

INST-28459

HWBA*C-V*A0

PARTS & INSTALLATION MANUAL HT60KX SERIES

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

HT60KX (VLC)

- 10,000 lb Hydraulic Telescopic Service Crane
- Venturo Logic Control System (VLC-H / VLC-K) w/ Proportional Control
- 25 or 30 ft Fully-Powered, Two-Stage Boom Extension

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



HT60KX SERIES INST-28459 - 10/6/2025 (Rev: B3)

| 7607100A 24449 28419 28420 23802 28423 28424 | SECTION 100: DESCRIPTION & SPECIFICATIONS SPECIFICATIONS & OPERATING FEATURES INSTALLATION DIMENSIONS - 25' INSTALLATION DIMENSIONS - 30' MOUNTING PLATE DIMENSIONS MAXIMUM LOAD CAPACITY CHART - 25' MAXIMUM LOAD CAPACITY CHART - 30' |
|--|---|
| 7607150A 15394 920612 19217 22181A 22181B 22181C 28443 28425 23748 | SECTION 150: SAFETY VEHICLE & CRANE ELECTRICAL HAZARD INFORMATION SAFETY & HAZARDS, GENERAL WINCH SAFETY WARNINGS SAFETY DECALS DRAWING & LIST DECALS; BOOM CAPACITY DECALS; VENTURO LOGIC CONTROLS (VLC) |
| 7607200A 28458 23806 23532 20906-6025 20906-6030 20907 22825 22883 23015 23014 22913 22245 | SECTION 200: INSTALLATION CRANE INSTALLATION, PG. 1 CRANE INSTALLATION PG. 2 ROTATION STOP LOCATION STABILITY PROCEDURE STABILITY PROCEDURE STABILITY CHART 22785 HYDRAULIC TANK DIMENSIONS HYDRAULIC COMPONENT INSTALLATION CONNECTIONS GUIDE (PAGE 1 OF 2) CONNECTIONS GUIDE (PAGE 2 OF 2) CONNECTIONS GUIDE (PAGE 3 OF 3) WIRE ROPE INSTALLATION |
| 7607300B 23203 23753 23754 28436 26934 28421 | SECTION 300: OPERATION & MAINTENANCE MAINTENANCE OVERVIEW INFORMATION CRANE OPERATION & MAINTENANCE INSTRUCTIONS (PAGE 1 OF 3) CRANE OPERATION & MAINTENANCE INSTRUCTIONS (PAGE 2 OF 3) CRANE OPERATION & MAINTENANCE INSTRUCTIONS (PAGE 3 OF 3) SAFETY SHUTOFF INSTRUCTIONS WIRE ROPE, HOOK, & LOAD BLOCK INFO |
| 7607400A 28513 28514 28515 28516 26951 26952 26953 26954 26955 26956 26957 26958 26942 28239 27332 28517 28518 22940 28188 26963 26964 23436 23437 23822 22615 23224 28441 | SECTION 400: REPLACEMENT PARTS REPLACEMENT PARTS DRAWING; MECHANISM REPLACEMENT PARTS LIST; MECHANISM REPLACEMENT FASTENER DRAWING; MECHANISM REPLACEMENT FASTENER LIST; MECHANISM REPLACEMENT PARTS DRAWING; 26593 25' BOOM REPLACEMENT PARTS LIST; 26593 25' BOOM REPLACEMENT PARTS LIST; 26593 25' BOOM REPLACEMENT FASTENER DRAWING; 26593 25' BOOM REPLACEMENT FASTENER LIST; 26593 25' BOOM REPLACEMENT PARTS DRAWING; 26590 30' BOOM REPLACEMENT PARTS LIST; 26590 30' BOOM REPLACEMENT FASTENER DRAWING; 26590 30' BOOM REPLACEMENT FASTENER LIST; 26590 30' BOOM REPLACEMENT FASTENER LIST; 26590 30' BOOM REPLACEMENT FASTENER LIST; 26590 30' BOOM REPLACEMENT PARTS DIAGRAM; WINCH REPLACEMENT PARTS DIAGRAM; WINCH REPLACEMENT PARTS DIAGRAM; WINCH REPLACEMENT PARTS DIAGRAM; 22736H HYDRAULIC COMPONENTS REPLACEMENT PARTS DIAGRAM; 22736H HYDRAULIC VALVE MANIFOLD WORK LIGHT INSTALLATION INSTRUCTIONS; COMPACT A2B MOUNT WIRING DIAGRAM, PG. 1 - VLC-K ("ORANGE") WIRING DIAGRAM, PG. 1 - VLC-K ("ORANGE") WIRING DIAGRAM, PG. 2 - VLC-H ("RED") WIRING DIAGRAM, PG. 2 - VLC-H ("RED") HYDRAULIC SYSTEM DIAGRAM ENGINE START/STOP/THROTTLE CONTROLS RESERVOIR KITS; REPLACEMENT PARTS DRAWING & LISTS DECAL PLACEMENT FIELD SERVICE LABEL KIT |

SECTION 100

DESCRIPTION & SPECIFICATIONS



SPECIFICATIONS

PTO-driven hydraulic system

12-volt electrical controls (e.g. valve coils)

60,000 ft-lb overturning moment (or as limited by truck stability)

Venturo Logic Controls (VLC) crane control management system

Hydraulic winch - 5,000 lb single-line capacity with automatic load brake

Hydraulic boom elevation

Hydraulic boom extension

Hydraulic 400° rotation

VLC radio remote control pendant

In-compartment electrical control panel (optional)

Accessories (optional):

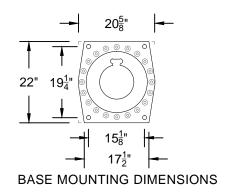
Stabilizers: 25100-CD, 25500-PHX(D), 26100-PHX(D)

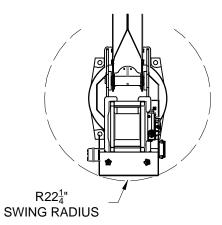
Pedestal: 27656

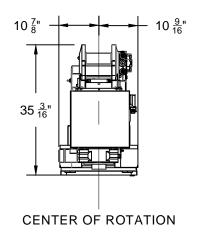
Boom Rest: 20381-1, VT1199

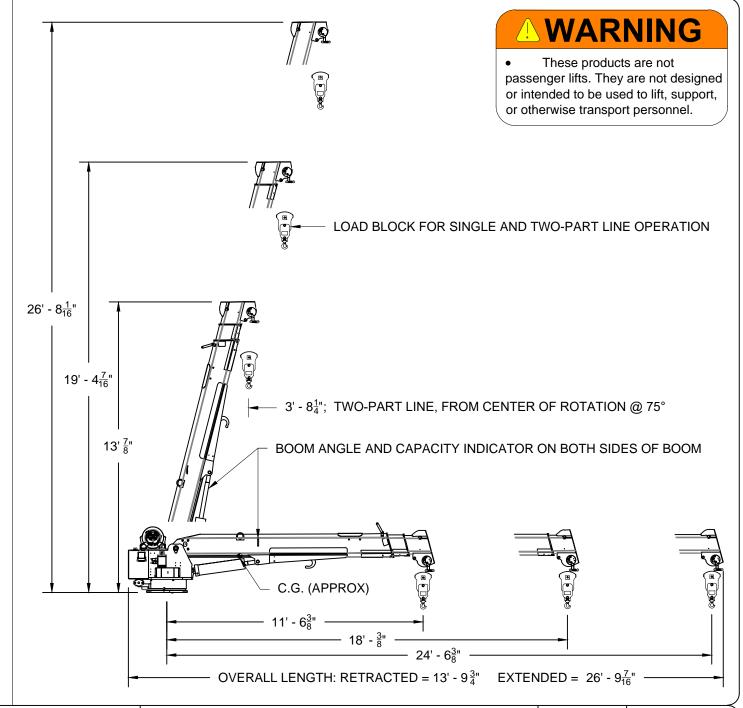
| TELESCOPIC BOOM | 11.5 - 24.5 ft | 13.5 - 29.8 ft A |
|--------------------|-------------------|-------------------|
| BOOM ELEVATION | -5° TO 75° | -5° TO 75° |
| BOOM HYD EXTENSION | 13.0 ft | 16.3 ft |
| BOOM MANUAL EXT | - | - |
| CAPACITY | 2100 lb @ 25.0 ft | 1750 lb @ 30.0 ft |
| CAPACITY | 10000 lb @ 5.0 ft | 10000 lb @ 5.0 ft |
| WIRE ROPE | 3/8" x 100 ft | 3/8" x 125 ft |

| TITLE | DATE | SECTION |
|----------------------|------------|---------|
| SPECS & OP. FEATURES | 08-25-25A | C100 |
| | SUPERSEDES | 04440 |
| HT60KX | 03-19-25 | 24449 |











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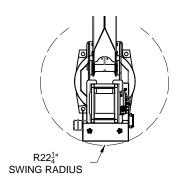
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

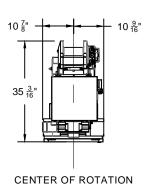
INSTALLATION DIMENSIONS

HT60KX-25' SERIES CRANES

DATE 11-18-22 C100

SUPERSEDES - 28419

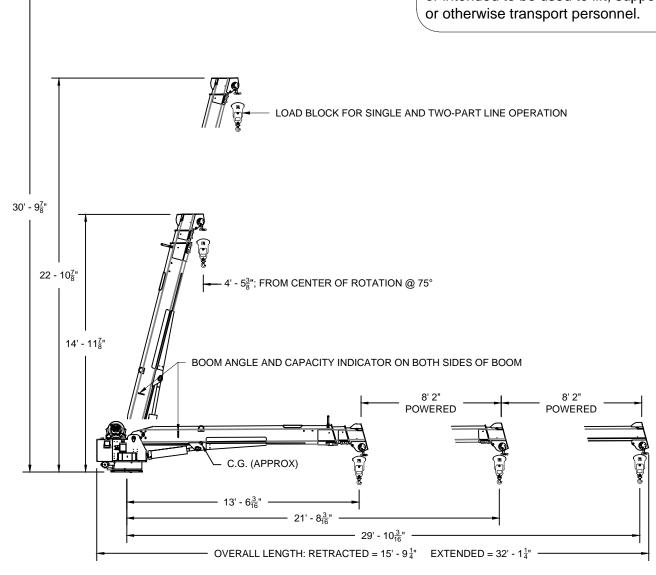




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WARNING

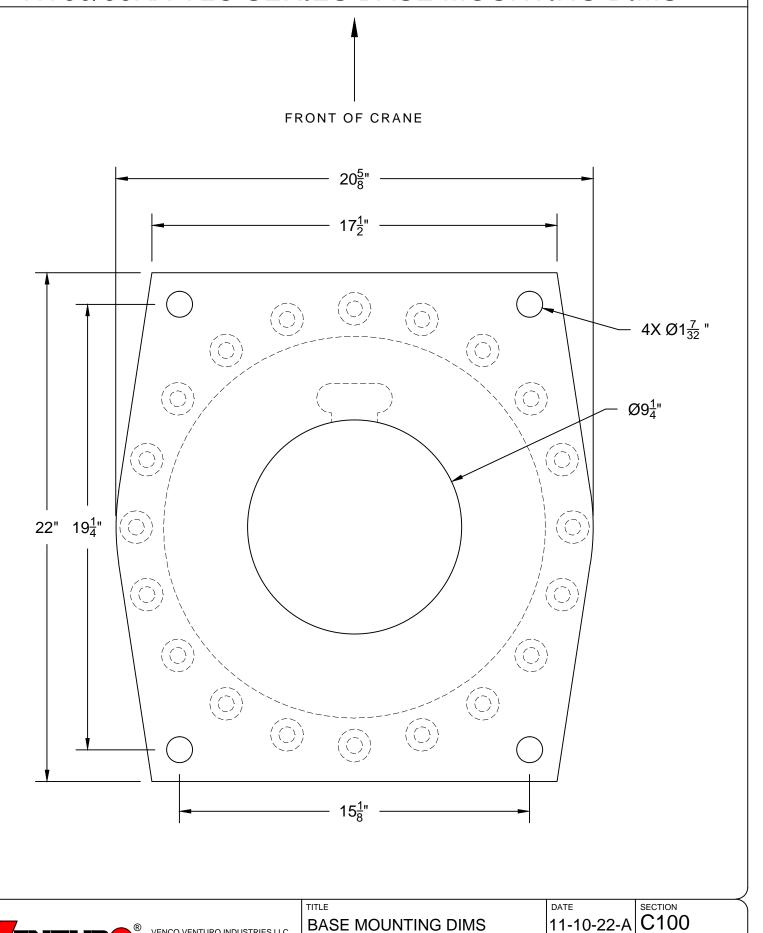
• These products are not passenger lifts. They are not designed or intended to be used to lift, support, or otherwise transport personnel.





