

**VENTURO**  
TRUCK MOUNTED CRANES

**ET25KX**

**INSTALLATION & OWNER'S MANUAL**

**Sold and Serviced by:**



# TABLE OF CONTENTS

## ET25KX INSTRUCTION MANUAL

<b><u>SECTION 100</u></b>	<b><u>DESCRIPTION &amp; SPECIFICATIONS</u></b>
19958a	ET25KX SPECIFICATIONS & OPERATING FEATURES
19958b	ET25KX SPECIFICATIONS & OPERATING FEATURES
20129	INSTALLATION DIMENSIONS - ET25KX
19930	19825 BASE MOUNTING DIMENSIONS
I19233	CAPACITY CHART - ET/HT25K(X) 10-16-20 FT
I19288	TYPICAL REINFORCEMENT FOR MOUNTING CRANE ON TOP OF SERVICE BODY
14510	INSTALLATION DRAWING - 17350 MOUNTING PEDESTAL
<b><u>SECTION 150</u></b>	<b><u>SAFETY</u></b>
15394	VEHICLE & CRANE ELECTRICAL HAZARD INFORMATION
850711	SAFETY & HAZARDS - GENERAL
20549	DECAL PLACEMENT
<b><u>SECTION 200</u></b>	<b><u>INSTALLATION</u></b>
19959	CABLE & BATTERY REQUIREMENTS - ET AND HT CRANES
15660	BATTERY CABLE INSTALLATION DRAWING
19947	ET25K(X) ELECTRICAL INSTALLATION
19961	INSTALLATION DRAWING - PENDANT CORD SUPPORT
22245	WIRE ROPE INSTALLATION DRAWING
<b><u>SECTION 300</u></b>	<b><u>MAINTENANCE &amp; SERVICE</u></b>
19962	ET25K(X) LUBRICATION AND MAINTENANCE CHART
19963	MINIMUM VOLTAGE TEST
<b><u>SECTION 400</u></b>	<b><u>REPLACEMENT PARTS</u></b>
20148	ET25KX REPLACEMENT PARTS DRAWING
20178	ET25KX REPLACEMENT PARTS LIST
20158	REPLACEMENT FASTENERS LIST
19996	19950 - 10-20 FT BOOM ASSEMBLY
20197-2	19197-2 ANTI-TWO-BLOCK SYSTEM REPLACEMENT PARTS
21275	21276 L.H. ANTI-TWO BLOCK SYSTEM REPLACEMENT PARTS PAGE
19919	19897 ELECTRICAL COMPONENT DRAWING
20348	ET25KX WIRING DIAGRAM WITH ANTI-TWO-BLOCK
20359	IN COMPARTMENT CONTROLS WIRING DIAGRAM
22076	22060 REPLACEMENT PARTS - 4 FUNCTION PENDANT CONTROL
22085	22067 RADIO REMOTE REPLACEMENT PARTS DRAWING
19942	HYDRAULIC SYSTEM COMPONENTS REPLACEMENT PARTS DRAWING
20156	HYDRAULIC SYSTEM SCHEMATIC - ET25KX
19908	19886-1 EXTENSION CYLINDER
21053	WINCH REPLACEMENT PARTS DRAWING & LIST



**SECTION 100**

**DESCRIPTION**

**&**

**SPECIFICATIONS**

# SPECIFICATIONS AND OPERATING FEATURES

ET25KX-10/20

## SPECIFICATIONS

12 VOLT BATTERY OPERATED

25,000 FT-LBS OVERTURNING MOMENT (Or as limited by truck stability)

MOMENT OVERLOAD SYSTEM

TELESCOPIC BOOM	10 / 20
BOOM HYD ELEVATION	-8° TO 75°
BOOM HYD EXT	10 - 16 FT OR 14 - 20 FT
BOOM MANUAL EXT	4 FT
CAPACITY	1050 LBS @ 20 FT REACH
	5000 LBS @ 3 TO 5 FT REACH
WIRE ROPE	5/16" DIA x 80 FT
PENDANT CORD LENGTH	25 FT

WINCH - 2500 LBS SINGLE LINE CAPACITY  
With Automatic Load Brake

ELECTRIC HYDRAULIC BOOM ELEVATION

ELECTRIC HYDRAULIC BOOM EXTENSION & RETRACTION - 6 FT STROKE

400° POWER ROTATION

REMOTE CONTROL PENDANT

25 ft Straight Cord with Four Environmentally Sealed Toggle Switches Protected by a Guard

MASTER DISCONNECT SWITCH

OUTRIGGERS AVAILABLE

Side Bracket Type Outriggers

Fold Away Type Outriggers

Pullout Type Outrigger System



MFG., INC.  
CINCINNATI, OHIO

TITLE  
**INSTALLATION DWG**

ET25KX-10/20

DATE  
**9-4-01**

SUPERCEDES  
-

SECTION  
**C120**

**19958a**

## 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.

## CONTROL PRIORITY SYSTEM

The design intent of the electrical and hydraulic system is such that some functions can be operated simultaneously, while others are meant to be operated individually. To summarize the control system see the explanations below.

- Winch up takes priority over all functions. ▲
- Winch Down can be operated with any other single function.
- Hydraulic functions (Rotation Right, Rotation Left, Boom Up, Boom Down, Boom Out and Boom In) are designed to function one at a time.

## CABLE DRUM AND SHEAVE DIAMETERS

The drum on the ET25KX is 5-1/4" in diameter which is 18 times the 5/16" wire rope diameter as required by ANSI B30.15 Hydraulic Crane Standards. The cable sheaves are either 16 or 18 times the cable diameter which likewise conforms.

## MISCELLANEOUS

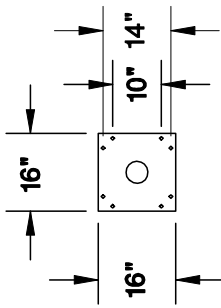
- CAPACITY INDICATOR**  
Select boom reach and angle allowable for load by using capacity indicator arrow and chart on either side of boom.
- BATTERY HOOKUP**  
A parallel auxiliary battery should be installed near the crane as shown on Dwg. I24600 under "RECOMMENDED INSTALLATION". The parallel auxiliary battery minimum rating should be 450 Cold Cranking Amps (at 0° F) and 100 reserve capacity, or 78 plates and 70 amp hours.



TITLE	DATE	SECTION
INSTALLATION DWG	7-10-02B	C120
ET25KX-10/20	SUPERCEDES 3-20-02A	19958b

**WARNING: THESE PRODUCTS ARE NOT PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.**

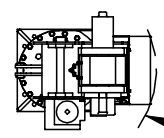
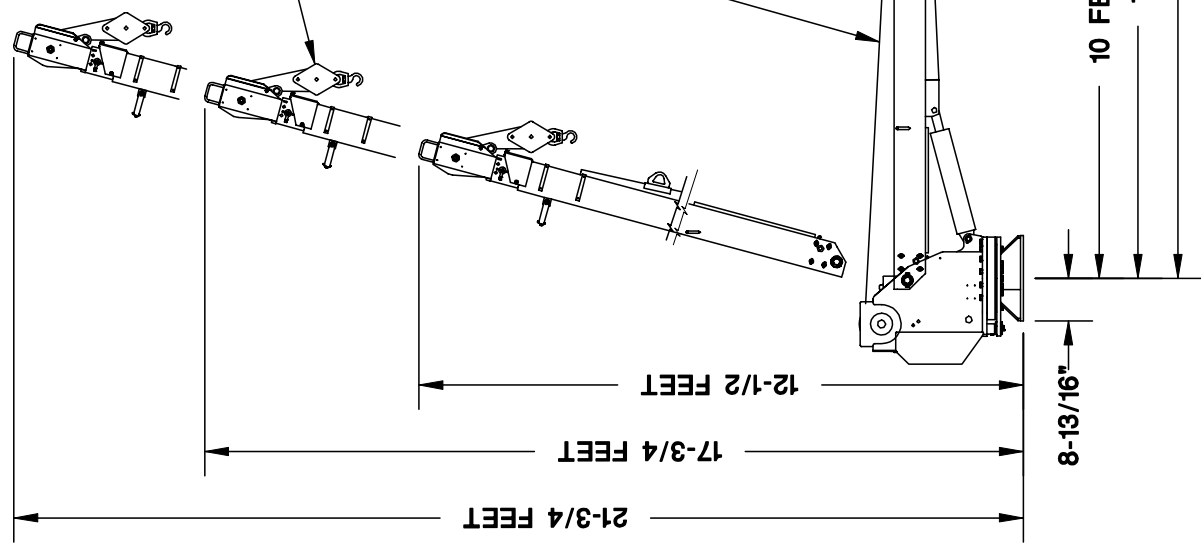
**TOTAL INSTALLED WEIGHT 1300 lbs.**



