



**VENTURO**  
TRUCK MOUNTED CRANES

**HT50KX**

*HSBBD-P\*\*\**

**INSTALLATION & OWNER'S MANUAL**



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VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
TABLE OF CONTENTS	11-30-21L	-
HT50KX (HSBABD-P***)	SUPERSEDES 12-11-18K	<b>23023</b>

**SECTION 100**

**DESCRIPTION**

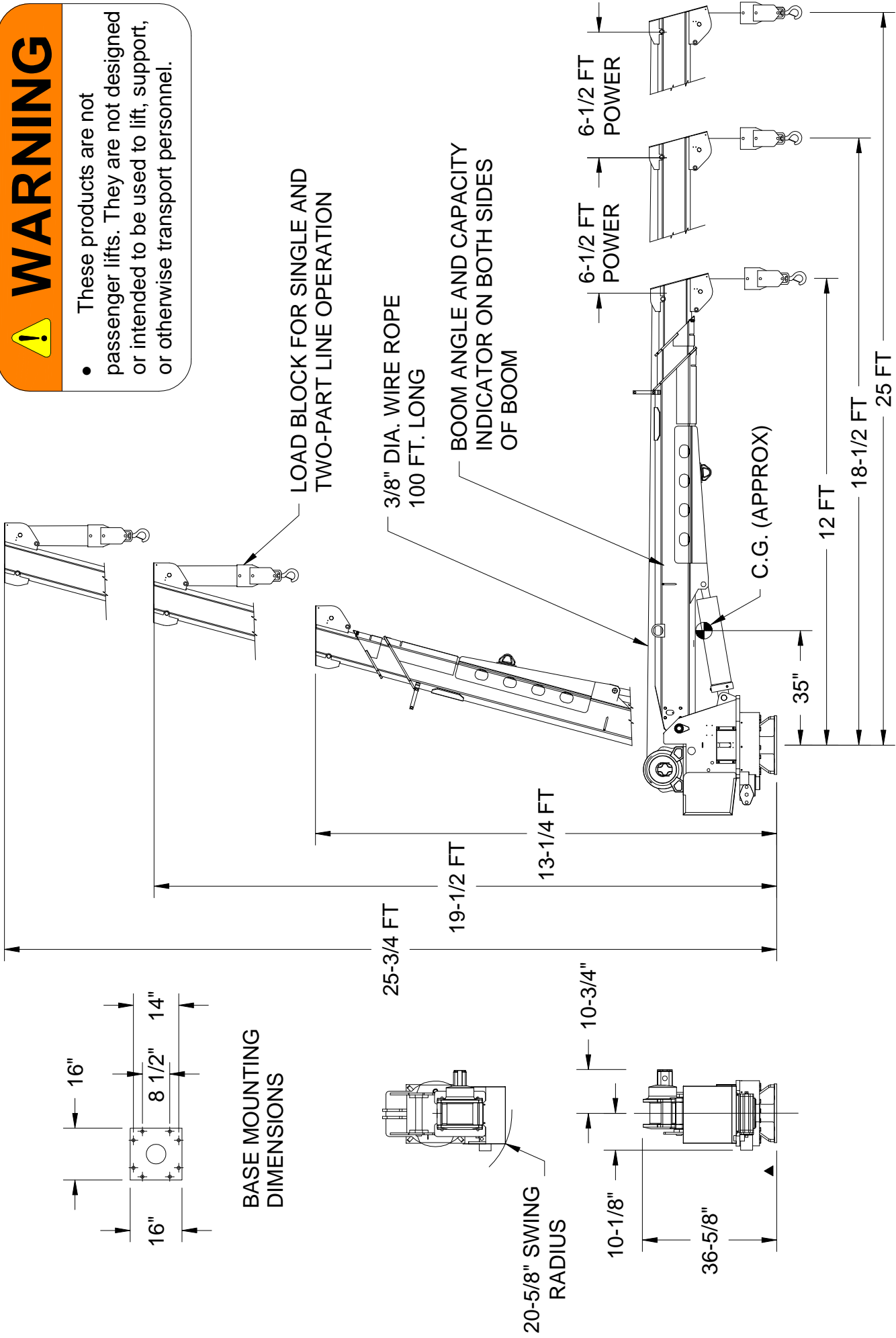
**&**

**SPECIFICATIONS**

# WARNING

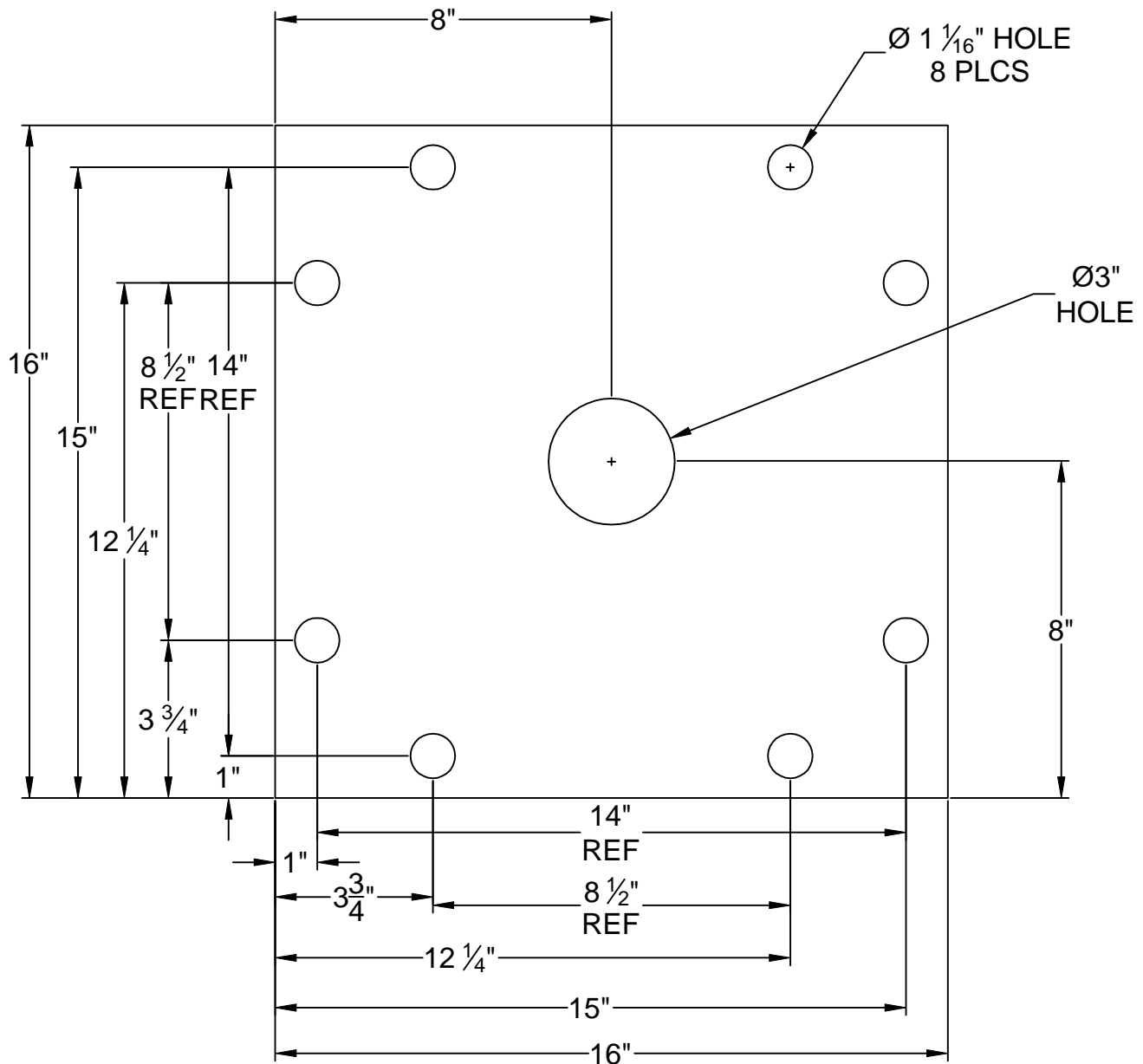


- These products are not passenger lifts. They are not designed or intended to be used to lift, support, or otherwise transport personnel.



	VENCRO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE <b>OVERALL CRANE DIMENSIONS</b>	DATE 06-20-14B SUPERSEDES 4-22-14A	SECTION C100
			HT40/50KX (25' BOOM) CRANES ▲		22878

# HT40/50KX MOUNTING DIMENSIONS



REFERENCE INSTALLATION DWG 22172 FOR MOUNTING BOLT SIZE AND TORQUE SPECIFICATIONS.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
BASE MOUNTING DIM

DATE  
02-21-14H

SECTION  
C100

HT40/50KX

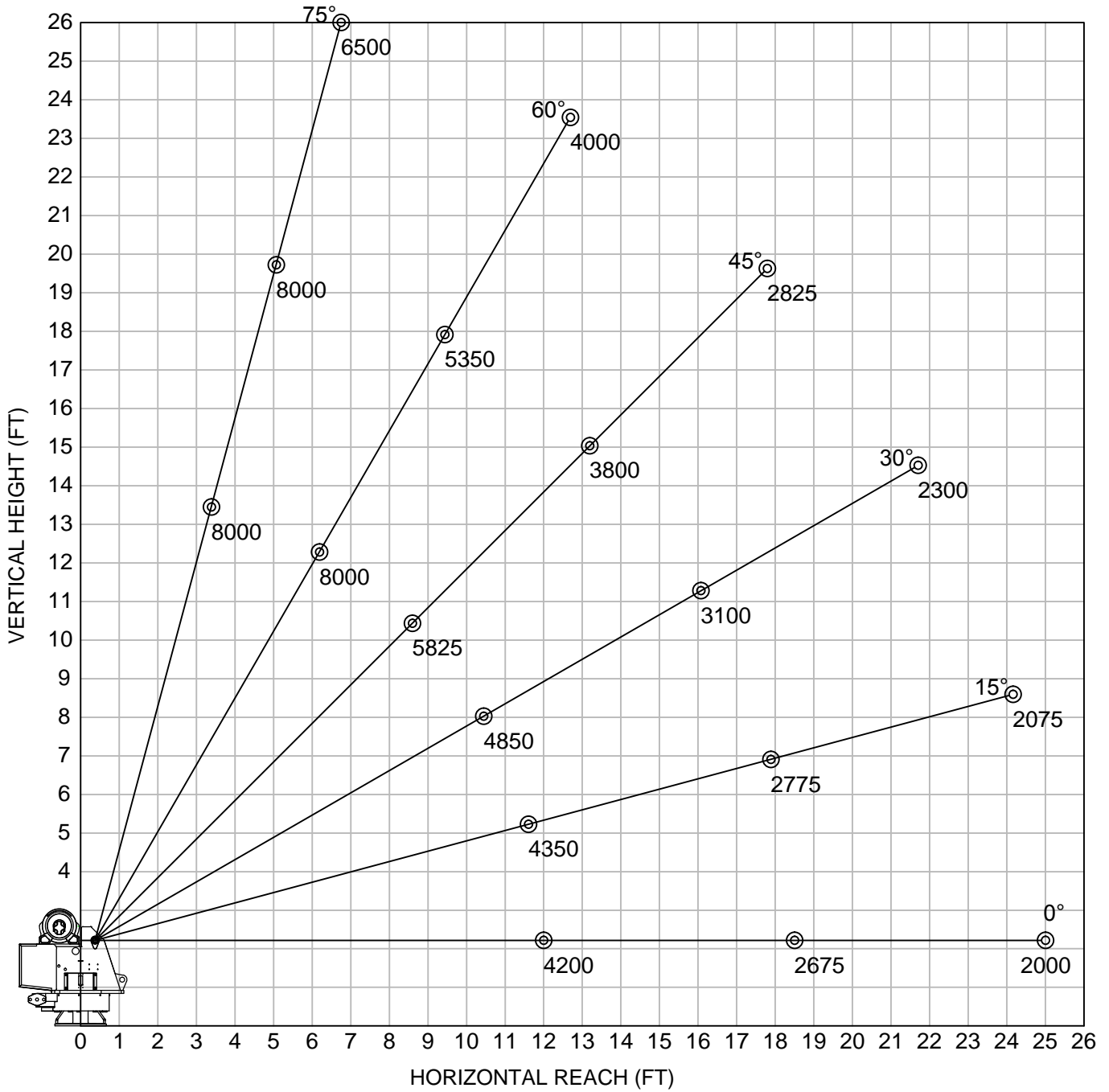
SUPERSEDES  
05-03-12G

18353

HT50KX, 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 4000 LBS

2 PART LINE FOR LOADS OF 4000 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 51 LBS



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**MAXIMUM LOAD CAPACITY**  
HT50KX, 12'-18.5'-25' BOOM

DATE  
**05-03-16C**  
SUPERSEDES  
**04-24-14B**

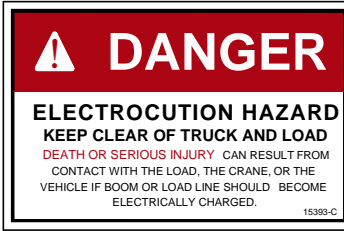
SECTION  
**C100**  
**23122**

# SECTION 150

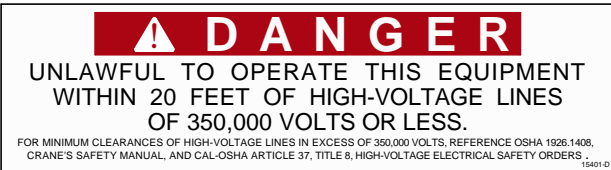
## SAFETY



# 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.



SIGN NO. 15401 PROVIDES ADDITIONAL WARNING OF LEGAL REQUIREMENTS WHEN OPERATING NEAR HIGH VOLTAGE LINES. THIS SIGN IS PLACED ON THE CONTROL PENDANT SIDE OF BOOM.

Table A - Minimum Clearance Distances

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet) *
Up to 50.....	10
over 50 - 200.....	15
over 200 - 350.....	20
over 350 - 500.....	25
over 500 - 750.....	35
over 750 - 1000.....	45
Over 1000.....	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Table T - Minimum Clearance Distances While Traveling With No Load

Voltage (nominal, kV, alternating current)	While traveling - minimum clearance distance (feet) *
0 - 0.75.....	4
over 0.75 - 50.....	6
over 50 - 345.....	10
over 345 - 750.....	16
over 750 - 1000.....	20
Over 1000.....	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

\* NOTE: ENVIRONMENTAL CONDITIONS SUCH AS FOG, SMOKE, OR PRECIPITATION MAY REQUIRE INCREASED CLEARANCES



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

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

# CRANE SAFETY AND HAZARDS

## HT SERIES CRANES

### **CAUTIONS**

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

### **DANGER**

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

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

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

### **ELECTROCUTION HAZARD**

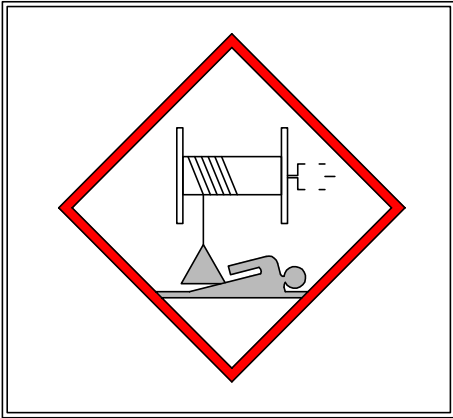
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.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



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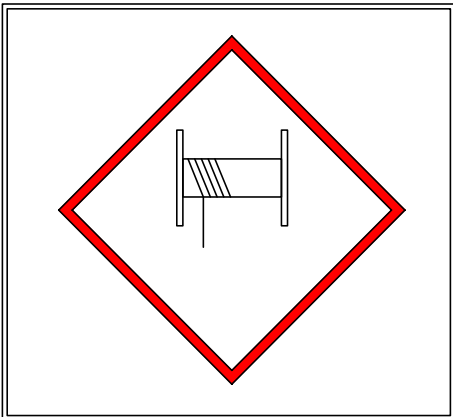
TITLE	DATE	SECTION
CRANE SAFETY & HZRDS	02-21-14D	C150
HYDRAULIC CRANES	SUPERSEDES 04-04-12C	920612

# WINCH SAFETY WARNINGS



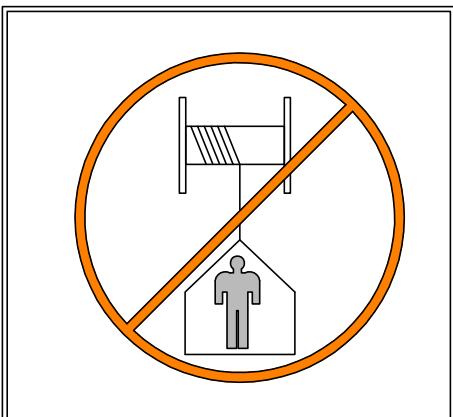
**DANGER**

- DO NOT DISENGAGE WINCH UNDER LOAD



**DANGER**

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



**WARNING**

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



VENCO VENTURO INDUSTRIES LLC  
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TITLE  
**WINCH SAFETY**  
HT CRANES

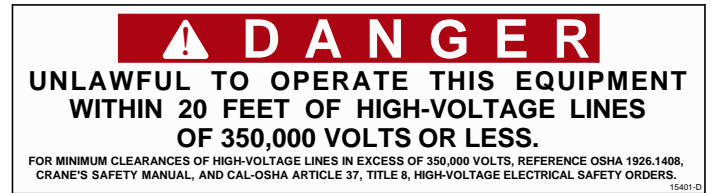
DATE  
02-21-14D  
SUPERSEDES  
04-04-12C

SECTION  
C150  
**19217**

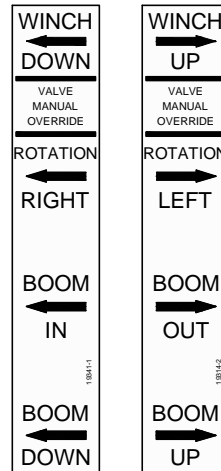
PART NO.: 15398  
 DECAL: UNPLUG REMOTE CONTROL  
 FUNCTION: To inform the operator to unplug remote control when not being used.  
 QUANTITY: 1  
 PLACEMENT: Right side of housing.



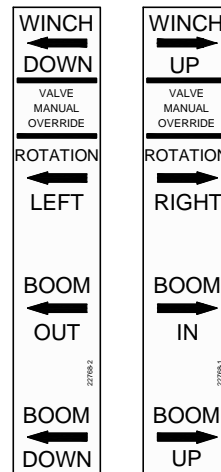
PART NO.: 15401  
 DECAL: UNLAWFUL TO OPERATE  
 FUNCTION: To inform the operator of proper operation in vicinity of power lines.  
 QUANTITY: 1  
 PLACEMENT: Right side of housing.




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

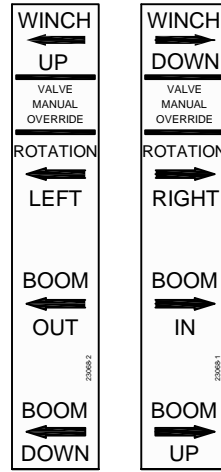


PART NO.: 22768-1 [LEFT] & -2 [RIGHT]  
 DECAL: MANUAL OVERRIDE (PROPORTIONAL)  
 FUNCTION: To inform the operator of manual override locations.  
 QUANTITY: 1  
 PLACEMENT: Inside of rear cover.



 VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	DATE	SECTION
	DECAL DRAWING & LIST	02-21-14D	C150
	HT40/50KX	SUPERSEDES 11-29-12C	22181A

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



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

**WARNING!**

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

**NON-PROPORTIONAL VALVE**  
 PUSH IN STEM  
 AND ROTATE

19315-1 Rev B

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

**WARNING!**

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

**PROPORTIONAL VALVE**  
 ROTATE STEM


19315-2 Rev B

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

**NOTICE**

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

20834-B

 VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	DATE	SECTION
	DECAL DRAWING & LIST	08-21-14F	C150
	HT40/50KX	SUPERSEDES 02-21-14E	<b>22181B</b>

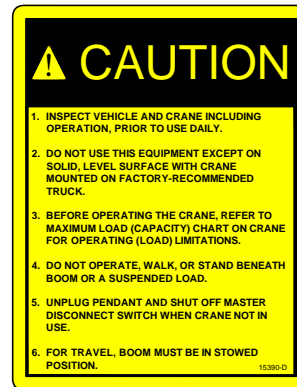
PART NO.: 15390

DECAL: CAUTION - INSPECT VEHICLE & CRANE

FUNCTION: To inform the operator of key operating requirements.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



PART NO.: 15391

DECAL: DANGER - NOT PASSENGER LIFT

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

QUANTITY: 1

PLACEMENT: Left side of rear cover.



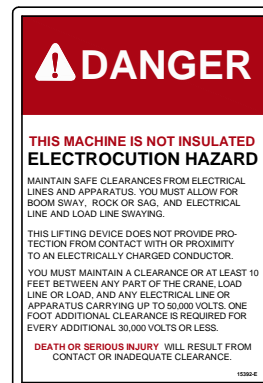
PART NO.: 15392

DECAL: DANGER - ELECTROCUTION HAZARD

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

QUANTITY: 1

PLACEMENT: Left side of rear cover.



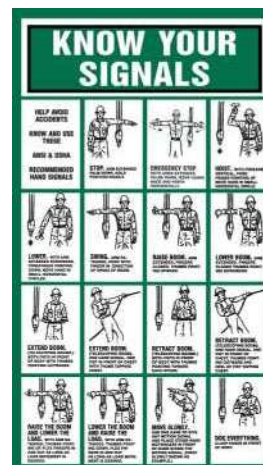
PART NO.: 22499

DECAL: KNOW YOUR SIGNALS

FUNCTION: To inform the operator of proper signals.

