

IIHS SIDE IMPACT OUTRIGGER

This device was built by IIHS to be used in side impact tests of SUV's, pickups and minivans in the IIHS Vehicle Research Center. Substitutions of parts, materials or fabrication methods may be required to facilitate the requirements at other test laboratories.

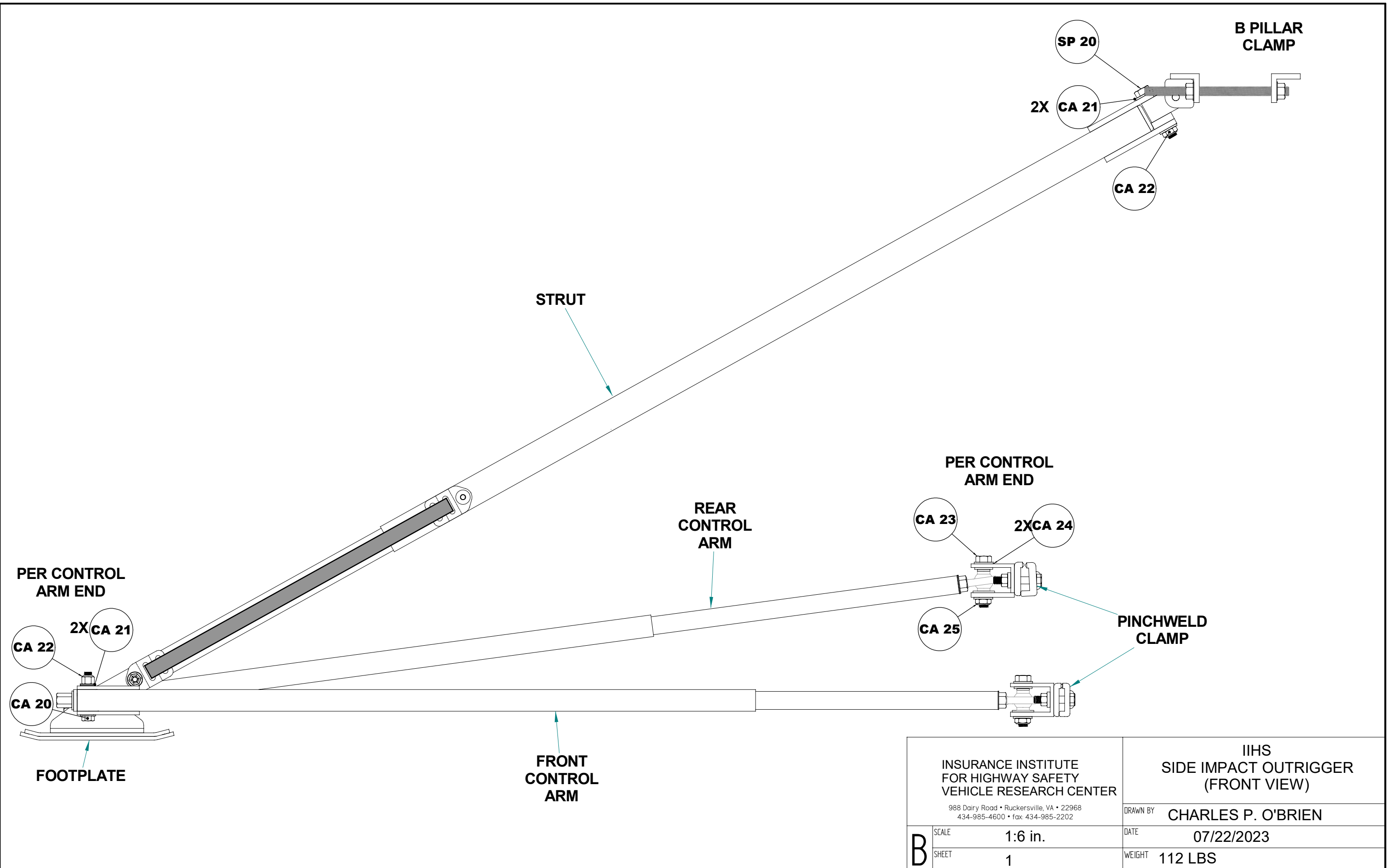


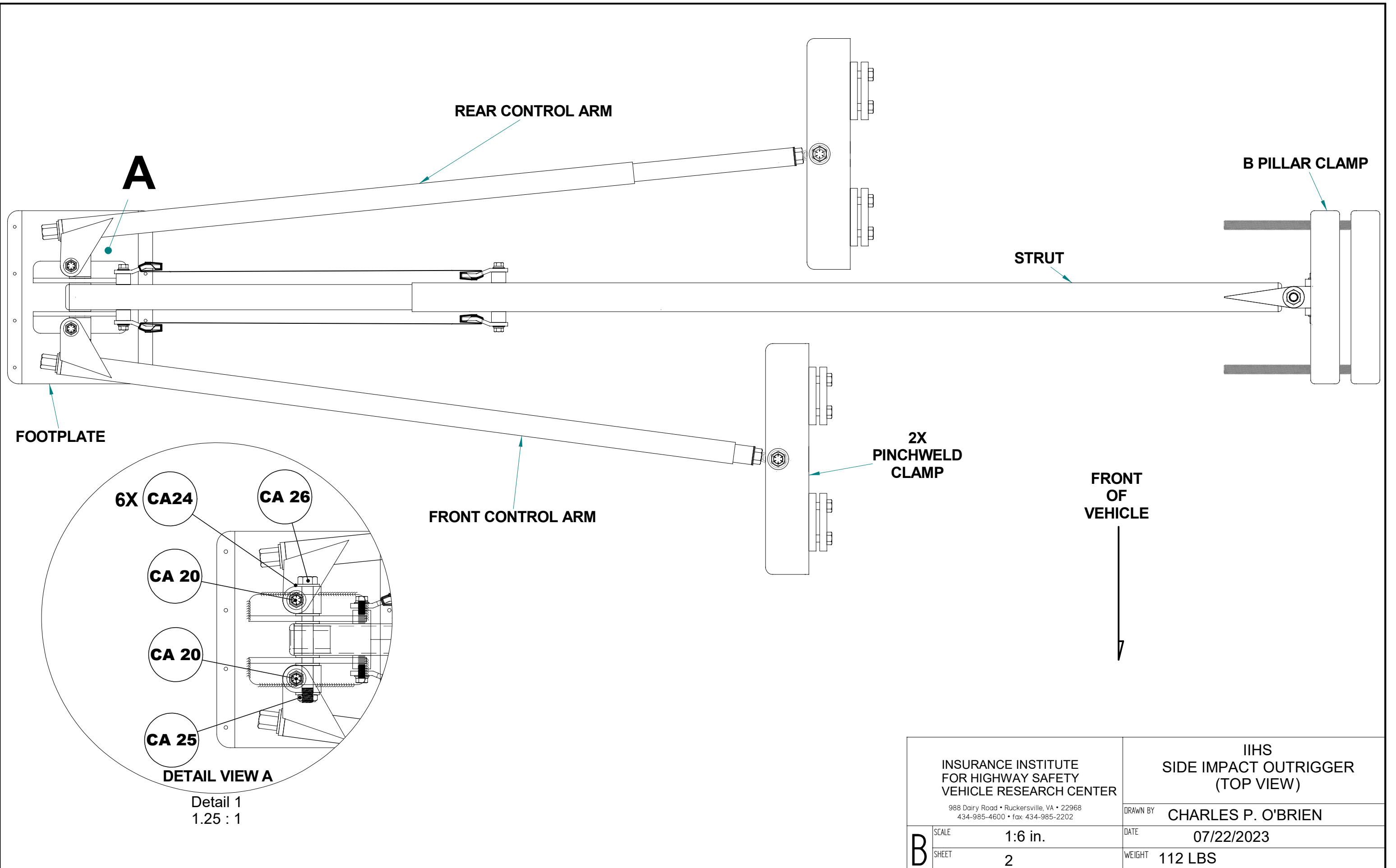
IIHS SIDE IMPACT OUTRIGGER DRAWINGS

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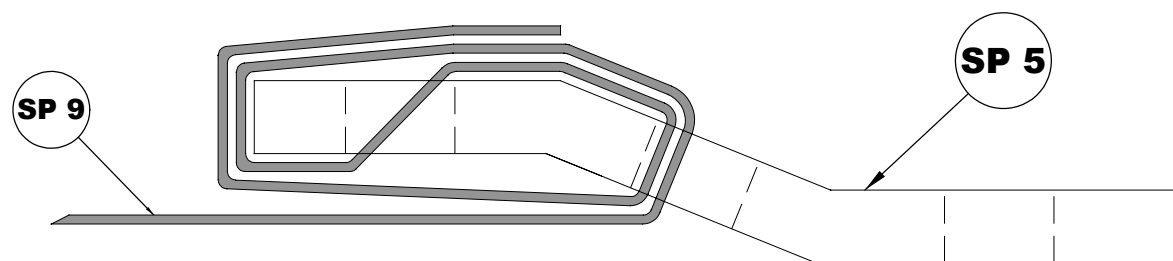
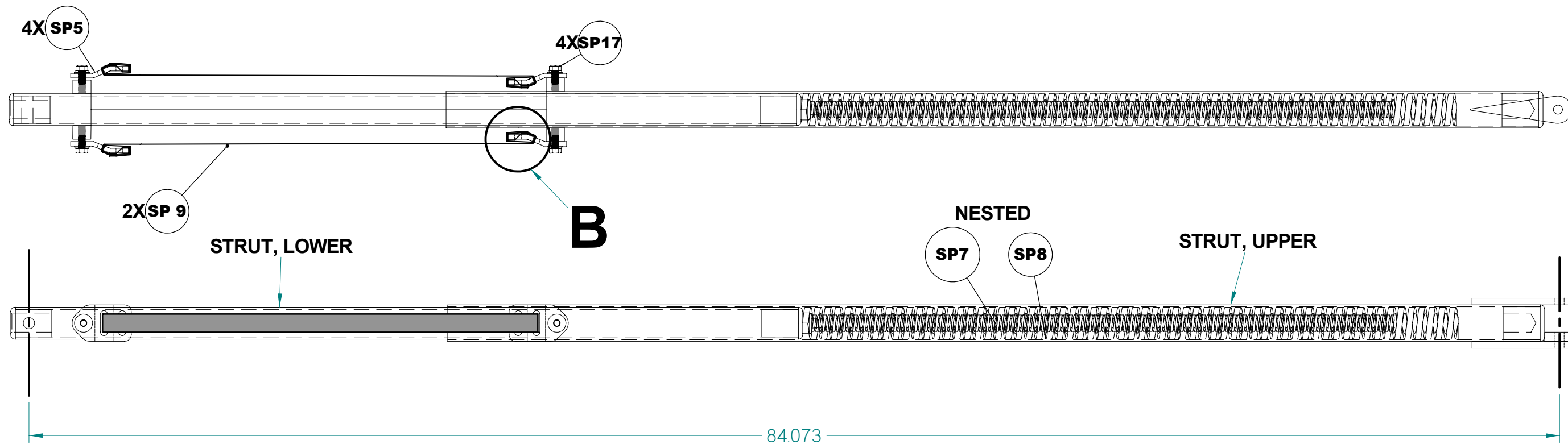
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INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		IIHS SIDE IMPACT OUTRIGGER DRAWINGS TABLE OF CONTENTS	
		DRAWN BY	CHARLES O'BRIEN
B	SCALE	DATE	07/22/2023
	SHEET	0	WEIGHT

