

**RESEARCH TOOL
& DIE WORKS, INC.**



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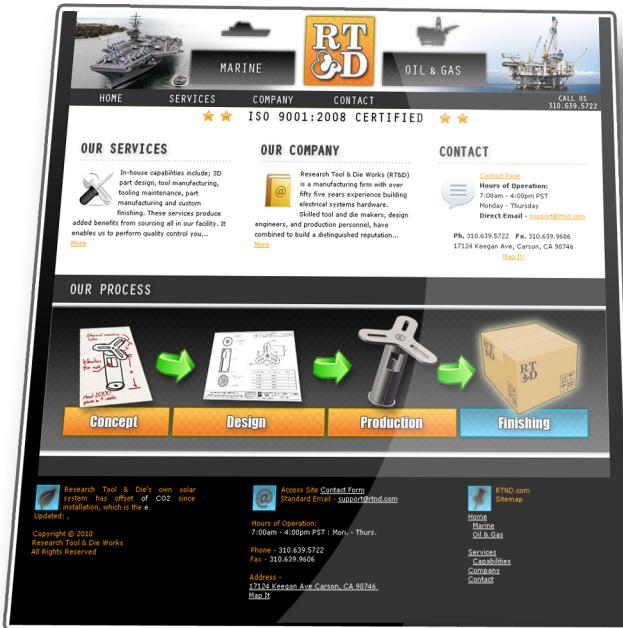
www.RTND.com
CUSTSERV@RTND.COM

MANUFACTURERS OF MARINE
ELECTRICAL SYSTEMS HARDWARE

16TH EDITION

THE ALL NEW RTND.COM

VISIT FOR MORE INFORMATION



Research Tool & Die Works (RT&D) is a manufacturing firm with over 55 years experience in electrical-systems hardware design and metal stamping fabrication. Skilled tool and die makers, design engineers, and production personnel, have combined to build a distinguished reputation for quality products and have established RT&D as a leader in developing innovative designs and manufacturing processes. RT&D has obtained over thirty domestic and foreign patents on products and tooling techniques.

In-house capabilities include; 3D part design, tool manufacturing, tooling maintenance, part manufacturing and custom finishing. These services produce added benefits from sourcing all in our facility. It enables us to perform quality control you expect, eliminate transportation costs that multiple sources would incur and allows us to ensure on-time delivery. Our services and capabilities are aligned with our process flow.

VISIT RTND.COM

MODERN FACILITIES



Our innovative plant in Carson, California, serves as our corporate headquarters and state of the art manufacturing facility. It houses some of the most advanced fabrication equipment available. RT&D utilizes modern computerized design, tool making, and manufacturing equipment, which results in production speeds and precision unequaled by any other means. Since we design many of our own unique production techniques, our manufacturing facility also includes one of a kind metal working machines developed by RT&D to implement these innovative products.

We own and operate our own ultra-modern powder coat facility, and this enhances our ability to control product quality as well as production delivery times. We have devel-

oped many specialized coating formulations that provide superior wear characteristics with high corrosive resistance and are now required specifications in the marine industry.

Benefiting from a computerized inventory management system, and over one million dollars of on-hand products, our customers enjoy reduced delivery times not often found in the metal stamping industry. In addition, our network of representatives world wide prides themselves on providing the highest level of service to every customer. Leaders in the shipbuilding industry have come to rely on products manufactured by RT&D. We are proud of the fact that the hardware we produce is providing service to ships around the world every day.



Research Tool & Die Works (RT&D) was founded in 1952 as a tool and die job shop. They provided competitive die design and metal stampings to local businesses in California. In the early 1960's, The Long Beach Naval Shipyard and others were making their own major electrical wireways (the integral component used to support the massive electrical wiring cables in marine vessels). Fabricators at The Long Beach Naval Shipyard

initially sought out RT&D to perform repair work on some of their existing tooling. RT&D took the opportunity to evaluate the current processes used in making the part at the shipyard. RT&D speculated that a considerable cost benefit could be realized if they were to engineer and manufacture the part. The shipyard allowed RT&D to submit a bid and indicated they would compare it against their own cost study.

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MAJOR WIREWAYS

INVERTED "T" STYLE

&

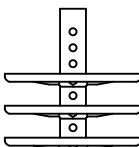
TRAPEZE STYLE

RESEARCH TOOL & DIE WORKS

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MAJOR WIREWAYS

INVERTED "T" STYLE

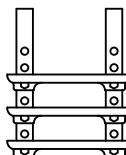


3MOR CROSSTIER

3MOR-08A - 3MOR-20A ALUMINUM 45.5 LBS/TIER
3MOR-08 - 3MOR-20 STEEL 91.0 LBS/TIER
3MOR-08S - 3MOR-20S STAINLESS 91.0 LBS/TIER

P. 1-3

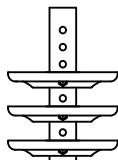
TRAPEZE STYLE



9M CROSSTIER

9M-08A - 9M-20A ALUMINUM 45.5 LBS/TIER
9M-08 - 9M-20 STEEL 91.0 LBS/TIER
9M-08S - 9M-20S STAINLESS 91.0 LBS/TIER

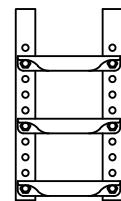
P. 1-9



3MAX CROSSTIER

3MAX10A - 3MAX30A ALUMINUM 75.0 LBS/TIER
3MAX10 - 3MAX30 STEEL 150.0 LBS/TIER
3MAX10S - 3MAX30S STAINLESS 150.0 LBS/TIER

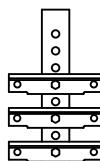
P. 1-4



9MAX CROSSTIER

9MAX17A - 9MAX30A ALUMINUM
9MAX17 - 9MAX30 STEEL 150.0 LBS/TIER
9MAX17S - 9MAX30S STAINLESS 150.0 LBS/TIER

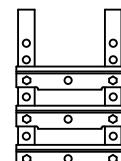
P. 1-10



3CT NAVY STANDARD

3CT-06 - 3CT-20 ALUMINUM 45.5 LBS/TIER
3CTS-06 - 3CTS-20 STEEL 91.0 LBS/TIER
3CTSS-06 - 3CTSS-20 STAINLESS 91.0 LBS/TIER

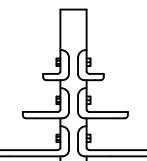
P. 1-5



3CT NAVY STANDARD

3CT-06 - 3CT-20 ALUMINUM 45.5 LBS/TIER
3CTS-06 - 3CTS-20 STEEL 91.0 LBS/TIER
3CTSS-06 - 3CTSS-20 STAINLESS 91.0 LBS/TIER

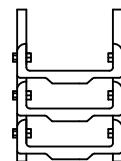
P. 1-11



RTD CROSSTIER

RA06 - RA10 ALUMINUM 22.5 LBS/SIDE
R612 - R1212 STEEL 45.0 LBS/SIDE

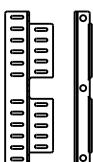
P. 1-6



9S CROSSTIER

9A08 - 9A24 ALUMINUM 45.0 LBS/TIER
9S08 - 9S24 STEEL 91.0 LBS/TIER
9SS08 - 9S24 STAINLESS 91.0 LBS/TIER

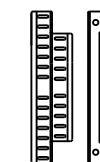
P. 1-12



OVER\UNDER CROSSTIER

3OUS-06 - 3OUS-20 STEEL
3OUS-06A - 3OUS-20A ALUMINUM
3O USS-06 - 3O USS-20 STAINLESS STEEL

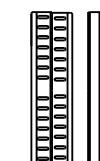
P. 1-7



OVER\UNDER CROSSTIER HEAVY DUTY

3OUS-17I - 3OUS-30I STEEL 156.0 LBS/TIER

P. 1-13



OVER\UNDER CROSSTIER WITH TABS

3OUSW-17 - 3OUSW-38 STEEL 120.0 LBS/TIER

P. 1-14

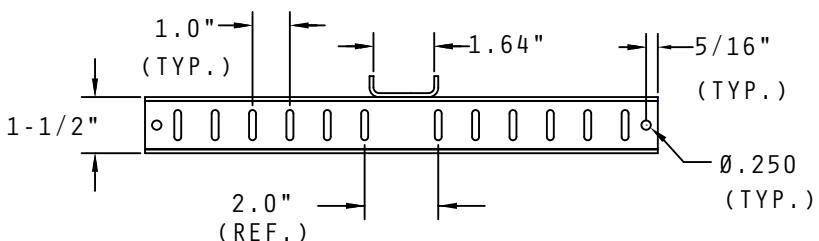
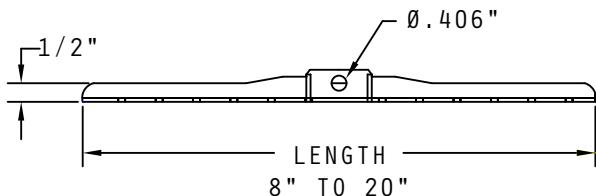
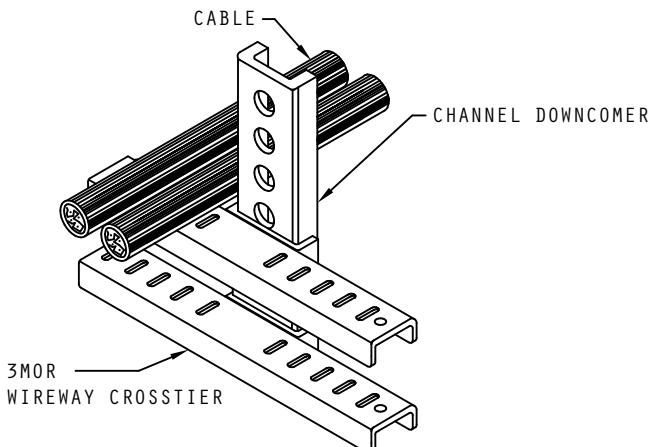
DOWNCOMERS LOCATED ON: P. 1-15

INVERTED "T" STYLE

NOTES:

3MOR CROSSTIER

MILITARY OPTIONAL REPLACEMENT INVERTED "T" STYLE



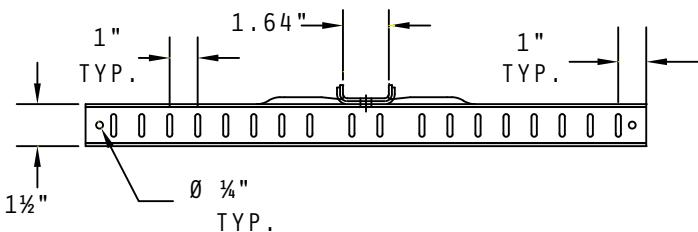
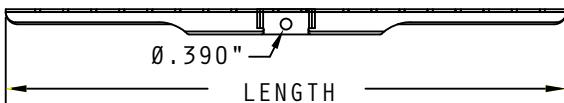
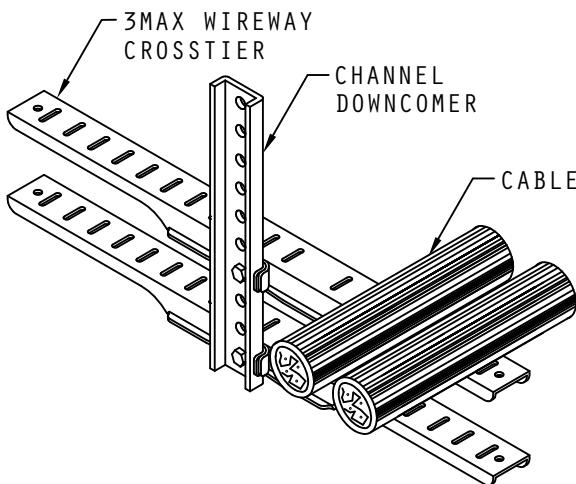
AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"

ALUMINUM	STEEL	STAINLESS
3MOR-06A - 3MOR-20A	3MOR-06 - 3MOR-20	3MOR-06S - 3MOR-20S

3MAX CROSSTIER

MAX LOAD WIREWAY CROSSTIER

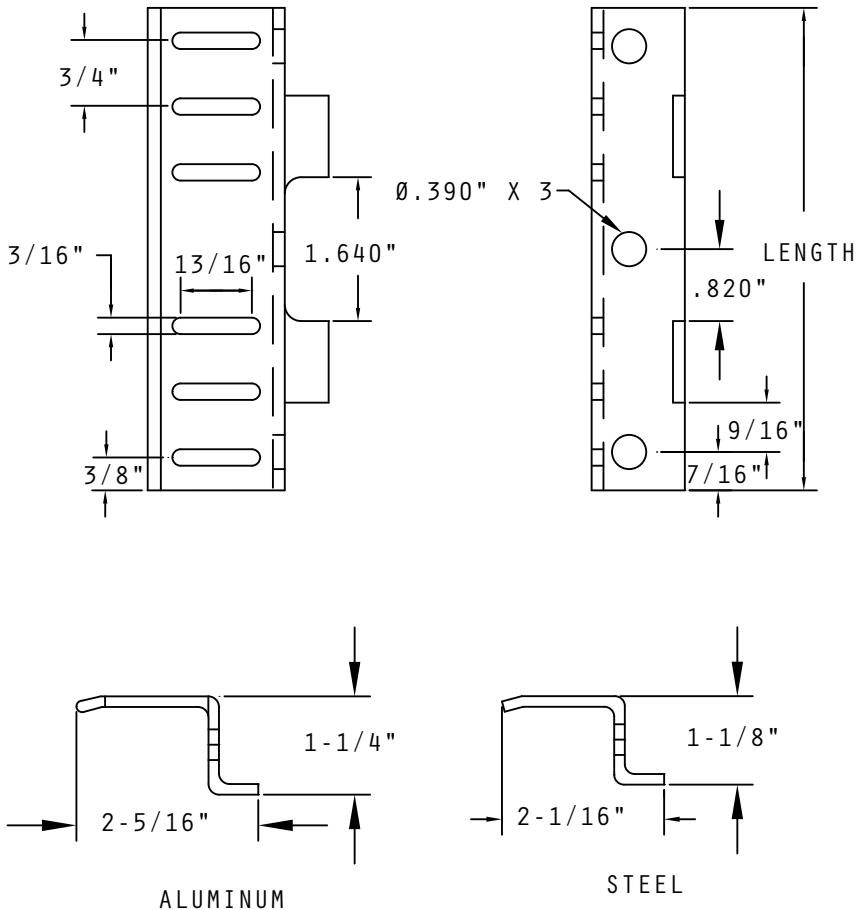
DESIGNED TO MEET EXTRA HEAVY LOADS,
RATED FOR 150 LBS. EACH TIER



AVAILABLE IN 2" INCREMENTS FROM 10" TO 24"
STEEL
3MAX10 - 3MAX24

NAVY STANDARD

CROSSTIER

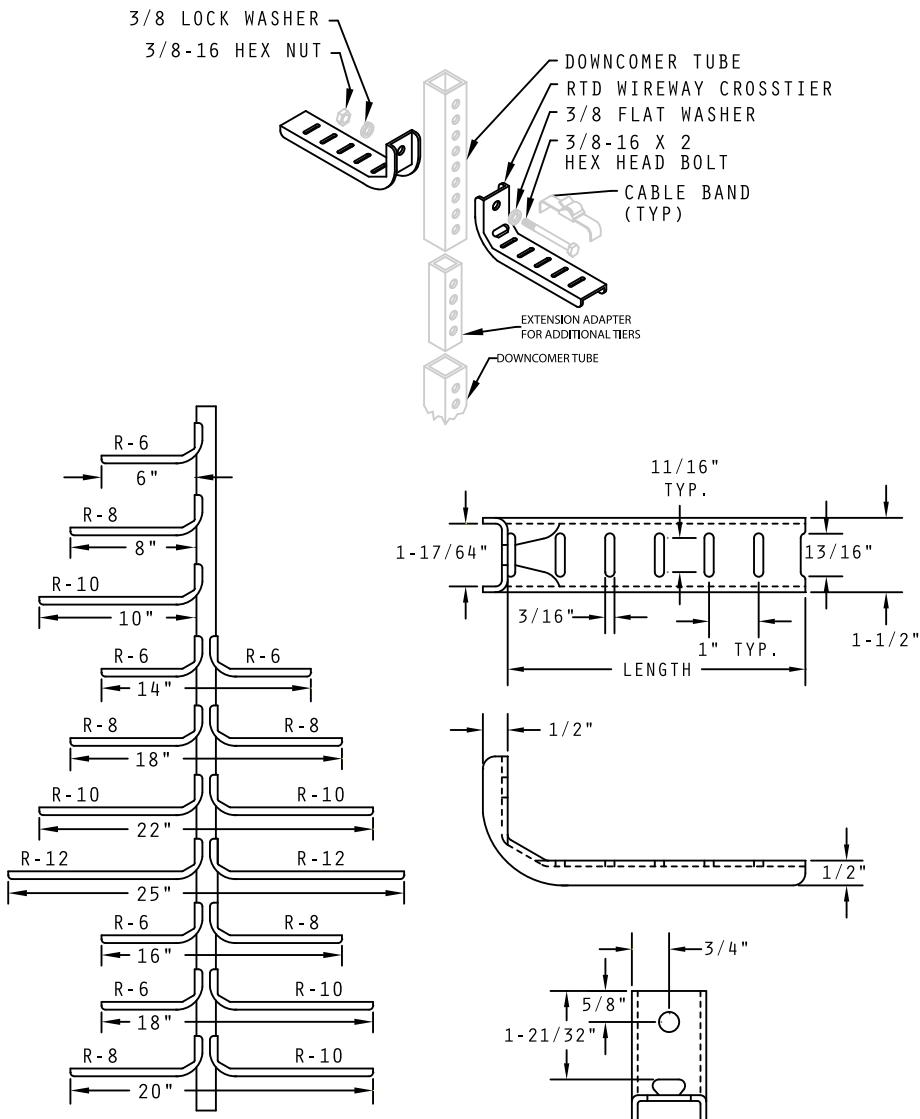


MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027

AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"		
ALUMINUM	STEEL	STAINLESS
3CT-06 - 3CT-20	3CTS-06 - 3CTS-20	3CTSS-06 - 3CTSS-20

RTD CROSSTIER

WIREWAY HANGER

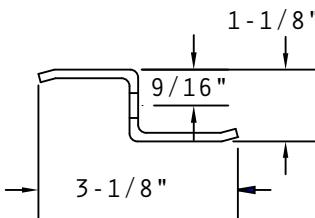
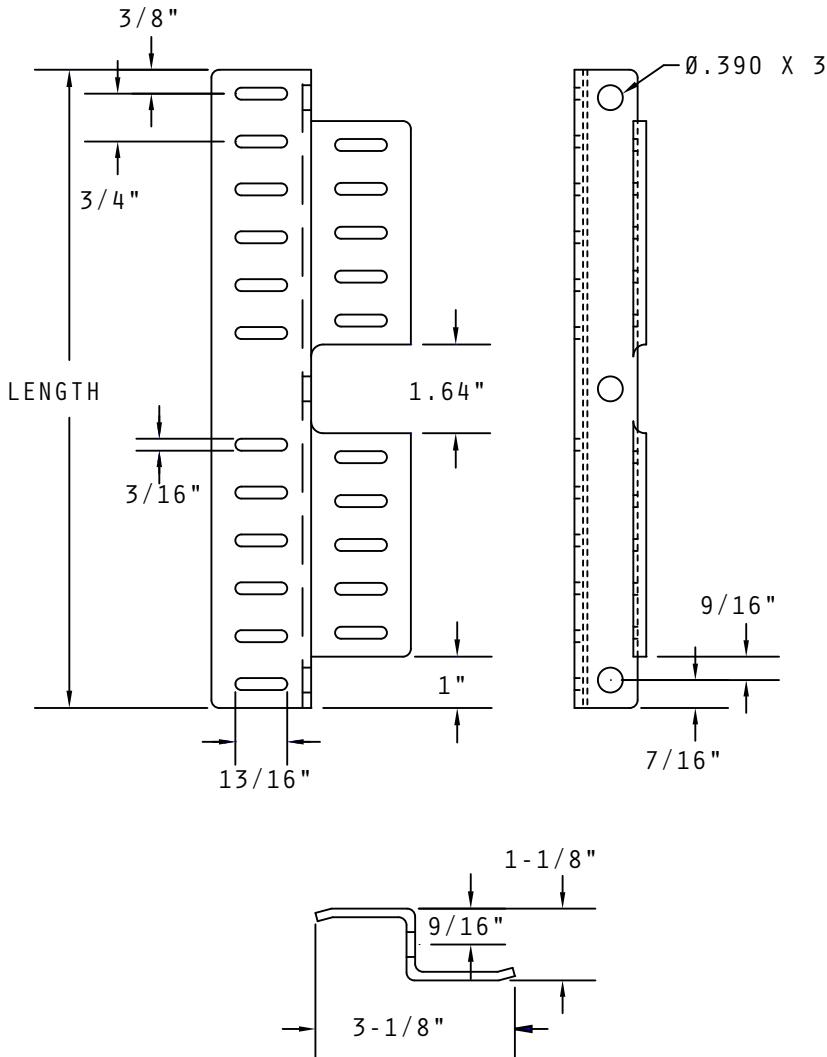


U. S. PAT. #3923277

ALUMINUM	STEEL
RA06 - RA08 - RA10	R612 - R812 - R1012 - R1212

OVER/UNDER CROSSTIER

DESIGNED TO BE USED WITH NAVY STANDARD
CHANNEL DOWNCOMERS AND ANGLE DOWNCOMERS



AVAILABLE IN 1" INCREMENTS FROM 6" TO 24"

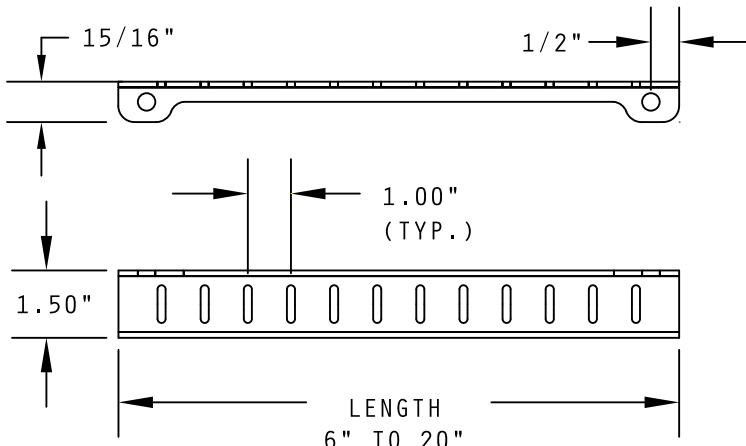
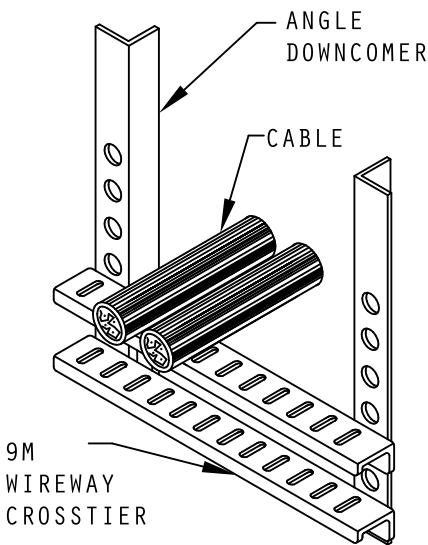
STEEL	ALUMINUM	STAINLESS STEEL
30US-06 - 30US-24	30US-06A - 30US-24A	30USS-06 - 30USS-24

TRAPEZE STYLE

NOTES:

9M CROSSTIER

MILITARY OPTIONAL REPLACEMENT TRAPEZE STYLE



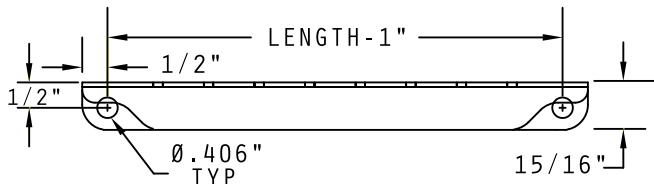
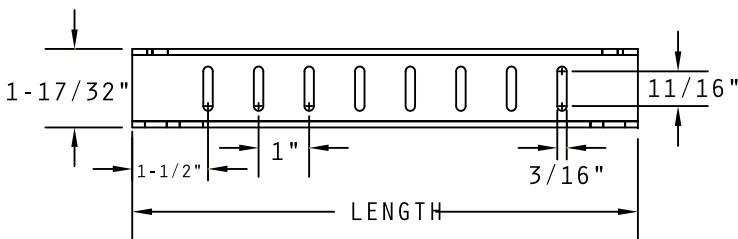
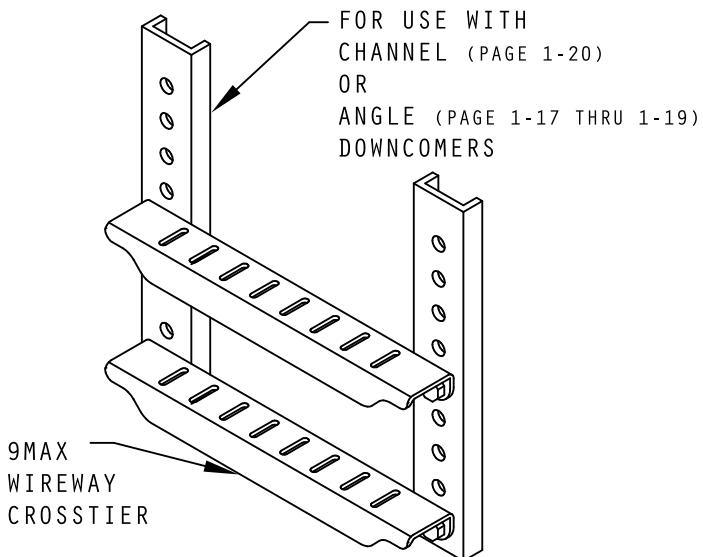
AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"

ALUMINUM	STEEL	STAINLESS
9M-06A - 9M-20A	9M-06 - 9M-20	9M-06S - 9M-20S

9MAX CROSSTIER

MAX LOAD WIREWAY CROSSTIER

DESIGNED TO MEET EXTRA HEAVY LOADS,
RATED FOR 150 LBS. EACH TIER

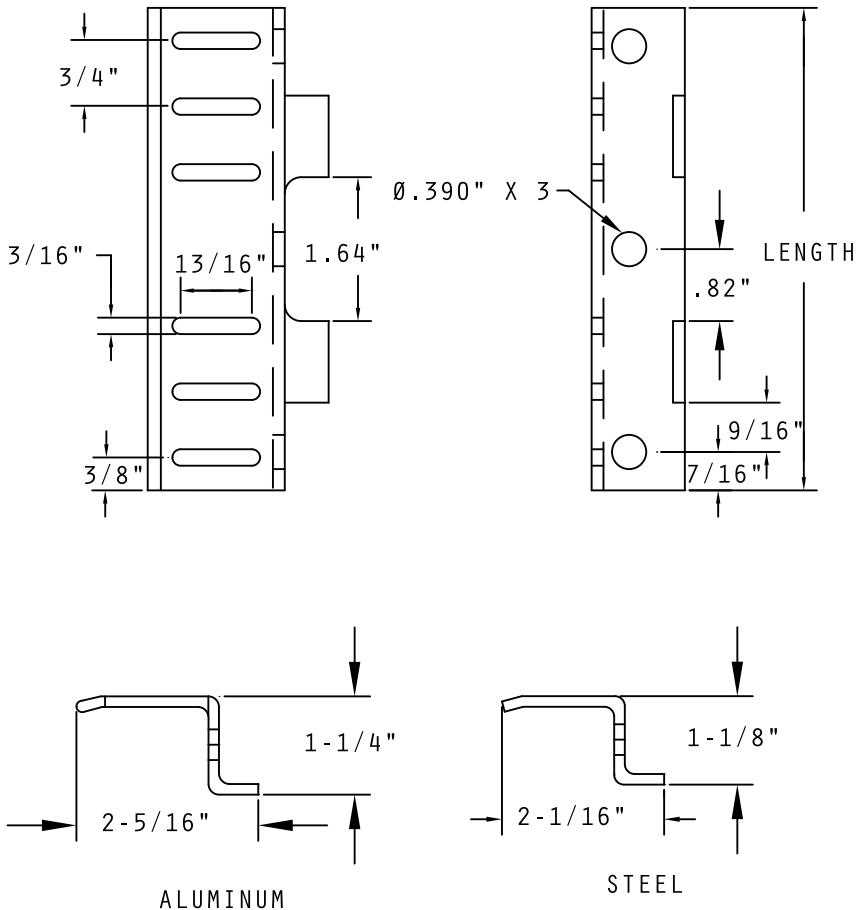


AVAILABLE IN 1" INCREMENTS FROM 6" TO 30"

STEEL	ALUMINUM	STAINLESS STEEL
9MAX06 - 9MAX30	9MAX06A - 9MAX30A	9MAX06S - 9MAX30S

NAVY STANDARD

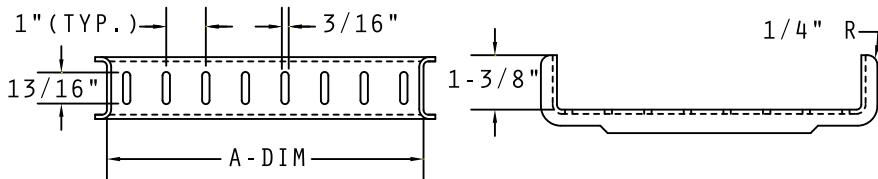
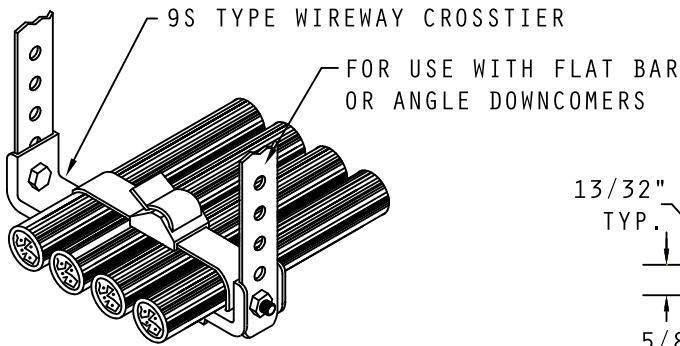
CROSSTIER



MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027

AVAILABLE IN 1" INCREMENTS FROM 6" TO 20"		
ALUMINUM	STEEL	STAINLESS
3CT-06 - 3CT-20	3CTS-06 - 3CTS-20	3CTSS-06 - 3CTSS-20

9S CROSSTIER



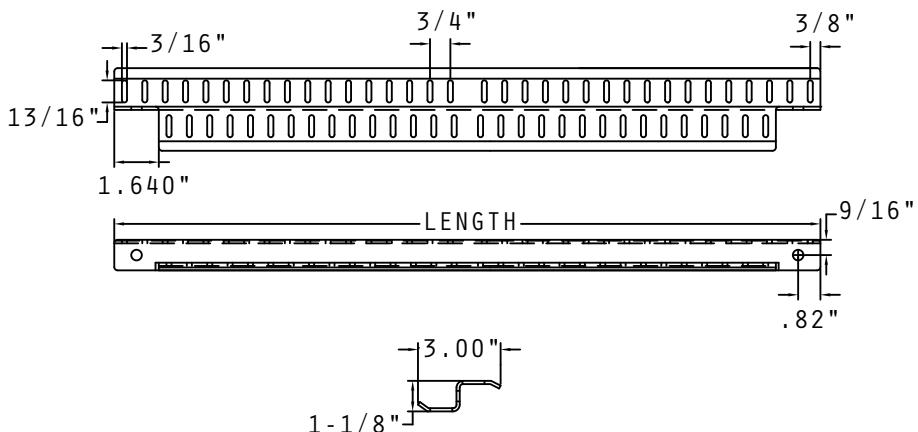
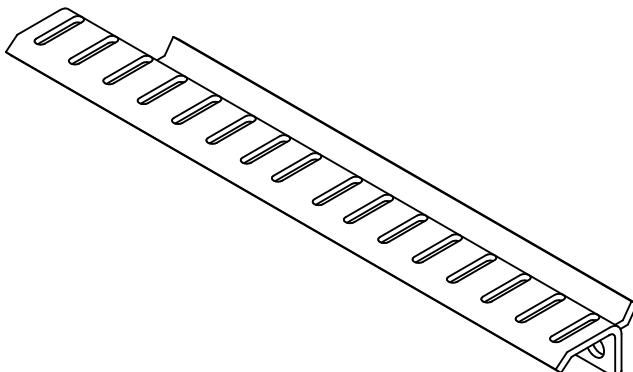
ALUMINUM	STEEL	STAINLESS	A-DIM
9A08	9S08	9SS08	7"
9A09	9S09	9SS09	8"
9A10	9S10	9SS10	9"
9A11	9S11	9SS11	10"
9A12	9S12	9SS12	11"
9A13	9S13	9SS13	12"
9A14	9S14	9SS14	13"
9A15	9S15	9SS15	14"
9A16	9S16	9SS16	15"
9A17	9S17	9SS17	16"
9A18	9S18	9SS18	17"
9A19	9S19	9SS19	18"
9A20	9S20	9SS20	19"
9A22	9S22	9SS22	21"
9A24	9S24	9SS24	23"

ALUMINUM	STEEL	STAINLESS
9A08 - 9A24	9S08 - 9S24	9SS08 - 9SS24

HEAVY DUTY OVER/UNDER CROSSTIER

DESIGNED TO MEET EXTRA HEAVY LOADS,
RATED FOR UP TO 228 LBS. PER TIER

TO BE USED WITH TWO CHANNEL DOWNCOMERS



AVAILABLE IN 17" AND 2" INCREMENTS FROM 20" TO 30"
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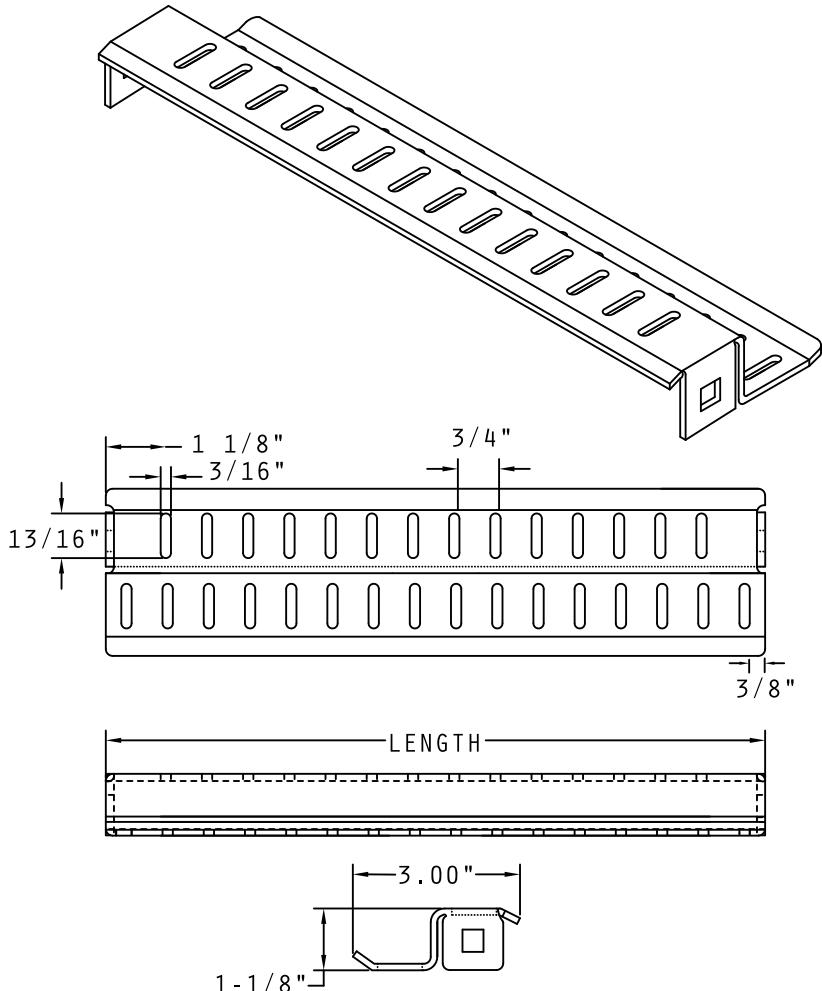
STEEL

30US-17I - 30US-30I

OVER/UNDER CROSSTIER

WITH TABS

DESIGNED FOR FULL SURFACE CONTACT
WITH CABLE ON ELEVATION CHANGES.



