

EDERER

INCORPORATED

Technical Description of Radio Controls System for 200/25 Ton Bridge Crane and 150/25 Ton Semi-Gantry Crane

Document EA-37548 Rev. A

Customer Purchase Order Number:
0599602-023

Prepared for:
Private Fuel Storage, LLC
Skull Valley, UT

Prepared by:
Lyle McFarland

November 17, 1998

Purpose: Provide description of the radio controls, including hoist and traverse motions, for a 200/25T Bridge and a 150/25T Semi-gantry crane. The cranes are intended for use at the proposed Private Fuel Storage Facility located in Skull Valley, Utah.

Operator Controls:

Each crane will be operated via a radio control system or emergency pendant control station. A selector switch mounted at the radio receiver will determine which operator control is enabled.

Radio System: A radio control system for each crane will be supplied with the following features:

General:

- Manufacture / Series: Telemotive/8000 or Cattron/MP
- Operating frequency 450-470 MHz
- Each radio system designed to prevent interference between systems
- Failsafe, the mainline magnetic disconnect de-energizes upon loss of power, low battery or loss of signal
- Selector switch, selects between radio or pendant control

Motions controls:

Main Hoist	Down/Up	5 steps in each direction
Aux. Hoist	Down/Up	5 steps in each direction
Trolley	East/West	5 steps in each direction
Bridge	North/South	5 steps in each direction

Other controls:

- Power on/off (mainline)
- Emergency stop (de-energizes mainline)
- Ultra-lift on/off

Transmitter:

- Low battery/transmit indicator (LED)
- Transmitter on LED
- Power on/off key switch (removable in the off position only)
- Emergency stop switch

Transmitter (continued):

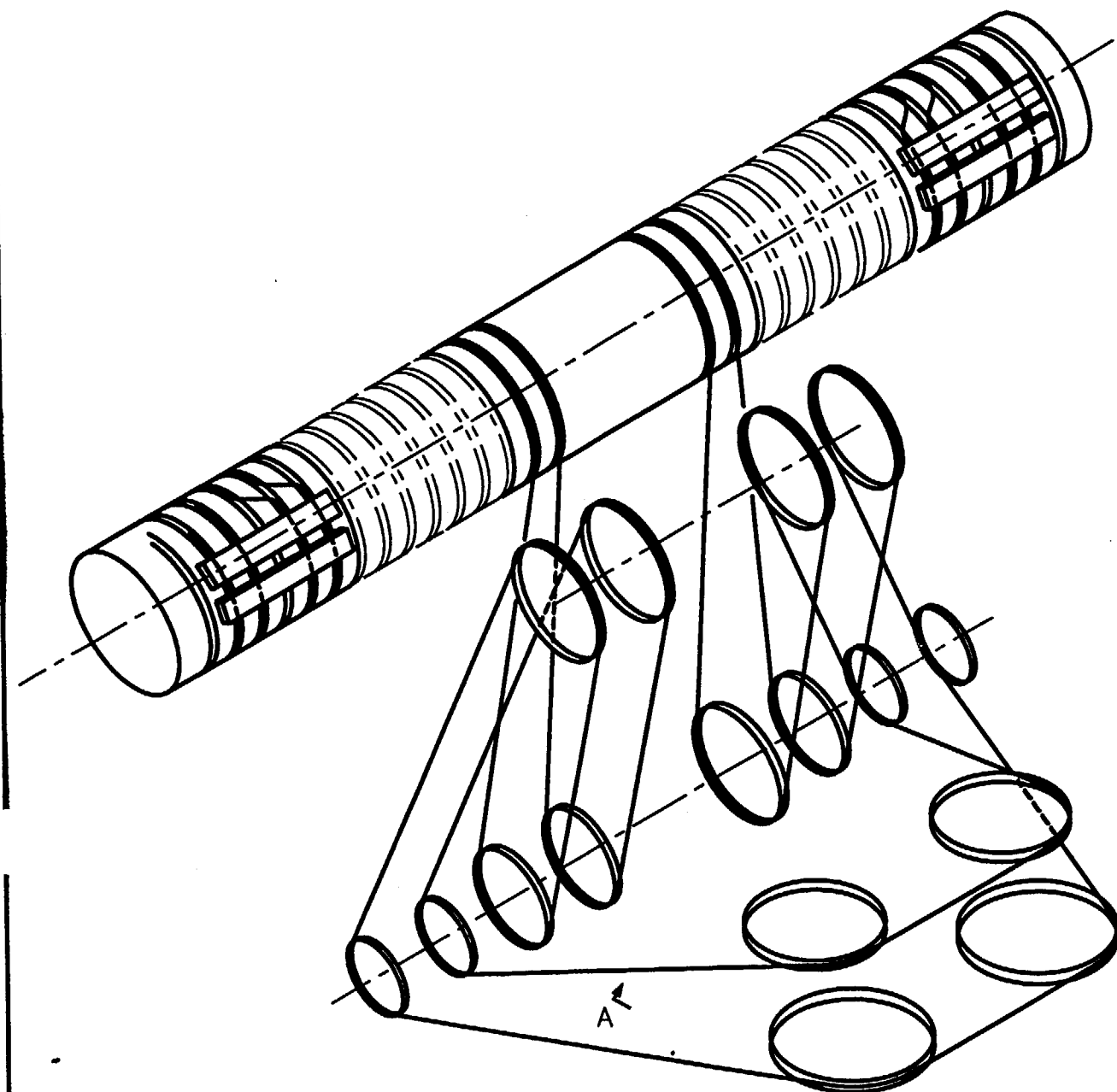
- Ultra-lift on/off switch
- Quantity 4 motion control levers, one for each motion, 5 steps in each direction of motion
- Internal antenna
- Nicad battery powered
- Carrying harness

