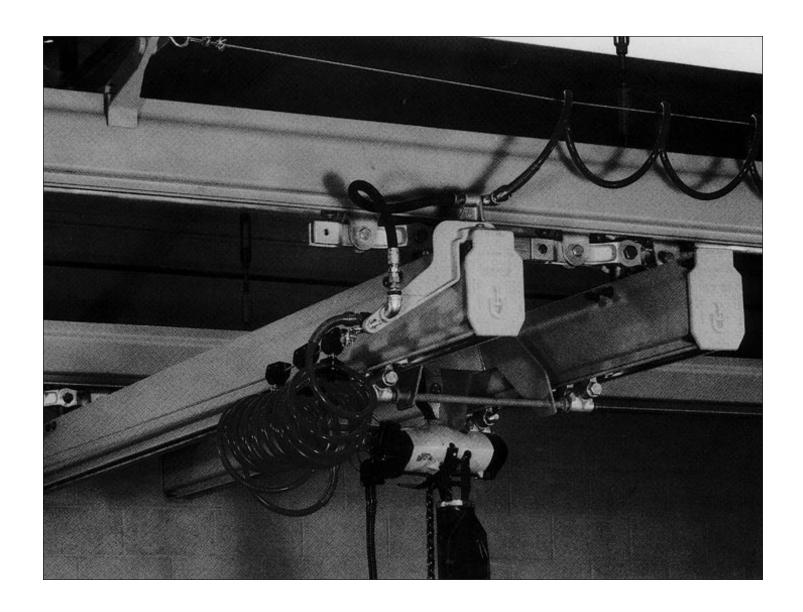


TEL: (517) 546-3220

# **ETA-8 RAIL SYSTEMS**



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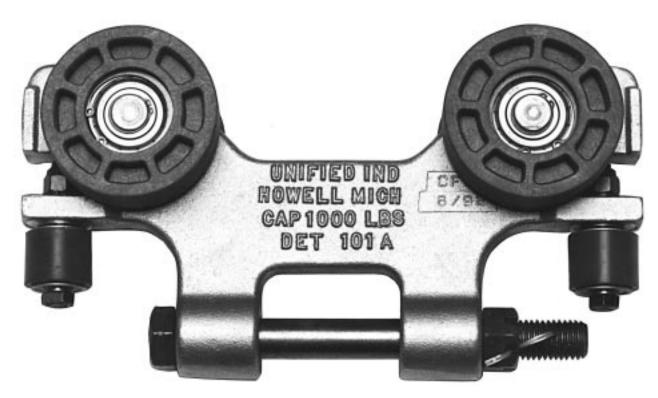


	GENERAL DESCRIPTION	GENERAL APPLICATION	OPTIONS
100-A (4 WHEEL) CARRIER TROLLEY used singly or in tandem for bridge end trucks or load trolleys.	P. 3, 4	P. 3, 4	P. 3, 4
100-B (4 WHEEL) CARRIER TROLLEY	P. 5, 6	P. 5, 6	P. 5, 6
110-A, 120-A (4 WHEEL) CARRIER OR LOAD TROLLEY used singly or in tandem for various end truck and load bar applications.	P. 7, 8	P. 7, 8	P. 9, 10
112-A, 112-B (6 WHEEL) CARRIER TROLLEY	P. 9, 10	P. 9, 10	P. 9, 10
END TRUCK ASSEMBLY B-520	P. 11, 12, 13	P. 11, 12, 13	P. 11, 12, 13
END TRUCK ASSEMBLY A-530	P. 11, 12, 13	P. 11, 12, 13	P. 11, 12, 13
END TRUCK ASSEMBLY A-540	P. 11, 12, 13	P. 11, 12, 13	P. 11, 12, 13
SINGLE GIRDER W/SINGLE CARRIER TROLLEY End Trucks (1000 pound rated load). SINGLE GIRDER W/DUAL CARRIER TROLLEY End Trucks (2000 pound rated load).	P. 14, 15	P. 14, 15	P. 14, 15
CONVENTIONAL SINGLE GIRDER BRIDGE CRANE (1000 pound rated load) equipped with self aligning end truck carriers to suit your existing runway track; (4"s, 6", 3.25 AND 3.33).	P. 16, 17	P. 16, 17	P. 16, 17
CONVENTIONAL SINGLE GIRDER MEDIUM LOAD BRIDGE CRANE (2000 rated load) equipped with self aligning end truck carriers to suit your existing runway track; (6", 3.25 AND 3.33).	P. 18, 19	P. 18, 19	P. 18, 19
END TRUCK ASSEMBLY A-550 (QUADRUPLE) for dual girder bridge cranes in combination with "A" frame hoist cradle.	P. 20, 21	P. 20, 21	P. 20, 21
DUAL GIRDER W/QUADRUPLE CARRIER TROLLEY END TRUCKS for supporting frames, cradles, indexing transfer fixtures, hoist, etc. (Available in dual or tri-rail carrying rated loads up to 3000 lbs.)	P. 22, 23	P. 22, 23	P. 22, 23
LOW HEADROOM SINGLE GIRDER BRIDGE CRANE equipped w/two sets of dual carrier trolleys to increase rated loads between runway track (use 150-A load bar assembly for loads up to 2000 pounds).	P. 24, 25	P. 24, 25	P. 24, 25
ETA-8 HANGER SUPPORTS	P. 26, 27, 28	P. 26, 27, 28	P. 26, 27, 28
ETA-8 A-FRAME CARRIER ASSEMBLY	P. 29	P. 29	P. 29

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	GENERAL DESCRIPTION	GENERAL APPLICATION	OPTIONS
ETA-8 JIB CRANE	P. 30, 31	P. 30, 31	P. 30, 31
ETA-8 TELESCOPE	P. 32, 33	P. 32, 33	P. 32, 33
ETA-8 CURVE 90° and 45° STANDARD	P. 34, 35	P. 34, 35	P. 34, 35
ETA-8 INTERLOCK	P. 36, 37	P. 36, 37	P. 36, 37
ETA-8 ELECTRIFICATION COMPONENTS	P. 38	P. 38	P. 38
ETA-8 BRIDGE AND RUNWAY AIR SUPPLY	P. 39	P. 39	P. 39
ETA-8 FESTOON BRACKET, FOR AIR SUPPLY	P. 39	P. 39	P. 39
ETA-8 BRIDGE AND RUNWAY END CAPS	P. 39	P. 39	P. 39
ETA-8 FESTOON TROLLEY	P. 39	P. 39	P. 39
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ETA-8 RAIL	P. 41	P. 41	P. 41
ETA-8 RAIL LOAD CHART	P. 42	P. 42	P. 42



100A (20010)

#### Model Number

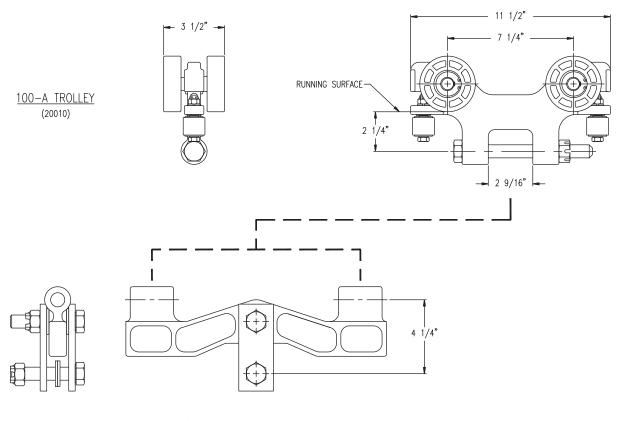
100-A carrier trolley to operate on Unified ETA-8 aluminum rail

# **Application**

- Used as an end truck carrier trolley, single or dual, at each end of bridge crane
- Suspension of weld gun balancers, hoists, nut runners, rivet guns, fixtures etc.

#### **Features**

- High tensile almag alloy frame
- 3.2" high-impact plastic wheels, with permanently sealed precision ball bearings
- High-impact plastic thrust rollers with dual race ball bearings for smooth, quiet operation
- Operates within enclosed rail free from obstructing material
- Dielectrically insulated
- Low inertia: 1-2% of load
- Operating temperature range: -10 degrees to +110 degrees F



150 LOAD BAR WITH CLEVIS 2000 LB RATED LOAD (25120)

#### UNIVERSAL CARRIER SPECIFICATIONS

RATED LOAD: 1000 LBS. WEIGHT: 6.0 lbs. (2.7 kgs) BODY: HIGH TENSILE ALMAG

WHEELS: 3.2 DIA. HIGH IMPACT PLASTIC BEARINGS: BALL, PERMANENTLY LUBRICATED

STUDS: 5/8 DIA.

GUIDE ROLLERS: 1 1/4 DIA. HIGH IMPACT PLASTIC
DUAL RACE BALL BEARING

#### LABORATORY TESTING DATA

YIELD STRENGTH: 14,000 lbs. (6272 kgs)

ULTIMATE TENSILE STRENGTH: 17,625 lbs. (7896 kgs)

#### ASTM DIELECTRIC TEST SPECIFICATIONS D149

CARRIER ASSEMBLY: 5000 V. AC WITHOUT CURRENT LEAKAGE (5.00 min.)

TEST EQUIPMENT: HIGH VOLTAGE DIELECTRIC TESTER,

HYPOTRONICS MODEL 750-2 SERIES 6664-00

INSULATED SAFETY DETAIL 500-A: AT 1/2 DIA. FORGED SHACKLE BREAK-DOWN OCCURRED AT 5.0 kv.

