

HRBABD-00**

Pages 1-60

PARTS & INSTALLATION MANUAL HT40KX-25

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

HT40KX-25

- 6,000 lb Hydraulic Telescopic Service Crane
- 25 ft Fully-Powered, Two-Stage, Boom Extension

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

VENCO VENTURO INDUSTRIES LLC

HT40KXX-25', NON-PROP (HRBABD-00**)

DESCRIPTION & SPECIFICATIONS 7607100A

INSTALLATION DIMENSIONS 22878

MOUNTING DIMENSIONS: BASE PLATE 18353 CAPACITY CHART; HT40KX (25' BOOM) 23061

SAFETY 7607150A

15394 **VEHICLE & CRANE ELECTRICAL HAZARD INFORMATION**

920612 SAFETY & HAZARDS, GENERAL WINCH SAFETY WARNINGS 19217 SAFETY DECALS DRAWING & LIST SAFETY DECALS DRAWING & LIST 22181A 22181B SAFETY DECALS DRAWING & LIST 22181C SAFETY DECALS DRAWING & LIST 28524

24196 **BOOM CAPACITY DECALS, HT40 SERIES**

7607200A INSTALLATION

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22328 SAFETY SHUTOFF INSTRUCTIONS

ROTATION STOP LOCATION 20051

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STABILITY CHART 20907

22826 19295 HYDRAULIC TANK DIMENSIONS CONNECTION GUIDE (PAGE 1 OF 2) CONNECTION GUIDE (PAGE 2 OF 2) 23015 23014

PTO INSTALLATION 22980 22913 COMPARTMENT DRAWING 22245 WIRE ROPE INSTALLATION

MAINTENANCE & SERVICE 7607300A

23203 MAINTENANCE OVERVIEW INFORMATION WIRE ROPE & HOOK SPECIFICATIONS 23231

7607400A

REPLACEMENT PARTS
HT40/50KX CRANE REPLACEMENT PARTS DRAWING
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22934 HT40/50KX CRANE FASTENER LIST

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22828 WINCH REPLACEMENT PARTS DRAWING & LIST 22884

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HYDRAULIC SYSTEM SCHEMATIC; NON-PROPORTIONAL CONTROL 40/50KX WIRING DIAGRAM; NON-PROPORTIONAL (REV. D)
ELECTRICAL SCHEMATIC; 16 PIN SOCKET WIRING
22062 PENDANT REPLACEMENT PARTS DRAWING 20362 22125 22078

21989 PENDANT; REPLACEMENT PARTS DWG/LIST (NON-PROP, E-STOP, HORN) 23074

DECAL PLACEMENT 28522

22744 19294 RESERVOIR KIT; REPLACEMENT PARTS DRAWING & LIST

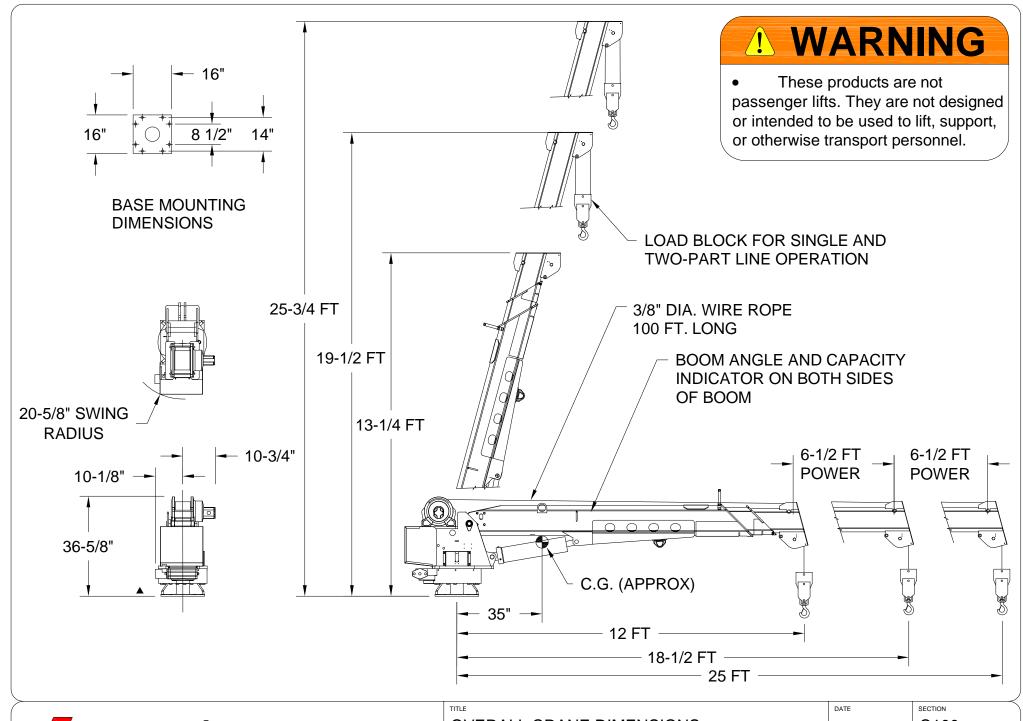
22922 22920 FIELD SERVICE LABEL KITS

WARRANTY PAGE 12-00073_VNT1

SECTION 100

DESCRIPTION & SPECIFICATIONS



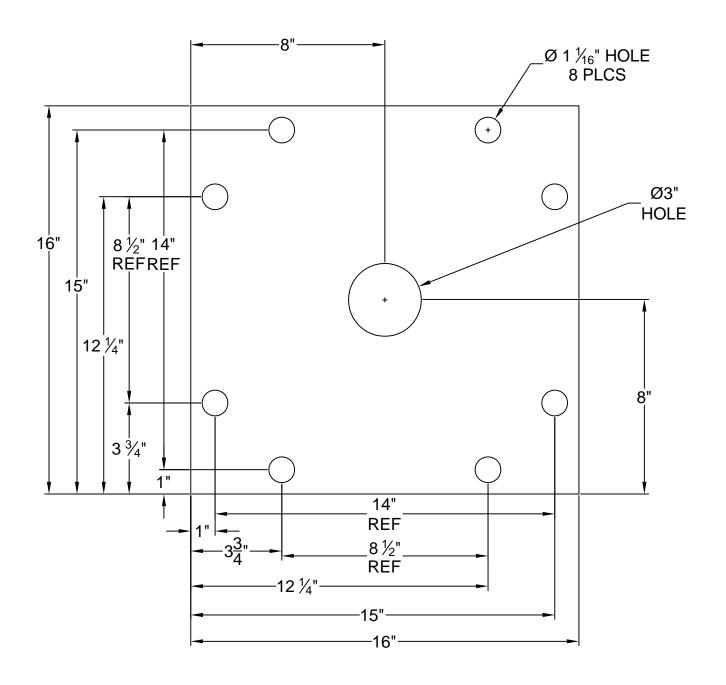




VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TITLE	DATE	SECTION
OVERALL CRANE DIMENSIONS	06-20-14B	C100
	SUPERSEDES	00070
HT40/50KX (25' BOOM) CRANES ▲	4-22-14A	22878

HT40/50KX MOUNTING DIMENSIONS



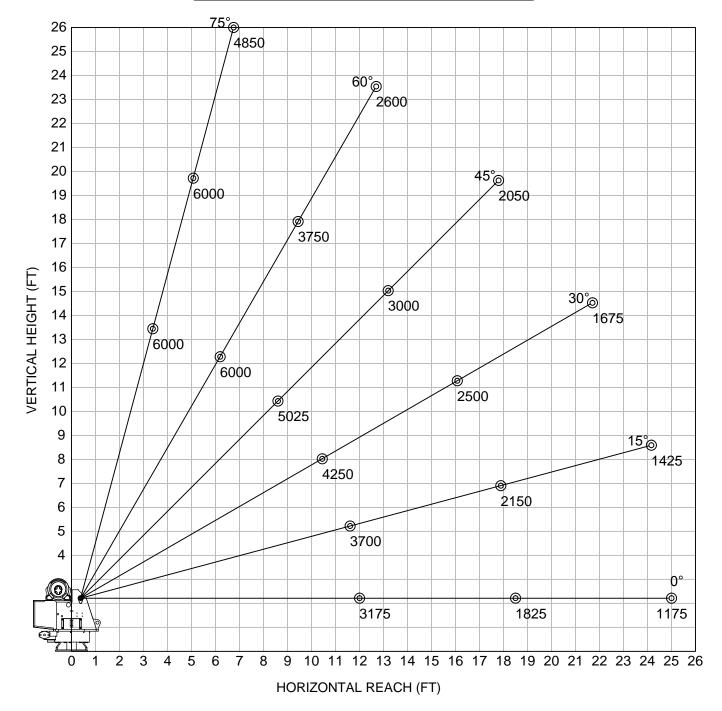
REFERRENCE INSTALLATION DWG 22172 FOR MOUNTING BOLT SIZE AND TORGUE SPECIFICATIONS.

		TITLE	DATE	SECTION	١
ENTURO®	VENCO VENTURO INDUSTRIES LLC	BASE MOUNTING DIM	02-21-14H	C100	
	CINCINNATI, OHIO		SUPERSEDES	40050	
		HT40/50KX	05-03-12G	18353	

HT40KX, 12'-18.5'-25' BOOM

▲ CRANE SERIAL NUMBER: _____

MAXIMUM LOAD CAPACITY CHART



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

LOAD BLOCK USAGE

1 PART LINE FOR LOADS LESS THAN 3000 LBS 2 PART LINE FOR LOADS OF 3000 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 51 LBS



С	MAXIMUM LOAD CAPACITY	05-03-16A	C100
	HT40KX, 12'-18.5'-25' BOOM	04-23-14	23061

SECTION 150

SAFETY



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

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

CINCINNATI, OHIO



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

CRANE SAFETY AND HAZARDS HT SERIES CRANES

CAUTIONS

- 1. INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY.
- 2. DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE WITH CRANE MOUNTED ON FACTORY-RECOMMENDED TRUCK.
- 3. BEFORE OPERATING THE CRANE, REFER TO MAXIMUM LOAD (CAPACITY) CHART ON CRANE FOR OPERATING (LOAD) LIMITATIONS.
- 4. DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD.
- 5. ATTACH PENDANT CORD SUPPORT SNAP TO ATTACHMENT POINT BEFORE PLUGGING IN PENDANT.
- 6. UNPLUG PENDANT AND DISENGAGE PTO SYSTEM WHEN CRANE NOT IN USE.
- 7. FOR TRAVEL, BOOM MUST BE IN STOWED POSITION.

DANGER

- THIS CRANE IS NOT A PASSENGER LIFT
- IT IS NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.

YOU MUST NOT OPERATE THIS CRANE UNLESS

- 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.

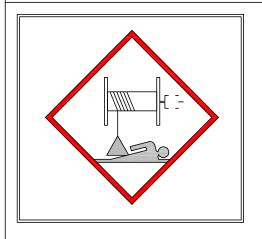
ELECTROCUTION HAZARD

- 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.



