, OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 350 kV (SEE NEW CHART). ADDITIONAL CLEARANCES ARE REQUIRED FOR VOLTAGES IN EXCESS OF 50,000 VOLTS. REFER TO DRAWING 15394 FOR ADDITIONAL INFORMATION.
- **DEATH OR SERIOUS INJURY** WILL RESULT FROM CONTACT OR INADEQUATE CLEARANCE.



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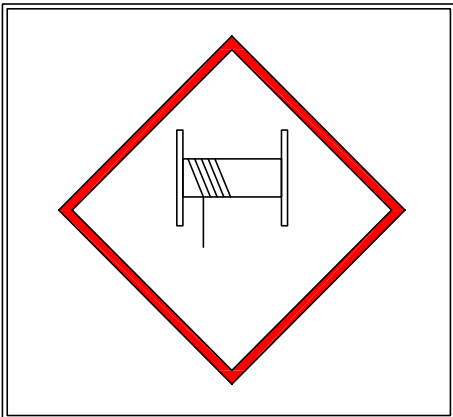
TITLE	DATE	SECTION
CRANE SAFETY & HZRDS	02-21-14D	C150
HYDRAULIC CRANES	SUPERSEDES 04-04-12C	920612

# WINCH SAFETY WARNINGS



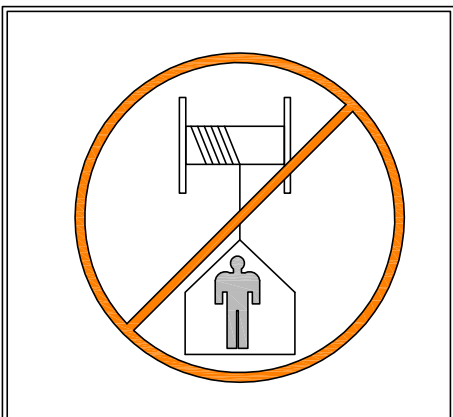
**DANGER**

- DO NOT DISENGAGE WINCH UNDER LOAD



**DANGER**

- THE LAST [5] (DEAD) WRAPS OF WIRE ROPE MUST BE LEFT ON TO ASSIST WIRE ROPE CLAMP IN HOLDING LOAD



**WARNING**

- Winches are not to be used to lift, support, or otherwise transport personnel



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TITLE  
**WINCH SAFETY**  
HT CRANES

DATE  
02-21-14D  
SUPERSEDES  
04-04-12C

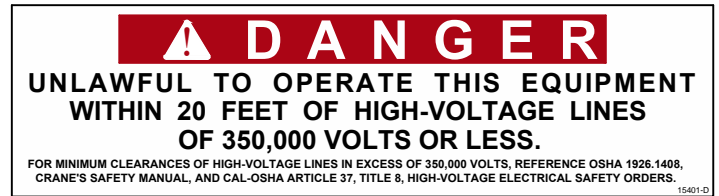
SECTION  
C150  
**19217**



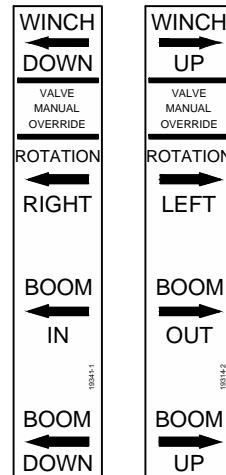
PART NO.: 15398  
 DECAL: UNPLUG REMOTE CONTROL  
 FUNCTION: To inform the operator to unplug remote control when not being used.  
 QUANTITY: 1  
 PLACEMENT: Right side of housing.



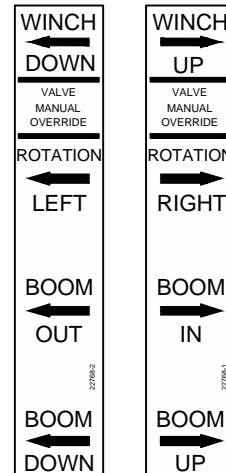
PART NO.: 15401  
 DECAL: UNLAWFUL TO OPERATE  
 FUNCTION: To inform the operator of proper operation in vicinity of power lines.  
 QUANTITY: 1  
 PLACEMENT: Right side of housing.



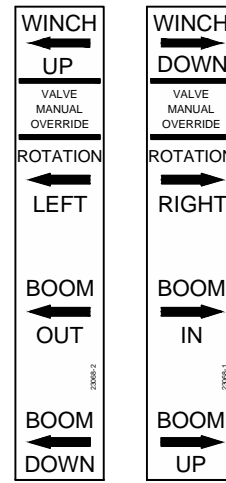
PART NO.: 19314-1 [LEFT] & -2 [RIGHT]  
 DECAL: MANUAL OVERRIDE (NON-PROP)  
 FUNCTION: To inform the operator of manual override locations.  
 QUANTITY: 1 EACH  
 PLACEMENT: Inside of rear cover.



PART NO.: 22768-1 [LEFT] & -2 [RIGHT]  
 DECAL: MANUAL OVERRIDE (PROPORTIONAL)  
 FUNCTION: To inform the operator of manual override locations.  
 QUANTITY: 1  
 PLACEMENT: Inside of rear cover.



▲  
 PART NO.: 23068-1 [LEFT] & -2 [RIGHT]  
 DECAL: MANUAL OVERRIDE  
 (HT66KXX w/ TH-2 Winch ONLY)  
 FUNCTION: To inform the operator of  
 manual override locations.  
 QUANTITY: 1  
 PLACEMENT: Inside of rear cover.



PART NO.: 19315-1  
 DECAL: SHUT OFF (NON-PROPORTIONAL)  
 FUNCTION: To show the operator how to  
 override master shut off valve.  
 QUANTITY: 1  
 PLACEMENT: Inside rear cover.

**WARNING!**

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

**NON-PROPORTIONAL  
 VALVE**

**PUSH IN STEM  
 AND ROTATE**

19315-1 Rev B

PART NO.: 19315-2  
 DECAL: MANUAL OVERRIDE (PROPORTIONAL)  
 FUNCTION: To show the operator how to  
 override proportional valve.  
 QUANTITY: 1  
 PLACEMENT: Inside rear cover.

**WARNING!**

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

**PROPORTIONAL  
 VALVE**

**ROTATE STEM**

19315-2 Rev B

PART NO.: 20834  
 DECAL: MANUAL OVERRIDE NOTICE  
 FUNCTION: To inform the operator of  
 manual override locations.  
 QUANTITY: 1  
 PLACEMENT: Inside rear cover.

**NOTICE**

FOR MANUAL OVERRIDE  
 OF CRANE FUNCTIONS,  
 REMOVE REAR COVER  
 AND SEE INSTRUCTIONS  
 INSIDE.

20834-B

PART NO.: 15390

DECAL: CAUTION - INSPECT VEHICLE & CRANE

FUNCTION: To inform the operator of key operating requirements.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



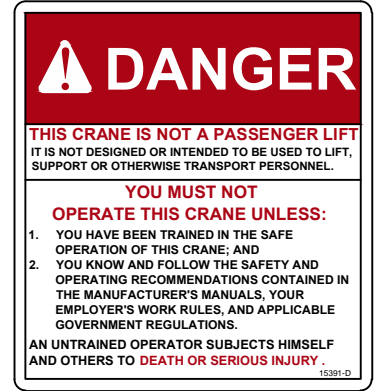
PART NO.: 15391

DECAL: DANGER - NOT PASSENGER LIFT

FUNCTION: To inform the operator not to lift, support or transport personnel, and to ensure that crane operator is adequately trained.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



PART NO.: 15392

DECAL: DANGER - ELECTROCUTION HAZARD

FUNCTION: To inform the operator that the machine (crane) represents an electrocution hazard should it come too near or in contact with electrical voltage source.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



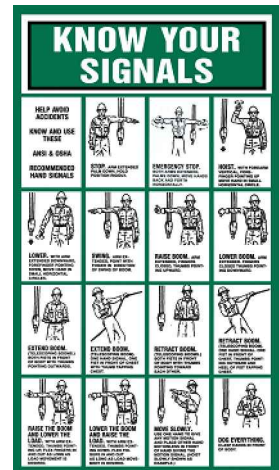
PART NO.: 22499

DECAL: KNOW YOUR SIGNALS

FUNCTION: To inform the operator of proper signals.

QUANTITY: 1

PLACEMENT: Right side of rear cover.



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TITLE  
DECAL DRAWING & LIST

HT40/50/60/66 SERIES

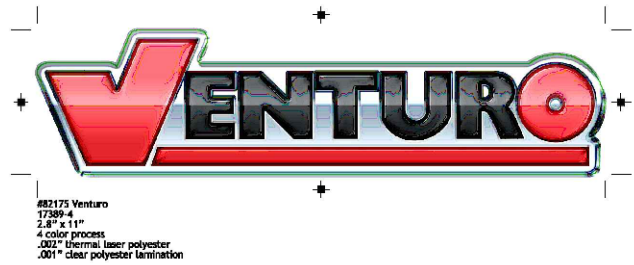
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SUPERSEDES  
02-21-14E

SECTION  
C150

22181C

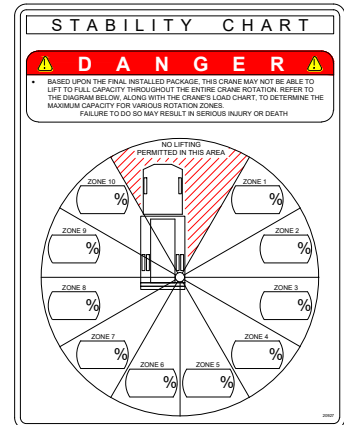
PART NO.: 17389  
 DECAL: MEDIUM VENTURO  
 FUNCTION: Branding.  
 QUANTITY: 1  
 PLACEMENT: Rear cover.



PART NO.: 28525  
 DECAL: MODEL HT45KX  
 FUNCTION: Branding.  
 QUANTITY: 2  
 PLACEMENT: Boom.



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.



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TITLE  
**DECAL DRAWING & LIST**  
 HT45KX

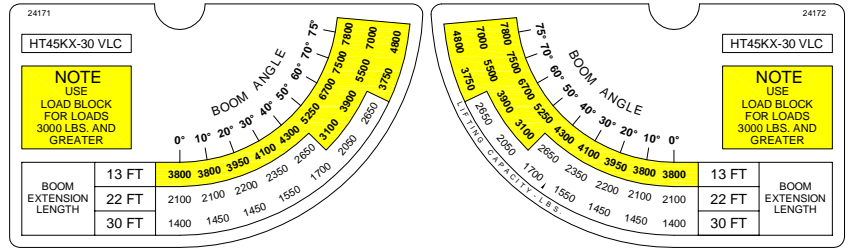
DATE  
 06-19-23  
 SUPERSEDES  
 -

SECTION  
 C150  
**28526**

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 24171 & 24172  
 DECAL: HT45-30' CRANE CAPACITY (VLC)  
 FUNCTION: To show the operator the operating capacities of the crane  
 QUANTITY: 1 each  
 PLACEMENT: Right side of boom, Left side of boom



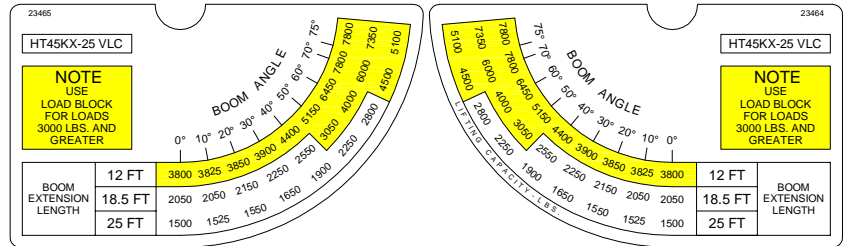
24171

24172

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 23464 & 23465  
 DECAL: HT45-25' CRANE CAPACITY (VLC)  
 FUNCTION: To show the operator the operating capacities of the crane  
 QUANTITY: 1 each  
 PLACEMENT: Right side of boom, Left side of boom



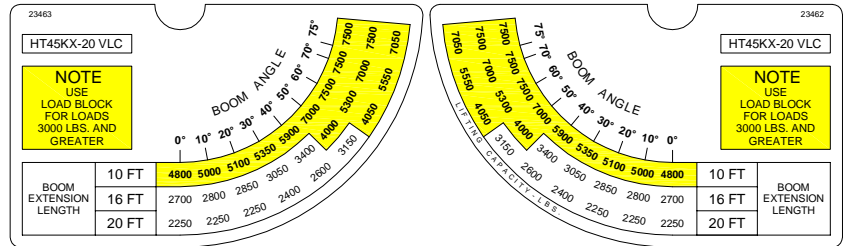
23465

23464

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 23462 & 23463  
 DECAL: HT45-20' CRANE CAPACITY (VLC)  
 FUNCTION: To show the operator the operating capacities of the crane  
 QUANTITY: 1 each  
 PLACEMENT: Right side of boom, Left side of boom



23463

23462

S P A C E I N T E N T I O N A L L Y L E F T B L A N K



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TITLE  
**BOOM CAPACITY DECALS**  
 HT45 SERIES

DATE  
 06-29-21D  
 SUPERSEDES  
 05-28-20C

SECTION  
 C150  
**23749**

▲

PART NO.: 23742

DECAL: VLC, 2.94" x 6.00"

FUNCTION: To show that the crane is equipped with Venturo Logic Controls

QUANTITY: 2 each

PLACEMENT: Each side of Housing



▲

S P A C E I N T E N T I O N A L L Y L E F T B L A N K

S P A C E I N T E N T I O N A L L Y L E F T B L A N K

S P A C E I N T E N T I O N A L L Y L E F T B L A N K



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TITLE

VLC DECALS

DATE

02-06-19A

SECTION

C150

VLC SERIES CRANES

SUPERSEDES

10-11-18

23748

# SECTION 200

# INSTALLATION



VENCO VENTURO INDUSTRIES LLC  
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# CRANE INSTALLATION, PAGE 1

## HT45-20' VLC SERIES

### BODY REINFORCEMENT

The truck body must be reinforced and outriggers provided to withstand the combined loads resulting from lifting and the weight of the crane and boom.

The maximum combined overturning moment for the HT45KX is 45,000 ft. lbs.

The maximum vertical load for the HT45KX with a 20 ft. boom is 9400 lbs.

### CRANE MOUNTING

The crane base plate or mounting pedestal must be bolted to the body reinforcing plate with four [4] grade eight (8) bolts of 1" dia. with either coarse or fine threads, torqued to 682 foot pounds. A 6" dia. hose clearance hole must be cut in this plate to allow the hoses to swing and coil freely.

### ROTATION POSITIONING

The HT cranes are shipped with the boom rotated as shown on drawing 20051. It can be in any position that pleases the user since the boom can always reach the storage and travel position by rotating one way or the other.

### HYDRAULIC CONNECTIONS

The crane is furnished with a pressure, return and a case drain hoses that come down through the center of the housing. The pressure and return hoses connect to two hydraulic swivels to prevent damage while rotating the crane right and left.



# C A U T I O N



- THE CASE DRAIN HOSE MUST BE A DEDICATED RETURN HOSE UNRESTRICTED TO TANK / RESERVOIR. DO NOT 'T' INTO ANOTHER EXISTING RETURN HOSE OR DAMAGE TO THE HYD. WINCH FROM BACK-PRESSURE WILL OCCUR. BACK-PRESSURE IN EXCESS OF 200 PSI WILL DAMAGE THE HYD. WINCH.

Arrange the pressure & return hoses in the compartment below the crane so that they are connected in a relaxed position while the crane is at the midpoint of the 400 degree rotation range -- regardless of the final position of the boom during storage/travel. See installation pages 22913 for more information on hose connections.

NOTE: If you purchased one of Venturo's hydraulic packages (P/N 19294-X.XXX), you will have received our pressure gauge kit. This kit includes a gauge, hose and bulkhead "T" fitting and should be installed on the main pressure hose.



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TITLE

CRANE INSTALLATION

DATE

05-14-19

SECTION

C200

HT45-20' VLC SERIES

SUPERSEDES

-

24047



# CRANE INSTALLATION, PAGE 2

## HT45/55 VLC SERIES CRANES

### ▲ ELECTRICAL CONNECTIONS

An electrical power lead - intended for 12V DC only - comes down through the center of the crane base plate along with the hoses. This power lead should be slacked in the compartment so that it remains relaxed throughout the 400 degree rotation of the crane.

A 20 amp circuit breaker is mounted on the crane and protects the crane's internal wiring and solenoid coils. The 20 amp circuit breaker does NOT protect the electrical power lead. For added protection, the electrical power lead can be connected to a 20 amp protected circuit that, if possible, is powered only when the vehicle engine is running.

### HYDRAULIC FLUID

<u>Average Climate</u>	<u>Type of Oil</u>
Cold to Moderate	ISO Grade AW 46
Warm to Hot	ISO Grade AW 68

The fluid should have the highest anti-wear characteristics and treated to inhibit rust and oxidation.

### HYDRAULIC HOSES & LINES

The minimum sizes for lines and hoses are as follows:

HYDRAULIC LINES	HT45/55 SERIES
PRESSURE	5/8"
RETURN	3/4"
SUCTION	1-1/4"

### RESERVOIR

The PTO reservoir should have a capacity of 25 gallons fitted with 100 mesh suction screen, 10 micron return line filter, and filler/breather cap.

### ▲ PTO PUMP

The PTO and pump should be sized to deliver approximately 12.0 GPM at 3000 psi for the HT45/55 VLC series cranes.

### PTO START-UP

Before connecting the PTO system to the crane pressure and return hoses, connect the PTO pressure and return lines together at the bulkhead. Operate the PTO system for about two (2) minutes per gallon of reservoir capacity (25 gallon reservoir = 50 minutes) to flush out the lines and filter all the fluid several times.

### ENGINE START/STOP & THROTTLE CONTROL

If your crane was purchased with optional engine start/stop and throttle control, refer to drawing 22615 in the replacement parts section for further information.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
CRANE INSTALLATION  
HT45/55 VLC SERIES

DATE  
08-08-23C  
SUPERSEDES  
05-10-21B

SECTION  
C200

23752

# CRANE OPERATION AND MAINTENANCE INSTRUCTIONS ▲

## SAFETY

Before operating this crane, read and understand these instructions, the 920612 Crane Safety and Hazards Information Sheet, and review all safety & instruction labels on the crane.

## CRANE INSPECTION

Before operating this crane, inspect for wear, damage, or 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 any problems before using the crane.

***See Crane Safety Manual for proper inspection schedules and reports .***

## 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 shown by a gravity arrow.

## LOAD BLOCK ▲

If the load exceeds the single-line rated load or if reduced winching speed for better control of smaller loads is required, use the load block to rig the crane for two part line operation.

## CONTROLS ▲

The control pendant should be stored in a compartment or the cab when the crane is not in use.

Before activating the control pendant, inspect the cord(s) and pendant head/switches for damage. With the pendant OFF and the PTO disengaged, actuate all switches in both directions to verify that they all have the same feel/sound and return to the center position.

## PTO SYSTEM ▲

Check the hydraulic fluid level in the PTO system reservoir. Engage PTO and set the engine speed to provide the desired hydraulic flow rate per the PTO system instructions.

## CRANE OPERATION

Use "Winch Down" to release tension on the wire rope to unhook it from the storage tie down position.

Use "Boom Up" to elevate the boom from the boom rest position.

Avoid repeated rapid reversals of the control switches. This can cause the load to swing.

Check all control functions to see that they are working as described in the following section.



