



TEL: (517) 546-3220

ETA-4 RAIL SYSTEMS



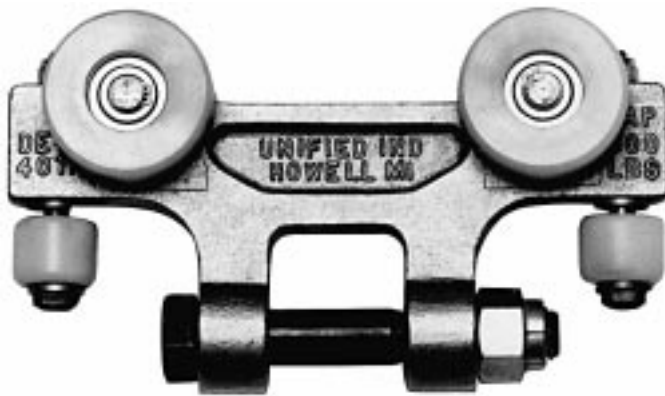
**BODY SHOP TOOLING AREA
ETA-4 BRIDGE CRANE SYSTEM**



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4 Wheel Carrier Trolley 500 lb. Max. Rated Load.....	2
4 Wheel Load Trolley 500 lb. Max. Rated Load.....	4
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USE WITH
UNIFIED ETA-4 RAIL



400A
(20100)



400B/404
(20130)

Model Number

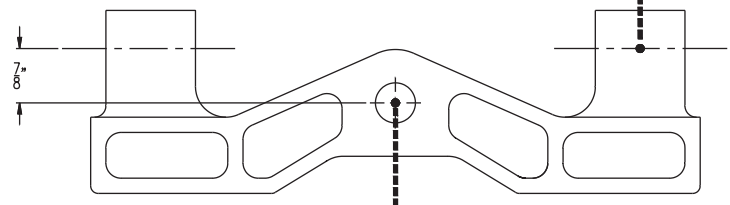
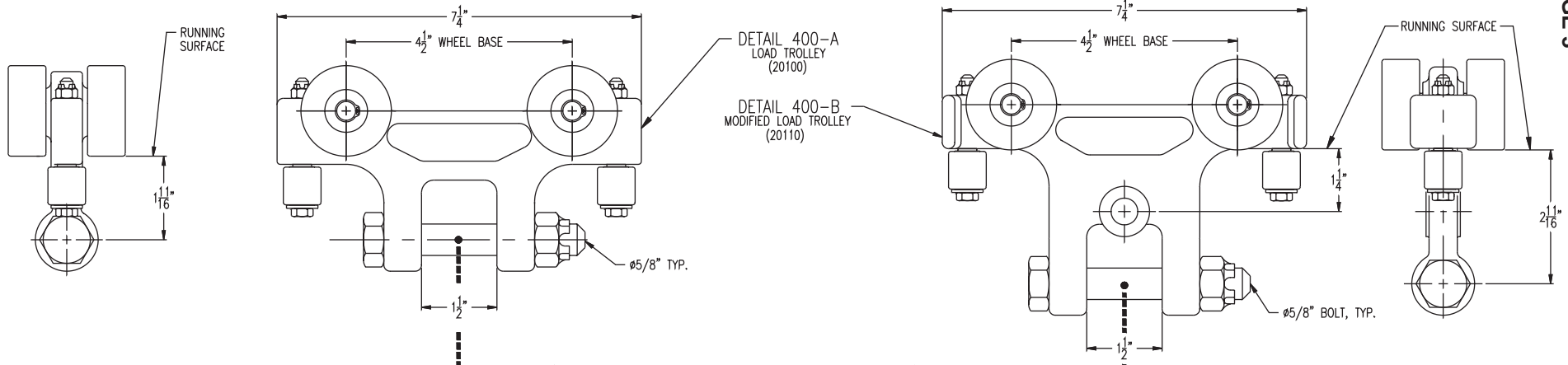
- 400A carrier trolley to operate on Unified ETA-4 aluminum rail
- 400B load trolley to operate on Unified ETA-4 aluminum rail

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.

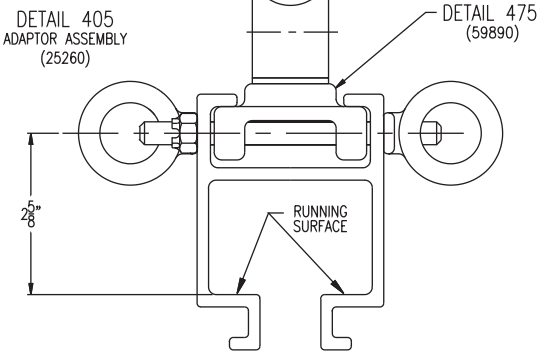
Features

- High tensile almag alloy frame
- 1.8" 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

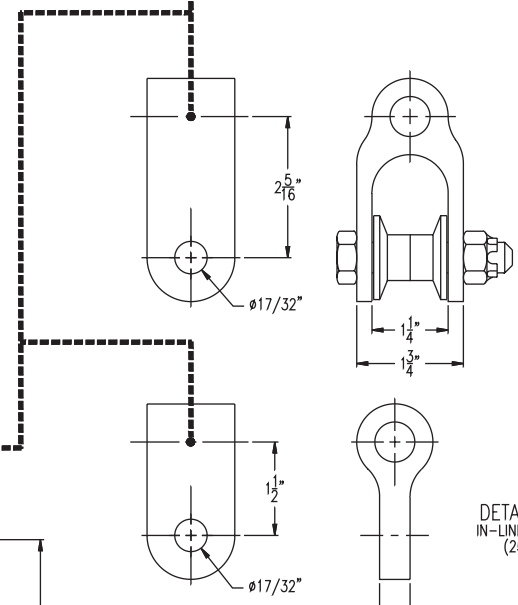
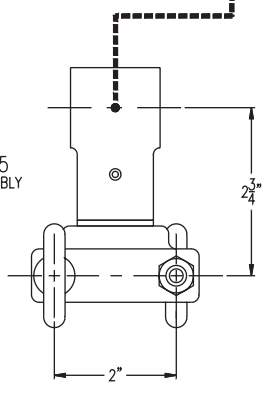


DETAIL 441
LOAD BAR
(59880)

UNIVERSAL CARRIER SPECIFICATIONS	
WEIGHT OF 400-A:	2.0 lbs.
WEIGHT OF 400-B:	2.5 lbs.
BODY :	HIGH TENSILE ALMAC
WHEELS :	1.800" DIA. HIGH IMPACT PLASTIC
BEARINGS :	BALL PERMANENTLY LUBRICATED
STUDS :	.50 DIA.
GUIDE ROLLERS :	.94 DIA. HIGH IMPACT PLASTIC
LABORATORY TESTING DATA	
YIELD STRENGTH :	9,500 lbs.
ULTIMATE STRENGTH :	11,500 lbs.
OPERATING TEMPERATURE AT 100% LOAD :	-10°F TO +100°F
ROLLING FRICTION :	.5% TO 1% OF LOAD
MAXIMUM WHEEL LOAD :	125 lbs. PER WHEEL
NOTE	
WHEN ORDERING AS A LOAD TROLLEY SPECIFY TYPE OF HANGER ACCORDING TO DETAIL NUMBER.	