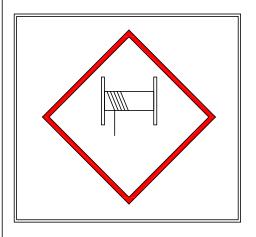
CRANE SAFETY & HZRDS	l
	Ī

WINCH SAFETY WARNINGS



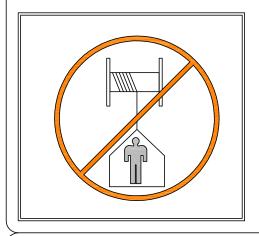
DANGER

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
	SUPERSEDES	40047
HT CRANES	04-04-12C	19217

PART NO.: 15398

DECAL: UNPLUG REMOTE CONTROL

FUNCTION: To inform the operator to

unplug remote control when

not being used.

QUANTITY: 1

PLACEMENT: Right side of housing.

PART NO.: 15401

DECAL: UNLAWFUL TO OPERATE

FUNCTION: To inform the operator of proper

operation in vicinity of power lines.

QUANTITY: 1

PLACEMENT: Right side of housing.

PART NO.: 19314-1 [LEFT] & -2 [RIGHT]

DECAL: MANUAL OVERRIDE (NON-PROP)

FUNCTION: To inform the operator of

manual override locations.

QUANTITY: 1 EACH

PLACEMENT: Inside of rear cover.

PART NO.: 22768-1 [LEFT] & -2 [RIGHT]

DECAL: MANUAL OVERRIDE (PROPORTIONAL)

FUNCTION: To inform the operator of

manual overide locations.

QUANTITY: 1

PLACEMENT: Inside of rear cover.

UNPLUG

REMOTE CONTROL
PENDANT WHEN
NOT IN USE

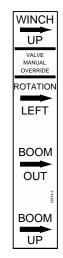
15398-F

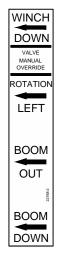
A DANGER

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

C150

SECTION

HT40/50/60/66 SERIES

SUPERSEDES
02-21-14D

22181A

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.

ÙΡ VALVE MANUAL OVERRIDI 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:

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.



CINCINNATI, OHIO

DECAL DRAWING & LIST

04-14-23H

C150

HT40/50/60/66 SERIES

SUPERSEDES 11-30-22G

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.





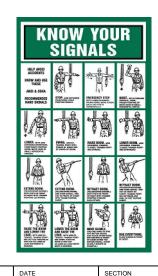
YOU MUST NOT OPERATE THIS CRANE UNLESS:

YOU HAVE BEEN TRAINED IN THE SAFE

YOU HAVE BEEN IN TAINED IN 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.







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: 1

PLACEMENT: Rear cover.



PART NO.: 28523

DECAL: MODEL HT40KX

FUNCTION: Branding.

QUANTITY: 2

PLACEMENT: Boom.

PART NO.: 20927

DECAL: CRANE STABILITY

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

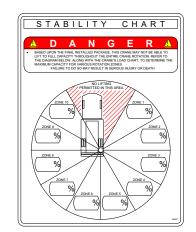
throughout the entire rotation.

QUANTITY: 1

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

identifiable.







DECAL DRAWING & LIST

DATE 06-16-23

SECTION C150

HT40KX

SUPERSEDES 2852

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 23065 & 23064

DECAL: HT40-25' CRANE CAPACITY

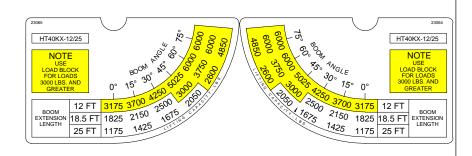
FUNCTION: To show the operator the

operating capacities of the crane

QUANTITY: 1 each

PLACEMENT: Right side of boom, Left side of

boom



23065 23064

LEFT SIDE OF BOOM

RIGHT SIDE OF BOOM

PART NO.: 22342-2 & 22342-1

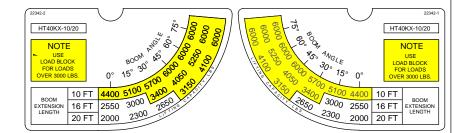
DECAL: HT40-20' CRANE CAPACITY

FUNCTION: To show the operator the operating

capacities of the crane

QUANTITY: 1 each

PLACEMENT: Right side of boom, Left side of boom



22342-2 22342-1

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO BOOM CAPACITY DECALS

11-11-20

SECTION C150

HT40 SERIES

_ 24196

SECTION 200

INSTALLATION



CRANE INSTALLATION, PAGE 1 HT40/50KX

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 HT40KX is 45,000 ft. lbs. and for the HT50KX is 55,000 ft. lbs.

The maximum vertical load for the HT40KX is 7100 lbs. and for the HT50KX is 9300 lbs.

CRANE MOUNTING

The crane base plate or mounting pedestal must be bolted to the body reinforcing plate with eight (8) grade five (5) bolts of 1" dia. with either coarse or fine threads, torqued to 587 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.

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

(TITLE	DATE	SECTION	١
) VENCO VENTURO INDUSTRIES LLC	CRANE INSTALLATION	02-21-14F	C200	
ENIUR	CINCINNATI, OHIO		SUPERSEDES	00470	l
		HT40/50KX	05-03-12E	22172	

CRANE INSTALLATION, PAGE 2 HT40/50 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	NON-PROPORTIONAL	PROPORTIONAL
PRESSURE	3/8"	5/8"
RETURN	1/2"	3/4"
SUCTION	3/4"	1-1/4"

RESERVOIR

The PTO reservoir should have a capacity of 10 gallons (non-proportional) or 25 gallons (proportional) 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 2.5 GPM for the HT40 non-proportional, 12.0 GPM for the HT40 proportional, 3.0 GPM for the HT50 non-proportional, or 12.0 GPM for the HT50 proportional. These cranes' relief pressures are all 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. Operate the PTO system for about two (2) minutes per gallon of reservoir capacity (10 gallon reservoir = 20 minutes / 25 gallon = 50 minutes) to flush out the lines and filter all the fluid several times.

ENGINE START/STOP & THROTTLE CONTROL

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

1	_		TITLE	DATE	SECTION	١
	ENTLIR®) VENCO VENTURO INDUSTRIES LLC	CRANE INSTALLATION	05-10-21G	C200	
l	ENION	CINCINNATI, OHIO		SUPERSEDES	00470	Ì
			HT40/50 SERIES CRANES	07-31-15F	22173)

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.

ENTURO ® VENC	CO VENTURO INDUSTRIES LLC CINCINNATI, OHIO
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TITLE
CRANE OP / MNTNC INST

08-08-23A

C200

SECTION

10-11-18

23753

HT CRANES

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 2 HT40/50KX

CONTROL FUNCTIONS

WINCH "UP" and "DOWN" - Raises and lowers the load with the winch.

BOOM "UP" and "DOWN" - Raises and lowers the boom elevation angle. The boom elevates from 8 degrees below horizontal to 75 degrees above horizontal.

BOOM "OUT" and "IN" - Extends and retracts the boom. The boom hydraulic extension stroke is 6 ft. or 10 ft.

ROTATION "L" and "R" - Controls the left and right direction of the crane rotation. The crane rotation is limited to 400 degrees.

POWER - (Non Proportional Systems) Energizes safety shutoff valve. See page 22328 for detailed operations instructions and warnings.

TRIGGER (Proportional Systems Only) - Varies the flow rate delivered to the crane valve. The farther the trigger is pulled, the faster the selected crane function operates. See page 22168 for detailed operations instructions and warnings.

OVERLOAD SENSING SYSTEM

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

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. Refer to Drawings 23024 or 27029 in this manual for replacement parts and configuration information, respectively.

TELESCOPIC HEXAGONAL BOOM

STANDARD LENGTH (10' - 20'); Double Stage

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 10 ft. to 20 ft. using a hydraulic power extension cylinder with a 10 ft. stroke (See pages 24188 and 24189).

OPTIONAL LENGTH (12' - 25'); Double stage only

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 12 ft. to 25 ft. using a hydraulic power extension cylinder with a 13 ft. stroke (See pages 24190 and 24191).

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.

CINCINNATI OHO	45B
** VENCO VENTURO INDUSTRIES LLC** TITLE TITLE DATE DATE DATE SECTION	

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 3 HT40/50KX

- 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. Unplug the control pendant and store in a body compartment or the cab.

MAINTENANCE

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

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

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

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

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

Temp Range (°F) Winch Gear Oil

120° to 10° High quality SAE 90 gear lubricant oil Severe Duty Swepco #201 multi-purpose gear oil

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

Grease fitting locations:

Boom pivot at rear of boom

Speed reducer (2 fittings)

Elevation cylinder tail clevis

Bottom of Swing Bearing (2 fittings)

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

Check electrical connections for looseness and corrosion.

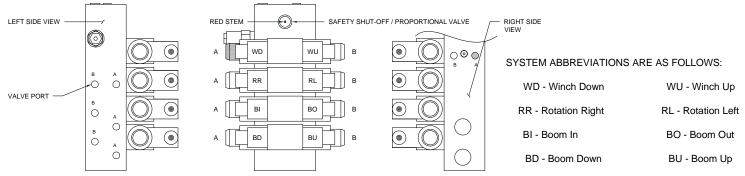
1	<u> </u>		TITLE	DATE	SECTION	١
) VENCO VENTURO INDUSTRIES LLC	CRANE OP / MNTNC INST	02-21-14E	C200	
		CINCINNATI, OHIO		SUPERSEDES	00474	1
			HT40/50KX	11-29-12D	22174	

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 (see fig. 1) 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 'A' on the first bank (refer to illustration in Fig. 1) will actuate winch down.

• W A R N I N G

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.

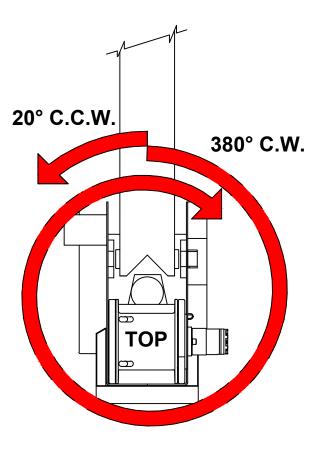
EMERGENCY STOP

In the unlikely event that a function of the crane does not stop once the function's toggle switch is released, the **Non-proportional** crane can be stopped by simply toggling the power switch to the off (emergency stop) position, and the **Proportional** crane can be stopped by releasing the trigger.

