



VENTURO
TRUCK MOUNTED CRANES

ET10K

INSTALLATION & OWNER'S MANUAL





TABLE OF CONTENTS

ET10K INSTRUCTION MANUAL

SECTION 100 DESCRIPTION & SPECIFICATIONS

17450	INSTALLATION DIMENSIONS - ET10K(X)
I17390	17390 BASE MOUNTING DIMENSIONS
19529	CAPACITY CHART - ET10K(X)
16938	TYPICAL REINFORCEMENT FOR MOUNTING CRANE ON TOP OF SERVICE BODY
S17340	INSTALLATION DRAWING - 17340 MOUNTING PEDESTAL
I17340	INSTALLATION DRAWING - 17340 MOUNTING PEDESTAL
22686	INSTALLATION DRAWING - 18500-CD MANUAL OUTRIGGER
13509	INSTALLATION DIMENSIONS - 13500 MANUAL OUTRIGGER SIDE BRACKET
I23961	INSTALLATION DIMENSIONS - 23961 MANUAL OUTRIGGER SIDE BRACKET
13510	INSTALLATION DIMENSIONS - 11822 MANUAL OUTRIGGER FOLD AWAY TYPE
I23960	INSTALLATION DIMENSIONS - 23960 MANUAL OUTRIGGER FOLD AWAY TYPE

SECTION 150 SAFETY

15394	VEHICLE & CRANE ELECTRICAL HAZARD INFORMATION
850711	SAFETY & HAZARDS - GENERAL
18719	DECAL PLACEMENT
21353	SAFETY DECALS (PAGE 1 OF 2)
▲ 21384	SAFETY DECALS (PAGE 2 OF 2)
21354	DECALS FOR ET CRANES
21362	MISCELLANEOUS DECALS - ET10K(X)
21363	MODEL AND CAPACITY DECALS - ET10K(X)

SECTION 200 INSTALLATION

711105	CABLE & BATTERY REQUIREMENTS - ET AND HT CRANES
15660	BATTERY CABLE INSTALLATION DRAWING
900530a	ET10K(X) OPERATION & MAINTENANCE INSTRUCTIONS - PAGE 1 OF 4
900530b	ET10K(X) OPERATION & MAINTENANCE INSTRUCTIONS - PAGE 2 OF 4
900530c	ET10K(X) OPERATION & MAINTENANCE INSTRUCTIONS - PAGE 3 OF 4
900530d	ET10K(X) OPERATION & MAINTENANCE INSTRUCTIONS - PAGE 4 OF 4
711006	WIRE ROPE SPECIFICATIONS
20076	ADJUSTABLE BOOM REST

SECTION 300 MAINTENANCE & SERVICE

800306	MINIMUM VOLTAGE TEST
--------	----------------------

SECTION 400 REPLACEMENT PARTS

19363	ET10K REPLACEMENT PARTS DRAWING
19289	ET10K REPLACEMENT PARTS LIST
19301	ET10K REPLACEMENT FASTENER LIST
20197-3	REPLACEMENT PARTS - ANTI-TWO-BLOCK
20592	ELECTRICAL SYSTEM SCHEMATIC - ET10K
20593	ELECTRICAL SYSTEM SCHEMATIC - ET10K WITH ANTI-TWO-BLOCK
17935	HYDRAULIC SYSTEM SCHEMATIC - ET10K
19791	REPLACEMENT PARTS - 3 FUNCTION CRANES
16770	16770 SWIVEL TERMINAL ASSEMBLY REPLACEMENT PARTS
20493	17211 WINCH POWER UNIT REPLACEMENT PARTS DRAWING
20494	17211 WINCH POWER UNIT REPLACEMENT PARTS LIST



TABLE OF CONTENTS

ET10K INSTRUCTION MANUAL

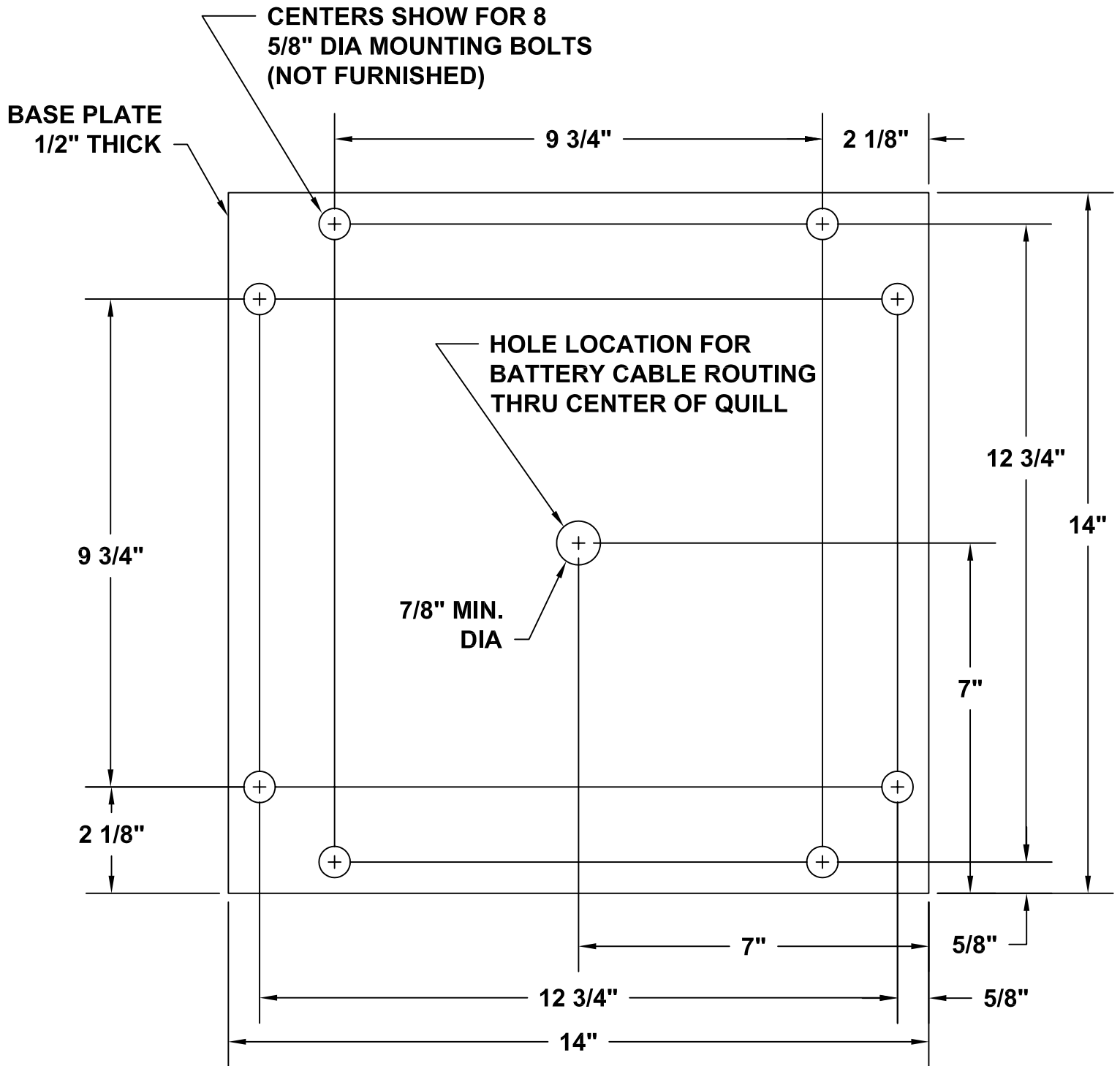
SECTION 400 REPLACEMENT PARTS

I16100	16100 SERIES POWER UNIT REPLACEMENT PARTS DRAWING
811016	16100 SERIES POWER UNIT REPLACEMENT PARTS LIST
I17930	17930-1 HYDRAULIC POWER UNIT REPLACEMENT PARTS
17451	17260-1 HYDRAULIC POWER UNIT REPLACEMENT PARTS DRAWING
900220	17260-1 HYDRAULIC POWER UNIT REPLACEMENT PARTS LIST
17257-3	17255/17256 ELEVATION CYLINDER REPLACEMENT PARTS DRAWING
931130	17255/17256 ELEVATION CYLINDER REPLACEMENT PARTS LIST
22689	REPLACEMENT PARTS - 18500-CD MANUAL OUTRIGGER
▲ 20846	FIELD SERVICE LABEL KIT





MOUNTING HOLE TEMPLATE



TITLE
17299 BASE MTG DIM

DATE
1-12-05C

SECTION
C100

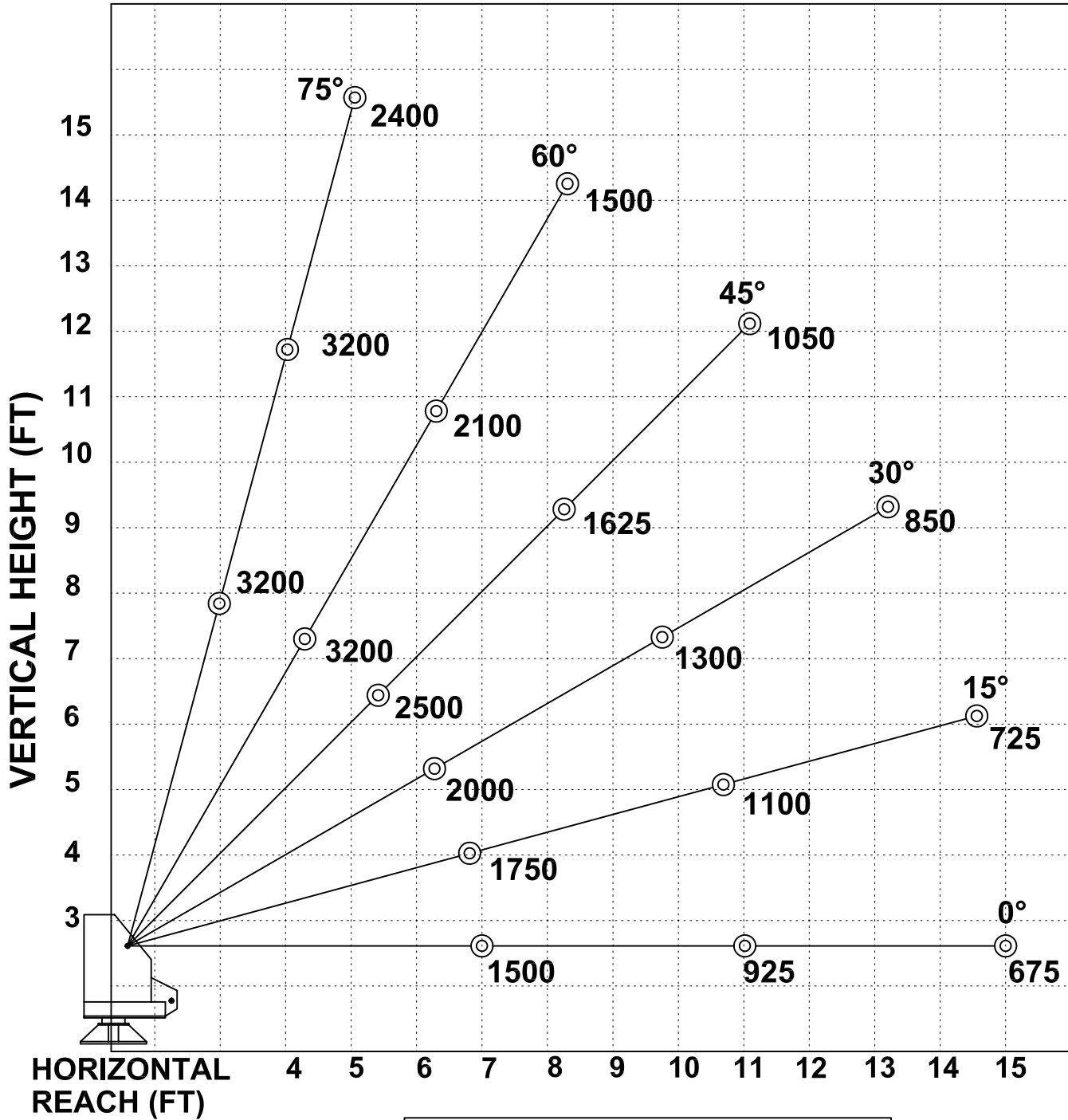
ET6KR, ET10K(X)

SUPERSEDES
7-22-99B

I17390



ET10K(X) MAXIMUM CAPACITY CHART



**MUST USE SNATCH BLOCK
FOR LOADS OF 1600 LBS.
AND GREATER**



MFG., INC.
CINCINNATI, OHIO

TITLE
CAPACITY CHART
ET10K(X)

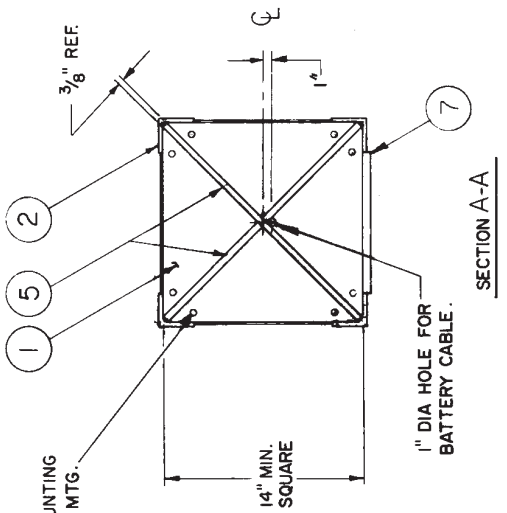
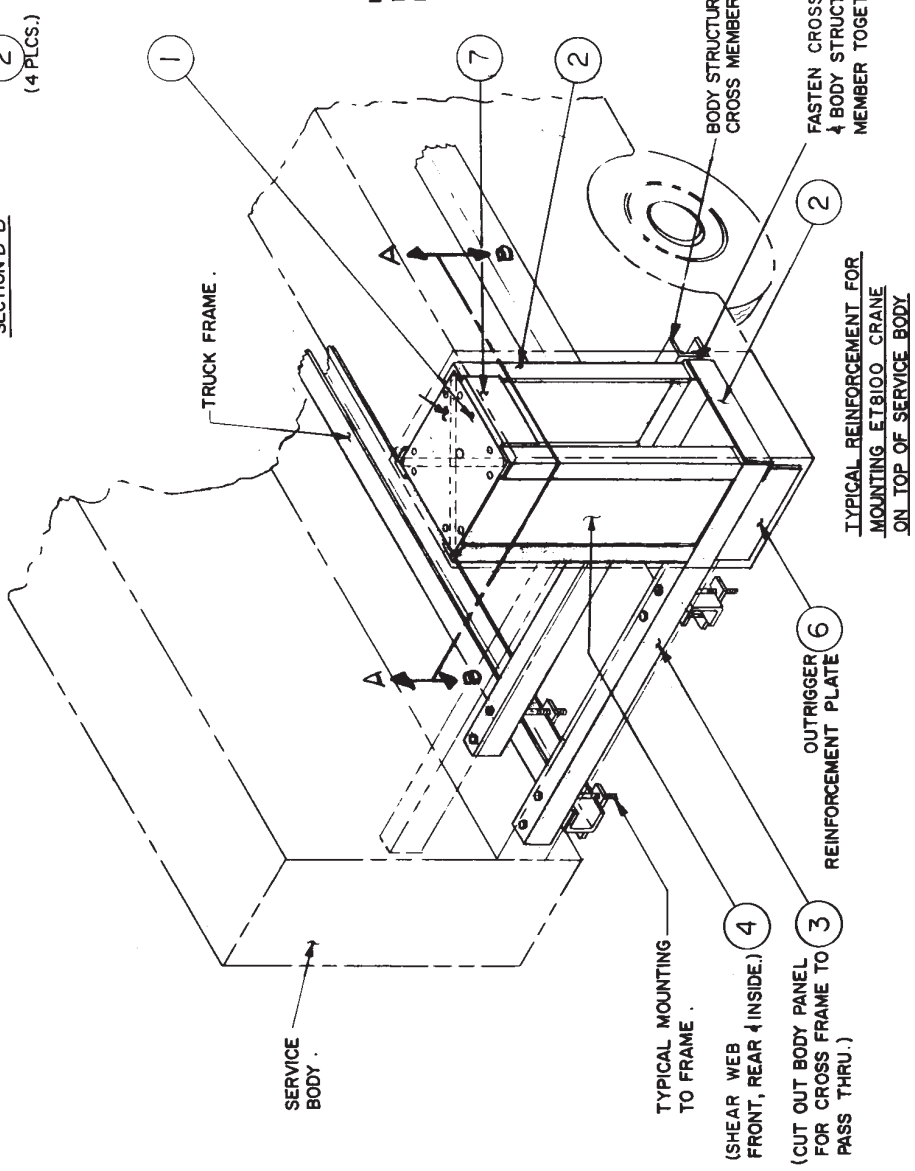
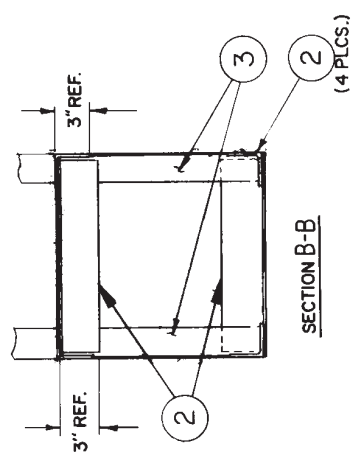
DATE
3-22-05A
SUPERSEDES
7-1-98

SECTION
C100
19529



PART	DESCRIPTION	MINIMUM RECOMMENDED MATERIAL SIZE
1	TOP PLATE	3/8" STEEL
2	CORNER POST	3" x 3" x 1/4" STEEL ANGLE
3	CROSS FRAME	2" x 4" x 1/4" W STRUCTURAL TUBING or 4" x 7.25LB STANDARD STEEL CHANNEL
4	SHEAR WEB	12 Go.
5	TOP PLATE REINFORCEMENT	3/8" x 4" STEEL BAR
6	OUTRIGGER REINFORCEMENT PLATE	3/16" THICK STEEL PLATE
7	GUSSET	1/4" x 4" H.R. STEEL

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.