DETAIL 405
ADAPTOR ASSEMBLY
(25260)



DETAIL 404
UNIVERSAL YOKE
LOAD ADAPTOR
(25240)

DETAIL 402
IN-LINE HANGER
(25230)



410B
(20140)



495A
(20150)



477
(78260)

Model Number

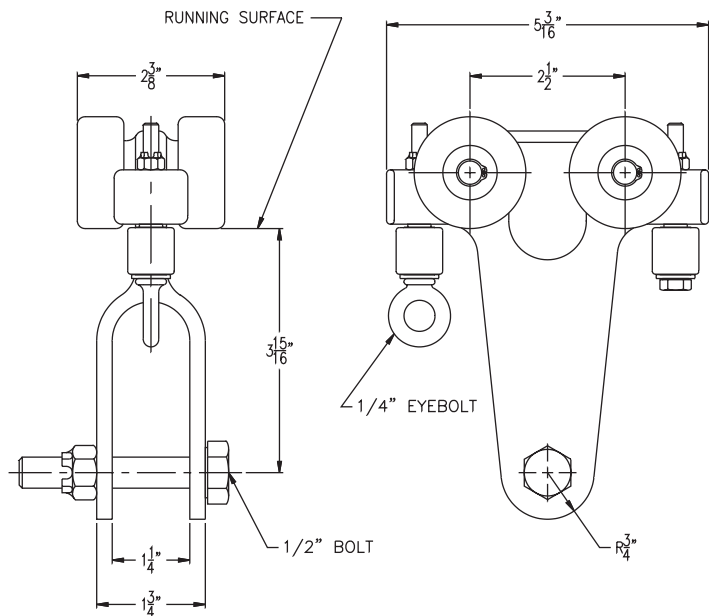
- 410B and 495A trolleys, 477 slider
- Suspension of portable tools, festooning

Features

- High tensile almag alloy frame
- 1.8" 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

- 410B load trolley to operate on Unified ETA-4 aluminum rail
- 495A festooning trolley to operate on Unified ETA-4 aluminum rail
- 477 tag line slider to operate on Unified ETA-4 aluminum rail

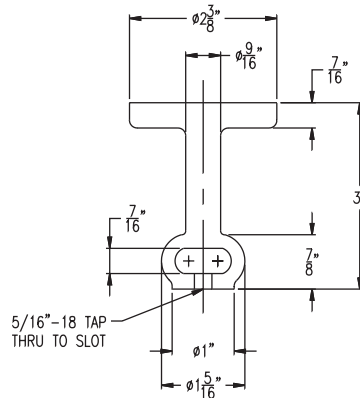


410-B UNIVERSAL LOAD TROLLEY
(20140)

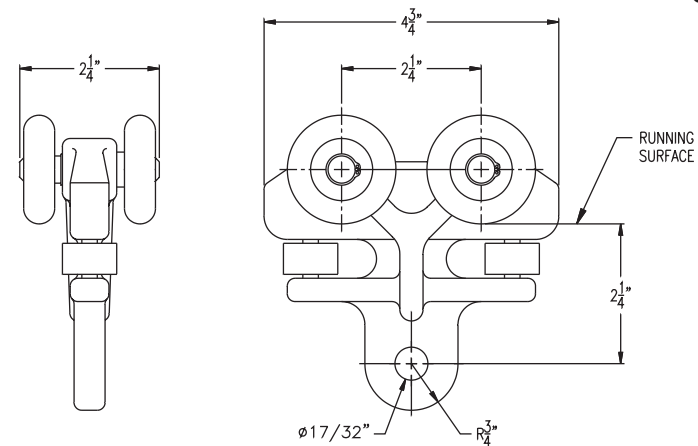
USED INDIVIDUALLY OR IN TANDEM WITH SINGLE IN-LINE LOAD BAR OF VARIOUS LENGTH.

CARRIER SPECIFICATIONS :
 CAPACITY : 500 lbs. [224 kgs]
 WHEELS: 1.80 DIA. HIGH IMPACT PLASTIC
 BODY : ALMAG 35
 WEIGHT : 1.5 lbs. [0.7 kgs]
 BEARINGS : BALL TYPE PERMANENTLY LUBRICATED
 STUDS : .50 DIA.
 GUIDE ROLLERS : .94 DIA. HIGH IMPACT PLASTIC
 OPERATING TEMP. AT 100% LOAD : -10°F TO +100°F
 ROLLING FRICTION : .5% TO 1% OF LOAD
 MAX. LOAD PER WHEEL : 125 lbs. [56 kgs]

LABORATORY TESTING DATA :
 YIELD STRENGTH : 9,000 lbs. [4032 kgs]
 ULTIMATE STRENGTH : 11,000 lbs. [4928 kgs]



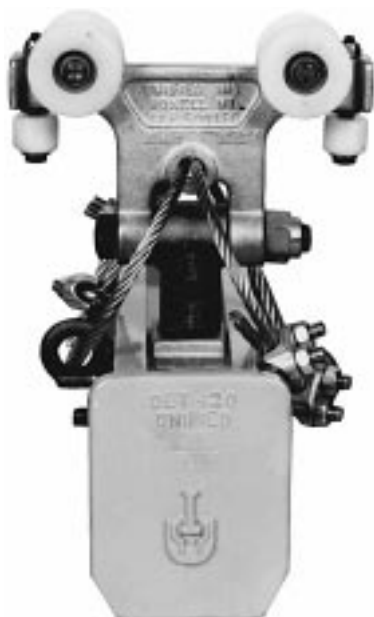
DETAIL 477
TAG LINE SLIDER FOR AIR HOSE OR ELECTRIC FESTOON (78260)



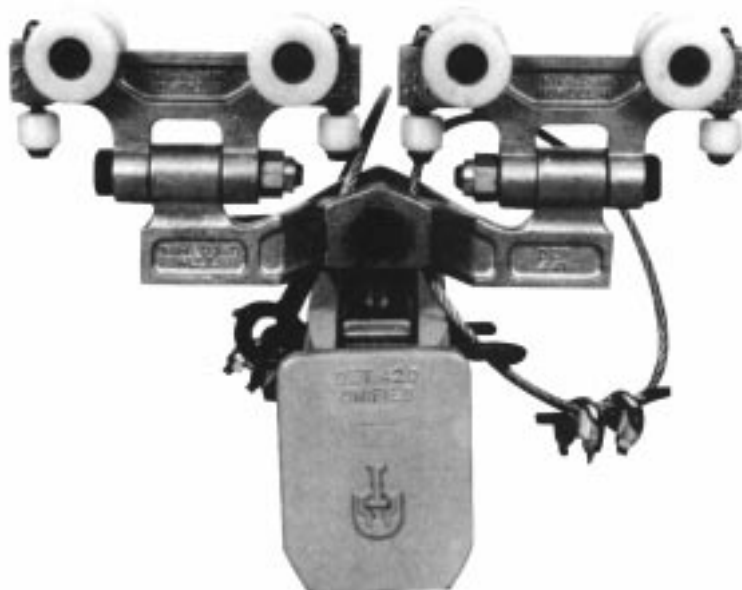
495-A FESTOONING TROLLEY
(20150)

CARRIER SPECIFICATIONS :
 CAPACITY : 100 lbs. [44.8 kgs]
 WHEELS: 1.80 DIA. HIGH IMPACT PLASTIC
 BODY : ALMAG 35
 WEIGHT : 1.5 lbs. [0.7 kgs]
 BEARINGS : BALL TYPE PERMANENTLY LUBRICATED
 STUDS : .50 DIA.
 GUIDE ROLLERS : .94 DIA. HIGH IMPACT PLASTIC
 OPERATING TEMP. AT 100% LOAD : -10°F TO +100°F
 ROLLING FRICTION : .5% TO 1% OF LOAD
 MAX. LOAD PER WHEEL : 25 lbs. [11.2 kgs]

LABORATORY TESTING DATA :
 YIELD STRENGTH : 7,500 lbs. [3360 kgs]
 ULTIMATE STRENGTH : 9,000 lbs. [4032 kgs]



