

HWBACA-V*A0

PARTS & INSTALLATION MANUAL HT60KX-30

<u>Included in this manual:</u>

HT60KX-30 (VLC)

- 10,000 lb Hydraulic Telescopic Service Crane
- Venturo Logic Control System w/ Proportional Control
- 30 ft Fully-Powered, Two-Stage, Boom Extension

VENCO VENTURO INDUSTRIES LLC
12110 BEST PLACE | CINCINNATI, OHIO 45241

VENCO VENTURO O INDUSTRIES LLC D

HT60KX-30' VLC INST-28417 - 12/4/2023 (Rev: A5)

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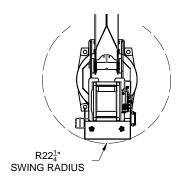
FIELD SERVICE LABEL KIT 28441

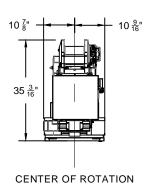
12-00073 VNT1 **WARRANTY PAGE**

SECTION 100

DESCRIPTION & SPECIFICATIONS



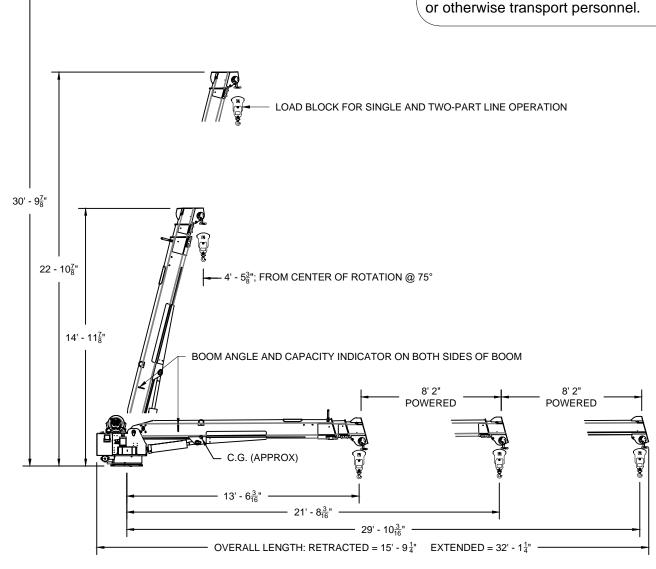




THIS SECTION SCALED 2:1 FOR CLARITY

WARNING

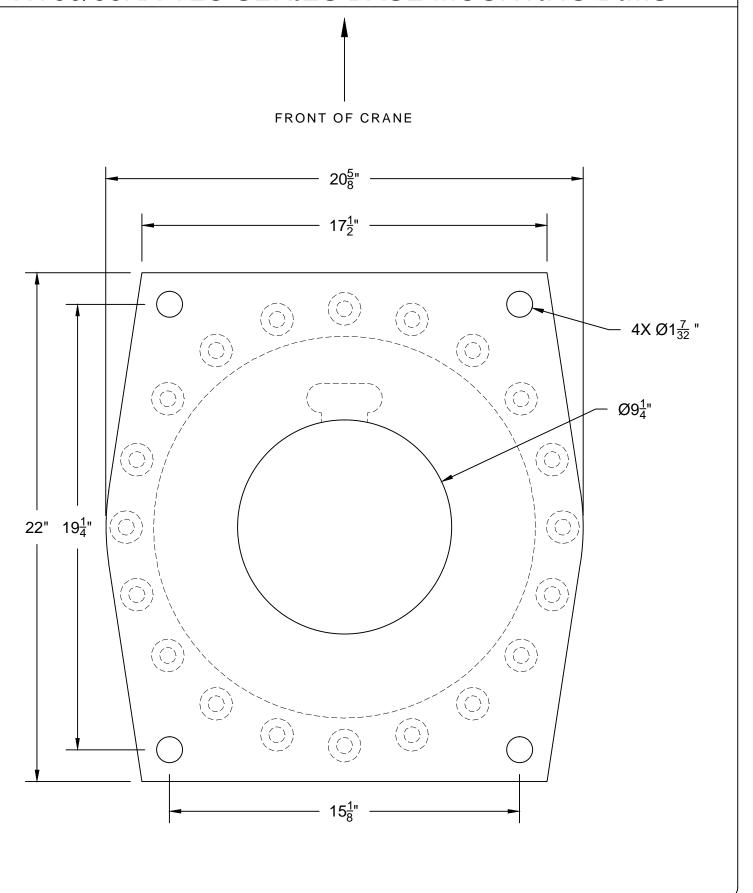
• These products are not passenger lifts. They are not designed or intended to be used to lift, support, or otherwise transport personnel.





INSTALLATION DIMENSIONS	11-29-22	C100
HT60KX-30' SERIES CRANES	SUPERSEDES -	28420

HT60/66KX VLC SERIES BASE MOUNTING DIMS





BASE MOUNTING DIMS	
	SUPE
HT60/66KX VLC SERIES	02-

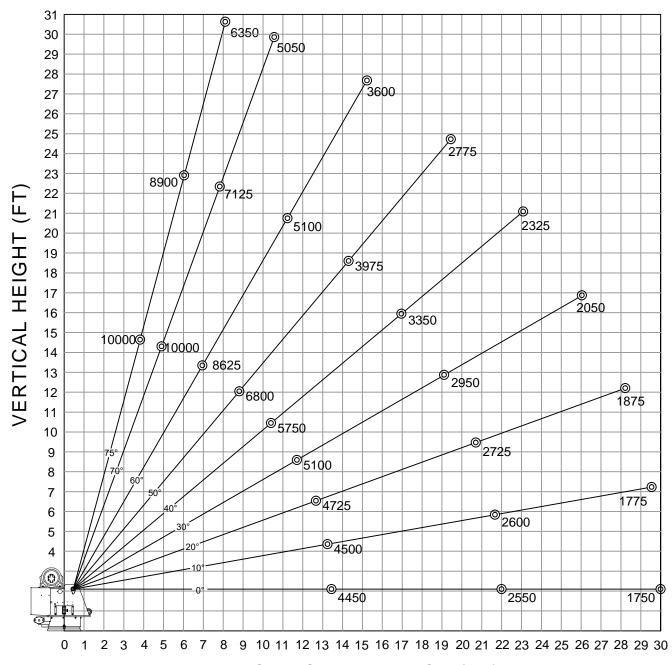
TITLE

02-06-19

23802

HT60KX, 13' - 22' - 30' BOOM, WITH VENTURO LOGIC CONTROL SYSTEM CRANE SERIAL NUMBER: ______

MAXIMUM LOAD CAPACITY CHART



HORIZONTAL REACH (FT)

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 5000 LBS

2-PART LINE FOR LOADS OF 5000 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 51 LBS



SECTION 150

SAFETY



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.

UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN 20 FEET OF HIGH-VOLTAGE LINES OF 350,000 VOLTS OR LESS.

FOR MINIMUM CLEARANCES OF HIGH-VOLTAGE LINES IN EXCESS OF 350,000 VOLTS, REFERENCE OSHA 1926.1408. CRANE'S SAFETY MANUAL, AND CAL-OSHA ARTICLE 37, TITLE 8, HIGH-VOLTAGE ELECTRICAL SAFETY ORDERS.

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 15 20 25 35 45 (as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Voltage While traveling - minimum clearance distance (nominal, kV, alternating current) (feet) *		
0 - 0.75	(1661)	
over 0.75 - 50	6	
over 50 - 345	10	
over 345 - 750	16	
over 750 - 1000		
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



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

CRANE SAFETY AND HAZARDS HT SERIES CRANES

CAUTIONS

- INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY. 1.
- 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.
- DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD. 4.
- ATTACH PENDANT CORD SUPPORT SNAP TO ATTACHMENT POINT BEFORE PLUGGING IN PENDANT. 5.
- 6. UNPLUG PENDANT AND DISENGAGE PTO SYSTEM WHEN CRANE NOT IN USE.
- FOR TRAVEL, BOOM MUST BE IN STOWED POSITION. 7.

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

- 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

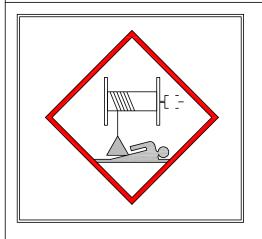
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.
- 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.



TITLE
CRANE SAFETY & HZRDS

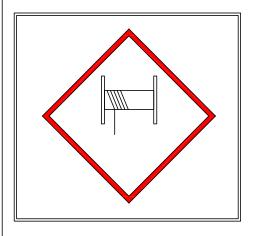
SECTION

WINCH SAFETY WARNINGS



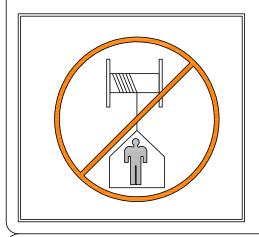
DANGER

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



CINCINNATI, OHIO

TITLE	DATE	SECTION
WINCH SAFETY	02-21-14D	C150
HT CRANES	supersedes 04-04-12C	192
III CINAINLO	04-04-120	102

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 overide locations.

QUANTITY: 1

PLACEMENT: Inside of rear cover.

UNPLUG

REMOTE CONTROL
PENDANT WHEN
NOT IN USE

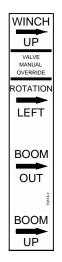
15308-F

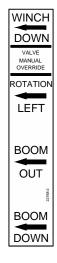
A DANGER

UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN 20 FEET OF HIGH-VOLTAGE LINES OF 350,000 VOLTS OR LESS.

FOR MINIMUM CLEARANCES OF HIGH-VOLTAGE LINES IN EXCESS OF 350,000 VOLTS, REFERENCE OSHA 1926.1408, CRANE'S SAFETY MANUAL, AND CAL-OSHA ARTICLE 37, TITLE 8, HIGH-VOLTAGE ELECTRICAL SAFETY ORDERS.











TITLE

DECAL DRAWING & LIST

11-30-22E

DATE

SECTION C150

HT40/50/60/66 SERIES

SUPERSEDES
02-21-14D

22181A

A

PART NO.: 23068-1 [LEFT] & -2 [RIGHT]

DECAL: MANUAL OVERRIDE

(HT66KXX w/ TH-2 Winch ONLY)

FUNCTION: To inform the operator of

manual overide locations.

QUANTITY: 1

PLACEMENT: Inside of rear cover.

UP

VALVE
MANUAL
OVERRIDE

ROTATION

LEFT

BOOM
OUT

BOOM
DOWN

WINCH



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.

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.

OVERRIDE

NON-PROPORTIONAL VALVE

VALVE

PUSH IN STEM AND ROTATE

WARNING!

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



PROPORTIONAL VALVE

ROTATE STEM

19315-2 Rev E

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



| | |

CINCINNATI, OHIO

DECAL DRAWING & LIST

04-14-23H

C150

HT40/50/60/66 SERIES

SUPERSEDES 11-30-22G

22181B

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.





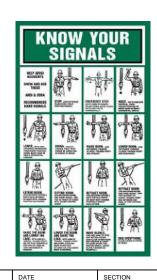
YOU MUST NOT OPERATE THIS CRANE UNLESS:

YOU HAVE BEEN TRAINED IN THE SAFE

YOU HAVE BEEN IN TAINED IN THE SAFE OPERATION OF THIS CRANE; AND 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.







