

# TABLE OF CONTENTS

## DT7K INSTRUCTION MANUAL

### **SECTION 100 DESCRIPTION & SPECIFICATIONS**

17459	INSTALLATION DIMENSIONS - DT7K
▲ 17384	MOUNTING HOLE TEMPLATE
▲ S14930	INSTALLATION DRAWING - 14930 MOUNTING PEDESTAL
▲ I14930	INSTALLATION DRAWING - 14930 MOUNTING PEDESTAL

### **SECTION 150 SAFETY**

870701	SAFETY & HAZARDS - GENERAL
--------	----------------------------

### **SECTION 200 INSTALLATION**

711105	CABLE & BATTERY REQUIREMENTS - ET AND HT CRANES
15660	BATTERY CABLE INSTALLATION DRAWING
711006	WIRE ROPE SPECIFICATIONS
870702	OPERATION & MAINTENANCE INSTRUCTIONS

### **SECTION 400 REPLACEMENT PARTS**

19721	DT7K REPLACEMENT PARTS DRAWING
19722	DT7K REPLACEMENT PARTS LIST
19591	WINCH POWER UNIT WIRING DIAGRAM
19590	CONTACTOR ASSEMBLY REPLACEMENT PARTS
20455	REPLACEMENT PARTS - 1 FUNCTION PENDANT CONTROL
19795	REPLACEMENT PARTS - 1 FUNCTION PISTOL-GRIP PENDANT CONTROL
16651	SWIVEL TERMINAL ASSEMBLY REPLACEMENT PARTS
I16100	16100 SERIES POWER UNIT REPLACEMENT PARTS DRAWING
811016	16100 SERIES POWER UNIT REPLACEMENT PARTS LIST

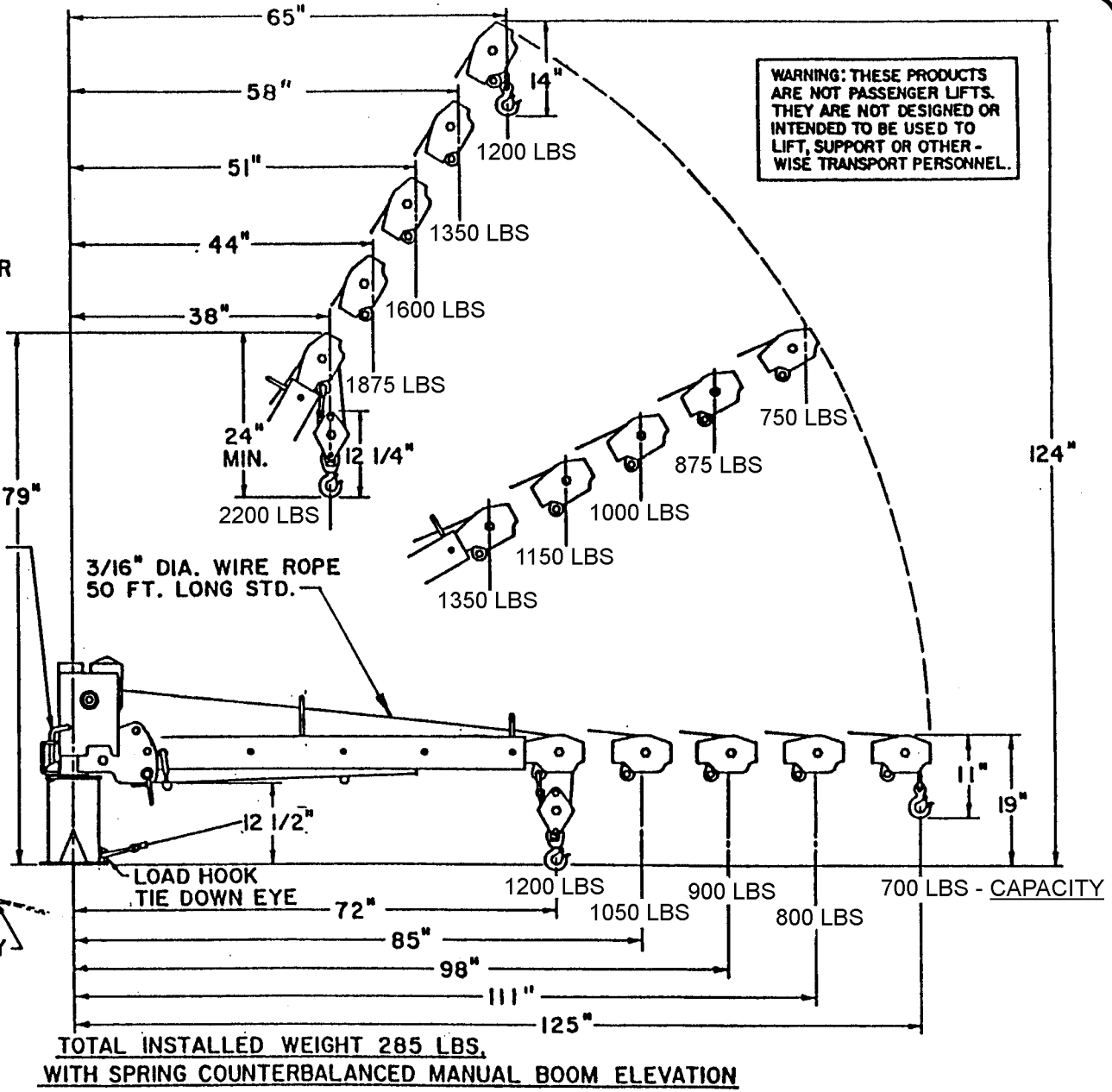
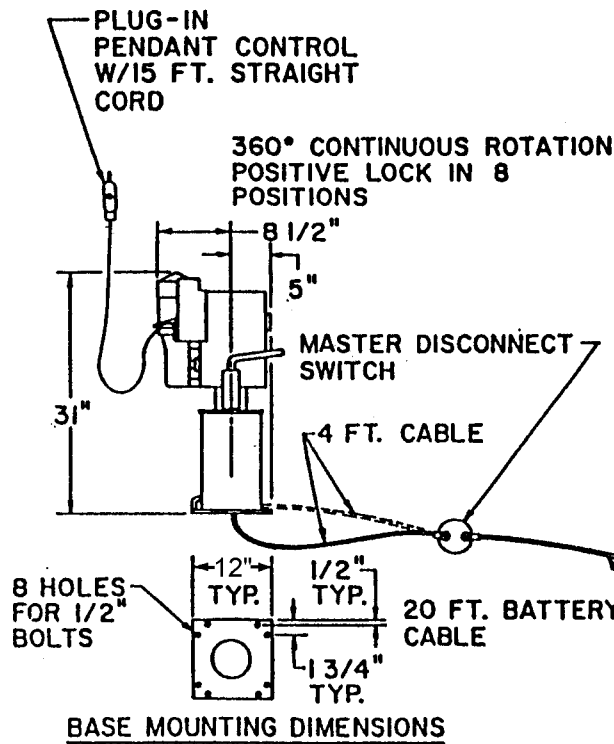
**PERFORMANCE CHARACTERISTICS**

LOAD LBS.	PART LINE	LIFTING SPEED AT LOAD - FT./MIN.
0	1	25
1200	1	13
1200	2	10
2000	2	8

SNATCH BLOCK REQUIRED FOR LOADS OVER 1200 LBS.