B-420



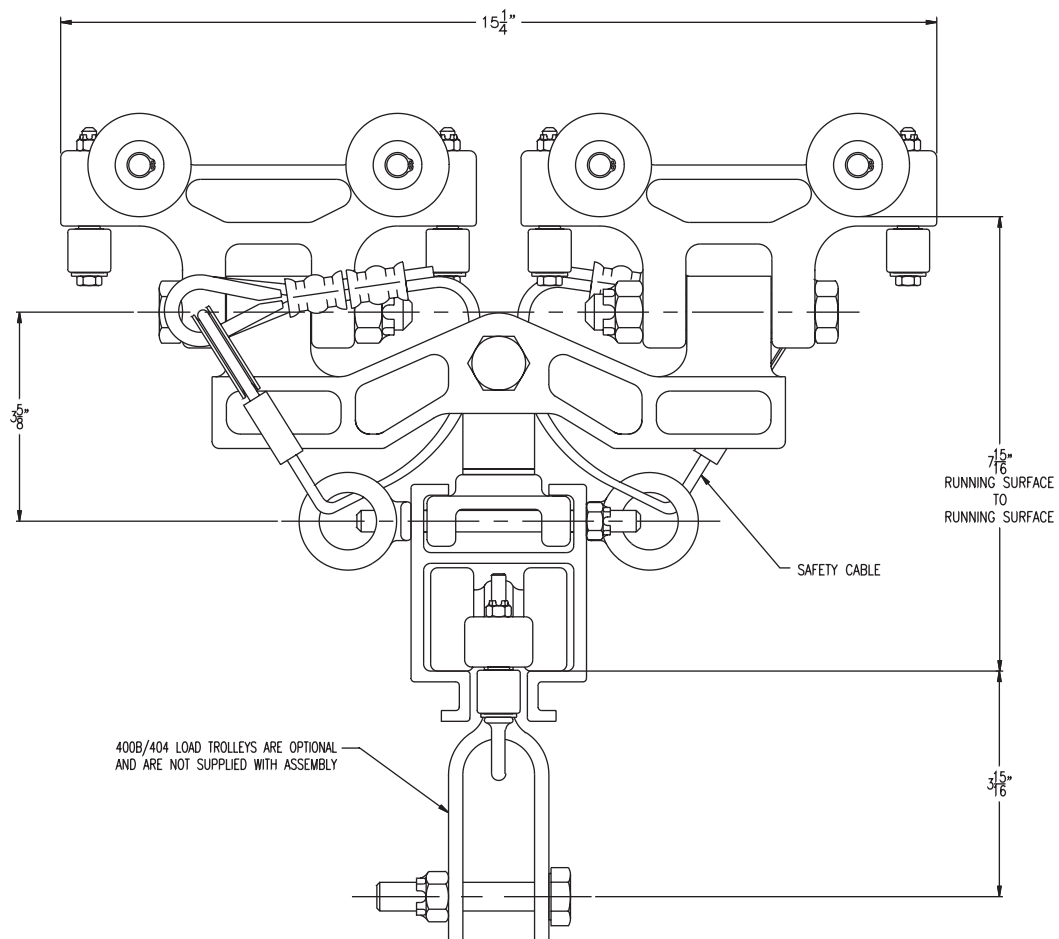
A-430

B-420 standard-(single) (22521)

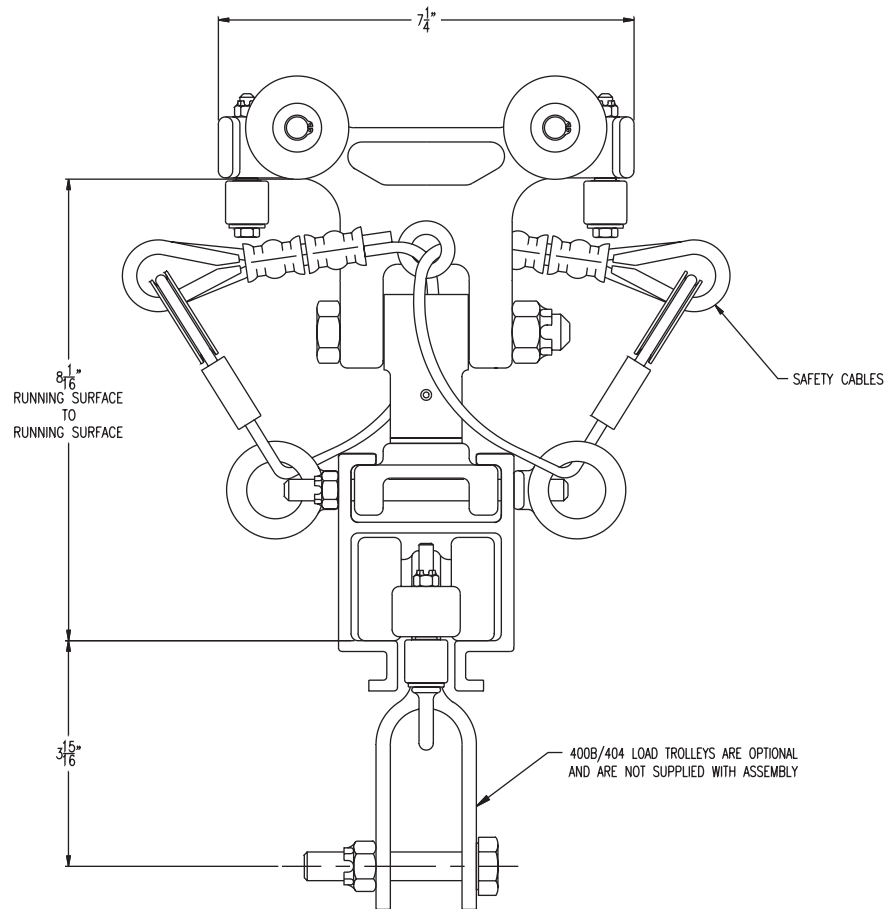
- End truck carrier assemblies for single girder bridge cranes

A-430 standard-(dual) (22540)

- End truck carrier assemblies for single girder bridge cranes



430-A STANDARD DUAL END TRUCK
 (22540)
 DUAL TROLLEY END TRUCK CARRIER AT EACH END OF CRANE GIRDER.
 RATED CAPACITY: 1000 lbs.
 SINGLE GIRDER BRIDGE CRANE UP TO 12'-0" SPAN



420-B STANDARD SINGLE END TRUCK
 (22521)
 SINGLE TROLLEY END TRUCK CARRIER AT EACH END OF CRANE GIRDER.
 RATED CAPACITY: 500 lbs.
 SINGLE GIRDER BRIDGE CRANE UP TO 12'-0" SPAN



Unified ETA-4 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 6 and 7 for carrier specifications. Bridge girder has bolted end caps with a neoprene bumper at each end, completing assembly.

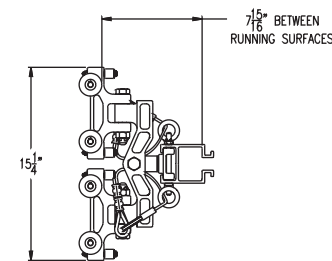
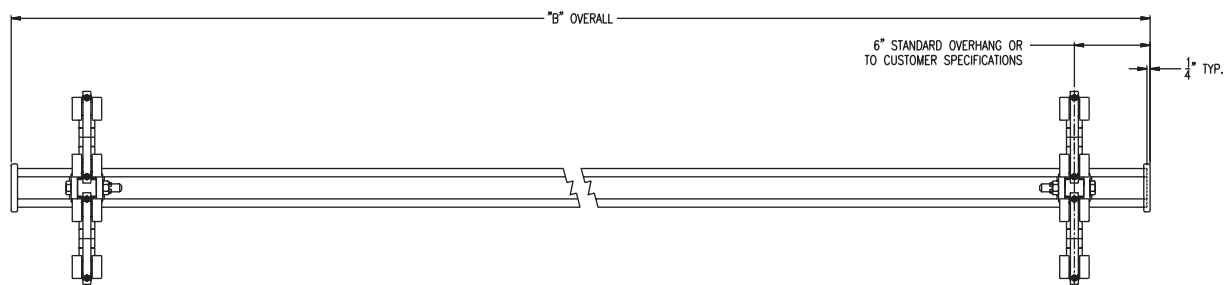


A-430 DUAL CARRIER END TRUCK (22540)



B-420 SINGLE CARRIER END TRUCK (22521)

- Standard overhang each end 6 inches
- Overhangs up to 18 inches are available
- Paint color—specify when ordering
- Standard redundant end stops (option for single end stop.)
- Air festooning brackets specifically designed for ETA-4 rail. See page 16
- Small tool or messenger cable trolley available. See page 4



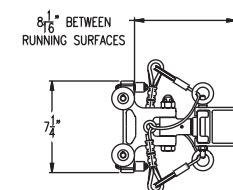
430-A
(22540)
STANDARD DUAL CARRIER END TRUCK
1000 lbs. RATED CAPACITY

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

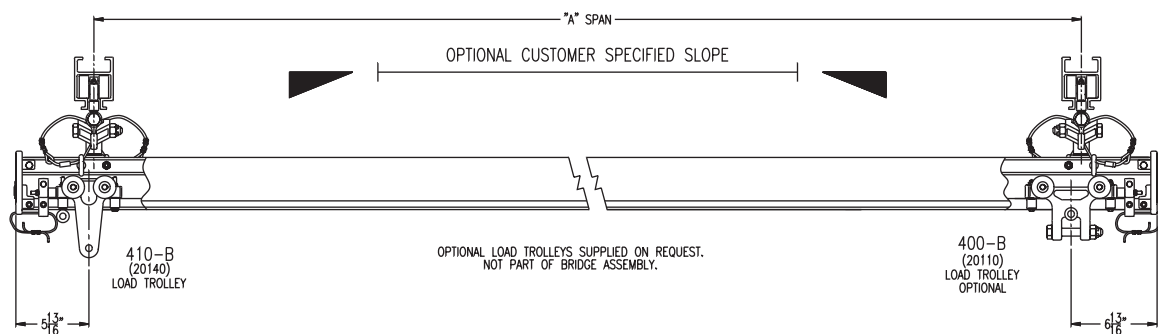
TEST LOAD: SHALL NOT BE MORE THAN 125% OF THE RATED LOAD UNLESS RECOMMENDED BY THE MANUFACTURER. CRANE SHALL NOT BE LOADED BEYOND IT'S RATED LOAD CAPACITY EXCEPT FOR TEST PURPOSES.