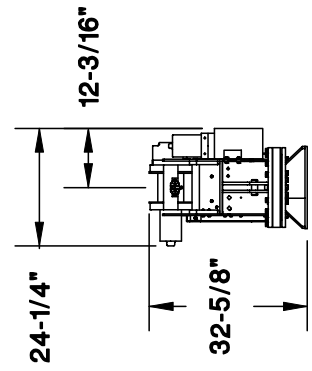
**BASE MOUNTING DIMENSIONS**


**SNATCH BLOCK FOR TWO PART LINE OPERATION**

**5/16" DIA WIRE ROPE 80 FT LONG**



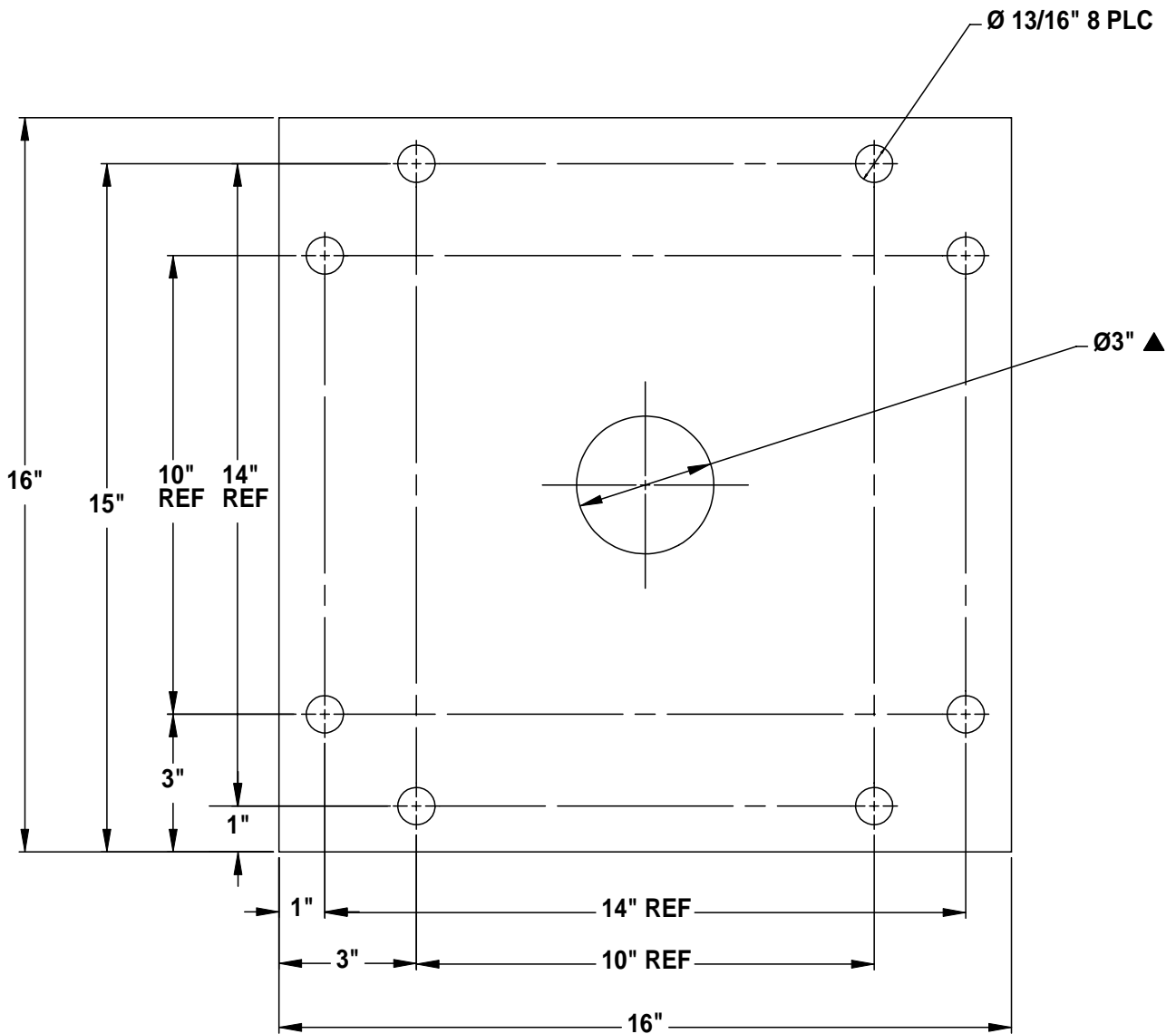
**20-1/4" SWING RADIUS**



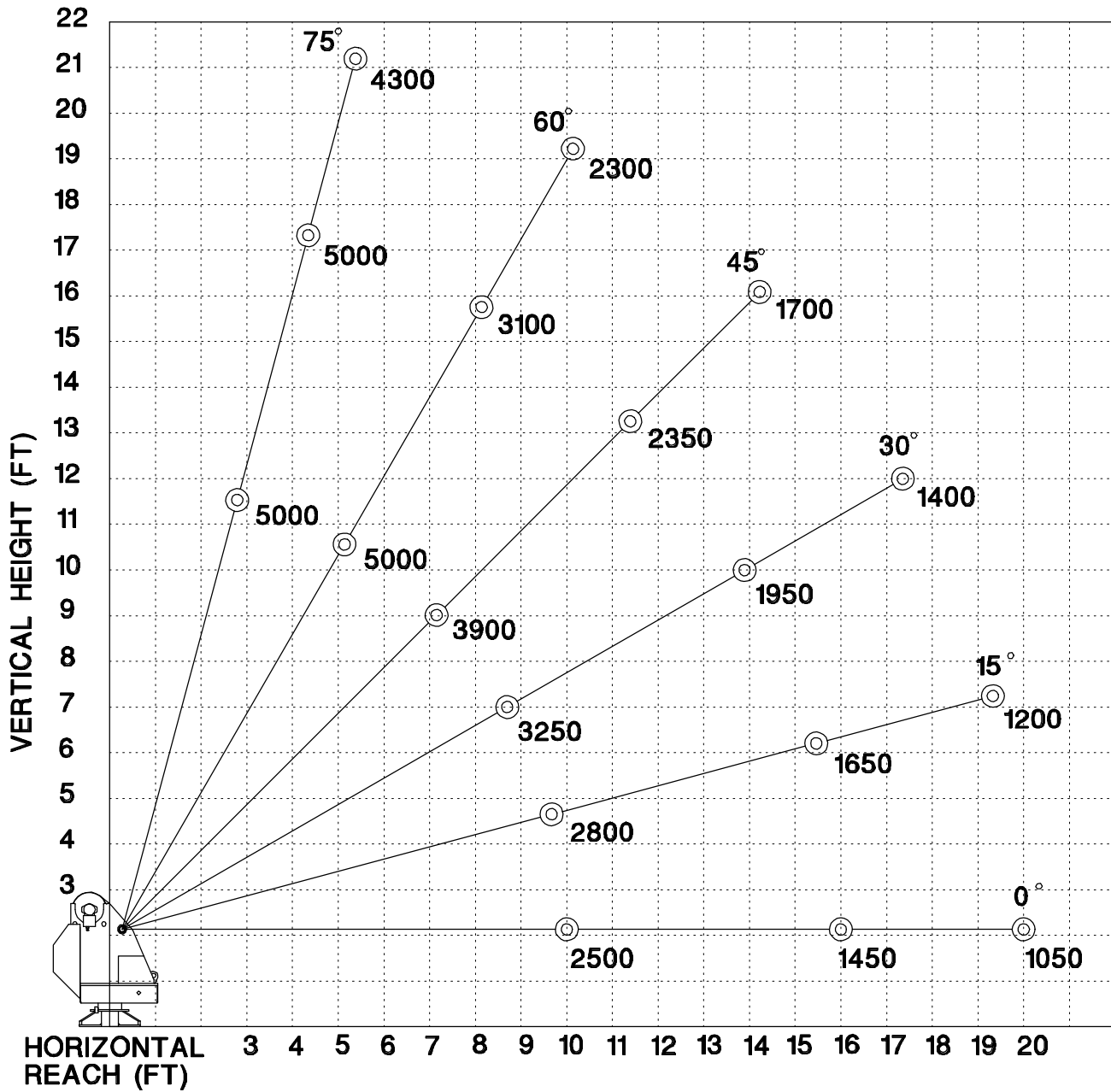
 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> INSTALLATION DRAWING		<b>DATE</b> 9-28-01	<b>SECTION</b> C100
	<b>ET25KX - 10/16/20 BOOM</b>		SUPERSEDES -	<b>20129</b>



# ▲ ET/HT18K(X) & ET/HT25K(X) BASE MOUNTING DIMENSION



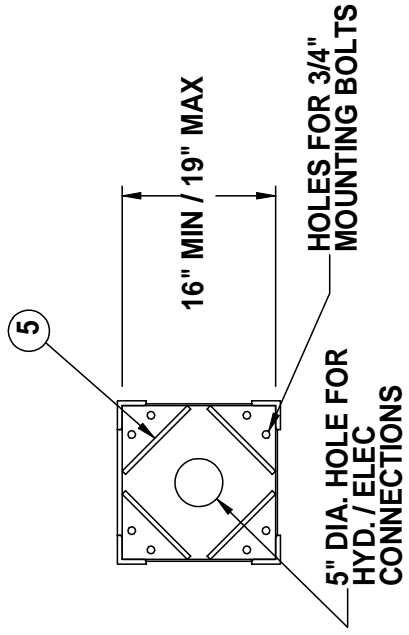
## ET/HT25K(X) - 10-16-20 BOOM MAXIMUM CAPACITY CHART



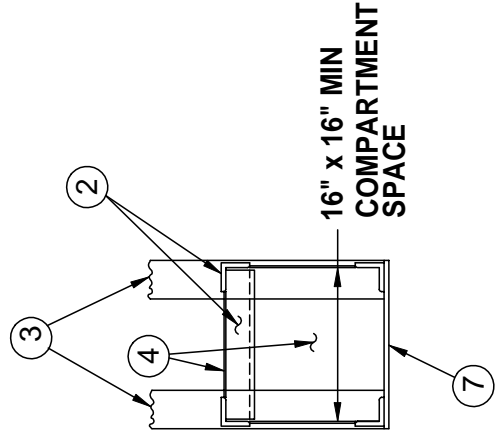
**MUST USE SNATCH BLOCK  
FOR LOADS OF 2500 LBS.  
AND GREATER**

PART	DESCRIPTION	MINIMUM RECOMMENDED MATERIAL SIZE
1	TOP PLATE	1/2" STEEL
2	CORNER POST	3" x 3" x 1/2" STEEL ANGLE
3	CROSS FRAME	4" x 4" x 5/16" SQUARE TUBING
4	SHEAR WEB	3/16" STEEL PLATE
5	TOP PLATE REINFORCEMENT	1/2" x 6' OR 3/4" x 5" STEEL BAR
6	OUTRIGGER REINFORCEMENT PLATE	1/4" THICK STEEL PLATE
7	GUSSET	1/2" x 4" H.R. STEEL
8	BODY TOP REINFORCEMENT	10 GA SMOOTH OR DIAMOND PLATE WITH 1" LIP OVER SIDE OF BODY

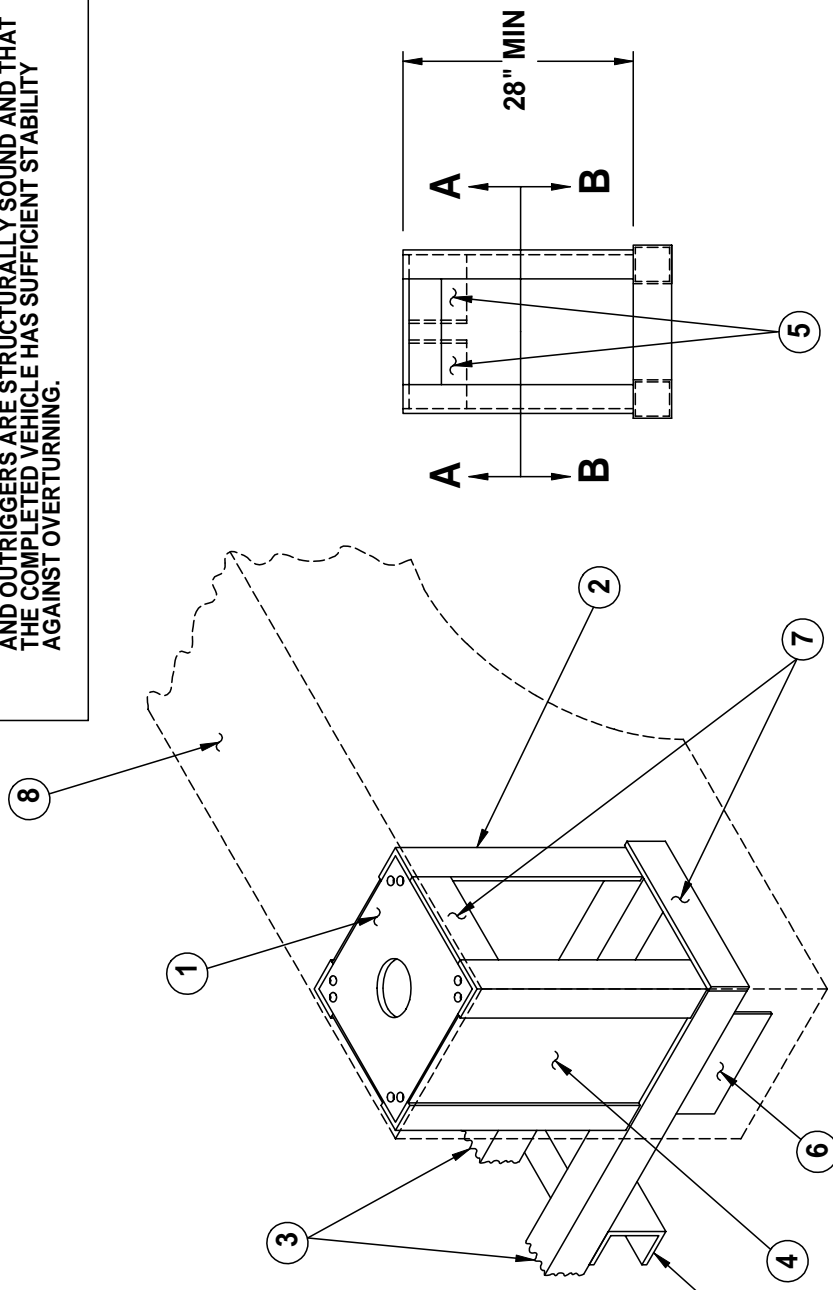
IT IS THE SOLE RESPONSIBILITY OF THE INSTALLER TO INSURE THAT THE TOTAL STRUCTURE OF CRANE, TRUCK, AND OUTRIGGERS ARE STRUCTURALLY SOUND AND THAT THE COMPLETED VEHICLE HAS SUFFICIENT STABILITY AGAINST OVERTURNING.



**SECTION A-A**



**SECTION B-B**



**TYPICAL SERVICE BODY REINFORCEMENT**

	TITLE	INSTALLATION DWG	DATE	7-29-03D	SECTION	C100
			SUPERSEDES	10-11-02C	19288	



# 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



TITLE	DATE	SECTION
INSTALLATION DWG	5-15-02H	C150
ET & HT CRANE SERIES	SUPERCEDES 5-13-97G	15394

# CRANE SAFETY AND HAZARDS

ET5500MPB/R, ET6KMPB/R, ET8100R, ET10K(X), ET18K(X), ET25K(X)

## **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 SHUT OFF MASTER DISCONNECT SWITCH 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**

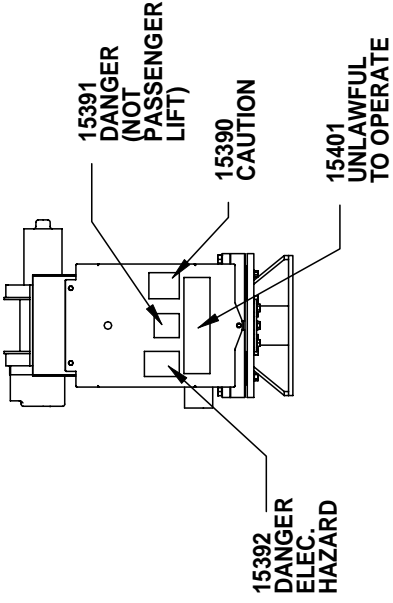
1. YOU HAVE BEEN TRAINED IN THE SAFE OPERATION OF THIS CRANE  
*AND*
2. YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN THE MANUFACTURER'S MANUALS, YOUR EMPLOYER'S WORK RULES, AND APPLICABLE GOVERNMENT REGULATIONS. AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR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

## **ELECTROCUTION HAZARD**

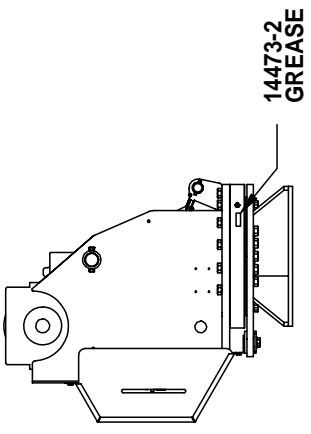
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.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



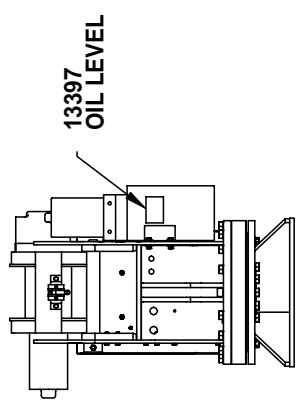
TITLE	INSTALLATION DWG	DATE	7-29-03G	SECTION	C150
	ET5500MPB-ET25KX	SUPERCEDES	10-14-97F		850711



BACK



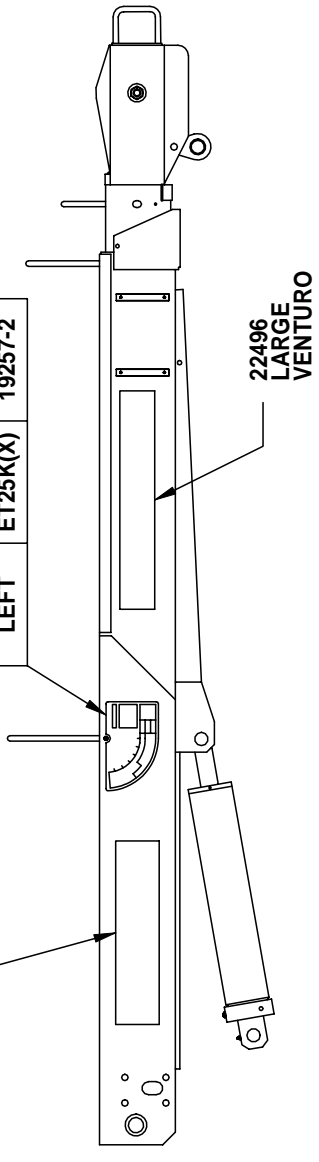
RIGHT



FRONT

MODEL NO.
19742 - ET25K
19743 - ET25KX

CAPACITY	DECAL	MODEL	PART NO.
	RIGHT	ET25K(X)	19257-1
	LEFT	ET25K(X)	19257-2



BOOM

TOP

**VENTURO** MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**DECAL PLACEMENT**  
ET25K(X)

SECTION  
**C150**

DATE  
**7-31-02**

SUPERSEDES  
-

**20549**



# SECTION 200

## INSTALLATION



# IMPORTANT

## ADEQUATE WIRING IMPERATIVE FOR PROPER OPERATION

1. PROPER GROUND PATH - SEE DWG 15660
  
2. CURRENT DRAW IS SEVERAL HUNDRED AMPERES -  
ADEQUATE WIRE SIZE AND BATTERY CAPACITY IS ABSOLUTELY  
ESSENTIAL (SEE CHART BELOW.)