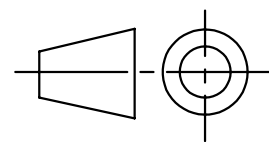




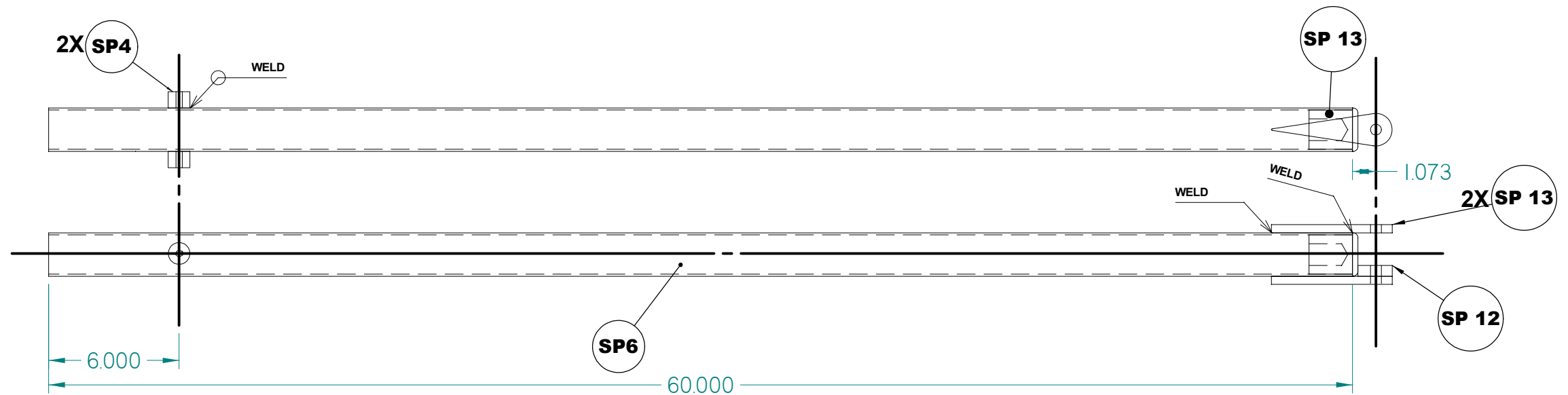
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		IIHS SIDE IMPACT OUTRIGGER (TOP VIEW)	
		DRAWN BY CHARLES P. O'BRIEN	DATE 07/22/2023
B	SCALE 1:6 in.	WEIGHT 112 LBS	
	SHEET 2		



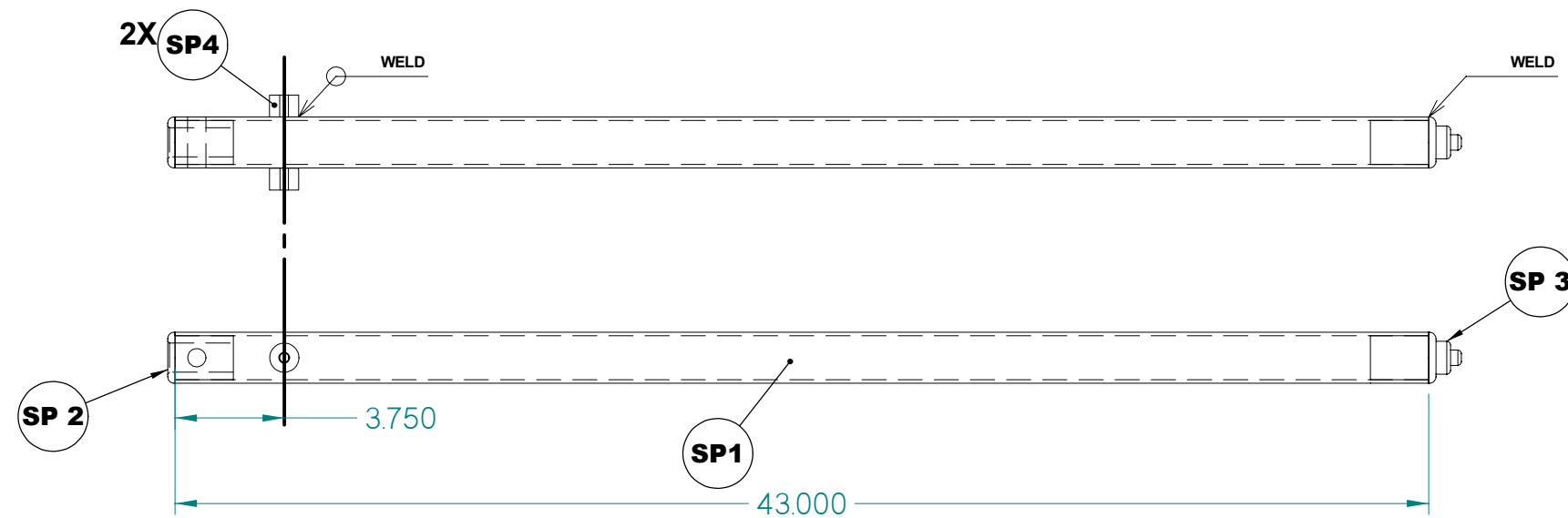
STRAP THREADING, TYP
DETAIL B



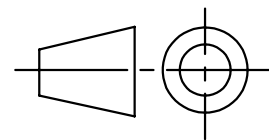
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STRUT ASSEMBLY	
SCALE 1:6 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 3		DATE 07/22/2023	
B		WEIGHT	



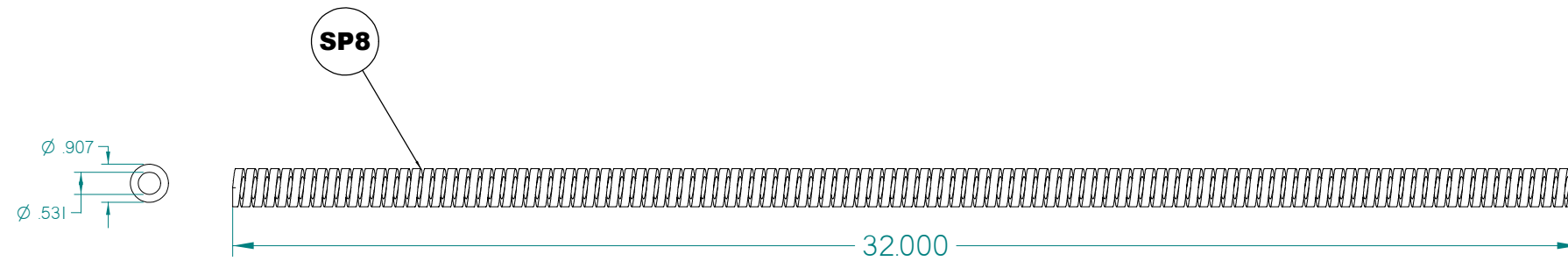
STRUT, UPPER
 FROM 2.0 OD .095 WALL 4130 ALLOY TUBE
 SUCH AS MCMASTER 89955K388



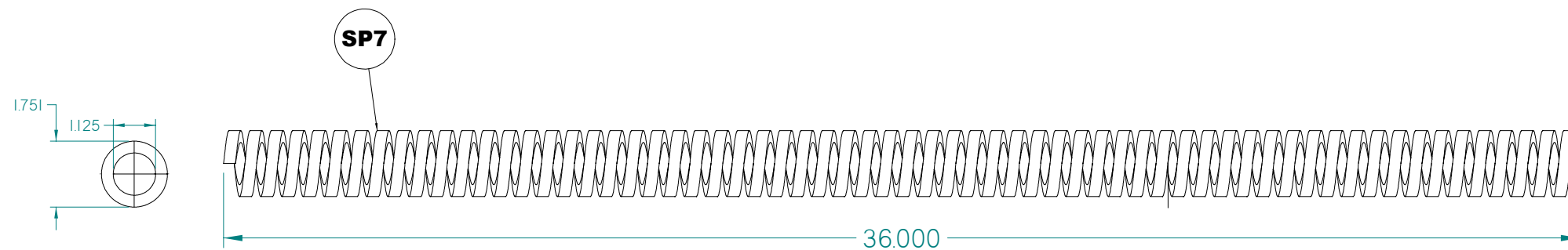
STRUT, LOWER
 FROM 1.75 OD .120 WALL 4130 ALLOY TUBE
 SUCH AS MCMASTER 89955K349



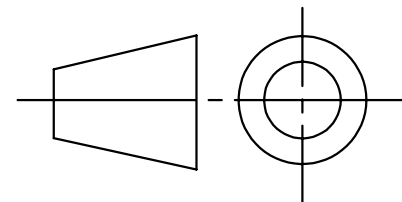
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STRUT WELDMENTS	
SCALE 1:6 IN.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 4		DATE	
B		WEIGHT	



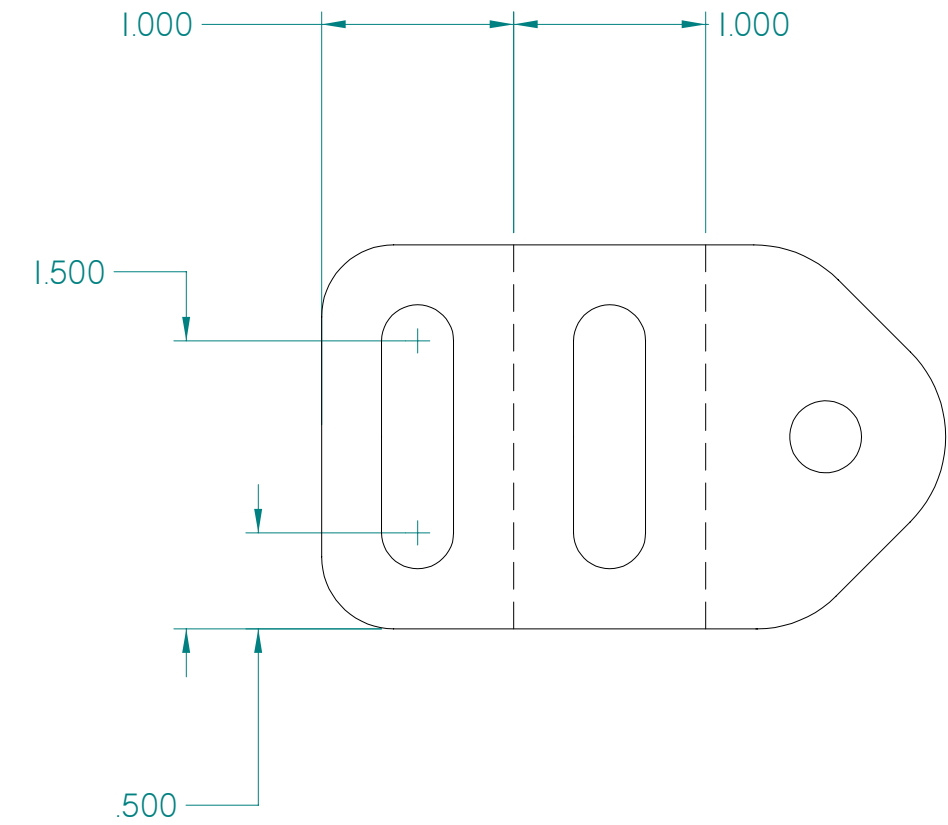
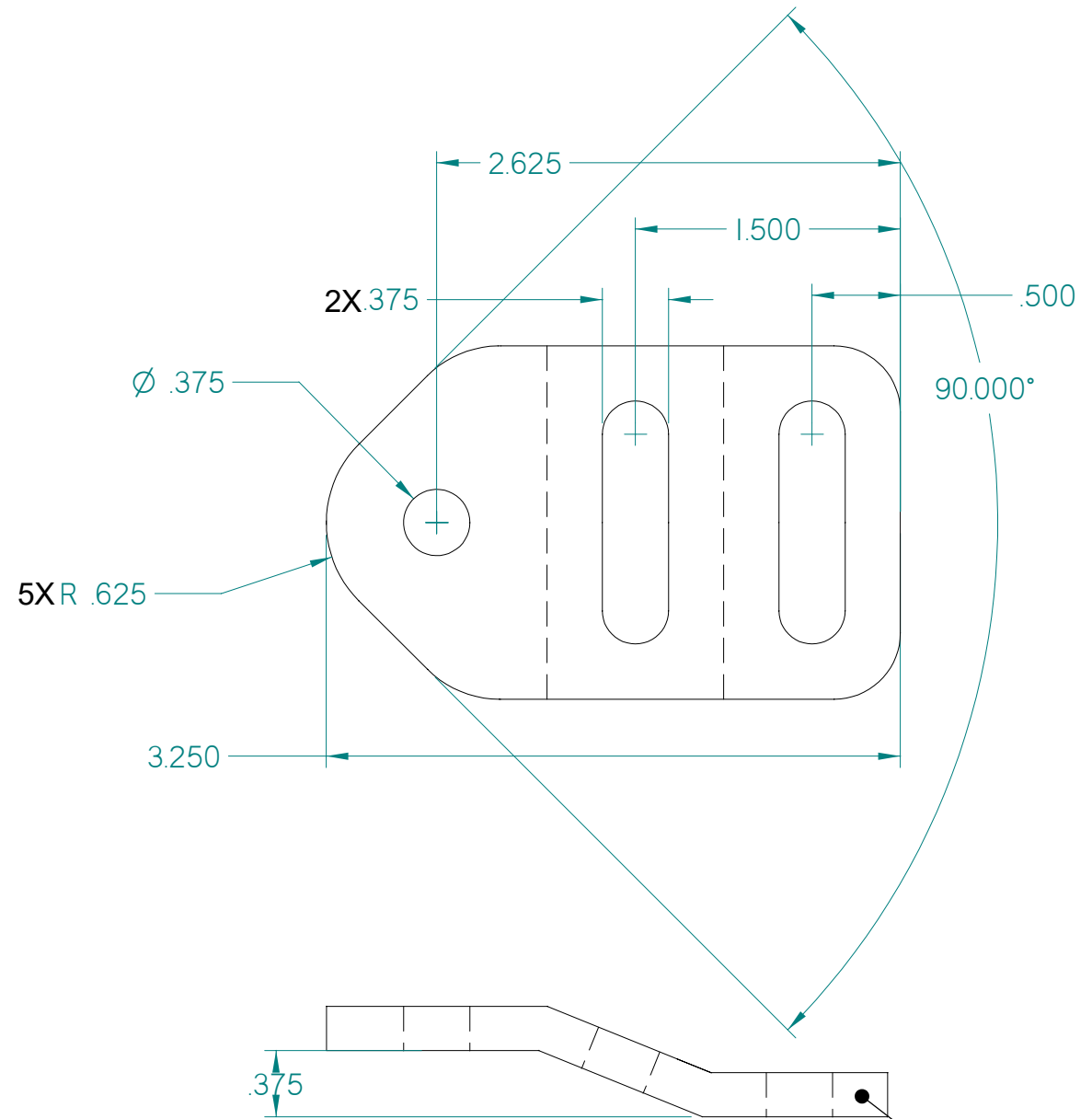
**DIE SPRING STOCK
53.76 LBS/IN SUCH AS
MCMASTER 9621K27**



