

# . HT25KX(X)

HLAAAC-00\*\* & HLBAAC-00\*\* INSTALLATION & OWNER'S MANUAL

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CINCINNATI, OHIO



	HT25KX(X) (HL*AAC-00**)	supersedes 02-16-15G	23029
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	TITLE	DATE	SECTION

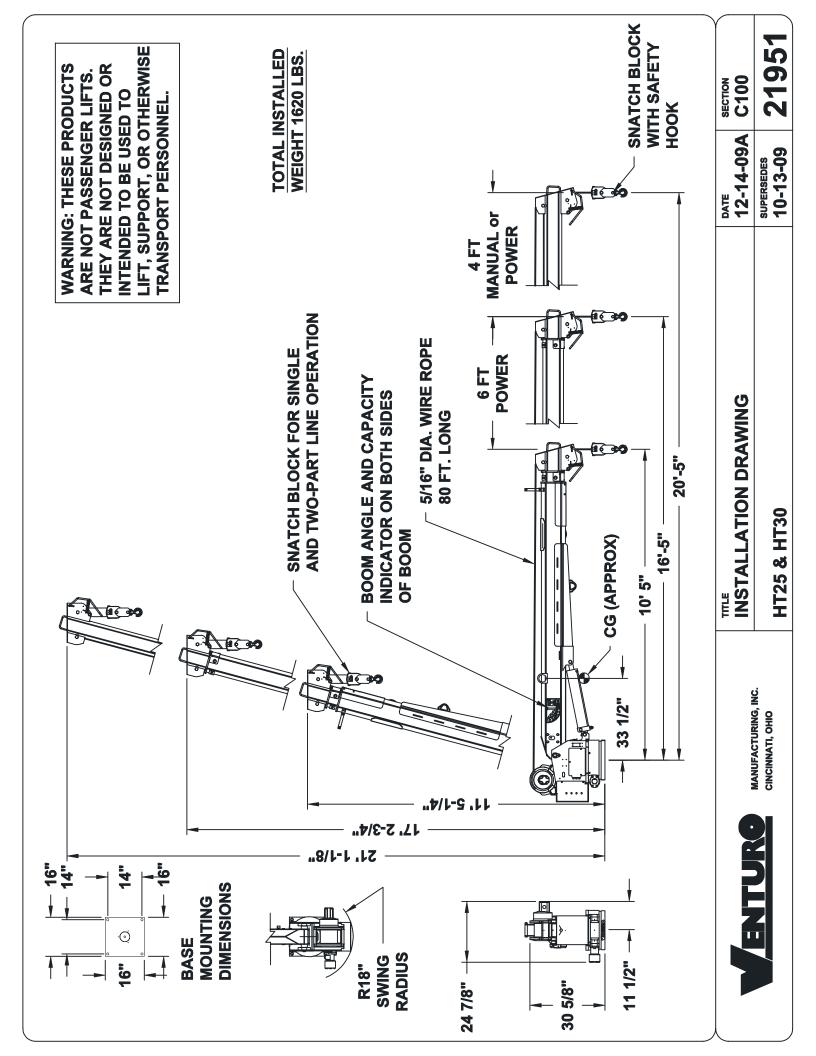
# **SECTION 100**

DESCRIPTION

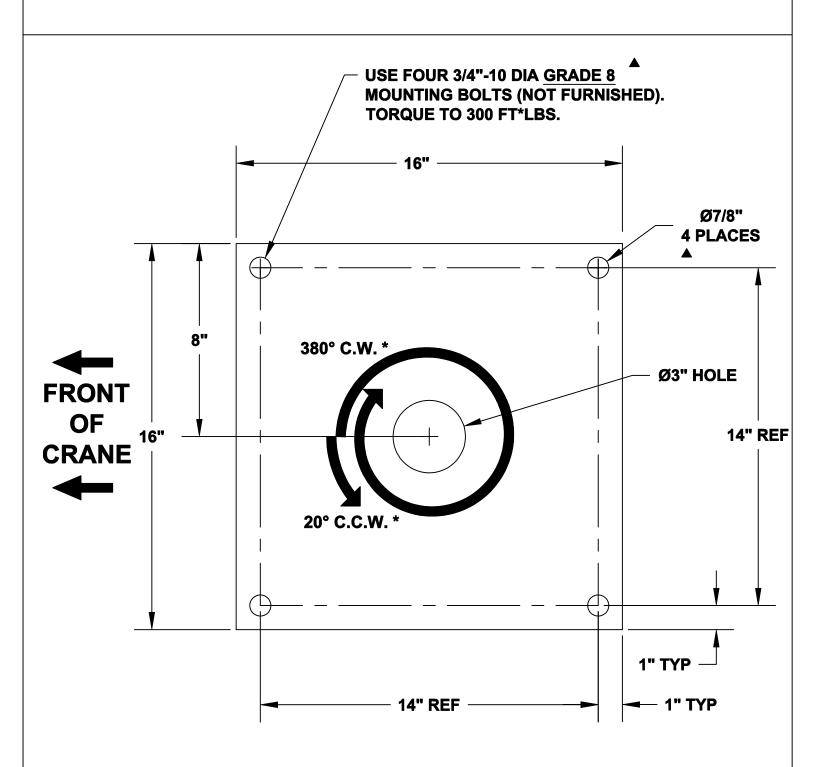
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**SPECIFICATIONS** 





#### ET/HT25/30/36KX BASE MOUNTING DIMENSIONS



\* Rotation limits typically apply to HT cranes only. ET cranes generally have continuous rotation.

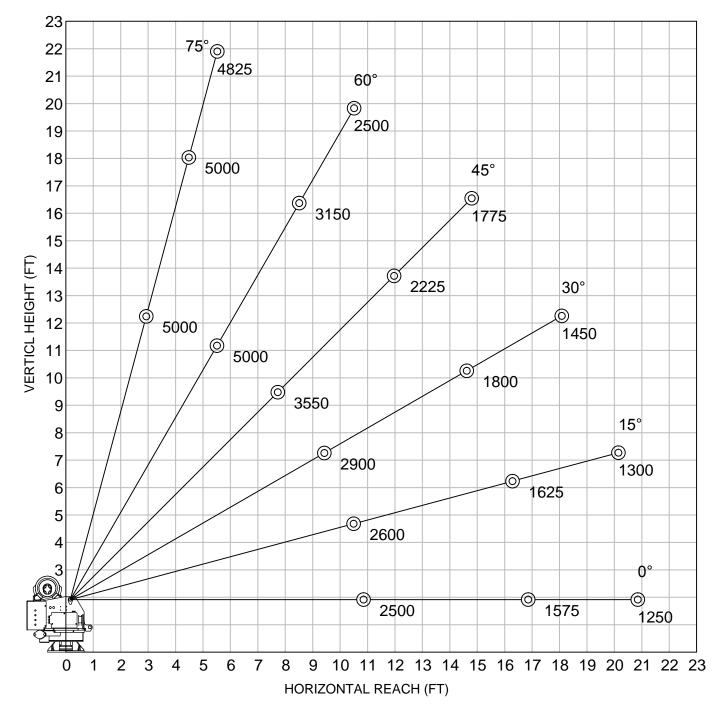


TITLE	DATE	SECTION
BASE MOUNTING	02-13-12E	C100
ET/HT25/30/36	12-14-11D	21080

#### ET/HT25KX, 10'-16'-20' 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 2500 LBS 2 PART LINE FOR LOADS OF 2500 LBS AND GREATER WEIGHT OF LOAD BLOCK = 34 LBS



MAXIMUM LOAD CAPACITY	05-03-16C	C100
ET/HT25KX, 10'-16'-20' BOOM	SUPERSEDES 04-30-13B	21893

# **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).

Table T - Minimum Clearance Distances While Traveling With No Load			
Voltage While traveling - minimum clearance distance (nominal, kV, alternating current) (feet) *			
0 - 0.75	4 6 10 16 20 (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



HAZARD APPS & INFO

C150 02-21-14M SUPERSEDES

ET/HT CRANES

15394 12-20-13L

SECTION

# CRANE SAFETY AND HAZARDS HT SERIES CRANES

#### **CAUTIONS**

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

#### **DANGER**

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

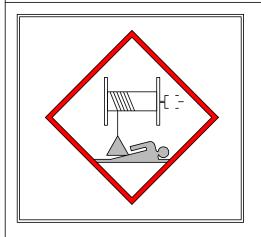
#### YOU MUST NOT OPERATE THIS CRANE UNLESS

- 1. YOU HAVE BEEN TRAINED IN THE SAFE OPERATION OF THIS CRANE AND
- 2. YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN THE MANUFACTURER'S MANUALS, YOUR EMPLOYER'S WORK RULES, AND APPLICABLE GOVERNMENT REGULATIONS. AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

#### **ELECTROCUTION HAZARD**

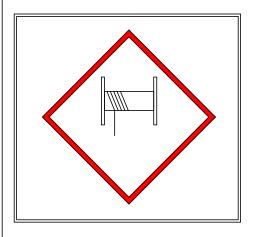
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.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

# WINCH SAFETY WARNINGS



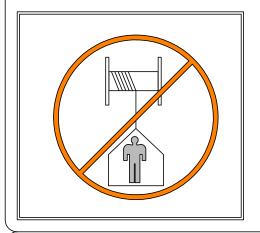
# **DANGER**

DO NOT DISENGAGE WINCH UNDER LOAD



# A 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

DECAL #: 15390

CAUTION, INSPECT VEHICLE & CRANE... DESCRIPTION:

PURPOSE: TO INFORM THE OPERATOR OF KEY OPERATING REQUIREMENTS.

QUANTITY:

REAR COVER OR SIDE OF CRANE PLACEMENT:

CAUTION MOUNTED ON FACTORY-RECOMMENDED TRUCK. FOR OPERATING (LOAD) LIMITATION DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD. OR TRAVEL, BOOM MUST BE IN STOWED

DECAL #: 15391

DESCRIPTION: DANGER, NOT A PASSENGER LIFT

PURPOSE: TO INFORM OPERATOR NOT TO LIFT, SUPPORT, OR TRANSPORT

PERSONNEL, AND TO ENSURE OPERATOR IS ADEQUATELY TRAINED.

QUANTITY:

PLACEMENT: REAR COVER OR SIDE OF CRANE



YOU MUST NOT **OPERATE THIS CRANE UNLESS:** 

OPERATE THIS CRANE UNLESS:
YOU HAVE BEEN TRAINED IN THE SAFE
OPERATION OF THIS CRANE; AND
YOU KNOW AND FOLLOW THE SAFETY AND
OPERATING RECOMMENDATIONS CONTAINED I
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.

15392 DECAL #:

DESCRIPTION: DANGER, ELECTROCUTION HAZARD, MACHINE (CRANE)

PURPOSE: TO INFORM OPERATOR THAT MACHINE (CRANE) REPRESENTS AN

ELECTROCUTION HAZARD SHOULD IT COME CLOSE TO OR IN CONTACT

WITH AN ELECTRICAL VOLTAGE SOURCE.

QUANTITY: 1

PLACEMENT: REAR COVER OR SIDE OF CRANE



#### THIS MACHINE IS NOT INSULATED **ELECTROCUTION HAZARD**

THIS LIFTING DEVICE DOES NOT PROVIDE PRO-TECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.

TO AN ELECTRICALLY CHARGED CONDUCTOR. YOU MUST MAINTAIN A CLEARANCE OR AT LEAST 10 FEET BETWEEN ANY PART OF THE CRANE, LOAD LINE OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 50,000 VOLTS. ON EFOOT ADDITIONAL CLEARANCE IS REQUIRED FOR EVERY ADDITIONAL 30,000 VOLTS OR LESS.

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

DECAL #: 15401

DESCRIPTION: DANGER, UNLAWFUL TO OPERATE

PURPOSE: TO INFORM OPERATOR OF PROPER OPERATION

IN VICINITY OF ELECTRICAL LINES.

QUANTITY:

PLACEMENT: RING COVER OR SIDE OF CRANE

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 1926.140 CRANE'S SAFETY MANUAL, AND CAL-OSHA ARTICLE 37, TITLE 8, HIGH-VOLTAGE ELECTRICAL SAFETY ORDERS

DECAL #: 15393

DESCRIPTION: DANGER, ELECTROCUTION HAZARD, VEHICLE (TRUCK)

WARNS OF DANGER FROM ELECTRICALLY CHARGED PURPOSE:

VEHICLE, CRANE, OR LOAD.