DECAL DRAWING & LIST

11-30-22F

C150

HT40/50/60/66 SERIES

SUPERSEDES 02-21-14E

22181

PART NO.: 17389

DECAL: MEDIUM VENTURO

FUNCTION: Branding.

QUANTITY:

PLACEMENT: Rear cover.



24912 PART NO.:

DECAL: HT60 MODEL DECAL

FUNCTION: Branding.

2 QUANTITY:

PLACEMENT: Boom.



PART NO.: 20927

DECAL: **CRANE STABILITY**

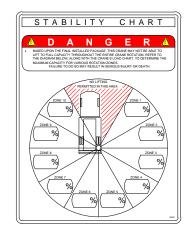
FUNCTION: To inform the operator of the crane's lifting capacity

throughout the entire rotation.

QUANTITY: 1

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

identifiable.





DECAL DRAWING & LIST

03-22-23

SECTION C150

SUPERSEDES

DATE

HT60 SERIES

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 24914-L & 24914-R

HT60-25' CRANE CAPACITY DECAL:

FUNCTION: To show the operator the operating

capacities of the crane

QUANTITY: 1 each

PART NO.:

QUANTITY:

DECAL:

PLACEMENT: Right side of boom, Left side of boom

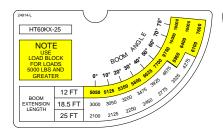
24915-L & 24915-R

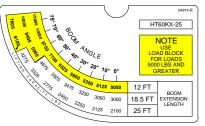
FUNCTION: To show the operator the operating capacities of the crane

PLACEMENT: Right side of boom, Left side of boom

1 each

HT60-30' CRANE CAPACITY



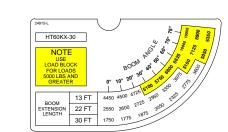


24914-L

24914-R

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM





24915-L

24915-R

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

BOOM CAPACITY DECALS

11-10-22

SECTION C150

HT60KX VLC SERIES

SUPERSEDES

DATE

4

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



•

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK



ENCO VENTURO INDUSTRIES LLC	
CINCINNATI, OHIO	

TITLE	DATE	SECTION
VLC DECALS	02-06-19A	C150
	SUPERSEDES	00740
VLC SERIES CRANES	10-11-18	23748

SECTION 200

INSTALLATION



CRANE INSTALLATION, PAGE 1 HT60KX-30' 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 HT60KX is 60,000 ft. lbs.

The maximum vertical load for the HT60-30' VLC is 12,750 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 1-1/8" dia. with coarse threads, torqued to 965 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.



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.

LITEORY 20' VI C SEDIES
CRANE INSTALLATION
TITLE

DATE

11-10-22 SUPERSEDES C200

CRANE INSTALLATION, PAGE 2 HT60/66 VLC SERIES CRANES

ELECTRICAL CONNECTIONS

A 9 ft. 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 9 ft. power lead. For added protection, the 9 ft. lead can be connected to a 20 amp protected circuit that, if possible, is powered only when the vehicle engine is running.

HYDRAULIC FLUID

Average Climate Type of Oil

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	HT66 SERIES	
PRESSURE	5/8"	
RETURN	3/4"	
SUCTION	1-1/4"	

RESERVOIR

The PTO reservoir should have a capacity of 40 gallons fitted with 100 mesh suction screen, 10 micron return line filter, and filler/breather cap.

PTO PUMP

The PTO pump should be sized to allow an engine idle speed range that will deliver approximately 12.0 GPM for the HT60/66 VLC series. The crane's relief pressure is set at 3000 psi on the HT60 and HT66.

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. Assuming 12 gal./min. with a 40 gal. reservoir, operate the PTO system for 20-25 min. to flush out the lines and filter all fluid approximately seven times.

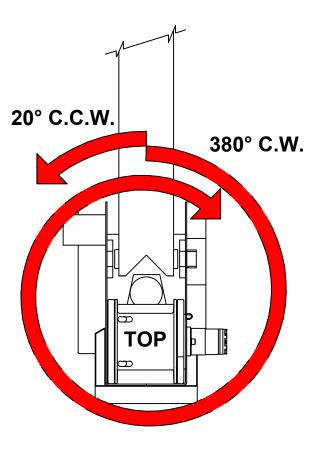
ENGINE START/STOP & THROTTLE CONTROL

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.

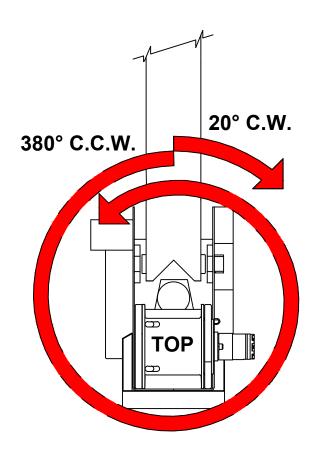


400° ROTATION STOP LOCATION

CURBSIDE



STREETSIDE





TITLE		DATE	SECTION
ROTATION	N STOP LOCATION	03-09-23F	C200
		SUPERSEDES	000=4
400° ROTA	ATION CRANES	05-20-20E	20051

STABILITY TEST - HT60-30'-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.

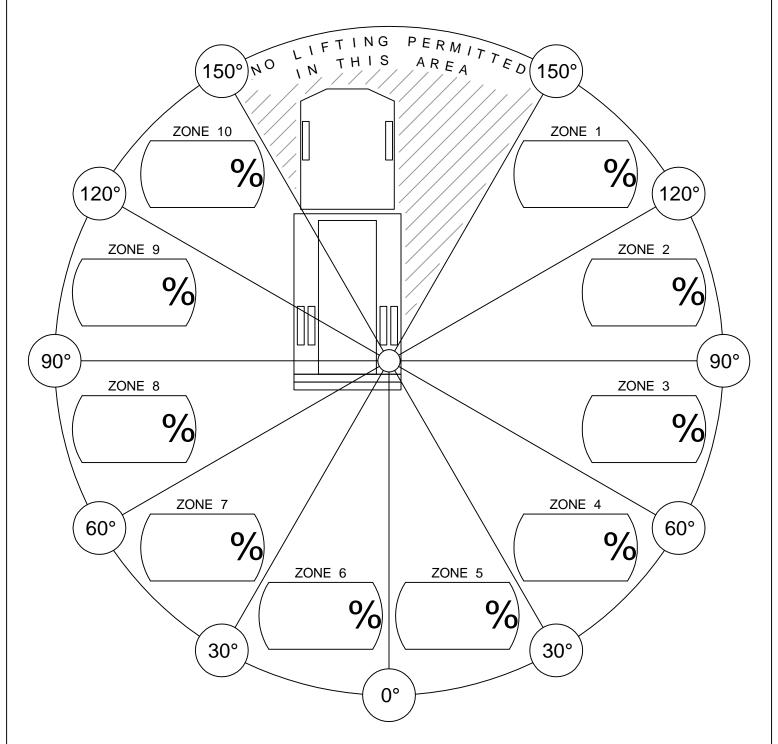
Testing Procedure

- 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.
- Use a Test Weight weighing a minimum of 2000 lbs, (includes load block weight of 51 lbs.) to a maximum of 2100 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 the test weight, extend the boom slowly, until one of the three conditions occur:
 - 10.1. Full extension is reached Mark the ZONE in guestion 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 <u>Max Stable Reach in inches</u> is measured from the **center of rotation** of the crane housing to the **lifting load hook.**

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

	STABILITY TEST	04-17-23	C200
CINCINNATI, OHIO	HT60-30'-VLC SERIES	SUPERSEDES	20906-6030

CRANE STABILITY



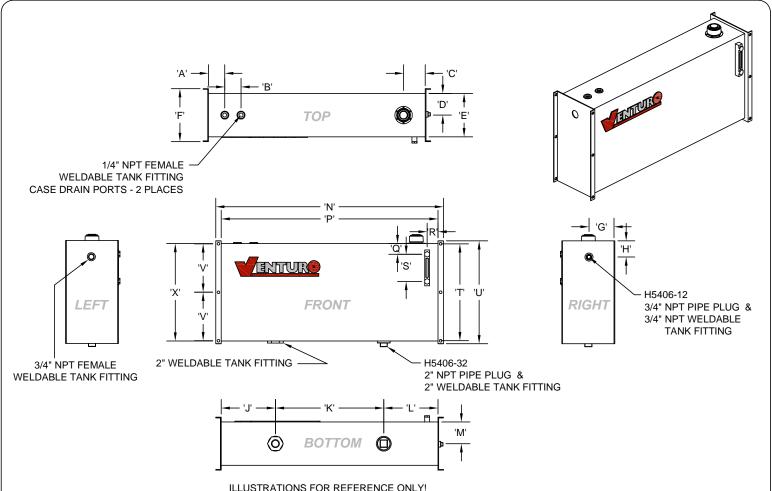
% of Rated Capacity for each of the 10 regions are provided above.

CONDITIONS:

 STABILIZERS FULLY EXTENDED & DOWN, ON FIRM LEVEL GROUND.



TITLE	DATE	SECTION
STABILITY CHART	05-11-17F	C200
	SUPERSEDES	00007
VENTURO CRANES	02-21-14E	20907



ILLUSTRATIONS FOR REFERENCE ONLY! - COMPONENT LOCATIONS MAY DIFFER -

HYD. TAN	HYD. TANK DIMENSION (HTD) CHART			
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"		

MOUNTING	MOUNTING DIMENSION (TMD) CHART			
DIMENSION PART NO.	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"		

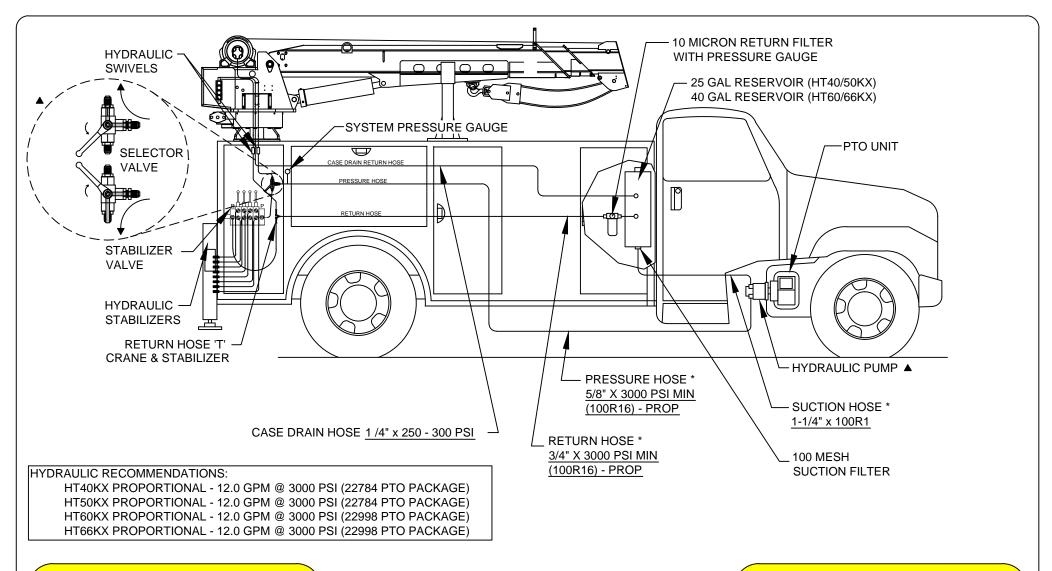
MEASUREMENTS INCLUDE MOUNTING APARATUSES