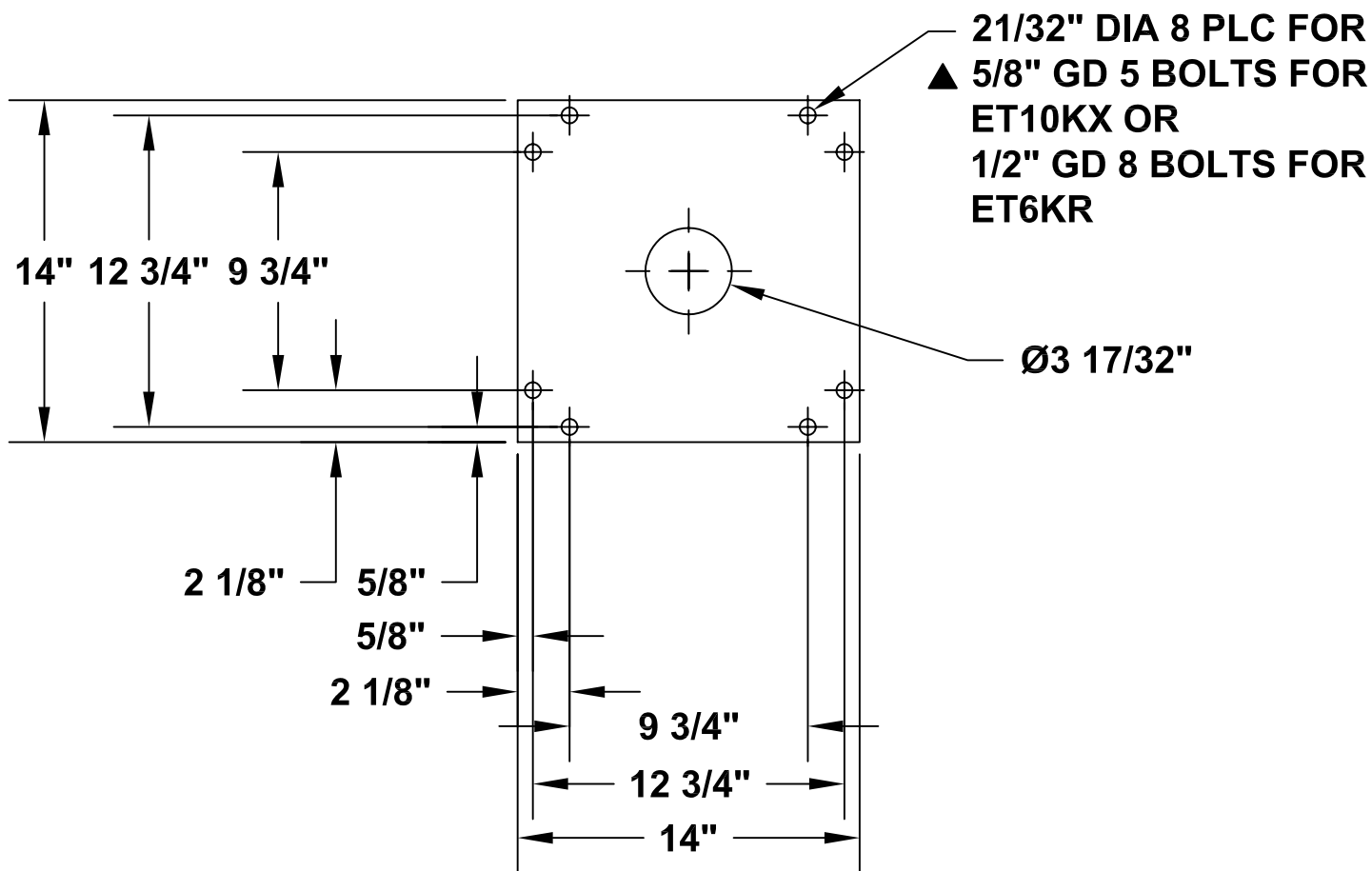
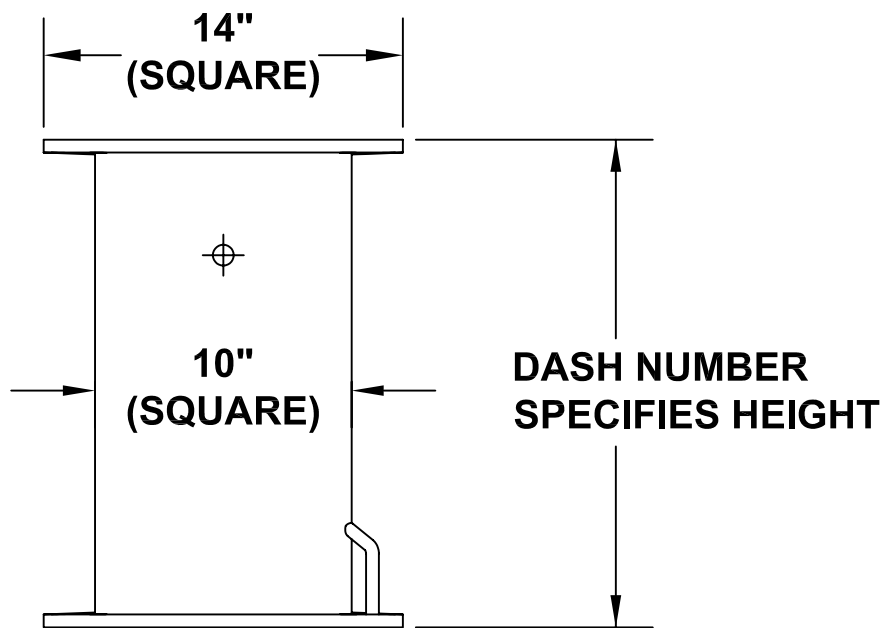


VENTURO
MANUFACTURING, INC.
CINCINNATI, OHIO

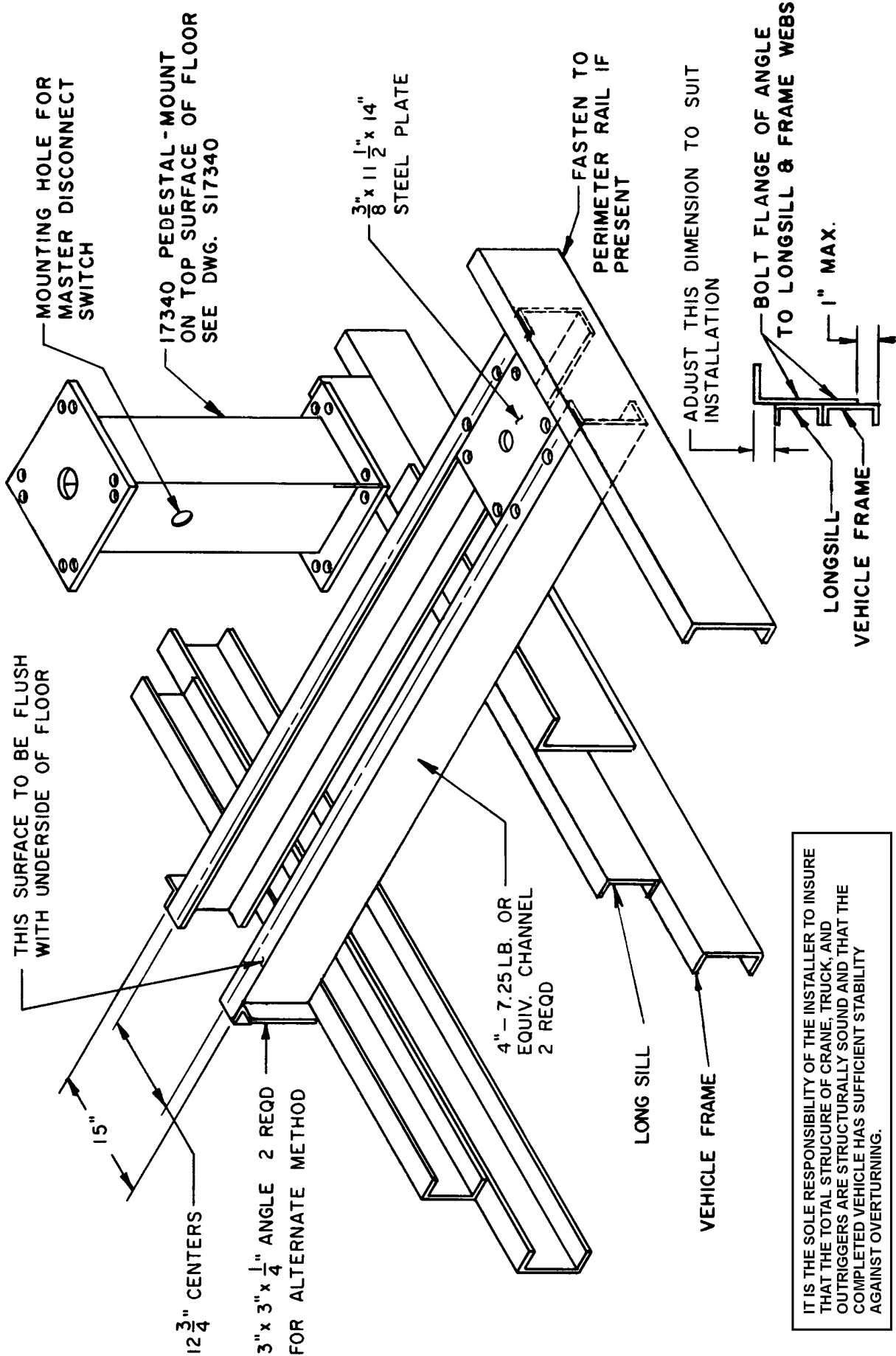
TITLE **INSTALLATION DRAWING**
DATE **12-21-99B**
SUPERCEDES **6-19-98A**
SECTION **C100**
▲ ET6KR, ET10K(X) CRANES
16938



17340-XX PEDESTAL

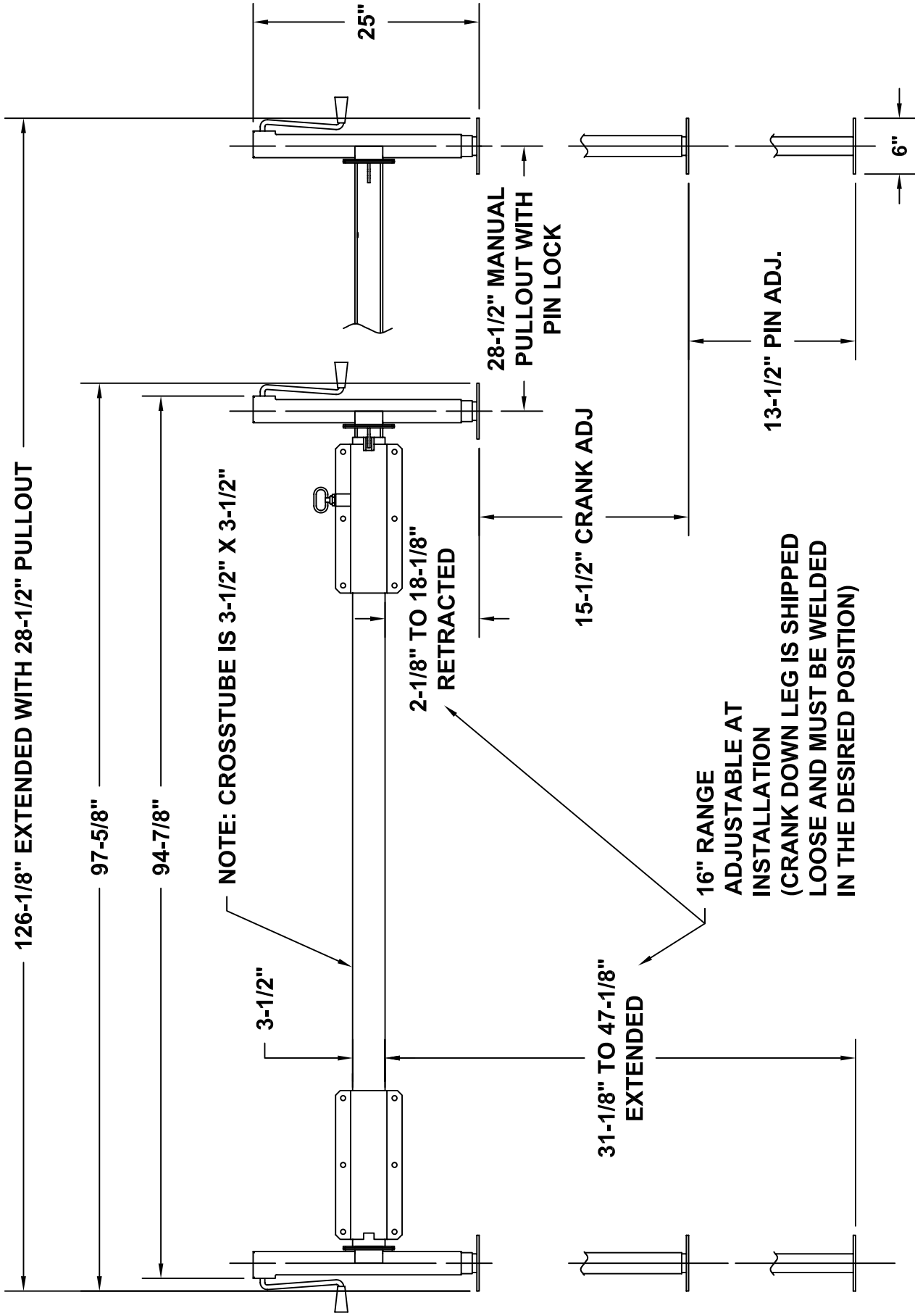



TITLE	DATE	SECTION
17340 MOUNTING PEDESTAL	11-1-04D	C100
▲ ET6KR, ET10K(X) CRANES	SUPERSEDES 1-2-03C	S17340



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.

VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	INSTALLATION DRAWING
	DATE	5-1-02C
	SECTION	C100
	SUPERCEDES	6-19-98B
		I17340

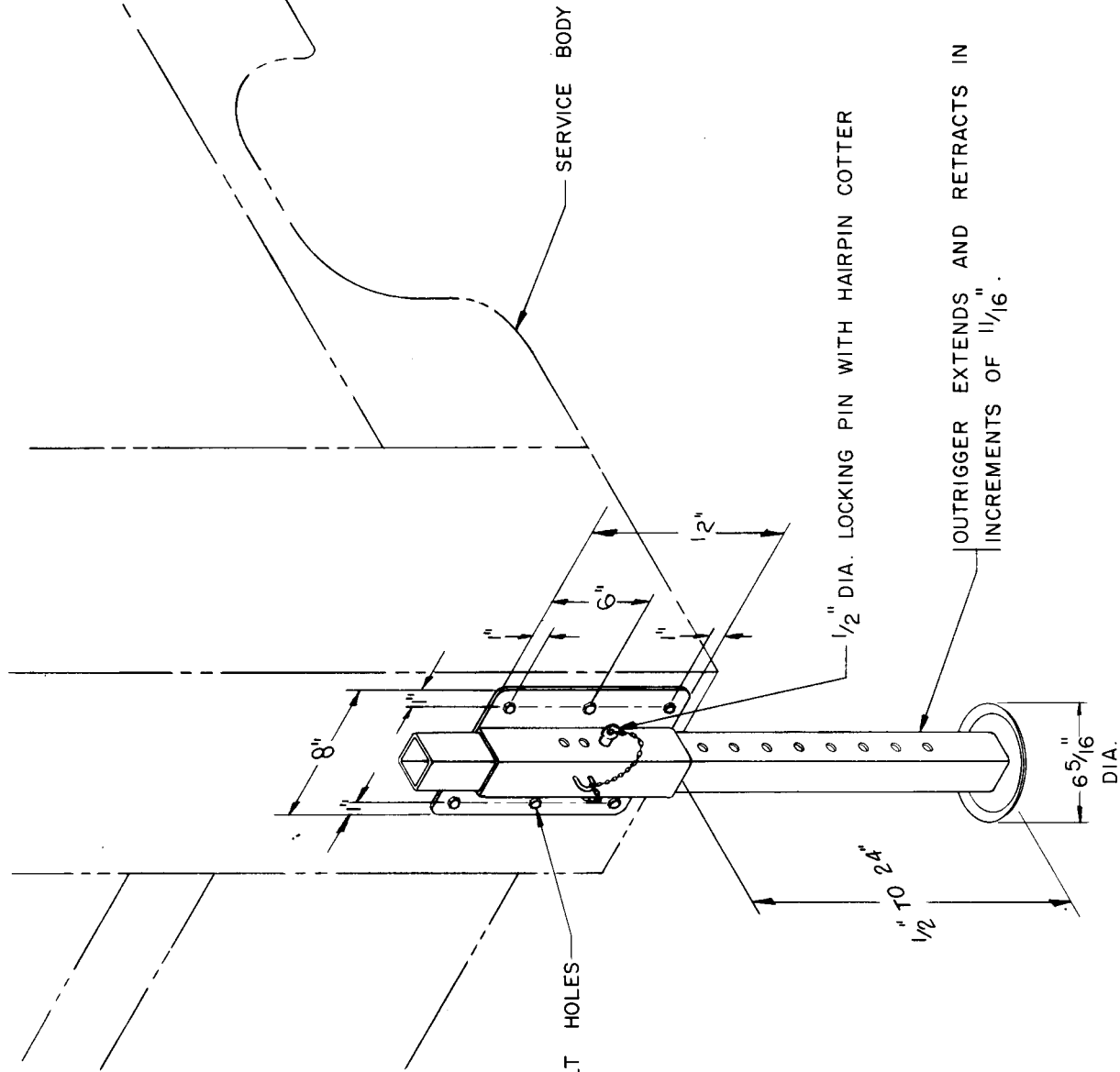


 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	INSTALLATION DRAWING	
		18500-CD OUTRIGGER	
	DATE	1-13-05A	SECTION
	SUPERSEDES	11-11-03	C100
			22686



WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL.