QUANTITY: 1

PLACEMENT: Right side of rear cover.



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TITLE  
**DECAL DRAWING & LIST**

HT40/50KX

DATE  
02-21-14E

SUPERSEDES  
11-29-12D

SECTION  
C150

**22181C**

PART NO.: 17389

DECAL: MEDIUM VENTURO

FUNCTION: Branding.

QUANTITY: 1

PLACEMENT: Rear cover.



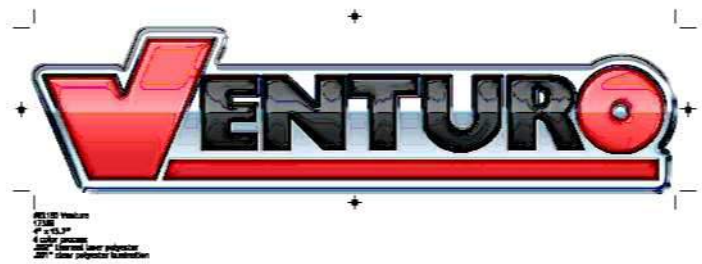
PART NO.: 22496

DECAL: LARGE VENTURO

FUNCTION: Branding.

QUANTITY: 2

PLACEMENT: Boom.



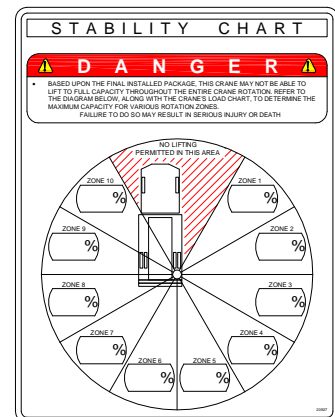
PART NO.: 20927

DECAL: CRANE STABILITY

FUNCTION: To inform the operator of the crane's lifting capacity throughout the entire rotation.

QUANTITY: 1

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



▲



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CINCINNATI, OHIO

TITLE	DATE	SECTION
DECAL DRAWING & LIST	12-11-18J	C150
HT40/50/66 SERIES	SUPERSEDES 08-23-18H	22181D

# 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.



# C A U T I O N



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

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

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



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

CRANE INSTALLATION

DATE

02-21-14F

SECTION

C200

HT40/50KX

SUPERSEDES

05-03-12E

22172

### ELECTRICAL CONNECTIONS

A 25 ft. electrical power lead - intended for 12V DC only - also comes down through the center of the crane base plate 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 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 25 foot electrical power lead. For added protection, the 25 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:

	NON-PROP	PROP
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 HT40KX standard (non-proportional), 12.0 GPM for the HT40KX proportional, 3.0 GPM for the HT50KX standard or 12.0 GPM for the HT50KX proportional. The crane's relief pressure is set at 3000 psi.

### PTO START-UP

Before connecting the PTO system to the crane pressure and return hoses, connect the PTO pressure and return lines together at the bulkhead. Operate the PTO system for about two (2) minutes per gallon of reservoir capacity (10 gallon reservoir 20 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.



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CINCINNATI, OHIO

TITLE  
**CRANE INSTALLATION**  
HT40/50KX

DATE  
07-31-15F  
SUPERSEDES  
02-21-14E

SECTION  
C200  
**22173**

# CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 1

## HT40/50KX

### SAFETY

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

### CRANE INSPECTION

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

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

### CAPACITY

Before operating this crane, review the capacity charts on the sides of the boom to relate the load to be lifted to the boom length and angle. The boom angle is shown by a gravity arrow.

### LOAD BLOCK

If the load exceeds 3000 lbs.-HT40KX or 4000 lbs.-HT50KX 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

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.

Plug the pendant into the socket on the right side of the crane and secure with socket case handle.

### PTO SYSTEM

Check the hydraulic fluid level in the PTO system reservoir. Engage PTO and set the engine idle speed to provide the desired 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.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

CRANE OP / MNTNC INST

HT40/50KX

DATE

02-21-14E

SUPERSEDES

06-18-12D

SECTION

C200

22345A

## 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'); Single and Double Stages

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 22930 and 22931). A 6 ft. hydraulic power extension and a 4 ft. manual extension section is also available (See pages 22916 and 22917).

### 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 22885 and 22886).

## 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.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
CRANE OP / MNTNC INST	02-21-14N	C200
HT40/50KX	SUPERSEDES 04-16-13M	22345B

**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 .



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
CRANE OP / MNTNC INST	02-21-14E	C200
HT40/50KX	SUPERSEDES 11-29-12D	22174

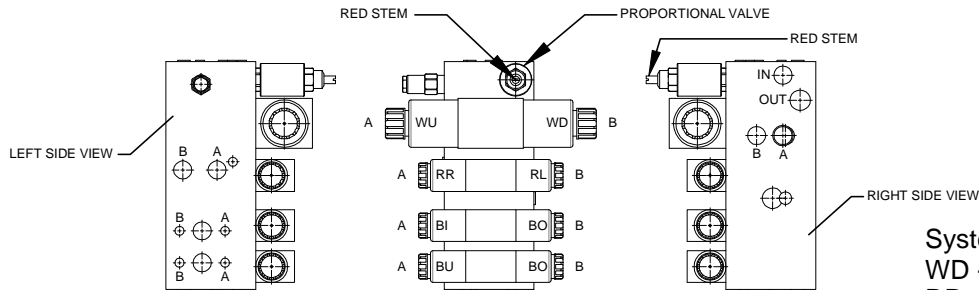
# EXPLANATION OF HYDRAULIC VALVE SYSTEM

## HT40/50/66KX, PROPORTIONAL ONLY

### OVERVIEW

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

The four [4] crane functions (winch, rotation, boom 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 associated manual override reside on the same side of the valve bank (both "push").



System abbreviations are as follows:  
 WD - Winch Down                      WU - Winch Up  
 RR - Rotation Right                  RL - Rotation Left  
 BI - Boom In (Ext.)                  BO - Boom Out (Ext.)  
 BD - Boom Down (Elev.)              BU - Boom Up (Elev.)

### MANUAL OVERRIDE SYSTEM

Should an electrical failure occur, your Venturo crane can be operated manually. The manual overrides are intended for emergency use only and should not be used for normal operation.

To operate in manual override mode:

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

## W A R N I N G

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

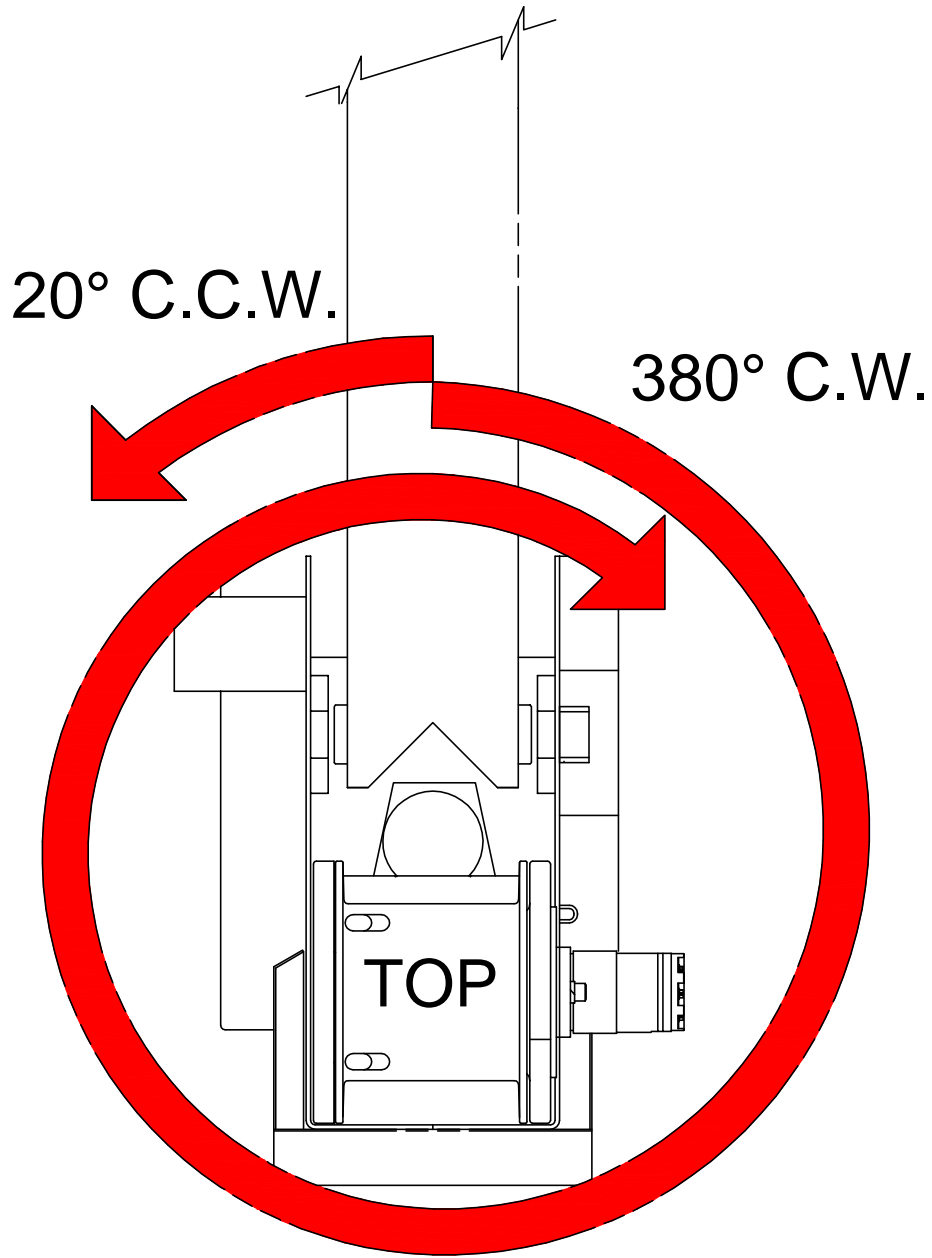
### EMERGENCY STOP

In the unlikely event that a function of the crane does not stop once the function's toggle switch is released, the proportional crane can be stopped by releasing the trigger.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
HYDRAULIC SYSTEM	02-21-14D	C200
HT40/50/66KX; PROP	SUPERSEDES 05-25-11C	22168



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.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
ROTATION STOP LOCTN	02-21-14D	-
400° ROTATION CRANES	SUPERSEDES 12-14-09C	20051

# STABILITY TEST - HT50-25' 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
  - 5.1. Disconnect the black & white wires from the housing and then connect the black & white wires together to 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 been completed.**
6. Use a **Test Weight** weighing a **minimum** of **2353 lbs.**, (includes load block weight of 51 lbs.) to a **maximum of 2675 lbs.**
7. Position the boom level and fully retracted.
8. Referring to the Stability Chart (drawing 20907) rotate the crane to a position between 1 and 2 o'clock (truck cab is facing 12 o'clock) to begin testing.
9. Use the winch to lift the Test Weight; DO NOT allow the weight to be more than 6" off the ground at any time during testing (for safety).
10. Using a test weight weighing between **2353 to 2675 lbs.**, extend the boom slowly, until one of two conditions occur:
  - 10.1. Full extension is reached - Mark the ZONE in question **100%**
  - 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:
11. Note: The "**Max Stable Reach in inches**" is measured from the **center of rotation** of the crane housing to the **lifting load hook**.

$$\% \text{ Rated Capacity} = \frac{\text{"Max Stable Reach" in inches}}{300} \times 100$$

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

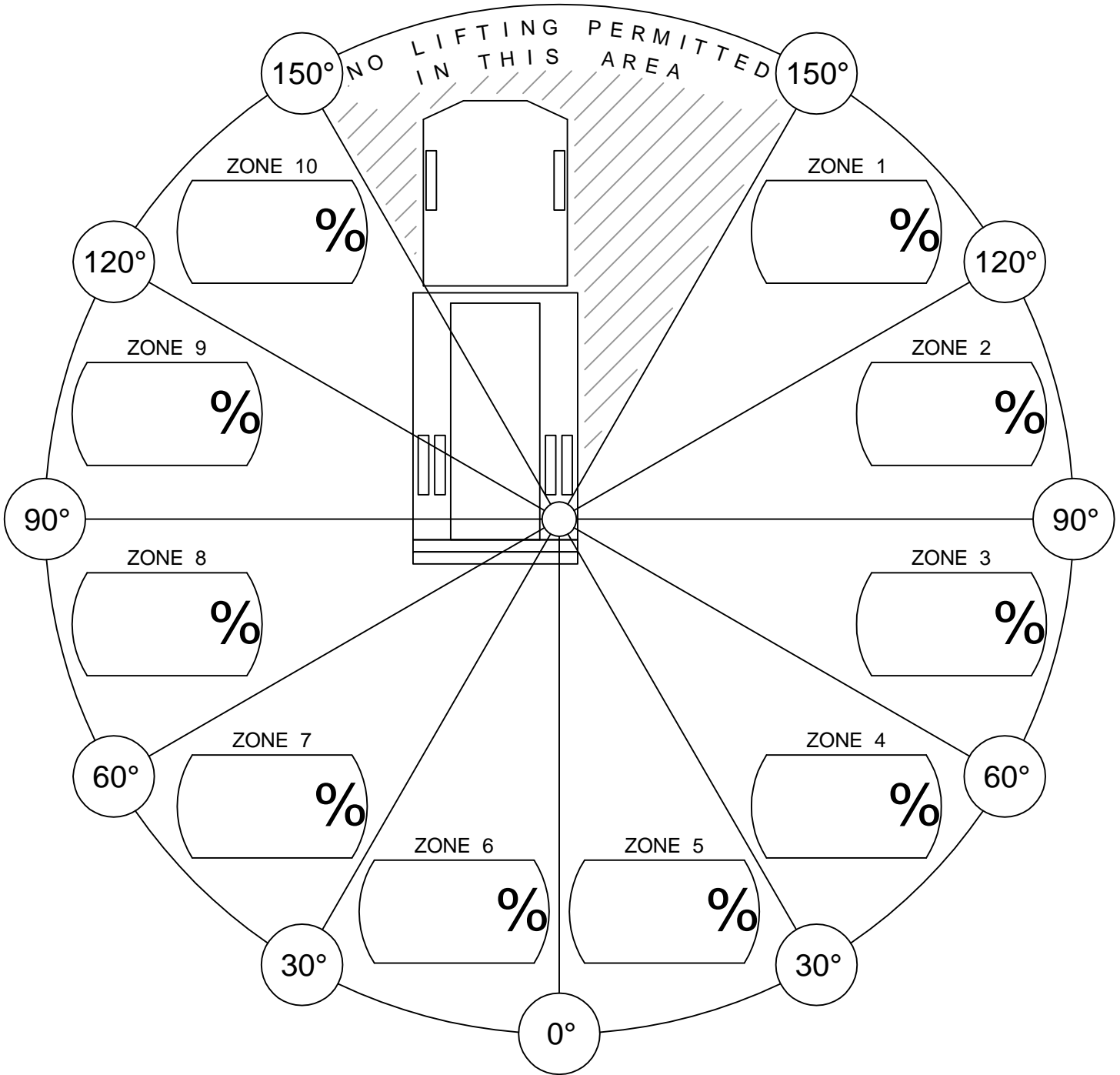


VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
STABILITY TEST	11-30-21D	C200
HT50-25' SERIES	SUPERSEDES 03-01-21C	20906-50B



# CRANE STABILITY



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

**CONDITIONS:**

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



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
STABILITY CHART

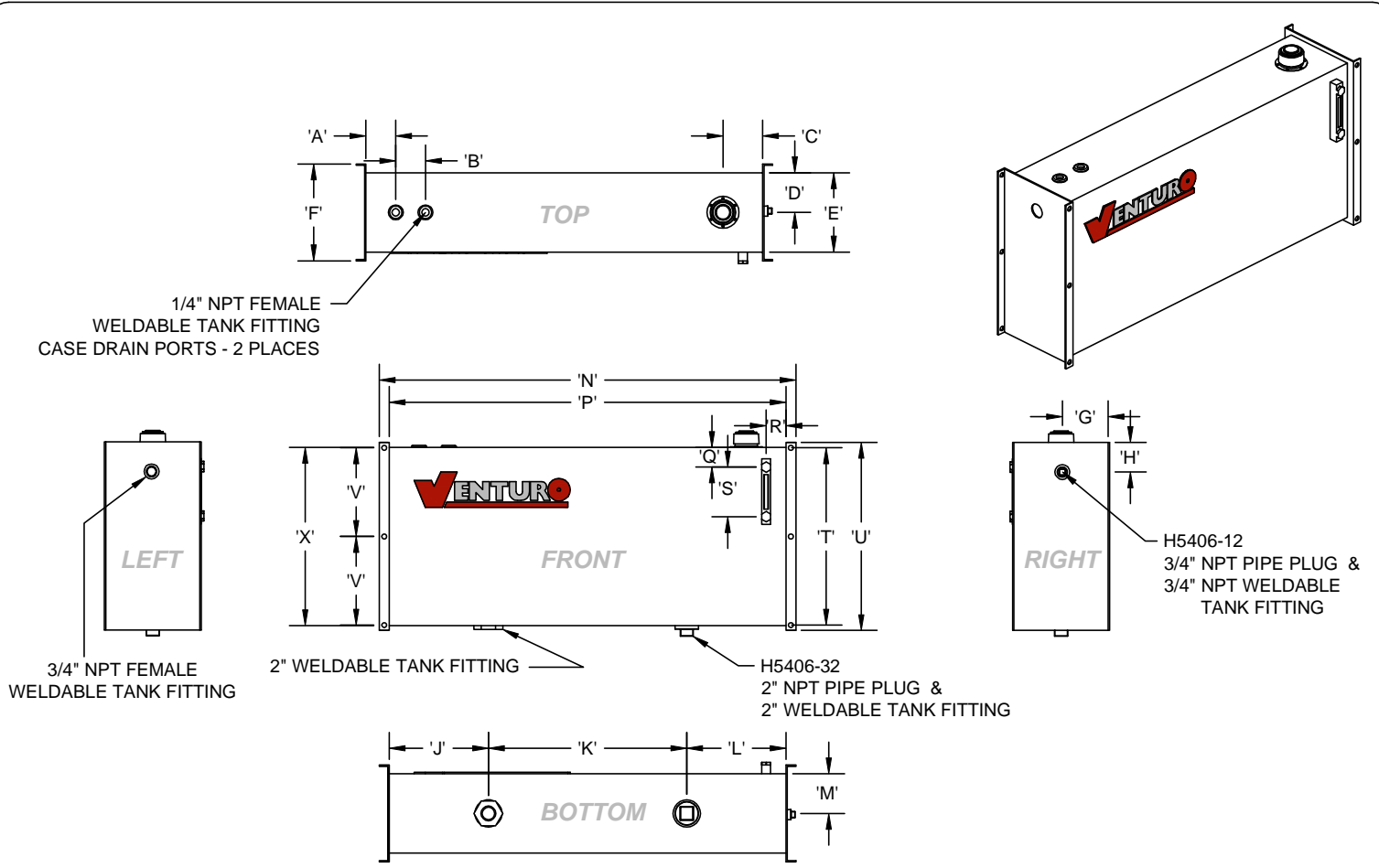
VENTURO CRANES

DATE  
05-11-17F

SUPERSEDES  
02-21-14E

SECTION  
C200

20907



ILLUSTRATIONS FOR REFERENCE ONLY!  
- COMPONENT LOCATIONS MAY DIFFER -

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

MEASUREMENTS EXCLUDE MOUNTING APARATUSES

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

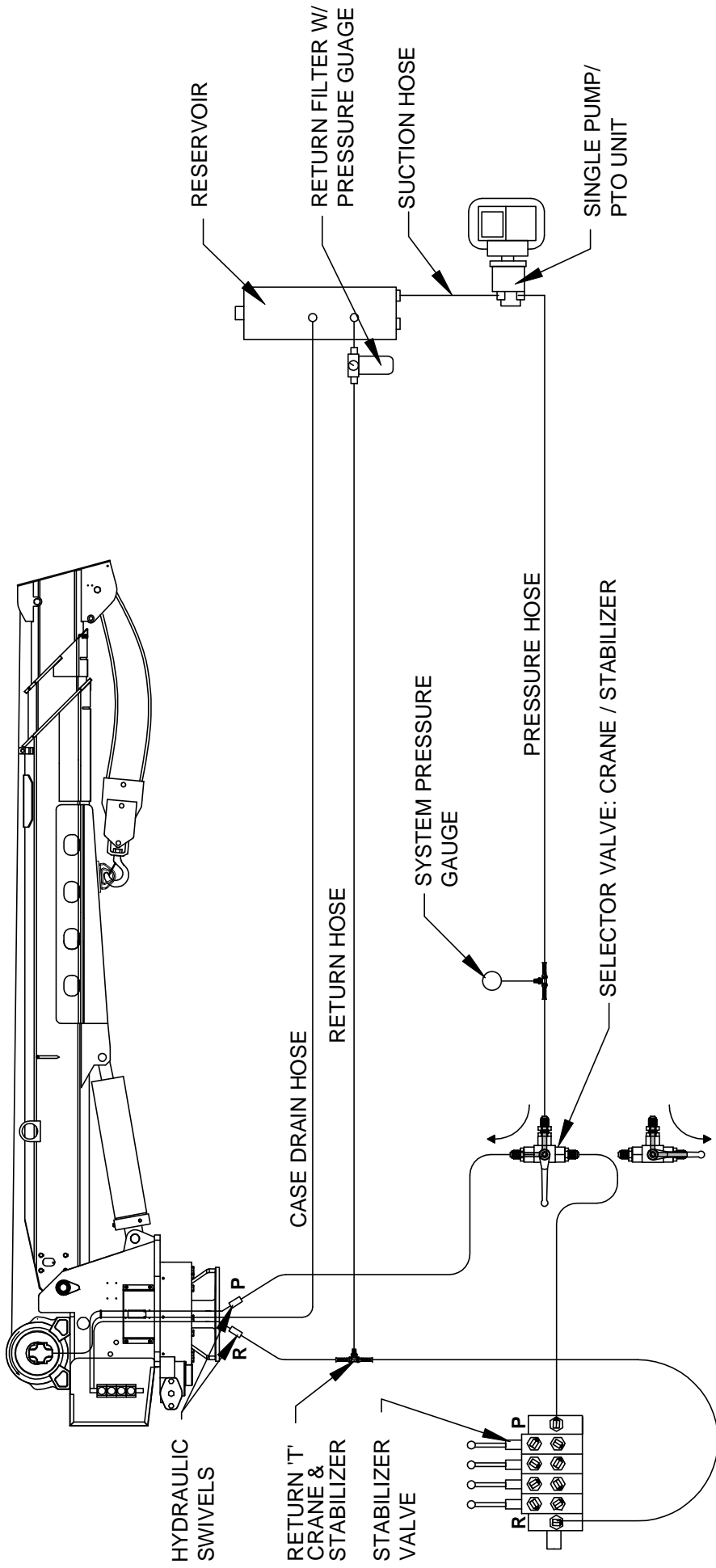
MEASUREMENTS INCLUDE MOUNTING APARATUSES