### MINIMUM WIRE GAUGE AND BATTERY SIZE

MODEL	TOTAL LENGTH OF CABLE (FT)*								12 VOLT BATTERY REQUIREMENTS	
	0-20	21-25	26-30	31-40	41-50	51-60	61-70	71-80	CCA (A)**	RC (MIN)***
CE6K CT2000 CT2003/4/5 DT7K	#4	#4	#2	#2	#1	#0	#0	#00	350	100
ET5500MPB ET5500R ET6KMPB ET6KR ET10K	#2	#2	#1	#0	#00	NOTRECOMMENDED			450	100
ET10KX	#2	#2	#1	#0	#00	NOTRECOMMENDED			550	150
ET18K ET18KX ET25K ET25KX	SEE DRAWING 19947 FOR CABLE AND BATTERY REQUIREMENTS									

\* INCLUDES GROUND CABLE

\*\* CCA=COLD CRANKING AMPS AT 0' F.  
THE CCA RATING IS A MEASURE OF THE ABILITY OF THE BATTERY TO DELIVER A HIGH CURRENT FOR A SHORT PERIOD OF TIME.

\*\*\* RC=RESERVE CAPACITY IN MINUTES AT 25 AMPS AND 80' F.  
THE RC RATING IS A MEASURE OF THE PERIOD OF TIME THE BATTERY CAN SUPPLY A GIVEN CURRENT WITHOUT RECHARGING.



MFG., INC.  
CINCINNATI, OHIO

TITLE  
**CABLE & BATTERY**

**ET18KX / ET25KX**

DATE  
**7-29-03A**

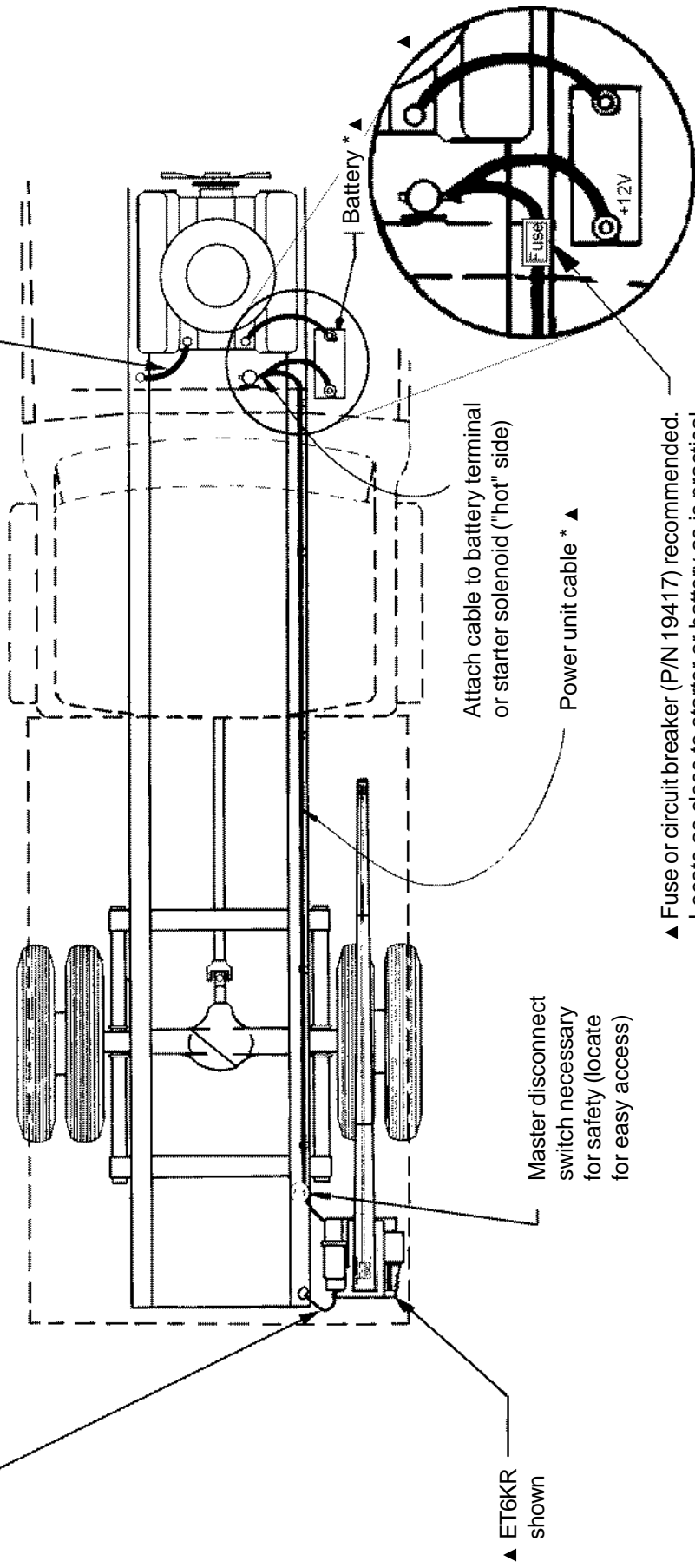
SUPERCEDES  
**9-4-01**

SECTION  
**C200**

**19959**

Important: The crane must make connection with the negative of the battery. To insure this, install a #2 gauge grounding strap from the engine to the truck frame (required if negative from battery is connected to the engine.) Also, install a #2 gauge grounding strap from the crane base to the truck frame, included with ET6R, ET10K(X), ET25K, & ET25KK cranes.

Failure to accomplish the above mentioned steps may result in intermittent operation of electric crane.



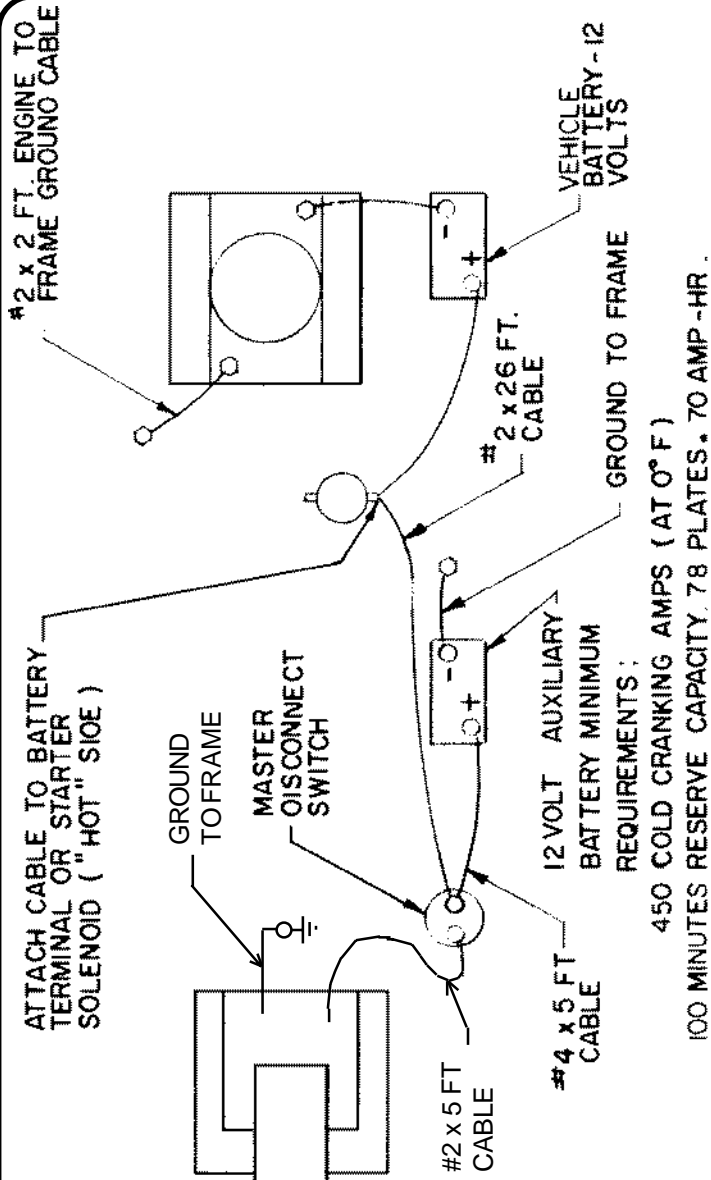
▲ Fuse or circuit breaker (P/N 19417) recommended. Locate as close to starter or battery as is practical.

▲ \* Note: See Dwg 711105 for recommended battery and cable specifications

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> INSTALLATION - BATTERY CABLE		<b>DATE</b> 1-15-02E	<b>SECTION</b> C200
	<b>WINCH &amp; CRANE</b>		<b>SUPERCEDES</b> 11-7-01D	<b>15660</b>

## RECOMMENDED INSTALLATION

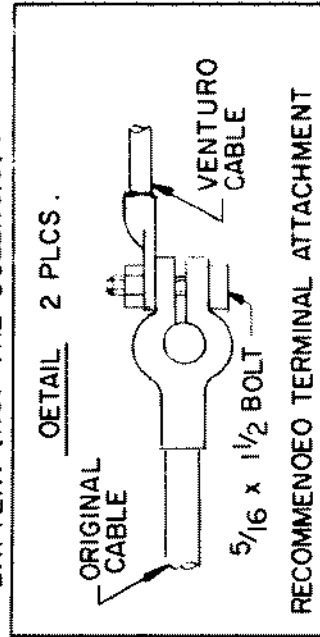
W/ AUXILIARY BATTERY IN PARALLEL WITH VEHICLE BATTERY.



IF LONGER CABLE NECESSARY, CONSULT VENTURO ENGINEERING DEPT.

## LIMITED DUTY ALTERNATE INSTALLATION (NOT RECOMMENDED)

NOTE: ALTERNATE INSTALLATION MAY BE USED ONLY IF VEHICLE BATTERY MEETS MINIMUM REQUIREMENTS AND A #2 X 26 FT CABLE WILL REACH FROM THE MASTER DISCONNECT SWITCH DIRECTLY TO THE BATTERY (NOT THE SOLENOID).