6 - 3/8" DIA. BOLT HOLES



TYPICAL INSTALLATION OF
13500 MANUAL OUTRIGGER
ON TRUCK WITH SERVICE BODY

SECTION

C100

DATE
6-17-98C

SUPERCEDES
8-1-83B

13509

TITLE

INSTALLATION DRAWING

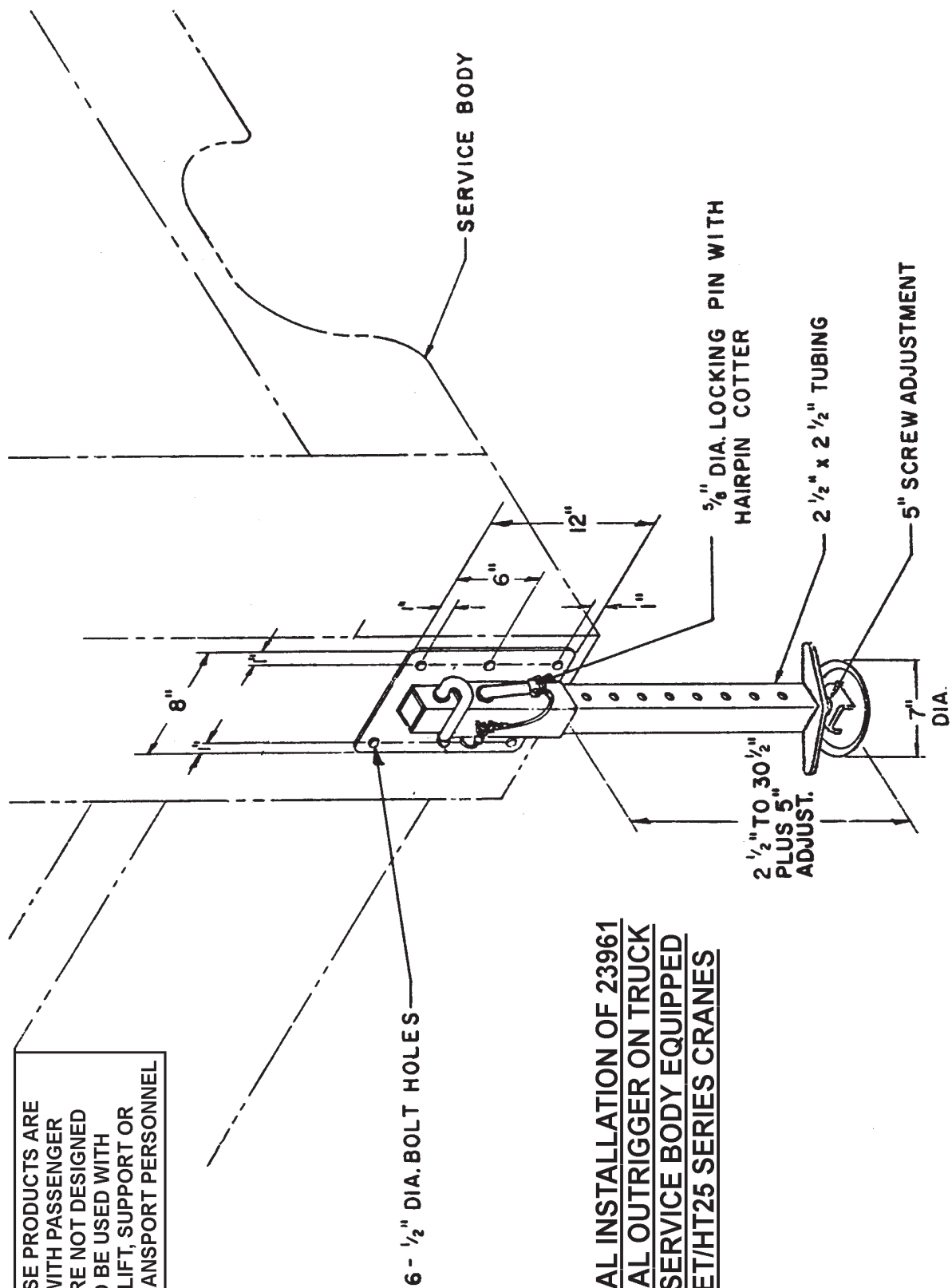
ET5500MPB, ET6KM/R



MANUFACTURING, INC.
CINCINNATI, OHIO



WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL

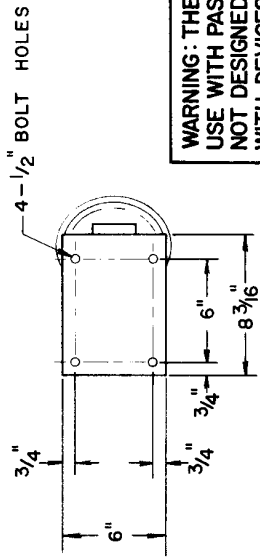


**TYPICAL INSTALLATION OF 23961
MANUAL OUTRIGGER ON TRUCK
WITH SERVICE BODY EQUIPPED
WITH ET/HT25 SERIES CRANES**

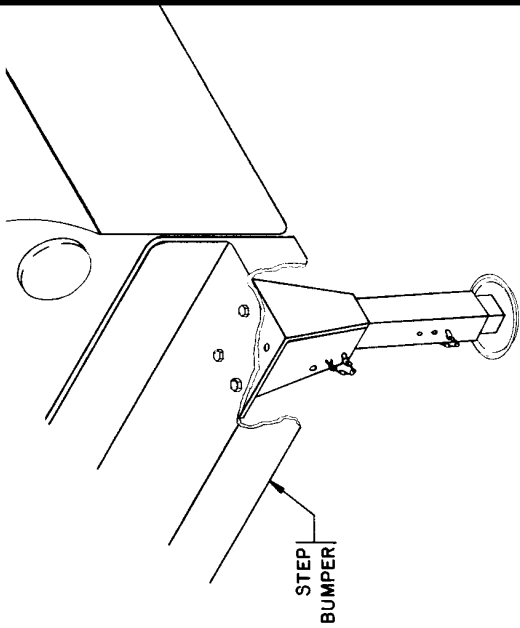
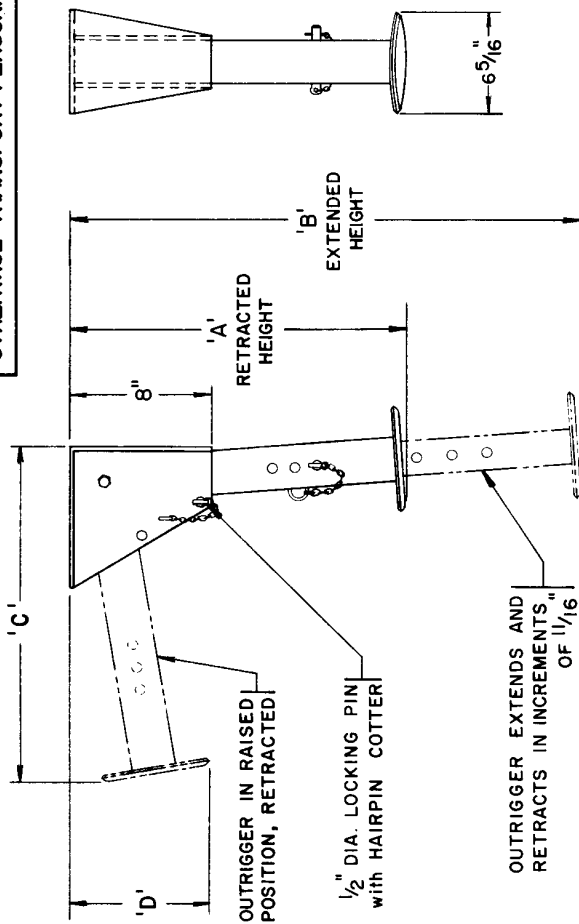
 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	INSTALLATION DRAWING	SECTION	C100
		ET8/10/12/25K(X), HT25KX	DATE	7-27-06F
			SUPERCEDES	5-31-06E
				I23961



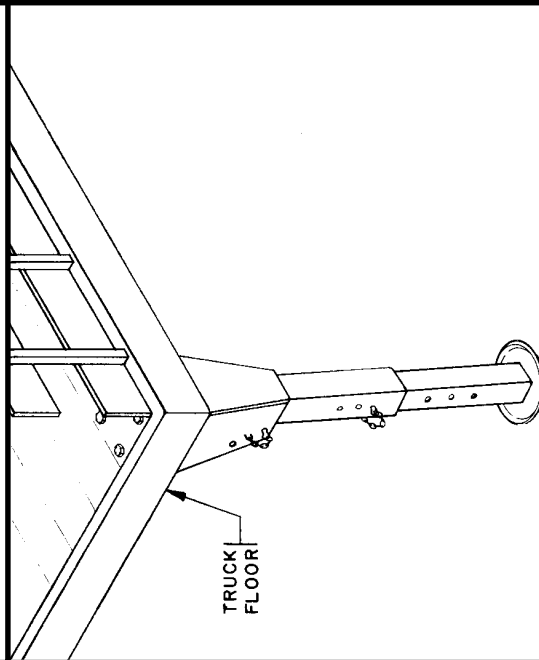
PART No.	DESCRIPTION	'A'	'B'	'C'	'D'
11822-1	SHORT OUTRIGGER	19"	29"	19 3/4"	6 1/2"
11822-2	LONG OUTRIGGER	27"	45"	27 3/4"	9 3/4"



WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL.



TYPICAL SHORT OUTRIGGER INSTALLATION



TYPICAL LONG OUTRIGGER INSTALLATION

TITLE **INSTALLATION DRAWING**

DATE **6-17-98C**

SECTION

C100

ET5500MPB, ET6KM/R

SUPERCEDES **10-12-83B**

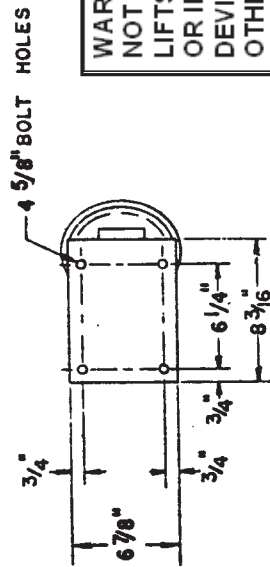
13510

VENTURO MANUFACTURING, INC.
CINCINNATI, OHIO

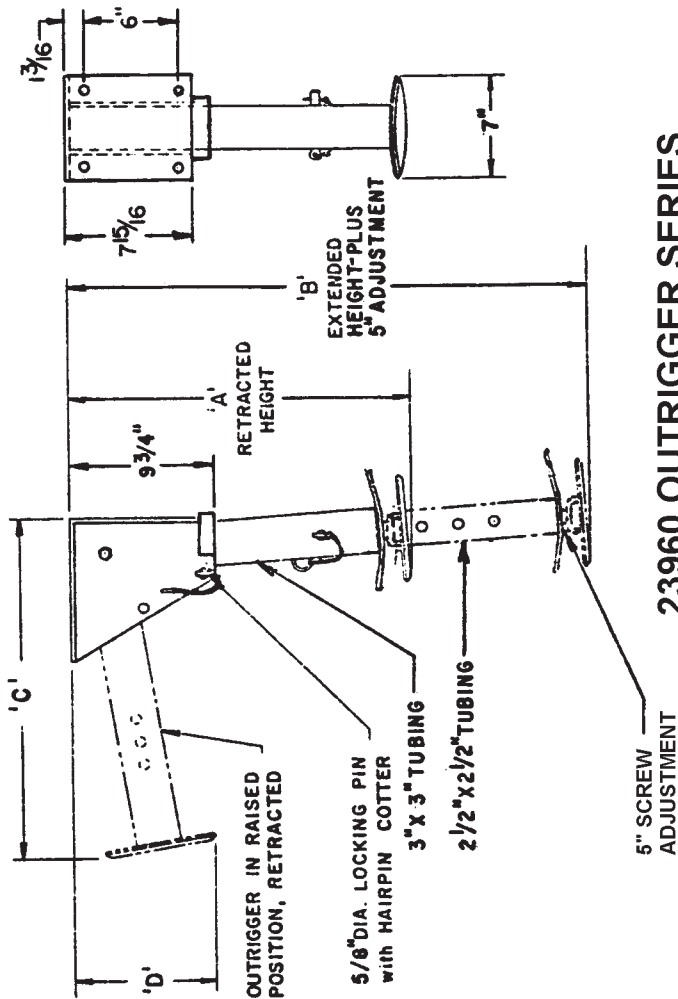




PART NO.	DESCRIPTION	'A'	'B'	'C'	'D'
23960-1	SHORT OUTRIGGER	20-1/2"	28-1/2"	21"	7-1/4"
23960-2	LONG OUTRIGGER	28-1/2"	44-1/2"	29"	10-1/2"



WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL.



**23960 OUTRIGGER SERIES
ET/HT25 SERIES CRANES**



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DRAWING
ET8/10/12/25K(X), HT25KX

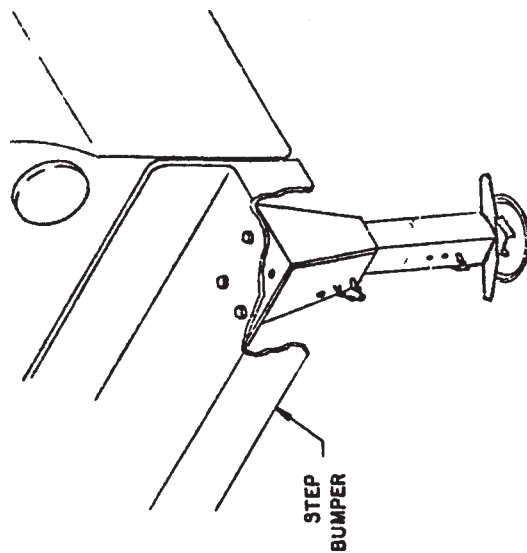
DATE
8-2-06F

SUPERCEDES
7-27-06E

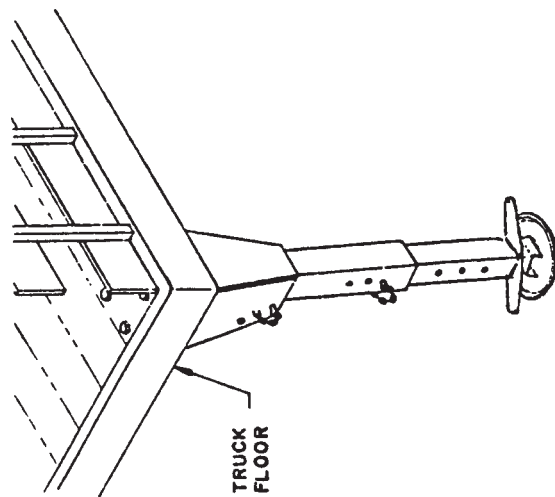
SECTION

C100

I23960



TYPICAL SHORT
OUTRIGGER INSTALLATION



TYPICAL LONG
OUTRIGGER INSTALLATION



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



MFG., INC.
CINCINNATI, OHIO

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.

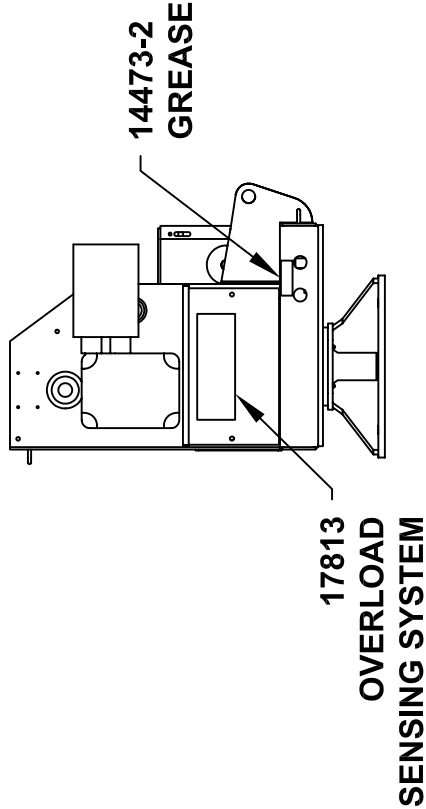
YOU MUST NOT OPERATE THIS CRANE UNLESS

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.

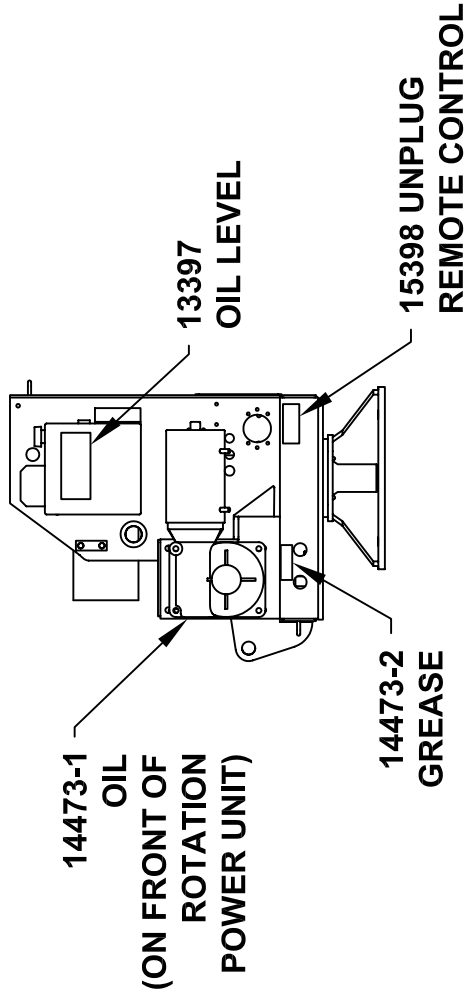
ELECTROCUTION HAZARD

- 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.

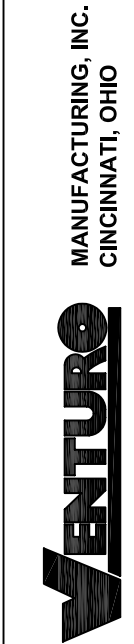
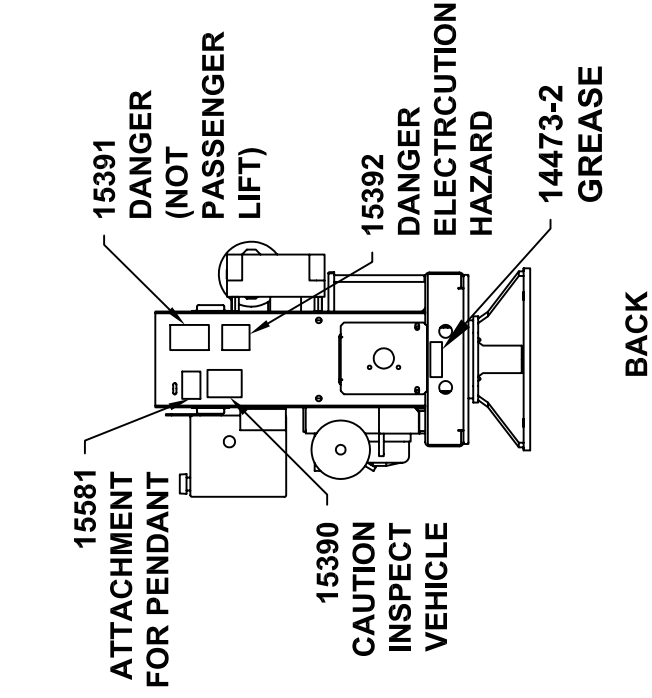
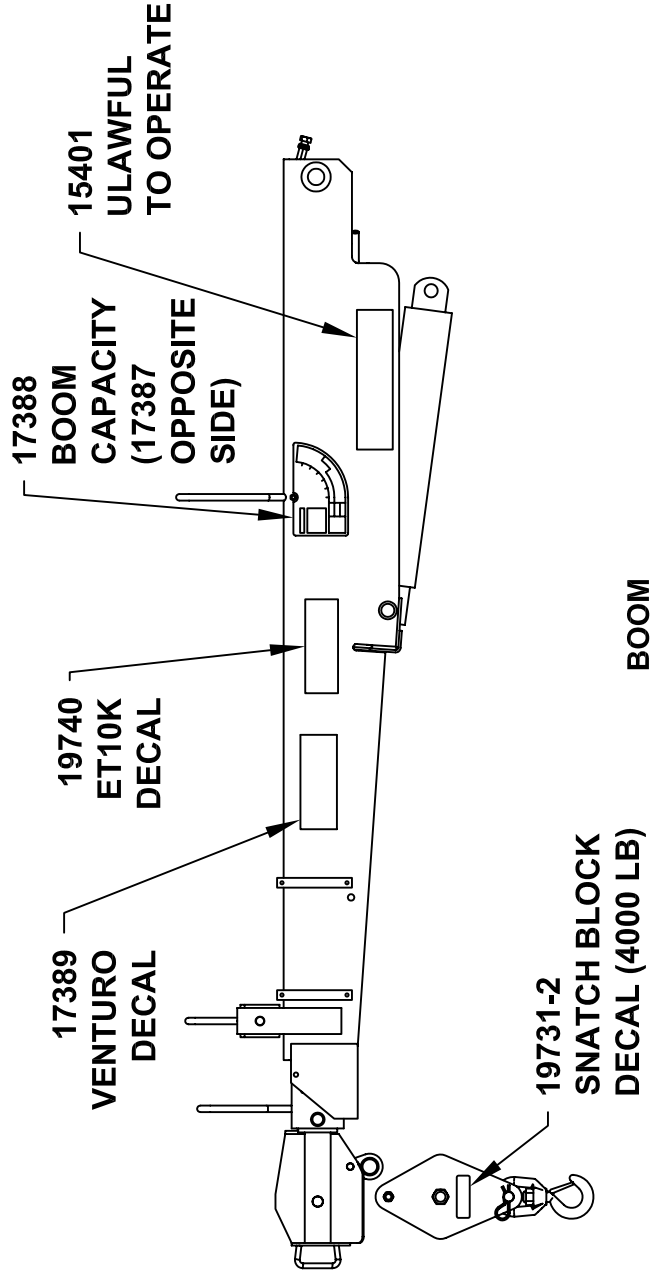
MFG., INC.
CINCINNATI, OHIOTITLE
INSTALLATION DWG**ET5500MPB-ET25KX**DATE
7-29-03GSUPERCEDES
10-14-97FSECTION
C150**850711**



RIGHT



LEFT



TITLE **DECAL PLACEMENT**

ET10K

DATE **8-19-05A**

SUPERSEDES **12-1-94**

SECTION **C150**

18719



PART NO.: 15390
 DECAL: CAUTION - INSPECT VEHICLE & CRANE
 FUNCTION: To inform the operator of key operating requirements.
 QUANTITY: 1
 PLACEMENT: Rear cover.