**DIE SPRING STOCK
103.58 LBS/IN SUCH AS
MCMASTER 9621K47**

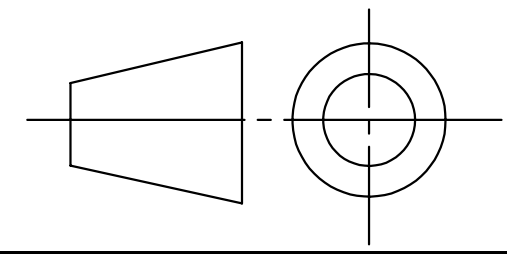


INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STRUT SPRINGS	
		DRAWN BY CHARLES P. O'BRIEN	DATE 07/22/2023
B	SCALE 1:4 in.	WEIGHT	
	SHEET 5		

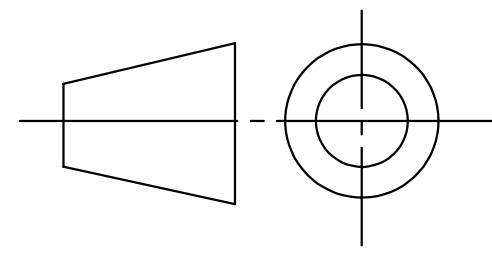
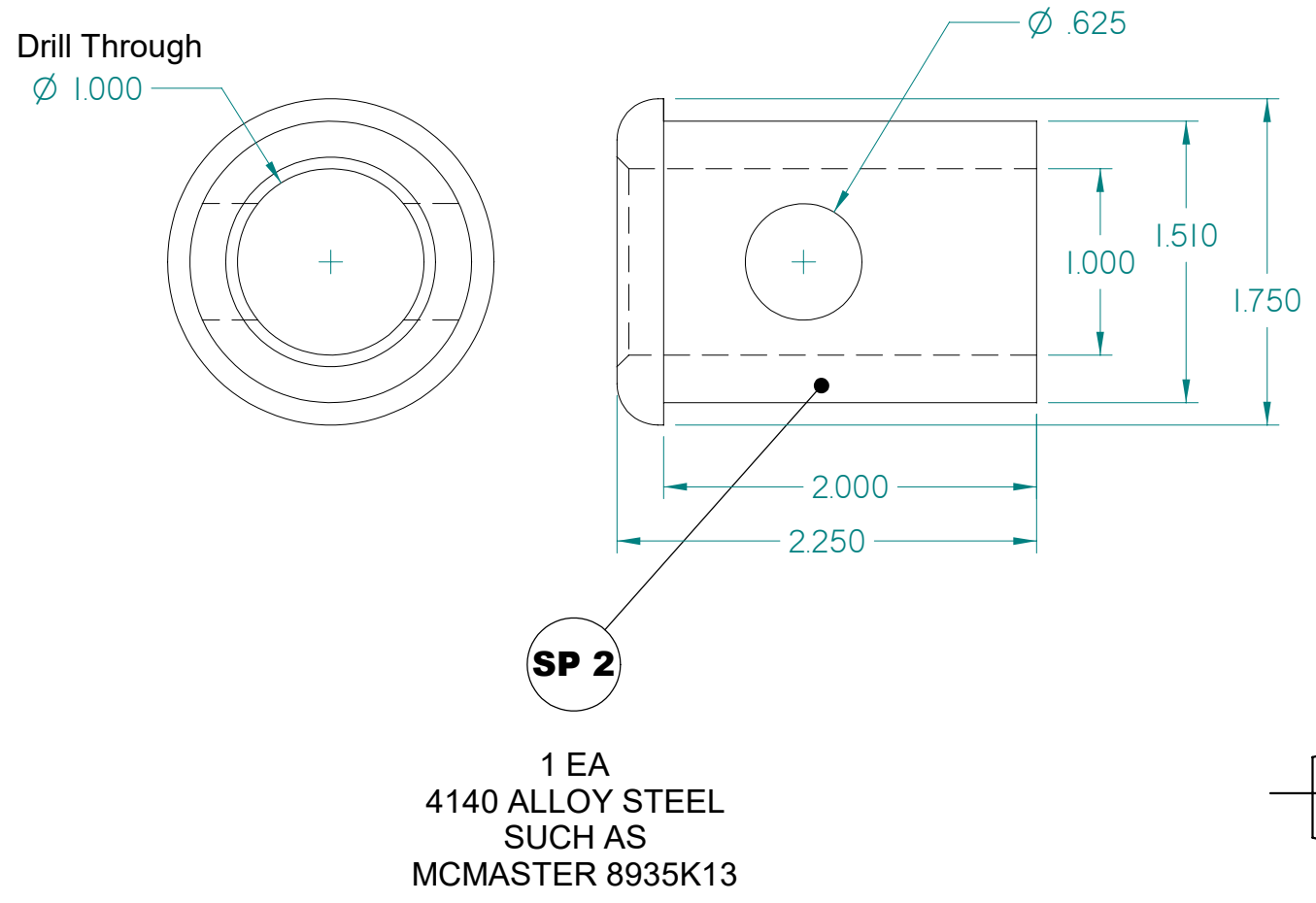
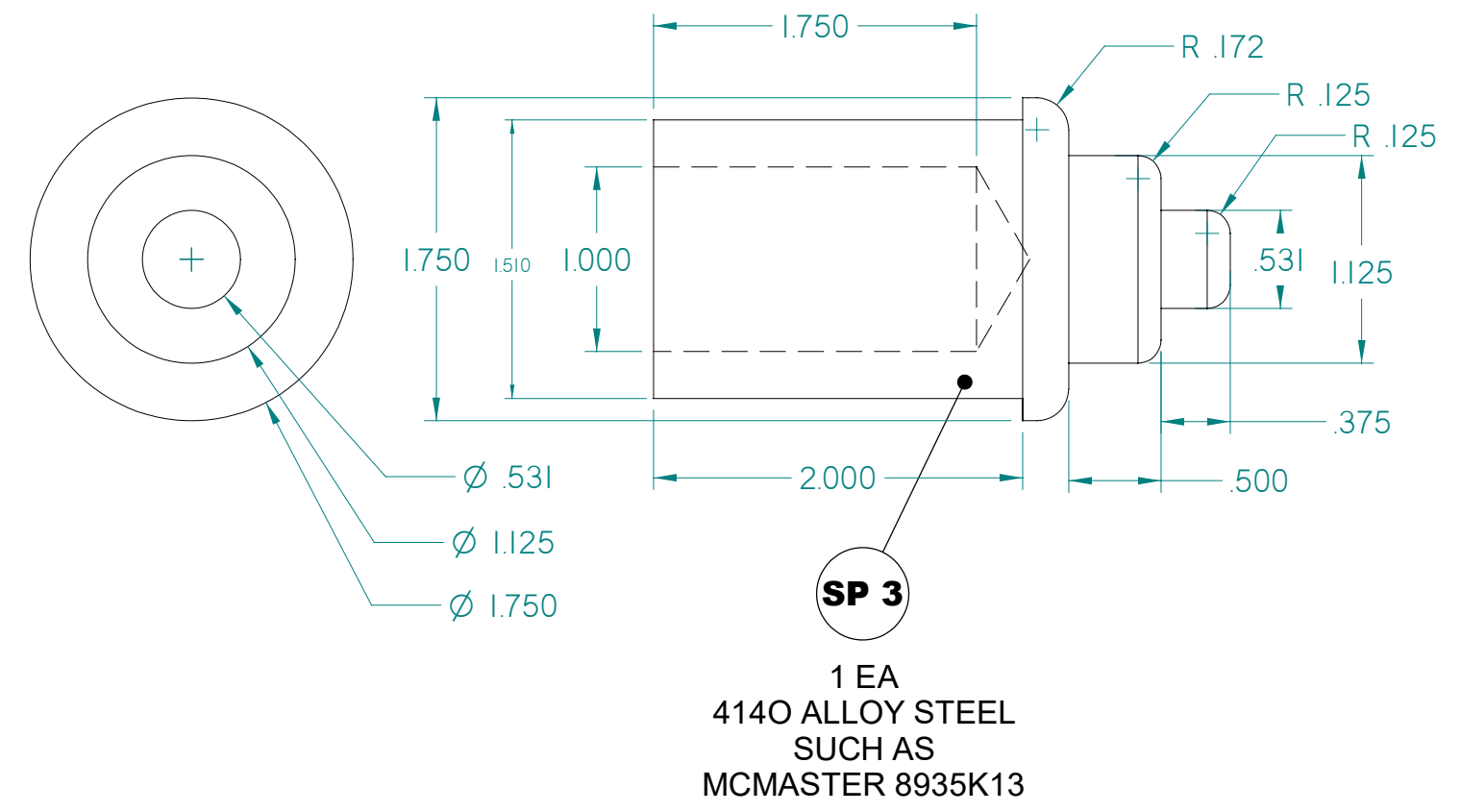
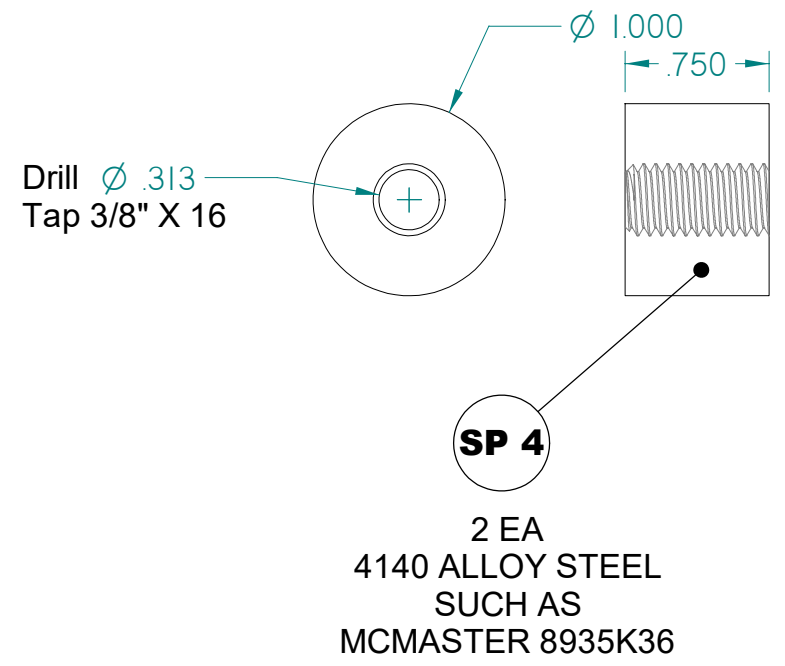