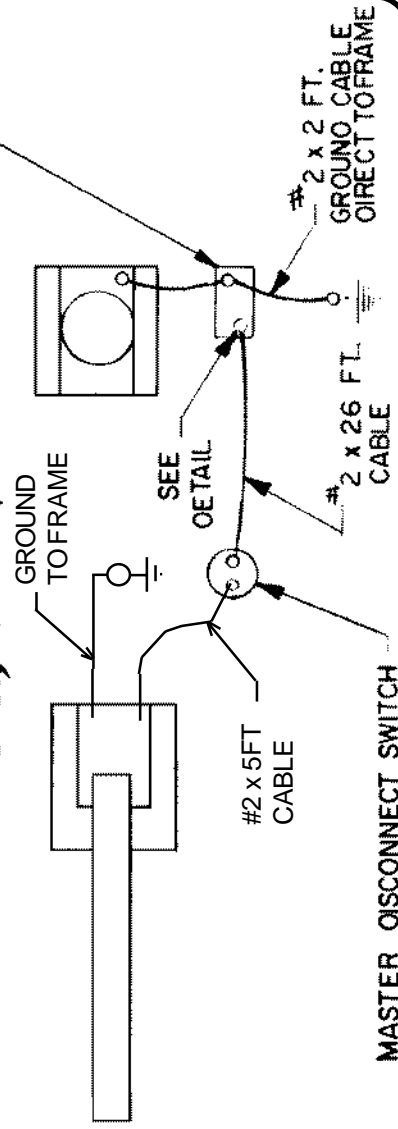


12 VOLT VEHICLE BATTERY MINIMUM REQUIREMENTS

625 COLD CRANKING AMPS ( AT 0° F ),

160 MINUTES RESERVE CAPACITY,

102 PLATES, 105 AMP-HR..



TITLE

ELECTRICAL INSTALLATION

SECTION

DATE 9-26-01

SUPERCEDES

-

-

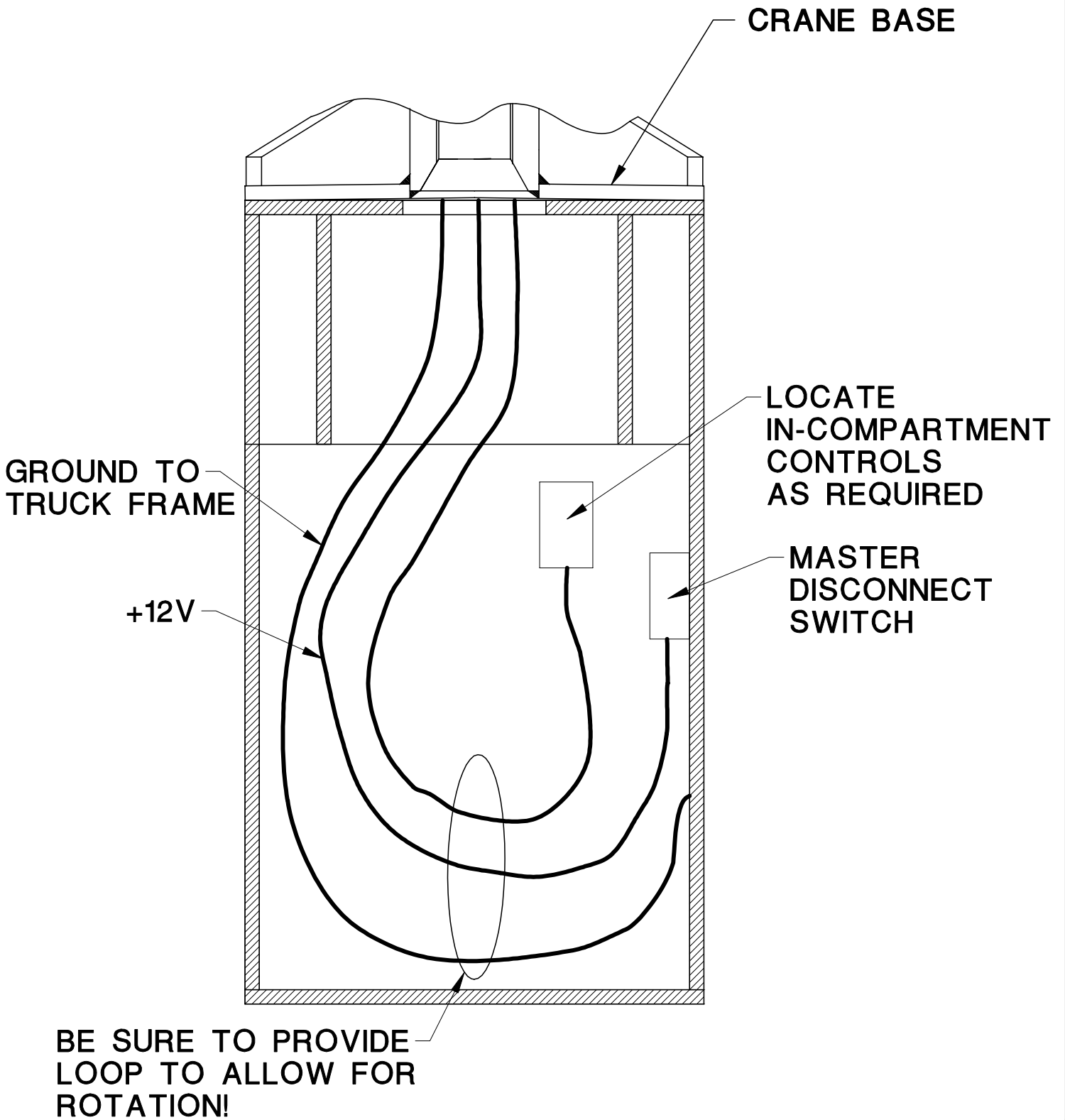
MANUFACTURING, INC.  
CINCINNATI, OHIO

**VENTURO**

ET25KX

19947

# IN-COMPARTMENT CONTROLS INSTALLATION ET25K(X)



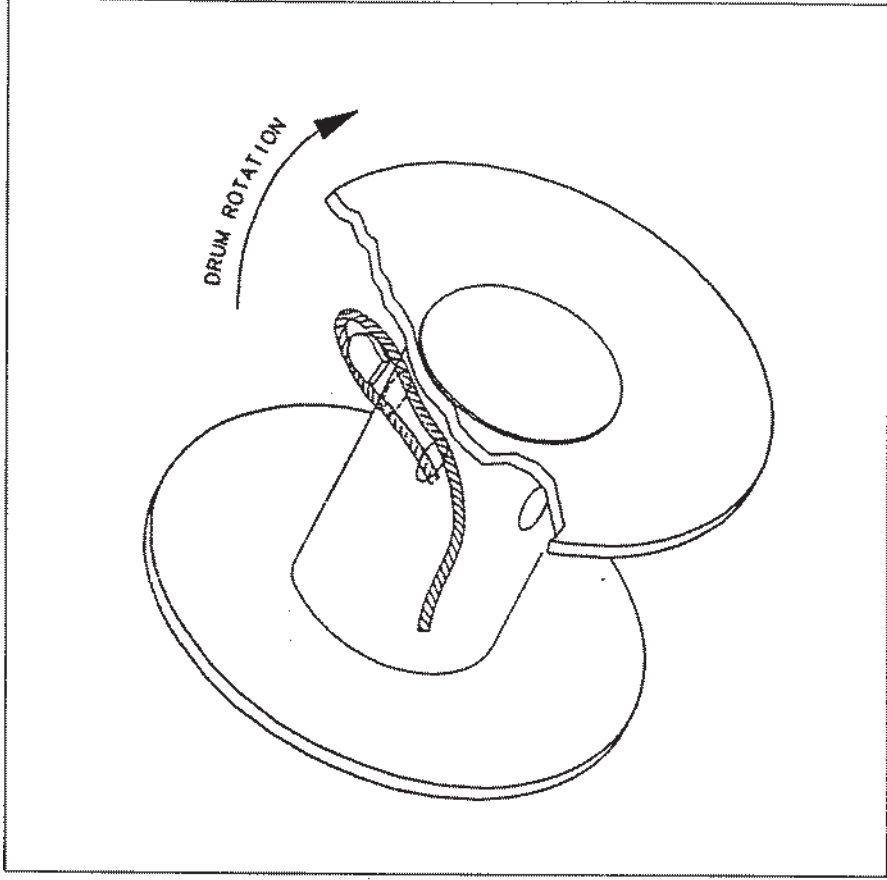
# WIRE ROPE INSTALLATION

STEP 1: INSERT WIRE ROPE END THROUGH ANTI-TWO-BLOCK WEIGHT.

STEP 2: INSERT WIRE ROPE END INTO POCKET OPENING AND THROUGH WEDGE POCKET.

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

NOTE: ON THE ET25K(X) A 7/16" HEX NUT WILL BE USED IN LIEU OF A WEDGE.



<b>TITLE</b> WIRE ROPE INSTALLATION DRAWING ET/HT25K(X),HT40KX, HT50KX	<b>DATE</b> 11-22-02D	<b>SECTION</b> C200
	<b>SUPERCEDES</b> 4-19-02C	<b>22245</b>

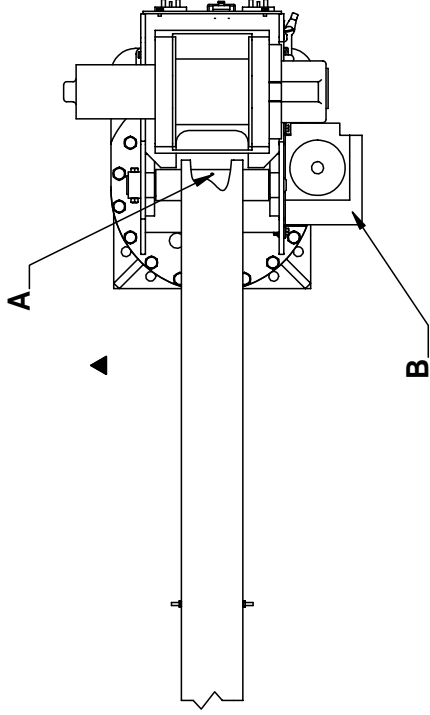
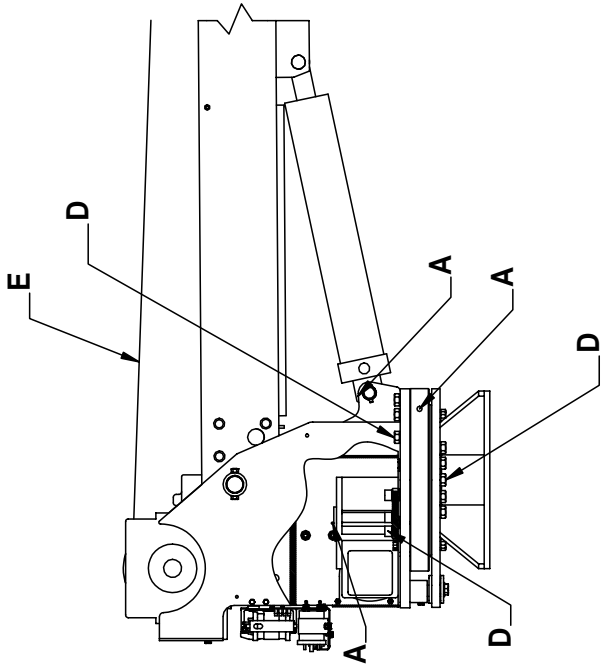
**VENTURO**  
MANUFACTURING, INC.  
CINCINNATI, OHIO

# **SECTION 300**

**MAINTENANCE**


**&**

**SERVICE**



Location	Service Required	Note	Service Interval
A	Grease fitting With Pressure Grease Gun	Use Lithium Based Grease	Time of Truck Service
B	Fill Oil Reservoir to Oil Level with Boom Down	Use Dextron ATF for Ambient Temperatures Between -22° F and 30° F Use ISO Viscosity Grade 68 or Equivalent for Ambient Temperatures Between 10° F and 125° F	Time of Truck Service and as required by changes in the ambient temperature range
D	Check Torque of bolts	Bolts should be torqued to 190 ft-lbs	Time of Truck Service
E	Check Wire Rope and Hook	Rope should be free of kinks and fraying	Time of Truck Service



 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE <b>LUBRICATION &amp; MAINTENANCE CHART</b>		DATE <b>12-1-03C</b>	SECTION -
	ET25K(X)		SUPERSEDES <b>11-18-03B</b>	<b>19962</b>



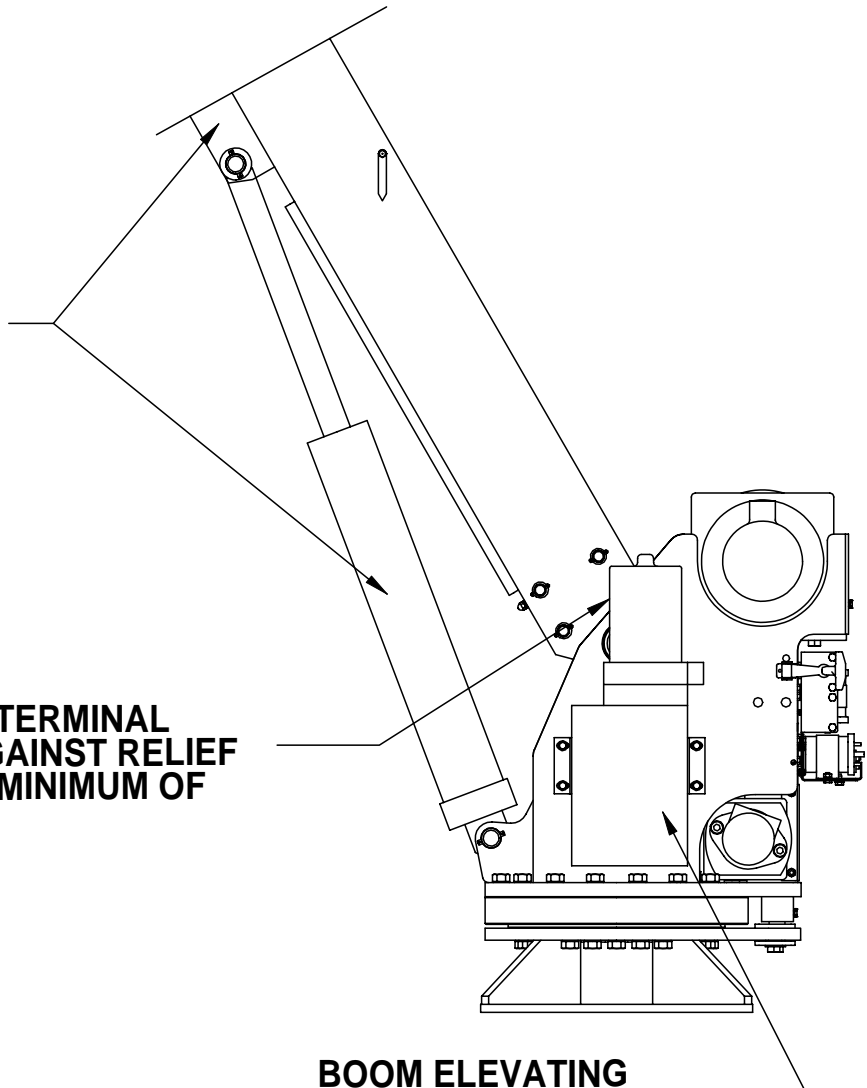
# MINIMUM VOLTAGE TEST

▲ ET18K(X) / ET25K(X)

ONE OF THE MOST COMMON ELECTRICAL PROBLEMS ENCOUNTERED ON 12 VOLT ELECTRICAL CRANES IS INSUFFICIENT VOLTAGE AT THE MOTOR WHEN DRAWING THE LARGE CURRENT THAT EXISTS AT FULL LOAD

EXTEND BOOM CYLINDER AGAINST "UP" STOP (RELIEF VALVE WILL OPEN)

VOLTAGE AT MOTOR TERMINAL WHEN OPERATING AGAINST RELIEF VALVE SHOULD BE A MINIMUM OF 8 VOLTS



BOOM ELEVATING  
ELECTRIC HYDRAULIC  
POWER UNIT



TITLE  
MINIMUM VOLTAGE TEST

DATE  
7-29-03A

SECTION  
-

ET18K(X), ET25K(X)

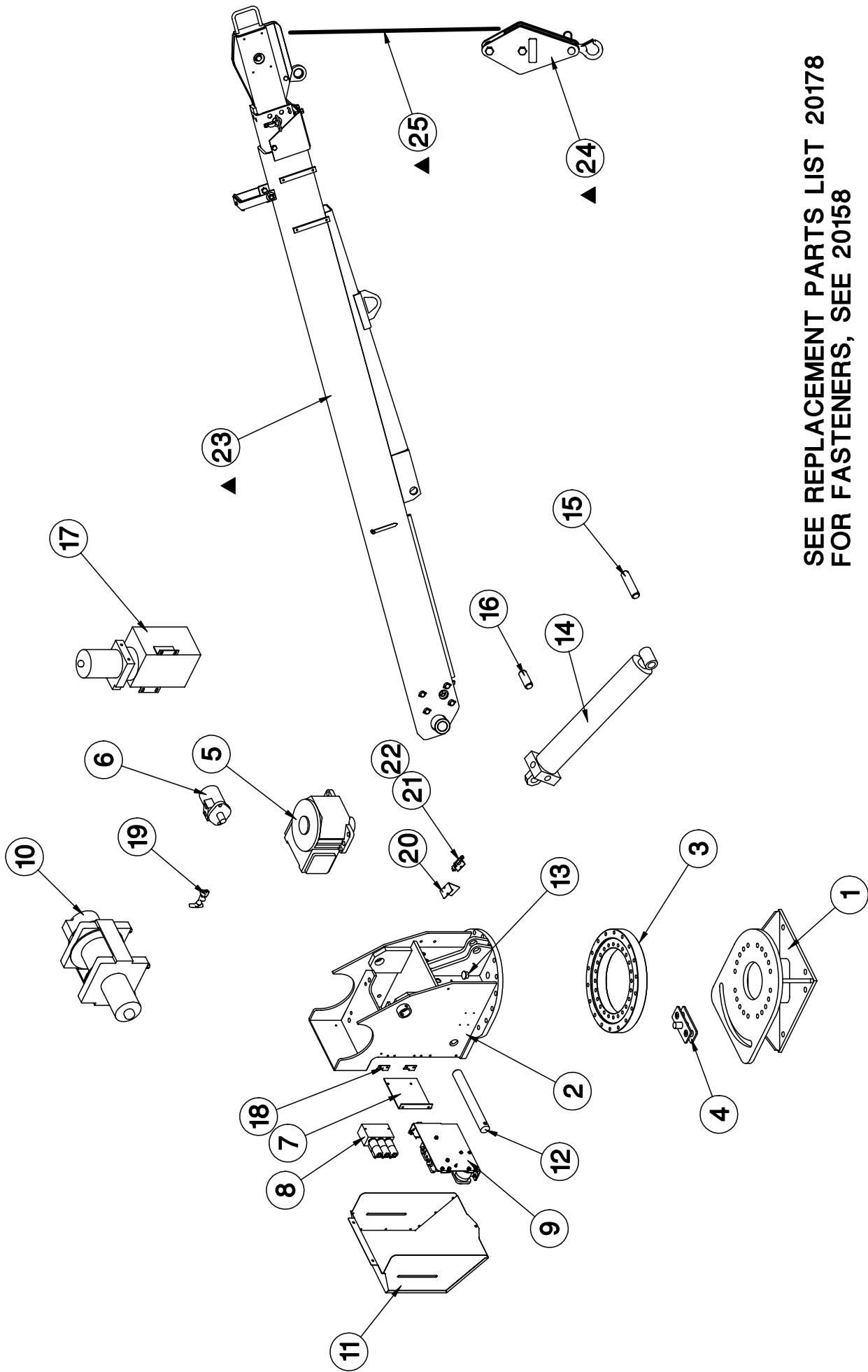
SUPERSEDES  
9-5-01

19963

# SECTION 400

## PARTS





SEE REPLACEMENT PARTS LIST 20178  
FOR FASTENERS, SEE 20158

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	REPLACEMENT PARTS DRAWING	SECTION	-
	ET25KX	DATE	6-19-02A	
		SUPSEDES	9-27-01	20148