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CINCINNATI, OHIO

TITLE	DATE	SECTION
CRANE OP / MNTNC INST	08-08-23A	C200
HT CRANES ▲	SUPERSEDES	23753
	10-11-18	

# CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 2

## HT40/50 VLC SERIES

### CONTROL FUNCTIONS

- WINCH "UP" and "DOWN" - Raises and lowers the load with the winch.
- BOOM "UP" and "DOWN" - Raises and lowers the boom elevation angle. The boom elevates from 8 degrees below horizontal to 75 degrees above horizontal.
- BOOM "OUT" and "IN" - Extends and retracts the boom. The boom hydraulic extension stroke is 6 ft. or 10 ft.
- ROTATION "L" and "R" - Controls the left and right direction of the crane rotation. The crane rotation is limited to 400 degrees.
- TRIGGER (Proportional Systems Only) - Varies the flow rate delivered to the crane valve. The farther the trigger is pulled, the faster the selected crane function operates. See page 22168 for detailed operations instructions and warnings.

### OVERLOAD SENSING SYSTEM

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

### VENTURO LOGIC CONTROL (VLC) SYSTEM

This crane is equipped with Venturo's logic control system. The receiver collects data from the boom tilt sensor and hydraulic pressure transducer, and translates the results to one of the following actions:

% OF LOAD	CRANE RESPONSE	BOOM/RECEIVER INDICATOR LIGHTS	TRANSMITTER LCD	TRANSMITTER VIBRATOR
0 - 79%	NORMAL OPERATION	Green solid	Load xx% Angle xx°	None
80% - 89%	NORMAL OPERATION	Yellow flashing	Load xx% Angle xx°	None
90% - 99%	All crane functions speed reduced to 50%	Red flashing	Load xx% Angle xx° flashing text SPD 50% icon	[3] quick vibrations when 90% threshold is exceeded
>100%	Winch down, boom retract, and rotation @ 75%. All other functions prevented.	Red solid	Overload Limited functions Speed reduced <small>Flashing text/inverted color - or after pressing OK button- Home Screen, flashing text/inverted color, SPD 25% icon</small>	Continuous vibration for [4] seconds when 100% threshold is exceeded

### TWO-BLOCK SENSING SYSTEM

This crane is equipped with an anti two-block device that is mounted at the tip of the boom. If the load block / overhaul weight contacts the device the "Winch Up", "Boom Down", and "Boom Out" functions are disabled. The "Winch Down", "Boom Up", and "Boom In" functions will continue to operate and can be used to relieve the two-block condition.

### TELESCOPIC HEXAGONAL BOOM - VLC SYSTEMS

#### 10' - 20' LENGTH Double stage only

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 10 ft. to 20 ft. using a hydraulic power extension cylinder with a 10 ft. stroke.

#### 12' - 25' LENGTH Double stage only

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 12 ft. to 25 ft. using a hydraulic power extension cylinder with a 13 ft. stroke.

#### 13' - 30' LENGTH Double stage only

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 13 ft. to 30 ft. using a hydraulic power extension cylinder with a 17 ft. stroke.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
CRANE OP / MNTNC INST	02-22-23D	C200
HT40/50 VLC SERIES	SUPERSEDES 06-01-20C	<b>23754</b>

**TRUCK SETUP & STABILIZERS**

1. The truck should be parked on firm level ground.
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" if it is an automatic.
4. Fully deploy stabilizers to help stabilize vehicle against rocking or overturning.
5. Use stabilizers to level vehicle only. Tires must maintain contact with ground.

**PREPARATION FOR TRAVEL**

1. Return the stabilizers to the stowed position. Install and secure all pins.
2. Stow the crane boom in the boom support.
3. Hook the winch line to a tie down point on the body or pedestal and apply tension.
4. Disengage the PTO pump and idle speed control.
5. Power down the control pendant and store in a body compartment or the cab.

**MAINTENANCE**

The crane requires only periodic lubrication. As a standard procedure, this can be done at the time the vehicle is serviced.

The winch planetary gearbox lube should be maintained at the level plug.

To ensure optimal winch performance, the following lube schedule and lube specifications should be followed:

Initial Change - after 6 weeks or 10 hours of operation.

Periodic Change - on an annual basis or every 50 hours of operation.

Temp Range (°F)	Winch Gear Oil
120° to 10°	High quality SAE 90 gear lubricant oil
Severe Duty	Swepeco #201 multi-purpose gear oil


Service grease fittings and rotation gear with molybdenum-disulfide graphite-filled lithium-based extreme pressure grease.

Grease fitting locations:

- Boom pivot at rear of boom
- Speed reducer (2 fittings)
- Elevation cylinder tail clevis
- Bottom of Swing Bearing (2 fittings)

Remove rear cover and check all hydraulic tube and hose fittings for tightness.

Check electrical connections for looseness and corrosion.

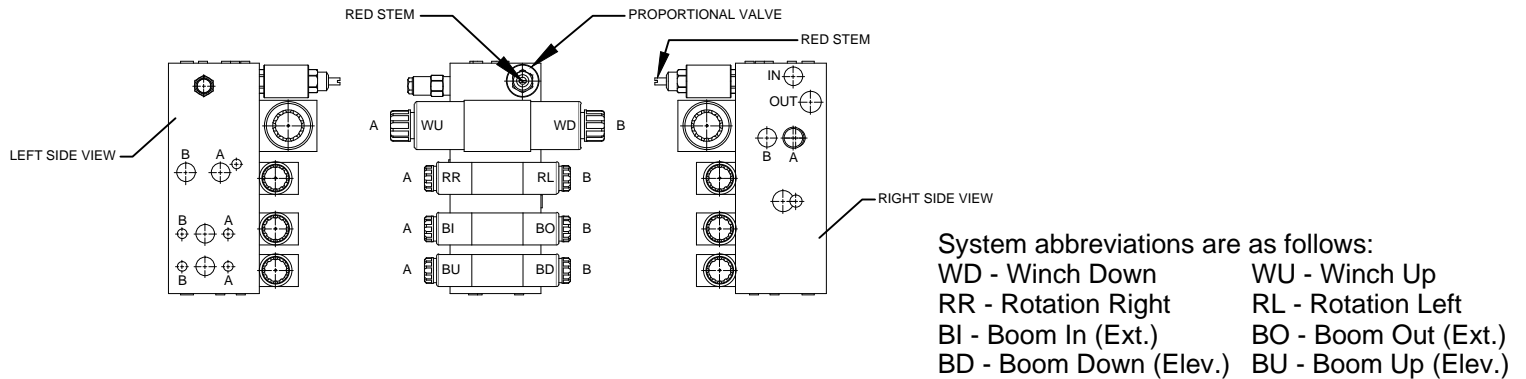
 <b>VENTURO</b> <sup>®</sup> VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	DATE	SECTION
	CRANE OP / MNTNC INST	10-11-18	C200
	HT40/50 VLC SERIES	SUPERSEDES	<b>23755</b>
		-	

# EXPLANATION OF HYDRAULIC VALVE SYSTEM HT40/50/60/66KX, PROPORTIONAL ONLY

## OVERVIEW

This proportional crane utilizes a proportional valve, which controls the rate at which the hydraulic fluid flows through the valve bank. When the proportional valve is fully closed, hydraulic fluid bypasses the valve bank and returns directly to the tank. When the proportional valve is fully open, hydraulic fluid cycles through the valve bank and allows the crane to function at full speed. When the proportional valve is at any setting between, a portion of the fluid is allowed through the valve bank, with the remainder returning to the tank.

The four [4] crane functions (winch, rotation, boom extension, and boom elevation) are controlled by four [4] separate valve sections. Each valve section has two [2] solenoid coils (and two [2] manual overrides) which control the direction that the function operates (e.g. winch up vs. winch down). For a given crane function and direction (e.g. winch up), the solenoid coil and associated manual override reside on the same side of the valve bank.



## MANUAL OVERRIDE SYSTEM

Should an electrical failure occur, your Venturo crane can be operated manually.

The manual overrides are intended for emergency use only and should not be used for normal operation.

To operate in manual override mode:

- (1) Override the proportional valve by turning the red stem on the valve as stated below
  - For override operation, rotate stem clockwise (the farther the stem is turned the faster the crane will operate)
  - To return to normal operation, rotate the stem counter-clockwise until it stops
- (2) Determine the coil / override associated with the function you wish to operate, then insert a small diameter object (an Allen wrench works well) into the detent on the end of the valve stem and firmly press inward. For example, pushing the stem labeled 'A' on the first bank (refer to illustration) will actuate winch up



# W A R N I N G



- For normal crane operation, the proportional valve must be in the 'normal' position (as described above). To verify 'normal' operation, you may set the pendant (or radio) control aside and actuate a single crane function by pushing inward on any of the manual override pins, located at the ends of each function control valve. If that function operates, the proportional valve is still in manual override. Check the position of the proportional valve's red stem to insure that it is fully counter-clockwise.

## EMERGENCY STOP

In the unlikely event that a function of the crane does not stop once the function's toggle switch is released, the proportional crane can be stopped by releasing the trigger on activating the red E-STOP button on the transmitter.



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TITLE  
HYDRAULIC SYSTEM

DATE  
11-10-22E

SECTION  
C200

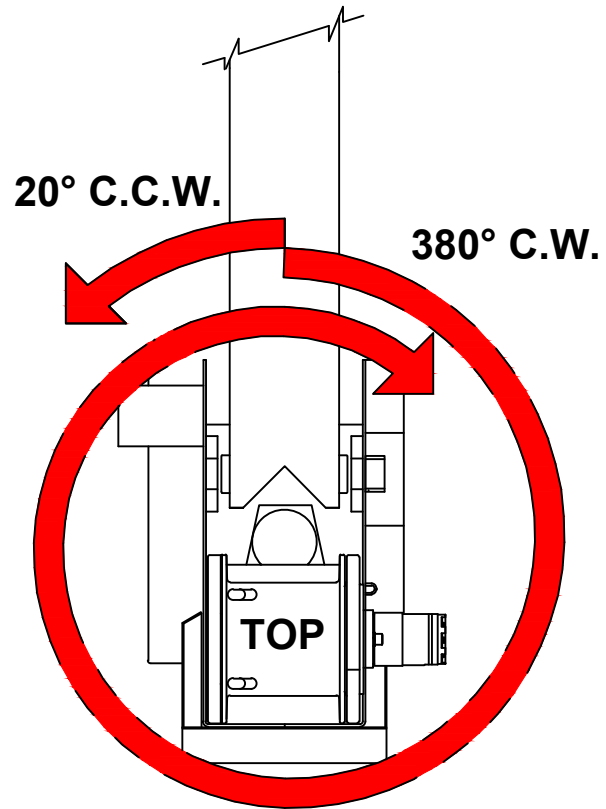
HT40/50/60/66KX; PROP

SUPERSEDES  
02-21-14D

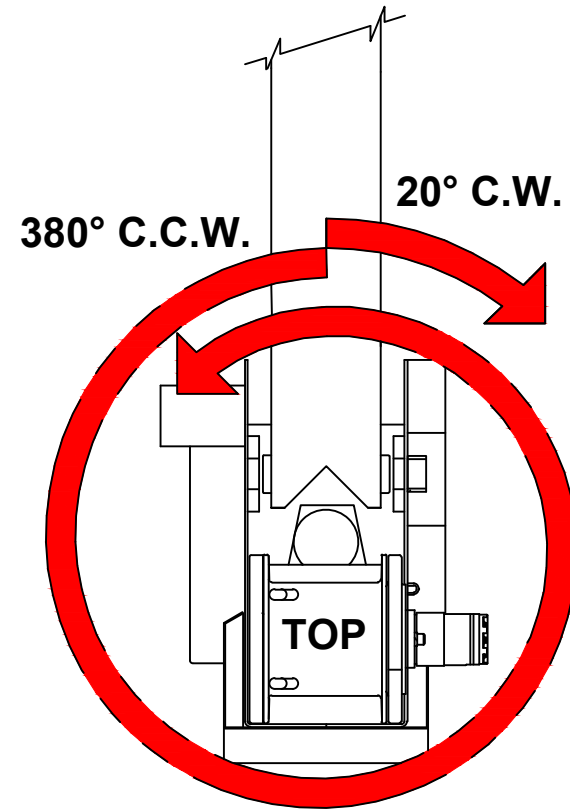
22168

# 400° ROTATION STOP LOCATION

CURBSIDE



STREETSIDE



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
ROTATION STOP LOCATION

400° ROTATION CRANES

DATE  
03-09-23F

SUPERSEDES  
05-20-20E

SECTION  
C200

20051

# STABILITY TEST - HT45-20'-VLC SERIES

## Overview

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

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

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

## Testing Procedure

1. Locate the truck on firm, level ground and set parking brake.
2. Fully deploy stabilizers, making sure they are firmly in contact with supportive ground; use stabilizer pads as required. The tires of the truck should remain in full contact with the ground.
3. Inspect wire rope and other key components of crane (consult owners manual for more information).
4. Conduct an operational check of all crane functions.
5. Use a **Test Weight** weighing a **minimum** of **2647 lbs.**, (includes load block weight of 51 lbs.) to a **maximum of 2800 lbs.**
6. Place the VLC system into **Stability Mode** (ref. VLC Manual, INST-30000, page 30005)
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 a weight weighing between **2747 to 2800 lbs.**, extend the boom slowly, until one of the three conditions occur:
  - 10.1. Full extension is reached - Mark the ZONE in question **100%**
  - 10.2. The VLC system stops the boom extension - Mark the ZONE in question **100%**
  - 10.3. The truck becomes unstable i.e. a tire lifts off the ground
    - 10.3.1. Retract the boom until at least one tire on each corner of the truck is making contact with the ground
    - 10.3.2. 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**.

$$\% \text{ Rated Capacity} = \frac{\text{"Max Stable Reach" in inches}}{249} \times 100$$

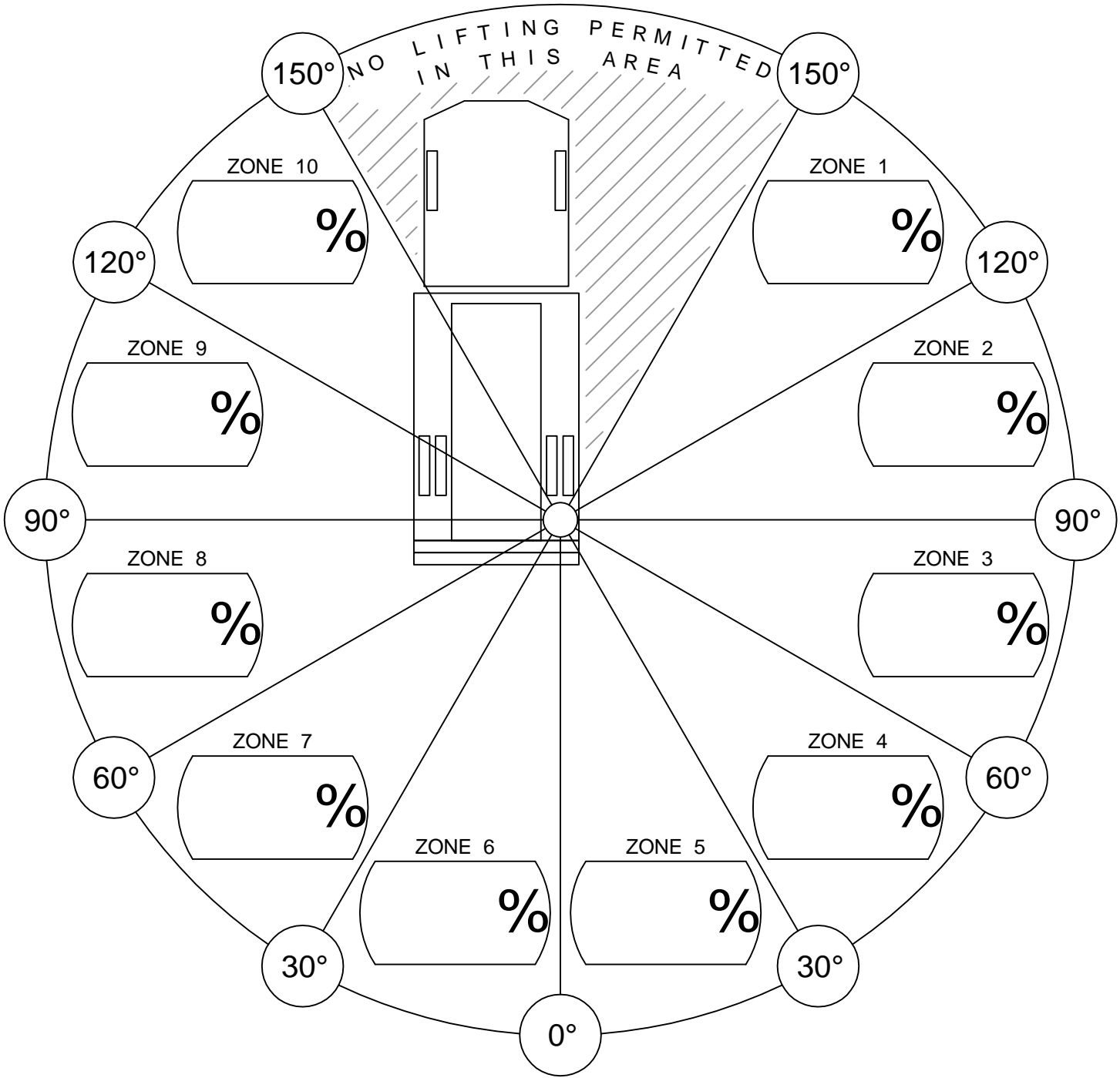
12. Record the **% of Rated Capacity** in the appropriate blank (region) on the Crane Stability page (ref. 20907) and decal.
13. Repeat Steps 7 through 12 for each ZONE on the stability page.