AVAILABLE IN 12", 17", AND 2" INCREMENTS FROM 18" TO 38"

STEEL

30USW-12 - 30USW-38

WIREWAY DOWNCOMERS AND ACCESSORIES



UNIVERSAL ANGLE

3ADA-03U - 3ADA-120U ALUMINUM
3ADS-03U - 3ADS-120 STEEL
3ADSS-03U - 3ADSS-120 STAINLESS

P. 1-17



SQUARE TUBE EXTENSION ADAPTER

RDA-5 ALUMINUM
RD-5 STEEL

P. 1-22



METRIC ANGLE

3ADS-180 - 3ADS-3000 STEEL

P. 1-18



ANGLE IRON

2A-03 - 2A-41 STEEL
2A-03A - 2A-41A ALUMINUM

P. 1-23



NAVY STANDARD ANGLE

3ADA-03 - 3ADA-36 ALUMINUM
3ADS-03 - 3ADS-48 STEEL
3ADSS-03 - 3ADSS-48 STAINLESS
*Part number equals one pair.

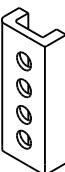
P. 1-19



FLAT BAR

2F-03 - 2F-15 STEEL
2F-03A - 2F-15A ALUMINUM

P. 1-24



CHANNEL

3CD-03 - 3CD-120 ALUMINUM
3CDS-03 - 3CDS-120 STEEL
3CDSS-03 - 3CDSS-120 STAINLESS

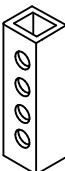
P. 1-20



MOUNTING ADAPTERS

3ADPS-0
3ADPA *obsolete
3ADPS-4B
3ADPA-4B

P. 1-25



SQUARE TUBE

RTA-06 - RTA-36 ALUMINUM
RT-06 - RT-36 STEEL

P. 1-21



CABLE RETAINER

3STKS-03 - 3STKS-24 STEEL
3STKC-03 - 3STKC-24 STAINLESS

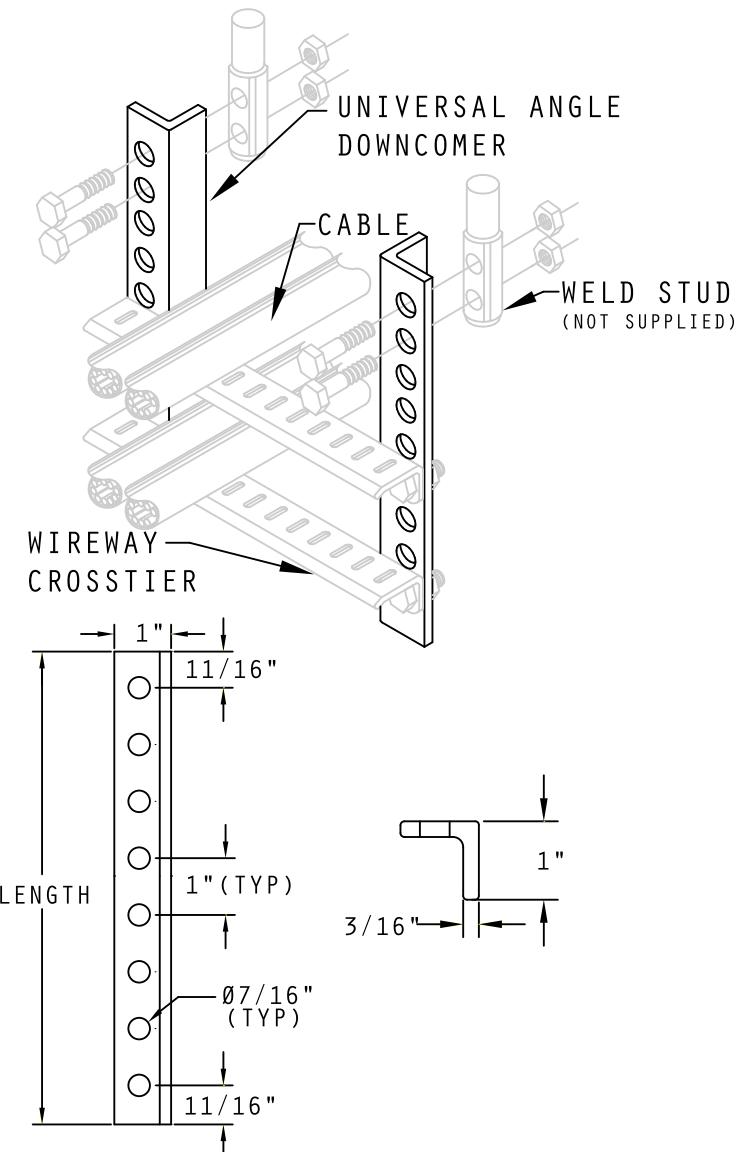
P. 1-26

DOWNCOMER AND ACCESSORIES

NOTES :

UNIVERSAL ANGLE

WELD STUD MOUNTING



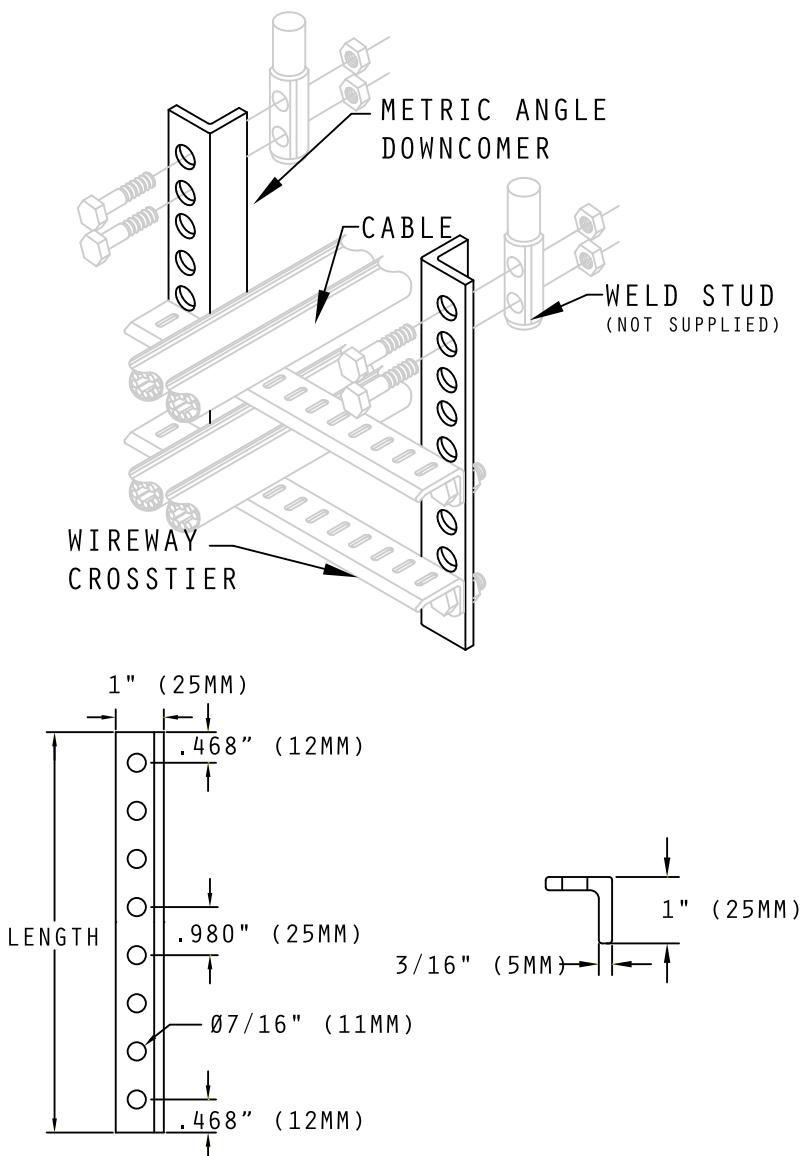
AVAILABLE IN 1" INCREMENTS FROM 3 3/8" TO 48 3/8" & 120 3/8"

ADDITIONAL SIZES AVAILABLE ON REQUEST

ALUMINUM	STEEL	STAINLESS
3ADA-03U - 3ADA-120U	3ADS-03U - 3ADS-120	3ADSS-03U - 3ADSS-120

METRIC ANGLE

WELD STUD MOUNTING



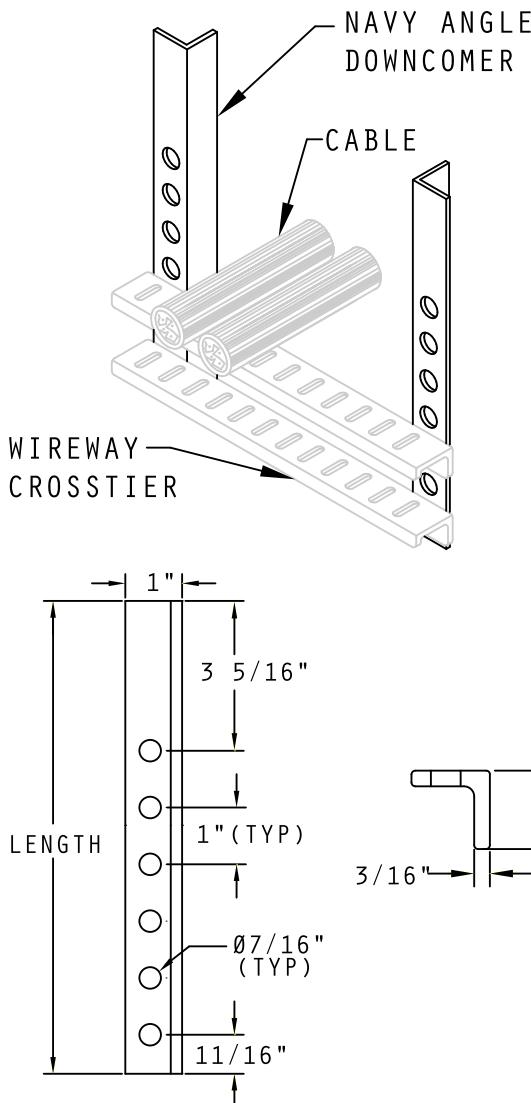
AVAILABLE IN 25MM INCREMENTS FROM 180MM TO 3000MM

STEEL

3ADS-0180 - 3ADS-3000

NAVY STANDARD ANGLE

WELD MOUNTING

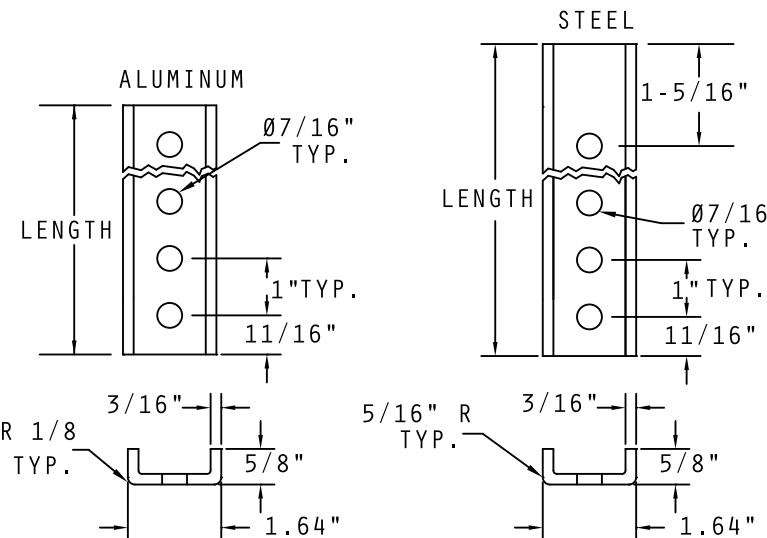
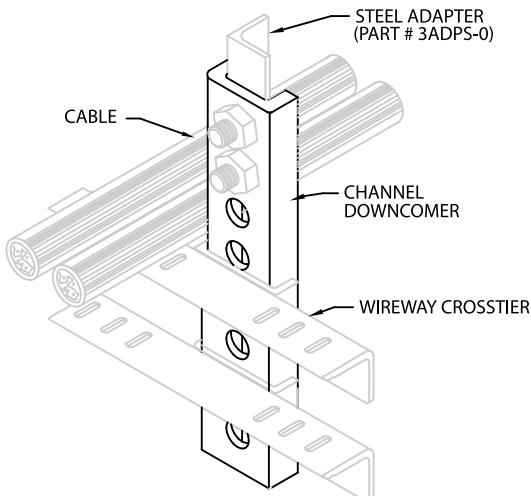


*PART NUMBER EQUALS ONE PAIR

AVAILABLE IN 1" INCREMENTS FROM 3" TO 48"

ALUMINUM	STEEL	STAINLESS
3ADA-03 - 3ADA-36	3ADS-03 - 3ADS-48	3ADSS-03 - 3ADSS-48

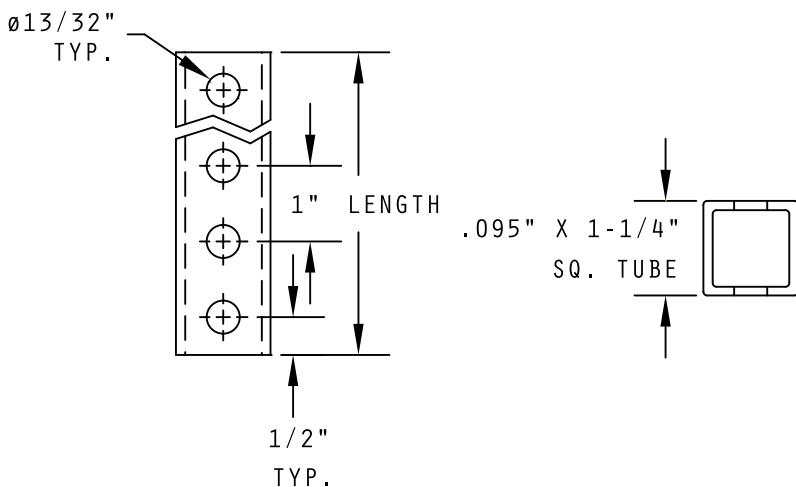
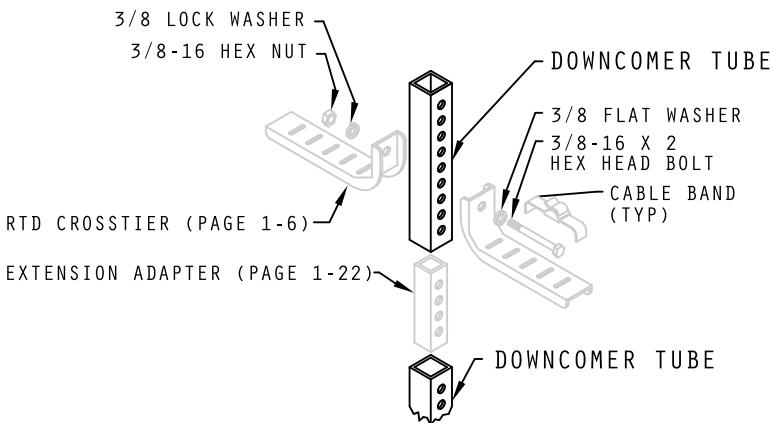
CHANNEL



MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027

AVAILABLE IN 1" INCREMENTS FROM 3 3/8" TO 36 3/8" & 120 3/8"	AVAILABLE IN 1" INCREMENTS FROM 4" TO 48" & 120"
ADDITIONAL SIZES AVAILABLE ON REQUEST	
ALUMINUM	STEEL
3CD-03 - 3CD-120	3CDS-04 - 3CDS-120

SQUARE TUBE



AVAILABLE IN 1" INCREMENTS FROM 6" - 36"

ADDITIONAL SIZES AVAILABLE ON REQUEST

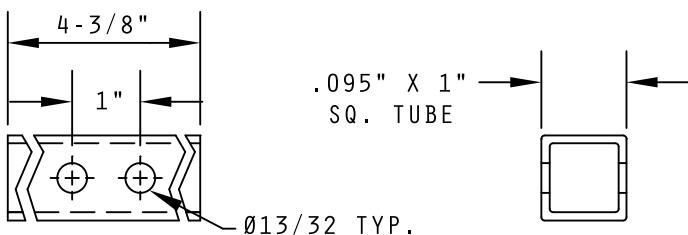
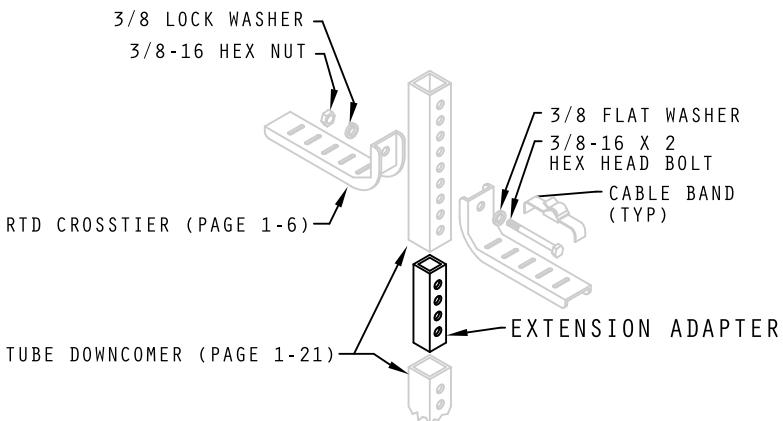
ALUMINUM

STEEL

RTA-06 - RTA-36

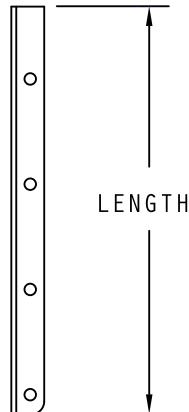
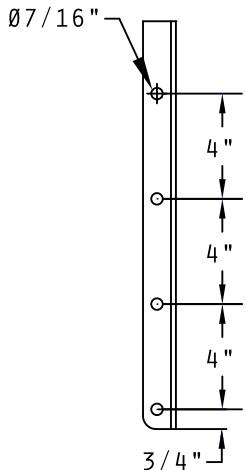
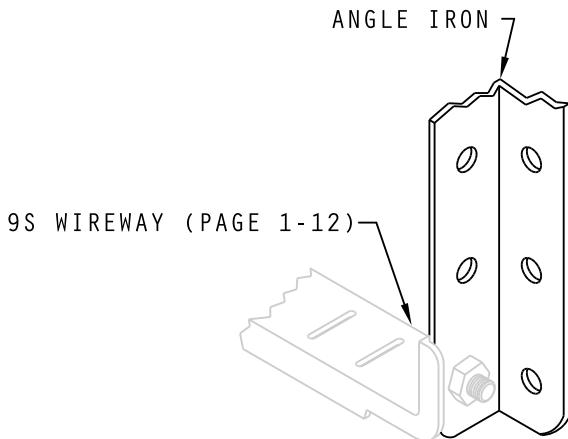
RT-06 - RT-36

SQUARE TUBE EXTENSION ADAPTER



ALUMINUM	STEEL
RDA-5	RD-5

ANGLE IRON



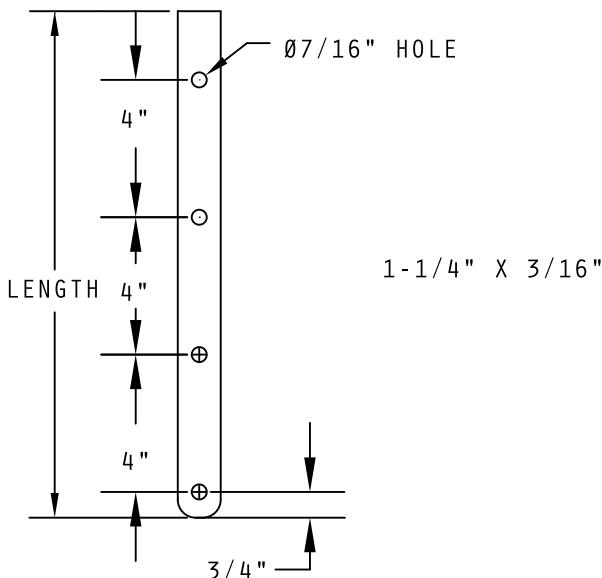
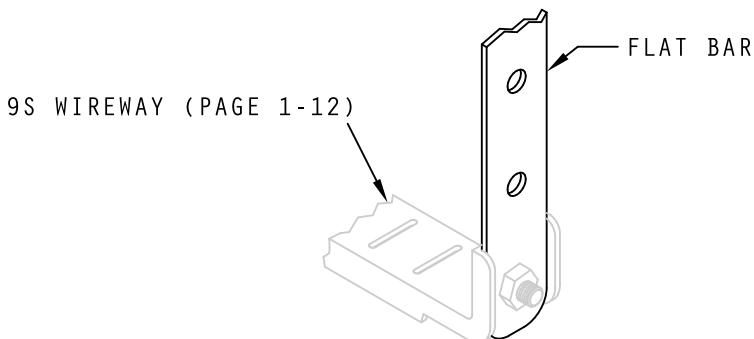
1-1/4" X 1-1/4" X 3/16"

ADDITIONAL SIZES AVAILABLE ON REQUEST

AVAILABLE IN 2" INCREMENTS FROM 3 1/2" TO 41 1/2"

STEEL	
PART NUMBER	NUMBER OF HOLES
2A-03 - 2A-05	1
2A-07 - 2A-09	2
2A-11 - 2A-13	3
2A-15 - 2A-39	4
2A-41	5

FLAT BAR

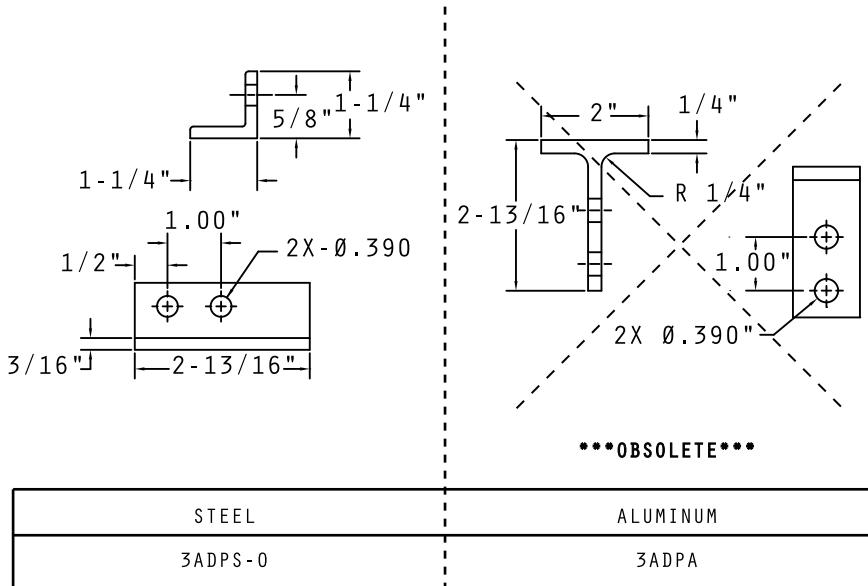


ALSO AVAILABLE IN ALUMINUM

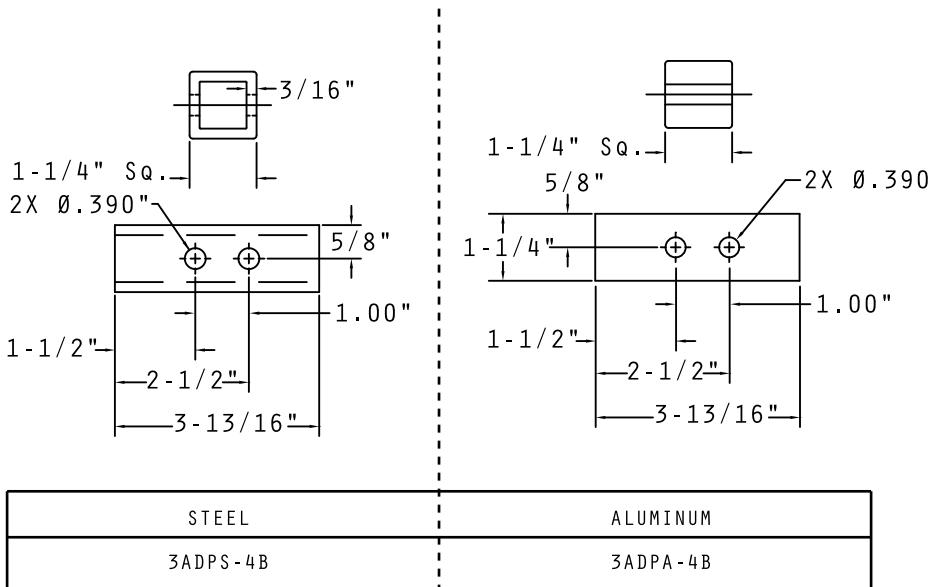
AVAILABLE IN 2" INCREMENTS FROM 3 1/2" TO 15 1/2"	
STEEL	
PART NUMBER	NUMBER OF HOLES
2F-03 - 2F-05	1
2F-07 - 2F-09	2
2F-11 - 2F-13	3
2F-15	4

Mounting Adapters

MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. 803-5001027

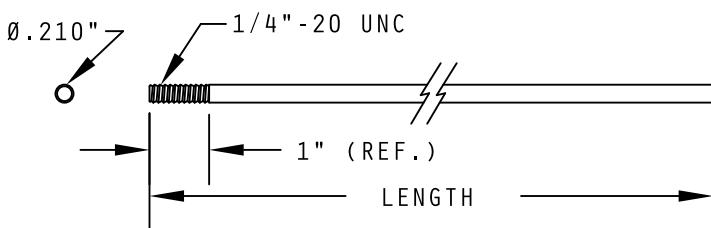
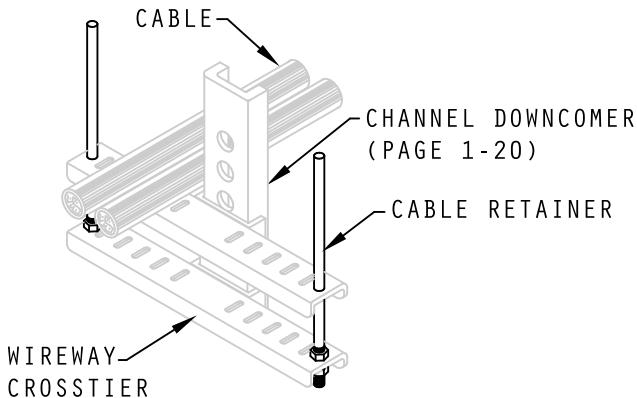


MANUFACTURED IN STRICT COMPLIANCE WITH E.P.I.S.M. DRAWING NO. DOD-2003



CABLE RETAINER

TO BE USED WITH 3MOR-XX AND 3MAX-XX
MILITARY OPTIONAL REPLACEMENT CROSSTIER



REDUCES BANDING REQUIREMENTS &
HELPS STABILIZE OFF CENTER LOADS

NOTE: MILD STEEL RETAINER IS ZINC PLATED

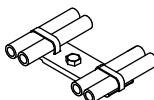
AVAILABLE IN 2" INCREMENTS FROM 3" TO 24"	
ADDITIONAL SIZES AVAILABLE ON REQUEST	
STEEL	STAINLESS
3STKS-03 - 3STKS-24	3STKC-03 - 3STKC-24

INTERMEDIATE WIREWAYS

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
WWW.RTND.COM EMAIL CUSTSERV@RTND.COM

INTERMEDIATE WIREWAYS



9T WIREWAY

9TA06 - 9TA16 ALUMINUM
9T06 - 9T16 STEEL
9TC06 - 9TC16 STAINLESS

P. 2-3

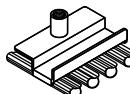


PLATE HANGERS

RTW620B - RTW680B STEEL BOTTOM LOADING
RTW620T - RTW680T STEEL TOP LOADING

P. 2-8

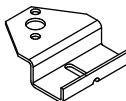


T-BAR HANGER INTERMEDIATE

RTD7150A - RTD7750A ALUMINUM
RTD7150 - RTD7750 STEEL CAP 10.0 LBS
RTD7150S - RTD7750S STAINLESS CAP 10.0 LBS

*** Limited Availability ***

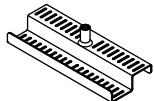
P. 2-4



CABLE SUPPORT

RTD6075A - RTD6600A ALUMINUM
RTD6075 - RTD6600 STEEL

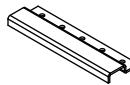
P. 2-9



SHOTGUN HANGER

RTWSG30MS - RTWSG70MS STEEL
RTWSG30SS - RTWSG70SS STAINLESS
RTWSG30AL - RTWSG70AL STEEL

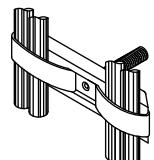
P. 2-5



CABLE SUPPORT HONEYCOMB SINGLE

RT60201A - RT60801A ALUMINUM
RT60201 - RT60801 STEEL
RT60201S - RT60801S STAINLESS

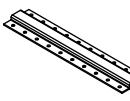
P. 2-10



T-BAR HANGER HEAVY DUTY

RTG7150 - RTG7750 STEEL CAP 20.0 LBS
RTG7150S - RTG7750S STAINLESS CAP 20.0 LBS

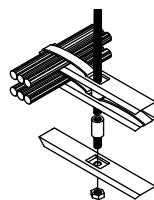
P. 2-6



CABLE SUPPORT HONEYCOMB DOUBLE

RT60902A - RT61302A ALUMINUM
RT60902 - RT61302 STEEL
RT60902S - RT61302S STAINLESS

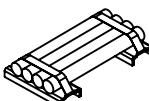
P. 2-11



T-BAR HANGER HEAVY DUTY INVERTED T

RTGT7550 - RTGT7750 STEEL CAP 20.0 LBS
RTGT7550S - RTGT7750S STAINLESS CAP 20.0 LBS

P. 2-7



CHANNEL HANGER

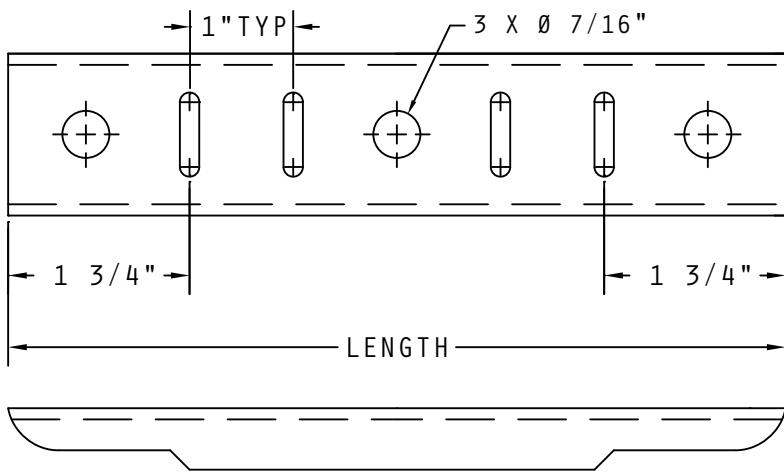
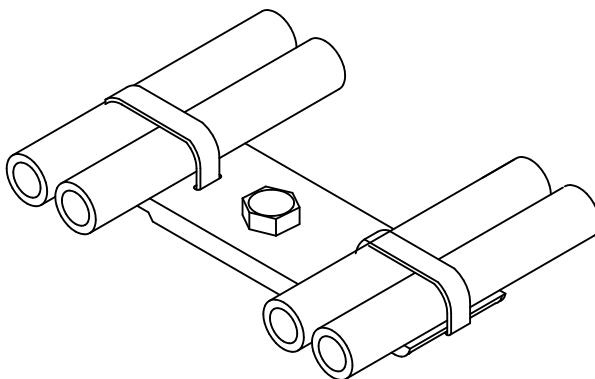
9C01S - 9C04S STEEL
9C01A - 9C04A STEEL