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

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

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



**CAUTION**

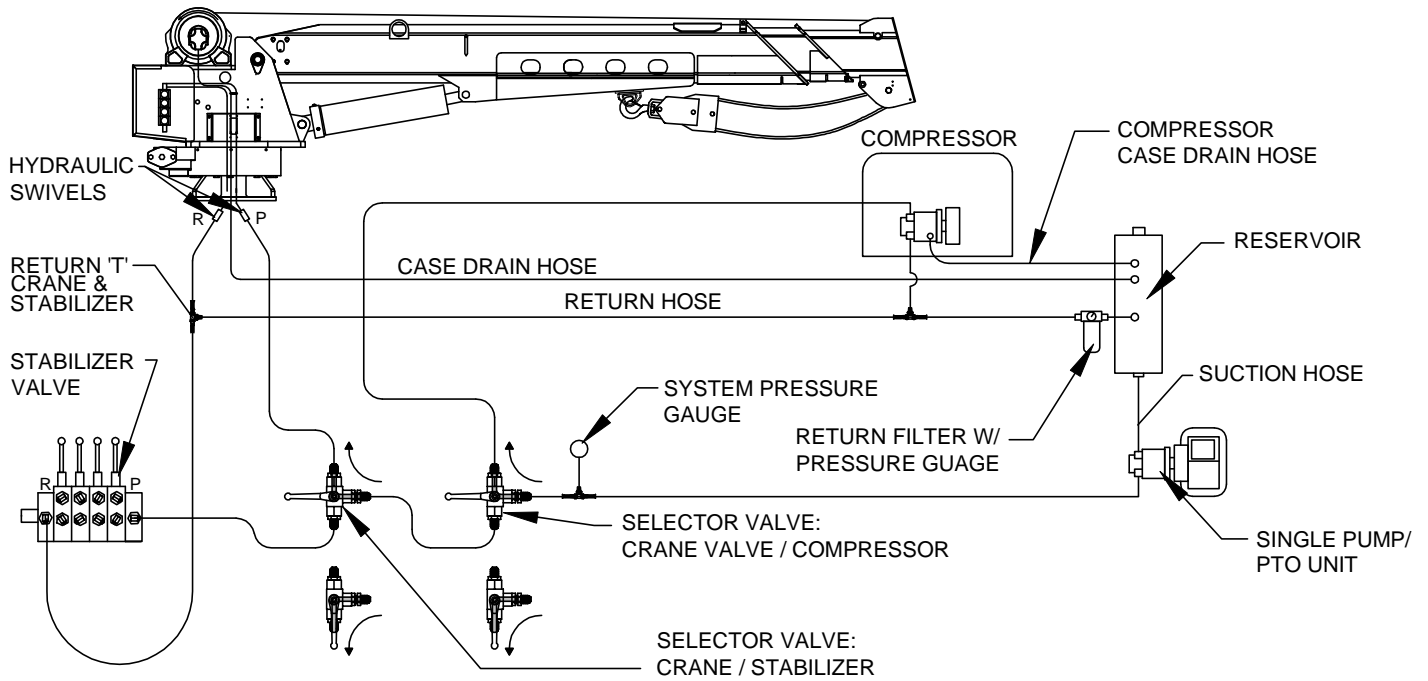
- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.

**CAUTION**

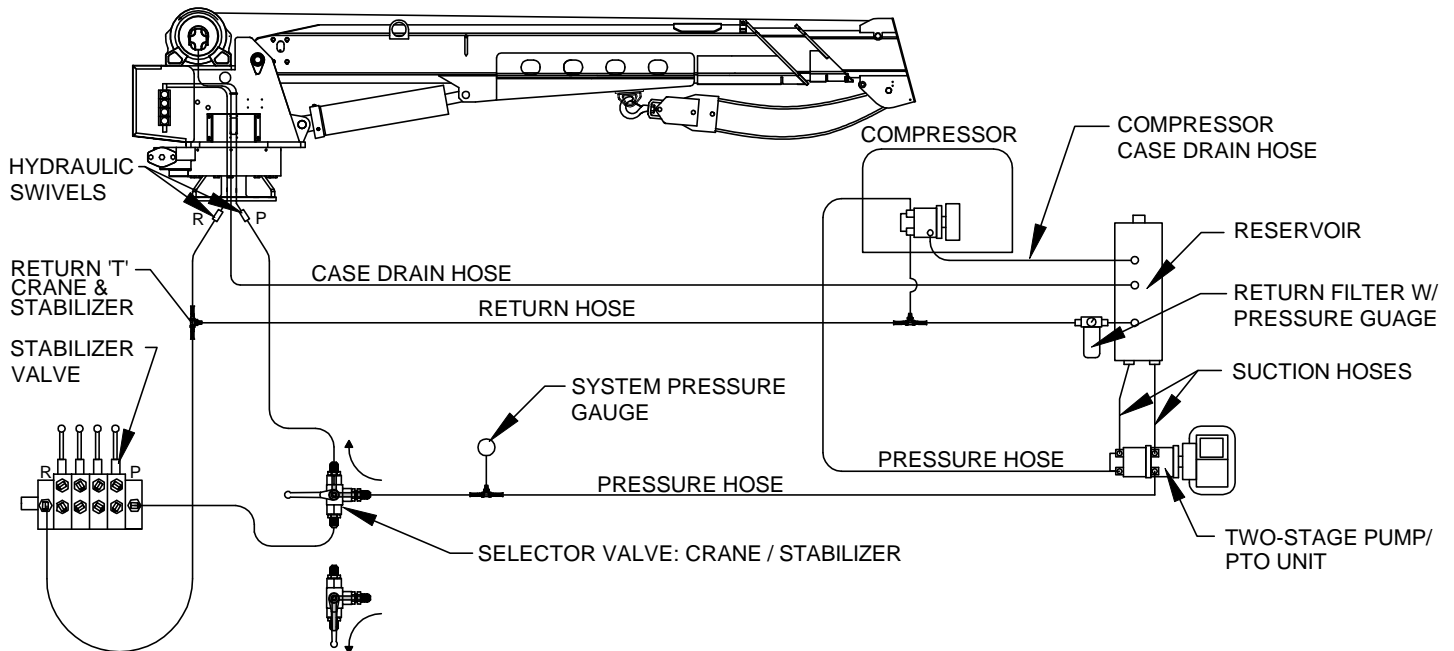
- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE <b>CONNECTION GUIDE, PAGE 1 / 2</b>	DATE 02-21-14B SUPERSEDES 04-19-12A	SECTION C200
	HT CRANES			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

TITLE  
CNNCTN GDE, PAGE 2/2

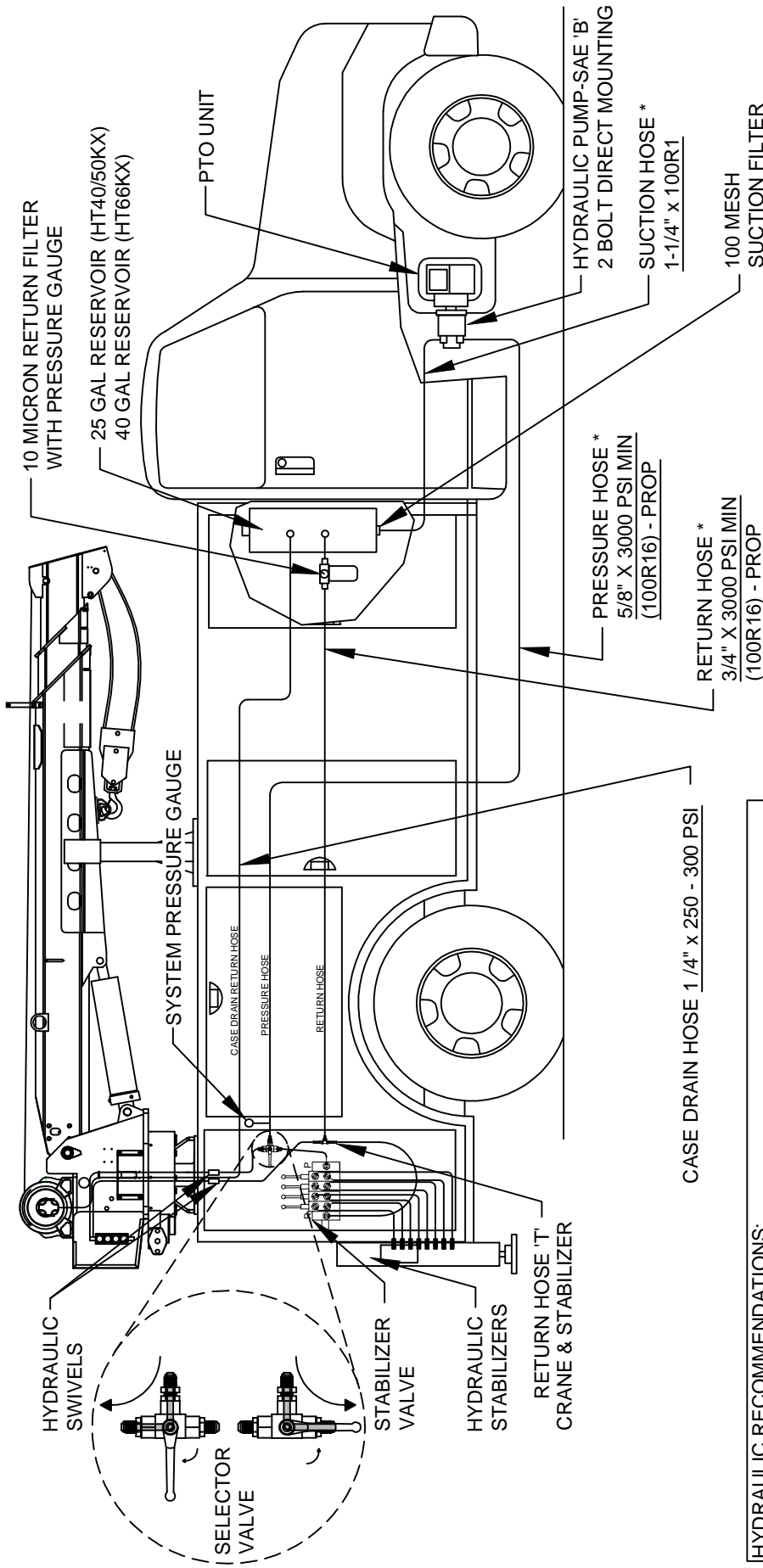
HT CRANES

DATE  
02-21-14B

SUPERSEDES  
04-19-12A

SECTION  
C200

23014



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

**CAUTION**

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

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

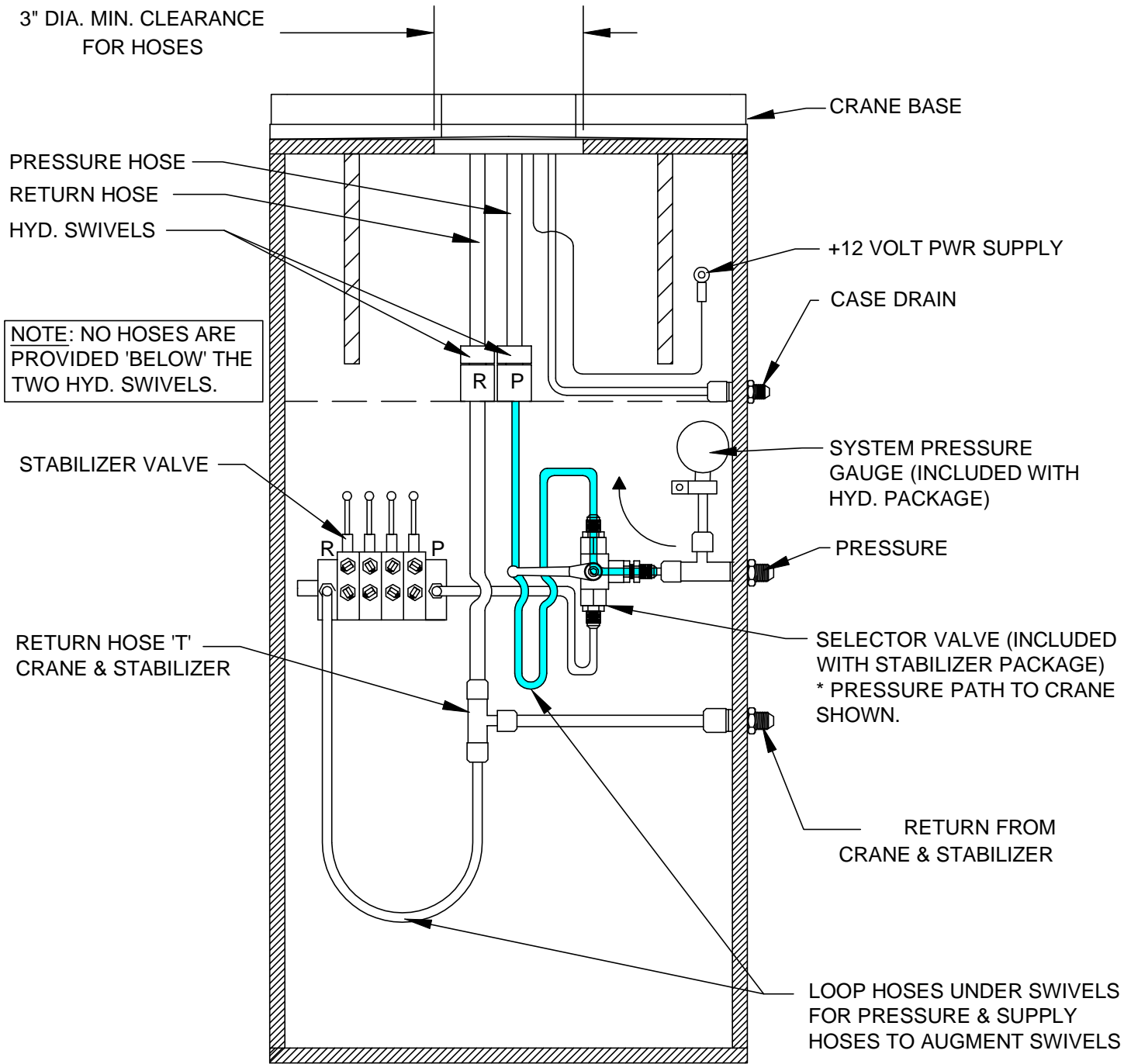
\* HOSES AND FITTINGS BETWEEN PUMP, RESERVOIR, AND CRANE NOT INCLUDED.

**CAUTION**

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

	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE	<b>HYDRAULIC COMPONENT INSTALLATION</b>		
			DATE	05-07-14E	SECTION	C200
			SUPERSEDES	02-21-14D		22883

## RECOMMENDED SUPPLY & RETURN HOSE CONNECTIONS CRANE & STABILIZERS



### CAUTION

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



### CAUTION

- CASE DRAIN MUST RETURN DIRECTLY TO RESERVOIR WITHOUT RESTRICTION.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**CONNECTIONS GUIDE**

HT CRANES

DATE

02-21-14F

SUPERSEDES

10-24-12E

SECTION

C200

**22913**

# WIRE ROPE INSTALLATION

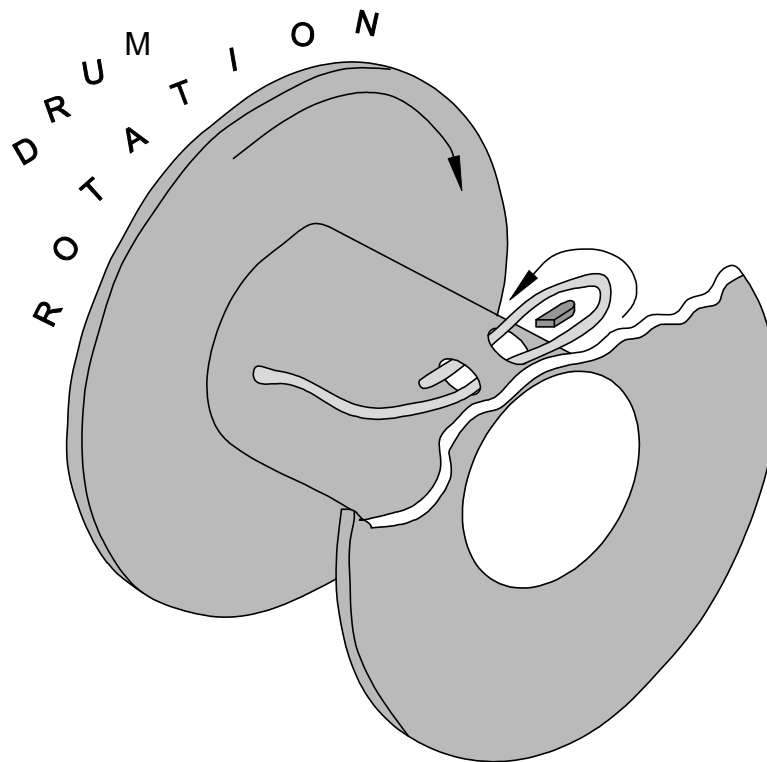


FIG. 1

- STEP 1: UNWIND COIL OF WIRE ROPE BY 'ROLLING' ALONG THE FLOOR. THIS WILL PREVENT 'KINKING'.
- STEP 2: INSERT WIRE ROPE END UP THROUGH ANTI-2-BLOCK (A2B) CAGE ASSEMBLY, BETWEEN CHEEK PLATES, OVER THE TOP SHEAVE, AND THROUGH WIRE ROPE GUIDE.
- STEP 3: INSERT WIRE ROPE END INTO POCKET OPENING ON WINCH, WRAP AROUND WEDGE, AND BACK THROUGH POCKET OPENING AS SHOWN IN FIGURE 1.



## CAUTION

- IF THE WIRE ROPE IS NOT INSTALLED FOR THE CORRECT DRUM ROTATION, THE WINCH BRAKE VALVE WILL NOT HOLD THE LOAD.



## CAUTION

- THERE MUST ALWAYS BE AT LEAST [5] DEAD WRAPS OF WIRE ROPE ON THE WINCH DRUM WHILE UNDER LOAD.

NOTE: SOME WINCHES MAY BE SUPPLIED WITH A HEX NUT IN LIEU OF A WEDGE FOR INSTALLING THE WIRE ROPE.



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

WIRE ROPE INSTALLTN

DATE

02-21-14K

SECTION

C200

ET6K & LARGER CRANES

SUPERSEDES

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.