SP 5

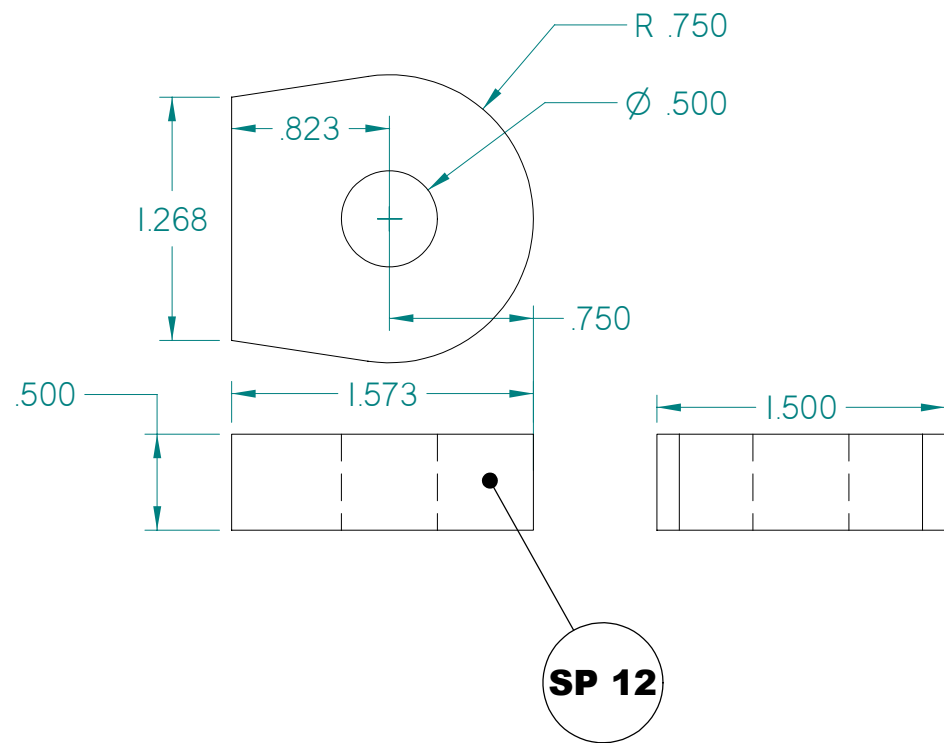
**4 PCS. PER ASSEMBLY
MADE FROM
1/4" X 2" -1018 COLD ROLLED FLAT BAR STEEL**



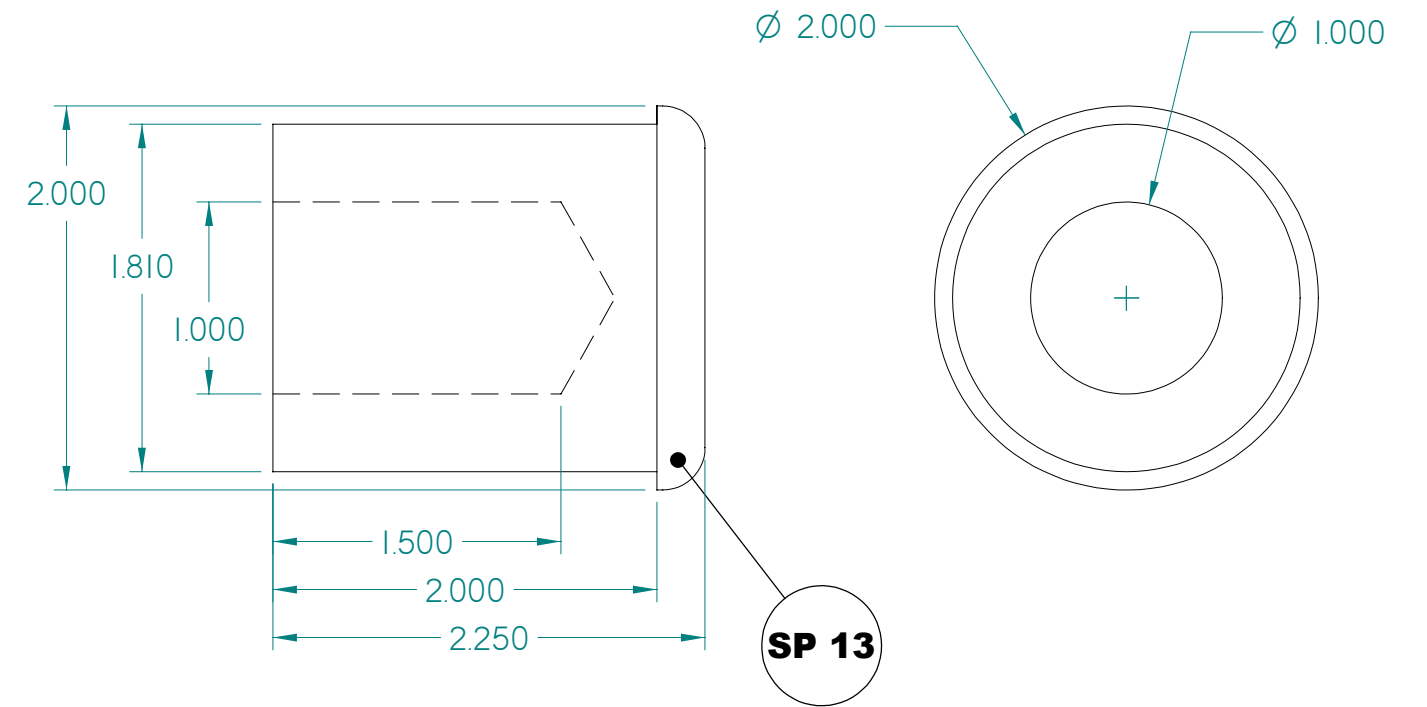
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		RETAINING STRAP ANCHORS	
SCALE 1:1 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 6		DATE 07/22/2023	
B		WEIGHT	



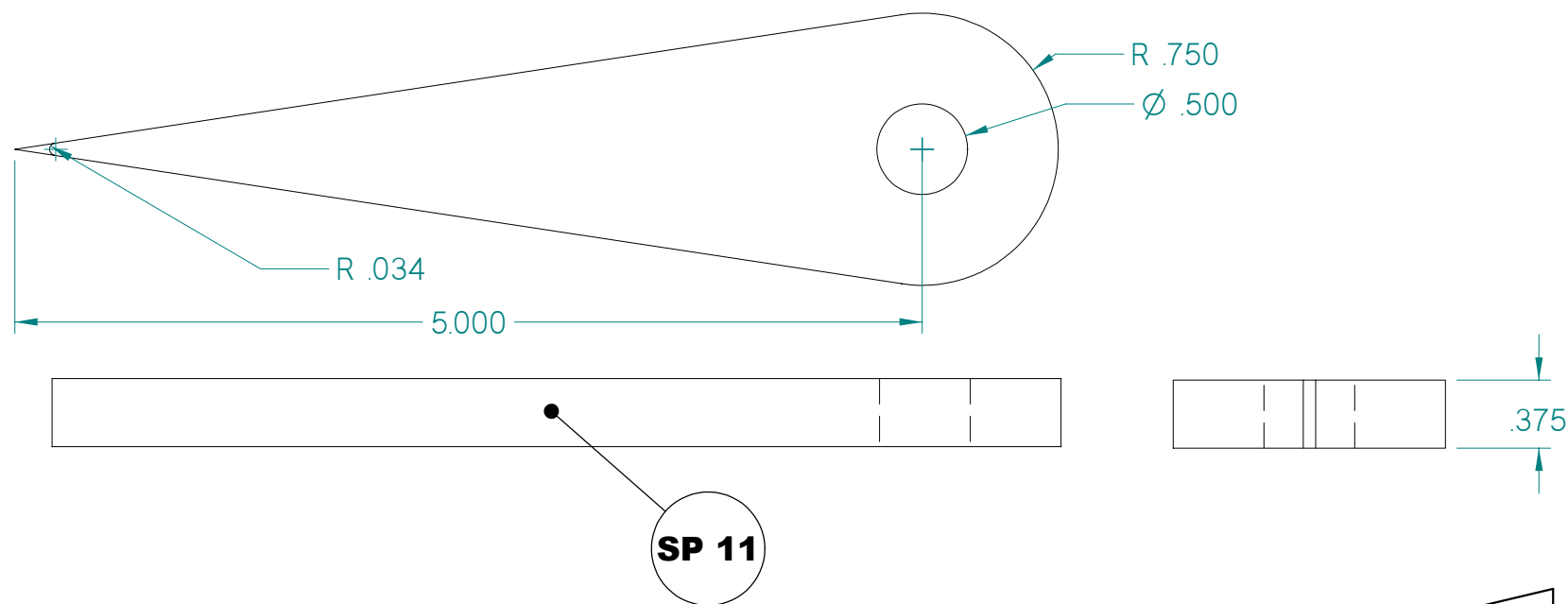
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STRUT, LOWER COMPONENTS	
SCALE 1:1 in.		DRAWN BY	CHARLES P. O'BRIEN
SHEET 7		DATE	07/22/2023
B		WEIGHT	



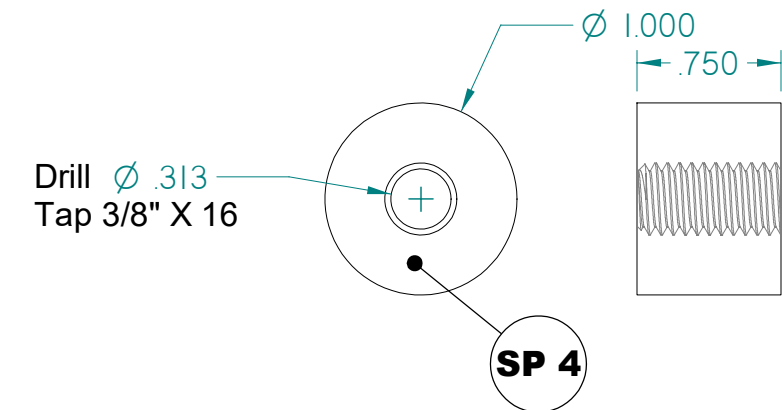
1 EA
4140 ALLOY STEEL
SUCH AS MCMaster 6554K17



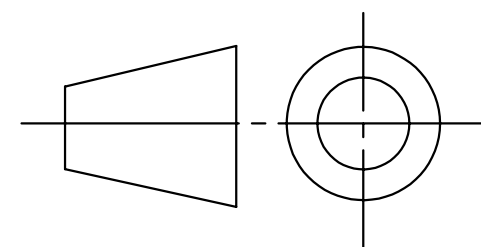
1 EA
4140 ALLOY STEEL
SUCH AS MCMaster 6554K15



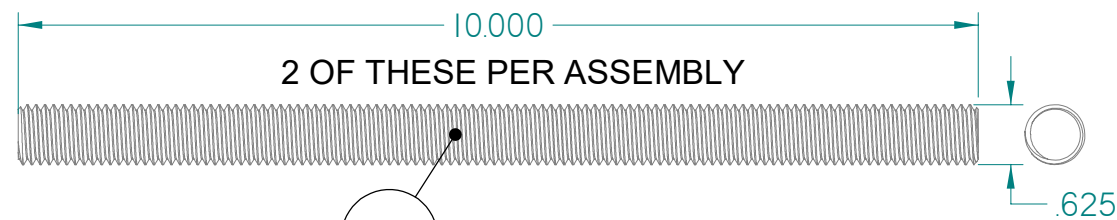
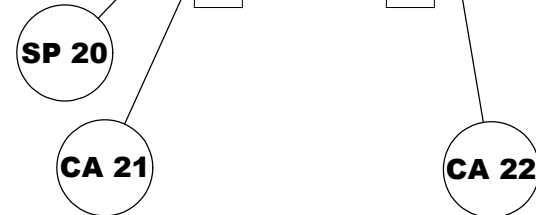
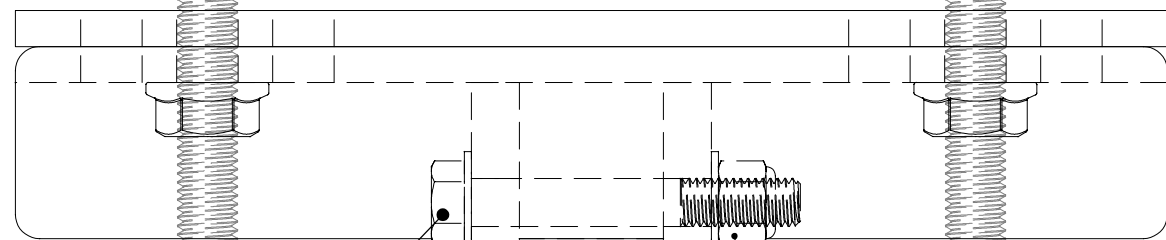
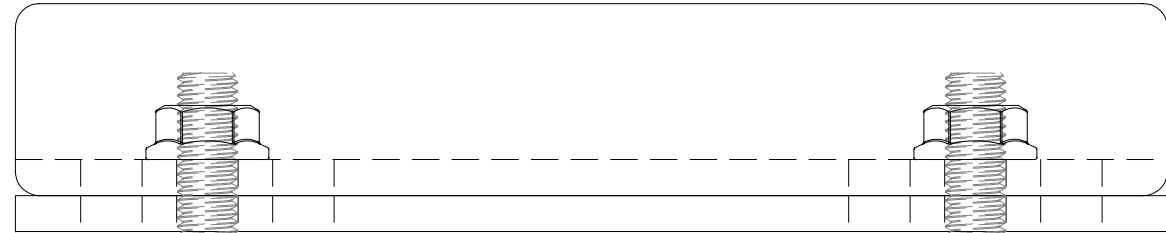
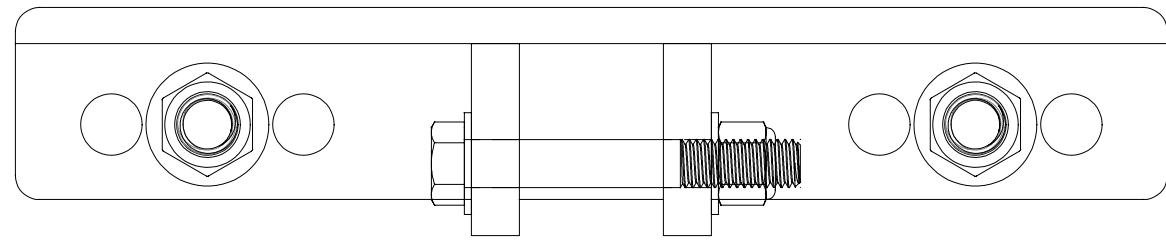
2 EA
4140 ALLOY STEEL
SUCH AS MCMaster 6554K17