P. 2-12

INTERMEDIATE WIREWAYS

NOTES :

9 T WIREWAY

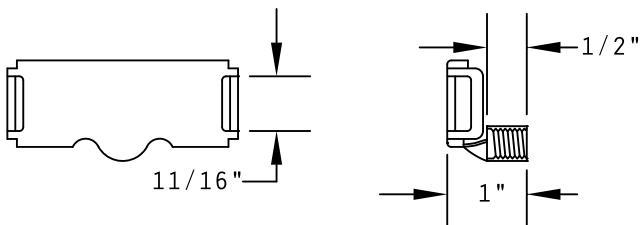
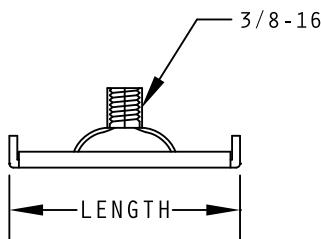
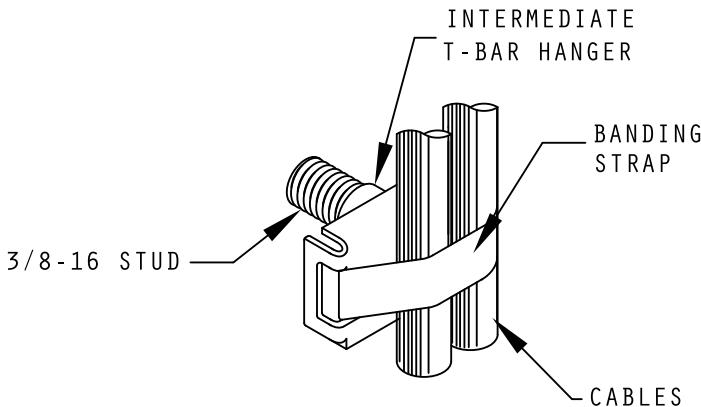


LENGTH EVERY 2" FROM 6" TO 24"		
ALUMINUM	STEEL	STAINLESS
9TA06 - 9TA24	9T06 - 9T24	9TC06 - 9TC24

T - BAR HANGER

INTERMEDIATE

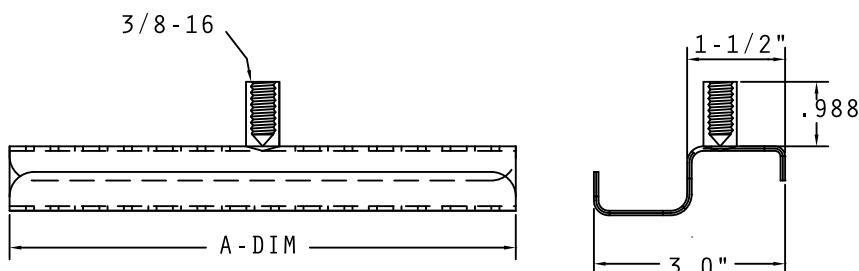
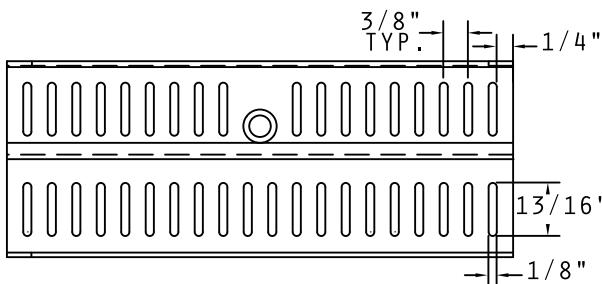
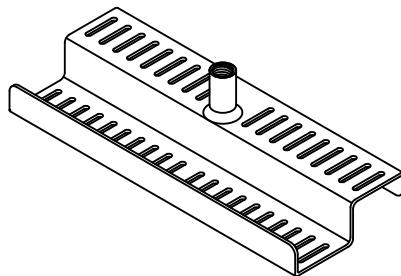
RATED FOR LOADS UP TO 10 LBS



*** LIMITED AVAILABILITY ***

AVAILABLE IN 1" INCREMENTS FROM 1 1/2" TO 7 1/2"		
ALUMINUM	STEEL	STAINLESS
RTD7250A - RTD7750A	RTD7150 - RTD7750	RTD7350S - RTD7750S

SHOTGUN HANGER



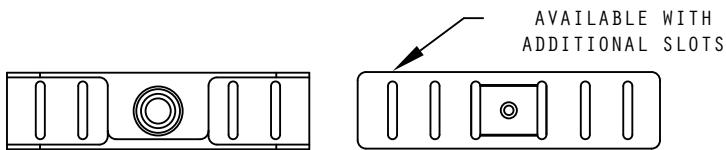
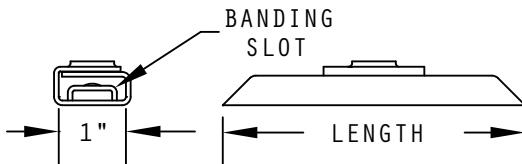
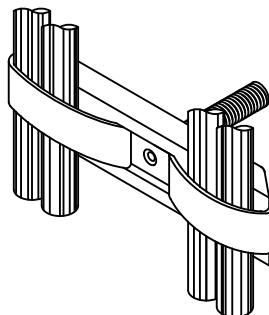
ADDITIONAL TAPPED PAD SIZES AVAILABLE

STEEL	STAINLESS STEEL	ALUMINUM	A
RTWSG30MS	RTWSG30SS	RTWSG30AL	3-1/4"
RTWSG50MS	RTWSG50SS	RTWSG50AL	4-3/4"
RTWSG70MS	RTWSG70SS	RTWSG70AL	7-3/4"

T-BAR HANGER

HEAVY DUTY

RATED FOR LOADS UP TO 20 LBS

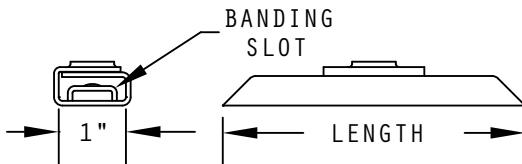
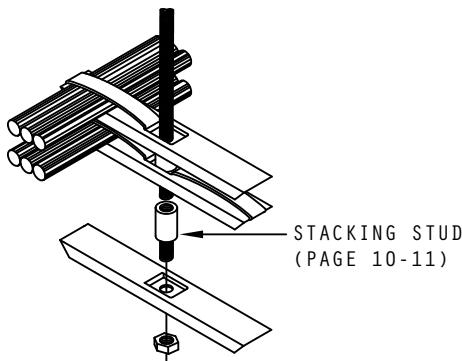


AVAILABLE IN 1" INCREMENTS FROM 1 1/2" - 7 1/2"	
STEEL	STAINLESS
RTG7150 - RTG7750	RTG7150S - RTG7750S
STEEL WITH ADDITIONAL SLOTS	STAINLESS WITH ADDITIONAL SLOTS
RTGS7350 - RTGS7750	RTGS7350S - RTGS7750S

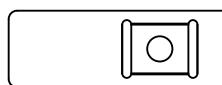
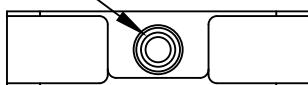
T-BAR HANGER

INVERTED T HEAVY DUTY

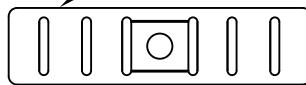
RATED FOR LOADS UP TO 20 LBS



3/8-16 THREAD WITH THRU HOLE



AVAILABLE WITH
ADDITIONAL SLOTS

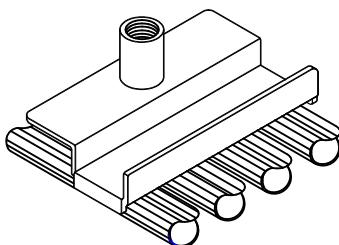


MAX LOAD: 2 TIER OFF BULKHEAD, 3 TIER OFF OVERHEAD

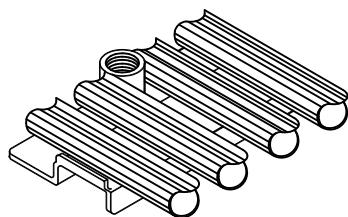
AVAILABLE IN 1" INCREMENTS FROM 2 1/2" - 7 1/2"	
STEEL	STAINLESS
RTGT7250 - RTGT7750	RTG7T250S - RTGT7750S
STEEL WITH ADDITIONAL SLOTS	STAINLESS WITH ADDITIONAL SLOTS
RTGTS7250 - RTGTS7750	RTG7TS250S - RTGTS7750S

PLATE HANGER

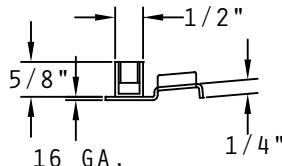
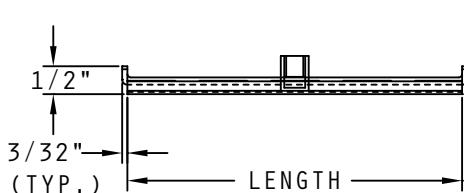
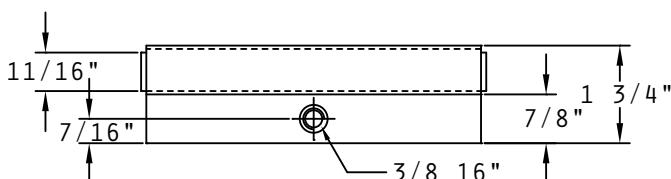
AVAILABLE IN TOP AND BOTTOM LOADING



BOTTOM LOADING



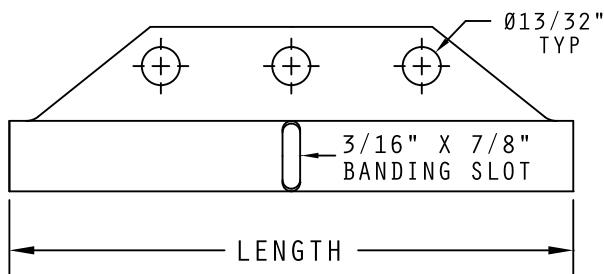
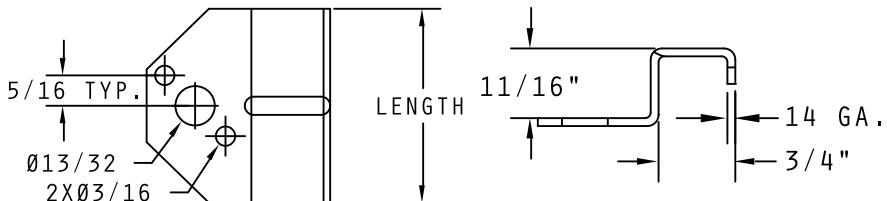
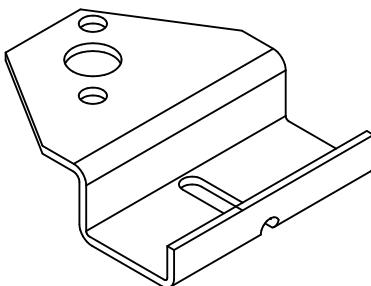
(INVERTED) TOP LOADING



AVAILABLE IN 1" INCREMENTS FROM 2" - 8"

BOTTOM LOADING IN STEEL	TOP LOADING IN STEEL
RTW620B - RTW680B	RTW620T - RTW680T

CABLE SUPPORTS

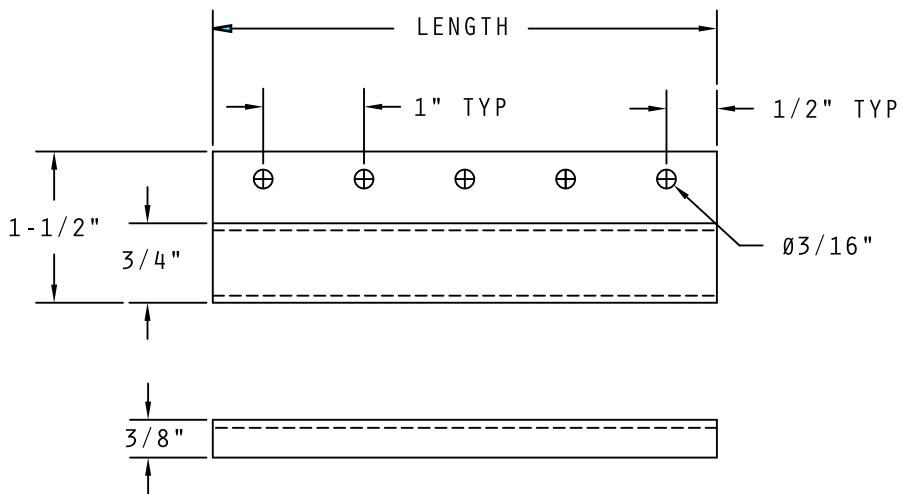
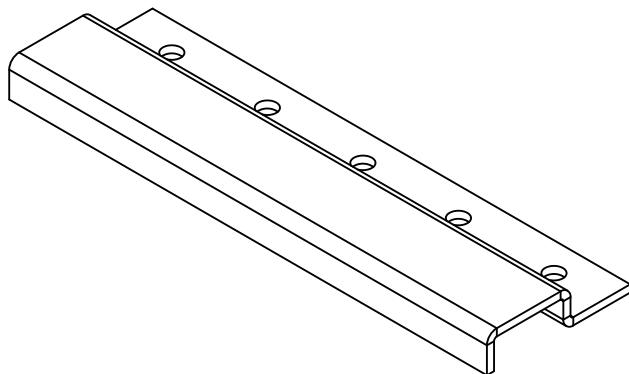


$\frac{3}{4}$ " LENGTH HAS ONE MOUNT HOLE ONLY
1"- 3" HAS ONE MOUNT HOLE AND TWO RIVET HOLES
4" - 6" HAS THREE MOUNT HOLES

AVAILABLE IN 1/2" INCREMENTS FROM $\frac{3}{4}$ ", 1" - 6"	
ALUMINUM	STEEL
RTD6075A - RTD6600A	RTD6075 - RTD6600

CABLE SUPPORT

HONEYCOMB SINGLE

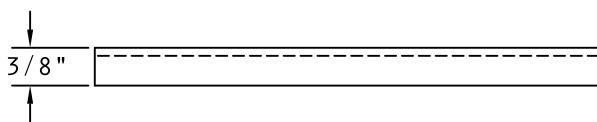
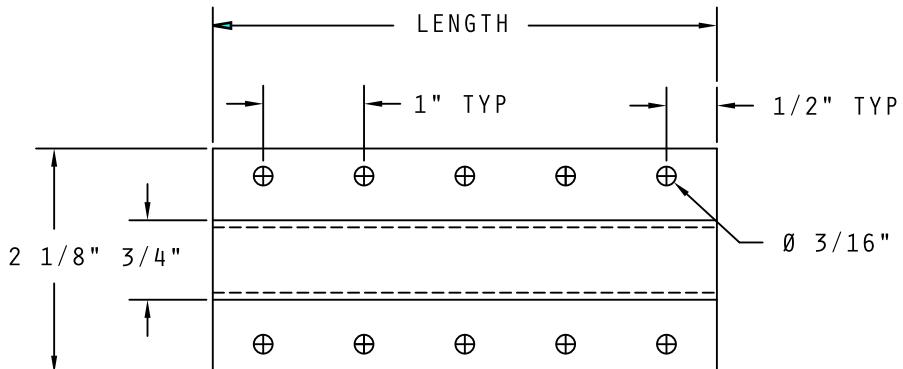
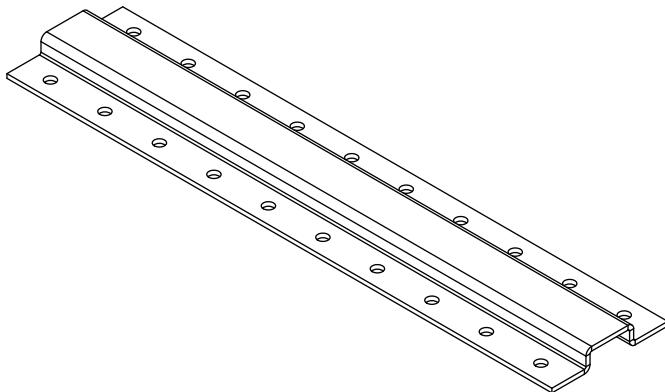


AVAILABLE IN 1" INCREMENTS FROM 2" TO 8"

ALUMINUM	STEEL	STAINLESS
RT60201A - RT60801A	RT60201 - RT60801	RT60201S - RT60801S

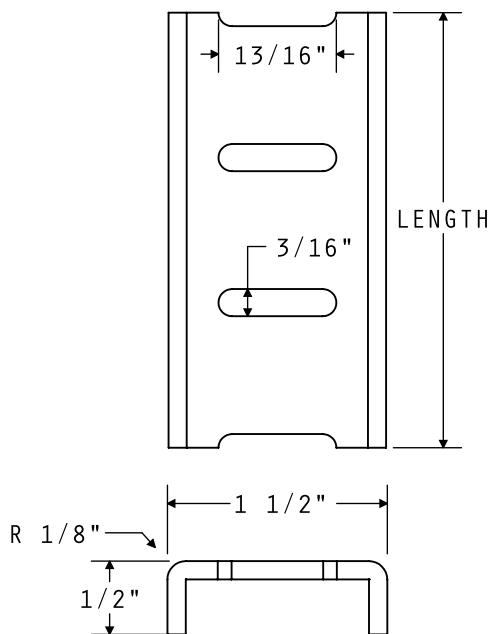
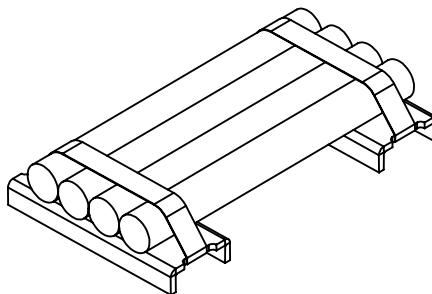
CABLE SUPPORT

HONEYCOMB DOUBLE



AVAILABLE IN 1" INCREMENTS FROM 9" TO 13"		
ALUMINUM	STEEL	STAINLESS
RT60902A - RT61302A	RT60902 - RT61302	RT60902S - RT61302S

CHANNEL HANGER



ADDITIONAL LENGTHS AVAILABLE

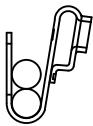
STEEL	ALUMINUM	LENGTH
9C01S	9C01A	1"
9C02S	9C02A	2"
9C03S	9C03A	3"
9C04S	9C04A	4"

LOCAL WIREWAYS

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
www.RTND.com EMAIL CUSTSERV@RTND.COM

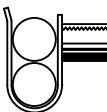
LOCAL WIREWAYS



PINCH HANGER GOLDEN LOKS

AVAILABLE IN:
SINGLES
DOUBLES
TRIPLES
QUADS (2)

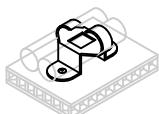
P. 3-3



PINCH HANGER WELDED

AVAILABLE IN:
SINGLES
DOUBLES
TRIPLES
QUADS

P. 3-4



PINCH HANGER HONEYCOMB BULKHEAD

RTD8125 - RTD8450 STEEL
RTD8125S - RTD8450S STAINLESS

P. 3-5

LOCAL WIREWAYS

NOTES:

PINCH HANGER

GOLDEN LOKS

SINGLE HANGER



TAPPED
3/8"-16

STEEL	STAINLESS	A-DIA
RTGW1275	RTGW1275S	.275
RTGW1358	RTGW1358S	.371
RTGW1531	RTGW1531S	.531
RTGW1680	RTGW1680S	.680
RTGW1750	RTGW1750S	.750
RTGW1900	RTGW1900S	.900
RTGW1224	RTGW1224S	1.224

DOUBLE HANGER



TAPPED
3/8"-16

STEEL	STAINLESS	A-DIA
RTGW2275	RTGW2275S	.275
RTGW2358	RTGW2358S	.371
RTGW2531	RTGW2531S	.531
RTGW2680	RTGW2680S	.680
RTGW2750	RTGW2750S	.750

TRIPLE HANGER



TAPPED
3/8"-16

STEEL	STAINLESS	A-DIA
RTGW3358	RTGW3358S	.358
RTGW3531	RTGW3531S	.531

QUAD HANGER



TAPPED
3/8"-16

STEEL	STAINLESS	A-DIA
RTG4531	RTG4531S	2 x .531

QUAD HANGER



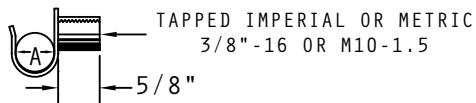
TAPPED
3/8"-16

STEEL	STAINLESS	A-DIA
RTG5750	RTG5750S	4 x .75

PINCH HANGER

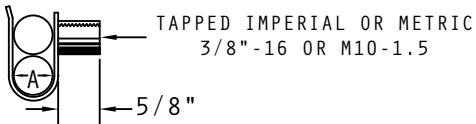
WELDED

SINGLE HANGER



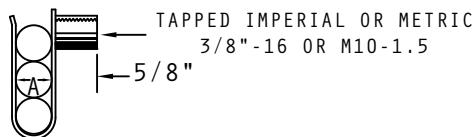
STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW1275	RTM1275	RTW1275S	RTM1275S	.275
RTW1358	RTM1358	RTW1358S	RTM1358S	.371
RTW1531	RTM1531	RTW1531S	RTM1531S	.531
RTW1680	RTM1680	RTW1680S	RTM1680S	.680
RTW1750	RTM1750	RTW1750S	RTM1750S	.750
RTW1900	RTM1900	RTW1900S	RTM1900S	.900
RTW1224	RTM1224	RTW1224S	RTM1224S	1.224

DOUBLE HANGER



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW2275	RTM2275	RTW2275S	RTM2275S	.275
RTW2358	RTM2358	RTW2358S	RTM2358S	.371
RTW2531	RTM2531	RTW2531S	RTM2531S	.531
RTW2680	RTM2680	RTW2680S	RTM2680S	.680
RTW2750	RTM2750	RTW2750S	RTM2750S	.750
RTW2900	RTM2900	RTW2900S	RTM2900S	.900
RTW2000	RTM2000	RTW2000S	RTM2000S	1.224

TRIPLE HANGER



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW3531	RTM3531	RTW3531S	RTM3531S	.531

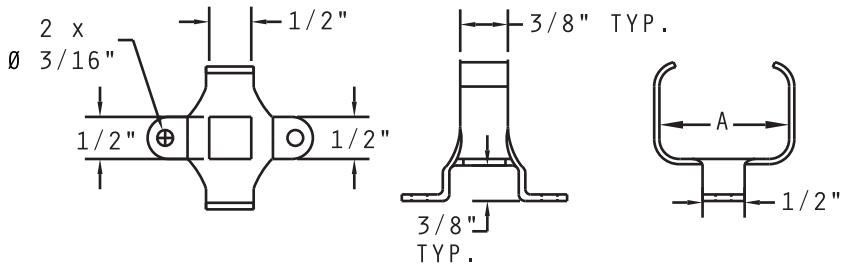
QUAD HANGER



STEEL	STEEL (M)	STAINLESS	STAINLESS (M)	A-DIA
RTW4531	RTM4531	RTW4531S	RTM4531S	2 x .531

PINCH HANGER

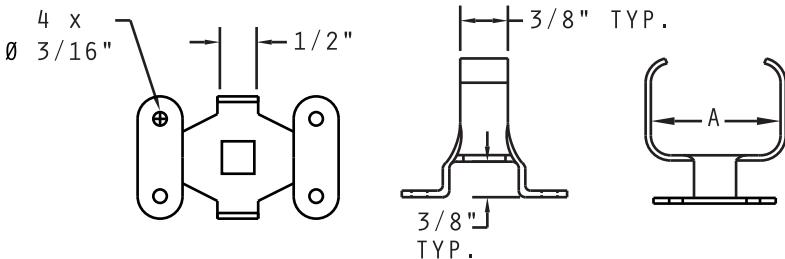
HONEYCOMB BULKHEAD



STEEL	STAINLESS	LEGS	CABLES	A-DIM	RIVET SIZE
RTD8125	RTD8125S	1	1	.300	4
RTD8150	RTD8150S	1	1	.550	6
RTD8250	RTD8250S	2	2	1.100	6
RTD8350	RTD8350S	2	3	1.650	6
RTD8450	RTD8450S	2	4	2.200	6

HONEYCOMB BULKHEAD MODIFIED

2 MOUNTING HOLES ON EACH SIDE



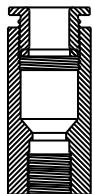
STEEL	STAINLESS	LEGS	CABLES	A-DIM	RIVET SIZE
RTD8150M	RTD8150SM	1	1	.550	6
RTD8250M	RTD8250SM	2	2	1.100	6
RTD8350M	RTD8350SM	2	3	1.650	6
RTD8450M	RTD8450SM	2	4	2.200	6

STUFFING TUBES

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
WWW.RTND.COM EMAIL CUSTSERV@RTND.COM

STUFFING TUBES



MIL-S-24235/9

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SURFACE SHIPS, PIPE MUST BE ADDED.
TYPE 48-6 STEEL - TYPE 48-5 BRASS
SYMBOL: 1520 - 1542, 1570 - 1592

P. 4 - 3



MIL-S-24235/18

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITH PIPE PROTECTION REDUCED PENETRATION DIAMETER.
STEEL/STAINLESS/ALUMINUM - SWAGE TYPE
SYMBOL: 1821 - 1843, 1871 - 1893, 1911 - 1933, 1941 - 1963

P. 4 - 8



MIL-S-24235/10

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITHOUT PIPE PROTECTION.
TYPE 30-2A STEEL
SYMBOL: 1600 - 1622

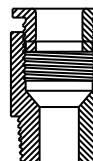
P. 4 - 4



REDUCING ADAPTER

102BA - 102AAZ STEEL
112BA - 112AAZ ALUMINUM

P. 4 - 9



MIL-S-24235/13

FOR ELECTRIC CABLE PENETRATION OF CAST ENCLOSURES.
TYPE 21 ALUM. - TYPE 22B BRASS - TYPE 22S STEEL
NO SYMBOL ASSIGNED

P. 4 - 5

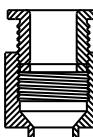


SEALING PLUG

MIL-S-24235/19

100AST - 100AAST STEEL

P. 4 - 10



MIL-S-24235/14

FOR ELECTRIC PENETRATION OF SHEET METAL ENCLOSURES.
TYPE 51 STEEL - TYPE 51B BRASS
NO SYMBOL ASSIGNED

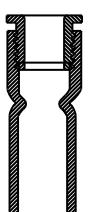
P. 4 - 6



EMI CONDUIT ADAPTER

7RTAXXB - 7RTNAAXXB BRASS
7RTAXXA - 7RTNAAXXA ALUMINUM
7RTAXXC - 7RTNAAXXC STAINLESS

P. 4 - 11



MIL-S-24235/17

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITH PIPE PROTECTION
STEEL/ALUMINUM - SWAGE TYPE
SYMBOL: 1701 - 1723, 1731 - 1753, 1761 - 1783, 1791 - 1813

P. 4 - 7



NEOPAK

P-15187X - P-15500X

*** Limited Availability ***

P. 4 - 12

STUFFING TUBES

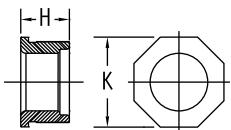
NOTES :

STUFFING TUBES

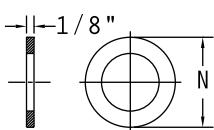
M24235/9 STUFFING TUBE ASSEMBLY

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SURFACE SHIPS, PIPE MUST BE ADDED.
TYPE 48-6 STEEL - TYPE 48-5 BRASS - SYMBOL: 1520 - 1542, 1570 - 1592

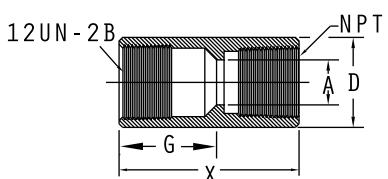
GLAND NUT



GLAND RING



TUBE BODY



CATALOG NUMBERING SYSTEM M24235/9 STUFFING TUBE SAMPLE CATALOG NUMBER:

9 - A - ST

[] L "ST" INDICATES STEEL
 "BR" INDICATES BRASS
 "AL" INDICATES ALUMINUM
 [] INDICATES LETTER SIZE OF TUBE
 [] INDICATES "TYPE" OF TUBE

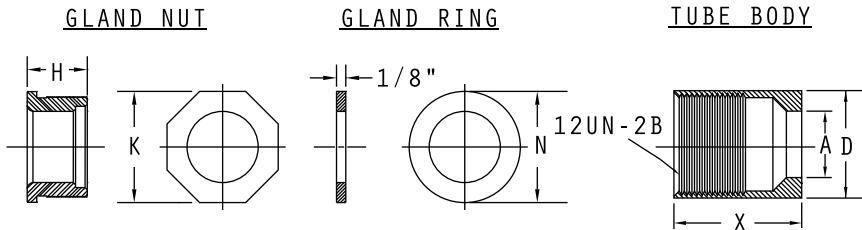
(OTHER MATERIALS AVAILABLE) SOME SIZES AVAILABLE WITH EXTENSIONS & LOCKNUTS

SIZE	A	G	H	D	K	N	X	NPT	12UN-2B	SIZE
A	.406	1-5/8	1-1/16	1-1/8	1-1/32	3/4	2-3/4	3/8-18	7/8	A
B	.515	1-5/8	1-1/16	1-1/4	1-1/8	7/8	2-3/4	1/2-14	1	B
C	.640	1-5/8	1-1/16	1-3/8	1-1/4	1.00	3.00	3/4-14	1-1/8	C
D	.750	1-5/8	1-1/16	1-1/2	1-3/8	1-1/8	3.00	3/4-14	1-1/4	D
E	.812	1-5/8	1-1/16	1-5/8	1-3/8	1-1/8	3-1/8	1-11-1/2	1-1/4	E
F	.843	1-5/8	1-1/16	1-5/8	1-7/16	1-3/16	3-1/8	1-11-1/2	1-5/16	F
G	.953	1-11/16	1-3/16	1-13/16	1-21/32	1-3/8	3-1/8	1-11-1/2	1-1/2	G
J	1.062	1-11/16	1-3/16	2.00	1-25/32	1-1/2	3-1/8	1-1/4-11-1/2	1-5/8	J
K	1.171	3	1-1/2	2-1/16	1-7/8	1-5/8	4-1/2	1-1/4-11-1/2	1-3/4	K
L	1.265	3	1-1/2	2-1/8	1-15/16	1-11/16	4-1/2	1-1/4-11-1/2	1-13/16	L
M	1.406	3	1-1/2	2-5/16	2-3/16	1-7/8	4-1/2	1-1/2-11-1/2	2	M
N	1.515	3	1-9/16	2-7/16	2-1/4	1-15/16	4-1/2	1-1/2-11-1/2	2-1/16	N
P	1.625	3	1-9/16	2-3/4	2-11/32	2-1/16	4-1/2	2-11-1/2	2-3/16	P
R	1.750	3	1-9/16	2-3/4	2-15/32	2-3/16	4-1/2	2-11-1/2	2-5/16	R
S	1.875	5	2-3/16	3-1/16	2-13/16	2-9/16	7.00	2-11-1/2	2-11/16	S
T	2.062	5	2-3/16	3-1/4	2-31/32	2-3/4	7-1/4	2-1/2-8	2-7/8	T
V	2.187	5	2-3/16	3-3/8	3-3/32	2-7/8	7-1/4	2-1/2-8	3	V
W	2.312	5	2-3/16	3-1/2	3-9/32	3.00	7-1/4	2-1/2-8	3-1/8	W
X	2.500	5	2-3/16	3-7/8	3-7/16	3-1/8	7-1/4	3-8	3-1/4	X
Y	2.609	5	2-3/16	3-7/8	3-9/16	3-1/4	7-1/4	3-8	3-3/8	Y
Z	2.781	5	2-3/16	3-15/16	3-3/4	3-7/16	7-1/4	3-8	3-9/16	Z
AA	2.875	6-3/4	3-1/8	4-1/8	3-7/8	3-5/8	9.00	3-8	3-3/4	AA
BB	3.157	6-3/4	3-1/8	4-1/2	4-1/8	3-7/8	9.00	3-1/2-8	4	BB

STUFFING TUBES

M24235/10 STUFFING TUBE ASSEMBLY

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITHOUT PIPE PROTECTION.
TYPE 30-2A STEEL - SYMBOL: 1600 - 1622



CATALOG NUMBERING SYSTEM M24235/10 STUFFING TUBE SAMPLE CATALOG NUMBER:

10-A-ST

[] L "ST" INDICATES STEEL
 [] L "AL" INDICATES ALUMINUM
 [] L INDICATES LETTER SIZE OF TUBE
 [] L INDICATES "TYPE" OF TUBE

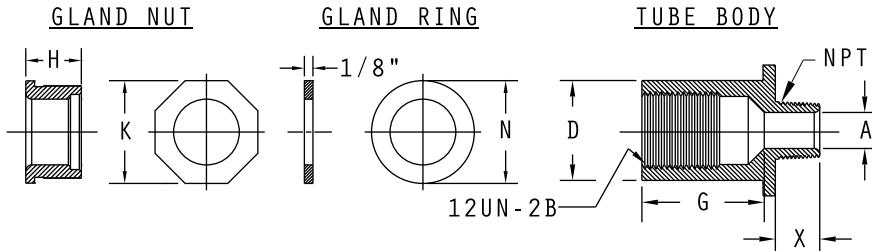
(OTHER MATERIALS AVAILABLE)