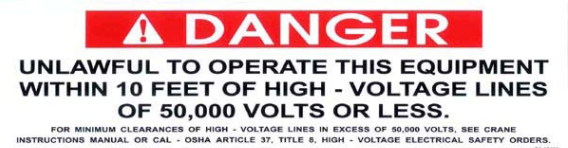
PART NO.: 15391
 DECAL: DANGER - NOT PASSENGER LIFT
 FUNCTION: To inform the operator not to lift, support or transport personnel, and to ensure that crane operator is adequately trained.
 QUANTITY: 1
 PLACEMENT: Rear cover.



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.



MFG., INC.
 CINCINNATI, OHIO

TITLE
SAFETY DECALS
 CRANES

DATE
9-6-05
 SUPERSEDES
 -

SECTION
C150
21353



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.



PART NO.: 15513

DECAL: MASTER DISCONNECT SWITCH

FUNCTION: To inform the operator of location and operation of master disconnect switch.

QUANTITY: 1

PLACEMENT: On master disconnect switch bracket.



MFG., INC.
CINCINNATI, OHIO

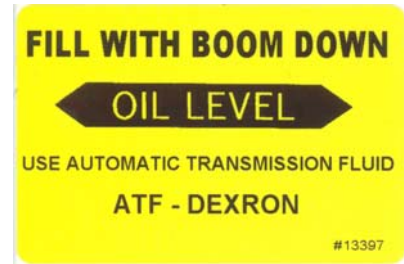
TITLE	DATE	SECTION
SAFETY DECALS	4-26-06	C150
CRANES	SUPERSEDES	21384
	-	



PART NO.: 14473-2
 DECAL: GREASE
 FUNCTION: To show the operator where to apply grease.
 QUANTITY: Varies
 PLACEMENT: Near grease fittings.



PART NO.: 13397
 DECAL: OIL LEVEL
 FUNCTION: To inform the operator of proper oil level to maintain.
 QUANTITY: 1
 PLACEMENT: Side of hydraulic power unit.



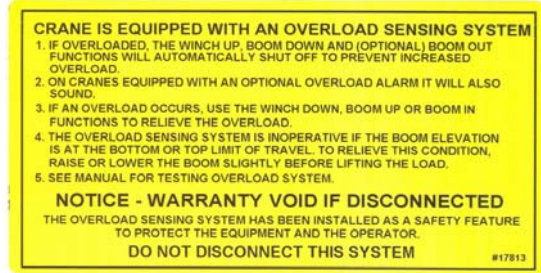
PART NO.: 15398
 DECAL: UNPLUG REMOTE CONTROL
 FUNCTION: To inform the operator to unplug remote control when not in use.
 QUANTITY: 1
 PLACEMENT: Near pendant socket.



TITLE	DATE	SECTION
ET DECALS	9-6-05	C150
ET CRANES	SUPERSEDES -	21354



PART NO.: 17813
 DECAL: OVERLOAD SENSING SYSTEM
 FUNCTION: To advise the operator of the operation of the overload system.
 QUANTITY: 1
 PLACEMENT: Right side of housing.



PART NO.: 15581
 DECAL: ATTACHMENT
 FUNCTION: To show the attachment point for pendant support cord.
 QUANTITY: 1
 PLACEMENT: Rear of housing.



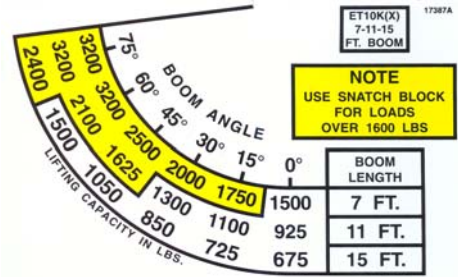
PART NO.: 19731-2
 DECAL: SNATCH BLOCK CAPACITY DECAL
 FUNCTION: To show the capacity of snatch block.
 QUANTITY: 2
 PLACEMENT: Each side of snatch block.



TITLE	DATE	SECTION
MISC. DECALS	7-27-06A	C150
ET6KR - [^] ET8K(X) - ET10K(X)	SUPERSEDES 9-7-05	21362



PART NO.: 17387 & 17388 (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.: 19740
 DECAL: MODEL NUMBER (ET10K)
 FUNCTION: To show the model of the crane.
 QUANTITY: 2
 PLACEMENT: One on each side of boom.

ET10K

PART NO.: 19741
 DECAL: MODEL NUMBER (ET10KX)
 FUNCTION: To show the model of the crane.
 QUANTITY: 2
 PLACEMENT: One on each side of boom.

ET10KX



MFG., INC.
CINCINNATI, OHIO

TITLE
MODEL & CAPACITY DECALS

DATE
9-10-05

SECTION
C150

ET10K(X)

SUPERSEDES
-

21363



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 ET8K ▲ ET10K ET12K ▲	#2	#2	#1	#0	#00	NOTRECOMMENDED			450	100
ET8KX ▲ ET10KX ET12KX ▲	#2	#2	#1	#0	#00	NOTRECOMMENDED			550	150
ET25K ET25KX	SEE DRAWING I24600 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

CE, CT, DT, & ET

DATE
8-2-06S

SUPERCEDES
8-10-00R

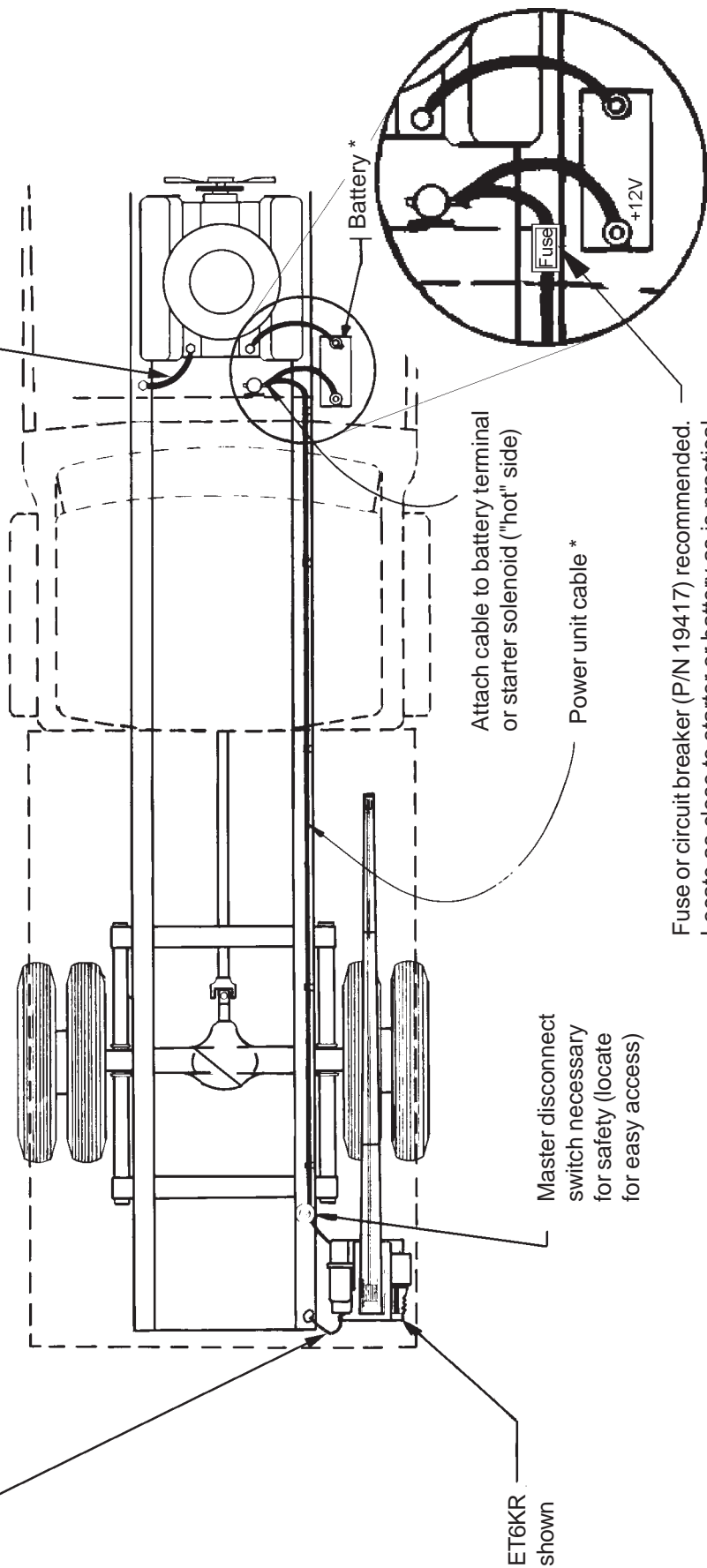
SECTION
C200

711105



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 electric cranes. ▲

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



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



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
INSTALLATION - BATTERY CABLE

WINCH & CRANE

DATE
8-2-06F

SUPERCEDES
1-15-02E

SECTION
C200

15660



CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

▲ ET8K(X), ET10KX, ET12K(X)

SAFETY

Before operating this crane, read and understand these instructions, the 850711 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 diagrams on the 891014 Capacity Information Sheet as well as 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 1600 lbs. for the ET8K(X) and ET10K(X) or 1750 lbs. for the ET12K(X) or if reduced winching speed for better control of smaller loads is required, use the snatch block to rig the crane for two part line operation. Refer to drawing 21701, 17450 or 21575 for this.

CONTROLS

This crane is operated by a remote control pendant. The pendant should be unplugged and stored in a compartment or the cab 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 snap the strain relief tether to the crane housing.

Turn on the Master Disconnect Switch. Use "Winch Down" to release tension on the wire rope to unhook it from storage tie down position.

Use "Boom Up" to elevate the boom from the boom rest position.

Check all control functions to see that they are working correctly.



TITLE
INSTALLATION DWG

DATE
8-2-06E

SECTION
C200

▲
ET8/10/12K(X)

SUPERCEDES
7-27-06D

900530a



CONTROL FUNCTIONS

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

POWER ELEVATION - "Up" raises the boom elevation by operating the valves and the electric hydraulic power unit. "Down" operates a solenoid release valve mounted on the cylinder to lower the load and/or boom by gravity at a controlled rate. A check valve on the cylinder prevents the boom from coming down if a hose breaks. A flow control valve controls lowering rate.

POWER EXTENSION - "Out" and "In" extend and retract boom 4 ft. under power. A pilot operated check valve on the boom prevents the boom retracting without hydraulic power or if a hose should break. A flow control valve controls retract rate under load.

POWER ROTATION - "L" & "R" control direction of rotation. The [▲]ET8KX, ET10KX or ET12KX can be rotated continuously thru 360 degrees or more. There are no internal restrictions on the number of rotations in any direction.

CONTROL PRIORITY SYSTEM - As a built in safety feature, the operator can perform only one major and one minor function at any one time. Major functions are rotation, winching up of a load, and elevating, extending and retracting the boom. Minor functions are winching down, and lowering the boom.

- a. "Winch Up" has priority over "Boom Up", "Boom Out & In", and "Rotation"
- b. "Boom Up" has priority over "Boom Out & In", and "Rotation".
- c. "Boom Out & In" have priority over "Rotation".
- d. "Boom Down" and "Winch Down" can be operated with any function.

CRANE OPERATION

Avoid rapid reversal of the Winch and Rotation Control Switches. The high inrush current to the motors during reversal can reduce the life of the contactors and the motor brushes and commutators.

When operating "Winch Up", "Boom Down" or "Boom Out" always maintain clearance between the boom head and the snatch block or hook.

Do not lift or drag a load sideways using any of the crane functions. The boom has much lower bending strength sideways than in the vertical direction.



TITLE	DATE	SECTION
INSTALLATION DWG	5-27-06D	C200
[▲] ET8/10/12K(X)	SUPERCEDES 5-26-06C	900530b



OVERLOAD ALARM SYSTEMS (OPTIONAL)

This crane may be equipped with an optional overload alarm system.

1. Overload alarm horn sounds if rated load is exceeded at any reach.
2. If alarm sounds, RAISE Boom or LOWER Winch to remove overload.
3. Always RAISE Boom slightly before lifting load - Warning system INOPERATIVE when cylinder is completely bottomed.
4. Alarm can be tested by raising Boom against UP limit stop.

MANUAL TELESCOPIC BOOM


The 6' to 14' and the 7' to 15' boom have a 4' manual telescoping section in addition to the 4' power extension. A toggle pin locks the boom into either the extended or retracted position.

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" or a low gear unless the engine is to be left running.
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 a tie down point on the body or pedestal and apply tension.
4. TURN OFF THE MASTER DISCONNECT SWITCH.
5. Unplug the control pendant and store in a body compartment or the cab.


WARNING

- The pendant (or receiver) plug must be unplugged from the crane socket and the Master Disconnect (power) switch must be turned "off" when the crane is not in use! Leaving the pendant (or receiver) connected and the power on when not in use may result in dangerous, unintentional activation of the crane functions."

 VENTURO <small>MFG., INC. CINCINNATI, OHIO</small>	<small>TITLE</small> INSTALLATION DWG	<small>DATE</small> 5-27-06D	<small>SECTION</small> C200
	<small>▲</small> ET8/10/12K(X)	<small>SUPERCEDES</small> 5-26-06C	900530c



MAINTENANCE

Crane requires only periodic lubrication. As a standard procedure this can be done at the time the vehicle is serviced. Rotation bearings are self - lubricating. Fill Winch & Rotation Gear Boxes to level of the side plug with S.A.E. 85W/140 Hypoid Lubricant.

Chains should be oiled lightly (DO NOT GREASE). Excess oil or grease will collect road grit and cause excessive chain wear. Moly filled chassis grease should be applied by pressure grease gun to fittings on each end of rotation worm shaft and on rotation gear teeth thru port at rear of crane.

Fill electric hydraulic boom elevation, power unit reservoir to oil level line with boom down. Use Automatic Transmission Fluid Type "A" or Type "B" (Dexron). Below 20 degrees F. add 3/4 pt. Kerosene. Drain and refill with Dexron ATF when weather warms up. Check periodically or when boom action slows down.



TITLE	DATE	SECTION
INSTALLATION DWG	10-23-97A	C200
ET10KX	SUPERCEDES 5-30-90	900530d



SELECTION

The chart below shows the maximum working load and breaking strength of 7 X 19 Galvanized AIRCRAFT Grade Wire Rope in various diameters. The breaking strength is 3-1/2 times the maximum working load. Do not use wire rope with a Maximum Working Load rating less than the single line capacity of the crane. Use of wire rope diameter larger than the size furnished with the crane will reduce the fatigue life of the wire rope.

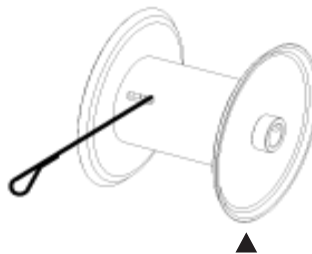
<u>WIRE ROPE DIAMETER</u>	<u>MAXIMUM WORKING LOAD</u>	<u>BREAKING STRENGTH</u>
1/8"	570 lbs	2000 lbs
5/32"	800 lbs	2800 lbs
3/16"	1200 lbs	4200 lbs
7/32"	1600 lbs	5600 lbs
1/4"	2000 lbs	7000 lbs
5/16"	2800 lbs	9800 lbs
3/8"	4114 lbs	14400 lbs

INSTALLATION

1. Unwind coil of rope by rolling it along floor. This will prevent kinking.
2. Most VENTURO Cranes are provided with a slot in the winch drum side plate for attaching the end of the wire rope with a stop collar. A hole in the housing allows access for the end of the wire rope when inserted thru the slot.

The ET20K(X) & ET25K(X) Cranes have a clamp built into the winch drum and do not use a stop collar.

3. THERE MUST ALWAYS BE AT LEAST (3) TURNS OF WIRE ROPE ON THE DRUM WHEN UNDER LOAD.



MFG., INC.
CINCINNATI, OHIO

TITLE
WIRE ROPE SPECS

VENTURO WINCH & CRANE

DATE
5-26-06H

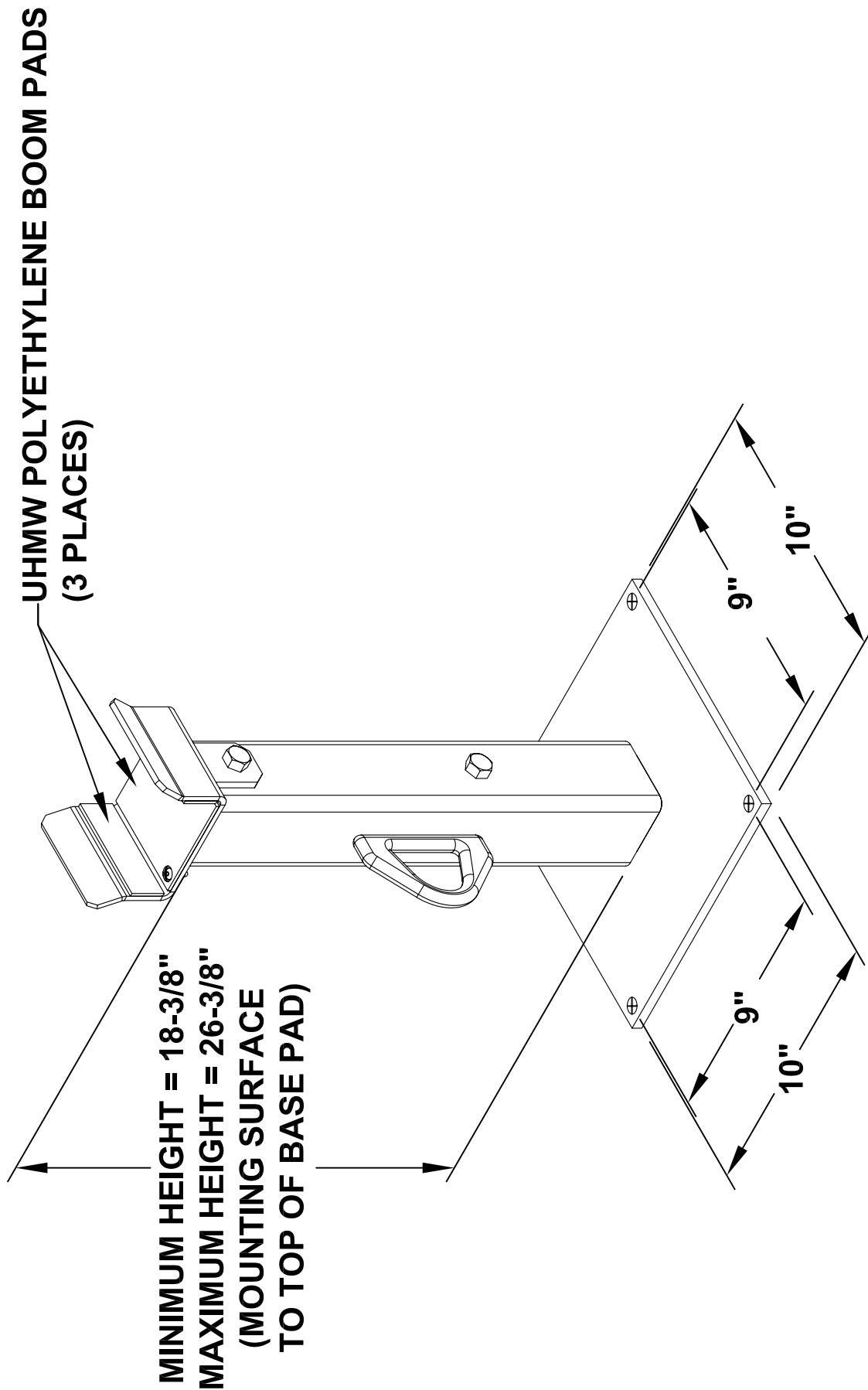
SUPERCEDES
10-23-97G

SECTION
WC 200

711006



20075 ADJUSTABLE BOOM REST



TITLE

INSTALLATION DRAWING

DATE

6-12-06B

SECTION

-

SUPERSEDES

1-13-05A

20076

ET6KR, ÊT8K(X), ET10K(X), ÊT12K(X)