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

HT60/66KX VLC SERIES BASE MOUNTING DIMS





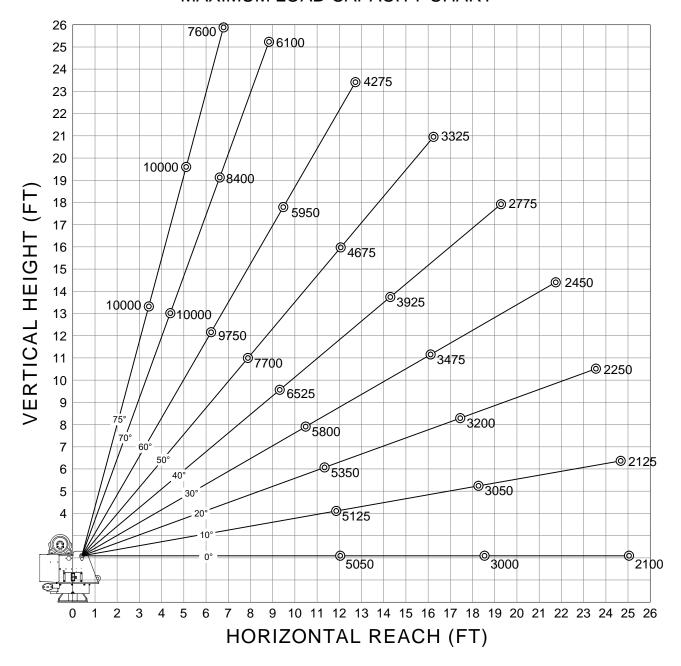
| IES LLC | |
|---------|--|
| | |
| | |

| BASE MOUNTING DIMS | |
|----------------------|--|
| HT60/66KX VLC SERIES | |

23802 02-06-19

HT60KX, 12' - 18.5' - 25' BOOM, WITH VENTURO LOGIC CONTROL SYSTEM 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 5000 LBS

2-PART LINE FOR LOADS OF 5000 LBS AND GREATER

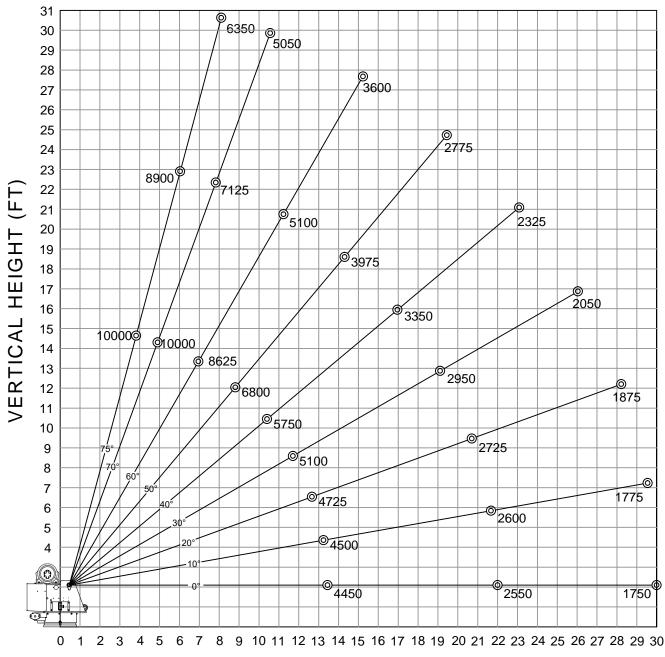
WEIGHT OF LOAD BLOCK = 51 LBS



| MAXIMUM LOAD CAPACITY | 02-22-23 | C100 |
|-----------------------|--------------|-------|
| HT60KX-25' BOOM, VLC | SUPERSEDES - | 28423 |

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 (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



HAZARD APPS & INFO ET/HT CRANES

C150 02-21-14M SUPERSEDES 15394 12-20-13L

SECTION

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

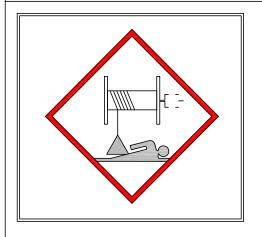
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.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

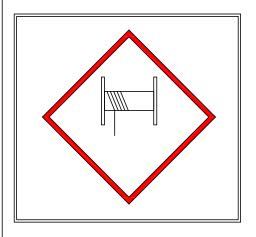
SECTION

WINCH SAFETY WARNINGS



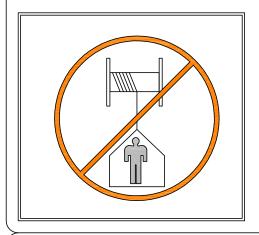
DANGER

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

| | DATE OA AAD | SECTION |
|--------------|-------------|---------|
| WINCH SAFETY | 02-21-14D | C150 |
| | SUPERSEDES | 4004 |
| HT CRANES | 04-04-12C | 1921 |

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

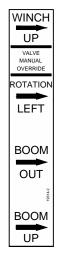
15308-F

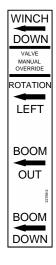
A DANGER

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

DATE

11-30-22E C150

SUPERSEDES

|22181*P*

SECTION

NCO VENTURO INDUSTRIES LL CINCINNATI, OHIO

HT40/50/60/66 SERIES

02-21-14D

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:

PLACEMENT: Inside of rear cover.

WINCH ÙΡ VALVE MANUAL OVERRIDI ROTATION **LEFT BOOM** OUT **BOOM** DOWN



PART NO.: 19315-1

DECAL: SHUT OFF (NON-PROPORTIONAL)

FUNCTION: To show the operator how to

override master shut off valve.

QUANTITY:

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.



NON-PROPORTIONAL VALVE

PUSH IN STEM AND ROTATE

WARNING!

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



PROPORTIONAL

ROTATE STEM

PART NO.: 20834

DECAL: MANUAL OVERRIDE NOTICE

FUNCTION: To inform the operator of

manual override locations.

QUANTITY:

PLACEMENT: Inside rear cover.

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



DECAL DRAWING & LIST

04-14-23H

C150

HT40/50/60/66 SERIES

SUPERSEDES 11-30-22G

CINCINNATI, OHIO

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.





IT IS NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL.

YOU MUST NOT OPERATE THIS CRANE UNLESS:

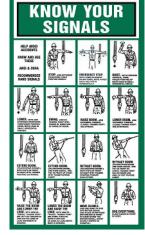
YOU HAVE BEEN TRAINED IN THE SAFE YOU HAVE BEEN IN TAINED IN INE SAFE OPERATION OF THIS CRANE; AND YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN THE MANUFACTURER'S MANUALS, YOUR EMPLOYER'S WORK RULES, AND APPLICABLE GOVERNMENT REGULATIONS.

AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

DANGER THIS MACHINE IS NOT INSULATED **ELECTROCUTION HAZARD** MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS. YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOAD LINE SWAYING. THIS LIFTING DEVICE DOES NOT PROVIDE PRO-TECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR. YOU MUST MAINTAIN A CLEARANCE OR AT LEAST 11 FEET BETWEEN ANY PART OF THE CRANE, LOAD LINE OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 50,000 VOLTS. ONE FOOT ADDITIONAL CLEARANCE IS REQUIRED FOR EVERY ADDITIONAL 30,000 VOLTS OR LESS.

DEATH OR SERIOUS INJURY WILL RESULT FROM CONTACT OR INADEQUATE CLEARANCE.







DECAL DRAWING & LIST

DATE

11-30-22F

SECTION C150

HT40/50/60/66 SERIES

SUPERSEDES 02-21-14E

22181

PART NO.: 17389

DECAL: MEDIUM VENTURO

FUNCTION: Branding.

QUANTITY: 1

PLACEMENT: Rear cover.



PART NO.: 24912

DECAL: HT60 MODEL DECAL

FUNCTION: Branding.

QUANTITY: 2

PLACEMENT: Boom.

PART NO.: 20927

DECAL: CRANE STABILITY

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

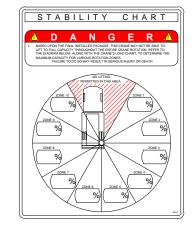
throughout the entire rotation.

QUANTITY: 1

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

identifiable.







| DECAL DRAWING & LIST |
|----------------------|
| IIILE |

SUPERSEDES

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 24914-L & 24914-R

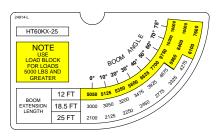
DECAL: HT60-25' CRANE CAPACITY

FUNCTION: To show the operator the operating

capacities of the crane

QUANTITY: 1 each

PLACEMENT: Right side of boom, Left side of boom



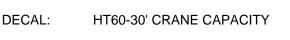


24914-L

24914-R

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM



FUNCTION: To show the operator the operating

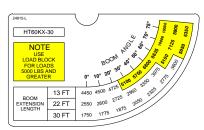
24915-L & 24915-R

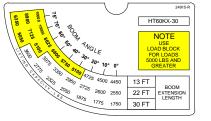
capacities of the crane

QUANTITY: 1 each

PART NO.:

PLACEMENT: Right side of boom, Left side of boom





24915-L

24915-R

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SPACE INTENTIONALLY LEFT BLANK



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO BOOM CAPACITY DECALS 11

11-10-22

SECTION C150

HT60KX VLC SERIES

SUPERSEDES

28425

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



•

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SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK



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

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

SECTION 200

INSTALLATION



CRANE INSTALLATION, PAGE 1 HT60KX-25' & -30'

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 approximately 70,000 ft-lbs (includes moments induced by both lifted load and weight of the boom itself).

The maximum vertical load for the HT60KX-25' is 12,250 lbs and HT60KX-30' 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" diameter with coarse threads, torqued to 965 foot pounds.

A 6" - 10" diameter 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 23532. 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 pressure, return, and 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.

| | TITLE |
|---|--------------------|
| | CRANE INSTALLATION |
| I | |

HT60KX-25' & -30'

01-17-25A

CRANE INSTALLATION, PAGE 2 HT45/60/66 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 LINE | HOSE INSIDE DIAMETER |
|----------------|----------------------|
| 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

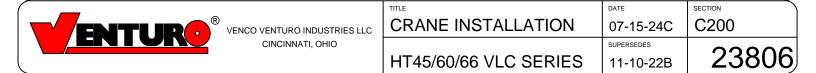
The PTO pump should be sized to allow an engine idle speed range that will deliver approximately 12 GPM. The crane's system relief pressure is set at 3000 psi.

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 GPM with a 40 gallon reservoir, operate the PTO system for 20-25 minutes to flush out the lines and filter all fluid approximately seven times.

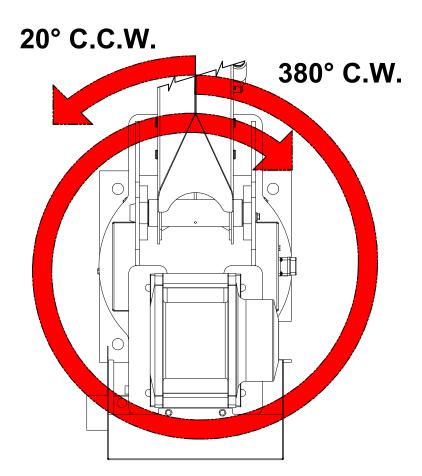
ENGINE START/STOP & THROTTLE CONTROL

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

Crane is shipped in "CURBSIDE" mounting configuration.





| ROTATION STOP LOCATION | 08-14-25 | C200 |
|-----------------------------------|--------------|-------|
| 400° ROTATION CRANES (STD CONFIG) | SUPERSEDES - | 23532 |

STABILITY TEST - HT60-25'-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.
- Use a Test Weight weighing a minimum of <u>2471 lbs</u>, (includes load block weight of <u>51</u> lbs.) to a maximum of 2600 lbs.
- 6. Place the VLC system into **Stability Mode** (reference VLC Manual)
- 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 three conditions occurs:
 - 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 <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.

| ENT IDA® | | STABILITY TEST | 07-09-24A | C200 |
|----------|------------------|---------------------|---------------------|------------|
| ENTUR | CINCINNATI, OHIO | HT60-25'-VLC SERIES | SUPERSEDES 02-27-23 | 20906-6025 |

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.

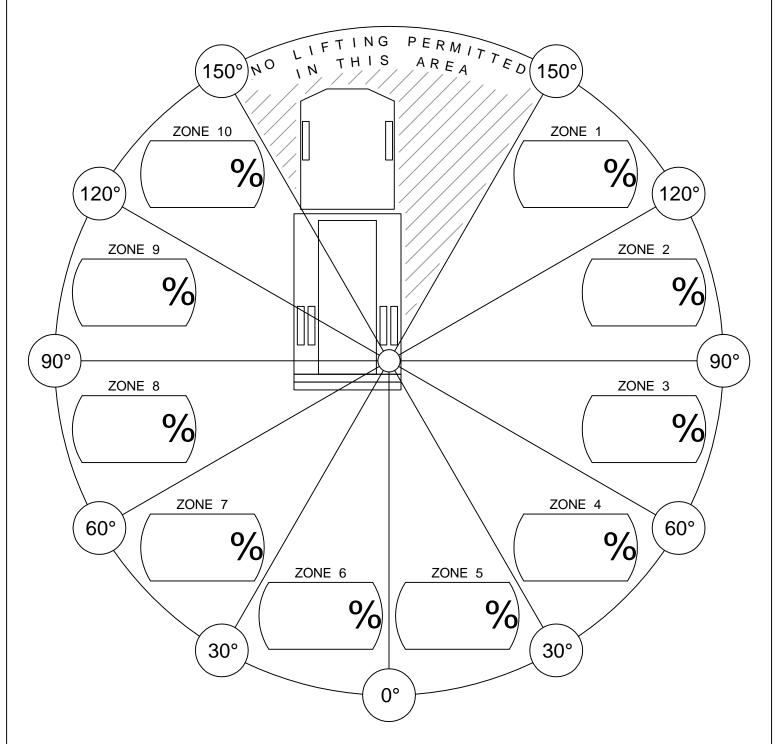
Testing Procedure

- 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.
- 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** (reference VLC Manual)
- 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 three conditions occurs:
 - 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 <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.

| | VENCO VENTURO INDUSTRIES LLC | STABILITY TEST | 07-09-24A | C200 |
|-------|------------------------------|---------------------|---------------------|------------|
| ENTUR | CINCINNATI, OHIO | HT60-30'-VLC SERIES | SUPERSEDES 04-17-23 | 20906-6030 |

CRANE STABILITY



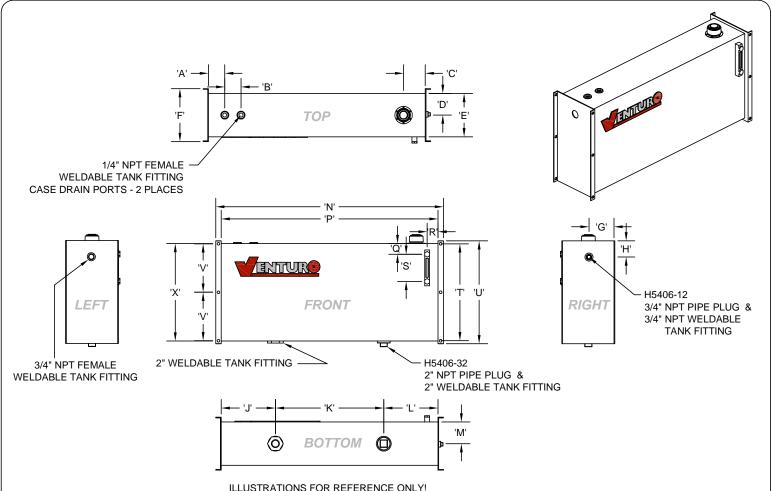
% of Rated Capacity for each of the 10 regions are provided above.