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TITLE	DATE	SECTION
STABILITY TEST	11-24-21C	C200
HT45-20'-VLC SERIES	SUPERSEDES	
	02-16-21B	20906-4520

# CRANE STABILITY



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

**CONDITIONS:**

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



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TITLE  
**STABILITY CHART**

VENTURO CRANES

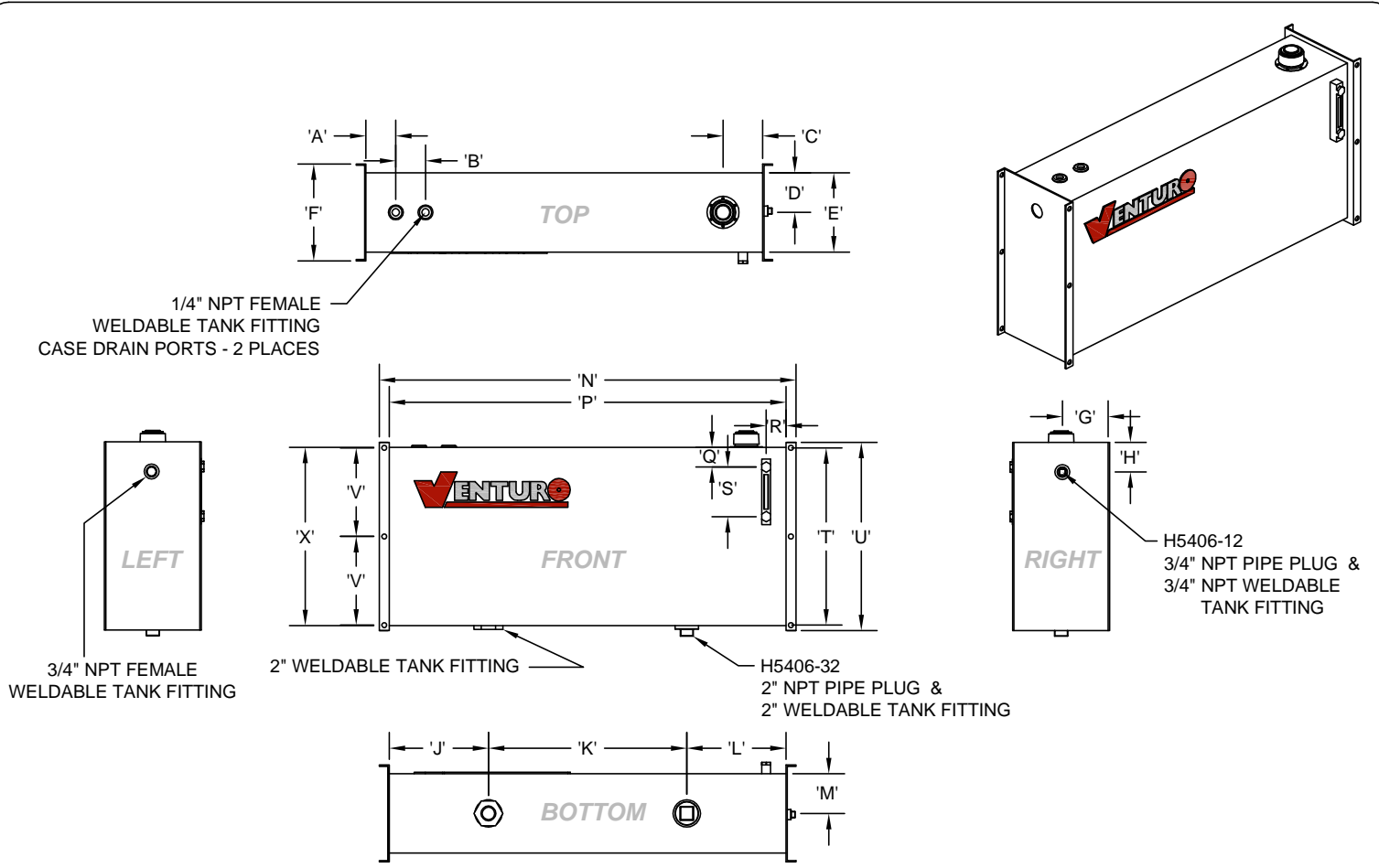
DATE  
05-11-17F

SUPERSEDES  
02-21-14E

SECTION  
C200

**20907**





ILLUSTRATIONS FOR REFERENCE ONLY!  
 - COMPONENT LOCATIONS MAY DIFFER -

HYD. TANK DIMENSION (HTD) CHART			
DIMENSION	PART NO.	22786 (25 GAL.)	22999 (40 GAL.)
'A'		3"	3"
'B'		3"	3"
'C'		4"	4"
'D'		4"	5.5"
'E'		8"	11"
'J'		5"	6"
'K'		30"	30"
'L'		5"	6"
'M'		4"	5.5"
'P'		40"	42"
'Q'		2"	2"
'R'		2"	2"
'S'		5"	5"
'X'		18"	20"

MEASUREMENTS EXCLUDE MOUNTING APARATUSES

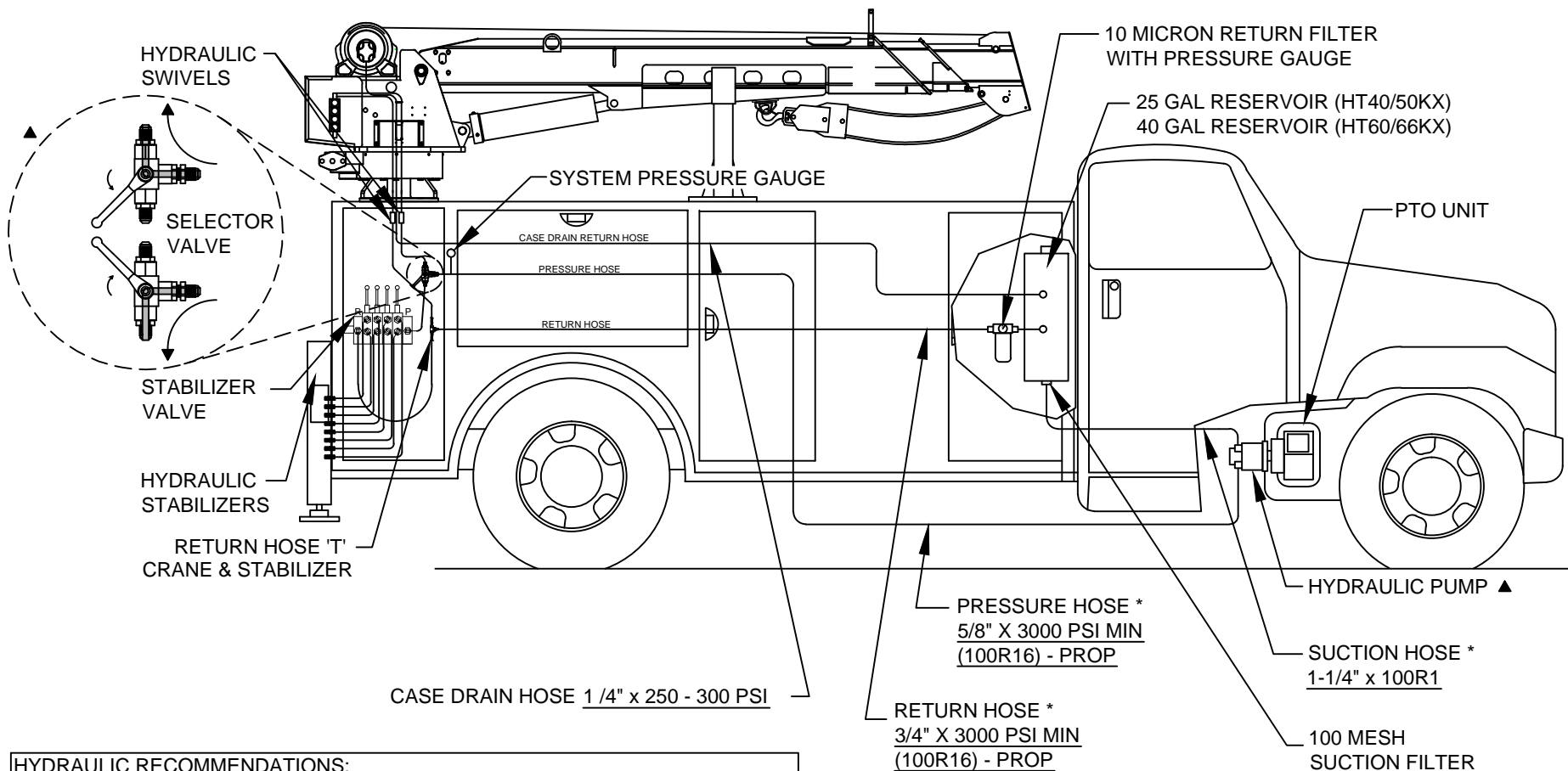
MOUNTING DIMENSION (TMD) CHART			
DIMENSION	PART NO.	22786 (25 GAL.)	22999 (40 GAL.)
'F'		9.75"	12"
'G'		4.875"	6"
'H'		3"	3"
'N'		42"	44"
'T'		17.875"	19.875"
'U'		19"	21"
'V'		8.938"	9.938"

MEASUREMENTS INCLUDE MOUNTING APARATUSES



VENCO VENTURO INDUSTRIES LLC  
 CINCINNATI, OHIO

TITLE	DATE	SECTION
RESERVOIR DIMENSIONS	02-21-14E	C200
HYD. TANKS (25/40 GAL.)	SUPERSEDES 06-04-13D	22825



**HYDRAULIC RECOMMENDATIONS:**  
 HT40KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22784 PTO PACKAGE)  
 HT50KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22784 PTO PACKAGE)  
 HT60KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22998 PTO PACKAGE)  
 HT66KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22998 PTO PACKAGE)

**CAUTION**

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

REFER TO SECTION 200 FOR MORE INFORMATION ON INSTALLING HYDRAULIC COMPONENTS.

\* HOSES AND FITTINGS BETWEEN PUMP, RESERVOIR, AND CRANE *NOT INCLUDED*.

**CAUTION**

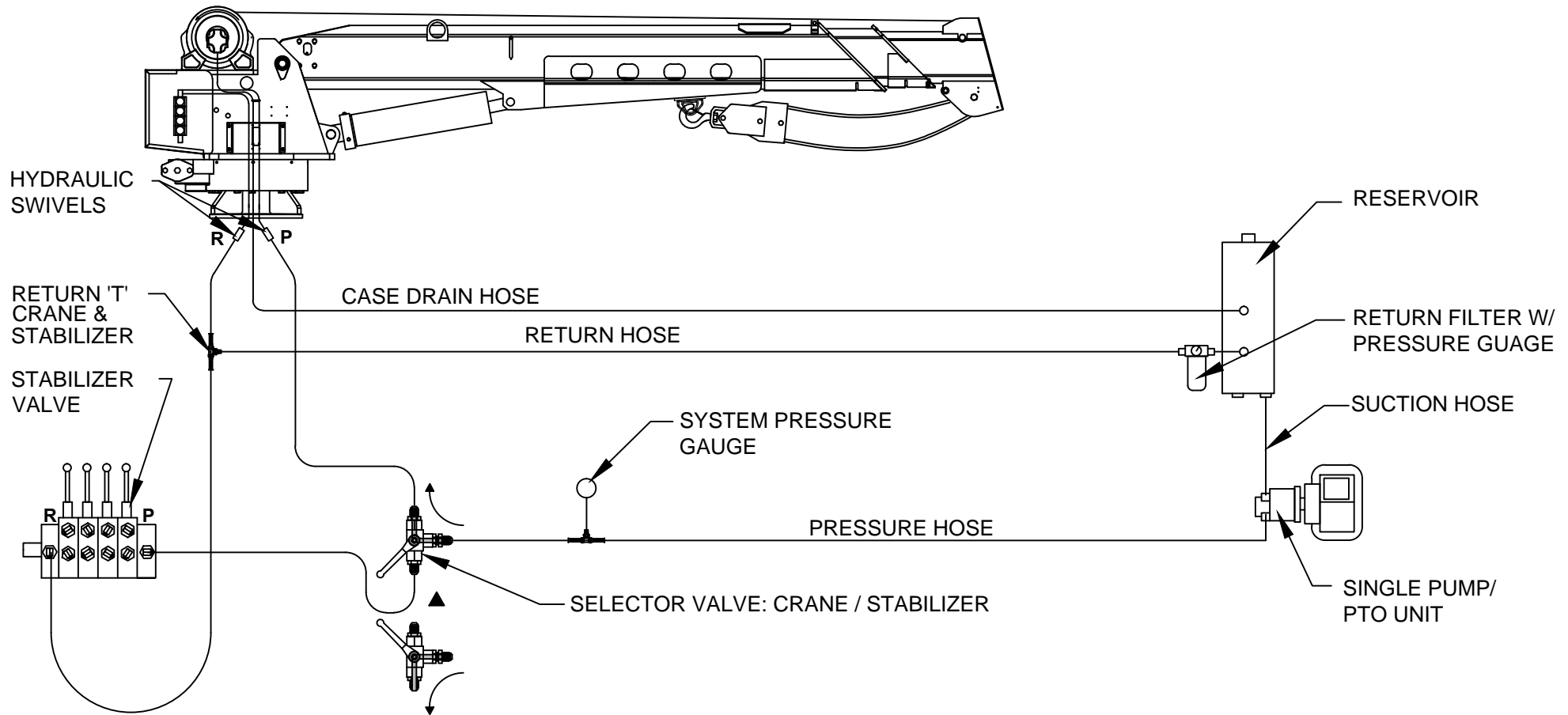
- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/RESERVOIR.



VENCO VENTURO INDUSTRIES LLC  
 CINCINNATI, OHIO

TITLE	DATE	SECTION
HYDRAULIC COMPONENT INSTALLATION	08-08-23G	C200
HT40-66, PROPORTIONAL	SUPERSEDES 11-10-22F	22883

**HYDRAULIC CIRCUIT CONNECTION GUIDE - SINGLE PUMP (NO COMPRESSOR)**  
 (REFER TO SECTION 200 FOR MORE INFORMATION, INCLUDING HOSE SPECIFICATIONS)



**CAUTION**

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

**CAUTION**

- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.



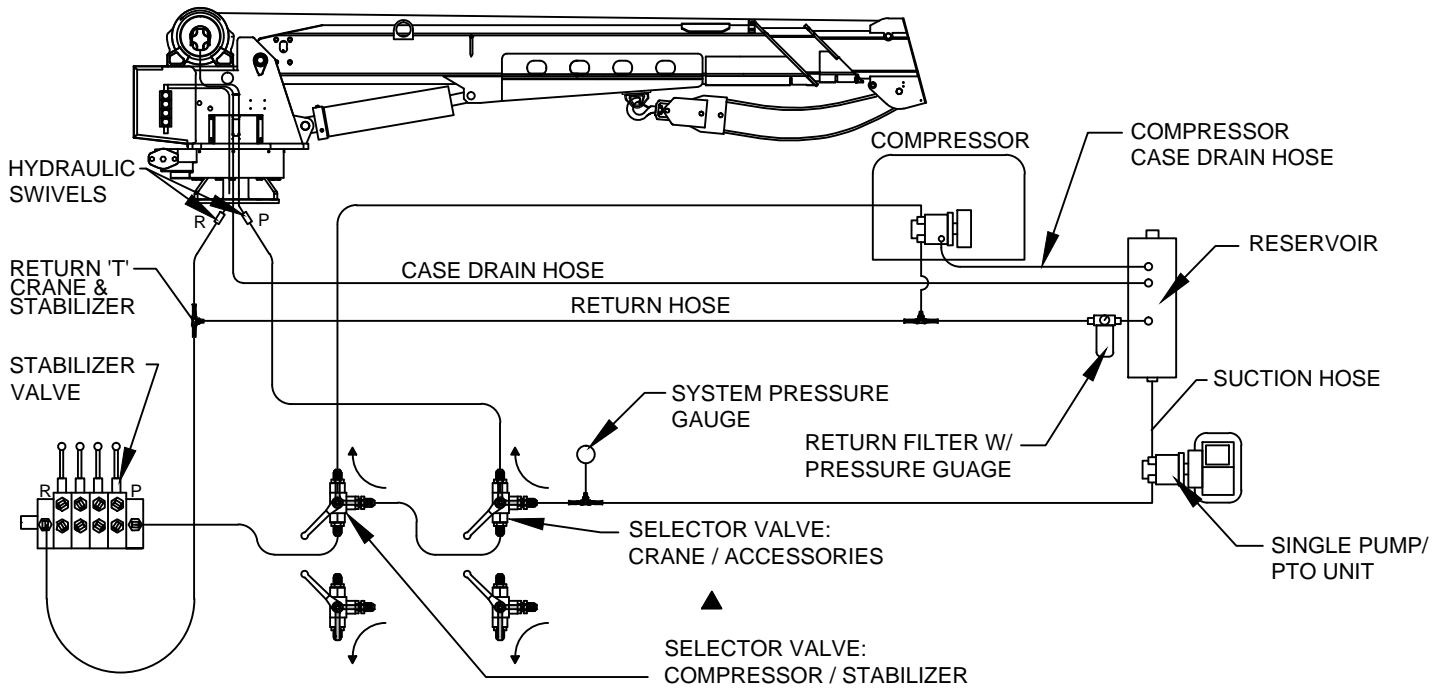
VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**CONNECTION GUIDE, PAGE 1 / 2**  
 HT CRANES

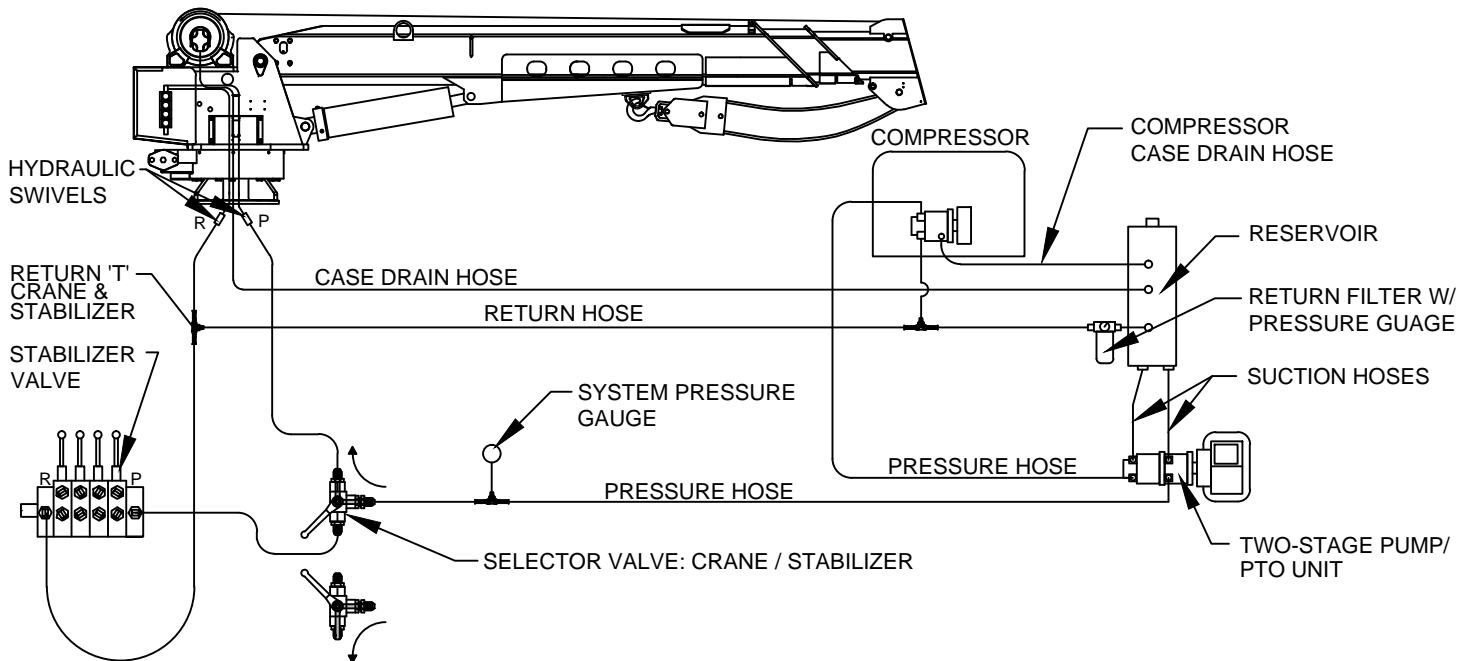
DATE  
 08-09-23C  
 SUPERSEDES  
 02-21-14B

SECTION  
 C200  
**23015**

# HYDRAULIC CIRCUIT CONNECTION GUIDE - SINGLE PUMP W/ COMPRESSOR



# HYDRAULIC CIRCUIT CONNECTION GUIDE - TWO-STAGE PUMP W/ COMPRESSOR



## CAUTION

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

REFER TO SECTION 200 FOR MORE INFORMATION, INCLUDING HOSE SPECIFICATIONS



## CAUTION

- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.