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.



420-B
(22521)
STANDARD SINGLE CARRIER END TRUCK
500 lbs. RATED CAPACITY



OPTIONAL LOAD TROLLEYS SUPPLIED ON REQUEST.
NOT PART OF BRIDGE ASSEMBLY.

DUAL RUNWAY SYSTEM									
SINGLE GIRDER BRIDGE									
430-A DUAL END TRUCK									
"A" SPAN	"B" OVERALL	RATED LOAD		TEST LOAD		TOTAL WEIGHT			
2'- 0"	609.6 mm	3'- 0"	914.4 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	22 lbs.	9.9 kgs.
3'- 0"	914.4 mm	4'- 0"	1219.2 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	25 lbs.	11.2 kgs.
4'- 0"	1219.2 mm	5'- 0"	1524.0 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	28 lbs.	12.5 kgs.
5'- 0"	1524.0 mm	6'- 0"	1828.8 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	31 lbs.	13.9 kgs.
6'- 0"	1828.8 mm	7'- 0"	2133.6 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	34 lbs.	15.2 kgs.
7'- 0"	2133.6 mm	8'- 0"	2438.4 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	37 lbs.	16.6 kgs.
8'- 0"	2438.4 mm	9'- 0"	2743.2 mm	450 lbs.	201.6 kgs	562.5 lbs.	252 kgs	40 lbs.	17.9 kgs.
9'- 0"	2743.2 mm	10'- 0"	3048.0 mm	350 lbs.	156.8 kgs	437.5 lbs.	196 kgs	43 lbs.	19.3 kgs.
10'- 0"	3048.0 mm	11'- 0"	3352.8 mm	300 lbs.	134.4 kgs	375 lbs.	168 kgs	46 lbs.	20.6 kgs.
11'- 0"	3352.8 mm	12'- 0"	3657.6 mm	245 lbs.	109.8 kgs	306.3 lbs.	137.2 kgs	49 lbs.	22.0 kgs.
12'- 0"	3657.6 mm	13'- 0"	3962.4 mm	200 lbs.	89.6 kgs	250 lbs.	112 kgs	52 lbs.	23.3 kgs.

DUAL RUNWAY SYSTEM									
SINGLE GIRDER BRIDGE									
420-B SINGLE END TRUCK									
"A" SPAN	"B" OVERALL	RATED LOAD		TEST LOAD		TOTAL WEIGHT			
2'- 0"	609.6 mm	3'- 0"	914.4 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	12 lbs.	5.4 kgs.
3'- 0"	914.4 mm	4'- 0"	1219.2 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	15 lbs.	6.7 kgs.
4'- 0"	1219.2 mm	5'- 0"	1524.0 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	18 lbs.	8.1 kgs.
5'- 0"	1524.0 mm	6'- 0"	1828.8 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	21 lbs.	9.4 kgs.
6'- 0"	1828.8 mm	7'- 0"	2133.6 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	24 lbs.	10.8 kgs.
7'- 0"	2133.6 mm	8'- 0"	2438.4 mm	500 lbs.	224 kgs	625 lbs.	280 kgs	27 lbs.	12.1 kgs.
8'- 0"	2438.4 mm	9'- 0"	2743.2 mm	450 lbs.	201.6 kgs	562.5 lbs.	252 kgs	30 lbs.	13.4 kgs.
9'- 0"	2743.2 mm	10'- 0"	3048.0 mm	350 lbs.	156.8 kgs	437.5 lbs.	196 kgs	33 lbs.	14.8 kgs.
10'- 0"	3048.0 mm	11'- 0"	3352.8 mm	300 lbs.	134.4 kgs	375 lbs.	168 kgs	36 lbs.	16.1 kgs.
11'- 0"	3352.8 mm	12'- 0"	3657.6 mm	245 lbs.	109.8 kgs	306.3 lbs.	137.2 kgs	39 lbs.	17.5 kgs.
12'- 0"	3657.6 mm	13'- 0"	3962.4 mm	200 lbs.	89.6 kgs	250 lbs.	112 kgs	42 lbs.	18.8 kgs.

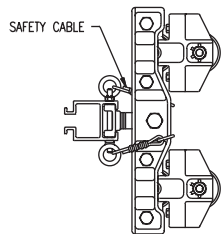
VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR FEDERAL REGULATIONS CODE.
FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.



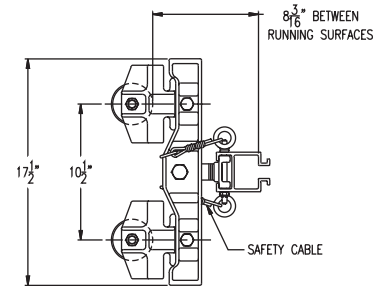
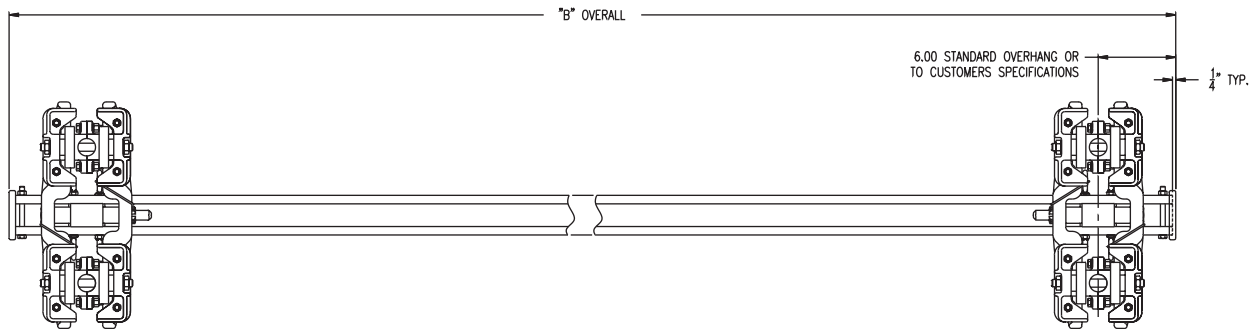
A-460 CONVENTIONAL END TRUCK
A-465 CONVENTIONAL END TRUCK (KICK-UP)

Designed Specifically For Existing Runway Systems

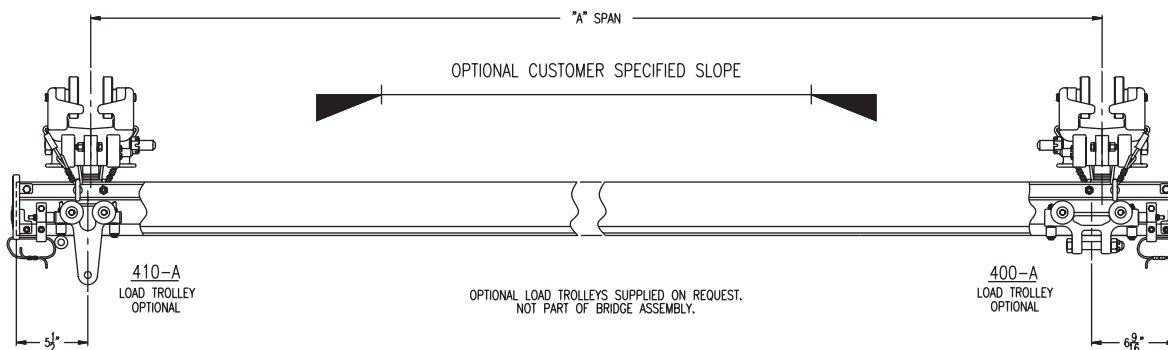
- A-460 end truck assembly MBC-500-2 for operation on 3.25 or 3.33 flat rail (22571) or 3.33" 6" S-Beam (12.5lb.) (22572)
 - A-460 end truck assembly MBC-500-2-4 for operation on 2.66" 4" S-Beam (7.7lb.) (22573)
 - A-465 end truck assembly MBC-500-3 for operation on 3.25 or 3.33 flat rail (22574) or 3.33" 6" S-Beam (12.5lb.) (22575)
 - A-465 end truck assembly MBC-500-3-4 for operation on 2.66" 4" S-Beam (7.7lb.) (22576)
- Self aligning end trucks
 - High tensile almag alloy castings make up end truck assembly
 - Counter thrust trolleys for countering extended loads are available
 - Low inertia: 1-2% of load
 - Paint color—specify when ordering
 - Standard redundant end stops (option for single end stop.)



