

HARNISCHFEGER

4400 WEST NATIONAL AVENUE, MILWAUKEE 46, WIS., U.S.A.



INVOICE

E.K.

KAISER STEEL FABRICATING DIV.
13230 SAN BERNARDINO AVENUE
FONTANA, CALIFORNIA 92335

KAISER STEEL FABRICATING
FONTANA FABRICATING PLANT
FONTANA, CALIFORNIA

SPECIAL INSTRUCTIONS AND INFORMATION:

INVOICE NO. 4066

INVOICE DATE 3/27/70

CUSTOMER ORDER NO.

L-6829G-15

PLEASE REFER TO OUR ORDER NO.

CTL-23540

SERIAL NO.

CTL-23540

DATE ENTERED	SHIPMENT	VIA				
1-17-70	MAR. 70	PROGRESSIVE TRANSPORTATION-3/24/70				
PROPOSAL DATE	PROPOSAL NO.	F.O.B.	PLANT	FREIGHT	SHIPPING WT.	DELIVERY TIME
12-17-69	LA-959D	NORWALK, CALIFORNIA		COLLECT		

TERMS 80% IN CASH UPON RECEIPT OF INVOICE AND B/L THE BALANCE OR
20% IN CASH WITHIN THIRTY DAYS FROM DATE OF SHIPMENT.

REPRESENTATIVE-DISTRICT	NO.	REPRESENTATIVE-DISTRICT	NO.	REPRESENTATIVE-DISTRICT	NO.	CUSTOMER NO.
KOWALIK-LOS ANGELES						

DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
ONE (1) 10 TON CAPACITY, P&H STANDARD TORBEAM TYPE BRIDGE CRANE..... SPAN 71'-2" LIFT 38'-6" SPECIFICATION NO. LSP-6829-14			\$20,794.00
PLUS 5% USE TAX.....			1,039.70
			\$21,833.70

The seller represents and certifies that the price or prices set forth herein are not in excess of any applicable ceiling price or prices established pursuant to any appropriate regulation or order issued by the Office of price Stabilization or any other authorized Government agency.

We hereby certify that these goods were produced in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.

Claims arising out of damage of material or shortages shipped via parcel post must be made to the Harnischfeger Corporation within fifteen (15) days after receipt of invoice.

FORM 0-025 PLEASE MAIL REMITTANCE PAYABLE TO HARNISCHFEGER CORPORATION DIRECT TO MILWAUKEE

SCF-P&H-1212

Shipper's No.
Agent's No.

From HARNISCHFEGER CORPORATION

At Norwalk, California March 24, 19 70

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, other-wise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

Destination Fontana State of CALIFORNIA County of

Route.....

Delivering Carrier Progressiva Transportation Car Initial (1) Car No.

Special Instructions (3)

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

HARNISCHFEGER CORPORATION

Normalk. Calif.

(Signature of Consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Collect

Received \$ _____
to apply in prepayment of the
charges on the property described
hereon.

(Agent or Cashier)

Per _____
(The signature here acknowledges
only the amount prepaid.)

Charges advanced:

[illegible]

Railroad Stamp

Gross
Tare Actual
Tare Marked
Blocking
Net
Weighed By

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----

Western Weighing and Inspection Bureau

Sworn Weighmaster

Your Order No. L 68296-15

Our Order No. CTL-23540

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

Note — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

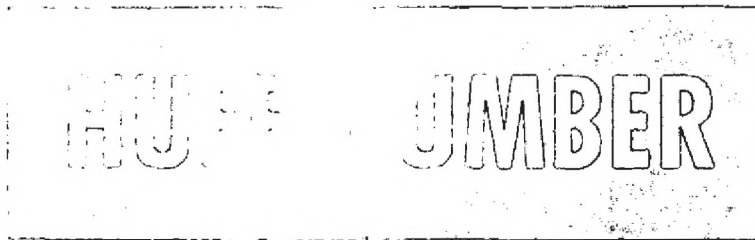
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$_____ per _____.

HARNISCHFEGER CORPORATION, Shipper per C. Holman Agent per No

Permanent postoffice address of shipper, 4400 W. National Ave., Milwaukee 14, Wis.

FORM 21-1344

PHM Leek 03974



2-24-70

13535 EAST ROSECRANS

(213) 521-1331

(213) SP. 3-4716

• SANTA FE SPRINGS, CALIFORNIA 90670

523-0194 (ORANGE COUNTY)

QTL 23540

ESTIMATED
WEIGHTS

1 - TROLLEY	4,050
1 - FRONT GIRDER	11,500
1 - REAR GIRDER	12,000
2 - END TRUCKS	2,900
	30,450

QUANTITY • DESCRIPTION • DIMENSION

DR. W. M. N. L.
S. B. O. W. N.

R. LAMARRE 6 G-13 DAVINIA
LOS ANGELES

DATE 1-19-70

TO: -

Material Control

TORREAN GIRDER PLATE MATERIAL ADVANCE ORDER

CRANE ORDER NO. - CT L-23540

CAPACITY - 10 TON

SPAN - 71'-2

SHIPPING DATE

PROD. WEEK # - 21

REQUIRED @ C.P.

WEEK # (16)

DWGS
TO GIB
1/21-70

R. W. BURGHARDT
HOIST CRANE ENG.

DATE

REPORT FROM MATERIAL CONTROL

MATERIAL AVAILABLE (Check One)

1. From Ryerson Mill Rate Stock
From Ryerson Warehouse
From P&H Mill Stock

2. Will be delivered to Cudahy Plant ON or before:

DATE

PRODUCTION WEEK

3. Delivery to Cudahy Plant may be shortened () weeks
at an added cost of \$

PLATE MATERIAL ON ORDER

Top Plate: Dwg. No.

(4) 28E8164-D2

(2) 28E8164-D3

Weight

Web Plate: Dwg. No.

(4) 28E8170-D2

(2) 28E8170-D3

Girder Section: 304B122

HARNISCHFEGER CORPORATION
PACKING LIST

CRANE: CTL-23540

DATE: March 24, 1970

CUSTOMER: Kaiser Steel

P.O. L68929G-15

VIA: Progressive Transportation

ITEM	QUANTITY	DESCRIPTION
		LOAD #1
		TRACTOR: 43
		TRAILER: D11
1	1	Torbeam Crane w/trolley & Bottom block
2	1	Wood Box

CRA ELECTRICAL BILL OF MATERIAL

Date 1-23-70

Customer KAISER FABRICATING DIV.

Crane No. CTL-23540

Tons 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 Floor control attached to Trolley

Cage	Service	INDOOR	No. Req.	6E Hoist	No. Req.	BC-13 1/2 Bridge	No. Req.	TT-9 Trolley	No. Req.	Aux. Hoist or Closing	No. Req.	Magnet Drum
Motor	Frame Size			HEH-364RX				REULAND	1	LENGTH #14-22 COND.		
	Type			ENCL.				ENCL.		CABLE FOR PENDANT		
	H.P. & R.P.M.	1		20/16 1/2 1650/550		1 1/2-1650		1-1650		P.B. STA.		LG.
	List No.		1	114496-9	2	100F982-13	1	53U19D24				
	Finish Class	"C" Form		A						LENGTH #50S GALV.		
Brake	Order No.			E5		E17				MACH. CHAIN		
	Type & Size			CD-5		CD-1 ADD.		REULAND		NOTE: SEE MECH. SPEC.		
	List No.									FOR LENGTHS OF CABLE,		
	Brake Wheel Part No.									& CHAIN.		
	Bracket List No.											
	Brake Coil List No.									TY-RAPTIES 32Z890D3		
	Cover Part No.											
Controller	Cover Bracket Part No.									2 CORD GRIPS 85Z24D14		
	Order No.											
	Rectifier Assembly List No.											
	Type			P.B. TWO SPD.		REL. RESISTOR TORQUE CONT.		REL. RESISTOR TORQUE CONT.				
	List No.		1	8-BUTTON		PUSH BUTTON		STA. LG 55107-33		E40		
Res.	Blowout Coil List No.											
	Blowout Lead List No.											
	Wiring Diagram			COMPLETE WIRING DIAGRAM-								
Mag.	Order No.			PUSH BUTTON		COLOR CODE ELEC.		120 4				
	Layout	REACTORS				2 100A5064-2	2	100A5039-4				
	List No.			101E6480		101E6521		101E6520				
Pro.	Order No.	J/D 101E 6748	1	ANODE TRANSFORMER		75Z514D1						
	AMP. RATING			60		15		4				
	PART #		3	79Z754D18	3	79Z754D9	3	79Z754D1				
Wire	Res. List No.											
	Order No.											
	Fuse-Overload Relay Amp. Rating		1	80Z25D57								
Conductors	Overload Relay List No.		1	80Z25D14	1	80Z25D9	1	80Z25D1				
	Overload Relay Coil No.			N43 N37		N28		N15				
	Size Rub. Cov. Leads (Pri.)			13 10		12		12				
Bridge	Size of Rub. Cov. (Sec.-A-AL-RI-RX)											
	Res. Asb. Cov. (Intermediate)											
	Leads Asb. Cov. (A-AL-RI-RX)											
Switch	Motor Primary Bridge Cond.		1	LENGTH 10 COND. #12 TYPE "SO" CORD (1.05" O.D.)						SEE MECH. SPEC.		
	Motor Secondary Bridge Cond.									FOR CABLE PART		
	Limit Switch Bridge Cond.											
Board	Bridge Cond.		2	CORD GRIPS 85Z24D14								
	Description	SUPPLY PANEL	HOIST PANEL	BRIDGE PANEL	TROLLEY PANEL	COMPLETE ENCLOSURE	3-SAFETY BAR COLLECTORS ORDERED ON P.R. #17620					
	Height of Panel	27"	27"	27"	27"	30"	E13					
Total	Width of Panel	9 1/2"	24 1/2"	11"	11"	60"	COMPLETE					
	Panel Dwg. No.	979E75-1	979E77-2	979F519-1	979F519-1	14U39	CONTINOL					
	Panel List No.	979E75-1	979E77-2	979F519-1	979F519-1							
Main	Order No.			E25	LINE 25							
	Total Width Prot. Panel											
	Sw. Bd. Dwg. No.											
M-Hst.	M-Hst. Lim. Sw., Type & Size	100E696-3										
	M-Hst. Lim. Sw., " "	79Z976D2										
	Electric Heater		3-MAIN LINE FUSE TRONS									
Heater	Heater Fuses		60 AMP. 79Z754D18									
	Control Fuses	2-6	79Z96D5	1-MAIN LINE SAFETY SW.								
	Crane Wire & Conduit	N.E.C.	79Z711D2									
TERM. BOARD	W/D. ADD.											
	2-9-70											
	ADDED											

Main Line Rub. Cov. Leads #13 10

Remarks:

Total No. Bridge Cond. FASTONED

1-HANDLE ASSEMBLY 100E3539

Total No. Runway Cond. 3

1-LATCH ASSEMBLY 987F1

Push Button:

3-NAMEPLATES 32H222

3-MAIN LINE FUSE TRONS

1-GASKET 20H3256

60 AMP. 79Z754D18

1-TERM. BOARD 79Z726D4

1-MAIN LINE SAFETY SW.

79Z711D2

Written By: W.J.L.

COLLECTORS

BY

Trans 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 Floor control attached to Trolley

PHM Leek 03979

PRICING — TAX — INVOICING — SHIPPING — LOADING DATA FOR OVERHEAD ELECTRIC CRANES

SOLD TO Kaiser Steel Fabricating Division
13230 San Bernardino Avenue
Fontana California 92335

CRANE NO. CTL-23540
PROPOSAL NO. LA-959 D
PROPOSAL DATE 12-17-69
RELEASE DATE 1-17-70
CRANE ERECTED BY: Purchaser
INVOICE NO. _____
INVOICE DATE _____

INVOICE TO Kaiser Steel Fabricating Division
13230 San Bernardino Avenue
Fontana , California 92335

SHIP TO Kaiser Steel
Fontana Fabricating Plant
Fontana, California

TAX INFO:

EXEMPTION NO. _____
ADD TO INVOICE _____
REFER CUST. ORDER _____

F.O.B. Norwalk California Plant, **FREIGHT** Collect

SHIP VIA Truck **SCHEDULED SHIPMENT** March 1970

TERMS 80% in cash upon receipt of invoice
and B/L, the balance, or
20% in cash within thirty days
from date of shipment.

REMARKS

EST. ERECTION DATA — AS ENGINEERED*

FRONT GIRDER _____ #
MACHINERY _____ #
WALKWAY _____ #
CONTROL _____ #
CONDUCTORS _____ #
_____ #
TOTAL FRONT GIRDER _____ #

REAR GIRDER _____ #
WALKWAY _____ #
CONDUCTORS _____ #
_____ #
TOTAL REAR GIRDER _____ #

TROLLEY _____ #
CAB _____ #
_____ AUX. GIRDER _____ #
_____ END TIES _____ #
_____ END TRUCKS _____ #
MISCELLANEOUS _____ #
TOTAL, NET WT. _____ #
TOTAL SH. WT. _____ # 33,000 #
CRANE WHL. LOAD: _____ # @
IS TROLLEY K/D FOR SHIPMENT? _____

PRICING		
CUST. ORDER NO.	ITEM	PRICE
	CRANE <u>CTL-23540</u>	\$20,794.00
	S-1 RUNWAY CONDUCTORS	
	S-2 SPARES	
	S-3	
	S-4	
	ERECTION AND/OR SERVICE ENGINEER Checkout	Incl.
	FREIGHT	
	CONTRACT PRICE	\$20,794.00
	STATE USE TAX	
	LOCAL USE TAX	
	GRAND TOTAL	
CRANE CODE <u>A A B</u>	CRANE NO. <u>CTL-23540</u>	

REPRESENTATIVE - DISTRICT	NO.	REPRESENTATIVE - DISTRICT	NO.	REPRESENTATIVE - DISTRICT	NO.
KOWALIK - LOS ANGELES					

*UPON COMPLETION OF ENGINEERING, FORWARD TO SALES DEPT.

PHM Leek 03981

TORBEAM STOCK COMPONENT CRANE

ADDENDA TO PROPOSAL NO. CTL-23540
LA-959-D

1. Crane as specified to be designed and fabricated in accordance with P&H published commercial standards for TORBEAM type cranes, qualified as specified herein.
2. Four (4) motor crane as specified to consist of a double girder TORBEAM type bridge with a two (2) motor top running trolley. Bridge to have two individual drives, one at each end of bridge, operating in parallel.
3. Crane to be pushbutton floor operated from:
 - ☒ A. Trolley between girders at drive end of trolley ("H" end) as shown on Clearance Drawing 3104E1007. (Standard)
 - ☐ B. Bridge (Fixed Position) as indicated. (Price Addition)
 - ☐ C. Pushbutton pendant station to be suspended from a festooned flexible cable messenger system suspended from anti-friction bearing trolleys operating on a rigid track supported from crane bridge. (Price Addition)
 - ☐ D. Job Engineered Location. (Price Addition)

4. MOTORS:

P&H totally enclosed motors with anti-friction bearings rated 30 minute, 75° rise above ambient temperatures of 40°C.

