



HT30KX(X)

*HMAAAA-PO** & HMBAAA-PO***
INSTALLATION & OWNER'S MANUAL

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HT30KX(X) / Prop Ctrl / NO Eng Controls (HM*AAA-P0**)

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MFG., INC.
CINCINNATI, OHIO

TITLE

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DATE

3-24-10

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-

SUPERSEDES

-

HT30 (HM*AAA-P0**)

21942

SECTION 100

DESCRIPTION

&

SPECIFICATIONS

**TOTAL INSTALLED
WEIGHT 1620 LBS.**



**MANUFACTURING, INC.
CINCINNATI, OHIO**

TITLE INSTALLATION DRAWING

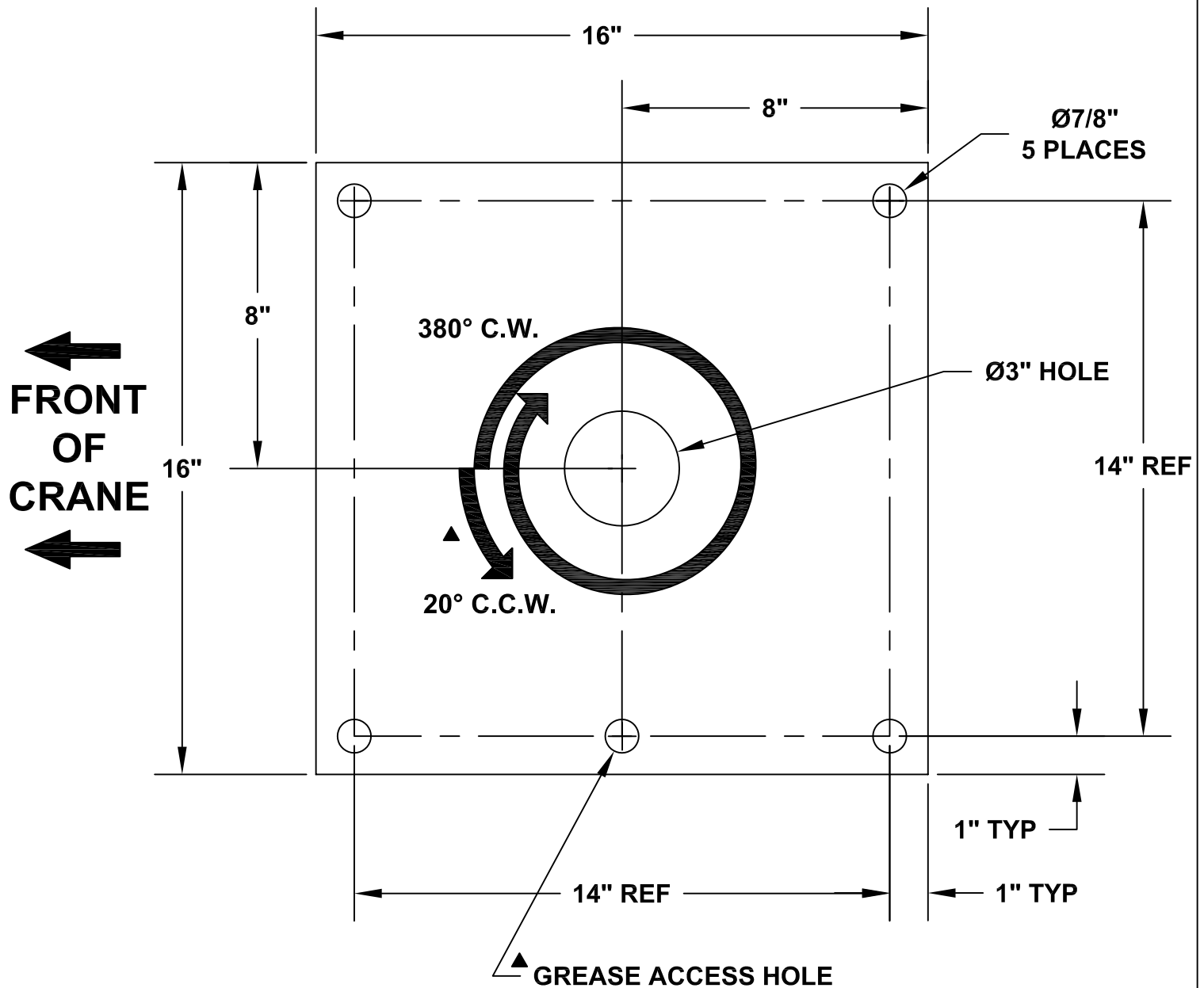
DATE
12-14-09A

HT25 & HT30

SECTION
C100

21951

ET/HT25/30/36KX(X) BASE MOUNTING DIMENSIONS (Grease Zerk on Underside of Slewing Ring)



MFG., INC.
CINCINNATI, OHIO

TITLE
BASE MOUNTING DIM

ET/HT25/30/36

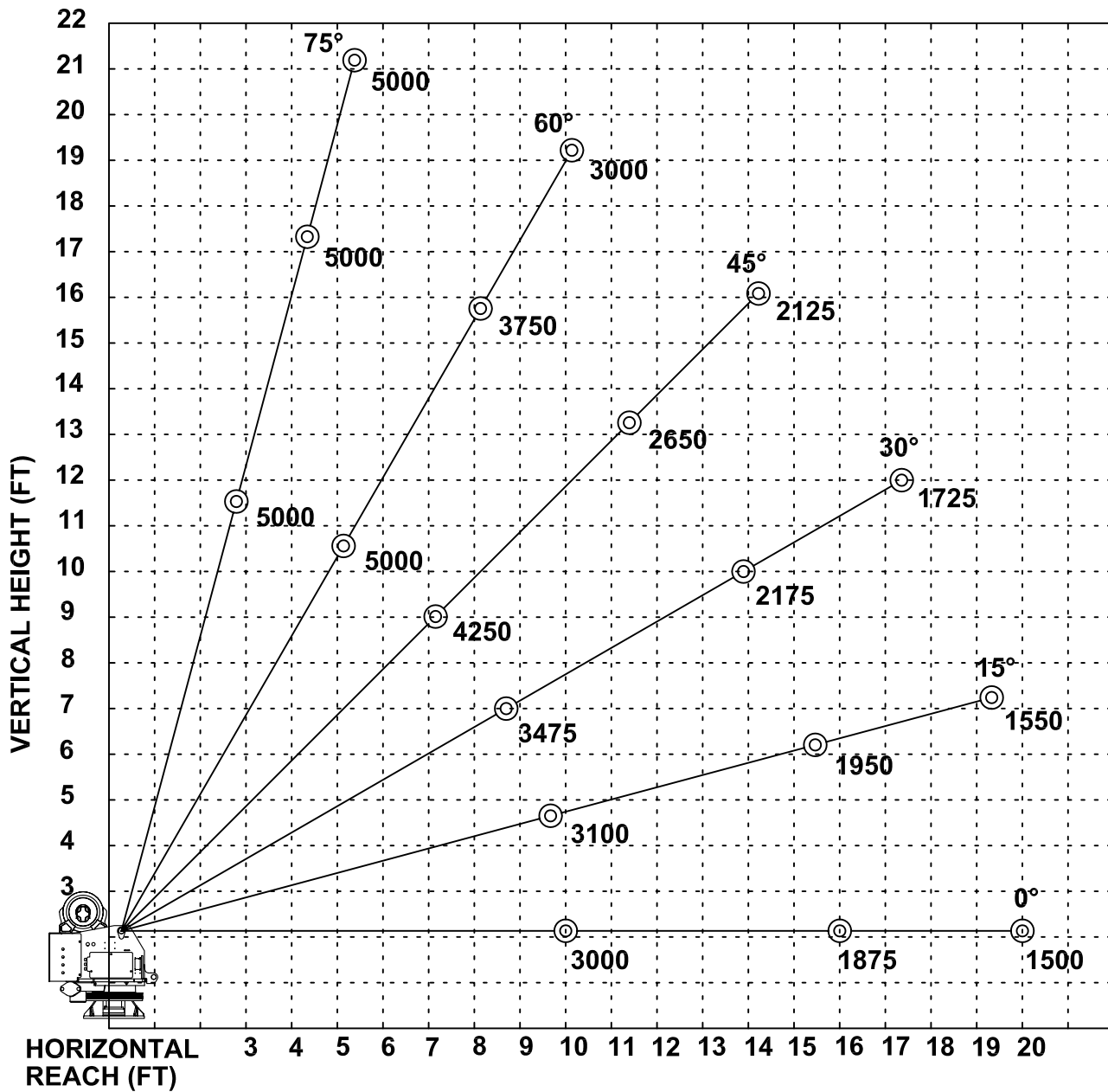
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1-20-10C

SUPERSEDES
8-10-09B

SECTION
C100

21080

▲
**ET/HT30KX - 10-16-20 BOOM
MAXIMUM CAPACITY CHART**



**MUST USE SNATCH BLOCK
FOR LOADS OF 2500 LBS.
AND GREATER**



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CINCINNATI, OHIO

TITLE
CAPACITY CHART

ET/HT30KX - 10-16-20

DATE
8-10-09A

SUPERSEDES
3-25-08

SECTION
C100

21091

SECTION 150

SAFETY

VEHICLE & CRANE MOUNTED ELECTRICAL HAZARD SIGN APPLICATION & INFORMATION

ET & HT CRANE SERIES



▲ SIGN NO. 15393A 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.

REQUIRED MINIMUM CLEARANCES REFERRED TO ON SIGN NO. 15401

REQUIRED CLEARANCES FROM OVERHEAD HIGH-VOLTAGE LINES

NOMINAL VOLTAGE (kV) (PHASE TO PHASE)	MINIMUM REQUIRED CLEARANCE (FEET) *
0 - 50	10
over 50 - 200	15
over 200 - 350	20
over 350 - 500	25
over 500 - 750	35
over 750 - 1000	45

REQUIRED CLEARANCES FROM ENERGIZED HIGH-VOLTAGE CONDUCTORS
(WHILE IN TRANSIT)

NOMINAL VOLTAGE (kV) (PHASE TO PHASE)	MINIMUM REQUIRED CLEARANCE (FEET) *
0 - 0.75	4
over 0.75 - 50	6
over 50 - 345	10
over 345 - 750	16
over 750 - 1000	20

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



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TITLE
INSTALLATION DWG

ET & HT CRANE SERIES

DATE
5-15-02H

SUPERCEDES
5-13-97G

SECTION
C150

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 10 FEET BETWEEN ANY PART OF THE CRANE, LOADLINE, OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 50,000 VOLTS. ADDITIONAL CLEARANCE IS 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
INSTALLATION DWG

HYDRAULIC CRANES

DATE
11-19-09B

SUPERCEDES
5-13-97A

SECTION
C150

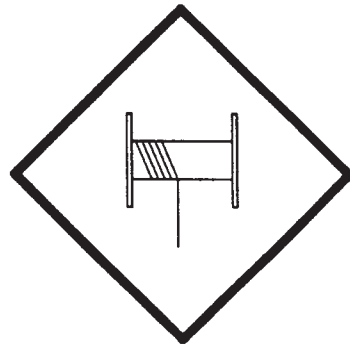
920612

WINCH SAFETY WARNINGS



DANGER

**DO NOT DISENGAGE
WINCH UNDER LOAD**



DANGER

**THE LAST FIVE
WRAPS OF WIRE ROPE
MUST BE LEFT ON
THE DRUM TO ASSIST
THE WIRE ROPE CLAMP IN
HOLDING THE LOAD**



WARNING

**WINCHES ARE NOT
TO BE USED FOR
THE LIFTING OR
MOVING OF
PERSONS**



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TITLE
INSTALLATION DWG

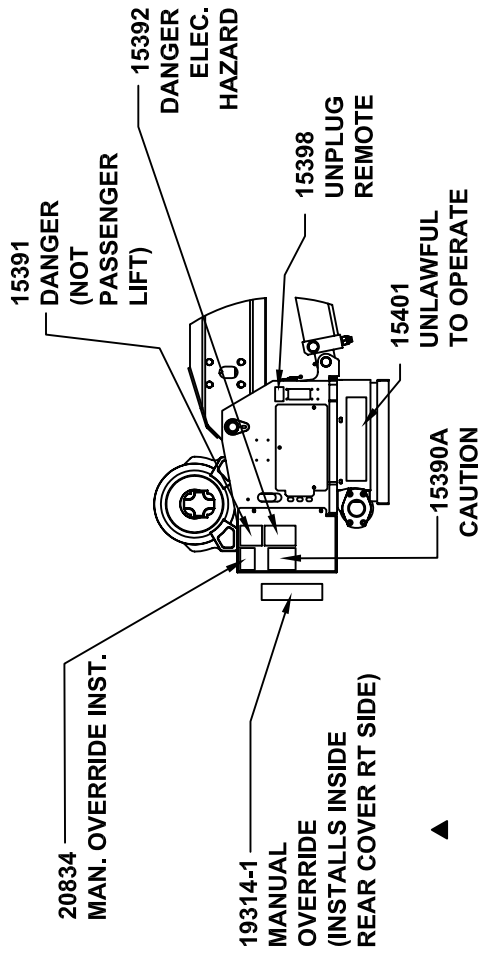
HT CRANES

DATE
5-26-98B

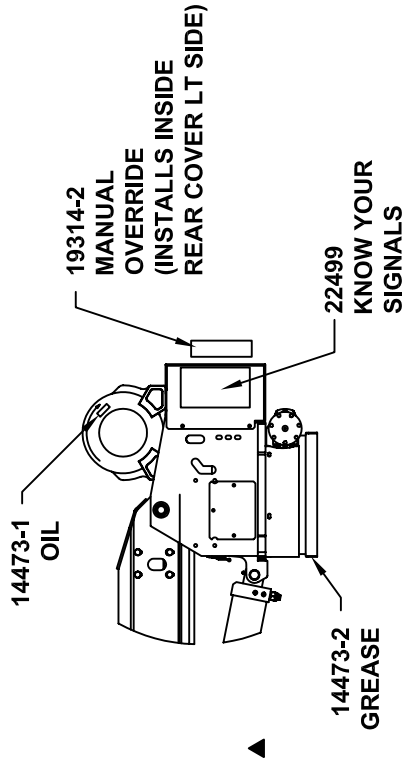
SUPERCEDES
10-17-97A

SECTION
C150

19217

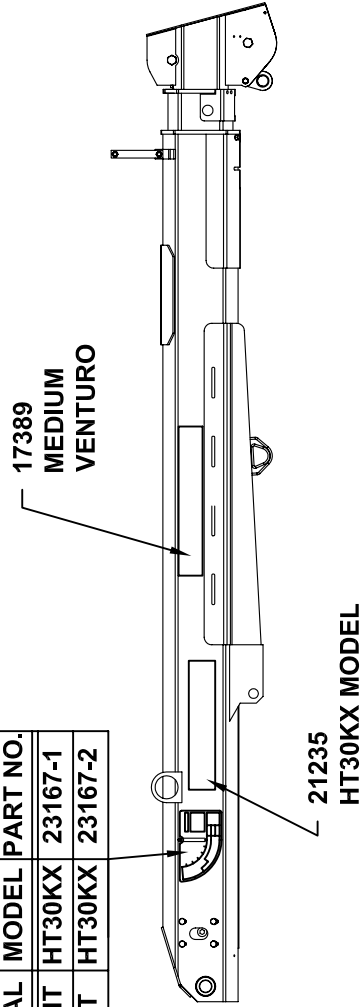


(RIGHT)