465-A
TWO WHEEL TROLLEY WITH KICK-UP WHEEL
FOR COUNTER THRUST EXTENDED LOADS.
FOR 3.25" FLAT RAIL (22574)
FOR S6 BEAM (22575)
FOR S4 BEAM (22576)



460-A
TWO WHEEL TROLLEY WITHOUT KICK-UP
WHEEL FOR STANDARD BRIDGE
FOR 3.25" FLAT RAIL (22571)
FOR S6 BEAM (22572)
FOR S4 BEAM (22573)



OPTIONAL LOAD TROLLEYS SUPPLIED ON REQUEST.
NOT PART OF BRIDGE ASSEMBLY.

← DUAL CONVENTIONAL RUNWAY SYSTEM →		SINGLE GIRDER BRIDGE							
● 460-A, 465-A SINGLE END TRUCK 17.5" LG. ●									
"A" SPAN	"B" OVERALL	RATED LOAD		TEST LOAD		TOTAL WEIGHT			
2'- 0"	609.6 mm	3'- 0"	914.4 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	22 lbs.	9.9 kgs.
3'- 0"	914.4 mm	4'- 0"	1219.2 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	25 lbs.	11.2 kgs.
4'- 0"	1219.2 mm	5'- 0"	1524.0 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	28 lbs.	12.5 kgs.
5'- 0"	1524.0 mm	6'- 0"	1828.8 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	31 lbs.	13.9 kgs.
6'- 0"	1828.8 mm	7'- 0"	2133.6 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	34 lbs.	15.2 kgs.
7'- 0"	2133.6 mm	8'- 0"	2438.4 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	37 lbs.	16.6 kgs.
8'- 0"	2438.4 mm	9'- 0"	2743.2 mm	500 lbs.	224 kgs.	625 lbs.	280 kgs.	40 lbs.	17.9 kgs.
9'- 0"	2743.2 mm	10'- 0"	3048.0 mm	350 lbs.	156.8 kgs.	437.5 lbs.	196 kgs.	43 lbs.	19.3 kgs.
10'- 0"	3048.0 mm	11'- 0"	3352.8 mm	300 lbs.	134.4 kgs.	375 lbs.	168 kgs.	46 lbs.	20.6 kgs.
11'- 0"	3352.8 mm	12'- 0"	3657.6 mm	245 lbs.	109.8 kgs.	306.3 lbs.	137.2 kgs.	49 lbs.	22.0 kgs.
12'- 0"	3657.6 mm	13'- 0"	3962.4 mm	200 lbs.	89.6 kgs.	250 lbs.	112 kgs.	52 lbs.	23.3 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 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.



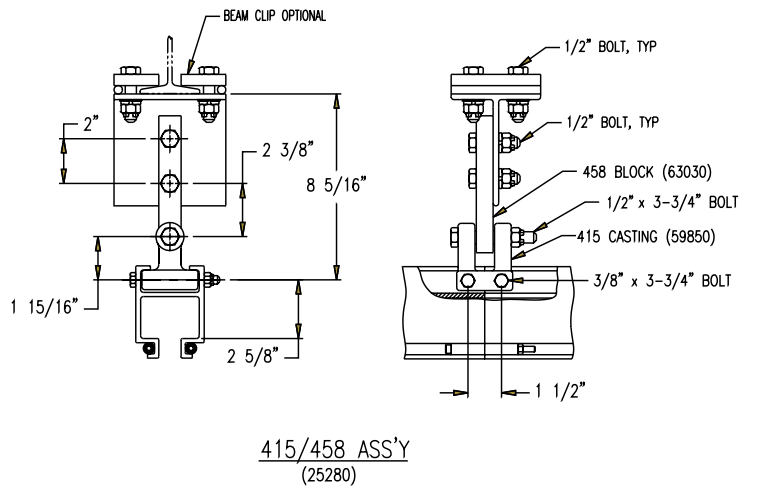
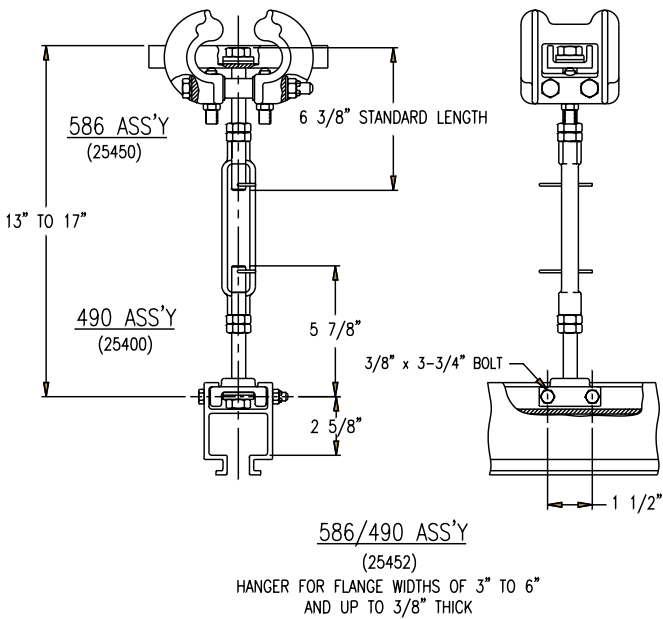
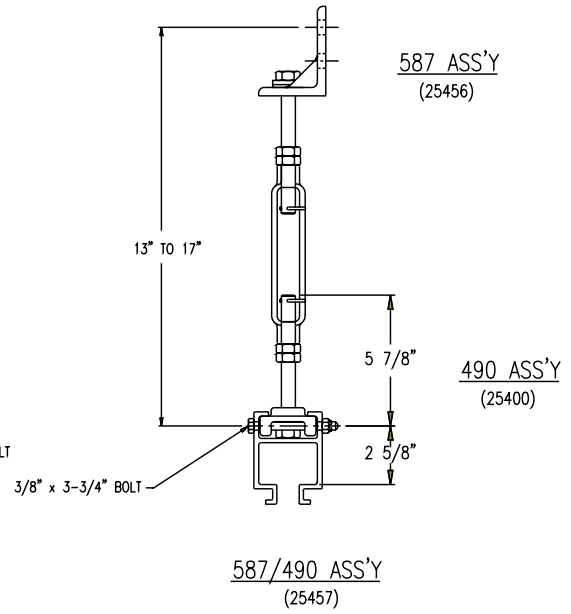
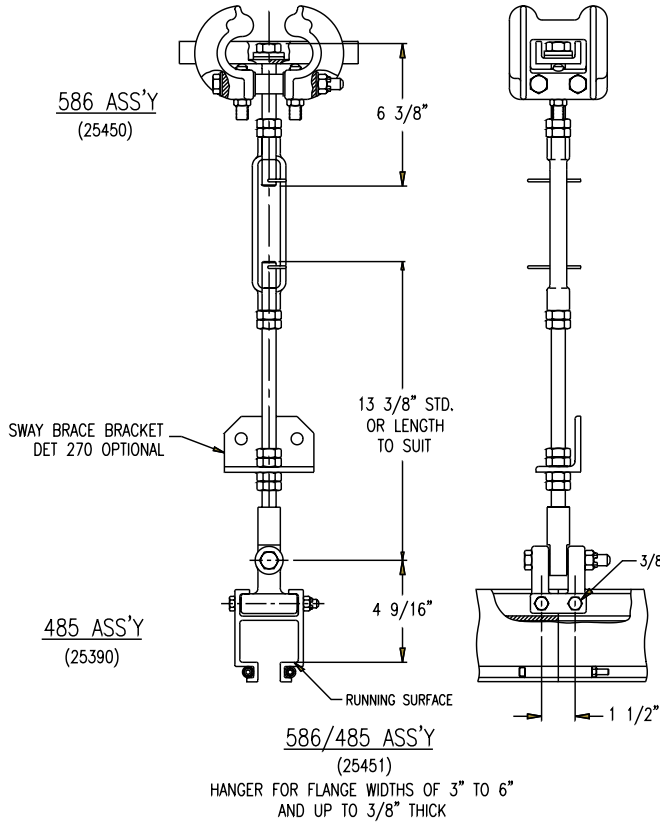
586/490 ASSEMBLY
(25452)