QUANTITY:

PLACEMENT: EACH SIDE & EACH END OF VEHICLE





SECTION



TITLE

SAFETY DECALS

DATE

C150 04-29-16E

SUPERSEDES 10-24-13D

VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

**VENTURO CRANES** 

PART NO.: 14473-2

DECAL: GREASE

FUNCTION: To show the operator where to

apply grease.

QUANTITY: Varies

PLACEMENT: Near grease fittings.

GREASE

PART N□.: 19314-1

DECAL: MANUAL OVERRIDE

FUNCTION: To inform the operator of manual

overide locations.

QUANTITY: 1

PLACEMENT: Left side of rear cover.

PART NO.: 19314-2

DECAL: MANUAL OVERRIDE

FUNCTION: To inform the operator of manual

overide locations.

QUANTITY: 1

PLACEMENT: Right side of rear cover.







PART NO.: 19315-1

DECAL: MANUAL OVERRIDE (NON-PROPORTIONAL)

FUNCTION: To show the operator how to

override master shut off valve.

QUANTITY: 1

PLACEMENT: Rear cover.

WARNING!
KEEP VALVE IN NORMAL POSITION.
OVERRIDE POSITION IS INTENDED
FOR EMERGENCY USE ONLY.
OVERRIDE
NON-PROPORTIONAL
VALVE
PUSH IN STEM AND ROTATE 19315-1

PART NO.: 19315-2

DECAL: MANUAL OVERRIDE (PROPORTIONAL)

FUNCTION: To show the operator how to

override proportional valve.

QUANTITY: 1

PLACEMENT: Rear cover.





MFG., INC. CINCINNATI, OHIO SHUT OFF & OVERRIDE DECALS

9-6-05

SECTION C150

**HT CRANES** 

SUPERSEDES

21355B

PART NO.: 23132-1 & 23132-2 (OPPOSITE)

DECAL: CRANE CAPACITY

FUNCTION: To show the operator the operating

capacities of crane.

QUANTITY: 1 each

PLACEMENT: One on each side of boom.

PART NO.: 19745

DECAL: MODEL NUMBER

FUNCTION: To show the model of the crane.

QUANTITY: 2

PLACEMENT: One on each side of boom.

PART NO.: 20927

DECAL: CRANE STABILITY

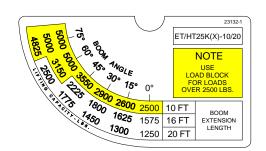
FUNCTION: To inform the operator of the crane's lifting capacity

throughout the entire rotation.

QUANTITY: 1

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

identifiable.









MODEL & CPCTY DECALS

02-13-14A

C150

HT25KX

SUPERSEDES 09-07-05

DATE

21953

# **SECTION 200**

# **INSTALLATION**



#### CRANE INSTALLATION

HT25/HT30

#### **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 HT25KX is 28,000 and for the HT30KX is 33.000 ft. lbs.

The maximum vertical load for the HT25KX and the HT30KX is 6500 lbs.

#### CRANE MOUNTING

The crane base plate or mounting pedestal must be bolted to the body reinforcing plate with four (4) Grade 5 bolts of 3/4" dia. A larger than 3" 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 and a return hose that come down through the center of the housing. Included in the installation kit are two hydraulic swivels.

The hoses are to be 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.

The bulkhead fittings may be located on any side of the compartment relative to the middle of rotation position.

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



	12-14-09A	C200
HT25 / HT30	3-26-08	21094

#### **ELECTRICAL CONNECTIONS**

A 25 ft. electrical power lead - intended for 12V DC only - also comes down through the center of the housing with the hoses. This lead should be looped in the compartment so that it remains relaxed throughout the 400 degree rotation of the crane.

A 15amp circuit breaker is mounted on the crane and protects the crane's internal wiring and solenoid coils. The 15amp circuit breaker does not protect the 25 foot electrical power lead. For added protection, the 25 ft. lead can be connected to a 15-20 amp protected circuit that, if possible, is powered only when the vehicle engine is running

#### HYDRAULIC FLUID

<u>Average Climate</u> <u>Type of Oil</u>

Cold to Moderate ISO Grade AW 46 Warm to Hot ISO Grade AW 68

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

#### **HYDRAULIC HOSES & LINES**

The minimum sizes for lines and hoses are as follows:

	NON-PROP	PROP
PRESSURE	1/4"	3/8"
RETURN	3/8"	1/2"
SUCTION	1/2"	3/4"

#### RESERVOIR

The PTO reservoir should have a capacity of 8 gallons fitted with 100 mesh suction screen, 10 micron return line filter, and filler/breather cap.

#### PTO PUMP

For standard (non-proportional) cranes, the PTO pump should be sized to provide 2.0 gpm (or 1.5 gpm for more delicate control of loads) at 3000 psi when engine is at desired idle speed.

For proportional cranes, the PTO pump should be sized to provide 4.0 gpm at 3000 psi when engine is at desired idle speed.

#### 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 (in this case 16 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.



#### CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

HT25 / HT30

#### SAFETY

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

#### CRANE INSPECTION

Before operating this crane, inspect for wear, damage, or oil leakage. After the wire rope has been run out, check for wear, kinks, and broken strands. Check the hook and safety latch for damage. Correct any problems before using the crane.

#### 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.

#### SNATCH BLOCK

If the load exceeds 2500 lbs. or reduced winching speed for better control of smaller loads is required, use the snatch block to rig the crane for two part line operation.

#### CONTROLS

This crane is operated by a remote control pendant. The pendant should be unplugged and stored in a compartment when the crane is not in use.

Before plugging the pendant in, inspect the plug, socket, cord, pendant head, and switches for damage. Actuate all four switches both ways to verify that they all have the same feel and sound and that they return to the center position.

#### PTO SYSTEM

Check the hydraulic fluid level in the PTO system reservoir. Engage PTO and set the engine idle speed to provide a hydraulic flow rate per the PTO system instructions. A lower idle setting may be used for more delicate spotting of loads if required.

#### 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

#### 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 for single-stage is 6 ft. and for dual-stage is 10 ft.



INSTALLATION DWG	12-14-09A	C200
HT25 / HT30	SUPERCEDES 6-17-02	20435A

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.

#### 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 20904 in this manual for replacement parts and configuration information.

#### TELESCOPIC HEXAGONAL BOOM

▲ The dual-stage 10-20 ft. boom has a 10 ft. hydraulic power extension (REF. DWG. 21098). The single-stage 10-20 ft. boom has a 6 ft. hydraulic power extension and a 4 ft. manual extension (REF. DWG. 21198).

#### TRUCK SETUP & STABILIZERS

- 1. The truck should be parked on firm level surface, +/- 5°.
- 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. Deploy the stabilizers to help stabilize the vehicle against rocking or overturning when lifting with the crane.

#### PREPARATION FOR TRAVEL

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



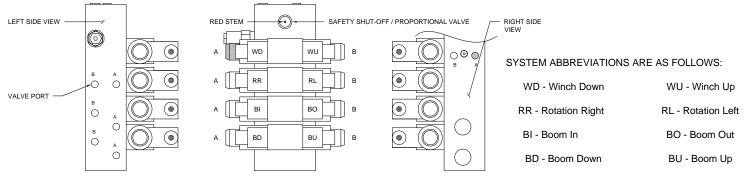
HT25/30KX	SUPERSEDES 12-14-09A	21955
INSTALLATION DWG	04-16-13B	C200
TITLE	DATE	SECTION

### **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.

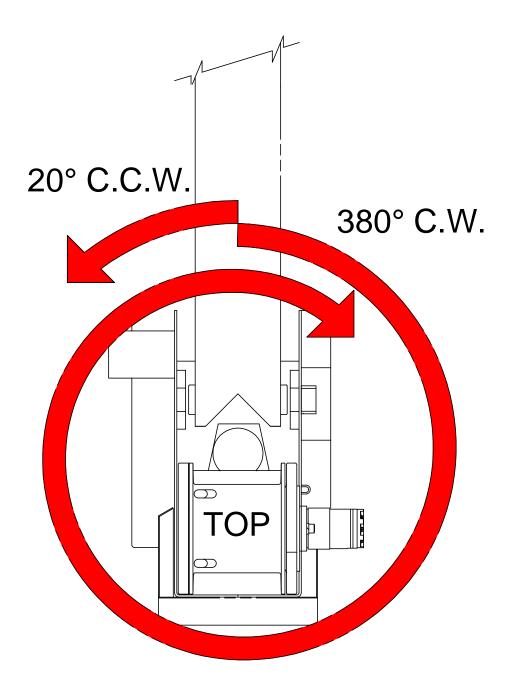
# 1 W A R N I N G

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.

®	HYDRAULIC SYSTEM	DATE 07 11 11D	C200	
ENTUR	NCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	HT SERIES CRANES	07-11-14D SUPERSEDES 12-14-09C	22328



This Venturo crane is shipped with the rotation orientation as shown above. To change the orientation rotate crane base prior to mounting to suit your application.

		$\overline{}$
TITLE	DATE	SECTION
ROTATION STOP LOCTN	02-21-14D	-
	SUPERSEDES	00054
400° ROTATION CRANES	12-14-09C	20051

#### STABILITY TEST - ET/HT25-20' SERIES

#### Overview

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

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

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

#### **Testing Procedure**

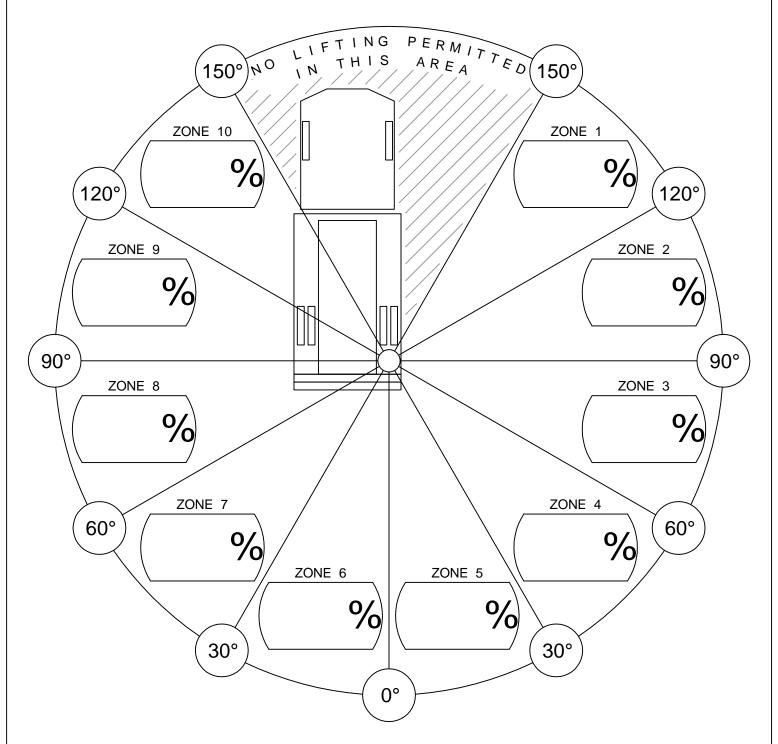
- 1. Locate the truck on firm, level ground and set parking brake.
- 2. Fully deploy stabilizers, making sure they are firmly in contact with supportive ground; use stabilizer pads as required. The tires of the truck should remain in full contact with the ground.
- 3. Inspect wire rope and other key components of crane (consult owners manual for more information).
- 4. Conduct an operational check of all crane functions.
- 5. Use a *Test Weight* weighing a *minimum* of <u>1471 lbs</u>, (includes load block weight of <u>34</u> lbs.) to a *maximum of 1515 lbs*.
- 6. Position the boom level and fully retracted.
- 7. 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.
- 8. 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).
- 9. Extend the boom slowly, until one of two conditions occur: 1) the boom reaches full extension or 2) the vehicle begins to be unstable, whichever occurs first. Note: If the boom reaches full extension (without an overload or unstable condition) the % of Rated Capacity is 100% for the given ZONE.
- Use the formula below to determine the % of Rated Capacity for each ZONE on the Stability Chart (ref. page 20907).
- 11. 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
	248	

- **Example 1)** Max Stable Reach = 248 (inches, full extension) ÷ 248 x 100 = **100** or 100% of Rated Capacity for the given ZONE
- **Example 2)** Max Stable Reach = 241 (inches) ÷ 248 x 100 = **97.17** or 97% (rounded) of Rated Capacity for the given ZONE
- 12. Record the % of Rated Capacity in the appropriate blank (region) on the Crane Stability page (ref. 20907) and decal.
- 13. Repeat Steps 7 through 12 for each ZONE on the stability page.