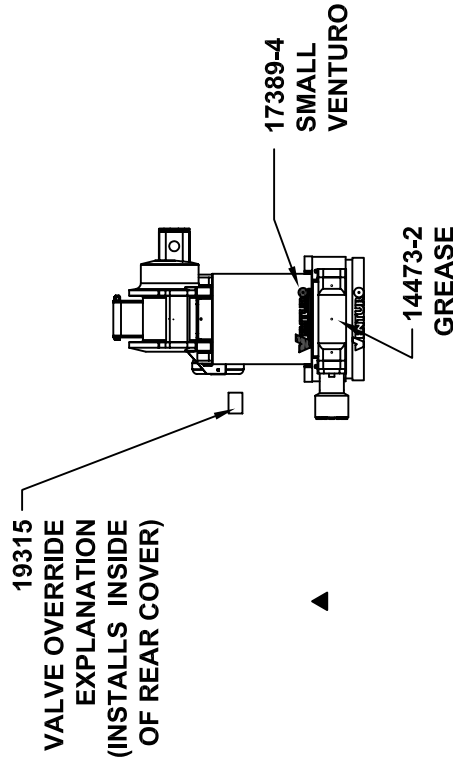


(LEFT)

CAPACITY		
DECAL	MODEL	PART NO.
RIGHT	HT30KX	23167-1
LEFT	HT30KX	23167-2



(BOOM)



(BACK)

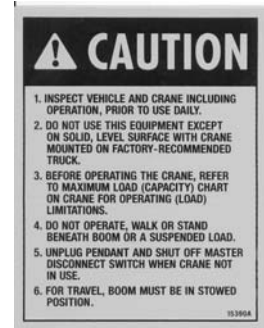
PART NO.: 15390

DECAL: CAUTION - INSPECT VEHICLE & CRANE

FUNCTION: To inform the operator of key operating requirements.

QUANTITY: 1

PLACEMENT: 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: 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 close to or in contact with electrical voltage source.

QUANTITY: 1

PLACEMENT: Rear cover.



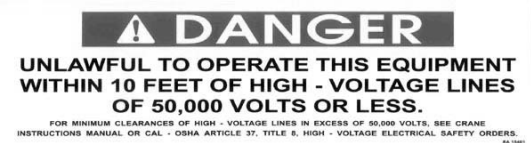
PART NO.: 15401

DECAL: UNLAWFUL TO OPERATE

FUNCTION: To inform the operator of proper operation in vicinity of power lines.

QUANTITY: 1

PLACEMENT: Right side of housing.



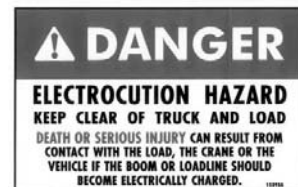
PART NO.: 15393A

DECAL: DANGER - ELECTROCUTION HAZARD

FUNCTION: Warns of danger from electrically charged vehicle, crane or lead.

QUANTITY: 4

PLACEMENT: One on each side and each end of vehicle.



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TITLE

SAFETY DECALS

CRANES

DATE

8-10-09B

SUPERSEDES

5-6-08A

SECTION

C150

21353

PART NO.: 14473-2

DECAL: GREASE

FUNCTION: To show the operator where to apply grease.

QUANTITY: Varies

PLACEMENT: Near grease fittings.



PART NO.: 19314-1

DECAL: MANUAL OVERRIDE

FUNCTION: To inform the operator of manual override locations.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



PART NO.: 19314-2

DECAL: MANUAL OVERRIDE

FUNCTION: To inform the operator of manual override locations.

QUANTITY: 1

PLACEMENT: Right side of rear cover.



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TITLE

SHUT OFF & OVERRIDE DECALS

DATE

3-9-11A

SECTION

C150

HT CRANES

SUPERSEDES

9-6-05

21355A

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.



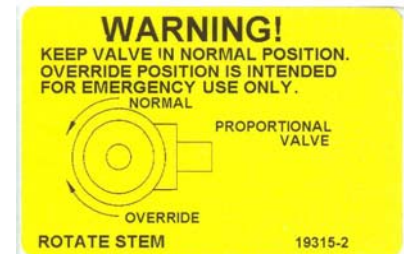
PART NO.: 19315-2

DECAL: MANUAL OVERRIDE (PROPORTIONAL)

FUNCTION: To show the operator how to
override proportional valve.

QUANTITY: 1

PLACEMENT: Rear cover.



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TITLE
SHUT OFF & OVERRIDE DECALS
HT CRANES

DATE
9-6-05
SUPERSEDES
-

SECTION
C150
21355B

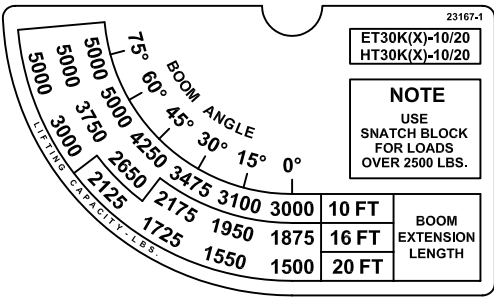
PART NO.: 23167-1 & 23167-2 (OPPOSITE)

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.: 21235

DECAL: MODEL NUMBER (HT30KX)

FUNCTION: To show the model of the crane.

QUANTITY: 2

PLACEMENT: One on each side of boom.

HT30KX



MFG., INC.
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TITLE	DATE	SECTION
MODEL & CAPACITY DECALS	12-14-09	C150
HT30KX	SUPERSEDES -	21885

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.



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

HT25 / HT30

DATE
12-14-09A

SUPERCEDES
3-26-08

SECTION
C200

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.



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TITLE
INSTALLATION DWG

HT25 / HT30 ▲

DATE
12-14-09G

SUPERCEDES
10-23-09F

SECTION
C200

119212b

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. ▲



MFG., INC.
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TITLE

INSTALLATION DWG

DATE

12-14-09A

SECTION

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 with Engine Controls) - Energizes safety shutoff valve. See page 22328 for detailed operating 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.

The Overload system is inoperative if the boom elevation is at the bottom or top limit of travel. To relieve this condition, raise or lower the boom slightly before lifting the load.

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 snatch 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 Drawing 20904 for parts breakdown and configuration information.

TELESCOPIC HEXAGONAL BOOM

The dual-stage 10 to 20 ft. boom has a 10 ft. power extension. The single-stage 10 to 20 ft. boom has a 4 ft. manual telescoping section in addition to the 6 ft. power extension.

TRUCK SETUP & OUTRIGGERS

1. The truck should be parked on ground that is as level and as firm as possible when using the crane.
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 outriggers to help stabilize the vehicle against rocking or overturning when lifting with the crane.

PREPARATION FOR TRAVEL

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



MFG., INC.
CINCINNATI, OHIO

TITLE

INSTALLATION DWG

DATE

12-14-09A

SECTION

C200

HT25 / HT30 ▲

SUPERCEDES

10-23-09

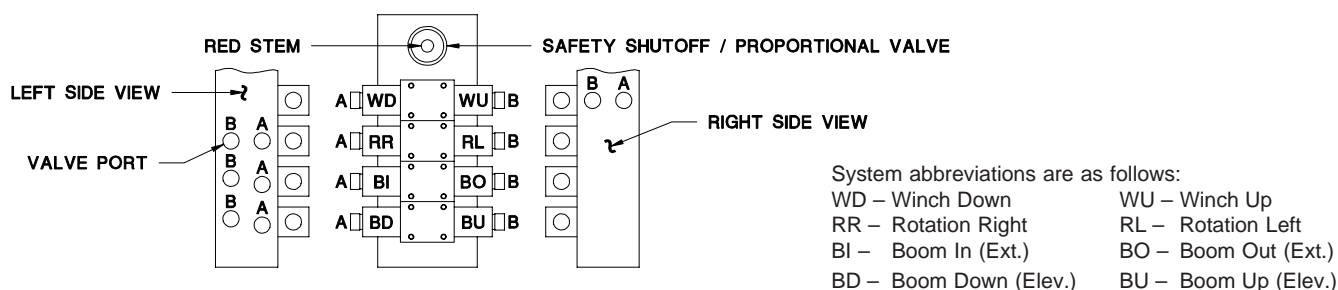
21955

EXPLANATION OF HYDRAULIC VALVE SYSTEM

OVERVIEW

Venturo's hydraulic cranes are available in two general configurations: Proportional and Non-proportional. The **Non-proportional** configuration utilizes a safety shutoff 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 shutoff valve is not actuated. When the safety shutoff 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 shutoff 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 crane functions (winch, rotation, boom elevation, and boom extension) are controlled by four separate valve sections. Each valve section has two solenoid coils (and two 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 shutoff 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 counterclockwise 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 is turned the faster the crane will operate).

To return to normal operation, rotate the stem counterclockwise 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 inward. For example, pushing the stem labeled A on the first bank (refer to the illustration) will actuate winch down.

WARNING! For normal crane operation, the safety shutoff or proportional valve must 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 shutoff 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.



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TITLE
HYDRAULIC SYSTEM

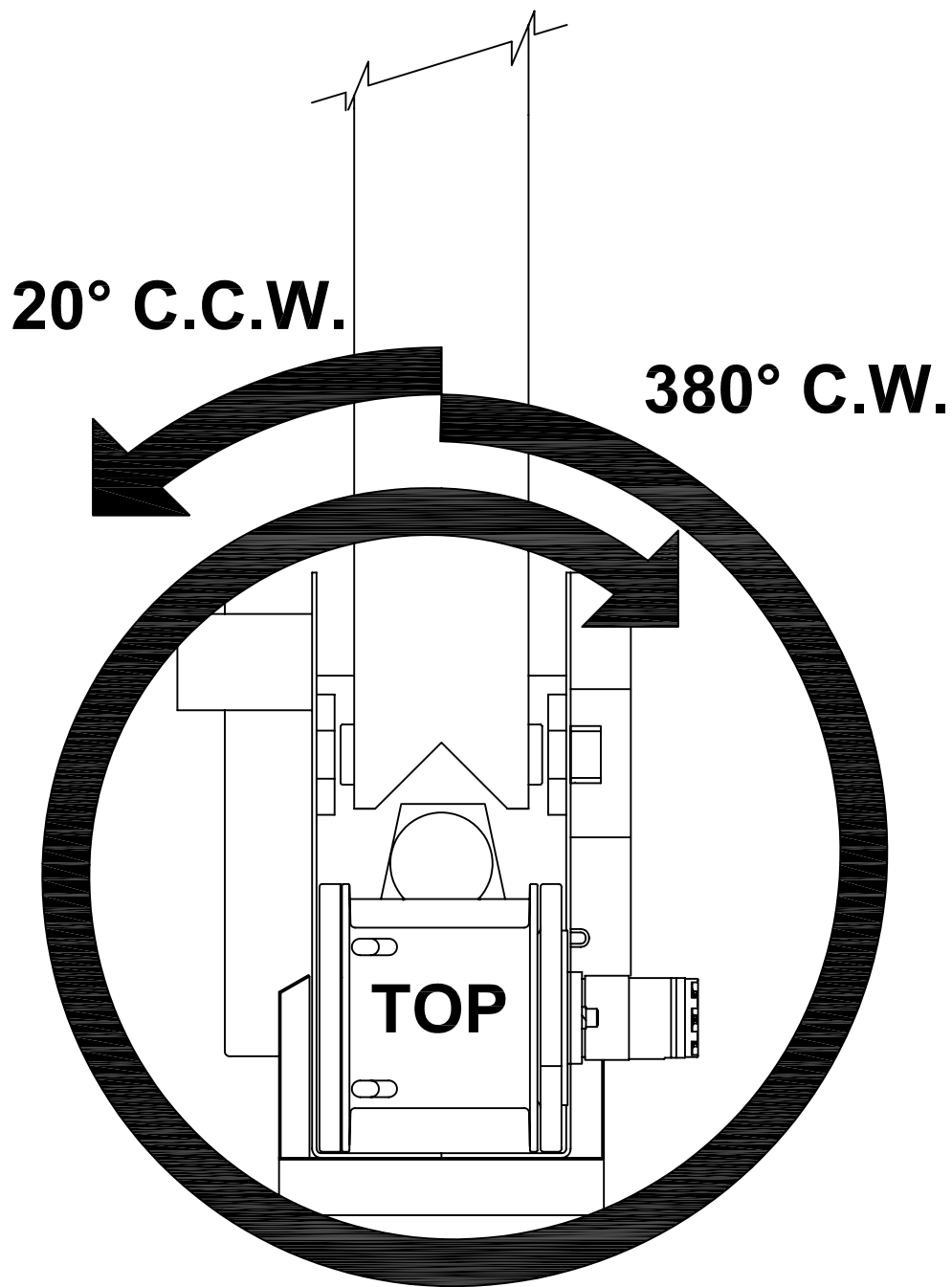
HT SERIES CRANES ▲

DATE
12-14-09C

SUPERCEDES
9-24-03B

SECTION
C200

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.