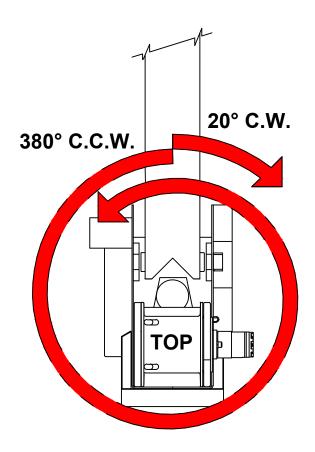
HVDDALILIC CVCTEM	DATE	C200
	SUPERSEDES	22328
_	HYDRAULIC SYSTEM HT SERIES CRANES	HYDRAULIC SYSTEM 07-11-14D SUPERSEDES

400° ROTATION STOP LOCATION

CURBSIDE



STREETSIDE





T	TITLE	DATE	SECTION
	ROTATION STOP LOCATION	03-09-23F	C200
t		SUPERSEDES	00054
	400° ROTATION CRANES	05-20-20E	20051

STABILITY TEST - HT40-25' SERIES

Overview

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

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

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

Testing Procedure

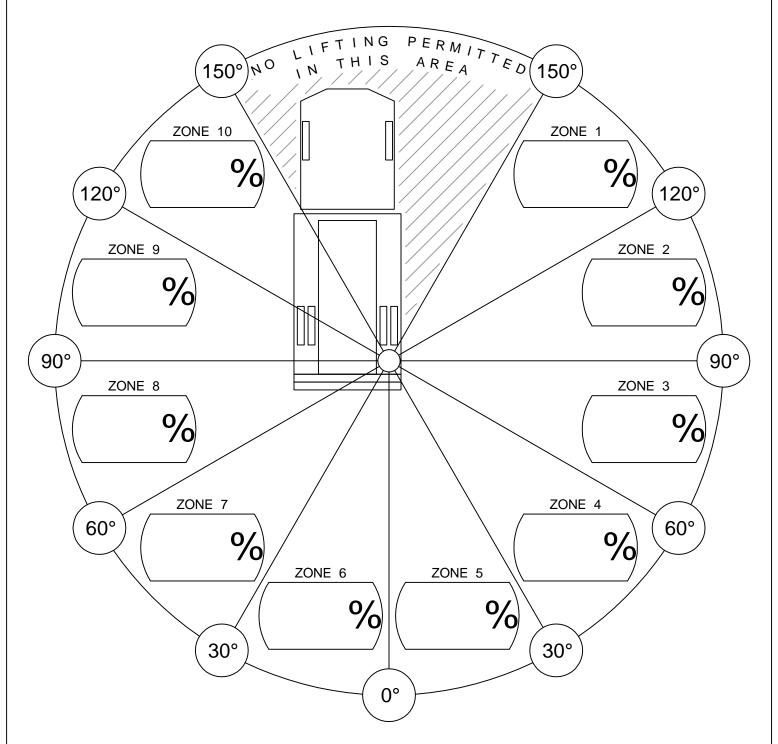
- 1. Locate the truck on firm, level ground and set parking brake.
- 2. Fully deploy stabilizers, making sure they are firmly in contact with supportive ground; use stabilizer pads as required. The tires of the truck should remain in full contact with the ground.
- 3. Inspect wire rope and other key components of crane (consult owners manual for more information).
- 4. Conduct an operational check of all crane functions.
- 5. Locate the Overload Pressure Switch at the base of the elevation cylinder
- Disconnect the black & white wires from the housing and then connect the black & white wires together to 5.1. by-pass the Overload Pressure Switch for the stability test. Note: The black & white wires MUST be reconnected to the Overload Pressure Switch after the stability test has be completed.
- Use a *test weight* weighing a *minimum* of *1382 lbs*, (includes load block weight of 51 lbs.) to a *maximum of 1450* 6.
- 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).
- Using the test weight, extend the boom slowly, until one of the two conditions occur: 10.
 - Full extension is reached Mark the ZONE in question 100% 10.1.
 - 10.2. The truck becomes unstable i.e. a tire lifts off the ground
 - 10.2.1. Retract the boom until at least one tire on each corner of the truck is making contact with the ground
 - 10.2.2. Use the formula below to determine the allowable % of Rated Capacity for the ZONE in question:
- Note: The "Max Stable Reach in inches" is measured from the center of rotation of the crane housing to the lifting load hook.

"Max Stable Reach" in inches" % Rated Capacity = X 100 300

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

® VENCO VENTURO INDUSTRIES LLC	STABILITY TEST	03-01-23D	C200
CINCINNATI, OHIO	HT40-25' SERIES	11-24-21C	20906-40B

CRANE STABILITY



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

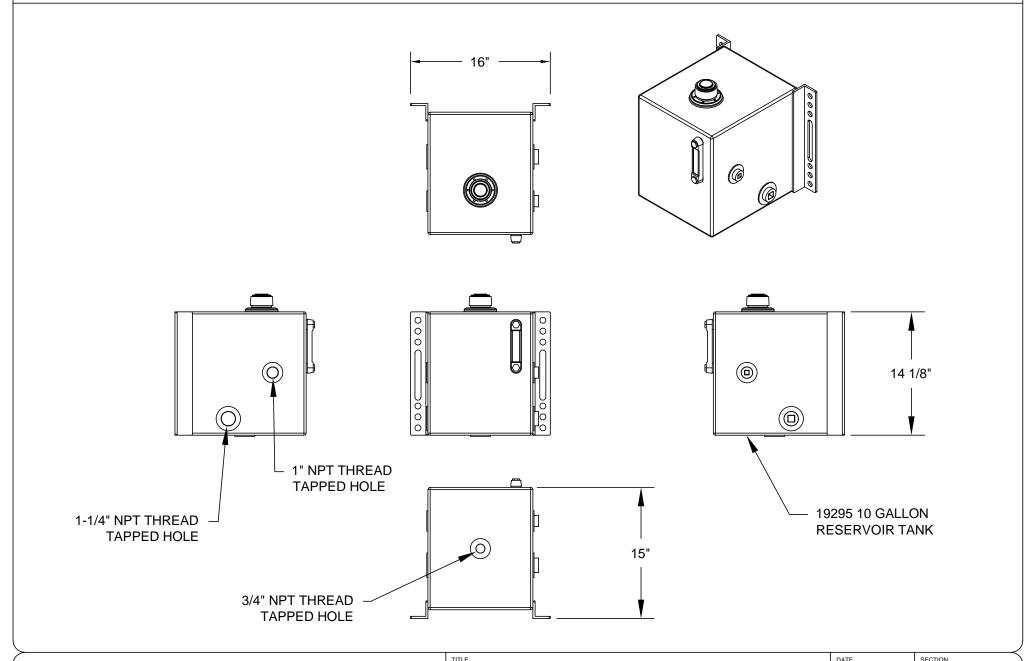
CONDITIONS:

 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

19295; 10 GALLON HYDRAULIC TANK

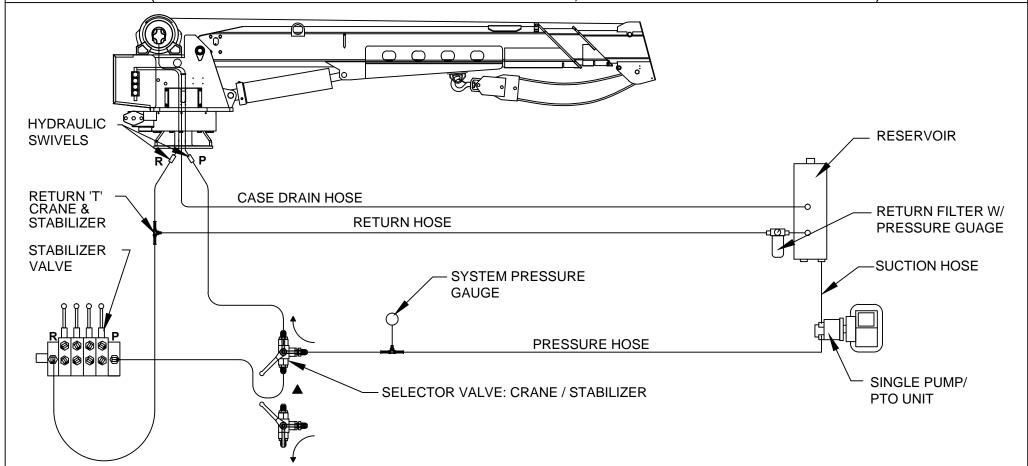




VENCO VENTURO INDUSTRIES LLC	
CINCINNATI, OHIO	

I THE	DAIL	SECTION
10 GALLON HYDRAULIC TANK	05-01-14A	-
	SUPERSEDES	00000
VARIOUS APPLICATIONS	03-17-06	22826

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



CAUTION

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



CAUTION

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



VENCO VENTURO INDUSTRIES LLC
CINCINNATI. OHIO

TITLE	
CONNECTION GUIDE, PAGE 1 / 2	

08-09-23C C200

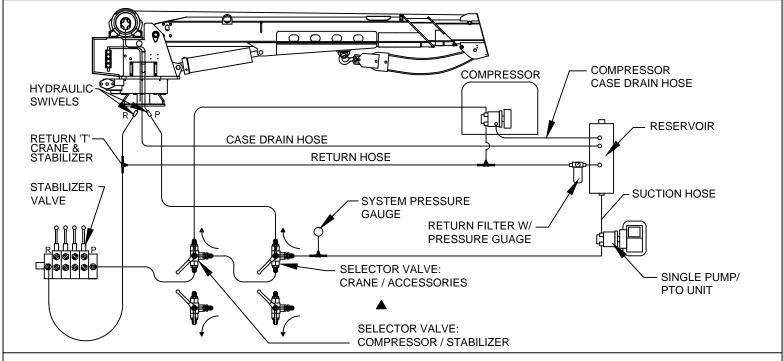
SUPERSEDES C200

SECTION

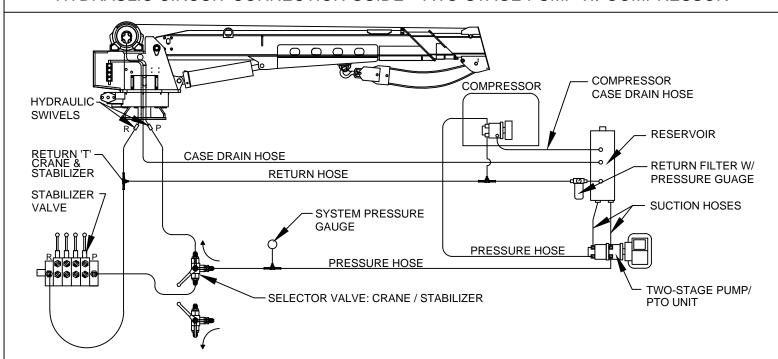
HT CRANES

02-21-14B 23015

HYDRAULIC CIRCUIT CONNECTION GUIDE - SINGLE PUMP W/ COMPRESSOR



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



CAUTION

 SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE. REFER TO SECTION 200
FOR MORE
INFORMATION,
INCLUDING HOSE
SPECIFICATIONS

CAUTION

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



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO CNNCTN GDE, PAGE 2/2

08-08-23C

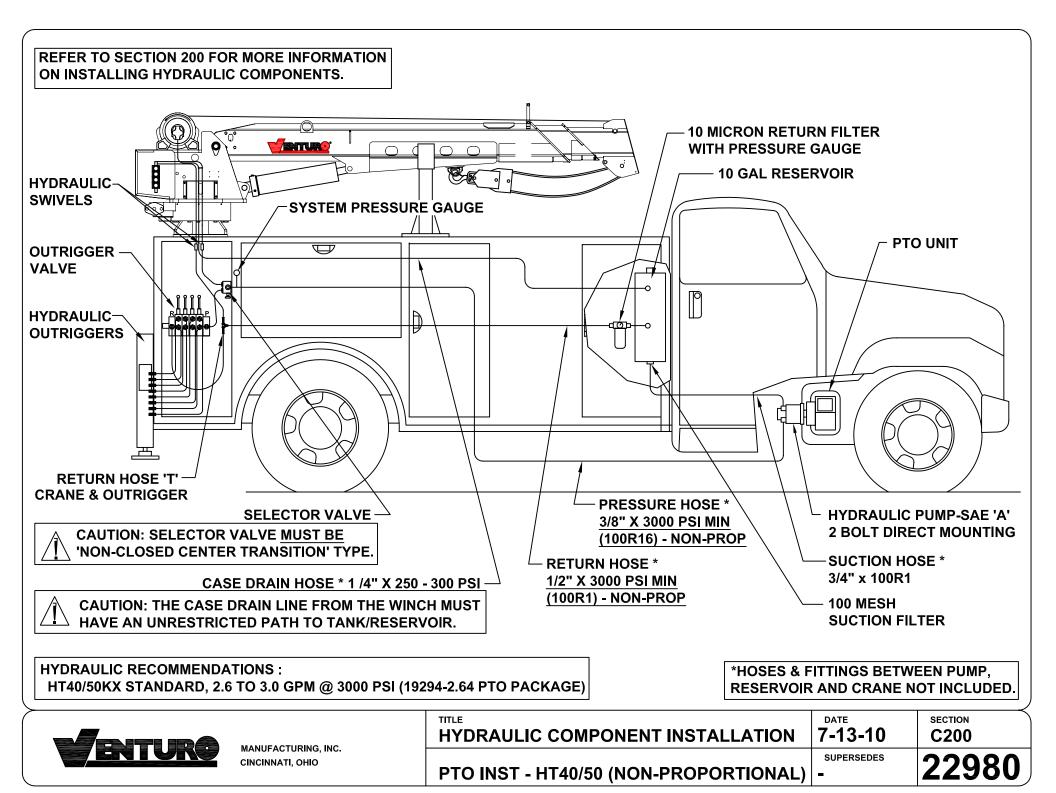
C200

SECTION

HT CRANES

02-21-14B

23014



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.