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. 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 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" |

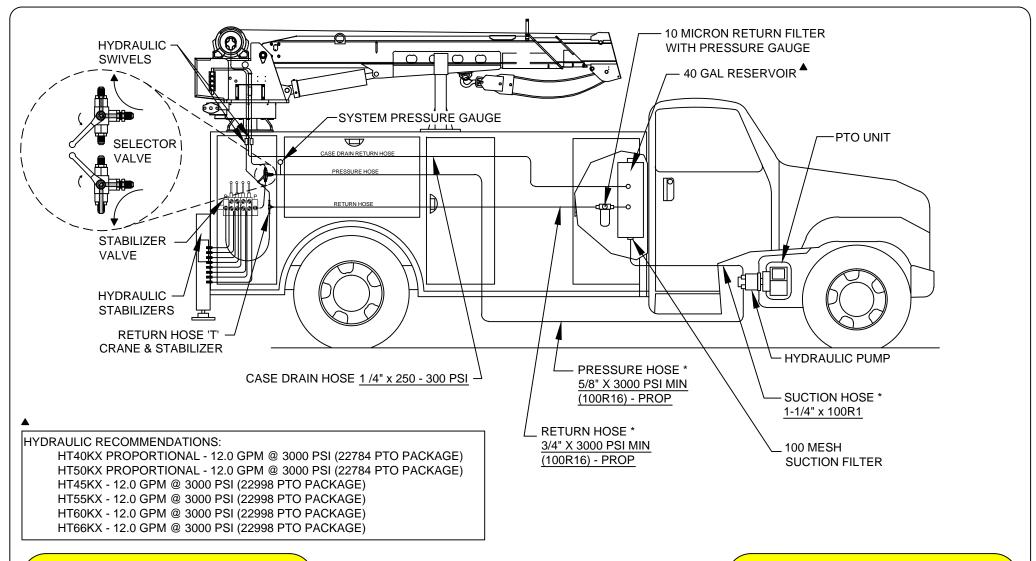
MEASUREMENTS INCLUDE MOUNTING APARATUSES

MEASUREMENTS EXCLUDE MOUNTING APARATUSES

CINCINNATI, OHIO



| ; | RESERVOIR DIMENSIONS | 02-21-14E | C200 |
|---|-------------------------|-----------|-------|
| | HYD. TANKS (25/40 GAL.) | o6-04-13D | 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

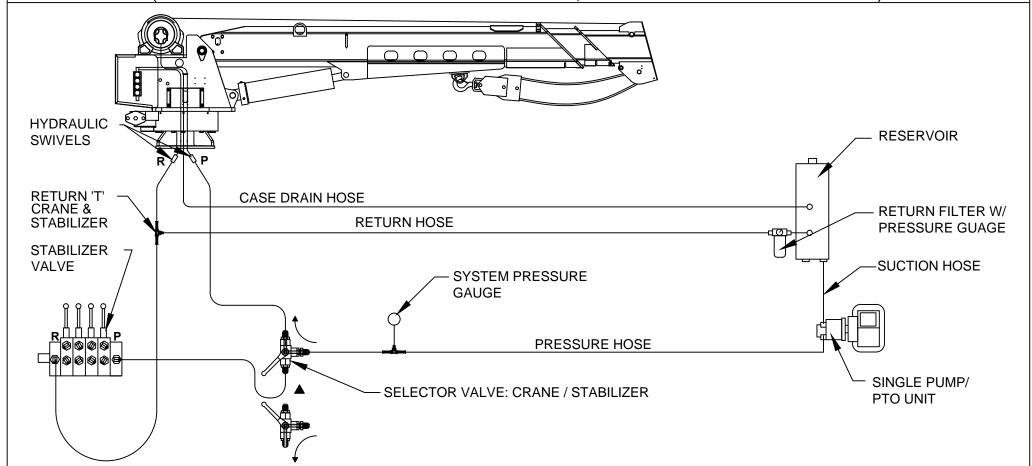
 THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.



VENCO VENTURO INDUSTRIES LLC CINCINNATI. OHIO

| TITLE | DATE | SECTION |
|----------------------------------|------------|---------|
| HYDRAULIC COMPONENT INSTALLATION | 07-15-24H | C200 |
| | SUPERSEDES | 00000 |
| HT40-66, PROPORTIONAL | 08-08-23G | 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

| <u> </u> | |
|---------------------|---------|
| CONNECTION GUIDE, P | AGE 1/2 |
| TITLE | |

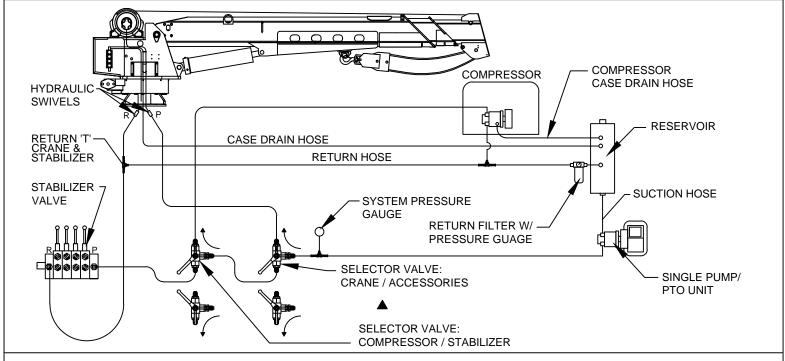
08-09-23C C200 SUPERSEDES - - -

HT CRANES

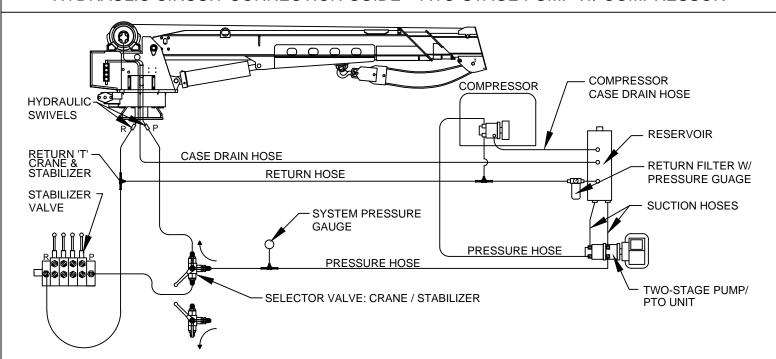
02-21-14B 23015

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**

CINCINNATI, OHIO

CAUTION

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



CNNCTN GDE, PAGE 2/2 VENCO VENTURO INDUSTRIES LLC

08-08-23C SUPERSEDES

C200

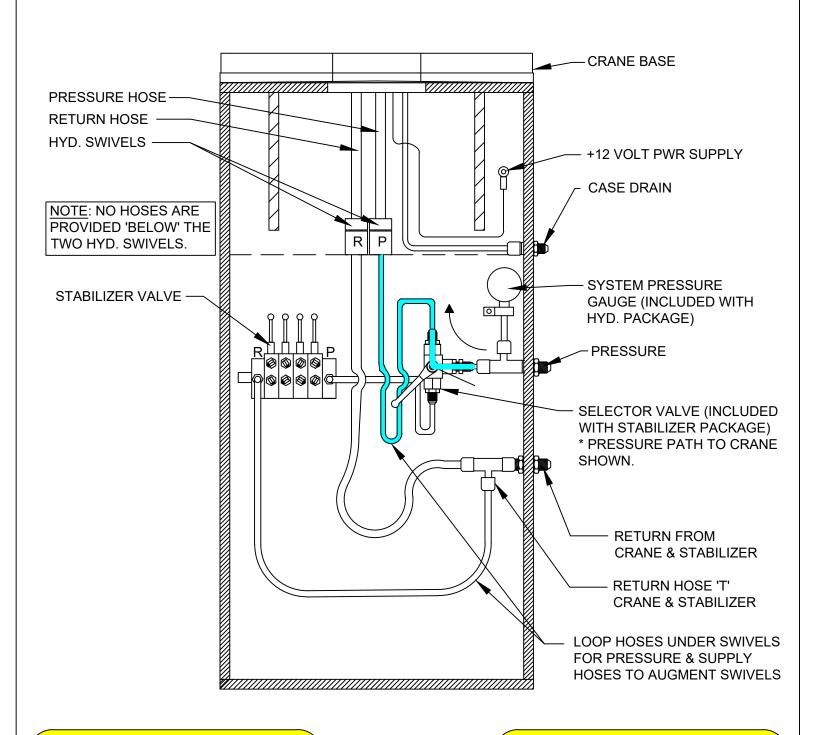
SECTION

HT CRANES

02-21-14B

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

CONNECTIONS GUIDE

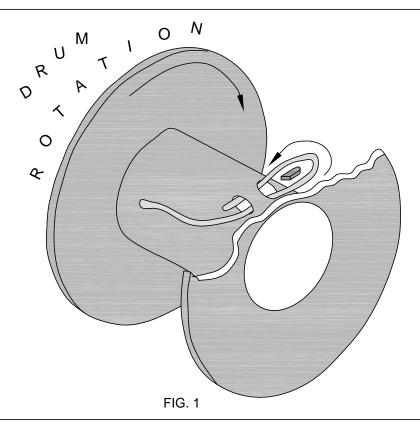
10-03-25H

SECTION C200

HT CRANES

SUPERSEDES 08-07-23G

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 CINCINNATI, OHIO | WIRE ROPE INSTALLTN | 02-21-14K | C200 | | |
| | | | 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.



| | TITLE | DATE | SECTION | |
|--|--------------------------|------------|---------|--|
| | MAINTENANCE INFO | 06-11-24E | C300 | |
| | | SUPERSEDES | 22202 | |
| | HT25/30/40/50/60/66KX(P) | 11-10-22D | 23203 | |

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 HT 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 Varies the flow rate delivered to the crane valve. The farther the trigger is pulled, the faster the selected crane function operates.

CRANE OPERATION (with VLC TRANSMITTER)

- Turn master crane power ON.
- Disengage the E-STOP.
- Actuate the HORN toggle switch.
- Select the crane function toggle switch to be actuated.
- Pull the proportional trigger to control the speed of the selected crane function.
- NOTE: For safety reasons, the crane function toggle switch must be selected *before* pulling the proportional trigger or the crane will not operate.

VLC OVERLOAD SENSING SYSTEM

This crane is equipped with the Venturo Logic Control (VLC) overload sensing system. If the capacity of the crane is exceeded, the "Winch Up", "Boom Down", and "Boom Out" functions will be shut down. The "Winch Down", "Boom Up", and "Boom In" functions will continue to operate and can be used to relieve the overload condition. The "Rotation" function also will continue to operate.

TWO-BLOCK SENSING SYSTEM

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

| TITLE | DATE |
|-----------------------|------------|
| CRANE OP / MNTNC INST | 06-12-25G |
| | SUPERSEDES |
| HT VLC SERIES | 06-26-24F |

C200

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.
- 6. Turn OFF power to crane.

MAINTENANCE - MODEL-SPECIFIC INFORMATION

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 months or 100 hours of operation (whichever comes first). Periodic Change - every 24 months or 300 hours of operation (whichever comes first).

HLP 46 or HLP 68 hydraulic oil

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

DATE

07-08-24B

10-26-23A

SECTION

C300

Grease fitting locations:

Boom pivot at rear of boom Slew drive (2 zerk fittings) Swing bearing race (1 zerk fitting) Elevation cylinder base and rod pivots

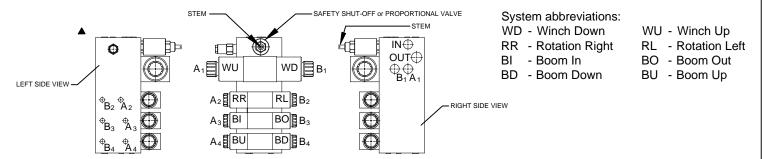


EXPLANATION OF HYDRAULIC VALVE SYSTEMS

OVERVIEW

Venturo's hydraulic cranes are available in two [2] general configurations: Proportional and Non-Proportional. The **Non-Proportional** configuration utilizes a safety shut-off valve which, when **not** actuated, allows hydraulic fluid to bypass the valve bank and return to tank; the crane will not function when the safety shut-off valve is not actuated. When the safety shut-off valve is actuated (control pendant energizes the coil or the coil is manually overridden), hydraulic fluid cycles through the valve bank and allows the crane to function. The **Proportional** configuration utilizes a proportional valve which, in its fully closed and fully opened positions, functions similarly to the safety shut-off valve, but adds the ability to operate the crane at any speed in between these two extremes.

In both the Non-Proportional and Proportional configurations, the four [4] crane functions (winch, rotation, boom elevation, and boom extension) 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 the associated manual override lie on the same side of the valve bank (both 'push').



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 safety shut-off or proportional valve by turning the red stem on the valve as stated below:

Non-Proportional system

For override operation, press stem in and rotate counter-clockwise until it stops.

To return to normal operation, press stem in and rotate clockwise until it stops.

Proportional system

For override operation, rotate stem clockwise (the farther the stem turns, the faster the crane operates). To return to normal operation, roate 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 press firmly. For example, pushing the stem labeled 'A1' on the first bank (see illustration above) will actuate Winch Up.