MFG., INC.
CINCINNATI, OHIO

TITLE
ROTATION STOP LOCATION

400°-ROTATION CRANES[▲]

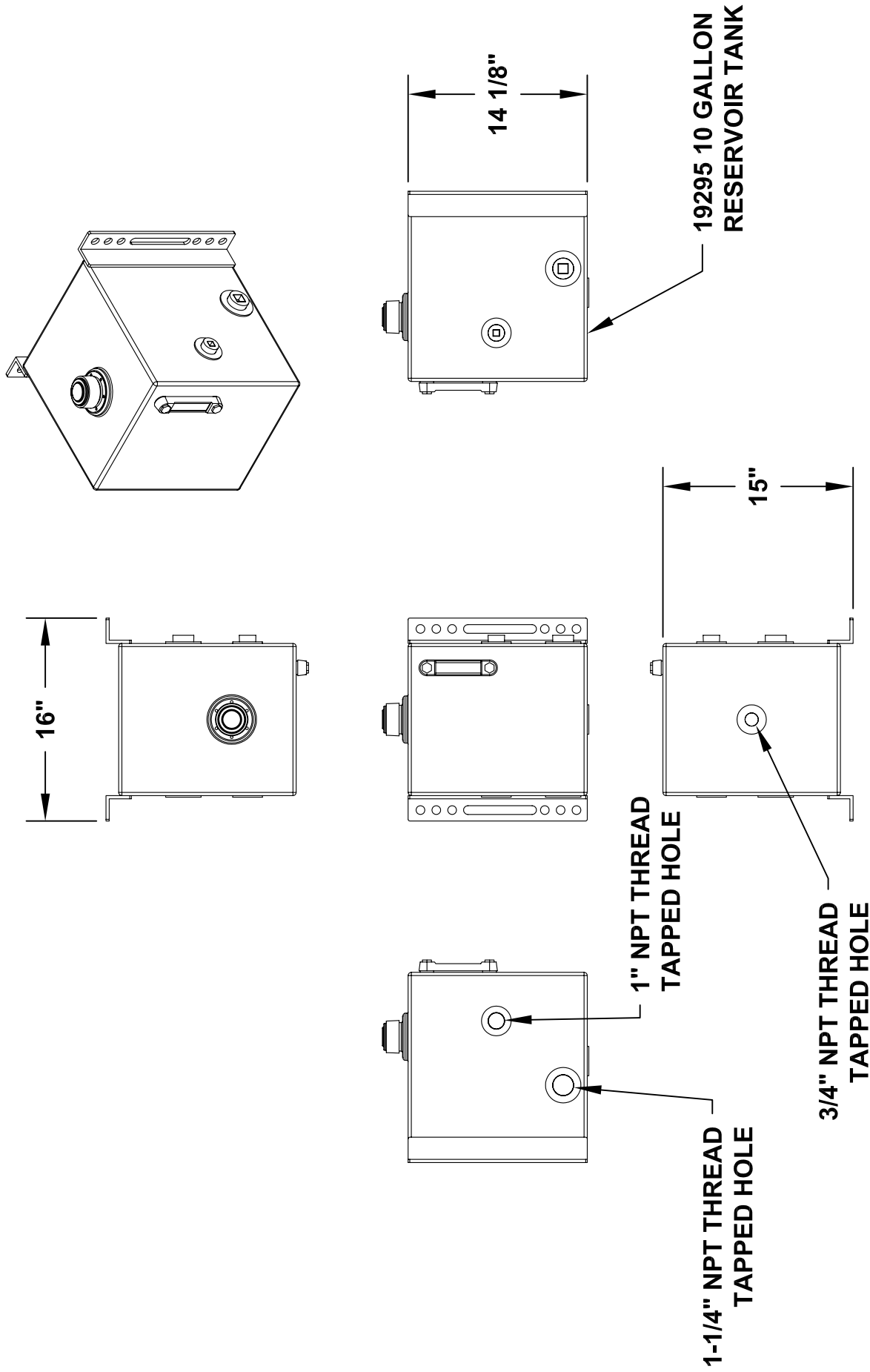
DATE
12-14-09C

SUPERSEDES
1-30-09B

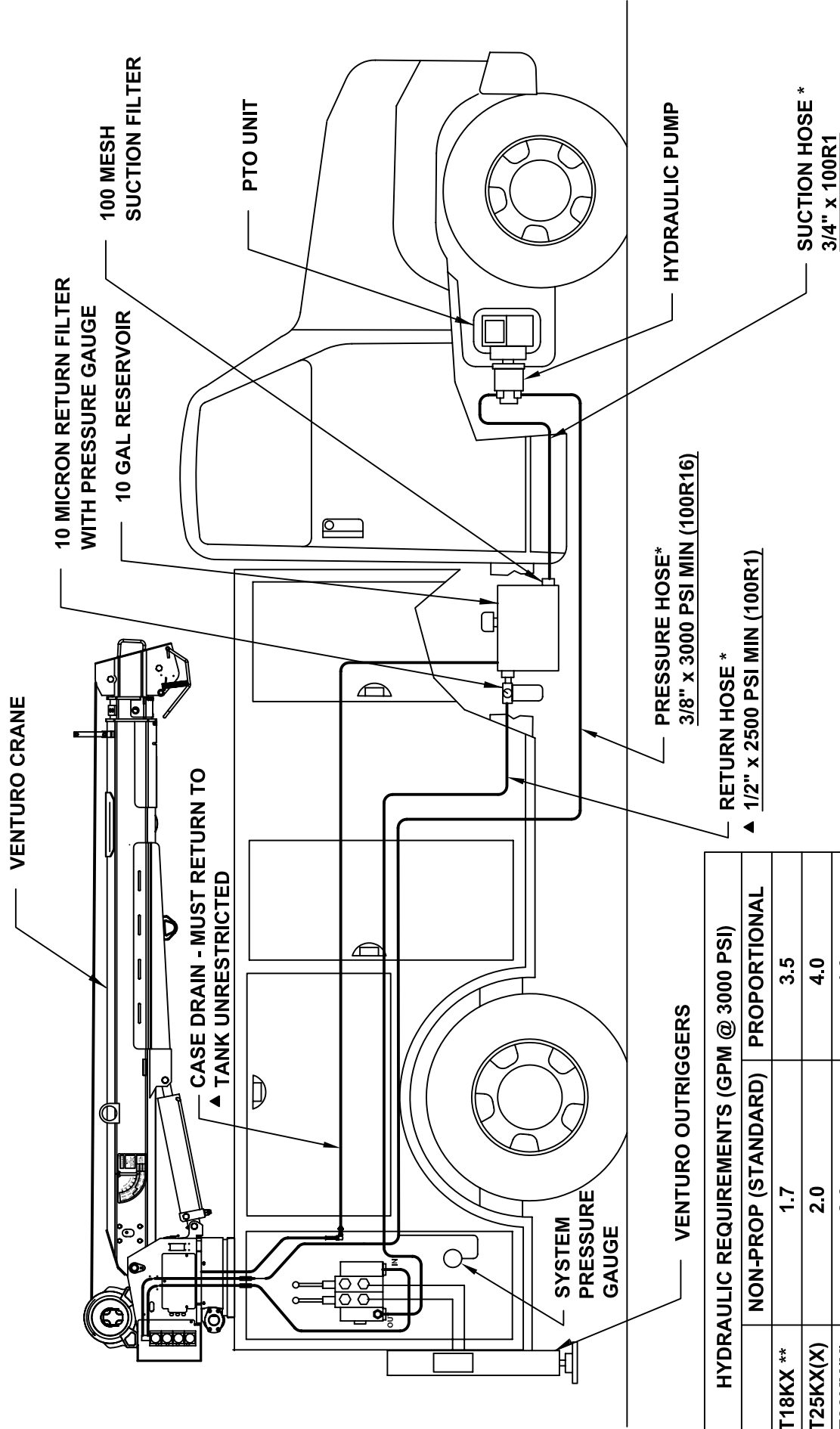
SECTION
-

20051

19295 10 GALLON HYDRAULIC TANK



 VENTURO [®] MANUFACTURING, INC. CINCINNATI, OHIO	TITLE 10 GALLON HYDRAULIC TANK		DATE 3-17-06	SECTION -
	-		SUPERSEDES -	22826

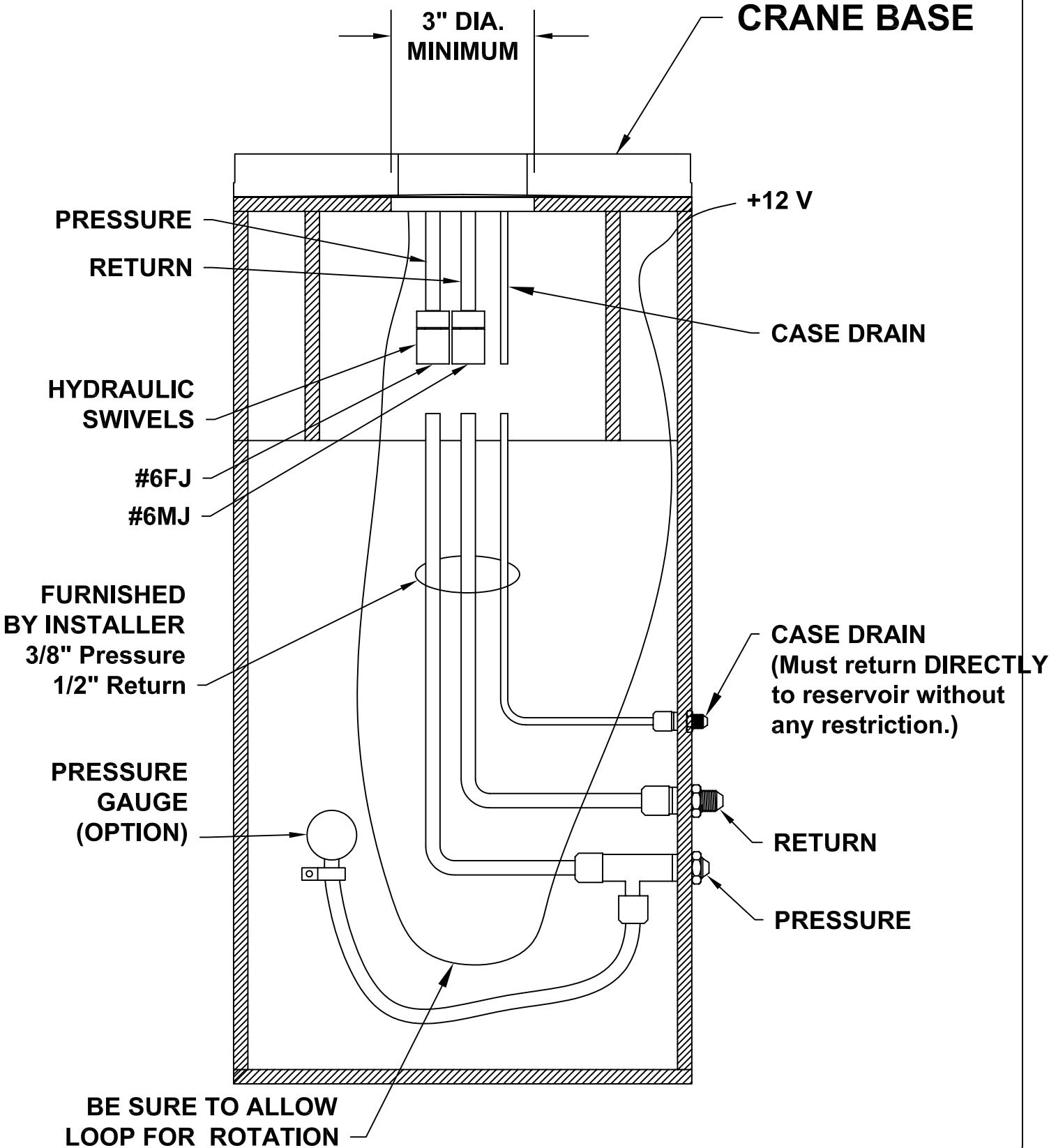


HYDRAULIC REQUIREMENTS (GPM @ 3000 PSI)		
	NON-PROP (STANDARD)	PROPORTIONAL
HT18KX **	1.7	3.5
HT25KX(X)	2.0	4.0
HT30KX(X)	2.0	4.0

* HOSES OR FITTINGS BETWEEN PUMP, RESERVOIR, AND CRANE NOT INCLUDED.
 ** NO LONGER IN PRODUCTION

CRANE AND HOSE INSTALLATION

HT18 / 25 / 30



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

HT18 / 25 / 30

DATE
1-22-10E

SUPERSEDES
3-20-08D

SECTION
C200

20691

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 THROUGH ANTI-TWO-BLOCK WEIGHT.

STEP 3: INSERT WIRE ROPE END INTO POCKET OPENING ON WINCH AND THROUGH WEDGE POCKET AS SHOWN IN (FIG 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 (3) TURNS OF WIRE ROPE ON THE WINCH DRUM WHILE UNDER LOAD.