- ☐ A. Hoist to be furnished with a single winding squirrel cage type motor. Trolley and dual bridge drives to be provided with single winding squirrel cage type motors 220/440V. (Standard)
- ☒ B. Hoist to be furnished with a dual winding squirrel cage type motor. (Price Addition)
Trolley and dual bridge drives to be provided with single winding squirrel cage type motors, 220/440V.

5. BRAKES:

Hoist and dual bridge motors to be furnished with P&H DC rectified brakes. Trolley motor to be furnished with an electric motor brake. In addition to the motor brake, hoist will be furnished with a Weston type mechanical load brake, operating in bath of oil. Bridge and trolley brakes to be of the adjustable torque type.

6. CONTROL:

- ☐ A. P&H full magnetic single speed control on hoist. (Standard)
- ☒ B. P&H full magnetic two speed control on hoist. (Price Addition)
- ☐ C. P&H Primary Reactor Hoist Control Bulletin 567. (Price Addition)
- ☒ D. P&H Primary Reactor ~~Hoist Control Bulletin 567~~ Bridge and Trolley Control Bulletin 566. (Price Addition)

Eight-button pendant station to contain "Start" "Stop" buttons for manual magnetic disconnect switch electrically operable from pendant or manually from control cabinet. Automatic reset type thermal overload relays to be provided. Control to be housed in hoist type NEMA III enclosures for indoor or outdoor operation. Control proper to be mounted on trolley as shown on clearance drawing.

7. HOIST LIMIT SWITCH:

Hoist to be furnished with a lever operated plugging type upper limit switch and a geared upper and lower limit switch both of the control circuit type.

8. SPAN CONDUCTORS:

Span conductors to consist of a festooned flexible cable messenger system suspended from anti-friction bearing trolleys on a rigid track supported from the crane bridge.

9. BRIDGE GIRDERS:

Bridge to be of double girder design with trolley operating on rails attached to top member. Girders to be of P&H TORBEAM (Torsional Beam) (U.S. Patent D202,718) design welded into a one piece frame consisting of two girders and two end trucks to enable one piece shipment and erection of bridge where jobsite conditions allow. Bridge to be provided:

- ☒ A. Without service platform, wherein Purchaser will make full provisions for servicing entire crane from portable or stationary equipment in building. (Standard)

TORBEAM STOCK COMPONENT CRANE

ADDENDA TO PROPOSAL NO. CTL-23540 (Continued)

LA-959 D

- ☐ B. A standard (10' - 0" long) trolley service platform located at ☐ Left; at ☐ Right; at ☐ both ends of bridge. (10' - 0" long) platforms not to be used when a pushbutton traveling control messenger system is furnished. (Price Addition)
- ☐ C. A short (4' - 0" long) trolley service platform located at ☐ Left; at Right ☐ ; at ☐ both ends of bridge. (4' - 0" long) platform to be used when a pushbutton traveling control messenger system is furnished. (Price Addition)
- ☐ D. Full length service platform. (Price Addition)
- All platforms to have checkered steel flooring.
- ☐ E. Full length handrail and walkspace on front girder. (Price Addition)
10. BRIDGE END TRUCKS:
Crane bridge to be provided with two structural end trucks welded into TORBEAM girders for unitized construction as described under Item No. 9 MCB rotating axle design to be used. Bridge wheels to be high carbon (C-1070) forged steel, rim toughened and to be 3-1/2 inches diameter. Bridge End Trucks to be provided as follows: (Coupled Bridge Drives)
- ☐ A. One piece unitized construction for all cranes under 60' - 0" span, 7' - 0" trolley spread and 10' - 6" overall width (Y and Z) to permit one piece rail shipment. (Standard)
- ☐ B. End trucks having one splice to permit rail shipment for cranes over 60' - 0" span, over 10' - 6" overall width (Y and Z) to maintain proper span to wheel base ration but within limitation as shown under Table 6, Modification Sheet 217.02(101) Item 6, Part I. (Standard)
- ☐ C. Cranes normally having one piece unitized construction per Item A, but requiring one splice to reduce overall width for truck shipment or because of Purchaser's building restrictions. (Price Addition)
- ☐ D. A single or double end truck splice as required for spans beyond those covered by Modification Sheet 217.02 (101) Item 6, Part I. (Price Addition)
- x E. Bolted End Trucks.**
11. BRIDGE BUMPERS:
☐ A. Bridge end trucks to be provided with solid strike plates at each of four corners to engage suitable end stops erected and furnished by Purchaser. (Standard)
- ☒ B. Bridge end trucks to be provided with rubber bumpers at each of four corners to engage suitable stops by Purchaser. ~~(Price Addition)~~
12. BRIDGE DRIVES:
Individual bridge drives of the integral and coaxial type (U.S. Patent 3,252,586) provided at each end truck. Each drive to be provided with an individual flange mounted motor as specified as an integral part of the unitized drives, which drives will be operated in parallel by a common bridge control. Bridge gearing to be of the planetary type. (Coupled)
13. TROLLEY:
Crane to be furnished with a unitized four wheel structural trolley with a P&H Balanced Design Hoist as specified built into frame. Single MCB rotating axle design to be used. Trolley wheels to be high carbon (C-1070) forged steel, rim toughened, and to be 9 inches in diameter. Unitized frame design to be based upon an impact absorbing torsional tube elastically supported from specified four trolley wheels. Hoist to be furnished with a standard P&H specified latch type safety hook.
14. TROLLEY DRIVE:
A single helical worm speed reducer with a flange mounted motor as specified to be an integral part of complete trolley design.
15. BEARINGS:
Anti-friction bearings to be provided throughout. A minimum of 5000 hours, 75%, B-10 bearing life to be furnished for entire crane.



TORBEAM STOCK COMPONENT CRANE

ADDENDA TO PROPOSAL NO. CTL-23540 (Continued)
LA-959-D

16. LUBRICATION:

All gearing except drum gear to be enclosed in oil tight gear cases and to be oil bath lubricated. All bearings not oil bath lubricated to be either of the lifetime lubrication type or to be provided with individual grease fittings (Alemite) for use with Purchaser's hand pump.

17. PAINTING:

- ☒ A. Two coats, finished in P&H TORBEAM yellow for entire crane, for indoor service. (Standard)
☐ B. Special paint, colors, extra coats, etc. (Price Addition)
☐ C. For outdoor service, rust inhibiting primer where specified. (Price Addition)

18. Crane will be assembled, wired, and tested without load in our shops after which it will be suitably match-marked and dismantled to the extent required for shipment. Machined surfaces will be suitably protected against corrosion. Erection, reassembly, and field wiring will be completed by Purchaser. Unitized construction will be used where jobsite shipment and erection conditions permit.

19. Four erection brackets to be provided with cranes.

20. Two complete sets of standardized parts books with all wearing parts listed and identified on individual isometric sketches for facility of identification and ordering through P&H nationwide parts facilities to be provided. Crane as specified being of stock component design, can be serviced from an immediate stock of spare parts available from manufacturer or duly authorized P&H parts source. (Standard)

☒ Extra parts books, special drawings, etc. ~~(Price Addition)~~

21. Two complete sets of erection drawings and erection manuals to be furnished before crane shipment. Where unitized bridge design is being used, erection drawings will so designate. (Standard)

☒ Additional drawings. ~~(Price Addition)~~

22. Added Engineered Parts - Mechanical and Electrical:

A. Mechanical

1. ☒ Provide 3-pole Cleveland Safepowrbar collectors with staff for use
☐ with Purchaser mainline conductor system.
 2. ☒ CTL-23540 to operate on a 320'-0" long runway.
☐
☐
☐
☐

B. Electrical

- Mainline conductor material and collectors. (Price Addition)
 1. ☒ Control to be magnetic two speed hoist with mechanical load brake and
☐ Bull. 566 primary reactor on bridge and trolley with all control mounted
☐ on trolley.
☐
☐
☐
☐

23. The services of a P&H Service Engineer to be provided to check out cranes after erection.

24. One set of reproducible autositives of assembly drawings and wiring diagrams on P&H format to be furnished after completion of engineering for use by Purchaser for erection purposes and permanent records. No detail drawings of individual parts will be provided.

25. Five (5) sets of complete parts books and maintenance manuals to be provided. Furnish complete spare parts list.

TORBEAM CRANE SALES ORDER

Col.	Specification	Code	E.D.P. Data
1-15	Serial number		145101113 C T L-23540-+Rev.++
16	Quantity		1617202223 77Ft. -2-1/1In.
17-23	Crane span (to nearest 1/8")		
24-27	"Q" Rail to floor (to nearest 1") exclusive of pit		2426 27Ft. -6In.
28	Stock Component Crane — S.C.C. — Modified ...	1 2	28 2
30	Service — indoor — outdoor	1 2	30 1
31-32	Hoist unit— 4C 3T — 4CA 5T — 4D 5T — 6D 7-1/2T — 6D 10T — 6D 15T — 6E 10T — 6E 15T — 5E 20T — 6F 20T — 6F 25T — 6F 30T	11 12 21 22 23 24 31 32 33 41 42 43	31 31
33	Hoist motor — single speed (C&D hoist only) — two speed — magnetorque	1 2 3	33 2
34	Power supply — 220V, a-c, 3 ph, 60 cy . — 440V, a-c, 3 ph, 60 cy .	1 2	34 2
35	Main line location — R.H. — L.H.	1 2	35 2
36	Standard limit switches — upper, weight and geared; lower, geared only	1	36 1
37-39	Control type-- P.B. on trolley — P.B. on messenger — P.B. fixed on bridge — Cab masters — Special (see addenda) ...	1 2 3 4 5	37 1 ... Dim. from R.H. end, "J"= Ft.

TORBEAM CRANE SALES ORDER (CONTINUED)

QTL-23540

Col.	Specification	Code	E.D.P. Data
40	Bridge bumper — standard strike plate . . . — rubber bumpers — special (see addenda) . . .	1 2 3	⁴⁰ ☒
41	Platforms — no platforms — R.H. platform only — L.H. platform only — two platforms — special (see addenda)	1 2 3 4 5	⁴¹ ☒
42	Shipment type — integral bridge — spliced end trucks — double spliced trucks	1 2 3	⁴² ☒ BOLTED END TRUCKS
43	Runway rail — standard — non standard	1 2	⁴³ ☒
50	Painting — standard yellow — special (see addenda)	1 2	⁵⁰ ☒
51	Erection brackets — one set (standard) . . . — one set for each crane — none required	1 2 3	⁵¹ ☒
60-62	Shipment date, week of		⁶⁰ ☒ 21
63-68	Order date		⁶³ ⁶⁵ ⁶⁷ ☒ 1 ☒ 17 ☒ 20
69	"S" Orders — required — not required	1 2	⁶⁹ ☒
70	Engineered parts — required — not required	1 2	⁷⁰ ☒
Approved by: _____			

10 cord 12-99'
3 Cord 10-99'

23540 DATE 3-19 LSW ✓
GLSW ✓

MOT. AMPS

HOIST ^{part 30/10}

RAISE	LOW	FPM	RPM.
LO <u>12.00</u>	LO <u>15</u>	LO <u>12.50</u>	LO <u>12</u>
H1 <u>5</u>	H1 <u>5</u>	H1 <u>36</u>	H1 <u>33</u>

BRAKES ✓

BR

FWD	REV	¹⁷⁵ FPM
<u>12.5</u>	<u>12.5</u>	<u>180</u>
<u>52.5</u>	<u>52.5</u>	

TR

LEFT	RIGHT	¹²⁵ FPM
<u>1.5</u>	<u>1.5</u>	<u>150</u>
<u>5.5</u>	<u>5.5</u>	

Sold to Mosher Steel Company User Mosher Steel Company Plant Site Houston, Texas Crane No. C(H)L-23419 (c) & S1				FOR LOS ANGELES SHIPMENTS ONLY			
				Trolley wired in Milwaukee for direct shipment to Customer Trolley to be wired and tested in L.A. Plant			
Spec. Date				Prop. No. D-3260 - R1		Engr. Specs. Released by: _____ Estimator _____ Spec. Writer CRS Sales Desk CES	
QUANTITY ONE (1)	CAPACITY 10 Ton	SPAN 77'-5 1/2"	SHIP. WT. LBS. 58,300#	CLEAR. SKETCH 10DT77R1	SERVICE XXXX (OUT) DOOR Receiving & Storage Area		
TROLLEY DATA							
TYPE OF TROLLEY FRAME							
CAPACITY		LIFT	DRUM DIA.	REEVING	BRAKING	TYPE HOIST	
5 Ton		40'-0" (Max)	15"	4 @ 1/2 2PD	Mech. Load	2T402-15	
5 Ton		40'-0" (Max)	15"	X 193'-0"	Mech. Load		
TYPE OF TROLLEY DRIVE							
T-12 STD		WHEELS		DIAMETER 12"		TYPE F.S.R.T. SPREAD 6'-6"	
BRIDGE DATA							
TYPE OF SPAN CONDUCTORS							
Angle Iron (See Addenda)							
TYPE DRIVE		BR - 18		WHEELS		DIAMETER & NUMBER 18" 4	
FRONT PLATFORM		Full length Checkered Steel		TYPE OF GIRDERS		(2) Welded Box	
REAR PLATFORM		None		OUTRIGGER		Trussed Handrail	
ELECTRICAL DATA							
POWER SUPPLY		460		VOLTS AC 3 PHASE 60		CYCLE	
SPEED FT. PER MIN.		MOTOR DATA				MAKE & TYPE BRAKES	
		MFR.	FRAME	HP	RPM		
MAIN HOIST 70		P&H	HEW364RX	30	1150	P&H CRR	
AUX. HOIST 70		P&H	HEW364RX	30	1150	P&H CDR	
TROLLEYS (2) 150		P&H	HEW213S	(2) 2	1675	P&H CDR	
BRIDGE 350		P&H	HEW326RX	20	1145	P&H HYD.	
CONTROL							
MAKE TYPE XXXX (FLY) (FLOOR) CAB XXXX (ENCL.) (RH) (LH) (CENTER) CAB ATTACH. TO (BRIDGE) XXXX							
P&H 5-step V.S. all motions.							
RUNWAY DATA							
RAIL SIZE 60		LBS.		LENGTH 328'-0"		RAIL TO ROOF -	
COLLECTORS Gravity Shoe		FURNISHED BY		P&H		RAIL TO FLOOR 25'-6"	
COND. TYPE Angle Iron						FURNISHED BY See Addenda	
Remarks: See attached Addenda Crane to be similar to C(H)-20400 - 1 except as noted in Item #23 of Addenda.						SUPPLEMENTAL EQUIPMENT SUPPLIED WITH CRANE	
PAINT: Special (See Addenda) T2-BR Los Angeles						Runway Conductors ☒	
						Spares ☐	
						Runway Stops ☐	
						☐	
MAIN HOIST ASSEM. 100A502-B		#2		AUX. HOIST ASSEM. 100A502-S			
TROLLEY ASSEM. 3100E1054-F				BRIDGE ASSEM. 914E231-S			
ORDER		RECORDED		INSPECTION REQUIRED		DATE SHIPPED	
				YES ☐ NO ☒			
				CRANE NO.		C(H)L-23419(c) & S1	

CRANE ELECTRICAL BILL OF MATERIAL

Date 1-23-70

Customer KAISER FABRICATING DIV.