• For normal crane operation, the safety shut-off or proportional valve <u>MUST</u> be in the 'normal' position (as described above). Test the crane before each use by placing the power toggle switch or trigger in the 'OFF' position and testing each crane function using the manual overrides. If any crane function operates, verify that the red stem on the safety shut-off or proportional valve is in the normal position, then retest.

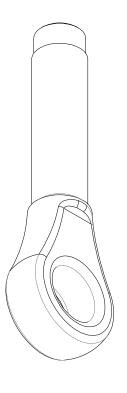


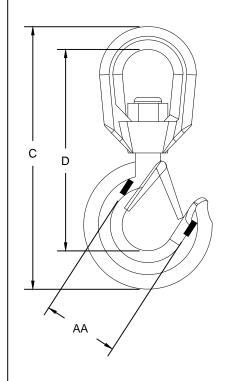
WIRE ROPE ASSEMBLY

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



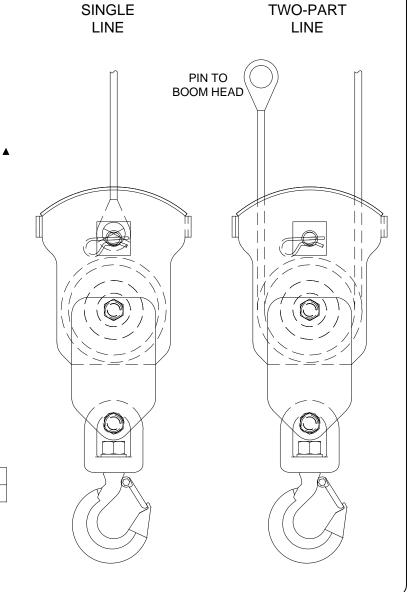


LOAD BLOCK HOOK:

RATING: 5 TONNE (11,023 LBS)

DIMENSIONS:

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





VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO WIRE ROPE, HOOK, & LOAD BLOCK INFORMATION

SUPERSEDES

03-21-23

03-21-23 28421

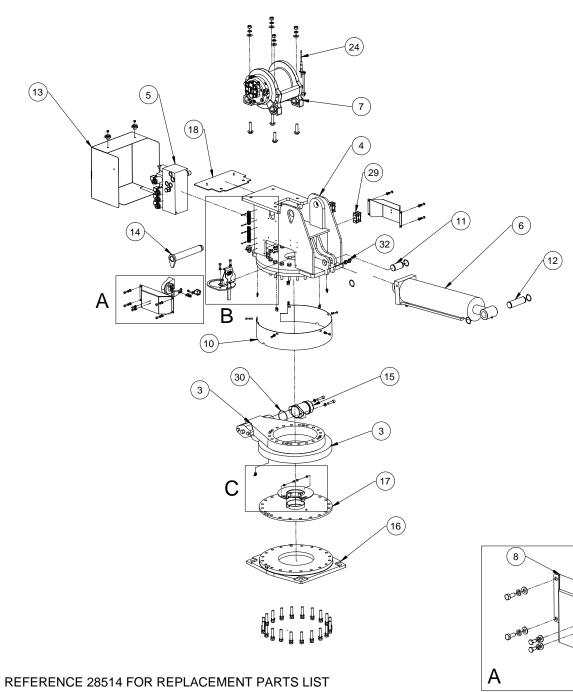
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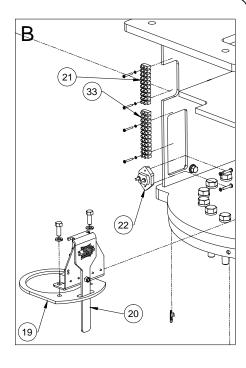
C300

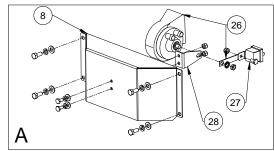
SECTION 400

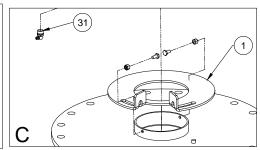
REPLACEMENT PARTS











| ENTURO |
|--------|
|--------|

VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

| REPLACEMENT PARTS DWG - MECHANISM |
|-----------------------------------|
| IIILE |

07-08-24

DATE

3-24 C400

HT60KX VLC SERIES

SUPERSEDES

28513

REPLACEMENT PARTS LIST - HT60KX VLC SERIES; MECHANISM

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|------|------|-------------|--------------------------------------|
| 1 | 1 | 23666 | STOP DISK - ELECTRIC ROTATION STOP |
| 2 | - | - | - |
| 3 | 1 | 27275 | SLEW ING RING |
| 4 | 1 | 24925 | W ELDED ASSEMBLY; HOUSING, MECHANISM |
| 5 | 1 | 22736H-2 | VALVE MANIFOLD; HI FLOW, 3000 PSI |
| 6 | 1 | 21748 | ELEVATION CYLINDER |
| 7 | 1 | 27274 | HYDRAULIC WINCH |
| 8 | 2 | 27400 | HOUSING SIDE COVER |
| 9 | 1- | - | - |
| 10 | 1 | 27406 | SLEWING RING COVER |
| 11 | 1 | 22256 | ELEVATION CYLINDER PIN - INBOARD |
| 12 | 1 | 22257 | ELEVATION CYLINDER PIN - OUTBOARD |
| 13 | 1 | 27505 | REAR COVER |
| 14 | 1 | 22721 | PIVOT PIN - MAIN BOOM PIVOT |
| 15 | 1 | 27276 | HYDRAULIC ROTATION MOTOR |
| 16 | 1 | 28470 | MACHINED BASE |
| 17 | 1 | 28473 | SLIPPER PLATE W ELD |
| 18 | 1 | 28318 | REAR COVER MOUNTING PLATE WELDEMENT |
| 19 | 1 | 23680 | housing water dam |
| 20 | 1 | 28474 | ELECTRIC ROTATION STOP ASSEMBLY |

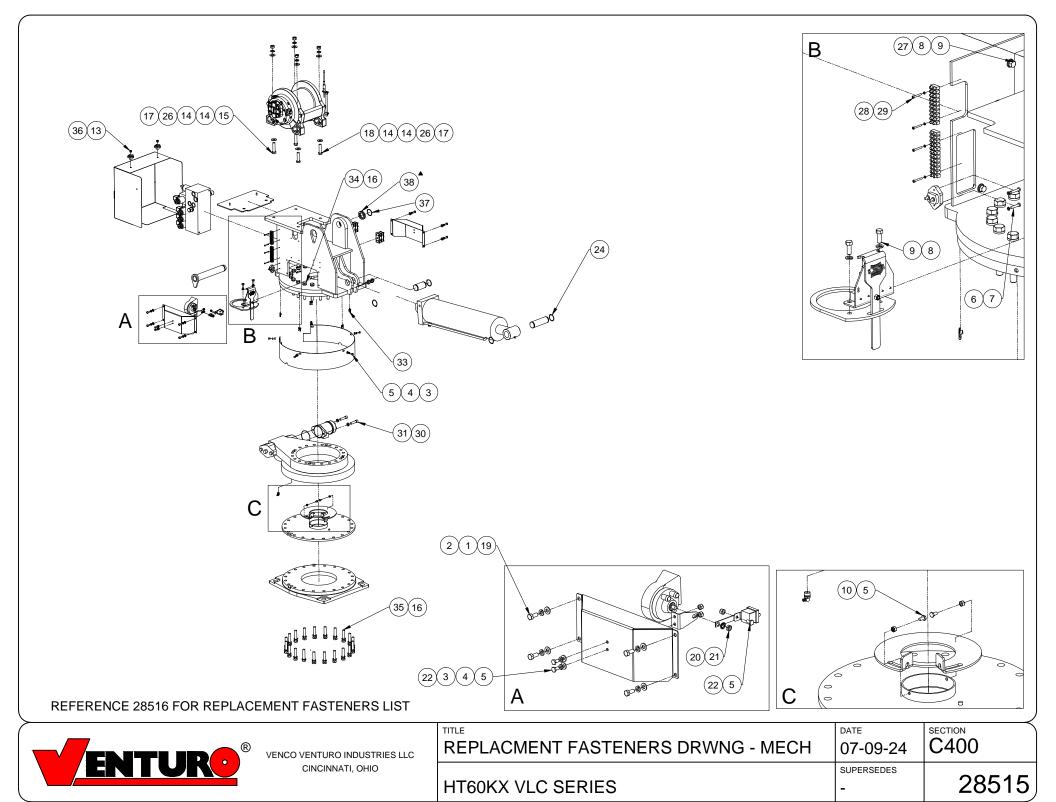
| ECTIONS 20A |
|----------------|
| 20A |
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| ELAY |
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| N |
| TUBING |
| MOTOR |
| 90° |
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| |

REFERENCE 28513 FOR REPLACEMENT PARTS DRAWING



| INDUSTRIES LLC | |
|----------------|--|
| TI, OHIO | |

| REPLACEMENT PARTS LIST - MECHANISM | 07-09-24 | C400 |
|------------------------------------|--------------|-------|
| HT60KX VLC SERIES | SUPERSEDES - | 28514 |



REPLACEMENT FASTENERS LIST - HT60KX VLC SERIES; MECHANISM

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|------|---------------|------------------|---------------------------------------|
| 1 | 8 | !LWSH-031S | LOCK WASHER; 5/16, S/S |
| 2 | 8 | !FWSH-031S | FLAT WASHER; 5/16, S/S |
| 3 | 7 | !FW SH-025S | FLAT WASHER; 1/4, S/S |
| 4 | 7 | !LW SH-025S | LOCK WASHER; 1/4, S/S |
| 5 | 10 | !HHCS02520050S | HHCS; 1/4-20 x 1/2, S/S |
| 6 | 2 | !LWSH-#10S | LOCK WASHER; #10, S/S |
| 7 | 2 | !SHCS#0832100S | SHCS; #10-32 X 1, S/S |
| 8 | 4 | !LW SH-038 | LOCK WASHER; 3/8, ZINC |
| 9 | 4 | !HHC\$03816100 | HHCS; 3/8-16 X 1, ZINC |
| 10 | 2 | !LNUT-02520 | LOCK NUT; 1/4-20, NYLON, ZINC |
| 11 | 2 | !HHC\$02520275 | HHCS, 1/4-20 X 2.75, S/S, FULL THREAD |
| 12 | (1 =) | = | - |
| 13 | 2 | !LNUT-02520-H | LOCK NUT; 1/4-20, HVY PAT, NYLON |
| 14 | 8 | !FW SH-063 | FLAT WASHER; 5/8, GR. 8 |
| 15 | 2 | !HHC\$06311275 | HHCS; 5/8-11 X 2-3/4, GR 8 |
| 16 | 40 | !LW SH-063 | LOCK WASHER; 5/8, GR. 5, ZINC |
| 17 | 4 | !HNUT-06311-8 | HEX NUT; 5/8-11, GR. 8 |
| 18 | 2 | !HHC\$06311250-8 | HHCS; 5/8-11 X 2-1/2 LG, GR 8 |
| 19 | 8 | !HHC\$03118075\$ | HHCS; 5/16-18 X 3/4, S/S |
| 20 | 1 | !LWSH-031-STAR | LOCK WASHER; 5/16, ZINC |

| ITEM | QTY. | PART NUMBER | DESCRIPTION |
|------|------|-----------------|---|
| 21 | 1 | !HNUT-03118 | HEX NUT; 5/16-18, ZINC |
| 22 | 5 | !LNUT-02520SS | NYLOCK HEX NUT 1/4-20 |
| 23 | • | = | - |
| 24 | 4 | !SRNG-150 | SNAP RING; 1-1/2, ZINC |
| 25 | - | - | - |
| 26 | 4 | !LW SH-063 | LOCK WASHER; 5/8, GR. 8, ZINC |
| 27 | 2 | !FW SH-038 | FLAT WASHER; 3/8, ZINC |
| 28 | 4 | !LWSH-#06S | LOCK WASHER; #06. S/S |
| 29 | 4 | !PHPMS#0632100S | PHILIPS-HD PMS; #6-32 X 1, S/S |
| 30 | 2 | !LW SH-050-HC | LOCK WASHER; 1/2, HI-COLLAR |
| 31 | 2 | !SHC\$05013200 | SOCKET HEAD CAP SCREW - 1/2-13 X 2 |
| 32 | 1= | - | - |
| 33 | 5 | !UNUT-02520-LKG | U-NUT 1/4-20, LOCKING TYPE |
| 34 | 20 | !HHC\$06311450 | HHCS; 5/8-11 x 4-1/2, GR. 5, ZINC |
| 35 | 20 | !HHC\$06311300 | HHCS; 5/8-11 x 3, GR. 5, ZINC |
| 36 | 2 | 28327 | knob, hand, 5-point |
| 37 | 1 | 24842-175 | SPIRAL RETAINING RING - 1-3/4 - STAINLESS |
| 38 | 2 | 26609 | SHIM - STAINLESS STEEL |
| 39 | - | | |
| 40 | - | | |