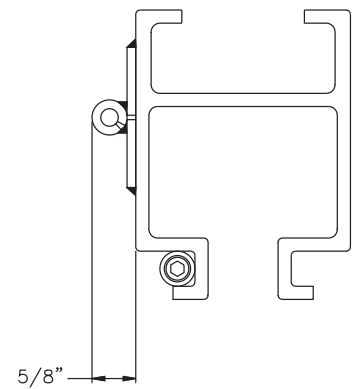


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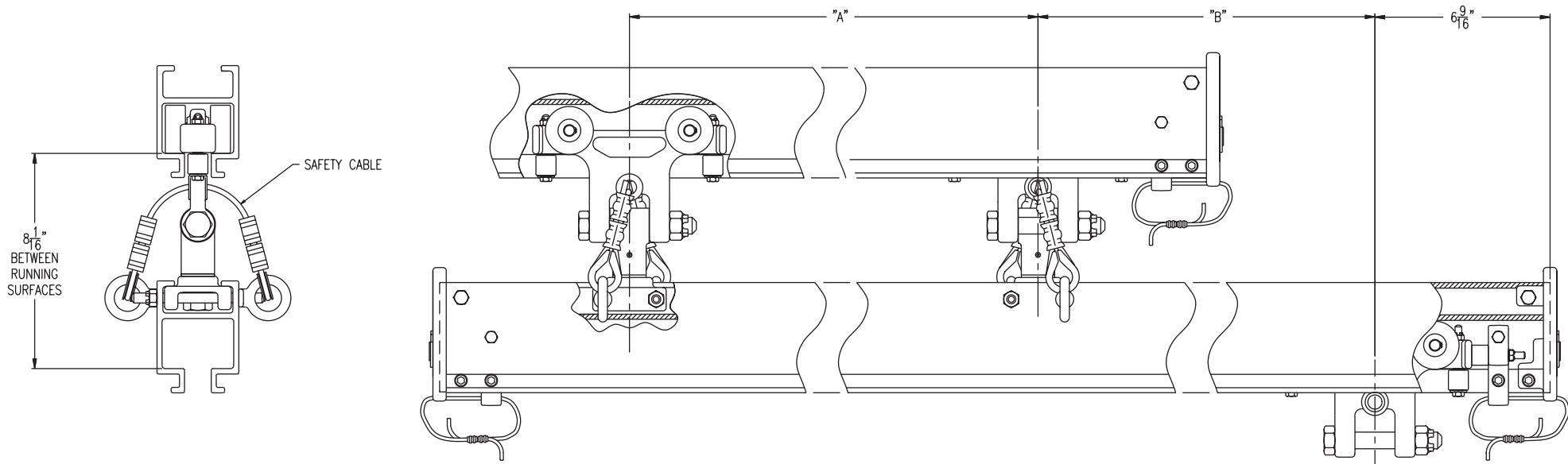


415/458 ASSEMBLY
(25280)





INSPECTION GATE
(OPTIONAL)
FOR INSERTION AND REMOVAL OF TROLLEYS

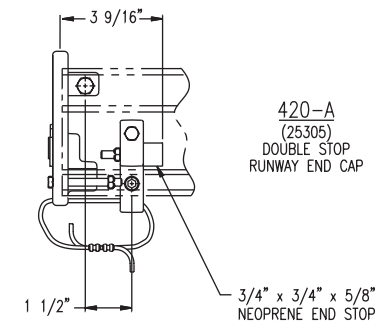
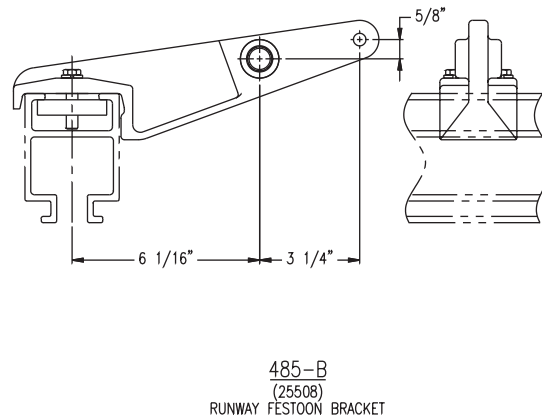
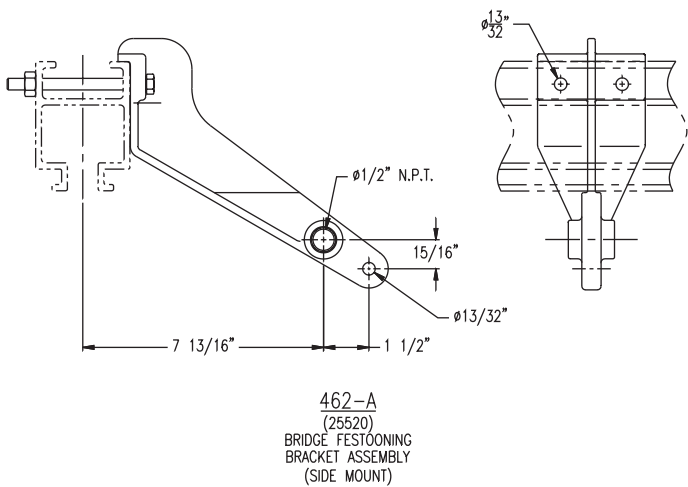
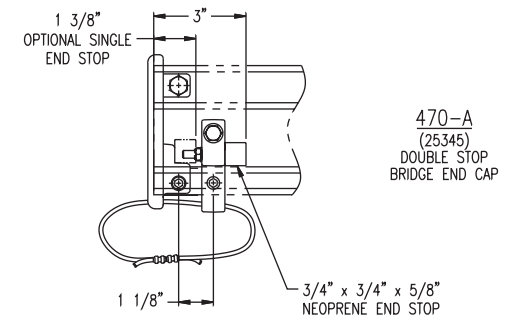
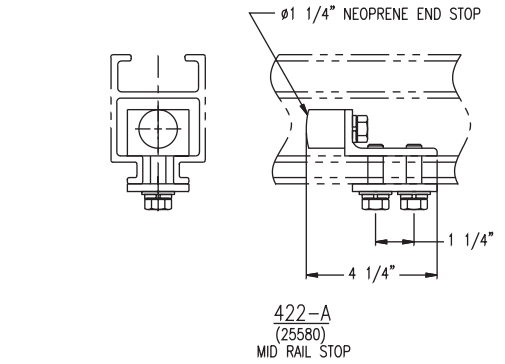
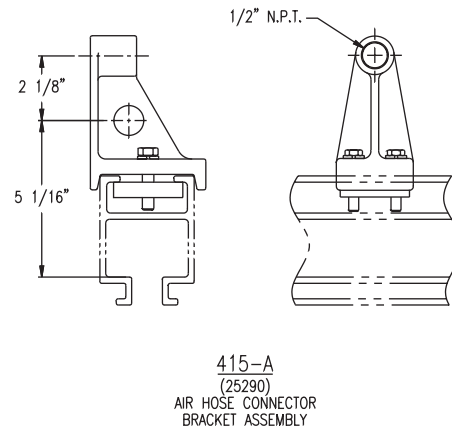
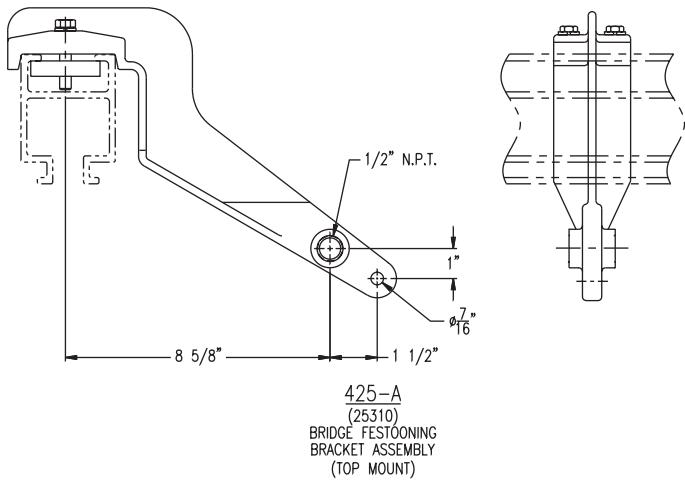