Crane No. CTL-23540

Tons 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 Floor control attached to Trolley

Cage	Service	No. Req.	6E Hoist	No. Req.	BC-13 1/2 Bridge	No. Req.	TT-9 Trolley	No. Req.	Aux. Hbist or Closing	No. Req.	Magnet Drum
Motor	Frame Size		HEH-364RX				REULAND	1	LENGTH #14-22 COND.		
	Type		ENCL.				ENCL.		CABLE FOR PENDANT		
	H.P. & R.P.M.		20/16 3/4 1650/550		1 1/2-1650		1-1650		P.B. STA.		LG.
	List No.		1 114436-9	2	100F982-13	1	53U19D24				
	Finish Class	"C" Form		A				1	LENGTH #50S GALV.		
Brake	Order No.		E5		E17				MACH. CHAIN		
	Type & Size		CD-5		CD-1 ADJ.		REULAND		NOTE: SEE MECH. SPEC.		
	List No.								FOR LENGTHS OF CABLE,		
	Brake Wheel Part No.								& CHAIN.		
	Bracket List No.										
	Brake Coil List No.								TY-RAPTIES 32Z890D3		
	Cover Part No.										
Controller	Cover Bracket Part No.							2	CORD GRIPS 85Z24D14		
	Order No.										
	Rectifier Assembly List No.										
	Type		P.B. TWO SPD.		PEL. REACTOR TORQUE CONT.		PRI. REACTOR TORQUE CONT.				
P.B.	List No.		1	8-BUTTON		PUSH BUTTON STA. L #55107-33		E40			
	Blowout Coil List No.										
	Blowout Lead List No.										
	Wiring Diagram										
Main	Order No.										
	Layout	REACTORS									
	List No.										
	Order No.		1	ANODE TRANSFORMER		75Z514D1					
Pro-ter	AMP. RATING		60		15		4				
	PART #		3	79Z754D18	3	79Z754D9	3	79Z754D1			
	Res. List No.										
	Order No.										
Wires	Fuse-Overload Relay Amp. Rating		1	80Z25D57							
	Overload Relay List No.		1	80Z25D14	1	80Z25D9	1	80Z25D1			
	Overload Relay Coil No.			N43 N37		N28		N15			
	Size Rub. Cov. Leads (Pri.)			12		12		12			
Bridge Conductors	Size										
	Rub. Cov. (Sec. A-AL-RI-RX)										
	Rub. Cov. (Intermediate)										
	Res. Ash. Cov. (Intermediate)										
M-3	Leads										
	Res. Ash. Cov. (A-AL-RI-RX)										
	Motor Primary Bridge Cond.		1	LENGTH 10 COND. #12 TYPE "50" CORD (1.015" O.D.)							
	Motor Secondary Bridge Cond.										
Panel	Limit Switch Bridge Cond.										
	Bridge Cond.		2	CORD GRIPS 85Z24D14							
	See MECH. SPEC. FOR CABLE PART #										
Description	SUPPLY PANEL										
	HOIST PANEL										
	BRIDGE PANEL										
	TROLLEY PANEL										
Height of Panel	27"		27"		27"		27"		30"		
	Width of Panel	9 1/2"	24 1/2"	11"	11"				60"		
	Panel Dwg No.	979E75-1	979E77-2	979F519-1	979F519-1						
	Panel List No.	979E75-1	979E77-2	979F519-1	979F519-1						
Order No.									14U39		
Total Width Prof. Panel											
	Sw. Bt Dwg No.										
	M-Hst Lim Sw., Type & Size	100E696-3									
	M-Hst Lim Sw.,	79Z976D2									
Elect. Heater											
	Heater, Fixes										
	Control Fixes	2-6	79Z96D5								
	Wire & Conduit	N.E.C.	79Z711D2								
Remarks:											
1- HANDLE ASSEMBLY 100E3539											
1- LATCH ASSEMBLY 987F1											
3- NAMEPLATES 32H222											
1- GASKET 20H3256											
Written By: W.J.L.											

ITEMS CHECKED BELOW WILL BE REQUIRED FOR ORDER NO. *CTL-23540*

ELECTRICAL

ELECTRICAL

✓			LIST NO.	STK. ORD. NO.	✓		
✓	E	Electrical Material			✓	E52	Trolley Wiring
	E1	Trolley Motor				E53	Cab Wiring
	E2	Trolley Controller				E54	"K" Cabinet & Support
	E3	Trolley Resistance					
	E4	Trolley Brake Coil					
	E5	Hoist Motor					
	E6	Hoist Controller					
	E7	Hoist Resistance					
	E8	Hoist Brake Coil					
	E9	Aux. Hoist Motor					
	E10	Aux. Hoist Contr.					
	E11	Aux. Hoist Resis.					
	E12	Aux. Hoist Brake					
✓	E13	Switchboard or Comp. Control					
	E14	Line Contactor					
	E15	Forcing Resistor					
	E16	Forcing Resistor					
	E17	Bridge Motor					
	E18	Bridge Controller					
	E19	Bridge Resistance					
	E20	Bridge Brake Coil					
	E21	Limit Switch, Main Hoist					
	E22	Relay Panel					
	E23	Hoist Panel					
	E24	Aux. Hoist Panel					
✓	E25	Bridge Panel		2			
	E26	Trolley Panel <i>WIE 25</i>					
	E27	Enclosure, Main Hoist					
	E28	Magnetorque, M. Hoist					
	E29	Complete Control					
	E30	Magnetorque, A. Hoist					
	E31	Enclosure, A. Hoist					
	E32	Enclosure, Trolley					
	E33	Enclosure, Bridge					
	E34	Reactor, M. Hoist					
	E35	Reactor, A. Hoist					
	E36	Reactor, Trolley					
	E37	Reactor, Bridge					
	E38	Limit Switch, A. Hoist					
	E39	Supply Panel					
✓	E40	Push Button Assembly & Cable					
	E41	Joy Stick Assembly					
	E42	Rectifier Assembly					
	E43	Rectifier Assembly					
	E44	Magnetorque Resistor					
	E45	D. D. Resistor					
	E46	Rotating Hook Motor					
	E47	Rotate Panel					
	E48						
	E49						
	E50						
✓	E51	Bridge Wiring					

ISSUED BY

DATE

Sheet 1 of 2

ORDER NO.

B. A. R.

2-2-70

CTL-23540

23-1259-3

VAR. 7-68

PHM Leek 03991

~~Doc 33~~
Doc 33

TROLLEY MECHANICAL			TROLLEY MECHANICAL		
✓			✓		
✓	T	TROLLEY		T52	SECOND AUX. HOIST DRUM
	T1	CAGE		T53	SECOND AUX. HOIST BOTT. BLOCK
	T2	M.H. BOTTOM BLOCK		T54	SECOND AUX. HOIST UPPER BLOCK
	T3	M.H. DRUM AND SHAFT		T55	SECOND AUX. HOIST LIMIT SWITCH APPL.
	T4	A.H. DRUM AND SHAFT		T56	AUX. HOIST CABLE REEL APPL.
	T5	P&H CABLE REEL AND CABLE		T57	BEAM GUIDE MAST AND ROLLER ASSEM.
	T6	CHOCKS AND BUMPERS	✓	T58	REACTOR SUPPORT
	T7	LIFTING BEAM OR GRAPPLE	✓	T63	TR. FRAME HOIST ASSEM.
	T8	A.H. BOTTOM BLOCK			BRIDGE MECHANICAL
	T9	M.H. LIMIT SWITCH APPL.			
	T10	TROLLEY FRAME	✓	B	BRIDGE
	T11	CAB AND CONTROL SUPPORT		B1	CAGE
	T12	M.H. UPPER BLOCK	✓	B2	GIRDERS
	T13	M.H. GEAR CASE AND COUPLING	✓	B3	TRUCKS
	T14	A.H. GEAR CASE AND COUPLING		B4	FRONT PLATFORM
	T15	TROLL DRIVE GEAR CASE AND COUPLING	✓	B5	BUMPERS
	T16	TROLL WHEEL AND AXLE		B6	CHOCKS
	T17	PUSHER ARM (MESSENGER)		B7	BRIDGE CONDUCTORS
	T18	A.H. UPPER BLOCK		B8	AUX. GIRDER (TRUSS)
	T19	A.H. LIMIT SWITCH APPL.		B9	REAR PLATFORM
	T20	MISC. STRUCT. MATL.		B10	CROSS SHAFTING AND COUPLINGS
	T21	STRUCT. WITHOUT DRAWINGS		B11	TRUCK MACHINERY ASSEM.
	T22	TROLL COVER		B12	BRIDGE GEAR CASE AND COUPLING
	T23	CONTROL AND CAB SUPPORT		B13	END TIE AND TRUCK LINK
	T24	TROLL LUBE SYSTEM		B14	SADDLES AND PINS
	T25	TROLL COLLECTOR		B15	GANTRY LEGS
	T26	TRAILING TROLLEY		B16	GANTRY SILLS
	T27	TROLL DRIVE LIMIT SWITCH APPL.	✓	B17	MESSENGER SYSTEM (BR. COND.)
	T28	AIR CONDITIONER		B18	
	T29	TORQUE REEL APPL.		B19	CONDUCTOR SUPPORT
	T30	TRUCKS AND PINS	✓	B20	MISC. STRUCT. MATL.
	T31	RIGID MAST ASSEM.		B21	STRUCT. WITHOUT DRAWINGS
	T32	INTERM. MAST ASSEM.	✓	B22	PAINTING
	T33	CARRIAGE ASSEM.	✓	B23	LOADING
	T34	FORK ATTACHMENT		B24	BRIDGE LUBE SYSTEM
	T35	STACKER BEAM	✓	B25	BRIDGE COLLECTOR
	T36	ROTATION DRIVE		B26	BRIDGE LIMIT SWITCH APPL.
	T37	TURNTABLE		B27	MESSENGER SYSTEM (P. BUTTON)
	T38	TURNTABLE COND. AND COLL.		B28	AIR CONDITIONER
	T39	HYDRAULIC SYSTEM ARRANGEMENT		B29	TORQUE REEL APPL.
	T40	UPPER WIRE CABLE ASSEM.		B30	
	T41	LOWER WIRE CABLE ASSEM.		B31	SIDE ROLLER ASSEM.
	T42	CAB HOIST		B32	SECOND BRIDGE GEAR CASE
	T43	CAB CARRIAGE		B33	SECOND END TIE
	T44	CAB MAST		B34	GIRDER SADDLE AND PINS
	T45	CAB SUPPORT ASSEM.		B35	SECOND GANTRY LEG
	T46	M.H. CABLE REEL APPL.		B36	SECOND GANTRY SILL
	T47	WEIGHING ARRANGEMENT		S1	RUNWAY COND. MAT'L
	T48	BROKEN ROPE SAFETY DEVICE		S2	SPARE PARTS
	T49	GUIDE ROLLER ASSEM.		S3	MISC. MATERIAL
	T50			S4	RUNWAY STOPS
	T51	SECOND AUX. HOIST GEAR CASE		S5	

ISSUED BY J.P.C.	DATE 1-29-70	SHEET 2 OF 2	ORDER NO. CTL-23540
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TROLLEY MECHANICAL			TROLLEY MECHANICAL		
V			V		
✓	T	TROLLEY		T52	SECOND AUX. HOIST DRUM
	T1	CAGE		T53	SECOND AUX. HOIST BOTT. BLOCK
	T2	M.H. BOTTOM BLOCK		T54	SECOND AUX. HOIST UPPER BLOCK
	T3	M.H. DRUM AND SHAFT		T55	SECOND AUX. HOIST LIMIT SWITCH APPL.
	T4	A.H. DRUM AND SHAFT		T56	AUX. HOIST CABLE REEL APPL.
	T5	P&H CABLE REEL AND CABLE		T57	BEAM GUIDE MAST AND ROLLER ASSEM.
	T6	CHOCKS AND BUMPERS	✓	T58	REACTOR SUPPORT
	T7	LIFTING BEAM OR GRAPPLE	✓	T63	TR. FRAME & HST. ASSEM.
	T8	A.H. BOTTOM BLOCK			BRIDGE MECHANICAL
	T9	M.H. LIMIT SWITCH APPL.			
	T10	TROLLEY FRAME	✓	B	BRIDGE
	T11	CAB AND CONTROL SUPPORT		B1	CAGE
	T12	M.H. UPPER BLOCK	✓	B2	GIRDERS
	T13	M.H. GEAR CASE AND COUPLING	✓	B3	TRUCKS
	T14	A.H. GEAR CASE AND COUPLING		B4	FRONT PLATFORM
	T15	TROLL DRIVE GEAR CASE AND COUPLING	✓	B5	BUMPERS
	T16	TROLL WHEEL AND AXLE		B6	CHOCKS
	T17	PUSHER ARM (MESSENGER)		B7	BRIDGE CONDUCTORS
	T18	A.H. UPPER BLOCK		B8	AUX. GIRDER (TRUSS)
	T19	A.H. LIMIT SWITCH APPL.		B9	REAR PLATFORM
	T20	MISC. STRUCT. MATL.		B10	CROSS SHAFTING AND COUPLINGS
	T21	STRUCT. WITHOUT DRAWINGS		B11	TRUCK MACHINERY ASSEM.
	T22	TROLL COVER		B12	BRIDGE GEAR CASE AND COUPLING
	T23	CONTROL AND CAB SUPPORT		B13	END TIE AND TRUCK LINK
	T24	TROLL LUBE SYSTEM		B14	SADDLES AND PINS
	T25	TROLL COLLECTOR		B15	GANTRY LEGS
	T26	TRAILING TROLLEY		B16	GANTRY SILLS
	T27	TROLL DRIVE LIMIT SWITCH APPL.	✓	B17	MESSENGER SYSTEM (BR. COND.)
	T28	AIR CONDITIONER		B18	
	T29	TORQUE REEL APPL.		B19	CONDUCTOR SUPPORT
	T30	TRUCKS AND PINS	✓	B20	MISC. STRUCT. MATL.
	T31	RIGID MAST ASSEM.		B21	STRUCT. WITHOUT DRAWINGS
	T32	INTERM. MAST ASSEM.	✓	B22	PAINTING
	T33	CARRIAGE ASSEM.	✓	B23	LOADING
	T34	FORK ATTACHMENT		B24	BRIDGE LUBE SYSTEM
	T35	STACKER BEAM	✓	B25	BRIDGE COLLECTOR
	T36	ROTATION DRIVE		B26	BRIDGE LIMIT SWITCH APPL.
	T37	TURNTABLE		B27	MESSENGER SYSTEM (P. BUTTON)
	T38	TURNTABLE COND. AND COLL.		B28	AIR CONDITIONER
	T39	HYDRAULIC SYSTEM ARRANGEMENT		B29	TORQUE REEL APPL.
	T40	UPPER WIRE CABLE ASSEM.		B30	
	T41	LOWER WIRE CABLE ASSEM.		B31	SIDE ROLLER ASSEM.
	T42	CAB HOIST		B32	SECOND BRIDGE GEAR CASE
	T43	CAB CARRIAGE		B33	SECOND END TIE
	T44	CAB MAST		B34	GIRDER SADDLE AND PINS
	T45	CAB SUPPORT ASSEM.		B35	SECOND GANTRY LEG
	T46	M.H. CABLE REEL APPL.		B36	SECOND GANTRY SILL
	T47	WEIGHING ARRANGEMENT		S1	RUNWAY COND. MAT'L
	T48	BROKEN ROPE SAFETY DEVICE		S2	SPARE PARTS
	T49	GUIDE ROLLER ASSEM.		S3	MISC. MATERIAL
	T50			S4	RUNWAY STOPS
	T51	SECOND AUX. HOIST GEAR CASE		S5	

ISSUED BY	DATE	SHEET 2 OF 2	ORDER NO.
J.P.C.	1-29-70		CTL-23540

CRANE ELECTRICAL BILL OF MATERIAL

Date 1-23-70

Customer KAISER FABRICATING DIV.