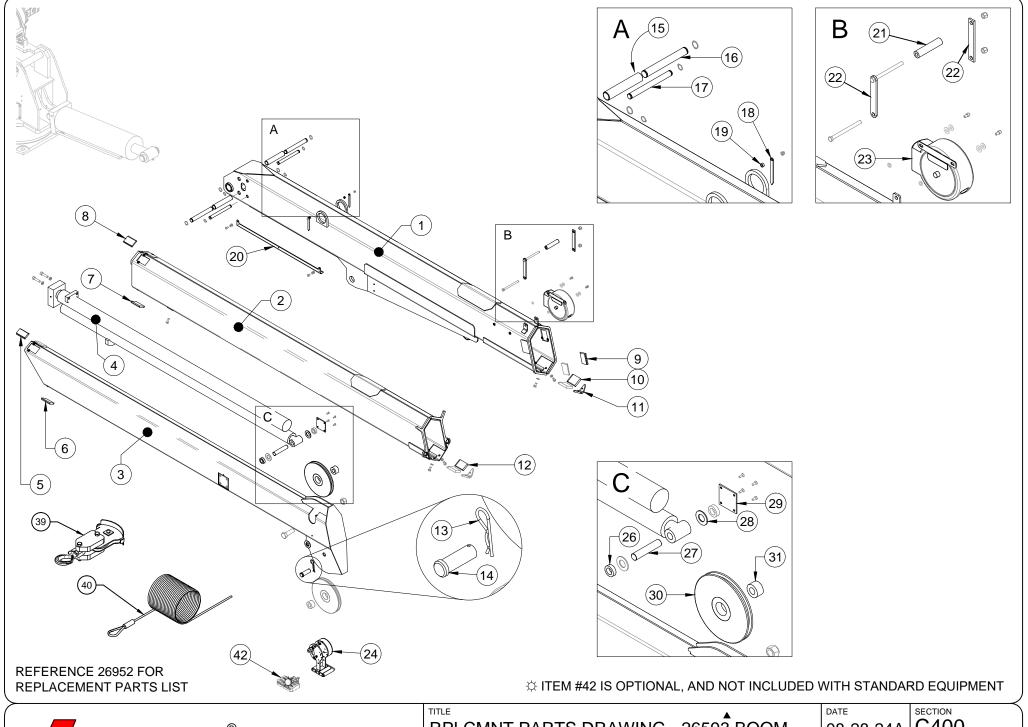
HHCS = HEX HEAD CAP SCREW, SHCS = SOCKET HEAD CAP SCREW, PMS = PAN MACHINE SCREW, S/S = STAINLESS STEEL

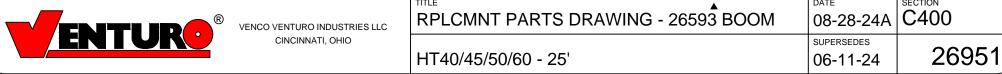
REFERENCE 28515 FOR REPLACEMENT PARTS DRAWING

| ENTURO ® |
|-----------------|
|-----------------|

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

| REPL FASTENERS LIST - MECHANISM | 08-26-25B | C400 |
|---------------------------------|------------|-------|
| | SUPERSEDES | |
| HT60KX VLC SERIES | 10-01-24A | 28516 |





REPLACEMENT PARTS LIST - 26593 BOOM

| ITEM | PART NO. | QTY | DESCRIPTION |
|------|----------|-----|---|
| 1 | 26594 | 1 | WELDED ASS'Y; PRIMARY BOOM |
| 2 | 27175 | 1 | WELDED ASS'Y; SECONDARY BOOM |
| 3 | 23105 | 1 | WELDED ASS'Y; TERTIARY BOOM |
| 4 | 21749 | 1 | EXTENSION CYLINDER |
| 5 | 23217-1 | 2 | BOOM PAD; UHMW, 'A', 3.19 x 1.88 x 0.50 |
| 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 | 26940 | 1 | CABLE GUARD BRACKET |
| 21 | 21560 | 1 | ROLLER; UHMW, WIRE ROPE GUIDE |

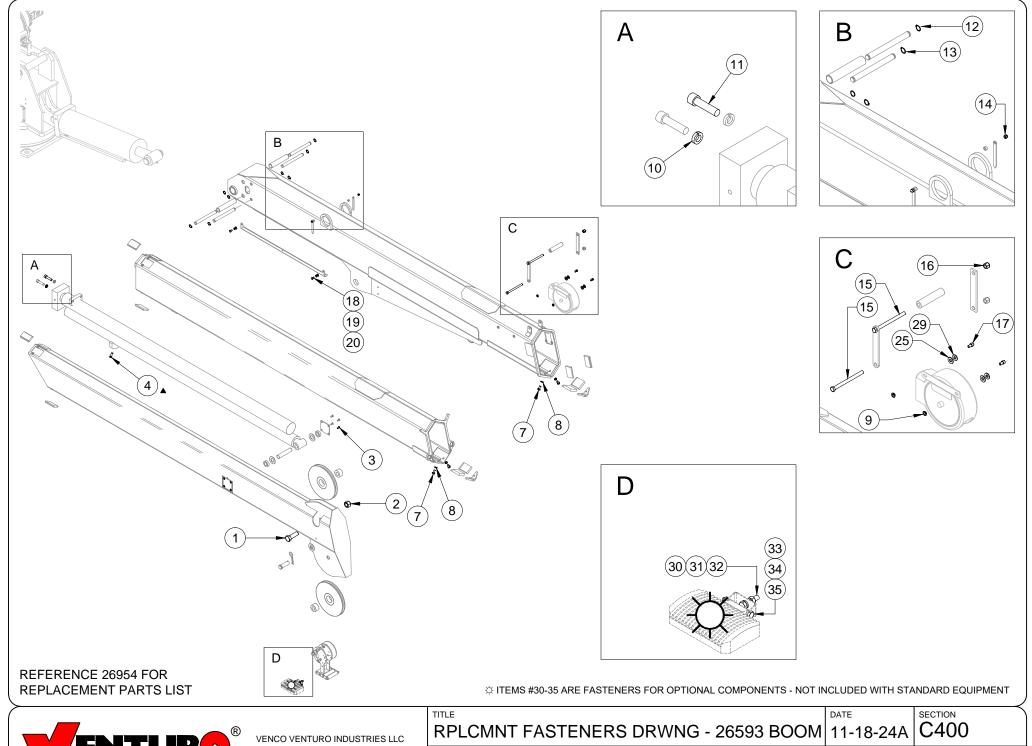
| 1 | ITE N 4 | DADTNO | OTV | DECCRIPTION |
|---|---------|---------------|-----|--|
| | ITEM | PART NO. | QTY | DESCRIPTION |
| | 22 | 21936 | 2 | FLAT, MOUNT; WIRE ROPE GUIDE |
| • | 23 | 26577-1-25 | 1 | CORD REEL ASSY (BLK STEEL CASE) |
| | 23 | 26577-4 | 1 | CORD REEL ASSY (BLK/YEL PLASTIC CASE) |
| | 24 | 27469-L-C-11 | 1 | ANTI-TWO-BLOCK ASSEMBLY |
| | 25 | - | ı | - |
| | 26 | 21428 | 2 | BUSHING; EXTENSION CYLINDER |
| | 27 | 21405 | 1 | PIN; PIVOT, EXTENSION CYLINDER |
| | 28 | !FWSH-100SAE | 2 | FLAT WASHER; 1" SAE |
| | 29 | 23116 | 2 | PIN BLOCK REINFORCING |
| | 30 | 23928 | 2 | CABLE SHEAVE |
| | 31 | 23929 | 2 | SPACER; SHEAVE |
| | 32 | 27476-1 | 2 | SPACER; COMPACT A2B |
| | 33 | - | - | - |
| | 34 | • | ı | - |
| | 35 | • | ı | - |
| | 36 | - | ı | - |
| | 37 | • | ı | - |
| | 38 | - | - | - |
| | | 17949-1 | 1 | LOAD BLOCK ASSEMBLY (HT40) |
| | 39 | 17949-2 | 1 | LOAD BLOCK ASSEMBLY (HT45) |
| | 39 | 17949 | 1 | LOAD BLOCK ASSEMBLY (HT50) |
| | | 17949-5 | 1 | LOAD BLOCK ASSEMBLY (HT60) |
| | 40 | 17094-3/8-100 | 1 | WIRE ROPE; 100 FT, NO HOOK (HT40/45/50/55) |
| | 40 | 24916-3/8-100 | 1 | WIRE ROPE; 100 FT, NO HOOK (HT60) |
| | | 27483 | 1 | ASS'Y; WORK LIGHT, LED |
| | | | | |

REFERENCE 26951 FOR REPLACEMENT PARTS DRAWING

☼ OPTIONAL; NOT INCLUDED WITH STANDARD EQUIPMENT



| REPLACEMENT PARTS LIST - 26593 BOOM | 11-25-24A | C400 |
|-------------------------------------|---------------------|-------|
| HT40/45/50/60 - 25' | SUPERSEDES 06-11-24 | 26952 |



| | VENCO VENTURO INDUSTRIES LLC | RPLCMNT FASTENERS DRWNG - 26593 BOOM | 11-18-24A | C400 |
|-------|------------------------------|--------------------------------------|------------|--------------------|
| ENIUN | CINCINNATI, OHIO | | SUPERSEDES | 00050 |
| | | HT40/45/50/60 - 25' | 06-11-24 | 26953 _/ |

| (| | | | | |
|---|------------|----------------|-----|---|----------------------|
| | ITEM# | PART# | QTY | DESCRIPTION | WHERE-USED |
| | 1 | 17059-6 | 1 | SHEAVE AXLE; HHCS, 3/4-10 X 2", S/S | TOP SHEAVE |
| | 2 | !LNUT-07510 | 2 | LOCK NUT, FULL, 3/4-10, GR. 5, ZINC | SHEAVES |
| | 3 | !CACS02520050S | 8 | CACS; 1/4-20 X 1/2", S/S | PIN BLCK REINFORCING |
| | 4 | !HHCS03816100N | 2 | HHCS; NYLON PATCH 3/8-16 X 1", GR. 5 ZINC | EXT. CYL. V-BLOCK |
| | 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 |
| ▲ | <u>^</u> 9 | 28198 | 2 | INSULATING SLEEVE WASHER - 5/16" | CORD REEL |
| | 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 | 2 | 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 | !SHCS03118063S | 2 | SHCS; 5/16-18 X 5/8" LG, S/S | CORD REEL |
| | 18 | !HHCS03118050S | 2 | HHCS; 5/16-11 X 1/2", S/S | CABLE GUARD BRACKET |
| | 19 | !LWSH-031S | 2 | LOCK WASHER; 5/16", S/S | CABLE GUARD BRACKET |
| | 20 | !FWSH-031S | 2 | FLAT WASHER; 5/16", S/S | CABLE GUARD BRACKET |
| | | | | | |

| | ITEM# | PART# | QTY | DESCRIPTION | WHERE-USED |
|---|-------------|----------------|-----|-----------------------------|------------|
| | 21 | - | - | - | - |
| | 22 | - | - | - | - |
| | 23 | - | - | - | - |
| | 24 | - | - | - | - |
| • | <u>^</u> 25 | 01016 | 2 | FIBER WASHER | CORD REEL |
| | 26 | - | - | - | - |
| | 27 | - | - | - | - |
| | 28 | - | - | - | - |
| | 29 | !FWSH-031 | 2 | FLAT WASHER, 5/16" | CORD REEL |
| | ☼ 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 | - | - | - | - |
| İ | 37 | - | - | - | - |
| I | 38 | - | - | - | - |
| | 39 | | - | - | - |
| | 40 | - | - | - | - |

[🜣] ITEMS #30-35 ARE FOR OPTIONAL COMPONENTS - NOT INCLUDED WITH STANDARD EQUIPMENT

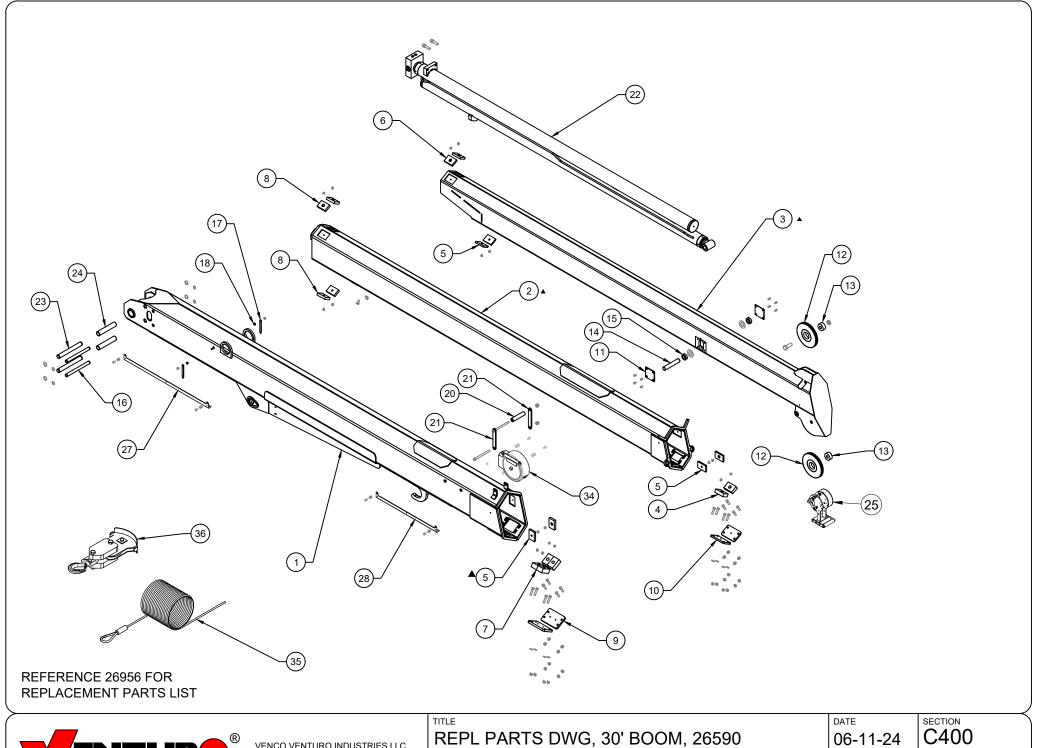
REFERENCE 26953 FOR REPLACEMENT FASTENERS DRAWING

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



| PLCMNT FASTENERS LIST - 26593 BOOM | 11-25-24B | SECTION C400 |
|------------------------------------|----------------------|--------------|
| HT40/45/50/60 - 25' | SUPERSEDES 11-18-24A | 26954 |

[⚠] FOR 26577-1-** ONLY (NOT REQ'D FOR 26577-4)





VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

REPL PARTS DWG, 30' BOOM, 26590

06-11-24

HT45/60 - 30'