## 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 .



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

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

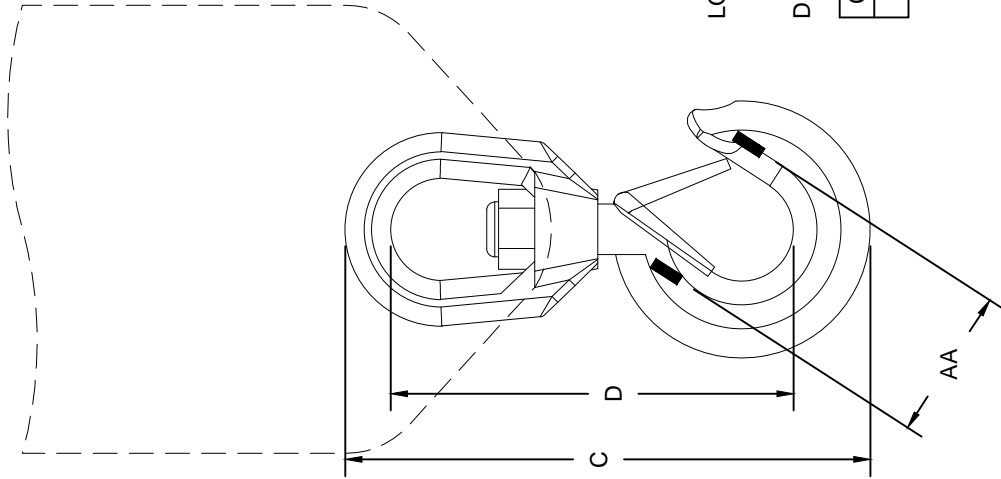
WIRE ROPE ASSEMBLY

WIRE ROPE:  
 3/8" DIA, 100' LONG  
 ▲ GAC 7X19 XIP-RHRL-IWRC, SB 14,400 LBS



TERMINATES IN THIMBLE  
 NO HOOK

LOAD BLOCK ASSEMBLY



LOAD BLOCK HOOK:  
 RATING: 5 TONNE (11,023 LBS)  
 DIMENSIONS:

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

VENCO VENTURO INDUSTRIES LLC  
 CINCINNATI, OHIO



TITLE  
 WIRE ROPE & HOOK SPECIFICATIONS

HT40/50KX

DATE  
 05-09-16D

SUPERSEDES  
 02-21-14C

SECTION  
 C300

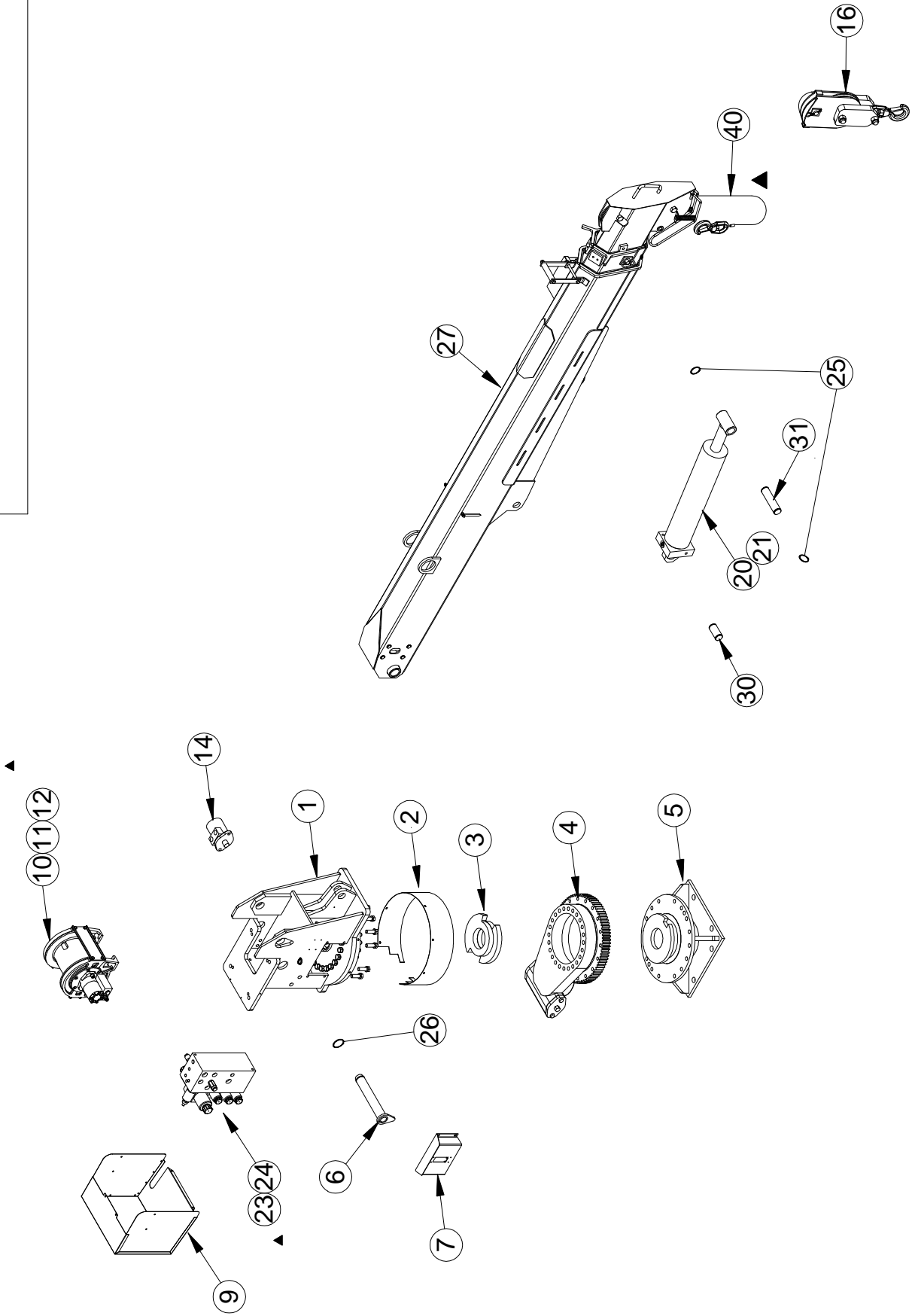
23231

# SECTION 400

## PARTS



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



 VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE <b>REPLACEMENT PARTS</b> HT40/50KX (25' BOOM)		DATE 06-20-14D <small>SUPERSEDES</small> 02-21-14C	SECTION C400	<b>22984</b>

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	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 $\Delta$	23063 FIELD SERVICE LABEL KIT; HT40KX (25' BOOM)
11	22830	WINCH - 4000 LB (SINGLE LINE); HT50KX, PROP	51	22894-1 $\Delta$	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	-	-	57	-	
18	-	-	58	-	
19	-	-	59	-	
20	21747	ELEVATION CYLINDER; HT40KX	60	-	
21	21748	ELEVATION CYLINDER; HT50KX	61	-	
22	-	-	62	-	
23	22501	HYDRAULIC VALVE BLOCK; NON-PROPORTIONAL	63	-	
24	22736H	HYDRAULIC VALVE BLOCK; PROPORTIONAL	64	-	
25	!SRNG-150	SNAP RING; 1 1/2" DIAMETER	65	-	
26	!SRNG-175	SNAP RING; 1 3/4" DIAMETER	66	-	
27	23107	BOOM ASSEMBLY; HT40/50KX	67	-	
28	-	-	68	-	
29	-	-	69	-	
30	22256	PIN; ELEVATION CYLINDER, INBOARD	70	-	
31	22257	PIN; ELEVATION CYLINDER, OUTBOARD	71	-	
32	-	-	72	-	
33	-	-	73	-	
34	-	-	74	-	
35	-	-	75	-	
36	-	-	76	-	
37	-	-	77	-	
38	-	-	78	-	
39	-	-	79	-	
40	17094-3/8-100	WIRE ROPE ASSEMBLY; 3/8" x 100 FT.	80	-	

$\Delta$  ITEM NOT SHOWN ON REPLACEMENT PARTS DWG  
REPLACEMENT PARTS DWG REF 22984

 VENCIO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	REPLACEMENT PARTS LIST	SECTION	C400
		HT40/50KX (25' BOOM)	DATE	06-20-14F
			SUPERSEDES	04-22-14E
				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	U-NUT; 1/4-20, LOCKING TYPE	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

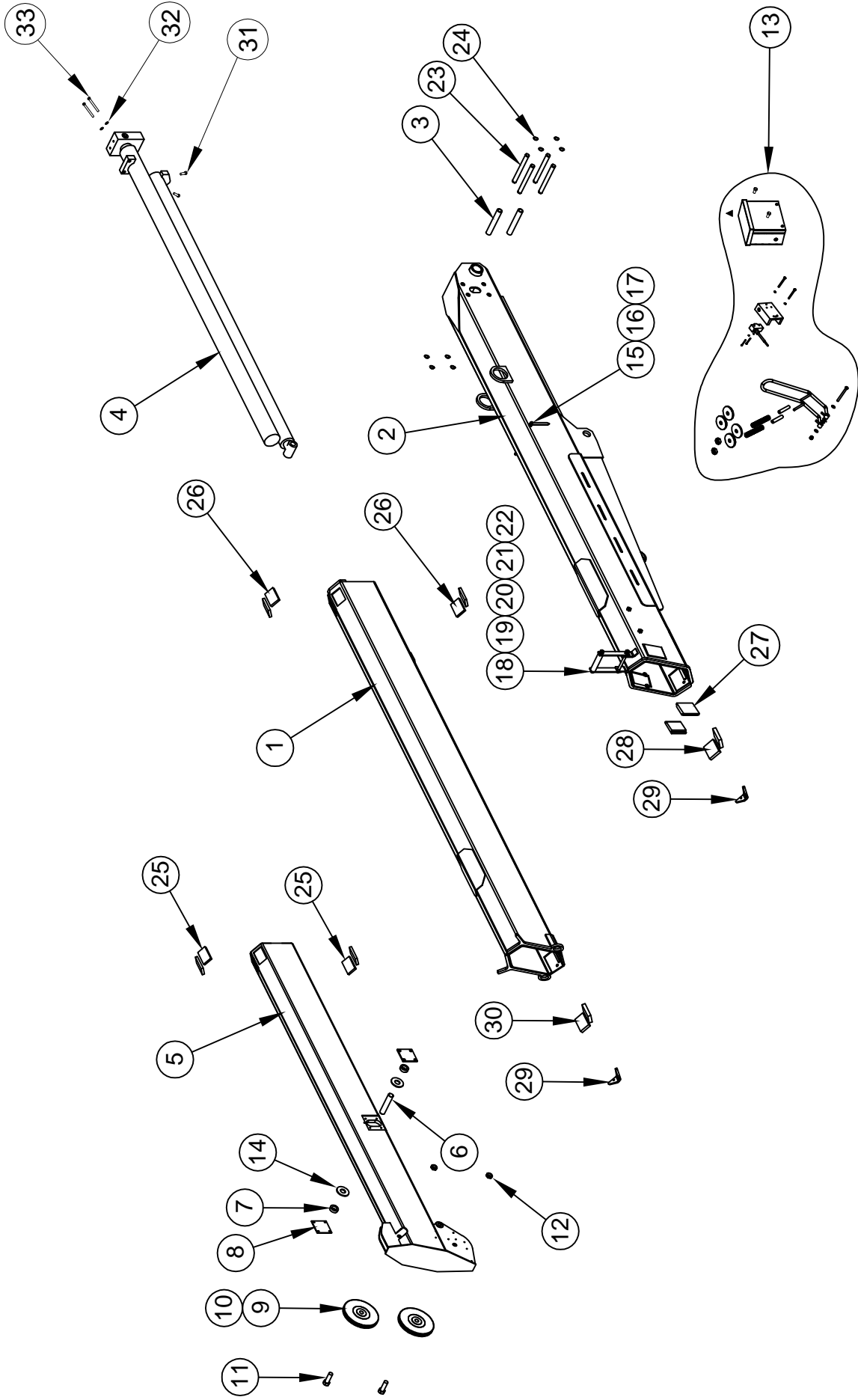
REFERENCE PARTS DWG 22984



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE	DATE	SECTION
FASTENER LIST	02-21-14B	C400
HT40/50KX (25' BOOM)	SUPERSEDES 05-12-11A	22934

# 23107 BOOM PARTS DRAWING



REF. PARTS LIST 22886



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
23107 BOOM PARTS DRAWING

DATE  
12-07-18H

SECTION  
C400

SUPERSEDES  
06-13-18G

22885

# 23107 BOOM PARTS LIST

▲	33	2	!SHCS05013200	SOCKET HEAD CAP SCREW; 1/2-13 X 2" LG
▲	32	2	!LWSH-050-HC	LOCK WASHER; 1/2" HI-COLLAR
▲	31	2	!HHCS03816100	HEX HEAD CAP SCREW; 3/8-16 X 1" LG
	30	2	23217-14	UHMW GUIDE PAD
	29	2	23183	V-BLOCK SLIDER
	28	2	23217-5	UHMW GUIDE PAD
	27	2	23217-13	UHMW GUIDE PAD
	26	4	23217-2	UHMW GUIDE PAD
	25	4	23217-1	UHMW GUIDE PAD
	24	8	!SRNG-075	RETAINING RING - 3/4" SHAFT DIA.
	23	4	22555	THRUST PIN; EXTENSION CYLINDER
	22	2	!LNUT-04414	JAM NUT; 7/16-14, NYLON LOCK
	21	1	21560	ROLLER; UHMW GUIDE
	20	1	!HHCS04414550	HEX HEAD CAP SCREW; 7/16-14 x 5 - 1/2 LG
	19	1	21936	WIRE ROPE GUIDE; FLAT MOUNT
	18	1	21935	WELDED ASSY; WIRE ROPE GUIDE
	17	2	!ANUT-02520S	ACORN NUT; 1/4-20, STAINLESS
	16	2	13459-2	ARROW; BOOM, 4 - 7/16" LONG
	15	2	22490	SPACER; BOOM ARROW, 1/2" O.D.
	14	2	!FWSH-100SAE	FLAT WASHER; 1", SAE
	13	1	27038	MECH. ASSY; A2B CORD REEL
	12	2	!JNUT-07510N	JAM NUT; 3/4-10, NYLON
	11	2	17059-6	SHEAVE AXLE
	10	2	23929	SPACER; 23927 & 23928 POLY SHEAVES
	9	2	23928	BOOM SHEAVE W/ BUSHING
	8	2	23116	COVER PLATE; PIN STOP
	7	2	21428	BUSHING
	6	1	21405	PIN; CYLINDER
	5	1	23105	WELDED ASSY; TERTIARY BOOM
	4	1	21749	CYLINDER; EXTENSION
	3	1	24535	THRUST ROLLER
	2	1	27172	WELDED ASSY; PRIMARY BOOM
	1	1	27175	WELDED ASSY; SECONDARY BOOM
	ITEM NO.	QTY.	PART NUMBER	DESCRIPTION

REFERENCE PARTS DRAWING 22885



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

23107 REPLACEMENT PARTS LIST

HT40/50KX (25' BOOM)

DATE

06-13-18G

SUPERSEDES

4-22-14F

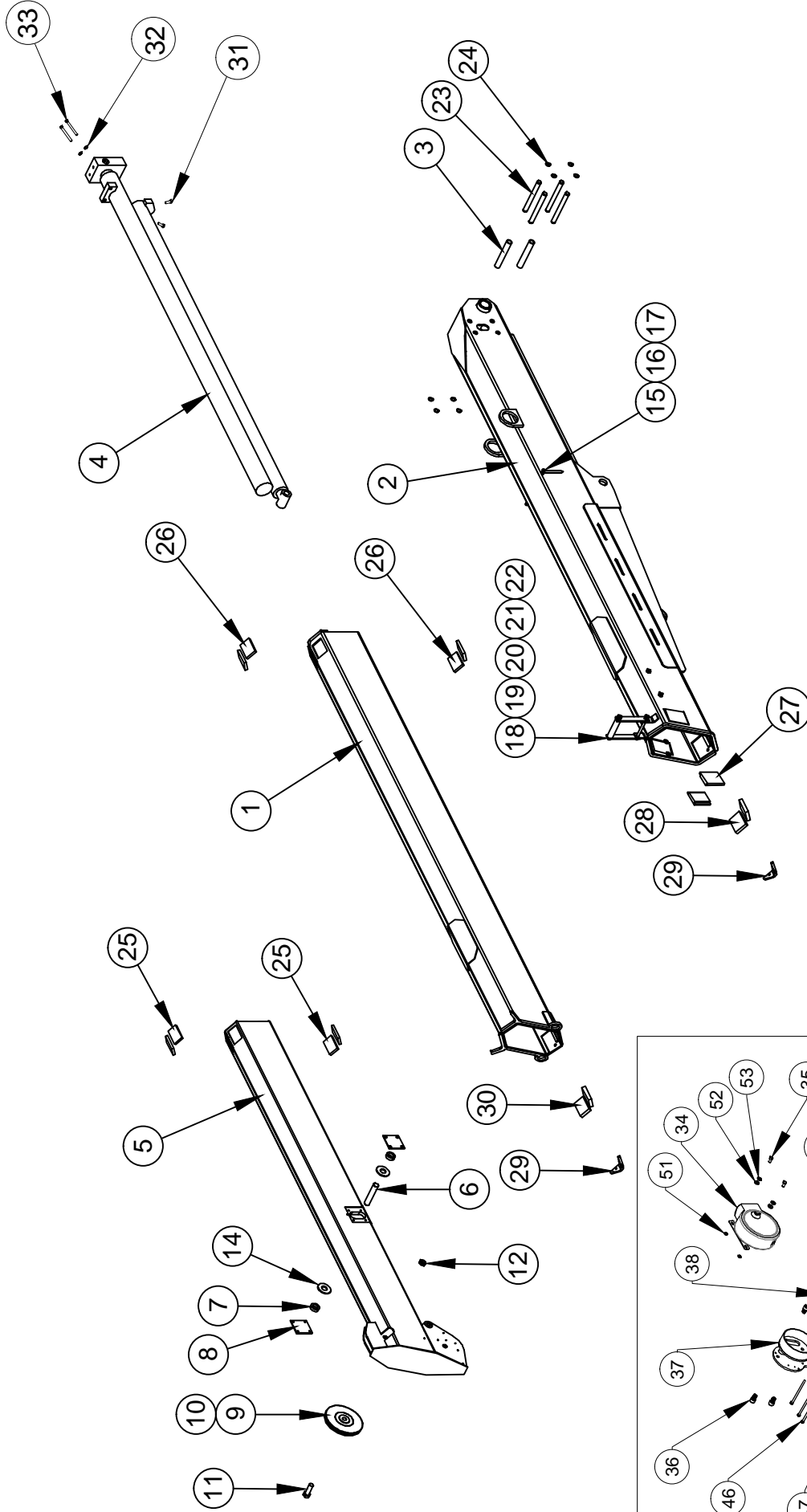
SECTION

C400

22886



# 23107 BOOM PARTS DRAWING



REF. PARTS LIST 24191

VENTURO® Venco VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	23107 BOOM PARTS DRAWING	
	DATE	05-24-21B	SECTION C400
	SUPERSEDES	02-09-21A	24190

# 23107 BOOM PARTS LIST

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; EX TENSION
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	IJNUT-07510N	JAM NUT; 3/4-10, NYLON
13	-	-	-
14	2	IFWASH-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	IANUT-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	IHHCS04414550	HEX HEAD CAP SCREW; 7/16-14 x 5 - 1/2 LG
21	1	21560	ROLLER; UHMW GUIDE
22	2	ILNUT-04414	JAM NUT; 7/16-14, NYLON LOCK
23	4	22555	THRUST PIN; EX TENSION CYLINDER
24	8	ISRNG-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	23217-5	UHMW GUIDE PAD
29	2	23183	V-BLOCK SLIDER
30	2	23217-14	UHMW GUIDE PAD
31	2	IHHCS03816100	HEX HEAD CAP SCREW; 3/8-16 X 1" LG
32	2	ILWSH-050-HC	LOCK WASHER; 1/2" HI-COLLAR
33	2	ISHCS05013200	SOCKET HEAD CAP SCREW; 1/2-13 X 2" LG
34	1	28190	CORD REEL ASSEMBLY (LEFT HAND)
-	1	28191	CORD REEL ASSEMBLY (RIGHT HAND)
35	2	ISHCS03118063S	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)
38	1	19376	A2B SWITCH
39	2	IPHCS#0632100	PHCS; 6-32 X 1"
40	2	ILWSH-#06	LOCK WASHER; #06, GR. 5
41	1	27473	COVER PLATE; COMPACT A2B
42	2	ISHCS02520200SS	SOCKET HEAD CAP SCREW; 1/4-20 X 2", SS
43	2	23379	WASHER, NYLON, BLACK, .375" OD X .25" ID X .02"
44	1	19269	CABLE CLAMP, 1/4"
45	1	IPHCS#1032038-M	PHCS; 10-32 X 3/8", GR. 5
46	3	IHHCS02520450	HHCS; 1/4-20 X 4-1/2" LG
47	3	27475	WIRE ROPE GUIDE ROLLER
48	3	IJNUT-02520N	JAM NUT; 1/4-20 W/ NYLON INSERT
49	1	27476	SPACER/PINOT; COMPACT A2B
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	IFWSH-031	FLAT WASHER; 5/16" SAE
54	1	ILNUT-07510	NYLOC LOCK NUT, FULL, 3/4-10, GR. 5, ZINC

REFERENCE PARTS DRAWING 24190



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
23107 REPLACEMENT PARTS LIST

HT40/50 25' BOOM

DATE

05-24-21B

SUPERSEDES

02-09-21A

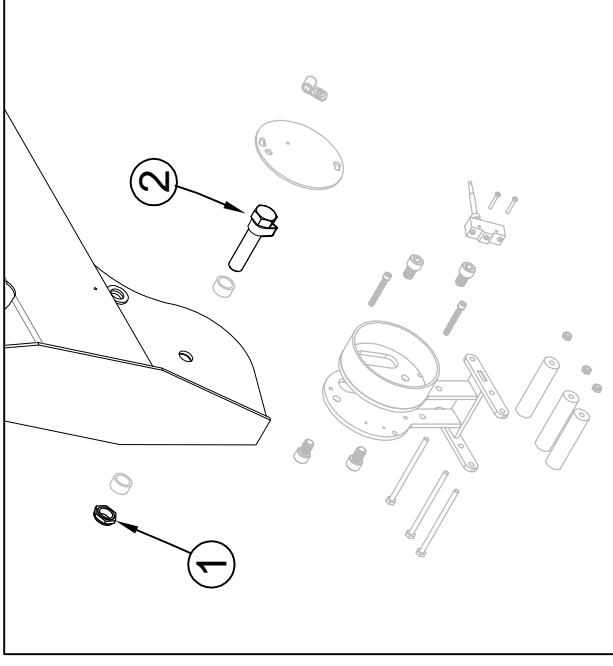
SECTION

C400

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.**



1. Initially, apply a light torque to the nyloc full nut Item #1 (P/N !LNUT-07510), such that the axle bolt & cam welded assembly can be rotated / adjusted in the steps below.
2. Position the cam **lobe** Item #2 (P/N 28362) so that it is pointing towards the housing / mechanism
3. Hang the load block on the open stowage hook under the primary boom.
4. Thread the wire rope through the load block in a two-line configuration; the wire rope end / eyelet is pinned in the standard position on the tertiary boom tip
5. Actuate the Winch Up function until the load block and wire rope are **taut** enough to prevent the load block from bouncing during transit, **but do not tighten excessively so as to prevent damage to the wire rope.**
6. Rotate the axle bolt & cam welded assembly towards the housing (clockwise in standard configuration) until the cam lobe makes contact with and trips the wobble micro switch and actuates the A2B function.
7. Once adjusted, torque the nyloc full nut (Item #1) to 100 ft\*lbs to prevent further rotational movement of the axle bolt & cam welded assembly.
8. Test the A2B trip-point by slackening and tightening the wire rope / load block assembly by actuating Winch Up/Down. **NOTE: The point at which the A2B trips WILL vary to some degree, depending upon the winch up speed. It is recommended to actuate the winch up function slowly, which will yield a consistent and repeatable result, in terms of wire rope tension when stowed.**