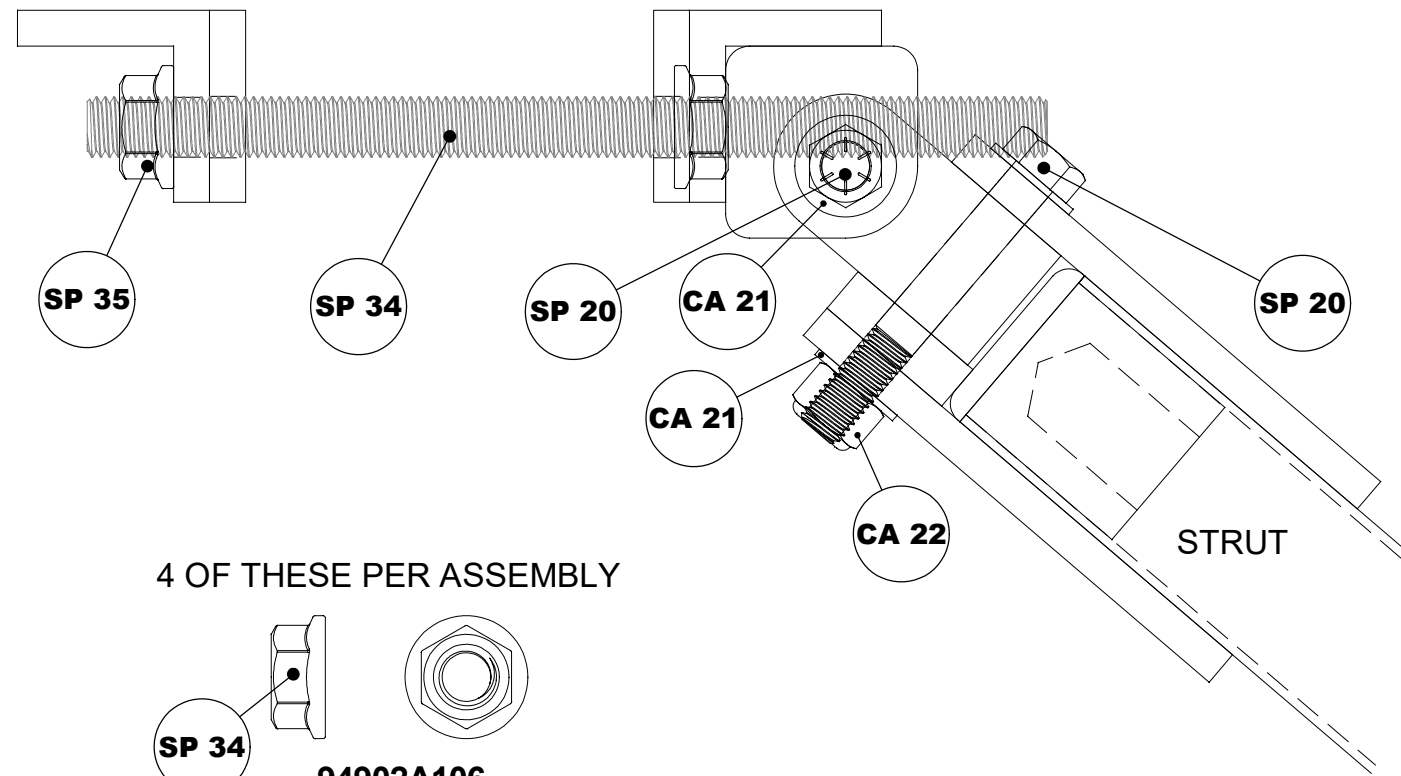
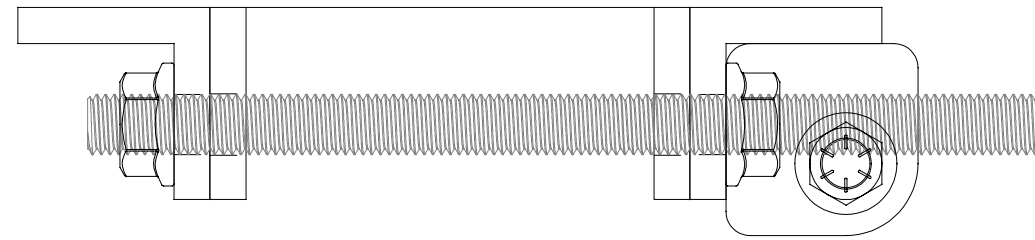
2 EA
4140 ALLOY STEEL
SUCH AS
MCMaster 8935K36



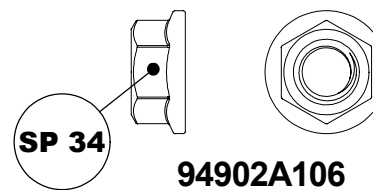
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STRUT, UPPER COMPONENTS	
DRAWN BY		CHARLES P. O'BRIEN	
SCALE		1:1 in.	
SHEET		8	
DATE		07/22/2023	
WEIGHT			



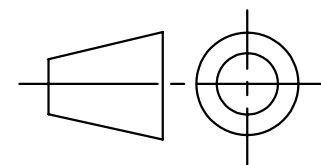
SP 35
90322A176
 High-Strength Steel Threaded Rod, 5/8"-11 Thread Size, 10" Long



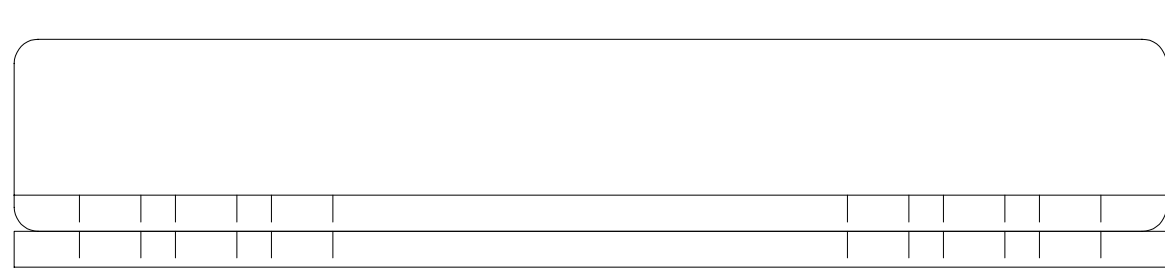
4 OF THESE PER ASSEMBLY



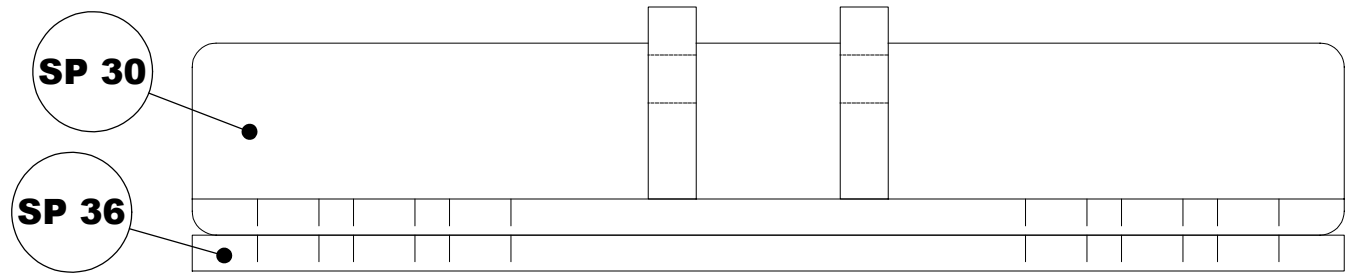
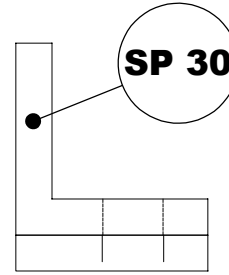
SP 34
94902A106
 High-Strength Steel Flange Nut, Grade 8, Black-Phosphate
 5/8"-11 Thread Size



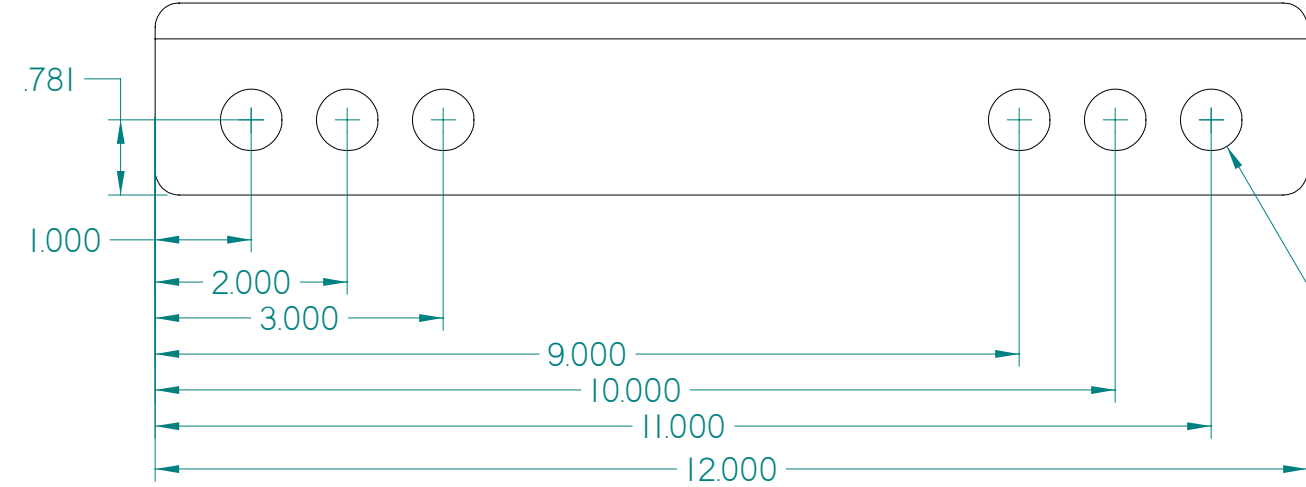
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		B PILLAR CLAMP ASSEMBLY	
SCALE 1:2 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 9		DATE 07/22/2023	
WEIGHT			



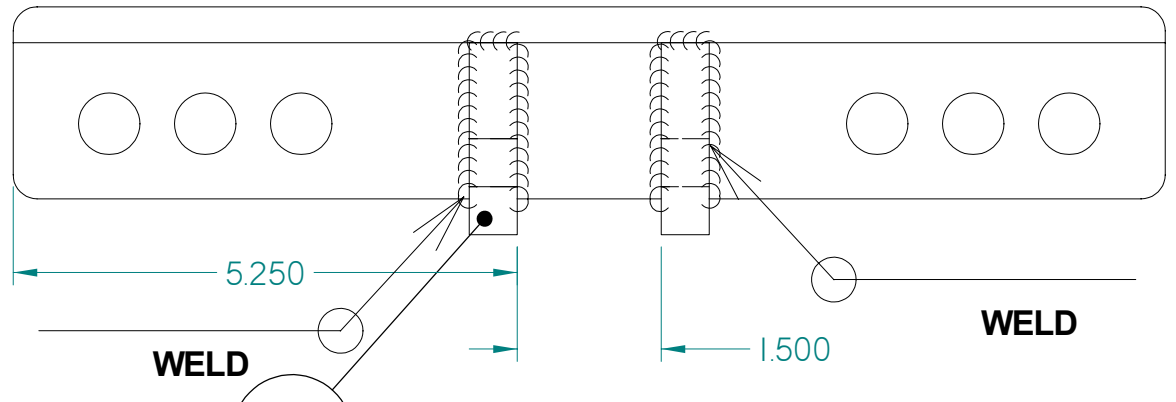
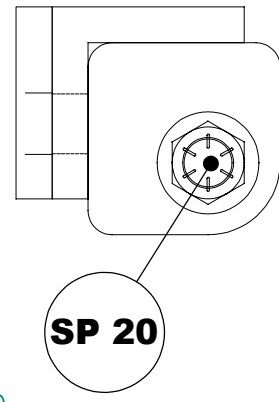
1 OF THESE WITHOUT CLEVIS TABS PER ASSEMBLY
2" X 2" X 3/8" ASTM A-36 BAR ANGLE