OPERATING TEMP. AT 100% LOAD: -10 f (-23 °C) TO 110 f (43 °C) ROLLING FRICTION: .5% TO 1% OF MAX. LOAD UNDER MAX. LOAD

MAX. WHEEL LOAD: 250 lbs. (112 kgs) PER WHEEL

UNIFIED FOUR WHEEL CARRIER TROLLEY 1000 POUND MAX. RATED LOAD





#### Model Number

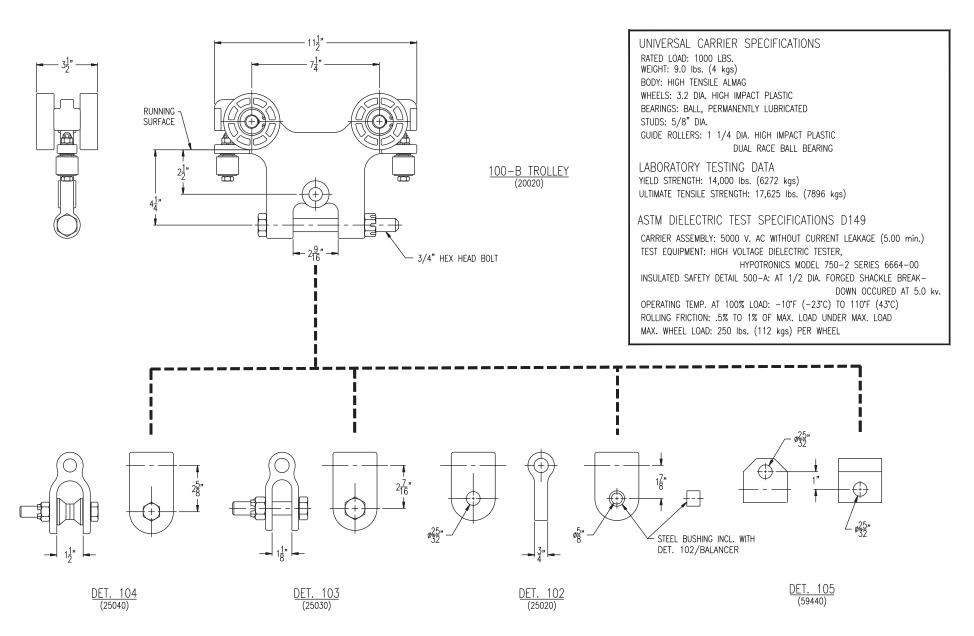
■ 100-B carrier trolley to operate on Unified ETA-8 aluminum rail

# **Application**

- Used as an end truck carrier trolley, single or dual, at each end of bridge crane
- Suspension of weld gun balancers, hoists, nut runners, rivet guns, fixtures etc.

#### **Features**

- High tensile almag alloy frame
- 3.2" high-impact plastic wheels, with permanently sealed precision ball bearings
- High-impact plastic thrust rollers with dual race ball bearings for smooth, quiet operation
- Operates within enclosed rail free from obstructing material
- Dielectrically insulated
- Low inertia: 1-2% of load
- Operating temperature range: -10 degrees to +110 degrees F



UNIFIED
FOUR WHEEL
LOAD TROLLEYS
1000 POUND MAX.





110A (20050)



120A (20070)

#### Model Number

- 110-A and 120-A trolleys
- Suspension of portable tools
- Used in pairs as end truck carrier trolley at each end of bridge crane. See pages 8, 9 and 10 for additional data

#### **Features**

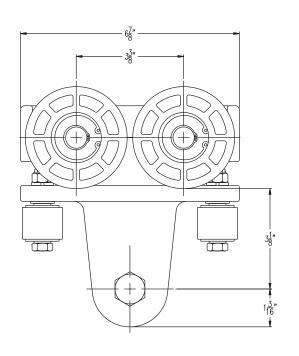
- High tensile almag alloy frame
- 3.2" high-impact plastic wheels, with permanently sealed precision ball bearings
- High-impact plastic thrust rollers with dual race ball bearings for smooth, quiet operation
- Operates within enclosed rail free from obstructing material
- Dielectrically insulated
- Low inertia: 1-2% of load
- Operating temperature range: -10 degrees to +110 degrees F

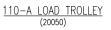
# **Application**

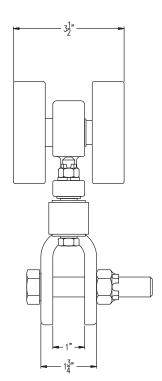
- 110-A load trolley to operate on Unified ETA-8 aluminum rail
- 120-A load trolley to operate on Unified ETA-8 aluminum rail

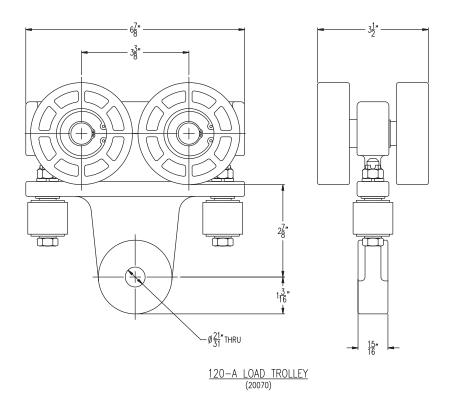
# **Options**

Can be furnished in tandem as a load bar with a concentrated load of 2000 pound capacity









UNIVERSAL CARRIER SPECIFICATIONS FOR 110-A & 120-A RATED LOAD: 1000 lbs. (448 kgs) 250 lbs. (112 kgs) MAX. LOAD PER WHEEL WEIGHT: 4.5 lbs. (2.0 kgs.) BODY: HIGH TENSILE ALMAG WHEELS: 3.25" DIA. (82.6 mm) HIGH IMPACT PLASTIC BEARINGS: BALL PERMANENTLY LUBRICATED STUDS: 5/8" DIA. (15.9 mm) GUIDE ROLLERS: 1 1/4" DIA. (31.8 mm)

110-A LABORATORY TESTING DATA YIELD STRENGTH: 16,500 lbs. (7392 kgs) TENSILE STRENGTH: 20,575 lbs. (9217.6 kgs)

120-A LABORATORY TESTING DATA YIELD STRENGTH: 17,500 lbs. (7840 kgs) TENSILE STRENGTH: 22,300 lbs. (9990.4 kgs)

ASTM DIELECTRIC TEST SPECIFICATIONS 149-D TROLLEY ASSEMBLY: 5000 VOLT AC. WITHOUT CURRENT LEAKAGE FOR 5 MINS. TEST EQUIPMENT: HIGH VOLTAGE DIELECTRIC TESTER HYPOTRONICS MODEL 750-2 SERIES 6664-00 OPERATING TEMP: AT 100% LOAD -10°F. (-23°C.) TO 110°F. (43°C.) ROLLING FRICTION: 5% TO 1% OF MAX. LOAD UNDER MAX. LOAD





### Model Number

■ 112-A and 112-B load trolleys to operate on Unified ETA-8 aluminum rail

# **Application**

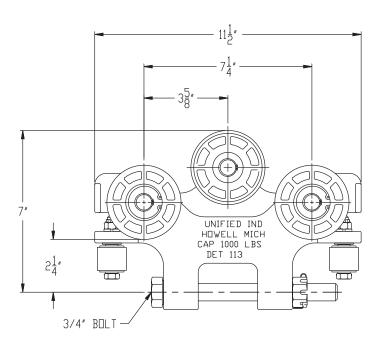
Used in pairs as end truck carrier trolley at each end of bridge crane. See pages 12 and 13 for additional data



112-B KICKUP TROLLEY (20061)

#### **Features**

- High tensile almag alloy frame
- 3.2" high-impact plastic wheels, with permanently sealed precision ball bearings
- High-impact plastic thrust rollers with dual race ball bearings for smooth, quiet operation
- Operates within enclosed rail free from obstructing material
- Dielectrically insulated
- Low inertia: 1-2% of load
- Operating temperature range: -10 degrees to +110 degrees F
- 112-B trolley features a built in safety cable mount



112A TROLLEY (20060)

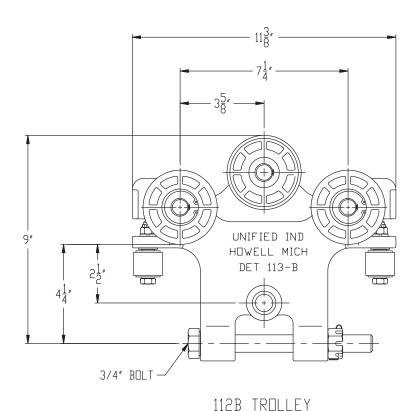
### UNIVERSAL CARRIER SPECIFICATIONS

RATED LOAD: 1000 LBS (448Kgs)
WEIGHT: 6.4 LBS (2.9Kgs)
BODY: HIGH TENSILE ALMAG
WHEELS: 3.2" [81.3] DIA. HIGH IMPACT PLASTIC
BEARINGS: BALL, PERMANENTLY LUBRICATED
STUDS: 5/8" [15.9] DIA.