SIZE	X	A	D	H	K	N	12UN-2B
A	1-3/4	.406	1-1/8	1-1/16	1-1/32	3/4	.875
B	1-3/4	.515	1-1/4	1-1/16	1-1/8	7/8	1.000
C	1-3/4	.640	1-3/8	1-1/16	1-1/4	1.00	1.125
D	1-3/4	.750	1-1/2	1-1/16	1-3/8	1-1/8	1.250
E	1-3/4	.812	1-5/8	1-1/16	1-3/8	1-1/8	1.250
F	1-3/4	.843	1-5/8	1-1/16	1-7/16	1-3/16	1.312
G	1-13/16	.953	1-13/16	1-3/16	1-21/32	1-3/8	1.500
J	1-13/16	1.062	2.00	1-3/16	1-25/32	1-1/2	1.625
K	3-1/8	1.171	2-1/16	1-1/2	1-7/8	1-5/8	1.750
L	3-1/8	1.265	2-1/8	1-1/2	1-15/16	1-11/16	1.812
M	3-1/8	1.406	2-5/16	1-1/2	2-3/16	1-7/8	2.000
N	3-1/8	1.515	2-7/16	1-9/16	2-1/4	1-15/16	2.062
P	3-1/8	1.625	2-3/4	1-9/16	2-11/32	2-1/16	2.188
R	3-1/8	1.750	2-3/4	1-9/16	2-15/32	2-3/16	2.312
S	5-1/8	1.875	3-1/16	2-3/16	2-13/16	2-9/16	2.688
T	5-1/8	2.062	3-1/4	2-3/16	2-31/32	2-3/4	2.875
V	5-1/8	2.187	3-3/8	2-3/16	3-3/32	2-7/8	3.000
W	5-1/8	2.312	3-1/2	2-3/16	3-9/32	3.00	3.125
X	5-1/8	2.500	3-7/8	2-3/16	3-7/16	3-1/8	3.250
Y	5-1/8	2.609	3-7/8	2-3/16	3-9/16	3-1/4	3.375
Z	5-1/8	2.781	3-15/16	2-3/16	3-3/4	3-7/16	3.562
AA	6-7/8	2.875	4-1/8	3-1/8	3-7/8	3-5/8	3.750
BB	6-7/8	3.157	4-1/2	3-1/8	4-1/8	3-7/8	4.000

STUFFING TUBES

M24235/13 STUFFING TUBE ASSEMBLY

FOR ELECTRIC CABLE PENETRATION OF CAST ENCLOSURES.
TYPE 21 ALUM. - TYPE 22B BRASS - TYPE 22S STEEL - NO SYMBOL ASSIGNED



CATALOG NUMBERING SYSTEM M24235/13 STUFFING TUBE SAMPLE CATALOG NUMBER:

13-A-ST

[] "ST" INDICATES STEEL
 [] "AL" INDICATES ALUMINUM
 [] "BR" INDICATES BRASS
 [] INDICATES LETTER SIZE OF TUBE
 [] INDICATES "TYPE" OF TUBE

(OTHER MATERIALS AVAILABLE)

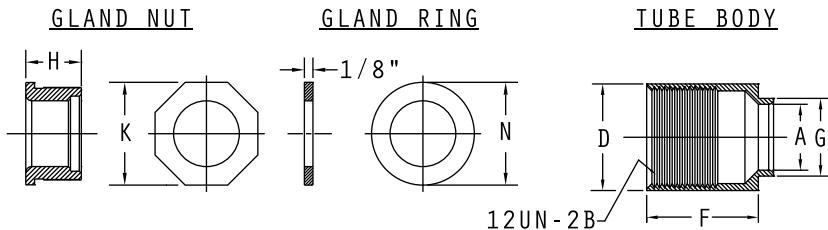
SIZE	X	G	A	D	NPT	N	H	K
A	1/2	1-3/8	.406	1-1/8	3/8-18	3/4	1-1/8	1-1/32
B	5/8	1-3/8	.515	1-1/4	1/2-14	7/8	1-1/8	1-1/8
C	5/8	1-3/8	.640	1-3/8	3/4-14	1.00	1-1/8	1-1/4
D	5/8	1-3/8	.750	1-1/2	3/4-14	1-1/8	1-1/8	1-3/8
E	5/8	1-3/8	.812	1-1/2	3/4-14	1-1/8	1-1/8	1-3/8
EE	3/4	1-3/8	.812	1-1/2	1-11-1/2	1-1/8	1-1/8	1-3/8
F	3/4	1-3/8	.843	1-9/16	1-11-1/2	1-3/16	1-1/4	1-7/16
G	3/4	1-3/8	.953	1-13/16	1-11-1/2	1-3/8	1-1/4	1-21/32
J	13/16	1-3/8	1.062	2-15/16	1-1/4-11-1/2	1-1/2	1-1/4	1-25/32
K	13/16	1-11/16	1.171	2-1/16	1-1/4-11-1/2	1-5/8	1-1/4	1-7/8
L	13/16	1-11/16	1.265	2-1/8	1-1/4-11-1/2	1-11/16	1-5/16	1-15/16
M	13/16	1-11/16	1.406	2-3/8	1-1/2-11-1/2	1-7/8	1-5/16	2-3/16
N	13/16	1-11/16	1.515	2-7/16	1-1/2-11-1/2	1-15/16	1-5/16	2-1/4
P	13/16	1-11/16	1.625	2-9/16	2-11-1/2	2-1/16	1-11/16	2-11/32
R	13/16	1-11/16	1.750	2-11/16	2-11-1/2	2-3/16	1-3/4	2-15/32
S	13/16	2-1/2	1.875	3-1/16	2-11-1/2	2-9/16	1-3/4	2-13/16
T	1-1/16	2-1/2	2.062	3-1/4	2-1/2-8	2-3/4	1-3/4	2-31/32
V	1-1/16	2-1/2	2.187	3-3/8	2-1/2-8	2-7/8	1-3/4	3-3/32
W	1-3/16	2-1/2	2.312	3-9/16	3-8	3.00	1-3/4	3-9/32
X	1-3/16	2-1/2	2.500	3-3/4	3-8	3-1/8	1-3/4	3-7/16
Y	1-3/16	2-1/2	2.609	3-7/8	3-8	3-1/4	1-3/4	3-9/16
Z	1-3/16	2-1/2	2.781	4-1/16	3-1/2-8	3-7/16	1-3/4	3-3/4

STUFFING TUBES

M24235/14 STUFFING TUBE ASSEMBLY

FOR ELECTRIC PENETRATION OF SHEET METAL ENCLOSURES.

TYPE 51 STEEL - TYPE 51B BRASS - NO SYMBOL ASSIGNED



CATALOG NUMBERING SYSTEM M24235/14 STUFFING TUBE SAMPLE CATALOG NUMBER:

14-A-ST

[] L "ST" INDICATES STEEL
 [] L "AL" INDICATES ALUMINUM
 [] L "BR" INDICATES BRASS
 [] L INDICATES LETTER SIZE OF TUBE
 [] L INDICATES "TYPE" OF TUBE

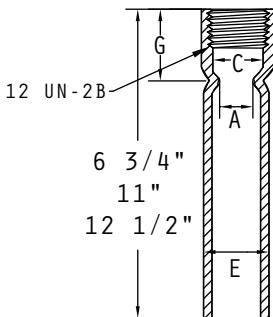
(OTHER MATERIALS AVAILABLE)

SIZE	F	A	G	D	N	H	K	12UN-2B	SIZE
A	1-3/8	.406	.551	15/16	3/4	1-1/16	1-1/32	.875	A
B	1-3/8	.515	.660	1-1/16	7/8	1-1/16	1-1/8	1.000	B
C	1-3/8	.640	.785	1-3/16	1.00	1-1/16	1-1/4	1.125	C
D	1-3/8	.750	.895	1-5/16	1-1/8	1-1/16	1-3/8	1.250	D
E	1-3/8	.812	.957	1-5/16	1-1/8	1-1/16	1-3/8	1.250	E
F	1-3/8	.843	.988	1-3/8	1-3/16	1-1/16	1-7/16	1.312	F
G	1-3/8	.953	1.098	1-5/8	1-3/8	1-3/16	1-21/32	1.500	G
J	1-3/8	1.062	1.207	1-3/4	1-1/2	1-3/16	1-25/32	1.625	J
K	1-11/16	1.171	1.316	1-7/8	1-5/8	1-3/16	1-7/8	1.750	K
L	1-11/16	1.265	1.410	1-15/16	1-11/16	1-3/16	1-15/16	1.812	L
M	1-11/16	1.406	1.551	2-1/8	1-7/8	1-3/16	2-3/16	2.000	M
N	1-11/16	1.515	1.716	2-3/16	1-15/16	1-1/4	2-1/4	2.062	N
P	1-11/16	1.625	1.826	2-5/16	2-1/16	1-1/4	2-11/32	2.188	P
R	1-11/16	1.750	1.951	2-7/16	2-3/16	1-1/4	2-15/32	2.312	R
S	2-1/2	1.875	2.076	2-7/8	2-9/16	1-5/8	2-13/16	2.688	S
T	2-1/2	2.062	2.364	3-1/16	2-3/4	1-11/16	2-31/32	2.875	T
V	2-1/2	2.187	2.489	3-3/16	2-7/8	1-11/16	3-3/32	3.000	V
W	2-1/2	2.312	2.614	3-5/16	3.00	1-11/16	3-9/32	3.125	W
X	2-1/2	2.500	2.802	3-1/2	3-1/8	1-11/16	3-7/16	3.250	X
Y	2-1/2	2.609	2.911	3-5/8	3-1/4	1-11/16	3-9/16	3.375	Y
Z	2-1/2	2.781	3.083	3-13/16	3-7/16	1-11/16	3-3/4	3.562	Z
AA	3.00	2.875	3.177	4-1/16	3-5/8	2-1/16	3-7/8	3.750	AA

STUFFING TUBES

M24235/17 STUFFING TUBE ASSEMBLY

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITH PIPE PROTECTION
STEEL/ALUMINUM - SWAGE TYPE - SYMBOL: 1701 - 1723, 1731 - 1753, 1761 - 1783, 1791 - 1813



GLAND RING



GLAND NUT



LARGER PENETRATION SIZE THAN M24235/18

CATALOG NUMBERING SYSTEM M24235/17 STUFFING TUBE SAMPLE CATALOG NUMBER:

1A1SC

- ["C" INDICATES COMPLETE WITH NUT AND WASHER]
- ["S" INDICATES STEEL]
- ["A" INDICATES ALUMINUM]
- INDICATES LENGTH
 $6 = 6.75"$ (SIZE A-Z), $1 = 11"$, $2 = 12.5"$
- INDICATES LETTER SIZE OF TUBE

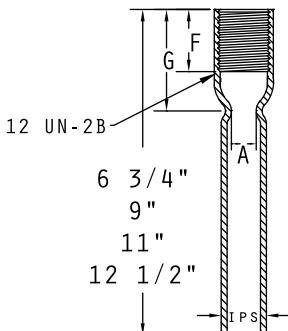
SIZE	MOUNT HOLE	WALL THICKNESS	A	B	C	E	G	H	K
A	1-1/8	.113	.406	7/8	.785	1-1/16	1-5/8	1-1/16	1-1/32
B	1-1/8	.113	.515	1	.910	1-1/16	1-5/8	1-1/16	1-1/8
C	1-3/8	.133	.640	1-1/8	1.035	1-5/16	1-5/8	1-1/16	1-1/4
D	1-3/8	.133	.750	1-1/4	1.160	1-5/16	1-5/8	1-1/16	1-3/8
E	1-3/8	.133	.812	1-1/4	1.160	1-5/16	1-5/8	1-1/16	1-3/8
F	1-3/8	.133	.843	1-5/16	1.222	1-5/16	1-5/8	1-1/16	1-7/16
G	1-23/32	.140	.953	1-1/2	1.410	1-21/32	1-11/16	1-3/16	1-21/32
J	1-31/32	.145	1.062	1-5/16	1.535	1-29/32	1-11/16	1-3/16	1-25/32
K	1-31/32	.145	1.172	1-3/4	1.660	1-29/32	3	1-1/2	1-7/8
L	1-31/32	.145	1.265	1-13/16	1.720	1-29/32	3	1-1/2	1-15/16
M	2-7/16	.154	1.406	2	1.910	2-3/8	3	1-9/16	2-3/16
N	2-7/16	.154	1.515	2-1/16	2.000	2-3/8	3	1-9/16	2-1/4
P	2-7/16	.154	1.625	2-3/16	2.098	2-3/8	3	1-9/16	2-11/16
R	2-7/16	.154	1.750	2-5/16	2.222	2-3/8	3	1-9/16	2-15/32
S	2-15/16	.203	1.875	2-11/16	2.597	2-7/8	5	2-3/16	2-13/16
T	3-9/16	.216	2.062	2-7/8	2.785	3-1/2	5	2-3/16	2-31/32
V	3-9/16	.216	2.187	3	2.910	3-1/2	5	2-3/16	3-3/32
W	3-9/16	.216	2.312	3-1/8	3.035	3-1/2	5	2-3/16	3-3/32
X	3-9/16	.216	2.500	3-1/4	3.160	3-1/2	5	2-3/16	3-7/16
Y	4-1/16	.226	2.609	3-3/8	3.285	4	5	2-3/16	3-9/16
Z	4-1/16	.226	2.781	3-9/16	3.472	4	5	2-3/16	3-3/4
AA	4-1/16	.226	2.875	3-3/4	3.660	4	6-3/4	3-1/8	3-7/8
BB	4-9/16	.237	3.157	4	3.910	4-1/2	6-3/4	3-1/8	4-1/8

STUFFING TUBES

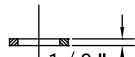
M24235/18 STUFFING TUBE ASSEMBLY

FOR ELECTRIC CABLE PENETRATION OF DECKS AND BULKHEADS ON SHIPS WITH PIPE PROTECTION REDUCED PENETRATION DIAMETER.

STEEL/STAINLESS/ALUMINUM - SWAGE TYPE - SYMBOL: 1821 - 1843, 1871 - 1893, 1911 - 1933, 1941 - 1963



GLAND RING



GLAND NUT



SMALLER PENETRATION SIZE THAN M24235/17

CATALOG NUMBERING SYSTEM M24235/18 STUFFING TUBE SAMPLE CATALOG NUMBER:

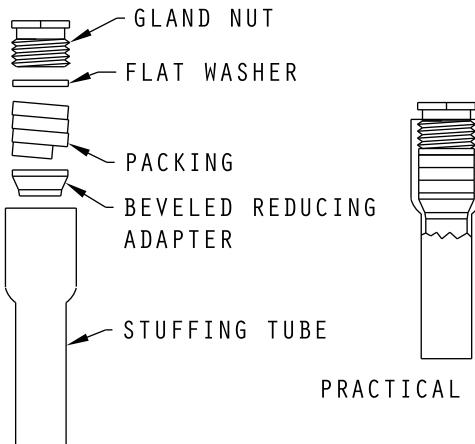
0A1SC

L "C" INDICATES COMPLETE WITH NUT AND WASHER
 "S" INDICATES STEEL
 "A" INDICATES ALUMINUM
 "SS" INDICATES STAINLESS STEEL
 INDICATES LENGTH
 6 = 6.75" (SIZE A-R), 9 = 9" (SIZE S-BB), 1 = 11", 2 = 12.5"
 INDICATES LETTER SIZE OF TUBE
 SIZE A-G AVAILABLE IN 90 DEGREE BENDS

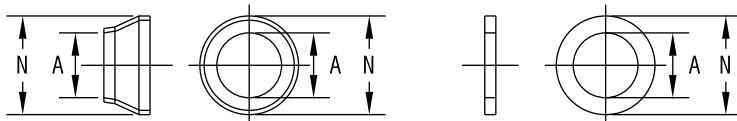
*INDICATES HOST TUBES

SIZE	IPS PIPE SIZE	A	B	C	G	H	K
A	1/2 SCH 80-(27/32)	0.406	7/8	0.785	1-5/8	1-1/16	1-1/32
*B	1/2 SCH 80-(27/32)	0.515	1	0.910	1-5/8	1-1/16	1-1/8
C	3/4 SCH 40-(1-1/16)	0.640	1-1/8	1.035	1-5/8	1-1/16	1-1/4
*D	3/4 SCH 40-(1-1/16)	0.750	1-1/4	1.160	1-5/8	1-1/16	1-3/8
E	1 SCH 40-(1-21/64)	0.812	1-1/4	1.160	1-5/8	1-1/16	1-3/8
F	1 SCH 40-(1-21/64)	0.843	1-5/16	1.222	1-5/8	1-1/16	1-7/16
*G	1 SCH 40-(1-21/64)	0.953	1-1/2	1.410	1-11/16	1-3/16	1-21/32
J	1-1/4 SCH 40-(1-21/32)	1.062	1-5/8	1.532	1-11/16	1-3/16	1-25/32
K	1-1/4 SCH 40-(1-21/32)	1.171	1-3/4	1.660	3	1-1/2	1-7/8
*L	1-1/4 SCH 40-(1-21/32)	1.265	1-13/16	1.720	3	1-1/2	1-15/16
M	1-1/2 SCH 40-(1-29/32)	1.406	2	1.910	3	1-1/2	2-3/16
*N	1-1/2 SCH 40-(1-29/32)	1.515	2-1/16	2.000	3	1-9/16	2-1/4
P	2 SCH 40-(2-3/8)	1.625	2-3/16	2.098	3	1-9/16	2-11/32
R	2 SCH 40-(2-3/8)	1.750	2-5/16	2.222	3	1-9/16	2-15/32
*S	2 SCH 40-(2-3/8)	1.875	2-11/16	2.597	5	2-3/16	2-13/16
T	2-1/2 SCH 40-(2-7/8)	2.062	2-7/8	2.785	5	2-3/16	2-31/32
V	2-1/2 SCH 40-(2-7/8)	2.187	3	2.910	5	2-3/16	3-3/32
*W	2-1/2 SCH 40-(2-7/8)	2.312	3-1/8	3.035	5	2-3/16	3-9/32
X	3 SCH 40-(3-1/2)	2.500	3-1/4	3.160	5	2-3/16	3-7/16
Y	3 SCH 40-(3-1/2)	2.609	3-3/8	3.285	5	2-3/16	3-9/16
Z	3 SCH 40-(3-1/2)	2.781	3-9/16	3.472	5	2-3/16	3-3/4
*AA	3 SCH 40-(3-1/2)	2.875	3-3/4	3.660	6-3/4	3-1/8	3-7/8
*BB	3-1/2 SCH 40-(4)	3.157	4	3.910	6-3/4	3-1/8	4-1/8

REDUCING ADAPTER



PRACTICAL APPLICATION



BEVELED REDUCING ADAPTER

FLAT WASHER

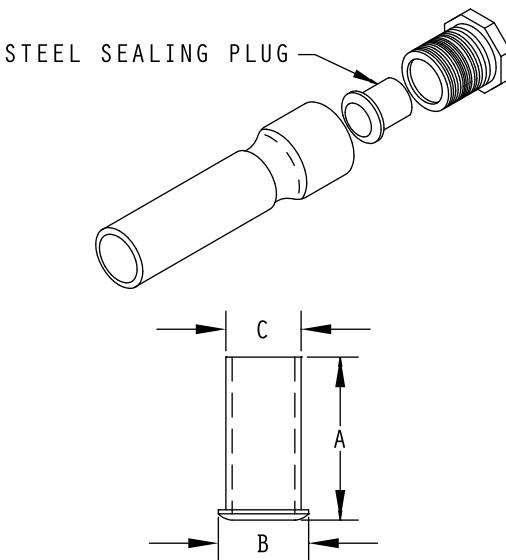
CATALOG NUMBER CONSISTS OF ONE BEVELED REDUCING
ADAPTER AND ONE FLAT WASHER.

ADDITIONAL SIZES AVAILABLE

CATALOG # STEEL	CATALOG # ALUMINUM	HOST TUBE	N	EFFECTIVE REDUCTION SIZE	A
102BA	112BA	B	.875	A	.406
102DA	112DA	D	1.132	A	.406
102DB	112DB	D	1.132	B	.515
102DC	112DC	D	1.132	C	.640
102GB	112GB	G	1.360	B	.515
102GC	112GC	G	1.360	C	.640
102GD	112GD	G	1.360	D	.750
102GE	112GE	G	1.360	E	.812
102GF	112GF	G	1.360	F	.843
102LG	112LG	L	1.703	G	.953
102LJ	112LJ	L	1.703	J	1.062
102LK	112LK	L	1.703	K	1.172
102NL	112NL	N	1.875	L	1.265
102NM	112NM	N	1.875	M	1.406
102SN	112SN	S	2.562	N	1.515
102SP	112SP	S	2.562	P	1.625
102SR	112SR	S	2.562	R	1.750
102WS	112WS	W	3.000	S	1.875
102WT	112WT	W	3.000	T	2.062
102WV	112WV	W	3.000	V	2.187
102AAX	112AAX	AA	3.625	X	2.500
102AAY	112AAY	AA	3.625	Y	2.609
102AAZ	112AAZ	AA	3.625	Z	2.781

SEALING PLUG

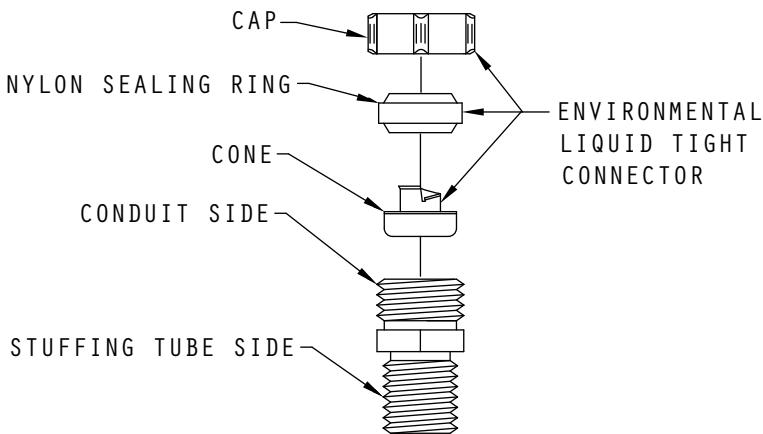
M24235/19 STUFFING TUBE PLUG



A SEALING PLUG IS USED WHEN DESIGN NECESSITATES ELIMINATION
OF CABLE IN AN INSTALLED STUFFING TUBE

STEEL	ALUMINUM	TUBE SIZE	C	A	B
100AST	100AAL	A	3/8	1-5/8	5/8
100BST	100BAL	B	1/2	1-5/8	3/4
100CST	100CAL	C	1/4	1-5/8	7/8
100DST	100DAL	D	3/8	1-5/8	31/32
100EST	100EAL	E	3/8	1-5/8	1-1/32
100FST	100FAL	F	3/8	1-5/8	1-1/16
100GST	100GAL	G	1/2	1-5/8	1-3/16
100JST	100JAL	J	3/4	1-5/8	1-3/8
100KST	100KAL	K	3/4	3	1-1/2
100LST	100LAL	L	3/4	3	1-19/32
100MST	100MAL	M	1	3	1-3/4
100NST	100NAL	N	1	3	1-27/32
100PST	100PAL	P	1	3	1-15/16
100RST	100RAL	R	1-1/4	3	2-1/16
100SST	100SAL	S	1-1/4	5	2-3/16
100TST	100TAL	T	1-1/2	5	2-3/8
100VST	100VAL	V	1-1/2	5	2-1/2
100WST	100WAL	W	1-1/2	5	2-5/8
100XST	100XAL	X	2	5	2-13/16
100YST	100YAL	Y	2	5	2-15/16
100ZST	100ZAL	Z	2	5	3-3/32
100AAST	100AAAL	AA	2	3-5/16	3-3/16

EMI CONDUIT ADAPTER

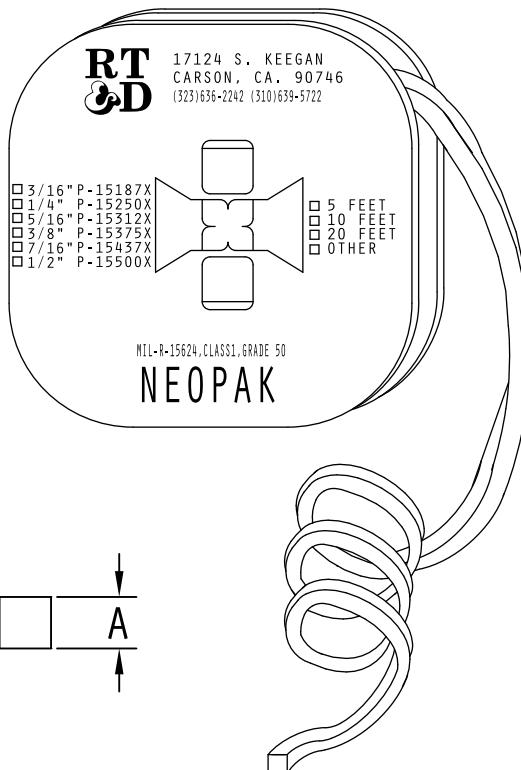


ADDITIONAL SIZES AVAILABLE UPON REQUEST

BRASS	ALUMINUM	STAINLESS	TUBE SIZE	CONDUIT SIZE
7RTA038B	7RTA038A	7RTA038C	A	3/8"
7RTB038B	7RTB038A	7RTB038C	B	3/8"
7RTB050B	7RTB050A	7RTB050C	B	1/2"
7RTC050B	7RTC050A	7RTC050C	C	1/2"
7RTC075B	7RTC075A	7RTC075C	C	3/4"
7RTD075B	7RTD075A	7RTD075C	D	3/4"
7RTD100B	7RTD100A	7RTD100C	D	1"
7RTE075B	7RTE075A	7RTE075C	E	3/4"
7RTF100B	7RTF100A	7RTF100C	F	1"
7RTG100B	7RTG100A	7RTG100C	G	1"
7RTG125B	7RTG125A	7RTG125C	G	1-1/4"
7RTJ100B	7RTJ100A	7RTJ100C	J	1"
7RTJ125B	7RTJ125A	7RTJ125C	J	1-1/4"
7RTJ150B	7RTJ150A	7RTJ150C	J	1-1/2"
7RTK125B	7RTK125A	7RTK125C	K	1-1/4"
7RTL125B	7RTL125A	7RTL125C	L	1-1/4"
7RTM125B	7RTM125A	7RTM125C	M	1-1/4"
7RTM150B	7RTM150A	7RTM150C	M	1-1/2"
7RTM200B	7RTM200A	7RTM200C	M	2"
7RTN150B	7RTN150A	7RTN150C	N	1-1/2"
7RTN200B	7RTN200A	7RTN200C	N	2"
7 RTP150B	7 RTP150A	7 RTP150C	P	1-1/2"
7 RTP200B	7 RTP200A	7 RTP200C	P	2"
7RTS200B	7RTS200A	7RTS200C	S	2"
7RTW250B	7RTW250A	7RTW250C	W	2-1/2"
7RTX300B	7RTX300A	7RTX300C	X	3"
7RTAA300B	7RTAA300A	7RTAA300C	AA	3"

NEOPAK

PACKING FOR STUFFING TUBES



MIL-R-15624, CLASS 1, GRADE 50

*** NO REINFORCING WIRE ***

*** LIMITED AVAILABILITY ***

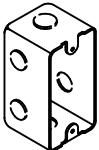
A-DIM	NON-REINFORCED	FEET/ROLL
3/16"	P-15187X	20'
1/4"	P-15250X	10'
5/16"	P-15312X	10'
3/8"	P-15375X	10'
7/16"	P-15437X	10'
1/2"	P-15500X	5'

ELECTRICAL BOXES

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
WWW.RTND.COM EMAIL CUSTSERV@RTND.COM

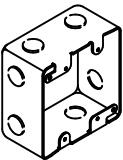
ELECTRICAL BOXES



SINGLE GANG OUTLET BOX

BX42XXXX
COMPLIES WITH UL-514A
COMPLIES WITH S6202-73980
METHOD 3575 - SYMBOL: 406.2

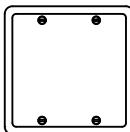
P. 5-3



TWO GANG OUTLET BOX

BX448XXX
COMPLIES WITH UL-514A
COMPLIES WITH S6202-73980
METHOD 3575 - SYMBOL: 406.1

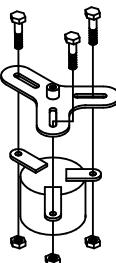
P. 5-4



TWO GANG BOX COVERS

BX44COV4K STEEL
BX44COVA ALUMINUM

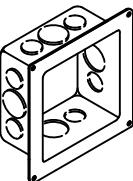
P. 5-7



SYMBOL BOX MOUNTING BRACKET - STUD WELD

EFB00 - EFB03 STEEL
EFB00A - EFB03A ALUMINUM
EFB00S - EFB03S STAINLESS

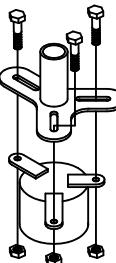
P. 5-8



OVERSIZE JUNCTION BOX

BX552CPS STEEL

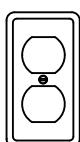
P. 5-5



SYMBOL BOX MOUNTING BRACKET - WELD

EFW00 - EFW03 STEEL

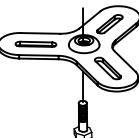
P. 5-9



SINGLE GANG BOX COVERS

BX42COVTK STEEL BX42COVTA ALUMINUM
BX42COVKK STEEL
BX42COVBK STEEL BX42COVA ALUMINUM
BX42COVDK STEEL BX42COVDA ALUMINUM

P. 5-6



SYMBOL BOX MOUNTING BRACKET - HEX HEAD

EFH014S - EFH024S STEEL
EFH014C - EFH024C STAINLESS

P. 5-10

CONTINUED ON NEXT PAGE

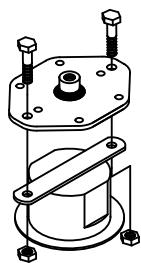
ELECTRICAL BOXES



SYMBOL BOX MOUNTING BRACKET - HEX HEAD

EFH014FS - EFH024FS STEEL
EFH014FC - EFH024FC STAINLESS

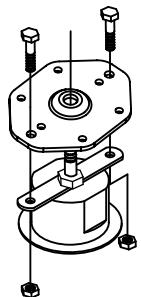
P. 5-11



SYMBOL BOX MOUNTING BRACKET - STUD WELD

EFB04 STEEL 3/8-16 STUD
EFB04B STEEL 1/2-13 STUD
EFB04S STAINLESS 3/8-16 STUD
EFB04BS STAINLESS 1/2-13 STUD

P. 5-12



SYMBOL BOX MOUNTING BRACKET - HEX HEAD

EFH044S STEEL
EFH044C STAINLESS

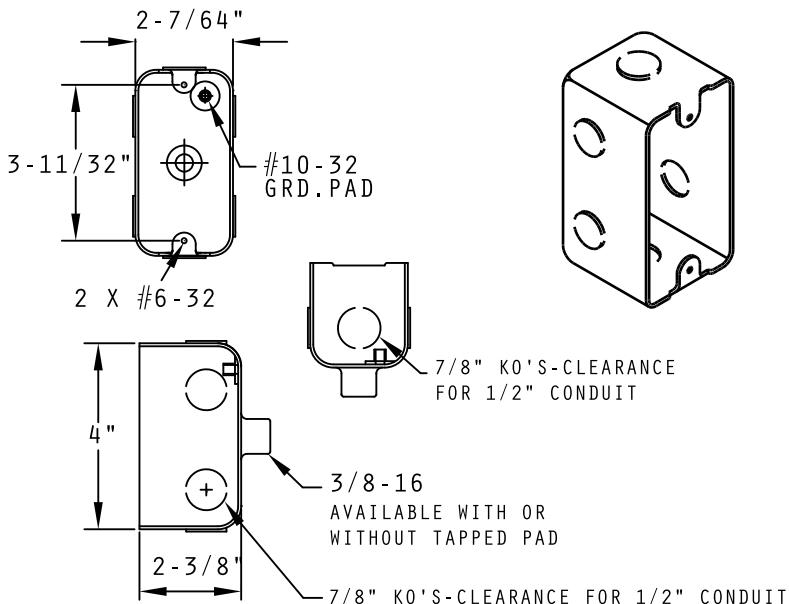
P. 5-13

ELECTRICAL BOXES

NOTES:

SINGLE GANG OUTLET BOX

WITH OR WITHOUT TAPPED PAD



DRAWN 2X4 RECTANGULAR UTILITY BOXES ARE AVAILABLE WITH WELDED STUDS FOR EASY MOUNTING TO THE SHIP'S BULKHEAD. STEEL BOXES ARE ELECTROGALVANIZED.

EACH 7/8" INCH KNOCKOUT IS PUNCHED OUTWARDS SO NO SLUGS WILL FALL INTO THE BOX. MOUNTING STUD IS FEMALE TYPE, SIZE 3/8-16. ALL BOXES ARE EQUIPPED WITH A GROUND PAD SUITABLE FOR A #10-32 SCREW. A VARIETY OF STAMPED STEEL OR ALUMINUM COVERS ARE AVAILABLE IN BLANK, DUPLEX RECEPTACLE, AND TOGGLE SWITCH CONFIGURATIONS.