1 OF THESE WITH CLEVIS TABS PER ASSEMBLY



6X
Ø .640



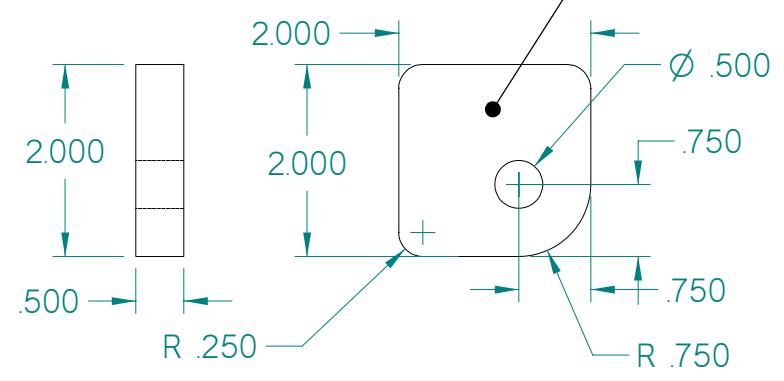
WELD
2X SP 32

WELD

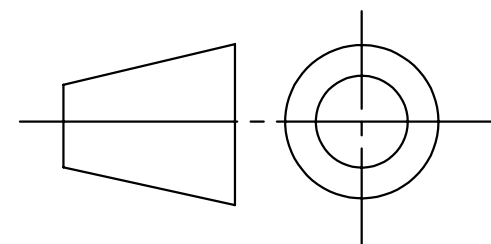
WELD

2X SP 36

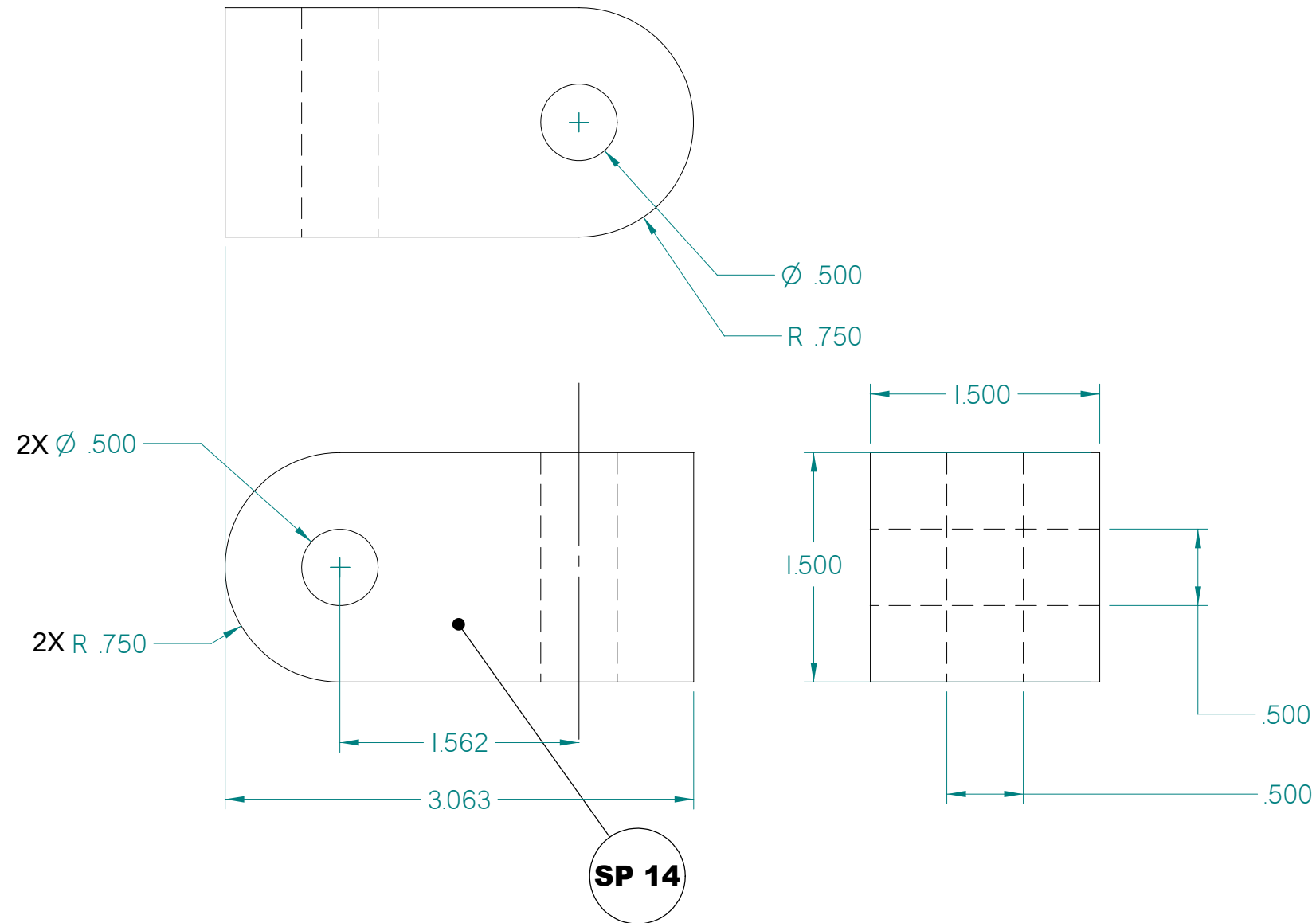
CLEVIS TABS
2 OF THESE PER ASSEMBLY
2" X 2" X 1/2" ASTM A-36 FLAT BAR



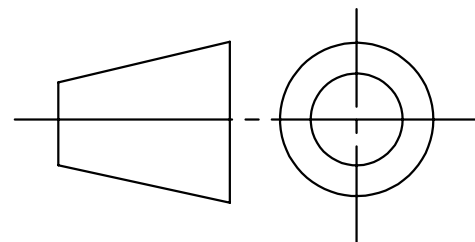
SP 36



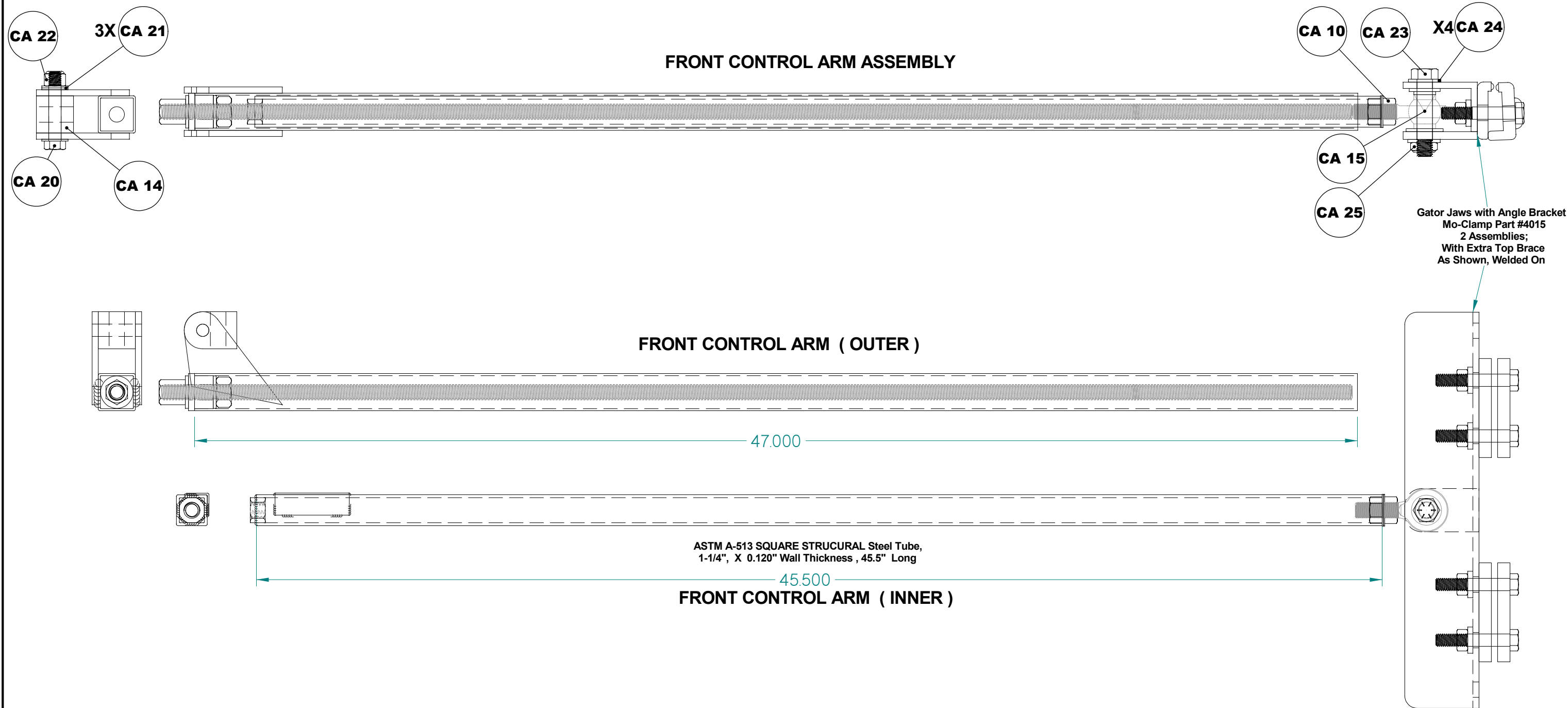
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		B PILLAR CLAMP PARTS AND WELDMENT	
SCALE 1:2 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 10		DATE 07/22/2023	
B		WEIGHT	



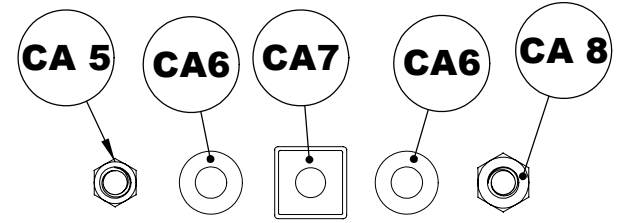
1 EA
4140 ALLOY STEEL
SUCH AS
MCMASTER 9116K41



INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		UPPER STRUT SWIVEL BLOCK DIMENSIONS 1 OF THESE PER ASSEMBLY	
SCALE 1:1 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 11		DATE 07/22/2023	
B		WEIGHT	

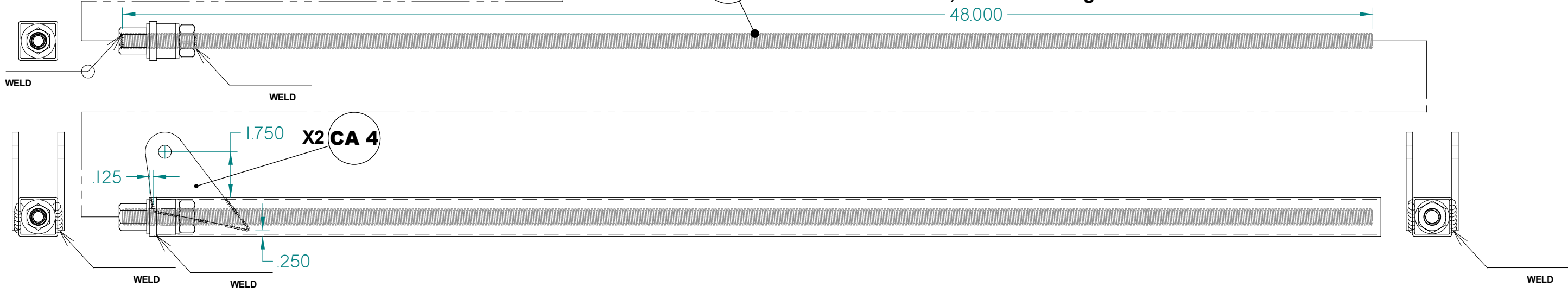


INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		FRONT CONTROL ARM ASSEMBLY	
		DRAWN BY CHARLES O'BRIEN	DATE 07/22/2023
B	SCALE 1:4 in.	WEIGHT	
	SHEET 12		