GUIDE ROLLERS: 1 1/4" HIGH IMPACT PLASTIC W/DUAL RACE BALL BEARING

### LABORATORY TESTING DATA

YIELD STRENGTH: 14,000 LBS (6272Kgs)
ULTIMATE TENSILE STRENGTH: 32,000 LBS (14,336Kgs)



## UNIVERSAL CARRIER SPECIFICATIONS

(20061)

RATED LOAD: 1000 LBS (448Kgs)
WEIGHT: 6.7 LBS (3.0Kgs)
BODY: HIGH TENSILE ALMAG
WHEELS: 3.2" [81.3] DIA. HIGH IMPACT PLASTIC
BEARINGS: BALL, PERMANENTLY LUBRICATED
STUDS: 5/8" [15.9] DIA.
GUIDE ROLLERS: 1 1/4" HIGH IMPACT PLASTIC W/

DUAL RACE BALL BEARING

### LABORATORY TESTING DATA

YIELD STRENGTH: 14,000 LBS (6272Kgs)
ULTIMATE TENSILE STRENGTH: 32,000 LBS (14,336Kgs)



# B-520 standard-(single)(22041)

- End truck carrier assemblies for single girder bridge cranes
- Counter-thrusting units are available



# A-530 standard-(dual)(22051)

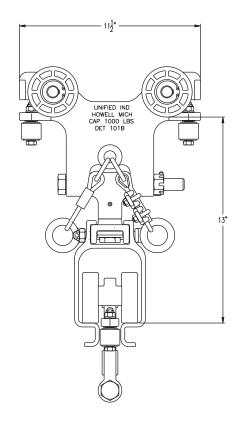
- End truck carrier assemblies for single girder bridge cranes
- Counter-thrusting units are available

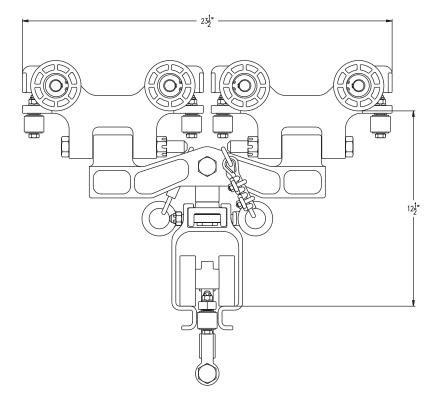


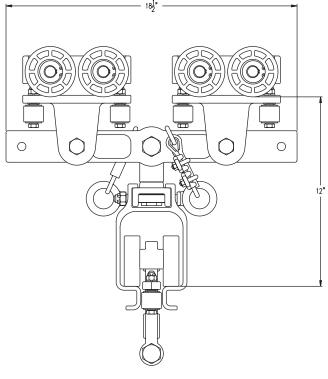
# A-540 standard-(quad.)(22071)

- End truck carrier assemblies for single girder bridge cranes
- Used in pairs for larger rated loads and spans









# B-520 STANDARD END TRUCK

(22041)

SINGLE TROLLEY END TRUCK CARRIER AT EACH END OF CRANE GIRDER. RATED LOADS OF 1000 LBS. (448 KGS) SINGLE GIRDER BRIDGE CRANE UP TO 12'-0" [3657.6] SPAN.

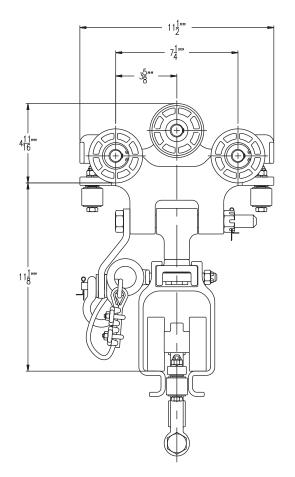
### A-530 STANDARD END TRUCK

(22051)

DUAL TROLLEY END TRUCK CARRIER AT EACH END OF CRANE GIRDER. RATED LOADS OF 2000 LBS. (896 Kgs)
SINGLE GIRDER BRIDGE CRANE UP TO 20'-0" [6096] SPAN.

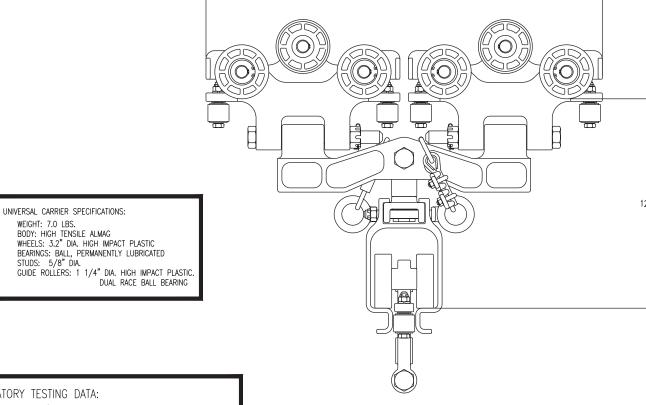
#### A-540 STANDARD END TRUCK

DUAL TROLLEY END TRUCK CARRIER AT
EACH END OF CRANE GIRDER.
RATED LOADS OF 2000 LBS. (896 Kgs)
USED IN PAIRS WITH CONNECTING LINK FOR RATED LOADS
UP TO 4000 LBS. (1792 Kgs) SPANS UP TO 20'-0" [6096]



<u>A-522</u> (22111)ANTI KICKUP END TRUCK SINGLE TROLLEY CARRIER RATED LOAD 1000 LBS.

> B-522 (22046)NOT SHOWN



LABORATORY TESTING DATA:

YIELD STRENGTH: 14,000 LBS. ULTIMATE STRENGTH, TENSILE: 17,625 LBS.

WEIGHT: 7.0 LBS.

DIELECTRIC TEST PER ASTM SPECIFICATIONS D-149

CARRIER ASSEMBLY: 5000V.AC WITHOUT CURRENT LEAKAGE (5.00 MIN.) TEST EQUIPMENT: HIGH VOLTAGE DIELECTRIC TESTER
HIPOTRONICS MODEL 750-2 SERIES 6664-00

OPERATING TEMP. AT 100% LOAD: -10° TO +110° F. ROLLING FRICTION: 1-2% UNDER LOAD MAX, LOAD EACH WHEEL 250 LBS,

A - 532(22131)

ANTI KICKUP END TRUCK DUAL TROLLEY CARRIER RATED LOAD 2000 LBS.



B-520 SINGLE CARRIER END TRUCK (22041)

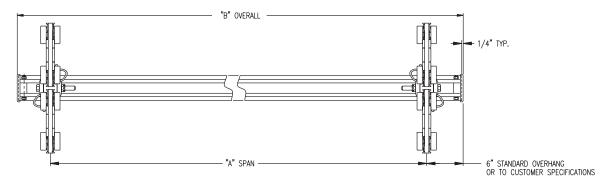


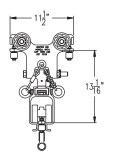
A-530 DUAL CARRIER END TRUCK (22051)

Unified ETA-8 single girder bridge crane consists of a pair of end truck assemblies (either single or dual carrier trolleys) supporting an aluminum enclosed bridge girder. See pages 3, 4, 5 and 6 for carrier specifications. Bridge girder has bolted end caps with a neoprene bumper at each end, completing assembly.

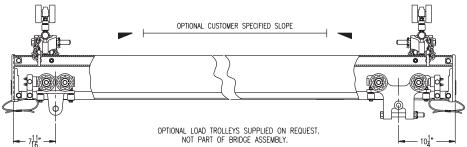
Unified ETA-8 single girder bridge cranes for rated loads to 2000 pounds and spans form 3 to 20 feet

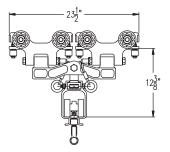
- Standard overhang each end 6 inches
- Overhangs up to 36 inches are available
- Counter thrust trolleys for countering extended loads are available
- Paint color specify when ordering
- Air festooning brackets specifically designed for ETA-8 rail. See page 39
- Small tool or messenger cable trolley available. See page 39
- Standard redundant end stops (option for single end stop.)





B-520 (22041) SINGLE CARRIER END TRUCK 1000 LBS. (448 Kgs) RATED LOAD





 $\frac{A\!-\!530}{(22051)}$  Dual Carrier end Truck 2000 LBS. (896 kgs) rated load

() -	↑ DUAL RUNWAY SYSTEM — ↑					
	SIN	GLE GIRDER BI	RIDGE			
• • A-	530 DUAL CA	ARRIER END TE	RUCK 24" [609	9.6]		
"A" SPAN	"B" OVERALL	RATED LOAD	TEST LOAD	TOTAL WEIGHT		
2'- 0" 609.6 mm	3'- 0" 914.4 mm	2000 lbs. 896 Kgs	2500 lbs. 1120 Kgs	69 lbs. 30.9 Kgs		
3'- 0" 914.4 mm		2000 lbs. 896 Kgs		76 lbs. 34 Kgs		
	5'- 0" 1524.0 mm		2500 lbs. 1120 Kgs	83 lbs. 37.2 Kgs		
	6'- 0" 1828.8 mm		2500 lbs. 1120 Kgs	90 lbs. 40.3 Kgs		
	7'- 0" 2133.6 mm		2500 lbs. 1120 Kgs	97 lbs. 43.5 Kgs		
	8'- 0" 2438.4 mm			104 lbs. 46.6 Kgs		
	9'- 0" 2743.2 mm			111 lbs. 49.7 Kgs		
	10'- 0" 3048.0 mm			118 lbs. 52.9 Kgs		
	11'- 0" 3352.8 mm			125 lbs. 56 Kgs		
	12'- 0" 3657.6 mm			132 lbs. 59.1 Kgs		
	13'- 0" 3962.4 mm		1875 lbs. 840 Kgs	139 lbs. 62.3 Kgs		
	14'- 0" 4267.2 mm			146 lbs. 65.4 Kgs		
	15'- 0" 4572.0 mm			153 lbs. 68.5 Kgs		
	16'- 0" 4876.8 mm		1250 lbs. 560 Kgs	160 lbs. 71.7 Kgs		
	17'- 0" 5181.6 mm			167 lbs. 74.8 Kgs		
	18'- 0" 5486.4 mm		1000 lbs. 448 Kgs	174 lbs. 78 Kgs		
	19'- 0" 5791.2 mm	7	875 lbs. 392 Kgs	181 lbs. 81.8 Kgs		
	20'- 0" 6096.0 mm			188 lbs. 84.2 Kgs		
20'- 0" 6096.0 mm	21'- 0" 6400.8 mm	600 lbs. 268.8 Kgs	750 lbs. 336 Kgs	195 lbs. 87.4 Kas		