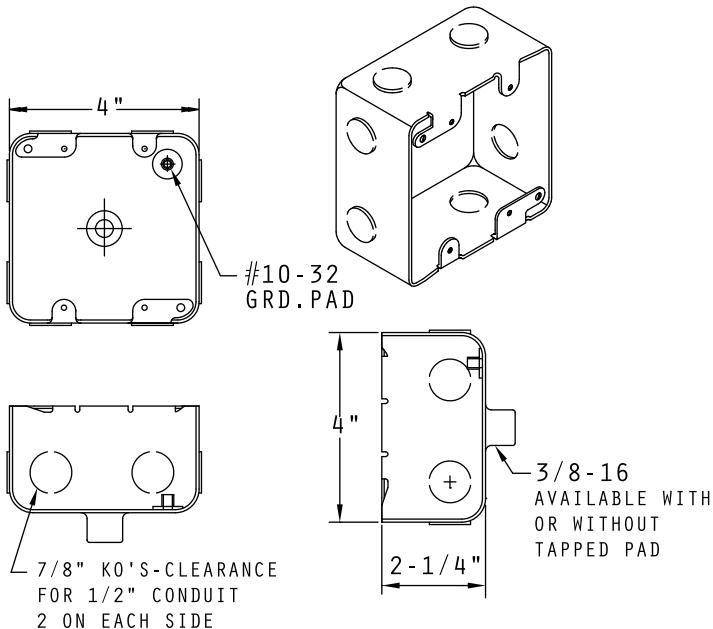
COMPLIES WITH UL-514A - SYMBOL # 406.2
COMPLIES WITH S6202-73980 - METHOD 3575

STEEL			
PART #	# KNOCKOUTS	STUD	COVER
BX422XXS	2		
BX422XPS	2	●	
BX422CPS	2	●	●
BX426XXI	6		
BX426XP1	6	●	

ALUMINUM			
PART #	# KNOCKOUTS	STUD	COVER
BX422XXA	2		
BX422XPA	2	●	
BX422CPA	2	●	●

TWO GANG OUTLET BOX

WITH OR WITHOUT TAPPED PAD



DRAWN 4X4 SQUARE UTILITY BOXES ARE AVAILABLE WITH WELDED STUDS FOR EASY MOUNTING TO THE SHIP'S BULKHEAD. STEEL BOXES ARE ELECTROGALVANIZED.

EACH 7/8" INCH KNOCKOUT IS PUNCHED OUTWARDS SO NO SLUGS WILL FALL INTO THE BOX. MOUNTING STUD IS FEMALE TYPE, SIZE 3/8-16. ALL BOXES ARE EQUIPPED WITH A GROUND PAD SUITABLE FOR A #10-32 SCREW. A VARIETY OF STAMPED STEEL OR ALUMINUM COVERS ARE AVAILABLE IN BLANK, DUPLEX RECEPTACLE, AND TOGGLE SWITCH CONFIGURATIONS.

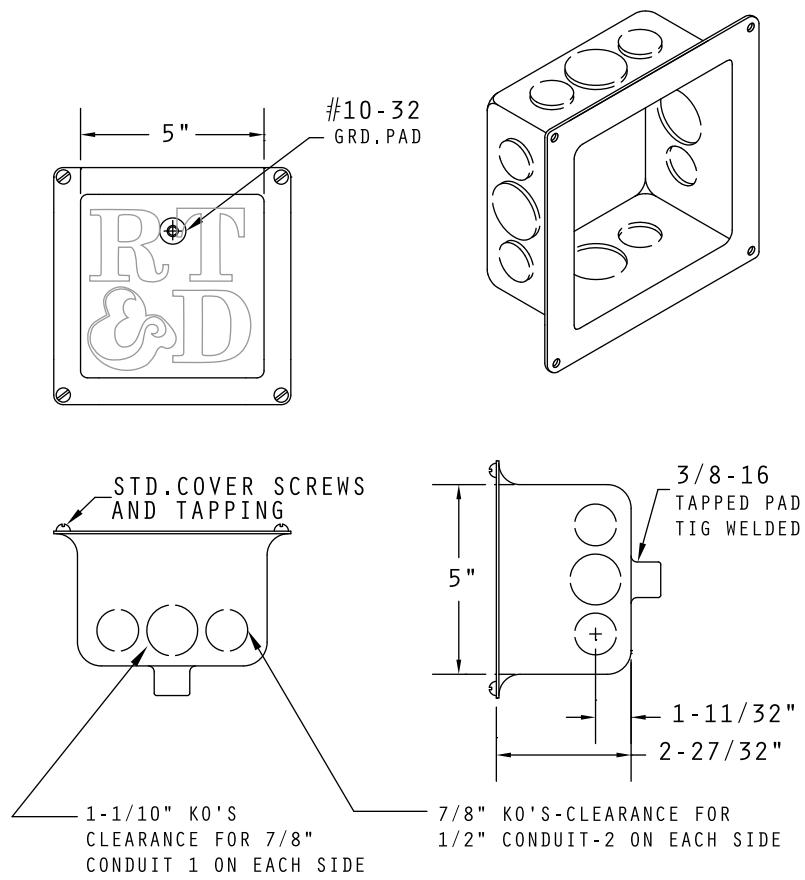
COMPLIES WITH UL-514A - SYMBOL # 406.1
COMPLIES WITH S6202-73980 - METHOD 3575

STEEL			
PART #	# KNOCKOUTS	STUD	COVER
BX448XXI	8		
BX448XP1	8	●	
BX448CPS	8	●	●

ALUMINUM			
PART #	# KNOCKOUTS	STUD	COVER
BX448XPA	8	●	
BX448XXA	8		

OVERSIZE JUNCTION BOX

WITH TAPPED PAD AND COVER

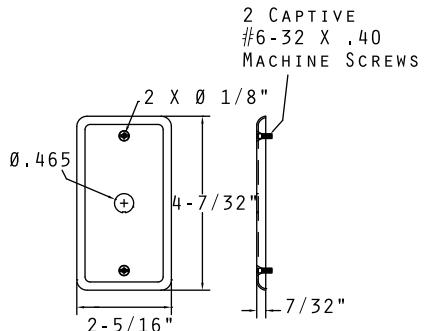
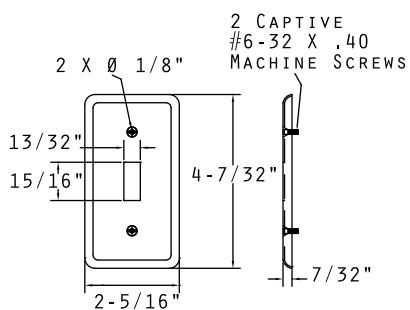


DRAWN STEEL 5X5 OVERSIZE SQUARE UTILITY BOXES HAVE WELDED STUDS FOR EASY MOUNTING TO THE SHIP'S BULKHEAD. BOXES ARE ELECTROGALVANIZED.

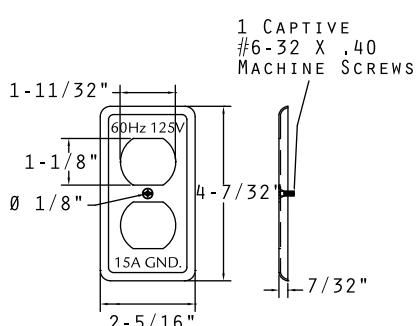
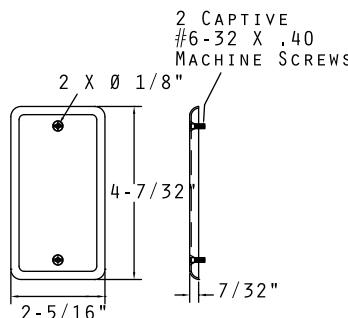
EACH 7/8" AND 1-1/10" INCH KNOCKOUT IS PUNCHED OUTWARDS SO NO SLUGS WILL FALL INTO THE BOX. MOUNTING STUD IS FEMALE TYPE, SIZE 3/8-16. ALL BOXES ARE EQUIPPED WITH A GROUND PAD SUITABLE FOR A #10-32 SCREW. A BLANKED STAMPED STEEL COVER IS INCLUDED.

STEEL			
PART #	# KNOCKOUTS	STUD	COVER
BX552CPS	12	•	•

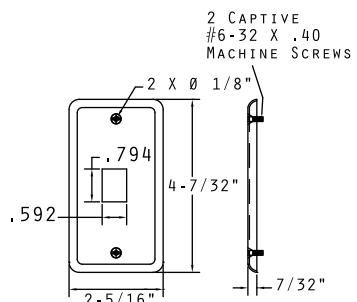
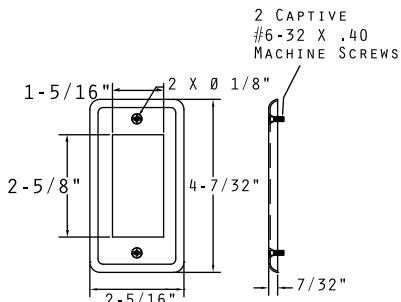
SINGLE GANG BOX COVER



STEEL	ALUMINUM	STEEL
BX42COVTK	BX42COVTA	BX42COVKK

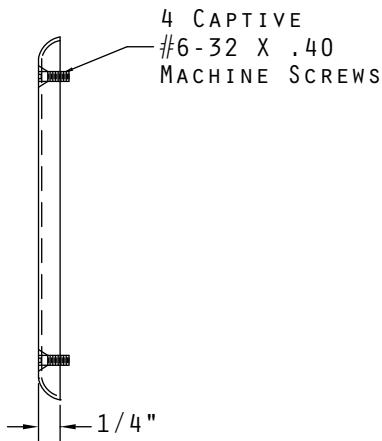
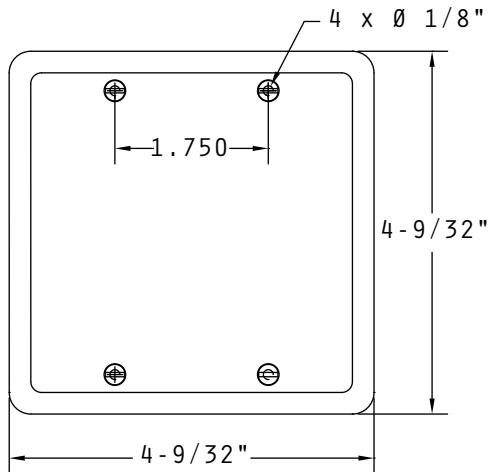


STEEL	ALUMINUM	STEEL	ALUMINUM
BX42COVBK	BX42COVA	BX42COVDK	
		BX42COVD NO TEXT	BX42COVDA NO TEXT



STEEL	STEEL
BX42COVG	BX42COVRJ

TWO GANG BOX COVER

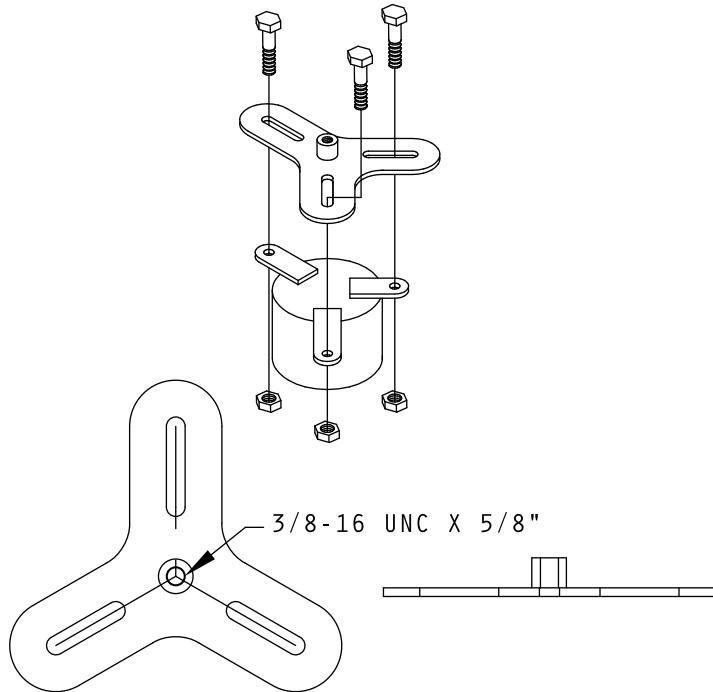


STEEL	ALUMINUM
BX44COV4K	BX44COVA

SYMBOL BOX

MOUNTING BRACKET

STUD WELD



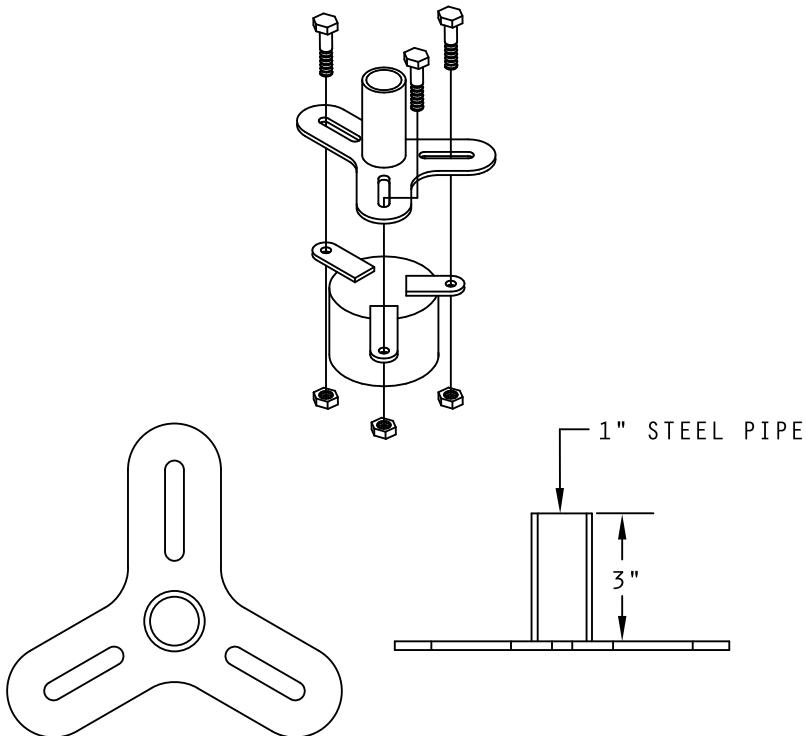
ADDITIONAL TAPPED PAD SIZES AVAILABLE

AVAILABLE IN STEEL OR ALUMINUM							
STEEL	ALUMINUM	STEEL	ALUMINUM	STEEL	ALUMINUM	STEEL	ALUMINUM
EFB00	EFB00A	EFB01	EFB01A	EFB02	EFB02A	EFB03	EFB03A
ELECTRICAL SYMBOL NO.		ELECTRICAL SYMBOL NO.		ELECTRICAL SYMBOL NO.		ELECTRICAL SYMBOL NO.	
400,1	400,1	829,1	435,1	2627,3	434		
804,1	400,2	850,1	671,1	2628	915,1		
829,1	400,3	857	960	2628,1	2788		
1148,1	400,4	862	2622,1	2628,2	2788,1		
	520,1	863	2622,2	2860,1	2819,1		
	528	879,1	2622,3	2986	2819,2		
	801,2	1148,1	2626	2987	2819,3		
	804,1	1148,2	2627		2819,4		
	805,1	1148,3	2627,1				
	827,1		2627,2				

SYMBOL BOX

MOUNTING BRACKET

WELD TYPE



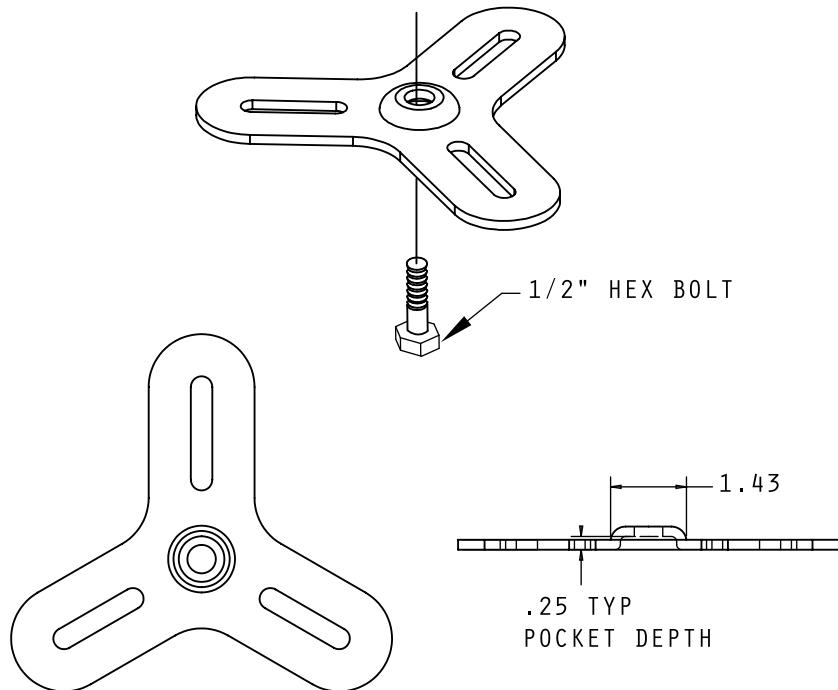
AVAILABLE IN STEEL

EFW00	EFW01		EFW02		EFW03
ELECTRICAL SYMBOL NO.					
400,1	400,1	829,1	435,1	2627,3	434
804,1	400,2	850,1	671,1	2628	915,1
829,1	400,3	857	960	2628,1	2788
1148,1	400,4	862	2622,1	2628,2	2788,1
	520,1	863	2622,2	2860,1	2819,1
	528	879,1	2622,3	2986	2819,2
	801,2	1148,1	2626	2987	2819,3
	804,1	1148,2	2627		2819,4
	805,1	1148,3	2627,1		
	827,1		2627,2		

SYMBOL BOX

MOUNTING BRACKET

HEX HEAD MOUNT

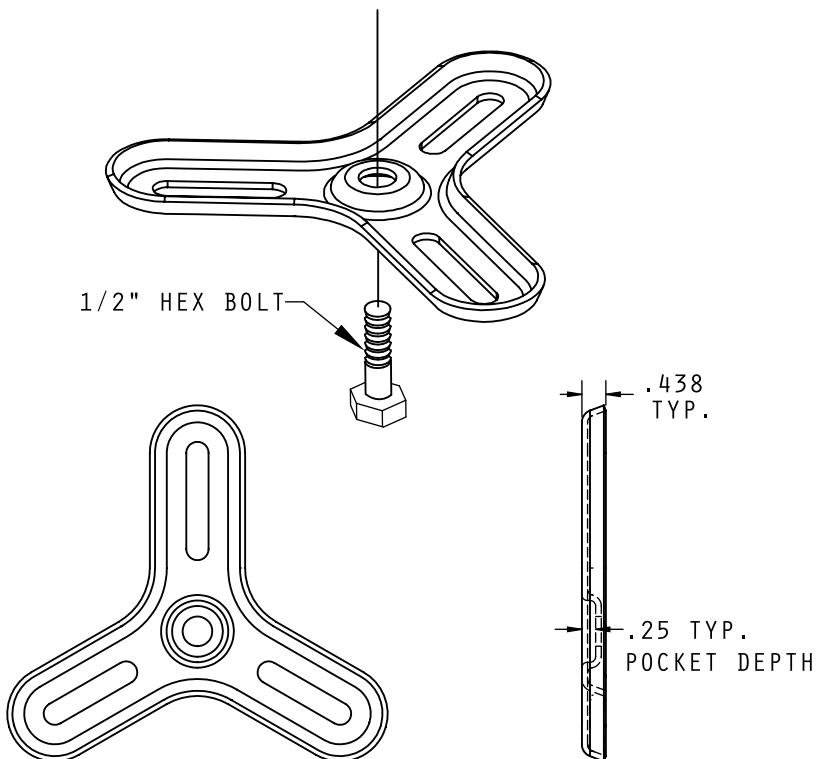


AVAILABLE IN STEEL OR STAINLESS			
STEEL	STAINLESS	STEEL	STAINLESS
EFH014S	EFH014C	EFH024S	EFH024C
ELECTRICAL SYMBOL NO.		ELECTRICAL SYMBOL NO.	
400.1	829.1	435.1	2627.3
400.2	850.1	671.1	2628
400.3	857	960	2628.1
400.4	862	2622.1	2628.2
520.1	863	2622.2	2860.1
528	879.1	2622.3	2986
801.2	1148.1	2626	2987
804.1	1148.2	2627	
805.1	1148.3	2627.1	
827.1		2627.2	

SYMBOL BOX

MOUNTING BRACKET

HEX HEAD MOUNT



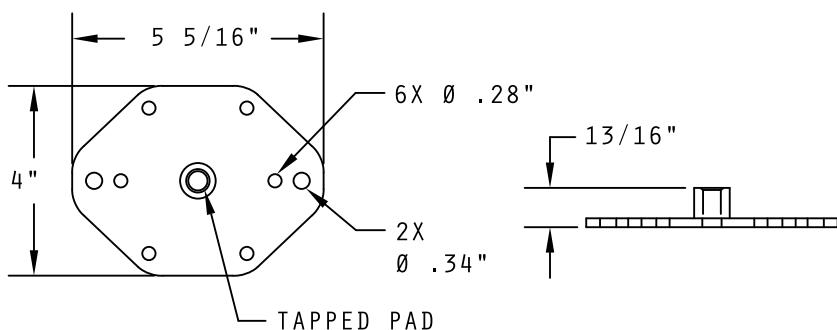
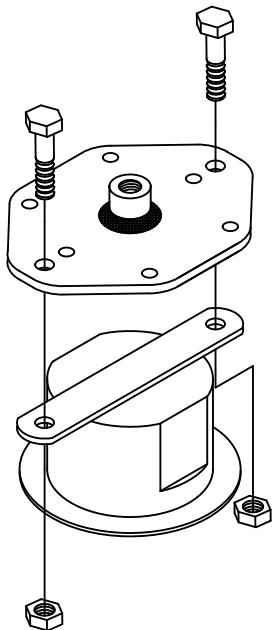
AVAILABLE IN STEEL OR STAINLESS

STEEL	STAINLESS	STEEL	STAINLESS
EFH014FS	EFH014FC	EFH024FS	EFH024FC
ELECTRICAL SYMBOL NO.		ELECTRICAL SYMBOL NO.	
400.1	829.1	435.1	2627.3
400.2	850.1	671.1	2628
400.3	857	960	2628.1
400.4	862	2622.1	2628.2
520.1	863	2622.2	2860.1
528	879.1	2622.3	2986
801.2	1148.1	2626	2987
804.1	1148.2	2627	
805.1	1148.3	2627.1	
827.1		2627.2	

SYMBOL BOX

MOUNTING BRACKET

STUD WELD

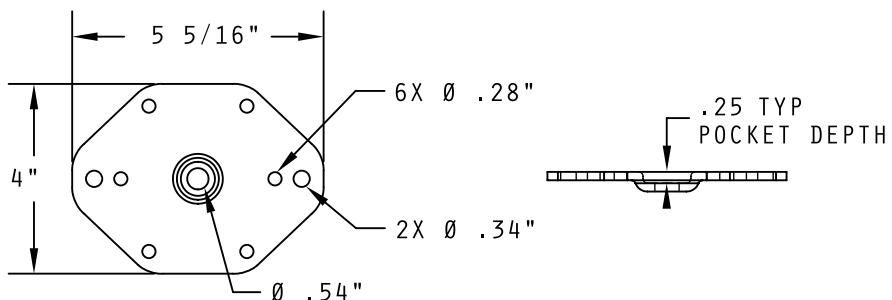
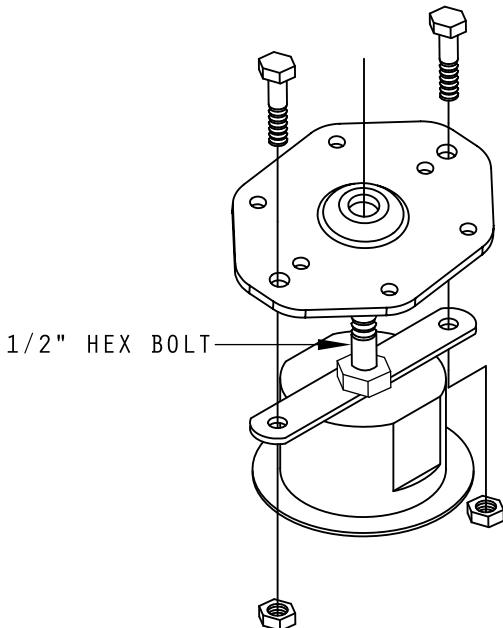


AVAILABLE IN STEEL OR STAINLESS						
STEEL		STAINLESS				
3/8-16 STUD		1/2-13 STUD			3/8-16 STUD	1/2-13 STUD
EFB04		EFB04B			EFB04S	EFB04SB
ELECTRICAL SYMBOL NO.						
789	1099.1	2816.1	2816.2	2816.2	2841	2842

SYMBOL BOX

MOUNTING BRACKET

HEX HEAD MOUNT



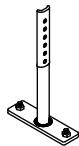
AVAILABLE IN STEEL OR STAINLESS						
STEEL	STAINLESS					
EFH044S	EFH044C					
ELECTRICAL SYMBOL NO.						
789	1099.1	2816.1	2816.2	2816.2	2841	2842

LIGHT SUPPORTS

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
WWW.RTND.COM EMAIL CUSTSERV@RTND.COM

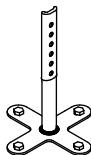
LIGHT SUPPORTS



LIGHT STOOL LEG
WELD STUD TYPE

EF10B**S - EF60B**S STEEL

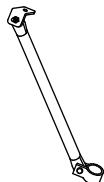
P. 6-3



LIGHT STOOL LEG
WELD STUD TYPE

EF70B**S STEEL

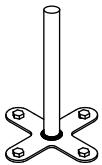
P. 6-9



LEG SUPPORT
BOLT ON BRACE

EFBB24SA - EFBB36SA STEEL

P. 6-4

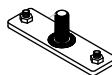


LIGHT STOOL LEG
WELD TYPE

EF70W**S STEEL

EF70W**A ALUMINUM

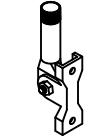
P. 6-10



LIGHT FEET
ADJUSTABLE TYPE

EF10M - EF60M STEEL

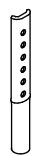
P. 6-5



BATTLE LANTERN
BRACKET

BL675 STEEL

P. 6-11



HANGER LEG
HEAVY DUTY

EFS112B - EFS148B 1" PIPE THREAD STEEL
EFS212B - EFS248B 5/8-11 UNC STEEL

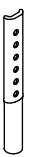
P. 6-6



FOUNDATION
PANEL MOUNT

EFPMP03 - EFPMP09 3/8" HOLE STEEL
EFPMP031 - EFPMP091 1/2" HOLE STEEL

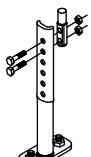
P. 6-12



HANGER LEG
LIGHT DUTY

SPB10S - SPB36S STEEL

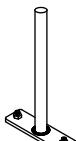
P. 6-7



LIGHT LEG
WELD STUD TYPE &
WELD ON TYPE

EFP1B09S - EFP1BW48S STEEL
EFP2B09S - EFP2BW48S STEEL

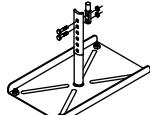
P. 6-13



LIGHT STOOL LEG
WELD TYPE

EF10W**S - EF60W**S STEEL
EF10W**A - EF60W**A ALUMINUM

P. 6-8



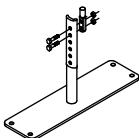
LIGHT LEG
DRIPROOF FLUORESCENT

EFP3B09S - EFP3B48S STEEL 90 DEGREE
EFP3B09S4 - EFP3B48S4 STEEL 45 DEGREE

P. 6-14

CONTINUED ON NEXT PAGE

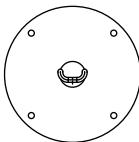
LIGHT SUPPORTS



LIGHT LEG
WELD STUD TYPE

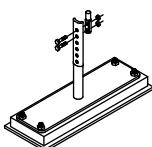
EFP5B07S - EFP5B30S STEEL

P. 6-15



LIGHT LEG
EF52B09S - EF52B24S STEEL

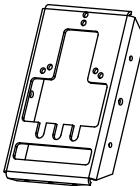
P. 6-20



LIGHT LEG
CARGO/GARAGE LIGHT

EFP6B07S - EFP6B48S 90 DEGREE STEEL
EFP6B07S4 - EFP6B48S4 45 DEGREE STEEL

P. 6-16



GAGE BOARDS

GB-01S STEEL

GB-08S STEEL

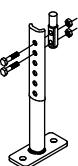
P. 6-21



LIGHT LEG

EFG5B09S - EFG5B48S 90 DEGREE STEEL
EFG5B09S4 - EFG5B48S4 45 DEGREE STEEL

P. 6-17



LIGHT LEG

EFL1B0225S - EFL1B1200S 90 DEGREE STEEL
EFL1B0225S4 - EFL1B1200S4 45 DEGREE STEEL

P. 6-18



LIGHT LEG

EF51B09S - EF51B24S STEEL

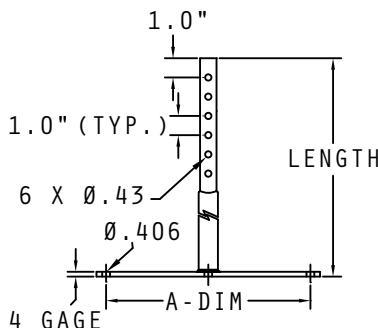
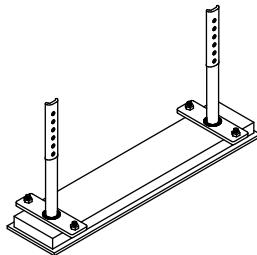
P. 6-19

LIGHT SUPPORTS

NOTES:

LIGHT STOOL LEG

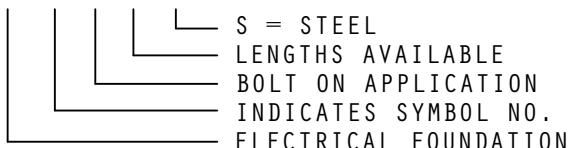
WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 10 B ** S

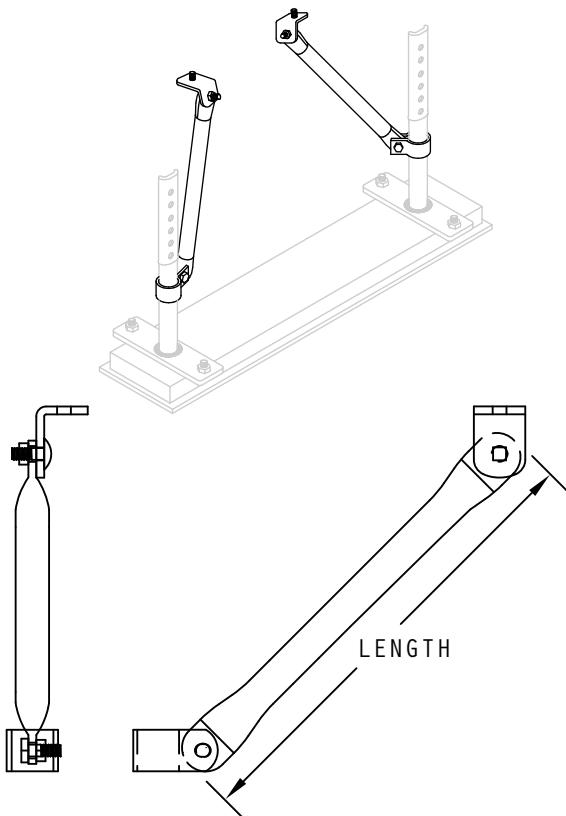


ADDITIONAL LENGTHS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"		
PART NUMBER	SYMBOL NUMBER	A-DIM
EF10B**S	70.3, 79.1, 80.1, 338.1, 347	4 3/4"
EF20B**S	73.3, 77.4, 145.2, 149.2, 344	7 1/4"
EF30B**S	333.1, 341.1, 342	9 1/4"
EF40B**S	348	11"
EF50B**S	74, 75	13"
EF60B**S	349, 350	15 1/2"

LEG SUPPORT

BOLT ON BRACE



CATALOG NUMBERING SYSTEM

(FOR EACH BRACE)

SAMPLE CATALOG NUMBER:

EF BB ** S A

L = COMPLETE W/ANGLE AND CLIP
S = STEEL
LENGTHS AVAILABLE
BOLT ON BRACE

ADDITIONAL LENGTHS AVAILABLE

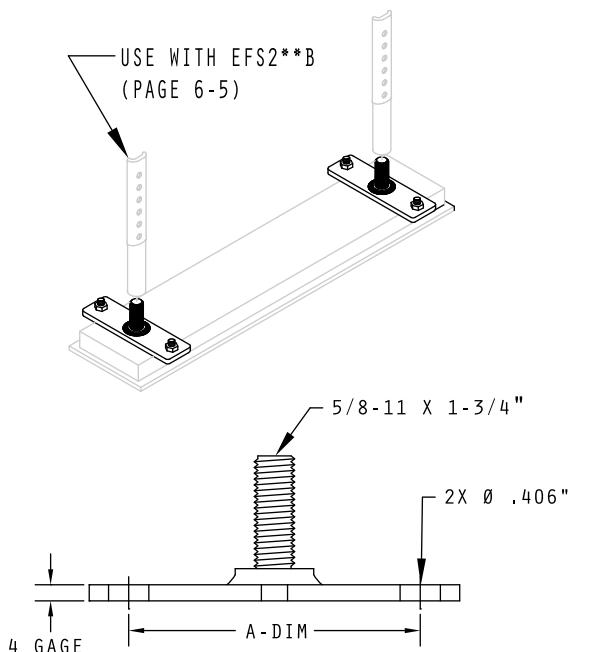
AVAILABLE IN 24", 30", AND 36"

STEEL

EFBB24SA - EFBB36SA

LIGHT FEET

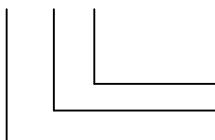
ADJUSTABLE TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 10 M



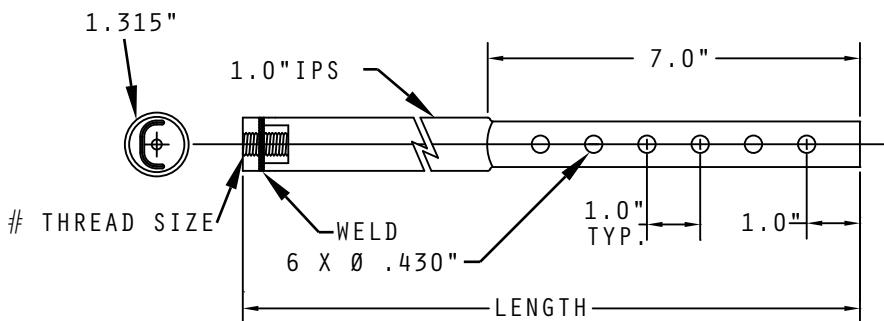
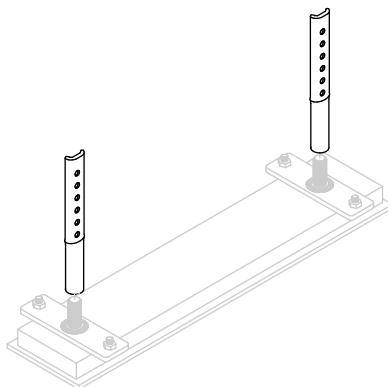
BOLT ON APPLICATION
INDICATES SYMBOL NO.
ELECTRICAL FOUNDATION

STEEL

PART NUMBER	SYMBOL NUMBER	A-DIM
EF10M	70.3, 79.1, 80.1, 338.1, 347	4 3/4"
EF20M	73.3, 77.4, 145.2, 149.2, 344	7 1/4"
EF30M	333.1, 341.1, 342	9 1/4"
EF40M	348	11"
EF50M	74, 75	13"
EF60M	349, 350	15 1/2"

HANGER LEG

HEAVY DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF S # ** B

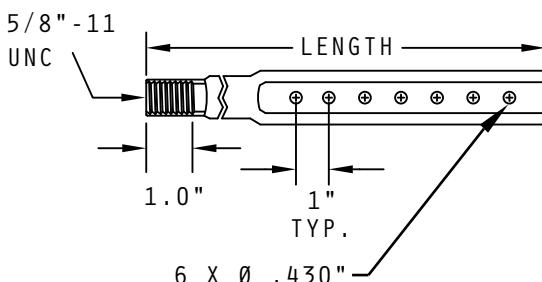
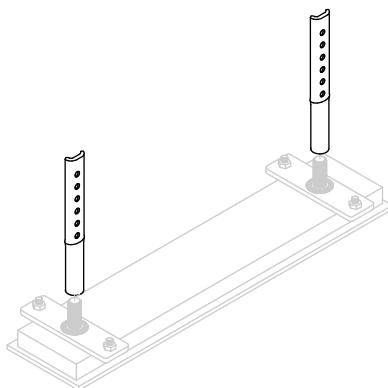
BOLT ON
LENGTHS AVAILABLE
THREAD SIZE
S = STEEL

ADDITIONAL LENGTHS AND MATERIALS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 12" TO 48"	
STEEL	
PART NUMBER	THREAD SIZE
EFS112B - EFS148B	I.P.S 1.0" PIPE THREAD
EFS212B - EFS248B	5/8" - 11 U.N.C.