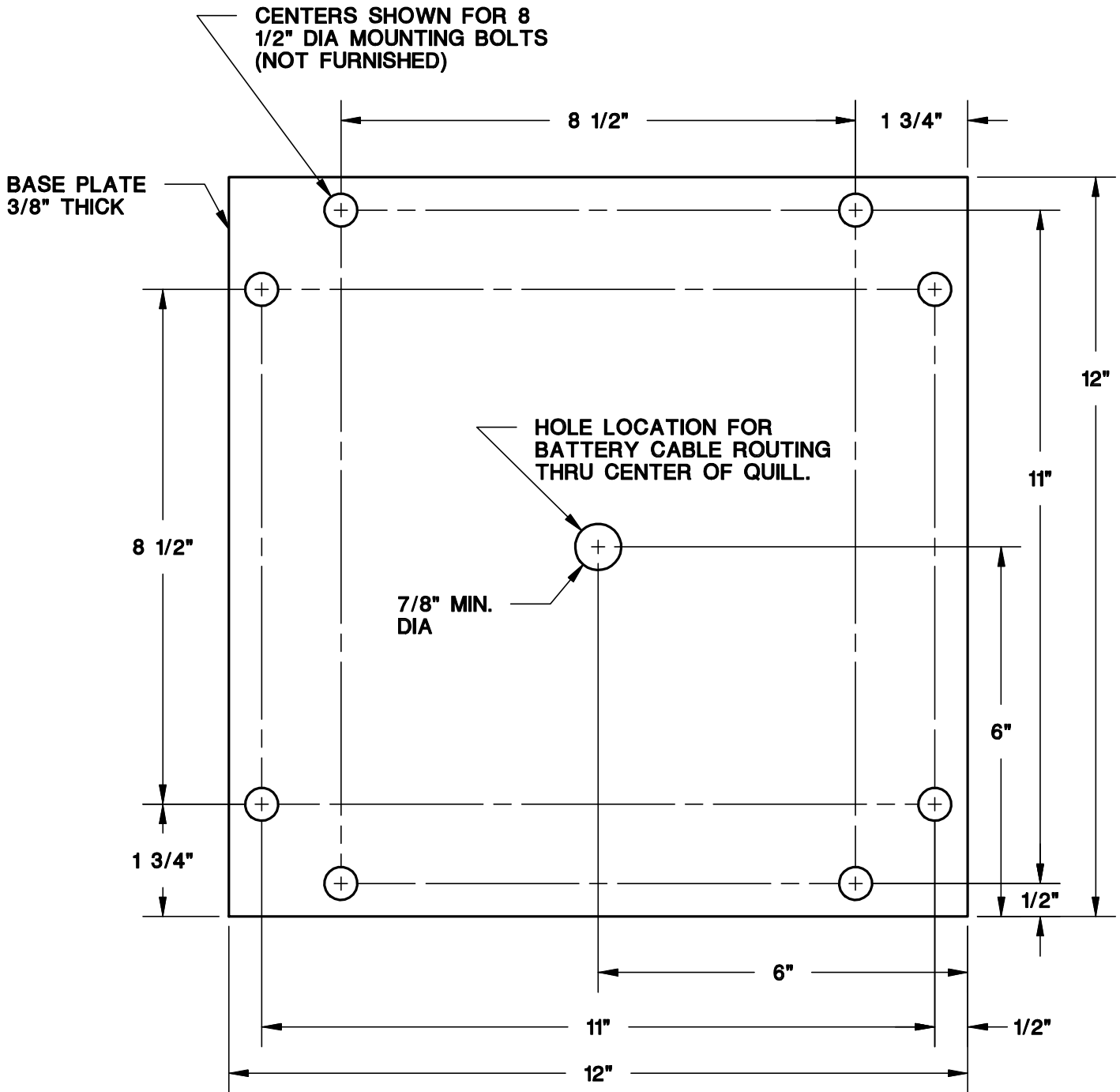
OVERTURNING MOMENT - 7000 FT. - LB.

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

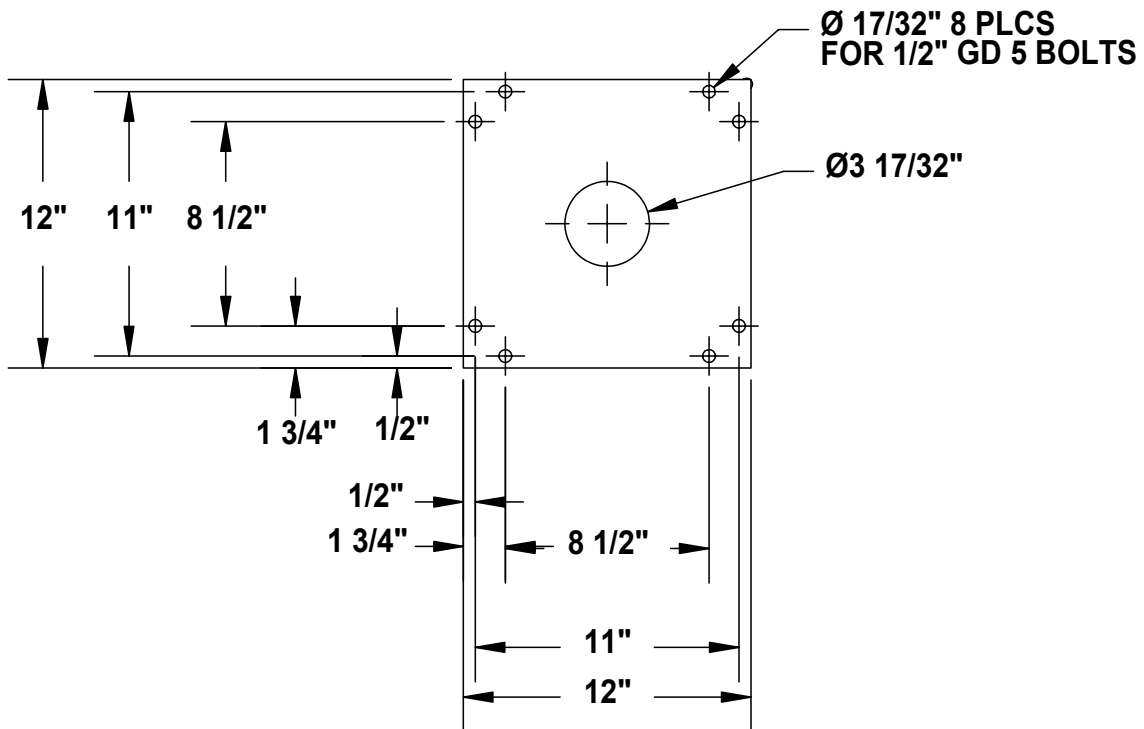
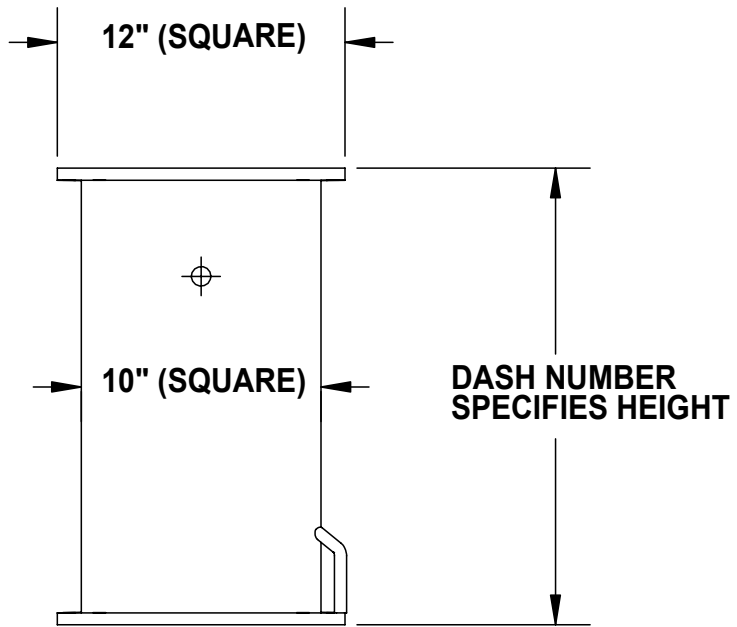