ζļ-	Ď ← DUAL RUNWAY SYSTEM ← Ď						
	SING	LE GIR	DER BRI	DGE			
	RATED LOAI LBS. (44				AD 660 Kgs)		
•••	3-520 SII	B-520 SINGLE CARRIER END TRUCK 12" [304.8]					
	"A" SPAN "B" OVERALL TOTAL WEIGHT						
"A'	" SPAN	"B"	OVERALL	TOTA	L WEIGHT		
"A'	" SPAN 609.6 mm	"B"	OVERALL 914.4 mm	TOTA 47 lbs.	L WEIGHT 21.1 Kgs		
2'- 0" 3'- 0"		3'- 0" 4'- 0"			21.1 Kgs 24.2 Kgs		
2'- 0" 3'- 0" 4'- 0"	609.6 mm 914.4 mm 1219.2 mm	3'- 0" 4'- 0" 5'- 0"	914.4 mm 1219.2 mm 1524.0 mm	47 lbs. 54 lbs. 62 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0"	609.6 mm 914.4 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0"	609.6 mm 914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs. 75 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs 33.6 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0"	609.6 mm 914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs. 75 lbs. 82 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs 33.6 Kgs 36.7 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0"	609.6 mm 914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0" 9'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs. 75 lbs. 82 lbs. 89 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs 33.6 Kgs 36.7 Kgs 39.9 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0" 10'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm 3048.0 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs. 75 lbs. 82 lbs. 89 lbs. 96 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs 33.6 Kgs 36.7 Kgs 39.9 Kgs 43 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0" 9'- 0"	609.6 mm 914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm 3048.0 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0" 10'- 0" 11'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm 3048.0 mm 3352.8 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs. 75 lbs. 82 lbs. 89 lbs. 96 lbs. 103 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs 33.6 Kgs 36.7 Kgs 39.9 Kgs 43 Kgs 46.1 Kgs		
2'- 0" 3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm	3'- 0" 4'- 0" 5'- 0" 6'- 0" 7'- 0" 8'- 0" 10'- 0"	914.4 mm 1219.2 mm 1524.0 mm 1828.8 mm 2133.6 mm 2438.4 mm 2743.2 mm 3048.0 mm	47 lbs. 54 lbs. 62 lbs. 68 lbs. 75 lbs. 82 lbs. 89 lbs. 96 lbs.	21.1 Kgs 24.2 Kgs 27.8 Kgs 30.5 Kgs 33.6 Kgs 36.7 Kgs 39.9 Kgs 43 Kgs		

VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR FEDERAL REGULATIONS CODE. FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.

RATED LOAD: BASED UPON STATIC LOAD TESTING, CARRYING CAPACITY OF HIGH IMPACT NYLON WHEELS AND ALSO A BRIDGE GIRDER DEFLECTION OF 1/550.

TEST LOAD: SHALL NOT BE MORE THAN 125% OF THE RATED LOAD UNIESS RECOMMENDED BY THE MANUFACTURER. CRAME SHALL NOT BE LOADED BEYOND IT'S RATED LOAD CAPACITY EXCEPT FOR TEST PURPOSES.

TOTAL WEIGHT: FOR BRIDGE CRANE ASSEMBLIES INCLUDING END TRUCK TROLLEYS. EXCLUDING LOAD SUSPENSION TROLLEYS.

 $\underline{\text{NOTE}};$  Diagonal bracing on bridge crane may be necessary for certain applications.

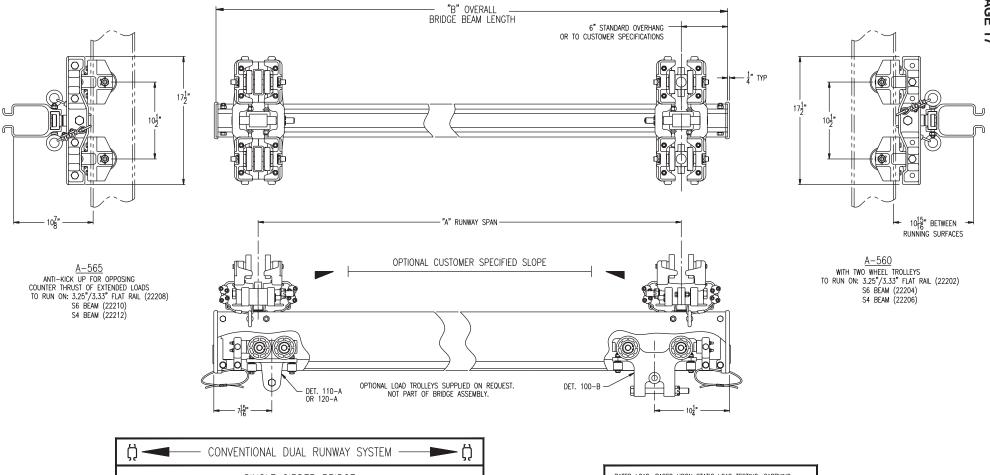


### A-560 CONVENTIONAL END TRUCK A-565 CONVENTIONAL END TRUCK (KICK-UP)

# Designed specifically for existing runway systems

- A-560 end truck assembly—MBC-500-2 for operation on 3.25 or 3.33 flat rail (22202) or 3.33 6" S-Beam (12.5 lb.) (22204)
- A-560 end truck assembly—MBC-500-2-4 for operation on 2.66 flange 4" S-Beam (7.7 lb.) (22206)
- A-565 end truck assembly—MBC-500-3 for operation on 3.25 or 3.33 flat rail (22208) or 3.33 6" S-Beam (12.5 lb.) (22210)
- A-565 end truck assembly—MBC-500-3-4 for operation on 2.66 flange 4" S-Beam (7.7 lb.) (22212)

- Self aligning end trucks
- High tensile almag alloy casting make up end truck assembly
- Counter thrust trolleys for countering extended loads are available
- Dielectrically insulated
- Low inertia: 1-2% of load
- Paint color—specify when ordering
- Standard redundant end stops (option for single end stop.)



ζ) -	Ď — CONVENTIONAL DUAL RUNWAY SYSTEM — Ď								
			SIN	GLE GIF	RDER BR	IDGE			
•	● ● SINGLE END TRUCK LENGTH 18" [457.2] • ●								
"A	" SPAN	"B"	OVERALL	RATE	D LOAD	TES	T LOAD	TOTAL	WEIGHT
2'- 0"	609.6 mm	3'- 0"	914.4 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	80 lbs.	35.8 Kgs
3'- 0"	914.4 mm	4'- 0"	1219.2 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	87 lbs.	39 Kgs
4'- 0"	1219.2 mm	5'- 0"	1524,0 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	94 lbs.	42.1 Kgs
5'- 0"	1524.0 mm	6'- 0"	1828.8 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	101 lbs.	45.2 Kgs
6'- 0"	1828.8 mm	7'- 0"	2133.6 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	108 lbs.	48.4 Kgs
7'- 0"	2133.6 mm	8'- 0"	2438.4 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	115 lbs.	51.5 Kgs
8'- 0"	2438.4 mm	9'- 0" 2743.2 mm 1000 lbs. 448 Kgs 1250 lbs. 560 Kgs 122 lbs. 54.7 Kgs						54.7 Kgs	
9'- 0"	2743.2 mm	10'- 0"						57.8 Kgs	
10'- 0"	3048.0 mm								
11'- 0"	3352.8 mm	12'- 0"	3657.6 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	143 lbs.	64.1 Kgs
12'- 0"	3657.6 mm	13'- 0"	3962.4 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs	150 lbs.	67.2 Kgs

RATED LOAD: BASED UPON STATIC LOAD TESTING, CARRYING CAPACITY OF HIGH IMPACT NYLON WHEELS AND ALSO A BRIDGE GIRDER DEFLECTION OF 1/550.

TEST LOAD: SHALL NOT BE MORE THAN 125% OF THE RATED LOAD UNLESS RECOMMENDED BY THE MANUFACTURER. CRANE SHALL NOT BE LOADED BEYOND IT'S RATED LOAD CAPACITY EXCEPT FOR TEST PURPOSES.

TOTAL WEIGHT: FOR BRIDGE CRANE ASSEMBLIES INCLUDING END TRUCK TROLLEYS. EXCLUDING LOAD SUSPENSION TROLLEYS.

NOTE: DIAGONAL BRACING ON BRIDGE CRANE MAY BE NECESSARY FOR CERTAIN APPLICATIONS.

VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR FEDERAL REGULATIONS CODE. FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.

PAGE 18 ETA-8 UNIFIED
ETA-8 CONVENTIONAL
BRIDGE CRANE
2000 POUND MAX.
RATED LOAD



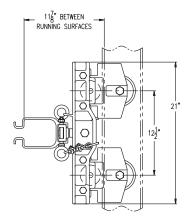


### A-566 CONVENTIONAL END TRUCK A-568 CONVENTIONAL END TRUCK (KICK-UP)

# Designed Specifically For Existing Runway Systems

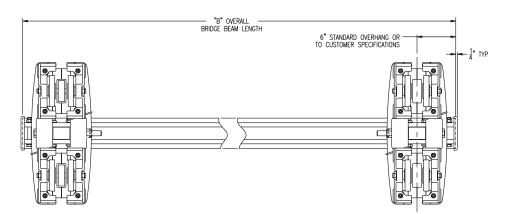
- A-566 end truck assembly—
   MBC-1000-3 without kick-up for operation on 3.25" or 3.33" flat rail (22214) or 3.33" 6" S-Beam (12.5 lb.) (22216)
- A-568 end truck assembly—
   MBC-1000-3 with kick-up for operation on 3.25" or 3.33" flat rail (22218) or 3.33" 6" S-Beam (12.5 lb.) (22220)

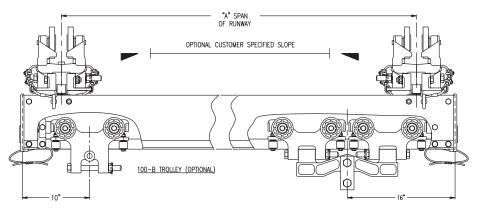
- Self aligning end trucks
- High tensile almag alloy casting make up end truck assembly
- Counter thrust trolleys for countering extended loads are available
- End truck carriers are equipped with 4.6" steel wheels with permanently sealed precision ball bearings
- Steel side thrust rollers with dual race ball bearings for smooth, quiet operation
- Low inertia: 1-2% of load
- Paint color—specify when ordering
- Standard redundant end stops (option for single end stop.)