MEASUREMENTS EXCLUDE MOUNTING APARATUSES

CINCINNATI, OHIO



;	RESERVOIR DIMENSIONS		C200
	HYD. TANKS (25/40 GAL.)	06-04-13D	22825





 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

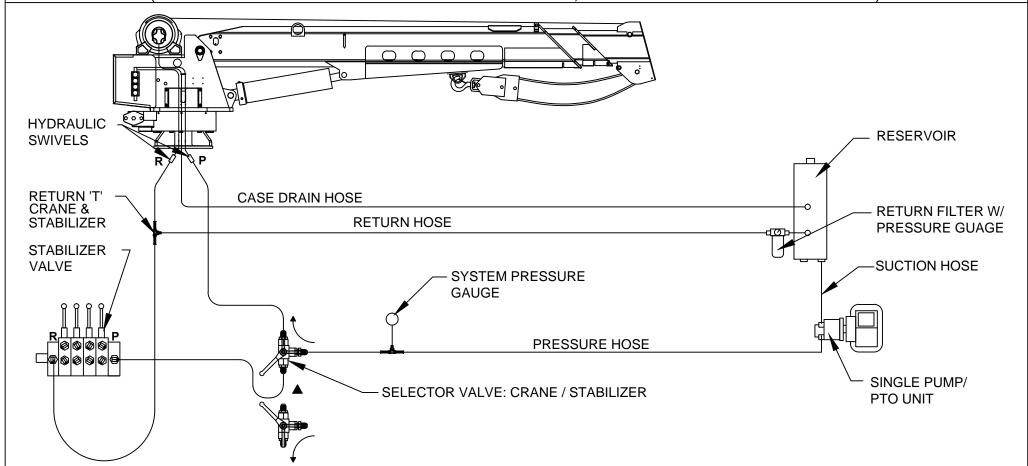
THE CASE DRAIN LINE FROM
THE WINCH MUST HAVE AN
UNRESTRICTED PATH TO TANK/
RESERVOIR.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI. OHIO

TITLE	DATE	SECTION
HYDRAULIC COMPONENT INSTALLATION	08-08-23G	C200
	SUPERSEDES	22002
HT40-66, PROPORTIONAL	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

CONNECTION GUIDE	E, PAGE 1 / 2
TITLE	

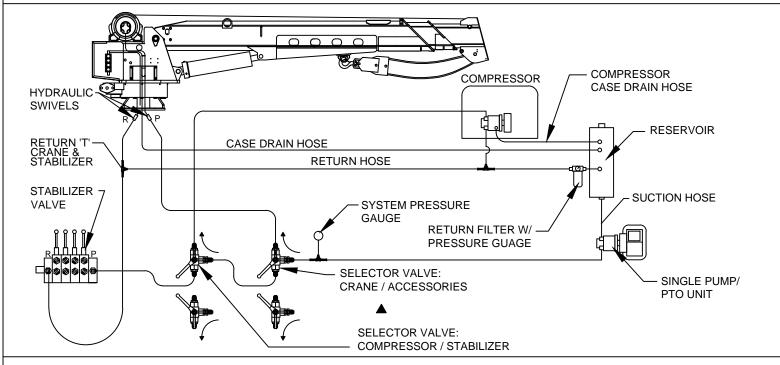
08-09-23C C200

HT CRANES

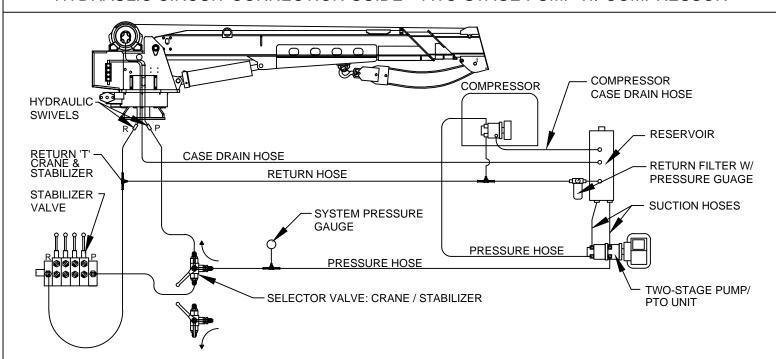
02-21-14B 23015

SECTION

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.



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

CNINCTN CDE DAGE 0/0
CNNCTN GDE, PAGE 2/2

08-08-23C
SUPERSEDES

23014

SECTION

HT CRANES

02-21-14B

RECOMMENDED SUPPLY & RETURN HOSE CONNECTIONS **CRANE & STABILIZERS** 3" DIA. MIN. CLEARANCE FOR HOSES CRANE BASE PRESSURE HOSE-RETURN HOSE -HYD. SWIVELS -+12 VOLT PWR SUPPLY **CASE DRAIN** NOTE: NO HOSES ARE PROVIDED 'BELOW' THE TWO HYD. SWIVELS. SYSTEM PRESSURE STABILIZER VALVE -GAUGE (INCLUDED WITH HYD. PACKAGE) **PRESSURE** SELECTOR VALVE (INCLUDED WITH STABILIZER PACKAGE) * PRESSURE PATH TO CRANE SHOWN. **RETURN FROM CRANE & STABILIZER** RETURN HOSE 'T' **CRANE & STABILIZER** LOOP HOSES UNDER SWIVELS FOR PRESSURE & SUPPLY HOSES TO AUGMENT SWIVELS



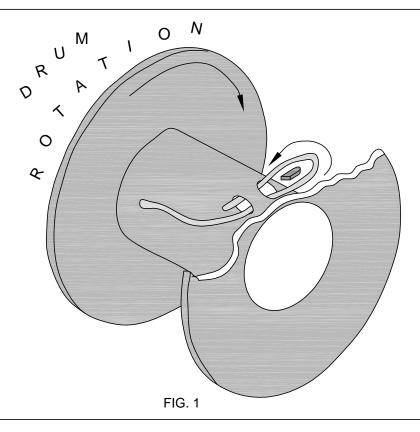
 SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE VALVE.

CAUTION

 CASE DRAIN MUST RETURN DIRECTLY TO RESERVOIR WITHOUT RESTRICTION.



WIRE ROPE INSTALLATION



STEP 1: UNWIND COIL OF WIRE ROPE BY 'ROLLING' ALONG THE FLOOR. THIS WILL PREVENT 'KINKING'.

STEP 2: INSERT WIRE ROPE END UP THROUGH ANTI-2-BLOCK (A2B) 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.

1		TITLE	DATE	SECTION	١
	VENCO VENTURO INDUSTRIES LLC	WIRE ROPE INSTALLTN	02-21-14K	C200	
	CINCINNATI, OHIO		SUPERSEDES	00045	ĺ
		ET6K & LARGER CRANES	12-26-13J	22245	

SECTION 300

OPERATION & MAINTENANCE



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.

TITLE

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 Swepco #201 multi-purpose gear oil



I	
MAINTENANCE INFO	11-10-22D
	SUPERSEDES
HT25/30/40/50/60/66KX(P)	02-21-14C

C300

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS



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 A

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 A

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.



TITLE
CRANE OP / MNTNC INST

08-08-23A
SUPERSEDES

C200

SECTION

HT CRANES

10-11-18

23753

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 2 HT60/66KX 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.
- BOOM "OUT" and "IN" Extends and retracts the boom.
- ROTATION "L" and "R" Controls the left and right direction of the crane rotation.
- TRIGGER (Proportional Systems Only) Varies the flow rate delivered to the crane valve. The further the trigger is pulled, the faster the selected crane function operates.

OVERLOAD SENSING SYSTEM

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

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%		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 Flashing text/inverted color - or after pressing OK button-Home Screen, flasing text/inverted color, SPD 25% icon	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.

	VENCO VENTURO INDUSTRIES LLC	
ERIUN	CINCINNATI, OHIO	r

TITLE	DATE	SECTION
CRANE OP / MNTNC INST	10-26-23A	C300
	SUPERSEDES	00405
HT60/66 VLC SERIES	11-10-22	Z8435

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 3 HT60/66KX VLC SERIES

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

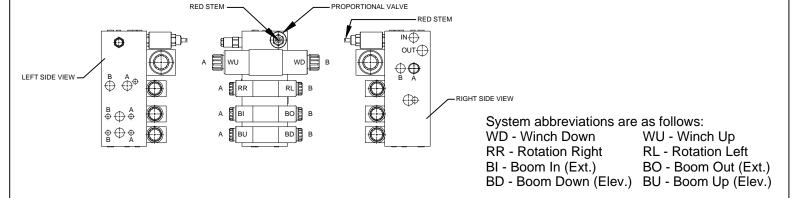
- 1. Return the stabilizers to the stowed position. Install and secure all pins.
- 2. Stow the crane boom in the boom support.
- 3. Hook the winch line to a tie down point on the body or pedestal and apply tension.
- 4. Disengage the PTO pump and idle speed control.
- 5. Power down the control pendant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

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

• 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.

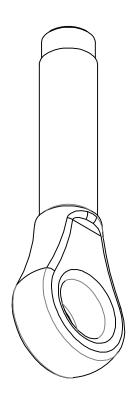
R VENCO VENTURO INDUSTRIES LLC	HYDRAULIC SYSTEM	11-10-22E	section C200
CINCINNATI, OHIO	HT40/50/60/66KX; PROP	supersedes 02-21-14D	22168

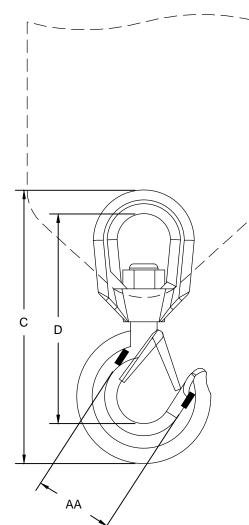
WIRE ROPE ASSEMBLY

LOAD BLOCK ASSEMBLY

WIRE ROPE (24916):

- 3/8" DIA, 100'/125' LONG
- 8 X 26 LRL 2160 GALV, IWRC
- MINIMUM BREAKING STRENGTH: 17,500 LBS
- TERMINATES IN 3/8" CLOSED SWAGE SOCKET





LOAD BLOCK HOOK:

RATING: 5 TONNE (11,023 LBS)

DIMENSIONS:

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



WIRE ROPE & HOOK SPECIFICATIONS

DATE 03-21-23 SECTION C300

HT60KX

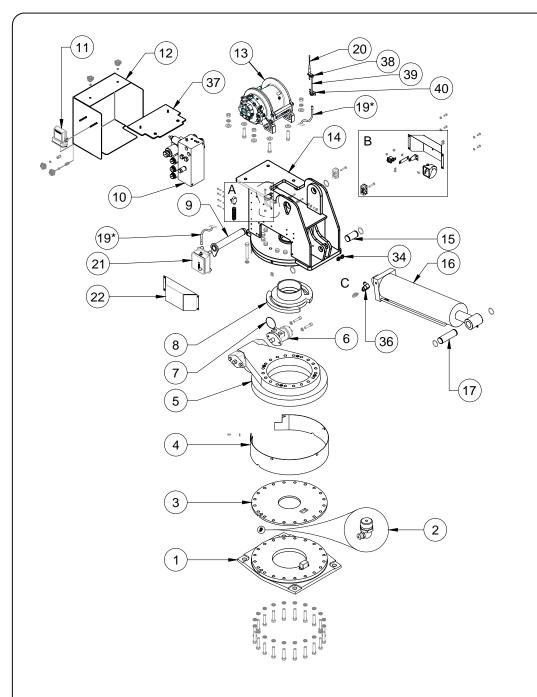
SUPERSEDES

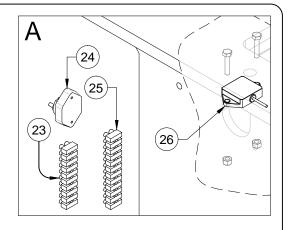
28421

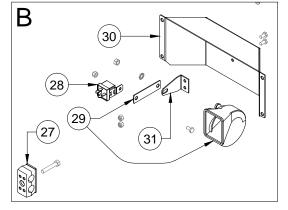
SECTION 400

REPLACEMENT PARTS









REFERENCE #28438 FOR REPLACEMENT PARTS LIST



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO REPLACMENT PARTS DRWNG - MECHANISM

HT60KX VLC SERIES

04-14-23A

C400

SUPERSEDES 11-17-22

REPLACEMENT PARTS LIST - HT60KX VLC SERIES; MECHANISM

	ITEM	PART NO.	QTY	DESCRIPTION
	1	27708	1	WELDED ASS'Y; BASE
	2	!ZERK-NPT-90	1	FITTING; GREASE, 90°
	3	27710	1	PLATE; SPACER
	4	27406	1	COVER; SLEWING RING
	5	27275	1	SLEWING RING
	6	27276	1	MOTOR; HYDRAULIC ROTATION
	7	OR-152-5	1	O-RING; ROTATION MOTOR
	8	27296	1	ASS'Y; ROTATION STOP
	9	22721	1	PIN; MAIN BOOM PIVOT
	10	22736H-2	1	VALVE MANIFOLD
	* 11	23720-VCM	1	* VALVE CONTROL MODULE
	12	27505	1	COVER; REAR, 1-PC
	13	27274	1	WINCH
	14	24901	1	WELDED ASS'Y; HOUSING
A	15	22256	1	PIN; ELEVATION CYLINDER PIVOT, INBOARD
	16	21748	1	CYLINDER; ELEVATION, 5" X 19-5/8", DA
A	17	22257	1	PIN; ELEVATION CYLINDER PIVOT, OUTBOARD
	18	-	ı	-
	19	28295	1	COAX ASS'Y; REMOTE ANTENNA
	* 20	23720-ANT	1	* ANTENNA

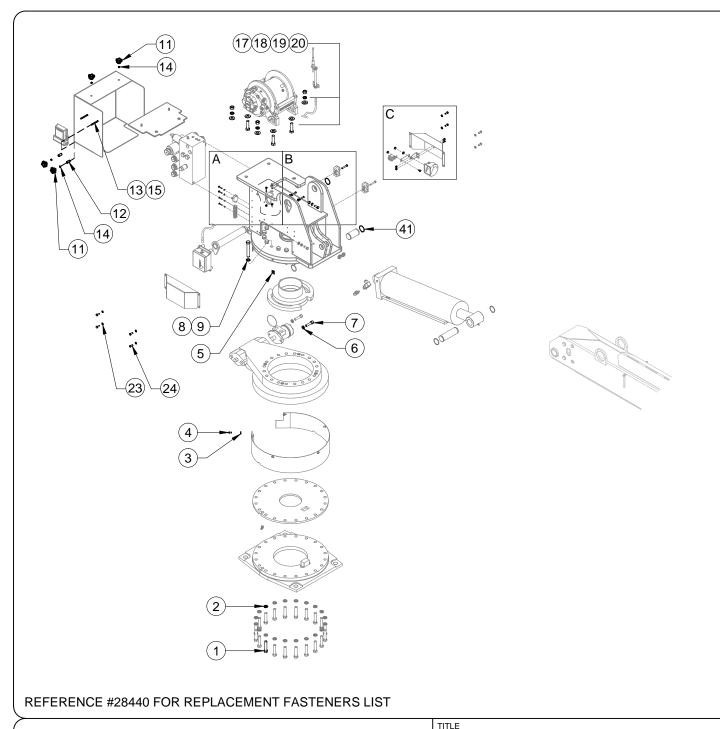
ITEM	PART NO.	QTY	DESCRIPTION
* 21	23720-RX	1	* RECEIVER; ESCAN, 2.4GHz
22	27400-1	1	COVER; SIDE W/ SOCKET CUTOUT
23	19187-10	1	TERMINAL STRIP; 10 SECTIONS
24	15683-20A	1	CIRCUIT BREAKER; 20 AMP
25	19187-12	1	TERMINAL STRIP; 12 SECTIONS
* 26	23720-INC	1	* UNIVERSAL INCLINOMTER
27	27307	2	CLAMP ASS'Y; HOSE / TUBING
28	22739	1	RELAY; HIGH CAPACITY
29	21948	1	HORN
30	27400	1	COVER; SIDE W/ HORN BRACKET HOLES
31	22000	1	BRACKET; HORN
32		ı	-
33		1	-
34	14775	2	GROMMET; 1/2 x 3/16 x 3/16" THICK
35		ı	-
* 36	23720-PTD	2	* PRESSURE TRANSDUCER
37	28273	1	REAR COVER MTNG PLATE, WELDED ASS'Y
38	28449	1	REMOTE ANT. UPPER MOUNT, WELD. ASS'Y
39	28448	1	REMOTE ANT. LOWER MOUNT, WELD. ASS'Y
40	28453	1	REMOTE ANT. FLEX POST

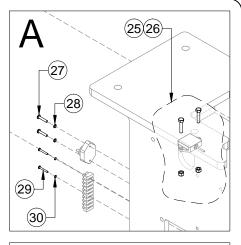
^{*} THESE ITEMS ARE INCLUDED IN 23720 KIT. PLEASE CALL TECHNICAL SUPPORT AT 1-800-226-2238 FOR ASSISTANCE.

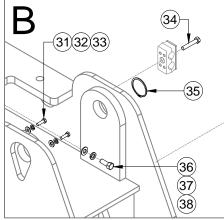
REFERENCE #28437 FOR REPLACEMENT PARTS DRAWING

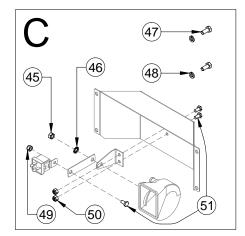


REPLACEMENT PARTS LIST - MECHANISM	10-27-23B	SECTION C400
HT60KX VLC SERIES	SUPERSEDES 04-14-23A	28438











VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

04-14-23A C

C400

SECTION

HT60KX VLC SERIES

11-18-22

				1
ITEM#	PART #	QTY	DESCRIPTION	WHERE-USED
1	!HHCS06311300	20	HHCS; 5/8-11 x 3" LG, GR. 5, ZINC	BASE PLATE - SLEW DRV
2	!LWSH-063	20	LOCK WASHER; 5/8", GR. 5, ZINC	BASE PLATE - SLEW DRV
3	!FWSH-25S	5	FLAT WASHER; 1/4", S/S	ROTATION GEAR COVER
4	!HHCS02520050S	5	HHCS; 1/4-20 x 1/2" LG, S/S	ROTATION GEAR COVER
5	!UNUT-02520-LKG	5	U-NUT; 1/4-20, LOCKING	ROTATION GEAR COVER
6	!LWSH-050-HC	2	LOCK WASHER; 1/2", HI-COLLAR	ROTATION MOTOR
7	!SHCS05013200	2	SHCS; 1/2-13 X 2"	ROTATION GEAR COVER
8	!HHCS06311400	20	HHCS; 5/8-11 x 4" LG, GR. 5, ZINC	HSNG - ROTATION DRV.
9	!LWSH-063	20	LOCK WASHER; 5/8", GR. 5, ZINC	HSNG - ROTATION DRV.
10	-	-	-	SOCKET - SCKT CASE
11	28327	4	KNOB, HAND, 5-POINT	VCM & REAR COVER
12	28328	2	NYLON SPACER, .25" ID X .5" OD X 1"	VCM TO REAR COVER
13	!HHCS02520250SF	2	HHCS, 1/4-20 X2.50", S/S, FULL THRD	VCM TO REAR COVER
14	!LNUT-02520-H	4	LOCK NUT; 1/4-20, HVY PAT, NYLON	VCM & REAR COVER
15	!JNUT-02520NS	2	JNUT, NYLON INSERT, 1/4-20, S/S	VCM TO REAR COVER
16	!FWSH-025S	2	FLAT WASHER; 1/4", S/S	RECEIVER - REAR CVR
17	!HHCS06311250-8	4	HHCS; 5/8-11 X 2-1/2" LG, GR. 8	WINCH MOUNTING
18	!FWSH-063-8	8	FLAT WASHER; 5/8", GR. 8	WINCH MOUNTING
19	!LWSH-063-8	4	LOCK WASHER; 5/8", GR. 8	WINCH MOUNTING
20	!HNUT-06311-8	4	HEX NUT; 5/8-11, GR. 8	WINCH MOUNTING
21	!SHPMS#0832050S	4	SLOT-HD PMS; 08-32 x 1/2", S/S	SCKT CASE - SIDE CVR
22	!LWSH-#08S	4	LOCK WASHER; #08, S/S	SCKT CASE - SIDE CVR
23	-	-	-	SIDE COVER
24	-	-	-	SIDE COVER
25	!HHCS02520125S	2	HHCS; 1/4-20 X 1-1/4", S/S	INCLINOMETER
26	!LNUT-02520NS	2	LOCK NUT; 1/4-20, NYLON, S/S	INCLINOMETER