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

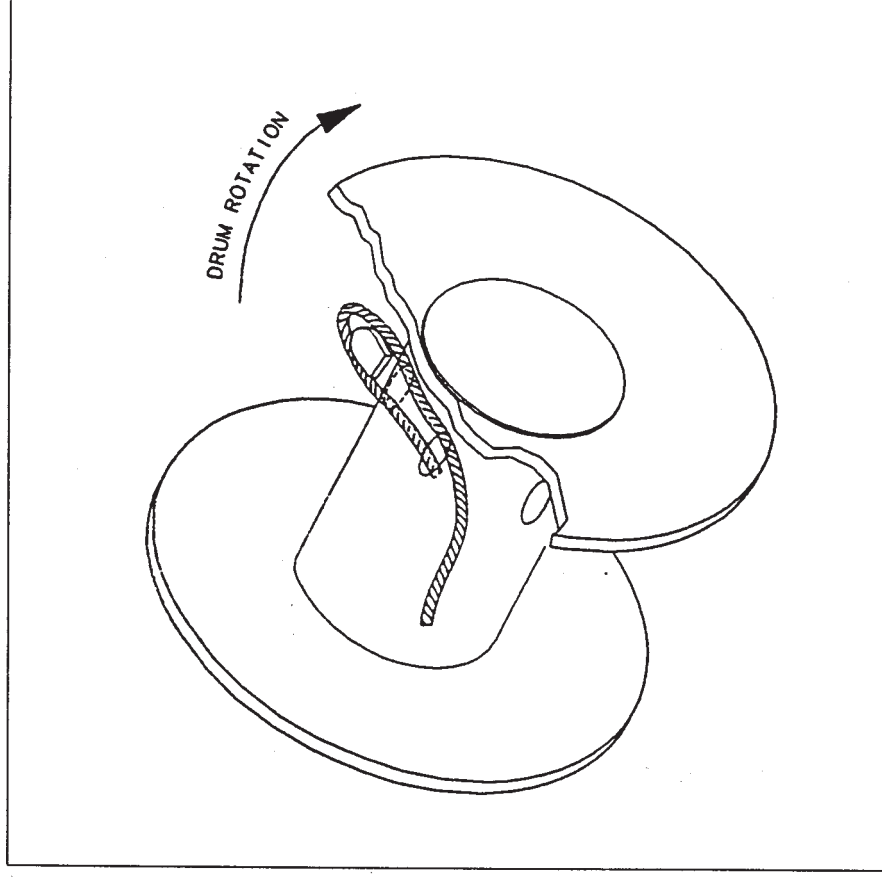
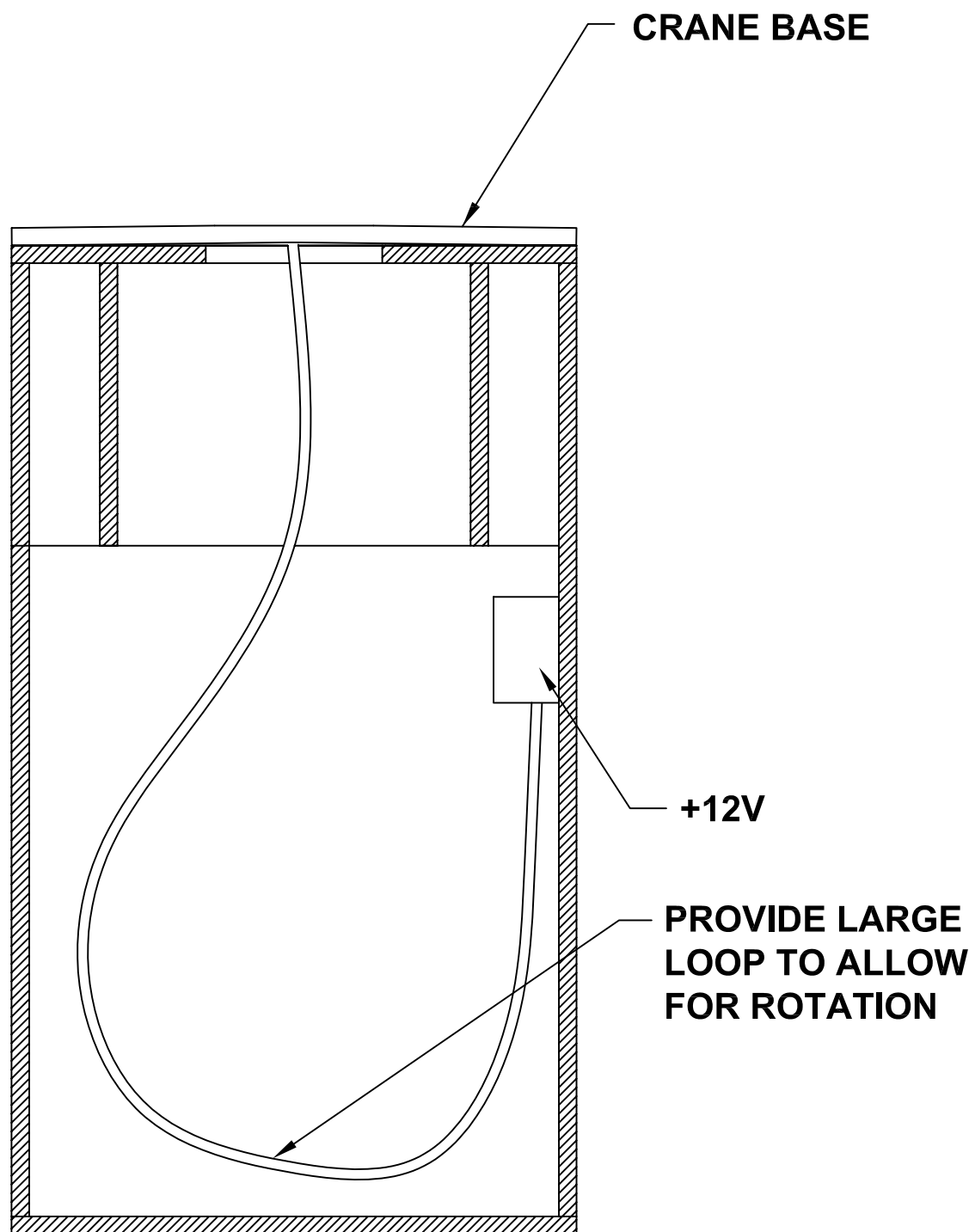


FIG 1

IN-COMPARTMENT CONTROLS INSTALLATION
HT25 / 30 ▲

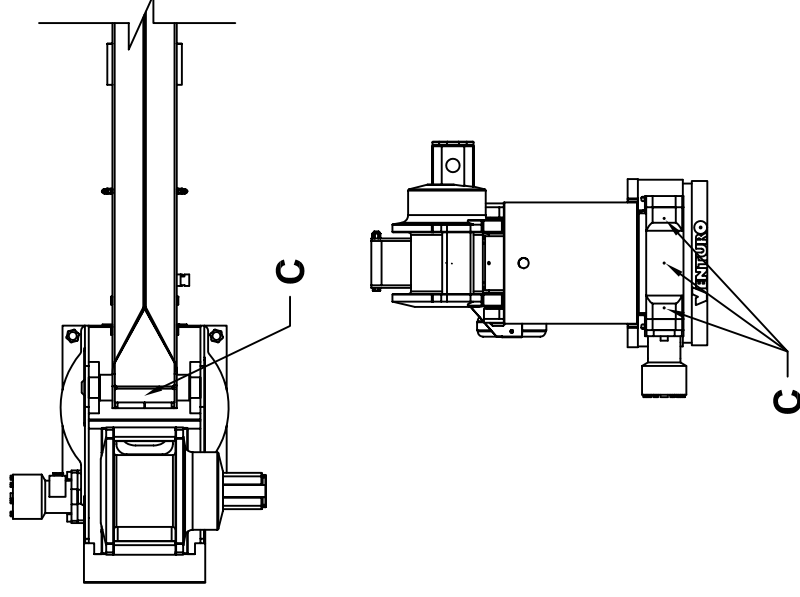
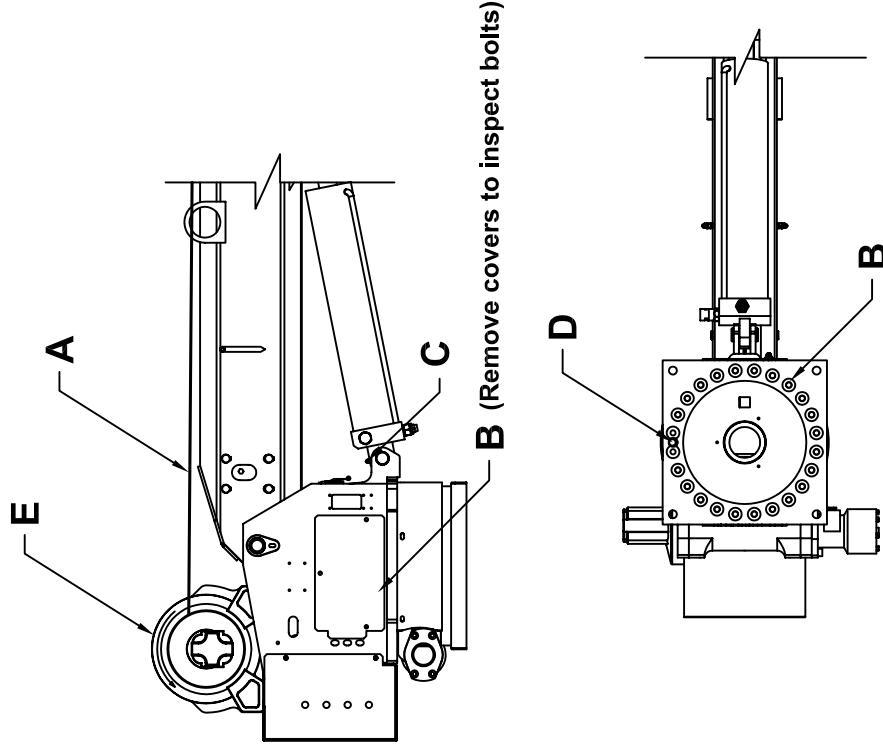


SECTION 300

MAINTENANCE

&

SERVICE



Location	Service Required	Note	Service Interval
A	Check Wire Rope and Hook	Rope should be free of kinks and fraying	Prior to Use (Daily)
B	Check Torque of bolts	Bolts should be torqued to 60 ft-lbs	Time of Truck Service
C	Grease Fitting with Pressure Grease Gun	Use Lithium Based Grease	Time of Truck Service
D	Grease Fitting with Pressure Grease Gun	Use Lithium Based Grease	Every 6 months
E	Check Winch gearbox oil level	SAE 90 Gear Lubricant	Every 6 months

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 ("snatch 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.



MFG., INC.
CINCINNATI, OHIO

TITLE

MAINTENANCE

DATE

1-23-10

SECTION

C200

HT25 / 30

SUPERCEDES

-

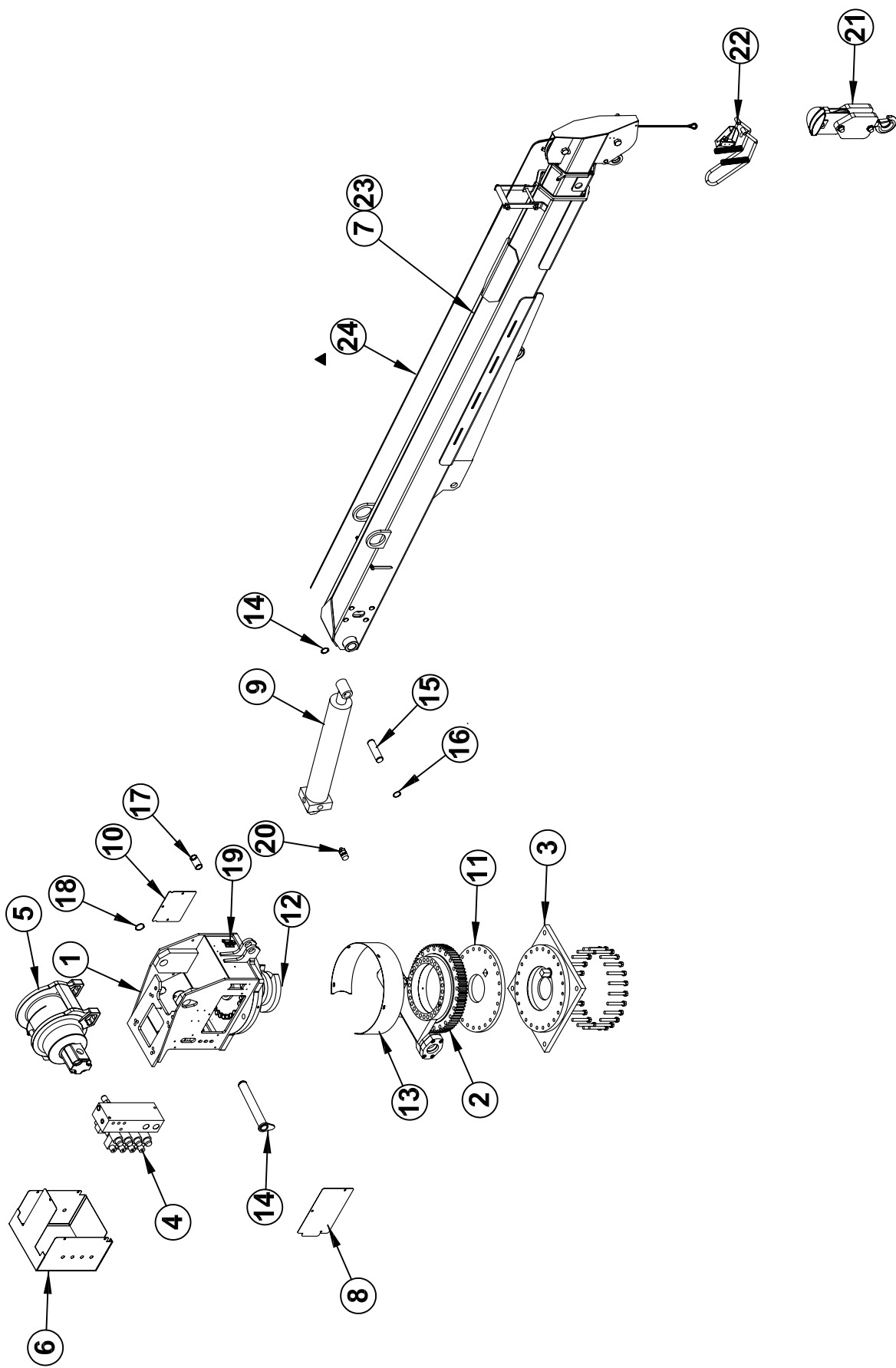
23203

SECTION 400

PARTS



REPLACEMENT PARTS LIST - REF 23205



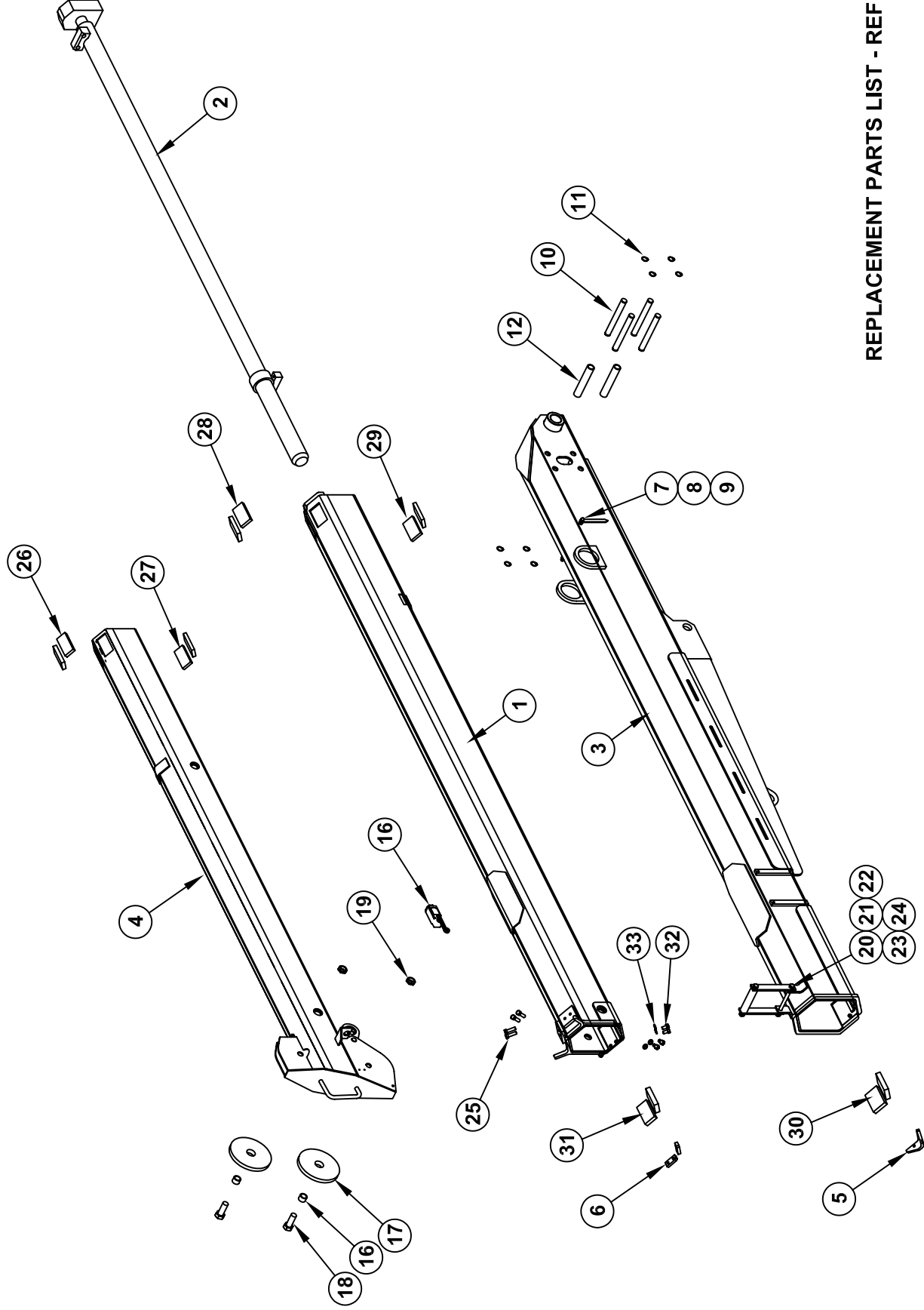
VENTURO [®] MANUFACTURING, INC. CINCINNATI, OHIO	TITLE REPLACEMENT PARTS		SECTION C400
	DATE 4-12-10A		SUPERSEDES 1-25-10
	HT30KX(X)		23204