DATE



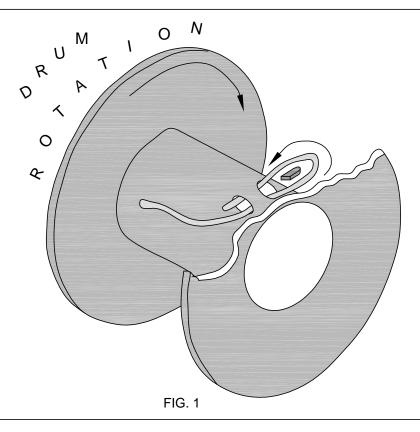
CONNECTIONS GUIDE	08-07-23G
	SUPERSEDES
HT CRANES	02-21-14F

TITLE

^{C200}

SECTION

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	1
		ET6K & LARGER CRANES	12-26-13J	22245	

SECTION 300

MAINTENANCE & SERVICE



MAINTENANCE OVERVIEW INFORMATION

MAINTENANCE

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

GENERAL

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

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

Service all grease fitting locations.

Inspect hydraulic hoses and hydraulic fittings for hydraulic leaks.

Inspect electrical connections for any looseness or corrosion.

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

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

Inspect sheaves for excessive wear or play.

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

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

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

Initial Change - after the initial 100 hours of operation or six months. Periodic Change - after every 300 hours of operation or two years.

Temp Range (°F) Winch Gear Oil

120° to 10° High quality SAE 90 gear lubricant oil Severe Duty Swepco #201 multi-purpose gear oil



MAINTENANCE INFO	
HT25/30/40/50/60/66KX(P)	
	l

DATE

SECTION

02-21-14C 23

WIRE ROPE ASSEMBLY

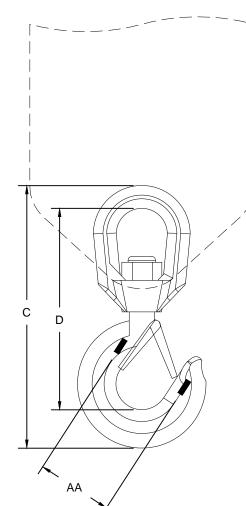
LOAD BLOCK ASSEMBLY

WIRE ROPE:

3/8" DIA, 100' LONG

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

TERMINATES IN THIMBLE NO HOOK



LOAD BLOCK HOOK:

RATING: 5 TONNE (11,023 LBS)

DIMENSIONS:

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



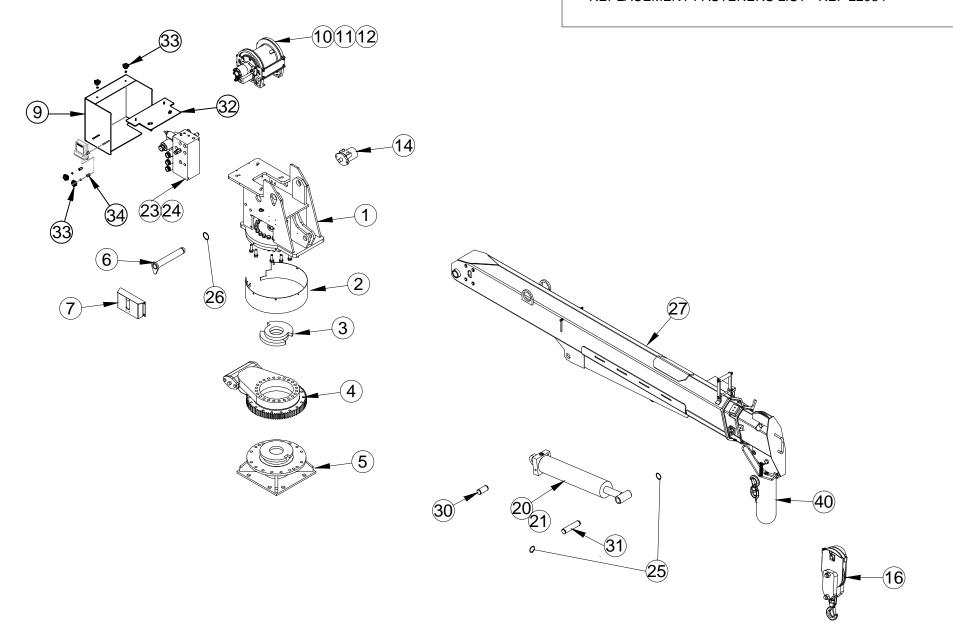
С	WIRE ROPE & HOOK SPECIFICATIONS	05-09-16D	C300
	HT40/50KX	SUPERSEDES 02-21-14C	23231

SECTION 400

REPLACEMENT PARTS



REPLACEMENT PARTS LIST - REF 22985 REPLACEMENT FASTENERS LIST - REF 22934





TITLE	DATE	SECTION
REPLACEMENT PARTS	05-17-22E	C400
	SUPERSEDES	00004
HT40/50KX (25' BOOM)	06-20-14D	22984

ITEM#	PART#	DESCRIPTION	ITEM#	PART #		DESCRIPTION
1	27033	WELDED ASSY; HOUSING	41	-		-
2	22726	OUTER RING	42	-		-
3	22702	WELDED ASSY; ROTATION STOP RING	43	-		-
4	4 22704 SLEWING RING		44	-		-
5	22710	WELDED ASSY; PEDESTAL	45	-		-
6	22721	PIVOT PIN; MAIN PIVOT	46	-		-
7	22715	SIDE COVER	47	-		-
8	-	-	48	-		-
9	22842	VALVE COVER; REAR, PROPORTIONAL	49	-		-
10	22829	WINCH - 3000 LB (SINGLE LINE); HT40KX, PROP	50	23062	Δ	23063 FIELD SERVICE LABEL KIT; HT40KX (25' BOOM)
11	22830	WINCH - 4000 LB (SINGLE LINE); HT50KX, PROP	51	22894-1	A	22896 FIELD SERVICE LABEL KIT; HT50 KX (25' BOOM)
12	22828	WINCH - 3000 LB (SINGLE LINE); HT40KX, NON-PROP	52	-		-
13	-	-	53	-		-
14	19177	HYDRAULIC ROTATION MOTOR	54	-		-
15	-	-	55	_		-
16	17949	ASSY; LOAD BLOCK	56	_		-
17	<u>-</u>	-	57	_		-
18	_	-	58	_		- -
19	_	-	59	_		-
20	21747	ELEVATION CYLINDER; HT40KX	60	_		- -
21		ELEVATION CYLINDER; HT50KX	61	-		-
22	-	-	62	_		- -
23	22501	HYDRAULIC VALVE BLOCK; NON-PROPORTIONAL	63	_		- -
24		HYDRAULIC VALVE BLOCK; PROPORTIONAL	64	_		-
25		SNAP RING; 1 ½" DIAMETER	65	_		-
26		SNAP RING; 1 ¾" DIAMETER	66	_		-
27	23107	BOOM ASSEMBLY; HT40/50KX	67	_		-
28	-	-	68	_		-
29	_	_	69	_		-
30	22256	PIN; ELEVATION CYLINDER, INBOARD	70	_		-
31		PIN; ELEVATION CYLINDER, OUTBOARD	71	_		-
32		REAR COVER MOUNTING PLATE, WELDED ASS'Y	72	_		-
33	28327	KNOB, HAND, 5-POINT	73	_		-
34		NYLON SPACER, .25" ID X .5" OD X 1"	74	_		- -
35	-	-	75	_		-
36	_	-	76	_		_
37	_	WIRE ROPE ASSEMBLY; %" x 100 FT.	77	-		_
38	_	WINCE NOTE AGGERRALITY, 78 X 100 FT.	78	_		_
39	_		79	-		_
40	17094-3/8-100		80	-		 -
10	17 00 1 0/0 100					
		⚠ ITEM NOT SHOWN ON REPLACEMENT PARTS DWG				
		REPLACEMENT PARTS DWG REF 22984				
\searrow		TITLE				DATE SECTION



VENCO VENTURO INDUSTRIES LLC

CINCINNATI, OHIO

TITLE	DATE	SECTION
REPLACEMENT PARTS LIST	05-17-22G	C400
	SUPERSEDES	00005
HT40/50KX (25' BOOM)	06-20-14F	22985

FASTENER LIST FOR HT40/50KX (25' BOOM)