Receiver:

- Mounted in a RFI shielded NEMA 12 enclosure
- Receiver digital microprocessor controlled
- On board diagnostics provided
- Receiving antenna with range limiting
- Relay output to interface crane controls
- 120 Vac power supply
- Range limiting

Accessories:

- Quantity 3 nicad or lead acid batteries for transmitter
Note: Telemotive utilizes lead acid batteries while Cattron utilizes nicad batteries
- Quantity 1 battery charger for batteries supplied
- Control transfer switch mounted in NEMA 12 enclosure



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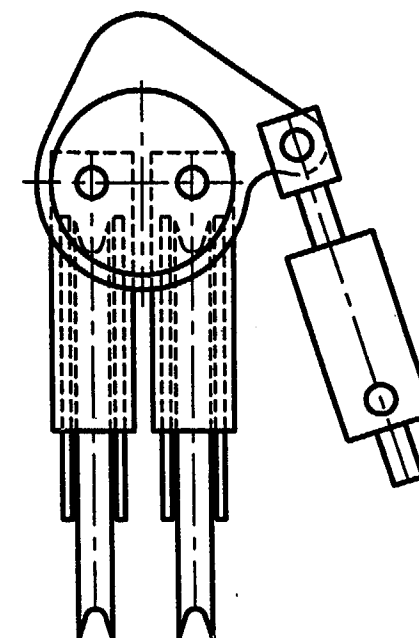
NOTES:

NSR

1. SPF - A TEST SAMPLE OF ROPE TO BE PULLED TO FAILURE.
MIN. TENSILE STRENGTH = 264,000 LBS.
MIN. YIELD STRENGTH = 158,400 LBS. (2% OFF SET)
2. D.V. REQ'D.
3. USE SPECIFIED ROPE ONLY FOR REPLACEMENT, SUBSTITUTIONS
SHOULD NOT BE MADE.