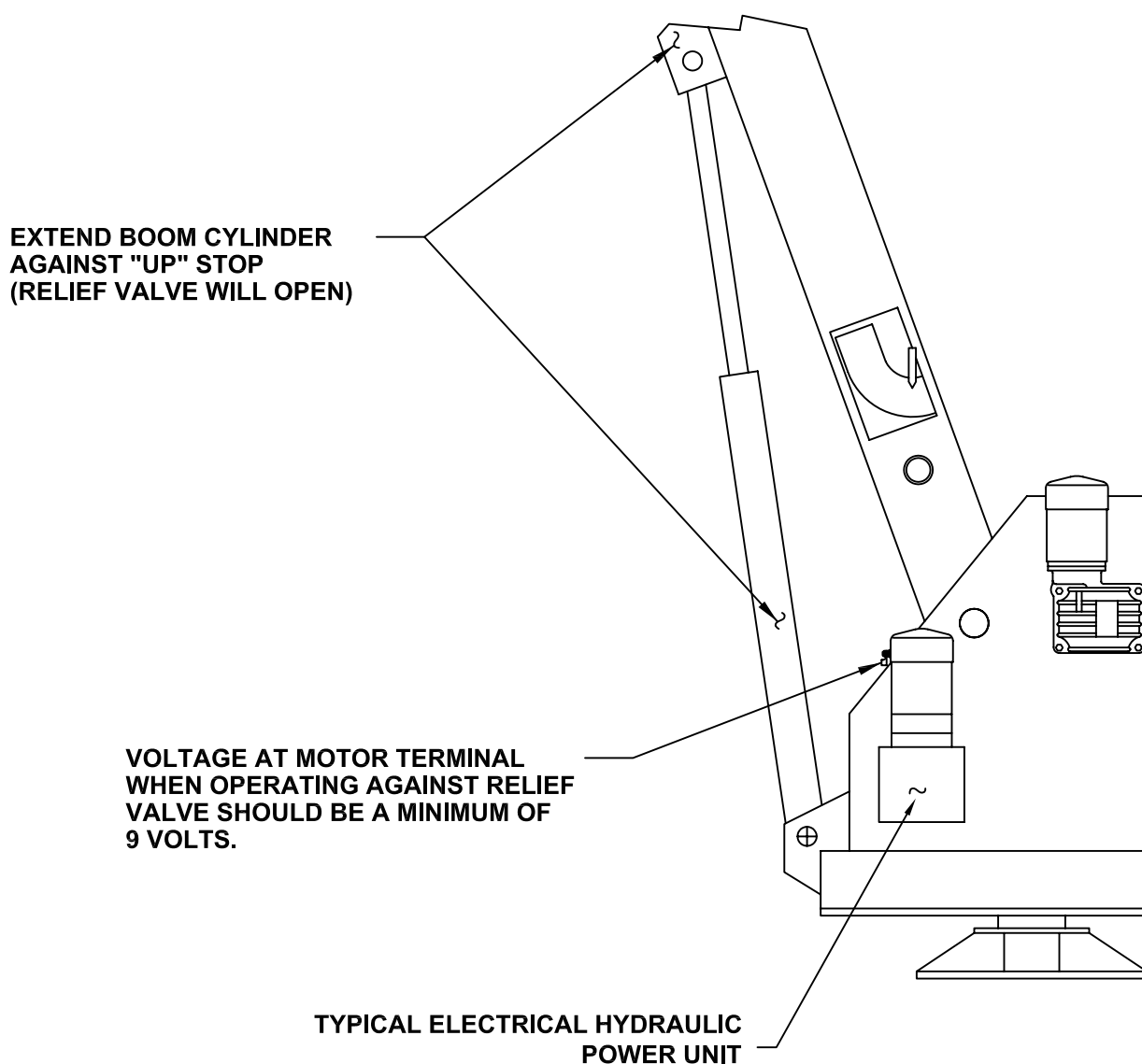


MINIMUM VOLTAGE TEST

ET5500, ET6K(M/R), ET8100, ET10K(X)

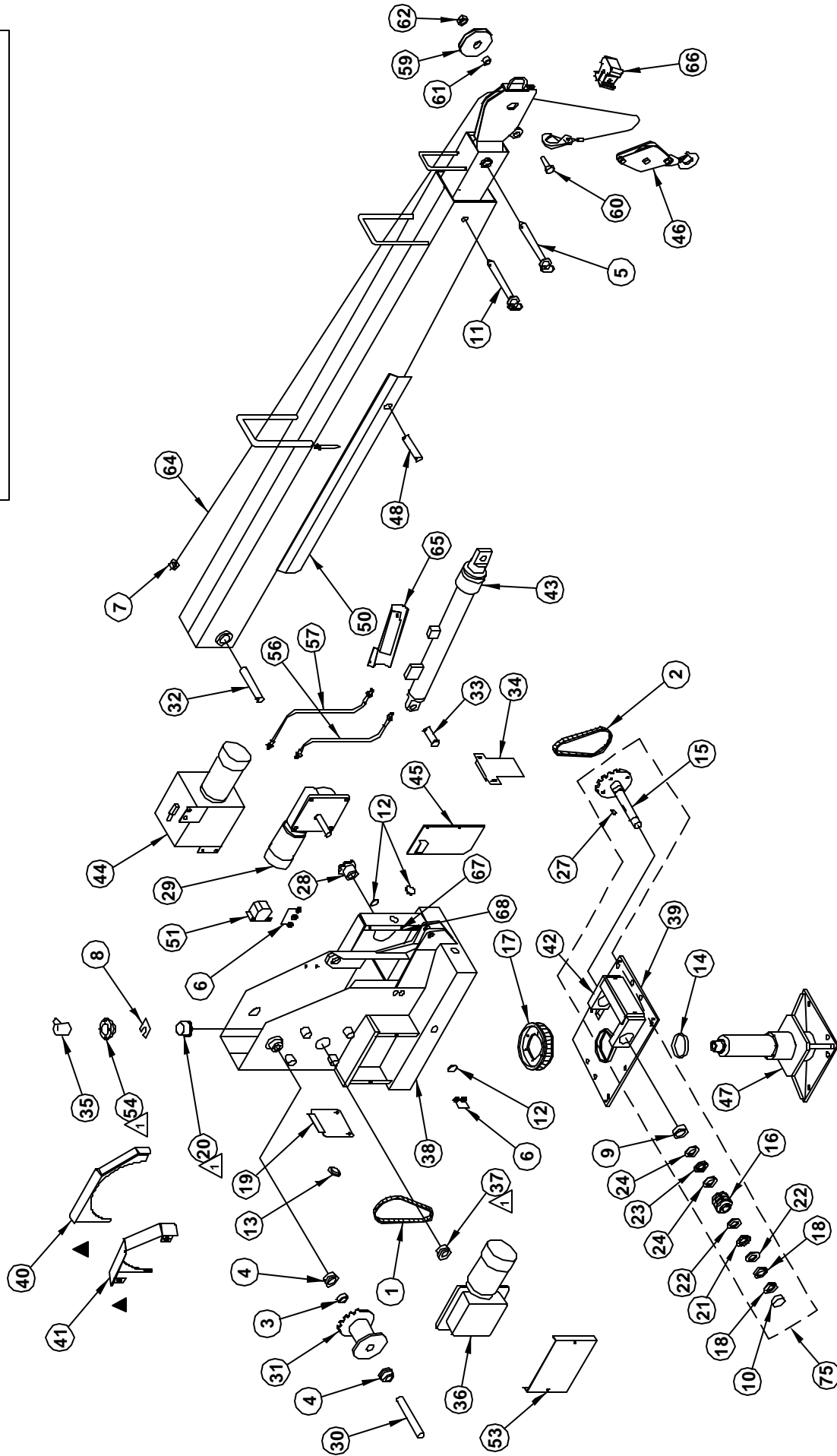
ONE OF THE MOST COMMON ELECTRICAL PROBLEMS ENCOUNTERED ON ELECTRICAL CRANES IS INSUFFICIENT VOLTAGE AT THE MOTOR WHEN DRAWING THE LARGE CURRENT THAT EXISTS AT FULL LOAD

TO ISOLATE THIS PROBLEM PERFORM THE MINIMUM VOLTAGE TEST BELOW:





REPLACEMENT PARTS LIST REF 19289
REPLACEMENT FASTENERS LIST REF 19301



FOR ELECTRICAL COMPONENTS
SEE DWG 17381

▲ INSTALL WITH LOCKTITE
GRADE 242 (BLUE) OR EQUIV.

TITLE REPLACEMENT PARTS		SECTION	19363
		DATE	
ET10K		DATE 8-30-04H	SECTION C400
		SUPERSEDES 9-3-03G	





ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	00867-3	DRIVE CHAIN - WINCH (#40 x 56 LINKS)	41	20953	WINCH DRUM GUARD - RH
2	00867-4	DRIVE CHAIN - ROTATION (#40 x 52 LINKS)	42	18846	WORM HOUSING
3	01158	SHAFT COLLAR - 1"	43	17255-3	ELEVATION CYLINDER (ONLY)
4	01299	BALL BEARING - 2" OD x 1" ID	44	17260-1-RM	HYDRAULIC POWER UNIT (ONLY)
5	19258-3	BOOM PIN ASSEMBLY (SHORT)	45	17287	ROTATION CHAIN COVER
6*	14883	GROMMET - 3/8" ID x 5/8" OD W/ 3/16" GROOVE	46	20670	SWIVEL SNATCH BLOCK ASSEMBLY
7	13463-1	SHAFT COLLAR - 1/4"	47	17295	QUILL ASSEMBLY
8*	14159	SHIM - 1 1/2" SQ x .015", .042", .105"	48	17318	PIVOT PIN, CYL ROD
9	14341-3	BUSHING - 1 3/4" OD x 1 1/2" ID x 1" LONG	49	-	-
10	14341-5	BUSHING - 1 3/4" OD x 1 1/4" ID x 1" LONG	50	17800	BOOM ASSEMBLY (COMPLETE ASSY)
11	19258-2	BOOM PIN ASSEMBLY (LONG)	51	17356	OVERLOAD ALARM (OPTIONAL)
12	RL-644	HOLE PLUG - 1"	52	17150-20	PENDANT ASSEMBLY - 3 SWITCH x 20 FOOT CORD
13	RL-644	HOLE PLUG - 1"	53	17367	SIDE COVER
14	20189	LOWER BEARING - 5" OD x 1" LONG	54	17372	UPPER BEARING HOUSING
15	18860	SPROCKET & SHAFT ASSY	55	-	-
16	15650	WORM	56	19693	HOSE, ELEVATION CYL RETURN - 36" LONG
17	15651	WORM GEAR	57	17395	HOSE, ELEVATION CYL PRESSURE - 34" LONG
18*	15675	SHIM - 1 1/4" ID x .015", .031"	58	-	-
19	15676	REAR COVER	59	20537	POLY CABLE SHEAVE WITH BEARING
20	15681	UPPER BEARING	60	17059-4	SHEAVE AXLE
21	15696	NEEDLE THRUST BEARING	61	20536	SPACER - 20537 SHEAVE
22	15697	THRUST RACE	62	LNUT-07510N	JAM LOCK NUT - 3/4"-10 NYLON
23	15698	NEEDLE THRUST BEARING	63	-	-
24	15699	THRUST RACE	64	15810-7/32-65	WIRE ROPE ASSY - 7/32" x 65 FT
25	-	-	65	19164	COVER - ELEVATION CYLINDER
26	-	-	66	16735	HEADACHE BALL ASSY (INCLUDES HARDWARE)
27*	15929	WOODRUFF KEY - 1/4" x 1 1/4"	67	20083	NUT BAR ROTATION P.U. - GROUNDING
28	15999	SPROCKET - #40 x 10 TOOTH	68	15664	NUT BAR - ROTATION P.U.
29	16107	ROTATION POWER UNIT	69	-	-
30	16614	WINCH DRUM SHAFT	70	-	-
31	16822	WINCH DRUM	71	17824	FIELD SERVICE LABEL KIT - ET10K W/ 7 - 15 FT BOOM
32	16825	PIVOT PIN, BOOM	72	-	-
33	16828	PIVOT PIN, CYL TAIL - 1" DIA x 2 3/4" LONG	73	-	-
34	16829	FRONT COVER	74	-	-
35*	17011	BOOT, SWIVEL TERMINAL	75	18845-FULL ASSY	WORM HOUSING ASSY (ALL ITEMS PRE-ASSEMBLED)
36	17211	WINCH POWER UNIT	76	-	-
37	17218	SPROCKET - #40 x 12 TOOTH	77	-	-
38	18870	WELDED HOUSING ASSY	78	-	-
39	18856	LWR B.P. ASSY	79	-	-
40	20957	WINCH DRUM GUARD - LH	80	-	-
		THESE PARTS ARE MATCHED SET AND TYPICALLY NOT AVAILABLE AS PARTS.			
		REPLACEMENT PARTS DWG REF 19363			
			*	15828	SMALL PARTS KIT (INCLUDES * ITEMS)

TITLE

REPLACEMENT PARTS

SECTION

C400

DATE

8-30-04N

SUPERCEDES

9-3-03M

ET10K-7/15

 MANUFACTURING, INC.
 CINCINNATI, OHIO

19289

**FASTENER LIST FOR INSTALLATION DRAWING ET10K-7/15**

PART NUMBER	DESCRIPTION	QTY	LOCATION/FUNCTION
!HHCS05013150	HHCS - 1/2"-13 x 1-1/2"	10	BASE PLATE
!LWSH-050	LOCK WASHER - 1/2"	10	BASE PLATE
18873	CAPSCREW - MODIFIED	6	WORM GEAR/QUILL HUB
!LWSH-038-HC	LOCK WASHER - 3/8" HI COLLAR	6	BULL GEAR 15651
!HHCS03816200TB	HHCS - 3/8"-16 x 2" TAP BOLT	1	ADJ FOR ROTAMOTOR
!HNUT-03816	HEX NUT - 3/8"-16, PLATED	1	ADJ FOR ROTAMOTOR
!HHCS03118250	HHCS - 5/16"-18 x 2-1/2"	1	BOOMPIN
-	-	-	-
!LNUT-03118	LOCKNUT - 5/16"-18	1	BOOMPIN
!HHCS03816150	HHCS - 3/8"-16 x 1-1/2"	3	WINCH POWER UNIT
!HHCS03816300	HHCS - 3/8"-16 x 3"	1	WINCH POWER UNIT
▲ !LWSH-038-STAR	LOCK WASHER - 3/8" - STAR	4	WINCH POWER UNIT
!HHCS03816125	HHCS - 3/8"-16 x 1-1/4"	1	ROTATION MOTOR
!HHCS03816150	HHCS - 3/8"-16 x 1-1/2"	2	ROTATION MOTOR
!HHCS03816300	HHCS - 3/8"-16 x 3"	1	ROTATION MOTOR
▲ !LWSH-038-STAR	LOCK WASHER - 3/8" - STAR	4	ROTATION MOTOR
!LWSH-031	LOCK WASHER - 5/16"	2	HYDRAULIC MOTOR
!HHCS03816225-5	HHCS - 3/8"-16 x 2-1/4"	2	HYDRAULIC MOTOR
!HHCS03118075	HHCS - 5/16"-18 x 3/4"	2	HYDRAULIC MOTOR
!LWSH-038	LOCK WASHER - 3/8"	2	HYDRAULIC MOTOR
!HHCS03816125	HHCS - 3/8"-16 x 1-1/4"	4	UPPER BEARING HOUSING
!LWSH-038	LOCK WASHER - 3/8"	4	UPPER BEARING HOUSING
!HHCS02520063-5	HHCS - 1/4"-20 x 5/8"	8	CHAIN GAURD - WINCH DRUM
!LWSH-025	LOCK WASHER - 1/4"	8	CHAIN GAURD - WINCH DRUM
!HNUT-02520	HEX NUT - 1/4"-20	6	CHAIN GAURD - WINCH DRUM
!LWSH-#10	LOCK WASHER - #10	2	WIRING
!HWHS02520063-F	HEX WASHER HEAD - 1/4"-20 x 5/8"	14	COVERS & WIRING
!PHCS02520075	PHCS - 1/4"-20 x 3/4", SLOTTED	8	WIRING
!LWSH-025	LOCK WASHER - 1/4"	8	WIRING
!HNUT-02520	HEX NUT - 1/4"-20	8	CONTACTORS
!PHCS-#1024050	PHCS - 10-24 x 1/2"	2	CIRCUIT BREAKER
!UNUT15195-1420	U-NUT - 1/4"-20	2	VOLTAGE STABILIZER
!UNUT-#1024	U-NUT - #10-24 x 3/8"	2	CIRCUIT BREAKER
!FWSH-038	FLAT WASHER - 3/8"	4	CRATING
!CHCS03118400	CARRIAGE BOLT - 5/16-18 x 4"	4	CRATING
!FWSH-031	FLAT WASHER - 5/16"	4	CRATING
!HNUT-03118	HEX NUT - 5/16"-18	4	CRATING
!LWSH-#10	LOCK WASHER - #10	2	CIRCUIT BREAKER
!RPIN-025100	ROLL PIN - 1/4" x 1"	1	CYLINDER PIN
!RPIN-025175	ROLL PIN - 1/4" x 1-3/4"	1	CYLINDER PIN
!RPIN-038100	ROLL PIN - 3/8" x 1"	4	BASE PLATE
!SHCS05013125	SHCS - 1/2"-13 x 1-1/4"	4	ADJ BEARING PLATE
!LWSH-050	LOCK WASHER - 1/2"	4	ADJ BEARING PLATE
!SHCS03824150	SHCS - 3/8"-24UNF x 1-1/2"	2	WORM BLOCK FORE/AFT
!SHCS03824100KC	SET SCREW - 3/8"-24 x 1"	2	WORM BLOCK FORE/AFT
25593	SET SCREW - FLAT FACE - 1/2"-20 x 1"	1	WORM BLOCK LEFT/RIGHT SECURE
!HWHS02520038-F	HEX WASHER HEAD - 1/4"-20 x 3/8"	4	LOWER COVERS
!HNUT-#1032	HEX NUT - #10-32	2	CIRCUIT BREAKER
!LWSH-#10	LOCK WASHER - #10	2	CIRCUIT BREAKER
!SHCS03816050KC	SET SCREW - 3/8"-16 x 1/2"	2	WORM - ROTATION
!ZERK02528	ZERKLUBE FITTING - 1/4"-28	2	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REPLACEMENT PARTS DWG REF 19363