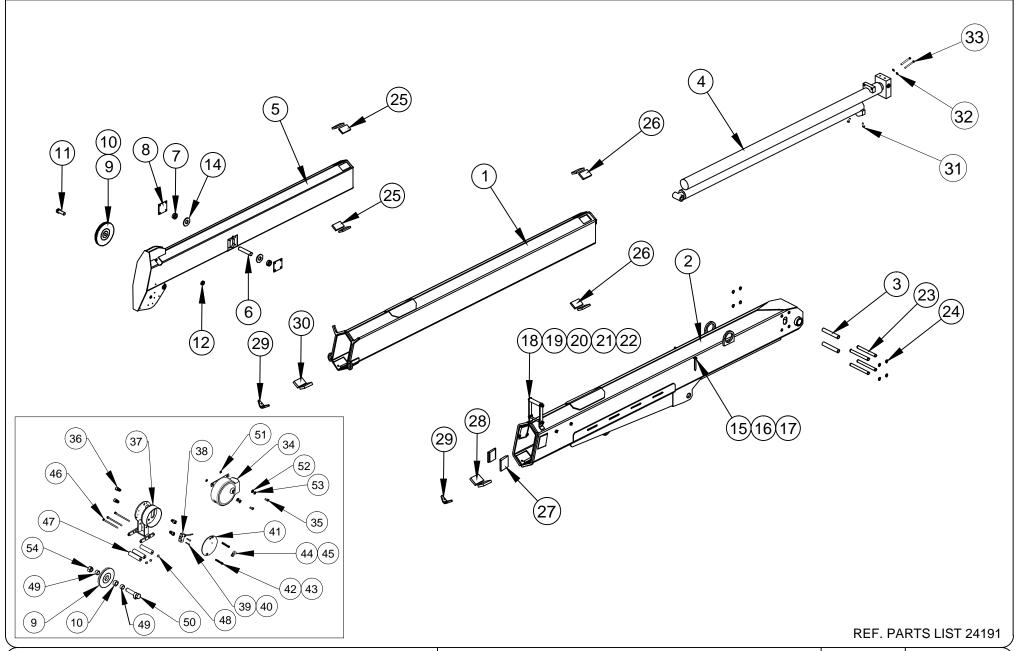
			· · · · · · · · · · · · · · · · · · ·
QTY	PART NUMBER	DESCRIPTION	LOCATION / FUNCTION
16	!HHCS06311200	HEX HEAD CAP SCREW; 5/8-11 x 2	LOWER BASE → SLEWING RING
24	!HHCS06311450	HEX HEAD CAP SCREW; 5/8-11 x 4 - 1/2	SLEWING RING → UPPER HSNG
40	!LWSH-063	LOCK WASHER; 5/8	LOWER BASE / UPPER HSNG → SLEWING RING
2	!SHCS05013200	SOCKET HEAD CAP SCREW; 1/2-13 x 2	ROTATION MOTOR
2	!LWSH-050-HC	LOCK WASHER; 1/2, HI-COLLAR	ROTATION MOTOR
2	!HHCS03816100	HEX HEAD CAP SCREW; 3/8-16 x 1	VALVE BLOCK → HOUSING
2	!FWSH-038	FLAT WASHER; 3/8	VALVE BLOCK → HOUSING
2	!LWSH-038	LOCK WASHER; 3/8	VALVE BLOCK → HOUSING
4	!HHCS05013300	HEX HEAD CAP SCREW; 1/2-13 x 3	WINCH (HT40KX) → HOUSING
4	!FWSH-050	FLAT WASHER; 1/2	WINCH (HT40KX) → HOUSING
4	!LWSH-050	LOCK WASHER; 1/2	WINCH (HT40KX) → HOUSING
4	!HNUT-05013	HEX NUT; 1/2-13	WINCH (HT40KX) → HOUSING
4	!HHCS06311250	HEX HEAD CAP SCREW; 5/8-11 x 2 - 1/2	WINCH (HT50KX) → HOUSING
4	!FWSH-063	FLAT WASHER; 5/8	WINCH (HT50KX) → HOUSING
4	!LWSH-063	LOCK WASHER; 5/8	WINCH (HT50KX) → HOUSING
4	!HNUT-06311	HEX NUT; 5/8-11	WINCH (HT50KX) → HOUSING
8	!HHCS03816100	HEX HEAD CAP SCREW; 3/8-16 x 1	SIDE COVERS → HOUSING
8	!LWSH-038	LOCK WASHER; 3/8	SIDE COVERS → HOUSING
2	!PHCS#0632100	PAN HEAD CAP SCREW; #6-32 x 1	TERMINAL BLOCK→ HOUSING
2	!LWSH-#6	LOCK WASHER; #6	TERMINAL BLOCK→ HOUSING
2	!PHCS#1024050	PAN HEAD CAP SCREW; #10-24 x 1/2	CIRCUIT BREAKER→ HOUSING
2	!LWSH-#10	LOCK WASHER; #10	CIRCUIT BREAKER→ HOUSING
1	!HHCS02520050	HEX HEAD CAP SCREW; 1/4-20 x 1/2	TOP POSITION SWITCH → HOUSING
1	!FWSH-025	FLAT WASHER; 1/4	TOP POSITION SWITCH → HOUSING
1	!LWSH-025	LOCK WASHER; 1/4	TOP POSITION SWITCH → HOUSING
1	19629	CABLE CLAMP; 1/4	PRESSURE SWITCH HARNESS→HOUSING
1	!HHCS02520063-5	HEX HEAD CAP SCREW; 1/4-20 x 5/8	PRESSURE SWITCH HARNESS→HOUSING
1	!LWSH-025	LOCK WASHER; 1/4	PRESSURE SWITCH HARNESS→HOUSING
1	!HHCS03118125	HEX HEAD CAP SCREW; 5/16-18 x 1 - 1/4	GROUND SCREW
1	!FWSH-031	FLAT WASHER; 5/16	GROUND SCREW
2	!LWSH-031-STAR	LOCK WASHER; 5/16, STAR	GROUND SCREW
4	!HHCS02520063-5	HEX HEAD CAP SCREW; 1/4-20 x 5/16	REAR COVER → HOUSING
4	!LWSH-025	LOCK WASHER; 1/4	REAR COVER → HOUSING
7	!UNUT-02520-LKG		LOWER COVER → HOUSING BASE
7	!HHCS02520075	HEX HEAD CAP SCREW; 1/4-20 x 3/4	LOWER COVER → HOUSING BASE
7	!FWSH-025	FLAT WASHER; 1/4	LOWER COVER → HOUSING BASE
7	!LWSH-025	LOCK WASHER; 1/4	LOWER COVER → HOUSING BASE
4	!SRNG-150	SNAP RING; 1 - 1/2	ELEVATION CYLINDER PINS; ROD/ BASE ENDS
1	!SRNG-175	SNAP RING; 1 - 3/4	PRIMARY BOOM PIN; MAIN PIVOT
2	19271-2	HOLE PLUG; 2 - 1/8 DIAMETER	WINCH ACCESS HOLES
2	!LNUT-02520-H	LOCK NUT; 1/4-20, HVY PATT, NYLON	REAR COVER MOUNTING
2	!LNUT-03118	LOCK NUT; 5/16-18, GR. 5	VCM → REAR COVER
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REFERENCE PARTS DWG 22984



FASTENER LIST	05-17-22C SUPERSEDES	C400
HT40/50KX (25' BOOM)	02-21-14B	22934

23107 BOOM PARTS DRAWING



ENTURO[®]

VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TITLE	DATE	SECTION
23107 BOOM PARTS DRAWING	05-24-21B	C400
A	SUPERSEDES	0.4.4.00
HT40/50 25' BOOM	02-09-21A	24190 <i>)</i>

23107 BOOM PARTS LIST

ITEM			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	27175	WELDED ASSY; SECONDARY BOOM
2	1	27172	WELDED ASSY; PRIMARY BOOM
3	1	24535	THRUST ROLLER
4	1	21749	CYLINDER; EXTENSION
5	1	23105	WELDED ASSY; TERTIARY BOOM
6	1	21405	PIN; CYLINDER
7	2	21428	BUSHING
8	2	23116	COVER PLATE; PIN STOP
9	2	23928	BOOM SHEAVE W/ BUSHING
10	2	23929	SPACER; 23927 & 23928 POLY SHEAVES
11	1	17059-6	SHEAVE AXLE
12	1	!JNUT-07510N	JAM NUT; 3/4-10, NYLON
13	-	-	-
14	2	!FWSH-100SAE	FLAT WASHER; 1", SAE
15	2	22490	SPACER; BOOM ARROW, 1/2" O.D.
16	2	13459-2	ARROW; BOOM, 4 - 7/16" LONG
17	2	!ANUT-02520S	ACORN NUT; 1/4-20, STAINLESS
18	1	21935	WELDED ASSY; WIRE ROPE GUIDE
19	1	21936	WIRE ROPE GUIDE; FLAT MOUNT
20	1	!HHCS04414550	HEX HEAD CAP SCREW; 7/16-14 x 5 - 1/2 LG
21	1	21560	ROLLER; UHMW GUIDE
22	2	!LNUT-04414	JAM NUT; 7/16-14, NYLON LOCK
23	4	22555	THRUST PIN; EXTENSION CYLINDER
24	8	!SRNG-075	RETAINING RING - 3/4" SHAFT DIA.
25	4	23217-1	UHMW GUIDE PAD
26	4	23217-2	UHMW GUIDE PAD
27	2	23217-13	UHMW GUIDE PAD

	ITEM	QTY.	PART NUMBER	DESCRIPTION
	28	2	23217-17	UHMW GUIDE PAD
	29	2	23183	V-BLOCK SLIDER
	30	2	23217-14	UHMW GUIDE PAD
	31	2	!HHCS03816100	HEX HEAD CAP SCREW; 3/8-16 X 1" LG
	32	2	!LWSH-050-HC	LOCK WASHER; 1/2" HI-COLLAR
	33	2	!SHCS05013200	SOCKET HEAD CAP SCREW; 1/2-13 X 2" LG
	34	1	28190	CORD REEL ASSEMBLY
•	-	1	28191	BRACKET, CORD REEL, (RIGHT HAND MOUNTING)
	35	2	!SHCS03118063S	SHCS; 5/16-18 X 5/8" LG, S/S
	36	4	27467	SOCKET HEAD CAP SCREW; NYLON, 1/2-13 X 3/4"
	37	1	27468	WELDMENT, COMPACT A2B FRAME (LEFT HAND)
1	38	1	19376	A2B SWITCH
ı	39	2	!PHCS#0632100	PHCS; 6-32 X 1"
	40	2	!LWSH-#06	LOCK WASHER; #06, GR. 5
1	41	1	27473	COVER PLATER; COMPACT A2B
ı	42	2	!SHCS02520200SS	SOCKET HEAD CAP SCREW; 1/4-20 X 2", SS
ı	43	2	23379	WASHER, NYLON, BLACK, .375" OD X .25" ID X .02"
1	44	1	19269	CABLE CLAMP, 1/4"
-	45	1	!PHCS#1032038-M	PHCS; 10-32 X 3/8", GR. 5
	46	3	!HHCS02520450	HHCS; 1/4-20 X 4-1/2" LG
ı	47	3	27475	WIRE ROPE GUIDE ROLLER
1	48	3	!JNUT-02520N	JAM NUT; 1/4-20 W/ NYLON INSERT
1	49	1	27476	SPACER/PIVOT; COMPACT A2B
ı	50	1	28362	ASSY, WELDED, CAM & HHCS CA2B CUT-OUT
	51	2	28198	INSULATING SLEEVE WASHER - 5/16"
	52	2	01016	FIBER WASHER
	53	2	!FWSH-031	FLAT WASHER; 5/16" SAE
ı	54	1	!LNUT-07510	NYLOC LOCK NUT, FULL, 3/4-10, GR, 5, ZINC

REFERENCE PARTS DRAWING 24190

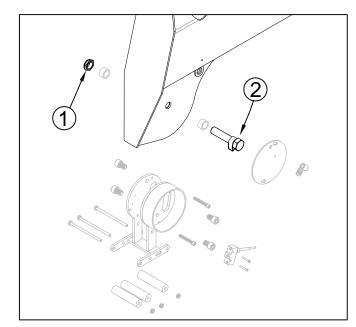


TITLE	DATE	SECTION
23107 REPLACEMENT PARTS LIST	06-09-23D	C400
	SUPERSEDES	04404
HT40/50 25' BOOM	06-07-23C	24191

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.