REVISIONS

LTR	DESCRIPTION	DATE	BY	CHK	ENG	APPD	APPD	APPD
A	ADD SECTION AA, PROJECT DATA	11-5-98	SRS	JLF	JLF	FEL	LA	



△ SECTION AA

APERTURE CARD

Also Available on
Aperture Card

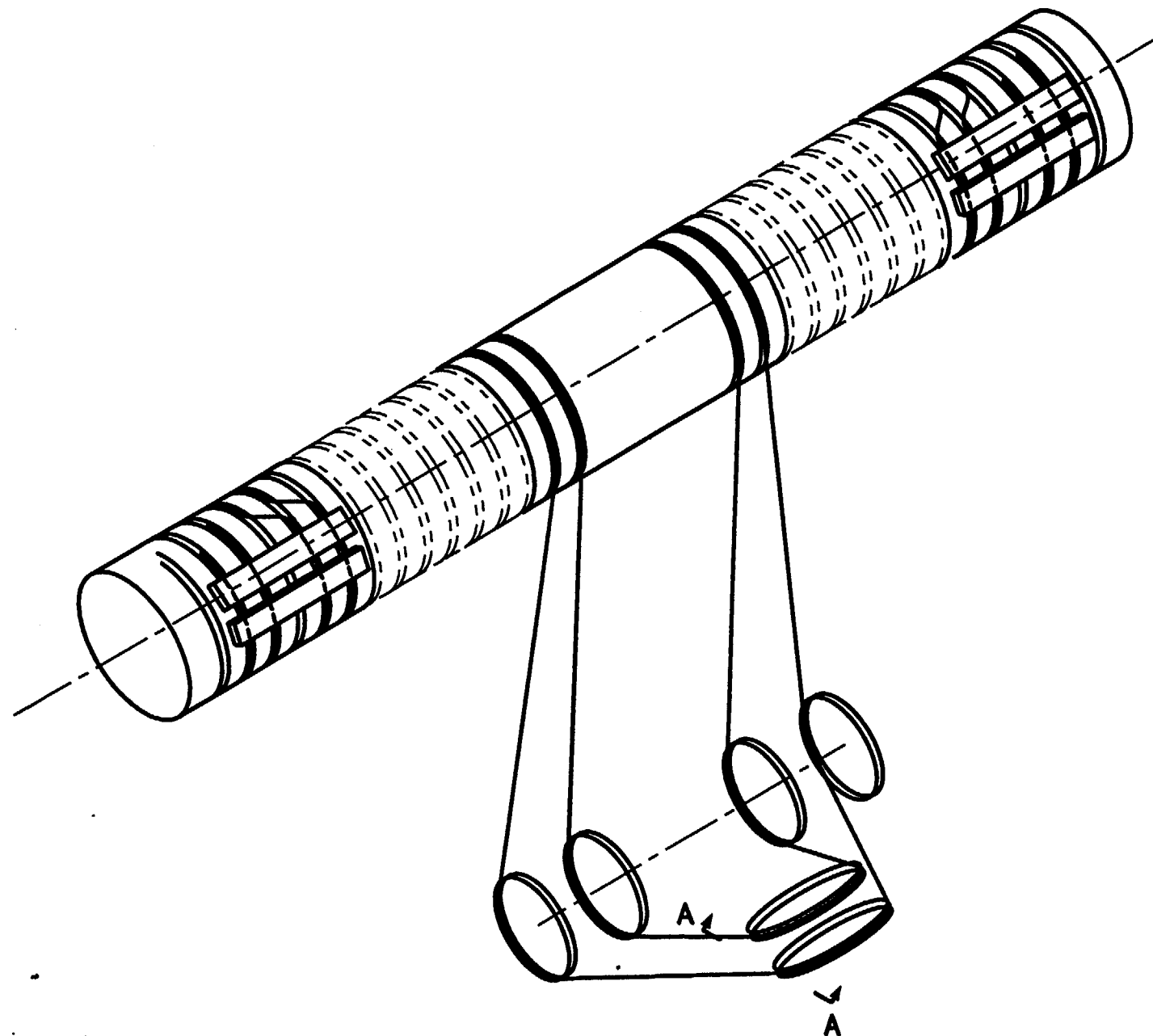
9902220105-01

200/25 TON BRIDGE CRANE
PRIVATE FUEL STORAGE FACILITY
PRIVATE FUEL STORAGE, LLC
PO # 0599602-023

REDUNDANT REEVING

TWO INDEPENDENT ROPES REEVED TO PROVIDE A TOTAL OF 16 PARTS.
BOTH ENDS ANCHORED TO DRUM.