TITLE	DATE	SECTION
INSTALLATION DRAWING	3-16-98	C100
DT7K WITH 6 TO 10 FT. BOOM	SUPERCEDES 8-24-95	17459

# MOUNTING HOLE TEMPLATE



# 14930 PEDESTAL



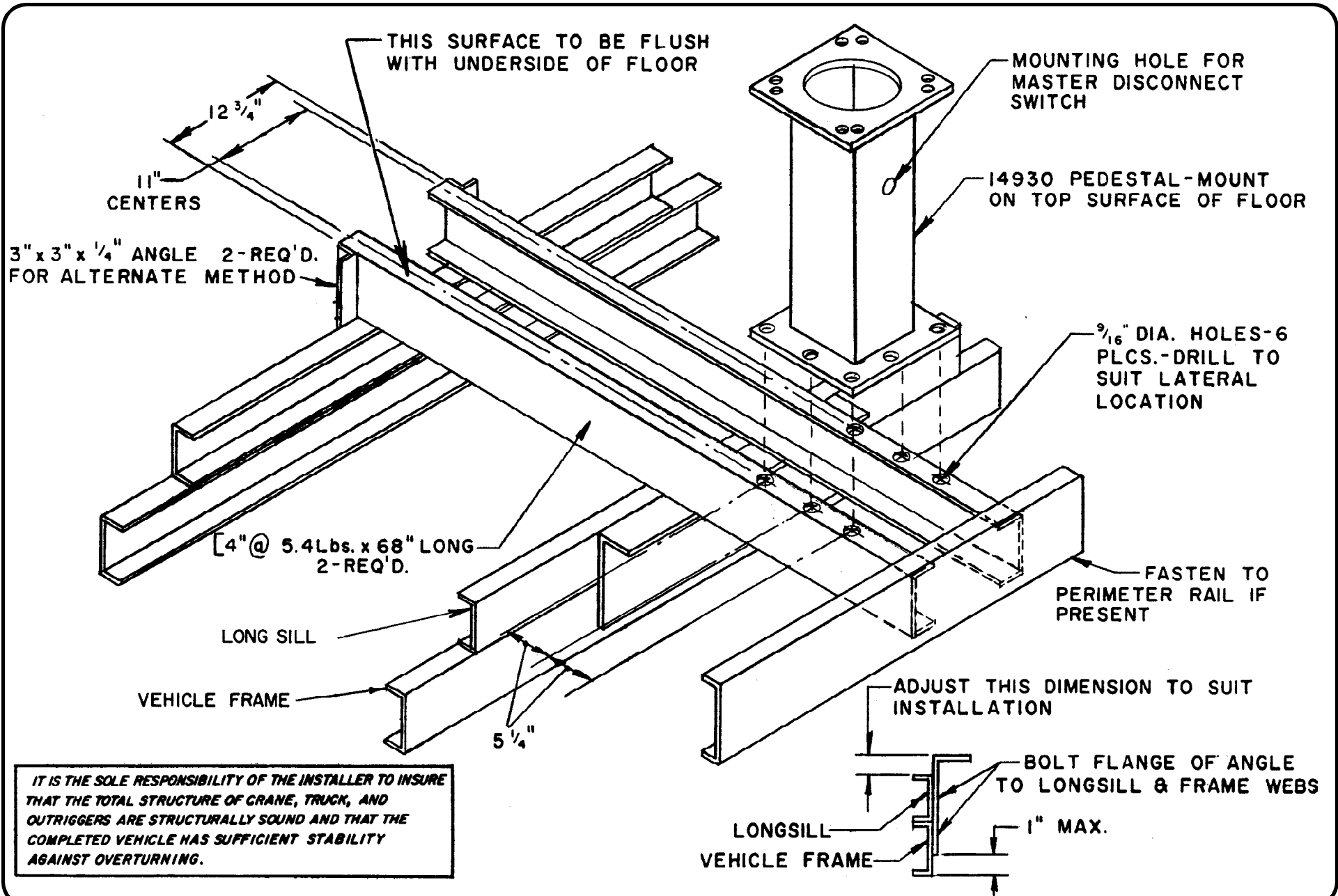
**VENTURO** MFG., INC.  
CINCINNATI, OHIO

TITLE  
14930 MOUNTING PEDESTAL  
ET6KM, DT7K

DATE  
1-3-02H  
SUPERSEDES  
1-19-00G

SECTION  
C100

**S14930**



**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.**



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
INSTALLATION DRAWING	1-19-00F	C100
ET5500MPB, ET6KM, DT7K ▲	SUPERCEDES 6-17-98E	114930

# CRANE SAFETY AND HAZARDS

CA, CE, CT, AND DT CRANES

## CAUTIONS

1. INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY.
2. DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE WITH CRANE MOUNTED ON FACTORY-RECOMMENDED TRUCK.
3. BEFORE OPERATING THE CRANE, REFER TO MAXIMUM LOAD (CAPACITY) CHART ON CRANE FOR OPERATING (LOAD) LIMITATIONS.
4. DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD.
5. FOR TRAVEL, BOOM MUST BE TIED DOWN IN THE 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.