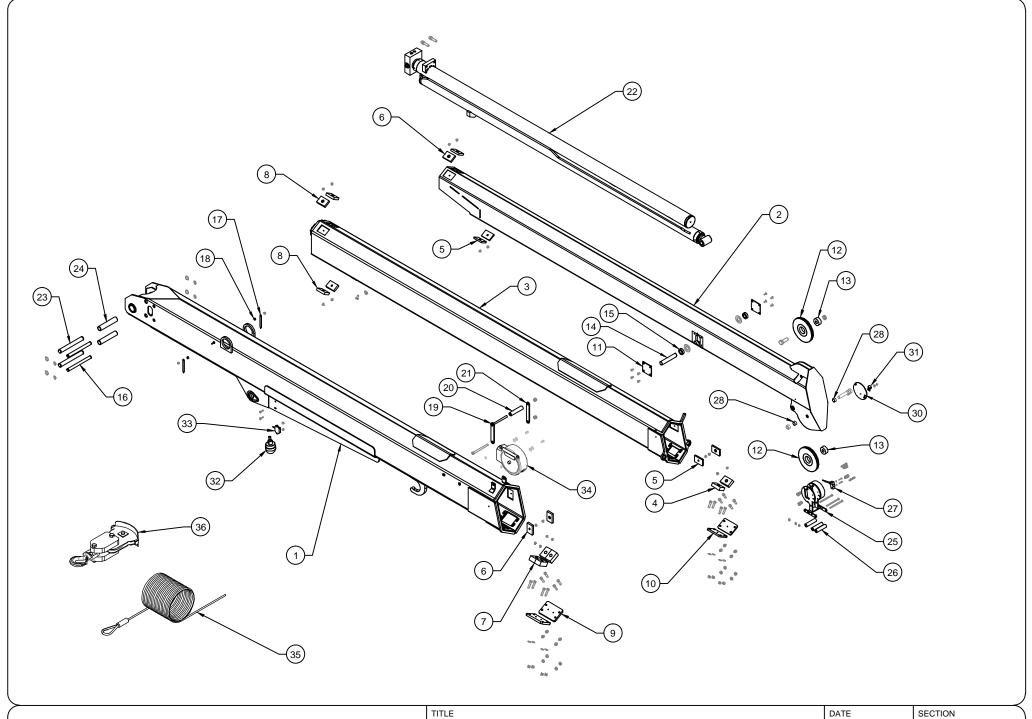
ITEM#	PART#	QTY	DESCRIPTION	WHERE-USED
27	!PHPMS#1024100S	2	PHILIPS-HD PMS; #10-24 X 1", S/S	CIRCUIT BRKR - HSNG
28	!LWSH-#10S	2	LOCK WASHER; #10, S/S	CIRCUIT BRKR - HSNG
29	!PHPMS#0632100S	2	PHILIPS-HD PMS; #6-32 X 1", S/S	TERMINAL STRIP - HSNG
30	!LWSH-#06S	2	LOCK WASHER; #06. S/S	TERMINAL STRIP - HSNG
31	!HHCSM6M1M16S	4	HHCS; 6mm-1mm X 16mm, S/S	ESCAN - HOUSING
32	!LWSH-025S	4	LOCK WASHER; 1/4", S/S	ESCAN - HOUSING
33	!FWSH-025S	4	FLAT WASHER; 1/4", S/S	ESCAN - HOUSING
34	!HHCS03118175S	2	HHCS; 5/16-18 X 1-3/4", S/S	HOSE CLAMPS - HSNG
35	!SRNG-175	1	SNAP RING; 1-3/4", ZINC-PLTD	MAIN BOOM PIVOT PIN
36	!HHCS03816100	2	HHCS; 3/8-16 X 1", ZINC-PLTD	MANIFOLD - HOUSING
37	!FWSH-038	2	FLAT WASHER; 3/8", ZINC-PLTD	MANIFOLD - HOUSING
38	!LWSH-038	2	LOCK WASHER; 3/8", ZINC-PLTD	MANIFOLD - HOUSING
39	-	-	-	-
40	-	-	-	-
41	!SRNG-150	4	SNAP RING; 1-1/2", ZINC-PLTD	ELEV. CYL. PIVOTS
42	-	-	-	-
43	-	-	-	-
44	-	-	-	-
45	!HNUT-03120	1	HEX NUT; 5/16-20, ZINC	HORN - HORN BRKT
46	!LWSH-031-STAR	1	LOCK WASHER; 5/16", ZINC	HORN - HORN BRKT
47	!HHCS03118075S	4	HHCS; 5/16-18 X 3/4", S/S	SIDE COVER
48	!LWSH-031S	4	LOCK WASHER; 5/16", S/S	SIDE COVER
49	!LNUT-02520NS	1	LOCK NUT; 1/4-20, NYLON, S/S	RELAY - BRACKET
50	!LNUT-02520NS	2	LOCK NUT; 1/4-20, NYLON, S/S	RELAY-HORN - SIDE CVR
51	!HHCS02520050S	3	HHCS; 1/4-20 X 1/2", S/S	RELAY, BRKT - SIDE CVR
52	-	-	-	-

REFERENCE #28439 FOR REPLACEMENT FASTENERS DRAWING

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



PLCMNT FASTENERS LIST - MECHANISM	04-14-23A	SECTION C400
HT60KX VLC SERIES	SUPERSEDES 11-18-22	28440





VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO REPL PARTS DWG, 30' BOOM, 23880

11-10-22D

C400

HT45/55/60KX-30' VLC SERIES

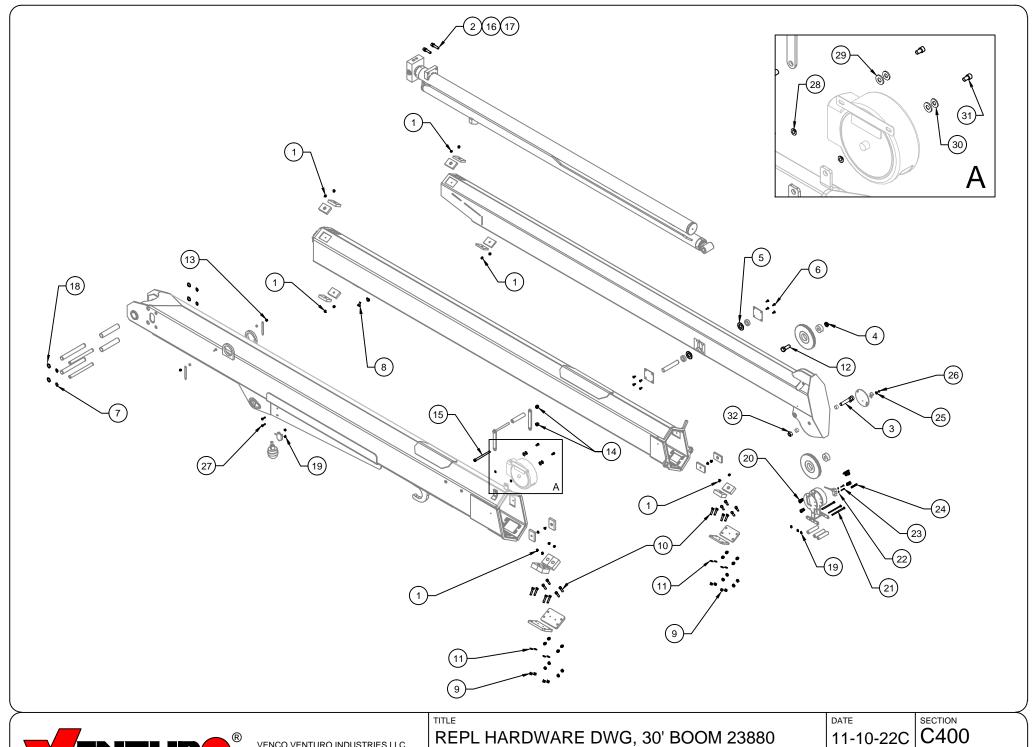
SUPERSEDES 04-29-22C

REPLACEMENT PART LIST, 30' BOOM 23880

ITEM NO.	PART NO.	QTY	DESCRIPTION
1	23881	1	PRIMARY BOOM WELDMENT
2	23882	1	SECONDARY BOOM WELDMENT
3	23883	1	TERTIARY BOOM WELDMENT
4	23631-7	2	BOOM PAD; 0.88" THICK
5	23631-3	4	BOOM PAD; 0.38" THICK
6	23631-4	4	BOOM PAD; 0.50" THICK
7	23631-10	4	BOOM PAD; 1.25" THICK
8	23631-5	4	BOOM PAD; 0.63" THICK
9	23677	2	COVER PLATE; PRIM. ADJ. PAD
10	23678	2	COVER PLATE; SEC. ADJ. PAD
11	23116	2	PIN BLOCK; REINFORCING
12	23928	2	BOOM SHEAVE W/ BUSHING
13	23929	2	SPACER; 23927 & 23928 POLY SHEAVES
14	23906	1	PIN; PIVOT, ROD END, EXT. CYLINDER
15	21428	2	BUSHING
16	23904	2	EXTENSION CYLINDER 0.75" THRUST PIN
17	13459	2	ARROW
18	22490	2	SPACER; BOOM ARROW
19	21935	1	WIRE ROPE GUIDE; WELDMENT
20	21560	1	WIRE ROPE GUIDE; UMHW ROLLER
21	21936	1	WIRE ROPE GUIDE; FLAT, MOUNT
22	23875	1	EXTENSION CYLINDER
23	23905	2	EXTENSION CYLINDER 1" THRUST PIN
24	27283	2	THRUST ROLLER
25	27468	1	COMPACT A2B; HOUSING, WELDMENT
26	27475	3	COMPACT A2B; ROLLER
27	19376	1	ANTI TWO BLOCK SWITCH
28	27476-1	2	SPACER/PIVOT; COMPACT A2B
29	-	-	-
30	27473	1	COMPACT A2B; COVER PLATE
31	19269	1	CABLE CLAMP; 1/4"
32	23438	1	TRI-COLOR WARNING LIGHT
33	23720	1	INCLINOMETER
34	28190	1	COMPLETE CORD REEL
20	17094-3/8-125	1	WIRE ROPE; 125 FT, NO HOOK (HT45/55)
35	24916-3/8-125	1	WIRE ROPE; 125 FT, HIGH STR (HT60)
	17949-2	-	LOAD BLOCK ASSEMBLY (HT45)
36*	1 7949-3		LOAD BLOCK ASSEMBLY (HT55)
	17949-5	_	LOAD BLOCK ASSEMBLY (HT60)



.c	REPL PART LIST, BOOM 23880	09-07-23F	C400
	HT45/55/60KX-30' VLC SERIES	SUPERSEDES 04-20-23E	24165



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

REPL HARDWARE DWG, 30' BOOM 23880

11-10-22C SUPERSEDES

HT45/55/60KX-30' VLC SERIES

04-29-22B

RPLCMNT H/W LIST, 30' BOOM 23880

ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	!THCS02520038	18	THCS; 1/4-20 x 3/8" LG, S/S
2	14159	1	SHIM KIT
3	28362	1	ASSY, WELDED, CAM & HHCS CA2B CUT-OUT
4	!LNUT-07510	1	LOCK NUT; 3/4-10, NYLON, ZINC
5	!FWSH-100SAE	2	FLAT WASHER; 1" SAE
6	!CACS02520050S	8	CACS; 1/4-20 x 1/2" LG, S/S
7	!SRNG-075	4	SNAP RING; 3/4"
8	!HHCS03816075	2	HHCS; 3/8-16 X 3/4", GR.5
9	!LNUT-03816	16	LOCK NUT; 3/8-16, GR. 5, ZINC
10	!HHCS03816175	16	HHCS; 3/8-16 x 1-3/4" LG, GR. 5, ZINC
11	!FWSH-038	16	FLAT WASHER; 3/8", ZINC
12	!HHCS07510350	1	HHCS; 3/4-10 x 3-1/2" LG, GR. 5, ZINC
13	!ANUT-02520S	2	ACORN NUT; 1/4-20, S/S
14	!LNUT-04414	2	LOCK NUT; 7/16-14, NYLON INSERT
15	!HHCS04414550	1	HHCS; 7/16-14 x 5-1/2", GR. 5, ZINC
16	!SHCS05013200	2	SHCS; 1/2-13 x 2"
17	!LWSH-050-HC	2	LOCK WASHER; 1/2, GR. 5, ZINC, HI-COLLAR
18	!SRNG-100	3	SNAP RING; 1"
19	!LNUT-02520NS	2	LOCK NUT; 1/4-20, NYLON, S/S
20	27467	4	SHCS; 1/2-13 x 3/4" LG, BLK NYLON
21	HHCS02520450	3	HHCS; 1/4-20 x 4-1/2" LG, GR. 5, ZINC
22	!LWSH-#06S	2	LOCK WASHER; #06, S/S
23	!PHPMS#0632100S	2	PHILIPS-HD PMS; 6-32 x 1", S/S
24	!SHCS02520175S	2	SHCS; 1/4-20 x 1-3/4", S/S
25	!FWSH-025S	1	FLAT WASHER; 1/4", S/S
26	!SHPMS#1032038S	1	SLOT-HD PMS; 10-32 x 3/8", S/S
27	!HHCS02520100S	2	HHCS; 1/4-20 x 1", S/S
28	28198	2	INSULATING SLEEVE WASHER - 5/16"
29	01016	2	FIBER WASHER
30	!FWSH-031	2	FLAT WASHER; 5/16"
31	!SHCS03118063S	2	SHCS; 5/16-18 X 5/8" LG, S/S
32	!JNUT-07510N	1	JAM NUT; 3/4-10, GR. 5