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	19812	WELDED BASE ASSEMBLY			
2	19807	HOUSING ASSEMBLY - ET/HT25KX			
3	19808	SWING BEARING			
4	19810	ROTATION LIMITING SLIDER ASSEMBLY			
5	19811	SPEED REDUCER			
6	19916	HYDRAULIC ROTATION MOTOR			
7	19898	HYDRAULIC MOUNTING PLATE			
8	19815-2	MANIFOLD W/ VALVES / COILS			
9	19897	ELECTRICAL COMPONENT ASSEMBLY			
10	19813	ELECTRIC WINCH			
11	19901	CRANE COVER ASSEMBLY			
12	19902	BOOM PIVOT PIN			
13	RL-644	PLASTIC PLUG			
14	18930-1	ELEVATION CYLINDER			
15	18761 ▲	PIVOT PIN - 1-1/4 DIA.			
16	18762 ▲	PIVOT PIN - 1-1/4 DIA.			
17	19820	HYDRAULIC POWER UNIT ASSEMBLY			
18	19896-1	HINGE HALF WITH PIN			
19	19913-1	FLEXIBLE RUBBER DRAW LATCH - CLASP SIDE			
20	20497	SWITCH BRACKET			
21	19917	BOOM SHUT OFF SWITCH			
22	19918	BOOM SHUT OFF SWITCH BRACKET			
23	19950	BOOM FINAL ASSEMBLY			
24	23169	SWIVEL SNATCH BLOCK ASSEMBLY			
25	25810-5/16-80	WIRE ROPE ASSEMBLY - 5/16" X 80 FT (10/20 FT BOOM)			
		REPLACEMENT PARTS DWG REF 20148			

<b>TITLE</b> <b>REPLACEMENT PARTS LIST</b>		<b>DATE</b> <b>9-16-03B</b>	<b>SECTION</b> <b>-</b>
		<b>SUPERCEDES</b> <b>6-19-02A</b>	<b>20178</b>
<b>ET25KX</b>			



# FASTENER LIST FOR ET25KX

PART NUMBER	DESCRIPTION	QTY	LOCATION/FUNCTION
12534	WASHER - I.D. 0.63"	38	SLEWING RING
!HHCS06311200	HEX HEAD CAP SCREW - 5/8"-11 x 2"	35	SLEWING RING
!SHCS06311150	SOCKET HEAD CAP SCREW-5/8-11 X 1-1/2"	3	SLEWING RING
!LWSH-050-HC	LOCK WASHER 1/2" - HI COLLAR	2	HYDRAULIC ROTATION MOTOR
!SHCS05013125	SOCKET HEAD CAP SCREW 1/2-11 X 1-1/4"	2	HYDRAULIC ROTATION MOTOR
12534	WASHER - I.D. 0.63"	6	SPEED REDUCER
!SHCS06311150	SOCKET HEAD CAP SCREW 1/2-13 X 1-1/2"	6	SPEED REDUCER
!HHCS03118100	HEX HEAD CAP SCREW 5/16-18 X 1"	4	HYDRAULIC POWER UNIT
!FWSH-031	FLAT WASHER - 5/16"	8	HYDRAULIC POWER UNIT
!LWSH-031	LOCK WASHER - 5/16"	4	HYDRAULIC POWER UNIT
!HNUT-03118	HEX NUT - 5/16-18	4	HYDRAULIC POWER UNIT
!HHCS03816250	HEX HEAD CAP SCREW - 3/8-16 X 2-1/2"	1	BOOM PIVOT PIN
!LNUT-03816	LOCK NUT, NYLON - 3/8-16	1	BOOM PIVOT PIN
!RPIN-025175	ROLL PIN - 1/4 X 1-3/4 LONG	4	ELEVATION CYLINDER CLEVIS PINS
!HHCS02520075	HEX HEAD CAP SCREW 1/4-20 X 3/4"	4	ELECTRICAL PANEL HINGES
!HNUT-02520	HEX NUT - 1/4-20	4	ELECTRICAL PANEL HINGES
!LWSH-025	LOCK WASHER - 1/4"	4	ELECTRICAL PANEL HINGES
!HHCS02520050	HEX HEAD CAP SCREW - 1/4-20 X 1/2"	1	TOP POSITION SWITCH BRACKET
!LWSH-025	LOCK WASHER - 1/4"	1	TOP POSITION SWITCH BRACKET
!HHCS02520100	HEX HEAD CAP SCREW - 1/4-20 X 1"	2	HYDRAULIC MANIFOLD BRACKET
!LWSH-025	LOCK WASHER - 1/4"	2	HYDRAULIC MANIFOLD BRACKET
!HNUT-02520	HEX NUT - 1/4-20	2	HYDRAULIC MANIFOLD BRACKET
!HHCS02520063	HEX HEAD CAP SCREW 1/4-20 X 5/8"	2	HYDRAULIC VALVE BLOCK
!LWSH-025	LOCK WASHER - 1/4"	2	HYDRAULIC VALVE BLOCK
!HHCS02520050	HEX HEAD CAP SCREW - 1/4-20 X 1/2"	3	REAR COVER
!LWSH-025	LOCK WASHER - 1/4"	3	REAR COVER
!PHCS#1024038	PAN HEAD CAP SCREW - #10-24 X 3/8"	2	TOP POSITION SWITCH
!LWSH-#10	LOCK WASHER - #10	2	TOP POSITION SWITCH
!HNUT-#1024	HEX NUT - #10-24	2	TOP POSITION SWITCH
!PHCS#1024075	PAN HEAD CAP SCREW 10-24 X 3/4"	2	ELECTRICAL PANEL DRAW LATCH
!FWSH-#10	FLAT WASHER - #10	2	ELECTRICAL PANEL DRAW LATCH
!LWSH-#10	LOCK WASHER - #10	2	ELECTRICAL PANEL DRAW LATCH
!HNUT-#1024	HEX NUT - #10-24	2	ELECTRICAL PANEL DRAW LATCH



MFG., INC.  
CINCINNATI, OHIO

TITLE  
**REPL. FASTENERS LIST**

DATE  
**10-15-01**

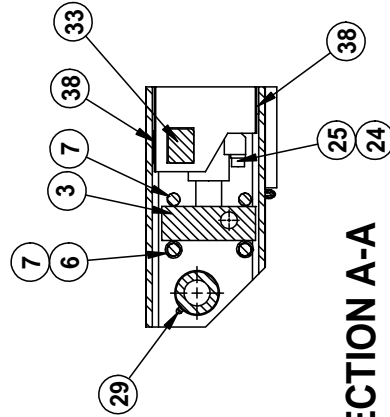
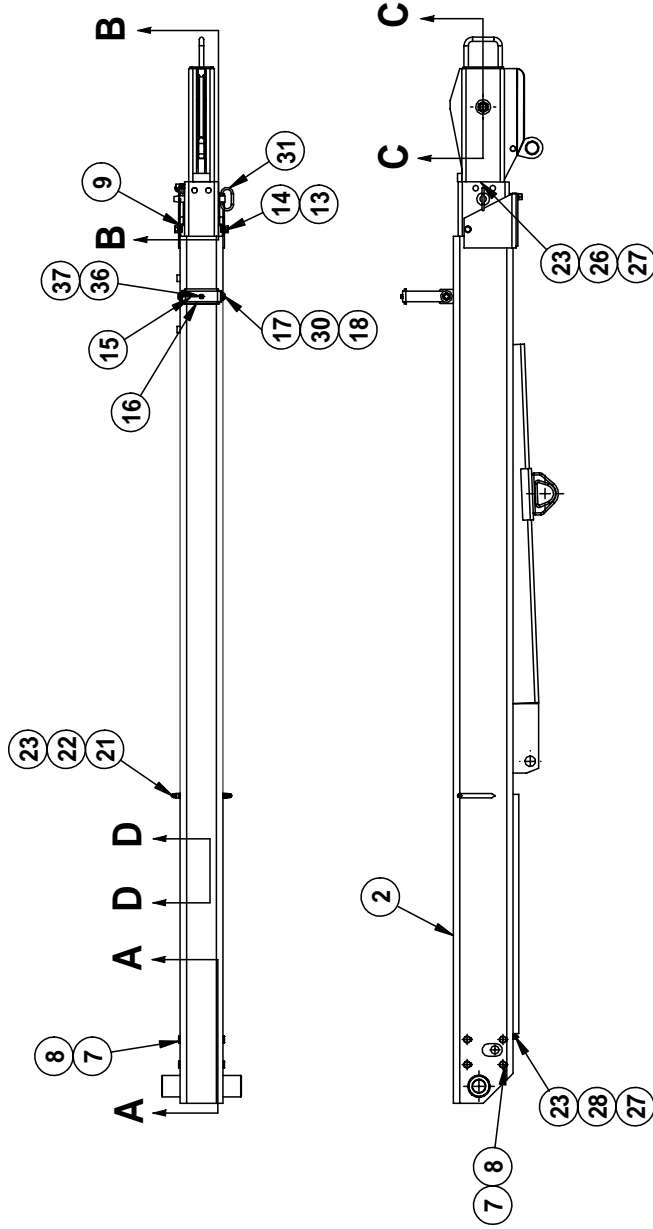
SECTION  
**C400**