MFG., INC.  
CINCINNATI, OHIO

TITLE	INSTALLATION DWG	DATE	3-2-99C	SECTION	C150
	CA, CE, CT, AND DT	SUPERCEDES	10-17-97B		870701

# 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
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  
**8-10-00R**

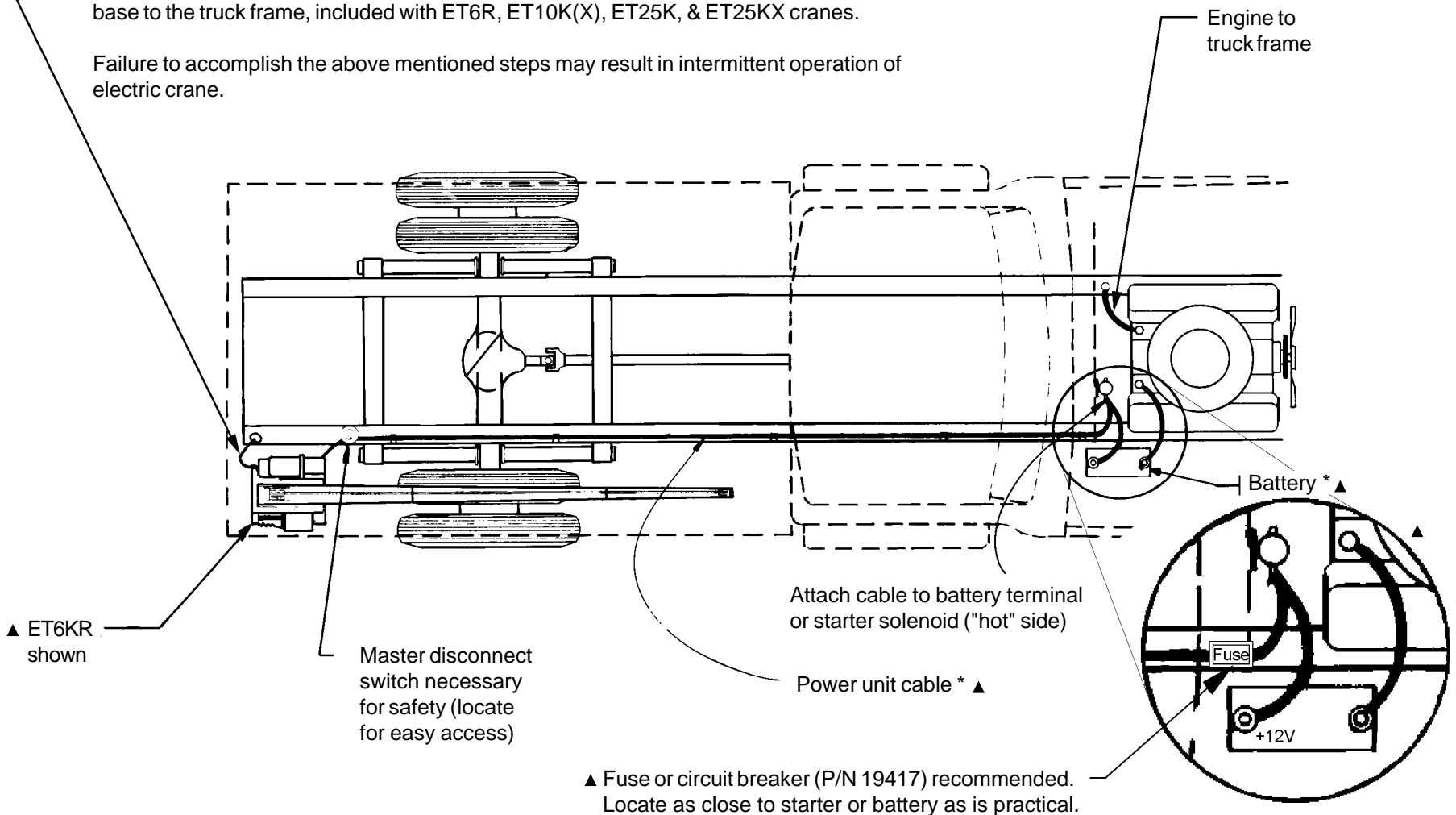
SUPERCEDES  
**3-3-99Q**

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 ET6R, ET10K(X), ET25K, & ET25KX 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



TITLE	DATE	SECTION
INSTALLATION - BATTERY CABLE	1-15-02E	C200
WINCH & CRANE	SUPERCEDES 11-7-01D	15660



## 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.



**VENTURO**

MFG., INC.  
CINCINNATI, OHIO

TITLE  
**WIRE ROPE SPECS**

**VENTURO WINCH & CRANE**

DATE  
**10-23-97G**

SUPERCEDES  
**4-27-92F**

SECTION  
**WC 200**

**711006**

# OPERATING INSTRUCTIONS

CA, CE, CT, & DT CRANES

## ELECTRIC WINCH

The winch is operated by a control switch in a plug-in remote pendant. Unplug the pendant and store it in the vehicle when the crane is not in use.

## TELESCOPING BOOM

On CE6K, CT & DT Cranes the boom can be manually extended. The hole in the extension section of the boom should be aligned with the slot in the stationary section at the position desired and the toggle pin inserted. The crane lifting capacity is shown at each toggle pin position on the CT & DT cranes. The CE6K has a decal on the mast which shows the capacities of the crane at its various angles and extensions.

## SWIVEL SNATCH BLOCK

On CA2000, CT200X, and DT Cranes, the swivel snatch block must be used for loads over 1200 lbs. On the CE6K, the swivel snatch block must be used on loads over 1000 lbs. It may also be used for lower loads to reduce lifting speed for better control and to prevent loads from spinning. CA1000 & CT100X Cranes have a permanently rigged swivel block.

## SWIVEL LOCK

On the CT & DT Cranes the hand lever operated swivel lock controls the 360° rotation of the crane and provides positive locking in 8 positions.

## BANDBRAKE

The CE6K is equipped with a band brake that provides unlimited rotational positioning.

## BOOM TIE DOWN

The load line should be used to tie down the boom to the socket or truck bed while the crane is not in use.

## OPTIONAL MASTER DISCONNECT SWITCH

This switch should be turned "OFF" when the crane is not in use to disconnect the crane from the battery.

# MAINTENANCE

The crane should be lubricated when the vehicle is serviced.

## WINCH GEAR BOX (CT & DT cranes only) ▲

Check the oil level by removing the plug in the side of the gear box. If the oil level is below the plug opening, fill with SAE 85W-140 Hypoid gear oil.