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CINCINNATI, OHIO

TITLE  
CNNCTN GDE, PAGE 2/2

HT CRANES

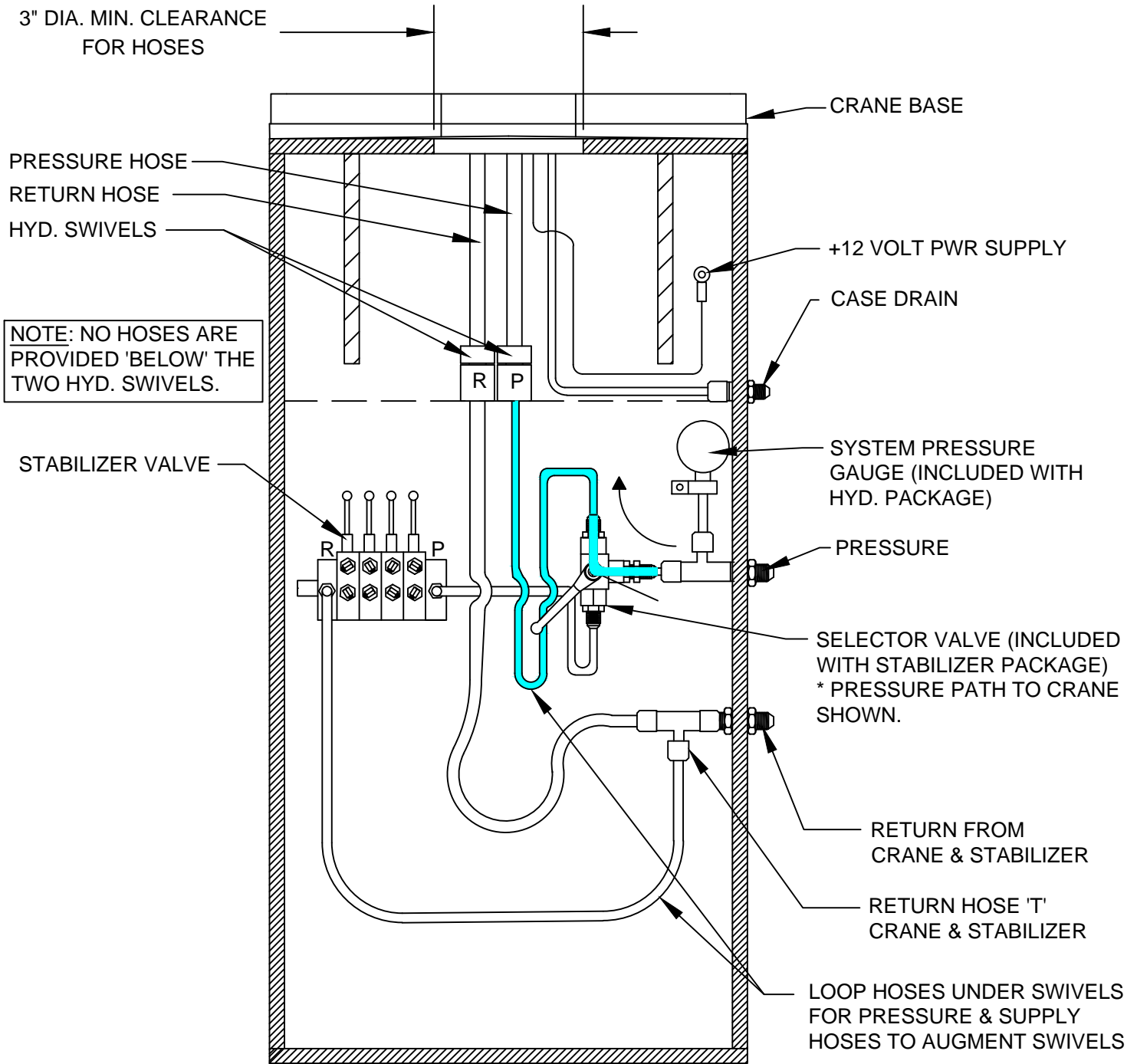
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08-08-23C

SUPERSEDES  
02-21-14B

SECTION  
C200

23014

# RECOMMENDED SUPPLY & RETURN HOSE CONNECTIONS CRANE & STABILIZERS



## CAUTION

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE VALVE.



## CAUTION

- CASE DRAIN MUST RETURN DIRECTLY TO RESERVOIR WITHOUT RESTRICTION.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**CONNECTIONS GUIDE**

HT CRANES

DATE  
08-07-23G

SUPERSEDES  
02-21-14F

SECTION  
C200

22913

# WIRE ROPE INSTALLATION

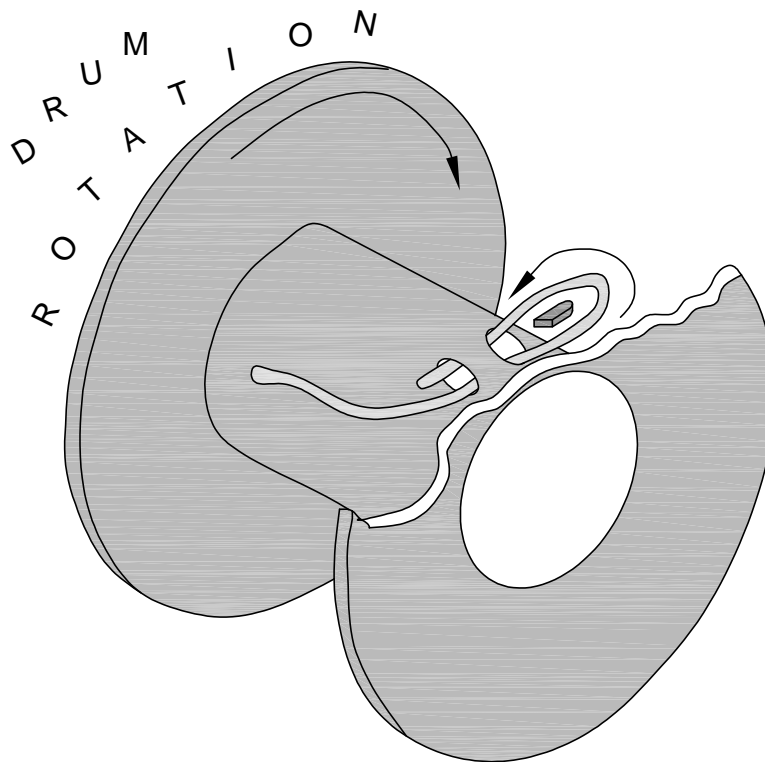


FIG. 1

- 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) CAGE 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

DATE

02-21-14K

SECTION

C200

ET6K & LARGER CRANES

SUPERSEDES

12-26-13J

22245

# SECTION 300

# MAINTENANCE

# &

# SERVICE



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

# MAINTENANCE OVERVIEW INFORMATION

## MAINTENANCE

The crane requires only periodic lubrication. As a standard procedure, this can be done at the time the vehicle is serviced.

## GENERAL

Inspect wire rope for any evidence of kinks or fraying. Ensure that lifting hook of wire rope shows no evidence of damage and is functioning normally.

Inspect headache ball ("load block") for any signs of damage or excessive wear.

Service all grease fitting locations.

Inspect hydraulic hoses and hydraulic fittings for hydraulic leaks.

Inspect electrical connections for any looseness or corrosion.

Inspect bolts and verify all are tight, paying particular attention to winch, rotation system, and mounting base bolts.

Inspect all pins and snap rings for proper fit and function.

Inspect sheaves for excessive wear or play.

Perform a basic inspection of the winch with each use, monitoring for unusual noise or hydraulic leaks.

The winch planetary gearbox lube (SAE 90) should be maintained at the level plug (final base relief valve port) which is approximately half-full point.

To ensure optimal performance, the following oil change schedule should be followed:

Initial Change - after the initial 100 hours of operation or six months.

Periodic Change - after every 300 hours of operation or two years.

Temp Range (°F)	Winch Gear Oil
120° to 10°	High quality SAE 90 gear lubricant oil
Severe Duty	Swepeco #201 multi-purpose gear oil



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
MAINTENANCE INFO	11-10-22D	C300
HT25/30/40/50/60/66KX(P)	SUPERSEDES 02-21-14C	23203



### WIRE ROPE ASSEMBLY

**WIRE ROPE:**

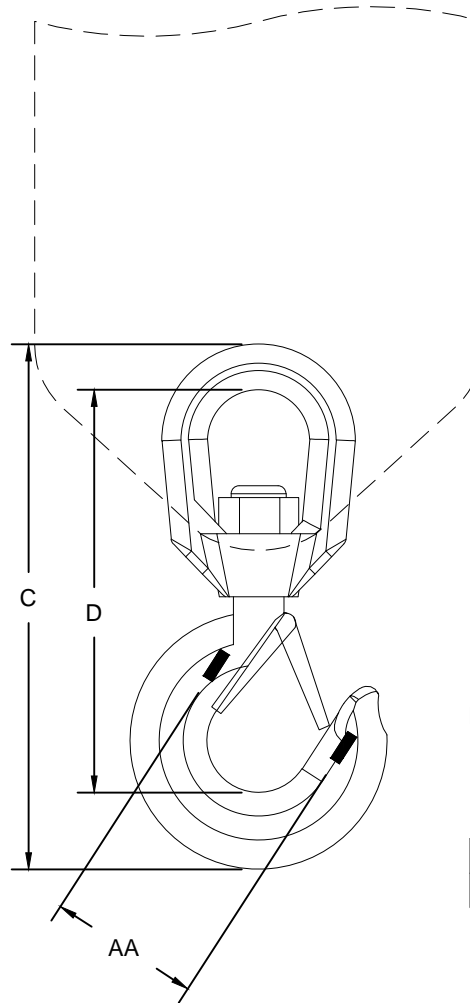
3/8" DIA, 100' LONG

▲ GAC 7X19 XIP-RHRL-IWRC, SB 14,400 LBS



TERMINATES IN THIMBLE  
NO HOOK

### LOAD BLOCK ASSEMBLY



**LOAD BLOCK HOOK:**

RATING: 5 TONNE (11,023 LBS)

**DIMENSIONS:**

COLOR	BRAND	AA	C	D
GOLD	CROSBY	2.50"	9.69"	7.50"



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

WIRE ROPE & HOOK SPECIFICATIONS

HT40/50KX

DATE

05-09-16D

SUPERSEDES

02-21-14C

SECTION

C300

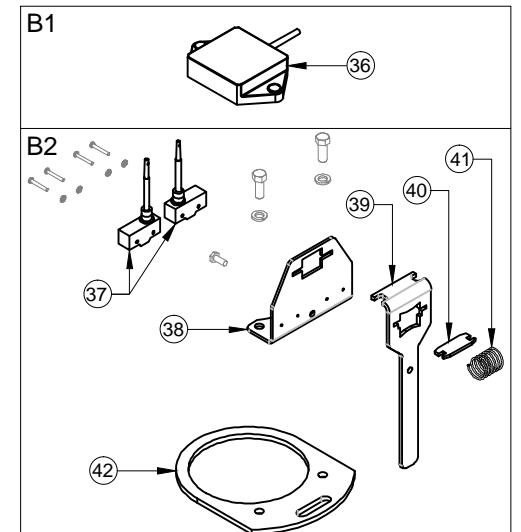
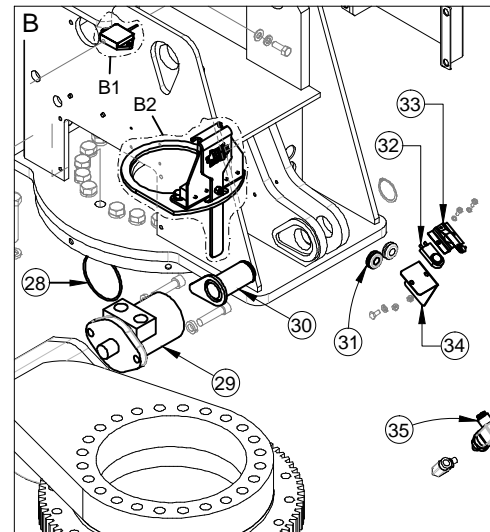
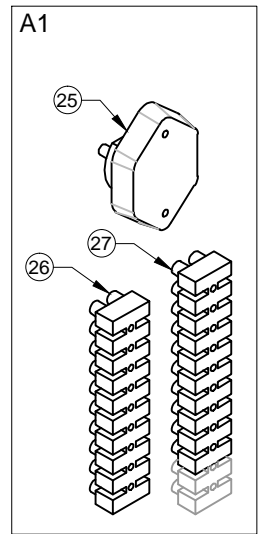
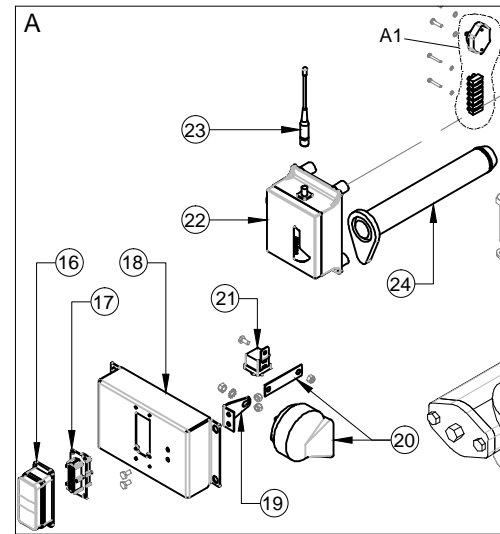
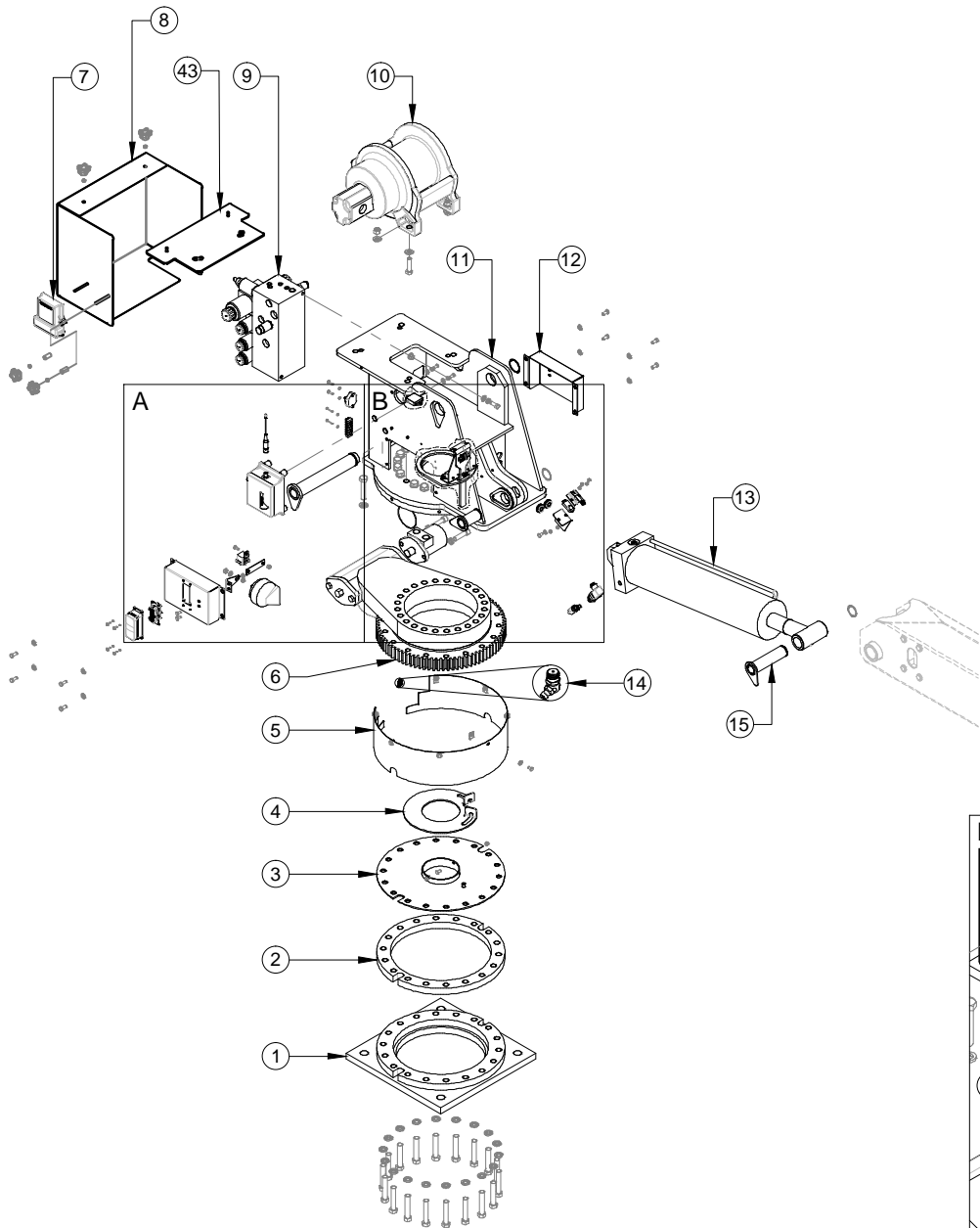
23231

# SECTION 400

# REPLACEMENT PARTS



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO



REFERENCE #23757 FOR REPLACEMENT PARTS LIST



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
REPLACEMENT PARTS DRWNG - MECHANISM  
HT45KX VLC SERIES

DATE  
05-17-22A  
SUPERSEDES  
10-11-18

SECTION  
C400  
23756

# REPLACEMENT PARTS LIST; HT45KX VLC SERIES - MECHANISM

ITEM NO.	PART NO.	QTY (STD)	QTY (8K LB.)	* DESCRIPTION
1	23625	1	1	MOUNTING BASE WELDMENT
2	23662	1	1	MID PLATE
3	23626	1	1	SLIPPER PLATE WELDMENT
4	23666	1	1	STOP DISK
5	23644	1	1	COVER; SLEW GEAR
6	22704	1	1	SLEWING RING & DRIVE
* 7	23720	1	1	* VALVE CONTROL MODULE
8	23679	1	1	REAR HOUSING COVER
9	22736H	1	1	HYDRAULIC VALVE MANIFOLD
10	22829	1	-	WINCH, T11 SERIES (STANDARD)
10	22830	-	1	WINCH, T12 SERIES (8K LB. CAPACITY)
11	23624	1	1	MECHANISM HOUSING WELDMENT
12	22715-1	1	1	SIDE COVER; NO SOCKET HOLE
13	21747	1	1	ELEVATION CYLINDER
14	IZERK-01327	2	2	FITTING; GREASE
15	23685	1	1	PIN; ELEVATION CYLINDER, OUTBOARD
16	22481	1	1	SOCKET CASE W/ HOOD; 16-PIN
17	22482	1	1	SOCKET; 16-PIN FEMALE INSERT
18	22715-2	1	1	SIDE COVER; WITH SOCKET HOLE
19	22000	1	1	BRACKET; HORN
20	21948	1	1	HORN
21	22739	1	1	RELAY; HIGH CAPACITY

ITEM NO.	PART NO.	QTY (STD)	QTY (8K LB.)	* DESCRIPTION
* 22	23720	1	1	* VLC RADIO SYSTEM
* 23	23720	1	1	* ANTENNA
24	22721	1	1	PIN; MAIN BOOM PIVOT
25	15683-20A	1	1	CIRCUIT BREAKER; 20 AMP
26	19187-10	1	1	TERMINAL STRIP; 10 SECTIONS
27	19187-12	1	1	TERMINAL STRIP; 12 SECTIONS
28	OR-152-5	1	1	O-RING; ROTATION MOTOR
29	19177	1	1	ROTATION MOTOR
30	23683	1	1	PIN; ELEVATION CYLINDER, INBOARD
31	14775	2	2	GROMMET; 1/2 x 3/16 x 3/16" THCK
32	19918	1	1	SWITCH; BOOM TOP POSITION
33	19917	1	1	BRACKET; BOOM SHUT-OFF SWITCH
34	20497	1	1	BRACKET; SWITCH
* 35	23720	2	2	* PRESSURE TRANSDUCER
* 36	23720	2	2	* CHASIS TILT SENSOR
37	19376	2	2	LIMIT SWITCH; MODIFIED
38	23667	1	1	MOUNTING BRACKET; SPRING ARM
39	23668	1	1	SPRING ARM
40	23688	1	1	SPRING RETAINER PLATE
41	22667	1	1	SPRING
42	23680	1	1	WATER DAM; HOUSING
43	28319	1	1	TOP COVER PLATE, WELDED ASS'Y

\* THESE ITEMS ARE INCLUDED IN 23720 KIT. PLEASE CALL TECHNICAL SUPPORT AT 1-800-226-2238 FOR ASSISTANCE.