® VENCO VENTURO INDUSTRIES LLC	STABILITY TEST	02-26-21C	C200		
ENTUR	CINCINNATI, OHIO	ET/HT25-20' SERIES	SUPERSEDES 04-23-20B	20906-25	)

# **CRANE STABILITY**



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

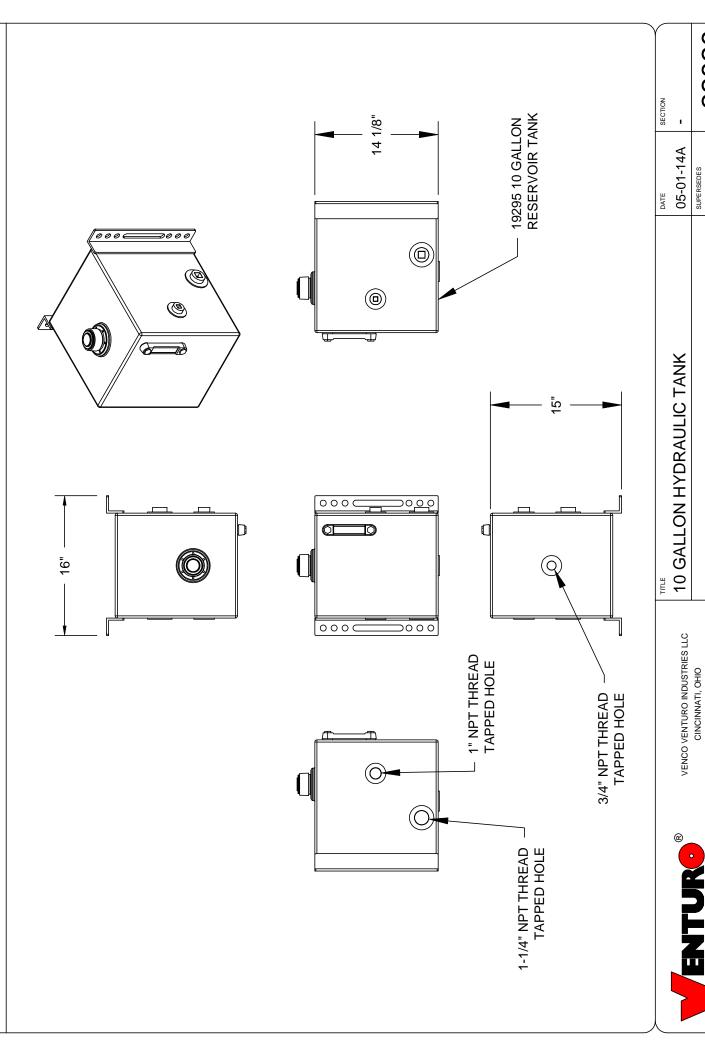
#### **CONDITIONS:**

 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



22826

03-17-06

**VARIOUS APPLICATIONS** 

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

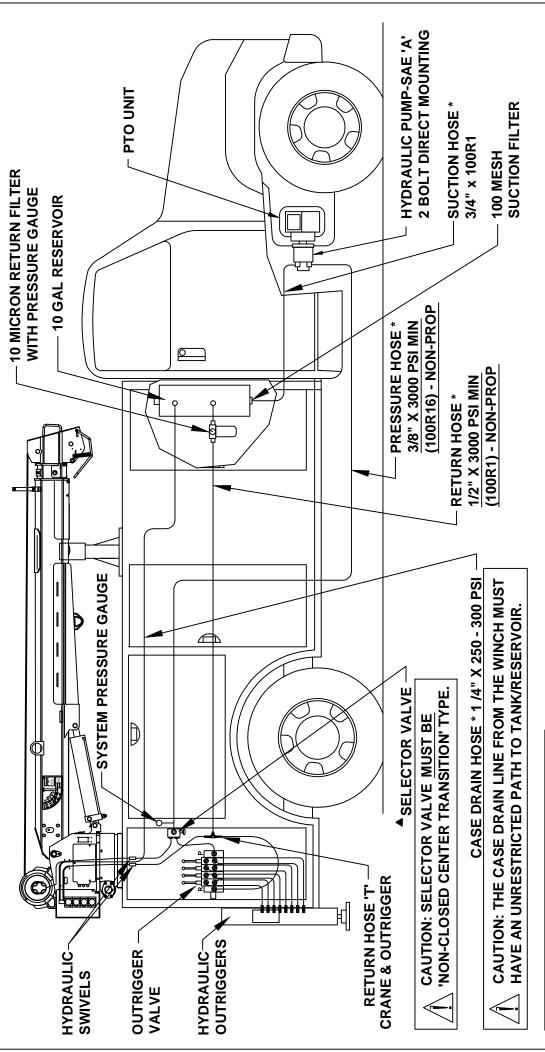
 HYDRAULIC REQUIREMENTS (GPM @ 3000 PSI)

 NON-PROP (STANDARD)
 PROPORTIONAL

 HT18KX \*\*
 1.7
 3.5

 HT25KX(X)
 2.0
 4.0

 HT30KX(X)
 2.0
 4.0



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



DWG	8 / 25 / 30
LLATION	ST - HT1
INSTA	PTO IN

SECTION C200	1192
10-24-12M	SUPERSEDES 7-11L

9232

#### 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 R TWO HYD. SWIVELS. SYSTEM PRESSURE STABILIZER VALVE -GAUGE (INCLUDED WITH HYD. PACKAGE) **PRESSURE** SELECTOR VALVE (INCLUDED RETURN HOSE 'T' -WITH STABILIZER PACKAGE) **CRANE & STABILIZER** \* PRESSURE PATH TO CRANE SHOWN. **RETURN FROM CRANE & STABILIZER** LOOP HOSES UNDER SWIVELS FOR PRESSURE & SUPPLY HOSES TO AUGMENT SWIVELS



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



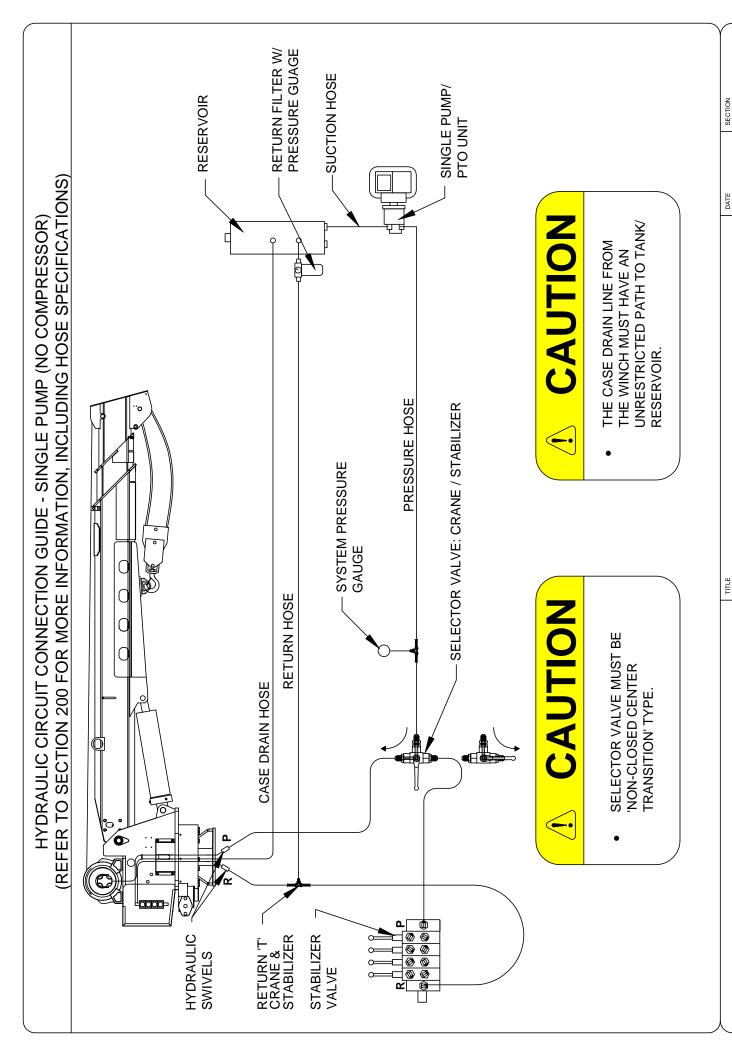
# **CAUTION**

CASE DRAIN MUST RETURN DIRECTLY TO RESERVOIR WITHOUT RESTRICTION.



VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TITLE	DATE	SECTION
CONNECTIONS GUIDE	02-21-14F	C200
	SUPERSEDES	00040
HT CRANES	10-24-12E	22913





VENCO VENTURO INDUSTRIES LLC
CONNECTIO

CONNECTION GUIDE, PAGE 1/2
HT CRANES

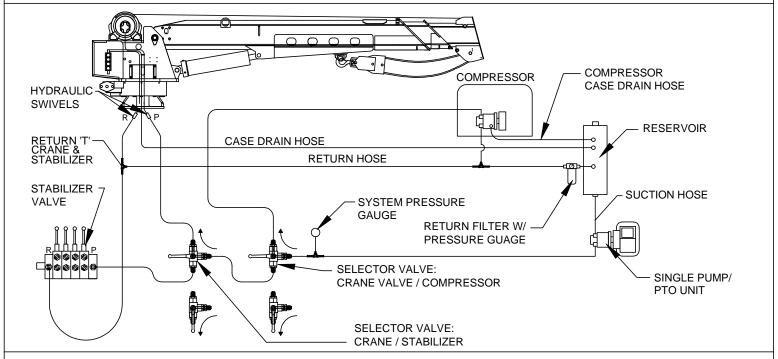
23015

04-19-12A

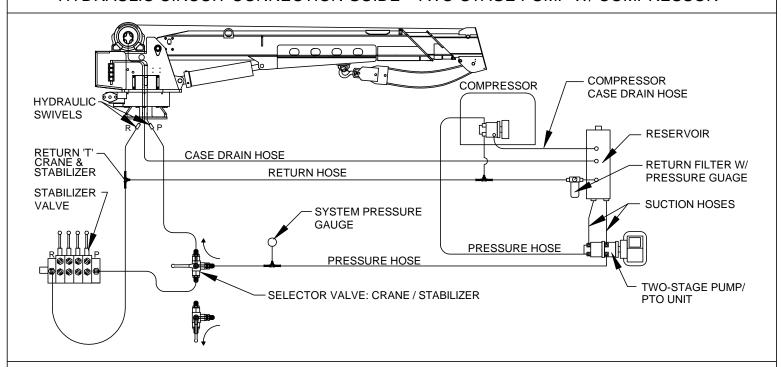
C200

02-21-14B

#### 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

02-21-14B SUPERSEDES

C200

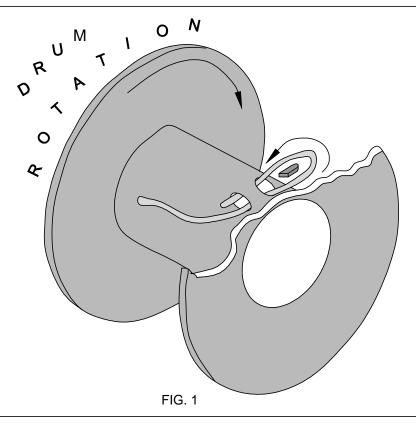
SECTION

HT CRANES

04-19-12A

23014

#### 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.

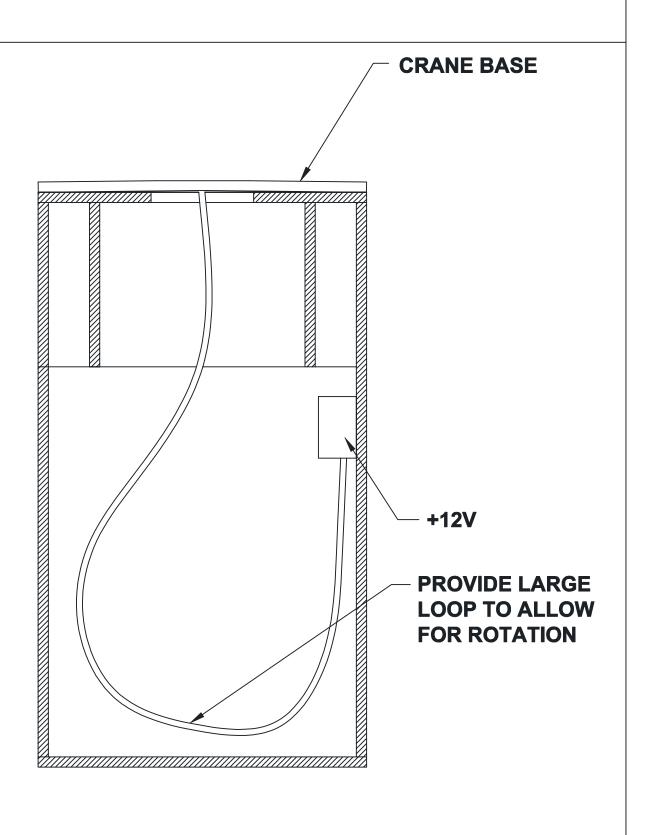
# **CAUTION**

 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.