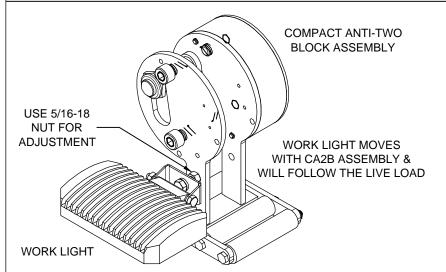


Contact Venturo Tech Support for assistance. 1-800-226-2238 ext. 124

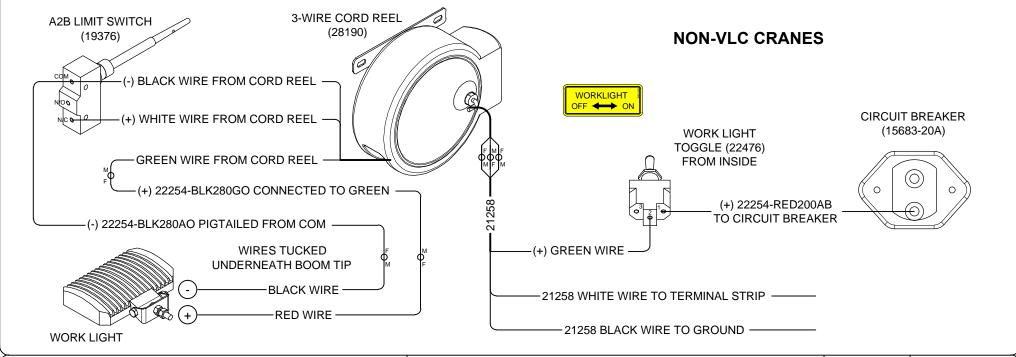


A2B Stowage Cut-out	10-04-21B	C400
ET/HT Cranes w/ Comp. A2B	SUPERSEDES 08-03-21A	28239

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



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

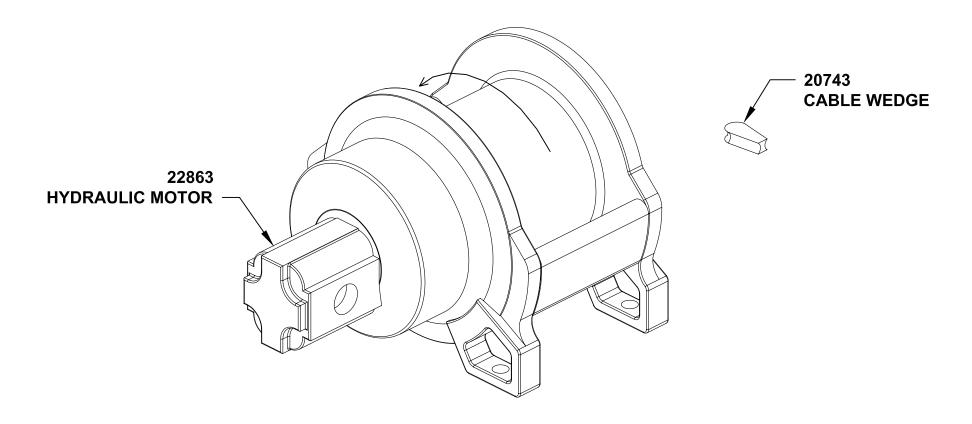




VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

WORK LIGHT INSTALLATION, 3-WIRE CORD REEL	02-10-21	C400
NON-VLC CRANES	SUPERSEDES -	28199

REPLACEMENT PARTS 22828 WINCH



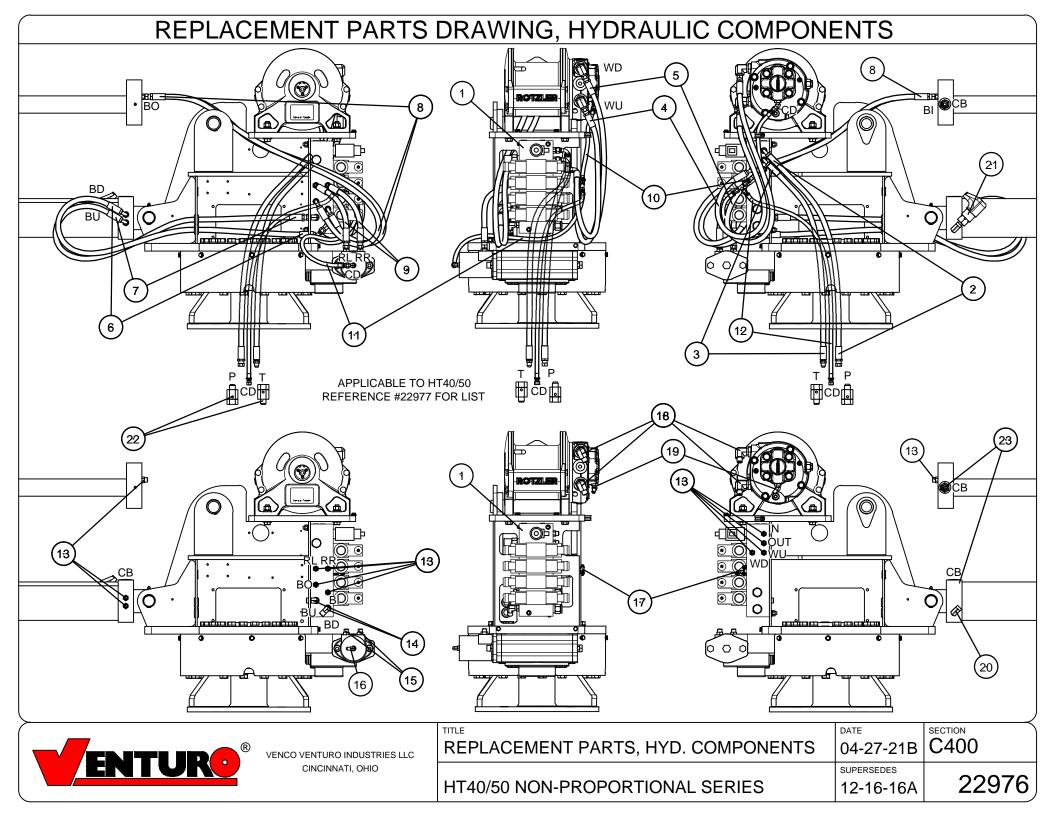
▲ FINAL DRIVE GEAR & SEAL KIT P/N: 22938-KIT

WINCH SERVICE KIT P/N: 21381

MOTOR SERVICE KIT P/N: 22902



NC.	REPLACEMENT PARTS DRAWING	9-13-11C	section 400	
	22828 ROTZLER WINCH HT40KX NON-PROP	7-14-11B	22884]



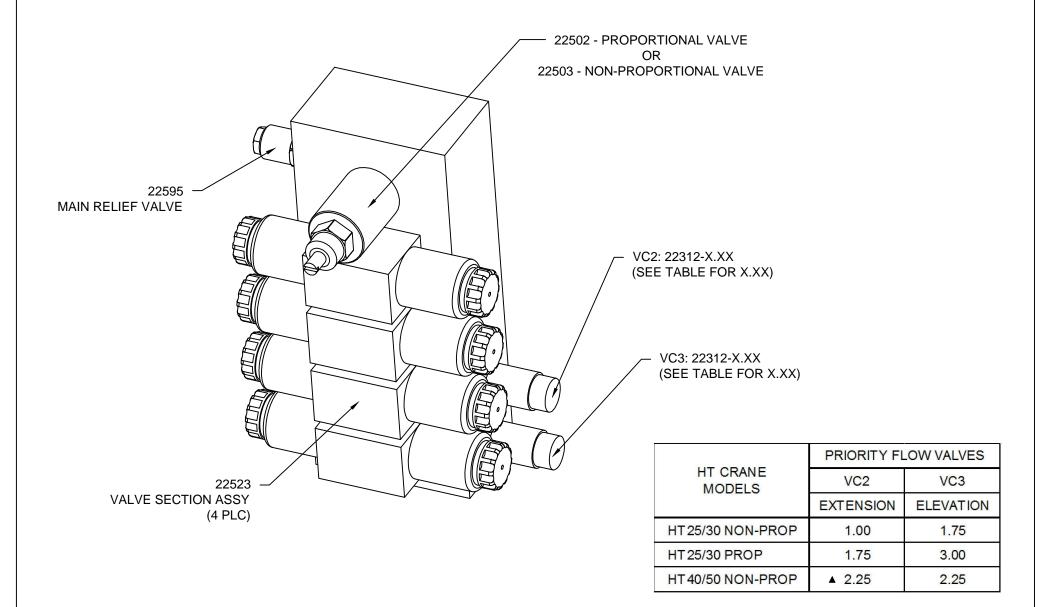
REPLACEMENT PARTS LIST; HYDRAULIC COMPONENTS

#	DESCRIPTION	QTY	PART NUMBER	APPLICATION	
1	VALVE MANIFOLD; NON-PROPORTIONAL, HT40/50KX	1	22501-0-225-225	REAR OF MECHANISM, INSIDE REAR COVER	
2	HOSE ASSEMBLY; PRESSURE SUPPLY	1	23832	RIGHT SIDE VALVE BANK TO COMPARTMENT SIDE	
3	HOSE ASSEMBLY; RETURN SUPPLY	1	23833	RIGHT SIDE VALVE BANK TO COMPARTMENT SIDE	
4	HOSE ASSEMBLY; WINCH UP	1	27046	RIGHT SIDE VALVE BANK TO WINCH UP PORT	
5	HOSE ASSEMBLY; WINCH DOWN	1	27047	RIGHT SIDE VALVE BANK TO WINCH DOWN PORT	
6	HOSE ASSEMBLY; BOOM DOWN	1	27026	LEFT SIDE VALVE BANK TO BOOM UP PORT	
7	HOSE ASSEMBLY; BOOM UP	1	27027	LEFT SIDE VALVE BANK TO BOOM DOWN PORT	
8	HOSE ASSEMBLY; BOOM IN & OUT	2	27592	EXTENSION PORTS TO LEFT SIDE VALVE BANK	
9	HOSE ASSEMBLY; ROTATION LEFT & RIGHT	2	27043	LEFT SIDE VALVE BANK TO ROTATION PORTS	
10	HOSE ASSEMBLY; WINCH CASE DRAIN	1	22952	ROTATION CASE DRAIN TO T-FITTING JUNCTION	
11	HOSE ASSEMBLY; ROTATION CASE DRAIN	1	22953	WINCH CASE DRAIN TO T-FITTING JUNCTION	
12	HOSE ASSEMBLY; CASE DRAIN OUT	1	22903	T-FITTING JUNCTION TO COMPARTMENT SIDE	
13	FITTING; ADAPTER, STRAIGHT, 60FS-6MO	12	FF6400-0606	IN, OUT, WU, WD, RL, RR, BI, BO, EL. & EXT. CYL'S	
14	FITTING; ADAPTER, 90° ELBOW, 60FS-6MO	2	FF6801-0606 LEFT SIDE VALVE BANK, BU & BD PORTS		
15	FITTING; ADAPTER, STRAIGHT, 60FS-10MO	2	FF6400-0610 ROTATION MOTOR PORTS		
16	FITTING; ADAPTER, 90° ELBOW, 4MJ-4MO	1	H6801-0404 ROTATION CASE DRAIN PORT		
17	FITTING; ADAPTER, T-SHAPE, 4MJ-4MJ-4MJ	1	H2603-040404 T-FITTING JUNCTION, CASE DRAIN HOSES		
18	FITTING; ADAPTER, 90° ELBOW, 60FS-8MO BRITISH	2	FF3801-06-08	WINCH UP & DOWN PORTS, ROTZLER TI SERIES	
19	FITTING; ADAPTER, 45° ELBOW, 4MJ-4MO BRITISH	1	3802-0404	WINCH CASE DRAIN PORT, ROTZLER TI SERIES	
20	FITTING; ADAPTER, 90° ELBOW, 4MO-4FP	1	H6805-0404	ELEVATION CYLINDER, PRESSURE SWITCH	
21	PRESSURE SWITCH, 2900 PSI RATING	1	17460-2900-21	BASE-END ON ELEVATION CYLINDER	
22	LIVE SWIVEL; CONTINUOUS, STRAIGHT, 6MJ-6FJ	2	20684	PRESSURE & RETURN HOSES, COMPARTMENT SIDE	
23	COUNTER-BALANCE VALVE; CBPA, 50/40, 3000 PSI SYS.	2	20893	ELEVATION & EXTENSION CYLINDER VALVE	
	HYD	RAUL	IC FUNCTION KEY		
Р	PRESSURE SUPPLY	RL	ROTATION LEFT		
Т	TANK RETURN	RR	ROTATION RIGHT		
CD	CASE DRAIN	во	BOOM OUT		
IN	PRESSURE IN	ВІ	BOOM IN		
OUT	RETURN OUT	BU	BOOM UP		
WU	WINCH UP	BD	BOOM DOWN		
WD	WINCH DOWN	СВ	COUNTER-BALANCE VALVE		