HANGER LEG

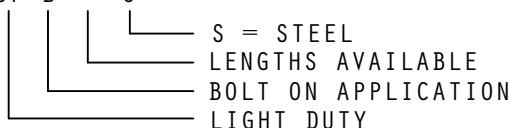
LIGHT DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

SP B ** S



ADDITIONAL LENGTHS VAILABLE

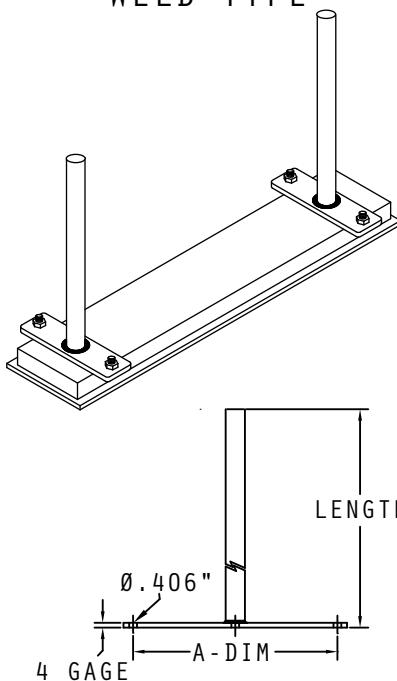
AVAILABLE FROM 10" TO 48"

STEEL

SPB10S - SPB48S

LIGHT STOOL LEG

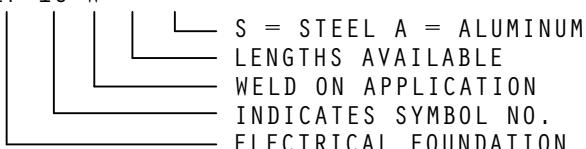
WELD TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 10 W * * *

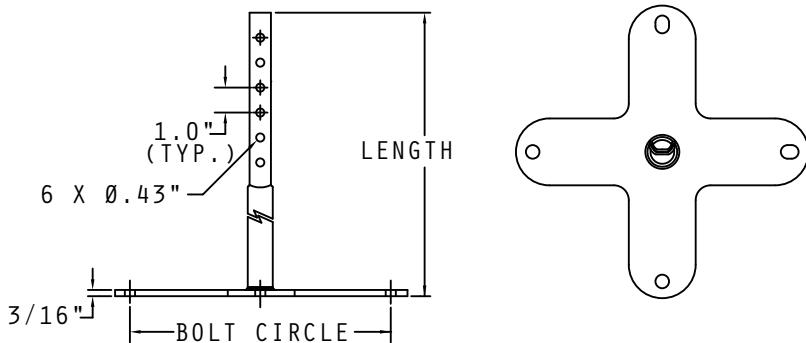
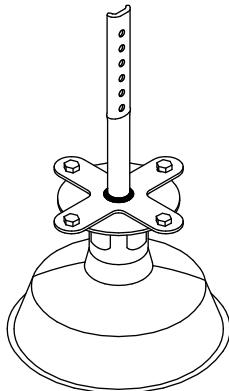


ADDITIONAL LENGTHS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"		
PART NUMBER	SYMBOL NUMBER	A-DIM
EF10W***	70.3, 79.1, 80.1, 338.1, 347	4 3/4"
EF20W***	73.3, 77.4, 145.2, 149.2, 344	7 1/4"
EF30W***	333.1, 341.1, 342	9 1/4"
EF40W***	348	11"
EF50W***	74, 75	13"
EF60W***	349, 350	15 1/2"

LIGHT STOOL LEG

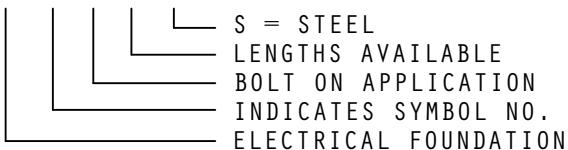
WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 70 B ** S

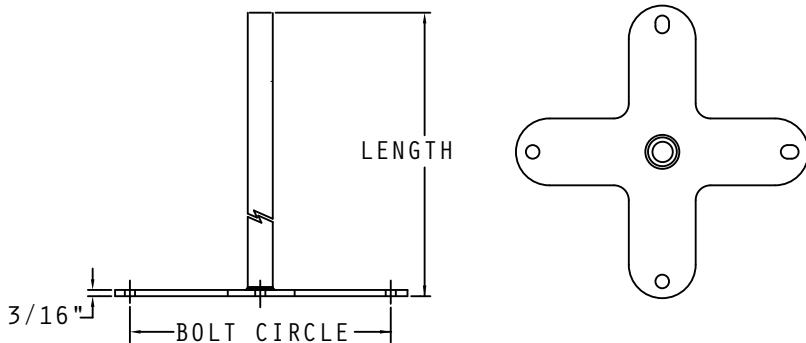
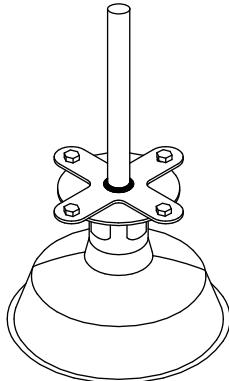


COMPLIES WITH METHOD F-2-A, COMPLIES WITH DRAWING 5184170
ADDITIONAL LENGTHS AND MATERIALS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"		
PART NUM	SYMBOL NUMBER	BOLT CIRCLE
EF70B**S	48.2, 57, 64.1, 65, 68.2, 69, 89, 90.2, 94.1, 112, 113	7 5/8"-7 3/4"

LIGHT STOOL LEG

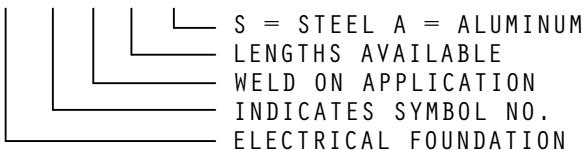
WELD TYPE



CATALOG NUMBERING SYSTEM
(FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF 70 W *** *



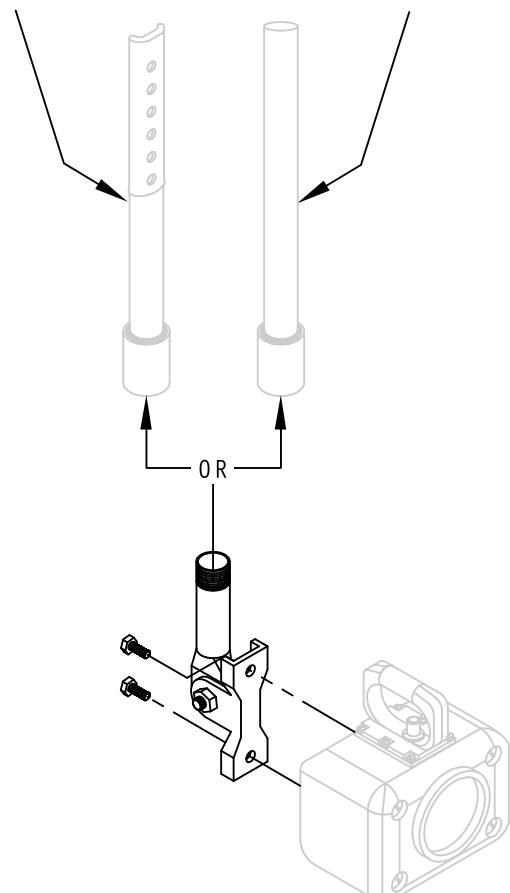
COMPLIES WITH METHOD F-2-A, COMPLIES WITH DRAWING 5184170
ADDITIONAL LENGTHS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 6" TO 48"		
PART NUM	SYMBOL NUMBER	BOLT CIRCLE
EF70W***	48.2, 57, 64.1, 65, 68.2, 69, 89, 90.2, 94.1, 112, 113	7 5/8"-7 3/4"

BATTLE LANTERN BRACKET

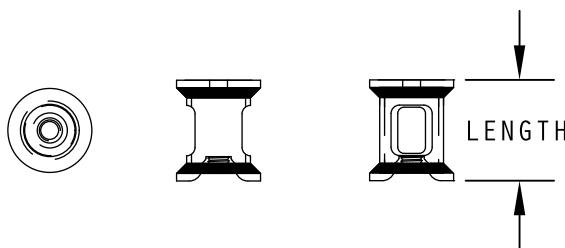
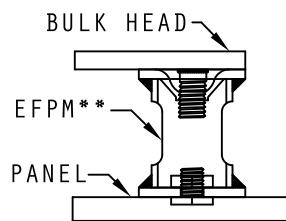
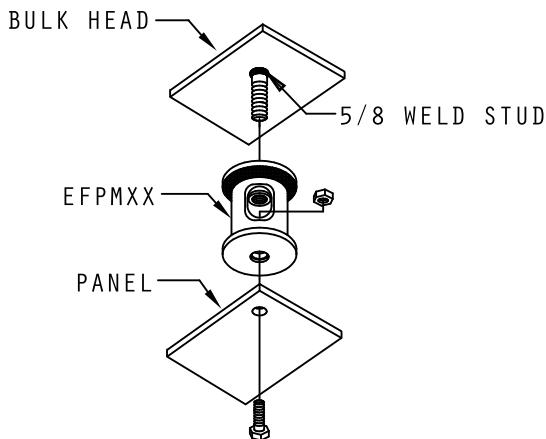
USE WITH EFS1***B
WELD STUD (BOLT ON) TYPE

USE WITH EFS1**BW
WELD TYPE



PART NUMBER
STEEL
BL675

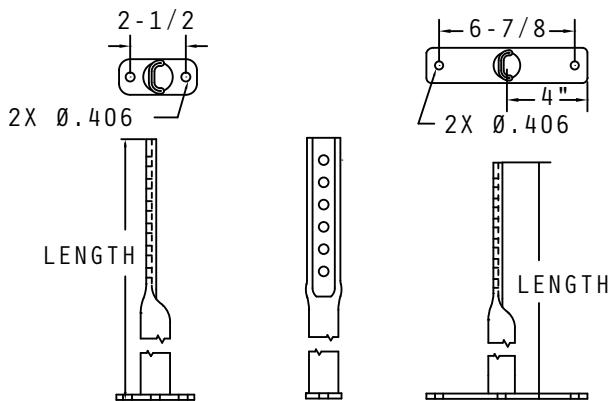
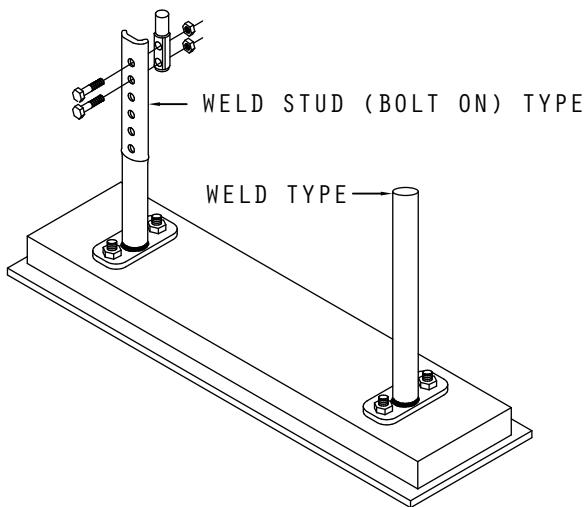
FOUNDATION PANEL MOUNT



AVAILABLE IN 3" - 6", 9"	
STEEL	
3/8" HOLE	1/2" HOLE
EFP M03 - EFP M09	EFP M031 - EFP M091

LIGHT LEG

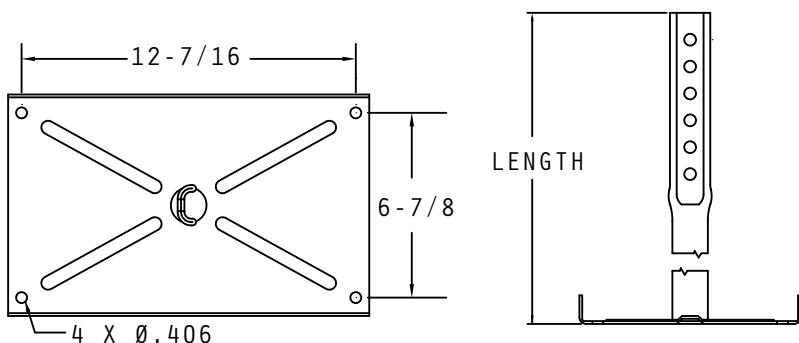
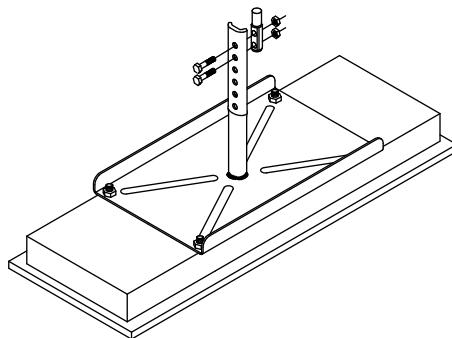
WELD STUD (BOLT ON) TYPE AND WELD TYPE



AVAILABLE FROM 9" TO 48"			
STEEL			
2 1/2" BOLT PATTERN		6 7/8" BOLT PATTERN	
WELD STUD TYPE	WELD ON TYPE	WELD STUD TYPE	WELD ON TYPE
EFP1B09S - EFP1B48S	EFP1W09S - EFP1W48S	EFP2B09S - EFP2B48S	EFP2W09S - EFP2W48S
LIGHT FIXTURE NO.		LIGHT FIXTURE NO.	
FWN120, FWN135, FWN140, FWN160, FWN220 FWN235, FWN240, FWN260, FWN320, FWN335 FWN340, FWN360, FWN110, FWN2110 FWN3110, ZLXACHS10MT		FAS120, FPS120, FPS135, FPS140, FPS160 FPA220, FPS235, FPS240, FPS260, FPS320 FPS335, FPS340, FPS360	

LIGHT LEG

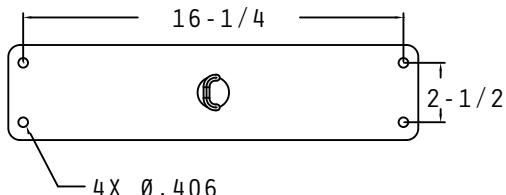
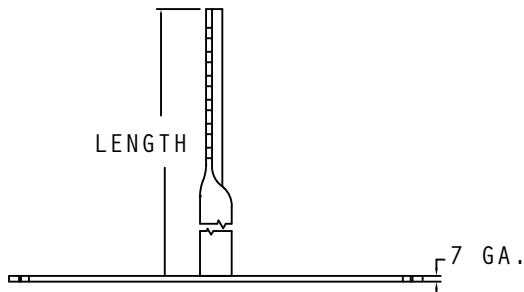
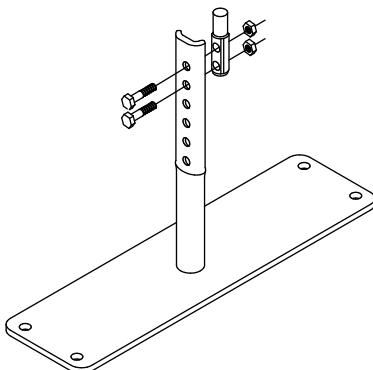
DRIPPROOF FLOURESCENT CEILING FIXTURES
WELD STUD (BOLT ON) TYPE



AVAILABLE FROM 9" TO 48"	
STEEL	
90 DEGREE MOUNT	45 DEGREE MOUNT
EFP3B09S - EFP3B48S	EFP3B09S4 - EFP3B48S4
LIGHT FIXTURE NO.	
FAS120, FPS120, FPS135, FPS220, FPS235, FPS320, FPS335	

LIGHT LEG

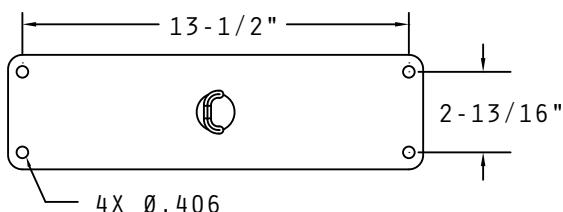
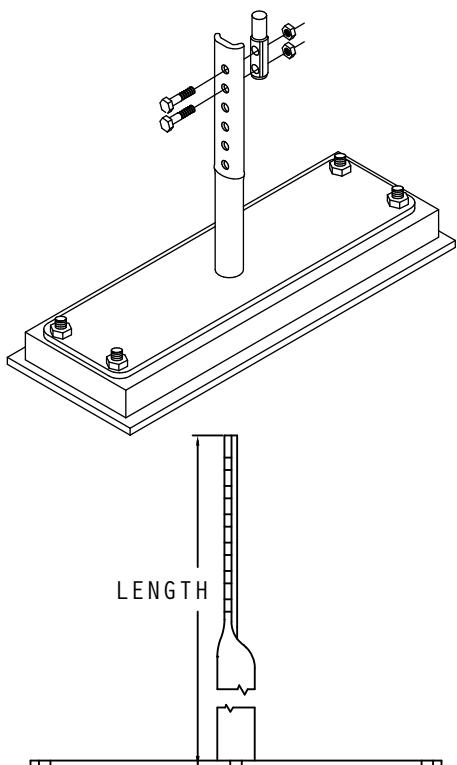
WELD STUD (BOLT ON) TYPE



STEEL	
PART NUMBER	LENGTH
EFP5B07S	6 1/2"
EFP5B09S	8 1/2"
EFP5B12S	11 1/2"
EFP5B16S	15 1/2"
EFP5B20S	19 1/2"
EFP5B24S	23 1/2"
EFP5B30S	29 1/2"
LIGHT FIXTURE NO.	
ZLXACHS10446, ZLXACHS10446CR	

LIGHT LEG

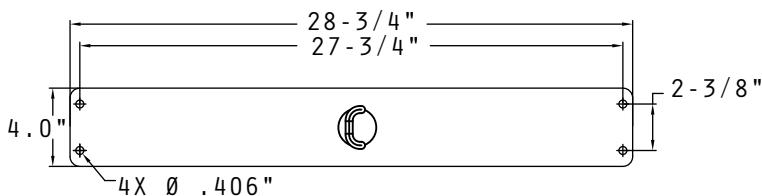
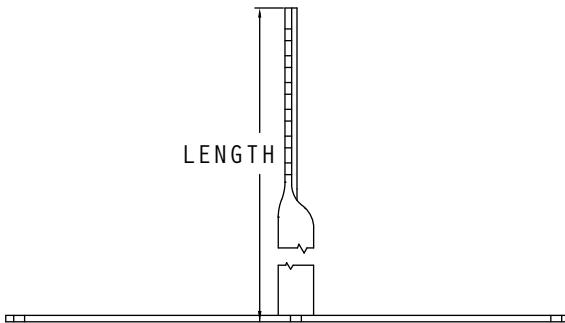
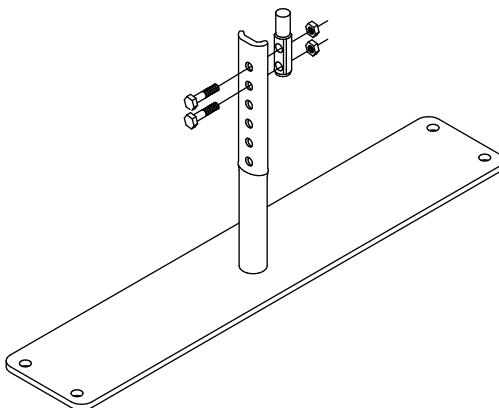
CARGO / GARAGE LIGHT
WELD STUD (BOLT ON) TYPE



AVAILABLE FROM 9" TO 48"	
STEEL	
90 DEGREE MOUNT	45 DEGREE MOUNT
EFP6B07S - EFP6B48S	EFP6B07S4 - EFP6B48S4
LIGHT FIXTURE NO.	
LXACRS10MT	

LIGHT LEG

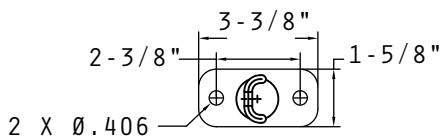
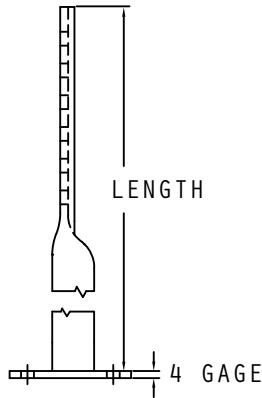
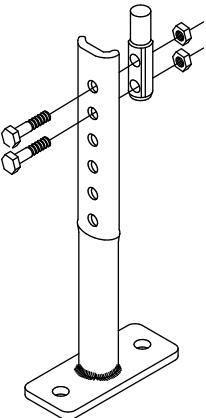
WELD STUD TYPE



AVAILABLE IN 9", 12", 18", 24", 30", 48"
STEEL
90 DEGREE MOUNT
EFG5B09S - EFG5B48S
45 DEGREE MOUNT
EFG5B09S4 - EFG5B48S4

LIGHT LEG

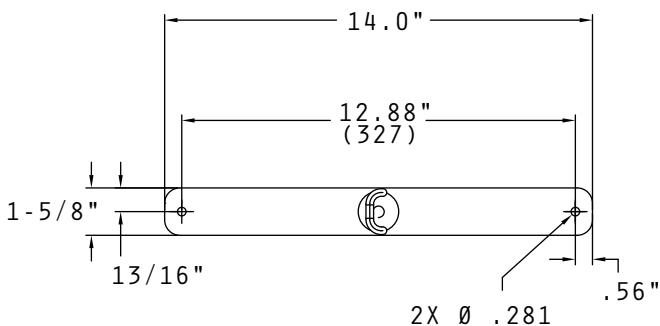
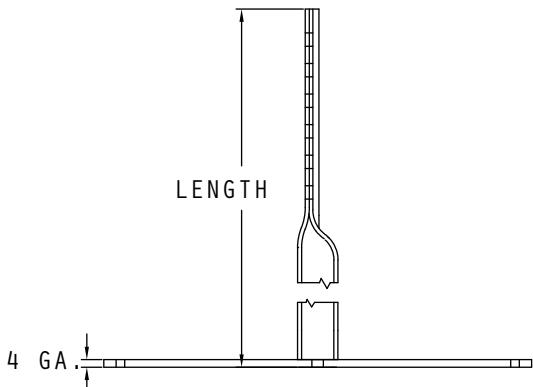
WELD STUD TYPE



AVAILABLE IN 9" AND 6" INCREMENTS FROM 12" TO 48"	
STEEL	
90 DEGREE MOUNT	45 DEGREE MOUNT
EFL1B0225S - EFL1B1200S	EFL1B0225S4 - EFL1B1200S4

LIGHT LEG

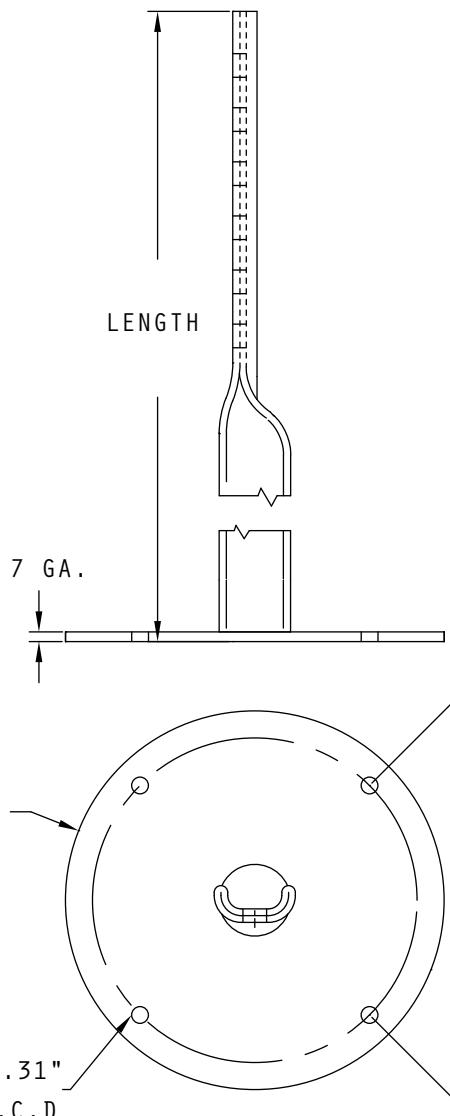
WELD STUD TYPE



AVAILABLE IN 9" AND 6" INCREMENTS FROM 12" TO 24"
STEEL
90 DEGREE MOUNT
EF51B09S - EF51B24S

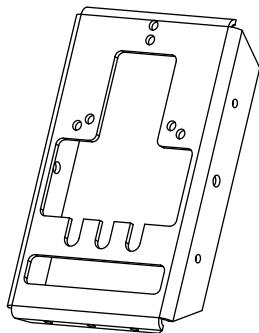
LIGHT LEG

WELD STUD TYPE

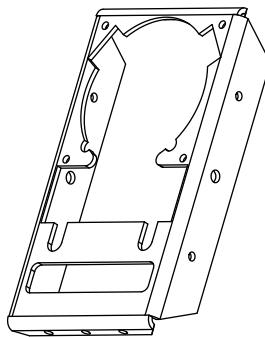


AVAILABLE IN 9" AND 6" INCREMENTS FROM 12" TO 24"
STEEL
90 DEGREE MOUNT
EF52B09S - EF52B24S

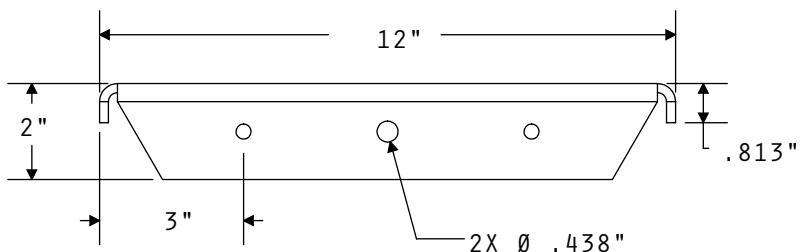
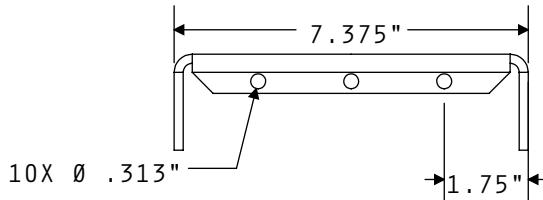
GAGE BOARD



GB-01S



GB-08S



AVAILABLE IN 2 CONFIGURATIONS

STEEL

GB-01S

GB-08S

EMI BONDING HARDWARE

RESEARCH TOOL & DIE WORKS

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EMI BONDING HARDWARE



EMI CONDUIT ADAPTER

7RTAXXB - 7RTNAAXXB BRASS
7RTAXXA - 7RTNAAXXA ALUMINUM
7RTAXXC - 7RTNAAXXC STAINLESS

P. 7-3



BOND STRAPS

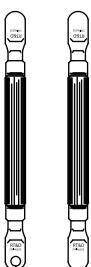
MIL-DTL-24749 REV A

TYPE II AND
TYPE III

MIL-STD-1310 REV E
TYPE III

T203 - T212 STAINLESS
T303 - T312 COPPER

P. 7-7



BOND STRAPS

MIL-STD-1310 REV E
TYPE I AND TYPE II

T1A06A - T1A18A BOTH LUGS ALUMINUM
T1A06S - T1A18S 1 LUG ALUMINUM / 1 LUG STAINLESS
T1S06S - T1S18S BOTH LUGS STAINLESS

P. 7-4



BOND STRAPS

MIL-STD-1310 REV E
EMI SILENCER

SST-8316, SST-8315 STAINLESS
SSA-8316, SSA-8315 ALUMINUM

P. 7-5



BOND STRAPS

MIL-DTL-24749 REV A
TYPE 1

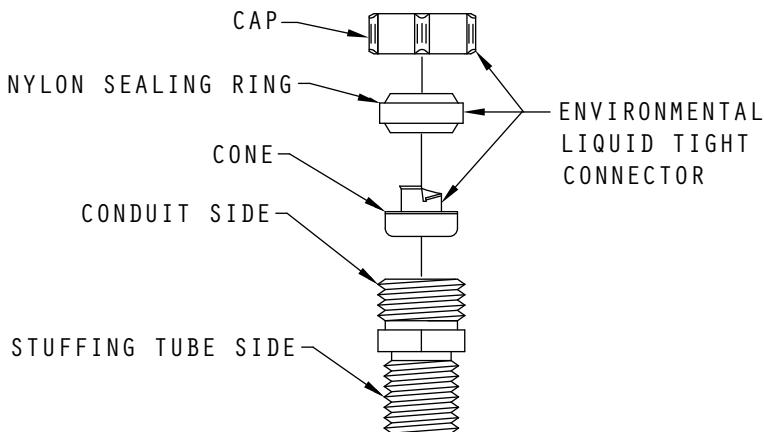
T1GXX STRAP STAINLESS
T1GCB BOSS BIMETALLIC
T1GCC BOSS STAINLESS
T1GXCC - T1GXBB ASSEMBLY

P. 7-6

EMI BONDING HARDWARE

NOTES:

EMI CONDUIT ADAPTER



MIL-STD-1310E
ADDITIONAL SIZES AVAILABLE UPON REQUEST

BRASS	ALUMINUM	STAINLESS	TUBE SIZE	CONDUIT SIZE
7RTA038B	7RTA038A	7RTA038C	A	3/8"
7RTB038B	7RTB038A	7RTB038C	B	3/8"
7RTB050B	7RTB050A	7RTB050C	B	1/2"
7RTC050B	7RTC050A	7RTC050C	C	1/2"
7RTC075B	7RTC075A	7RTC075C	C	3/4"
7RTD075B	7RTD075A	7RTD075C	D	3/4"
7RTD100B	7RTD100A	7RTD100C	D	1"
7RTE075B	7RTE075A	7RTE075C	E	3/4"
7RTF100B	7RTF100A	7RTF100C	F	1"
7RTG100B	7RTG100A	7RTG100C	G	1"
7RTG125B	7RTG125A	7RTG125C	G	1-1/4"
7RTJ100B	7RTJ100A	7RTJ100C	J	1"
7RTJ125B	7RTJ125A	7RTJ125C	J	1-1/4"
7RTJ150B	7RTJ150A	7RTJ150C	J	1-1/2"
7RTK125B	7RTK125A	7RTK125C	K	1-1/4"
7RTL125B	7RTL125A	7RTL125C	L	1-1/4"
7RTM125B	7RTM125A	7RTM125C	M	1-1/4"
7RTM150B	7RTM150A	7RTM150C	M	1-1/2"
7RTM200B	7RTM200A	7RTM200C	M	2"
7RTN150B	7RTN150A	7RTN150C	N	1-1/2"
7RTN200B	7RTN200A	7RTN200C	N	2"
7 RTP150B	7 RTP150A	7 RTP150C	P	1-1/2"
7 RTP200B	7 RTP200A	7 RTP200C	P	2"
7RTS200B	7RTS200A	7RTS200C	S	2"
7RTW250B	7RTW250A	7RTW250C	W	2-1/2"
7RTX300B	7RTX300A	7RTX300C	X	3"
7RTAA300B	7RTAA300A	7RTAA300C	AA	3"