REFERENCE #23756 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS LIST - MECHANISM

HT45KX VLC SERIES

DATE

05-17-22C

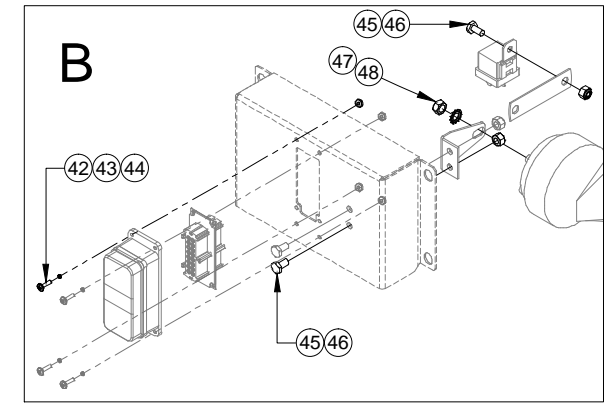
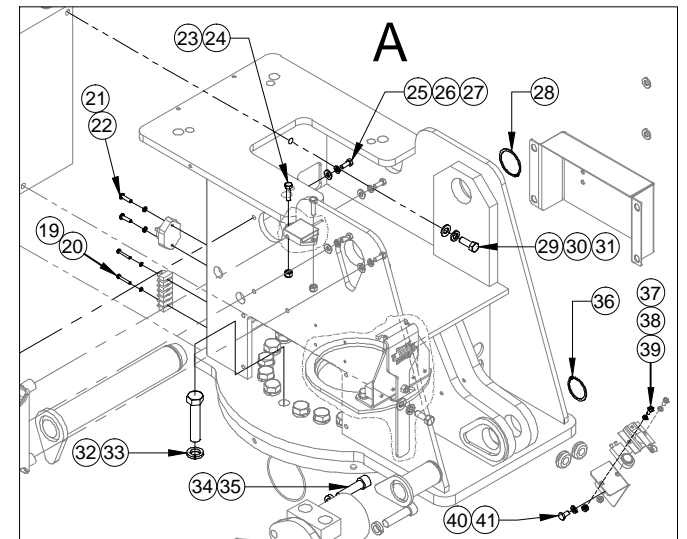
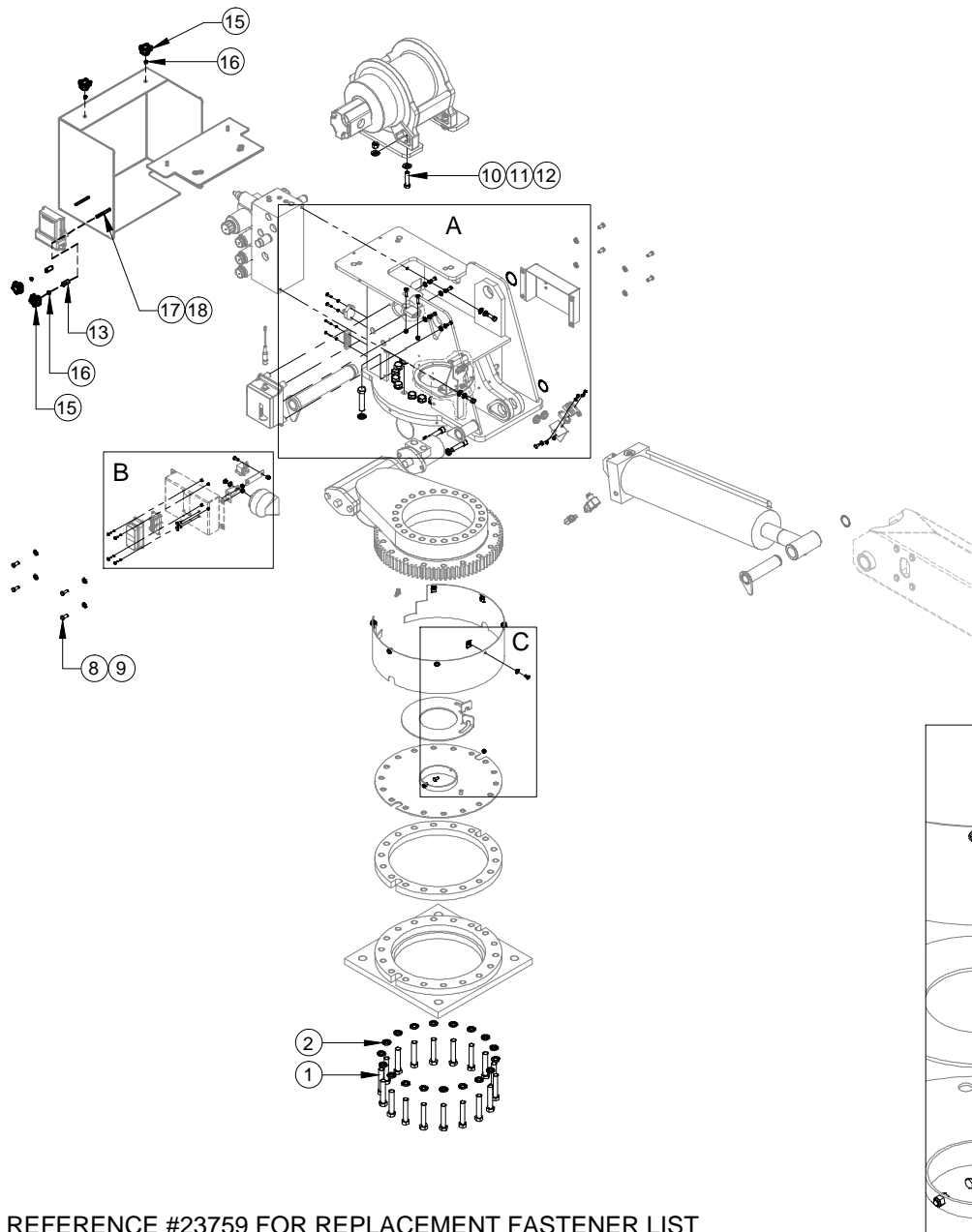
SUPERSEDES

05-02-22B

SECTION

C400

23757



REFERENCE #23759 FOR REPLACEMENT FASTENER LIST



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
REPLACEMENT FASTENERS DRWG - MECH	06-24-22B	C400
HT45KX VLC SERIES	SUPERSEDES	
	05-17-22A	23758

ITEM #	PART #	QTY	DESCRIPTION	WHERE-USED
1	!HHCS06311350	18	HHCS; 5/8-11 x 3-1/2" LG, GR. 5, ZINC	BASE PLATE - SLEW DRV
2	!LWSH-063	18	LOCK WASHER; 5/8", GR. 5, ZINC	BASE PLATE - SLEW DRV
3	!HHCS02520050S	2	HHCS; 1/4-20 x 1/2" LG, S/S	SLIPPER PLATE
4	!LNUT-02520NS	2	LOCK NUT; 1/4-20, NYLON, S/S	SLIPPER PLATE
5	!HHCS02520050S	7	HHCS; 1/4-20 x 1/2" LG, S/S	ROTATION GEAR COVER
6	!FWSH-025S	7	FLAT WASHER; 1/4", S/S	ROTATION GEAR COVER
7	!UNUT-02520-LKG	7	U-NUT; 1/4-20, LOCKING	ROTATION GEAR COVER
8	!HHCS03118075S	8	HHCS; 5/16-18 x 3/4" LG, S/S	SIDE COVERS
9	!LWSH-031S	8	LOCK WASHER; 5/16", S/S	SIDE COVERS
10	!HHCS05013200-8	4	HHCS; 1/2-13 x 2" LG, GR. 8	WINCH MOUNTING
11	!FWSH-050SAE	8	FLAT WASHER; 1/2", SAE, ZINC	WINCH MOUNTING
12	!LNUT-05013-8	4	LOCK NUT; 1/2-13, NYLON, GR. 8	WINCH MOUNTING
13	28328	2	NYLON SPACER; .25" ID X .5" OD X 1"	VCM TO REAR COVER
14	-	-	-	-
15	28327	4	KNOB, HAND, 5-POINT	VCM & REAR COVER
16	!LNUT-02520-H	4	LOCK NUT; 1/4-20 HVY PATT, NYLON	REAR COVER
17	!HHCS02520250SF	2	HHCS; 1/4-20 X2.50", S/S, FULL THRD	VCM TO REAR COVER
18	!JNUT-02520NS	2	JAM NUT, NYLON INSERT, 1/4-20, S/S	VCM TO REAR COVER
19	!PHPMS#0632100S	2	PHILIPS-HD PMS; 6-32 x 1", S/S	TERMINAL STRIP - HSNG
20	!LWSH-#06S	2	LOCK WASHER; #06, S/S	TERMINAL STRIP - HSNG
21	!PHPMS#1024100S	2	PHILIPS-HD PMS; 10-4 x 1", S/S	CIRCUIT BRKR - HSNG
22	!LWSH-#10S	2	LOCK WASHER; #10, S/S	CIRCUIT BRKR - HSNG
23	!HHCS02520100S	2	HHCS; 1/4-20 x 1", S/S	INCLINOMETER - HSNG
24	!LNUT-02520S	2	LOCK NUT; 1/4-20, NYLON, S/S	INCLINOMETER - HSNG
25	!HHCSM6M1M16S	4	HHCS; 6mm-1mm x 16mm, S/S	E-SCANNER - HSNG

ITEM #	PART #	QTY	DESCRIPTION	WHERE-USED
26	!LWSH-025S	4	LOCK WASHER; 1/4", S/S	E-SCANNER - HSNG
27	!FWSH-025S	4	FLAT WASHER; 1/4", S/S	E-SCANNER - HSNG
28	!SRNG-175	1	SNAP RING; 1-3/4", ZINC	MAIN BOOM PIVOT PIN
29	!HHCS03816100	2	HHCS; 3/8-16 x 1" LG, ZINC	MANIFOLD - HOUSING
30	!FWSH-038	2	FLAT WASHER; 3/8", ZINC	MANIFOLD - HOUSING
31	!LWSH-038	2	LOCK WASHER; 3/8", ZINC	MANIFOLD - HOUSING
32	!HHCS06311300	24	HHCS; 5/8-11 x 3", ZINC	HSNG - ROTATION DRV.
33	!LWSH-063	24	LOCK WASHER; 5/8", ZINC	HSNG - ROTATION DRV.
34	!SHCS05013200	2	SHCS; 1/2-13 x 2",	ROTATION MOTOR
35	!LWSH-050-HC	2	LOCK WASHER; 1/2", HI-COLLAR	ROTATION MOTOR
36	!SRNG-150	2	SNAP RING; 1-1/2", ZINC	ELEV. CYL. PIVOTS
37	!PHPMS#1024050S	2	PHILIPS-HD PMS; #10-24 x 1/2", S/S	SWITCH & SWITCH BRKT
38	!LWSH-#10S	2	LOCK WASHER; #10, S/S	SWITCH & SWITCH BRKT
39	!HNUT-#1024S	2	HEX NUT; #10-24, S/S	SWITCH & SWITCH BRKT
40	!HHCS02520050S	1	HHCS; 1/4-20 x 1/2", S/S	SWITCH BRKT - HSNG
41	!LWSH-025S	1	LOCK WASHER; 1/4", S/S	SWITCH BRKT - HSNG
42	!SHPMS#0832050S	4	SLOT-HD PMS; #8-32 x 1/2", S/S	SCKT / CASE - SIDE CVR
43	!LWSH-#08S	4	LOCK WASHER; #08, S/S	SCKT / CASE - SIDE CVR
44	!HNUT-#0832S	4	HEX NUT; #08-32, S/S	SCKT / CASE - SIDE CVR
45	!HHCS02520050S	3	HHCS; 1/4-20 x 1/2", S/S	RELAY-HORN - SIDE CVR
46	!LNUT-02520NS	3	LOCK NUT; 1/4-20, NYLON, S/S	RELAY-HORN - SIDE CVR
47	!HNUT-03120	1	HEX NUT; 5/16-20, ZINC	HORN - HORN BRKT
48	!LWSH-031-STAR	1	LOCK WASHER; 5/16", ZINC	HORN - HORN BRKT
49	-	-	-	-
50	-	-	-	-

REFERENCE #23758 FOR REPLACEMENT FASTENERS DRAWING

HHCS = HEX HEAD CAP SCREW PMS = PAN MACHINE SCREW S/S = STAINLESS STEEL



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

RPLCMNT FASTENERS LIST - MECHANISM

HT45KX VLC SERIES

DATE

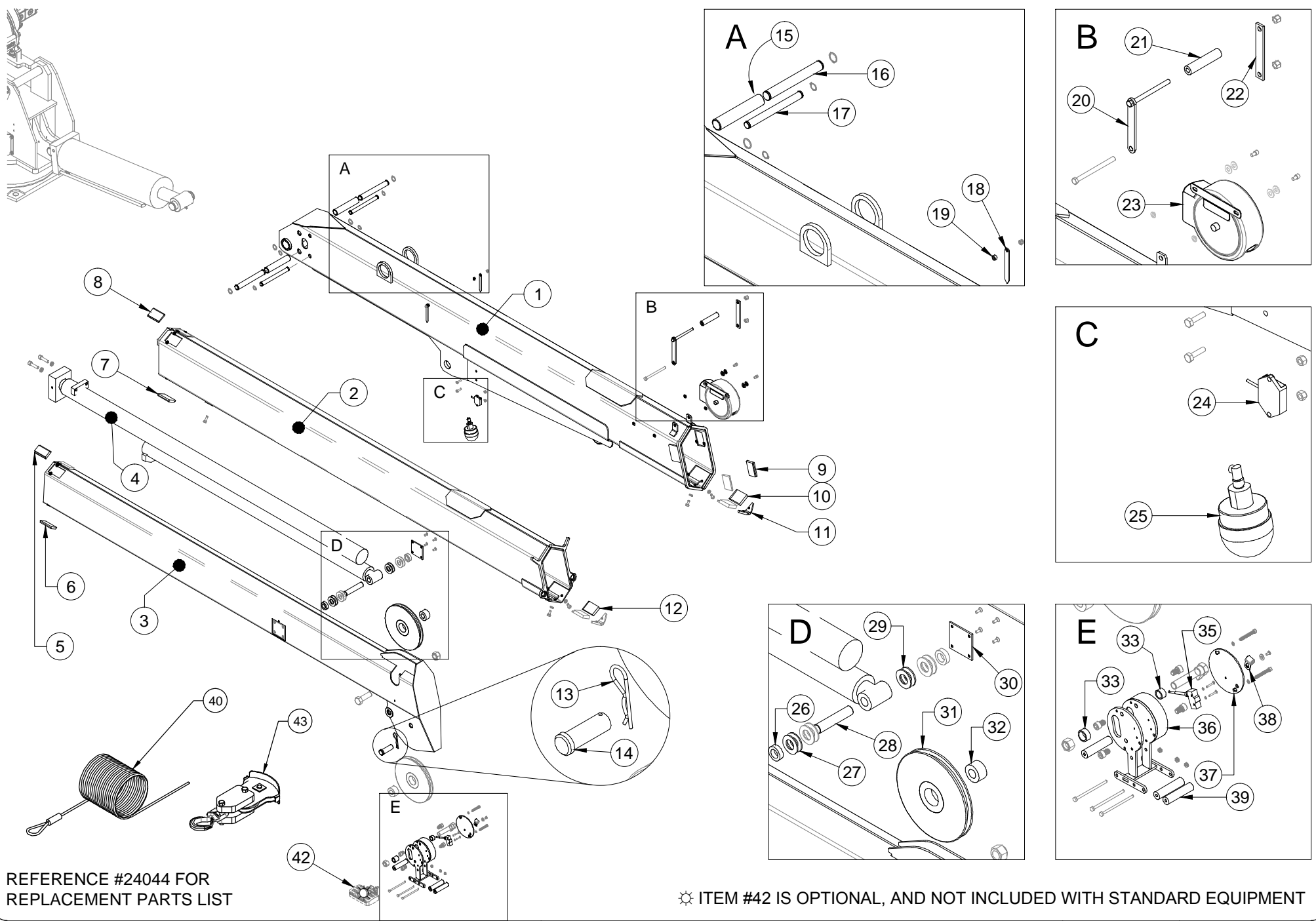
06-24-22B

SUPERSEDES  
05-17-22A

SECTION

C400

23759



REFERENCE #24044 FOR REPLACEMENT PARTS LIST

☼ ITEM #42 IS OPTIONAL, AND NOT INCLUDED WITH STANDARD EQUIPMENT



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
RPLCMNT PARTS DRAWING - 21410 BOOM  
HT45KX-20' VLC SERIES

DATE  
02-08-21C  
SUPERSEDES  
01-04-21B

SECTION  
C400  
24043

# REPLACEMENT PARTS LIST - HT45KX & HT60KX - 20' VLC SERIES ; 21410 BOOM

ITEM	PART NO.	QTY	DESCRIPTION
1	27207	1	WELDED ASS'Y; PRIMARY BOOM
2	27209	1	WELDED ASS'Y; SECONDARY BOOM
3	21416	1	WELDED ASS'Y; TERTIARY BOOM
4	21744	1	EXTENSION CYLINDER
5	23217-1	2	BOOM PAD; UHMW, 'A', 3.19 x 1.88 x 0.44
6	23217-1	2	BOOM PAD; UHMW, 'A', 3.19 x 1.88 x 0.44
7	23217-2	2	BOOM PAD; UHMW, 'A', 3.19 x 2.13 x 0.44
8	23217-2	2	BOOM PAD; UHMW, 'A', 3.19 x 2.13 x 0.44
9	23217-13	2	BOOM PAD; UHMW, 'A', 3.19 x 2.13 x 0.38
10	23217-17	2	BOOM PAD; UHMW, 'B', 3.19 x 2.50 x 0.50
11	23183	2	V-BLOCK, SLIDER
12	23217-14	2	BOOM PAD; UHMW, 'B', 3.19 x 2.13 x 0.50
13	21-08	1	PIN; HAIRPIN COTTER
14	27272	1	CLEVIS PIN
15	24535	2	THRUST ROLLER; EXTENSION CYLINDER
16	22255	2	THRUST PIN; REAR, EXTENSION CYLINDER
17	22255	2	THRUST PIN; FRONT, EXTENSION CYLINDER
18	13459-2	2	ARROW
19	22490	2	SPACER; BOOM ARROW
20	21935	1	WELDED ASS'Y; WIRE ROPE GUIDE
21	21560	1	ROLLER; UHMW, WIRE ROPE GUIDE
-	-	-	-

ITEM	PART NO.	QTY	DESCRIPTION
22	21936	1	FLAT, MOUNT; WIRE ROPE GUIDE
23	28190	1	COMPLETE CORD REEL
* 24	23720-INC	1	UNIVERSAL INCLINOMETER
25	23438	1	WARNING LIGHT; TRI-COLOR, LED
26	21428	2	BUSHING; EXTENSION CYLINDER
27	12534-8	2	BUSHING; MACHINE, 1" ID, 1-1/2" OD, 14G, ZINC
28	21405	1	PIN; CYLINDER
29	12534-2	2	BUSHING; MACHINE, 1" ID, 1-1/2" OD, 10G, ZINC
30	23116	2	PIN BLOCK REINFORCING
31	23928	2	CABLE SHEAVE
32	23929	2	SPACER; SHEAVE
33	▲ 27476-1	2	SPACER/PIVOT; COMPACT A2B
34	-	-	-
35	19376	1	LIMIT SWITCH; MODIFIED
36	27468	1	WLDMNT; COMPACT A2B FRAME, LEFT-HAND
37	27473	1	PLATE; COMPACT A2B COVER
38	19269	1	CLAMP; 1/4" CABLE
39	27475	3	ROLLER; COMPACT A2B, WIRE ROPE GUIDE
40	17094-3/8-100	1	WIRE ROPE; 100 FT, NO HOOK
41	-	1	-
☼42	27483	1	ASS'Y; WORK LIGHT, LED
43	17949-4	1	LOAD BLOCK ASSEMBLY

\* THESE ITEMS ARE INCLUDED IN 23720 KIT. PLEASE CALL TECHNICAL SUPPORT AT 1-800-226-2238 FOR ASSISTANCE.