**ET25K(X)**

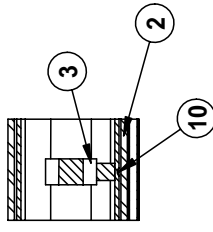
SUPPERCEDES  
-

**20158**

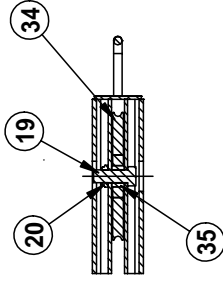
# 19950 BOOM PARTS DRAWING



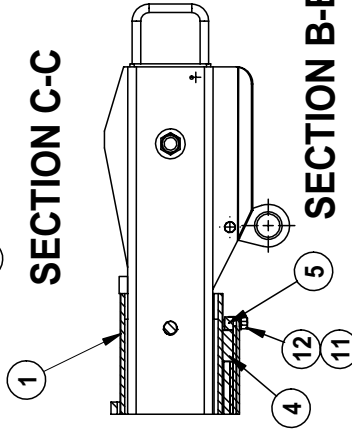
SECTION A-A



SECTION D-D

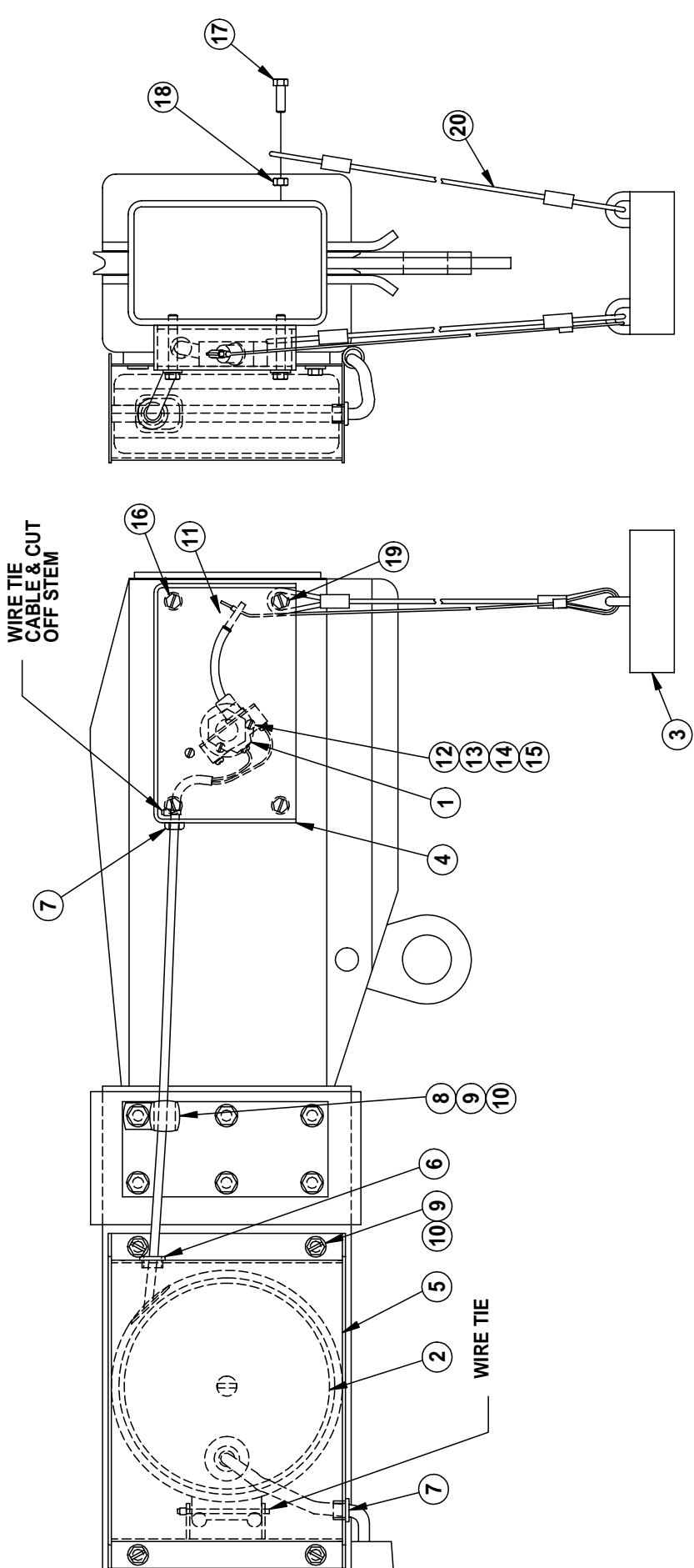


SECTION C-C



SECTION B-B

ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
20	1	ILNUT-7510	LOCKNUT 3/4-10	39	-	-	
19	1	17059-6	SHEAVE AXLE 3/4 X 2 W/ 1" SHANK	38	2	20960	BEARING PAD, SECONDARY
18	2	IFWSH-050	FLAT WASHER - 1/2"	37	1	IJNUT-02520N	NYLON INSERT JAM NUT - 1/4-20
17	2	IHC505013100	HEX HEAD CAP SCREW 1/2-13 X 1" LONG	36	1	IPHC502520063	PAN HEAD CAP SCREW - 1/4-20 X 5/8" LONG
16	1	19881	CABLE GUIDE WEAR STRIP	35	1	23924	SPACER - 23925 SHEAVE
15	1	19880	CABLE GUIDE STRUCTURE	34	1	23925	BOOM SHEAVE WITH BUSHING
14	2	IHC503816050	HEX HEAD CAP SCREW 3/8-16 X 1/2" LG GR 5	33	2	19888	SIDE BEARING PAD
13	2	IHC503816100	HEX HEAD CAP SCREW - 3/8-16 X 1" LG GR. 5	32	1	21276	ANTI-TWO LOCK ASSEMBLY - L.H.
12	2	IHC503816100	HEX HEAD CAP SCREW - 3/8-16 X 1" LG GR. 5	31	1	19258-1	BOOM PIN 19475-3/4
11	4	ILWSH-038	LOCK WASHER 3/8"	30	2	IJNUT-05013N	1/2-13 NYLON INSERT JAM NUT
10	2	ICAC503816100	CNTRSNK ALLEN HEAD CAP SCREW 3/8-16 X 1" LG	29	1	IZERK-02528	ZERK FITTING - 1/4-28
9	2	19857	BEARING PAD - SIDE FRONT	28	1	19269	CABLE CLAMP - 3/4"
8	4	ISRNG-075	SNAP RING - 3/4" DIA. PLATED	27	2	ILWSH-025	LOCK WASHER - 1/4"
7	4	21211	EXTENSION CYLINDER THRUST PIN	26	1	19275	CABLE CLAMP - 3/4"
6	2	19885	EXTENSION CYLINDER ROLLER	25	2	ISHCS05013200	SOCKET HEAD CAP SCREW - 1/2-13 X 2" LONG
5	1	19855	BEARING RETAINING BAR	24	2	ILWSH-050-HC	LOCKWASHER 1/2" HI COLLAR
4	1	19865	UPPER REAR BEARING PAD	23	4	IANUT-02520S	ACORN NUT 1/4-20 STAINLESS
3	1	19886-1	EXTENSION CYLINDER - HOLLOW ROD	22	2	24900	SPACER, BOOM ARROW 1/2" O.D.
2	1	19951	PRIMARY BOOM ASSEMBLY	21	2	13459-2	BOOM ARROW 47/16" LONG
1	1	19892	TERTIARY & SECONDARY BOOM ASSEMBLY				



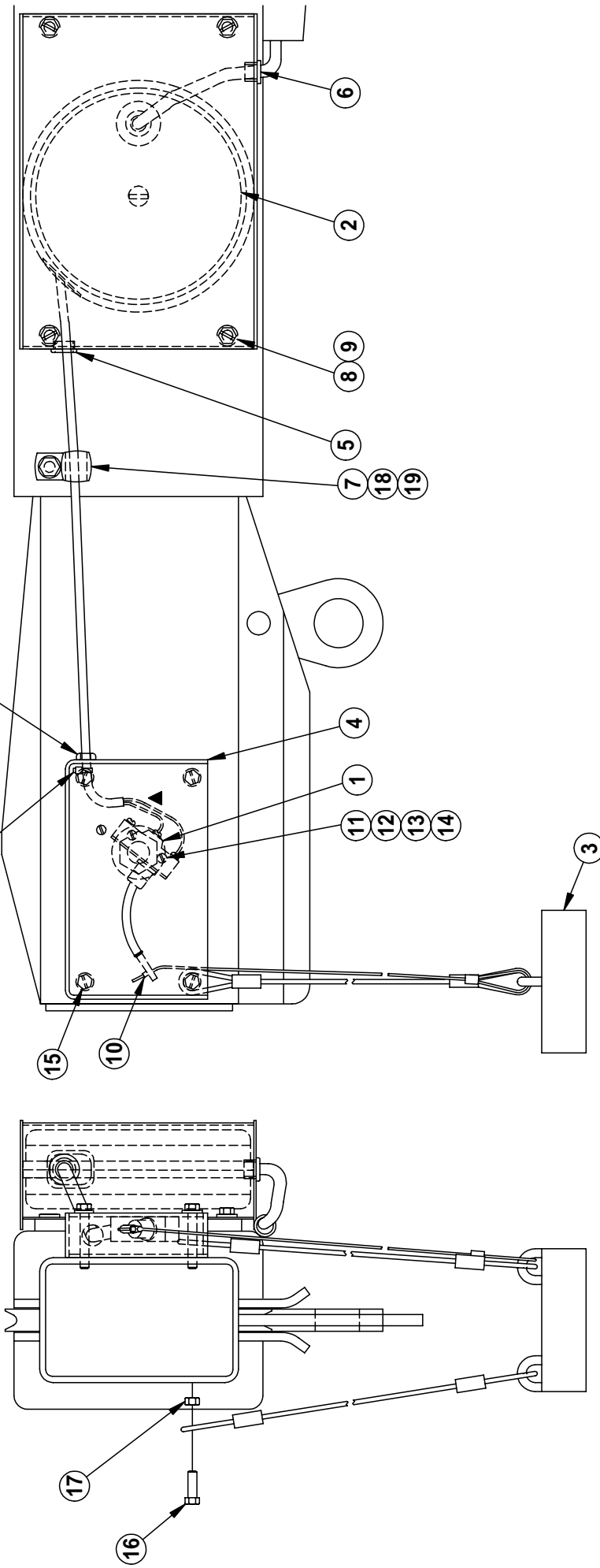
ITEM	QTY	PART NO.	DESCRIPTION
11	1	19302	SET COLLAR
10	5	ILWSH-031	LOCK WASHER - 5/16"
9	5	IHHCS03118050-5	HEX HEAD CAP SCREW - 5/16-18 x 1/2"
8	1	19275	CABLE CLAMP - 3/4" x 13/32" HOLE
7	2	19270	SNAP BUSHING - 3/8" I.D.
6	1	19063	SNAP BUSHING - 1/2" I.D.
5	1	19058	COVER - CORD REEL
4	1	19855	SWITCH BRACKET
3	1	19377-2	CABLE WEIGHT ASSY
2	1	22388-1	CORD REEL ASSY
1	1	19376	LIMIT SWITCH

ITEM	QTY	PART NO.	DESCRIPTION
20	2	20951-1	HANGER CABLE
19	1	IHHCS02520150	HEX HEAD CAP SCREW - 1/4-20 x 1 1/2"
18	1	IHNUT-02520	HEX NUT - 1/4-20
17	1	IHHCS02520075-5	HEX HEAD CAP SCREW - 1/4-20 x 3/4" GR. 5
16	3	IHHCS02520175	HEX HEAD CAP SCREW - 1/4-20 x 1 3/4"
15	2	ILWSH-#06	LOCK WASHER - #6
14	2	IFWSH-#06	FLAT WASHER - #6
13	2	IHNUT-#0632	HEX NUT - #6-32
12	2	IPHMS#632125	PAN HEAD MACHINE SCREW - #6-32 x 1 1/4"

 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> REPLACEMENT PARTS DRAWING		<b>DATE</b> 12-18-02D	<b>SECTION</b> C400
	19197-2 ANTI-TWO-BLOCK SYSTEM		<b>SUPERSEDES</b> 8-26-02C	<b>20197-2</b>

WIRE TIE  
CABLE & CUT  
OFF STEM



ITEM	QTY	PART NO.	DESCRIPTION
19	1	1LWSH-025	LOCK WASHER - 1/4"
18	1	1ANUT-02520	ACORN NUT - 1/4-20
17	1	1HNUT-02520	HEX NUT - 1/4-20
16	1	1HHCS02520075-5	HEX HEAD CAP SCREW - 1/4-20 x 3/4" GR. 5
15	4	1HHCS02520175	HEX HEAD CAP SCREW - 1/4-20 x 1 3/4"
14	2	1LWSH-#06	LOCK WASHER - #6
13	2	1FWSH-#06	FLAT WASHER - #6
12	2	1HNUT-#0632	HEX NUT - #6-32
11	2	1PHMS#632125	PAN HEAD MACHINE SCREW - #6-32 x 1 1/4"
10	1	19302	SET COLLAR
9	4	1LWSH-031	LOCK WASHER - 5/16"
8	4	1SHCS03118050-5	SOCKET HEAD CAP SCREW - 5/16-18 x 1/2"
7	1	19275	CABLE CLAMP - 3/4" x 13/32" HOLE
6	2	19270	SNAP BUSHING - 3/8" I.D.
5	1	19063	SNAP BUSHING - 1/2" I.D.
4	1	21277	SWITCH BRACKET
3	1	19377-2	CABLE WEIGHT ASSY
2	1	22683	CORD REEL ASSY
1	1	19376	LIMIT SWITCH