## WINCH DRIVE CHAIN (CT & DT cranes only) ▲

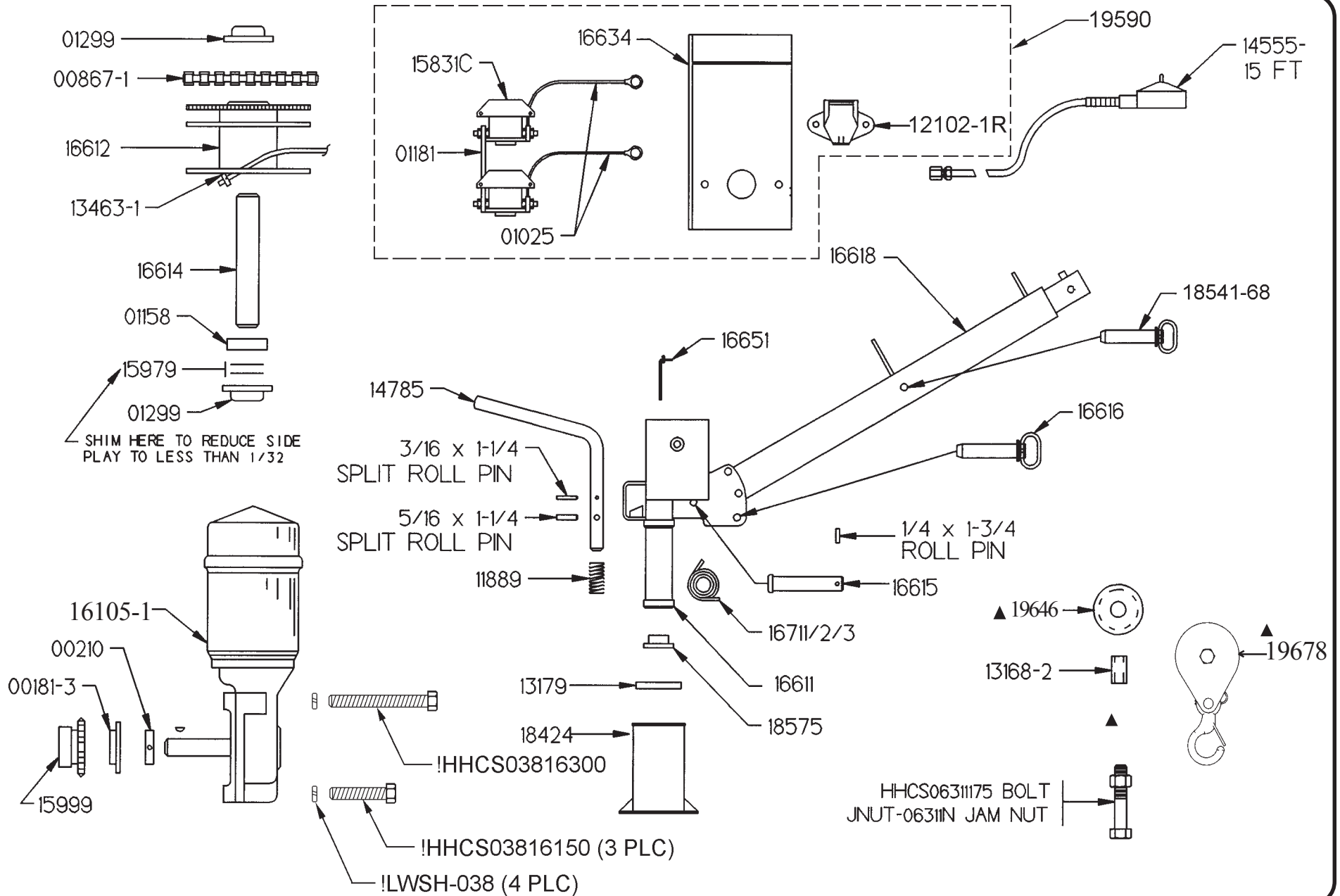
Oil lightly. **DO NOT GREASE.** Excess oil or grease will collect dirt and cause excessive chain wear. Inspect the chain and sprockets for excessive wear and proper alignment. Replace if excessively worn.

## CRANE SOCKET SWIVEL BEARINGS

The crane should be removed from the socket once a year or more often if excessive dirt is present. Dirt should be cleaned out from around the lower bearing. Use a rag or brush to apply a light weight oil several times to the lower and upper bearings which are both oilite bronze except for the CE, CT200X & DT Cranes upper bearing which does not require lubrication.



TITLE	INSTALLATION DWG	DATE	8-01-01C	SECTION	C200
	CA, CE, CT, & DT	SUPERCEDES	3-3-99B		870702



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**REPLACEMENT PARTS**

DATE  
**8-21-02D**

SECTION  
**C400**

**DT7K**

SUPERCEDES  
**10-30-01C**

**19721**

# REPLACEMENT PARTS LIST

MODEL(S): DT7K

PART NO.	DESCRIPTION
00181-3 00210 00867-1 01025-4*25FT 01025-4*6IN	FLANGED BEARING - 3/4" BORE x 1-7/8 OD THRUST COLLAR - 3/4" BORE DRIVE CHAIN - #40 CONTINUOUS LOOP OF 50 LINKS BATTERY CABLE MOTOR CABLE - 4 GAUGE x 6"
01158 01181 ▲ 19646 ▲ - 01299	THRUST COLLAR - DRUM SHAFT - 1" BORE BUSS BAR ▲ CABLE SHEAVE WITH BRONZE BUSHING ▲ - FLANGED BALL BEARING - DRUM SHAFT - 1" BORE x 2" OD
11889 12102-1 ▲ 19678 13168-2 20179	SPRING - SWIVEL LOCK SOCKET - 4 POLE ▲ SWIVEL SNATCH BLOCK WITH SAFETY LATCH SLEEVE BUSHING UPPER BEARING - 4" ID
18541-68 13463-1 14555-V18S15P 14785 15810-3/16-50	HITCH PIN - BOOM EXTENSION STOP SLEEVE - 1/4" ONE SWITCH PENDANT - 15 FOOT STRAIGHT CORD LOCK BOLT - SWIVEL LOCK WIRE ROPE AND HOOK ASSEMBLY
15831C 15979 15999 16105-1 16611	CONTACTOR SHIM SET DRIVE SPROCKET - 10 TOOTH WINCH POWER UNIT (INCLUDES MOTOR AND GEARBOX) MECHANISM WELDED ASSEMBLY
16612 16614 16615 16616 16618	CABLE DRUM DRUM SHAFT PIN - BOOM PIVOT HITCH PIN - BOOM ANGLE BOOM WELDED ASSEMBLY
16634 16651 16711/2/3 18424 18575	COVER SWIVEL TERMINAL ASSEMBLY TORSION SPRINGS (16711, 16712, 16713) BASE WELDED ASSEMBLY FLANGE BUSHING
19590 IHHCS03816300 IHHCS03816150 ILWSH-038 19472	CONTACTOR ASSEMBLY (INCLUDES ADDITIONAL ITEMS NOT SHOWN) HEX HEAD CAP SCREW - 3/8"-16 x 3" HEX HEAD CAP SCREW - 3/8"-16 x 1-1/2" (3 PLC) LOCK WASHER - 3/8" FIELD SERVICE LABEL KIT - DT7K W/ 6 - 10 FT BOOM (NOT SHOWN)