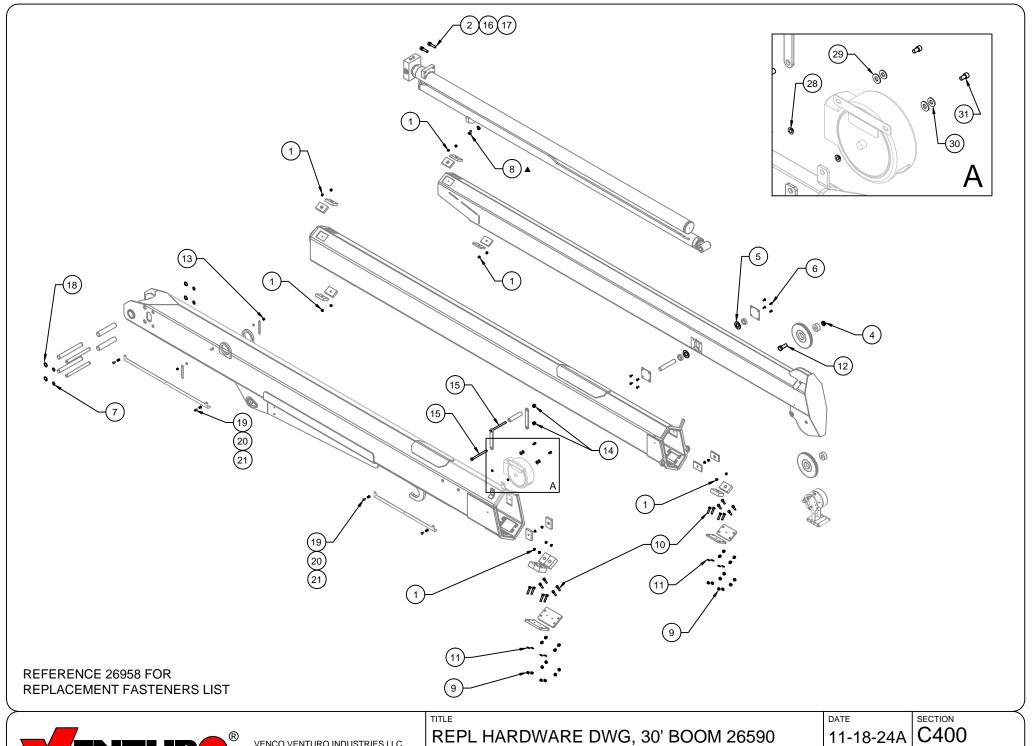
SUPERSEDES 26955

REPLACEMENT PART LIST, 30' BOOM 26590

| ITEM NO. | PART NO. | QTY | DESCRIPTION |
|-----------------|---------------|-----|---------------------------------------|
| 1 | 26591 | 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 | 6 | BOOM PAD; 0.38" THICK |
| 6 | 23631-4 | 2 | 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 | - | - | - |
| 20 | 21560 | 1 | WIRE ROPE GUIDE; UMHW ROLLER |
| 21 | 21936 | 2 | WIRE ROPE GUIDE; FLAT, MOUNT |
| 22 | 23875 | 1 | EXTENSION CYLINDER |
| 23 | 23905 | 2 | EXTENSION CYLINDER 1" THRUST PIN |
| 24 | 27283 | 2 | THRUST ROLLER |
| 25 | 27469-L-C-11 | 1 | ANTI-TWO-BLOCK ASSEMBLY |
| 26 | - | - | - |
| 27 | 26940 | 1 | CABLE GUARD BRACKET (LONG) |
| 28 | 26940-2 | 1 | CABLE GUARD BRACKET (SHORT) |
| 29 | - | - | - |
| 30 | - | - | - |
| 31 | - | _ | - |
| 32 | - | - | - |
| 33 | - | - | - |
| 34 | 26577-1-30 | 1 | CORD REEL ASSY (BLK STEEL CASE) |
| J -1 | 26577-4 | 1 | CORD REEL ASSY (BLK/YEL PLASTIC CASE) |
| 35 | 17094-3/8-125 | 1 | WIRE ROPE; 125 FT, NO HOOK (HT45/50) |
| 33 | 24916-3/8-125 | 1 | WIRE ROPE; 125 FT, HIGH STR (HT60) |
| 36 | 17949-2 | - | LOAD BLOCK ASSEMBLY (HT45) |
| 30 | 17949-5 | - | LOAD BLOCK ASSEMBLY (HT60) |

REFERENCE 26955 FOR REPLACEMENT PARTS DRAWING







VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

REPL HARDWARE DWG, 30' BOOM 26590

11-18-24A SUPERSEDES

HT45/60 - 30'

06-11-24

26957

REPLACEMENT FASTENERS LIST, 30' BOOM 26590

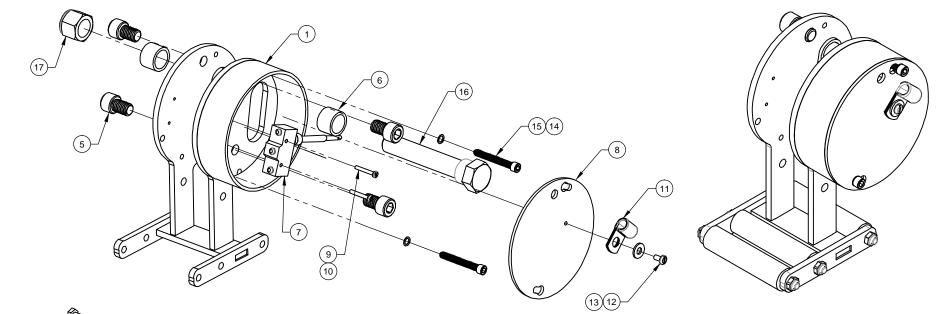
| ITEM NO. | PART NO. | QTY. | DESCRIPTION |
|-------------|----------------|------|---|
| 1 | !THCS02520038 | 18 | THCS; 1/4-20 x 3/8" LG, S/S |
| 2 | 14159 | 1 | SHIM KIT |
| 3 | - | - | - |
| 4 | !LNUT-07510 | 1 | LOCK NUT; 3/4-10, NYLON, ZINC |
| 5 | !FWSH-100SAE | 2 | FLAT WASHER; 1" SAE |
| 6 | !CACS02520050S | 8 | CACS; 1/4-20 x 1/2" LG, S/S |
| 7 | !SRNG-075 | 4 | SNAP RING; 3/4" |
| 8 | !HHCS03816100N | 2 | HHCS; NYLON PATCH 3/8-16 X 1", GR. 5 ZINC |
| 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 | !HHCS03118050S | 4 | HHCS; 5/16-18 X 1/2", S/S |
| 20 | !LWSH-031S | 4 | LOCK WASHER; 5/16", S/S |
| 21 | !FWSH-031S | 4 | FLAT WASHER; 5/16", S/S |
| 22 | - | - | - |
| 23 | - | - | - |
| 24 | - | - | - |
| 25 | - | - | - |
| 26 | - | - | - |
| 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 | - | - | - |

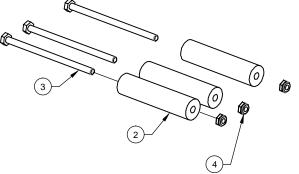
⚠ FOR 26577-1-** ONLY (NOT REQ'D FOR 26577-4)

REFERENCE 26957 FOR REPLACEMENT FASTENERS DRAWING

| | ENTURO® | VENCO VENTURO INDUSTRIES LLC | REPL FAST LIST, BOOM 26590 | 11-25-24B | C400 | |
|--|---------|------------------------------|----------------------------|----------------------|-------|--|
| | | CINCINNATI, OHIO | HT45/60 - 30' | SUPERSEDES 11-18-24A | 26958 | |

COMPACT A2B - 27469-* - REPLACEMENT PARTS LIST





| | COMPACT A2B CONFIGURATIONS - 27469-* | | | | | |
|------------------------------|--------------------------------------|---------|---------|-------------|--|--|
| ITEM NO. PART NUMBER -L-C-00 | | -L-C-11 | -L-0-22 | DESCRIPTION | | |
| 1 | 27468 | 1 | 1 | 1 | WLDMNT - COMPACT A2B FRAME LH | |
| 2 | 27475 | 3 | 3 | 3 | WIRE ROPE GUIDE ROLLER | |
| 3 | !HHCS02520450 | 3 | 3 | 3 | HHCS 1/4-20 X 4-1/2 LG | |
| 4 | !JNUT-02520N | 3 | 3 | 3 | NYLON INSERT JAM NUT - 1/4-20 | |
| 5 | 27467 | 4 | 4 | 4 | SHCS NYLON BLACK 1/2-13 X 3/4 LG | |
| | 27476 | 2 | - | - | SPACER/PIVOT - 0.69" | |
| 6 | 27476-1 | - | 2 | - | SPACER/PIVOT - 0.57" | |
| | 27476-2 | - | - | 2 | SPACER/PIVOT - 1.06" | |
| 7 | 19376 | 1 | 1 | 1 | ANTI-TWO BLOCK SWITCH | |
| 8 | 27473 | 1 | 1 | 1 | COVER PLATE | |
| 9 | !PHCS#0632100 | 2 | 2 | 2 | PHILLIPS HEAD CAP SCREW 6-32 X 1 LONG | |
| 10 | !LWSH-#06 | 2 | 2 | 2 | LOCK WASHER - 6 | |
| 11 | 19269 | 1 | 1 | 1 | WIRE CLAMP, 3/8 ID VIBRATION DAMPING | |
| 12 | !PHCS#1032038 | 1 | 1 | 1 | PAN HEAD CAP SCREW 10-32 X 3/8 LONG | |
| 13 | !FWSH-025 | 1 | 1 | 1 | FLAT WASHER - 1/4 | |
| 14 | !SHCS02520200SS | 2 | 2 | 2 | SHCS, 1/4-20 X 2.00 LONG, STAINLESS STEEL | |
| 15 | 23379 | 2 | 2 | 2 | WASHER, NYLON, BLACK, .375" O.D. X .25" I.D. | |
| 16 | 28362 | 1 | 1 | - | COMPACT A2B CUT-OUT CAM WELDED ASSY. | |
| 16 | !HHCS07510450 | - | - | 1 | HHCS, 3/4-10 X 4.50 LONG, GR.5 | |
| 17 | LNUT-07510 | 1 | 1 | 1 | NYLON INSERT LOCK NUT - 3/4-10 | |



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO REPLACEMENT PARTS LIST

7-10-24A

DATE

C400

COMPACT A2B - 27469-*

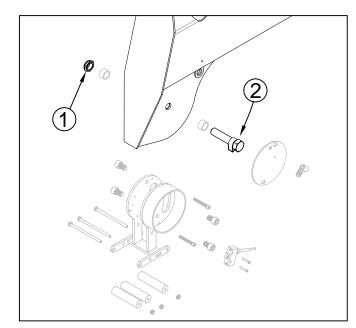
SUPERSEDES **06-11-24**

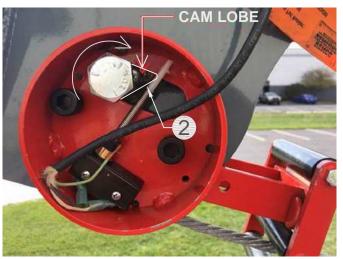
26942

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.



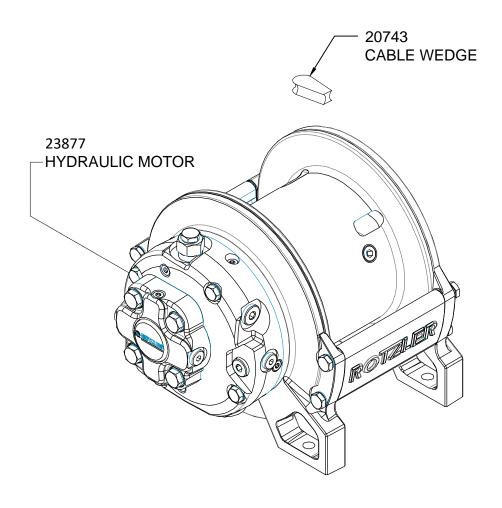


Contact Venturo Tech Support for assistance. 1-800-226-2238 ext. 124



| A2B Stowage Cut-out | 10-04-21B | C400 |
|---------------------------|----------------------|------|
| ET/HT Cranes w/ Comp. A2B | SUPERSEDES 08-03-21A | 2823 |

REPLACEMENT PARTS DRAWING; 27274 WINCH



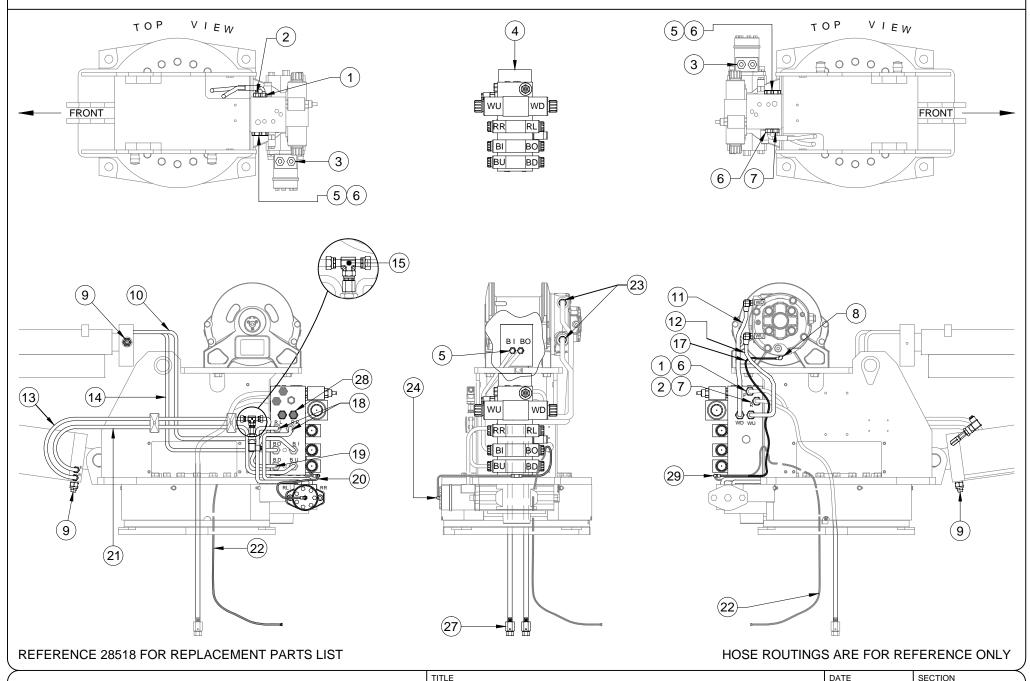
WINCH SEALS PACKAGE: 23848

CINCINNATI, OHIO



| TITLE | DATE | SECTION |
|---------------------------|------------|---------|
| REPLACEMENT PARTS DRAWING | 11-10-22-C | C400 |
| | SUPERSEDES | 0-000 |
| HT60/66KX SERIES CRANES | 04-05-21B | 27332 |