REFERENCE #24043 FOR REPLACEMENT PARTS DRAWING

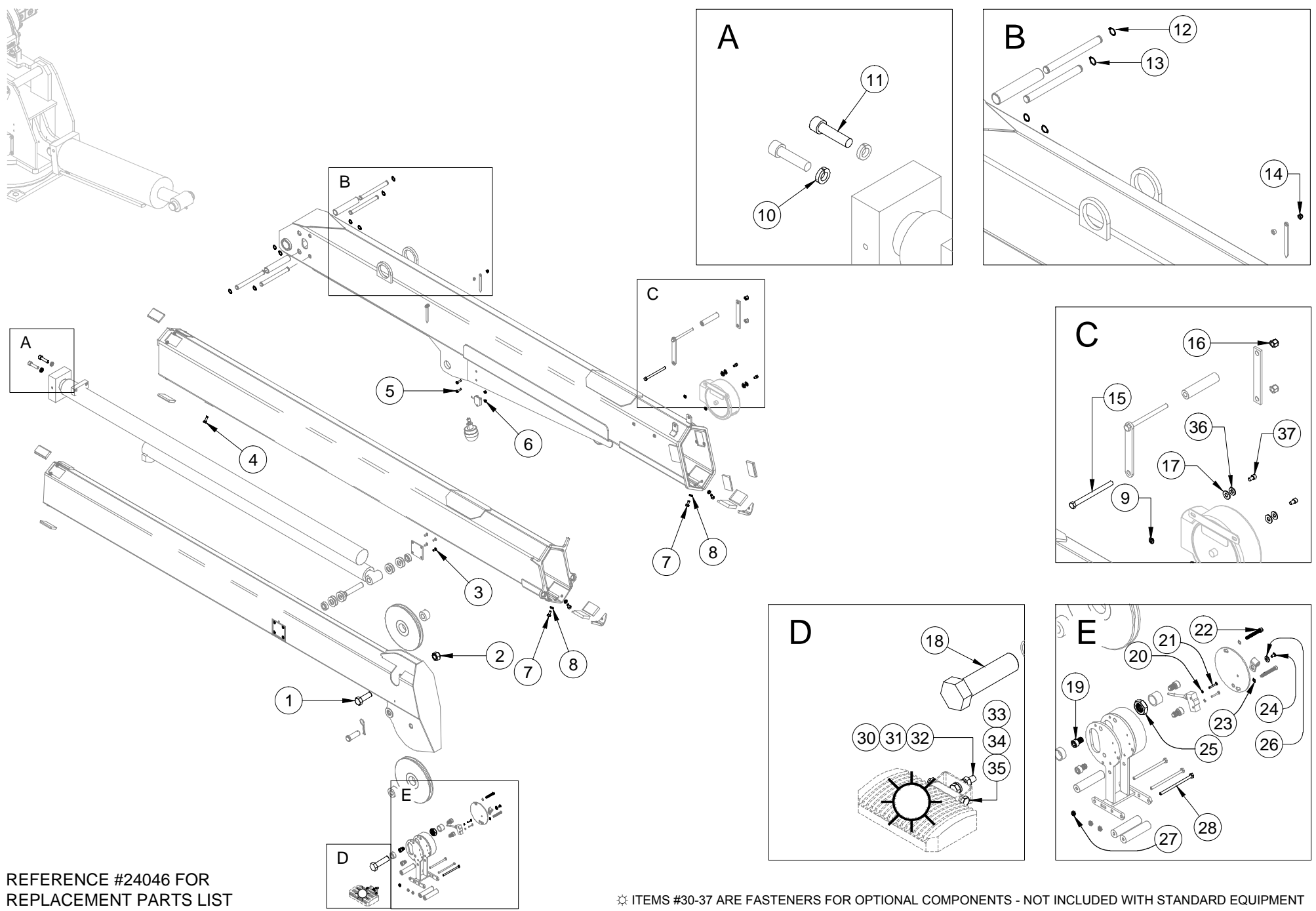
☼ OPTIONAL; NOT INCLUDED WITH STANDARD EQUIPMENT



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
REPLACEMENT PARTS LIST - 21410 BOOM	09-07-23F	C400
HT45KX & HT60KX - 20' VLC SERIES	SUPERSEDES 06-07-23E	24044





REFERENCE #24046 FOR REPLACEMENT PARTS LIST

⚙️ ITEMS #30-37 ARE FASTENERS FOR OPTIONAL COMPONENTS - NOT INCLUDED WITH STANDARD EQUIPMENT



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
RPLCMNT FASTENERS DRWNG - 21410 BOOM	02-09-21A	C400
HT45KX-20' VLC SERIES	SUPERSEDES	
	05-16-19	24045

ITEM #	PART #	QTY	DESCRIPTION	WHERE-USED
1	17059-6	1	SHEAVE AXLE; HHCS 3/4-10 X 2" LG.	TOP SHEAVE
2	!JNUT-07510N	1	JAM NUT; 3/4-10, GR. 5	TOP SHEAVE
3	!CACSO2520050S	8	CACS; 1/4-20 X 1/2", S/S	PIN BLCK REINFORCING
4	!HHCS02520125S	2	HHCS; 1/4-20 X 1-1/4", S/S	EXTENSION CYLINDER
5	!HHCS02520100S	2	HHCS; 1/4-20 X 1", S/S	INCLINOMETER
6	!LNUT-02520NS	2	LOCK NUT; 1/4-20, NYLON, S/S	INCLINOMETER
7	!HHCS03816075S	4	HHCS; 3/8-16 X 3/4", S/S	V-BLOCKS
8	!LWSH-038	4	LOCK WASHER; 3/8", GR. 5, ZINC-PL	V-BLOCKS
9	28198	2	INSULATING SLEEVE WASHER - 5/16"	CORD REEL ASS'Y
10	!LWSH-050-HC	2	LOCK WASHER; 1/2", HI-COLLAR	EXTENSION CYLINDER
11	!SHCS05013200	2	SHCS; 1/2-13 X 2"	EXTENSION CYLINDER
12	!SRNG-075	4	SNAP RING; 3/4"	EXT. CYL. REAR PINS
13	!SRNG-075	4	SNAP RING; 3/4"	EXT. CYL. FRONT PINS
14	!ANUT-02520S	2	ACORN NUT; 1/4-20, S/S	BOOM ARROWS
15	!HHCS04414550	1	HHCS; 7/16-14 X 5-1/2", GR. 5, ZINC	WIRE ROPE GUIDE
16	!LNUT-04414	2	LOCK NUT; 7/16-14, GR. 5, ZINC	WIRE ROPE GUIDE
17	01016	2	FIBER WASHER	CORD REEL ASS'Y
18	28362	1	ASSY, CAM & HHCS CA2B CUT-OUT	COMPACT A2B ASS'Y
19	27467	4	SHCS; 1/2-13 X 3/4", BLACK NYLON	COMPACT A2B ASS'Y
20	!LWSH-#06	2	LOCK WASHER; #06, ZINC	COMPACT A2B SWITCH

ITEM #	PART #	QTY	DESCRIPTION	WHERE-USED
21	!PHCS#0632100	2	PHCS; #06-32 X 1", GR. 5, ZINC	COMAPCT A2B SWITCH
22	!SHCS02520200SS	2	SHCS; 1/4-20 X 2", S/S	COMPACT A2B COVER
23	23379	2	WASHER; 3/8" ID, 1/4" OD, NYLON	COMPACT A2B COVER
24	!SHPMS#1032038S	1	SLOT-HD PMS; #10-32 X 3/8", S/S	COMPACT A2B CLAMP
25	LNUT-07510	1	NYLOC LOCKNUT, FULL, 3/4-10,GR.5	COMPACT A2B ASS'Y
26	!FWSH-025S	1	FLAT WASHER; 1/4", S/S	COMPACT A2B CLAMP
27	!JNUT-02520NS	3	JAM NUT; 1/4-20, NYLON, S/S	COMPACT A2B ROLLERS
28	!HHCS02520450	3	HHCS; 1/4-20 X 4-1/2"	COMPACT A2B ROLLERS
29	-	-	-	-
☼ 30	!HHCS03118125S	1	HHCS; 5/16-18 X 1-1/4", S/S	WORK LIGHT
☼ 31	!HNUT-03118S	2	HEX NUT; 5/16-18, S/S	WORK LIGHT
☼ 32	!FWSH-031S	1	FLAT WASHER; 5/16", S/S	WORK LIGHT
☼ 33	!HHCS02520250S	1	HHCS; 1/4-20 X 2-1/2", S/S	WORK LIGHT
☼ 34	!LWSH-025S	1	LOCK WASHER; 1/4", S/S	WORK LIGHT
☼ 35	!HNUT-02520S	1	HEX NUT; 1/4-20, S/S	WORK LIGHT
36	!FWSH-031	2	FLAT WASHER; 5/16"	CORD REEL ASS'Y
37	!SHCS03118063S	2	SHCS; 5/16-18 X 5/8" LG, S/S	CORD REEL ASS'Y
38	-	-	-	-
39	-	-	-	-
40	-	-	-	-

☼ ITEMS #30-35 ARE FOR OPTIONAL COMPONENTS - NOT INCLUDED WITH STANDARD EQUIPMENT

REFERENCE #24045 FOR REPLACEMENT FASTENERS DRAWING

SH = SOCKET HEAD HH = HEX HEAD THCS = TRUSS HEAD PHILLIPS SCREW  
CACSO = COUNTERSUNK ALLEN HEAD CAP SCREW PMS = PAN MACHINE SCREW  
S/S = STAINLESS STEEL



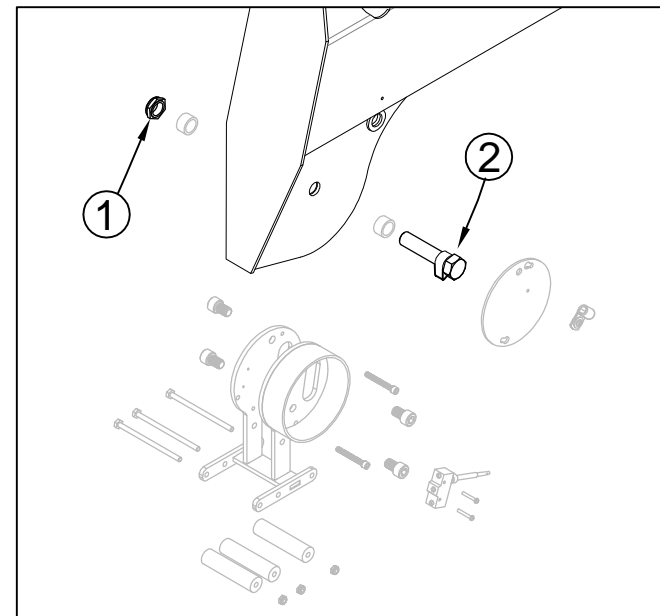
VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
PLCMNT FASTENERS LIST - 21410 BOOM	02-09-21A	C400
HT45KX-20' VLC SERIES	SUPERSEDES 05-16-19	24046