MFG., INC.  
CINCINNATI, OHIO

TITLE  
**REPL. PARTS LIST**

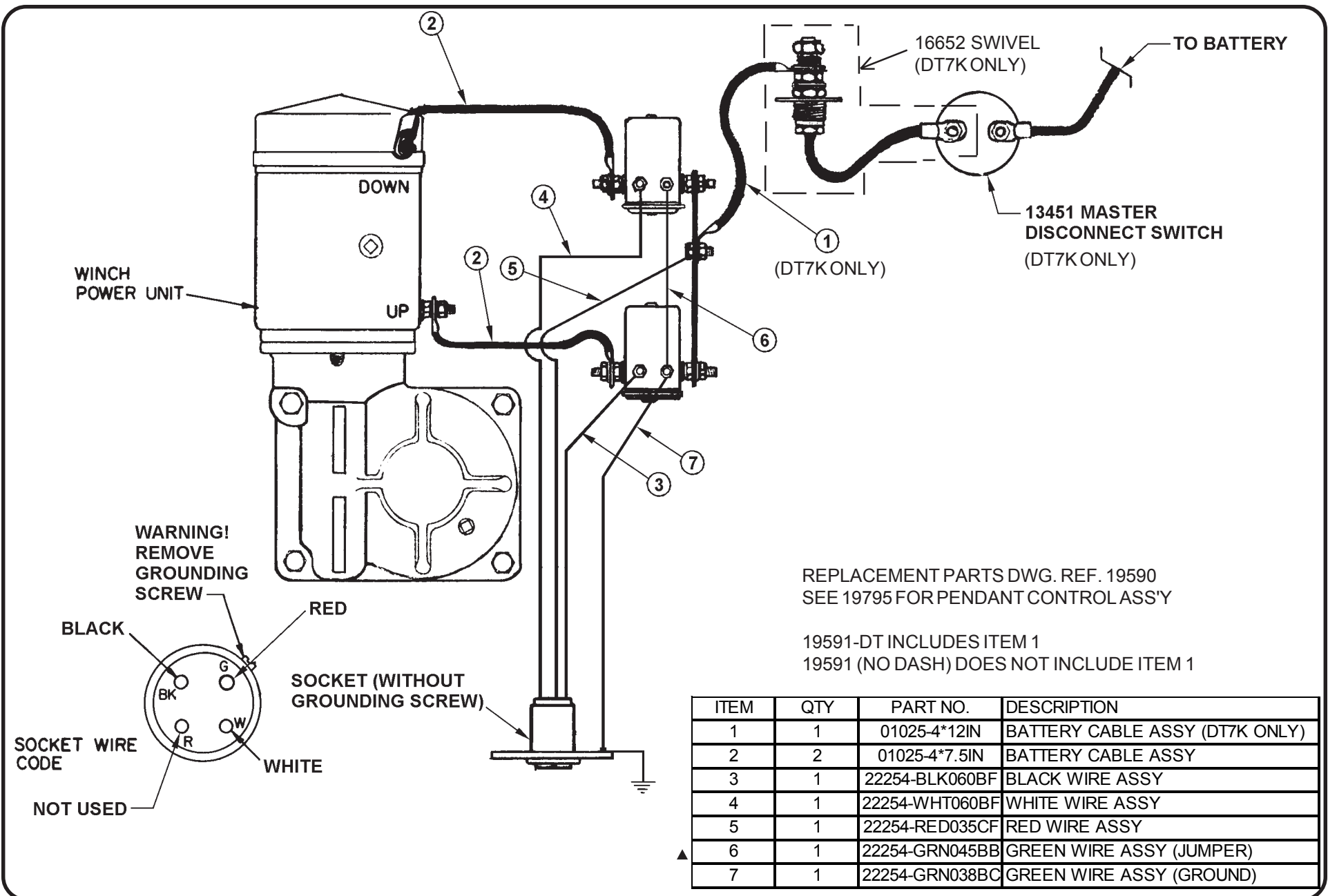
**DT7K**

DATE  
**8-21-02E**

SUPERCEDES  
**10-30-01D**

SECTION  
**C400**

**19722**



REPLACEMENT PARTS DWG. REF. 19590  
SEE 19795 FOR PENDANT CONTROL ASS'Y

19591-DT INCLUDES ITEM 1  
19591 (NO DASH) DOES NOT INCLUDE ITEM 1

ITEM	QTY	PART NO.	DESCRIPTION
1	1	01025-4*12IN	BATTERY CABLE ASSY (DT7K ONLY)
2	2	01025-4*7.5IN	BATTERY CABLE ASSY
3	1	22254-BLK060BF	BLACK WIRE ASSY
4	1	22254-WHT060BF	WHITE WIRE ASSY
5	1	22254-RED035CF	RED WIRE ASSY
6	1	22254-GRN045BB	GREEN WIRE ASSY (JUMPER)
7	1	22254-GRN038BC	GREEN WIRE ASSY (GROUND)



MANUFACTURING, INC.  
CINCINNATI, OHIO

<b>TITLE</b> <b>WIRING KIT / DIAGRAM</b>  <b>CT2003/4/5(FB), DT7K</b>	<b>DATE</b> <b>1-13-03E</b>	<b>SECTION</b> <b>C400</b>
	<b>SUPERCEDES</b> <b>1-10-03D</b>	<b>19591</b>

ITEM	QTY	PART NO	DESCRIPTION
1	1	19591	WIRING KIT
2	1	12102-1R	SOCKET 4 POLE LESS GROUND SCREW HOLE
3	2	15831C	CONTACTOR
4	1	16634	CONTACTOR COVER
5	1	1181	BUSS BAR
6	2	16637	GROMMET - 5/8" I.D. x 7/8" O.D. x 1/16" GROOVE
7	1	!HHCS03118075-B	HEX HEAD CAP SCREW - 5/16"-18 x 3/4" LG BRASS
8	2	!HNUT-03118-B	HEX NUT - 5/16"-18 BRASS
9	3	!LWSH-031-STAR	STAR LOCKWASHER - 5/16"
10	1	15398	DECAL - UNPLUG PENDANT
11	2	18542	BOOT - MOTOR TERMINAL
12	2	!UNUT15195-1420	U-NUT - 1/4"-20
13	1	14858-1	PLUG - 7/8"
14	2	!PHCS02520063	PAN HEAD CAP SCREW - 1/4"-20 x 5/8"
15	2	!HWHS02520075-F	HEX WASHER HEAD - 1/4"-20 x 3/4" SELF TAPPING
16	2	!LWSH-025	LOCK WASHER - 1/4"
17	2	!HNUT-02520	HEX NUT - 1/4"-20

REPLACES 16635

WIRING SCHEMATIC REF 19591



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**CONTACTOR ASSEMBLY**

DATE  
**3-5-99B**

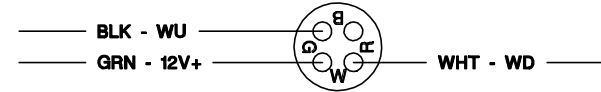
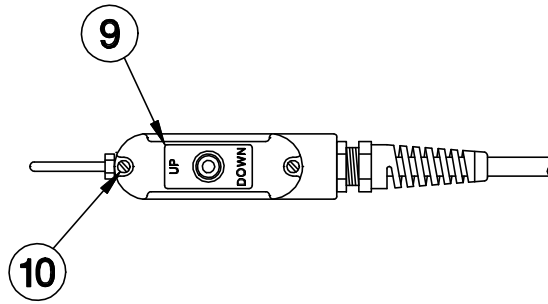
SECTION  
-