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



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
A2B Stowage Cut-out

DATE  
10-04-21B

SUPERSEDES  
08-03-21A

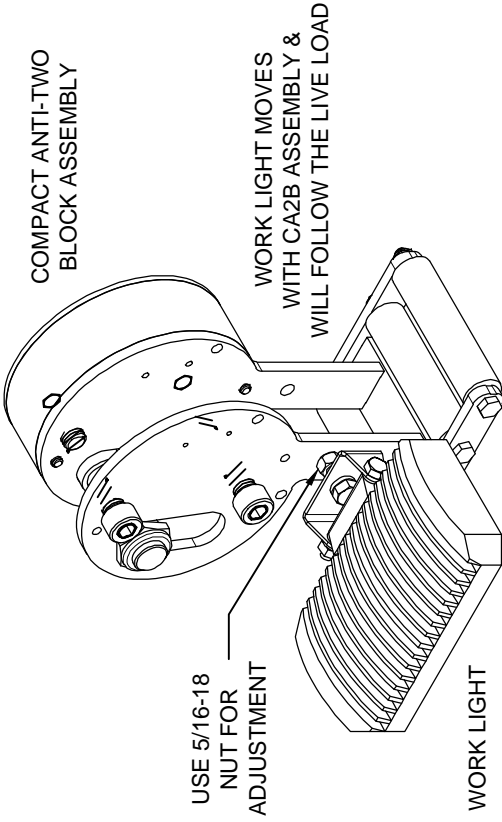
SECTION  
C400

ET/HT Cranes w/ Comp. A2B

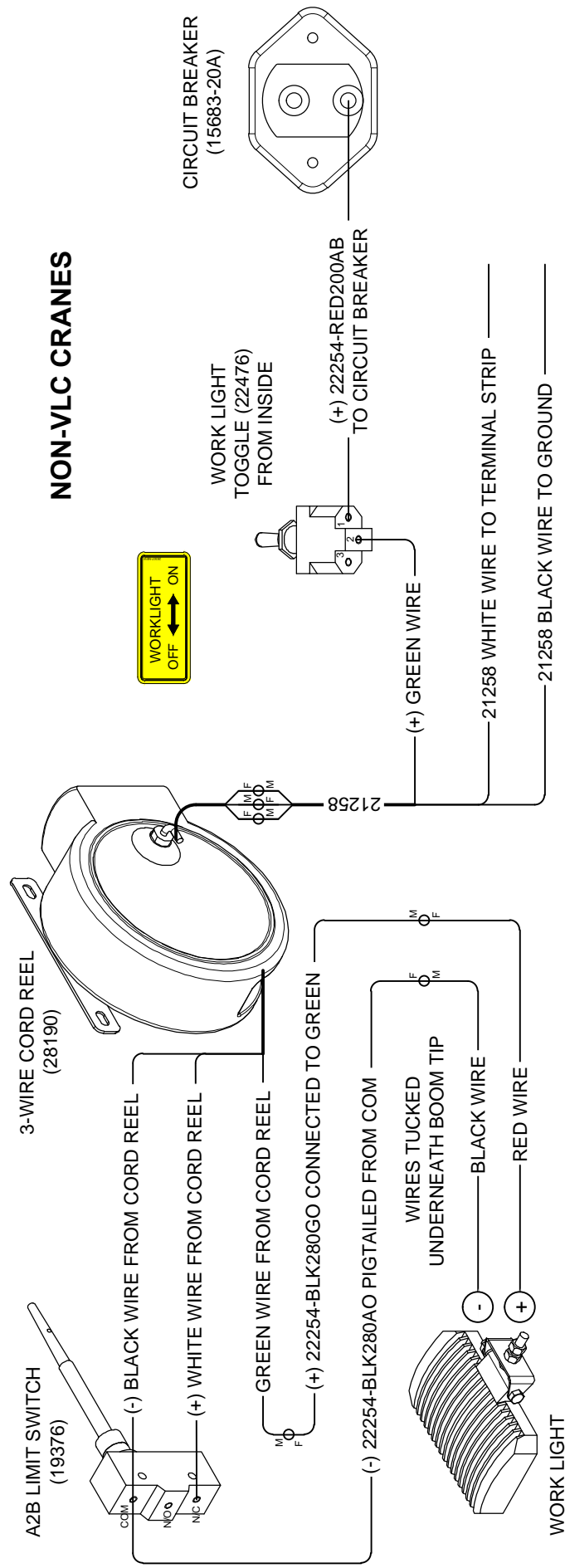
28239



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



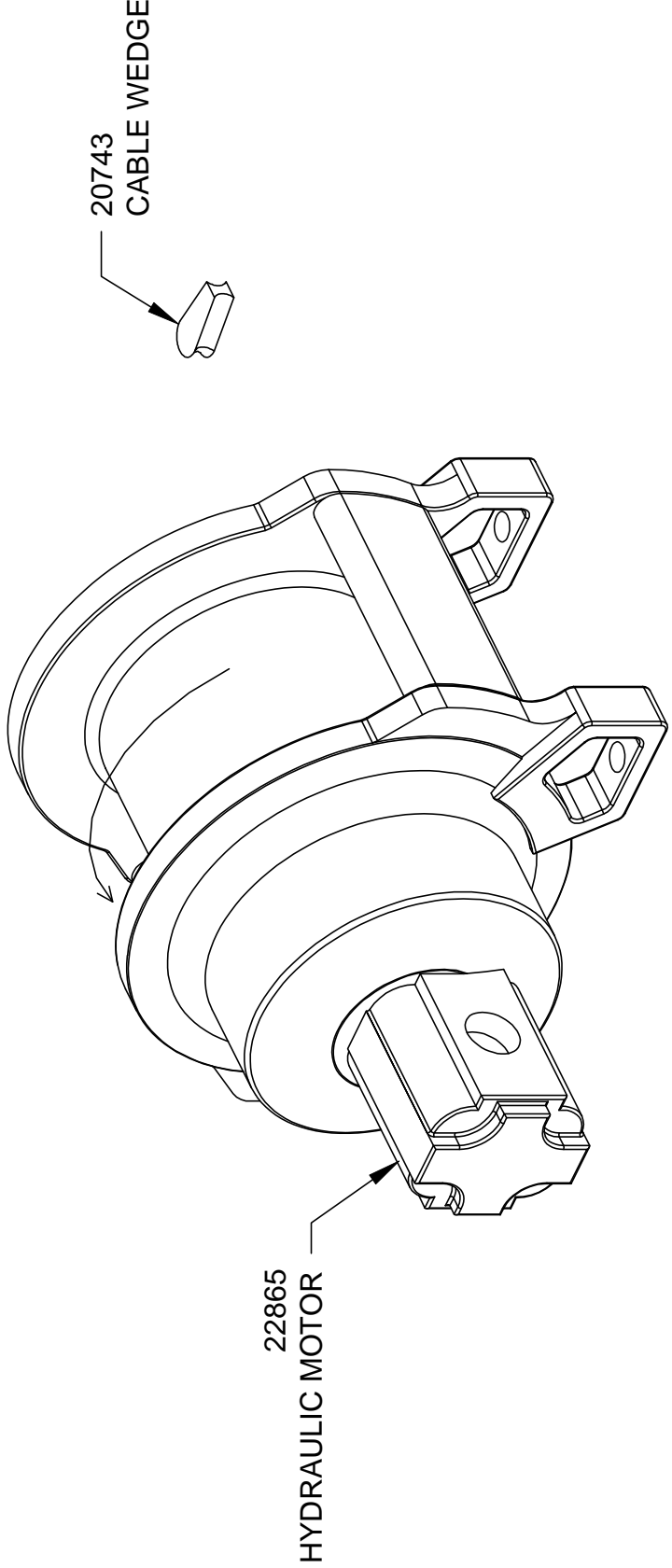
BILL OF MATERIALS		#	DESCRIPTION	QTY	PART NUMBER
1	IDWG; WORK LIGHT INSTALLATION, NON-VLC CRANES	1		1	28199
2	LED WORK LIGHT	1		1	27483
3	TERMINAL; 16G, FEMALE, QUICK-CONNECT	3		3	ITERM16G250QCFI
4	TERMINAL; 16G, MALE, QUICK-CONNECT	4		4	ITERM16G250QCM
5	WIRE ASSY; 16G, BLACK, 28"; #6 RING - STRIPPED END	1		1	22254-BLK280AO
6	WIRE ASSY; 16G, BLACK, 28"; QCF - STRIPPED END	1		1	22254-BLK280GO
7	TOGGLE SWITCH; ON / OFF, IP-RATED	1		1	22476
8	HALF-BOOT, FOR IP-RATED TOGGLE SWITCH	1		1	19793
9	DECAL; ON/OFF, OPTIONAL WORK LIGHT W/ TOGGLE	1		1	28307
10	WIRE ASSY; 16G, RED, 20"; #6 RING - #10 RING	1		1	22254-RED200AB
11	TERMINAL; 16G, #6 RING, CLOSED-END	1		1	ITERM16G#6RG



## NON-VLC CRANES

	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	WORK LIGHT INSTALLATION, 3-WIRE CORD REEL	DATE	02-10-21	SECTION	C400
	NON-VLC CRANES		SUPERSEDES	-			28199

# 22830 WINCH REPLACEMENT PARTS DRAWING

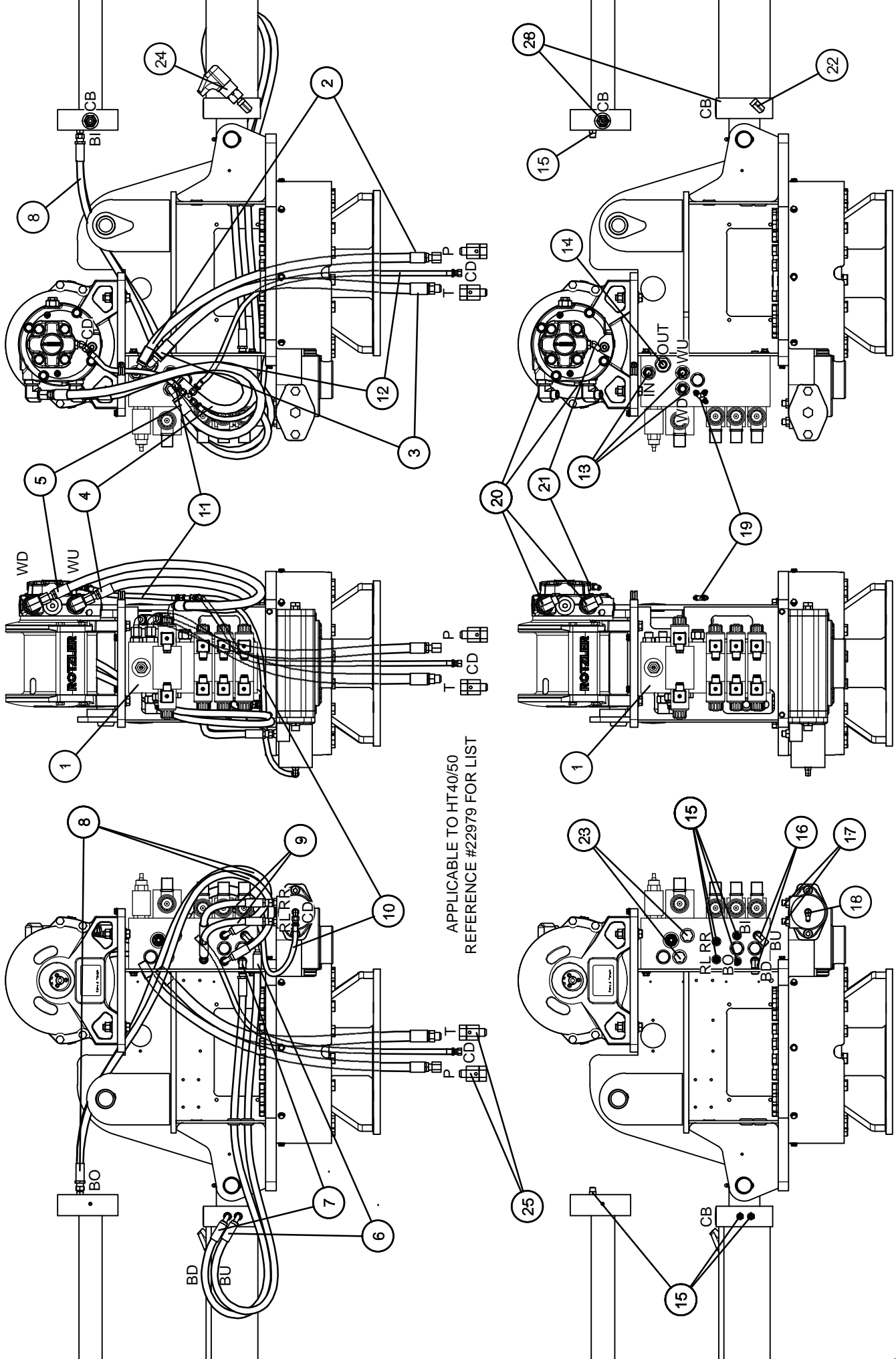


WINCH SERVICE KIT P/N: 21133

MOTOR SERVICE KIT P/N 22902 (511 MOTOR)

 VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	REPLACEMENT PARTS DRAWING (#22830)		
	HT50KX; PROPORTIONAL	DATE	02-21-14B	
	SUPERSEDES	07-21-08A	SECTION	C400
				22876

# REPLACEMENT PARTS DRAWING, HYDRAULIC COMPONENTS



 VENTURO® VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE	REPLACEMENT PARTS, HYD. COMPONENTS	SECTION	C400
		HT40/50 PROPORTIONAL SERIES CRANES	DATE	04-27-21F
			SUPERSEDES	10-22-20E
				22978

# REPLACEMENT PARTS LIST; HYDRAULIC COMPONENTS

#	DESCRIPTION	QTY	PART NUMBER	APPLICATION
1	VALVE MANIFOLD; PROPORTIONAL, HT40-55KX	1	22736H	REAR OF MECHANISM, INSIDE REAR COVER
2	HOSE ASSEMBLY; PRESSURE SUPPLY	1	23798	RIGHT SIDE VALVE BANK TO COMPARTMENT SIDE
3	HOSE ASSEMBLY; RETURN SUPPLY	1	23799	RIGHT SIDE VALVE BANK TO COMPARTMENT SIDE
4	HOSE ASSEMBLY; WINCH UP	1	27024	RIGHT SIDE VALVE BANK TO WINCH UP PORT
5	HOSE ASSEMBLY; WINCH DOWN	1	27025	RIGHT SIDE VALVE BANK TO WINCH DOWN PORT
6	HOSE ASSEMBLY; BOOM UP	1	27026	LEFT SIDE VALVE BANK TO BOOM UP PORT
7	HOSE ASSEMBLY; BOOM DOWN	1	27027	LEFT SIDE VALVE BANK TO BOOM DOWN PORT
8	HOSE ASSEMBLY; BOOM IN & OUT	2	27592	EXTENSION PORTS TO LEFT SIDE VALVE BANK
9	HOSE ASSEMBLY; ROTATION LEFT & RIGHT	2	27598	LEFT SIDE VALVE BANK TO ROTATION PORTS
10	HOSE ASSEMBLY; WINCH CASE DRAIN	1	22952	ROTATION CASE DRAIN TO T-FITTING JUNCTION
11	HOSE ASSEMBLY; ROTATION CASE DRAIN	1	22953	WINCH CASE DRAIN TO T-FITTING JUNCTION
12	HOSE ASSEMBLY; CASE DRAIN OUT	1	22903	T-FITTING JUNCTION TO COMPARTMENT SIDE
13	FITTING; ADAPTER, STRAIGHT, 8OFS-10MO	3	FF6400-0810	RIGHT SIDE VALVE BANK; IN, WU & WD PORTS
14	FITTING; ADAPTER, STRAIGHT, 8OFS-12MO	1	FF6400-0812	RIGHT SIDE VALVE BANK, OUT PORT
15	FITTING; ADAPTER, STRAIGHT, 6OFS-6MO	8	FF6400-0606	ELEVATION, EXTENSION, RL, RR, BI & BO PORTS
16	FITTING; ADAPTER, 90° ELBOW, 6OFS-6MO	2	FF6801-0606	LEFT SIDE VALVE BANK, BU & BD PORTS
17	FITTING; ADAPTER, STRAIGHT, 6OFS-10MO	2	FF6400-0610	ROTATION RIGHT & LEFT PORTS
18	FITTING; ADAPTER, 90° ELBOW, 4MJ-4MO	1	H6801-0404	ROTATION CASE DRAIN PORT
19	FITTING; ADAPTER, T-SHAPE, 4MJ-4MJ-4MJ	1	H2603-040404	T-FITTING JUNCTION FOR CASE DRAIN HOSES
20	FITTING; ADAPTER, 90° ELBOW, 8OFS-12MO BRITISH	2	FF3801-8-12	WINCH UP & DOWN PORTS, ROTZLER TI SERIES
21	FITTING; ADAPTER, 45° ELBOW, 4MJ-4MO BRITISH	1	3802-0404	WINCH CASE DRAIN PORT, ROTZLER TI SERIES
22	FITTING; ADAPTER, 90° ELBOW, 4MO-4FO	1	H6805-0404	ELEVATION BASE-END, PRESSURE SWITCH
23	FITTING; PLUG, 10MO	2	H6408-10	LEFT SIDE VALVE BANK, WU & WD PORTS
24	PRESSURE SWITCH, 2900 PSI RATING	1	17460-2900-21	BASE-END ON ELEVATION CYLINDER
25	LIVE SWIVEL; CONTINUOUS, STRAIGHT, 6MJ-6FJ	2	22764	PRESSURE & RETURN HOSES, COMPARTMENT SIDE
26	COUNTER-BALANCE VALVE; CBPA, 50/40, 3000 PSI SYS.	2	20893	ELEVATION & EXTENSION CYLINDER VALVE

## HYDRAULIC FUNCTION KEY

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

REFERENCE #22978 FOR REPLACEMENT PARTS DRAWING



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS LIST

HT40/50 PROPORTIONAL

DATE

04-27-21E

SUPERSEDES

10-22-20D

SECTION

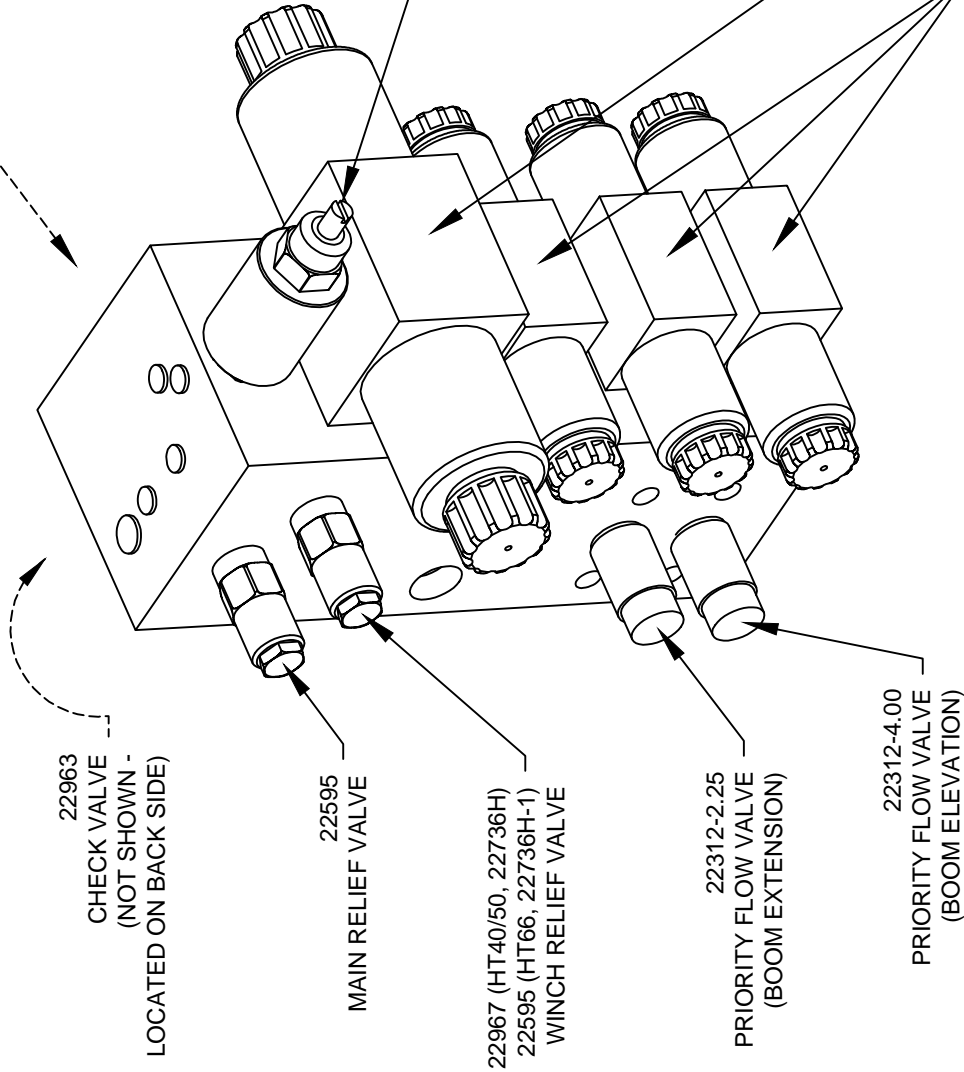
C400

22979

# 22736 SERIES VALVE MANIFOLD REPLACEMENT PARTS

PRIORITY FLOWVALVE		
VALVE P/N	MANIFOLD	CRANE
22312-6.00	22736H	HT40/50KX
	22736L	
22312-7.50	22736H-1	HT66KX
	22736L-1	

NOT SHOWN - LOCATED ON RIGHT SIDE



PROPORTIONAL VALVE			
VALVE P/N & DESCRIPTION	MANIFOLD	CRANE MODEL	SERIAL # RANGES
23046 HYDRAFORCE (ROUND COIL)	22736H	HT40KX	100544 - CURRENT
		HT50KX	110346 - CURRENT
	22736H-1	HT66KX	150031 - CURRENT
22966 COMMAND CONTROLS (SQUARE COIL)	22736L	HT40KX	100300 - 100543
		HT50KX	110300 - 110345
	22736L-1	HT66KX	150000 - 150030