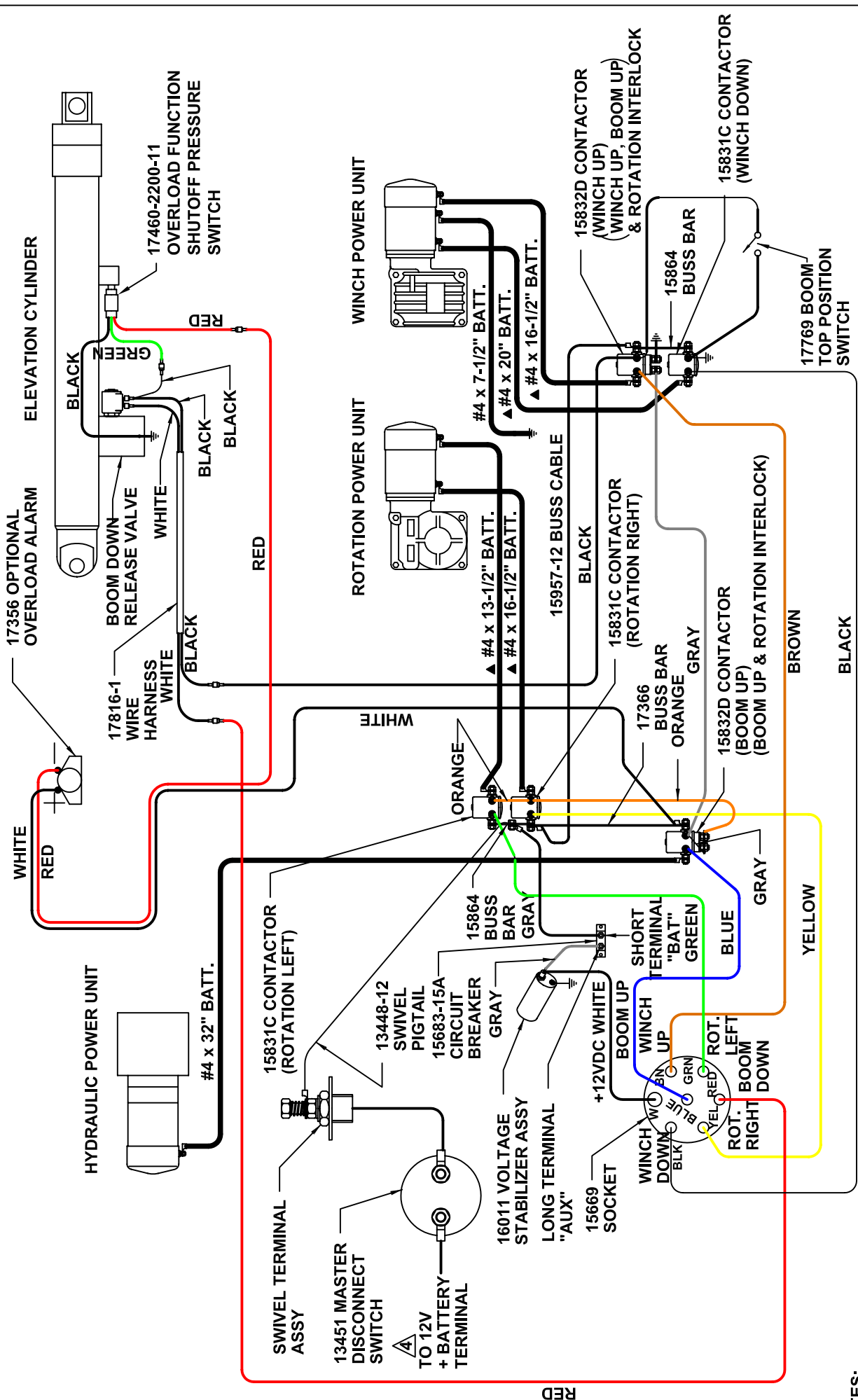


TITLE	DATE	SECTION
REPL. FASTENERS LIST	10-11-04E	C400
ET10K	SUPERCEDES 5-1-01D	19301



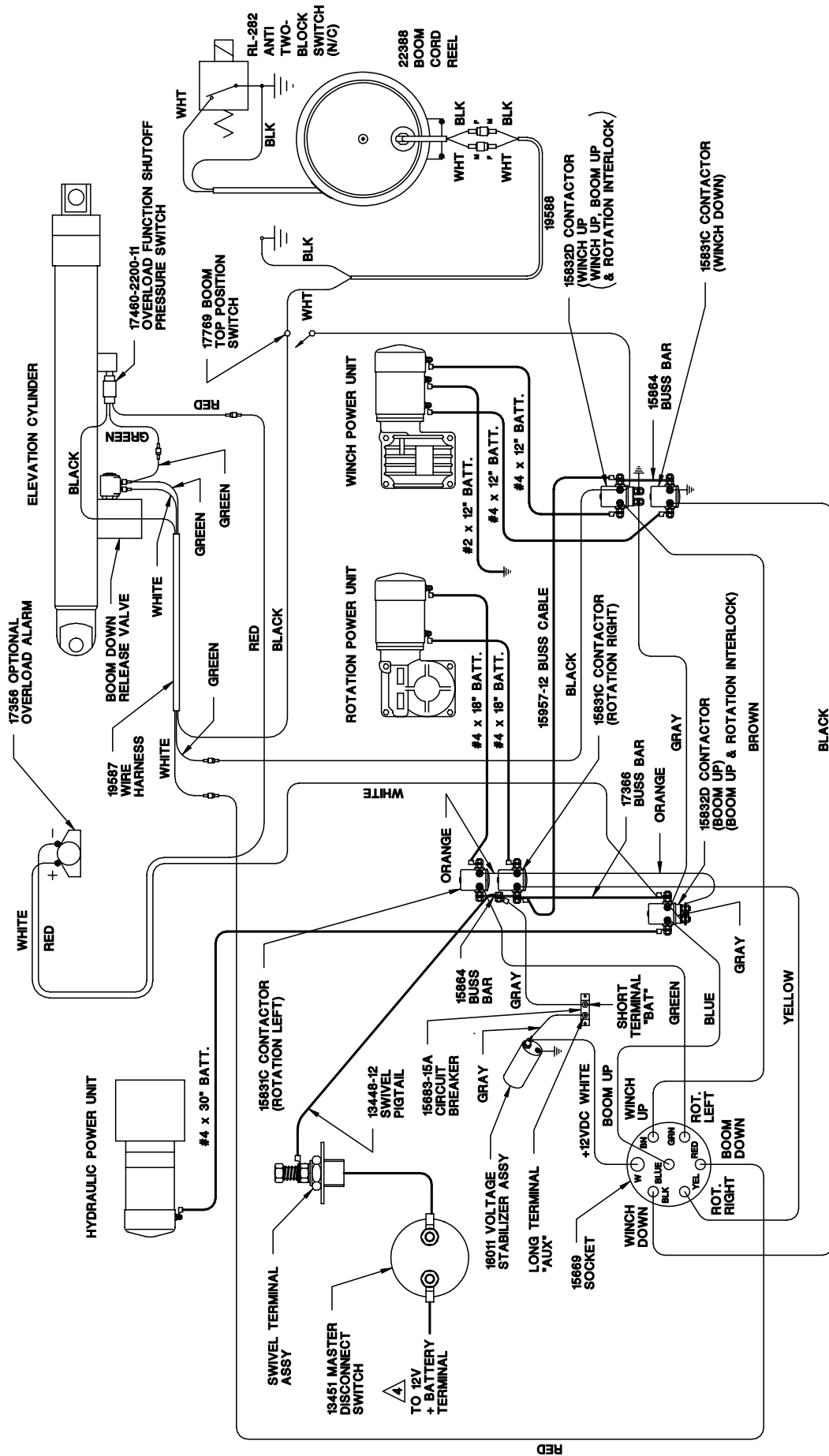
ITEM	QTY	PART NO.	DESCRIPTION
24	2	20951-1	HANGER CABLE
23	1	IHHCS02520150	HEX HEAD CAP SCREW - 1/4-20 x 1 1/2"
22	1	19588	WIRE HARNESS
21	1	19587	WIRE HARNESS
20	1	ILWSH-025	LOCK WASHER - 1/4"
19	1	22490	SPACER - BOOM ARROW
18	2	IHNUT-02520	HEX NUT - 1/4-20
17	1	IHHCS02520100-5	HEX HEAD CAP SCREW - 1/4-20 x 1" 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"
11	1	19302	SET COLLAR
10	4	!LWSH-031	LOCK WASHER - 5/16"
9	4	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	19377-1	CABLE WEIGHT ASSY
2	1	22388-1	CORD REEL ASSY
1	1	19376	LIMIT SWITCH

VENTURO		MANUFACTURING, INC. CINCINNATI, OHIO	
TITLE			
REPLACEMENT PARTS DWG		DATE 12-18-02C	SECTION C400
19197-3 ANTI-TWO-BLOCK SYSTEM		SUPERSEDES 8-26-02B	20197-3



NOTES:
 1. SEE DWG 19791 FOR PENDANT CONTROL ASSY.
 2. SEE DWG 17817 FOR CONTROL WIRE SET.
 3. SEE DWG 17375 FOR BATTERY CABLE KIT.
 ⚠ THIS CRANE OPERATES ON NEGATIVE GROUND SYSTEM ONLY.

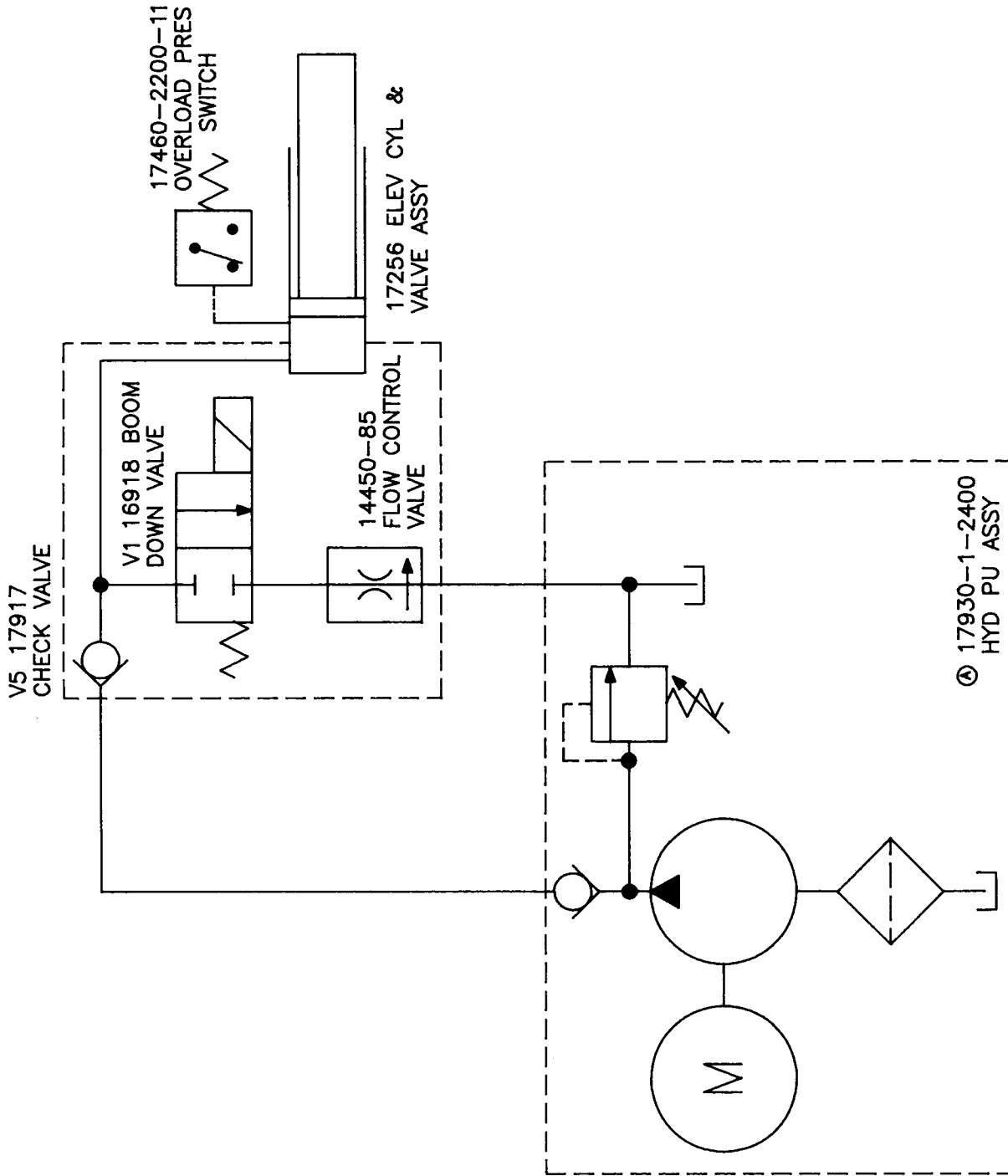
TITLE WIRING DIAGRAM		DATE 9-8-04A	SECTION C400
		SUPERSEDES 7-1-02	
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO		ET10K	
		20592	



NOTES:

1. SEE DWG 19314 FOR PENDANT CONTROL ASSY.
 2. SEE DWG 17817 FOR CONTROL WIRE SET.
 3. SEE DWG 17375 FOR BATTERY CABLE KIT.
- ⚠ THIS CRANE OPERATES ON NEGATIVE GROUND SYSTEM ONLY.

VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE WIRING DIAGRAM	
	DATE 7-1-02	SECTION C400
ET10K WITH ANTI-2-BLOCK		SUPERSEDES -
		20593



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE HYDRAULIC SYSTEM DIAGRAM

ET10K

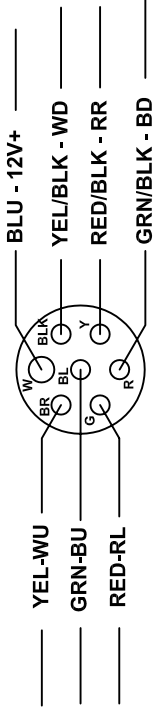
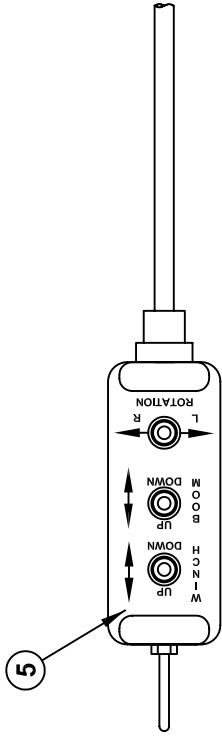
DATE 6-19-98B
SUPERCEDES 11-20-91A

SECTION C400

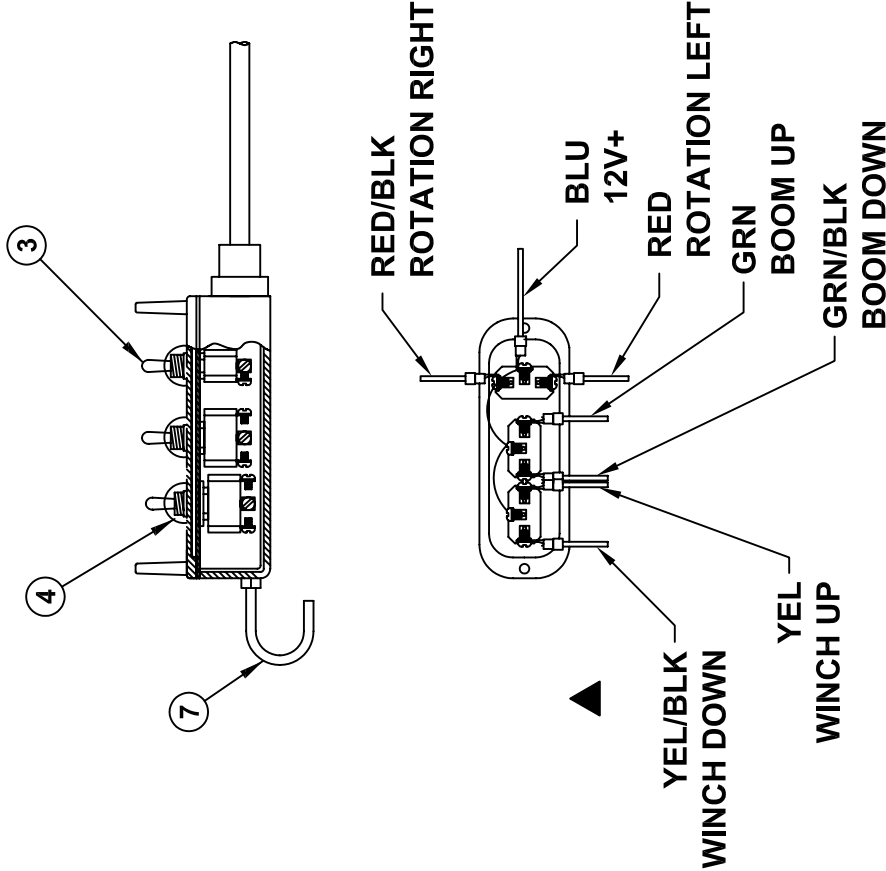
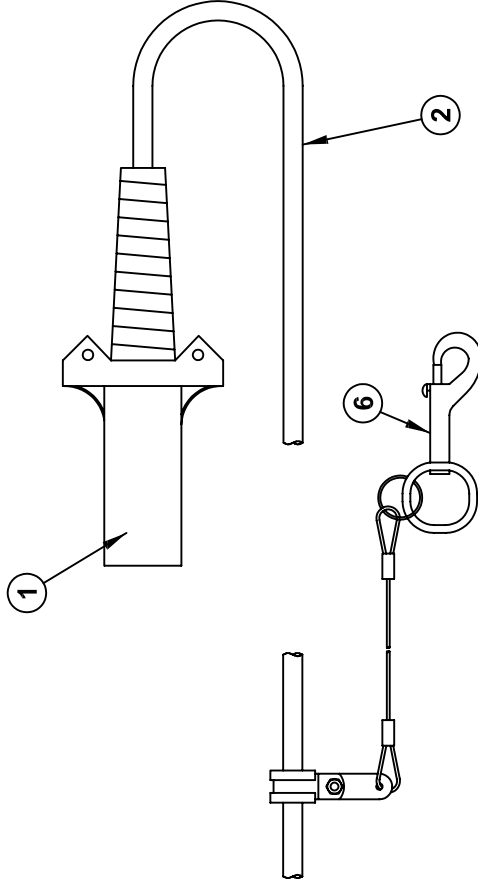
17935



19790 3-SWITCH PENDANT



PLUG - BACKSIDE VIEW



ITEM	QTY	PART NO.	DESCRIPTION
7	1	11557	PENDANT HOOK
6	1	15913-2	PHAN, CLAMP AND TETHER ASSY
5	1	25538	DECAL
4	3	19793	TOGGLE BOOT
3	3	13763	TOGGLE SWITCH
2	1	17151-xx	CORD ASSY (xx = LENGTH IN FT.)
1	1	24348	PLUG - 7 POLE

TITLE

REPL. PARTS DWG.