CT/DT CRANES

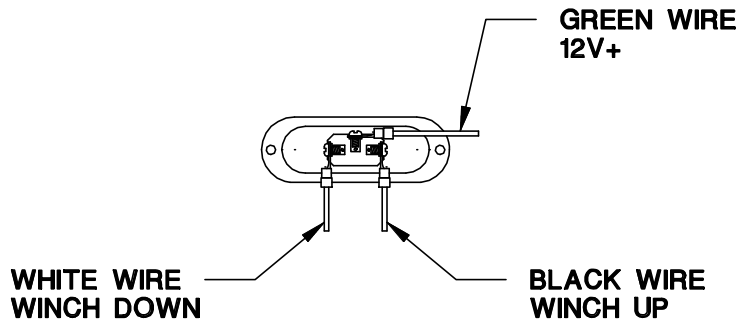
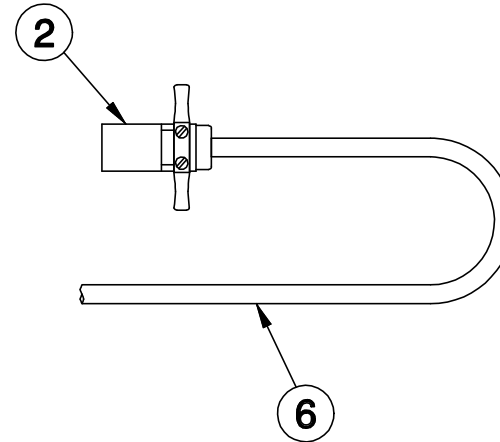
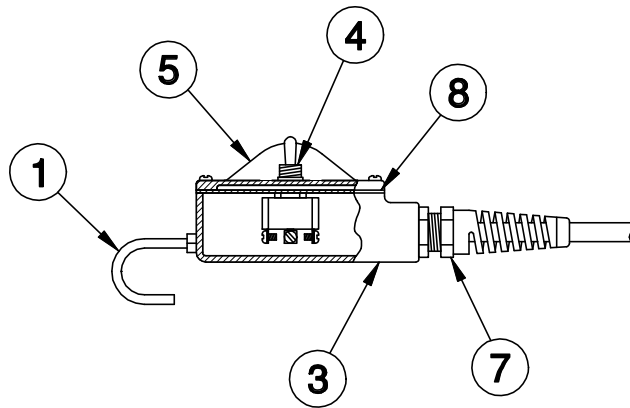
SUPERCEDES  
**1-27-99A**

**19590**

# 14555 SERIES PENDANT CORD



PLUG - BACKSIDE VIEW



10	2	IPHCS#0832050	PHCS 8-32 x 1/2
9	1	14793-2	DECAL, UP & DOWN FOR PENDANT
8	1	14958	GASKET 1/2"
7	1	14578	1/2" STRAIN RELIEF
6	1	14542-18Sxx	CORD ASSY (xx = LENGTH IN FT.)
5	1	14064	PENDANT COVER
4	1	13763	TOGGLE SWITCH
3	1	13382	ENCLOSURE 1/2"
2	1	12102-2	PLUG - 4 POLE
1	1	11557	PENDANT HOOK
ITEM	QTY	PART NO.	DESCRIPTION

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

TITLE  
REPL. PARTS DWG.

DATE  
8-24-99

SECTION  
C400

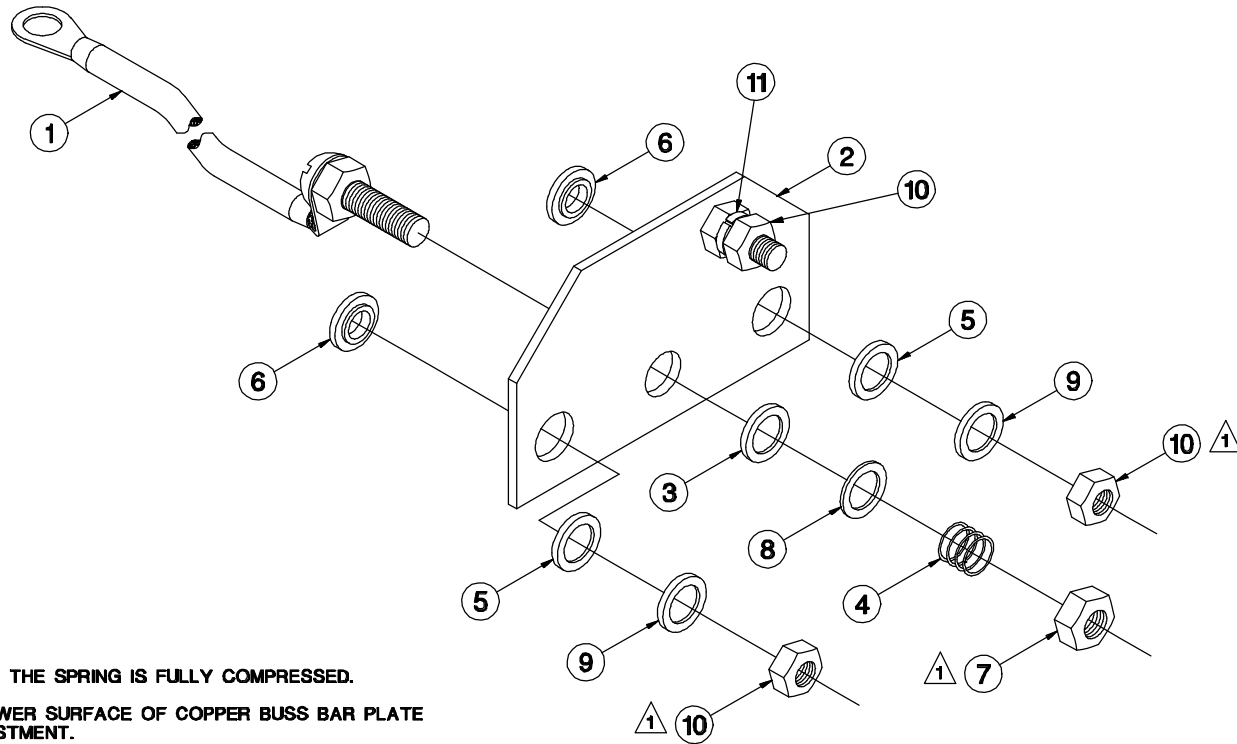
1 FUNCTION CRANES

SUPERSEDES  
-

20455







**INSTALLATION PROCEDURE:**

ASSEMBLE ALL PARTS AS SHOWN.

TIGHTEN TOP BRASS JAM NUT (ITEM 7) UNTIL THE SPRING IS FULLY COMPRESSED.

SET BOTTOM SIDE OF CLAMP 20" BELOW LOWER SURFACE OF COPPER BUSS BAR PLATE AND LIGHTLY TIGHTEN TO ALLOW FOR ADJUSTMENT.

WITH THE MECHANISM MOUNTED TO THE SHIPPING SKID INSERT THE SWIVEL PIGTAIL ASSY INTO THE MECHANISM - BE SURE COPPER BUSS BAR PLATE (ITEM 2) IS SEATED FULLY ONTO THE MOUNTING STUDS OF THE MECHANISM WITH SHOULDER WASHERS (ITEM 6) CORRECTLY INSTALLED.

PULL ON THE AUTOLOOM FIRMLY UNTIL THE CLAMP (16679-2) COMES TO REST INSIDE THE MECHANISM.

PLACE A MARK ON THE BATTERY CABLE APPROX. 1/16" BEYOND WHERE THE AUTOLOOM STOPS.

REMOVE THE SWIVEL PIGTAIL ASSY FROM THE MECHANISM.

SLIDE THE AUTOLOOM CLAMP ASSY TO THE MARK YOU MADE ON THE BATTERY CABLE AND TIGHTEN CLAMP.

BACK OFF THE BRASS JAM NUT (ITEM 7) UNTIL THREE THREADS ARE EXPOSED ABOVE TOP OF NUT.

REINSTALL ASSY. INTO THE MECH. AND APPLY BLUE LOCTITE WHERE SPECIFIED (SEE 1).