Crane No. CTL-23540

Tons 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 Floor control attached to Trolley

Ca		No. Req.	6E Hoist	No. Req.	BC-13 1/2 Bridge	No. Req.	TT-9 Trolley	No. Req.	Aux. Hoist or Closing	No. Req.	Magnet Drum
Motor	Frame Size		HEH-364RX				REULAND	1	LENGTH #14-22 COND.		
	Type		ENCL.				ENCL.		CABLE FOR PENDANT		
	H.P. & R.P.M.		20/6 1/2 1650/550		1 1/2-1650		1-1650		P.B. STA.		LG.
	List No.		1 114496-9	2	100F982-13	1	53U19D24				
Brake	Finish Class	"C" Form	A.					1	LENGTH #505 GALV.		
	Order No.		E5		E17				MACH. CHAIN		
	Type & Size		CD-5		CD-1 ADJ.		REULAND		NOTE: SEE MECH. SPEC.		
	List No.								FOR LENGTHS OF CABLE,		
	Brake Wheel Part No.								& CHAIN.		
	Bracket List No.										
	Brake Coil List No.								TY-RAPTIES 32Z890D3		
	Cover Part No.										
	Cover Bracket Part No.							2	CORD GRIPS 85Z24D14		
	Order No.										
Controller	Rectifier Assembly List No.										
	Type		P.B. TWO SPD.		PRI. REACTOR TORQUE CONT.		PRI. REACTOR TORQUE CONT.				
	List No.		1 8-BUTTON		PUSH BUTTON STA. L#55107-33		E40				
	Blowout Coil List No.										
Res.	Blowout Lead List No.										
	Wiring Diagram										
	Order No.										
	Layout	REACTORS			2 100A5064-2	2	100A5039-4				
Magnet	List No.		101E6480		101E6521		101E6520				
	Order No.	J/D 101E 6748	1	ANODE TRANSFORMER		75Z514D1					
	AMP. RATING		60		15		4				
	PART #		3 79Z754D18	3	79Z754D9	3	79Z754D1				
Pro-tection	Res. List No.										
	Order No.										
	Fuse-Overload Relay Amp. Rating		1 80Z25D57								
	Overload Relay List No.		1 80Z25D14	1	80Z25D9	1	80Z25D1				
Wire Sizes	Overload Relay Coil No.		N43 N37		N28		N15				
	Size Rub. Cov. Leads (Pri.)		12		12		12				
	Size of Rub. Cov. (Sec.-A-AL-RI-RX)		—		—		—				
	Res. of Rub. Cov. (Intermediate)		—		—		—				
Bridge Conductors	Res. of Asb. Cov. (Intermediate)		—		—		—				
	Leads of Asb. Cov. (A-AL-RI-RX)		—		—		—				
	Motor Primary Bridge Cond.		1	LENGTH 10 COND. #12 TYPE "50" CORD (1.015" O.D.)					SEE MECH. SPEC.		
	Motor Secondary Bridge Cond.								FOR CABLE PART #		
Switch Board	Limit Switch Bridge Cond.										
	Bridge Cond.		2	CORD GRIPS 85Z24D14							
	Description	SUPPLY PANEL	HOIST PANEL	BRIDGE PANEL	TROLLEY PANEL	COMPLETE ENCLOSURE					
	Height of Panel	27"	27"	27"	27"	30"			E13		
M-H	Width of Panel	9 1/2"	24 1/2"	11"	11"	60"			COMPLETE		
	Panel Dwg. No.	979E75-1	979E77-2	979F519-1	979F519-1				CONTROL		
	Panel List No.	979E75-1	979E77-2	979F519-1	979F519-1	14U39					
	Order No.			E25	W1E25						
TERM. BOARD	Total Width Prot. Panel										
	Sw. Bd. Dwg. No.										
	M-Hst. Lim. Sw., Type & Size	100E696-3									
	M-Hst. Lim. Sw., " " "	79Z976D2									
W. J. L.	Electric Heater		3- MAIN LINE FUSETRONS								
	Heater Fuses		60 AMP. 79Z754D18								
	Control Fuses	2-6 79Z96D5	1- MAIN LINE SAFETY SW.								
	Crane Wire & Conduit	N.E.C.	79Z711D2								

Written By: W.J.L.

3104E1007 S

TO KAISER FAB DIV

CLEARANCE SKETCH NO. 107875

PROPOSAL NO. LA-959-D

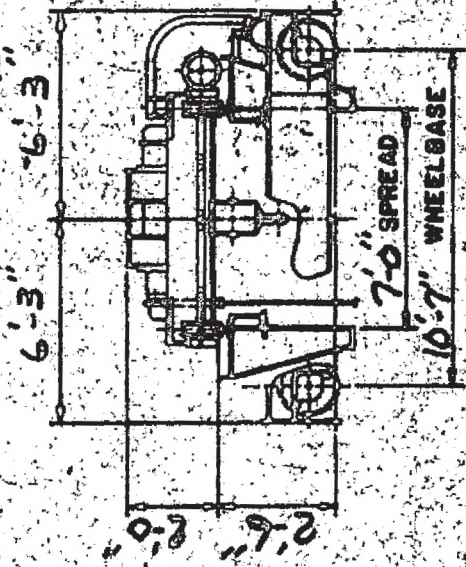
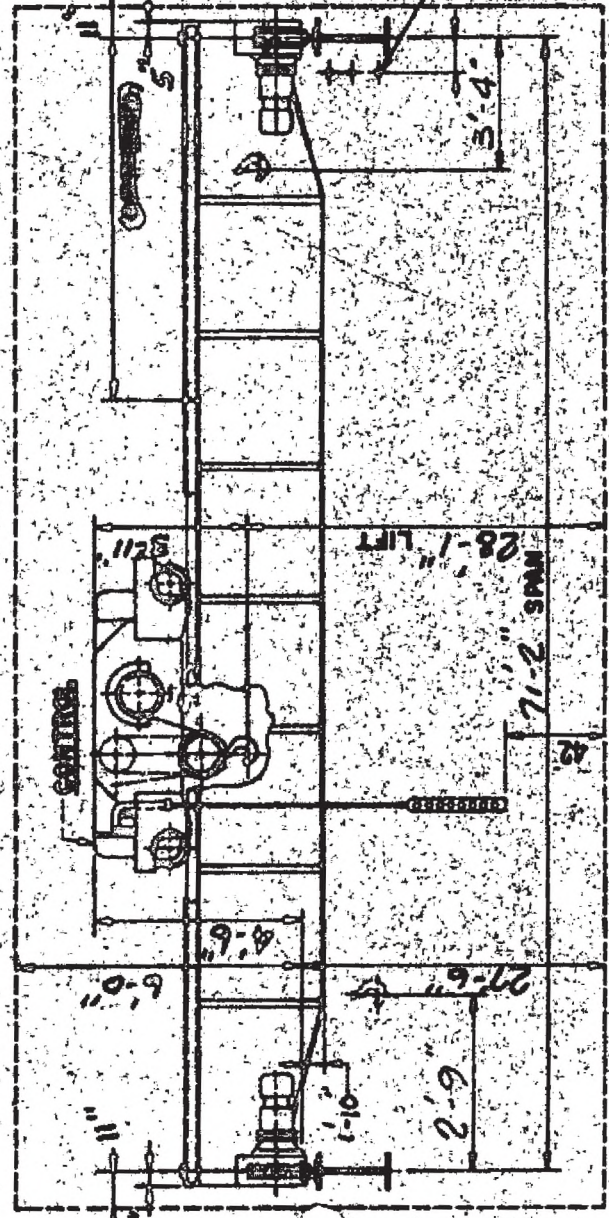
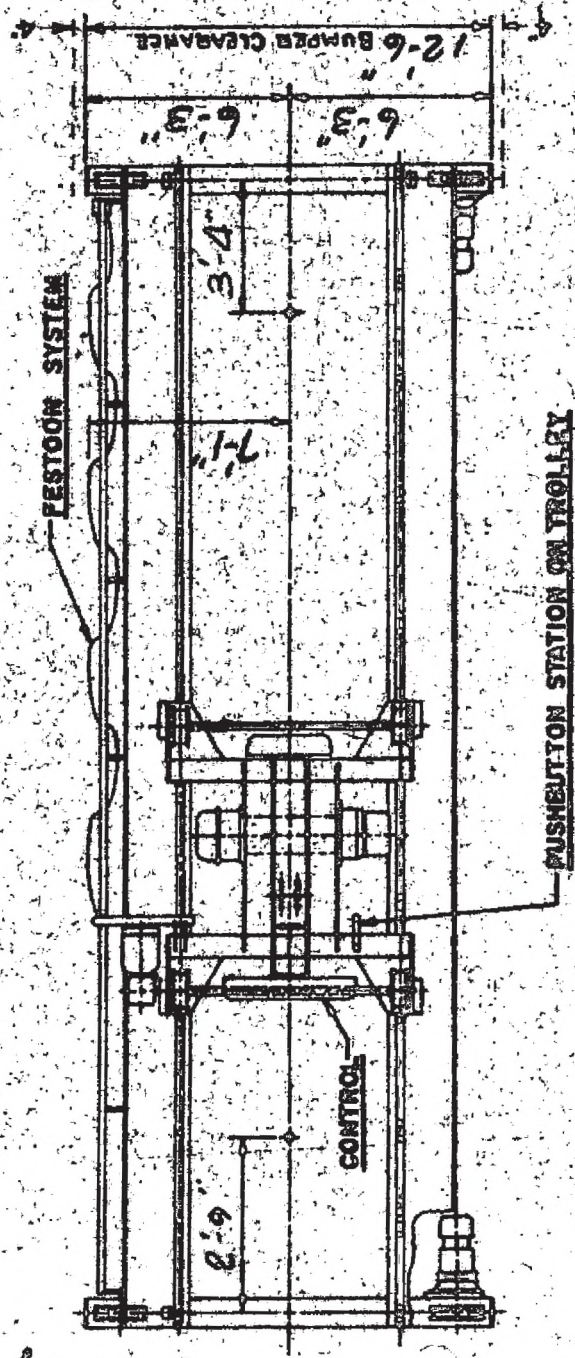
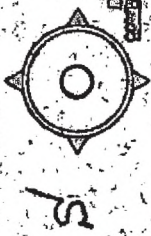
Capacity 10 Tons

Runway rail 60 lbs/yd.

Max. wheel load 17,800 lbs.

Crane voltage 460-3-60

W



INDICATE LOCATION OF
MAIN LINE CONDUCTORS
L.H. END

CTL 23540

DATE	10/1/55	SCALE	1" = 10'-0"
DRAWN BY	W. J. HARRIS	CHECKED BY	W. J. HARRIS
APPROVED BY	W. J. HARRIS	DATE	10/1/55
PROJECT NO.	LA-959-D	CRANE NO.	3104E1007 S
CLIENT	KAISER FAB DIV	LOCATION	CLARENCE DRAWING
CRANE TYPE	TORRENT CRANE	CRANE NO.	3104E1007 S

NOTE: This sketch refers to dimensions - not construction.
Consult Milwaukee for modifications for added optional equipment.