**VENTURO** MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**REPLACEMENT PARTS DWG**

DATE  
**8-8-03**

SECTION  
**C400**

21276 ANTI-TWO-BLOCK SYSTEM

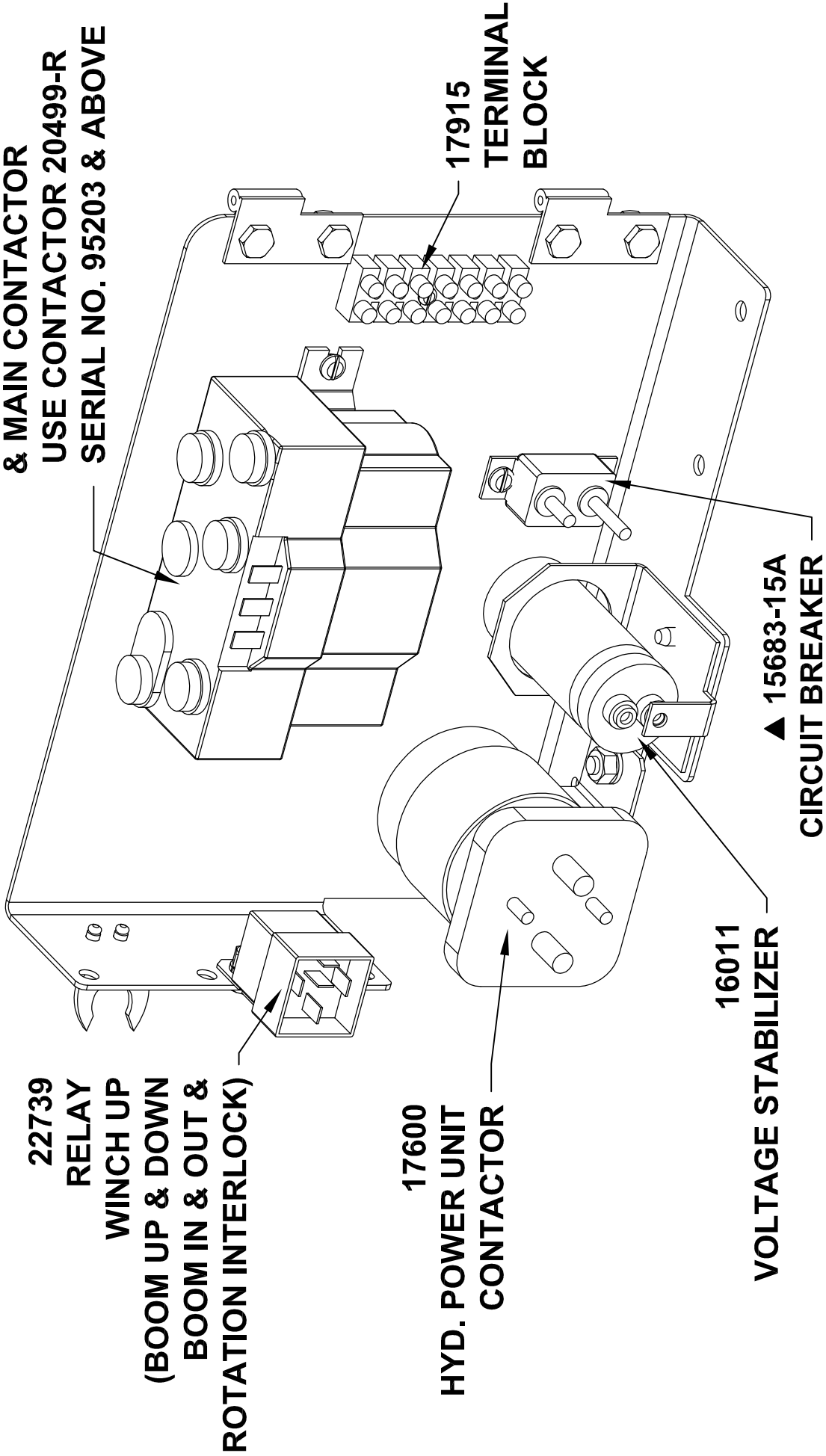
SUPERSEDES  
-

21275



# 19897 ELECTRICAL COMPONENT ASSEMBLY

21157 WINCH UP, WINCH DOWN,  
& MAIN CONTACTOR  
USE CONTACTOR 20499-R  
SERIAL NO. 95203 & ABOVE




22739  
RELAY  
WINCH UP  
(BOOM UP & DOWN  
BOOM IN & OUT &  
ROTATION INTERLOCK)

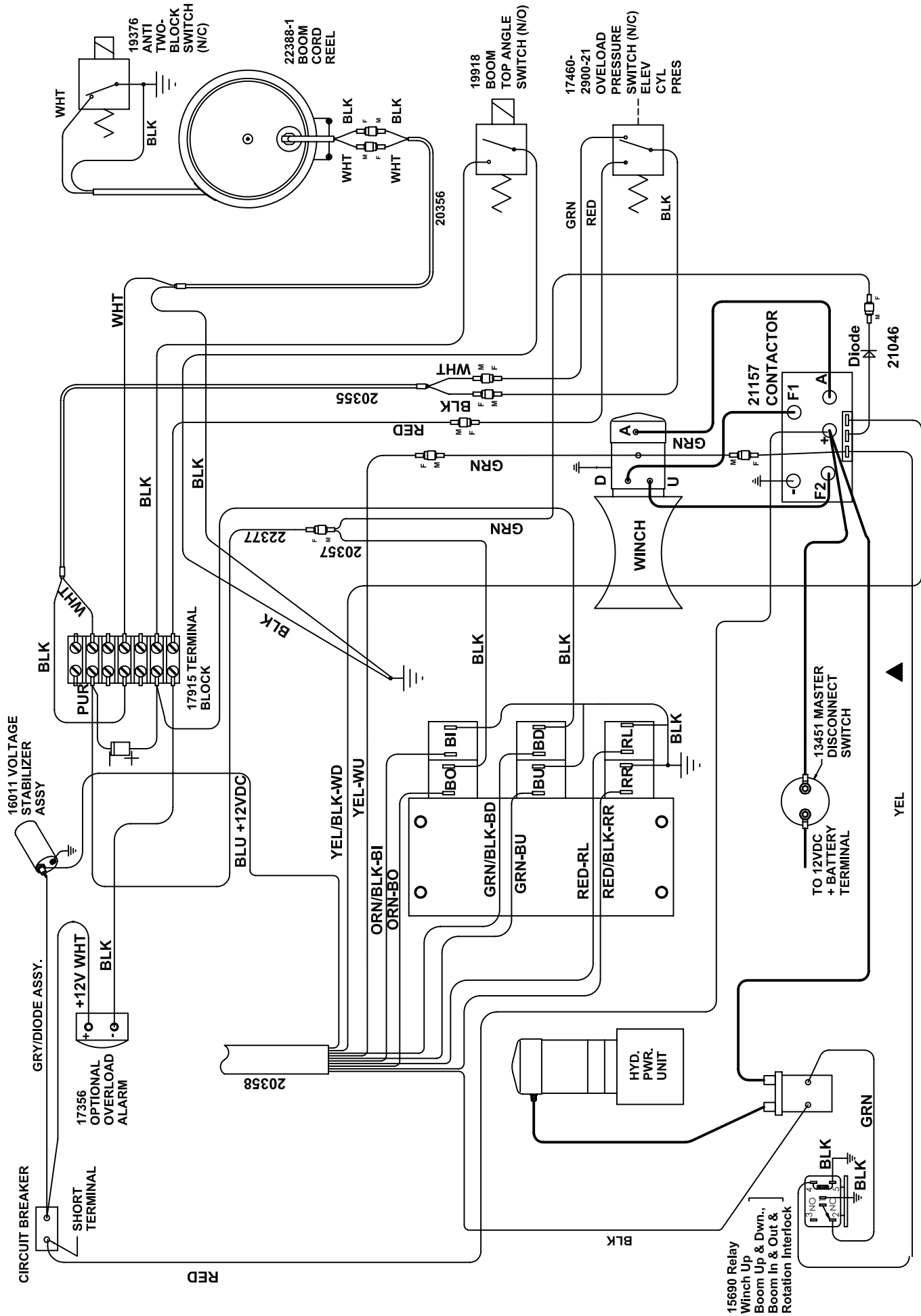
17600  
HYD. POWER UNIT  
CONTACTOR

16011  
VOLTAGE STABILIZER

▲ 15683-15A  
CIRCUIT BREAKER

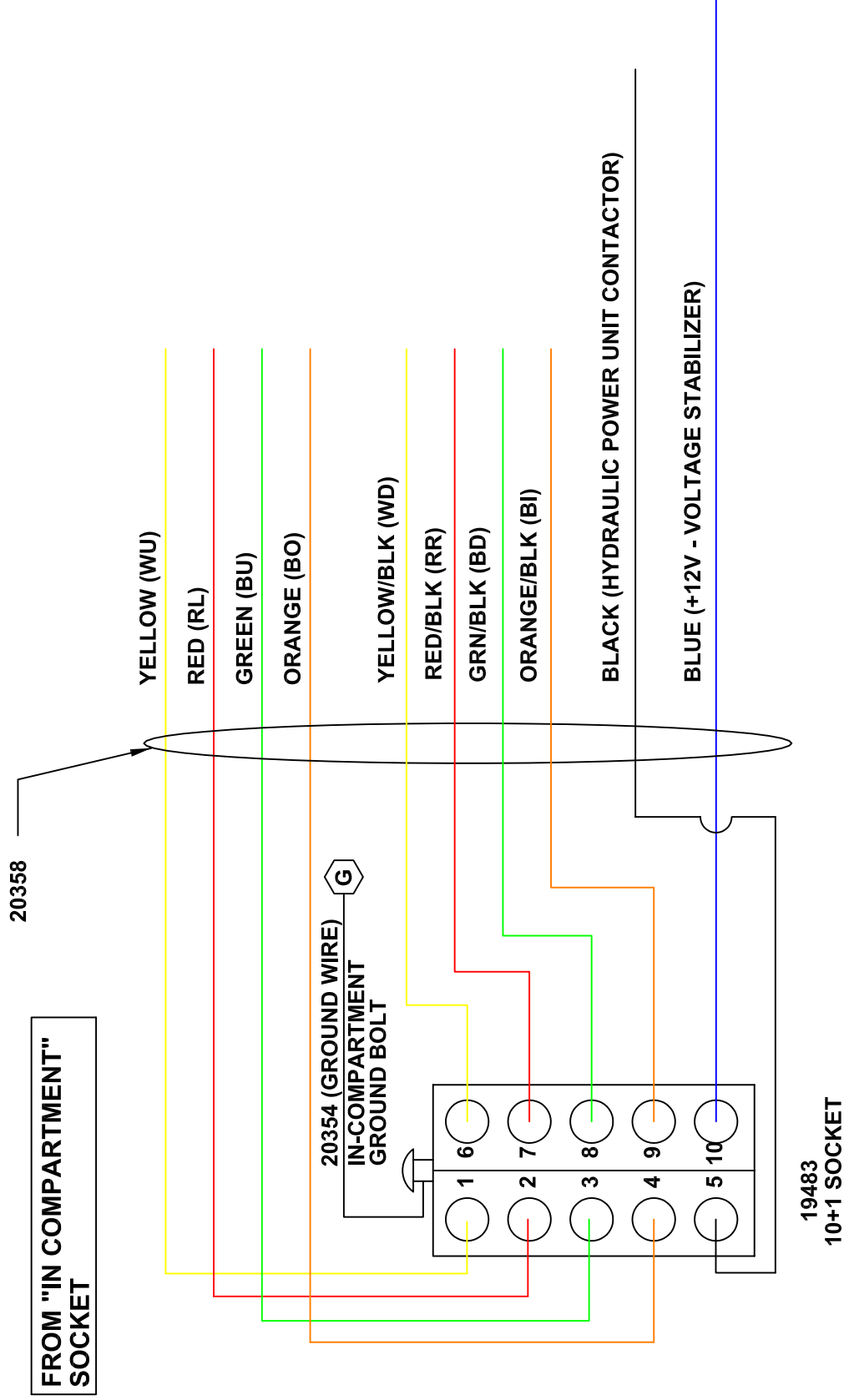
17915  
TERMINAL  
BLOCK

 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	ELECTRICAL COMPONENT ASSEMBLY		
	DATE	09-06-12G	SECTION	-
	SUPERSEDES	04-24-08F		19919



<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	<b>WIRING DIAGRAM</b>	
	SECTION	-	
ET25KX	DATE	<b>7-15-04D</b>	
	SUPERSEDES	<b>10-25-02C</b>	
			<b>20348</b>

# ET25KX IN-COMPARTMENT CONTROLS



NOTE: BLUE/BLK WIRE OF  
20358 HARNESS NOT USED

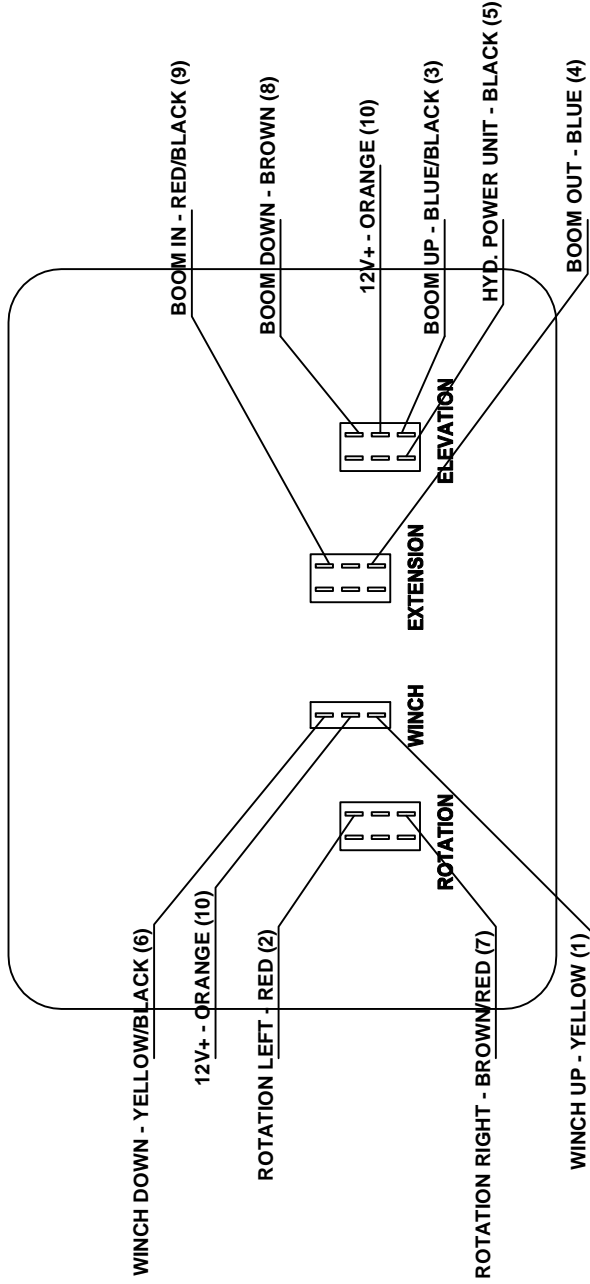


TITLE	IN-COMPARTMENT CONTROLS		SECTION	-
	DATE	1-19-05A		
	SUPERSEDES	4-12-02		
				20359

# 22060 PENDANT (4 - SWITCH)

## CORD REPLACEMENT INSTRUCTIONS

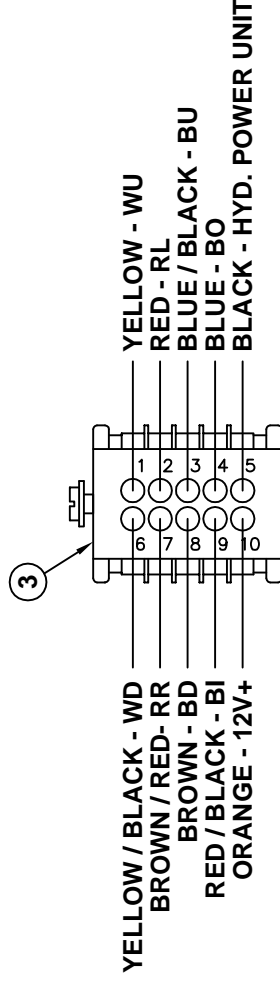
(INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED)



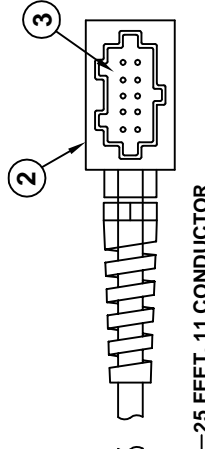
NOTE 1)  
 WIRE TERMINALS TO BE  
 INSTALLED 'AFTER' ROUTING  
 REPLACEMENT CORD ASSY  
 THROUGH PENDANT HEAD  
 AND PLUG HOUSING.

NOTE 2)  
 TOGGLE SWITCH JUMPER  
 WIRES NOT SHOWN FOR  
 CLARITY.

NOTE 3)  
 STOW OR CUT-BACK  
 UNUSED WIRES.