BOND STRAPS

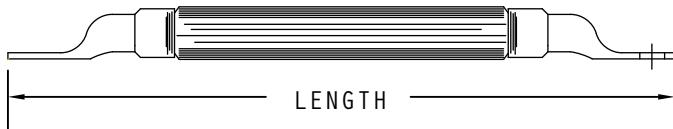
MIL-STD-1310 REV E
TYPE I AND TYPE II



TYPE I
NO HOLE



TYPE II
ONE HOLE



CATALOG NUMBERING SYSTEM MIL-STD-1310 REV E
TYPE 1 AND TYPE 2 BONDING STRAP

T1 A 10 S (HOLE IN THIS END)

 | "S" INDICATES STAINLESS
 | "A" INDICATES ALUMINUM
 | LENGTH OF STRAP

 | "S" INDICATES STAINLESS
 | "A" INDICATES ALUMINUM

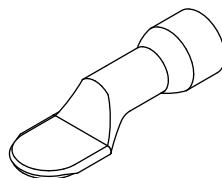
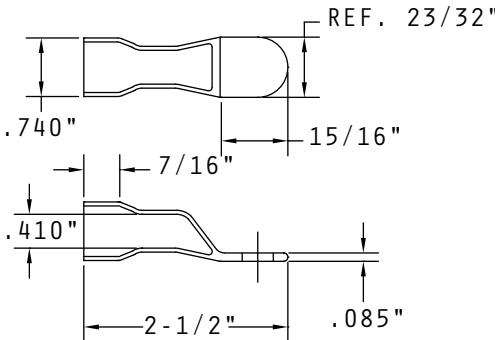
 | T1 INDICATES TYPE I - NO HOLE
 | T2 INDICATES TYPE II - ONE HOLE

BOND STRAPS ARE MADE WITH TRXF84 CABLE
ADDITIONAL LENGTHS AVAILABLE

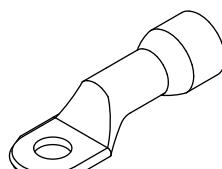
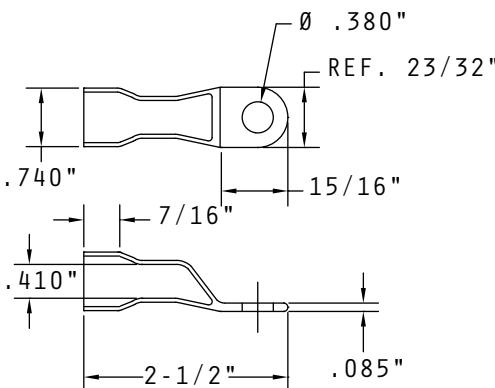
AVAILABLE FROM 6" TO 18"		
BOTH LUGS ALUMINUM	1 ALUMINUM / 1 STAINLESS	BOTH LUGS STAINLESS
T1A06A - T2A18A	T1A06S - T2A18S	T1S06S - T2S12S

BOND STRAPS

MIL-STD-1310 REV E
EMI SILENCER



STAINLESS - NO HOLE	ALUMINUM - NO HOLE
SST-8316	SSA-8316

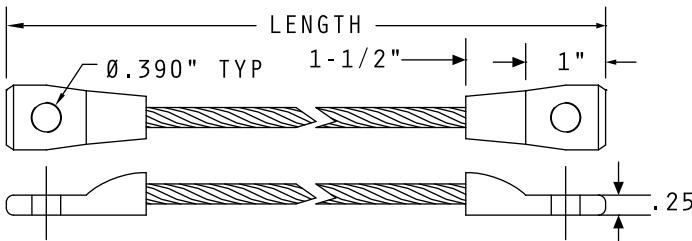


STAINLESS - WITH HOLE	ALUMINUM - WITH HOLE
SST-8315	SSA-8315

BOND STRAPS

MIL-DTL-24749 REV A

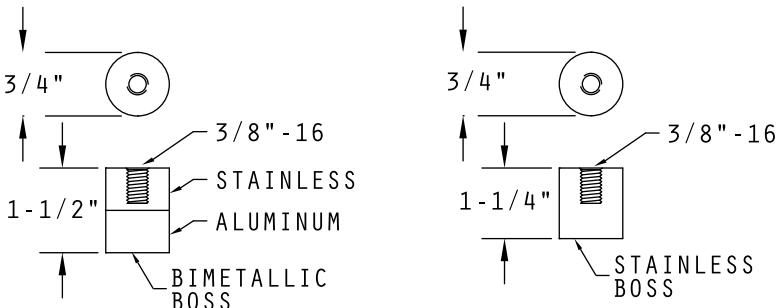
TYPE I



AVAILABLE IN 1" INCREMENTS IN ANY LENGTH

STAINLESS

T1GXX (XX = LENGTH)

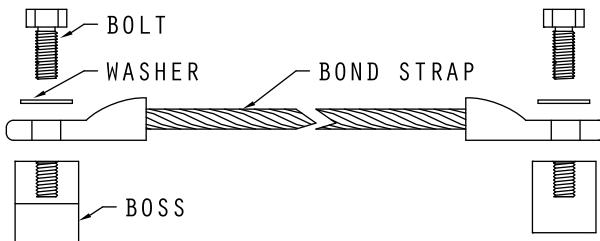


BIMETALLIC BOSS

STAINLESS BOSS

T1GCB

T1GCC

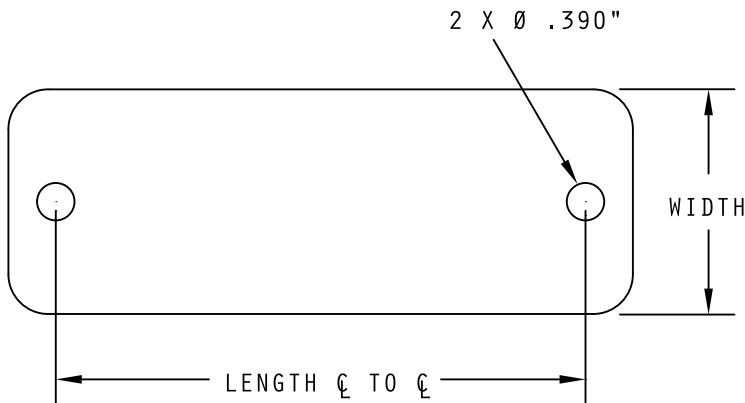


PART NUMBER	COMPONENTS
T1GXXCC	STRAP, 2 STAINLESS BOSSES INCLUDES HARDWARE
T1GXXCB	STRAP, 1 STAINLESS BOSS, 1 BIMETALLIC BOSS INCLUDES HARDWARE
T1GXXBB	STRAP, 2 BIMETALLIC BOSSES INCLUDES HARDWARE
T1GHDW	STAINLESS BOLT, STAINLESS WASHER

BOND STRAPS

MIL-DTL-24749 REV A
TYPE II AND TYPE III

MIL-STD-1310 REV E
TYPE III



NOTE: MIL-S-1310E REV A TYPE III COPPER BOND STRAP IS ZINC PLATED

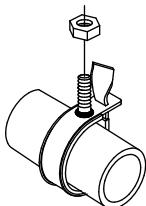
MIL-DTL-24749 REV A TYPE 2			MIL-DTL-24749 REV A TYPE 3		
STAINLESS			COPPER		
PART NUMBER	LENGTH	WIDTH	PART NUMBER	LENGTH	WIDTH
T203	3"	1"	T303	3"	1"
T206	6"	1 1/2"	T306	6"	1 1/2"
T209	9"	2"	T309	9"	2"
T212	12"	2 1/2"	T312	12"	2 1/2"

PIPE AND VENTILATION SUPPORT

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
WWW.RTND.COM EMAIL CUSTSERV@RTND.COM

PIPE AND VENTILATION



KEY LOCK
PIPE HANGER
STUD MOUNT
PHK025S - PHK300S STEEL

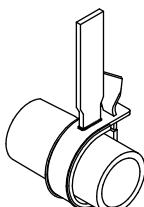
P. 8-3



LEG SUPPORT

EFBB24SA - EFBB36SA STEEL

P. 8-7



KEY LOCK
PIPE HANGER
WELD MOUNT
PWK025S - PWK300S STEEL

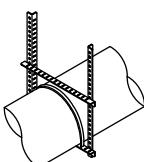
P. 8-4



HANGER LEG SUPPORT
HEAVY DUTY
WELD STUD TYPE

SPB10S - SPB36S STEEL

P. 8-8



HVAC DUCTING
HANGER
QHVAC36 STEEL

P. 8-5



HANGER LEG SUPPORT
HEAVY DUTY
WELD STUD TYPE

EFS112B - EFS148B STEEL
EFS212B - EFS248B STEEL

P. 8-6

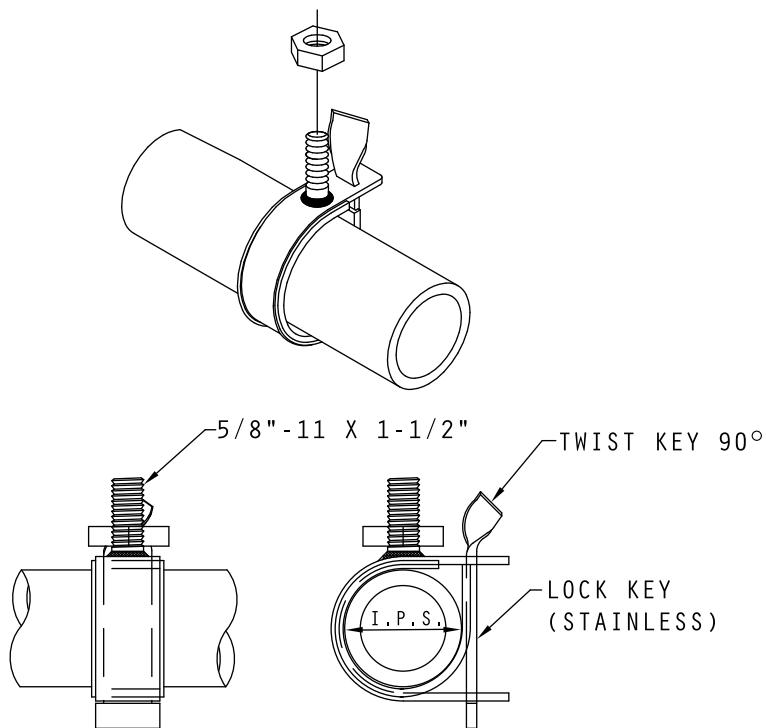
PIPE AND VENTILATION SUPPORT

NOTES:

KEY LOCK PIPE HANGER

STUD MOUNT

USED WITH EFS2XXB (PAGE 8-6)
OR SPBXXS (PAGE 8-8)

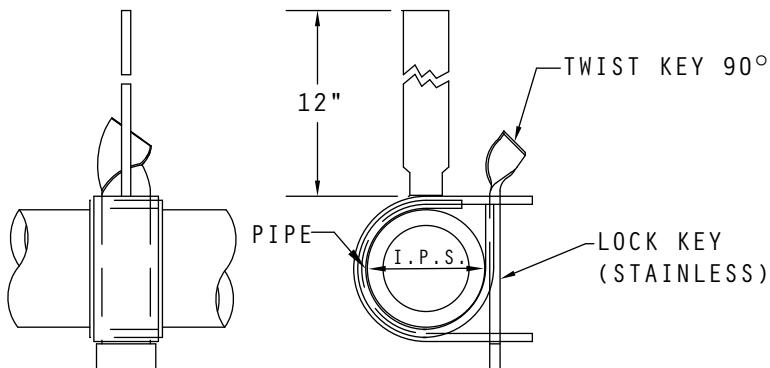
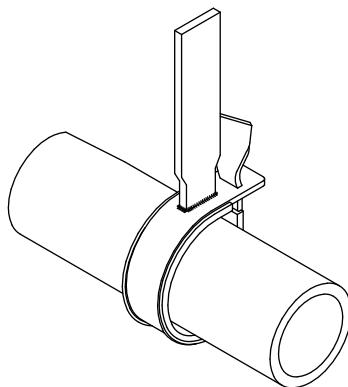


LINER NOT INCLUDED

STEEL	
PART NUMBER	I.P.S. SIZE
PHK025S	1/4"
PHK038S	3/8"
PHK050S	1/2"
PHK075S	5/4"
PHK100S	1"
PHK125S	1 1/4"
PHK150S	1 1/2"
PHK200S	2"
PHK250S	2 1/2"
PHK300S	3"

KEY LOCK PIPE HANGER

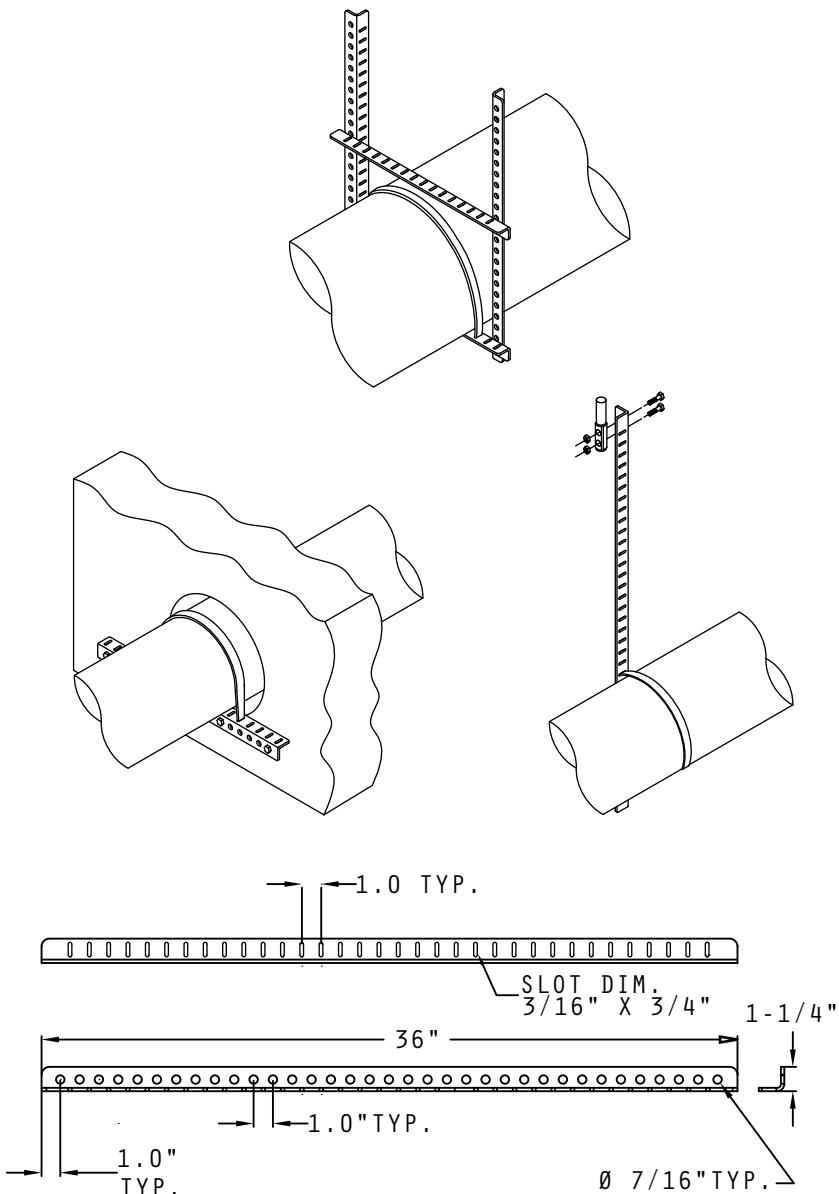
WELD MOUNT



LINER NOT INCLUDED

STEEL	
PART NUMBER	I.P.S. SIZE
PWK025S	1/4"
PWK038S	3/8"
PWK050S	1/2"
PWK075S	5/8"
PWK100S	1"
PWK125S	1 1/4"
PWK150S	1 1/2"
PWK200S	2"
PWK250S	2 1/2"
PWK300S	3"

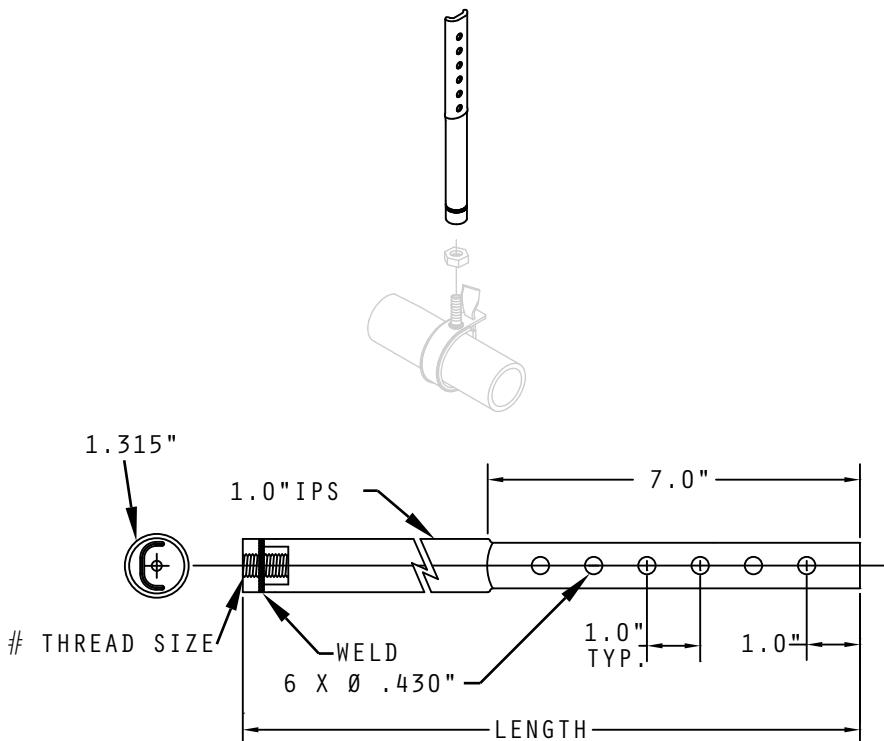
HVAC DUCTING HANGER



STEEL
PART NUMBER
QHVAC36

HANGER LEG SUPPORT

HEAVY DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

EF S # ** B

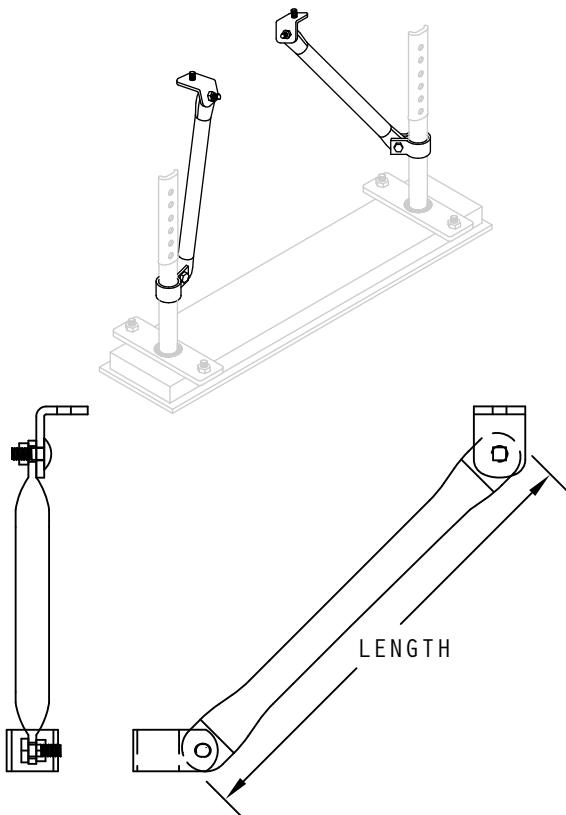


ADDITIONAL LENGTHS AND MATERIALS AVAILABLE

AVAILABLE IN 6" INCREMENTS FROM 12" TO 48"	
STEEL	
PART NUMBER	THREAD SIZE
EFS112B - EFS148B	I.P.S 1.0" PIPE THREAD
EFS212B - EFS248B	5/8" - 11 U.N.C.

LEG SUPPORT

BOLT ON BRACE



CATALOG NUMBERING SYSTEM

(FOR EACH BRACE)

SAMPLE CATALOG NUMBER:

EF BB ** S A

L = COMPLETE W/ANGLE AND CLIP
S = STEEL
LENGTHS AVAILABLE
BOLT ON BRACE

ADDITIONAL LENGTHS AVAILABLE

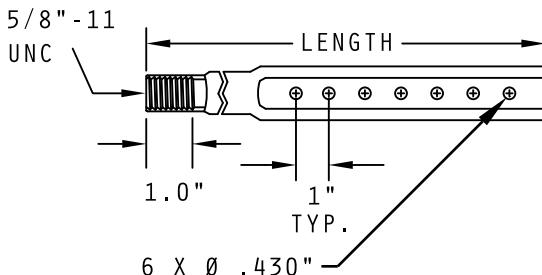
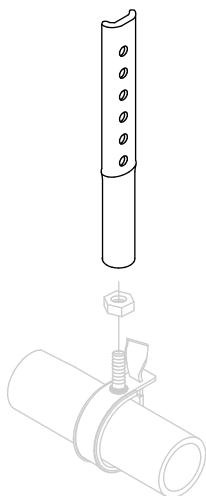
AVAILABLE IN 24", 30", AND 36"

STEEL

EFBB24SA - EFBB36SA

HANGER LEG SUPPORT

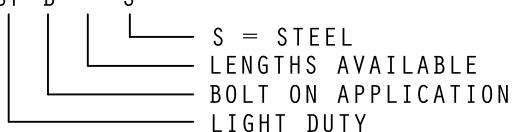
LIGHT DUTY WELD STUD (BOLT ON) TYPE



CATALOG NUMBERING SYSTEM (FOR EACH LEG)

SAMPLE CATALOG NUMBER:

SP B ** S



ADDITIONAL LENGTHS AND MATERIALS AVAILABLE

AVAILABLE FROM 10" TO 48"

STEEL

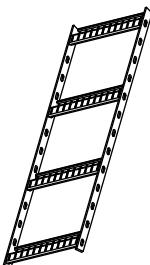
SPB10S - SPB48S

CABLE TRAYS AND RACKS

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
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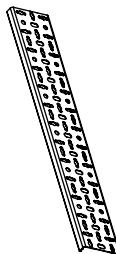
CABLE TRAYS AND RACKS



CABLE RACK
HEAVY DUTY
STRAIGHT

CTFXXX0900 - CTFXXX3000 FLUSH RAILS STEEL
CTFXXX0900M - CTFXXX3000M EXT. RAILS STEEL

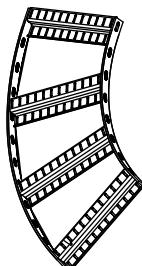
P. 9-3



CUT-TO-LENGTH
CABLE TRAY
HEAVY DUTY

CTRXX0600 - CTRXX3000 STEEL

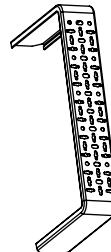
P. 9-7



CABLE RACK
HEAVY DUTY
FLAT BEND
 $30^\circ, 45^\circ, 60^\circ$

CTFXXX30 - CTFXXX60 STEEL

P. 9-4



CABLE TRAY
HEAVY DUTY
BENT

CTU011203 - CTU066017 STEEL

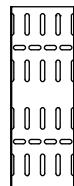
P. 9-8



CABLE RACK
HEAVY DUTY
FLAT BEND 90°

CTFRXXX300 - CTRFRXXX450 STEEL

P. 9-5



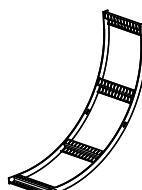
CABLE TRAY
LIGHT DUTY TROUGH

CTR20-050 - CTR20-200 STAINLESS

CTR20-050S - CTR20-200S STEEL

CTR20-050A - CTR20-200A ALUMINUM

P. 9-9



CABLE RACK
HEAVY DUTY
RISER BEND

CTFAXXX300 - CTFAXXX950 STEEL

P. 9-6



CABLE TRAY
TRough

CT04005030 - CT08015030 STEEL

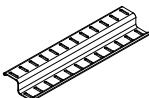
CT04005030S - CT08015030S STAINLESS

CT04005030A - CT08015030A ALUMINUM

P. 9-10

CONTINUED ON NEXT PAGE

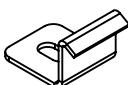
CABLE TRAYS AND RACKS



CUT-TO-LENGTH METRIC CROSSTIER

CTM200 - CTM3000 STEEL

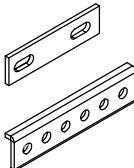
P. 9-11



CTF SERIES RACK MOUNTING CLIP

CTFCLP STEEL

P. 9-12



CTF SERIES RACK SPLICES

CTFSP160 STEEL
CTFSPxxxHD STEEL

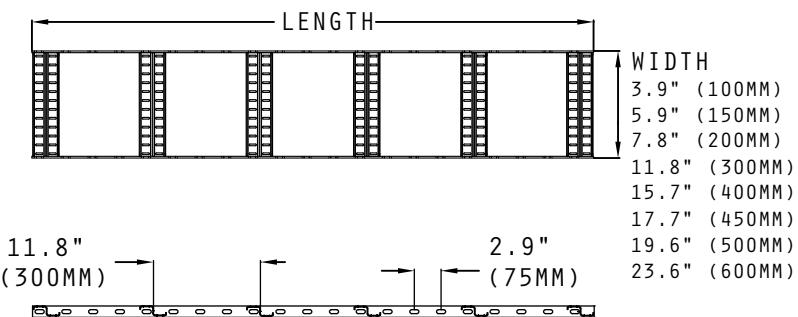
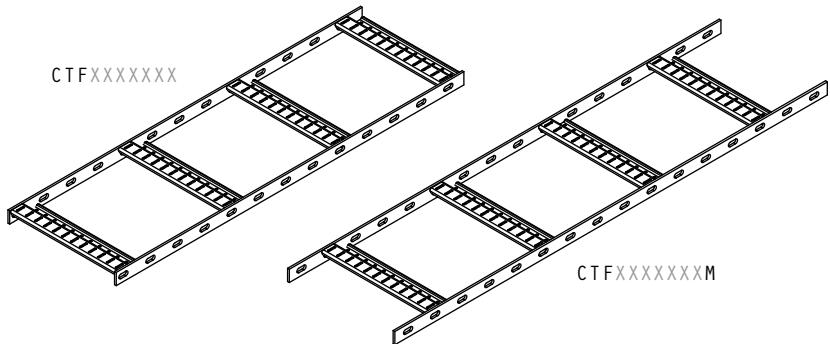
P. 9-13

CABLE TRAYS AND RACKS

NOTES:

CABLE RACK

STRAIGHT

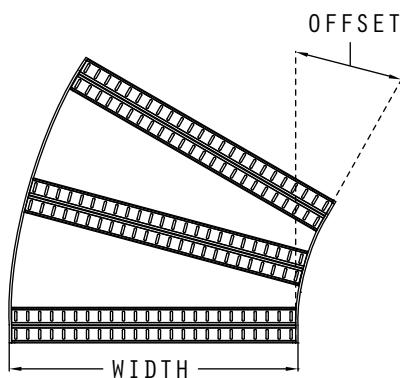
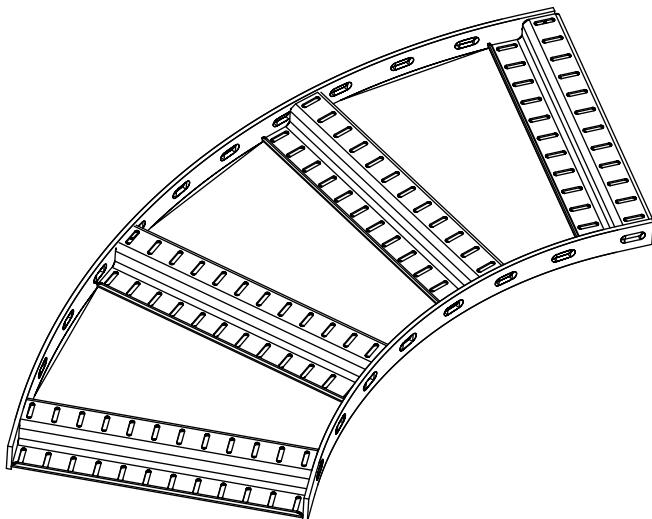


AVAILABLE WITH FLUSH OR EXTENDED SIDE RAILS

STEEL	
XXX = AVAILABLE WIDTHS OF 100 (3.9"), 150 (5.9"), 200 (7.8"), 300 (11.8"), 400 (15.7"), 450 (17.7"), 500 (19.6"), 600 (23.6")	
FLUSH SIDE RAILS	EXTENDED SIDE RAILS
PART NUMBER	LENGTH
CTFXXX0900	26.5"
CTFXXX1200	38.3"
CTFXXX1500	50.2"
CTFXXX1800	62.0"
CTFXXX2100	73.8"
CTFXXX2400	85.6"
CTFXXX2700	97.4"
CTFXXX3000	109.2"
CTFXXX0900M	35.4" (900MM)
CTFXXX1200M	47.2" (1200MM)
CTFXXX1500M	59.1" (1500MM)
CTFXXX1800M	70.9" (1800MM)
CTFXXX2100M	82.7" (2100MM)
CTFXXX2400M	94.5" (2400MM)
CTFXXX2700M	106.3" (2700MM)
CTFXXX3000M	118.1" (3000MM)

CABLE RACK

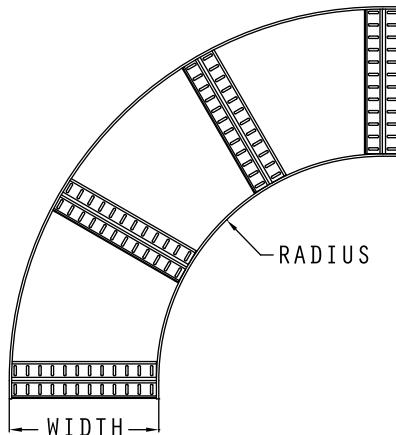
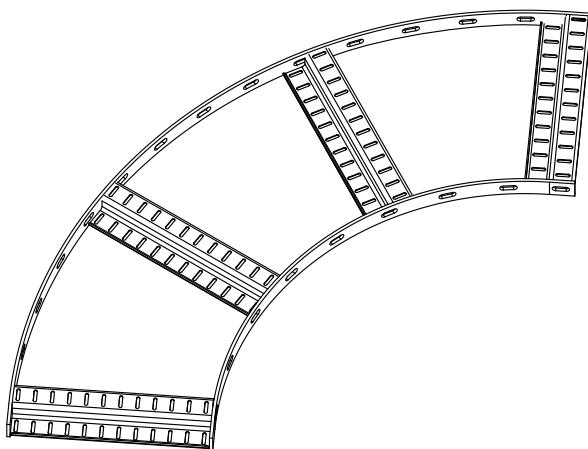
FLAT BEND 30°, 45°, 60°



STEEL	
XXX = AVAILABLE WIDTHS OF 300 (11.8"), 450 (17.7"), 600 (23.6")	
PART NUMBER	OFFSET
CTFXXX30	30°
CTFXXX45	45°
CTFXXX60	60°

CABLE RACK

FLAT BEND 90°



STEEL

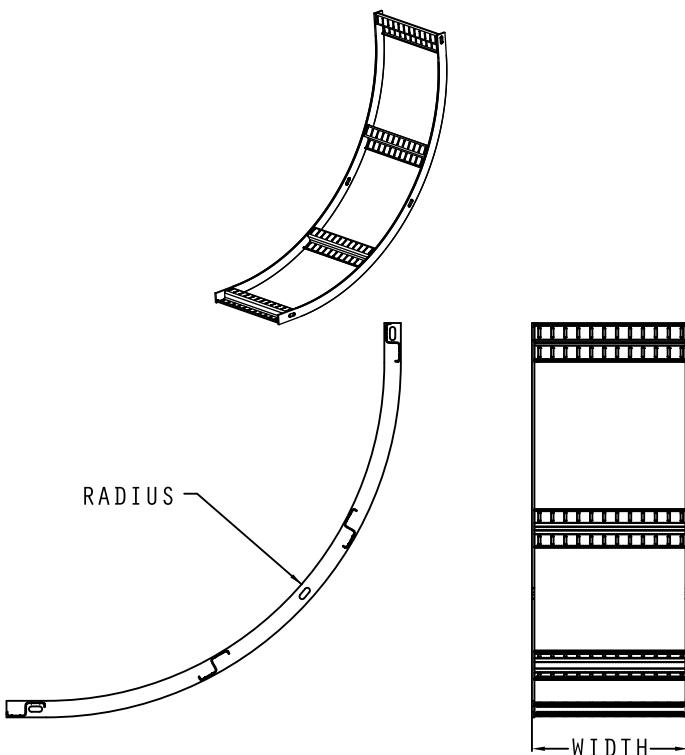
XXX = AVAILABLE WIDTHS OF

200 (7.9"), 300 (11.8"), 350 (13.8"), 450 (17.7"), 600 (23.6")

PART NUMBER	RADIUS
CTFRXXX300	300MM (11.8")
CTFRXXX450	450MM (17.7")

CABLE RACK

RISER BEND

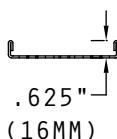
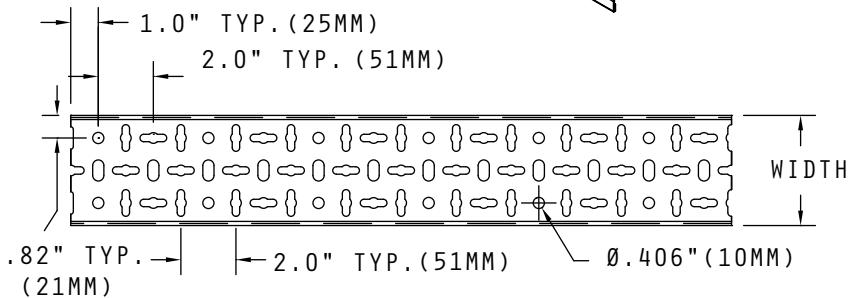
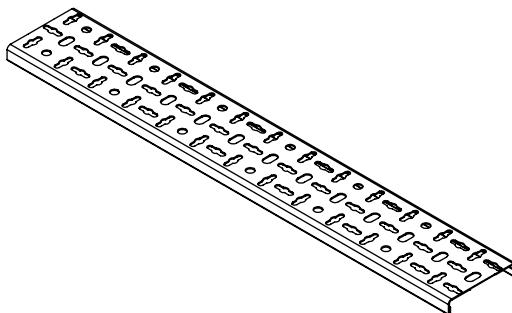