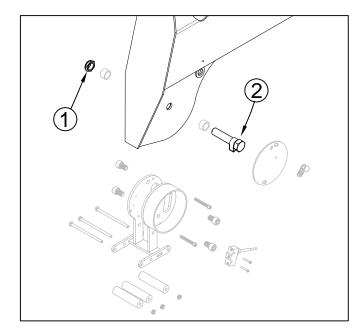


REPL HW LIST, BOOM 23880	11-10-22C	C400
HT45/55/60KX-30' VLC SERIES	SUPERSEDES 04-29-22B	24167

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.

- 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.
- 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.



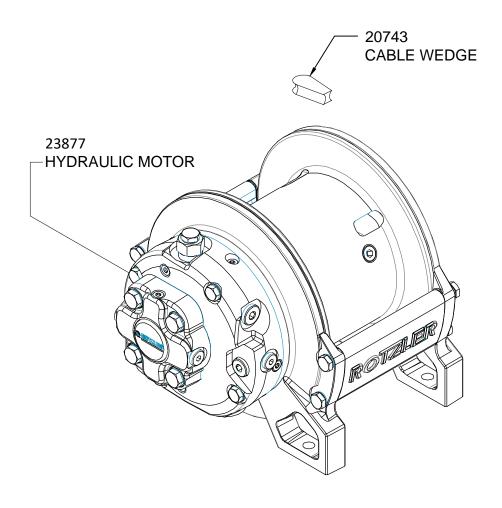


Contact Venturo Tech Support for assistance. 1-800-226-2238 ext. 124



С	A2B Stowage Cut-out	10-04-21B	SECTION C400
	ET/HT Cranes w/ Comp. A2B	SUPERSEDES 08-03-21A	28239

REPLACEMENT PARTS DRAWING; 27274 WINCH



WINCH SEALS PACKAGE: 23848

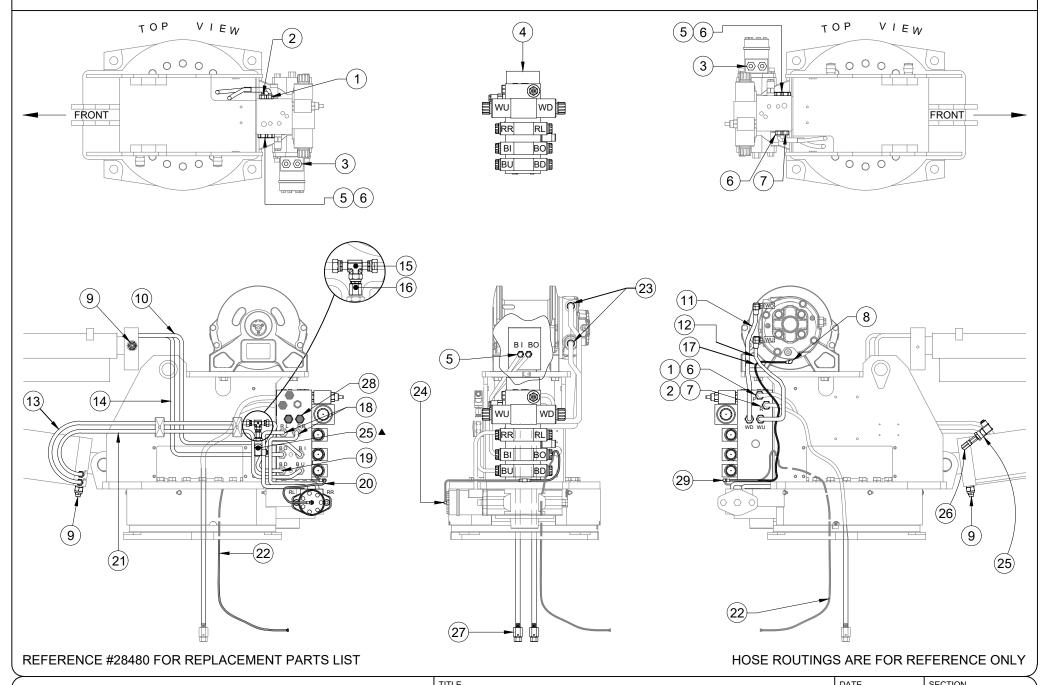
CINCINNATI, OHIO



REPLACEMENT PARTS DRAWING	11-10-22-C	C400
INCLINICITY LAKES DIVAMING	11-10-22-0	0+00
	SUPERSEDES	07
HT60/66KX SERIES CRANES	04-05-21B	21

SECTION

REPLACEMENT PARTS DRAWING - HYDRAULIC COMPONENTS





VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO RPLCMNT PARTS DWG - HYD. COMPONENTS

11-17-23A

C400

HT60/66KX VLC SERIES

SUPERSEDES 04-07-23

REPLACEMENT PARTS LIST - HYD. COMPONENTS

ITEM	PART NO.	QTY HT60	QTY HT66	DESCRIPTION	INSTALLATION
	28477	-	1	HOSE ASS'Y; PRESSURE	FF6400-0810 (MANIFOLD) TO COMPARTEMENT
1	28266	1	-	HOSE ASS'Y; PRESSURE	FF6400-0810 (MANIFOLD) TO COMPARTEMENT
2	28267	1	1	HOSE ASS'Y; RETURN	FF6400-0812 (MANIFOLD) TO COMPARTEMENT
3	FF6400-0610	2	2	FITTING; STRAIGHT ADAPTER, 60FS-10MO	ROTATION MOTOR PORTS
4	22736H-1	-	1	VALVE MANIFOLD; HI-FLOW, 3000 PSI	-
4	22736H-2	1	-	VALVE MANIFOLD; HI-FLOW, 2600 PSI	-
5	FF6400-0606	10	10	FITTING; STRAIGHT ADAPTER, 60FS-6MO	RL/RR/BI/BO/BU/BD MANIFOLD PORTS, CYL. PORTS
6	FF6400-0810	3	3	FITTING; STRAIGHT ADAPTER, 80FS-10MO	MANIFOLD PORTS: 'P' (RIGHT), WU/WD (LEFT)
7	FF6400-0812	1	1	FITTING; STRAIGHT ADAPTER, 80FS-12MO	MANIFOLD RETURN PORT (RIGHT)
8	3802-0404 (FF3802-4-4)	1	1	FITTING; ADAPTER, 45° ELBOW, 04MJ-04MBP (MALE BRITISH PARALLEL)	WINCH CASE DRAIN PORT
9	20893	2	2	COUNTER-BALANCE VALVE	ELEVATION & EXTENSION CYLINDERS
10	27593	1	1	HOSE ASS'Y; BOOM IN	FF6400-0606 (MANIFOLD) - FF6400-0606 (EXT. CYL.)
11	27025	1	1	HOSE ASS'Y; WINCH DOWN	FF6400-0810 (MANIFOLD) - FF3801-8-12 (WINCH)
12	27024	1	1	HOSE ASS'Y; WINCH UP	FF6400-0810 (MANIFOLD) - FF3801-8-12 (WINCH)
13 28052		1	1	HOSE ASS'Y; BOOM DOWN, CYL-SIDE	23731 - FF6400-0606 (ELEV. CYL. 'R' PORT)
14	27592	1	1	HOSE ASS'Y; BOOM OUT	FF6400-0606 (MANIFOLD) - FF6400-0606 (EXT. CYL.)
15	FF6602-06-06-06	1	1	FITTING; TEE, 6MORFS-6FORFS-6MORFS	PRESSURE TRANSDUCER (ROD SIDE)
16	23732	1	1	FITTING; REDUCER, 6FORFS-4FORB	PRESSURE TRANDUCER (ROD SIDE)
17	22953	1	1	HOSE ASS'Y; CASE DRAIN, 30" LONG	H6801-0404 (WINCH) - H2603-040404 (TEE)
18	27598	2	2	HOSE ASS'Y; ROTATION LEFT/RIGHT	FF6400-0606 (MANIFOLD) - FF6400-0610 (ROT. MTR.)
19	28053	1	1	HOSE ASS'Y; BOOM DOWN, MANIFOLD-SIDE	23731 - FF6400-0606 (MANIFOLD)
20	22952	1	1	HOSE ASS'Y; CASE DRAIN, 13" LONG	H6801-0404 (ROTATION MTR) - H2603-040404 (TEE)
21	28033	1	1	HOSE ASS'Y; BOOM UP	FF6400-0606 (X2); MANIFOLD - ELEV. CYL. 'E' PORT
22	22903	1	1	HOSE ASS'Y; CASE DRAIN, 96" LONG	H2603-040404 - COMPARTMENT
23	FF3801-8-12	2	2	FITTING; 90° ELBOW ADAPTER, 80FS-12MBP (MALE BRITISH PARALLEL)	WINCH PORTS - 28271, 28272
24	H6801-0404	1	1	FITTING; 90° ELBOW ADAPTER, 4MJ-4MO	ROTATION MOTOR CASE DRAIN PORT
* 25	23720-PTD	2	2	PRESSURE TRANSDUCER	23733 (ELEV. CYLINDER PORT, RIGHT SIDE)
26	H6815-0604	-	1	FITTING; 90° ELBOW, 6MORB-4FORB	TRANSDUCER - ELEV. CYLINDER PORT (RIGHT SIDE)
26	H6815-0404	1	-	FITTING; 90° ELBOW, 4MORB-4FORB	TRANSDUCER - ELEV. CYLINDER PORT (RIGHT SIDE)
27	22764	2	2	HYDRAULIC SWIVELS; 8MJ-8FJ	COMPARTMENT - 22765 (PRESS), 22764 (RETURN)
28	H6408-10	2	2	FITTING; PLUG, 10MO	MANIFOLD (WU/WD PORTS)
29	H2603-040404	1	1	FITTING; T-SHAPE, 4MJ-4MJ	22952, 22953, & 22903 (CASE DRAIN HOSES)