24	1	27668-5/16-80	WIRE ROPE ASSY.
23	1	27198	BOOM FINAL ASSEMBLY (KX - SINGLE STAGE)
22	1	27620	ANTI-2-BLOCK ASSEMBLY
21	1	27667	SNATCH BLOCK ASSEMBLY - 6000 LB
20	1	17460-2700-21	OVERLOAD PRESSURE SWITCH
19	1	19904	BOOM SHUTOFF SWITCH ASSEMBLY
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	ROTATION GEAR GUARD
12	1	27557	ROTATION LIMITING RING
11	1	27520h	SPACER
10	1	23156	PLATE, COVER
9	1	21752	ELEVATION CYLINDER
8	1	27000	HOUSING SIDE COVER
7	1	21470	BOOM FINAL ASSEMBLY (KXX - DUAL STAGE)
6	1	▲ 27315	CRANE REAR COVER
5	1	19814	HYDRAULIC WINCH - HT25KX
4	1	22501	VALVE MANIFOLD
3	1	27520m-1	BASE WELDED ASSEMBLY
2	1	21419	SLEWING RING
1	1	27521	UPPER HOUSING WELDED ASSEMBLY
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION

REPLACEMENT PARTS DRAWING - REF. 23204

 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	DATE	SECTION
	REPLACEMENT PARTS	4-26-10B	C400
	HT30KX(X)	SUPERSEDES 4-12-10A	23205

27198 BOOM REPLACEMENT PARTS



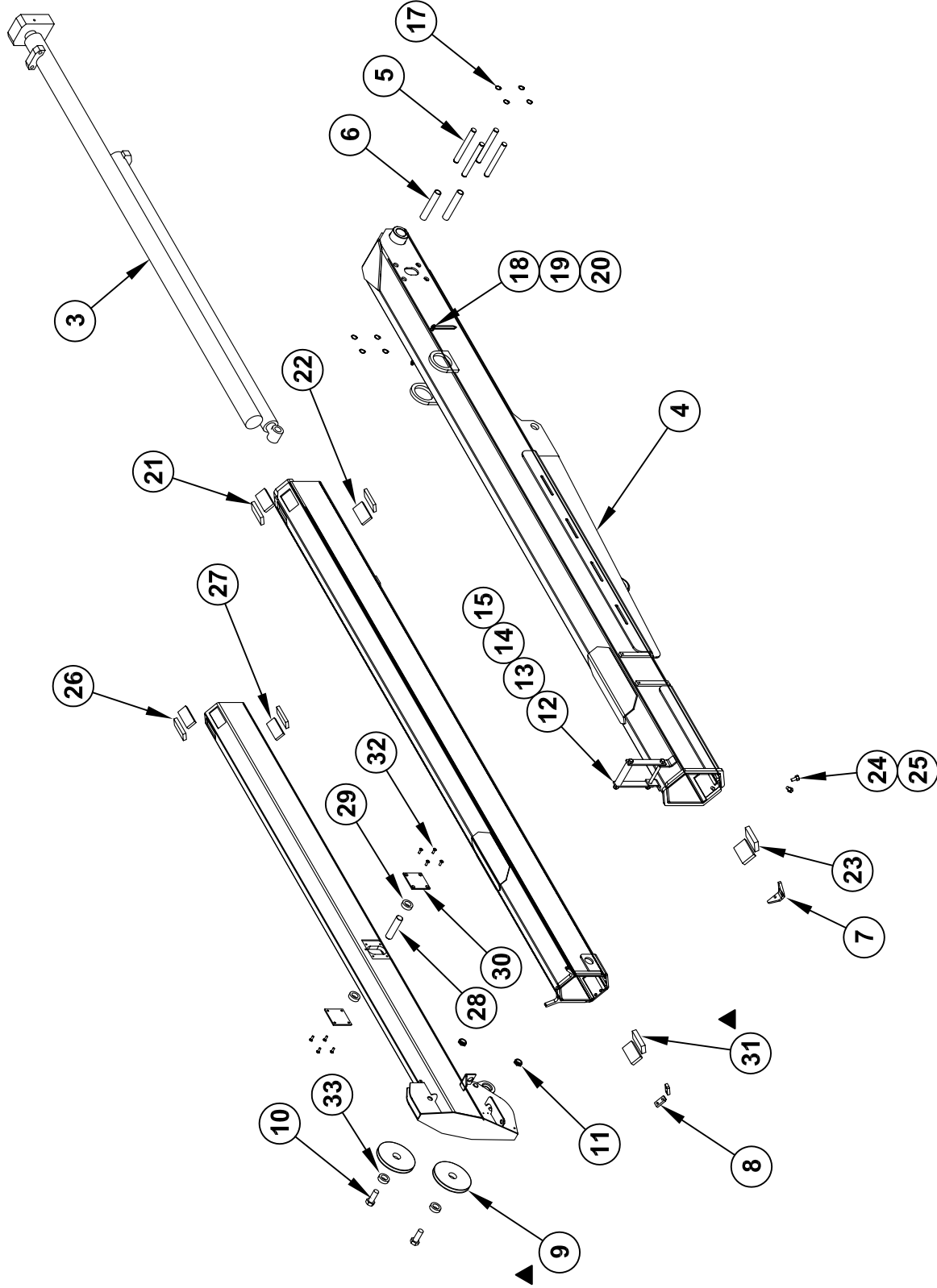
REPLACEMENT PARTS LIST - REF 21199

VENTURO® MANUFACTURING, INC. CINCINNATI, OHIO	TITLE		27198 BOOM REPLACEMENT PARTS DWG	DATE	SECTION
	ET/HT30KX		3-3-10A	3-3-10A	C400
			SUPERSEDES	12-11-08	21198

33	6	!LW SH-038	LOCK WASHER 3/8"
32	6	!HHCS03816063	HEX HEAD CAP SCREW 3/8-16 X 5/8 LG
31	2	U063X1.75	UHM W 063X1.75
30	2	U063X2.13	UHM W 063X2.13
29	2	U044X1.75	UHM W 044X1.75
28	2	U050X1.75	UHM W 050X1.75
27	2	U044X1.50	UHM W 044X1.50
26	2	U050X1.50	UHM W 050X1.50
25	4	!CAC03816075	C-SINK CAP SCREW 3/8-16 X 3/4 LG
24	2	!LNUT-04414	NYLON INSERT LOCK NUT - 7/16-14
23	1	21560	ROLLER,UHM W GUIDE
22	1	21936	FLAT,MOUNT;WIRE ROPE GUIDE
21	1	!HHCS04414550	HHCS - 7/16-14 X 5-1/2 LG
20	1	21935	WIRE-ROPE GUIDE WELDED
19	2	!LNUT-07510	LOCKNUT 3/4-10
18	2	17059-6	SHEAVE AXLE 3/4 X 2 W / 1" SHANK
17	2	27001	SHEAVE - BOOM
16	1	23924-1	SPACER - SHEAVE
15	-	-	-
14	-	-	-
13	-	-	-
12	2	21498	EXTENSION CYLINDER ROLLER
11	8	!SRNG-075	RETAINING RING - 3/4" SHAFT DIA.
10	4	21497	THRUST PIN - EXTENSION CYLINDER
9	2	!ANUT-02520S	ACORN NUT 1/4-20 STAINLESS
8	2	13459-2	BOOM ARROW 4-7/16 LONG
7	2	22490	SPACER, BOOM ARROW 1/2" O.D.
6	2	23119	BEARING RETAINING BLOCK
5	1	23183	V-BLOCK SLIDER
4	1	27110	TERTIARY BOOM WELDED ASSEMBLY
3	1	27201	PRIMARY BOOM WELDED ASSEMBLY
2	1	20061	EXTENSION CYLINDER - HOLLOW ROD
1	1	27108	SECONDARY BOOM WELDED ASSEMBLY
ITEM NO. EXPLODE/QTY.		PART NUMBER	DESCRIPTION

REPLACEMENT PARTS
DRAWING - REF 21198

21470 BOOM REPLACEMENT PARTS DRAWING



VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE 21470 BOOM REPLACEMENT PARTS DWG		DATE 4-27-11B	SECTION C400
	ET/HT30KXX		SUPERSEDES 3-2-10A	21098

33	2	23924-1	SPACER - SHEAVE
32	8	!CACSO2520063-N	CNTR SNK ALLEN HEAD CAP SCREW 1/4-20 X 5/8 LG W / PATCH
31	2	23217-10	UHMW GUIDE PAD
30	2	23116	PIN BLOCK REINFORCING
29	2	21428	BUSHING
28	1	21941	EXTENSION CYLINDER PIN
27	2	23217-7	UHMW GUIDE PAD
26	2	23217-6	UHMW GUIDE PAD
25	2	!LWSH-038	LOCK WASHER 3/8"
24	2	!HHCS03816075	HEX HEAD CAP SCREW - 3/8-16 X 3/4 LONG
23	2	23217-3	UHMW GUIDE PAD
22	2	23217-9	UHMW GUIDE PAD
21	2	23217-8	UHMW GUIDE PAD
20	2	!ANUT-02520S	ACORN NUT 1/4-20 STAINLESS
19	2	13459-2	BOOM ARROW 4-7/16 LONG
18	2	22490	SPACER, BOOM ARROW 1/2" O.D.
17	8	!SRNG-075	RETAINING RING - 3/4" SHAFT DIA.
16	1	!HHCS04414550	HEX HEAD CAP SCREW - 7/16-14 X 5-1/2 LG
15	2	!LNUT-04414	NYLON INSERT LOCK NUT - 7/16-14
14	1	21560	ROLLER,UHMW GUIDE
13	1	21936	FLAT.MOUNT;WIRE ROPE GUIDE
12	1	21935	WIRE-ROPE GUIDE WELDED
11	2	!LNUT-07510	LOCKNUT 3/4-10
10	2	17059-6	SHEAVE AXLE 3/4 X 2 W / 1" SHANK
9	2	27001	SHEAVE - BOOM
8	2	23119	BEARING RETAINING BLOCK
7	1	23183	V-BLOCK SLIDER
6	2	21498	EXTENSION CYLINDER ROLLER
5	4	21497	THRUST PIN - EXTENSION CYLINDER
4	1	21472	PRIMARY BOOM WELDED ASSEMBLY
3	1	21753	EXTENSION CYLINDER
2	1	21476	TERTIARY BOOM ASSEMBLY
1	1	21474	SECONDARY BOOM WELDED ASSEMBLY
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