"A"	"B"	RATED LOAD		TEST LOAD	
18 INCH	24 in.	275 lbs.	123.2 kgs.	375 lbs.	168 kgs.
	36 in.	175 lbs.	78.4 kgs.	250 lbs.	112 kgs.
	48 in.	125 lbs.	56 kgs.	187 lbs.	83.8 kgs.
24 INCH	24 in.	375 lbs.	168 kgs.	500 lbs.	224 kgs.
	36 in.	250 lbs.	112 kgs.	333 lbs.	149.2 kgs.
	48 in.	175 lbs.	83.8 kgs.	250 lbs.	112 kgs.
30 INCH	24 in.	475 lbs.	212.8 kgs.	625 lbs.	280 kgs.
	36 in.	300 lbs.	134.4 kgs.	416 lbs.	186.4 kgs.
	48 in.	225 lbs.	100.8 kgs.	312 lbs.	139.8 kgs.
36 INCH	24 in.	500 lbs.	224 kgs.	750 lbs.	336 kgs.
	36 in.	375 lbs.	168 kgs.	500 lbs.	224 kgs.
	48 in.	275 lbs.	123.2 kgs.	375 lbs.	168 kgs.
42 INCH	24 in.	500 lbs.	224 kgs.	1000 lbs.	448 kgs.
	36 in.	500 lbs.	224 kgs.	666 lbs.	298.4 kgs.
	48 in.	375 lbs.	168 kgs.	500 lbs.	224 kgs.

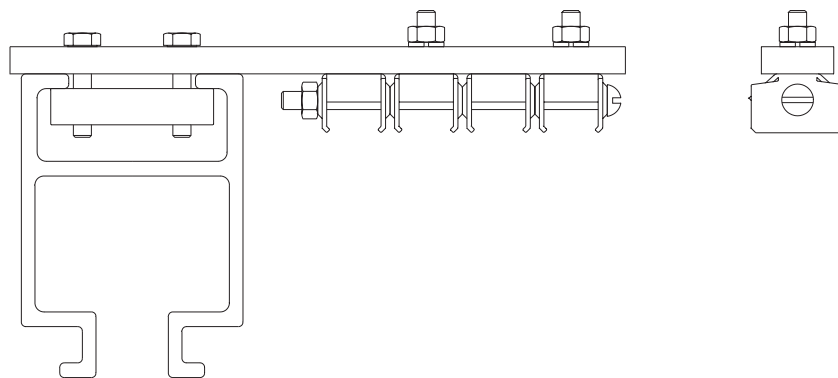
RATED LOAD: BASED UPON STATIC LOAD TESTING, CARRYING CAPACITY OF HIGH IMPACT WHEELS AND ALSO A BRIDGE GIRDER DEFLECTION OF 1/550.

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.

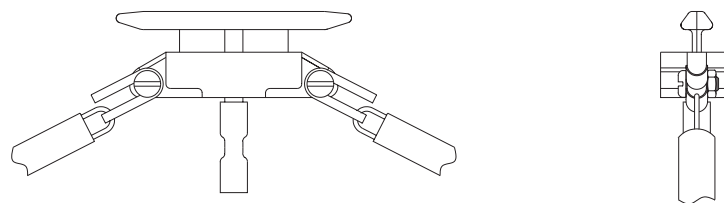
VALUES CONFORM WITH O.S.H.A. DEPT. OF LABOR FEDERAL REGULATONS CODE.
FEDERAL REGULATIONS CODE WAS REVISED AS OF JULY 1, 1984.



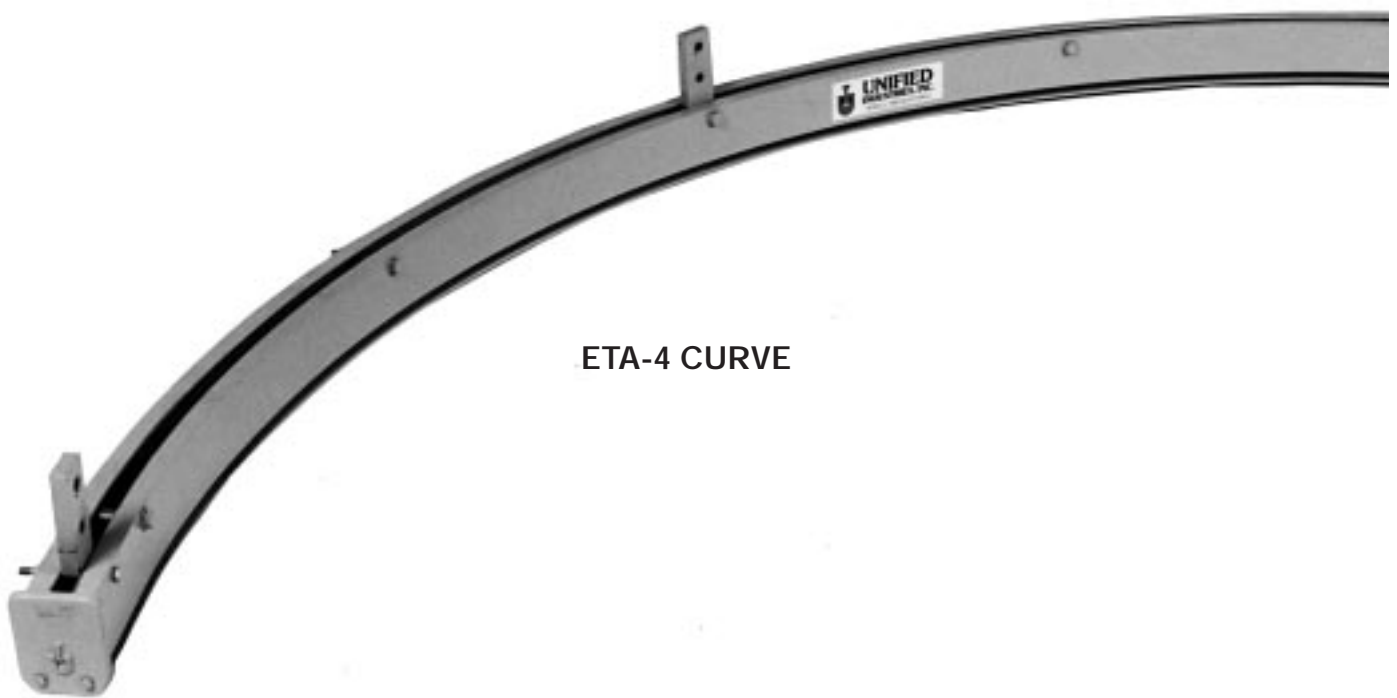
ETA-4 ACCESSORIES



HANGER CLAMP ASSEMBLY TH502
WITH FESTOONING BRACKET ASSEMBLY
(67085)