3 FUNCTION CRANES

DATE

1-17-05C

SUPERSEDES

10-18-01B

SECTION

C400

19791



MANUFACTURING, INC.
CINCINNATI, OHIO



16770 SWIVEL TERMINAL ASSY

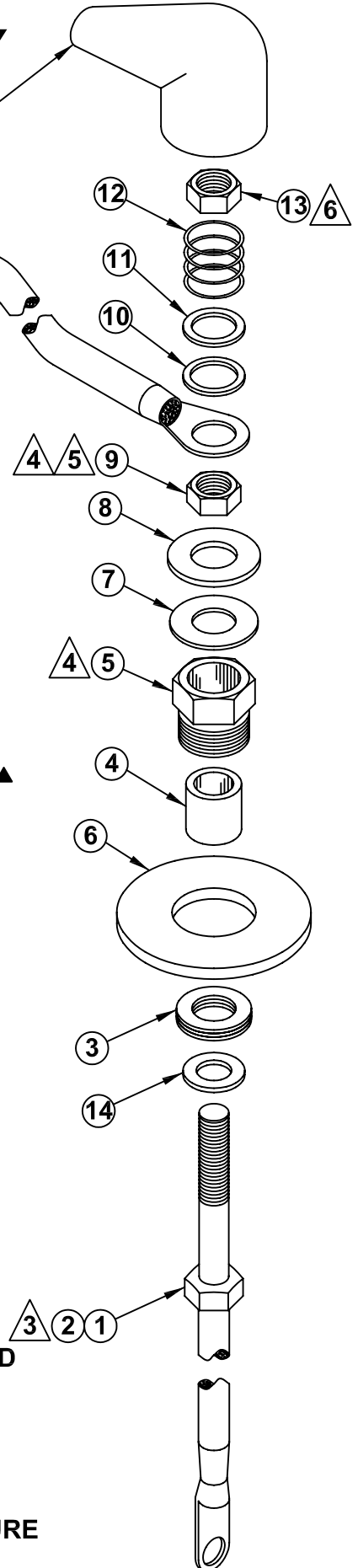
15666







17011 RUBBER BOOT - REF 

13450-13.5

13448-XX SWIVEL PIGTAIL
(NO INCLUDED WITH 16770) 

ITEM	QTY	PART NO.	DESCRIPTION
1	1	15653-60	PIGTAIL & STUD ASSY
2	1	13447-13.5	PIGTAIL & STUD ASSY
*3	3	16771-1	FIBER WASHER 1/2" I.D. x 15/16" O.D. x 1/16" THK
*4	1	13410	INSULATING BUSHING
5	1	13467	3/4" INVERTED FLARE NUT - MODIFIED
6	1	!FWSH-100SAE	FLAT WASHER 1 1/8" I.D. x 2 1/8" O.D. x 1/8" THK
*7	1	16771-2	FIBER WASHER 1/2" I.D. x 1 1/4" O.D. x 1/16" THK
*8	1	16770*7	BRASS WASHER 1/2" I.D. x 1 1/4" O.D. x 5/64" THK
*9	1	19800 ▲	BRASS JAM NUT - 1/2"-13NC - MODIFIED ▲
*10	1	16770*11	TEFLON WASHER 1/2" I.D. x 3/4" O.D. x 1/32" THK
*11	1	16770*10	BRASS WASHER 1/2" I.D. x 11/16" O.D. x 1/32" THK
*12	1	LC-063HJ-1	SPRING .66" O.D. x .63" W x 5/8" F.L.
*13	1	!JNUT-05013N	NYLON INSERT-JAMNUT - 1/2"-13
*14	1	12534-4	MACHINERY BUSHING 1/2" I.D. x 7/8" O.D. x 14 GA THK
*15	1	LOCTITE-24205	LOCTITE CAPSULE GRADE 242 BLUE
*16	1	16770	REPL. PARTS DWG (THIS PAGE)

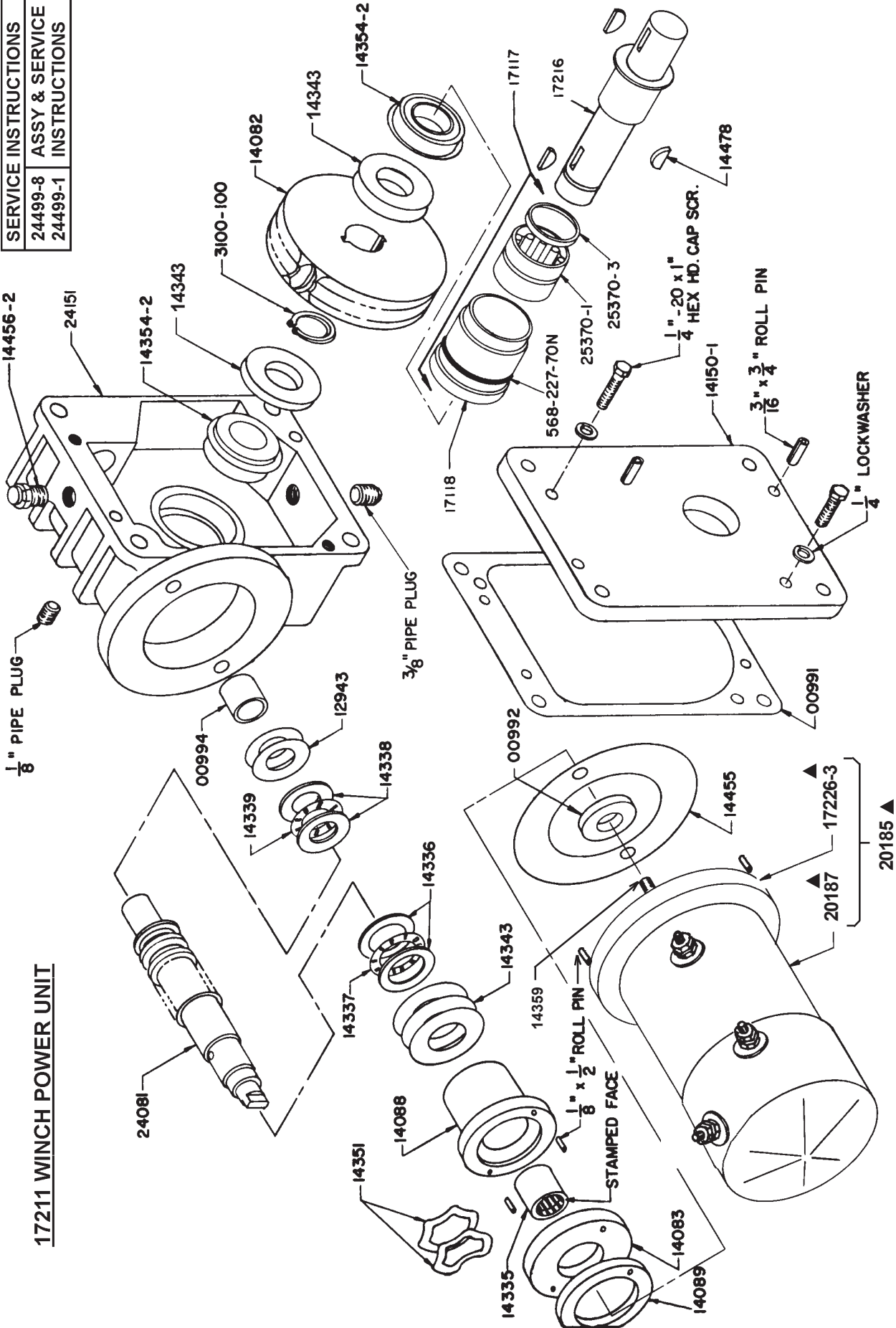
* ITEMS ARE ONLY AVAILABLE IN A 16772 SERVICE PARTS KIT

-  16772 SERVICE PARTS KIT CONVERTS 15666 TO 16770
-  16770 REPLACES & IS INTERCHANGEABLE WITH 15666
-  13447-13.5 PIGTAIL STUD ASSY REQ'D WITH 13450-13.5 ASSY USED ON EARLY MODEL ET5500M/(PB) CRANES
-  SECURE WITH LOCTITE 242 BLUE
-  TORQUE TO 30 FT-LBS, THEN TIGHTEN SET SCREW. ▲
-  TIGHTEN UNTIL ONE THREAD IS VISIBLE ABOVE THE NUT & ENSURE THAT SPRING IS NOT FULLY COMPRESSED

MFG., INC.
CINCINNATI, OHIOTITLE
REPLACEMENT PARTSET5500, ET6KM/R,
ET8100, ET10K(X)DATE
1-14-05GSUPERSEDES
2-21-02FSECTION
C455**16770**



SERVICE INSTRUCTIONS	
24499-8	ASSY & SERVICE
24499-1	INSTRUCTIONS



TITLE	REPLACEMENT PARTS	
	ET10K(X)	
DATE	3-5-03B	SECTION
SUPERCEDES	2-4-03A	C400
		20493
<p>VENTURO MANUFACTURING, INC. CINCINNATI, OHIO</p>		

**REPLACEMENT PARTS LIST - 17211 WINCH POWER UNIT**

MODEL: ET10K(X)

PART NO.	DESCRIPTION
* 00991 * 00992 00994 * 12943-1 * 12943-2	GASKET SEAL WORMSHAFT BUSHING SHIM WASHER - 3/4" x 1 1/2" x .005" (AS REQUIRED) SHIM WASHER - 3/4" x 1 1/2" x .015" (AS REQUIRED)
* 12943-3 14082 14083 14088 14089	SHIM WASHER - 3/4" x 1 1/2" x .030" (AS REQUIRED) WORM GEAR BRAKE MOTOR CLUTCH HOUSING (INCLUDES 1/8" x 1/2" ROLL PIN) BRAKE DISC
14150-1 14335 14336 14337 14338	COVER ROLLER CLUTCH THRUST RACE - 1" NEEDLE THRUST BEARING - 1" I.D. THRUST RACE - 3/4"
14339 * 14343-1 * 14343-2 * 14343-4 * 14345-1	NEEDLE THRUST BEARING - 3/4" I.D. SHIM WASHER - 1" x 1 1/2" x .005" (AS REQUIRED) SHIM WASHER - 1" x 1 1/2" x .015" (AS REQUIRED) SHIM WASHER - 1" x 1 1/2" x .031" (AS REQUIRED) SHIM WASHER - 1" x 2" x .005" (AS REQUIRED)
* 14345-2 * 14351 14354-2 * 14455 14456-2 * 14478	SHIM WASHER - 1" x 2" x .015" (AS REQUIRED) WAVE WASHER BALL BEARING GASKET - MOTOR BREATHER CAP ASSEMBLY #91 WOODRUFF KEY - 1/4" x 3/4"
24081 24151 20185 ▲ 25370-1 * 25370-3 17117	WORM & SHAFT GEAR CASE MOTOR (INCLUDES 00992 SEAL) ROLLER BEARING (INCLUDES 25370-3 SEAL) SEAL BEARING & HOUSING ASSEMBLY (INCLUDES 25370-1, 25370-3, 17118 & 568-277-70N)
17216 17218 * 3100-100 * OR-227-7 * IRPIN-013050 * IRPIN-019075	SHAFT & RACE ASSEMBLY BEARING HOUSING RETAINING RING O-RING - 2 1/8" x 2 3/8" x 1/8" ROLL PIN - 1/8" x 1/2" ROLL PIN - 3/16" x 3/4"
16485 17468-1 17468-2 17468-3	SHIM, KEY, PIN & SEAL KIT (INCLUDES ITEMS MARKED *) MOTOR REPAIR KIT (INCLUDES 00992 SEAL & 14455 GASKET) FOR 17221-1 MOTOR MOTOR REPAIR KIT (INCLUDES 00992 SEAL & 14455 GASKET) FOR 17221-2 MOTOR MOTOR REPAIR KIT (INCLUDES 00992 SEAL & 14455 GASKET) FOR 16115 MOTOR

▲

MFG., INC.
CINCINNATI, OHIO

TITLE

REPL. PARTS LIST

DATE

6-20-03A

SECTION

C400

17211 WINCH PU

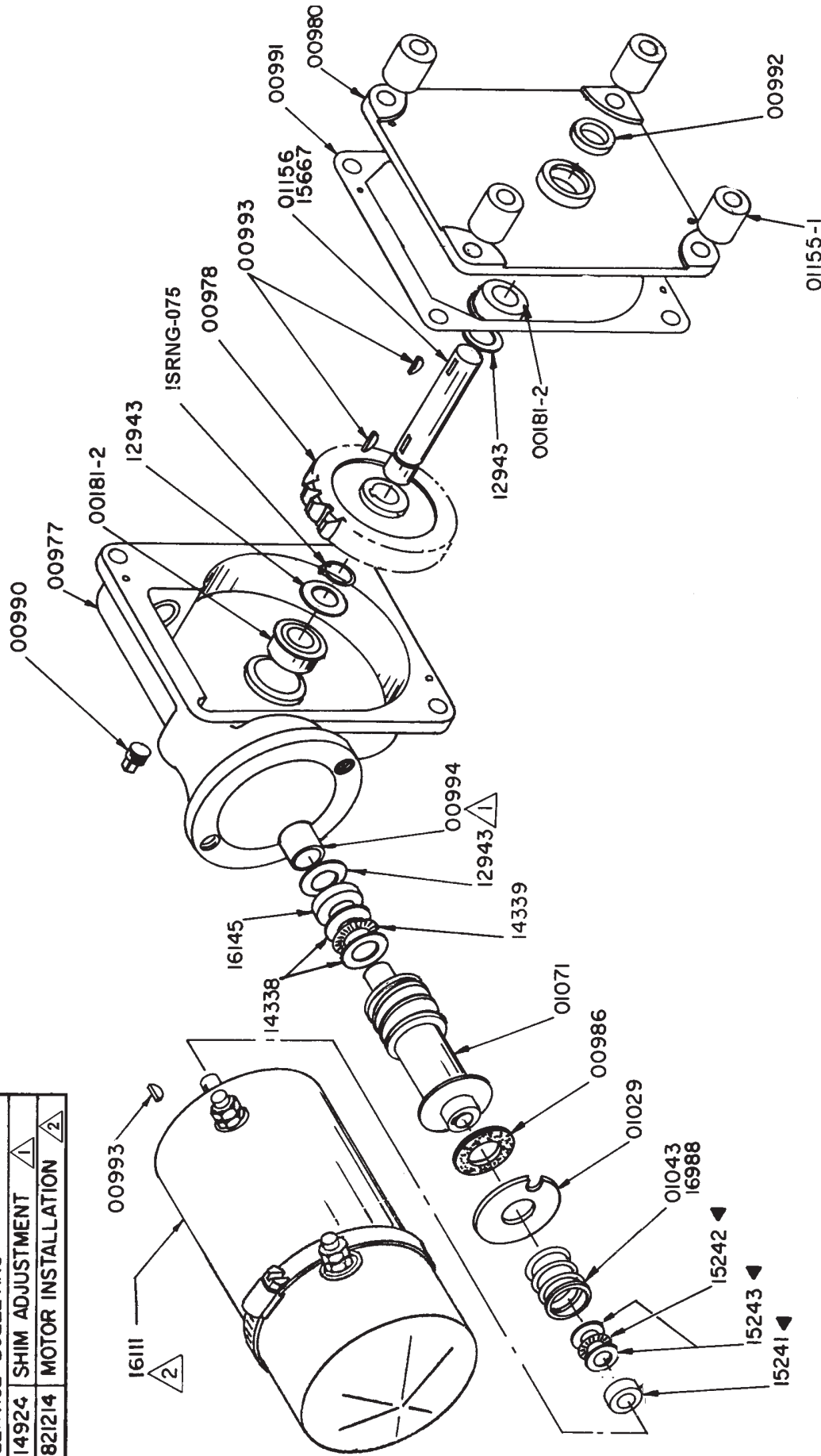
SUPERCEDES

1-8-02

20494



SERVICE BULLETINS	
14924	SHIM ADJUSTMENT Δ 1
821214	MOTOR INSTALLATION Δ 2



SEE DWG. 14924/14926 FOR SERVICE INSTRUCTION

16100 SERIES POWER UNITS



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS

WINCH & CRANE

DATE
5-9-06F

SECTION
C450

SUPERCEDES
4-14-04E

I16100

**REPLACEMENT PARTS LIST - 16100 ELECTRIC POWER UNIT**

MODEL(S): ET5500MPB, ET6KM, ET6KR

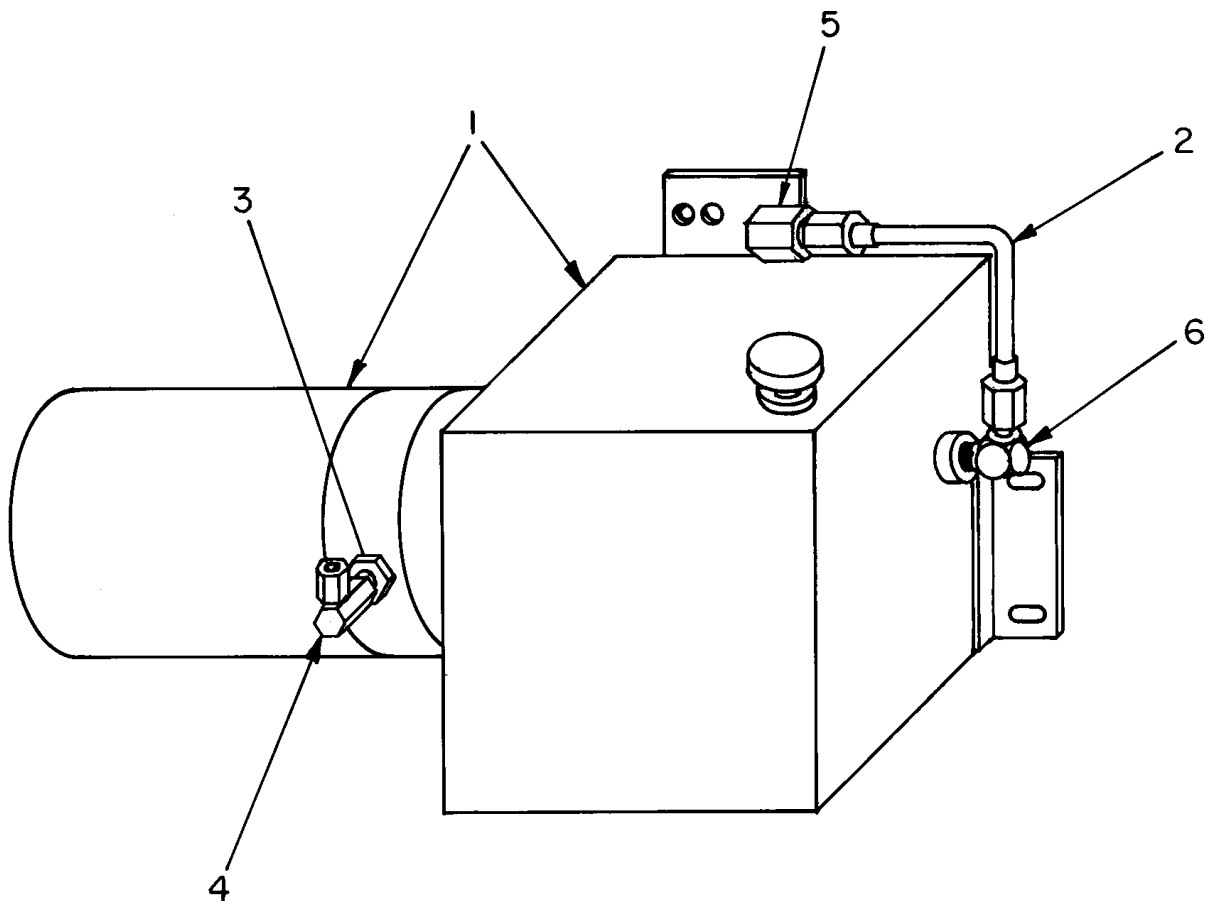
PART NO.	DESCRIPTION
16101 16102 16105 16105-1 16106 16107	POWER UNIT - LONG SHAFT - ET5500R WINCH [△] POWER UNIT - SHORT SHAFT - ET5500R ROTATION POWER UNIT - LONG SHAFT - CA 2000, CT 2003, WA/SL 3000 (WITH SPACERS) POWER UNIT - LONG SHAFT - CA 2000, CT 2003/4/5(FB), WA/SL 3000 (WITHOUT SPACERS) POWER UNIT - LONG SHAFT [△] POWER UNIT - SHORT SHAFT - ET5500R ROTATION
00181-2 00977 00978 00980 * 00986	FLANGE BEARING - 3/4" BORE x 1 3/4" O.D. GEAR CASE (INCLUDES 00994 BUSHING) WORM GEAR BASE PLATE (00980-1) & INSERT (00980-2) ASSEMBLY BRAKE DISC
* ISRNG-075 00990 * 00991 * 00992 [△] * 00993	RETAINING RING - 3/4" OIL PLUG - 1/4" PIPE GASKET OIL SEAL KEY - #9 WOODRUFF
00994 01029 01043 [△] 01071 01155-1	BUSHING BRAKE PLATE BRAKE SPRING (16102 & 16107 ROTATION POWER UNIT ONLY) WORM SHAFT SPACER (16105 ONLY)
01156 * 12943-1 [△] * 12943-2 [△] * 12943-3 [△] 14338	WORM GEAR SHAFT - 3/4" x 5 3/16" LONG (16105 & 16106 ONLY) SHIM WASHER - .005" THICK (AS REQUIRED) SHIM WASHER - .015" THICK (AS REQUIRED) SHIM WASHER - .030" THICK (AS REQUIRED) NEEDLE THRUST RACE 3/4" I.D.
14339 15241 15242 15243 15667	NEEDLE THRUST BEARING 3/4" I.D. SPACER (INSTALL NEXT TO MOTOR) [▲] NEEDLE THRUST BEARING 5/8" I.D. NEEDLE THRUST RACE .092" x 5/8" I.D. WORM GEAR SHAFT - 3/4" x 4 3/16" LONG (16102 & 16107 ONLY)
16111 [△] 16145 16988 [△]	MOTOR - 12 VOLT 4 1/2" DIAMETER SPACER BRAKE SPRING (16101, 16105 & 16106 WINCH POWER UNITS ONLY)
14889 15290	MOTOR REPAIR KIT SMALL PARTS KIT (INCLUDES ITEMS MARKED *)