Customer KAISER FABRICATING DIV.-

Crane No. *CTL-23540*

Tons 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 [redacted] Floor [redacted] control attached to [redacted] Trolley [redacted]

Cage	Service	INDOOR	No. Req.	6E Hoist	No. Req.	BC-13½ Bridge	No. Req.	TT-9 Trolley	No. Req.	Aux. Hoist or Closing	No. Req.	Magnet Drum
Motor	Frame Size			HEH-364RX				REULAND	1	LENGTH #14-22 COND.		
	Type			ENCL.				ENCL.		CABLE FOR PENDANT		
	H.P. & R.P.M.			20/6¾ 1650/550		1½-1650		1-1650		P.B. STA.		L.G.
	List No.		1	114496-9	2	100F982-13	1	53U19D24				
	Finish Class	"C" Form		A		E17			1	LENGTH #50S GALV. MACH. CHAIN,		
Order No.			ES									
Brake	Type & Size			CD-5		CD-1 ADJ.		REULAND		NOTE: SEE MECH. SPEC. FOR LENGTHS OF CABLE, & CHAIN.		
	List No.											
	Brake Wheel Part No.											
	Bracket List No.											
	Brake Coil List No.									TY-RAPTIES 3Z2890D3		
	Cover Part No.											
	Cover Bracket Part No.									2 CORD GRIPS 85Z24D14		
Order No.												
Rectifier Assembly List No.												
Controller	Type			P.B. TWO SPD.		PRI. REACTOR TORQUE CONT.		PRI. REACTOR TORQUE CONT.				
	List No.		1	8-BUTTON PUSH BUTTON STA. L#55107-33		E40						
	Blowout Coil List No.											
	Blowout Lead List No.											
Wiring Diagram	Order No.			COMPLETE WIRING DIAGRAM-PUSH BUTTON COLOR CODE ELEC.								
	Layout	REACTORS				2 100A50B4-2	2	100A5039-4				
	Order No.		1	ANODE TRANSFORMER		75Z514D1						
Res.	AMP. RATING			60		15		4				
	PART #		3	79Z754D18	3	79Z754D9	3	79Z754D1				
	Res. List No.											
	Order No.											
P.O. Relay	Fuse Overload Relay Amp. Rating		1	80Z25D57								
	Overload Relay List No.		1	80Z25D14	1	80Z25D9	1	80Z25D1				
	Overload Relay Coil No.			N43 N37		N28		N15				
Size Rub. Cov. Leads (Pri.)	Size			12		12		12				
	Rub. Cov. (Sec.-A-AL-RX)			-		-		-				
	Rub. Cov. (Intermediate)			-		-		-				
	Asb. Cov. (Intermediate)			-		-		-				
	Asb. Cov. (A-AL-RX)			-		-		-				
Motor Primary Bridge Cond.	Motor Primary Bridge Cond.		1	LENGTH 10 COND. #12 TYPE "SO" CORD (1.015" O.D.)						SEE MECH. SPEC. FOR CABLE PART #		
	Motor Secondary Bridge Cond.											
	Limit Switch Bridge Cond.											
	Bridge Cond.		2	CORD GRIPS 85Z24D14								

Description	SUPPLY PANEL	HOIST PANEL	BRIDGE PANEL	TROLLEY PANEL	COMPLETE ENCLOSURE		
Height of Panel	27"	27"	27"	27"	30"		E13
Width of Panel	9 1/2"	24 1/2"	11"	11"	60"		COMPLETE
Panel Dwg No	979E75-1	979E77-2	979F519-1	979F519-1			COMPLETE
Panel List No	979E75-1	979E77-2	979F519-1	979F519-1	14039		COMPLETE
Order No			E25	100E75			
Width Prot. Panel			Main Line Rub. Cov. Leads #12		Remarks:		
Ass. Ed Dwg No.			Total No. Bridge Cond	FESTOONED	1- HANDLE ASSEMBLY 100E3539		
M-Hal Lim Sw., Type & Size	100E696-3		Total No. Runway Cond	3	1- LATCH ASSEMBLY 987F1		
M-Hal Lim Sw., " "	79Z976D2		Push Button:		3- NAMEPLATES 32H222		
Electric Hoister			3- MAIN LINE FUSE TRONS		1- BASKET 20H3256		
Hoister Fuses			60 AMP. 79Z754D18				
Circuit Fuses	2-6	79Z96D5	1- MAIN LINE SAFETY SW.				
Wire & Conduit	N.E.C.	79Z711D2					

Written By: W.J.Z.

Written By: W.J.Z.

Combination Used								
Start - Stop	Yes	YES	YES	NO	YES	YES	YES	NO
Hoist Motion	SIR	V.S.	T.S.	—	S.S.			
Bridge Motion	SIR	V.S.	SIR	—	V.S.			
Trolley Motion	SIR	V.S.	SIR	—	S.S.			
Total No. of P.B.	8	6	8	—	8			
No. Cond. in Cable	22	22	22	10	16			

Conductor Color								
Green	4	Ground	GROUND	Ground	GROUND	GROUND	GROUND	GROUND
Red	3	A	A	B	INI	B		
Orange	5	C	B	C	SY2	C		
Blue	6	B	D	A	B	A		
White	2	Y2	HL6	Y2	SPARE	HR3		
Black	1	Y3	HR6	Y3	SPARE	HL3		
Red-Black	8	3E23	H36	HR	SPARE	TL2		
White-Black	7	3E24	H46	HL	SPARE	TR2		
Green-Black	9	SL3	H56	HHI	SPARE	BF		
Orange-Black	10	SH3	H66	HLO	SPARE	BR		
Blue-Black	11	2E23	TL5	SL2		B3		
Green-White	14	2E24	TR5	SR2		B4		
Blue-White	15	SL2	T35	2E23		B5		
Black-Red	16	SR2	T45	2E24		B6		
Black-White	12	1E23	T55	SFI		SPARE		
Red-White	13	1E24	T65	SR1		SPARE		
White-Red	17	SR1	INCH	1E23				
Orange-Red	18	SFI	SPARE	1E24				
Blue-Red	19	SPARE or LRI	SPARE	SPARE				
Red-Green	20	SPARE or SD3	SPARE	SPARE				
Orange-Green	21	SPARE	SPARE	SPARE				
Black-White-Red	22	SPARE	SPARE	SPARE				

DR. BY C.E.K.
 CH. BY F.C.M.
 APP. BY *[Signature]*

HARNISCHFEGER CORPORATION
 ELECTRICAL DEPARTMENT

DATE 3-4-60 **FILE 1204**

TO KAISER FAB. DIV.

CLEARANCE SKETCH NO. 107B75

PROPOSAL NO. LA-959-D

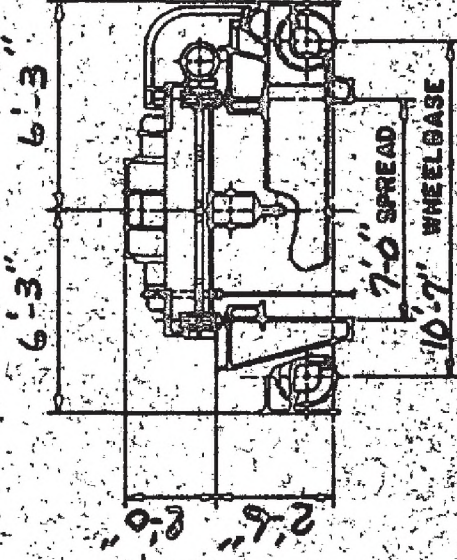
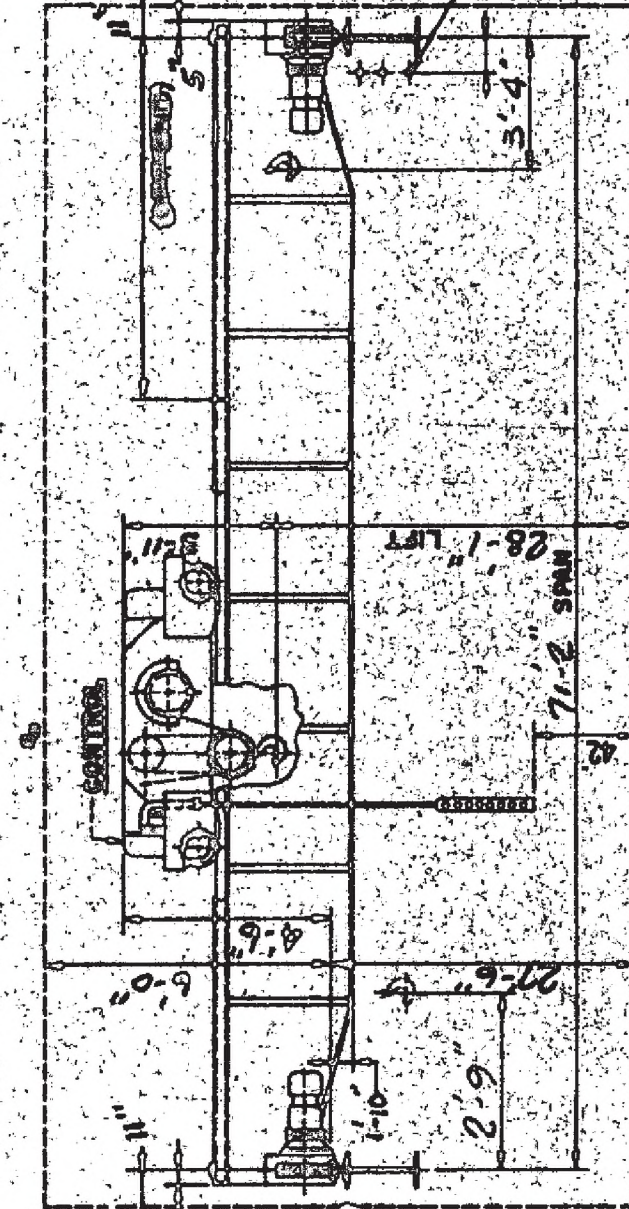
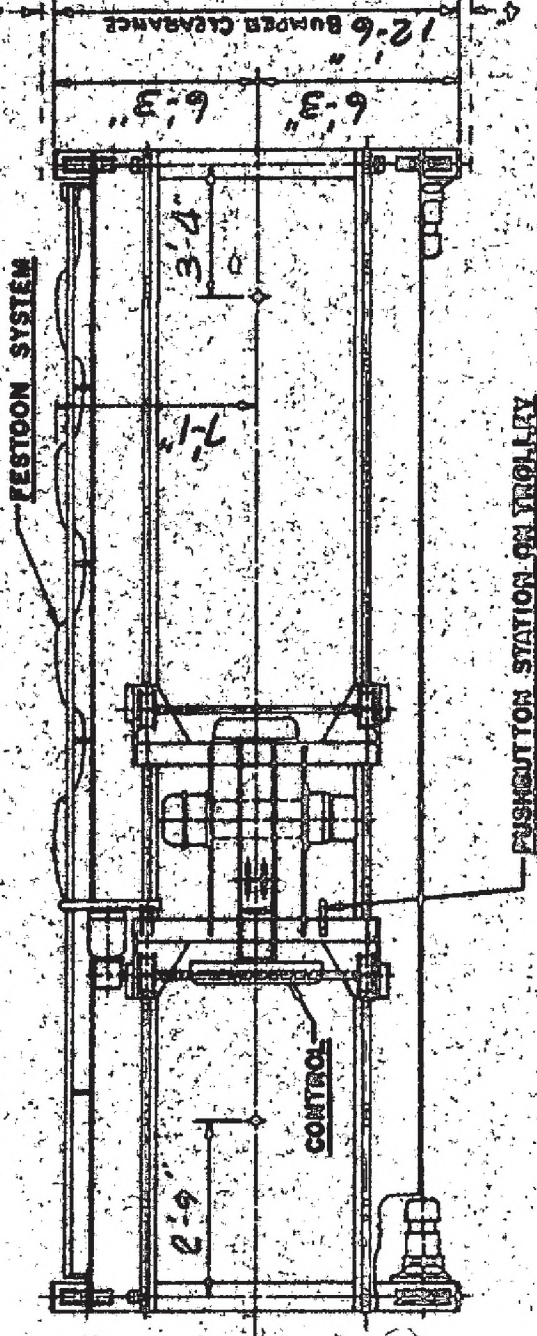
Capacity 10 Tons

Runway rail 60 lbs./yd.

Max. wheel load 17,800 lbs.

Crane voltage 460-3-60

W



INDICATE LOCATION OF MAIN LINE CONDUCTORS. L-H END

CTL-23540

PROJECT NO.	DATE	DESIGNED BY	CHECKED BY
3104E1007.3			
DESIGNED BY	DATE	DESIGNED BY	CHECKED BY
HARNISCHFEEGER		HARNISCHFEEGER	
CLEARANCE DRAWING		CLEARANCE DRAWING	
FOR TORREY CRANE		FOR TORREY CRANE	
3104E1007.3		3104E1007.3	

NOTE: This sketch refers to dimensions - not construction.
Consult Milwaukee for modifications for added optional equipment.

CRANE ELECTRICAL BILL OF MATERIAL

Date 1-23-70

Customer KAISER FABRICATING DIV.

Crane No. CTL-23540

Tons 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 Floor control attached to Trolley

Cage	Service	No. Req.	6E Hoist	No. Req.	BC-13 1/2 Bridge	No. Req.	TT-9 Trolley	No. Req.	Aux. Hoist or Closing	No. Req.	Magnet Drum
Motor	Frame Size		HEH-364RX				REVLAND	1	LENGTH #14-22 COND.		
	Type		ENCL.				ENCL.		CABLE FOR PENDANT		
	H.P. & R.P.M.		20/6 1/2 1650/550		1 1/2-1650		1-1650		P.B. STA.		LG.
	List No.		1 114496-9	2	100F982-13	1	53U19D24				
	Finish Class	"C" Form		A				1	LENGTH #50S GALV.		
	Order No.		E5		E17				MACH. CHAIN		
Brake	Type & Size		CD-5		CD-1 ADJ.		REVLAND		NOTE: SEE MECH. SPEC.		
	List No.								FOR LENGTHS OF CABLE,		
	Brake Wheel Part No.								4 CHAIN.		
	Bracket List No.										
	Brake Coil List No.								TY-RAP TIES 32Z890D3		
	Cover Part No.										
	Cover Bracket Part No.							2	CORD GRIPS 85Z24D14		
Controller	Rectifier Assembly List No.										
	Type		P.B. Tab SPD.		PRI. REACTOR TORQUE CONT.		PRI. REACTOR TORQUE CONT.				
	List No.		1 8-BUTTON		PUSH BUTTON STA. L#55107-33		E40				
	Blowout Coil List No.										
	Blowout Lead List No.										
Res.	Wiring Diagram		COMPLETE WIRING DIAGRAM-								
	Order No.		PUSH BUTTON		COLOR CODE ELEC. 120 4						
	Layout	REACTORS									
Mag.	List No.		10IE 648B		10IE 6521		10IE 6520				
	Order No.	J/D. 10IE 674B	1	ANODE TRANSFORMER		75Z514D1					
	AMP. RATING		60		15		4				
Pro.	PART #		3 79Z754D18	3	79Z754D9	3	79Z754D1				
	Res. List No.										
	Order No.										
Wire Sizes	Fuse-Overload Relay Amp. Rating		1 80Z25D57								
	Overload Relay List No.		1 80Z25D14	1	80Z25D9	1	80Z25D1				
	Overload Relay Coil No.		N43 N37		N28		N15				
Bridge Conductors	Size Rub. Cov. Leads (Pri.)		12		12		12				
	Size of Res. Leads										
	Rub. Cov. (Sec.-A-AL-RI-RX)										
Switch Board	Rub. Cov. (Intermediate)										
	Asb. Cov. (Intermediate)										
	Asb. Cov. (A-AL-RI-RX)										
Bridge Conductors	Motor Primary Bridge Cond.		1	LENGTH 10 COND. #12 TYPE "30" CORD (1.05" O.D.)					SEE MECH. SPEC.		
	Motor Secondary Bridge Cond.								FOR CABLE PART #		
	Limit Switch Bridge Cond.										
	Bridge Cond.		2	CORD GRIPS 85Z24D14							
Switch Board	Description	SUPPLY PANEL	HOIST PANEL	BRIDGE PANEL	TROLLEY PANEL	COMPLETE ENCLOSURE					
	Height of Panel	27"	27"	27"	27"	30"			E13		
	Width of Panel	9 1/2"	24 1/2"	11"	11"	60"			COMPLETE		
	Panel Dwg. No.	979E75-1	979E77-2	979F519-1	979F519-1				CONTROL		
	Panel List No.	979E75-1	979E77-2	979F519-1	979F519-1	14U39					
Total Width Prof. Panel	Order No.			E25	WE25						
	Sw. Bd. Dwg. No.										
	M.Hst. Lim. Sw., Type & Size	100E696-3									
	Hst. Lim. Sw., " "	79Z976D2									
	Electric Heater		3-MAIN LINE FUSETRONS			1-BASKET 20H3256					
Heater Fuses	Heater Fuses		60 AMP. 79Z754D18			1-TERM. BOARD 79Z76D4					
	Control Fuses	2-6	79Z96D5								
	Crane Wire & Conduit	N.E.C.	79Z711D2								
	TERM. BOARD	10U/D. ADD.									
	Remarks:										
Total No. Bridge Cond.	Total No. Bridge Cond.		FEISTONED			1-HANDLE ASSEMBLY 100E3539					
	Total No. Runway Cond.		3			1-LATCH ASSEMBLY 987F1					
	Push Button:					3-NAMEPLATES 32H232					
	1-MAIN LINE SAFETY SW.										