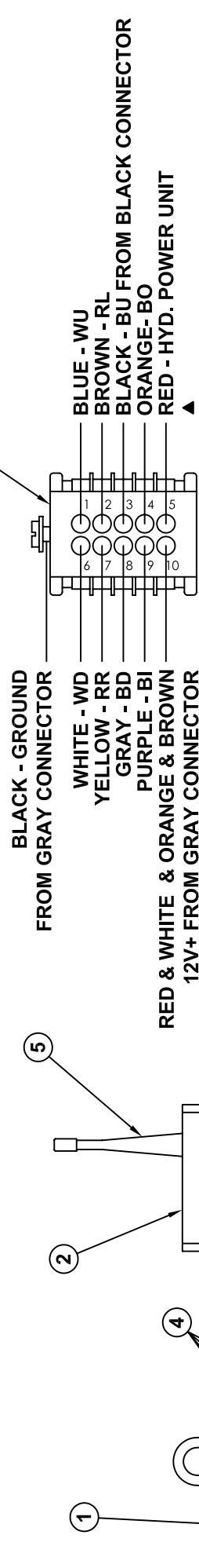
PLUG - BACKSIDE VIEW



ITEM	QTY	PART NO.	DESCRIPTION
4	3	22152	DPDT MOMENTARY TOGGLE SWITCH
3	1	19427	MALE INSERT - 10 + 1 POLE
2	1	19426	PLUG CASE - 10 + 1 POLE
1	4	22081	SPDT MOMENTARY TOGGLE SWITCH

TITLE	REPLACEMENT PARTS DRAWING	SECTION	C400
DATE	9-28-12B	SUPERSEDES	9-6-11A
22060 PENDANT (STANDARD CTRL)		22076	

# 22067 PENDANT (RADIO - NON-PROP) NO ENG. CTRLS FOR ET CRANES



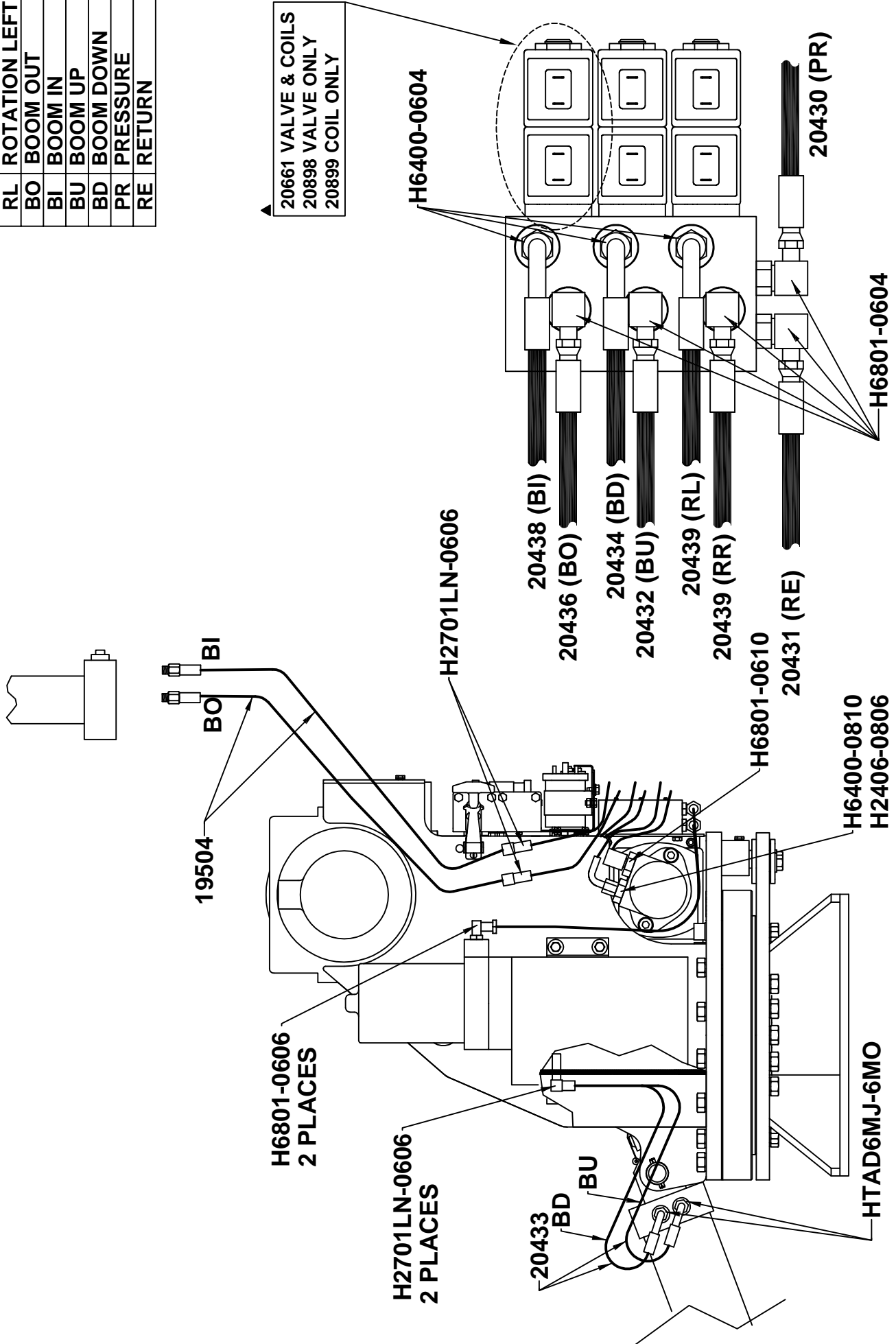
PLUG - BACKSIDE VIEW

8	1	19427	MALE INSERT - 10 + 1 POLE
7	1	19426	PLUG CASE - 10 + 1 POLE
6	1	22089	MAGNET ASSEMBLY
5	1	22088	RECEIVER ANTENNA
4	4	22087	TOGGLE SWITCH & SEALING BOOT
3	1	22086	RECEIVER EXTERNAL HARNESS
2	1	22067-RX	RADIO REMOTE RECEIVER
1	1	22067-TX	RADIO REMOTE TRANSMITTER
	ITEM	QTY	PART NO.
			DESCRIPTION

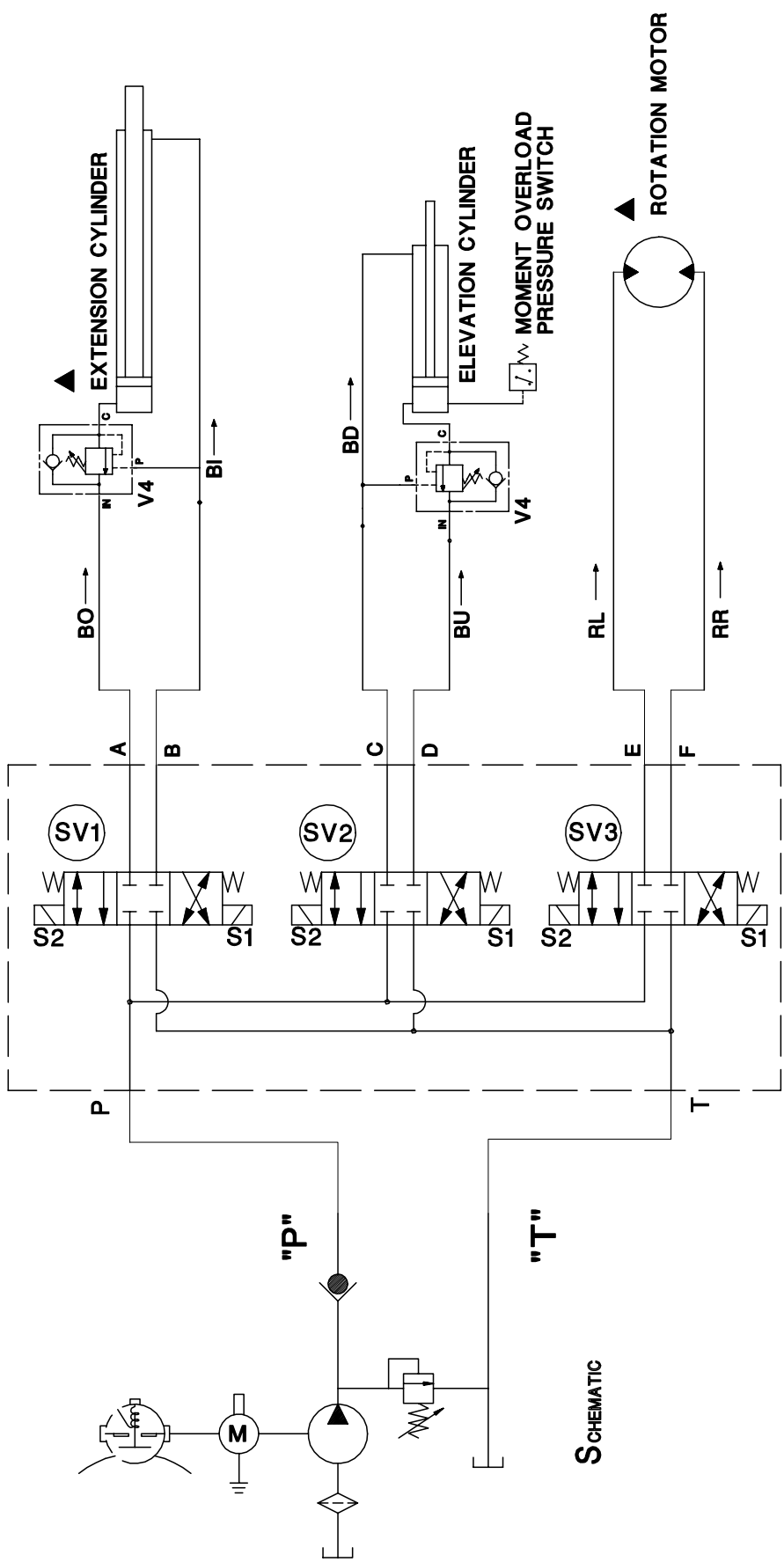
⊗ ITEM NOT SHOWN ON DRAWING

 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	<b>REPLACEMENT PARTS DRAWING</b>	
	DATE	1-17-05C	SECTION C400
	SUPPERSEDES	12-6-04B	<b>22085</b>

RL	ROTATION RIGHT
RL	ROTATION LEFT
BO	BOOM OUT
BI	BOOM IN
BU	BOOM UP
BD	BOOM DOWN
PR	PRESSURE
RE	RETURN



 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	<b>REPLACEMENT PARTS DRAWING</b>	
		<b>ET25KX HYDRAULIC COMPONENTS</b>	
	DATE	<b>11-18-11C</b>	SECTION
	SUPERSEDES	<b>4-13-06B</b>	<b>C400</b>
			<b>19942</b>



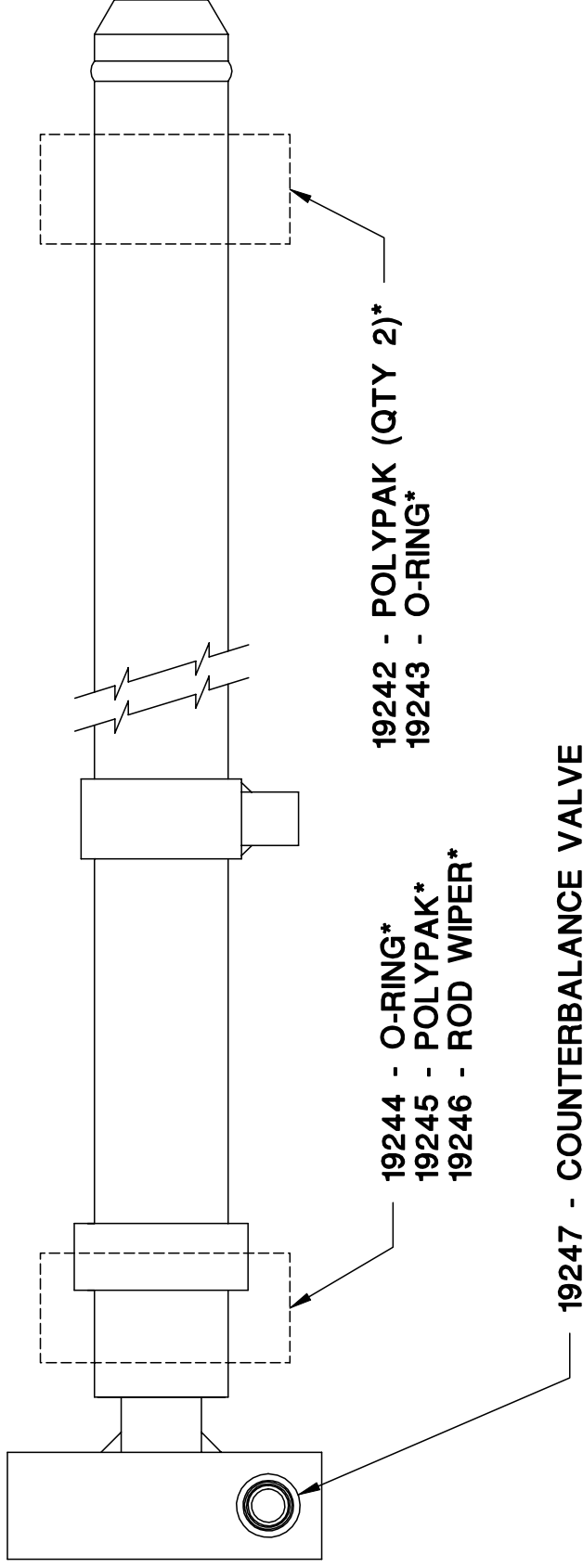
**S**CH**E**M**A**T**I**C

OPERATION

- (SV1) ENERGIZE "S2"  
OPEN FLOW  
'P' TO 'A'  
'B' TO 'T'  
ENERGIZE "S1"  
OPEN FLOW  
'P' TO 'B'  
'A' TO 'T'
- (SV2) ENERGIZE "S2"  
OPEN FLOW  
'P' TO 'C'  
'D' TO 'T'  
ENERGIZE "S1"  
OPEN FLOW  
'P' TO 'D'  
'C' TO 'T'
- (SV3) ENERGIZE "S2"  
OPEN FLOW  
'P' TO 'E'  
'F' TO 'T'  
ENERGIZE "S1"  
OPEN FLOW  
'P' TO 'F'  
'E' TO 'T'

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> HYDRAULIC SYSTEM DIAGRAM	<b>DATE</b> 4-5-02A <b>SUPERSEDES</b> 10-5-01	<b>SECTION</b> C400
	<b>ET25KX</b>		<b>20156</b>

# 19886-1 EXTENSION CYLINDER

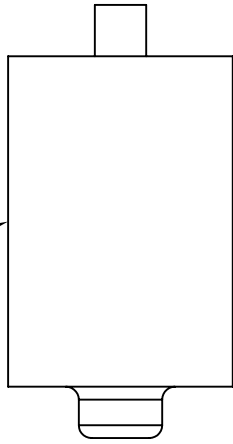


\* ITEMS INCLUDED IN 19887 SEAL KIT

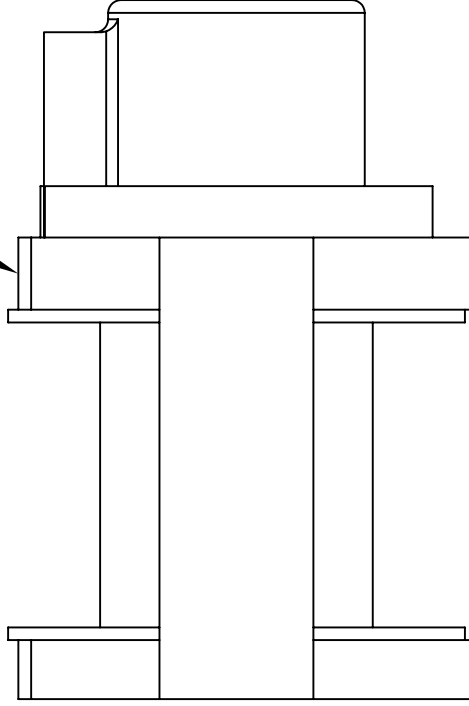
	TITLE	EXTENSION CYLINDER	DATE	SECTION
	ET/HT25KX	7-6-01	C400	19908
			SUPERSEDES	
			-	



**21051 MOTOR**



**19813 WINCH**



TITLE

**WINCH REPLACEMENT PARTS**

**ET25K(X)**

DATE

**10-27-04**

SUPERSEDES

-

SECTION

-

**21053**







## **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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513.772.8448  
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