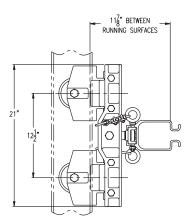


#### A-568 END TRUCK

MBC-1000-3 W/ ANTI KICK-UP WHEEL FOR OPPOSING COUNTER THRUST OF EXTENDED LOADS (OPTIONAL) TO RUN ON: 3.25" OR 3.33" FLAT RAIL (22218) S6 BEAM (22220)



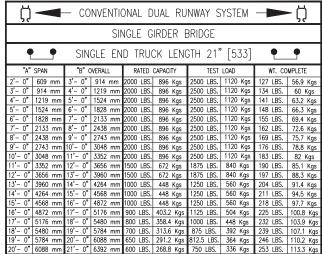




A-566 END TRUCK

MBC-1000-3 W/O ANTI KICK

MBC-1000-3 W/O ANTI KICK-UP WHEEL (STANDARD) TO RUN ON: 3.25" OR 3.33" FLAT RAIL (22214) S6 BEAM (22216)



OPTIONAL 150-A LOAD BAR W/ CLEVIS

RATED LOADS: BASED UPON STATIC LOAD OF END TRUCK TROLLEYS, END TRUCKS AND BRIDGE GRIDER DEFLECTION OF 1/550

TEST LOAD: SHALL NOT BE MORE THAN 125% OF THE RATED LOAD UNLESS RECOMMENDED BY THE MANUFACTURER. CRANE SHALL NOT BE LOADED BEYOND IT'S RATED LOAD CAPACITY EXCEPT FOR TEST PURPOSES.

TOTAL WEIGHT: FOR BRIDGE CRANE ASSEMBLIES INCLUDING END TRUCK TROLLEYS, EXCLUDING LOAD SUSPENSION TROLLEYS.

VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.

SEE OUR FULL LINE OF MBC-1000-3 CARRIER TROLLEYS FOR A VARIETY OF FLANGE TYPES.

NOTE: DIAGONAL BRACING ELIMINATES SELF-ALIGNING FEATURE

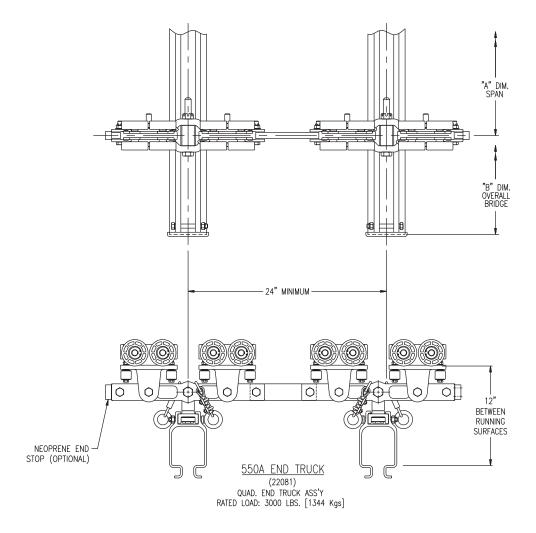


A-550 QUAD, END TRUCK (22081)

Unified ETA-8 double girder bridge cranes are designed for rated loads carrying up to 3000 pounds on tri-rail systems in spans from 5 feet to 20 feet. Used for suspending hoists, nut runners, indexing fixtures, mechanical grabs, etc.

ETA-8 bridge cranes consist of a pair of quadruple end truck assemblies- 110-A trolleys supporting ETA-8 extruded aluminum bridge girders. See page 7 for trolley specifications. Bridge girder has bolted end caps with a neoprene bumper at each end, completing assembly.

- Diagonal bracing available to prohibit articulation
- 6" standard overhang; specify when ordering
- Air line festoon brackets available. See page 38 for specifications
- Messenger trolley, see page 38
- Paint color specify when ordering
- Standard redundant end stops (option for single end stop.)

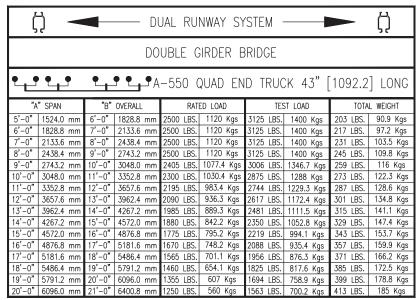


RATED LOAD: BASED UPON STATIC LOAD TESTING, CARRYING CAPACITY OF HIGH IMPACT NYLON WHEELS AND ALSO A BRIDGE GIRDER DEFLECTION OF 1/550.

TEST LOAD: SHALL NOT BE MORE THAN 125% OF THE RATED LOAD UNLESS RECOMMENDED BY THE MANUFACTURER. CRANE SHALL NOT BE LOADED BEYOND IT'S RATED LOAD CAPACITY EXCEPT FOR TEST PURPOSES.

TOTAL WEIGHT: FOR BRIDGE CRANE ASSEMBLIES INCLUDING END TRUCK TROLLEYS. EXCLUDING LOAD SUSPENSION TROLLEYS.

NOTE: DIAGONAL BRACING ON BRIDGE CRANE MAY BE NECESSARY FOR CERTAIN APPLICATIONS.



ζ̈̈́	↑ TRIPLE RUNWAY ↑ SYSTEM — ↑								
			DO	UBLE G	SIRDER E	RIDGE			
ب	• • •	•	<b>9 4_ 9</b> A	-550 (	QUAD EN	D TRUCK	< 43" [	1092.2	] LONG
"A" :	SPAN x 2	"B"	OVERALL	RATE	D LOAD	TEST L	_OAD	TOTAL	WEIGHT
2'-6"	762.0 mm	6'-0"	2133.6 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	246 LBS.	110.2 Kgs
3'-0"	914.4 mm	7'-0"	2438.4 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	260 LBS.	116.5 Kgs
3'-6"	1066.8 mm	8'-0"	2743.2 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	274 LBS.	122.8 Kgs
4'-0"	1219.2 mm	9'-0"	3048.0 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	288 LBS.	129 Kgs
4'-6"	1371.6 mm	10'-0"	3352.8 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	302 LBS.	135.3 Kgs
5'-0"	1524.0 mm	11'-0"	3657.6 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	316 LBS.	141.6 Kgs
5'-6"	1676.4 mm	12'-0"	3962.4 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	330 LBS.	147.8 Kgs
6'-0"	1828.8 mm		4267.2 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	344 LBS.	154.1 Kgs
6'-6"	1981.2 mm	14'-0"	4572.0 mm	3000 LBS.	1344 Kgs	3750 LBS.	1680 Kgs	358 LBS.	160.4 Kgs
7'-0"	2133.6 mm		4876.8 mm	3000 LBS.	1344 Kgs		1680 Kgs	372 LBS.	166.7 Kgs
7'-6"	2286.0 mm		5181.6 mm		1312.6 Kgs		640.6 Kgs	386 LBS.	172.9 Kgs
8'-0"	2438.4 mm		5486.4 mm	2845 LBS.	1274.6 Kgs		593.1 Kgs	400 LBS.	179.2 Kgs
8'-6"	2590.8 mm		5791.2 mm		1232 Kgs		540.2 Kgs	414 LBS.	185.5 Kgs
9'-0"							191.7 Kgs		
9'-6"	2895.6 mm		6400.8 mm		1120 Kgs		1400 Kgs	442 LBS.	198 Kgs
10'-0"	3048.0 mm	21'-0"	6705.6 mm	2360 LBS.	1057.3 Kgs	2950 LBS. 1.	321.6 Kgs	456 LBS.	204.3 Kgs

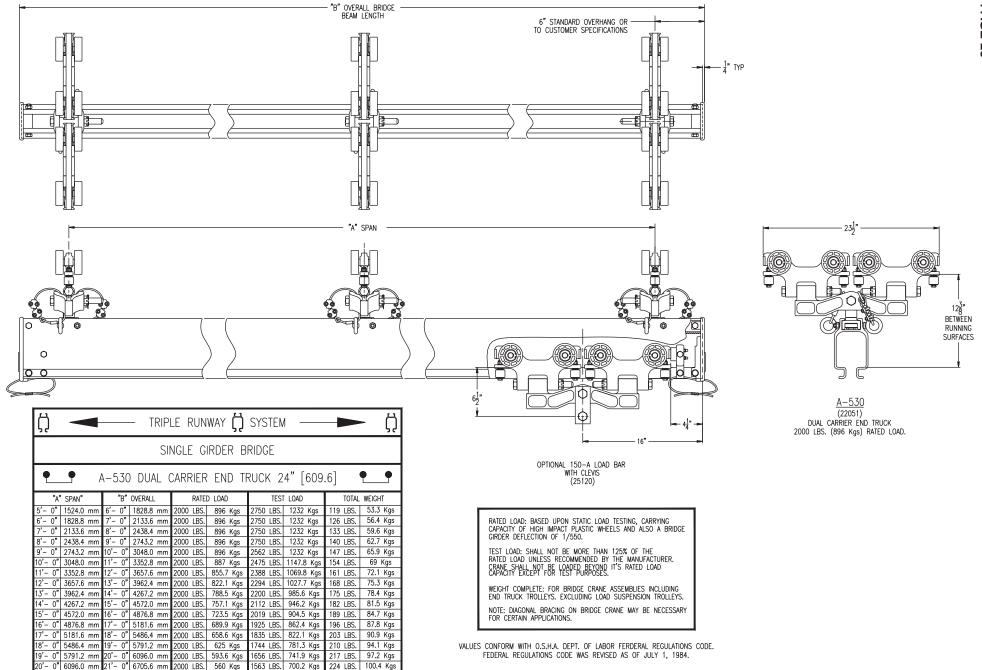
VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR; FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.