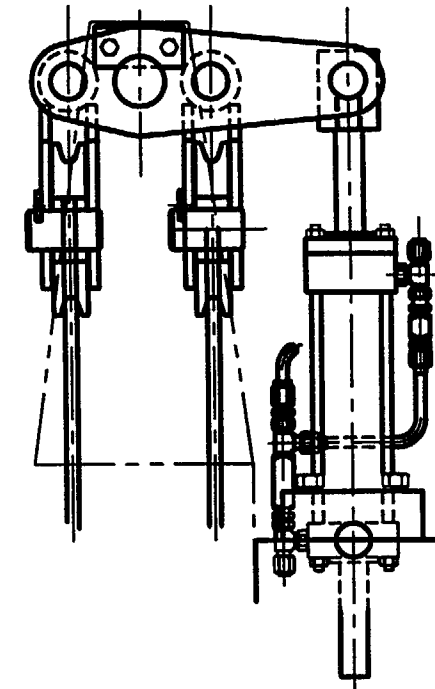
C.I.	1 5/8 DIA WIRE ROPE	2	WIRECO 6 X 36 WS (EIPS/IWRC)	
ITEM NO.	DESCRIPTION	QTY.	MATERIAL	WEIGHT
LIST OF MATERIALS				
ITEMS WITH SPECIAL QUALITY REQUIREMENTS	14.4	SCALE	NONE	TOTAL WT. LBS.
ADVANCE ORDERED ITEMS	COST ITEM NO.	EDERER INCORPORATED E EDERER CRANES W WASHINGTON CRANES S STAR CRANES		
DRAWN RRM ESP, Inc.	10-13-98			
CHECK JLF	10-14-98			
ENG. JLF	10-14-98			
APPD. FEL	10-14-98			
APPD. L.L. ANDERSON	10-14-98			
APPD.		REEVING DIAGRAM SIXTEEN PARTS (MAIN HOIST)		
MACHINING	FRACTIONAL ± 1/64			
TOLERANCES	DECIMAL ± .010			
OR AS NOTED	ANGLE ± 1-0"			
FIRST USED ON	F-2621	B-36951 DWG. NO.		
		REV A SHT		



NOTES: NSR

1. SPF - A TEST SAMPLE OF ROPE TO BE PULLED TO FAILURE.
MIN. TENSILE STRENGTH = 79,600 LBS.
MIN. YIELD STRENGTH = 47,760 LBS. (2% OFF SET)
2. D.V. REQ'D.
3. USE SPECIFIED ROPE ONLY FOR REPLACEMENT, SUBSTITUTIONS
SHOULD NOT BE MADE.

REVISIONS									
LTR	DESCRIPTION	DATE	BY	CHK	ENG	APPD	APPD	APPD	APPD
A	ADD SECTION AA, & PROJECT DATA	11-5-98	SRS	JLF	JLF	FEL	Y		