**TITLE**  
22736 REPLACEMENT PARTS  
HT40/50/66KX PROPORTIONAL

**DATE**  
11-13-17F  
SUPERSEDES  
02-21-14E

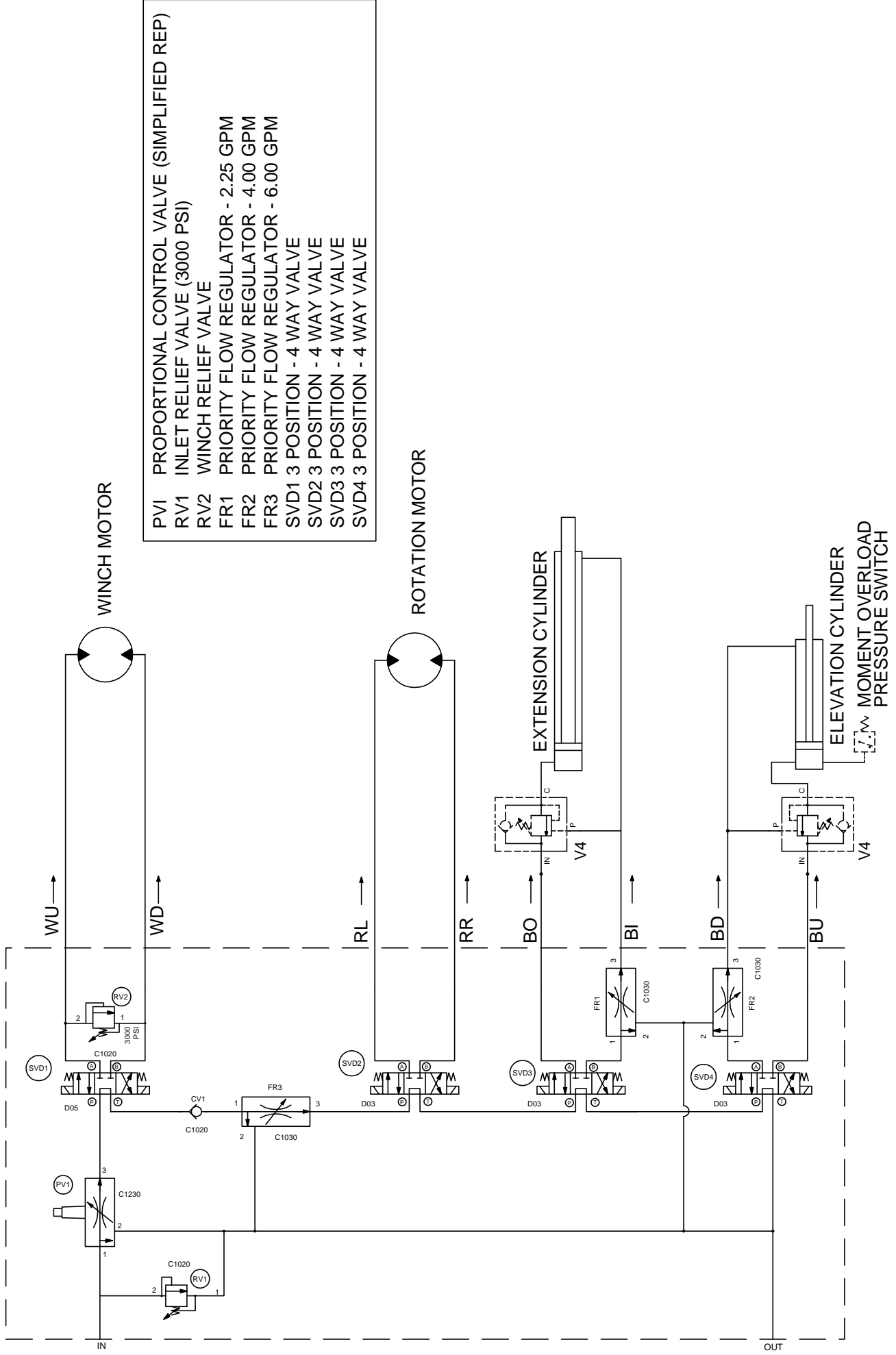


VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO


**SECTION**  
C400

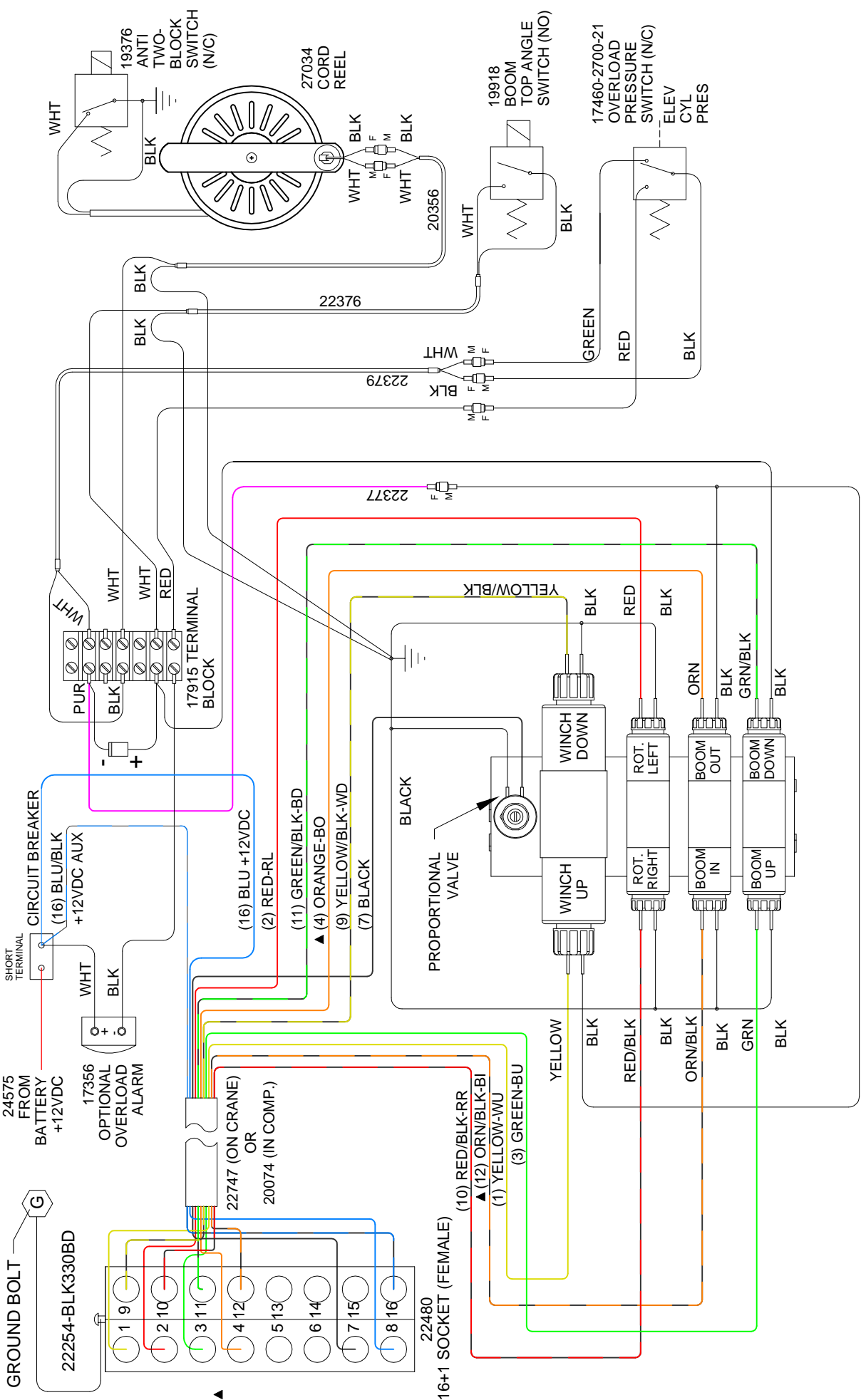
**22940**





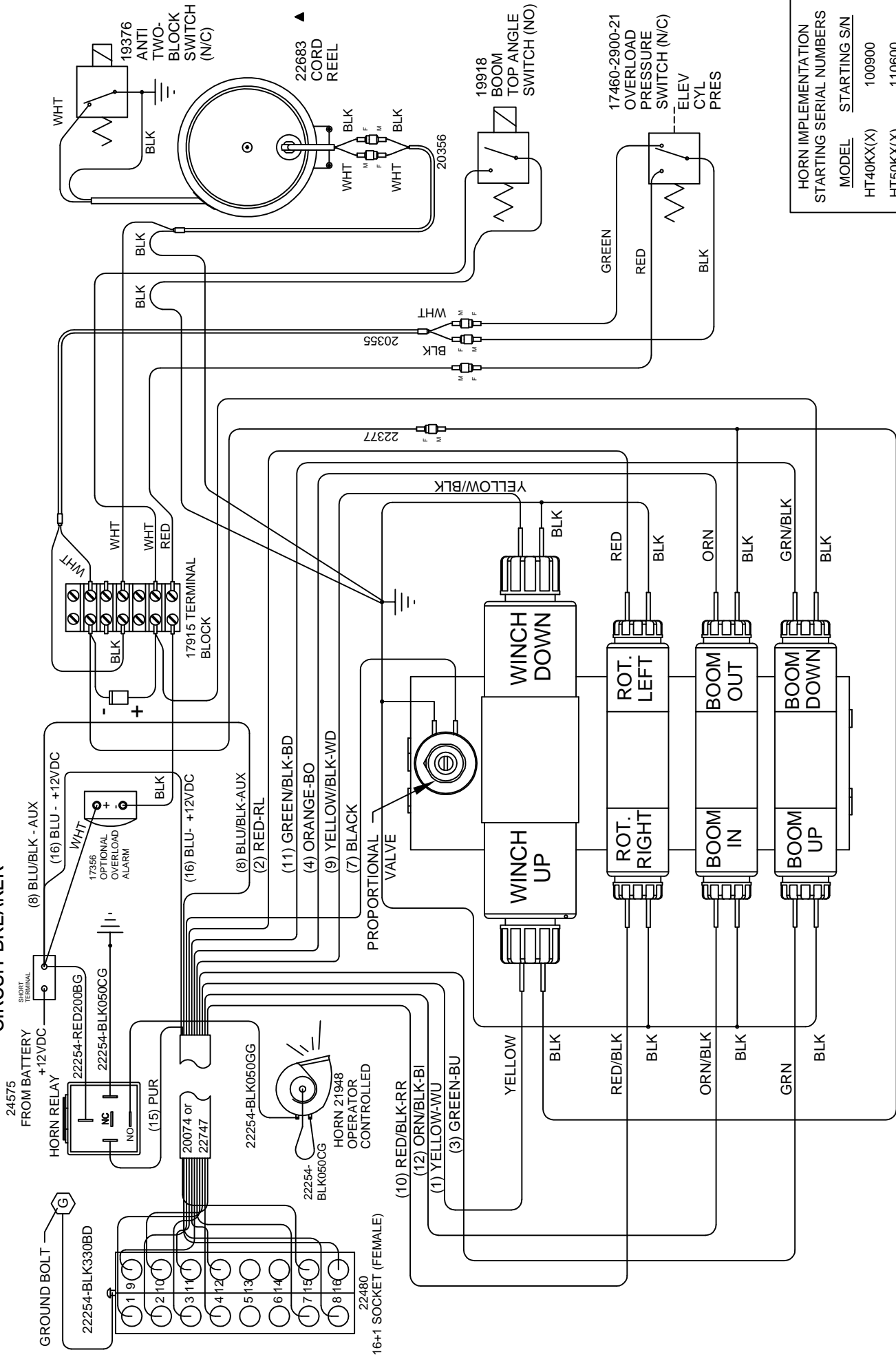
- PV1 PROPORTIONAL CONTROL VALVE (SIMPLIFIED REP)
- RV1 INLET RELIEF VALVE (3000 PSI)
- RV2 WINCH RELIEF VALVE
- FR1 PRIORITY FLOW REGULATOR - 2.25 GPM
- FR2 PRIORITY FLOW REGULATOR - 4.00 GPM
- FR3 PRIORITY FLOW REGULATOR - 6.00 GPM
- SVD1 3 POSITION - 4 WAY VALVE
- SVD2 3 POSITION - 4 WAY VALVE
- SVD3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

	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE <b>HYDRAULIC SYSTEM DIAGRAM</b>	DATE <b>02-21-14B</b>	SECTION <b>C400</b>
			HT40/50/66KX; PROPORTIONAL	SUPERSEDES 11-17-09A	<b>27352</b>



	<b>TITLE</b> WIRING DIAGRAM		<b>SECTION</b> C400
	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		<b>DATE</b> 06-27-14J <small>SUPERSEDES</small> 4-22-14H
<b>HT40/50KX; PROPORTIONAL</b>			<b>22185</b>

# CIRCUIT BREAKER



HORN IMPLEMENTATION	
MODEL	STARTING S/N
HT40K(X)	100900
HT50K(X)	110600



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

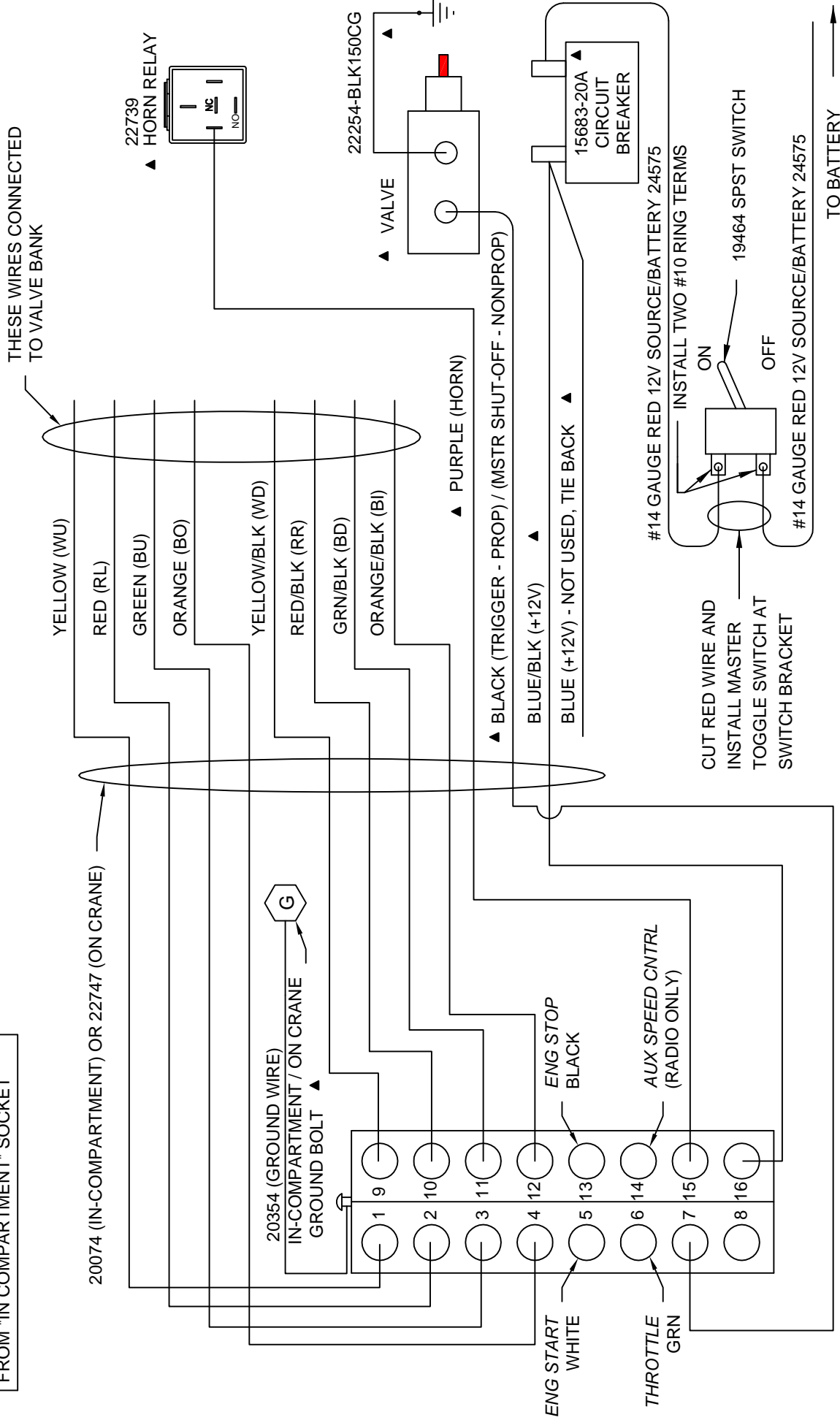
TITLE: **WIRING DIAGRAM**

HT40/50KX; PROPORTIONAL

DATE	12-07-18M	SECTION	C400
SUPERSEDES	02-02-15L		
22185			

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

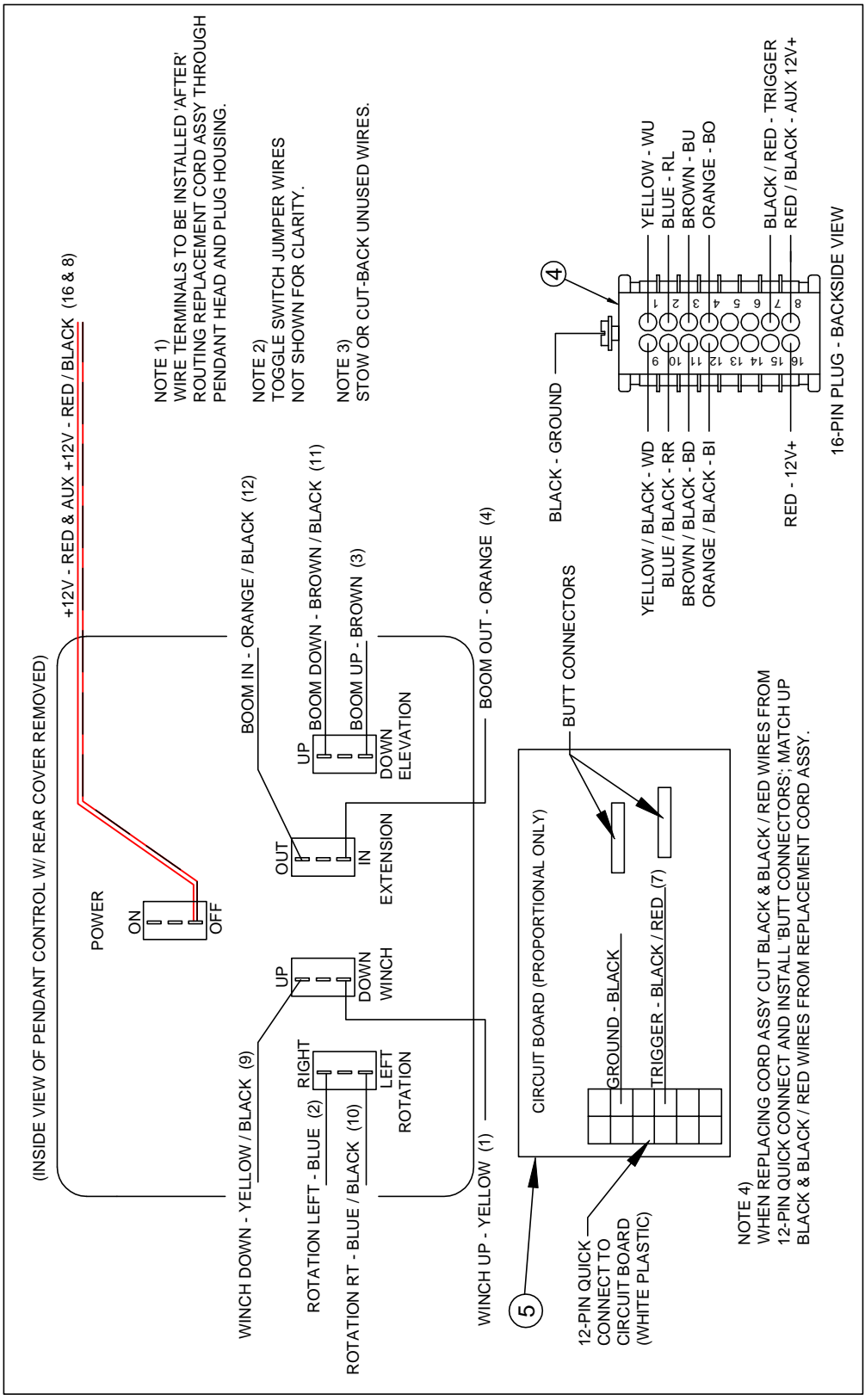
FROM "IN COMPARTMENT" SOCKET



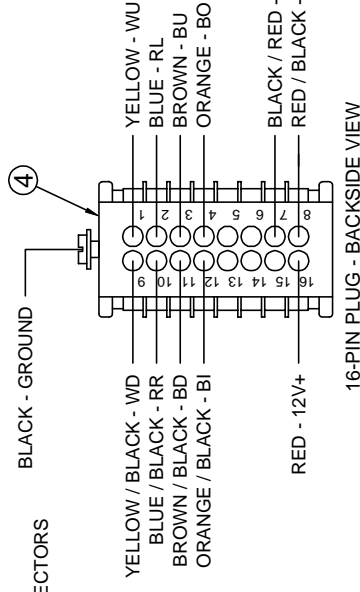
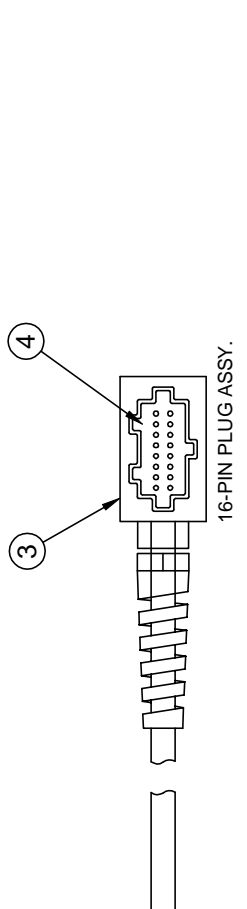
ENGINE CONTROLS (#22616) SOLD AS AN OPTION (NOT INCLUDED WITH CRANE)

 <p>VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO</p>	TITLE	SOCKET WIRING; 16 PIN	
	SECTION	DATE	02-17-15G
	SUPERSEDES	02-21-14F	
		22125	


# CORD REPLACEMENT INSTRUCTIONS; 22118 PENDANT



ITEM	QTY	PART NO.	DESCRIPTION
6	1	22135	REPL. CORD ASSY. KIT
5	1	22082	PROP. VALVE DRIVER CONT. BOARD
4	1	22472	MALE INSERT - 16 + 1 POLE
3	1	22471	PLUG CASE - 16 + 1 POLE
2	4	22081	SPDT MOMENTARY SWITCH
1	1	22080	SPST SWITCH



NOTE 4) WHEN REPLACING CORD ASSY CUT BLACK & BLACK / RED WIRES FROM 12-PIN QUICK CONNECT AND INSTALL 'BUTT CONNECTORS'; MATCH UP BLACK & BLACK / RED WIRES FROM REPLACEMENT CORD ASSY.