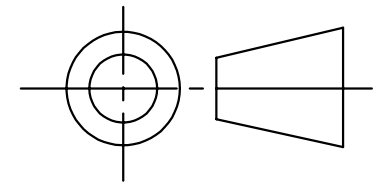
CA 3 93410A116 Alloy Steel Acme Lead Screw, Right Hand
5/8"-8 Thread Size, 48 Inches Long

48.000

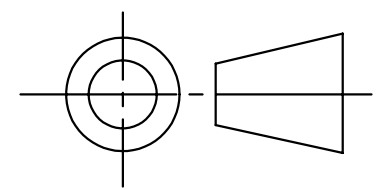
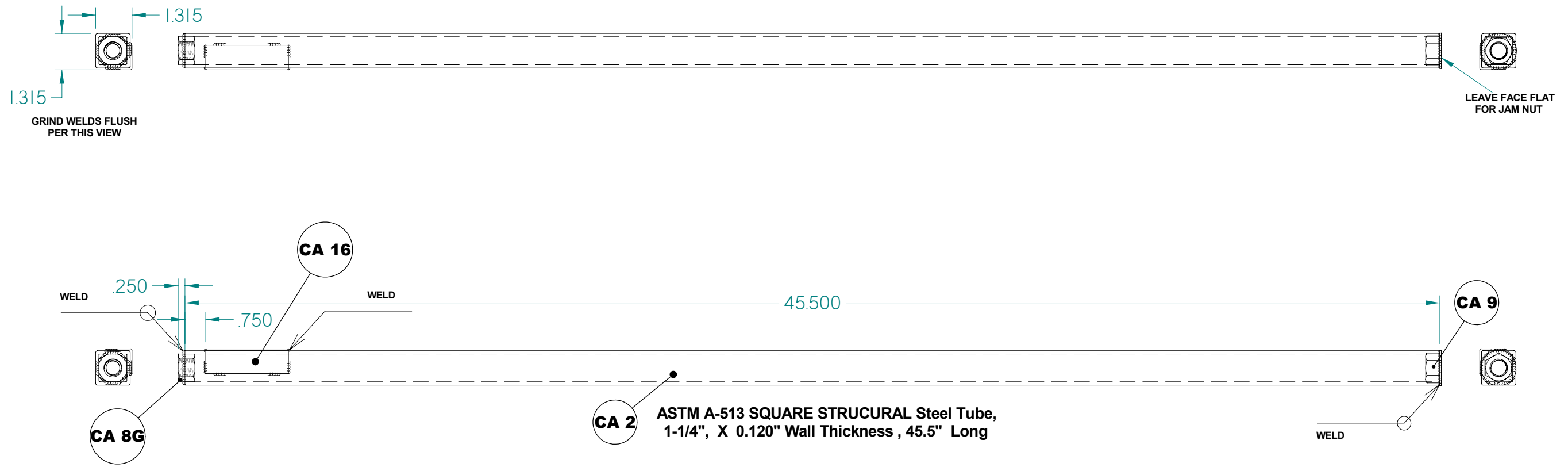


47.000

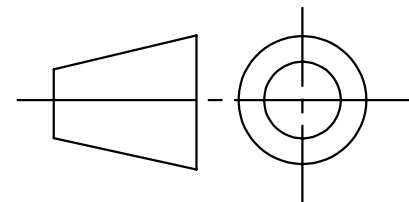
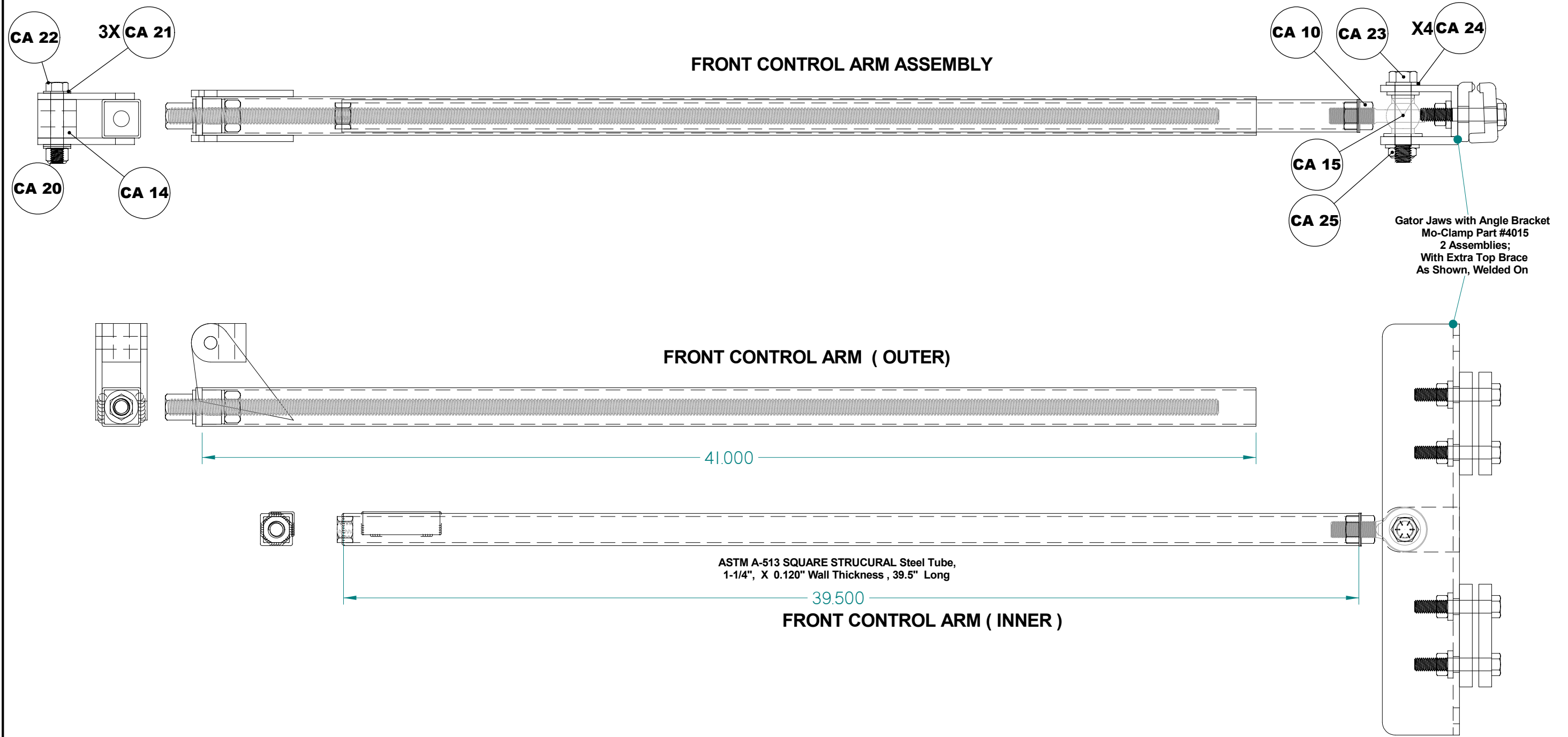
CA 1 ASTM A-513 SQUARE STRUCTURAL Steel Tube,
1-1/2", X 0.083" Wall Thickness , 47.00" Long



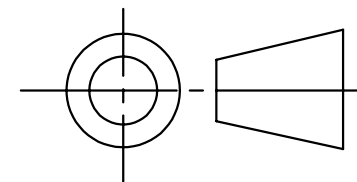
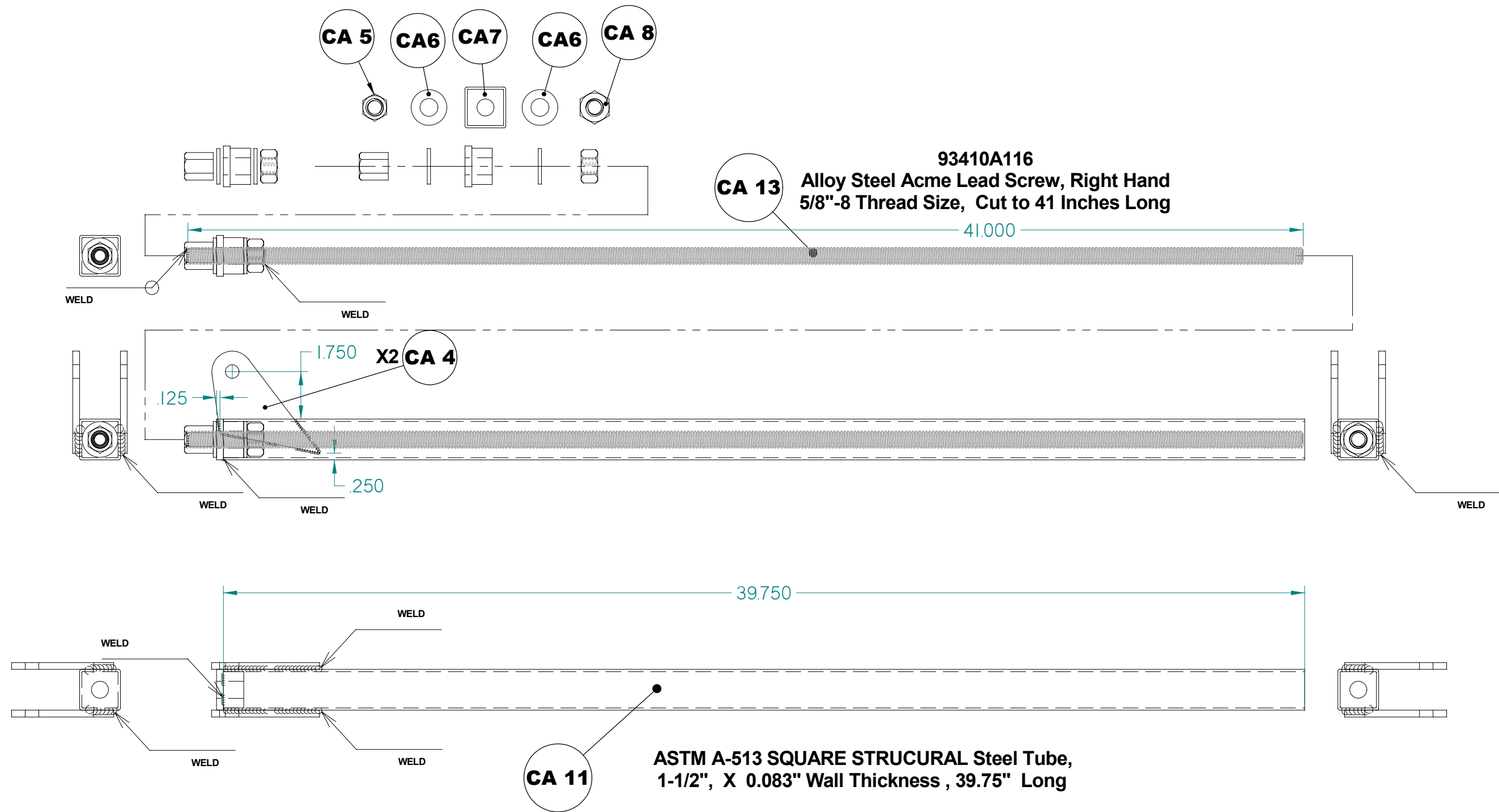
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		FRONT CONTROL ARM OUTER WELDMENT		
		DRAWN BY	CHARLES P. O'BRIEN	
B	SCALE	1:4 in.	DATE	07/22/2023
	SHEET	13	WEIGHT	