A-530 (22051)

Unified ETA-8 single girder tri-rail bridge crane equipped with three end truck assemblies (see pages 8 and 9) A-530 assemblies increases rated loads carrying when third rail is added. Spans from 5 feet to 20 feet. Bridge girder has bolted end caps with a neoprene bumper at each end, completing assembly. Tri-rail bridge cranes are used for hoist transfer of component parts or assemblies between stations.

- 6" standard overhang at each end standard
- Telescope units available for bay to bay transfer. (see page 32)
- Anti-kick-up trolley available for end trucks
- Air line festooning brackets and assemblies available
- Messenger or tag line trolley available (see page 38)
- Paint color specify when ordering
- For larger spans consult factory
- Standard redundant end stops (option for single end stop.)





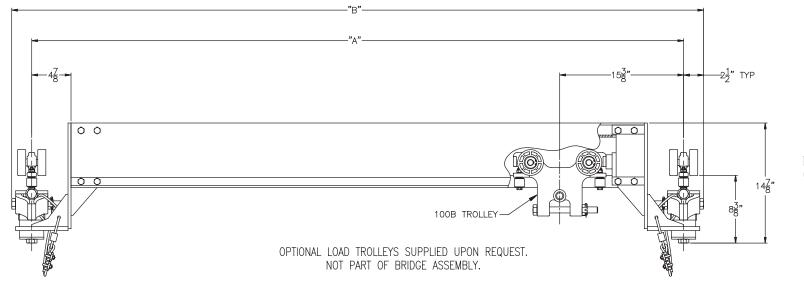
# A-545 LOW HEADROOM END TRUCK WITH 100A TROLLEYS (22590) SHOWN

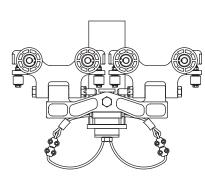
# A-555 LOW HEADROOM END TRUCK WITH 112A TROLLEYS (22595) NOT SHOWN

Unified ETA-8 single girder low headroom bridge crane consists of a pair of end truck assemblies assemblies supporting an aluminum enclosed bridge girder. Bridge girder and runway girder are held at the same elevation with bolted construction and a neoprene bumper at each end completing the assembly.

Unified ETA-8 single girder bridge cranes for rated loads to 2000 pounds and spans from 3 to 20 feet.

- Increased headroom in low areas
- May be used in double girder bridge cranes to carry rated loads up to 3000 pounds
- Counter thrust trolleys for countering extended loads are available
- Paint color specify when ordering
- Air festooning brackets specifically designed for ETA-8 rail. See page 38
- Small tool or messenger cable trolley available. See page 38
- Overhangs are not available
- Standard redundant end stops





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		S	SINGLE GIF	RDER BRII	OGE		
•	¶ A−545	DUAL C	ARRIER LO	DW HEADI	ROOM ENI	D TRUCK	•
	" SPAN	<b>"</b> B"	OVERALL	RATED	LOAD	TEST	LOAD
2'- 0"	609.6 mm	2'- 5"	736.6 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
3'- 0"	914.4 mm	3'- 5"	1041.1 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
4'- 0"	1219.2 mm	4'- 5"	1346.2 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
5'- 0"	1524.0 mm	5'- 5"	1651 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
6'- 0"	1828.8 mm	6'- 5"	1955.8 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
7'- 0"	2133.6 mm	7'- 5"	2260.6 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
8'- 0"	2438.4 mm	8'- 5"	2565.4 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
9'- 0"	2743.2 mm	9'- 5"	2870.2 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
10'- 0"	3048.0 mm	10'- 5"	3175 mm	2000 lbs.	896 Kgs	2500 lbs.	1120 Kgs
11'- 0"	3352.8 mm	11'- 5"	3479.8 mm	1500 lbs.	672 Kgs	1875 lbs.	840 Kgs
12'- 0"	3657.6 mm	12'- 5"	3784.6 mm	1500 lbs.	672 Kgs	1875 lbs.	840 Kgs
13'- 0"	3962.4 mm	13'- 5"	4089.4 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs
14'- 0"	4267.2 mm	14'- 5"	4394.2 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs
15'- 0"	4572.0 mm	15'- 5"	4699 mm	1000 lbs.	448 Kgs	1250 lbs.	560 Kgs
16'- 0"	4876.8 mm	16'- 5"	5003.8 mm	900 lbs.	403.2 Kgs	1125 lbs.	504 Kgs
17'- 0"	5181.6 mm	17'- 5"	5308.6 mm	800 lbs.	358.4 Kgs	1000 lbs.	448 Kgs
18'- 0"	5486.4 mm	18'- 5"	5613.4 mm	700 lbs.	313.6 Kgs	875 lbs.	392 Kgs
19'- 0"	5791.2 mm	19'- 5"	5918.2 mm	650 lbs.	291.2 Kgs	812.5 lbs.	364 Kgs
20'- 0"	6096.0 mm	20'- 5"	6223 mm	600 lbs.	268.8 Kgs	750 lbs.	336 Kgs

RATED LOAD: BASED UPON STATIC LOAD TESTING, CARRYING CAPACITY OF HIGH IMPACT NYLON WHEELS AND ALSO A BRIDGE GIRDER DEFLECTION OF 1/550.

TEST LOAD: SHALL NOT BE MORE THAN 125% OF THE RATED LOAD UNLESS RECOMMENDED BY THE MANUFACTURER. CRANE SHALL NOT BE LOADED BEYOND IT'S RATED LOAD CAPACITY EXCEPT FOR TEST PURPOSES.

NOTE: DIAGONAL BRACING ON BRIDGE CRANE MAY BE NECESSARY FOR CERTAIN APPLICATIONS.

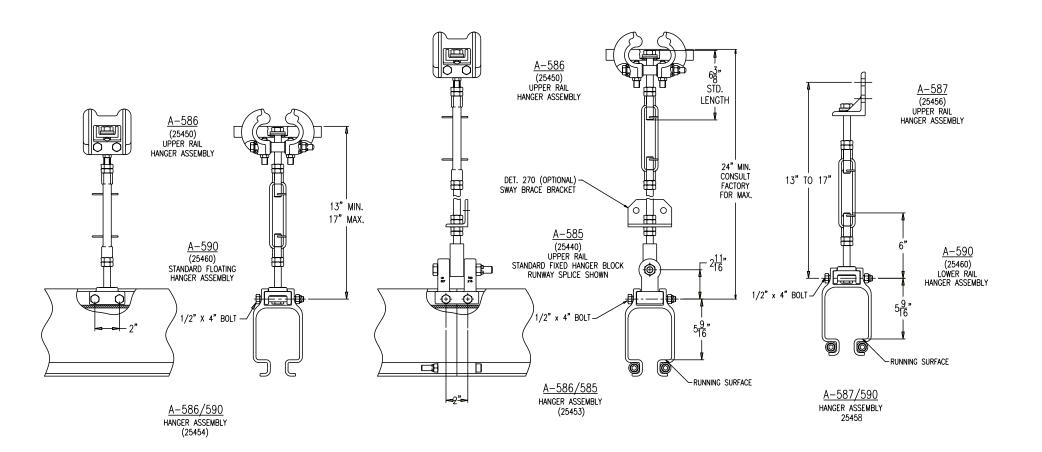
VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR FEDERAL REGULATIONS CODE. FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.



A-586/590 HANGER ASSEMBLY (25454)



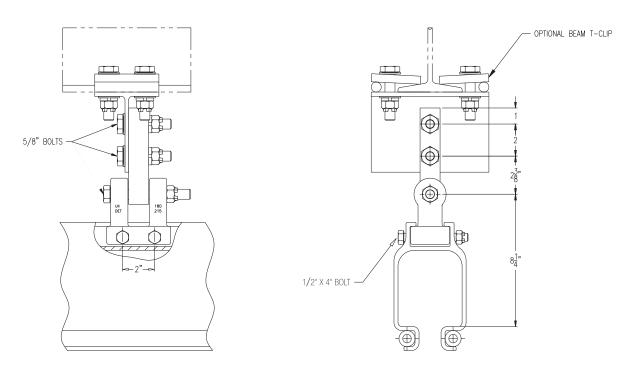
A-586/585 HANGER ASSEMBLY (25453)