# 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 Ventura 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

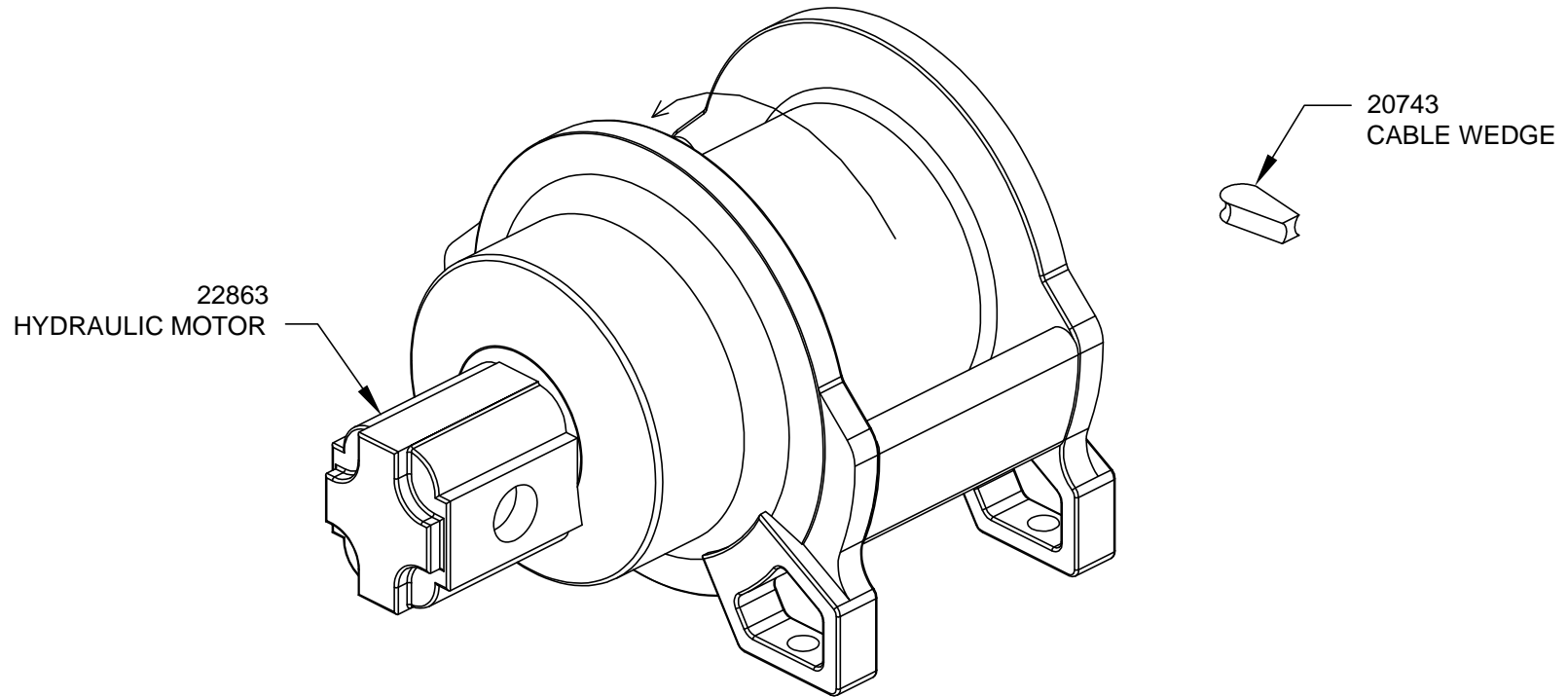
ET/HT Cranes w/ Comp. A2B

SUPERSEDES

08-03-21A

28239

# REPLACEMENT PARTS; 22829 WINCH, PROPORTIONAL



FINAL DRIVE GEAR & SEAL KIT P/N: 22938-KIT

WINCH SERVICE KIT P/N: 21381

MOTOR SERVICE KIT P/N: 22902



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

22829 WINCH; REPLACEMENT PARTS DWG

HT40KX PROPORTIONAL

DATE

03-03-14B

SUPERSEDES

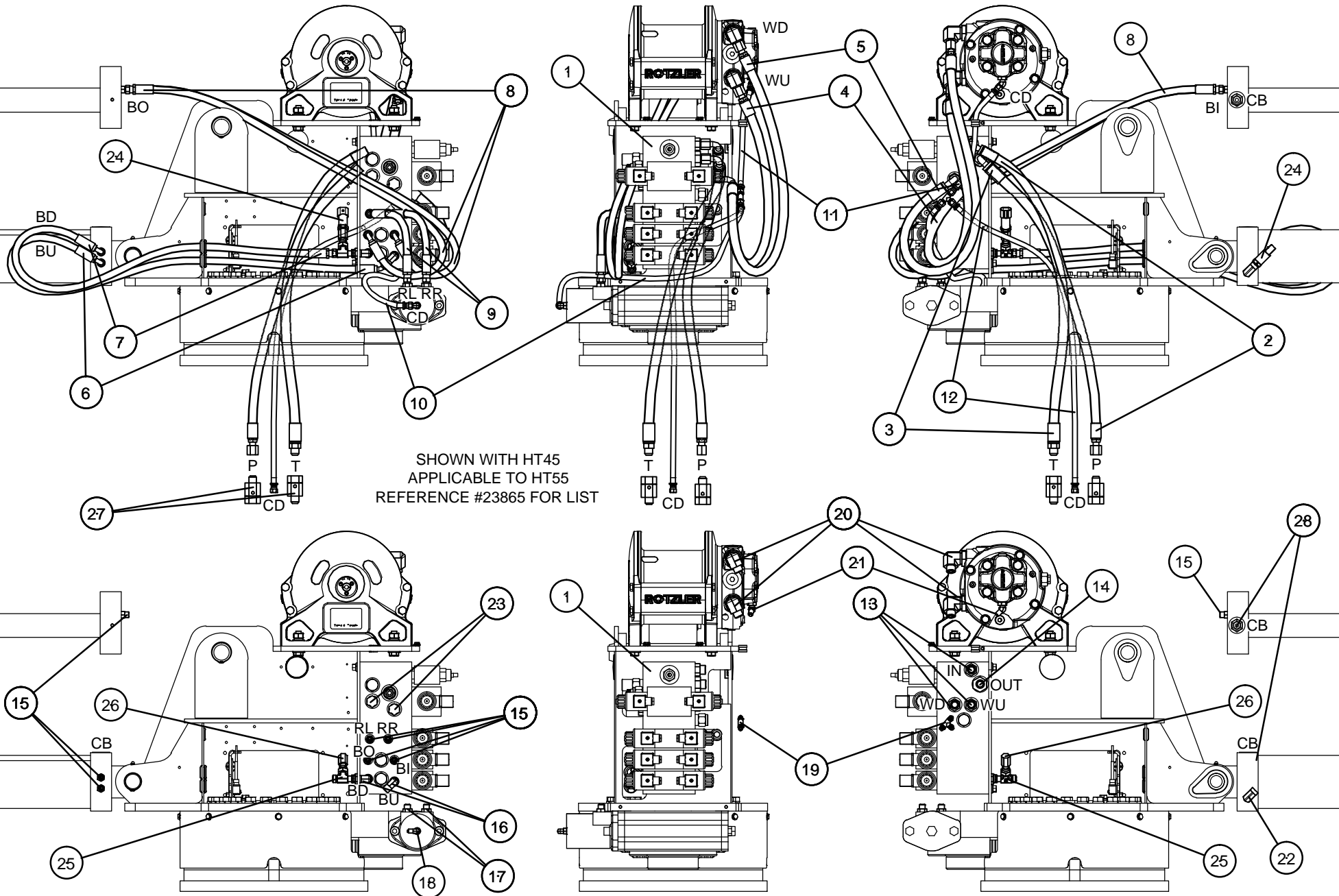
09-13-11A

SECTION

C400

23030

# REPLACEMENT PARTS DRAWING, HYDRAULIC COMPONENTS



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
REPLACEMENT PARTS, HYD. COMPONENTS  
HT45/55 VLC SERIES CRANES

DATE  
04-27-21D  
SUPERSEDES  
03-25-21C

SECTION  
C400  
23864

# REPLACEMENT PARTS LIST; HYDRAULIC COMPONENTS

#	DESCRIPTION	QTY	PART NUMBER	APPLICATION
1	VALVE MANIFOLD; PROPORTIONAL, HT40-55KX	1	22736H	REAR OF MECHANISM, INSIDE REAR COVER
2	HOSE ASSEMBLY; PRESSURE SUPPLY	1	23798	RIGHT SIDE VALVE BANK TO COMPARTMENT SIDE
3	HOSE ASSEMBLY; RETURN SUPPLY	1	23799	RIGHT SIDE VALVE BANK TO COMPARTMENT SIDE
4	HOSE ASSEMBLY; WINCH UP	1	27024	RIGHT SIDE VALVE BANK TO WINCH UP PORT
5	HOSE ASSEMBLY; WINCH DOWN	1	27025	RIGHT SIDE VALVE BANK TO WINCH DOWN PORT
6	HOSE ASSEMBLY; BOOM UP	1	27026	LEFT SIDE VALVE BANK TO BOOM UP PORT
7	HOSE ASSEMBLY; BOOM DOWN	1	27027	LEFT SIDE VALVE BANK TO BOOM DOWN PORT
8	HOSE ASSEMBLY; BOOM IN & OUT	2	27592	EXTENSION PORTS TO LEFT SIDE VALVE BANK
9	HOSE ASSEMBLY; ROTATION LEFT & RIGHT	2	27598	LEFT SIDE VALVE BANK TO ROTATION PORTS
10	HOSE ASSEMBLY; WINCH CASE DRAIN	1	22952	ROTATION CASE DRAIN TO T-FITTING JUNCTION
11	HOSE ASSEMBLY; ROTATION CASE DRAIN	1	22953	WINCH CASE DRAIN TO T-FITTING JUNCTION
12	HOSE ASSEMBLY; CASE DRAIN OUT	1	22903	T-FITTING JUNCTION TO COMPARTMENT SIDE
13	FITTING; ADAPTER, STRAIGHT, 8OFS-10MO	3	FF6400-0810	RIGHT SIDE VALVE BANK; IN, WU & WD PORTS
14	FITTING; ADAPTER, STRAIGHT, 8OFS-12MO	1	FF6400-0812	RIGHT SIDE VALVE BANK, OUT PORT
15	FITTING; ADAPTER, STRAIGHT, 6OFS-6MO	8	FF6400-0606	ELEVATION, EXTENSION, RL, RR, BI & BO PORTS
16	FITTING; ADAPTER, 90° ELBOW, 6OFS-6MO	2	FF6801-0606	LEFT SIDE VALVE BANK, BU & BD PORTS
17	FITTING; ADAPTER, STRAIGHT, 6OFS-10MO	2	FF6400-0610	ROTATION RIGHT & LEFT PORTS
18	FITTING; ADAPTER, 90° ELBOW, 4MJ-4MO	1	H6801-0404	ROTATION CASE DRAIN PORT
19	FITTING; ADAPTER, T-SHAPE, 4MJ-4MJ-4MJ	1	H2603-040404	T-FITTING JUNCTION FOR CASE DRAIN HOSES
20	FITTING; ADAPTER, 90° ELBOW, 8OFS-12MO BRITISH	2	FF3801-8-12	WINCH UP & DOWN PORTS, ROTZLER TI SERIES
21	FITTING; ADAPTER, 45° ELBOW, 4MJ-4MO BRITISH	1	3802-0404	WINCH CASE DRAIN PORT, ROTZLER TI SERIES
22	FITTING; ADAPTER, 90° ELBOW, 4MO-4FO	1	23733	ELEVATION BASE-END, PRESSURE TRANSDUCER
23	FITTING; PLUG, 10MO	2	H6408-10	LEFT SIDE VALVE BANK, WU & WD PORTS
24	PRESSURE TRANSDUCER; VLC SYSTEM	2	23720-PTD	BASE-END ON EL. CYLINDER, ROD-END INSIDE MECH
25	FITTING; ADAPTER, T-SHAPE, 6MOFS-6FOFS-6MOFS	1	23731	ROD-END OF EL. CYLINDER, INSIDE MECHANISM
26	FITTING; ADAPTER, STRAIGHT, 6OFS-4MO	1	23732	T-FITTING FOR ROD-END OF EL. CYLINDER
27	LIVE SWIVEL; CONTINUOUS, STRAIGHT, 6MJ-6FJ	2	22764	PRESSURE & RETURN HOSES, COMPARTMENT SIDE
28	COUNTER-BALANCE VALVE; CBPA, 50/40, 3000 PSI SYS.	2	20893	ELEVATION & EXTENSION CYLINDER VALVE

## HYDRAULIC FUNCTION KEY

P	PRESSURE SUPPLY	RL	ROTATION LEFT
T	TANK RETURN	RR	ROTATION RIGHT
CD	CASE DRAIN	BO	BOOM OUT
IN	PRESSURE IN	BI	BOOM IN
OUT	RETURN OUT	BU	BOOM UP
WU	WINCH UP	BD	BOOM DOWN
WD	WINCH DOWN	CB	COUNTER-BALANCE VALVE

REFERENCE #23864 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**REPLACEMENT PARTS LIST**  
HT45/55 VLC SERIES

DATE  
**04-27-21E**  
SUPERSEDES  
**10-15-20D**

SECTION  
**C400**  
**23865**



# 22736 SERIES VALVE MANIFOLD REPLACEMENT PARTS

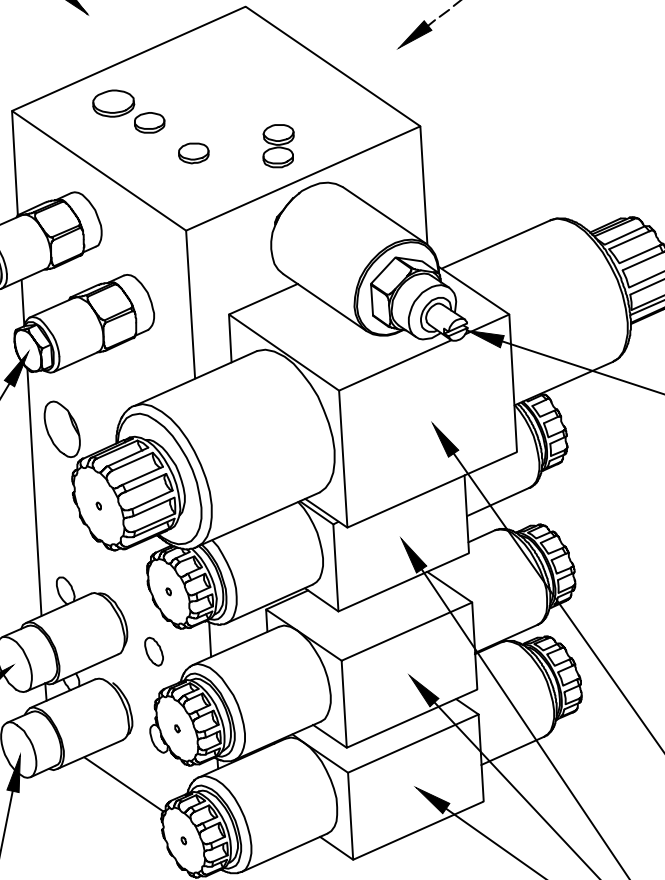
22963  
CHECK VALVE  
(NOT SHOWN -  
LOCATED ON BACK SIDE)

22595  
MAIN RELIEF VALVE

22967 (HT40/50, 22736H)  
22595 (HT66, 22736H-1)  
22595-2600 (HT60, 22736H-2)  
WINCH RELIEF VALVE

22312-2.25  
PRIORITY FLOW VALVE  
(BOOM EXTENSION)

22312-4.00  
PRIORITY FLOW VALVE  
(BOOM ELEVATION)



PRIORITY FLOW VALVE		
VALVE P/N	MANIFOLD	CRANE
22312-6.00	22736H	HT40/50KX
22312-7.50	22736H-1	HT66KX
22312-7.50	22736H-2	HT60KX
NOT SHOWN - LOCATED ON RIGHT SIDE		

PROPORTIONAL VALVE		
VALVE P/N & DESCRIPTION	MANIFOLD	CRANE MODEL
23046 HYDRAFORCE (ROUND COIL)	22736H	HT40KX
		HT50KX
	22736H-1	HT/66KX
	22736H-2	HT60KX

22873  
VALVE SECTION ASSY

22523  
VALVE SECTION ASSY



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
22736 REPLACEMENT PARTS

HT40/50/60/66KX PROPORTIONAL

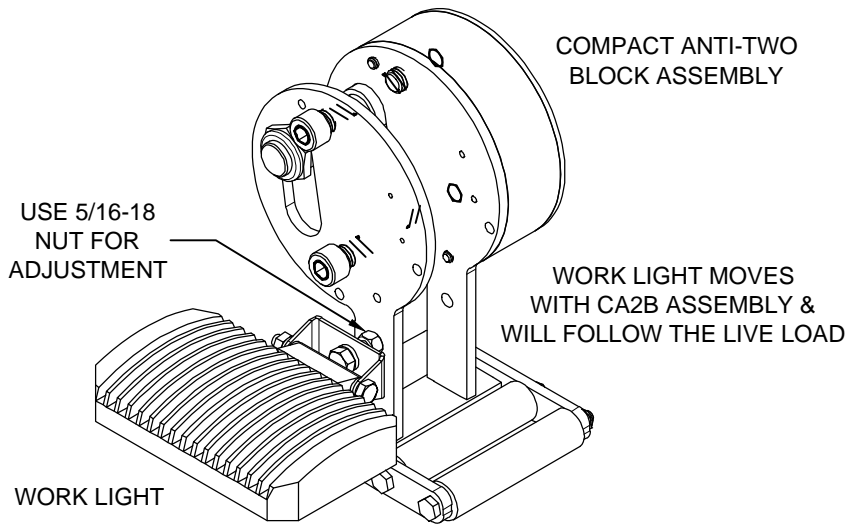
DATE  
11-10-22G

SUPERSEDES  
11-13-17F

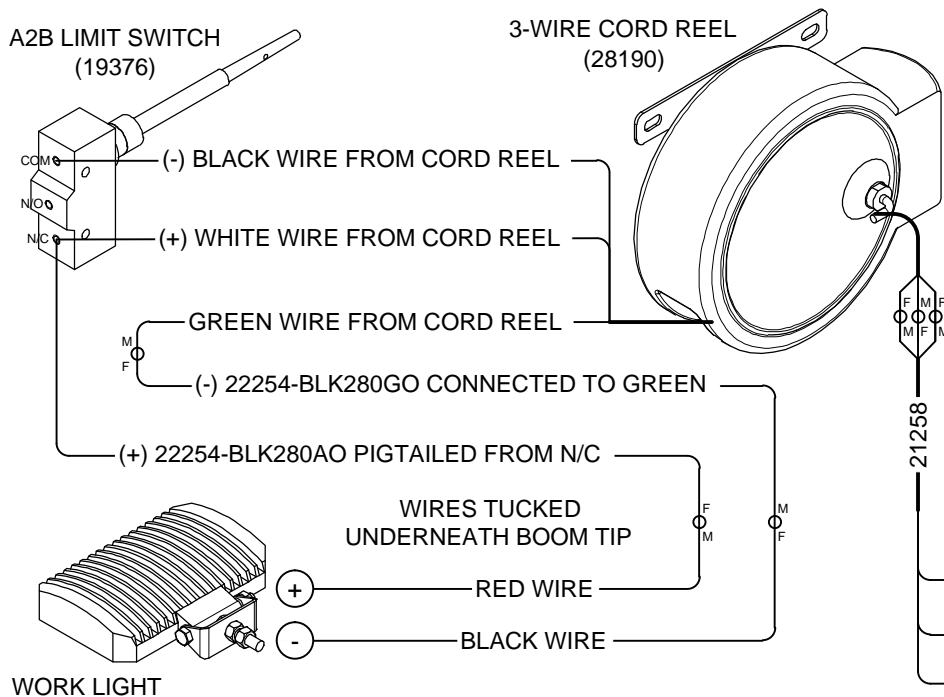
SECTION  
C400

22940

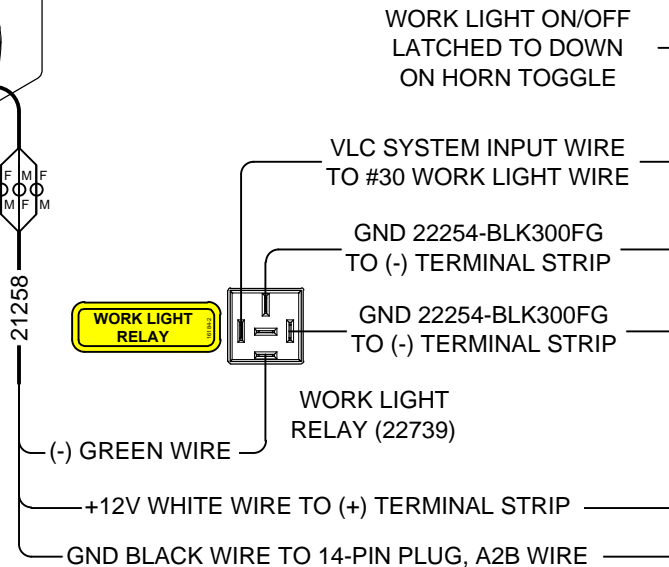
# WORK LIGHT INSTALLATION: 28240 (3-WIRE CORD REEL ON VLC CRANES)



BILL OF MATERIALS		N/D	28240
#	DESCRIPTION	QTY	PART NUMBER
1	IDWG; WORK LIGHT INSTALLATION, VLC CRANES	1	28188
2	LED WORK LIGHT	1	27483
3	TERMINAL; 16G, FEMALE, QUICK-CONNECT	5	!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	RELAY; 12VDC	1	22739
8	DECAL; WORK LIGHT RELAY	1	16184-2
9	WIRE ASS'Y; 16G, BLACK, 30", MALE PIN - QCF	2	22254-BLK300FG