21470 BOOM PARTS LIST

DATE

4-27-11C

SECTION

C400

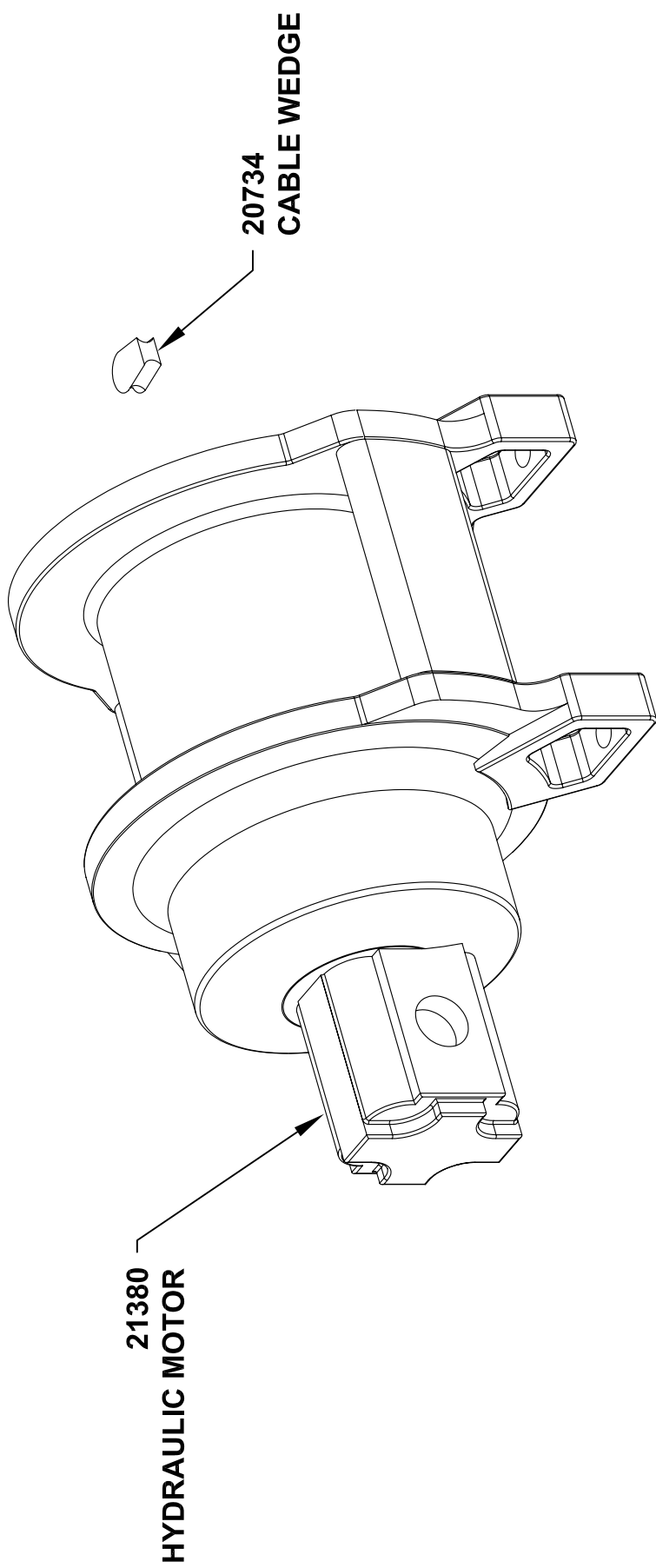
SUPERSEDES

3-2-10B

ET/HT30KXX

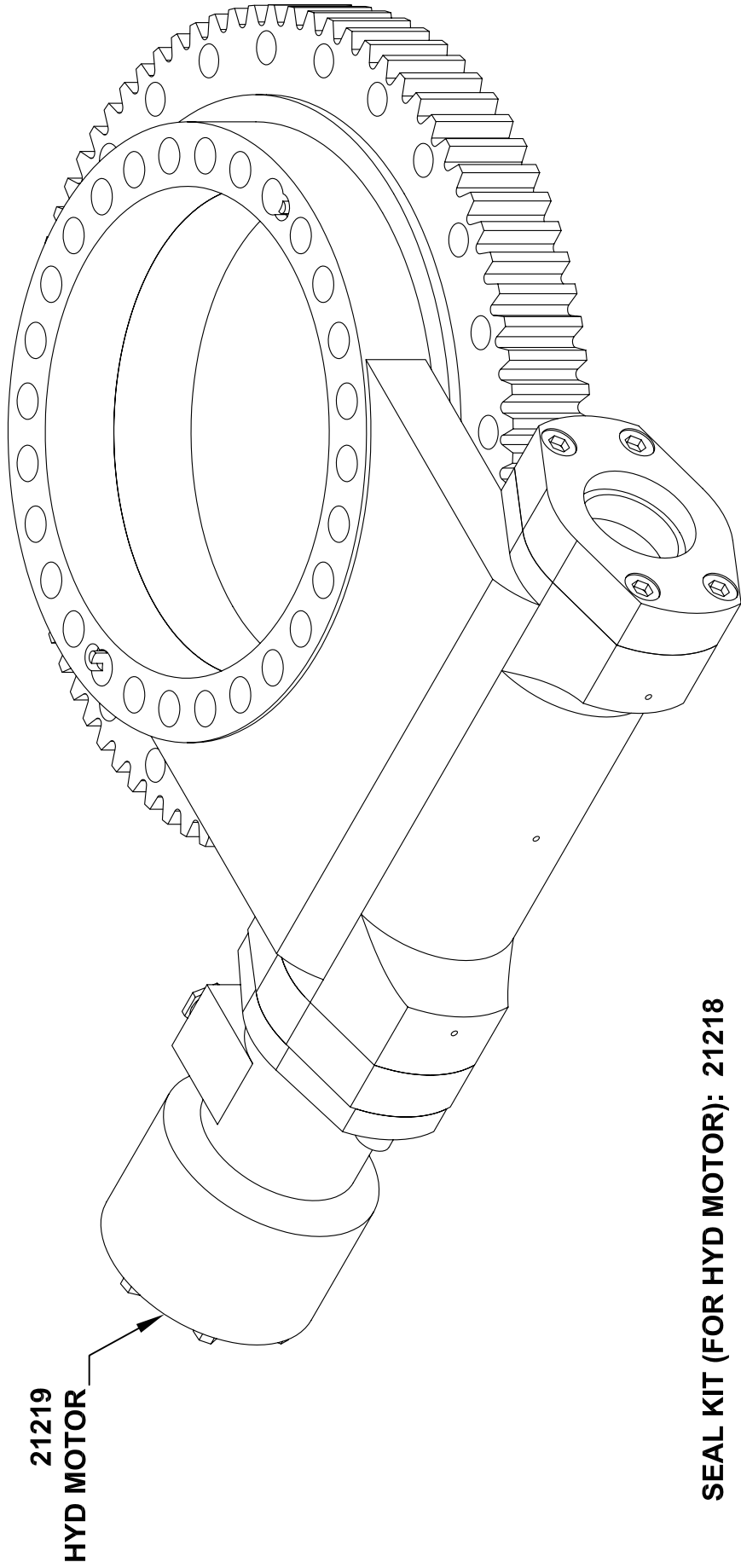
21099

REPLACEMENT PARTS 19814 WINCH



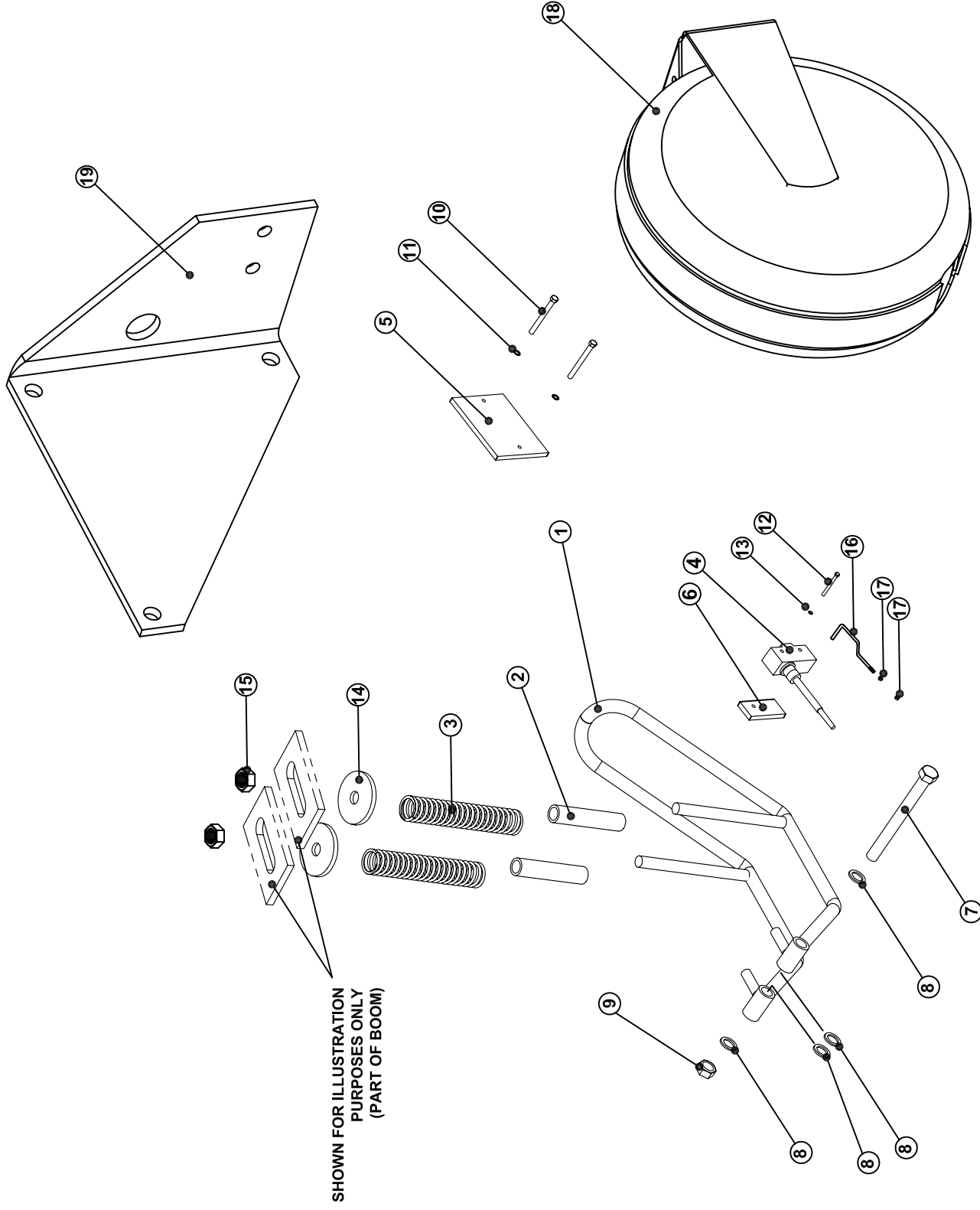
NOT SHOWN ON DRAWING:
21381 - WINCH SEAL KIT
21382 - MOTOR SEAL KIT

21419 ROTATION SYSTEM REPLACEMENT PARTS



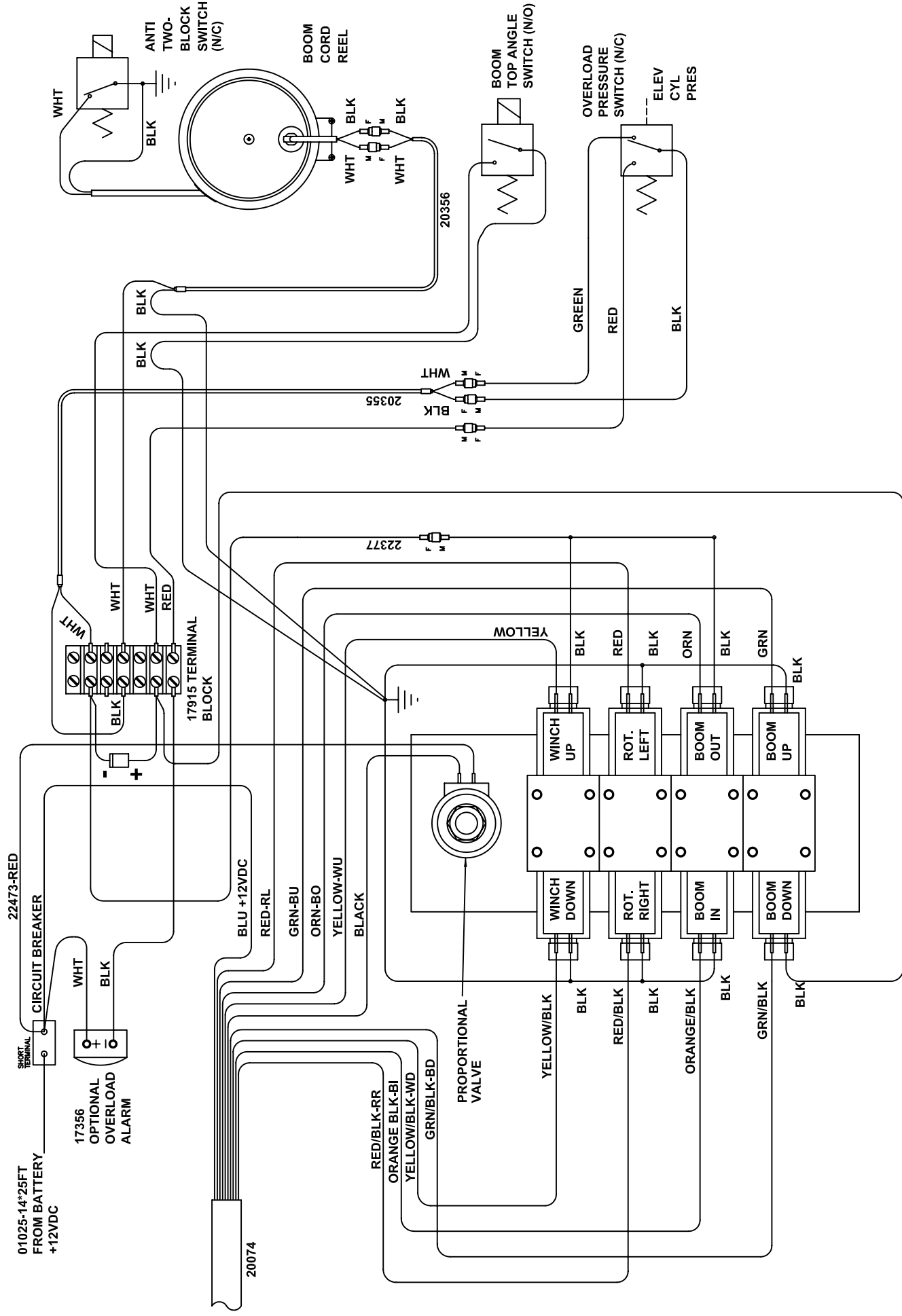
SEAL KIT (FOR HYD MOTOR): 21218

<div>  <div> <div>MANUFACTURING, INC.</div> <div>CINCINNATI, OHIO</div> </div> </div>	TITLE		21419 REPLACEMENT PARTS	DATE	SECTION
	HT25/30 & ET36		1-20-10	SUPERSEDES	25203

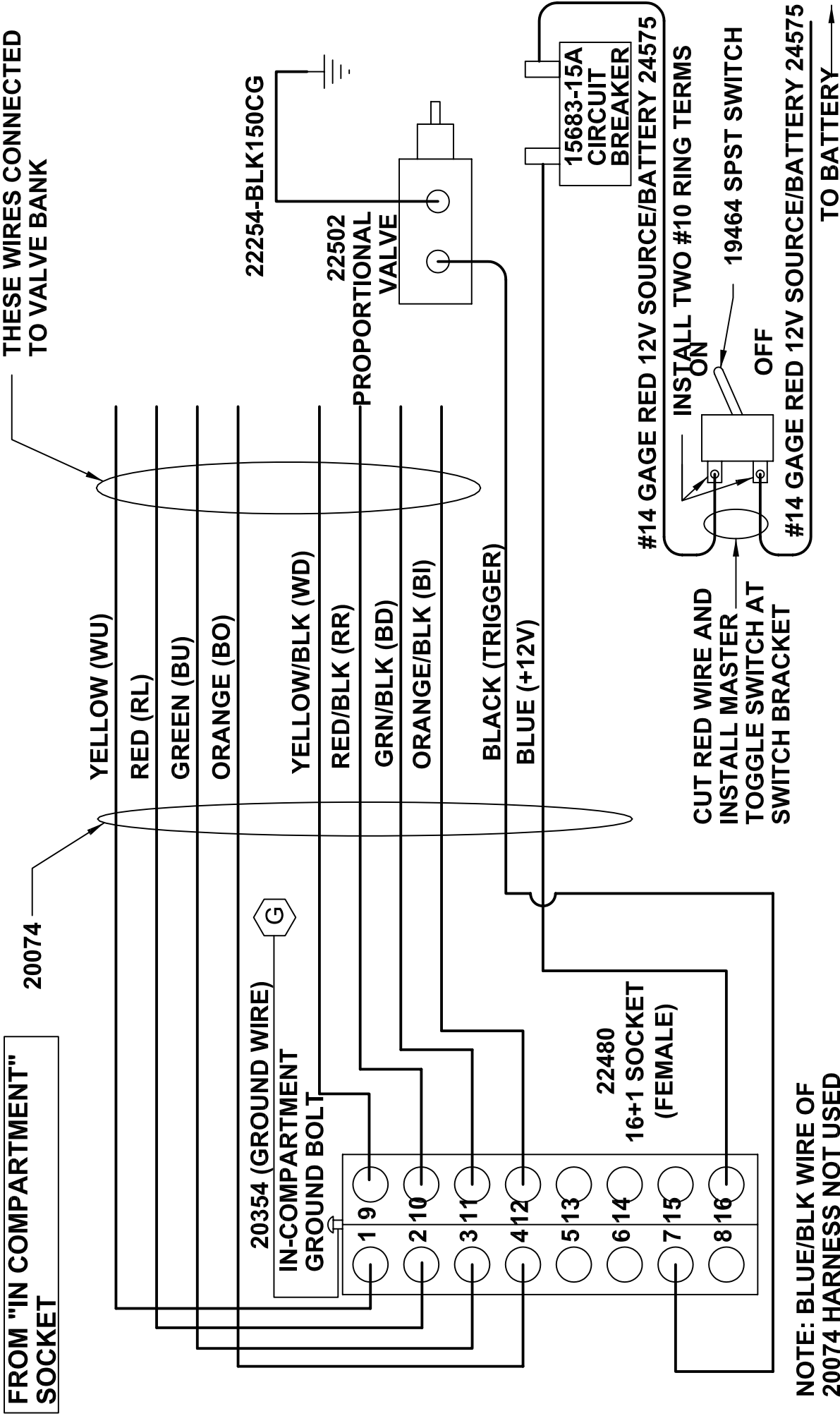


TITLE ANTI-TWO-BLOCK SYSTEM ET25/30/36 & HT25/30	VENTURO[®] MANUFACTURING, INC. CINCINNATI, OHIO
DATE 3-4-10 SUPERSEDES -	SECTION C400 21880