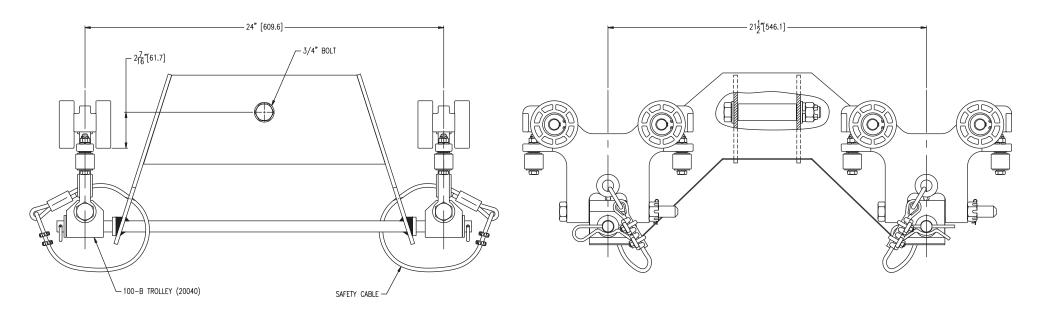


### UNIFIED ETA-8 RIGID HANGER CONNECTION









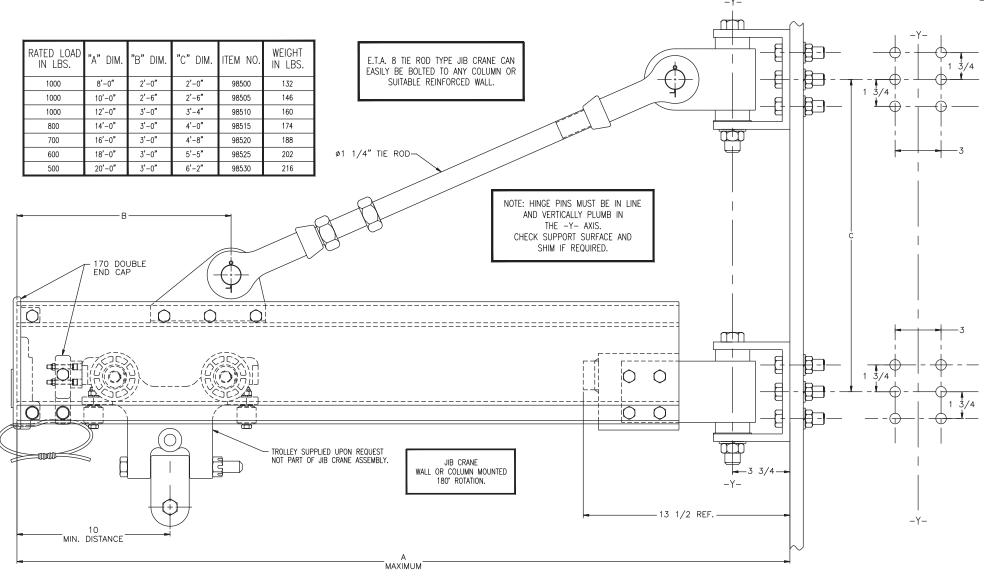
A-570 (25480)

"A" FRAME ASSEMBLY
CUSTOMER MAY SPECIFY SPECIAL
HOIST MOUNTING PATTERNS.





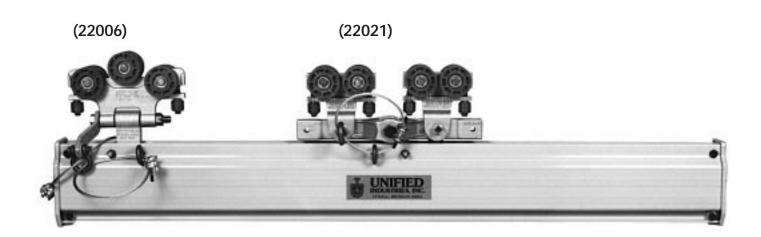
All fittings are of structural steel components, manufactured to avoid reliance upon casting or tension welds. The components are bolted together to allow for ease in installation.



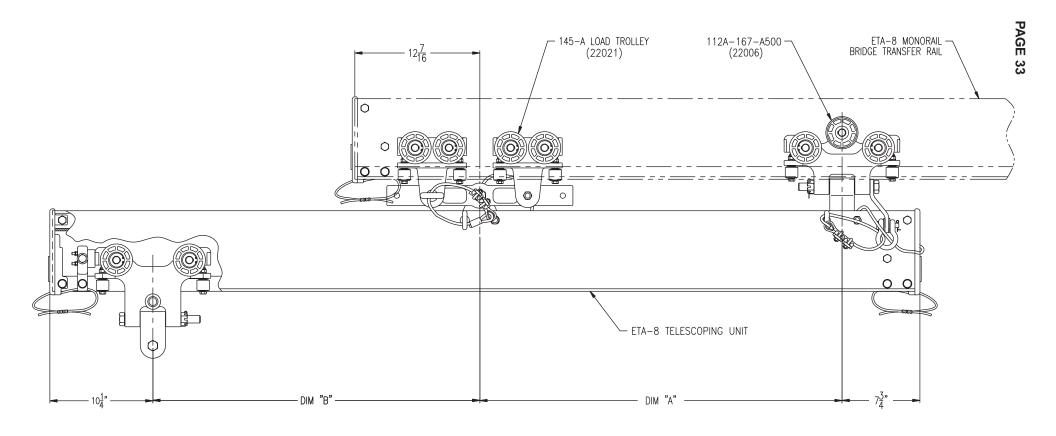
PAGE 32 ETA-8

# UNIFIED ETA-8 TELESCOPING UNIT





145-A front and 112-A rear load trolleys view showing



# ANTI-KICKUP TELESCOPING UNITS AVAILABLE FOR EXTENDED LIGHT LOADS

(NOT SHOWN)

(SHOWN)

"∆"	100A I 100B	LOAD "TF B"		145A I	_oad _tf "B"	ROLLEY
	24"	36"	48"	36"	48"	60"
18"	420	330	250	500	400	340
24"	500	400	330	600	500	400
30"	550	450	380	675	550	400
36"	600	500	400	750	550	400
48"	600	500	400	750	550	400

EXTENDED LOAD RATINGS IN LBS.

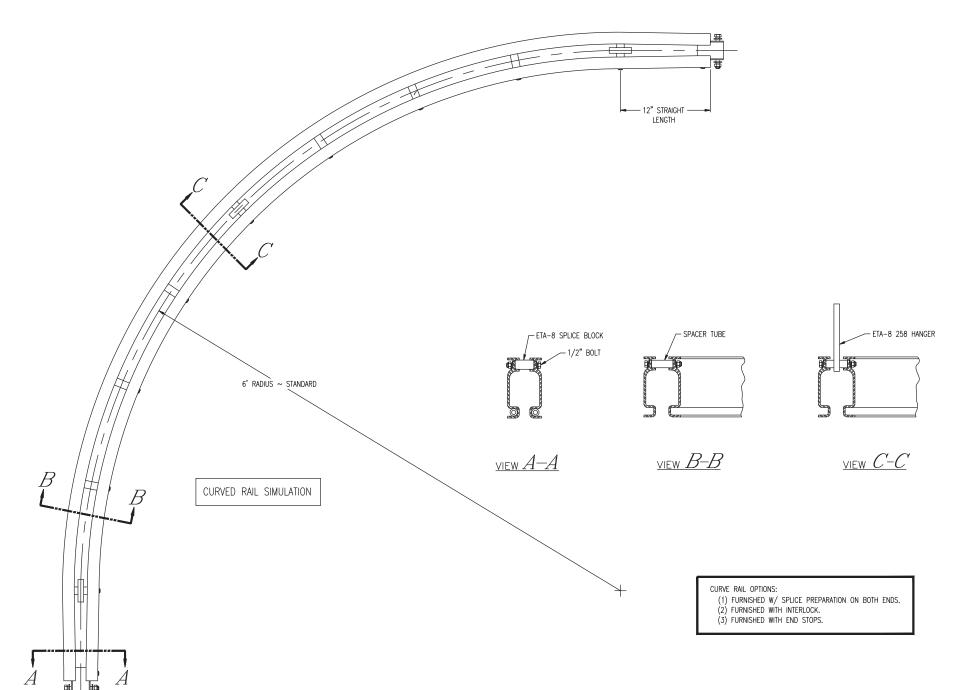
NOTE:

FOR HEAVY RATED LOAD TELESCOPING CONSULT FACTORY





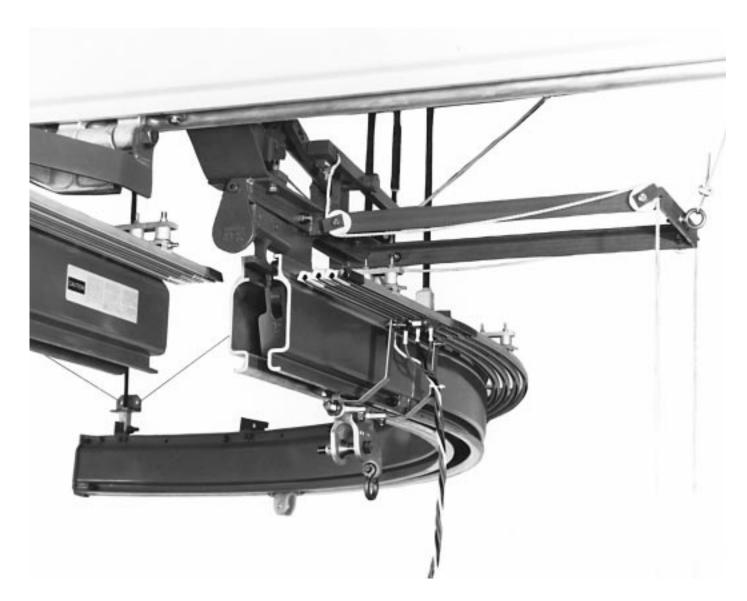
- (87055) up to 6'-0" radius x 45°
- (87050) up to 6'-0" radius x 90°
- (87060) 6' to 14' radius x 90°



PAGE 36 ETA-8

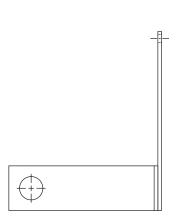
UNIFIED ETA-8 INTERLOCK

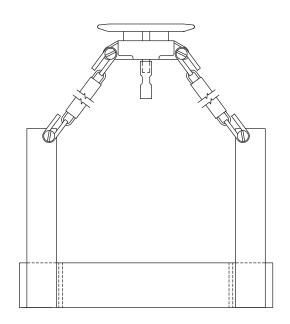


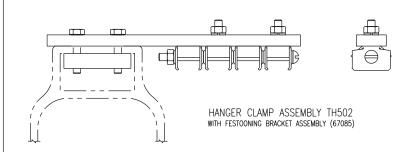


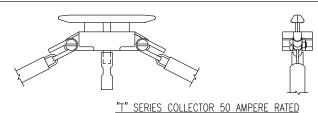
**UNIFIED ETA-8 INTERLOCK** 



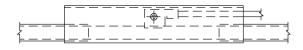








SUPPLIED WITH INSULATED TOW CHAIN AND INSULATED TERMINAL SLEEVE FOR #10 WIRE (67090)