SECTION AA

APERTURE CARD

Also Available on
Aperture Card

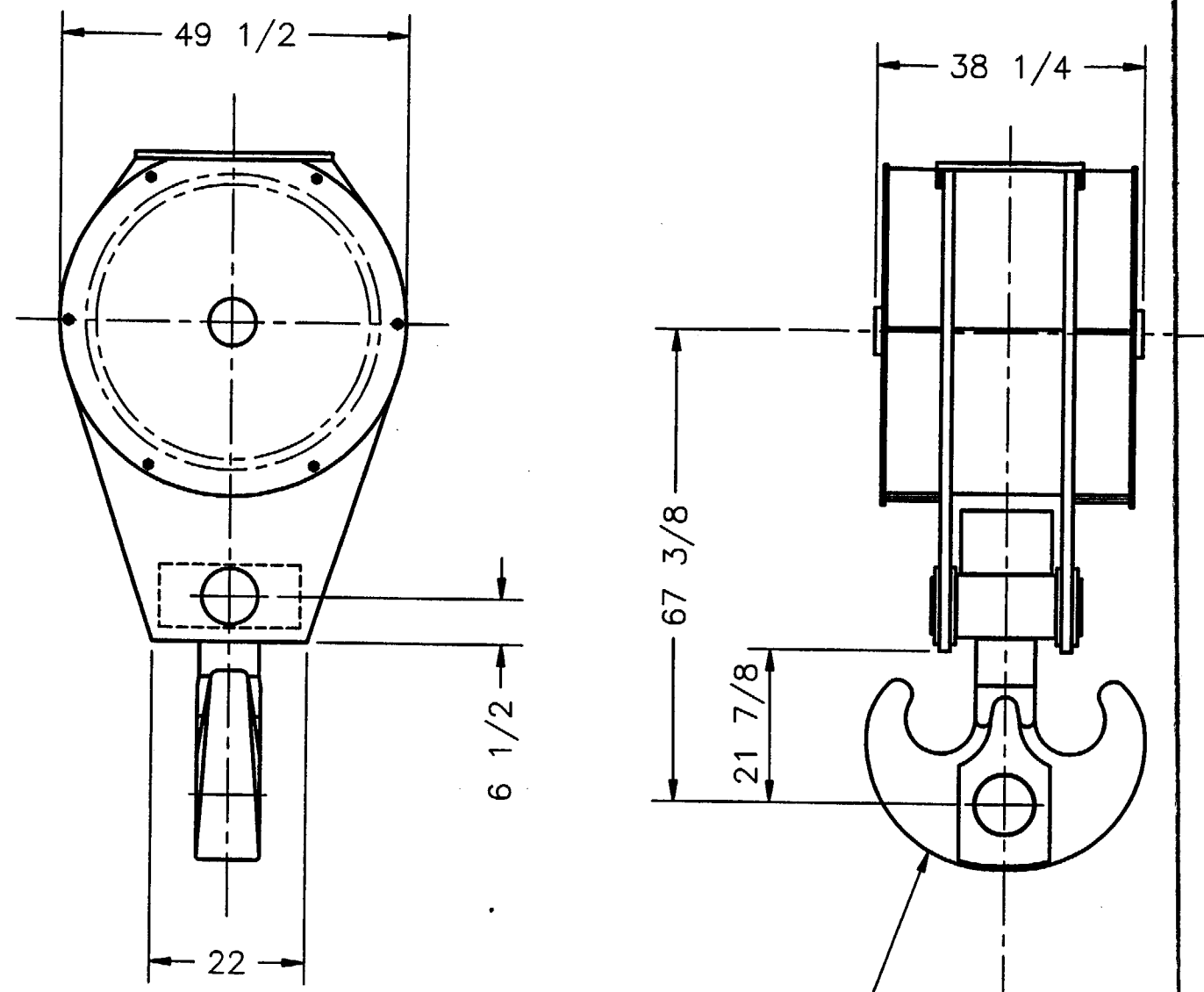
9902220105-02

200/25 TON BRIDGE CRANE
PRIVATE FUEL STORAGE FACILITY
PRIVATE FUEL STORAGE, LLC
PO # 0599602-023

REDUNDANT REEVING

TWO INDEPENDENT ROPES REEVED TO PROVIDE A TOTAL OF 8 PARTS.
BOTH ENDS ANCHORED TO DRUM.

C.I.	7/8 DIA. WIRE ROPE	2	WIRECO 6 X 36 WS (EIPS/IWRC)	
ITEM NO.	DESCRIPTION	QTY.	MATERIAL	WEIGHT
LIST OF MATERIALS				
ITEMS WITH SPECIAL QUALITY REQUIREMENTS		20.4	SCALE NONE	TOTAL WT. LBS.
ADVANCE ORDERED ITEMS		COST ITEM NO.	EDERER INCORPORATED E EDERER CRANES U WASHINGTON CRANES S STAR CRANES REEVING DIAGRAM EIGHT PARTS (AUX HOIST)	
DRAWN RRM ESP, Inc.		10-13-98		
CHECK JLF		10-14-98		
ENG. JLF		10-14-98		
APPD. FEL		10-14-98		
APPD. L.L. ANDERSON		10-14-98		
APPD.			B-36952 DWG. NO. SHT	
MACHINING	FRACTIONAL	± 1/64		
TOLERANCES	DECIMAL	± .010		
OR AS NOTED	ANGLE	± 1-0"		
FIRST USED ON F-2621			REV A	