STEEL	
XXX = AVAILABLE WIDTHS OF 300 (11.8"), 450 (17.7"), 600 (23.6")	
PART NUMBER	RADIUS
CTFAXXX300	300MM (11.8")
CTFAXXX450	450MM (17.7")
CTFAXXX550	550MM (21.7")
CTFAXXX575	575MM (22.6")
CTFAXXX650	650MM (25.5")
CTFAXXX700	700MM (27.6")
CTFAXXX750	750MM (29.5")
CTFAXXX825	825MM (32.5")
CTFAXXX850	850MM (33.5")
CTFAXXX950	950MM (37.4")
NOTE:	
300MM (11.8") WIDE RACKS ONLY AVAILABLE WITH RADIUS UP TO 700MM (27.6")	
450MM (17.7") WIDE RACKS ONLY AVAILABLE WITH RADIUS UP TO 750MM (29.5")	

CUT - TO - LENGTH

CABLE TRAY

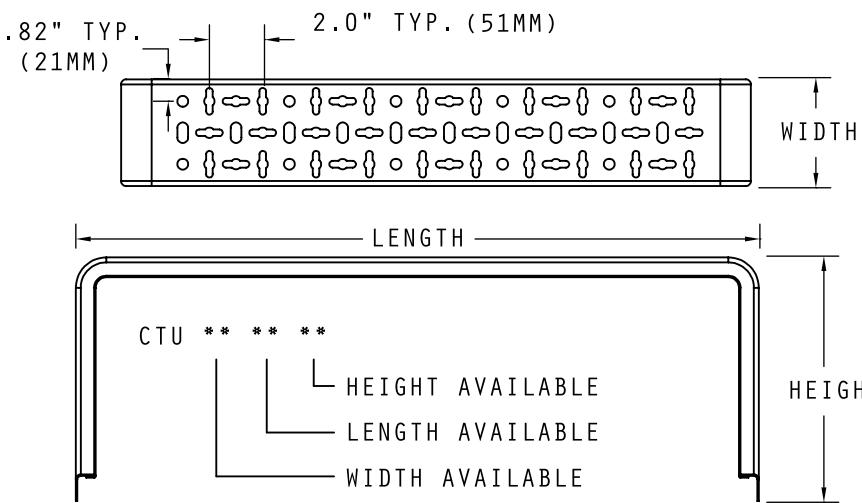
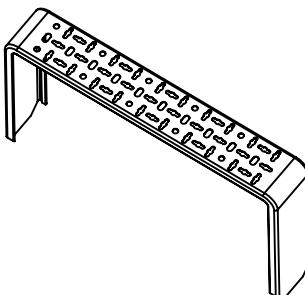
HEAVY DUTY TRAY



STEEL	
XX = AVAILABLE WIDTHS OF 1.6", 4", 6", 8", 12"	
PART NUMBER	LENGTH
CTRXX0600	24" (600MM)
CTRXX1000	40" (1000MM)
CTRXX1500	60" (1500MM)
CTRXX2000	80" (2000MM)
CTRXX2500	96" (2500MM)
CTRXX2850	112" (2850MM)
CTRXX3000	118" (3000MM)

CABLE TRAY

HEAVY DUTY BENT TRAY

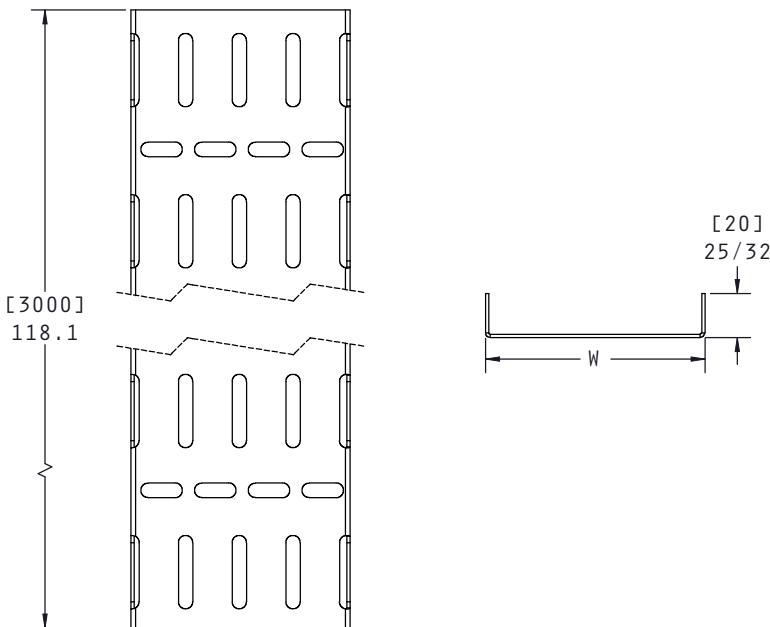
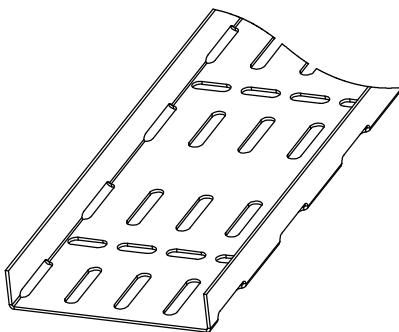


MINIMUM ORDER QUANTITY APPLICABLE

STEEL		
AVAILABLE WIDTHS OF 1.6" (40MM), 4" (100MM), AND 6" (150MM)		
AVAILABLE LENGTHS OF 12"(300MM), 24"(600MM), 40"(1000MM), 60"(1500MM) AND 80"(2000MM) *ALL LENGTHS <i>NOT</i> AVAILABLE IN ALL SIZES		
AVAILABLE HEIGHTS OF 2" (50MM), 4" (100MM), 6" (150MM), 8" (200MM), 12" (300MM), AND 17.5" (450MM)		
1.6" (40MM) WIDE PART NUMBER	4" (100MM) WIDE PART NUMBER	6" (150MM) WIDE PART NUMBER
CTU011202 - CTU014017	CTU041202 - CTU048017	CTU061202 - CTU066017

CABLE TRAY

LIGHT DUTY TROUGH STYLE

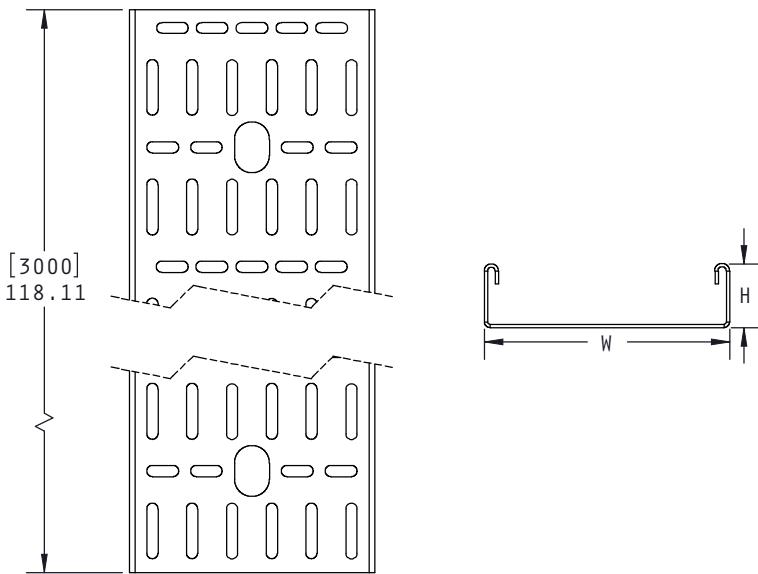
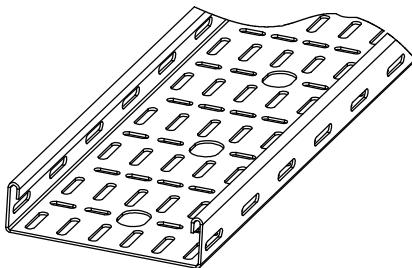


ADDITIONAL HEIGHTS AND WIDTHS AVAILABLE ON REQUEST
MINIMUM ORDER QUATITIES MAY APPLY

PART NUMBER			WIDTH
STAINLESS	STEEL	ALUMINUM	
CTR20-050	CTR20-050S	CTR20-050A	1.969" (50MM)
CTR20-100	CTR20-100S	CTR20-100A	3.937" (100MM)
CTR20-150	CTR20-150S	CTR20-150A	5.906" (150MM)
CTR20-200	CTR20-200S	CTR20-200A	7.874" (200MM)
CTR20-300	CTR20-300S	CTR20-300A	11.811" (300MM)

CABLE TRAY

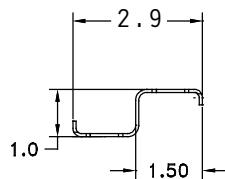
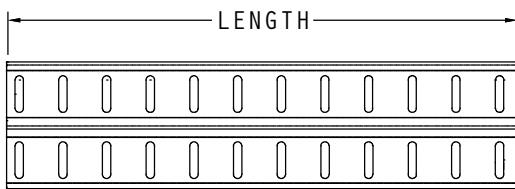
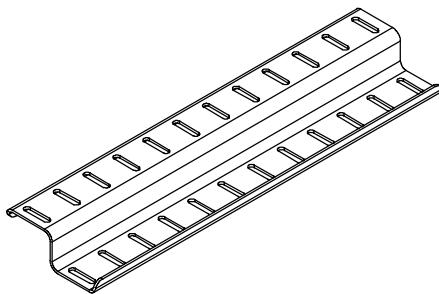
THROUGH STYLE



ADDITIONAL HEIGHTS AND WIDTHS AVAILABLE ON REQUEST
MINIMUM ORDER QUATITIES MAY APPLY

PART NUMBER			H	W	L
STEEL	STAINLESS	ALUMINUM			
CT04005030	CT04005030S	CT04005030A	40MM	50MM	3000MM
CT04010030	CT04010030S	CT04010030A	40MM	100MM	3000MM
CT04015030	CT04015030S	CT04015030A	40MM	150MM	3000MM
CT08005030	CT08005030S	CT08005030A	80MM	50MM	3000MM
CT08010030	CT08010030S	CT08010030A	80MM	100MM	3000MM
CT08015030	CT08015030S	CT08015030A	80MM	150MM	3000MM

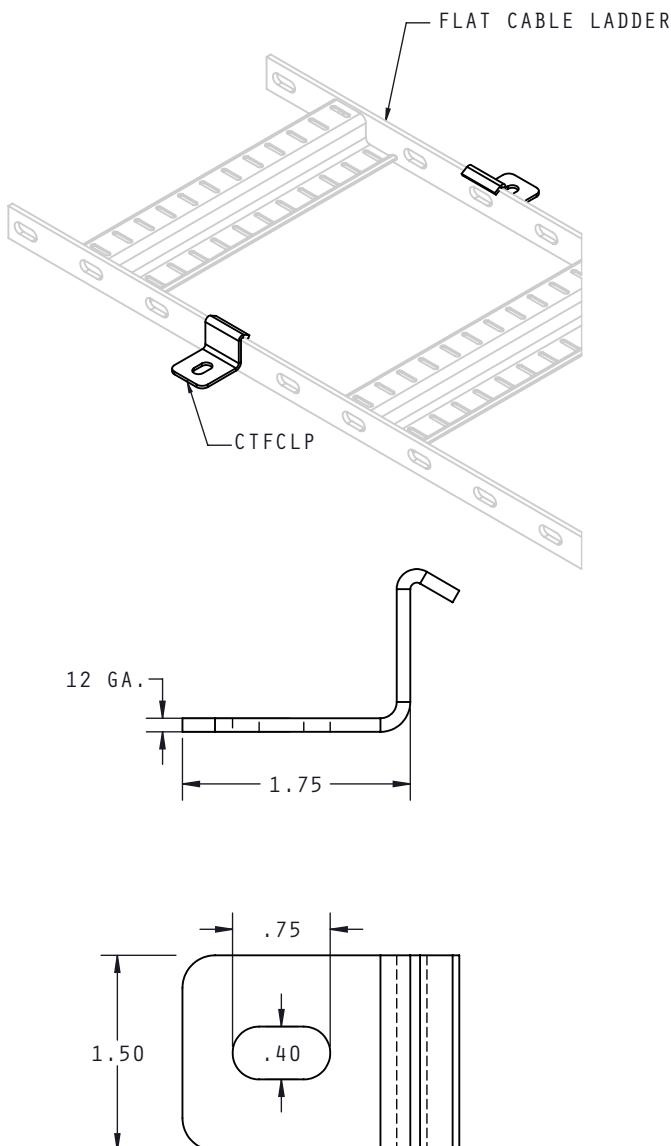
CUT - TO - LENGTH METRIC CROSSTIER



STEEL	
PART NUMBER	LENGTH
CTM200	200MM
CTM300	300MM
CTM400	400MM
CTM450	450MM
CTM500	500MM
CTM600	600MM
CTM3000	3000MM

MOUNTING CLIP

CTF SERIES RACK CLIP

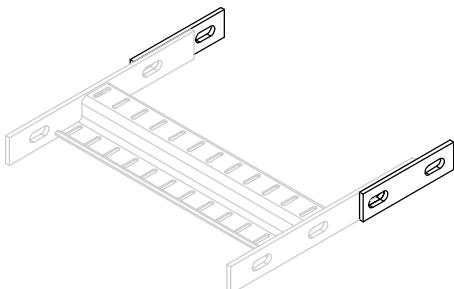


PART NUMBER
CTFCLP

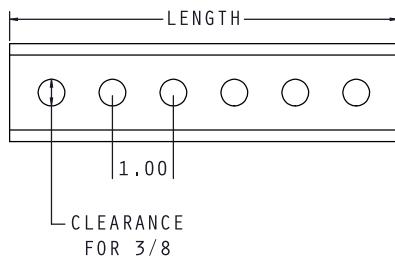
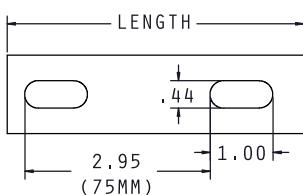
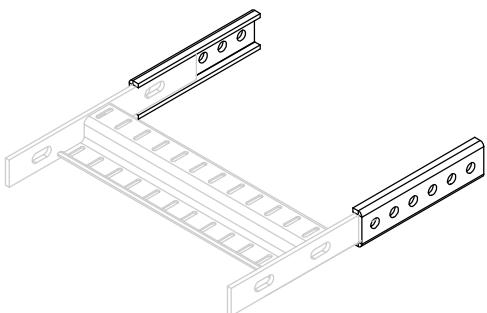
SPLICES

CTF SERIES RACK SPLICES

STANDARD SPLICE



HEAVY DUTY SPLICE



ADDITIONAL LENGTHS AVAILABLE

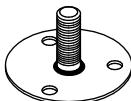
STEEL			
STANDARD SPLICE		HEAVY DUTY SPLICE	
PART NUMBER	LENGTH	PART NUMBER	LENGTH
CTFSP120	4.72" (120MM)	CTFSP160HD	6.4" (162MM)
		CTFSP200HD	8.4" (212MM)

ACCESSORIES

RESEARCH TOOL & DIE WORKS

17124 SOUTH KEEGAN AVE. CARSON, CA 90746
PH 310.639.5722 FX 310.639.9606
WWW.RTND.COM EMAIL CUSTSERV@RTND.COM

ACCESSORIES



STUD PLATE
3 HOLE MOUNT

RT138A10 - RT138A20-1 ALUMINUM
RT138C10 - RT138C20-1 STAINLESS

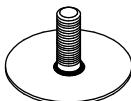
P. 10-3



SADDLES

S1025S - S3125ST STEEL
S1025A - S3125AT ALUMINUM
S1025SS - S3125SST STAINLESS

P. 10-8



STUD PLATE
GLUE MOUNT

CB138A10 - CB138A20-1 ALUMINUM
CB138C10 - CB138C20-1 STAINLESS

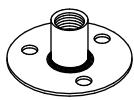
P. 10-4



THIMBLES

CM003069 - CM427800 COPPER

P. 10-9



TAPPED PAD PLATE
3 HOLE MOUNT

RT138AT1 - RT138AT2-1 ALUMINUM
RT138CT1 - RT138CT2-1 STAINLESS

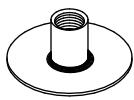
P. 10-5



TAPPED PADS

W1011/4 - W1031/2 ALUMINUM

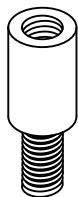
P. 10-10



TAPPED PAD PLATE
GLUE MOUNT

CB138ATP - CB438ATP ALUMINUM
CB138CTP - CB438CTP STAINLESS

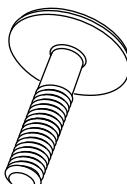
P. 10-6



STACKING STUD

PHS030S33 - PHS030S55 STEEL
PHS030C33 - PHS030C55 STAINLESS

P. 10-11



HONEYCOMB STUD

RB438C15 STAINLESS

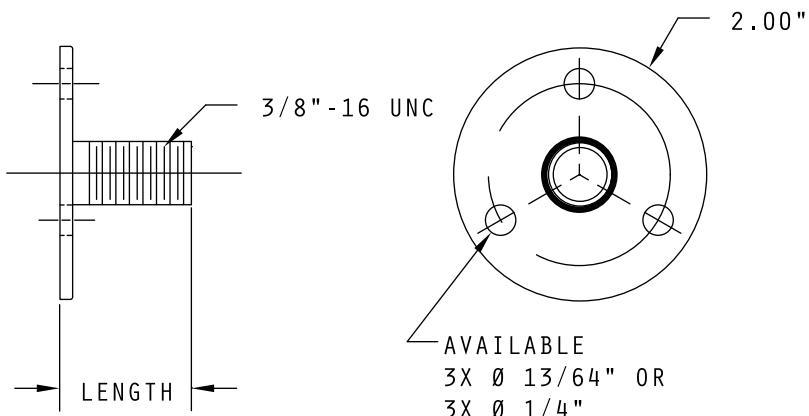
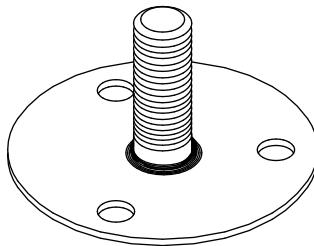
P. 10-7

ACCESSORIES

NOTES:

STUD PLATE

3 HOLE MOUNT

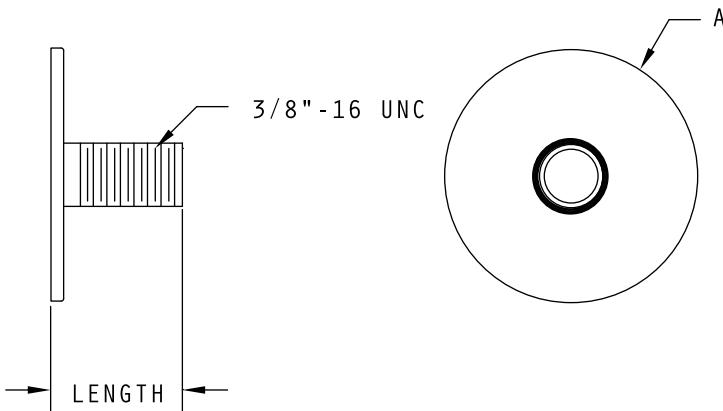
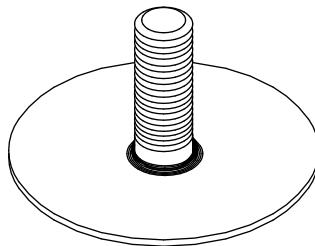


ADDITIONAL THREAD SIZE AND STUD DIAMETERS AVAILABLE

PART NUMBER			
ALUMINUM	STAINLESS	LENGTH	HOLE DIA.
RT138A10	RT138C10	1"	13/64"
RT138A15	RT138C15	1 1/2"	13/64"
RT138A20	RT138C20	2"	13/64"
RT138A10-I	RT138C10-I	1"	1/4"
RT138A15-I	RT138C15-I	1 1/2"	1/4"
RT138A20-I	RT138C20-I	2	1/4"

STUD PLATE

GLUE MOUNT



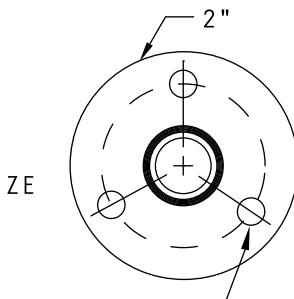
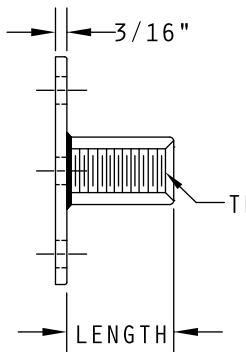
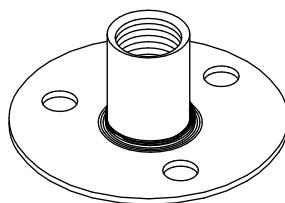
NO GLUE OR APPLICATOR INCLUDED WITH PART

ADDITIONAL THREAD SIZE AND STUD DIAMETERS AVAILABLE

PART NUMBER			
ALUMINUM	STAINLESS	LENGTH	A DIA.
CB138A10	CB138C10	1"	2"
CB138A15	CB138C15	1 1/2"	2"
CB138A20	CB138C20	2"	2"
CB438A10	CB438C10	1"	1 1/4"
CB438A15	CB438C15	1 1/2"	1 1/4"
CB438A20	CB438C20	2	1 1/4"

TAPPED PAD PLATE

THREE HOLE MOUNT



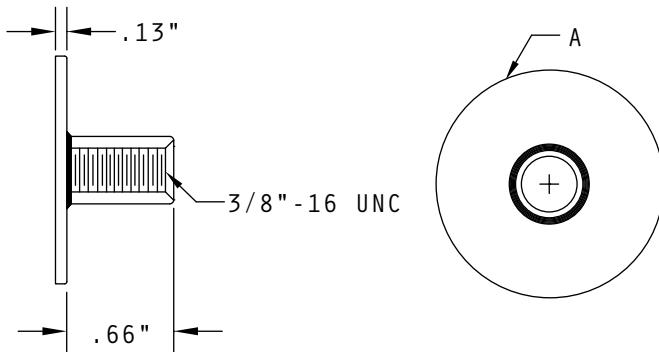
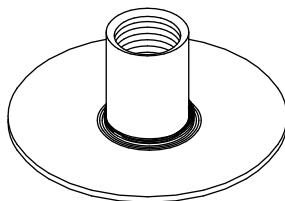
AVAILABLE
3X Ø 13/64"
OR 3X Ø 1/4"

ADDITIONAL THREAD SIZE AND TAPPED PAD DIAMETERS AVAILABLE

PART NUMBER				
ALUMINUM	STAINLESS	THREAD SIZE	LENGTH	HOLE DIA.
RT138AT1	RT138CT1	3/8" - 16	1"	13/64"
RT138AT2	RT138CT2	3/8" - 16	2"	13/64"
RT138AT1-I	RT138CT1-I	3/8" - 16	1"	1/4"
RT138AT2-I	RT138CT2-I	3/8" - 16	2"	1/4"

TAPPED PAD PLATE

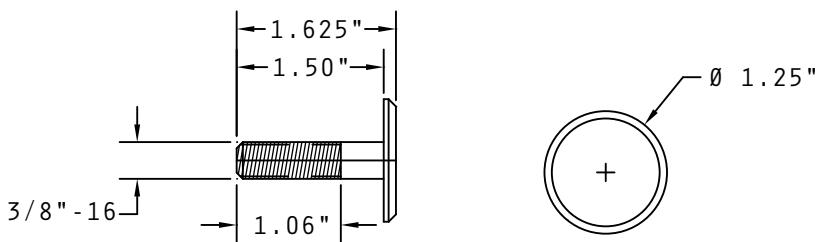
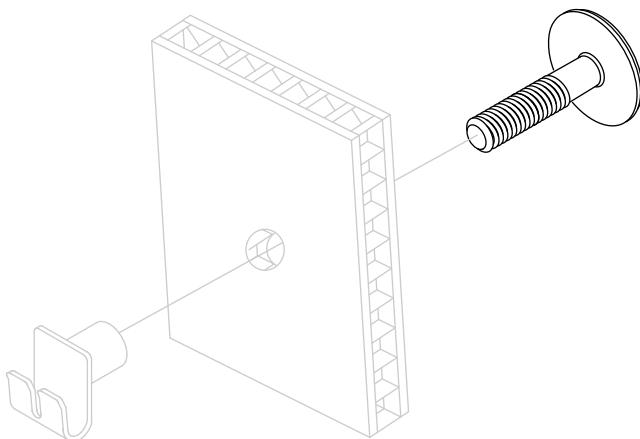
GLUE MOUNT



NO GLUE OR APPLICATOR INCLUDED WITH PART
ADDITIONAL THREAD SIZE AND DIAMETERS AVAILABLE

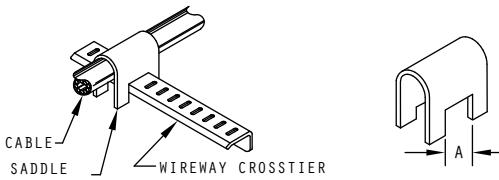
PART NUMBER		
ALUMINUM	STAINLESS	A DIA.
CB138ATP	CB138CTP	2"
CB438ATP	CB438CTP	1 1/4"

HONEYCOMB STUD



STAINLESS
RB438C15

SADDLES



SADDLE FOR NAVY STANDARD WIREWAY CROSSTIERS

A DIM - 1-13/16"				
STEEL	ALUMINUM	STAINLESS STEEL	NO. OF CABLES	DIA. OF CABLE
S1025S	S1025A	S1025SS	1	.25
S1050S	S1050A	S1050SS	1	.50
S1075S	S1075A	S1075SS	1	.75
S1100S	S1100A	S1100SS	1	1.00
S1125S	S1125A	S1125SS	1	1.25
S2025S	S2025A	S2025SS	2	.25
S2050S	S2050A	S2050SS	2	.50
S2075S	S2075A	S2075SS	2	.75
S2100S	S2100A	S2100SS	2	1.00
S2125S	S2125A	S2125SS	2	1.25
S3025S	S3025A	S3025SS	3	.25
S3050S	S3050A	S3050SS	3	.50
S3075S	S3075A	S3070SS	3	.75
S3100S	S3100A	S3100SS	3	1.00
S3125S	S3125A	S3125SS	3	1.25

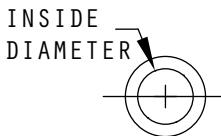
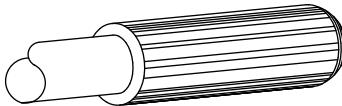
SADDLE FOR MOR, 9MAX, 3MAX, AND 9S CROSSTIERS

A DIM - 1-9/16"				
STEEL	ALUMINUM	STAINLESS STEEL	NO. OF CABLES	DIA. OF CABLE
S1025SM	S1025AM	S1025SSM	1	.25
S1050SM	S1050AM	S1050SSM	1	.50
S1075SM	S1075AM	S1075SSM	1	.75
S1100SM	S1100AM	S1100SSM	1	1.00
S1125SM	S1125AM	S1125SSM	1	1.25
S2025SM	S2025AM	S2025SSM	2	.25
S2050SM	S2050AM	S2050SSM	2	.50
S2075SM	S2075AM	S2075SSM	2	.75
S2100SM	S2100AM	S2100SSM	2	1.00
S2125SM	S2125AM	S2125SSM	2	1.25
S3025SM	S3025AM	S3025SSM	3	.25
S3050SM	S3050AM	S3050SSM	3	.50
S3075SM	S3075AM	S3070SSM	3	.75
S3100SM	S3100AM	S3100SSM	3	1.00
S3125SM	S3125AM	S3125SSM	3	1.25

SADDLE FOR T-BAR HANGER

A DIM - 1-3/16"				
STEEL	ALUMINUM	STAINLESS STEEL	NO. OF CABLES	DIA. OF CABLE
S1025ST	S1025AT	S1025SST	1	.25
S1050ST	S1050AT	S1050SST	1	.50
S1075ST	S1075AT	S1075SST	1	.75
S1100ST	S1100AT	S1100SST	1	1.00
S1125ST	S1125AT	S1125SST	1	1.25
S2025ST	S2025AT	S2025SST	2	.25
S2050ST	S2050AT	S2050SST	2	.50
S2075ST	S2075AT	S2075SST	2	.75
S2100ST	S2100AT	S2100SST	2	1.00
S2125ST	S2125AT	S2125SST	2	1.25
S3025ST	S3025AT	S3025SST	3	.25
S3050ST	S3050AT	S3050SST	3	.50
S3075ST	S3075AT	S3070SST	3	.75
S3100ST	S3100AT	S3100SST	3	1.00
S3125ST	S3125AT	S3125SST	3	1.25

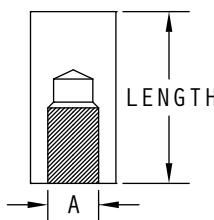
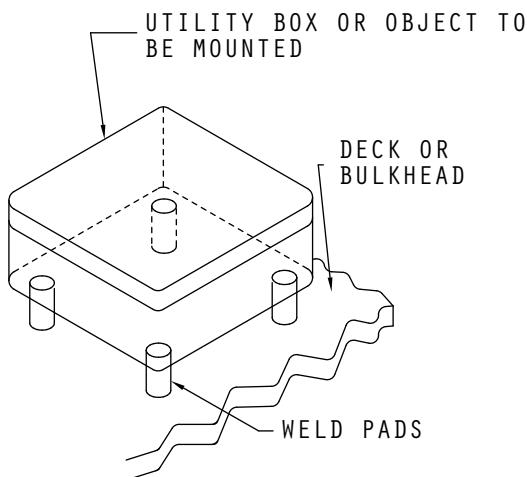
THIMBLES



ADDITIONAL SIZES AVAILABLE

PART NUMBER	SIZE OF CABLE (CIR. MILS.)	INSIDE DIAMETER	LENGTH
CM003069	3.000	.069	1
CM004084	4,000	.084	1
CM009116	9,000	.116	1
CM011124	10,380	.124	1
CM013138	13,090	.138	1-1/2
CM014144	14,000	.144	1-1/2
CM021172	20,820	.172	1-1/2
CM023179	23,000	.179	1-1/2
CM030210	30,000	.210	1-1/2
CM030229	33,090	.229	1-1/2
CM040234	40,000	.234	1-1/2
CM040247	41,740	.247	1-1/2
CM050262	50,000	.262	2
CM050268	52,620	.268	2
CM060290	60,000	.290	2
CM060308	66,360	.308	2
CM075325	75,000	.325	2
CM075340	83,690	.340	2
CM100371	100,000	.371	2
CM100381	105,600	.381	2
CM125415	125,000	.415	2
CM125427	133,100	.427	2
CM150465	150,000	.465	2
CM150478	167,800	.478	2
CM200522	200,000	.522	2
CM200536	211,600	.536	2
CM250585	250,000	.585	2-1/2
CM300636	300,000	.636	2-1/2
CM350693	350,000	.693	2-1/2
CM400750	400,000	.750	2-1/2
CM427800	427,000	.800	2-1/2

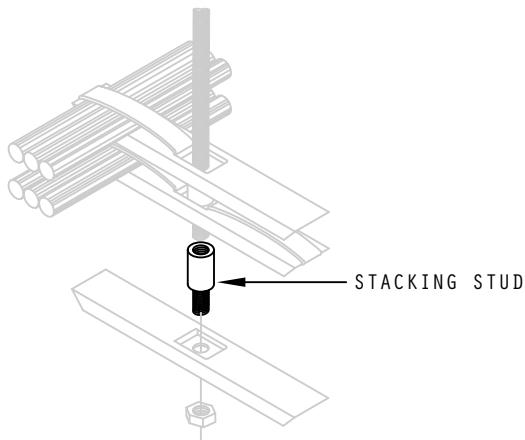
TAPPED PADS



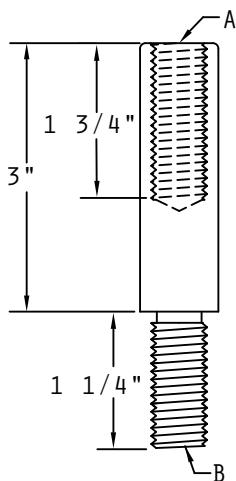
ADDITIONAL SIZES AND MATERIALS AVAILABLE

PART NUMBER		
ALUMINUM	LENGTH	A
W1001/4	3/8"	1/4" 20
W1003/8	1/2"	3/8" 16
W1001/2	5/8"	1/2" 13
W1011/4	1	1/4" 20
W1013/8	1	3/8" 16
W1011/2	1	1/2" 13
W1021/4	2	1/4" 20
W1023/8	2	3/8" 16
W1021/2	2	1/2" 13
W1031/4	3	1/4" 20
W1033/8	3	3/8" 16
W1031/2	3	1/2" 13

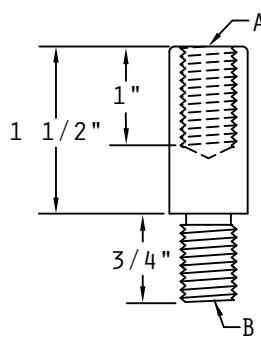
STACKING STUD



PHS030xxx



PHS015xxx



STACKING STUDS FOR ADDING MULTIPLE TIERS					
STEEL	STAINLESS	STEEL	STAINLESS	A	B
PHS030S33	PHS030C33	PHS015S33	PHS015C33	3/8-16	3/8-16
PHS030S53	PHS030C53	PHS015S53	PHS015C53	5/8-11	3/8-16
PHS030S55	PHS030C55	PHS015S55	PHS015C55	5/8-11	5/8-11