## VLC CRANES



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

WORK LIGHT INSTALLATION, 3-WIRE CORD REEL

VLC CRANES

DATE

03-03-23A

SUPERSEDES

02-05-21

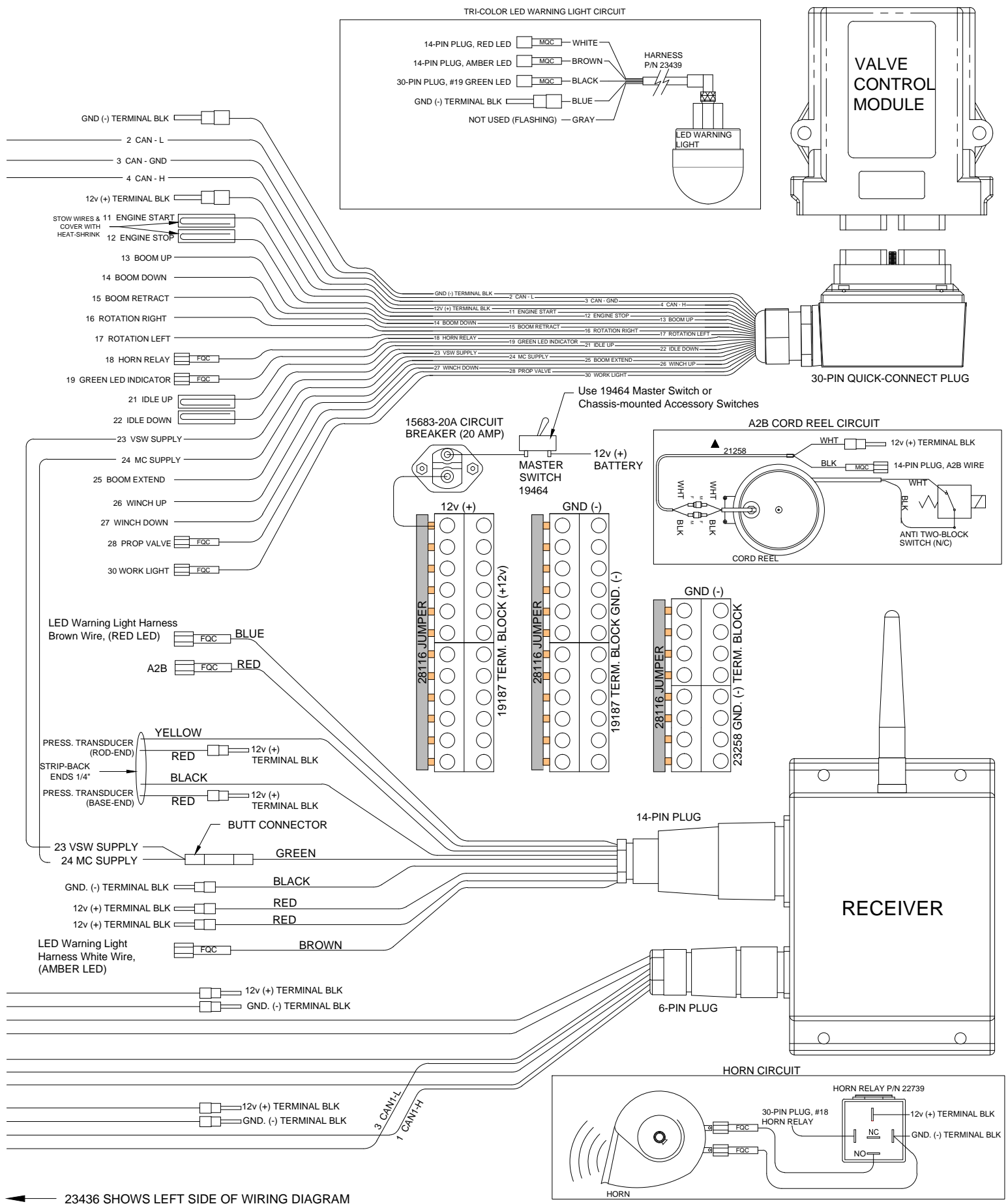
SECTION

C400

28188







VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**WIRING DIAGRAM, PG. 2**

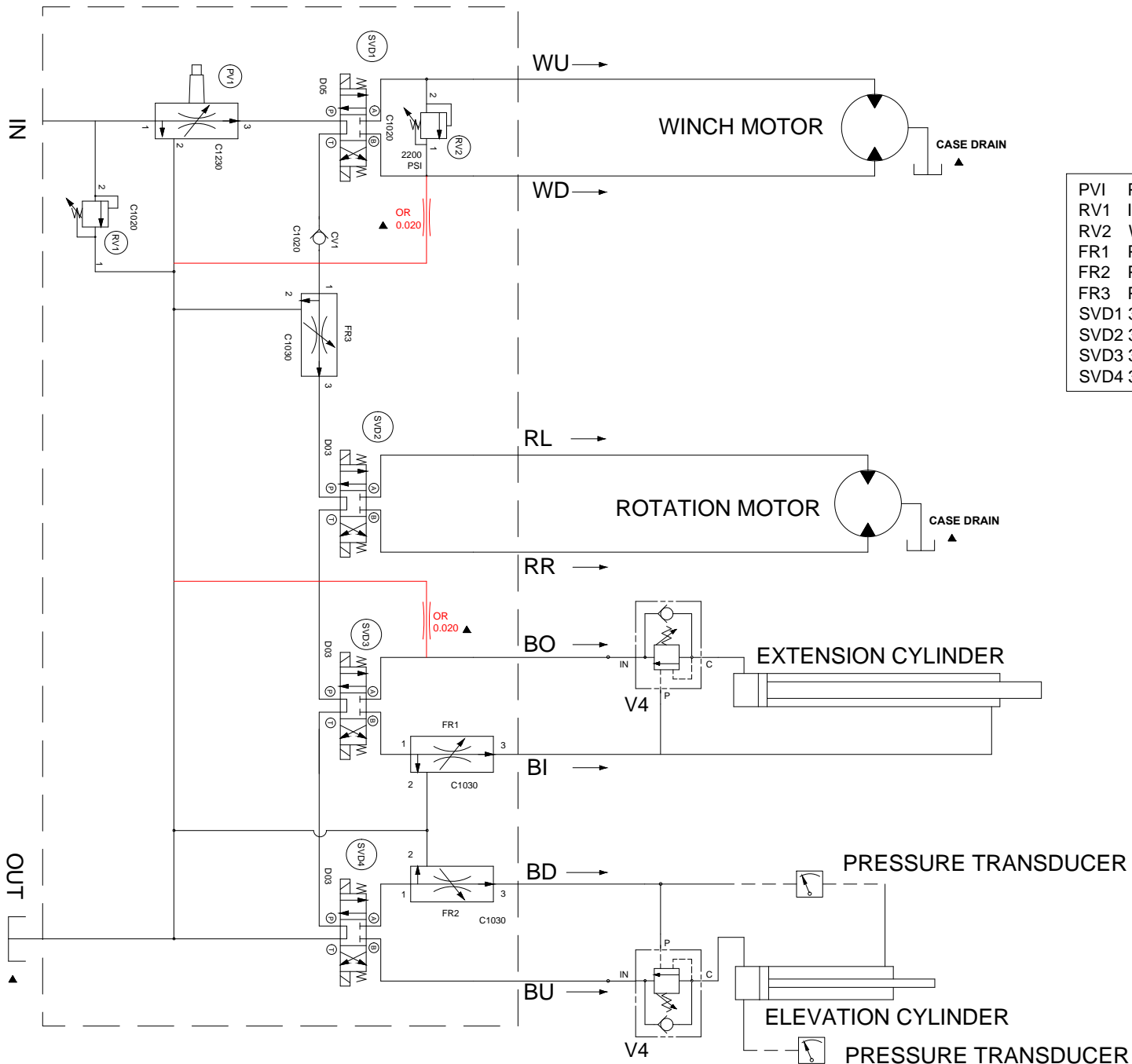
HT45KX VLC SERIES

DATE  
**08-29-23L**

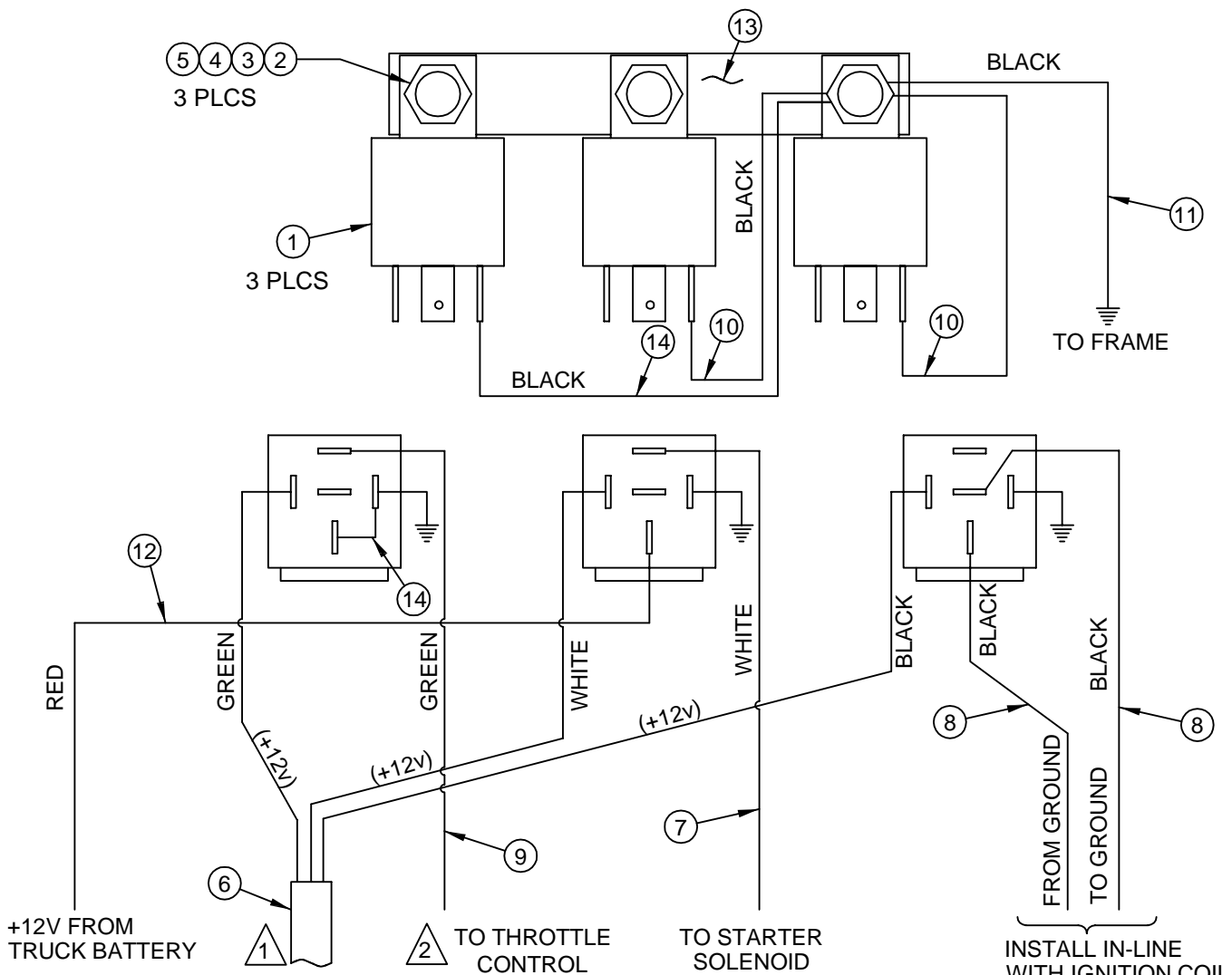
SUPERSEDES  
**03-27-23K**

SECTION  
**C400**

**23437**



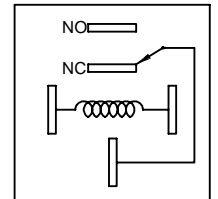
- PV1 PROPORTIONAL CONTROL VALVE (SIMPLIFIED REP)
- RV1 INLET RELIEF VALVE (3000 PSI)
- RV2 WINCH RELIEF VALVE
- FR1 PRIORITY FLOW REGULATOR - 2.25 GPM
- FR2 PRIORITY FLOW REGULATOR - 4.00 GPM
- FR3 PRIORITY FLOW REGULATOR - 6.00 GPM
- SVD1 3 POSITION - 4 WAY VALVE
- SVD2 3 POSITION - 4 WAY VALVE
- SVD3 3 POSITION - 4 WAY VALVE
- SVD4 3 POSITION - 4 WAY VALVE



1 USER-CONTROLLED +12V INPUT SIGNALS FROM HETRONIC VLC SYSTEM OR ANALOG PENDANT OR RADIO SYSTEM

2 THROTTLE CONTROL IS DESIGNED TO PROVIDE A GROUND SIGNAL WHEN RELAY IS ACTIVATED

INSTALL IN-LINE WITH IGNITION COIL (GAS) OR FUEL SOLENOID (DIESEL).



RELAY SCHEMATIC

ITEM	QTY	PART#	DESCRIPTION
1	3	22739	RELAY
2	3	!PHCS#1024075	#10-24 X 3/4 PHIL PAN HD BOLT
3	3	!LWSH-#10	#10 LOCKWASHER
4	3	!FWSH-025	#10 WASHER
5	3	!HNUT-#1024	#10 NUT
6	1	22607	WIRE HARNESS - 12/3 SJO
7	1	22609	WHITE - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
8	2	22610	BLACK - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
9	1	22611	GREEN - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
10	2	22612	BLACK - 16 GAGE ELECTRICAL WIRE - 6 INCHES LONG
11	1	22613	BLACK - 16 GAGE ELECTRICAL WIRE - 8 FEET LONG
12	1	22614	RED - 14 GAGE ELECTRICAL WIRE - 15 FEET LONG
13	1	01181	BUSS BAR
14	1	22619	BLACK - 16GA WIRE ASSY - 6" LONG W/ 3 INCH PIGTAIL



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE ENGINE START / STOP  
THROTTLE CONTROL

HT CRANES

DATE 06-09-20F

SUPERSEDES 02-21-14E

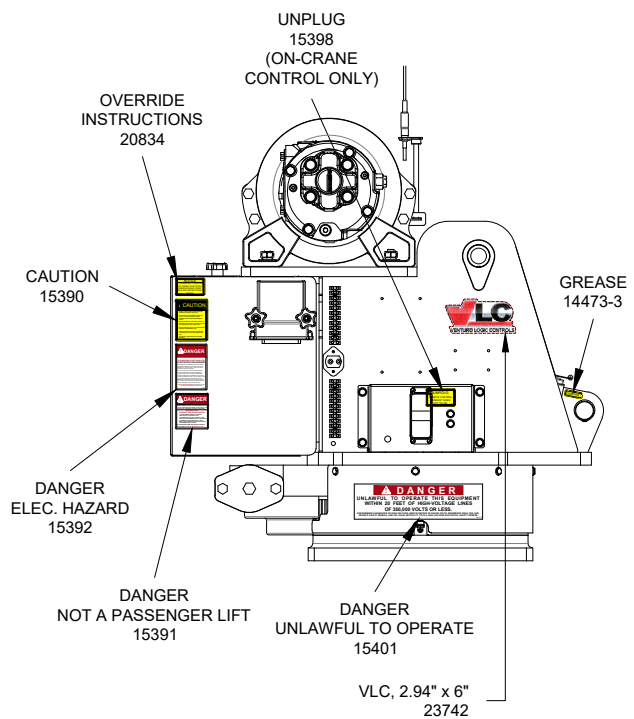
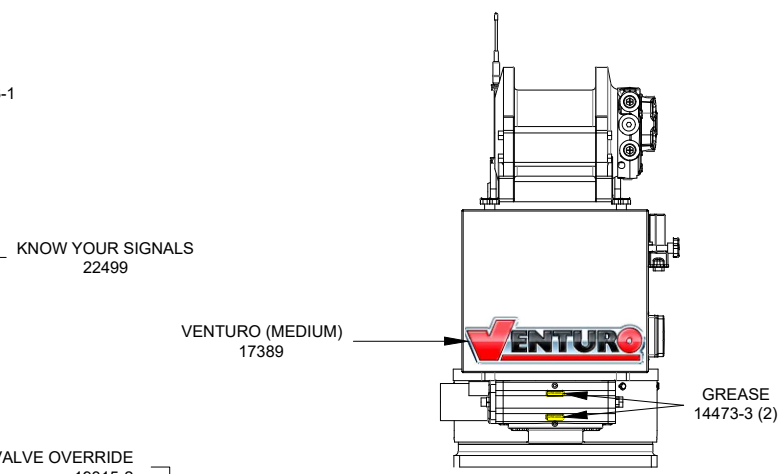
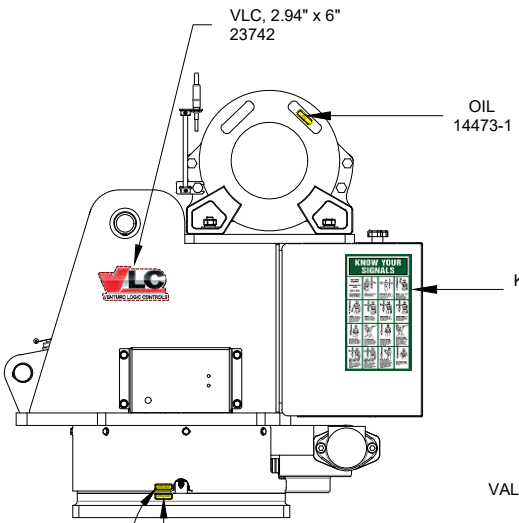
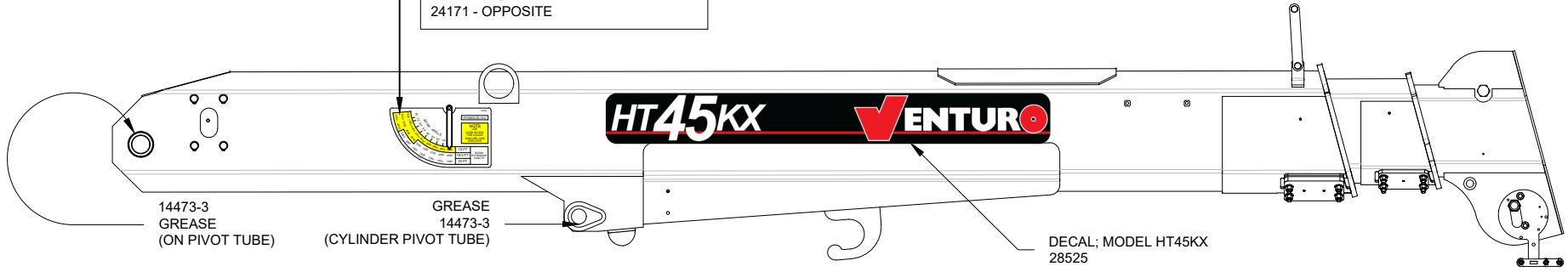
SECTION C400

22615

BOOM CAPACITY HT45KX - 20' (7500 lb.)  
23462 - RIGHT  
23463 - OPPOSITE

BOOM CAPACITY HT45KX - 25' (7800 lb.)  
23464 - RIGHT SIDE  
23465 - OPPOSITE

BOOM CAPACITY HT45KX - 30' (7800 lb.)  
24172 - RIGHT SIDE  
24171 - OPPOSITE

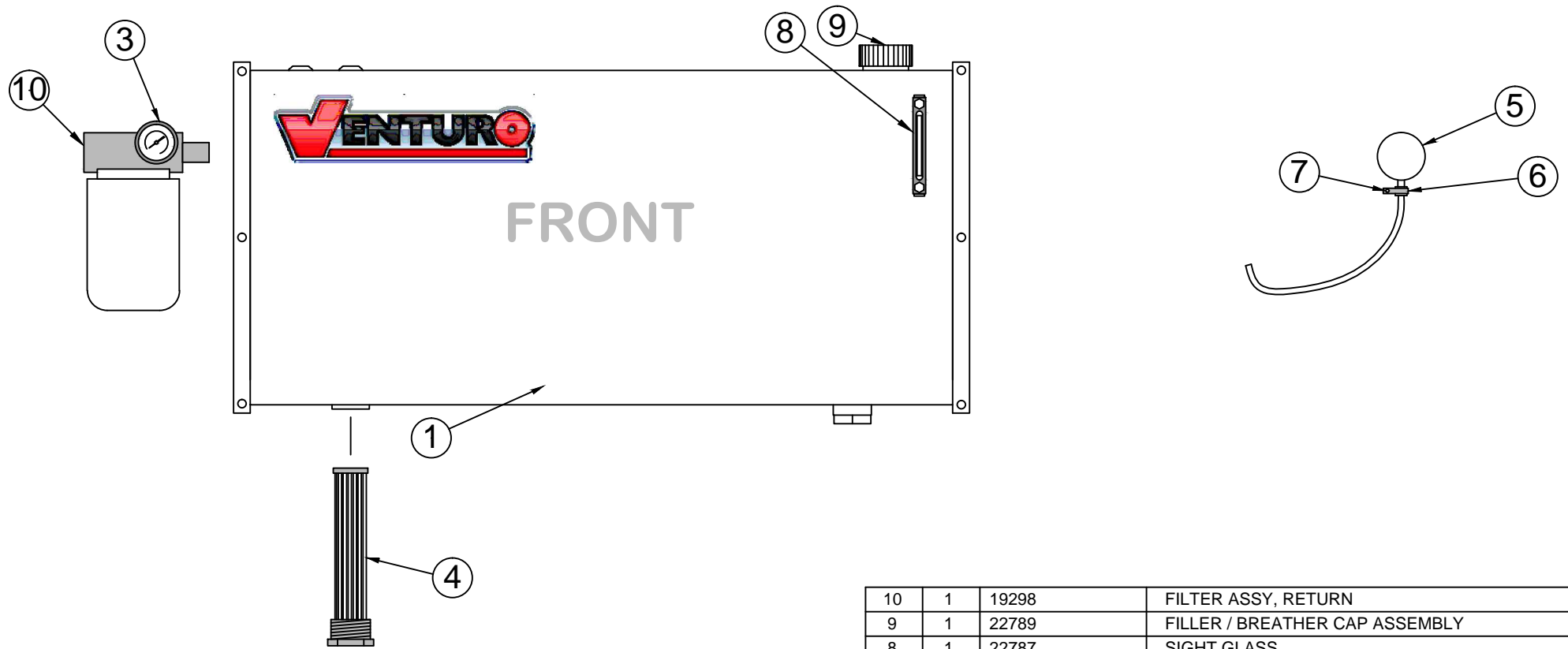


FIELD SERVICE LABEL KITS:  
23739 - HT45KX-VLC



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE <b>DECAL PLACEMENT</b>	DATE 06-19-23	SECTION C400
HT45KX VLC SERIES	SUPERSEDES -	28527



10	1	19298	FILTER ASSY, RETURN
9	1	22789	FILLER / BREATHER CAP ASSEMBLY
8	1	22787	SIGHT GLASS
7	1	!HWHS02520075-F	HEX WASHER HEAD 1/4-20 X 3/4 SELF TAPPING
6	1	19275	CLAMP
5	1	22730	PRESSURE GAUGE ASSEMBLY
4	1	22788	SUCTION SCREEN - 100 MESH
3	1	19297	PRESSURE GAUGE - RETURN
▲ 2	-	-	-
▲ * 1	1	22785	HYDRAULIC RESERVOIR - 25 GAL (18" x 40" x 8")
		22998	HYDRAULIC RESERVOIR - 40 GAL (20" x 42" x 11")
ITEM	QTY	PART NUMBERS	DESCRIPTION



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

RESERVOIR KIT REPL PARTS

DATE

12-09-22D

SECTION

C400

HT CRANES; 25/40 GAL RESERVOIR

SUPERSEDES

08-04-15C

23224

# FIELD SERVICE LABEL KITS; HT45 VLC SERIES

HT45KX			23739 FIELD SERVICE LABEL KITS	
-20 (20' BOOM)	-25 (25' BOOM)	-30 (30' BOOM)		
QTY			PART #	DESCRIPTION
1	1	1	16184-1	DECAL; HORN RELAY
1	1	1	16184-2	DECAL; WORK LIGHT RELAY
2	2	2	28525	DECAL; MODEL HT45KX
1	1	1	17389	DECAL; VENTURO LOGO, MEDIUM
1	1	1	23741	DECAL; VLC MODEL SERIES
1	-	-	23462	DECAL; BOOM CAPACITY, 10-16-20, RIGHT
1	-	-	23463	DECAL; BOOM CAPACITY, 10-16-20, LEFT
-	1	-	23464	DECAL; BOOM CAPACITY, 12-18.5-25, RIGHT
-	1	-	23465	DECAL; BOOM CAPACITY, 12-18.5-25, LEFT
-	-	1	24172	DECAL; BOOM CAPACITY, 13.5-22-30, RIGHT
-	-	1	24171	DECAL; BOOM CAPACITY, 13.5-22-30, LEFT
1	1	1	14473-1	DECAL; OIL
8	8	8	14473-3	DECAL; GREASE
1	1	1	17813	DECAL; OVERLOAD SENSING SYSTEM
1	1	1	22499	DECAL; KNOW YOUR SIGNALS
1	1	1	20834	DECAL; MANUAL OVERRIDE, INSTRUCTIONS
1	1	1	19315-2	DECAL; MANUAL OVERRIDE SHUT-OFF, PROPORTIONAL
1	1	1	22768-1	DECAL; MANUAL OVERRIDE, PROPORTIONAL, LEFT
1	1	1	22768-2	DECAL; MANUAL OVERRIDE, PROPORTIONAL, RIGHT
1	1	1	23766	IDWG: FIELD SERVICE LABEL KIT
1	1	1	28527	IDWG: DECAL PLACEMENT
1	1	1	INST-23233	SAFETY MANUAL, VENTURO CRANES
1	1	1	15397	KIT; ACCIDENTAL PREVENTION SIGNS



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
FIELD SERVICE LABEL KITS  
HT45 VLC SERIES

DATE  
07-17-23H  
SUPERSEDES  
06-19-23G

SECTION  
C400  
23766



## 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](http://www.venturo.com)