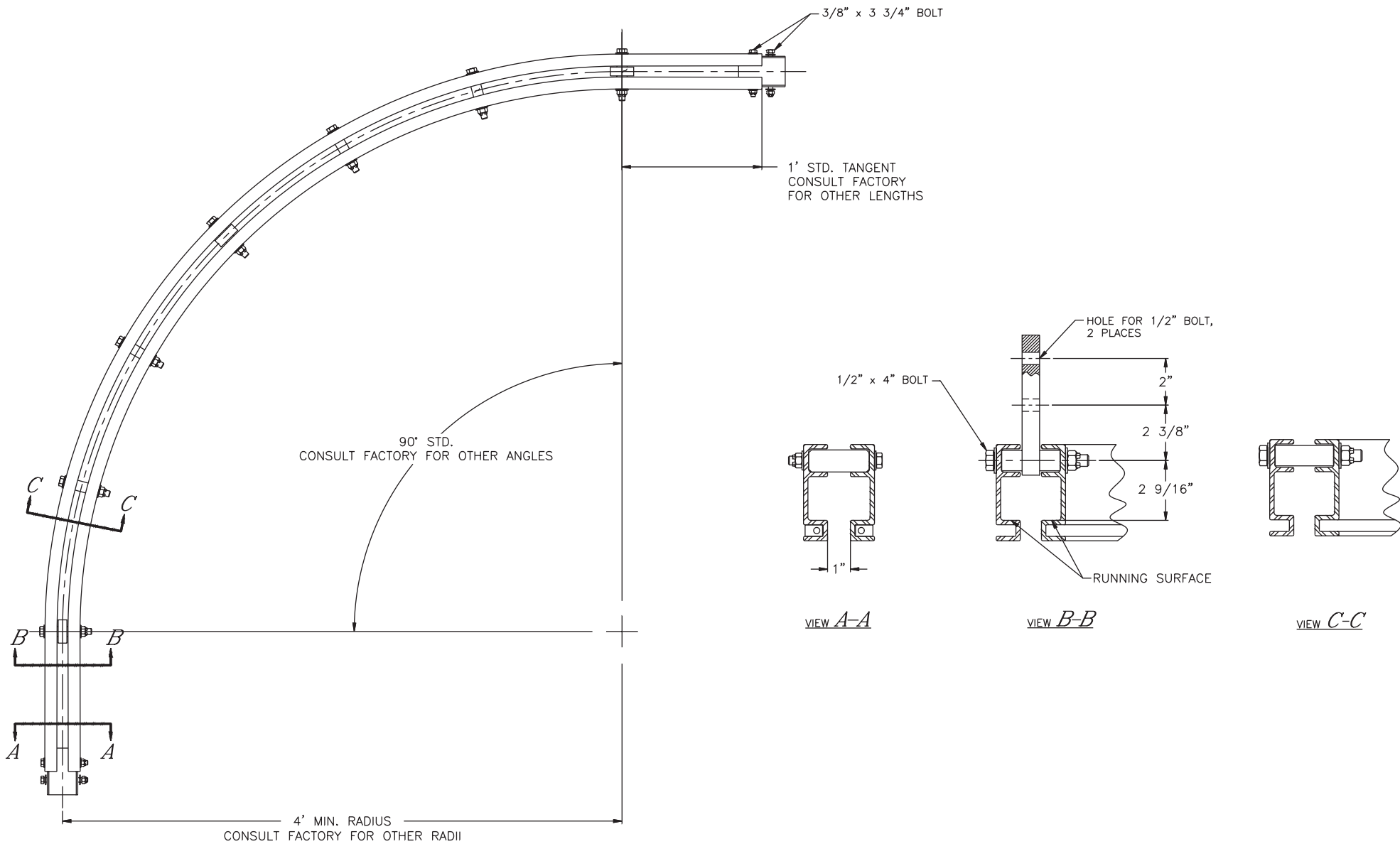
"T" SERIES COLLECTOR 50 AMPERE RATED
SUPPLIED WITH INSULATED TOW CHAIN AND
INSULATED TERMINAL SLEEVE FOR #10 WIRE.
(67090)



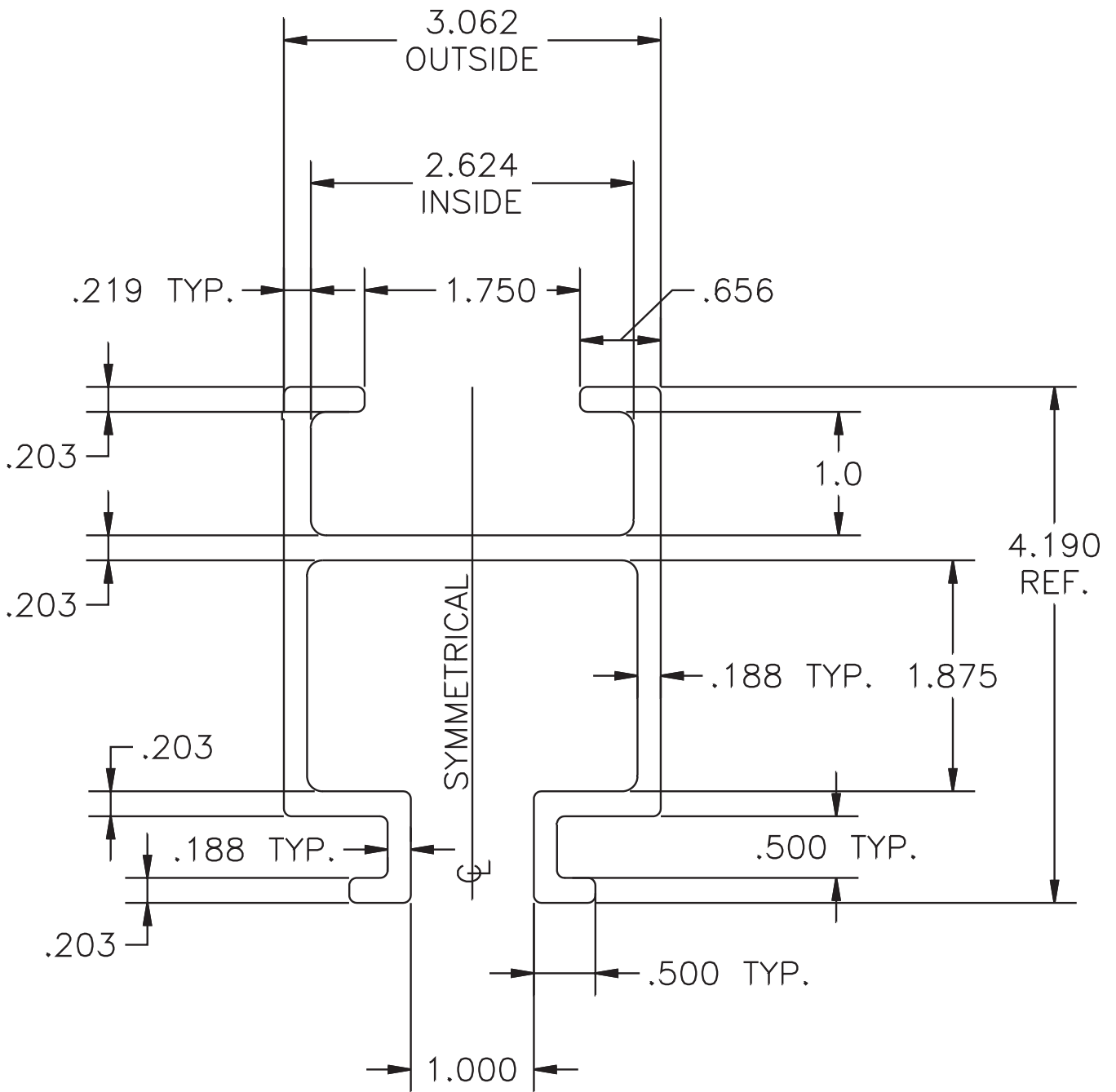
ETA-4 CURVE

Features

- 4'-0" minimum radius
- Consult factory for additional information
- (87056) up to 6'-0" radius x 45°
- (87051) up to 6'-0" radius x 90°
- (87061) 6'-1" to 14'-0" radius x 90°



ETA-4 CURVED RAIL



ETA-4 RUNWAY/BRIDGE RAIL SECTION
(87020)



Span Ft. (in)	Deflection Limit		Point Load @ Center of Span (lbs)			
			ETA-4		ETA-4 + C4 x 2.5	
			1/450	1/550	1/450	1/550
5 (60)	.1333	.1091	1340	1090	3800	3110
6 (72)	.1600	.1309	930	760	2640	2160
7 (84)	.1867	.1527	680	550	1940	1580
8 (96)	.2133	.1746	520	420	1480	1210
9 (108)	.2400	.1964	410	330	1170	960
10 (120)	.2667	.2182	330	270	950	770
11 (132)	.2933	.2400	270	220	780	640
12 (144)	.3200	.2618	230	190	660	540
13 (156)	.3467	.2836	190	160	560	460
14 (168)	.3733	.3054	170	130	480	390
15 (180)	.4000	.3273	140	120	420	340
16 (192)	.4267	.3491	130	100	370	300
17 (204)	.4533	.3709	110	90	320	260
18 (216)	.4800	.3927	100	80	290	240
19 (228)	.5067	.4146	90	70	260	210
20 (240)	.5333	.4364	80	65	230	190
21 (252)	.5600	.4582	70	60	210	170
22 (264)	.5867	.4800	65	55	190	160
23 (276)	.6133	.5018	60	50	170	140
24 (288)	.6400	.5236	55	45	160	130
25 (300)	.6667	.5454	50	40	150	120

LOADS TO LEFT OR BELOW HEAVY LINE ARE NOT RECOMMENDED

Sectional Properties		
Area (in. ²)	2.87	5.0
I _x (in. ⁴)	4.53	12.85
I _y (in. ⁴)	4.03	8.59
Centroid \bar{y} From Bot. of Rail (in.)	2.15	3.23

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.