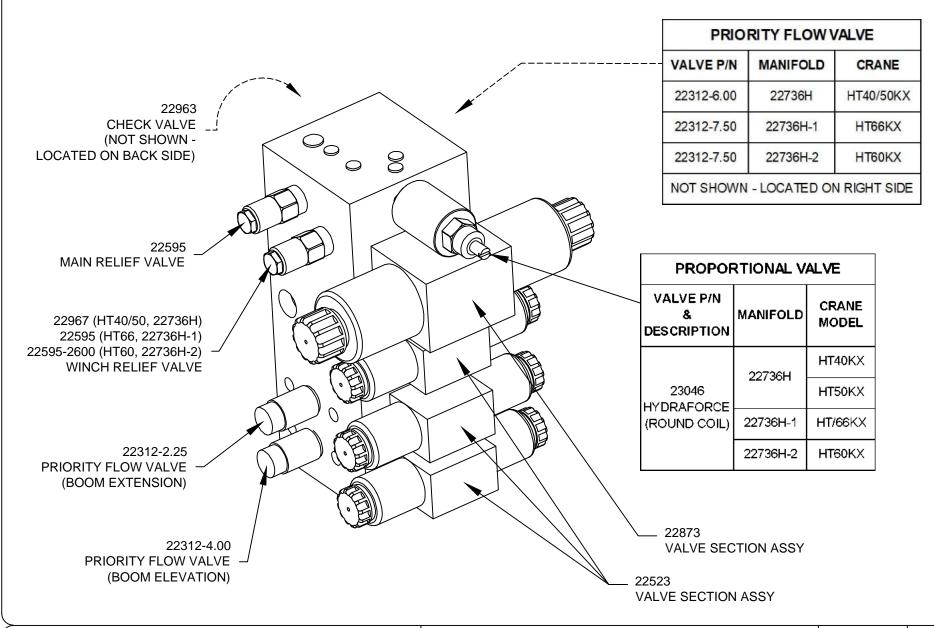
REFERENCE #28479 FOR REPLACEMENT PARTS DRAWING



	HT60/66KX VLC SERIES	SUPERSEDES	28480
LLC	RPLCMNT PARTS - HYD. CMP	04-07-23	C400

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

22736 SERIES VALVE MANIFOLD REPLACEMENT PARTS

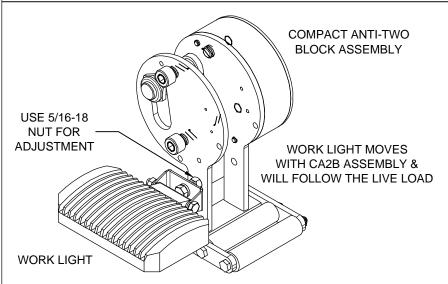




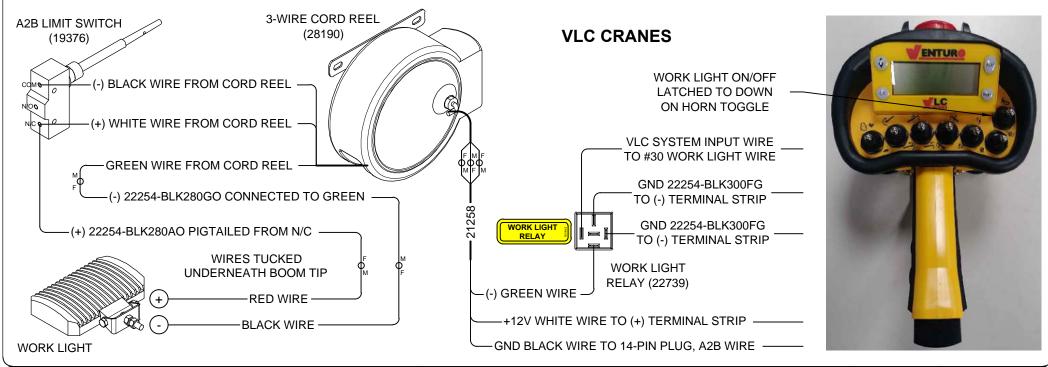
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

22736 REPLACEMENT PARTS	11-10-22G	C400
HT40/50/60/66KX PROPORTIONAL	SUPERSEDES 11-13-17F	22940

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



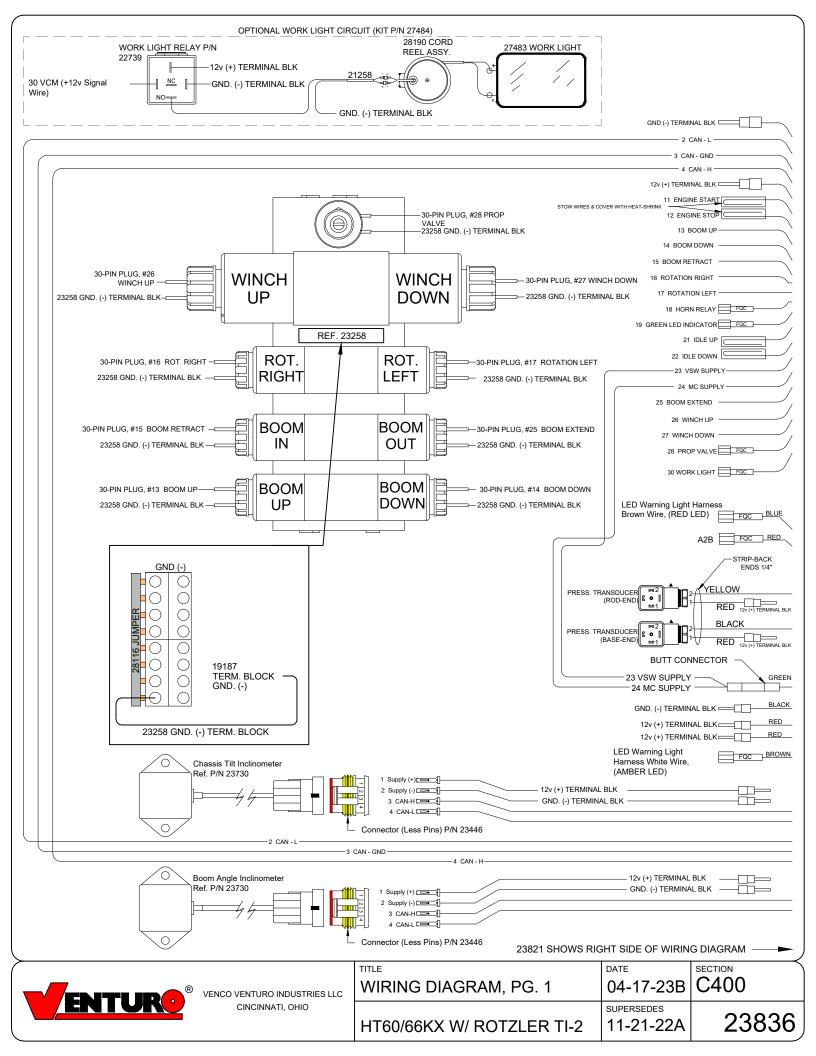
	BILL OF MATERIALS	N/D	28240
#	DESCRIPTION	QTY	PART NUMBER
1	IDWG; WORK LIGHT INSTALLATION, VLC CRANES	1	28188
2	LED WORK LIGHT	1	27483
3	TERMINAL; 16G, FEMALE, QUICK-CONNECT	5	!TERM16G250QCFI
4	TERMINAL; 16G, MALE, QUICK-CONNECT	4	!TERM16G250QCM
5	WIRE ASSY; 16G, BLACK, 28", #6 RING - STRIPPED END	1	22254-BLK280AO
6	WIRE ASSY; 16G, BLACK, 28", QCF - STRIPPED END	1	22254-BLK280GO
7 RELAY: 12VDC		1	22739
8	DECAL; WORK LIGHT RELAY	1	16184-2
9	WIRE ASSY: 16G, BLACK, 30", MALE PIN - QCF	2	22254-BLK300FG