1 INSTALL USING 242 BLUE LOCTITE.

11	1	ILWSH-031	LOCK WASHER - 5/16"
10	3	IHNUT-03118	HEX NUT - 5/16-18
9	2	IFWSH-025S	FLAT WASHER - 1/4" S/S
8	1	IFWSH-038075031	STEEL WASHER - 3/8" x 3/4" x 1/32"
7	1	IJNUT-03816B	JAM NUT - 3/8-16 BRASS
6	2	01021	INSULATOR
5	2	01016	FIBER WASHER
4	1	16661	SPRING
3	1	16655	TEFLON WASHER
2	1	16653	SWIVEL BUS BAR ASSY
1	1	16652	PIGTAIL ASSY
ITEM	QTY	PART NO.	DESCRIPTION

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

TITLE  
**SWIVEL ASSEMBLY**

DT6500, DT7K

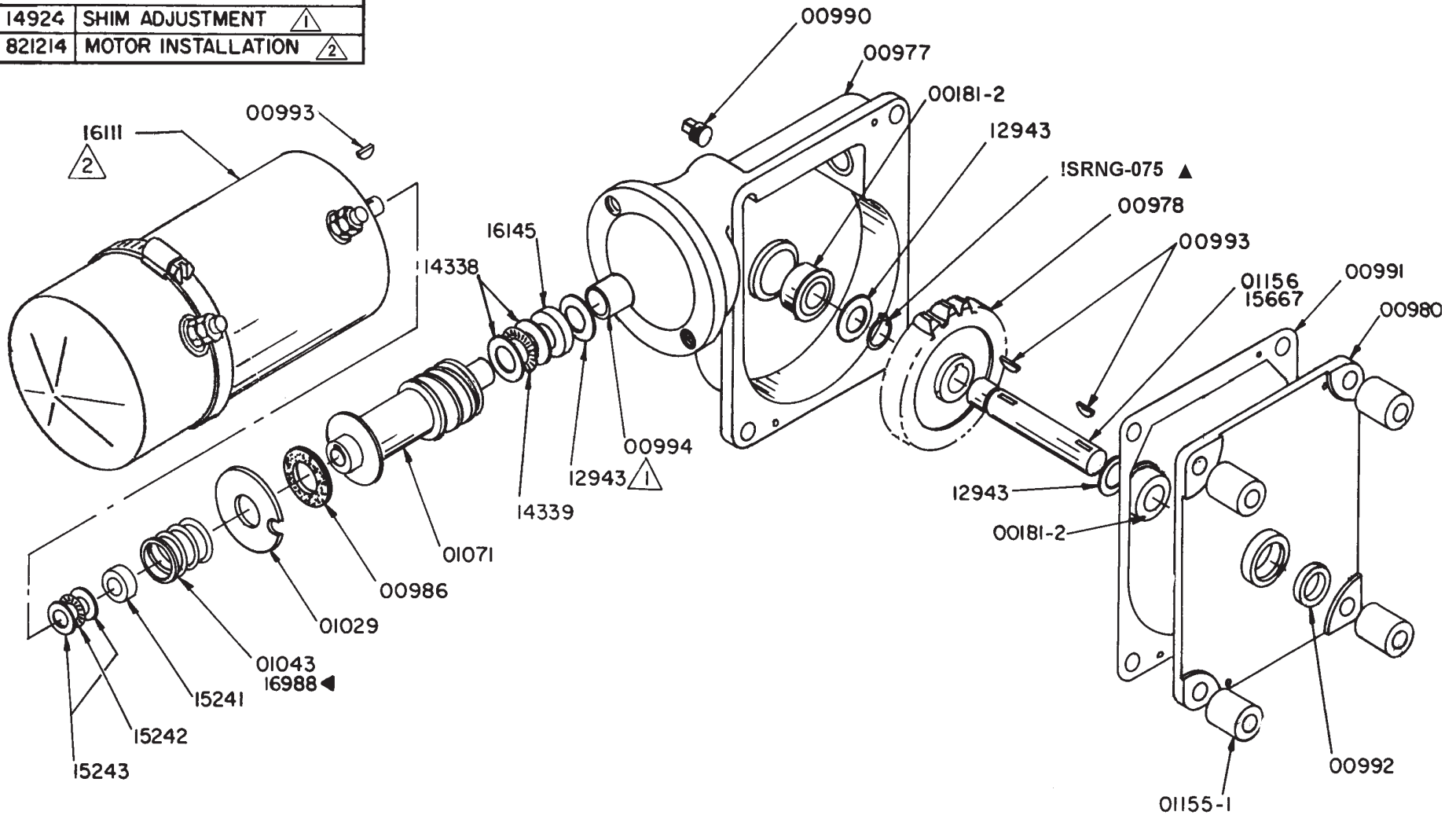
DATE  
**4-2-98D**

SUPERSEDES  
**11-12-97C**

SECTION  
**C400**

**16651**

SERVICE BULLETINS		
14924	SHIM ADJUSTMENT	▲
821214	MOTOR INSTALLATION	▲



SEE DWG. 14924/14926 FOR SERVICE INSTRUCTION

16100 SERIES POWER UNITS



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
REPLACEMENT PARTS

DATE  
4-14-04E

SECTION  
C450

WINCH & CRANE

SUPERCEDES  
6-17-98D

16100

# 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 <sup>2</sup> 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 <sup>3</sup> ▲ 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 <sup>4</sup> * 00993	RETAINING RING - 3/4" OIL PLUG - 1/4" PIPE GASKET OIL SEAL KEY - #9 WOODRUFF
00994 01029 01043 <sup>4</sup> 01071 01155-1	BUSHING BRAKE PLATE BRAKE SPRING (16102 & 16107 ROTATION POWER UNIT ONLY) WORM SHAFT SPACER (16105 ONLY)
01156 * 12943-1 <sup>4</sup> * 12943-2 <sup>4</sup> * 12943-3 <sup>4</sup> 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 BRAKE PLATE) 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 <sup>4</sup> 16145 16988 <sup>4</sup>	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 *)

<sup>1</sup> AVAILABLE ONLY AS PART OF 15290 SMALL PARTS KIT

<sup>2</sup> 16101 POWER UNIT REPLACED BY 16106 POWER UNIT  
16102 POWER UNIT REPLACED BY 16107 POWER UNIT

<sup>3</sup> REPLACE 30E & 16100 POWER UNITS AS FOLLOWS:  
16105 REPLACES 11497  
16106 REPLACES 11497NS & 16101  
16107 REPLACES 16102

<sup>4</sup> 16111 MOTOR REPLACES 01024 E & F & 16112 MOTORS  
ON ALL 30E & 16100 SERIES POWER UNITS

<sup>5</sup> 16988 BRAKE SPRING REPLACES 01043 BRAKE SPRING ON  
16101, 16105 & 16106 WINCH POWER UNITS ONLY



MFG., INC.  
CINCINNATI, OHIO

TITLE  
**REPL. PARTS LIST**

**16100 ELECTRIC PU**

DATE  
**12-6-04F**

SUPERCEDES  
**4-14-04E**

SECTION  
**C400**

**811016**