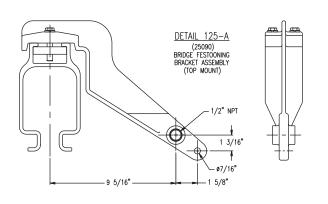
TERMINAL LUG WITH INSULATING COVER TF100 (67060)
RATED AT 100 AMPERES

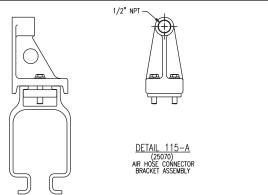


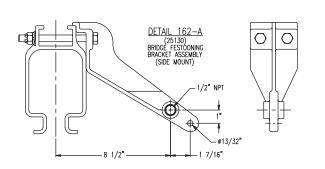
END COVER TN-100C (67020)

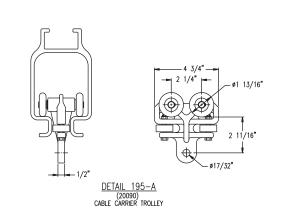


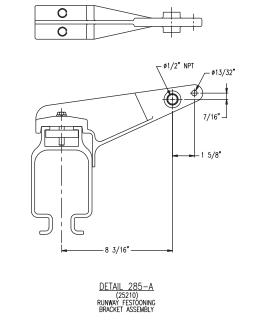
SERIES TA65 CONDUCTOR (67040)
FURNISHED IN 10' LENGTHS COMPLETE WITH
INSULATED COVER AND JOINT FITTINGS.

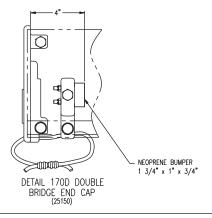


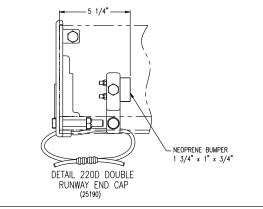


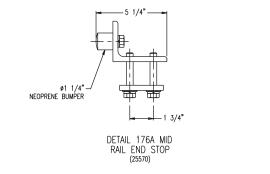












# INSTALLATION OF ETA-8 BRIDGE AND RUNWAY SYSTEM

Unified **ETA-8** is designed for ease of installation and operation. Runway rails are equipped with inverted upper flanges, to accept a variety of suspension means. Generally, one side of a dual runway is secured along all three axes while the opposite parallel runway is allowed to float by support hangers. With tri-rail runway systems, the center rail is similarly fixed while both outer runways are allowed to float.

**ETA-8** runway rails can be cut and pre-drilled to suit your specifications and equipped with rail fasteners, bumpers and end caps.

**ETA-8** runway suspension hangers come in three styles—A-585 fixed, A-590 std. floating, and A-595 split hanger (designed for ease of installation on existing runway systems).

Air line supply brackets are designed for quick installation on runway or bridge cranes. The 100 pound capacity messenger cable trolley (Det. 195-A) can also be used for support of small tools.

**ETA-8** bridge crane span adjustment is easily accomplished for both single and double girder bridges. If necessary, double girder bridge cranes can. be diagonally braced into a rigid parallel structure.

**ETA-8** bridge cranes can be equipped with telescoping units (up to 500 lbs. capacity) for the extension of light loads.

**ETA-8** bridge cranes can be equipped with antikick-up units where live loads may create an overbalance of bridge span.

**ETA-8** bridge cranes may be fitted with conventional end trucks and carrier trolleys for operation on any existing flat track or S-Beam runway system.

**ETA-8** bridge and runway systems comply with O.S.H.A. Safety Standard Code of Regulations, revised july 1, 1984. When equipped with high impact plastic wheels and guide rollers, they pass the ASTM-D-149-5000 VAC dielectric test.

**ETA-8** 6XXX extruded aluminum alloy is non-toxic.

#### RAIL SPECIFICATIONS

**OVERALL VERTICAL HEIGHT 8"** 

WEIGHT PER FOOT 6.92 LBS.

WALL THICKNESS 1/4"

AVAILABLE IN LENGTHS UP TO 42'-0"

INTERNAL RUNNING SURFACE 4" IN WIDTH.

#### **6XXX ALLOY—MECHANICAL PROPERTIES**

ULTIMATE TENSILE STRENGTH— 37 KSI (THOUSAND LBS./IN.2)

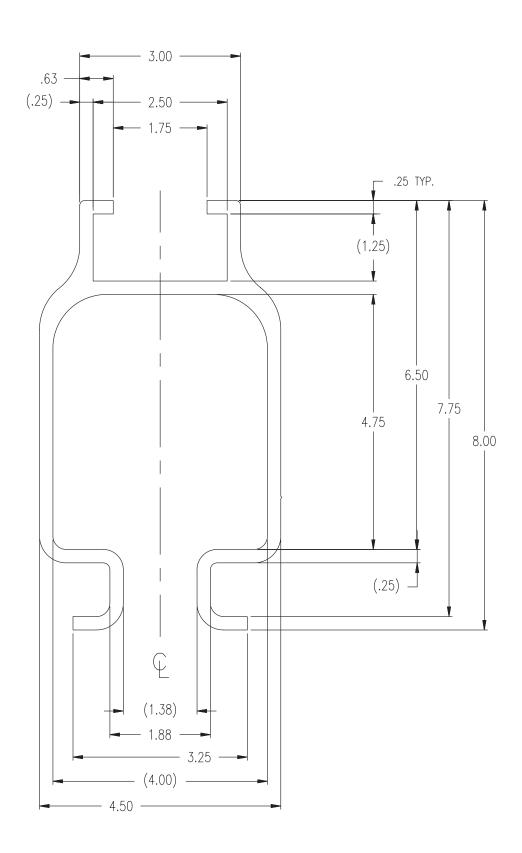
ULTIMATE SHEAR STRENGTH— 25 KSI (THOUSAND LBS./IN.2)

YIELD TENSILE STRENGTH— 35 KSI (THOUSAND LBS./IN.2) ULTIMATE BEARING STRENGTH— 61 KSI (THOUSAND LBS./IN.2)

YIELD COMPRESSIVE STRENGTH— 35 KSI (THOUSAND LBS./IN.<sub>2</sub>) YIELD BEARING STRENGTH— 52 KSI (THOUSAND LBS./IN.2)

# **6XXX ALLOY—CHEMICAL COMPOSITION (% BY WEIGHT)**

AL	SI	FE	CU	MN	MG	CR.	EN	TI	OTHER	TOTAL
97.750	.750	.350	.100	.100	.500	.100	.100	.100	.150	100.000



ETA-8 RAIL SECTION (87010)

# UNIFIED ETA-8 LIVE LOAD DEFLECTIONS



			Poi	int Load @ Ce	enter of Span (I	bs)
Span	_	lection .imit	ETA	<b>A-8</b>		-8 + 3.63
Ft. (in)	1/450	1/550	1/450	1/550	1/450	1/550
5 (60)	.1333	.1091	10440	8540	19300	18650
6 (72)	.1600	.1309	7250	5930	15830	12950
7 (84)	.1867	.1527	5330	4360	11630	9510
8 (96)	.2133	.1746	4080	3340	8900	7280
9 (108)	.2400	.1964	3220	2630	7030	5750
10 (120)	.2667	.2182	2610	2140	5700	4660
11 (132)	.2933	.2400	2150	1760	4710	3850
12 (144)	.3200	.2618	1810	1480	3950	3230
13 (156)	.3467	.2836	1540	1260	3370	2750
14 (168)	.3733	.3054	1330	1090	2900	2370
15 (180)	.4000	.3273	1160	940	2530	2070
16 (192)	.4267	.3491	1020	830	2220	1820
17 (204)	.4533	.3709	900	730	1970	1610
18 (216)	.4800	.3927	800	650	1750	1430
19 (228)	.5067	.4146	720	590	1570	1290
20 (240)	.5333	.4364	650	530	1420	1160
21 (252)	.5600	.4582	590	480	1290	1050
22 (264)	.5867	.4800	530	440	1170	960
23 (276)	.6133	.5018	490	400	1070	880
24 (288)	.6400	.5236	450	370	980	800
25 (300)	.6667	.5454	410	340	910	740

#### LOADS TO LEFT OR BELOW HEAVY LINE ARE NOT RECOMMENDED

Sectional Properties		
Area (in.²)	5.6	8.69
lx (in.4)	35.26	76.95
ly (in.4)	15.74	30.94
Centroid y From Bot. of Rail (in.)	3.97	5.58

# **CAUTION**

This bridge crane has a safe load rating, which has been clearly marked on both sides by the manufacturer. The total weight of the suspended load should never exceed 100% of this limit. The weight of all handling devices such as buckets, magnets, grabs, balancers, hoists, weldguns, etc. must be included as a part of the suspended load. The weight of such devices should therefore be determined and clearly marked.

Consideration should be given when installing hoisting devices. Load ratings for such devices may exceed the load rating of the bridge crane.

The operator should inspect this bridge crane for loose bolts and worn, cracked or distorted parts prior to use (inspection should include all handling devices and mounting equipment). Defective parts should be replaced with manufacturer-approved parts before use of bridge crane is resumed.

This bridge crane conforms to the safety standards of the U.S. Occupational Safety and Health Administration (OSHA). Any alteration of its structure or change in its rated load capacity may render null and void any manufacturer's warranties, expressed or implied.

> Ref: Code of Federal Regulations, U.S. Labor Dept. Book #29, Parts 1900 to 1910. Revised as of July, 1984.