¹ AVAILABLE ONLY AS PART OF 15290 SMALL PARTS KIT² 16101 POWER UNIT REPLACED BY 16106 POWER UNIT
16102 POWER UNIT REPLACED BY 16107 POWER UNIT³ REPLACE 30E & 16100 POWER UNITS AS FOLLOWS:
16105 REPLACES 11497
16106 REPLACES 11497NS & 16101
16107 REPLACES 16102⁴ 16111 MOTOR REPLACES 01024 E & F & 16112 MOTORS
ON ALL 30E & 16100 SERIES POWER UNITS⁵ 16988 BRAKE SPRING REPLACES 01043 BRAKE SPRING ON
16101, 16105 & 16106 WINCH POWER UNITS ONLYMFG., INC.
CINCINNATI, OHIOTITLE
REPL. PARTS LIST**16100 ELECTRIC PU**DATE
6-13-07GSUPERCEDES
12-6-04FSECTION
C400**811016**

**REPLACEMENT PARTS LIST - 17930-1 HYDRAULIC POWER UNIT**

MODEL: ET10K

ITEM	PART NO.	DESCRIPTION
	17930-1	HYDRAULIC POWER UNIT ASSEMBLY
1	17260-1-2400	HYDRAULIC POWER UNIT
2	17293	RETURN TUBE ASSEMBLY
3	HRDB6MP-2FP	PIPE BUSHING 3/8" - 1/8" NPT
4	HELB2MP-2FX-90	SWIVEL ADAPTER
5	HTAD6MJ-4FP	STRAIGHT ADAPTER
6	HTEL6MJ-4MP-90	ELBOW TUBE ADAPTER

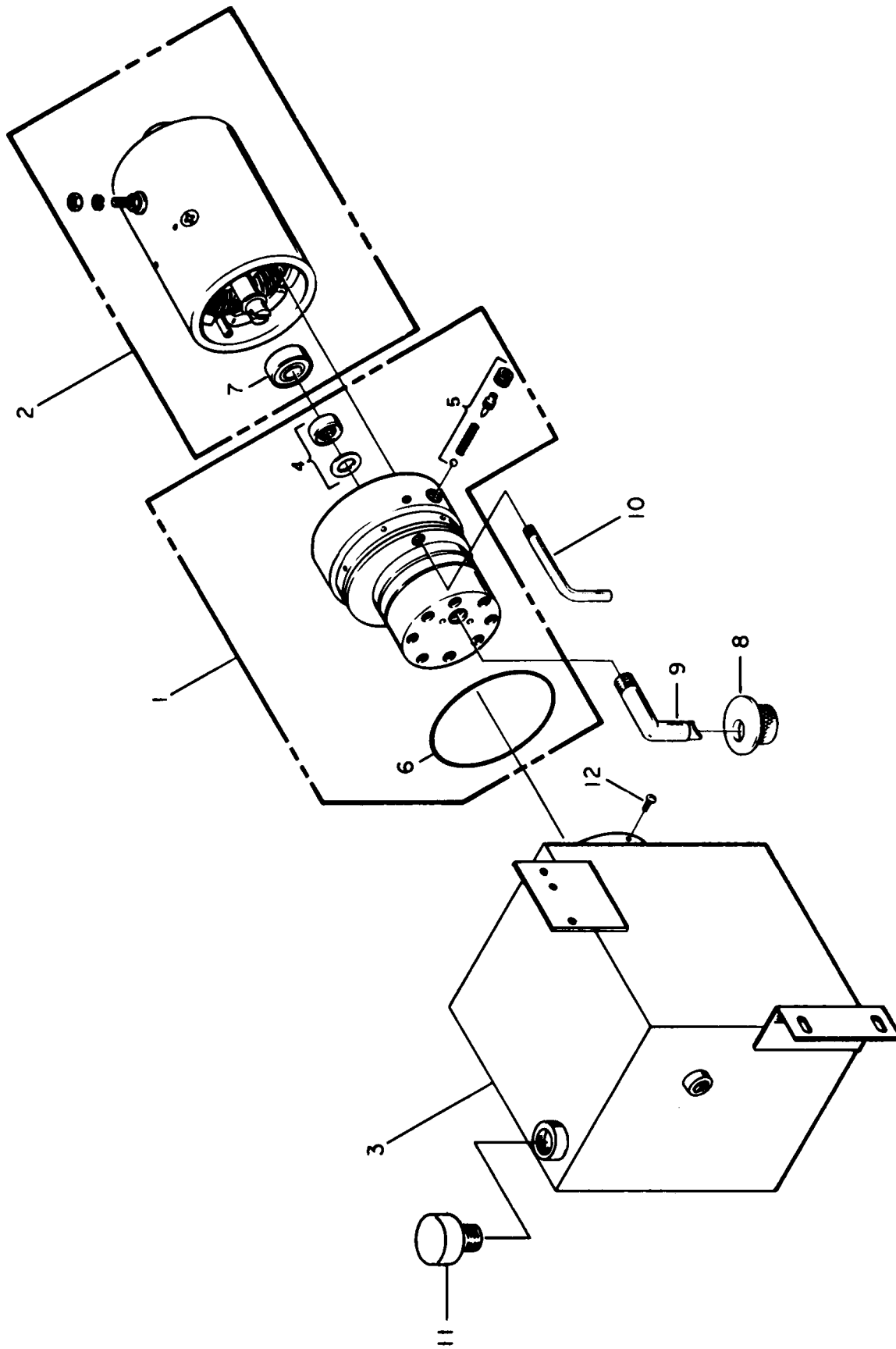


VENTURO MFG., INC.
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS
ET10K

DATE
6-19-98A
SUPERCEDES
6-7-91

SECTION
C400
I17930



17260-1 HYDRAULIC POWER UNIT

TITLE REPLACEMENT PARTS	DATE 6-19-98A	SECTION C400
	SUPPERCEDES 2-20-90	17451
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO		
ET10K(X)		

**REPLACEMENT PARTS LIST - 17260-1 HYDRAULIC POWER UNIT**

MODEL: ET10K(X)

ITEM	PART NO.	DESCRIPTION
	17260-1-2400*	HYDRAULIC POWER UNIT
1	16943	PUMP ASSEMBLY
2	16940	MOTOR - 12V DC
3	17283	RESERVOIR ASSEMBLY
4	02330	SEAL & GASKET KIT
5	02220	RELIEF VALVE KIT
6	OR-239-7	O-RING (3 5/8" x 3 7/8" x 1/8")
7	02318	BALL BEARING
8	01134	SUCTION FILTER SCREEN
9	-	SUCTION TUBE
10	-	RETURN TUBE
11	19276	VENT PLUG (3/8" NPT)
12	07703	SCREW (10-24NC x 3/8")
-	17282	PACKING KIT

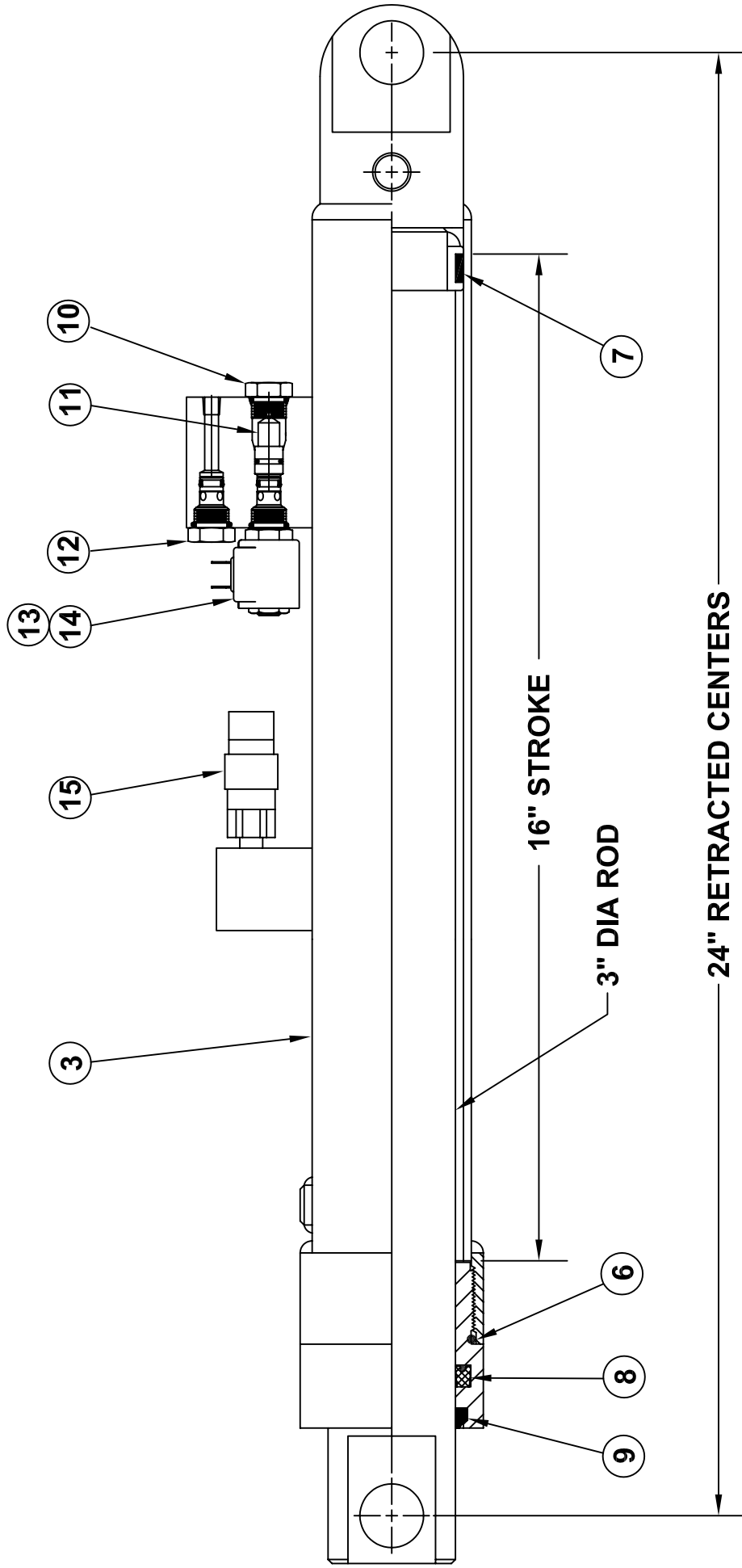
*STANDARD RELIEF VALVE SETTING - P.S.I.

MFG., INC.
CINCINNATI, OHIO


TITLE	DATE	SECTION
REPLACEMENT PARTS	6-22-98A	C400
ET10K(X)	SUPERCEDES 2-20-90	900220



17256-3 ELEVATION CYLINDER



REPLACEMENT PARTS LIST REF 931130


 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	ELEVATING CYL & VALVE ASSY PARTS	SECTION	C400
		ET10K(X)	DATE	1-17-05E
			SUPERSEDES	7-7-99D
				17257-3



REPLACEMENT PARTS LIST

17256-3 ELEVATION CYLINDER & VALVE ASSEMBLY

MODEL: ET10K(X)

ITEM	PART NUMBER	DESCRIPTION
1	17255-3	ELEVATING CYLINDER ASSEMBLY W/OUT VALVES & PRESSURE SWITCH
2	17256-3	ELEVATING CYLINDER ASSEMBLY WITH VALVES & PRESSURE SWITCH
3	-	-
4	-	-
5	-	-
6	*	O-RING
7	*	WEAR RING
8	*	POLYURETHANE PACKING (POLYPAK TYPE "B")
9	*	ROD WIPER
10	14416 	CAP
11	14450M-085	FLOW CONTROL VALVE
12	16917	CHECK VALVE
13	16918	SOLENOID VALVE (INCLUDES COIL)
14	16919	SOLENOID COIL ONLY
15	17460-2200-11	PRESSURE SWITCH
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	17376-3	PACKING KIT (INCLUDES ITEMS MARKED *)
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-



ON CURRENT PRODUCTION CRANES, CAP HAS BEEN INCORPORATED INTO RETURN HOSE

MFG., INC.
CINCINNATI, OHIO

TITLE

REPL. PARTS LIST

DATE

10-5-99D

SECTION

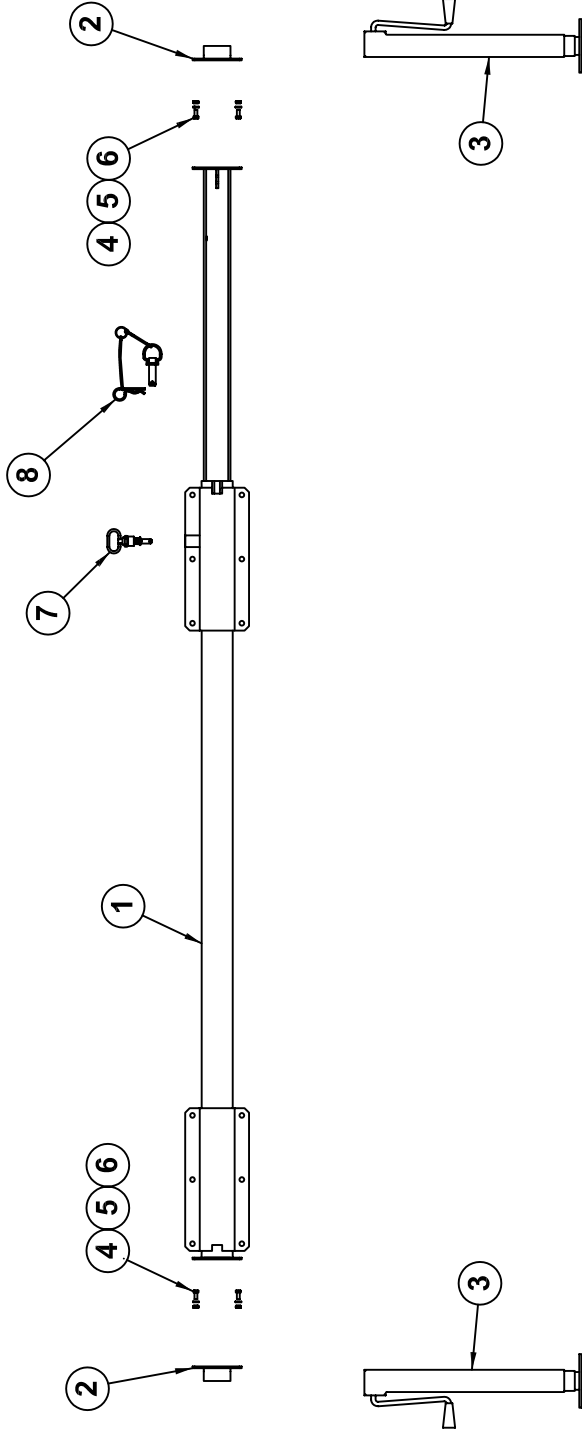
C400

ET10K(X)

SUPERCEDES

5-3-99C

931130



9	2	18506	3M BLACK / YELLOW SAFETY TAPE (NOT SHOWN)
8	1	24981	OUTRIGGER SECURITY PIN
7	1	18520	SPRING LOADED ASSEMBLY
6	8	!LWSH-031	LOCKWASHER - 5/16
5	8	!HNUT-03118	HEX NUT - 5/16-18
4	8	!HHCS03118075	HEX HEAD CAP SCREW - 5/16-18 X 3/4" LONG
3	2	18586	CRANKDOWN LEG
2	2	18587	CRANKDOWN LEG ADAPTER
1	1	18501	TUBE - OUTRIGGER ASSEMBLY
ITEM	QTY	PART NO	DESCRIPTION

TITLE		DATE	SECTION
REPLACEMENT PARTS DWG & LIST		1-14-05A	C400
18500-CD MANUAL OUTRIGGERS		SUPERSEDES	22689
		11-12-03	





17824 FIELD SERVICE LABEL KIT (ET10K)

17	1	15397	KIT; ACCIDENT PREVENTION SIGNS
16	1	18719	DWG; DECAL APPLICATIONS, ET10K
15	2	19740	DECAL; MODEL, ET10K
14	1	20174	DECAL; GROUNDING CABLE
13	2	27007-04a	DECAL; LOAD BLOCK CAPACITY
12	1	17813	DECAL; OVERLOAD SENSING SYSTEM
11	1	17388	DECAL; BOOM CAPACITY, LEFT
10	1	17387	DECAL; BOOM CAPACITY, RIGHT
9	1	25538	DECAL; 3-SWITCH PENDANT
8	1	16789	DECAL; WARNING - CHEMICAL SIGN
7	1	25581	DECAL; PENDANT CORD ATTACHMENT
6	2	17389	DECAL; VENTURO LOGO, MEDIUM
5	3	14473-2	DECAL; GREASE
4	1	14473-1	DECAL; OIL
3	1	13397	DECAL; OIL LEVEL
2	2	16973	DECAL; ROTATION ARROW
1	1	11917-1	DECAL; VOLTAGE IDENTIFICATION
ITEM	QTY	PART NO.	DESCRIPTION



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
FIELD SRVCE LABEL KIT
ET10K; 7/15

DATE
12-13-13A
SUPERSEDES
06-22-06

SECTION
-

20846







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
12110 BEST PLACE • CINCINNATI, OHIO 45241
513.772.8448
www.venturo.com