Written By: W.U.L.

PHM Leek 03999

CRANE ELECTRICAL BILL OF MATERIAL

Date 1-23-70

Customer KAISER FABRICATING DIV.

Crane No. CTL-23540

Tons 10 Span 71'-2" Volts 460 A.C. Phase 3 Cycle 60 Floor control attached to Trolley

Cage	Service	No. Req.	GE Hoist	No. Req.	BC-13 1/2 Bridge	No. Req.	TT-9 Trolley	No. Req.	Aux. Hoist or Closing	No. Req.	Magnet Drum
Motor	Frame Size		HEH-364RX				REULAND	1	LENGTH #14-22 COND.		
	Type		ENCL.				ENCL.		CABLE FOR PENDANT		
	H.P. & R.P.M.		20/6 1650/550		1 1/2-1650		1-1650		P.B. STA.		LG.
	List No.		1 114496-9	2	100F982-13	1	53U19D24				
	Finish Class	"C" Form		A				1	LENGTH #50S GALV.		
	Order No.		E5		E17				MACH. CHAIN		
Brake	Type & Size		CD-5		CD-1 ADJ.		REULAND		NOTE: SEE MECH. SPEC.		
	List No.								FOR LENGTHS OF CABLE,		
	Brake Wheel Part No.								& CHAIN.		
	Bracket List No.										
	Brake Coil List No.								TV-RAPTIES 32Z890D3		
	Cover Part No.										
Controller	Cover Bracket Part No.							2	CORD GRIPS 85Z24D14		
	Order No.										
	Rectifier Assembly List No.										
	Type		P.B. TWO SPD.		PRI. REACTOR TORQUE CONT.		PRI. REACTOR TORQUE CONT.				
	List No.		1	8-BUTTON PUSH BUTTON STA. L #55107-33		E40					
	Blowout Coil List No.										
Res.	Blowout Lead List No.										
	Wiring Diagram										
	Order No.										
	Layout	REACTORS									
	List No.		101E 6480		101E 6521		101E 6520				
	Order No.	J/D. 101E 674B	1	ANODE TRANSFORMER		75Z514D1					
Magas-	AMP. RATING		60		15		4				
	PART #		3 79Z754D18	3	79Z754D9	3	79Z754D1				
	Res. List No.										
	Order No.										
	Fuse-Overload Relay Amp. Rating		1	80Z25D57							
	Overload Relay List No.		1	80Z25D14	1	80Z25D9	1	80Z25D1			
Pro-	Overload Relay Coil No.		N43 N37		N28		N15				
	Size Rub. Cov. Leads (Pri.)		12		12		12				
	Size of Res. Leads										
	Rub. Cov. (Sec. A-AL-RI-RX)										
	Rub. Cov. (Intermediate)										
	Ash. Cov. (Intermediate)										
Bridge	Ash. Cov. (A-AL-RI-RX)										
	Motor Primary Bridge Cond.		1	LENGTH 10 COND. #12 TYPE "50" CORD (1.015" O.D.)							
	Motor Secondary Bridge Cond.										
	Limit Switch Bridge Cond.										
	Bridge Cond.		2	CORD GRIPS 85Z24D14							
Switch Board	Description	SUPPLY PANEL	HOIST PANEL	BRIDGE PANEL	TROLLEY PANEL	COMPLETE ENCLOSURE					
	Height of Panel	27"	27"	27"	27"	30"			E13		
	Width of Panel	9 1/2"	24 1/2"	11"	11"	60"			COMPLETE		
	Panel Dwg. No.	79E75-1	79E77-2	79E519-1	79E519-1				CONTROL		
	Panel List No.	79E75-1	79E77-2	79E519-1	79E519-1	14U39					
	Order No.			E25	W25						
Total Width Prot. Panel		Main Line Rub. Cov. Leads #12		Remarks:							
Sw. Bd. Dwg. No.		Total No. Bridge Cond. RETURNED		1- HANDLE ASSEMBLY 100E3539							
M.Hct. Lim. Sw., Type & Size 100E496-3		Total No. Runway Cond. 3		1- LATCH ASSEMBLY 987F1							
1- Hat Lim. Sw., " 79Z976D2		Push Button:		3- NAMEPLATES 32H222							
Electric Hoister		3- MAIN LINE FUSETRONS		1- GASKET 20H3256							
Hoister Fuses		60 AMP. 79Z754D18		1- TERM. BOARD 79Z726D4							
Control Fuses 2-6 79Z96D5		1- MAIN LINE SAFETY SW.									
Crane Wire & Conduit N.E.C.		79Z711D2									
TERM. BOARD W/D. ADD.											

Written By: W.V.L.

TORBEAM PRELIMINARY SCHEDULE

January 20, 1970

TO: E. JAGODZINSKI T. HERTEL C. SMAIDA
A. RUTKOWSKI B. BLANKENBURG L. KOCHNOWICZ
B. TEWS S. LANCOURT G. REARICK
J. KAUFMAN ~~B. EVANS~~ (Cudahy) B. BRATBERG (Cudahy)
G. GANTZ R. VALDEZ H. DAVIES
D. HECKER (Cudahy) G. HENES A. KORE
R. BOYD D. COYLE A. JESKE
R. NESSLER

KAISER FABRICATING DIV.	CTL-23540
ELECTRICAL ENGINEERING	1-26
MECHANICAL ENGINEERING	1-28
ELECTRICAL SPECS	1-28
MECHANICAL SPECS	1-30
SHIP CRANES PARTS TO LOS ANGELES	3-5-70
SHIP CRANES FROM LOS ANGELES	March 1970

One Torbeam - Los Angeles

Part of Order CTL-23534 - 38 and CTL-23540.

Cranes urgently required. Please hold or improve all dates. Primary reactor bridge and trolley control (Stock) and coupled bridge drives (Stock). Please advance all stock material including L.A. Structuralists immediately.

Charles E. Schafer
Overhead Traveling Crane Division

CES/jz

CC: Bob LaMarre - Los Angeles
Gib Davelaar - Los Angeles
Bill Leupold - Crane Estimating (Hours 900)
Ray Kuhn - Service (Checkout \$300.00 - total 6 cranes).
Tim Hucke - Elec. Prod. (Spare Parts List)

PRICING — TAX — INVOICING — SHIPPING — LOADING DATA FOR OVERHEAD ELECTRIC CRANES

SOLD TO Kaiser Steel Fabricating Division
13230 San Bernardino Avenue
Fontana California 92335

CRANE NO. CTL-23540

PROPOSAL NO. LA-959 D

PROPOSAL DATE 12-17-69

RELEASE DATE 1-17-70

CRANE ERECTED BY: Purchaser

INVOICE NO. _____

INVOICE DATE _____

INVOICE TO Kaiser Steel Fabricating Division
13230 San Bernardino Avenue
Fontana, California 92335

SHIP TO Kaiser Steel
Fontana Fabricating Plant
Fontana, California

TAX INFO:

EXEMPTION NO. _____

ADD TO INVOICE _____

REFER CUST. ORDER _____

F.O.B. Norwalk California Plant

FREIGHT Collect

SHIP VIA Truck

SCHEDULED SHIPMENT March 1970

TERMS 80% in cash upon receipt of invoice
and B/L, the balance, or
20% in cash within thirty days
from date of shipment.

REMARKS

PRELIMINARY ONLY

EST. ERECTION DATA — AS ENGINEERED*

FRONT GIRDER _____ #
MACHINERY _____ #
WALKWAY _____ #
CONTROL _____ #
CONDUCTORS _____ #
_____ #

TOTAL FRONT GIRDER _____ #

REAR GIRDER _____ #
WALKWAY _____ #
CONDUCTORS _____ #
_____ #

TOTAL REAR GIRDER _____ #

TROLLEY _____ #
CAB _____ #
_____ #
AUX. GIRDER _____ #
END TIES _____ #
END TRUCKS _____ #
MISCELLANEOUS _____ #

TOTAL NET WT. _____ #
TOTAL SH. WT. _____ # 33,000 #

CRANE WHL. LOAD: _____ #@

IS TROLLEY K/D FOR SHIPMENT? _____

PRICING		
CUST. ORDER NO.	ITEM	PRICE
	CRANE CTL-23540	\$20,794.00
	S-1 RUNWAY CONDUCTORS	
	S-2 SPARES	
	S-3	
	S-4	
	PROTECTION AND BOX SERVICE ENGINEER Checkout	Incl.
	FREIGHT	
	CONTRACT PRICE	\$20,794.00
	STATE USE TAX	
	LOCAL USE TAX	
	GRAND TOTAL	
CRANE CODE A A B	CRANE NO. CTL-23540	

REPRESENTATIVE - DISTRICT KOWALIK - LOS ANGELES	NO.	REPRESENTATIVE - DISTRICT	NO.	REPRESENTATIVE - DISTRICT	NO.
--	-----	---------------------------	-----	---------------------------	-----

*UPON COMPLETION OF ENGINEERING, FORWARD TO SALES DEPT.

PHM Leek 04003

**TORBEAM STOCK COMPONENT CRANE**
ADDENDA TO PROPOSAL NO. CTL-23540
LA-959-D

1. Crane as specified to be designed and fabricated in accordance with P&H published commercial standards for TORBEAM type cranes, qualified as specified herein.
2. Four (4) motor crane as specified to consist of a double girder TORBEAM type bridge with a two (2) motor top running trolley. Bridge to have two individual drives, one at each end of bridge, operating in parallel.
3. Crane to be pushbutton floor operated from:
 - ☒ A. Trolley between girders at drive end of trolley ("H" end) as shown on Clearance Drawing 3104E1007. (Standard)
 - ☐ B. Bridge (Fixed Position) as indicated. (Price Addition)
 - ☐ C. Pushbutton pendant station to be suspended from a festooned flexible cable messenger system suspended from anti-friction bearing trolleys operating on a rigid track supported from crane bridge. (Price Addition)
 - ☐ D. Job Engineered Location. (Price Addition)

4. MOTORS:

P&H totally enclosed motors with anti-friction bearings rated 30 minute, 75° rise above ambient temperatures of 40°C.

- ☐ A. Hoist to be furnished with a single winding squirrel cage type motor. Trolley and dual bridge drives to be provided with single winding squirrel cage type motors 220/440V. (Standard)
- ☒ B. Hoist to be furnished with a dual winding squirrel cage type motor. (Price Addition)
Trolley and dual bridge drives to be provided with single winding squirrel cage type motors, 220/440V.

5. BRAKES:

Hoist and dual bridge motors to be furnished with P&H DC rectified brakes. Trolley motor to be furnished with an electric motor brake. In addition to the motor brake, hoist will be furnished with a Weston type mechanical load brake, operating in bath of oil. Bridge and trolley brakes to be of the adjustable torque type.

6. CONTROL:

- ☐ A. P&H full magnetic single speed control on hoist. (Standard)
- ☒ B. P&H full magnetic two speed control on hoist. (Price Addition)
- ☐ C. P&H Primary Reactor Hoist Control Bulletin 567. (Price Addition)
- ☒ D. P&H Primary Reactor ~~Hoist Control Bulletin 567~~ Bridge and Trolley Control Bulletin 566. (Price Addition)

Eight-button pendant station to contain "Start" "Stop" buttons for manual magnetic disconnect switch electrically operable from pendant or manually from control cabinet. Automatic reset type thermal overload relays to be provided. Control to be housed in hoist type NEMA III enclosures for indoor or outdoor operation. Control proper to be mounted on trolley as shown on clearance drawing.

7. HOIST LIMIT SWITCH:

Hoist to be furnished with a lever operated plugging type upper limit switch and a geared upper and lower limit switch both of the control circuit type.

8. SPAN CONDUCTORS:

Span conductors to consist of a festooned flexible cable messenger system suspended from anti-friction bearing trolleys on a rigid track supported from the crane bridge.

9. BRIDGE GIRDERS:

Bridge to be of double girder design with trolley operating on rails attached to top member. Girders to be of P&H TORBEAM (Torsional Beam) (U.S. Patent D202,718) design welded into a one piece frame consisting of two girders and two end trucks to enable one piece shipment and erection of bridge where jobsite conditions allow. Bridge to be provided:

- ☒ A. Without service platform, wherein Purchaser will make full provisions for servicing entire crane from portable or stationary equipment in building. (Standard)

TORBEAM STOCK COMPONENT CRANE

ADDENDA TO PROPOSAL NO. CTL-23540 (Continued)

LA-959 D

- ☐ B. A standard (10' - 0" long) trolley service platform located at ☐ Left; at ☐ Right; at ☐ both ends of bridge. (10' - 0" long) platforms **not to be used** when a pushbutton traveling control messenger system is furnished. (Price Addition)
- ☐ C. A short (4' - 0" long) trolley service platform located at ☐ Left; at Right ☐ ; at ☐ both ends of bridge. (4' - 0" long) platform **to be used** when a pushbutton traveling control messenger system is furnished. (Price Addition)
- ☐ D. Full length service platform. (Price Addition)
All platforms to have checkered steel flooring.
- ☐ E. Full length handrail and walkspace on front girder. (Price Addition)
10. BRIDGE END TRUCKS:
Crane bridge to be provided with two structural end trucks welded into TORBEAM girders for unitized construction as described under Item No. 9 MCB rotating axle design to be used. Bridge wheels to be high carbon (C-1070) forged steel, rim toughened and to be 13 ¹/₂ inches diameter. Bridge End Trucks to be provided as follows: (Coupled Bridge Drives)
- ☐ A. One piece unitized construction for all cranes under 60' - 0" span, 7' - 0" trolley spread and 10' - 6" overall width (Y and Z) to permit one piece rail shipment. (Standard)
- ☐ B. End trucks having one splice to permit rail shipment for cranes over 60' - 0" span, over 10' - 6" overall width (Y and Z) to maintain proper span to wheel base ration but within limitation as shown under Table 6, Modification Sheet 217.02(101) Item 6, Part I. (Standard)
- ☐ C. Cranes normally having one piece unitized construction per Item A, but requiring one splice to reduce overall width for truck shipment or because of Purchaser's building restrictions. (Price Addition)
- ☐ D. A single or double end truck splice as required for spans beyond those covered by Modification Sheet 217.02 (101) Item 6, Part I. (Price Addition)
- ☒ E. Bolted End Trucks.
11. BRIDGE BUMPERS:
- ☐ A. Bridge end trucks to be provided with solid strike plates at each of four corners to engage suitable end stops erected and furnished by Purchaser. (Standard)
- ☒ B. Bridge end trucks to be provided with rubber bumpers at each of four corners to engage suitable stops by Purchaser. ~~(Price Addition)~~
12. BRIDGE DRIVES:
Individual bridge drives of the integral and coaxial type (U.S. Patent 3,252,586) provided at each end truck. Each drive to be provided with an individual flange mounted motor as specified as an integral part of the unitized drives, which drives will be operated in parallel by a common bridge control. Bridge gearing to be of the planetary type. (Coupled)
13. TROLLEY:
Crane to be furnished with a unitized four wheel structural trolley with a P&H Balanced Design Hoist as specified built into frame. Single MCB rotating axle design to be used. Trolley wheels to be high carbon (C-1070) forged steel, rim toughened, and to be 9 inches in diameter. Unitized frame design to be based upon an impact absorbing torsional tube elastically supported from specified four trolley wheels. Hoist to be furnished with a standard P&H specified latch type safety hook.
14. TROLLEY DRIVE:
A single helical worm speed reducer with a flange mounted motor as specified to be an integral part of complete trolley design.
15. BEARINGS:
Anti-friction bearings to be provided throughout. A minimum of 5000 hours, 75%, B-10 bearing life to be furnished for entire crane.