REFERENCE #22976 FOR REPLACEMENT PARTS DRAWING

	VENCO VENTURO INDUSTRIES LLC	REPLACEMENT PARTS LIST	04-27-21B	C400	
ENTUR	CINCINNATI, OHIO	HT40/50 NON-PROPORTIONAL	SUPERSEDES 12-19-16A	22977	

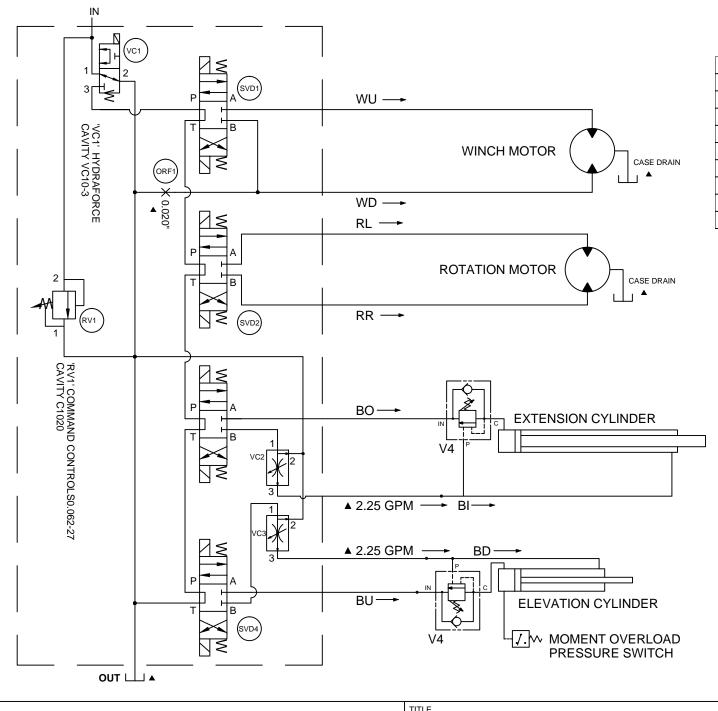
22501 HYDRAULIC VALVE MANIFOLD, REPLACEMENT PARTS



ENTURO ®

VENCO VENTURO INDUSTRIES LL	С
CINCINNATI, OHIO	

REPLACEMENT PARTS	10-22-15B	C400
22501 VALVE BLOCK, HT SERIES CRANES	SUPERSEDES 03-04-10A	22939

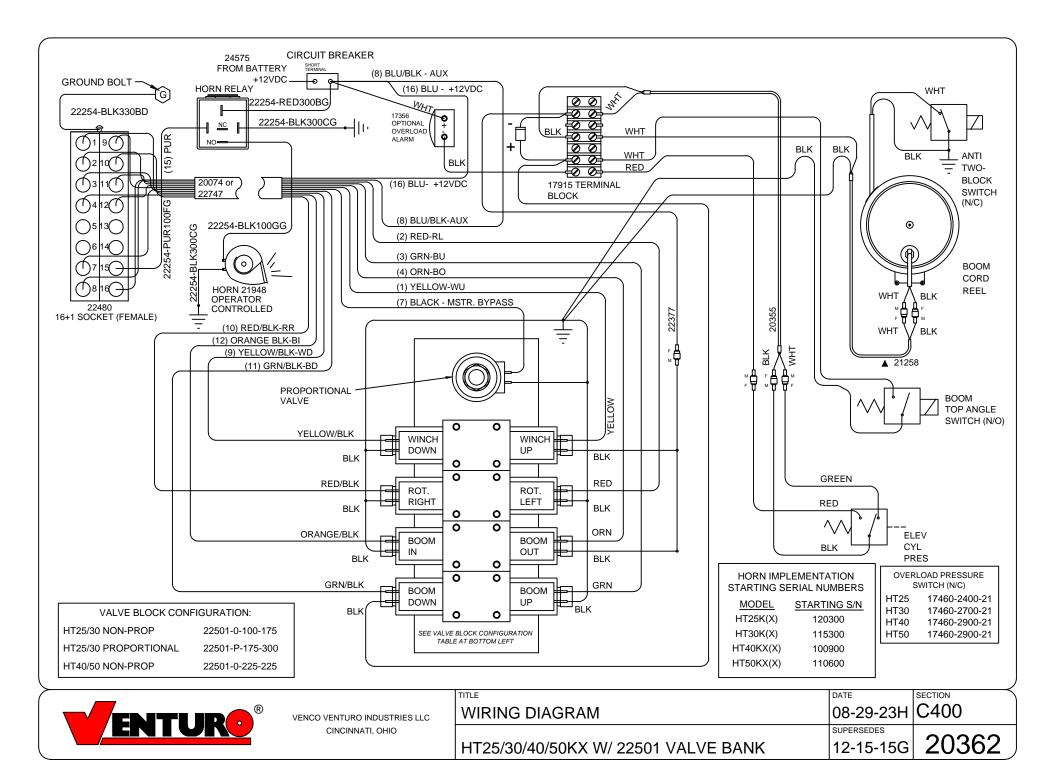


VA1	CONTROL VALVE ASSEMBLY
RV1	RELIEF VALVE (3000 PSI)
SVD1	3 POSITION - 4 WAY VALVE SECTION
SVD2	3 POSITION - 4 WAY VALVE SECTION
SVD3	3 POSITION - 4 WAY VALVE SECTION
SVD4	3 POSITION - 4 WAY VALVE SECTION
V4	COUNTERBALANCE CARTRIDGE VALVE
VC1	MAIN FLOW VALVE (MANUAL OVERRIDE)
VC2	PRIORITY FLOW REGULATOR VALVE
VC3	PRIORITY FLOW REGULATOR VALVE

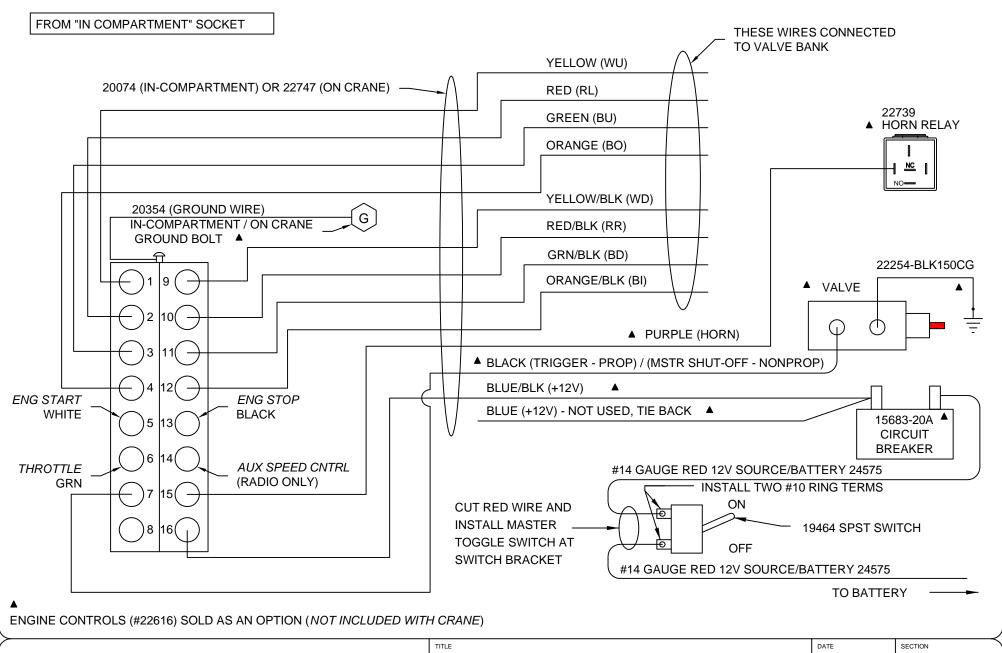


VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

HYDRAULIC SHEMATIC	12-04-23E	SECTION C400
HT40KX NON-PROPORTIONAL	SUPERSEDES 10-22-15D	22486



SOCKET WIRING; 16-PIN, W/ OPTIONAL ENG CONTROLS





VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

I IIILE	DATE	SECTION
SOCKET WIRING; 16 PIN	02-17-15G	C400
	SUPERSEDES	00405
HT CRANES	02-21-14F	22125

CORD REPLACEMENT INSTRUCTIONS (INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED) 12V+ - ORANGE (10) NOTE 1) WIRE TERMINALS TO BE INSTALLED 'AFTER' ROUTING REPLACEMENT CORD ASSY THROUGH PENDANT HEAD AND PLUG HOUSING. WINCH DOWN - YELLOW / BLACK (6) BOOM IN - RED / BLACK (9) NOTE 2) **TOGGLE SWITCH JUMPER WIRES** OUT ROTATION LEFT - RED (2) NOT SHOWN FOR CLARITY. RIGHT **BOOM DOWN - BROWN (8)** 0 0 0 0 NOTE 3) BOOM UP - BLUE / BLACK (3) **DOWN** STOW OR CUT-BACK UNUSED WIRES. ROTATION RT - BROWN / RED (7) **LEFT** DOWN WINCH EXTENSION **ELEVATION** ROTATION **BLACK - MASTER BYPASS VALVE (5)** WINCH UP - YELLOW (1) **BOOM OUT - BLUE (4)** (1)YELLOW / BLACK - WD **YELLOW - WU** BROWN / RED - RR RED - RL **BLUE / BLACK - BU BROWN - BD BLUE - BO** RED / BLACK - BI ORANGE - 12V+ **BLACK - MASTER BYPASS VALVE** PLUG - BACKSIDE VIEW **(2**) 22135 CORD ASSY, KIT 3 19427 MALE INSERT - 10 + 1 POLE 1 19426 PLUG CASE - 10 + 1 POLE 2 22152 **DPDT MOMENTARY SWITCH** 10-PIN PLUG ASSY. DESCRIPTION ITEM QTY PART NO.