REPLACEMENT PARTS DRAWING - HYDRAULIC COMPONENTS





VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

RPLCMNT PARTS DWG - HYD. COMPONENTS

07-09-24

C400

HT60/66KX VLC SERIES

SUPERSEDES

28517

REPLACEMENT PARTS LIST - HYD. COMPONENTS

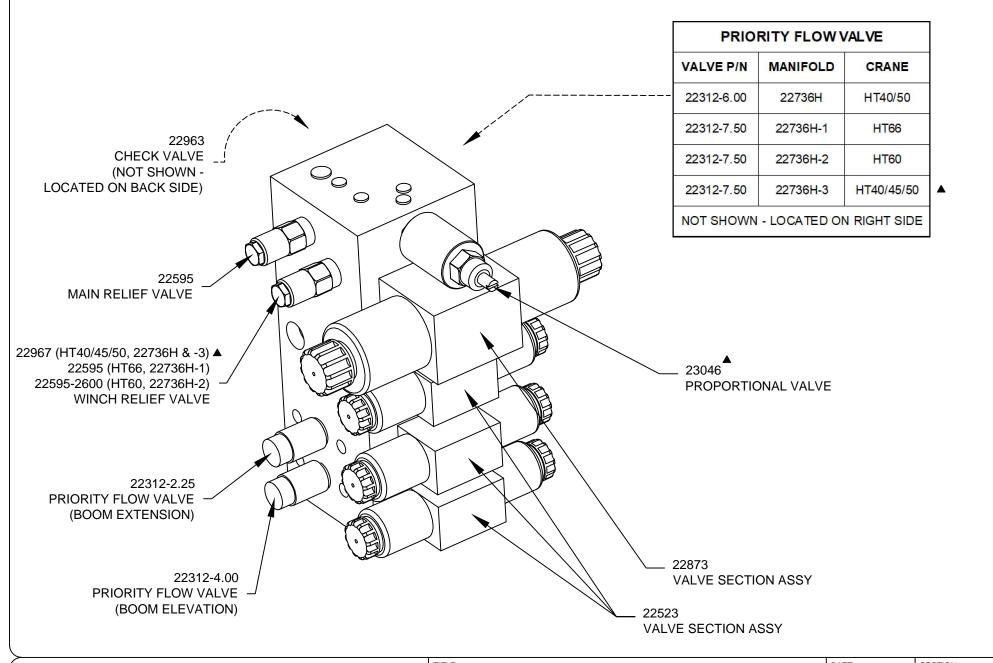
| ITEM | PART NO. | QTY HT60 | DESCRIPTION | INSTALLATION |
|------|---------------------------|-------------|--|--|
| 1 | 28477 | 1 | HOSE ASS'Y; PRESSURE | FF6400-0810 (MANIFOLD) TO COMPARTMENT |
| 2 | 28267 | 1 | HOSE ASS'Y; RETURN | FF6400-0812 (MANIFOLD) TO COMPARTMENT |
| 3 | FF6400-0610 | 2 |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

REFERENCE 28517 FOR REPLACEMENT PARTS DRAWING



| REPL PARTS - HYD COMP | 07-09-24 | C400 |
|-----------------------|------------|-------|
| HT60KX VLC SERIES | SUPERSEDES | 28518 |

22736 SERIES VALVE MANIFOLD REPLACEMENT PARTS

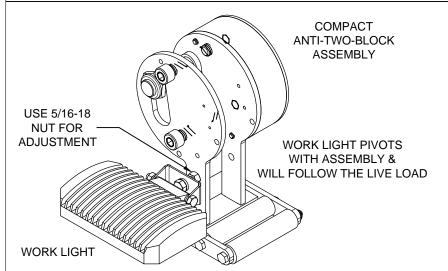




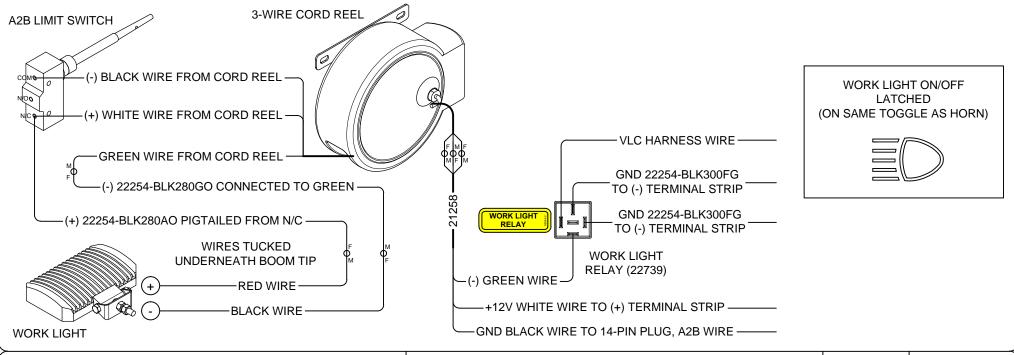
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

| 22736 REPLACEMENT PARTS | 04-19-24H | C400 |
|------------------------------|----------------------|-------|
| HT40/50/60/66KX PROPORTIONAL | SUPERSEDES 11-10-22G | 22940 |

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



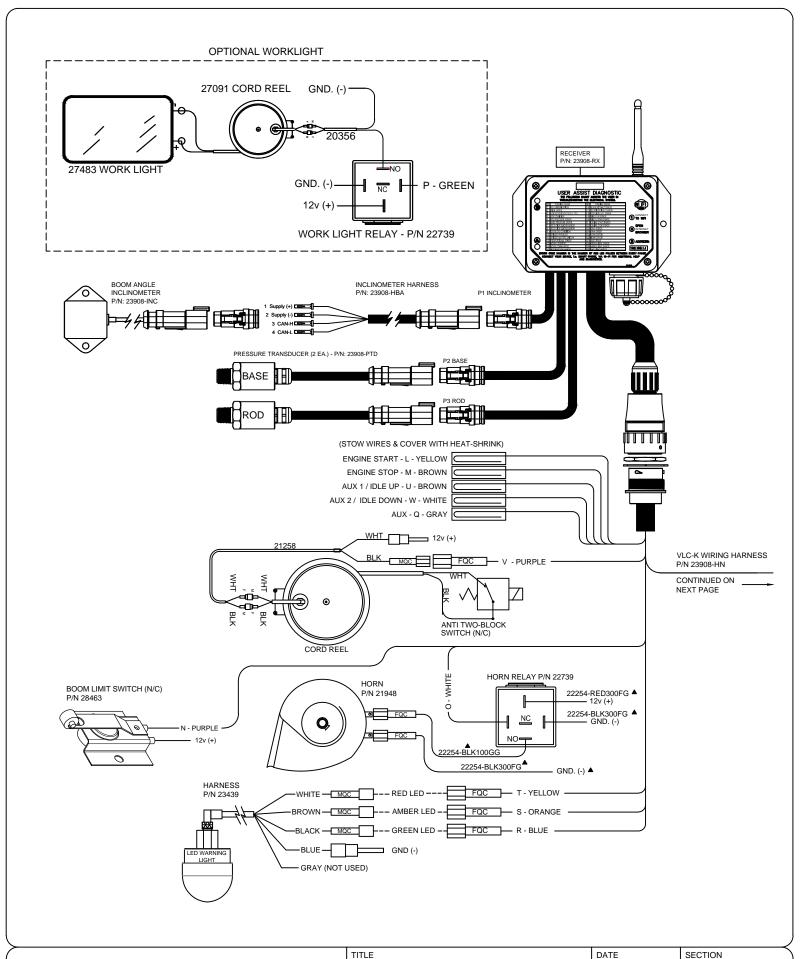
| | BILL OF MATERIALS | N/D | 28240 |
|---|---|-----|-----------------|
| # | DESCRIPTION | QTY | PART NUMBER |
| 1 | IDWG; WORK LIGHT INSTALLATION, VLC CRANES | 1 | 28188 |
| 2 | LED WORK LIGHT | 1 | 27483 |
| 3 | TERMINAL; 16G, FEMALE, QUICK-CONNECT | 5 | !TERM16G250QCFI |
| 4 | TERMINAL; 16G, MALE, 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 |



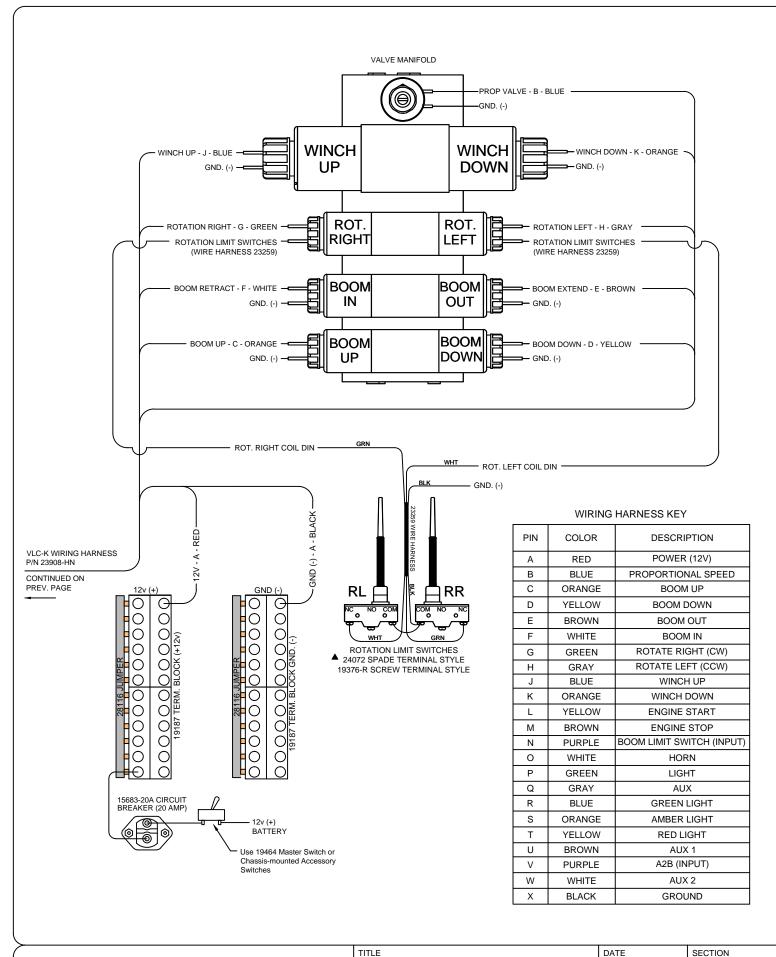


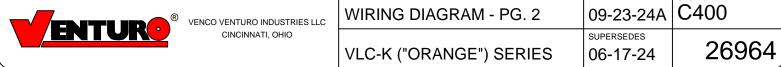
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

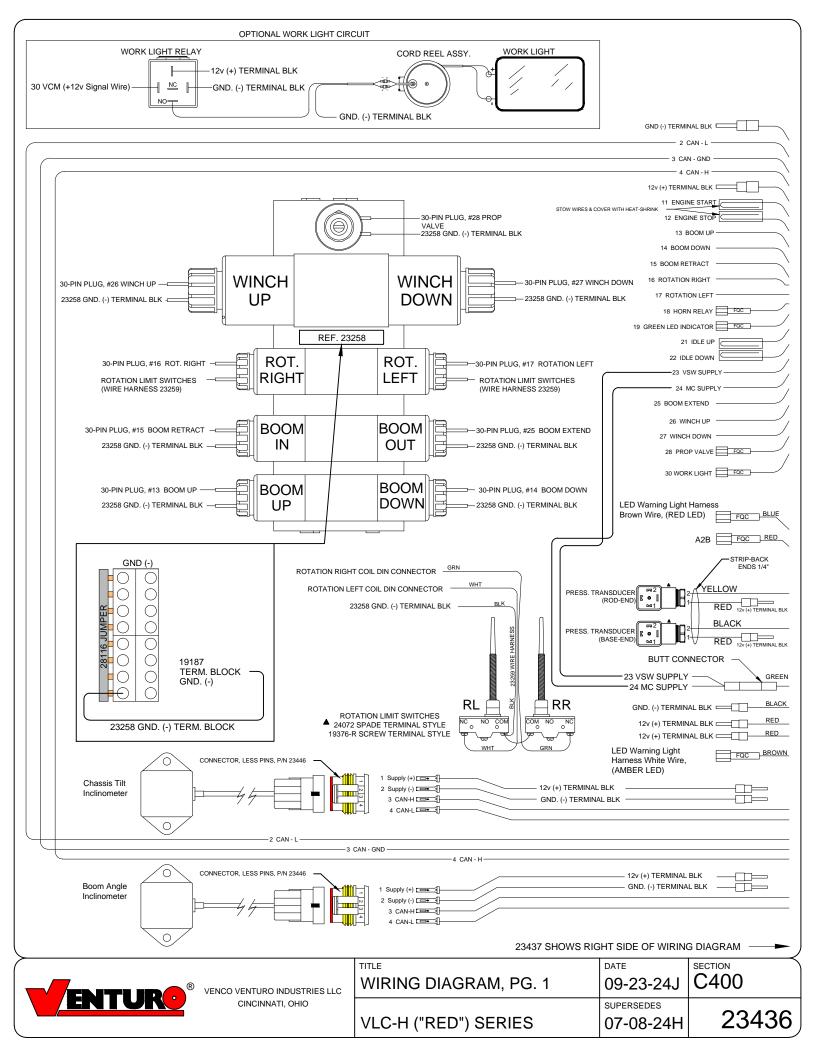
| WORK LIGHT INSTALLATION, 3-WIRE CORD REEL | 06-12-24B | C400 |
|---|-----------|-------|
| VLC CRANES | 03-03-23A | 28188 |