(	·		TITLE	DATE	SECTION	١
	ENTER REPORT VENCO VENTURO INDUSTR	RIES LLC	WIRE ROPE INSTALLTN	02-21-14K	C200	
	CINCINNATI, OHIO			SUPERSEDES	00045	
			ET6K & LARGER CRANES	12-26-13J	22245	

# IN-COMPARTMENT CONTROLS INSTALLATION HT25 / 30 A





INSTALLATION DWG	1-23-10C	SECTION
HT25 / 30 A	SUPERSEDES 1-31-05B	20453

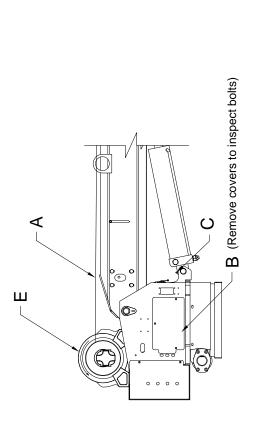
# **SECTION 300**

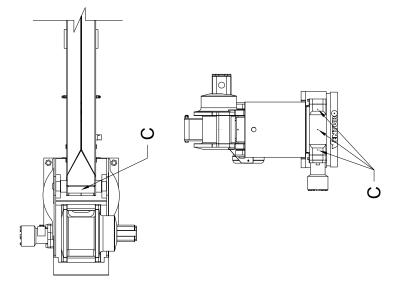
**MAINTENANCE** 

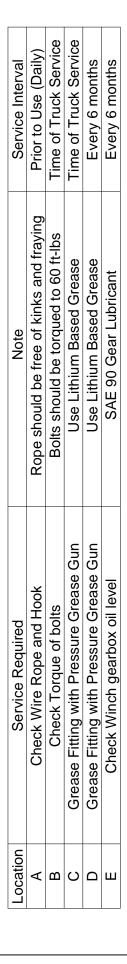
&

**SERVICE** 









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VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TILUBRICATION & MAINTENANCE CHART	HT25/30 CRANES
LUBRICAT	HT25/30 C

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CATION & MAINTENANCE CHART	06-21-19B	
	SUPERSEDES	
30 CRANES	01-23-10A	

21956

# 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.

#### WINCH

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 winch performance, the following oil change schedule should be followed:

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

Periodic Change - after every 1000 hours of operation or two years.



TITLE	DATE	SECTION
MAINTENANCE INFO	02-21-14C	C300
	SUPERSEDES	00000
HT25/30/40/50/66K(X)	04-12-12B	23203

# WIRE ROPE ASSEMBLY

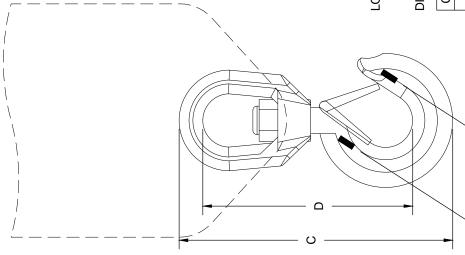
LOAD BLOCK ASSEMBLY

WIRE ROPE:

5/16" DIA, 80' LONG

GAC 7X19 XIP-RHRL-IWRC, SB 9800 LBS

P/N: 27668-5/16-80



LOAD BLOCK HOOK:

RATING: 3 TONNE (6615 LBS)

DIMENSIONS:

.09.9	
8.25"	
2.00"	
CROSBY	
GOLD	
	CROSBY 2.00" 8.25"

P/N: 27667

ΑĄ

TERMINATES IN THIMBLE

NO HOOK



® VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TITLE

WIRE ROPE & HOOK SPECIFICATIONS

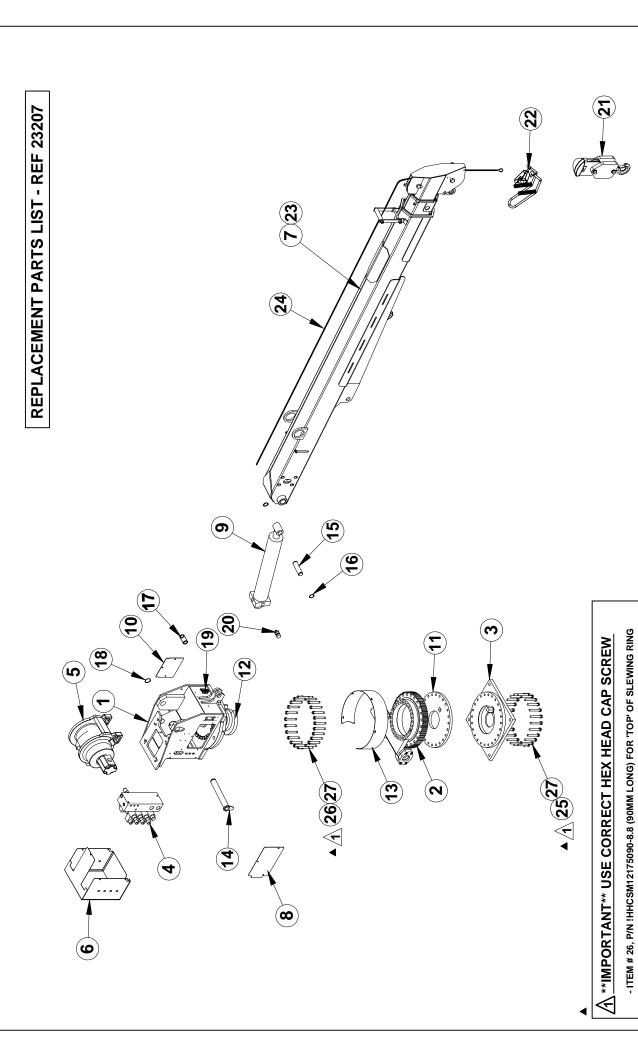
ET16/18KXX-20, ET/HT25/30KX

C300	23228	
DATE 03-12-20C	SUPERSEDES 05-09-16B	

## **SECTION 400**

**PARTS** 





REPLACEMENT PARTS DWG



- ITEM # 25, P/N !HHCSM12175080-8.8 (80MM LONG) FOR 'BOTTOM' OF SLEWING RING

MANUFACTURING, INC. CINCINNATI, OHIO

HT25KX(X)

23206

08-22-12A

C400

01-29-13B

DATE

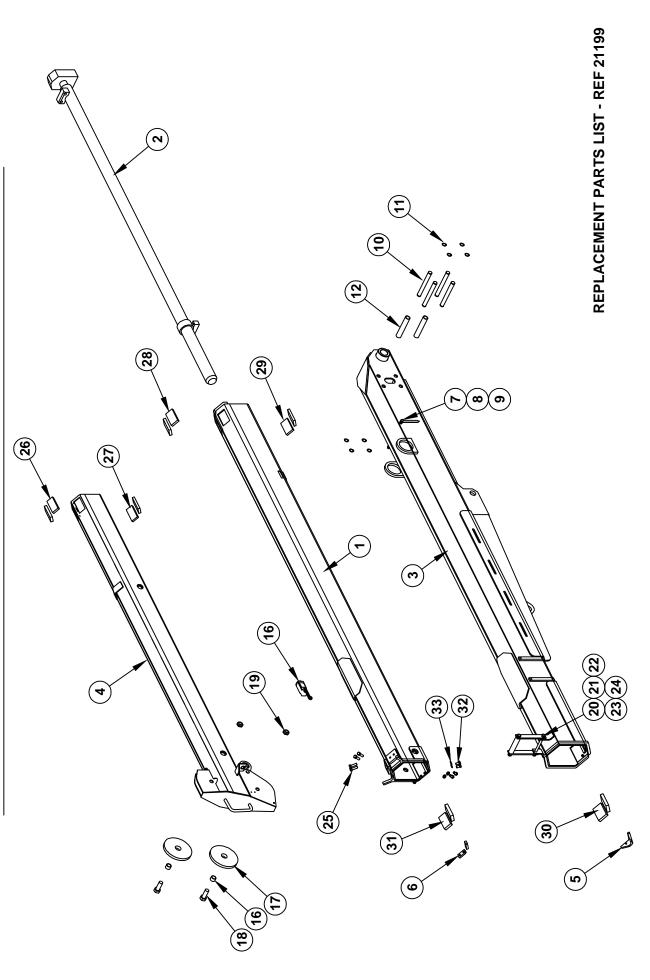
<b>▲</b> 27	50	!LWSH-050	LOCK WASHER, 1/2"
<b>a</b> 26	26	!HHCSM12175090-8.8	HHCS; 12MM-1.75MM X 90MM LG, GR. 8.8
<b>▲</b> 25	24	!HHCSM12175080-8.8	HHCS; 12MM-1.75MM X 80MM LG, GR. 8.8
24	1	27668 - 5/16-80	WIRE ROPE ASS'Y.
23	1	27198	BOOM FINAL ASS'Y. (KX - SINGLE STAGE)
22	1	27738	ANTI-2-BLOCK ASS'Y.
21	1	27667	LOAD BLOACK ASS'Y 6000 LBS.
20	1	17460-2400-21	OVERLOAD PRESSURE SWITCH
19	1	19904	BOOM SHUT-OFF SWITCH ASS'Y.
18	1	!SRNG-150	RETAINING RING; 1 1/2" SHAFT DIA.
17	1	18762	PIVOT PIN; ELEVATION CYLINDER
16	4	!SRNG-125	RETAINING RING; 1 1/4" SHAFT DIA.
15	1	18761	PIVOT PIN; ELEVATION CYLINDER
14	1	21012	PIVOT PIN; MAIN BOOM PIVOT
13	1	27186	GUARD; ROTATION GEAR
12	1	27557	LIMITING RING; ROTATION
11	1	27520H	SPACER
10	1	23156	PLATE, COVER
9	1	21752	ELEVATION CYLINDER
8	1	27000	SIDE COVER; HOUSING
7	1	21470	BOOM FINAL ASS'Y. (KXX - DUAL STAGE)
6	1	27315	REAR COVER; CRANE
5	1	19814	HYDRAULIC WINCH; HT25KX
4	1	22501	VALVE MANIFOLD
3	1	27520m-1	WELDED ASS'Y.; BASE
<b>A</b> 2	1	21418	SLEWING RING
1	1	27521	WELDED ASS'Y.; UPPER HOUSING
ITEM NO.	QTY.	PART NO.	DESCRIPTION