19	1	27583	MOUNTING BRACKET - CORD REEL
18	1	27310	CORD REEL
17	2	!LNUT-#0440	LOCKNUT W/ NYLON INSERT - 4-40
16	1	27624	ROD ASSY. ADJUSTABLE A2B
15	2	!LNUT-04414	LOCKNUT W/ NYLON INSERT - 7/16-14
14	2	!FWSH-050	FLAT WASHER - 1/2" USS
13	1	!LWSH-#06-STAR	EXTERNAL STAR LOCK WASHER - #06
12	1	!PHCS#0632100	PAN HD CAP SCREW - #6-32 x 1
11	2	!LWSH-#10	LOCK WASHER - #10
10	2	!PHCS#1024125	PAN HD CAP SCREW - #10-24 x 1-1/4
9	1	!JNUT-04414N	HEX JAM LOCKNUT - 7/16-14
8	4	!FWSH-044SAE	FLAT WASHER - 7/16 SAE
7	1	!HHCS04414450	HEX HD CAP SCREW - 7/16-14 x 4-1/2
6	1	27696	BASE - NEOPRENE
5	1	27698	COVER PLATE
4	1	19376	ANTI-TWO BLOCK SWITCH
3	2	27586	SPRING
2	2	27579b	SPRING LOCATING TUBE
1	1	21870	ANTI - TWO - BLOCK CAGE ASSEMBLY
ITEM NO.	EXPLODED/QTY.	PART NUMBER	DESCRIPTION

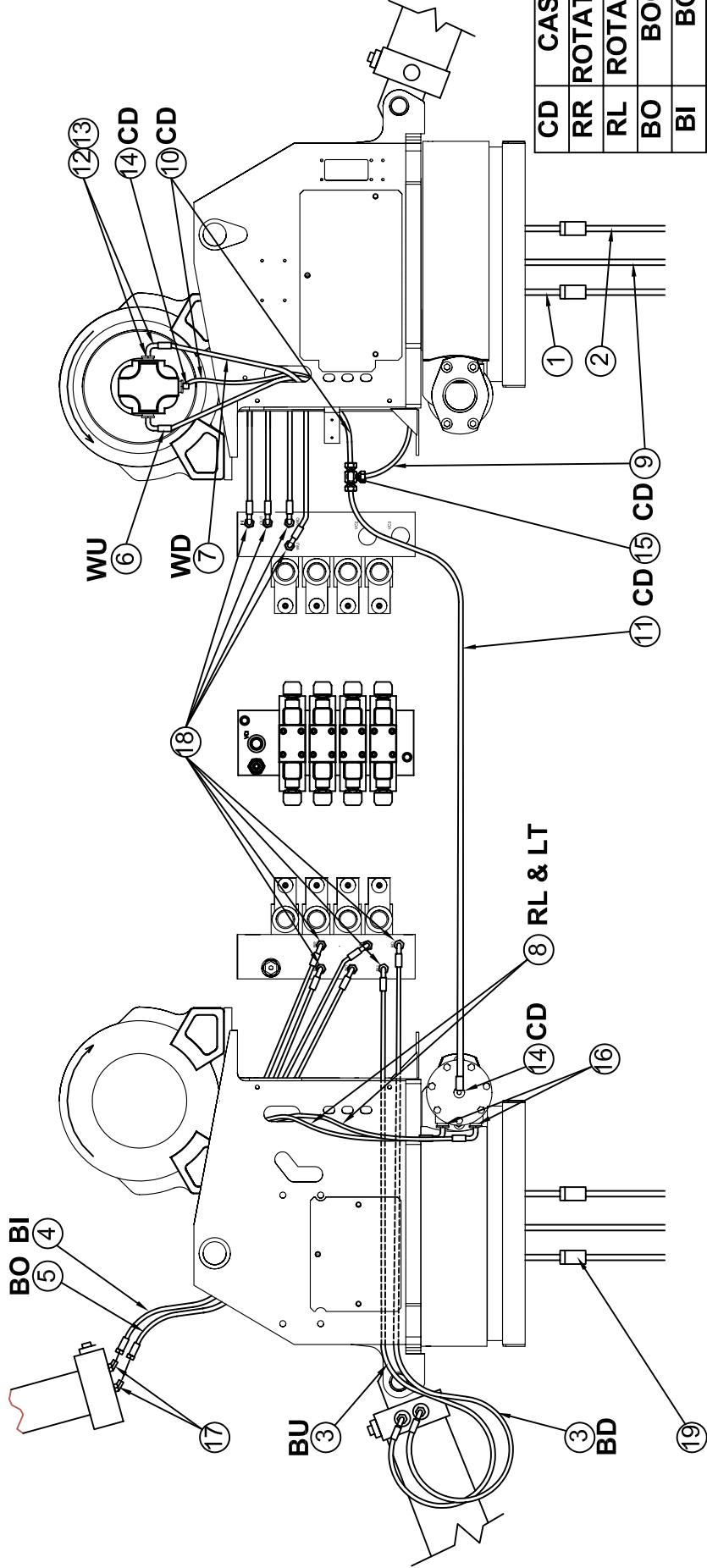


PROPORTIONAL IN-COMPARTMENT CONTROLS (NO ENGINE CONTROLS)



VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	DATE	SECTION
	PROP W/ IN-COMP CTRLS (NO ENG CTRL)	6-6-05	-
	HT18/25/30 CRANES	SUPSEDES	-
22169			

REPLACEMENT PARTS LIST REF. 21252



CD	CASE DRAIN
RR	ROTATION RIGHT
RL	ROTATION LEFT
BO	BOOM OUT
BI	BOOM IN
BU	BOOM UP
BD	BOOM DOWN
PR	PRESSURE
RE	RETURN
WU	WINCH UP
WD	WINCH DOWN
WR	WINCH RELIEF

<div> <div> <div>VENTURO</div> <div>MANUFACTURING, INC.</div> <div>CINCINNATI, OHIO</div> </div> </div>	TITLE	DATE	SECTION
	REPLACEMENT PARTS DRAWING	12-15-09	C400
	HT25/30KX HYD. COMPONENTS	SUPERSEDES	21251

HYDRAULIC SYSTEM COMPONENTS - HT25/30KX CRANES REPLACEMENT PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	21764	HOSE ASSY. PRESSURE (CENTER OF CRANE TO VALVE BLOCK)
2	21763	HOSE ASSY. RETURN (CENTER OF CRANE TO VALVE BLOCK)
3	21761	HOSE ASSY. BOOM UP/DOWN
4	21765	HOSE ASSY. BOOM IN
5	21766	HOSE ASSY. BOOM OUT
6	21767	HOSE ASSY. WINCH UP
7	21768	HOSE ASSY. WINCH DOWN
8	21771	HOSE ASSY. ROT. RIGHT & LEFT
9	22903	HOSE ASSY. CASE DRAIN (96" LONG)
10	22952	HOSE ASSY. CASE DRAIN (13" LONG)
11	22953	HOSE ASSY. CASE DRAIN (30" LONG)
12	H6410-1608	HYD BUSHING 16MO - 8FO (WINCH MOTOR)
13	FF6801-0608	HYD ELBOW 6OFS - 8MO 90° (WINCH MOTOR)
14	H6801-0404	HYD ELBOW 4MJ - 4MO (WINCH & ROTATION MOTOR CASE DRAIN)
15	H2603-040404	HYD TEE 04MJ - 04MJ - 04MJ (JOINS WINCH & ROT MOTOR CASE DRAIN)
16	FF6400-0610	O-RING CONNECTOR 6OFS - 10MO (ROTATION MOTOR)
17	FF6802-0606	ADAPTER 6OFS - 6MO 45° (EXTENSION CYLINDER)
18	FF6400-0606	O-RING CONNECTOR 6OFS - 6MO (VALVE PORTS - WU/WD, IN/OUT, ROT RT/LT, BU/BD)
19	20684	LIVE CONTINUOUS HYDRAULIC SWIVEL
	-	-

REPLACEMENT PARTS DWG REF 21251



MFG., INC.
CINCINNATI, OHIO

TITLE

REPL. PARTS LIST

HT25/30KX

DATE

4-19-10A

SUPERCEDES

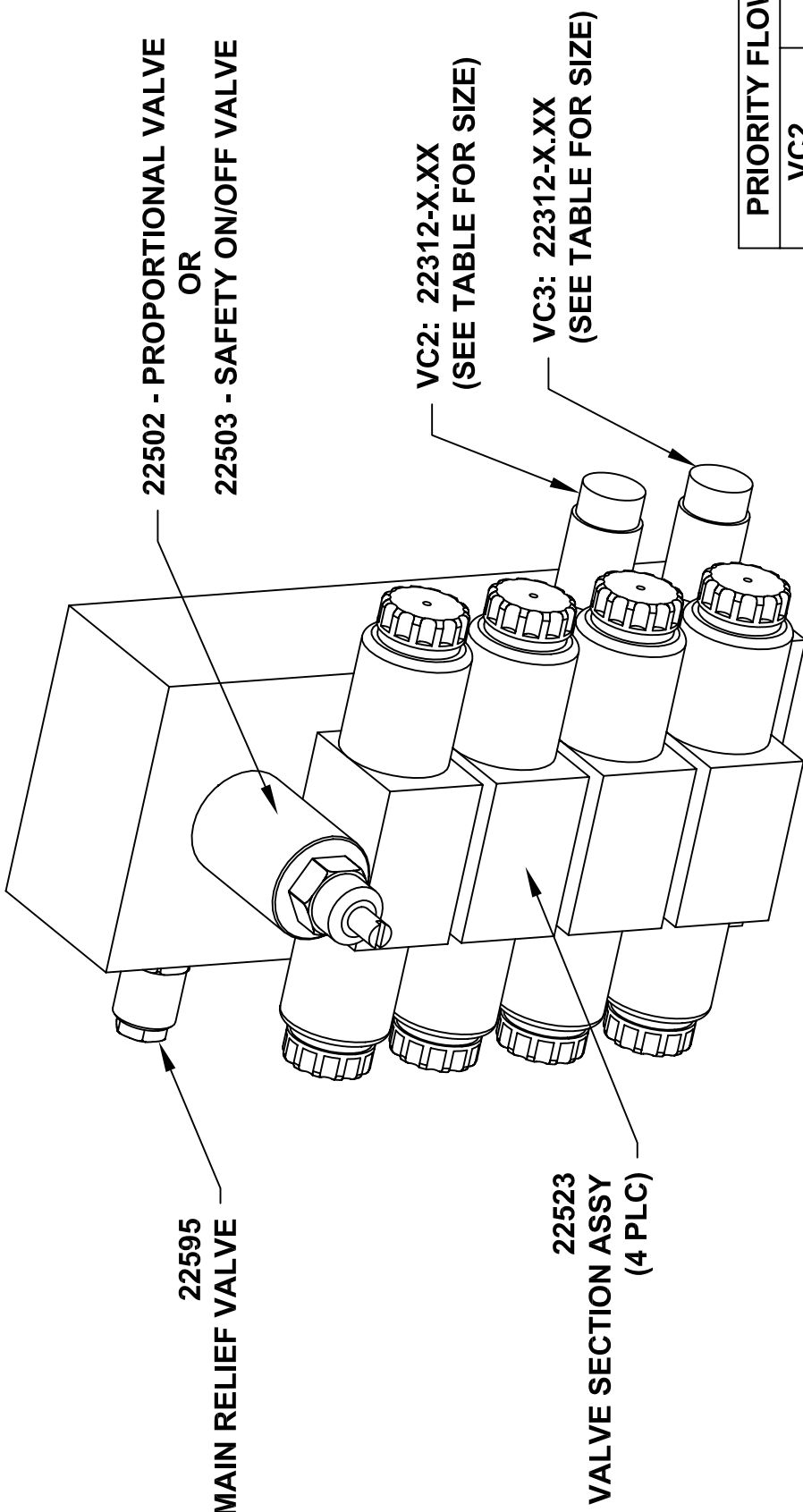
12-15-09

SECTION

C400

21252

22501 HYDRAULIC VALVE MANIFOLD REPLACEMENT PARTS



PRIORITY FLOW VALVE		
VC2	VC3	
EXTENSION	ELEVATION	
HT25/30 NON-PROP	1.00	1.75 ▲
HT25/30 PROP	1.75	3.00 ▲
HT40/50 NON-PROP	1.25	2.25