VENCRO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

**CORD REPLACEMENT INSTRUCTIONS**

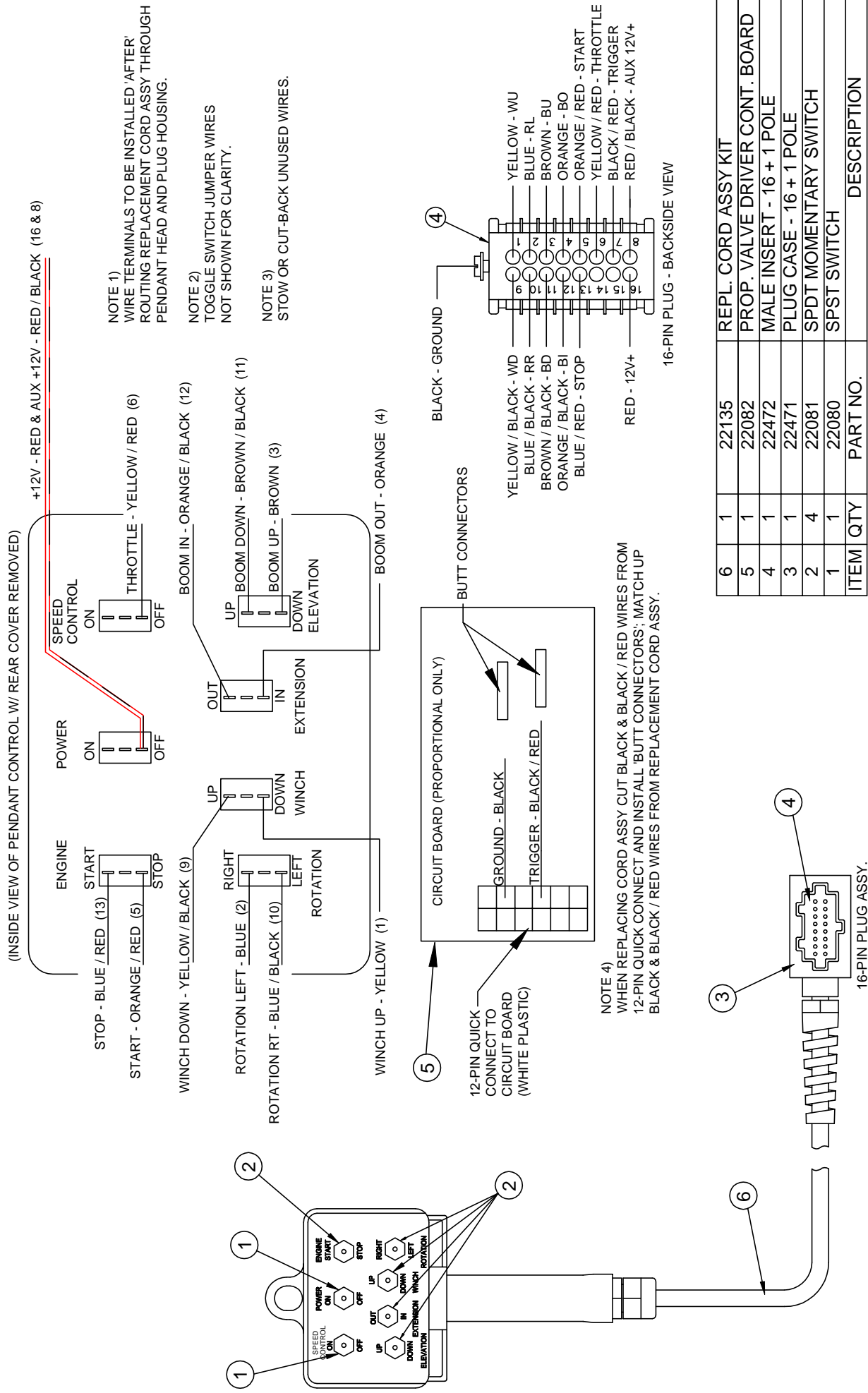
22118 PENDANT; PROPORTIONAL

DATE: 02-21-14B  
SECTION: C400

SUPERSEDES: 08-15-11A

**22166**

# CORD REPLACEMENT INSTRUCTIONS



**VENTURO®**

VENCRO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE: **CORD REPLACEMENT INSTRUCTIONS**

DATE: **02-21-14C**

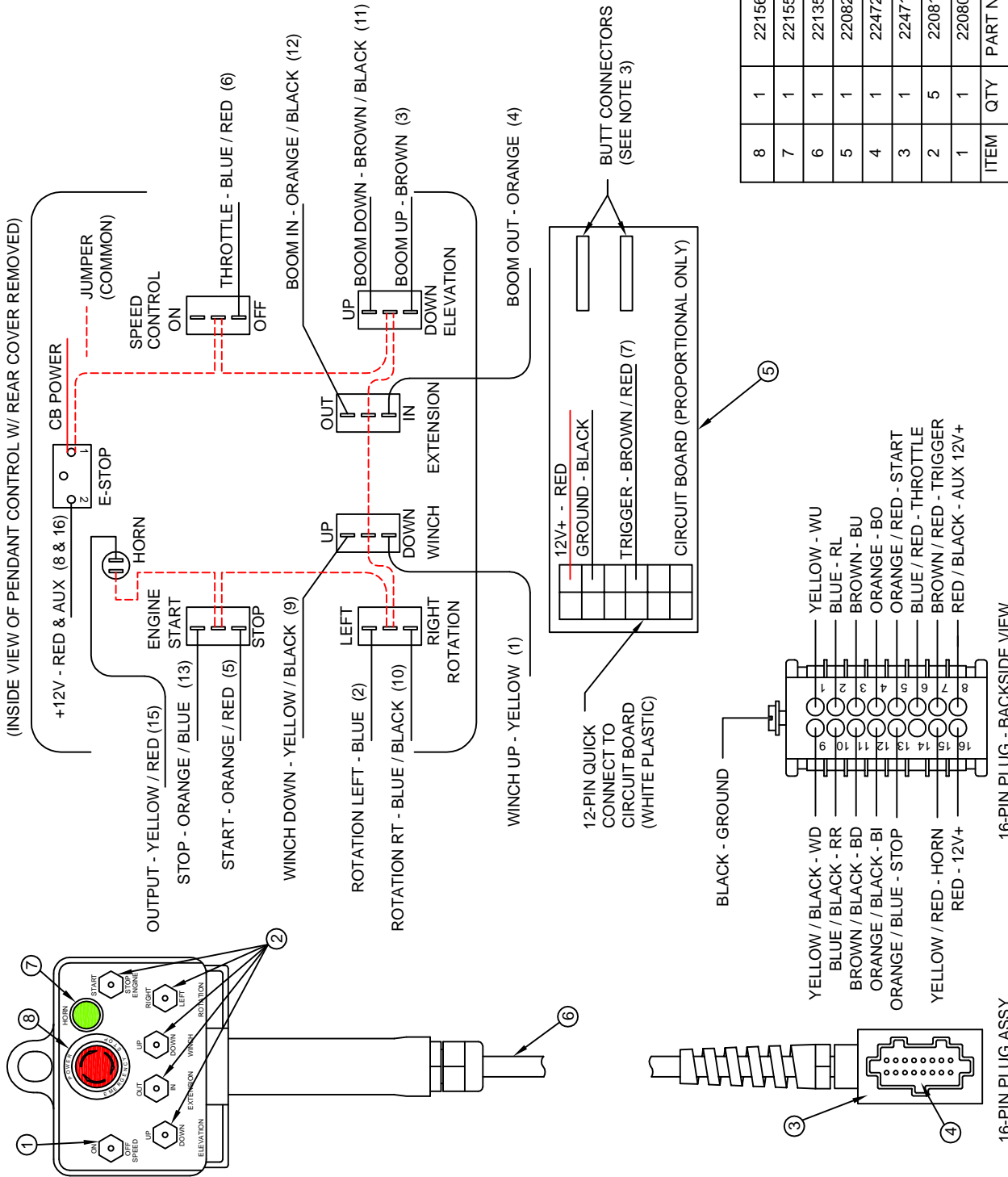
SUPERSEDES: **08-15-11B**

SECTION: **C400**

22065 PENDANT; PROP, ENGINE CONTROLS

**22073**

# 21987 PENDANT; PROP, ENG CNTRL, E-STOP / HORN



NOTE 1:  
WIRE TERMINALS TO BE INSTALLED 'AFTER' ROUTING REPLACEMENT CORD ASSY THROUGH PENDANT HEAD AND PLUG HOUSING.

NOTE 2:  
STOW OR CUT BACK UNUSED WIRES.

NOTE 3:  
WHEN REPLACING CORD ASSY, CUT BLACK AND BLACK / RED WIRES FROM 12-PIN QUICK CONNECT AND INSTALL 'BUTT CONNECTORS'; MATCH UP BLACK TO BLACK WIRES AND BLACK / RED TO BLACK / RED WIRES FROM REPLACEMENT CORD ASSY.

MODEL	STARTING S/N
HT25K(X)	120300
HT30K(X)	115300
HT40K(X)	100900
HT50K(X)	110600
HT66KXX	150300

ITEM	QTY	PART NO.	DESCRIPTION
8	1	22156	SWITCH; E-STOP
7	1	22155	SWITCH; PUSHBUTTON, HORN
6	1	22135	KIT; REPLACEMENT CORD ASSY
5	1	22082	CIRCUIT BOARD; PROP VALVE CONTROLLER
4	1	22472	INSERT; MALE, 16 + 1 POLE
3	1	22471	PLUG CASE; 16 + 1 POLE
2	5	22081	SWITCH; SPDT, MOMENTARY
1	1	22080	SWITCH; SPST

VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**REPLACEMENT PARTS DWG & LIST**

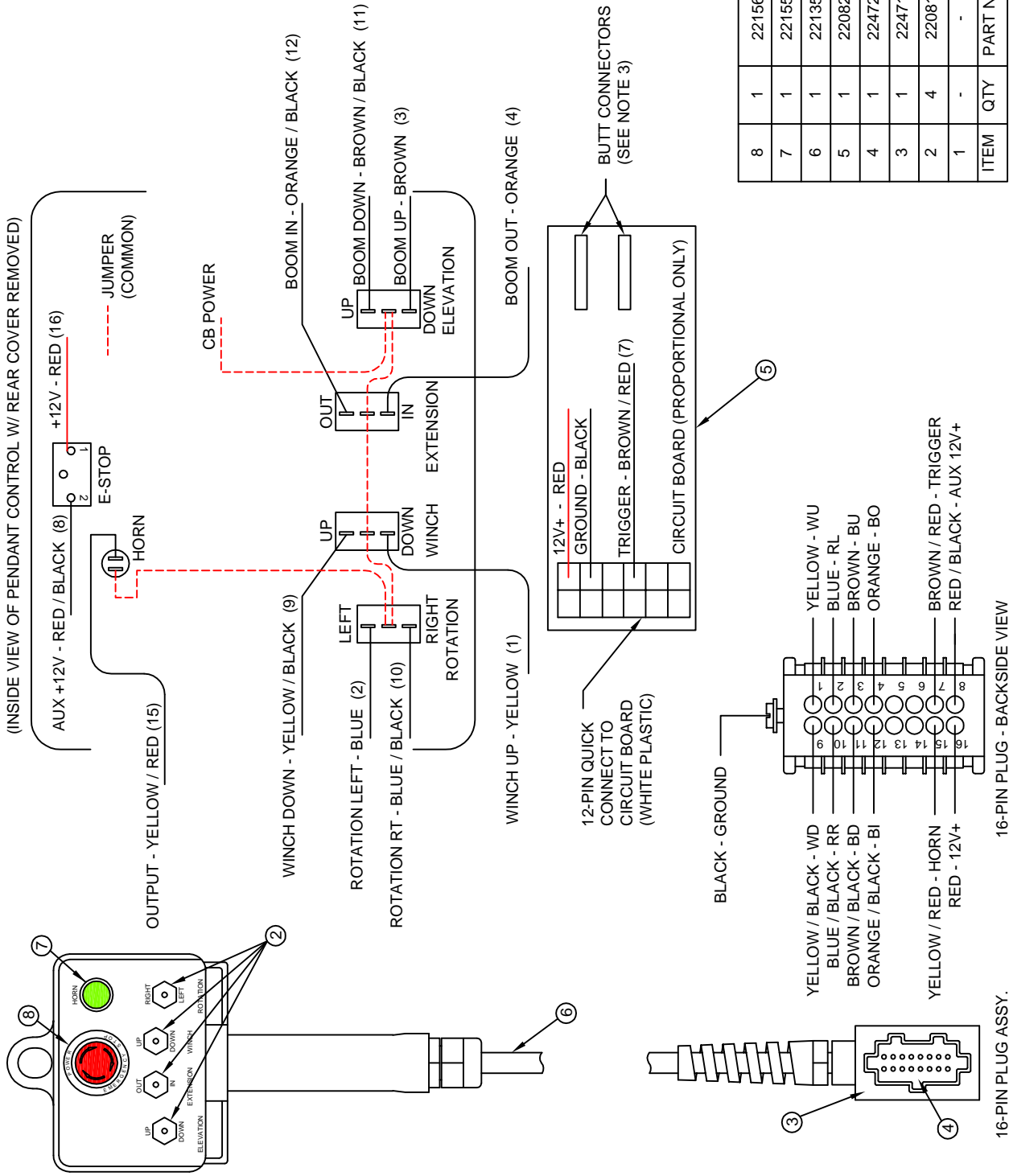
DATE  
10-03-14

SECTION  
C400

SUPERSEDES  
21987 PENDANT; PROP, ENG CNTRL, ESTP/HRN -

23072

# 21988 PENDANT; PROP, NO ENG CNTRL, E-STOP / HORN



**NOTE 1:**

WIRE TERMINALS TO BE INSTALLED 'AFTER' ROUTING REPLACEMENT CORD ASSY THROUGH PENDANT HEAD AND PLUG HOUSING.

**NOTE 2:**

STOW OR CUT BACK UNUSED WIRES.

**NOTE 3:**

WHEN REPLACING CORD ASSY, CUT BLACK AND BLACK / RED WIRES FROM 12-PIN QUICK CONNECT AND INSTALL 'BUTT CONNECTORS'; MATCH UP BLACK TO BLACK WIRES AND BLACK / RED TO BLACK / RED WIRES FROM REPLACEMENT CORD ASSY.

MODEL	STARTING S/N
HT25K(X)	120300
HT30K(X)	115300
HT40K(X)	100900
HT50K(X)	110600
HT66KXX	150300

ITEM	QTY	PART NO.	DESCRIPTION
8	1	22156	SWITCH; E-STOP
7	1	22155	SWITCH; PUSHBUTTON, HORN
6	1	22135	KIT; REPLACEMENT CORD ASSY
5	1	22082	CIRCUIT BOARD; PROP VALVE CONTROLLER
4	1	22472	INSERT; MALE, 16 + 1 POLE
3	1	22471	PLUG CASE; 16 + 1 POLE
2	4	22081	SWITCH; SPDT, MOMENTARY
1	-	-	-

**TITLE**  
REPLACEMENT PARTS DWG & LIST

VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

DATE  
10-03-14

SECTION  
C400

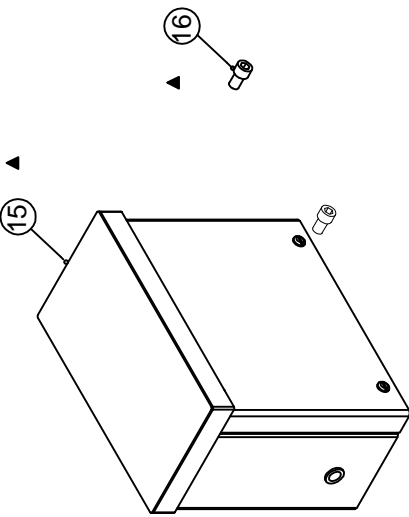
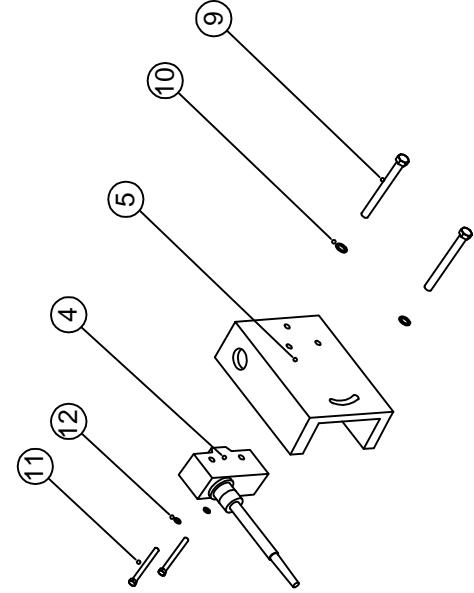
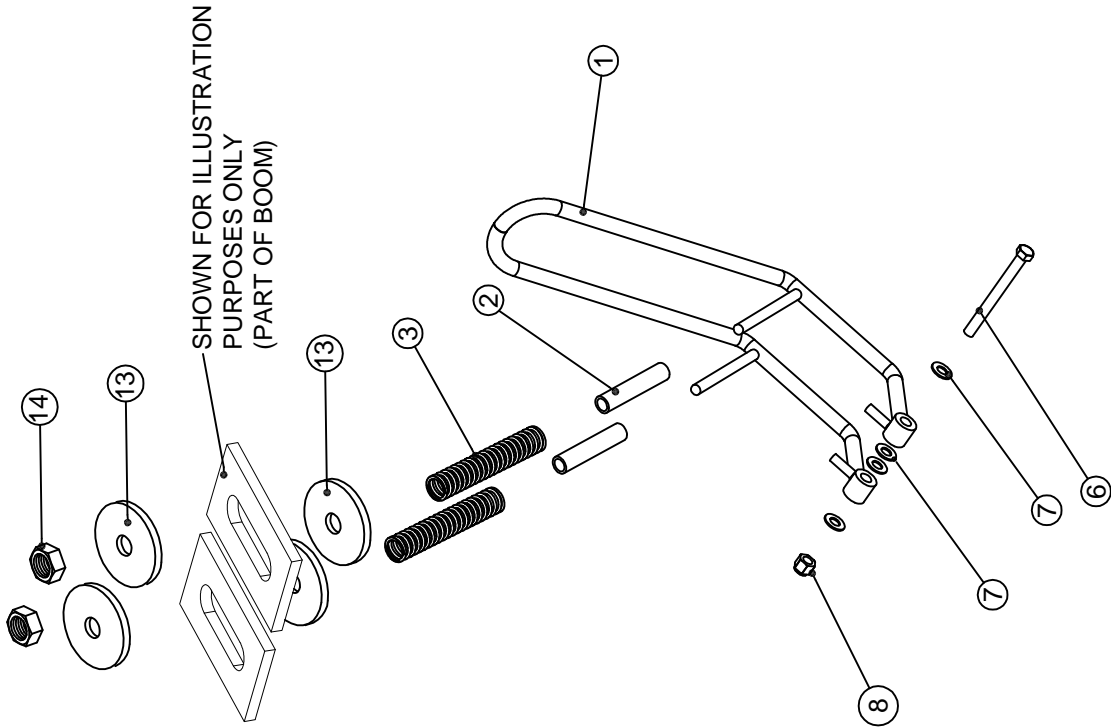
21988 PNDNT; PROP, NO ENG CNT, ESTP/HRN -

SUPERSEDES

23073







FOR RT-HAND MNGT. USE CORD REEL P/N 22683-1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
17	-	-	-
16	2	!SHCS03118050-SS	SHCS: 5/16-18 X 1/2", S/S
15	1	22683	CORD REEL W/MOUNTING BRACKET
14	2	!LNUT-04414	LOCKNUT W/NYLON INSERT - 7/16-14
13	4	!FWSH-050	FLAT WASHER - 1/2 USS
12	2	!LWSH-#6-STAR	EXTERNAL STAR LOCK - #6
11	2	!PHCS#632100	PAN CAP SCREW - #6-32 X 1
10	2	!LWSH-#10	LOCK WASHER - #10
9	2	!PHCS#1024125	PAN HD CAP SCREW - #10-24 X 1-1/2"
8	1	!LNUTM12X175	NYLOK NUT 12MM-1.75
7	4	!FWSH-044SAE	FLAT WASHER - 7/16 SAE
6	1	!HHCSM12M120	HEX HEAD CAP SCREW 12MM X 120MM LONG
5	1	21237	SWITCH HOUSING (BLACK CAST NYLON)
4	1	19376	ANTI-TWO BLOCK SWITCH
3	2	27586	SPRING
2	2	27579b	SPRING LOCATING TUBE
1	1	27762	ANTI TWO BLOCK CAGE ASSEMBLY
			DESCRIPTION

TITLE	SECTION
A2B SYSTEM REPLACEMENT PARTS	C400
HT40/50KX	DATE
	12-07-18D
	SUPERSEDES
	02-21-14C
	23024

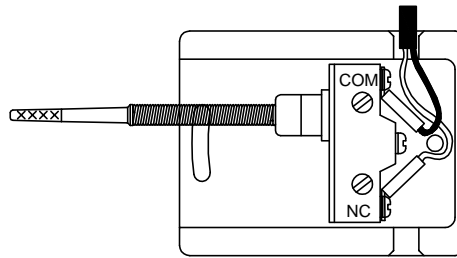
VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO



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.