SEE DWG. NO. C-36975
FOR HOOK DIMENSIONS

REVISIONS									
LTR	DESCRIPTION	DATE	BY	CHK	ENG	APPD	APPD	APPD	
A	PER CUST. COMMENTS	11/17/98	JLF	SRS	JLF		LA		

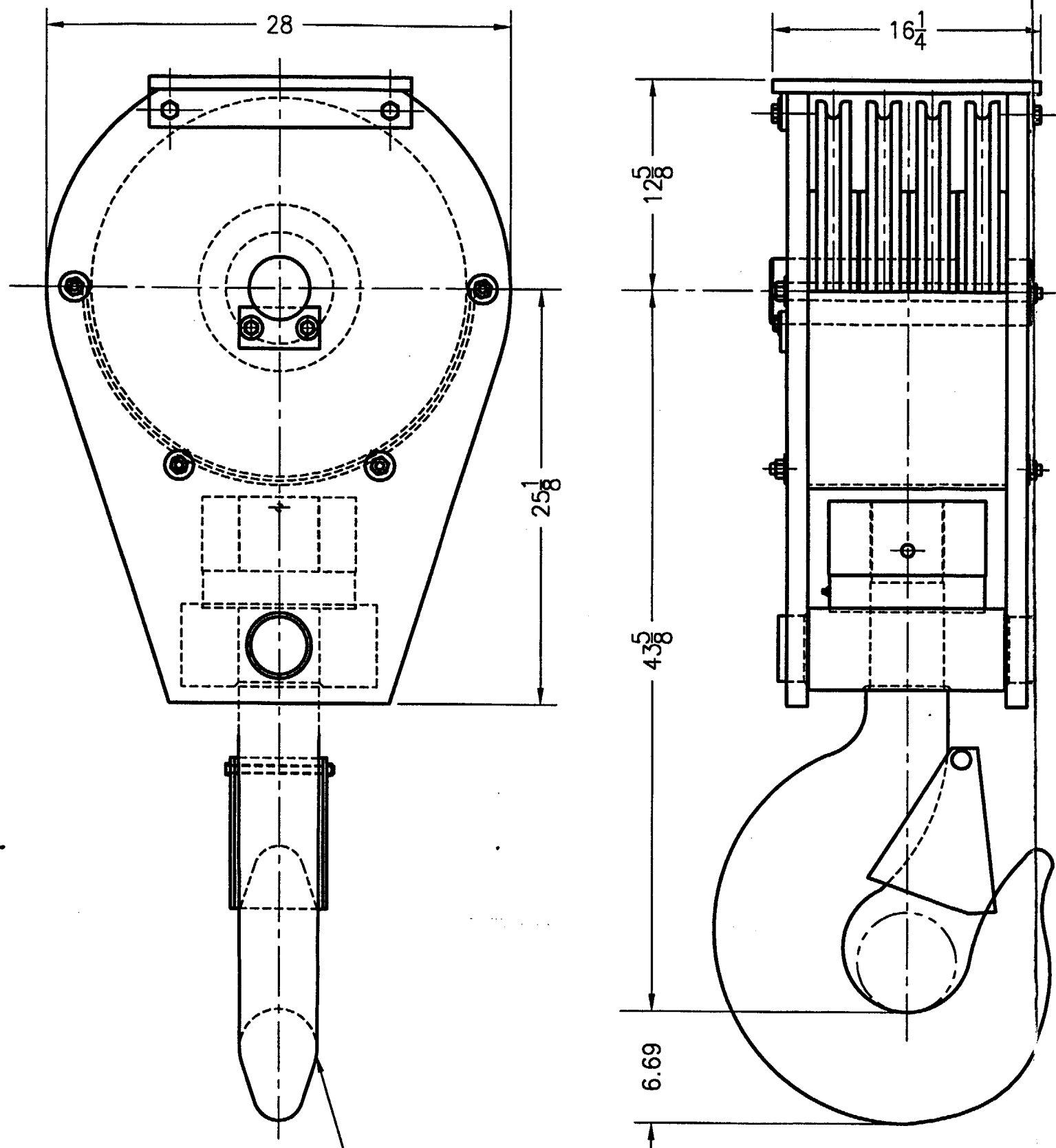
**APERTURE
CARD**

Also Available on
Aperture Card

9902220105-03

A PRIVATE FUEL STORAGE FACILITY
P.O. NO. 0599602-023
200 TON BRIDGE CRANE

ITEM NO.	DESCRIPTION	QTY.	MATERIAL	WEIGHT
LIST OF MATERIALS				
ITEMS WITH SPECIAL QUALITY REQUIREMENTS		0	SCALE	NONE
ADVANCE ORDERED ITEMS		COST ITEM NO.	TOTAL WT. — LBS.	
DRAWN	JLF	10/28/98	EDERER INCORPORATED E EDERER CRANES W WASHINGTON CRANES S STAR CRANES	
CHECK	FEL	10/29/98		
ENG.	JLF	10/29/98		
APPD.	FEL	10/29/98		
APPD.	LLA	10/29/98		
APPD.			MAIN HOIST BLOCK & HOOK DIMENSIONS	
MACHINING	FRACTIONAL	± 1/64		
TOLERANCES	DECIMAL	± .010		
OR AS NOTED	ANGLE	± 1-0°	B-37061 DWG. NO.	
FIRST USED ON	F-2621			
			— SHT	REV A