TORBEAM STOCK COMPONENT CRANE

ADDENDA TO PROPOSAL NO. CTL-23540 (Continued)
LA-959-D

16. LUBRICATION:

All gearing except drum gear to be enclosed in oil tight gear cases and to be oil bath lubricated. All bearings not oil bath lubricated to be either of the lifetime lubrication type or to be provided with individual grease fittings (Alemite) for use with Purchaser's hand pump.

17. PAINTING:

- ☒ A. Two coats, finished in P&H TORBEAM yellow for entire crane, for indoor service. (Standard)
- ☐ B. Special paint, colors, extra coats, etc. (Price Addition)
- ☐ C. For outdoor service, rust inhibiting primer where specified. (Price Addition)

18. Crane will be assembled, wired, and tested without load in our shops after which it will be suitably match-marked and dismantled to the extent required for shipment. Machined surfaces will be suitably protected against corrosion. Erection, reassembly, and field wiring will be completed by Purchaser. Unitized construction will be used where jobsite shipment and erection conditions permit.

19. Four erection brackets to be provided with crane.

20. Two complete sets of standardized parts books with all wearing parts listed and identified on individual isometric sketches for facility of identification and ordering through P&H nationwide parts facilities to be provided. Crane as specified being of stock component design, can be serviced from an immediate stock of spare parts available from manufacturer or duly authorized P&H parts source. (Standard)

☒ Extra parts books, special drawings, etc. ~~(Price Addition)~~

21. Two complete sets of erection drawings and erection manuals to be furnished before crane shipment. Where unitized bridge design is being used, erection drawings will so designate. (Standard)

☒ Additional drawings. ~~(Price Addition)~~

22. Added Engineered Parts - Mechanical and Electrical:

A. Mechanical

1. ☒ Provide 3-pole Cleveland Saffowbar collectors with staff for use with Purchaser mainline conductor system.
2. ☒ CTL-23540 to operate on a 320'-0" long runway.
- ☐
- ☐
- ☐
- ☐

B. Electrical

- Mainline conductor material and collectors. (Price Addition)
1. ☒ Control to be magnetic two speed hoist with mechanical load brake and Bull. 566 primary reactor on bridge and trolley with all control mounted on trolley.
 - ☐
 - ☐
 - ☐
 - ☐
 - ☐

23. The services of a P&H Service Engineer to be provided to check out cranes after erection.
24. One set of reproducible autositives of assembly drawings and wiring diagrams on P&H format to be furnished after completion of engineering for use by Purchaser for erection purposes and permanent records. No detail drawings of individual parts will be provided.
25. Five (5) sets of complete parts books and maintenance manuals to be provided. Furnish complete spare parts list.

TORBEAM CRANE SALES ORDER

Col.	Specification	Code	E.D.P. Data
1-15	Serial number		145101113 CT4-23540-++ Rev.++
16	Quantity		1617202223 77-2-+/+ Ft.In.
17-23	Crane span (to nearest 1/8")		
24-27	"Q" Rail to floor (to nearest 1") exclusive of pit		2426 276 Ft.In.
28	Stock Component Crane — S.C.C. — Modified ...	1 2	28 2
30	Service — indoor — outdoor	1 2	30 1
31-32	Hoist unit— 4C 3T — 4CA 5T — 4D 5T — 6D 7-1/2T — 6D 10T — 6D 15T — 6E 10T — 6E 15T — 5E 20T — 6F 20T — 6F 25T — 6F 30T	11 12 21 22 23 24 31 32 33 41 42 43	31 31
33	Hoist motor — single speed (C&D hoist only) — two speed — magnetorque	1 2 3	33 2
34	Power supply — 220V, a-c, 3 ph, 60 cy . — 440V, a-c, 3 ph, 60 cy .	1 2	34 2
35	Main line location — R.H. — L.H.	1 2	35
36	Standard limit switches — upper, weight and geared; lower, geared only	1	36 1
37-39	Control type— P.B. on trolley — P.B. on messenger — P.B. fixed on bridge — Cab masters — Special (see addenda) ...	1 2 3 4 5	37 1 ... Dim. from R.H. end, "J"=38Ft.

TORBEAM CRANE SALES ORDER (CONTINUED)

CTL-23540

Col.	Specification	Code	E.D.P. Data
40	Bridge bumper — standard strike plate . . . — rubber bumpers — special (see addenda) . . .	1 2 3	⁴⁰ ☒
41	Platforms — no platforms — R.H. platform only — L.H. platform only — two platforms — special (see addenda)	1 2 3 4 5	⁴¹ ☒
42	Shipment type — integral bridge — spliced end trucks — double spliced trucks	1 2 3	⁴² ☒ BOLTED END TRUCKS
43	Runway rail — standard — non standard	1 2	⁴³ ☒
50	Painting — standard yellow — special (see addenda)	1 2	⁵⁰ ☒
51	Erection brackets — one set (standard) . . . — one set for each crane — none required	1 2 3	⁵¹ ☒
60-62	Shipment date, week of		⁶⁰ ☒ 21
63-68	Order date		⁶³ ⁶⁵ ⁶⁷ ☒ 1 ☒ 7 ☒ 20
69	"S" Orders — required — not required	1 2	⁶⁹ ☒ 2
70	Engineered parts — required — not required	1 2	⁷⁰ ☒
Approved by: _____			

ITEMS CHECKED BELOW WILL BE REQUIRED FOR ORDER NO. *CTL-23540*

ELECTRICAL

ELECTRICAL

V			LIST NO.	STK. ORD. NO.	V		
✓	E	Electrical Material			✓	E52	Trolley Wiring
	E1	Trolley Motor				E53	Cab Wiring
	E2	Trolley Controller				E54	"K" Cabinet & Support
	E3	Trolley Resistance					
	E4	Trolley Brake Coil					
	E5	Hoist Motor					
	E6	Hoist Controller					
	E7	Hoist Resistance					
	E8	Hoist Brake Coil					
	E9	Aux. Hoist Motor					
	E10	Aux. Hoist Contr.					
	E11	Aux. Hoist Resis.					
	E12	Aux. Hoist Brake					
✓	E13	Switchboard or Comp. Control					
	E14	Line Contactor					
	E15	Forcing Resistor					
	E16	Forcing Resistor					
	E17	Bridge Motor					
	E18	Bridge Controller					
	E19	Bridge Resistance					
	E20	Bridge Brake Coil					
	E21	Limit Switch, Main Hoist					
	E22	Relay Panel					
	E23	Hoist Panel					
	E24	Aux. Hoist Panel					
✓	E25	Bridge Panel		2			
	E26	Trolley Panel <i>WIE 25</i>					
	E27	Enclosure, Main Hoist					
	E28	Magnetorque, M. Hoist					
	E29	Complete Control					
	E30	Magnetorque, A. Hoist					
	E31	Enclosure, A. Hoist					
	E32	Enclosure, Trolley					
	E33	Enclosure, Bridge					
	E34	Reactor, M. Hoist					
	E35	Reactor, A. Hoist					
	E36	Reactor, Trolley					
	E37	Reactor, Bridge					
	E38	Limit Switch, A. Hoist					
	E39	Supply Panel					
✓	E40	Push Button Assembly & Cable					
	E41	Joy Stick Assembly					
	E42	Rectifier Assembly					
	E43	Rectifier Assembly					
	E44	Magnetorque Resistor					
	E45	D. D. Resistor					
	E46	Rotating Hook Motor					
	E47	Rotate Panel					
	E48						
	E49						
	E50						
✓	E51	Bridge Wiring					

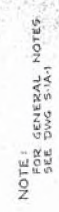
SUBD BY *B.A.R.*

DATE *2-2-70*

Sheet 1 of 2

ORDER NO. *CTL-23540*

REVISED
DRAWING
VOID PREVIOUS PRINTS
DATE _____ BY _____



STRUCTURE	L. S. P. FACILITY	FOR INFO.	PJ-600
CUSTOMER		DATE	
LOCATION		BY	
OTHER	RIGID FRAME DETAIL-BLOG CO	CHK	S-10-1 INV. 

KAISER STEEL CORPORATION
FABRICATION DIVISION FONTANA • NAPA, CALIFORNIA

RIGID FRAME DETAIL
AT COL. LINES 2A TO 13 & 17 TO 34

EXT. COLUMN BASE DETAIL

71.2 c/c ANCHORS BOLTS
100% 0% BLOK

[illegible]



Kaiser Steel

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	10-1-58	W.C.	DESIGN ATTACH

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	10-1-58	W.C.	DESIGN ATTACH

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	10-1-58	W.C.	DESIGN ATTACH

KAISER
STEEL

SECTION A-A
CRANE RACKLET
HOLE LAYOUT

PHM_Lock 040111

DETAIL "B"

BACK STAY BASE DETAIL

CRANE BEAM SUPPORT DETAIL
COLS: A-14, A-16, B-14 & B-16

DETAIL "A"

DETAIL "C"

COLUMN BASE DETAIL

PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION

REVISED
DRAWING
VOID PREVIOUS PRINTS

DATE _____ BY _____

**KAISER
STEEL**

REVISIONS				BLUE PRINT RECORD			BLUE PRINT RECORD			DRAWN		DATE		BOLTS RIVETS		UNLESS NOTED	
REV. NO.	DATE	MADE BY	DESCRIPTION	REASON	DATE	NO. PRINTS	FOR REVIEW	DATE	NO. PRINTS	FOR REVIEW			CHECKED	DATE	HOLES		
1	07-15-68	BT	GENERAL REVISION										POST	10-23-69			
2	11-15-68	BT	DOWN TO 30" DIA. BEAMS COUNT														
3	12-01-68	BT	CRANE BEAM HEIGHT														
											IN CHARGE		PAINTED SHOP CT. GOLDEN TAN ZINC CHROMATE PRIMER				

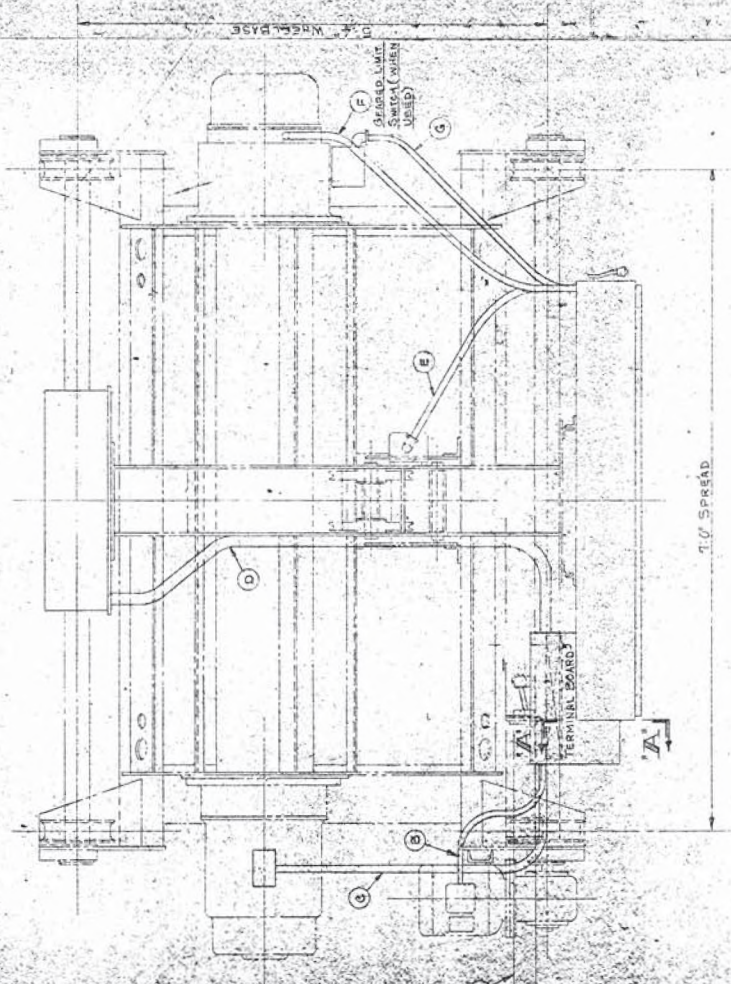
KAISER STEEL CORPORATION
FABRICATION DIVISION FONTANA - NAPA, CALIFORNIA

STRUCTURE L.S.P. FACILITY
CUSTOMER _____
LOCATION _____
DRWG. TITLE "A" - FRAME DETAIL BLDGB

JOB NO.
PJ-600

DRG.
REF.
NO.

SH. S-1B-2 REV. 