## **REPLACEMENT PARTS DRAWING - REFERENCE 23206**



TITLE	DATE	SECTION		
REPLACEMENT PARTS	01-29-13E	C400		
	SUPERSEDES	00007		
HT25KX(X)	08-22-12D	23207		

# 27198 BOOM REPLACEMENT PARTS





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PARTS DWG	
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27198 BOOM REPL	ET/HT25/30KX
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27	Ш

12-19-11B	SECTION <b>С400</b>
SUPERSEDES	00770
3-3-10A	21198

																									-								_
LOCK W ASHER 3/8"	HEX HEAD CAP SCREW 3/8-16 X 5/8 LG	UHMW PAD	C-SINK CAP SCREW 3/8-16 X 3/4 LG	NYLON INSERT LOCK NUT - 7/16-14	ROLLER, UHM W GUIDE	FLAT, MOUNT; WIRE ROPE GUIDE	HHCS - 7/16-14 X 5-1/2 LG	WIRE-ROPE GUIDE WELDED	LOCKNUT 3/4-10	SHEAVE AXLE 3/4 X 2 W / 1" SHANK	SHEAVE - BOOM	SPACER - SHEAVE	-	-		<b>EXTENSION CYLINDER ROLLER</b>	RETAINING RING - 3/4" SHAFT DIA.	THRUST PIN - EXTENSION CYLINDER	ACORN NUT 1/4-20 STAINLESS	BOOM ARROW 4-7/16 LONG	SPACER, BOOM ARROW 1/2" O.D.	BEARING RETAINING BLOCK	V-BLOCK SLIDER	TERTIARY BOOM WELDED ASSEMBLY	PRIM ARY BOOM WELDED ASSEMBLY	<b>EXTENSION CYLINDER - HOLLOW ROD</b>	SECONDARY BOOM WELDED ASSEMBLY	DESCRIPTION					
1LW SH-038	!HHCS03816063	23217-10	23217-3	23217-9	23217-8	23217-7	23217-6	ICACS03816075	!LNUT-04414	21560	21936	IHHCS04414550	21935	!LNUT-07510	17059-6	27001	23924	1	_	-	21498	ISRNG-075	21497	!ANUT-02520S	13459-2	22490	23119	23183	27110	21472	20061	27108	PART NUMBER
9	9	2	2	2	2	2	2	4	2	1	1	1	1	2	2	2	2	1	_	-	2	8	4	2	2	2	2	1	1	1	1	1	EXPLODE/QTY.
33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	6	8	7	9	5	4	3	2	1	ITEM NO.

REPLACEMENT PARTS DRAWING - REF 21198

27198 BOOM REPL. PARTS LIST

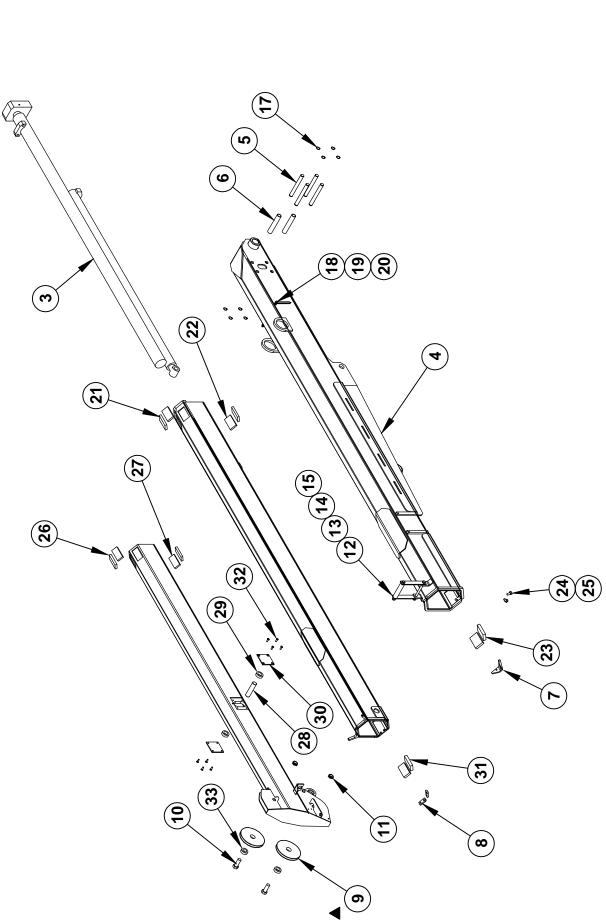
ET/HT25/30KX

12-19-11C C400 supersebes 2118

21199

ENTURO MANUFACTURING, INC. CINCINNATI, OHIO

## 21470 BOOM REPLACEMENT PARTS DRAWING က **21 5**



21470 BOOM REPLACEMENT PARTS DWG

ET/HT25/30KXX

ENTURO MANUFACTURING, INC. CINCINNATI, OHIO

12-20-11C C400 SUPERSEDES 4-27-11B

21098

23217-10  UHM W GUIDE PAD 23116  PIN BLOCK REINFORCING 21428  BUSHING 21941  EXTENSION CYLINDER PIN 23217-5  UHM W GUIDE PAD 23217-6  UHM W GUIDE PAD 23217-3  UHM W GUIDE PAD 23217-9  UHM W GUIDE PAD 23217-8  UHM W GUIDE PAD 23217-9  INNUT-02520S  BOOM ARROW 4-7/16 LONG 22490  SPACER, BOOM ARROW 1/2" O.D. ISRNG-075  RETAINING RING - 3/4" SHAFT DIA. ISRNG-075  RETAINING RING - 3/4" SHAFT DIA. 21560  ROLLER.UHM W GUIDE
16 28 41 7-7 7-6 -038 816075 7-9 7-8 7-8 25208 9-2 90 -075 414550
205 205 205 205 14550
208 208 208 208 14550
205 205 208 208 14550
205 205 205 205 14550
202 208 208 208 75 14550
20S 20S 20S 1550 14550
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20
ROLI
FLAT, M OUNT; W IRE ROPE GUIDE
W IR
07510  LOCKNUT 3/4-10
SHE
SHEAVE - BOOM
BEARING RETAINING BLOCK
V-BLOCK SLIDER
EXTENSION CYLINDER ROLLER
THRUST PIN - EXTENSION CYLINDER
PRIMARY BOOM WELDED ASSEMBLY
EXTENSION CYLINDER
TERT
SEC
MBER DESCRIPTION

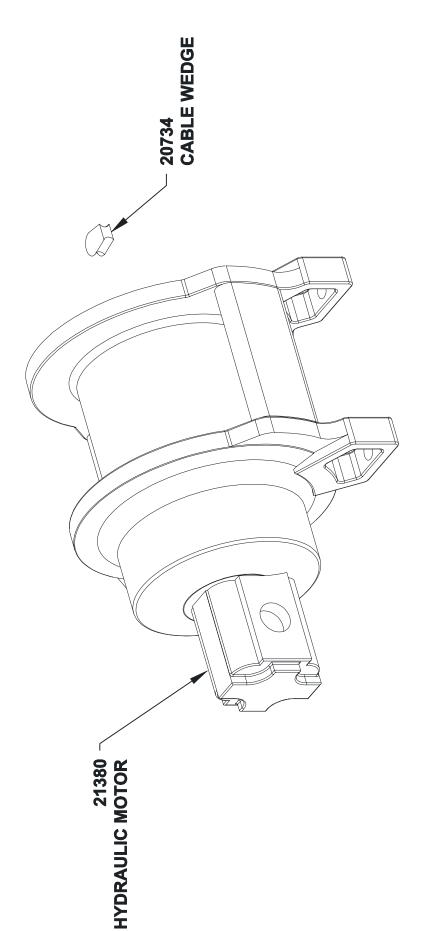


21470 BOOM PARTS LIS	ET/HT25/30KXX
<sub>111</sub> 21470 ВО	ET/HT25/3

21099

12-20-11D C400 SUPERSEDES 4-27-11C 2109

## **REPLACEMENT PARTS 19814 WINCH**



NOT SHOW ON DRAWING: 21381 - WINCH SEAL KIT

21382 - MOTOR SEAL KIT



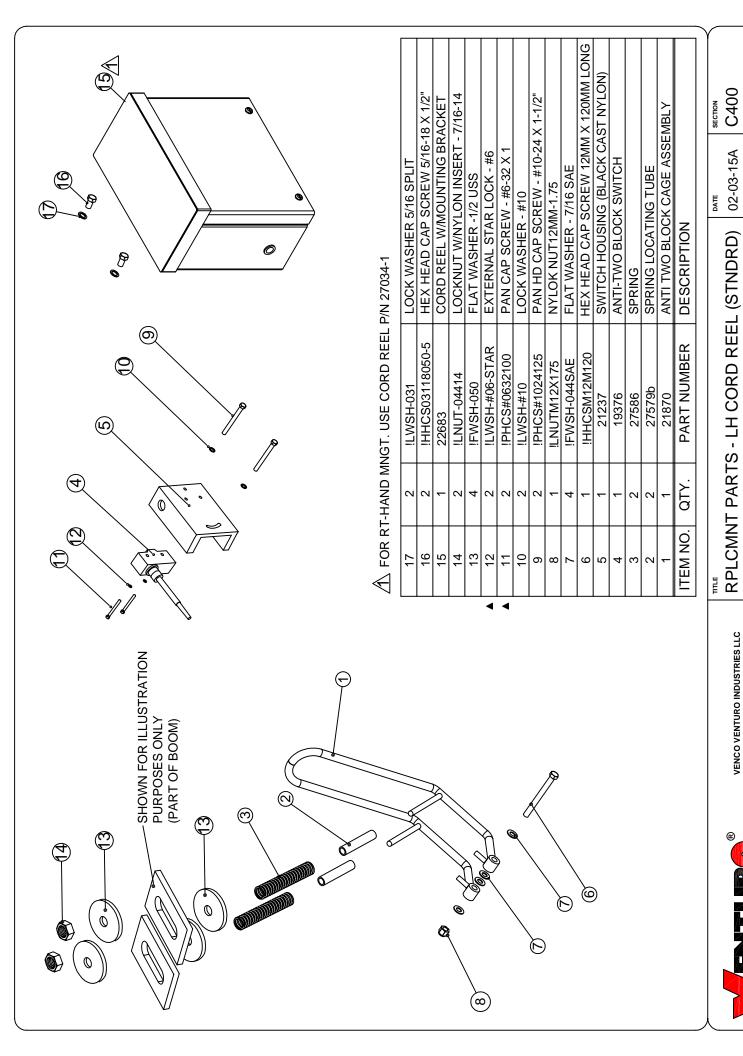
ENT PARTS DRAWING	
REPLACEME	HT25/30K(X)

21379

10-21-05

3-10-06A

## 25203 SECTION рате 1-20-10 SUPERSEDES **21419 ROTATION SYSTEM** 21419 REPLACEMENT PARTS REPLACEMENT PARTS HT25/30 & ET36 SEAL KIT (FOR HYD MOTOR): 21218 MANUFACTURING, INC. CINCINNATI, OHIO 21219 HYD MOTOR



23026

04-28-11

ET/HT25/30 & ET36 ANTI-2-BLOCK SYSTEM

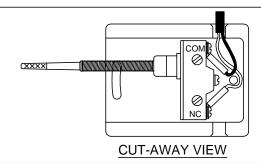
CINCINNATI, OHIO

SUPERSEDES

## STEP 1

## ANTI-TWO BLOCK (A2B) SWITCH WIRING

Connect the Black wire to the 'COM' (Common) terminal and the White wire to the 'NC' (Normally Closed) terminal. The center terminal is not used.



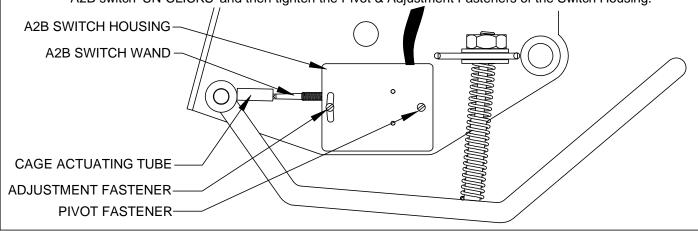
## STEP 2

## ANTI-TWO BLOCK (A2B) SWITCH ADJUSTMENT

The A2B switch is adjusted by loosing the Pivot & Adjustment Fasteners of the A2B switch housing.