SEE CROSBY CATALOG,
CROSBY # 1024983 ALLOY HOOK
CROSBY # 1093720 PL LATCH

REVISIONS									
LTR	DESCRIPTION	DATE	BY	CHK	ENG	APPD	APPD	APPD	APPD

APERTURE CARD

Also Available on
Aperture Card

PRIVATE FUEL STORAGE FACILITY
P.O. NO. 0599602-023
200 TON BRIDGE CRANE &
150 TON SEMI-GANTRY CRANE

9902220105-04

ITEM NO.	DESCRIPTION	QTY.	MATERIAL	WEIGHT
LIST OF MATERIALS				
ITEMS WITH SPECIAL QUALITY REQUIREMENTS		0	SCALE 1 1/2"=1'-0"	TOTAL WT. — LBS.
ADVANCE ORDERED ITEMS		COST ITEM NO.	<div> <div>EDERER</div> <div>INCORPORATED</div> <div> <div>E</div> <div>W</div> <div>S</div> </div> <div> <div>EDERER</div> <div>CRANES</div> </div> <div> <div>WASHINGTON</div> <div>CRANES</div> </div> <div> <div>STAR</div> <div>CRANES</div> </div> </div>	
DRAWN SRS		11/5/98		
CHECK JLF		11/17/98		
ENG. JLF		11/17/98		
APPD. RAS		11/18/98		
APPD. <i>[Signature]</i>		11-18-98		
APPD.			AUX. HOIST BLOCK & HOOK DIMENSIONS	
MACHINING		FRACTIONAL ± 1/64		
TOLERANCES		DECIMAL ± .010		
OR AS NOTED		ANGLE ± 1-0°		
FIRST USED ON		F-2621/22	B-37062	
			DWG. NO.	REV
			SHT	

OVERSIZE DOCUMENT PAGE(S) PULLED

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NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARD(S) 5

ACCESSION NUMBERS OF OVERSIZE PAGES:

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151

153

156

158

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C-36975, REV. A
SISTER HOOK 200 TON**

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D-1

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PA-2189, REV. C:
CLEARANCE DRAWING 200/25
TON CAPACITY BRIDGE CRANE
PRIVATE FUEL STORAGE
FACILITY SKULL VALLEY, UTAH

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D-2

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D-36976, REV. A:
200/25 TON CAPACITY BRIDGE
CRANE BRIDGE ARRANGEMENT
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BY SEARCHING USING THE
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D-36976, REV. A**

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D-3

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D-36977, REV. A:
200/25 TON CAPACITY BRIDGE
CRANE TROLLEY
ARRANGEMENT**

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D-36977, REV. A**

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D-4

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**THIS PAGE IS AN
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THE RECORD TITLED:
PA-2190, REV. D:
CLEARANCE DRAWING 150/25
TON CAPACITY SEMI-GANTRY
CRANE PRIVATE FUEL STORAGE
FACILITY SKULL VALLEY, UTAH**

**WITHIN THIS PACKAGE...OR,
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PA-2190, REV. D**

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D-5

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150/25 SEMI-GANTRY CRANE

This attachment includes the following design drawings and documents for the Private Fuel Storage Facility 150/25 ton Semi-Gantry Crane:

APPENDIX B SUPPLEMENT TO GENERIC TOPICAL LICENSING REPORT EDR-1, REV. 1, FACILITY SPECIFIC CRANE DATA, 150 TON SEMI-GANTRY CRANE

APPENDIX C SUPPLEMENT TO GENERIC TOPICAL LICENSING REPORT EDR-1, REV. 1, SUMMARY OF REGULATORY POSITIONS, 150 TON SEMI-GANTRY CRANE

SEISMIC QUALIFICATION ANALYSIS, DECEMBER 1998 (150 TON SEMI-GANTRY CRANE)

EDERER DRAWING B-37063, REV. A, MAIN HOIST BLOCK & HOOK DIM (150 TON CRANE)

EDERER DRAWING B-36953, REV. A, REEVING DIAGRAM SIXTEEN PARTS (MAIN HOIST)

EDERER DRAWING B-36954, REV. A, REEVING DIAGRAM EIGHT PARTS (AUX HOIST)

EDERER DRAWING PA-2190, REV. D, CLEARANCE DWG. 150/25 TON SEMI-GANTRY CRANE

EDERER DRAWING D-36978, REV. A, BRIDGE ARRANGEMENT 150/25 TON SEMI-GANTRY

EDERER DRAWING B-36979, REV. B, TROLLEY ARRANGEMENT 150/25 TON CAPACITY