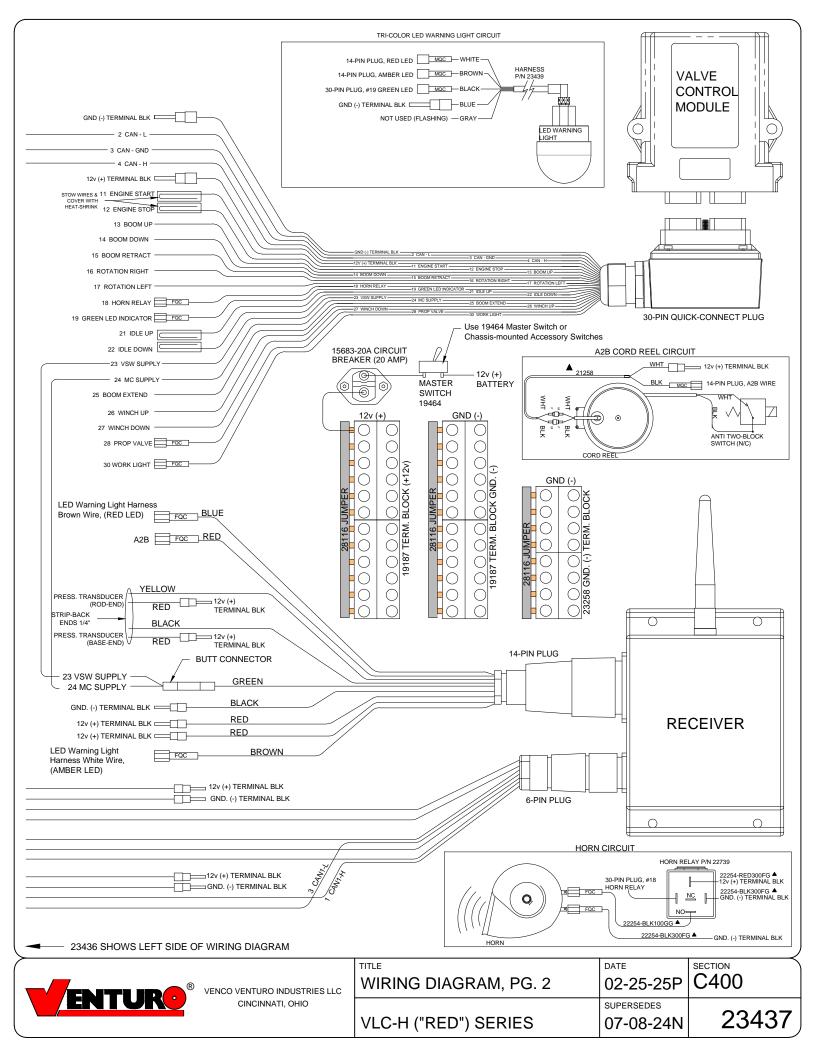


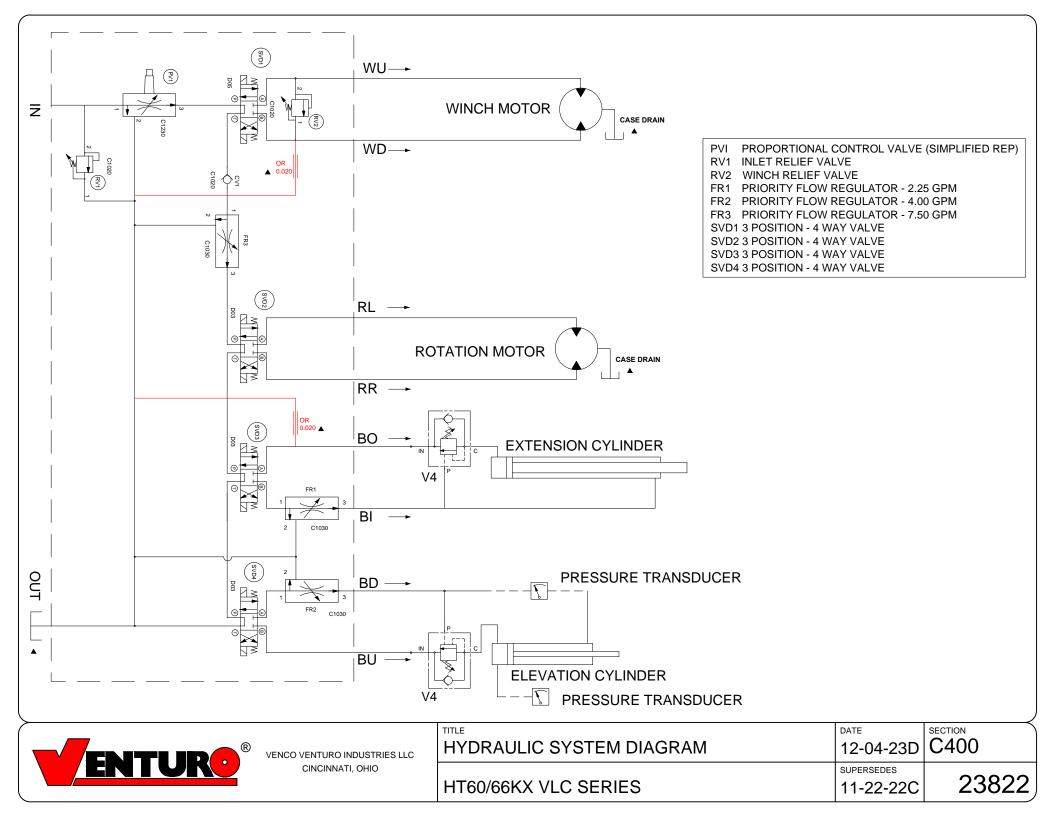
| |) VENCO VENTURO INDUSTRIES LLC | WIRING DIAGRAM - PG. 1 | 02-25-25A | C400 |
|--------|--------------------------------|-------------------------|------------|-------|
| ENTURO | CINCINNATI, OHIO | | SUPERSEDES | 00000 |
| | | VLC-K ("ORANGE") SERIES | 06-17-24 | 26963 |

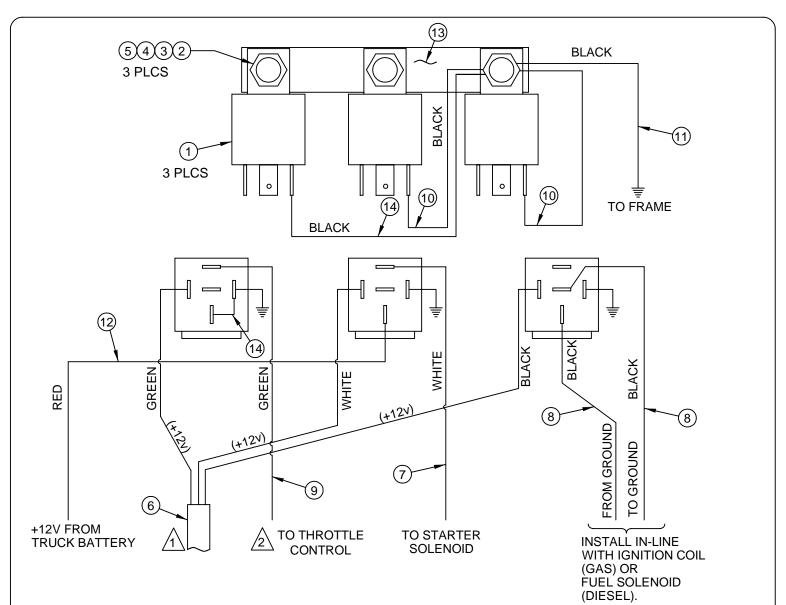








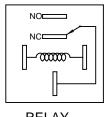




USER-CONTROLLED +12V INPUT SIGNALS FROM HETRONIC VLC SYSTEM OR ANALOG PENDANT OR RADIO SYSTEM

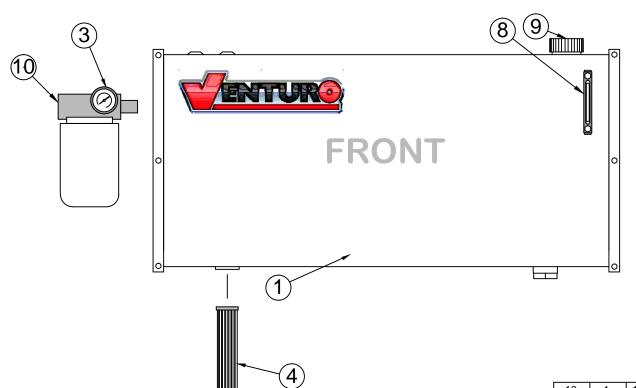
THROTTLE CONTROL IS DESIGNED TO PROVIDE A GROUND SIGNAL WHEN RELAY IS ACTIVATED

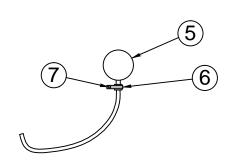
| ITEM | QTY | PART# | DESCRIPTION |
|------|-----|---------------|--|
| 1 | 3 | 22739 | RELAY |
| 2 | 3 | !PHCS#1024075 | #10-24 X 3/4 PHIL PAN HD BOLT |
| 3 | 3 | !LWSH-#10 | #10 LOCKWASHER |
| 4 | 3 | !FWSH-025 | #10 WASHER |
| 5 | 3 | !HNUT-#1024 | #10 NUT |
| 6 | 1 | 22607 | WIRE HARNESS - 12/3 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 | 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 | | |
| | | | | | |



RESERVOIR KIT REPL PARTS

12-09-22D

C400

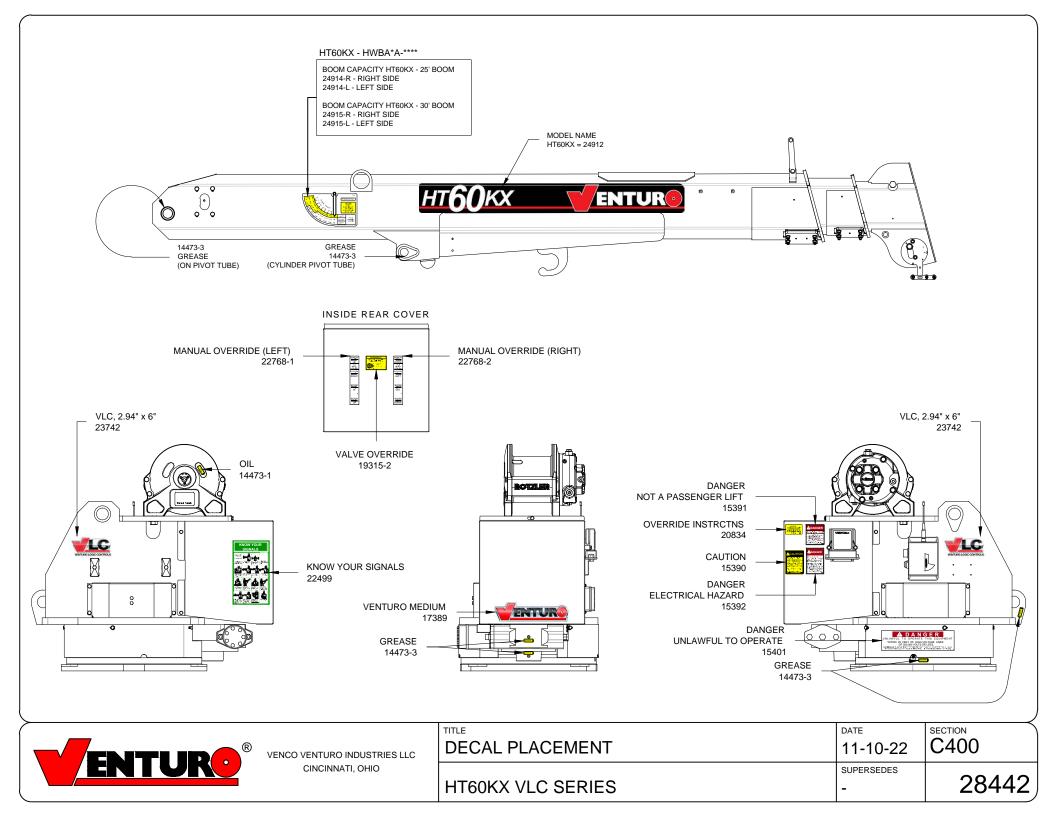
HT CRANES; 25/40 GAL RESERVOIR

DATE
12-09-22D

C400

SUPERSEDES
08-04-15C

23224



24911 FIELD SERVICE LABEL KIT; HT60KX

| -25' BOOM | -30' BOOM | | | | |
|-----------|-----------|------------|---|--|--|
| QTY | | PART# | DESCRIPTION | | |
| 1 | 1 1 198 | | DECAL; HORN RELAY | | |
| 1 | 1 | 19814-2 | DECAL; WORK LIGHT RELAY | | |
| 1 | 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 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 CINCINNATI, OHIO | FIELD SERVICE LABEL KIT | 04-25-23A | C400 |
|-------|--|-------------------------|---------------------|-------|
| ENIUR | | 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

Revised: January 2015 12-00073_VNT1-D