SECTION "A-A"

SCHEDULE 40		SCHEDULE 40S		SCHEDULE 80		SCHEDULE 80S		SCHEDULE 160		SCHEDULE 160S		SCHEDULE 250		SCHEDULE 250S		SCHEDULE 350		SCHEDULE 350S		SCHEDULE 450		SCHEDULE 450S		SCHEDULE 550		SCHEDULE 550S		SCHEDULE 700		SCHEDULE 700S		SCHEDULE 900		SCHEDULE 900S		SCHEDULE 1050		SCHEDULE 1050S		SCHEDULE 1200		SCHEDULE 1200S		SCHEDULE 1400		SCHEDULE 1400S		SCHEDULE 1600		SCHEDULE 1600S		SCHEDULE 1800		SCHEDULE 1800S		SCHEDULE 2000		SCHEDULE 2000S		SCHEDULE 2200		SCHEDULE 2200S		SCHEDULE 2400		SCHEDULE 2400S		SCHEDULE 2600		SCHEDULE 2600S		SCHEDULE 2800		SCHEDULE 2800S		SCHEDULE 3000		SCHEDULE 3000S		SCHEDULE 3200		SCHEDULE 3200S		SCHEDULE 3400		SCHEDULE 3400S		SCHEDULE 3600		SCHEDULE 3600S		SCHEDULE 3800		SCHEDULE 3800S		SCHEDULE 4000		SCHEDULE 4000S		SCHEDULE 4200		SCHEDULE 4200S		SCHEDULE 4400		SCHEDULE 4400S		SCHEDULE 4600		SCHEDULE 4600S		SCHEDULE 4800		SCHEDULE 4800S		SCHEDULE 5000		SCHEDULE 5000S		SCHEDULE 5200		SCHEDULE 5200S		SCHEDULE 5400		SCHEDULE 5400S		SCHEDULE 5600		SCHEDULE 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24000		SCHEDULE 24000S		SCHEDULE 24200		SCHEDULE 24200S		SCHEDULE 24400		SCHEDULE 24400S		SCHEDULE 24600		SCHEDULE 24600S		SCHEDULE 24800		SCHEDULE 24800S		SCHEDULE 25000		SCHEDULE 25000S		SCHEDULE 25200		SCHEDULE 25200S		SCHEDULE 25400		SCHEDULE 25400S		SCHEDULE 25600		SCHEDULE 25600S		SCHEDULE 25800		SCHEDULE 25800S		SCHEDULE 26000		SCHEDULE 26000S		SCHEDULE 26200		SCHEDULE 26200S		SCHEDULE 26400		SCHEDULE 26400S		SCHEDULE 26600		SCHEDULE 26600S		SCHEDULE 26800		SCHEDULE 26800S		SCHEDULE 27000		SCHEDULE 27000S		SCHEDULE 27200		SCHEDULE 27200S		SCHEDULE 27400		SCHEDULE 27400S		SCHEDULE 27600		SCHEDULE 27600S		SCHEDULE 27800		SCHEDULE 27800S		SCHEDULE 28000		SCHEDULE 28000S		SCHEDULE 28200		SCHEDULE 28200S		SCHEDULE 28400		SCHEDULE 28400S		SCHEDULE 28600		SCHEDULE 28600S		SCHEDULE 28800		SCHEDULE 28800S		SCHEDULE 29000		SCHEDULE 29000S		SCHEDULE 29200		SCHEDULE 29200S		SCHEDULE 29400		SCHEDULE 29400S		SCHEDULE 29600		SCHEDULE 29600S		SCHEDULE 29800		SCHEDULE 29800S		SCHEDULE 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36000		SCHEDULE 36000S		SCHEDULE 36200		SCHEDULE 36200S		SCHEDULE 36400		SCHEDULE 36400S		SCHEDULE 36600		SCHEDULE 36600S		SCHEDULE 36800		SCHEDULE 36800S		SCHEDULE 37000		SCHEDULE 37000S		SCHEDULE 37200		SCHEDULE 37200S		SCHEDULE 37400		SCHEDULE 37400S		SCHEDULE 37600		SCHEDULE 37600S		SCHEDULE 37800		SCHEDULE 37800S		SCHEDULE 38000		SCHEDULE 38000S		SCHEDULE 38200		SCHEDULE 38200S		SCHEDULE 38400		SCHEDULE 38400S		SCHEDULE 38600		SCHEDULE 38600S		SCHEDULE 38800		SCHEDULE 38800S		SCHEDULE 39000		SCHEDULE 39000S		SCHEDULE 39200		SCHEDULE 39200S		SCHEDULE 39400		SCHEDULE 39400S		SCHEDULE 39600		SCHEDULE 39600S		SCHEDULE 39800		SCHEDULE 39800S		SCHEDULE 40000		SCHEDULE 40000S		SCHEDULE 40200		SCHEDULE 40200S		SCHEDULE 40400		SCHEDULE 40400S		SCHEDULE 40600		SCHEDULE 40600S		SCHEDULE 40800		SCHEDULE 40800S		SCHEDULE 41000		SCHEDULE 41000S		SCHEDULE 41200		SCHEDULE 41200S		SCHEDULE 41400		SCHEDULE 41400S		SCHEDULE 41600		SCHEDULE 41600S		SCHEDULE 41800		SCHEDULE 41800S		SCHEDULE 42000		SCHEDULE 42000S		SCHEDULE 42200		SCHEDULE 42200S		SCHEDULE 42400		SCHEDULE 42400S		SCHEDULE 42600		SCHEDULE 42600S		SCHEDULE 42800		SCHEDULE 42800S		SCHEDULE 43000		SCHEDULE 43000S		SCHEDULE 43200		SCHEDULE 43200S		SCHEDULE 43400		SCHEDULE 43400S		SCHEDULE 43600		SCHEDULE 43600S		SCHEDULE 43800		SCHEDULE 43800S		SCHEDULE 44000		SCHEDULE 44000S		SCHEDULE 44200		SCHEDULE 44200S		SCHEDULE 44400		SCHEDULE 44400S		SCHEDULE 44600		SCHEDULE 44600S		SCHEDULE 44800		SCHEDULE 44800S		SCHEDULE 45000		SCHEDULE 45000S		SCHEDULE 45200		SCHEDULE 45200S		SCHEDULE 45400		SCHEDULE 45400S		SCHEDULE 45600		SCHEDULE 45600S		SCHEDULE 45800		SCHEDULE 45800S		SCHEDULE 46000		SCHEDULE 46000S		SCHEDULE 46200		SCHEDULE 46200S		SCHEDULE 46400		SCHEDULE 46400S		SCHEDULE 46600		SCHEDULE 46600S		SCHEDULE 46800		SCHEDULE 46800S		SCHEDULE 47000		SCHEDULE 47000S		SCHEDULE 47200		SCHEDULE 47200S		SCHEDULE 47400		SCHEDULE 47400S		SCHEDULE 47600		SCHEDULE 47600S		SCHEDULE 47800		SCHEDULE 47800S		SCHEDULE 48000		SCHEDULE 48000S		SCHEDULE 48200		SCHEDULE 48200S		SCHEDULE 48400		SCHEDULE 48400S		SCHEDULE 48600		SCHEDULE 48600S		SCHEDULE 48800		SCHEDULE 48800S		SCHEDULE 49000		SCHEDULE 49000S		SCHEDULE 49200		SCHEDULE 49200S		SCHEDULE 49400		SCHEDULE 49400S		SCHEDULE 49600		SCHEDULE 49600S		SCHEDULE 49800		SCHEDULE 49800S		SCHEDULE 50000		SCHEDULE 50000S		SCHEDULE 50200		SCHEDULE 50200S		SCHEDULE 50400		SCHEDULE 50400S		SCHEDULE 50600		SCHEDULE 50600S		SCHEDULE 50800		SCHEDULE 50800S		SCHEDULE 51000		SCHEDULE 51000S		SCHEDULE 51200		SCHEDULE 51200S		SCHEDULE 51400		SCHEDULE 51400S		SCHEDULE 51600		SCHEDULE 51600S		SCHEDULE 51800		SCHEDULE 51800S		SCHEDULE 52000		SCHEDULE 52000S		SCHEDULE 52200		SCHEDULE 52200S		SCHEDULE 52400		SCHEDULE 52400S		SCHEDULE 52600		SCHEDULE 52600S		SCHEDULE 52800		SCHEDULE 52800S		SCHEDULE 53000		SCHEDULE 53000S		SCHEDULE 53200		SCHEDULE 53200S		SCHEDULE 53400		SCHEDULE 53400S		SCHEDULE 53600		SCHEDULE 53600S		SCHEDULE 53800		SCHEDULE 53800S		SCHEDULE 54000		SCHEDULE 54000S		SCHEDULE 54200		SCHEDULE 54200S		SCHEDULE 54400		SCHEDULE 54400S		SCHEDULE 54600		SCHEDULE 54600S		SCHEDULE 54800		SCHEDULE 54800S		SCHEDULE 55000		SCHEDULE 55000S		SCHEDULE 55200		SCHEDULE 55200S		SCHEDULE 55400		SCHEDULE 55400S		SCHEDULE 55600		SCHEDULE 55600S		SCHEDULE 55800		SCHEDULE 55800S		SCHEDULE 56000		SCHEDULE 56000S		SCHEDULE 56200		SCHEDULE 56200S		SCHEDULE 56400		SCHEDULE 56400S		SCHEDULE 56600		SCHEDULE 56600S		SCHEDULE 56800		SCHEDULE 56800S		SCHEDULE 57000		SCHEDULE 57000S		SCHEDULE 57200		SCHEDULE 57200S		SCHEDULE 57400		SCHEDULE 57400S		SCHEDULE 57600		SCHEDULE 57600S		SCHEDULE 57800		SCHEDULE 57800S		SCHEDULE 58000		SCHEDULE 58000S		SCHEDULE 58200		SCHEDULE 58200S		SCHEDULE 58400		SCHEDULE 58400S		SCHEDULE 58600		SCHEDULE 58600S		SCHEDULE 58800		SCHEDULE 58800S		SCHEDULE 59000		SCHEDULE 59000S		SCHEDULE 59200		SCHEDULE 59200S		SCHEDULE 59400		SCHEDULE 59400S		SCHEDULE 59600		SCHEDULE 59600S		SCHEDULE 59800		SCHEDULE 59800S		SCHEDULE 60000		SCHEDULE 60000S		SCHEDULE 60200		SCHEDULE 60200S		SCHEDULE 60400		SCHEDULE 60400S		SCHEDULE 60600		SCHEDULE 60600S		SCHEDULE 60800		SCHEDULE 60800S		SCHEDULE 61000		SCHEDULE 61000S		SCHEDULE 61200		SCHEDULE 61200S		SCHEDULE 61400		SCHEDULE 61400S		SCHEDULE 61600		SCHEDULE 61600S		SCHEDULE 61800		SCHEDULE 61800S		SCHEDULE 62000		SCHEDULE 62000S		SCHEDULE 62200		SCHEDULE 62200S		SCHEDULE 62400		SCHEDULE 62400S		SCHEDULE 62600		SCHEDULE 62600S		SCHEDULE 62800		SCHEDULE 62800S		SCHEDULE 63000		SCHEDULE 63000S		SCHEDULE 63200		SCHEDULE 63200S		SCHEDULE 63400		SCHEDULE 63400S		SCHEDULE 63600		SCHEDULE 63600S		SCHEDULE 63800		SCHEDULE 63800S		SCHEDULE 64000		SCHEDULE 64000S		SCHEDULE 64200		SCHEDULE 64200S		SCHEDULE 64400		SCHEDULE 64400S		SCHEDULE 64600		SCHEDULE 64600S		SCHEDULE 64800		SCHEDULE 64800S		SCHEDULE 65000		SCHEDULE 65000S		SCHEDULE 65200		SCHEDULE 65200S		SCHEDULE 65400		SCHEDULE 65400S		SCHEDULE 65600		SCHEDULE 65600S		SCHEDULE 65800		SCHEDULE 65800S		SCHEDULE 66000		SCHEDULE 66000S		SCHEDULE 66200		SCHEDULE 66200S		SCHEDULE 66400		SCHEDULE 66400S		SCHEDULE 66600		SCHEDULE 66600S		SCHEDULE 66800		SCHEDULE 66800S		SCHEDULE 67000		SCHEDULE 67000S		SCHEDULE 67200		SCHEDULE 67200S		SCHEDULE 67400		SCHEDULE 67400S		SCHEDULE 67600		SCHEDULE 67600S		SCHEDULE 67800		SCHEDULE 67800S		SCHEDULE 68000		SCHEDULE 68000S		SCHEDULE 68200		SCHEDULE 68200S		SCHEDULE 68400		SCHEDULE 68400S		SCHEDULE 68600		SCHEDULE 68600S		SCHEDULE 68800		SCHEDULE 68800S		SCHEDULE 69000		SCHEDULE 69000S		SCHEDULE 69200		SCHEDULE 69200S		SCHEDULE 69400		SCHEDULE 69400S		SCHEDULE 69600		SCHEDULE 69600S		SCHEDULE 69800		SCHEDULE 69800S		SCHEDULE 70000		SCHEDULE 70000S		SCHEDULE 70200		SCHEDULE 70200S		SCHEDULE 70400		SCHEDULE 70400S		SCHEDULE 70600		SCHEDULE 70600S		SCHEDULE 70800		SCHEDULE 70800S		SCHEDULE 71000		SCHEDULE 71000S		SCHEDULE 71200		SCHEDULE 71200S		SCHEDULE 71400		SCHEDULE 71400S		SCHEDULE 71600		SCHEDULE 71600S		SCHEDULE 71800		SCHEDULE 71800S		SCHEDULE 72000		SCHEDULE 72000S		SCHEDULE 72200		SCHEDULE 72200S		SCHEDULE 72400		SCHEDULE 72400S		SCHEDULE 72600		SCHEDULE 72600S		SCHEDULE 72800		SCHEDULE 72800S		SCHEDULE 73000		SCHEDULE 73000S		SCHEDULE 73200		SCHEDULE 73200S		SCHEDULE 73400		SCHEDULE 73400S		SCHEDULE 73600		SCHEDULE 73600S		SCHEDULE 73800		SCHEDULE 73800S		SCHEDULE 74000		SCHEDULE 74000S		SCHEDULE 74200		SCHEDULE 74200S		SCHEDULE 74400		SCHEDULE 74400S		SCHEDULE 74600		SCHEDULE 74600S		SCHEDULE 74800		SCHEDULE 74800S	
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DESCRIPTION	NUMBER AND TYPE OF WIRE IN CONDUIT
2 1/2" CONDUIT	4-12 #12 WIRES (TROLLEY MOTOR, TROLLEY AND AUTO TRANSMISSION)
(A)	
"	1-#12 WIRES (TROLLEY MOTOR, TROLLEY AND AUTO TRANSMISSION)
(B)	
"	6-#5 WIRES (TROLLEY MOTOR, TROLLEY AND AUTO TRANSMISSION)
(C)	
"	14-#12 WIRES (AUTO TRANSMISSION)
(D)	
"	4-#12 WIRES (RIGHT LIMIT SWITCH)
(E)	
"	2-#12 WIRES (HOIST BRAKES)
(F)	
"	2-#12 WIRES (SERVED LIMIT SWITCH)
(G)	
"	16-#14 WIRES (CONTROL CIRCUIT)
	5-#12 WIRES (SERVED)
(H)	
3" CONDUIT	3-#8 WIRES (MAIN LINE)
	14-#12 WIRES (TROLLEY MOTOR, TROLLEY AND AUTO TRANSMISSION)
	6-#8 WIRES (HOIST MOTOR)

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