Once loosened the A2B switch and housing move freely piviting on the 'Pivot Fastener' allowing the 'Switch Wand' to be adjusted to the 'Cage Actuating Tube'.

With the A2B Switch Wand inserted into the Cage Actuating Tube rotate the A2B switch housing Counter-Clockwise until you hear the 'click' of the A2B switch then rotate Clockwise 'just until' the A2B switch 'UN-CLICKS' and then tighten the Pivot & Adjustment Fasteners of the Switch Housing.



## ESTEP 3 TESTING ADJUSTMENT Lift up on the A2B Cage Assy. until the A2B switch 'clicks' and note the distance under the spring hanger nut; the distance should be approximately 1/2 of an inch. Note: If the distance under the nut is greater than 3/4 of an inch repeat STEP 2 above. APPROX. 1/2 " LIFT UP HERE A2B CAGE WELDED ASSY.

<b>ENTURO</b> ®	
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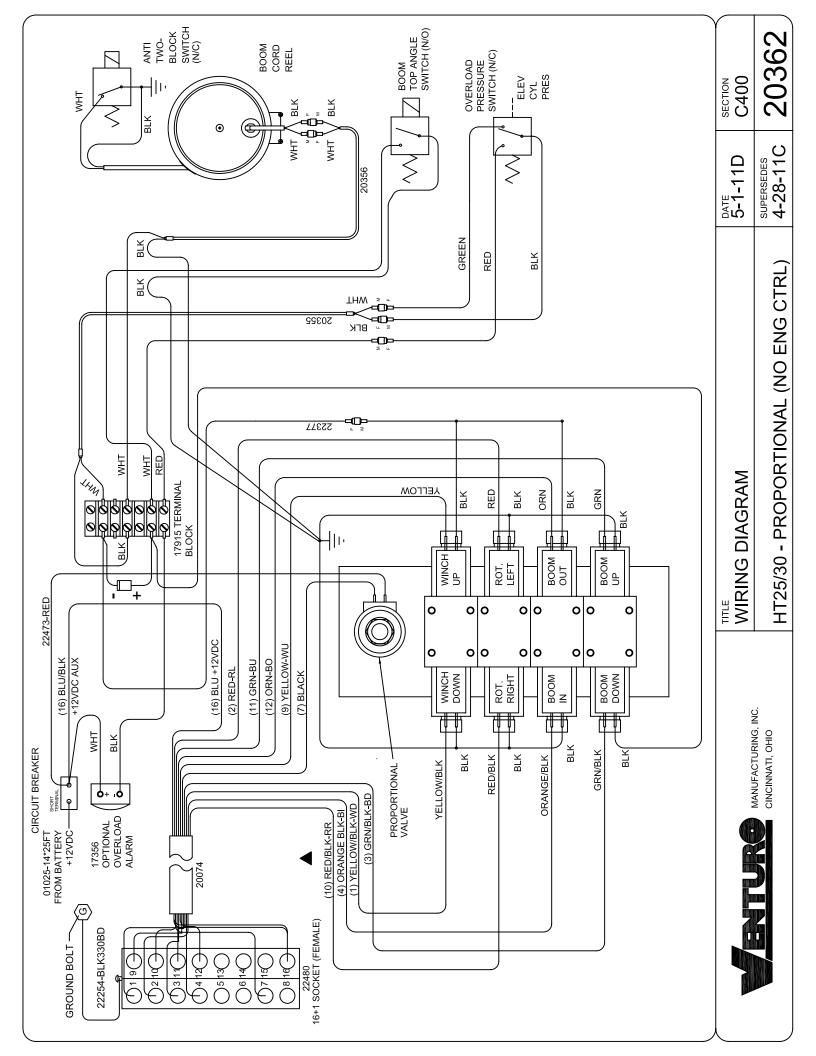
WIRING & ADJUSTMENT
A2B SYSTEM

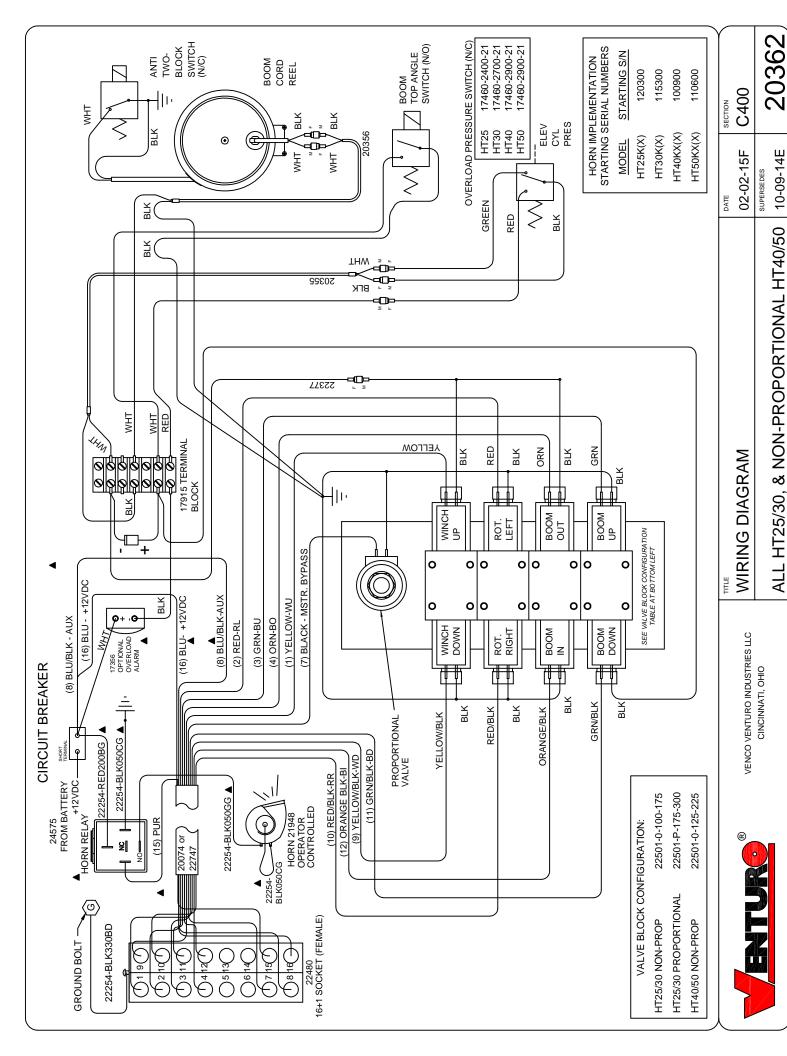
DATE SECTION C400

SUPERSEDES SECTION C400

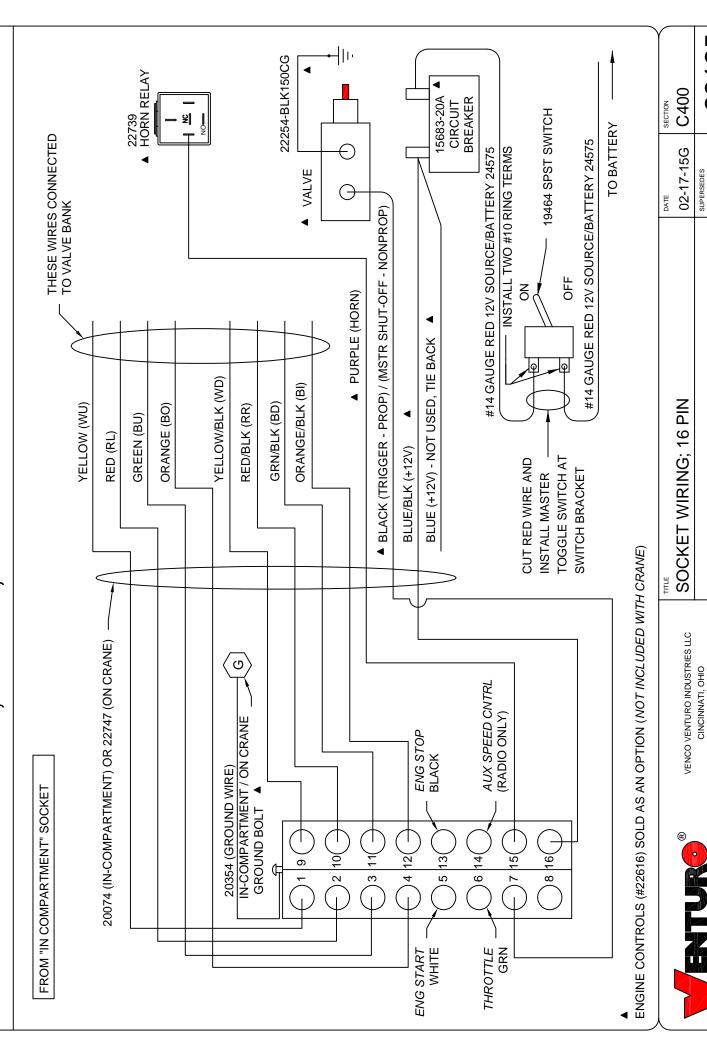
04-12-11

27029





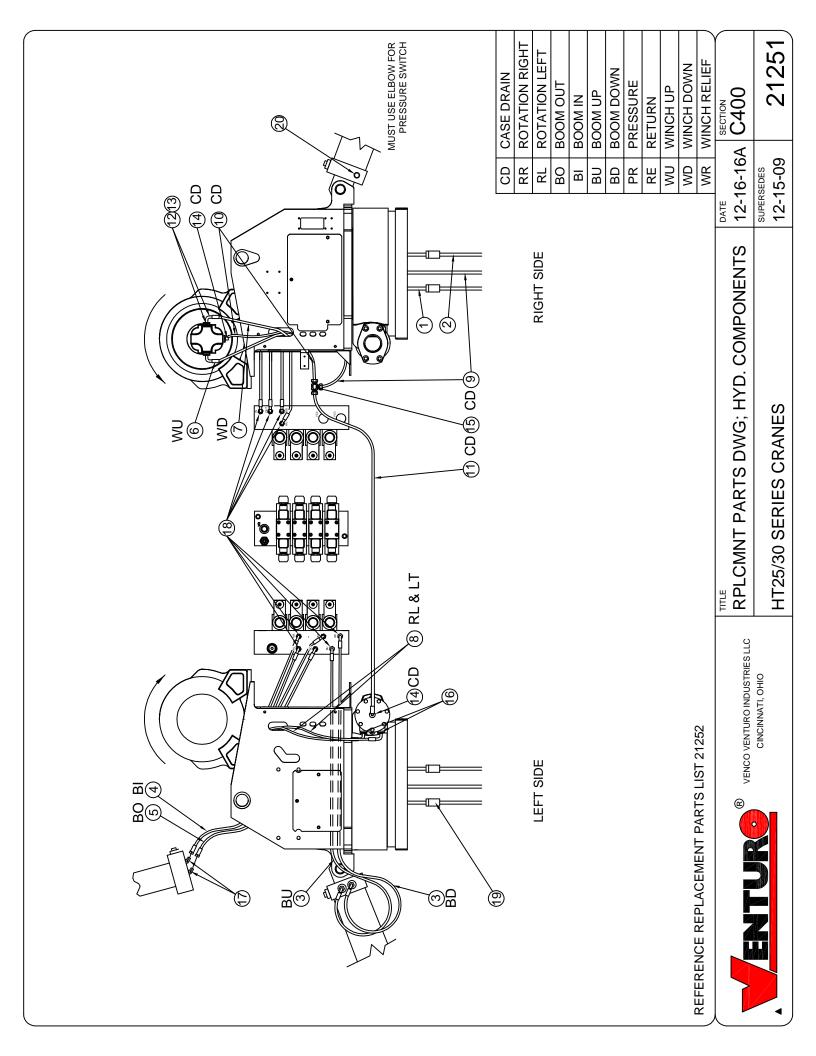
# SOCKET WIRING; 16-PIN, W/ OPTIONAL ENG CONTROLS