REPLACEMENT PARTS DRAWING

10-6-11C

C400

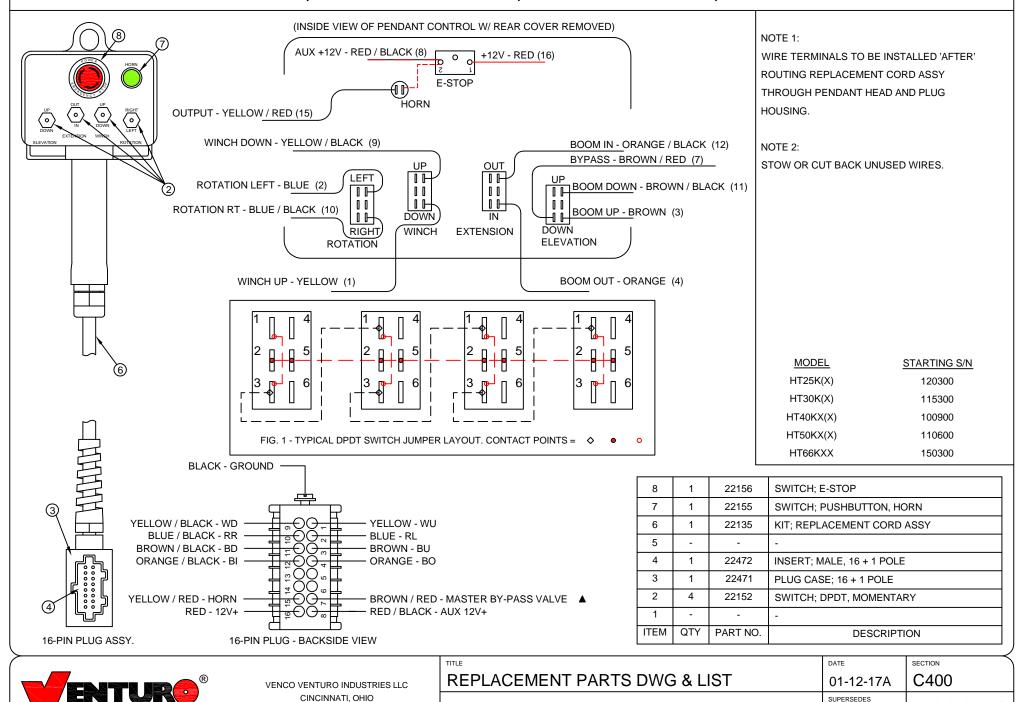
SECTION

22062 PENDANT (STANDARD CTRL)

8-15-11B

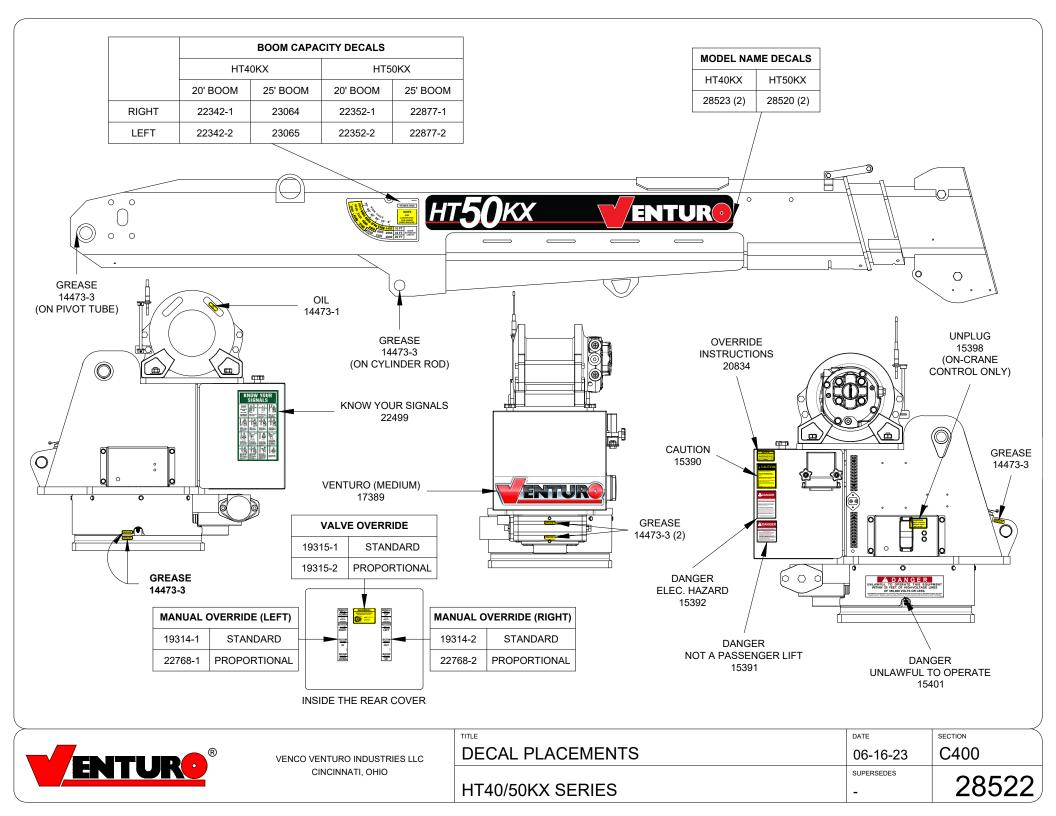
22078

21989 PENDANT; HT CRANES, NON-PROP, E-STOP / HORN

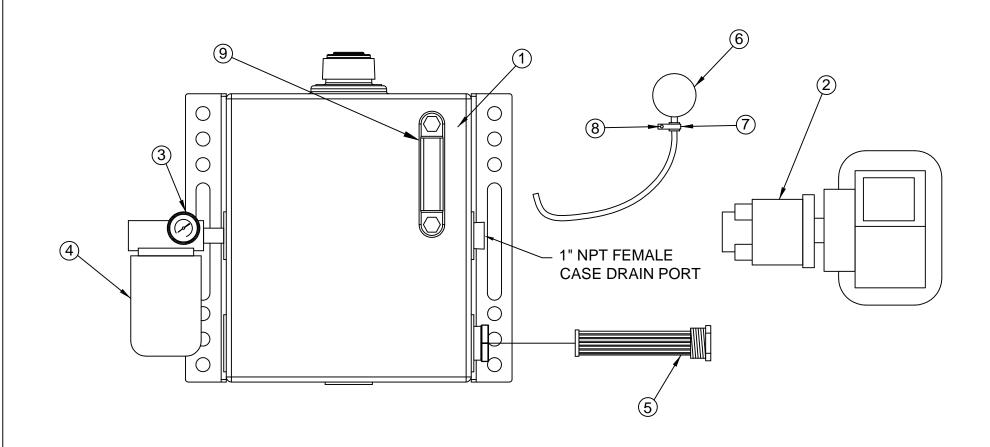


21989 PNDNT; HT, NON-PROP, ESTP/HRN

10-03-14



19294 PTO PACKAGES; 5.0 GPM & LOWER



			_
PUMP	PUMP MOUNTING RECOMMENDED GPM (RPM)		
19296-1.60	SAE "A"	HT25/30 - STD 2.00 GPM (1250 RPM)	
19296-2.64	9 TOOTH SPLINED SHAFT	HT40 - STD 2.6 GPM (1000 RPM) HT50 - STD 3.0 GPM (1150 RPM)	
19296-4.00		HT25/30 - PROP 4.0 GPM (1000 RPM)	

9	1	22184	SIGHT GLASS
8	1	!HWHS02520075-F	HEX WSHR HEAD, 1/4-20 X 3/4 SELF-TAP
7	1	19275	CLAMP
6	1	22730	PRESSURE GAUGE ASSEMBLY
5	1	19300	SUCTION SCREEN - 100 MESH
4	1	19298	FILTER ASSY, RETURN - 10 MICRON
3	1	19297	PRESSURE GAUGE - RETURN
2	1	SEE CHART	PTO PUMP - HT18/25/40/50KX
1	1	19295	RESERVOIR TANK - 10 GALLON
ITEM	QTY	PART NO.	DESCRIPTION



		$\overline{}$
TITLE	DATE	SECTION
REPLACEMENT PARTS DIAGRAM	08-04-15E	C400
	SUPERSEDES	00744
PTO KIT; HT CRANES (LOW FLOW)	05-01-15D	22/44

HT40KX FIELD SERVICE LABEL KITS

HT40KX								
STANDARD 20'	PROPORTIONAL 20'	STANDARD 25'	PROPORTIONAL 25'	22920 FIELD SERVICE LABEL KITS (FOR HT40KX)				
QUANTITY			Υ	PART#	DESCRIPTION			
2	2	2	2	28523	DECAL; MODEL HT40KX			
1	1	1	1	17389	DECAL; VENTURO LOGO, MEDIUM			
1	1			22342-1	DECAL; BOOM CAPACITY, HT40KX, 10'/16'/20', RIGHT			
1	1			22342-2	DECAL; BOOM CAPACITY, HT40KX, 10'/16'/20', LEFT			
		1	1	23064	DECAL; BOOM CAPACITY, HT40KX, 12'/18.5'/25', RIGHT			
		1	1	23065	DECAL; BOOM CAPACITY, HT40KX, 12'/18.5'/25', LEFT			
1	1	1	1	14473-1	DECAL; OIL			
7	7	7	7	14473-3	DECAL; GREASE			
1	1	1	1	17813 DECAL; OVERLOAD SENSING SYSTEM				
1	1	1	1	14459	14459 DECAL; OVERLOAD ALARM SYSTEM (OPTIONAL PART)			
1	1	1	1	22499	DECAL; KNOW YOUR SIGNALS			
1	1	1	1	20834	DECAL; MANUAL OVERRIDE, INSTRUCTIONS			
1		1		19315-1 DECAL; MANUAL OVERRIDE, SHUTOFF, STANDARD				
	1		1	19315-2	DECAL; MANUAL OVERRIDE, SHUTOFF, PROPORTIONAL			
1		1		19314-1	DECAL; MANUAL OVERRIDE, STANDARD, LEFT			
1		1		19314-2	DECAL; MANUAL OVERRIDE, STANDARD, RIGHT			
	1		1	22768-1	DECAL; MANUAL OVERRIDE, PROPORTIONAL, LEFT			
	1		1	22768-2	DECAL; MANUAL OVERRIDE, PROPORTIONAL, RIGHT			
1	1	1	1	22922	IDWG; FIELD SERVICE LABEL KITS, HT40KX			
1	1	1	1	28522	IDWG; DECAL PLACEMENTS, HT40/50KX			
1	1	1	1	INST-23233	SAFETY MANUAL, VENTURO CRANES			
1	1	1	1	15397	KIT; ACCIDENT PREVENTION SIGNS			

			TITLE	DATE	SECTION
1	ENTIPO®	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	FIELD SERVICE LABEL KITS	07-17-23H	C400
				SUPERSEDES	22022
			HT40KX	06-16-23G	22922

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

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Revised: January 2015 12-00073_VNT1-D