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

22501 REPLACEMENT PARTS

DATE

3-4-10A

SECTION

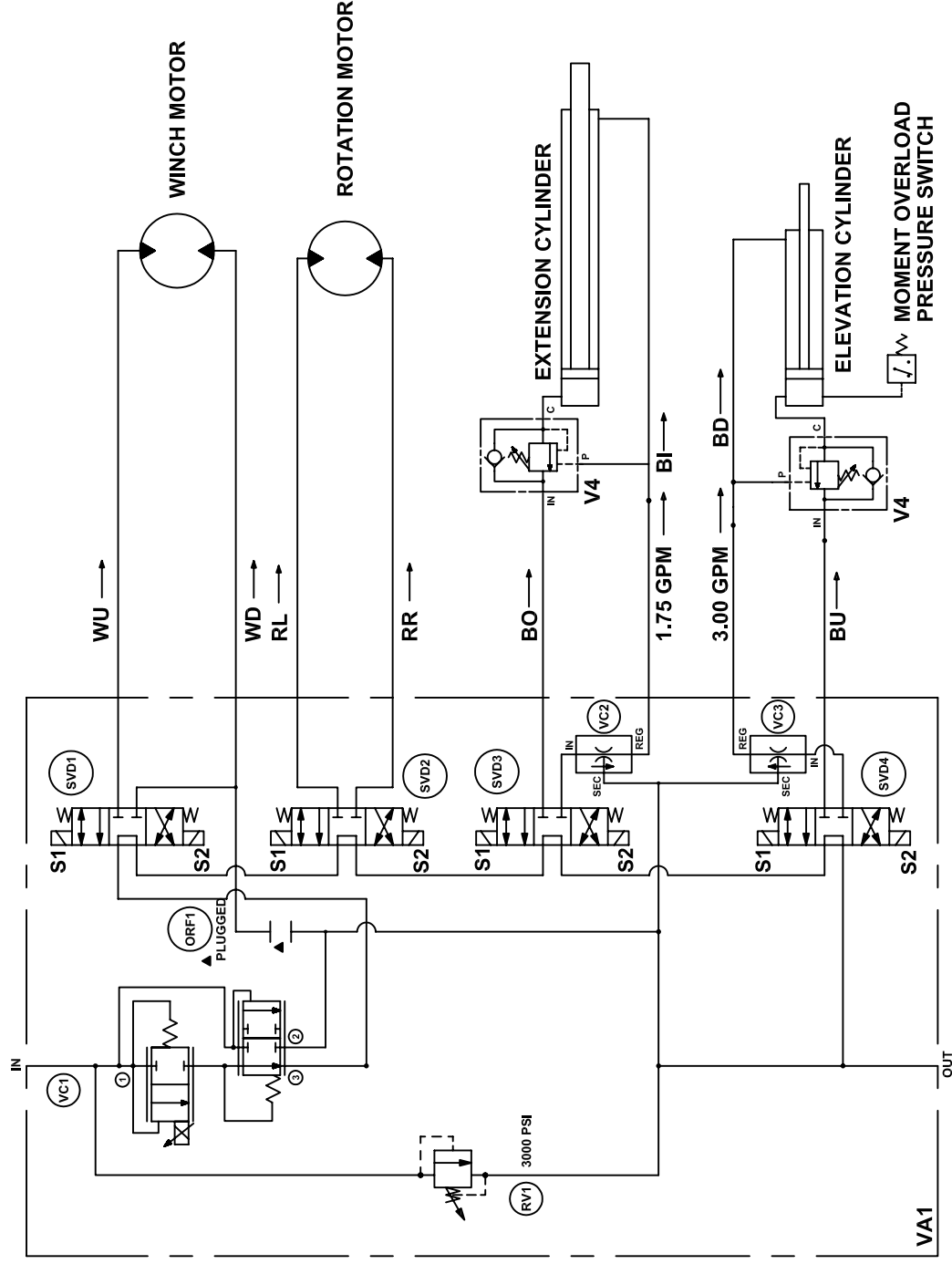
-

HT25/30/40/50

SUPERSEDES

9-17-09

22939



- VA1 CONTROL VALVE ASSY
 RV1 INLET RELIEF VALVE (3000 PSI)
 SVD1 3 POSITION-4 WAY VALVE
 SVD2 3 POSITION-4 WAY VALVE
 SVD3 3 POSITION-4 WAY VALVE
 SVD4 3 POSITION-4 WAY VALVE
 V4 COUNTERBALANCE CARTRIDGE VALVE
 VC1 PROPORTIONAL CONTROL VALVE (SIMPLIFIED REP)
 VC2 PRIORITY FLOW REGULATOR VALVE
 VC3 PRIORITY FLOW REGULATOR VALVE



MANUFACTURING, INC.
 CINCINNATI, OHIO

TITLE
HYDRAULIC SYSTEM DIAGRAM

HT25/30 WITH PROPORTIONAL CONTROL

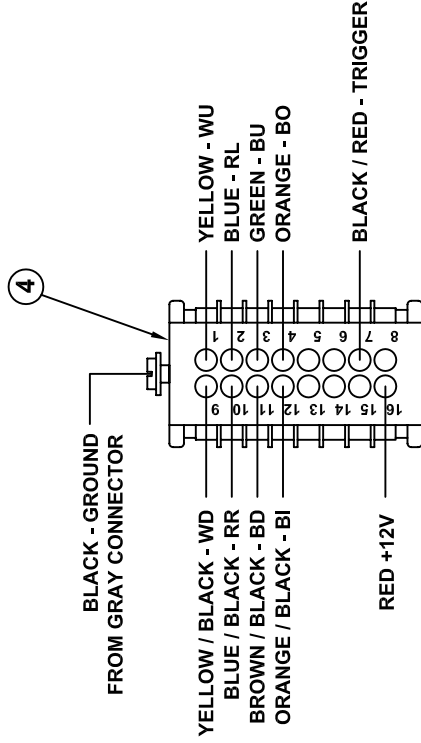
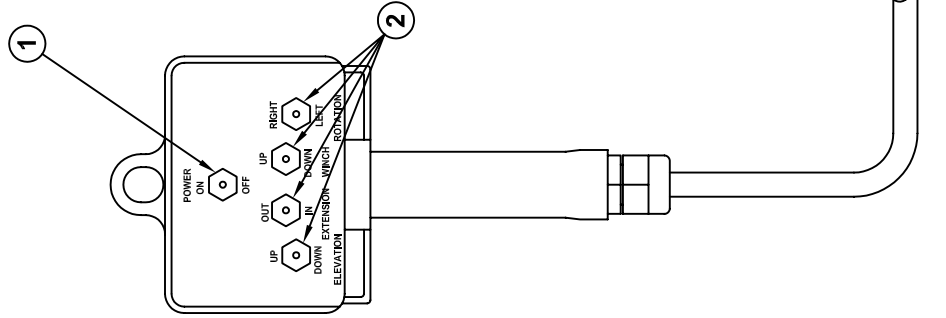
DATE
3-24-10

SUPERSEDES
 -

SECTION
C400

21888

22118 PENDANT (PROPORTIONAL CTRL)



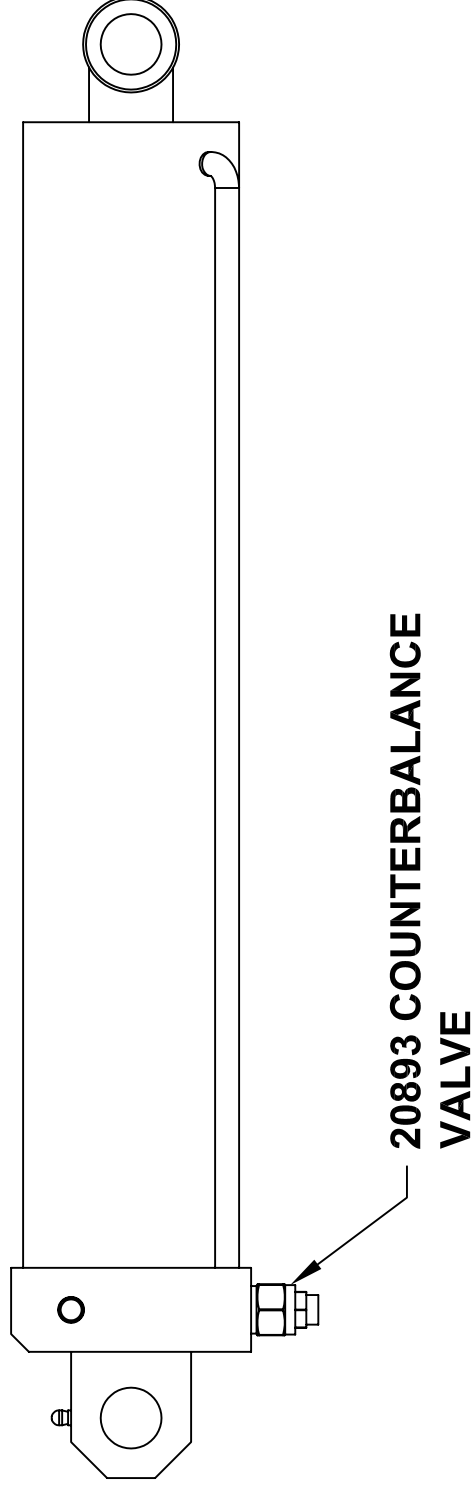
PLUG - BACKSIDE VIEW

⊗ NOT SHOWN ON PRINT

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
ITEM	QTY	PART NO.	DESCRIPTION

	TITLE		REPLACEMENT PARTS DRAWING	DATE	5-26-05	SECTION	C400
			22118 PENDANT (PROPORTIONAL CTRL)	SUPERSEDES	-		22166

21752 ELEVATION CYLINDER



SEAL KIT P/N: 21774



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
ELEVATION CYLINDER

DATE
8-12-09

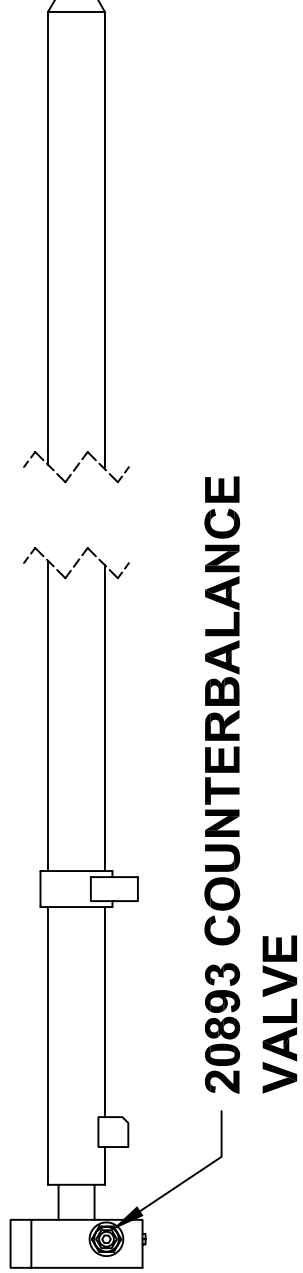
SECTION
C400

ET/HT25/30/36KX(X)


SUPERSEDES
.

21773

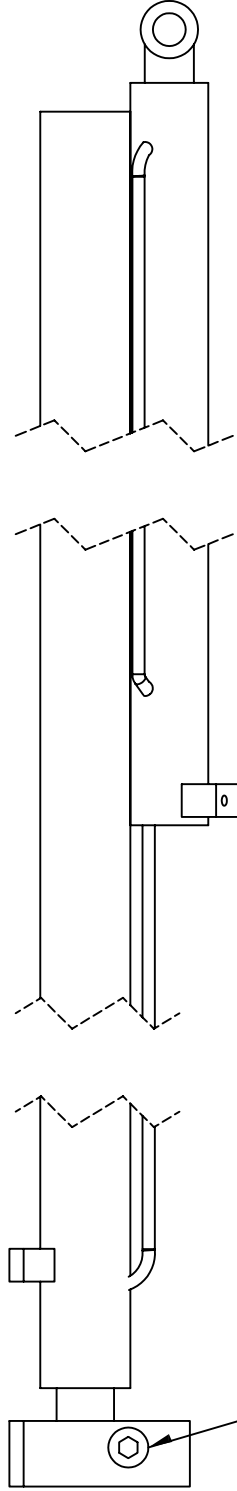
20061-1 EXTENSION CYLINDER



SEAL KIT P/N: 19887

 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE EXTENSION CYLINDER ET/HT25/30KX	DATE 8-20-09 SUPERSEDES -	SECTION C400
		21879	

21753 EXTENSION CYLINDER



20893 - COUNTERBALANCE VALVE

SEAL KIT P/N: 21775


 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE EXTENSION CYLINDER		DATE 4-30-09A	SECTION C400
	HT25/30, ET36		SUPERSEDES 9-25-08	21860

Diagram illustrating the recommended CRM/RRM pump mounting configuration. The components are labeled as follows:

- 1: Mounting bracket
- 2: 1" NPT Female Case Drain Port
- 3: Pump
- 4: Motor
- 5: Hose
- 6: Hose End Fitting
- 7: Hose End Fitting
- 8: Hose End Fitting
- 9: Hose End Fitting

9	1	22184	SIGHT GLASS
8	1	IHWHS02520075-F	HEX WASHER HEAD 1/4-20 X 3/4 SELF TAPPING
7	1	19275	CLAMP
6	1	22730	PRESSURE GAUGE ASSEMBLY
5	1	19300	SUCTION SCREEN - 100 MESH
4	1	19298	FILTER ASSY, RETURN - 10 MICRON
3	1	19297	PRESSURE GAUGE - RETURN
2	1	SEE CHART	PTO PUMP - HT18/25/40/50KX
1	1	19295	RESERVOIR TANK - 10 GALLON
ITEM	QTY	PART NO.	DESCRIPTION

 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE REPLACEMENT PARTS DWG		DATE 3-4-10C	SECTION C400
	PTO KIT - HT (LOW FLOW) ▲		SUPERSEDES 11-5-08B	22744

21874-30-P DECAL KIT

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	14473-1	DECAL - OIL
2	4	14473-2	DECAL - GREASE
3	1	19314-1	DECAL - VALVE BANK LEFT
4	1	19314-2	DECAL - VALVE BANK RIGHT
5	2	17389	DECAL - VENTURO - MEDIUM
6	1	17389-4	DECAL - VENTURO - SMALL
7	1	15401	DECAL - UNLAWFUL TO OPERATE
8	1	23167-1	DECAL - BOOM CAPACITY (RIGHT)
9	1	23167-2	DECAL - BOOM CAPACITY (LEFT)
10	2	21235	DECAL - MODEL NAME
11	1	15392	DECAL - DANGER ELECTROCUTION HAZARD
12	1	15391	DECAL - CRANE NOT A PASSENGER LIFT
13	1	19315-2	DECAL - SAFETY SHUT-OFF OVERRIDE
14	1	15390	DECAL - CAUTION INSTRUCTIONS
15	1	15398	DECAL - UNPLUG REMOTE
16	1	20051	DECAL - ROTATION STOP LOCATION
17	1	20174	DECAL - GROUND CABLE ATTACHMENT
18	1	22499	DECAL - KNOW YOUR SIGNALS (SHIPPED LOOSE)
19	1	20834	DECAL - OVERRIDE INSTRUCTIONS
20	1	21772	INST DWG - DECAL PLACEMENT



LIMITED WARRANTY POLICY

This limited policy warrants new products of Venturo be free from defects in material and workmanship for a period of one (1) year from date of original installation. This 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.

WARRANTY CLAIMS

Venturo Manufacturing, Inc. 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 insure the installation is completed according to the manufacturer's recommendations, insure 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 products without the expressed written consent of the manufacturer. Reinstallation 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 again be instructed as to the safe operation at time of delivery. Maintenance, service, operation and safety warning decals are available on request from Venturo Manufacturing, Inc.

VENTURO MANUFACTURING, INC

DIVISION OF COLLINS ASSOCIATES, INC
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