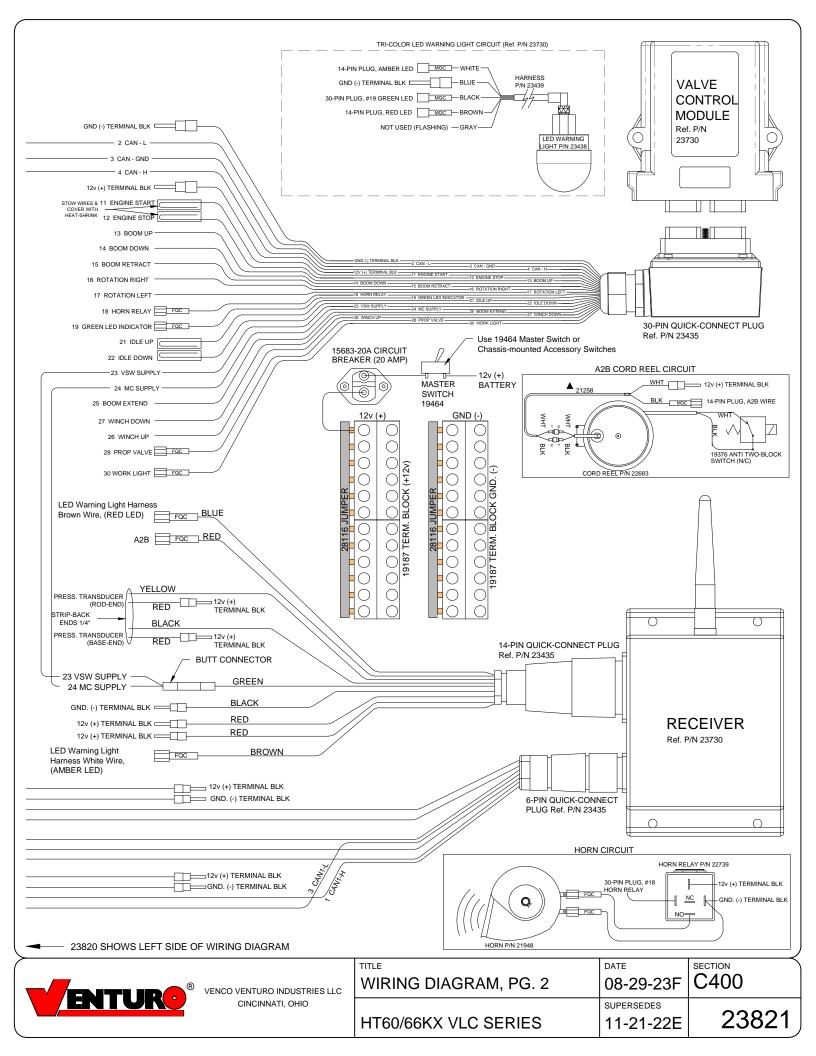


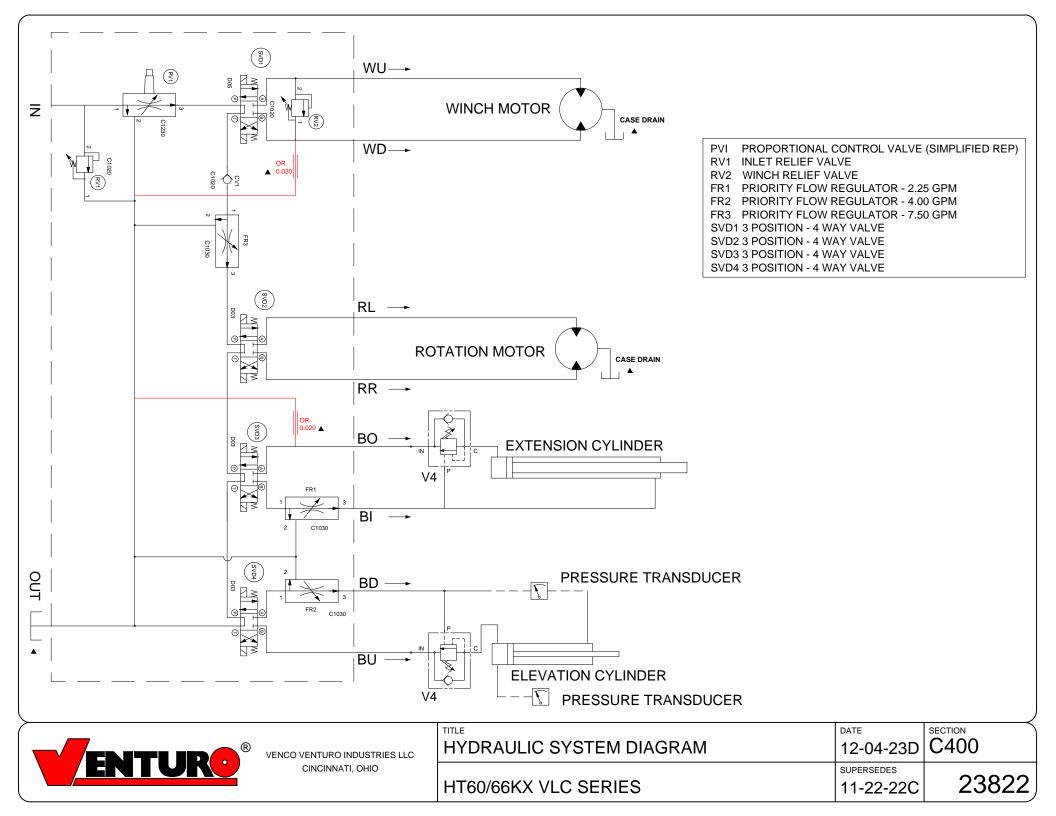


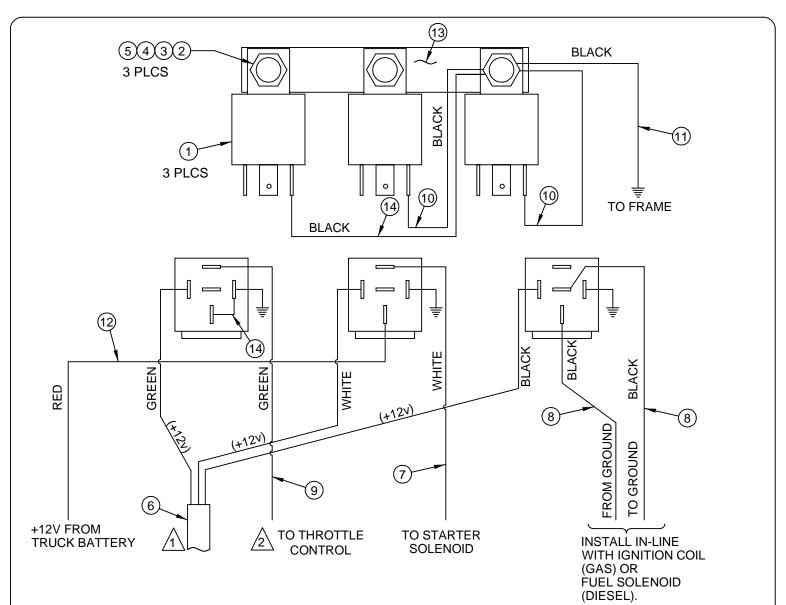
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

WORK LIGHT INSTALLATION, 3-WIRE CORD REEL	03-03-23A	C400
VLC CRANES	02-05-21	28





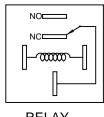




USER-CONTROLLED +12V INPUT SIGNALS FROM HETRONIC VLC SYSTEM OR ANALOG PENDANT OR RADIO SYSTEM

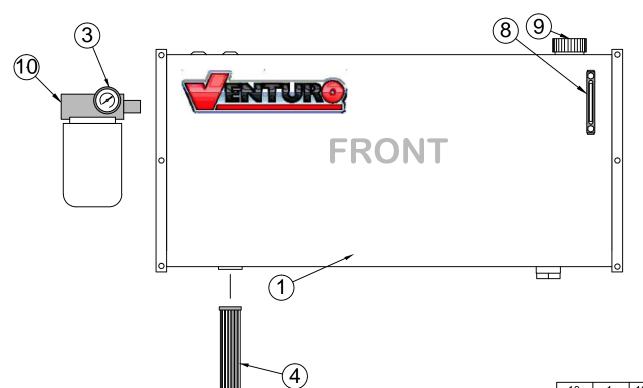
THROTTLE CONTROL IS DESIGNED TO PROVIDE A GROUND SIGNAL WHEN RELAY IS ACTIVATED

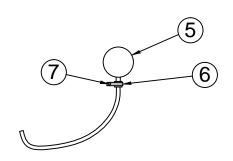
ITEM	QTY	PART#	DESCRIPTION
1	3	22739	RELAY
2	3	!PHCS#1024075	#10-24 X 3/4 PHIL PAN HD BOLT
3	3	!LWSH-#10	#10 LOCKWASHER
4	3	!FWSH-025	#10 WASHER
5	3	!HNUT-#1024	#10 NUT
6	1	22607	WIRE HARNESS - 12/3 SJO
7	1	22609	WHITE - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
8	2	22610	BLACK - 16 GAGE ELECTRICAL WIRE - 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



RELAY SCHEMATIC

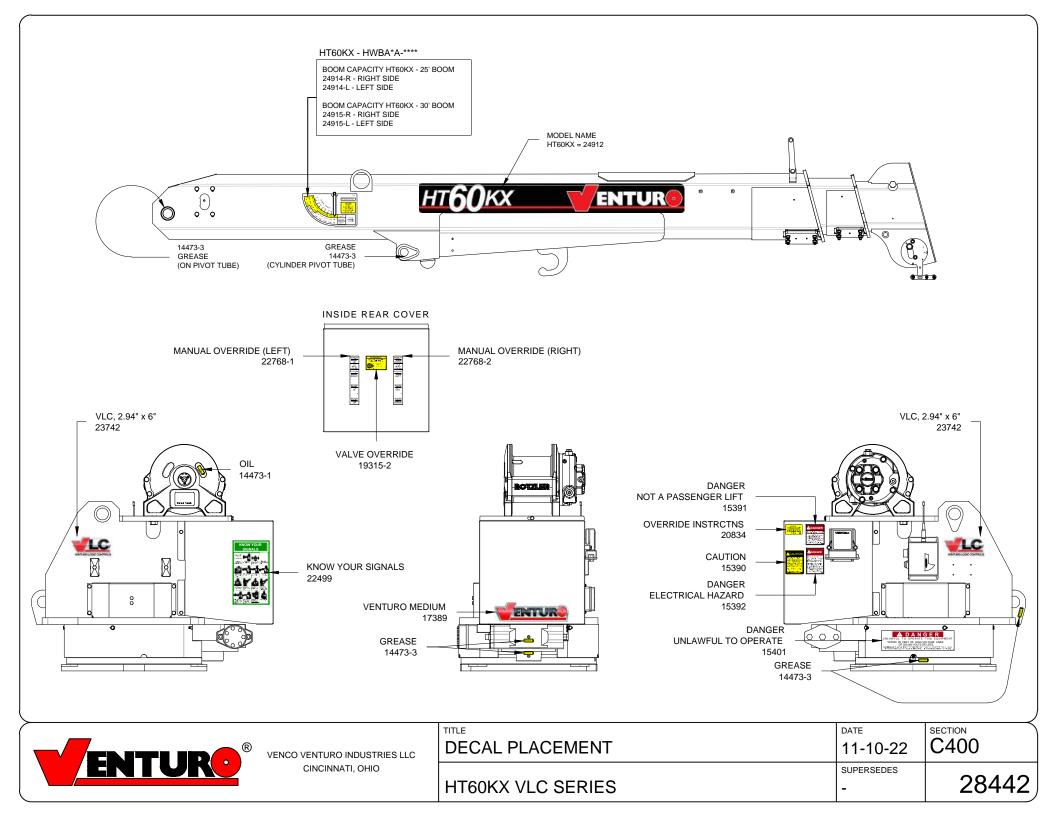
 TITLE ENGINE START / STOP THROTTLE CONTROL	06-09-20F	c400
HT CRANES	02-21-14E	22615





	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		





24911 FIELD SERVICE LABEL KIT; HT60KX

-25' BOOM	-30' BOOM		
Q ⁻	TY	PART#	DESCRIPTION
1	1	19814-1	DECAL; HORN RELAY
1	1	19814-2	DECAL; WORK LIGHT RELAY
1	1	17389	DECAL; VENTURO LOGO, MEDIUM
2	2	24912	DECAL; MODEL NAME, HT60
2	2	23742	DECAL; VLC MODEL SERIES
1	-	24914-R	DECAL; BOOM CAPACITY, 12-18.5-25, RIGHT
1	-	24914-L	DECAL; BOOM CAPACITY, 12-18.5-25, LEFT
-	1	24915-R	DECAL; BOOM CAPACITY, 13-22-30, RIGHT
-	1	24915-L	DECAL; BOOM CAPACITY, 13-22-30, LEFT
1	1	14473-1	DECAL; OIL
8	8	14473-3	DECAL; GREASE
1	1	17813	DECAL; OVERLOAD SENSING SYSTEM
1	1	22499	DECAL; KNOW YOUR SIGNALS
1	1	20834	DECAL; MANUAL OVERRIDE, INSTRUCTIONS
1	1	19315-2	DECAL; MANUAL OVERRIDE SHUT-OFF, PROPORTIONAL
1	1	22768-1	DECAL; MANUAL OVERRIDE, PROPORTIONAL, LEFT
1	1	22768-2	DECAL; MANUAL OVERRIDE, PROPORTIONAL, RIGHT
2	2	27007-17a	DECAL; LOAD BLOCK RATED CAPACITY
1	1	28441	IDWG: FIELD SERVICE LABEL KIT
1	1	28442	IDWG: DECAL PLACEMENT
1	1	INST-23233	SAFETY MANUAL, VENTURO CRANES
1	1	15397	KIT; ACCIDENTAL PREVENTION SIGNS

© ®	VENCO VENTURO INDUSTRIES LLC	FIELD SERVICE LABEL KIT	04-25-23A	SECTION C400
ENTUR	CINCINNATI, OHIO	HT60KX	SUPERSEDES 11-10-22	28441

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

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