CUT-AWAY VIEW

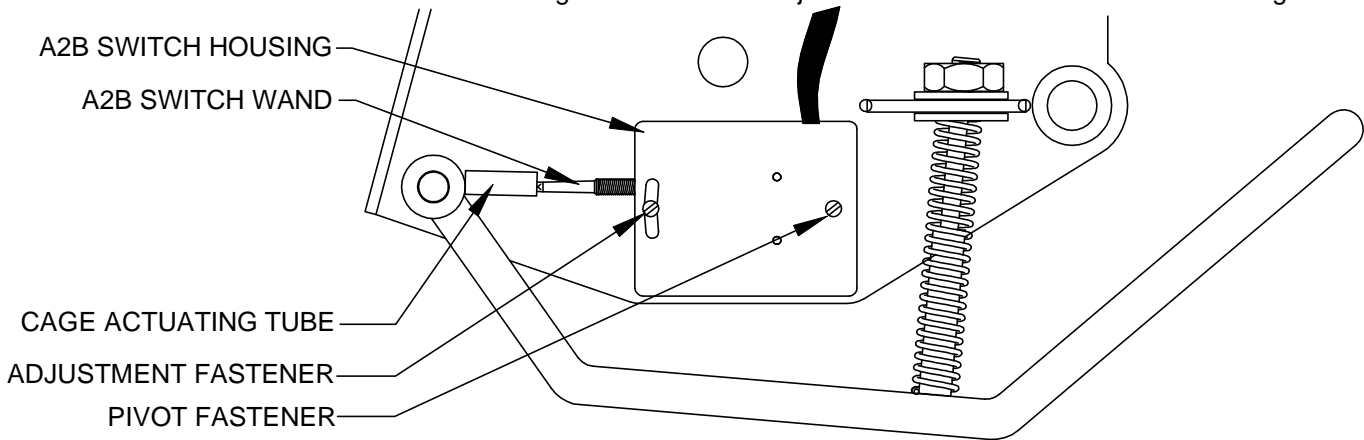
STEP 2

ANTI-TWO BLOCK (A2B) SWITCH ADJUSTMENT

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

Once loosened the A2B switch and housing move freely pivoting 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.

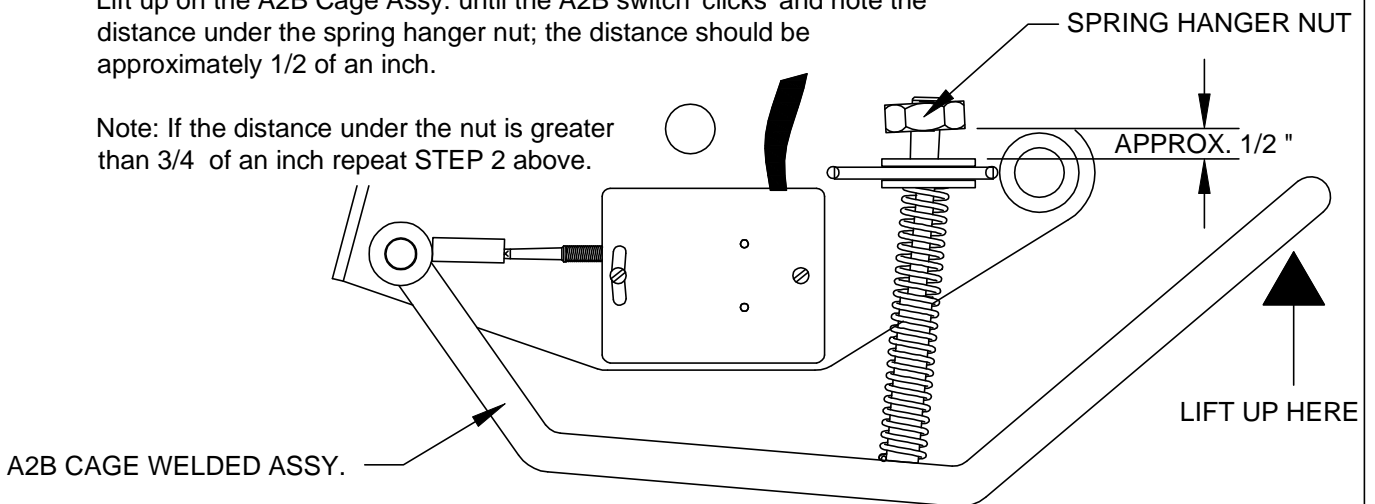


STEP 3

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.

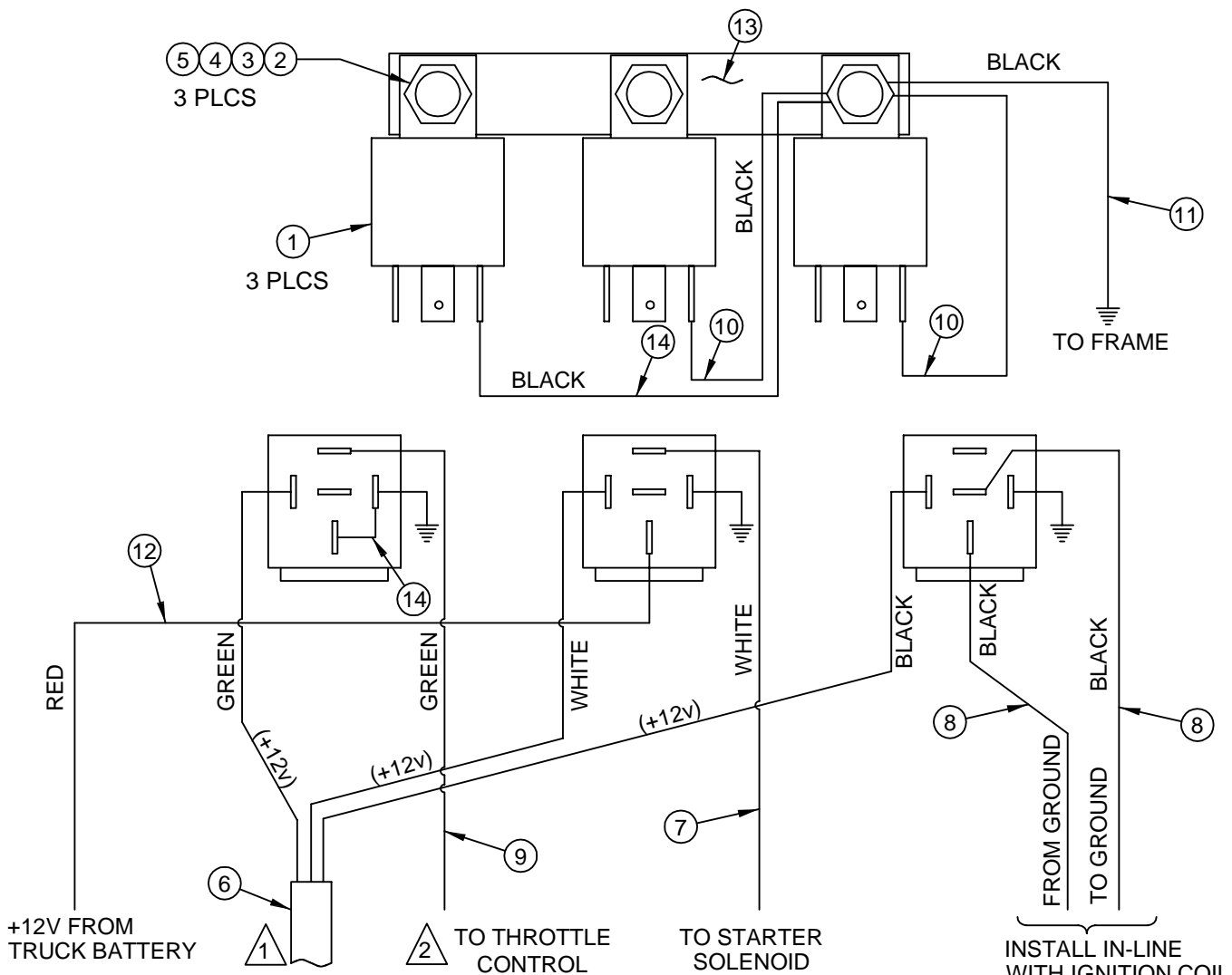


VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
**WIRING & ADJUSTMENT**  
A2B SYSTEM

DATE  
02-21-14A  
SUPERSEDES  
04-12-11

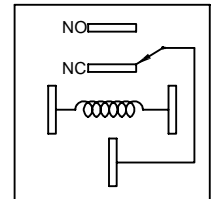
SECTION  
C400  
**27029**



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

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

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



RELAY SCHEMATIC

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



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE ENGINE START / STOP  
THROTTLE CONTROL

HT CRANES

DATE 06-09-20F

SUPERSEDES 02-21-14E

SECTION C400

22615

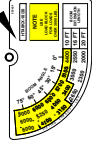
BOOM CAPACITY DECALS			
HT40KX		HT50KX	
20' BOOM	25' BOOM	20' BOOM	25' BOOM
22342-1	23064	22352-1	22877-1
RIGHT			
22342-2	23065	22352-2	22877-2
LEFT			

MODEL NAME DECALS	
HT40KX	HT50KX
19746 (2)	19747 (2)

VENTURO (LARGE)  
22496 (2)

PROPORTIONAL CONTROL  
19788 (2)  
(PROPORTIONAL ONLY)

**HT40KX**  
PROPORTIONAL CONTROL

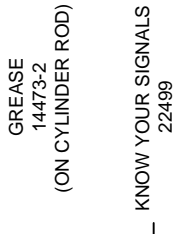


**VENTURO**

GREASE  
14473-2  
(ON PIVOT TUBE)

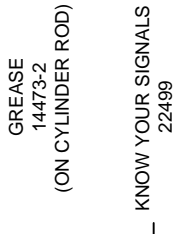
OIL  
14473-1

KNOW YOUR SIGNALS  
22499

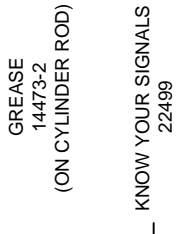


VENTURO (MEDIUM)  
17389

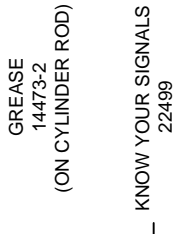
GREASE  
14473-2  
(ON CYLINDER ROD)



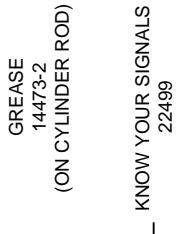
UNPLUG  
15398  
(ON-CRANE CONTROL ONLY)



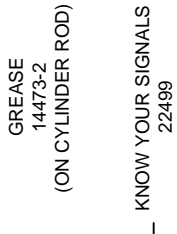
OVERVERRIDE  
INSTRUCTIONS  
20834



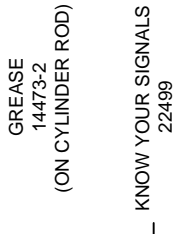
CAUTION  
15390



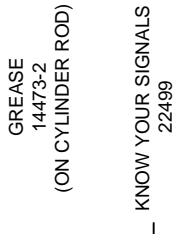
GREASE  
14473-2 (2)



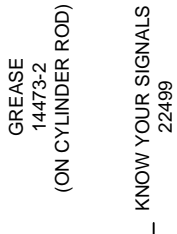
DANGER  
ELEC. HAZARD  
15392



DANGER  
NOT A PASSENGER LIFT  
15391

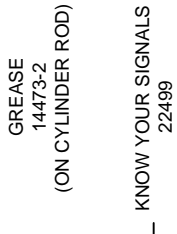


DANGER  
UNLAWFUL TO OPERATE  
15401



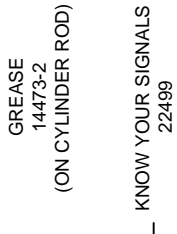
VALVE OVERRIDE

19315-1	STANDARD
19315-2	PROPORTIONAL



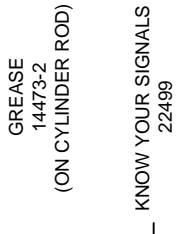
MANUAL OVERRIDE (LEFT)

19314-1	STANDARD
22768-1	PROPORTIONAL

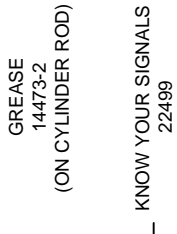


MANUAL OVERRIDE (RIGHT)

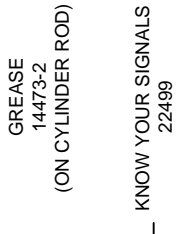
19314-2	STANDARD
22768-2	PROPORTIONAL



INSIDE THE REAR COVER



GREASE  
14473-2 (2)  
(UNDER BASE PLATE)



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

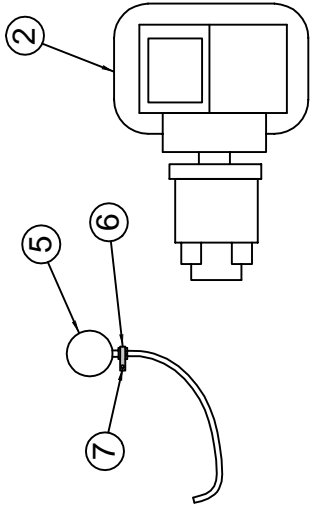
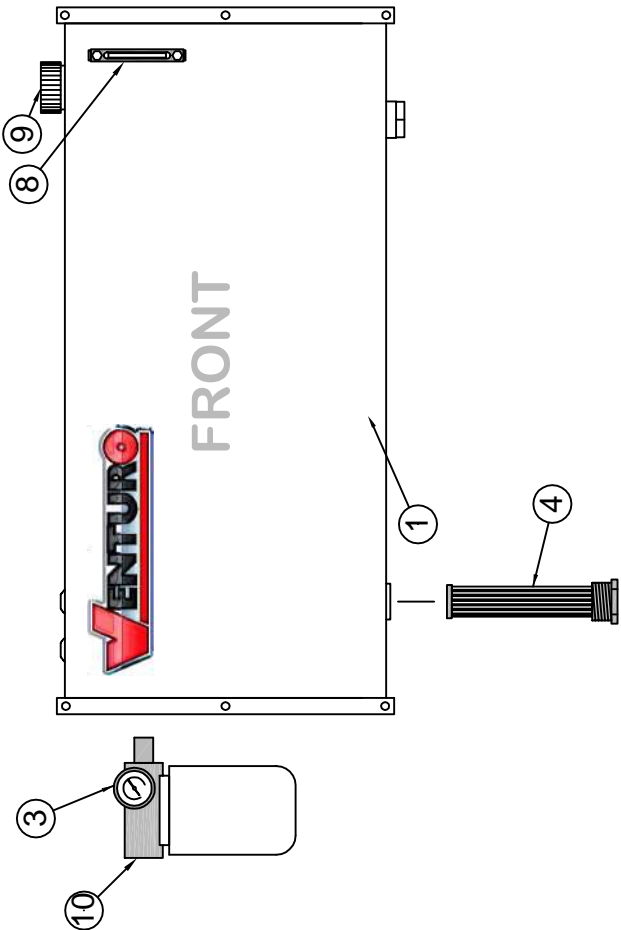
TITLE  
DECAL PLACEMENTS

HT40/50KX, GENERATIONS B, C & D

DATE  
12-01-16M  
SUPERSEDES  
08-10-15L

SECTION  
C400

22171



ILLUSTRATIONS FOR REFERENCE ONLY!  
 - COMPONENT LOCATIONS MAY DIFFER -

19296 PTO CONFIGURATION CHART

DASH #	MOUNTING	RECOMMENDED GPM (RPM)
- 1.60	SAE 'A' 9 TOOTH SPLINE SHAFT	HT25/30 - STD. - 2.0 GPM (1250 RPM)
- 4.00		HT25/30 - PROP. - 4.0 GPM (1000 RPM)
- 2.64	SAE 'B' 13 TOOTH SPLINE SHAFT	HT40 - STD. - 2.6 GPM (1000 RPM)
- 10.0		HT50 - STD. - 3.0 GPM (1150 RPM)
		HT40 - PROP. - 10.0 GPM (1000 RPM)
		HT50 - PROP. - 12.0 GPM (1200 RPM)

10	1	19298	FILTER ASSY, RETURN
9	1	22789	FILLER / BREATHER CAP ASSEMBLY
8	1	22787	SIGHT GLASS
7	1	IHWHS02520075-F	HEX WASHER HEAD 1/4-20 X 3/4 SELF TAPPING
6	1	19275	CLAMP
5	1	22730	PRESSURE GAUGE ASSEMBLY
4	1	22788	SUCTION SCREEN - 100 MESH
3	1	19297	PRESSURE GAUGE - RETURN
2	1	SEE PTO CHART	PTO PUMP
*1	1	SEE TANK CHART	HYDRAULIC TANK
ITEM	QTY	PART NUMBERS	DESCRIPTION

\* REFERENCE DWG #22825 IN SECTION 200



VENCO VENTURO INDUSTRIES LLC  
 CINCINNATI, OHIO

TITLE

RPLCMNT PARTS DWG/LIST; RESERVIOR KITS

HT CRANES; 25/40 GALLON APPLICATIONS

DATE

08-04-15C

SUPPERSEDES

02-21-14B

SECTION

C400

23224

# HT50KX FIELD SERVICE LABEL KITS

HT50KX					22924 FIELD SERVICE LABEL KITS (FOR HT50KX GENERATIONS B, C & D)		SERIAL NUMBER RANGES (FOR EACH GENERATION)
STANDARD 20'	PROPORTIONAL 20'	STANDARD 25'	PROPORTIONAL 25'	QUANTITY			
2	2	2	2	22496	DECAL; VENTURO LOGO, LARGE	HT50KX GENERATION D: 110300 - CURRENT HT50KX GENERATION C: 86000 - 86021 / 110000 - 110099 HT50KX GENERATION B: 85197 - 85279	
1	1	1	1	17389	DECAL; VENTURO LOGO, MEDIUM		
2	2	2	2	19747	DECAL; MODEL NAME, HT50KX		
	2		2	19788	DECAL; PROPORTIONAL CONTROL		
1	1			22352-1	DECAL; BOOM CAPACITY, HT50KX, 10'/16'/20', RIGHT		
1	1			22352-2	DECAL; BOOM CAPACITY, HT50KX, 10'/16'/20', LEFT		
		1	1	22877-1	DECAL; BOOM CAPACITY, HT50KX, 12'/18.5'/25', RIGHT		
		1	1	22877-2	DECAL; BOOM CAPACITY, HT50KX, 12'/18.5'/25', LEFT		
1	1	1	1	14473-1	DECAL; OIL		
7	7	7	7	14473-2	DECAL; GREASE		
1	1	1	1	17813	DECAL; OVERLOAD SENSING SYSTEM		
1	1	1	1	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	22926	IDWG; FIELD SERVICE LABEL KITS, HT50KX		
1	1	1	1	22171	IDWG; DECAL PLACEMENTS, HT40/50KX		
1	1	1	1	INST-23233	SAFETY MANUAL, VENTURO CRANES		
1	1	1	1	15397	KIT; ACCIDENT PREVENTION SIGNS		

15397 ACCIDENT PREVENTION SIGNS		
QTY	PART #	DESCRIPTION
1	15390	DECAL; CAUTION
1	15391	DECAL; DANGER, NOT A PASSENGER LIFT
1	15392	DECAL; DANGER, ELECTROCUTION HAZARD
4	15393	DECAL; DANGER, ELECTRICAL HAZARD
1	15394	IDWG; HAZARDS & INFORMATION
1	15398	DECAL; UNPLUG THE PENDANT
1	15401	DECAL; UNLAWFUL TO OPERATE
1	15513	DECAL; MASTER DISCONNECT, ON/OFF
1	22317	DECAL SHEET; VENTURO, COMPLEMENTARY
1	20927	DECAL; CRANE STABILITY



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
FIELD SERVICE LABEL KITS  
HT50KX GEN. B, C & D

DATE  
08-12-15C  
SUPERSEDES  
01-21-15B

SECTION  
C400

22926





## 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.

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