22125

02-21-14F

HT CRANES



## REPLACEMENT PARTS LIST; HYDRAULIC SYSTEM COMPONENTS HT25/30 SERIES CRANES

ITEM	QTY	PART NUMBER	DESCRIPTION	INSTALLATION
1	1	21764	HOSE ASSY; PRESSURE SUPPLY	VALVE BANK TO COMPARTMENT
2	1	21763	HOSE ASSY; RETURN SUPPLY	VALVE BANK TO COMPARTMENT
3	2	21761	HOSE ASSY; BOOM UP / BOOM DOWN	VALVE BANK TO ELEVATION CYLINDER
4	1	21765	HOSE ASSY; BOOM IN	VALVE BANK TO EXTENSION CYLINDER
5	1	21766	HOSE ASSY; BOOM OUT	VALVE BANK TO EXTENSION CYLINDER
6	1	21767	HOSE ASSY; WINCH UP	VALVE BANK TO WINCH MOTOR
7	1	21768	HOSE ASSY; WINCH DOWN	VALVE BANK TO WINCH MOTOR
8	2	21771	HOSE ASSY; ROTATE LEFT / RIGHT	VALVE BANK TO ROTATION MOTOR
9	1	22903	HOSE ASSY; CASE DRAIN, 96" LONG	T-SHAPE FITTING TO COMPARTMENT
10	1	22952	HOSE ASSY; CASE DRAIN, 13" LONG	WINCH CASE DRAIN TO T-SHAPE FITTING
11	1	22953	HOSE ASSY; CASE DRAIN, 30" LONG	ROTATION CASE DRAIN TO T-SHAPE FITTING
12	2	H6410-1608	FITTING; ADAPTER, STRAIGHT, 16MO-8FO	WINCH MOTOR PORTS
13	2	FF6801-0608	FITTING; ADAPTER, 90° ELBOW, 6OFS-8MO	FOR ADAPTERS IN WINCH MOTOR PORTS
14	2	H6801-0404	FITTING; ADAPTER, 90° ELBOW, 4MJ-4MO	WINCH & ROTATION MOTORS CASE DRAINS
15	1	H2603-040404	FITTING; T-SHAPE JUNCTION, 4MJ-4MJ-4MJ	CASE DRAIN HOSES, NEAR VALVE BANK
16	2	FF6400-0610	FITTING; ADAPTER, STRAIGHT, 60FS-10MB	ROTATION MOTOR PORTS
17	2	FF6802-0606	FITTING; ADAPTER, 45° ELBOW, 60FS-6MO	EXTENSION CYLINDER PORTS
18	12	FF6400-0606	FITTING; ADAPTER, STRAIGHT, 60FS-6MB	VALVE BANK & ELEVATION CYLINDER PORTS
19	2	20684	LIVE CONTINUOUS HYDRAULIC SWIVEL	PRESSURE & RETURN SUPPLIES TO MAINS
* 20	1	H6805-0404	FITTING; ADAPTER, 90° ELBOW, 4MO-4FP	ELEVATION CYLINDER TO PRESSURE SWITCH
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	<del>-</del>	-	-
26	-	-	-	-
27	-	-	-	-
28	-	-	-	-
29	-	-	-	-
30	-	-	-	-

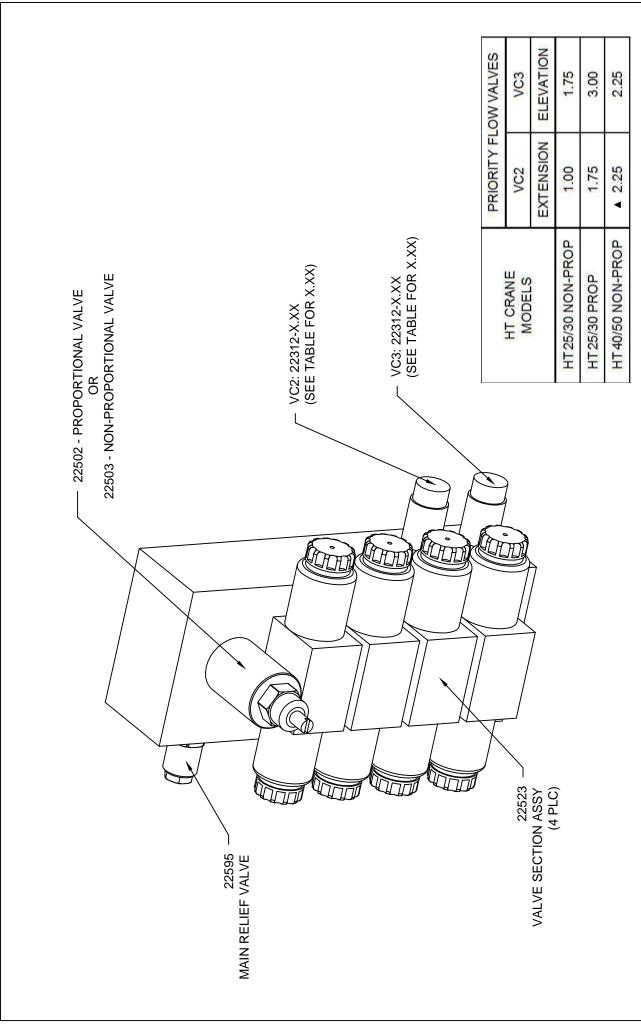
<sup>\*</sup> MUST USE ELBOW FOR PRESSURE SWITCH

REFERENCE REPLACEMENT PARTS DWG 21251



RPLCMNT PARTS LIST	12-16-16B	C400
HT25/30 SERIES CRANES	SUPERSEDES 04-19-10A	21252

# 22501 HYDRAULIC VALVE MANIFOLD, REPLACEMENT PARTS

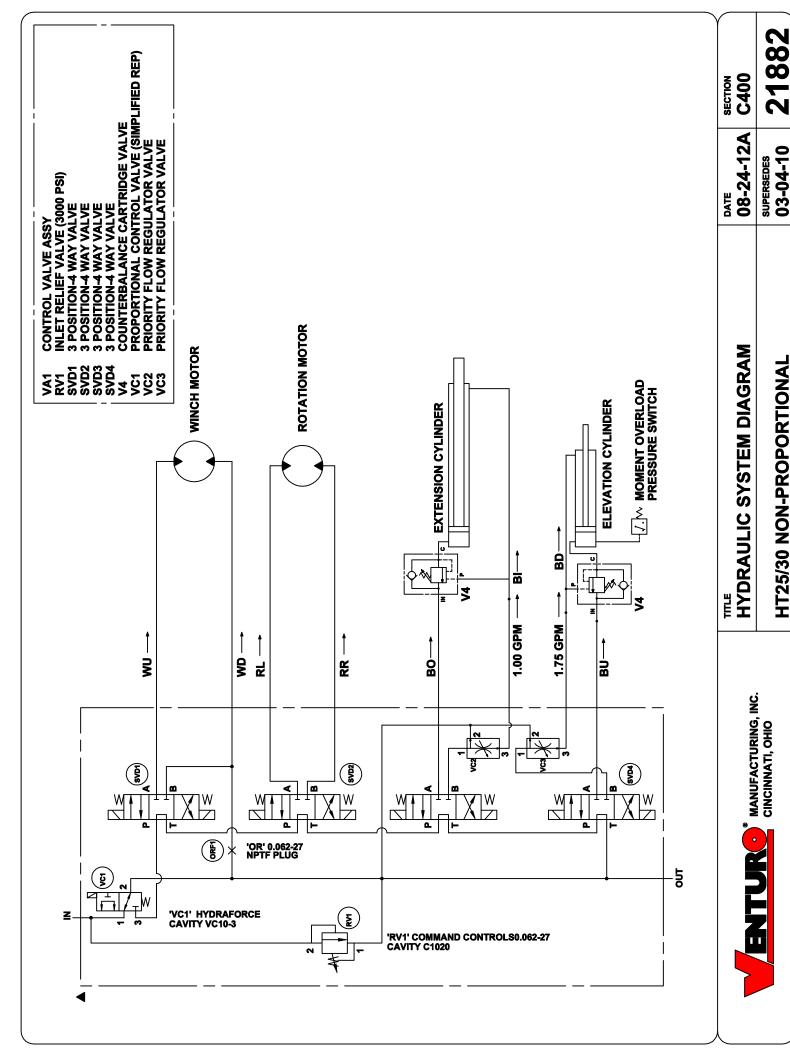




VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

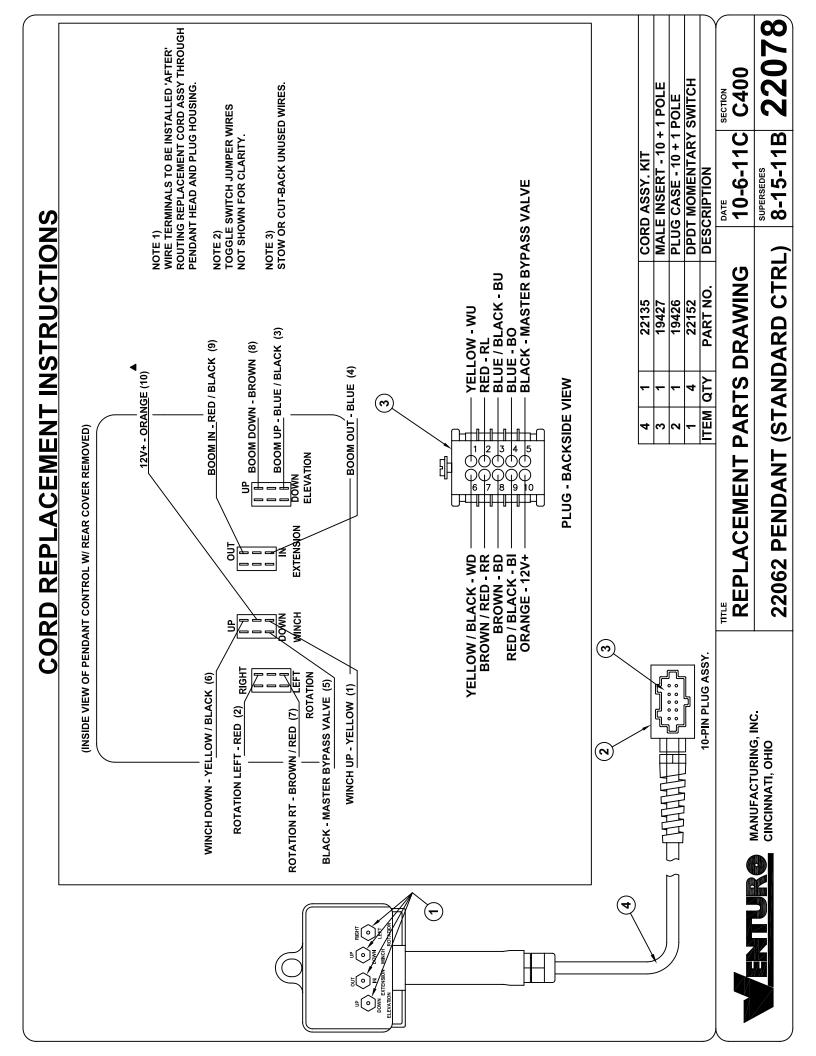
THE REPLACEMENT PARTS	22501 VALVE BLOCK, HT SERIES CR.
REPI	2250

SECTION	C400		22939
DAIE	10-22-15B	SUPERSEDES	03-04-10A
			RIES CRANES

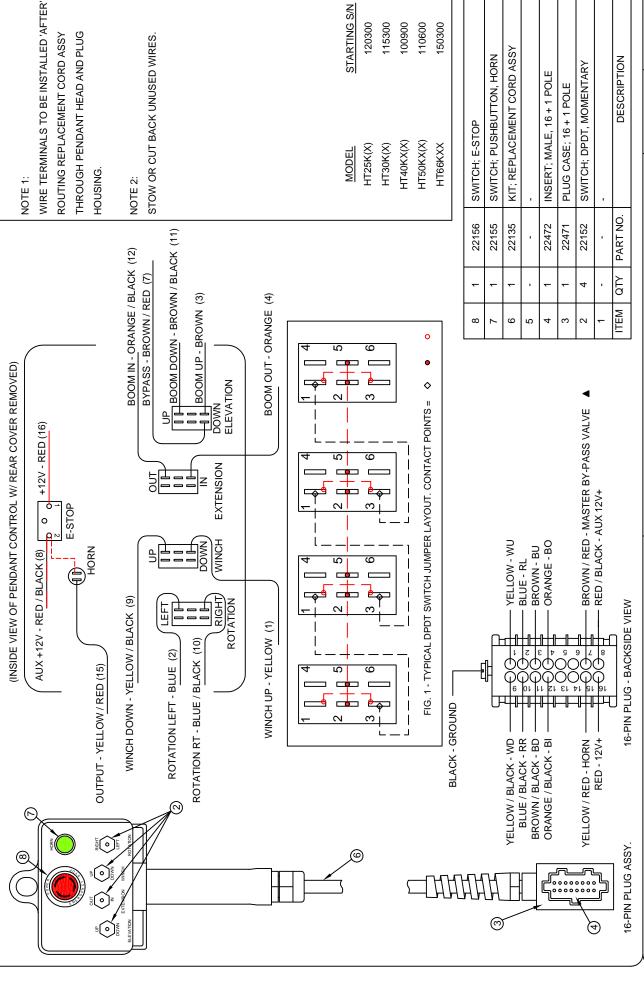


03-04-10

HT25/30 NON-PROPORTIONAL



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



22155 SWITCH; PUSHBUTTON, HORN		22135 KIT; REPLACEMENT CORD ASSY		22472 INSERT; MALE, 16 + 1 POLE	22471 PLUG CASE; 16 + 1 POLE	22152 SWITCH; DPDT, MOMENTARY		ITEM QTY PART NO. DESCRIPTION
	1	-		-	-	4		ΔT
	2	9	5	4	3	2	-	ITEM (



VENCO VENTURO INDUSTRIES LLC

REPLACEMENT PARTS DWG & 1 IST 2198

<u> </u>	89 PNDNT; HT, NON-PROP, ESTP/HRN
LACEMEN TAKIN DWG & LIDI	ROP, E
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	PNDN
, ב	89

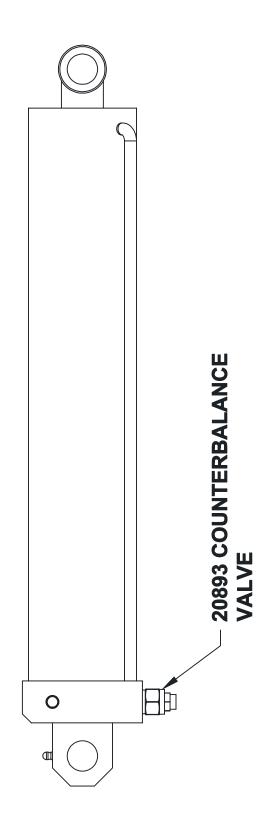
23074

10-03-14

C400

01-12-17A

## 21752 ELEVATION CYLINDER



**SEAL KIT P/N: 21774** 



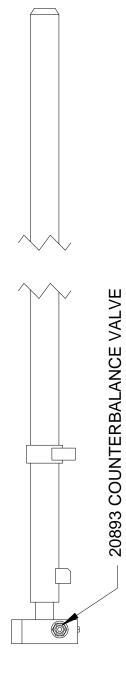
MANUFACTURING, INC. CINCINNATI, OHIO

ELEVATION CYLINDER 8-12-09
ET/HT25/30/36KX(X)

21773

SECTION C400

## 20061 EXTENSION CYLINDER



SEAL KIT P/N: 19887



MANUFACTURING, INC. CINCINNATI, OHIO

<b>EXTENSION CYLINDER</b>	ET/HT25/30KX

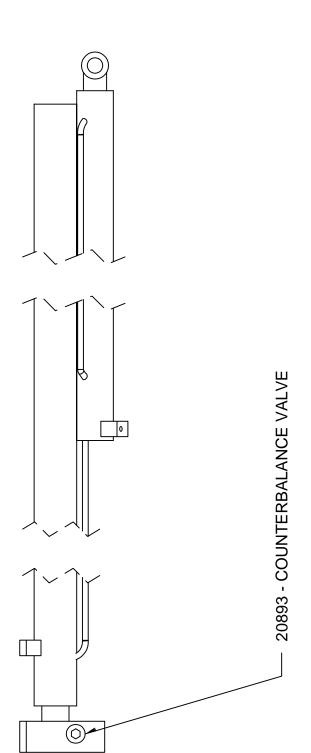
21879

08-20-09 SUPERSEDES

C400

01-07-14A

## 21753 DUAL-STAGE EXTENSION CYLINDER



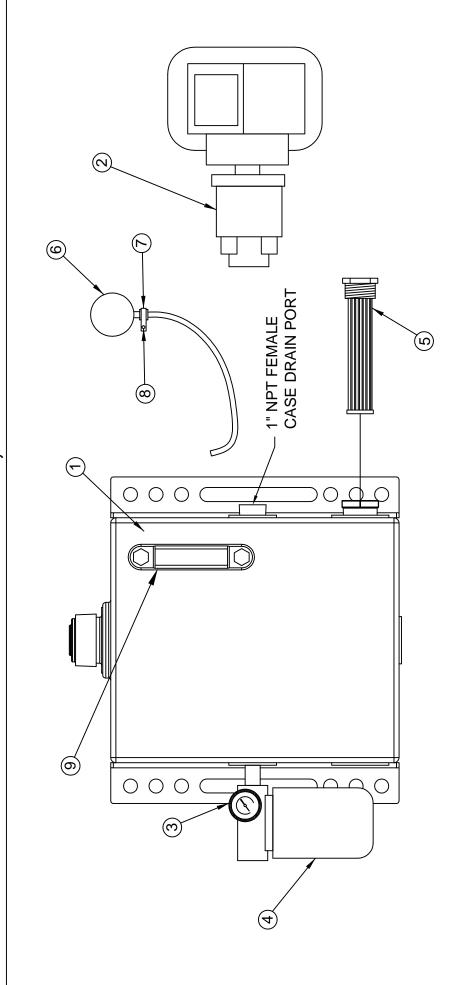
SEAL KIT P/N: 21775



EXTENSIO		VIOC BOTL
VENCO VENTURO INDUSTRIES LLC	CINCINNATI, OHIO	

EXTENSION CYLINDER, DUAL-STAGE	03-08-17B C400	C400
ET25-36KX & HT25/30 SERIES CRANES	SUPERSEDES 04-30-09A	21860

## 19294 PTO PACKAGES; 5.0 GPM & LOWER



_ ກ	_	22184	SIGHT GLASS
∞	-	!HWHS02520075-F	HEX WSHR HEAD, 1/4-20 X 3/4 SELF-TAP
2	1	19275	CLAMP
9	_	22730	PRESSURE GAUGE ASSEMBLY
2	_	19300	SUCTION SCREEN - 100 MESH
4	-	19298	FILTER ASSY, RETURN - 10 MICRON
က	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

@	

VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

TITLE

HT25/30 - PROP. - 4.0 GPM (1000 RPM)

HT50 - STD. - 3.0 GPM (1150 RPM) HT40 - STD. - 2.6 GPM (1000 RPM)

SAE "A" 9 TOOTH SPLINED SHAFT

19296-2.64

19296-4.00

19296-1.60

HT25/30 - STD. - 2.00 GPM (1250 RPM)

RECOMMENDED GPM (RPM)

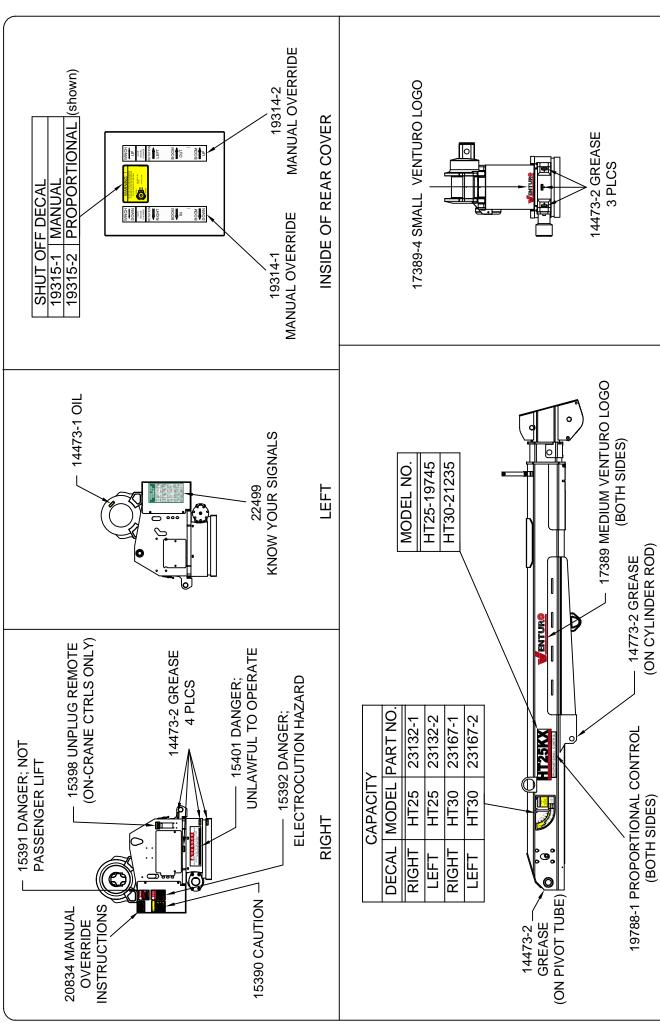
MOUNTING

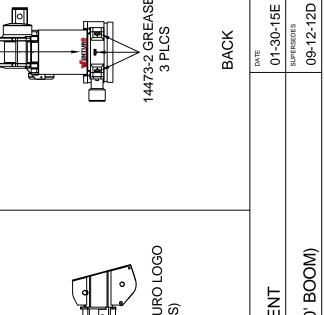
PUMP

REPLACEMENT PARTS DIAGRAM	08-04-15E
	SUPERSEDES
PTO KIT; HT CRANES (LOW FLOW)	05-01-15D

C400

DATE







VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO

DECAL PLACEMENT

TITLE

BOOM

HT25/30KX(X) (20' BOOM)

21884 C400

SECTION

## 21874-25-0 FIELD SERVICE LABEL KIT

	QTY.	PART NO.	DESCRIPTION
	1	14473-1	DECAL; OIL
<b>A</b>	9	14473-2	DECAL; GREASE
	1	19314-1	DECAL; MANUAL OVERRIDE, VALVE BANK, LEFT
	1	19314-2	DECAL; MANUAL OVERRIDE, VALVE BANK, RIGHT
	2	17389	DECAL; VENTURO LOGO, MEDIUM
	1	17389-4	DECAL; VENTURO LOGO, SMALL
	1	23132-1	DECAL; BOOM CAPACITY, RIGHT
	1	23132-2	DECAL; BOOM CAPACITY, LEFT
	2	19745	DECAL; MODEL NAME, HT25KX
	1	19315-1	DECAL; SAFETY SHUT-OFF OVERRIDE
	1	22499	DECAL; KNOW YOUR SIGNALS
	1	20834	DECAL; OVERRIDE INSTRUCTIONS
	1	17813	DECAL; OVERLOAD SENSING SYSTEM
•	1	23208	IDWG; FIELD SERVICE LABEL KIT LIST
	1	21884	IDWG; DECAL PLACEMENT
•	1	INST-23233	SAFETY MANUAL, VENTURO CRANES
	1	15397	KIT; ACCIDENT PREVENTION SIGNS

## NOTE:

APPLICABLE SERIAL NUMBERS = 120000 TO CURRENT

•	15397 ACCIDENT PREVENTION SIGNS			
	PART NO.	QTY.	DESCRIPTION	
	15390	1	DECAL; CAUTION, OPERATIONS	
	15391	1	DECAL; DANGER, NOT PASSENGER LIFT	
	15392	1	DECAL; DANGER, ELECTRICAL HAZARD SIGN	
	15393	4	DECAL; DANGER, ELECTRICAL HAZARD	
	15394	1	APPLICATION INSTRUCTIONS	
	15398	1	DECAL; UNPLUG PENDANT	
	15401	1	DECAL; UNLAWFUL TO OPERATE	
	15513	1	DECAL; MASTER DISCONNECT	
	22317	1	DECAL SHEET; VENTURO, COMPLEMENTARY	
	20927	1	DECAL; CRANE STABILITY	



## **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