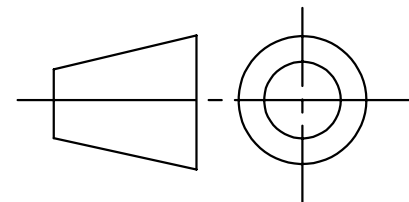
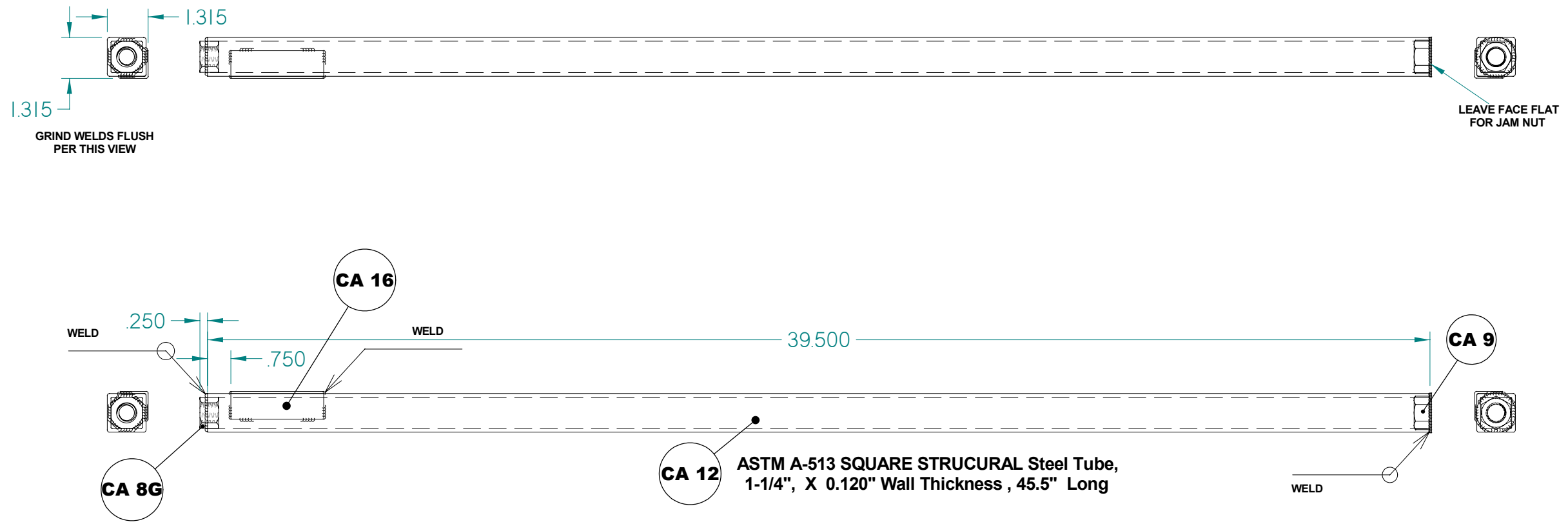
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		FRONT CONTROL ARM INNER WELDMENT	
		DRAWN BY CHARLES P. O'BRIEN	DATE 07/22/2023
B	SCALE 1:4 in.	WEIGHT	
	SHEET 14		



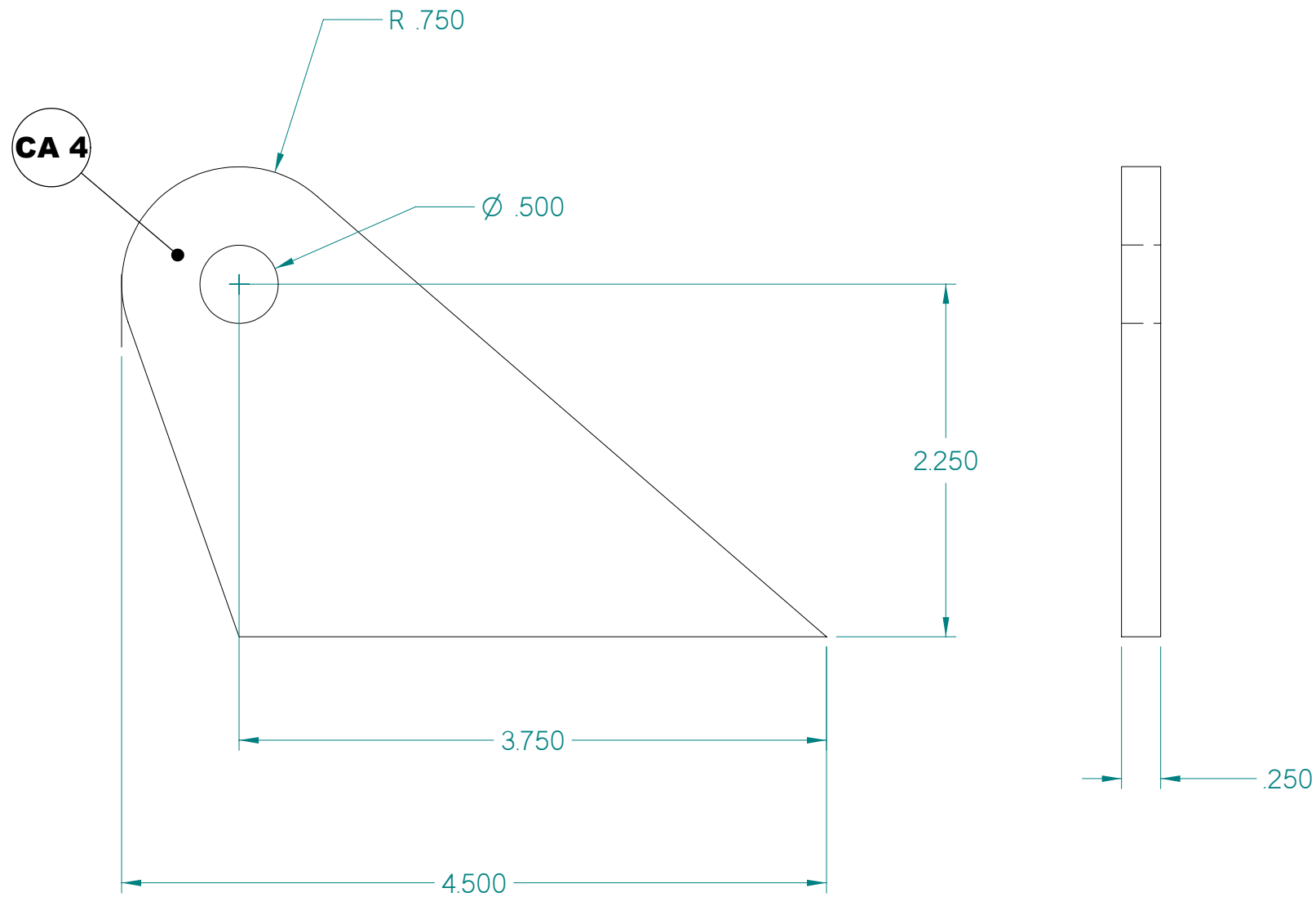
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		REAR CONTROL ARM ASSEMBLY	
		DRAWN BY	CHARLES P. O'BRIEN
SCALE	1:4 in.	DATE	07/22/2023
SHEET	15	WEIGHT	



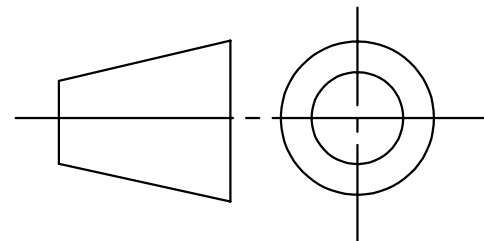
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER		REAR CONTROL ARM OUTER WELDMENT		
988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202		DRAWN BY	CHARLES P. O'BRIEN	
B	SCALE	1:4 in.	DATE	07/22/2023
	SHEET	16	WEIGHT	



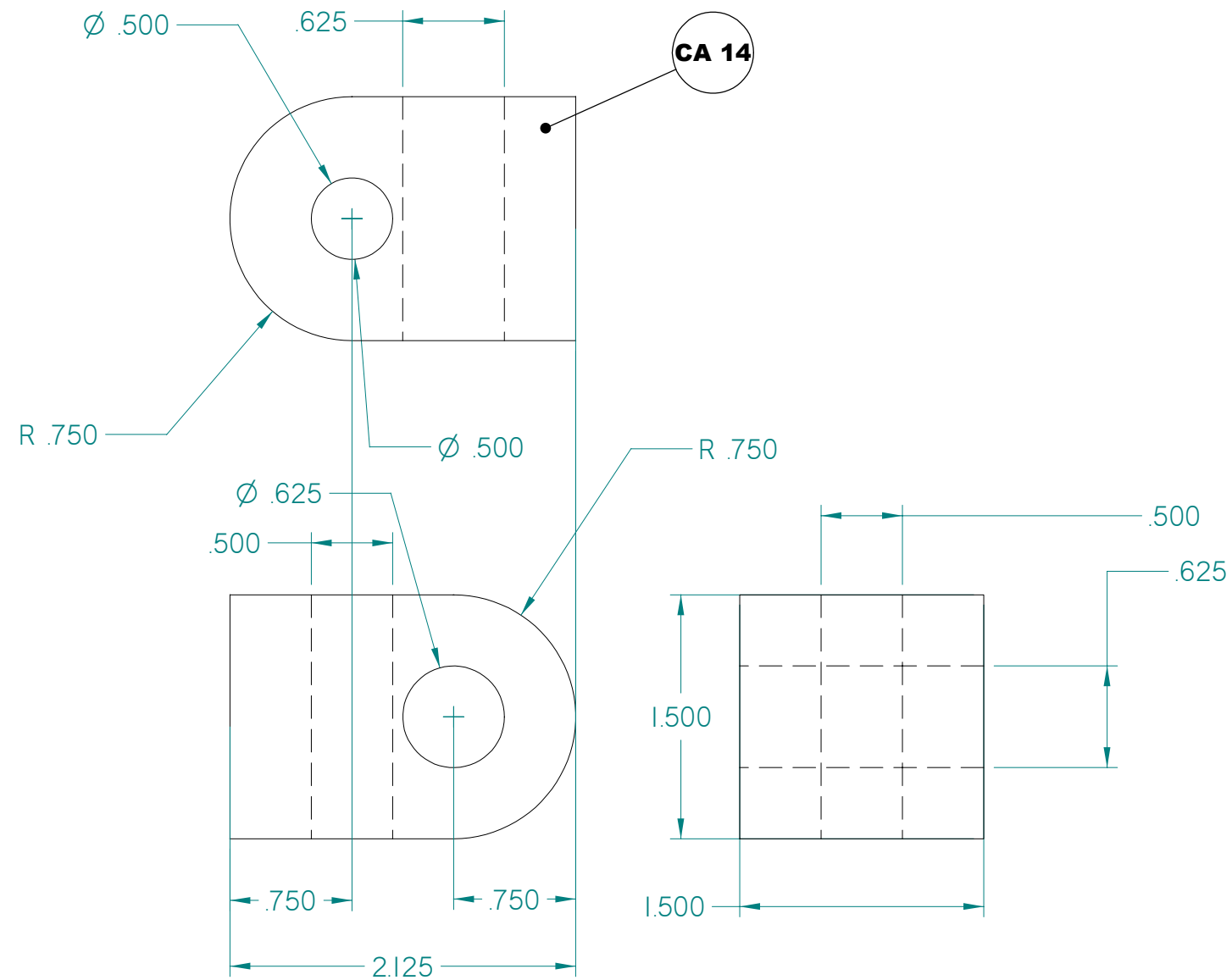
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		REAR CONTROL ARM INNER WELDMENT		
		SCALE	1:4	DRAWN BY
B	SHEET	17	DATE	07/22/2023
			WEIGHT	



1018 COLD ROLLED FLAT BAR STEEL
8910K572
 Low-Carbon Steel Bar, 1/4" Thick, 3" Wide
 1 Foot Long

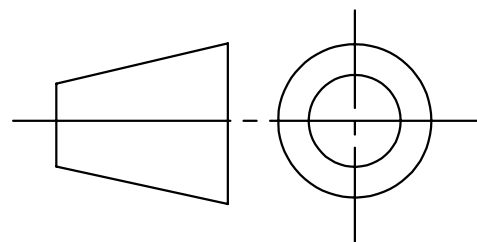


INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		LOWER CONTROL ARM 1/4" STEEL ATTACHMENT TABS (4) TOTAL PCS. PER BUILD	
SCALE 1:1 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 18		DATE 07/22/2023	
B		WEIGHT	



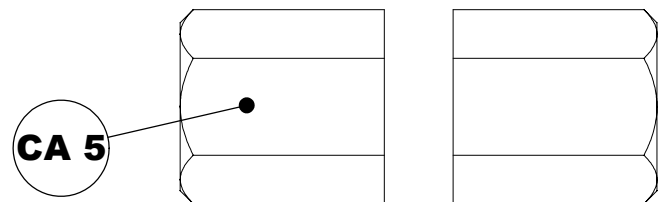
CA 14
LOWER CONTROL ARM
1 1/2" X 1 1/2" SWIVEL BLOCK
(2) TOTAL PCS. PER ASSEMBLY

8935K11
Hardened Multipurpose
4140 Alloy Steel Bar,
1-1/2" X 1-1/2"

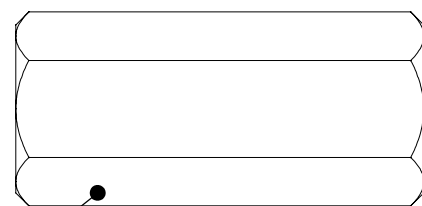


INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		LOWER CONTROL ARM 1 1/2" X 1 1/2" SWIVEL BLOCK (2) TOTAL PCS. PER ASSEMBLY	
		SCALE 1:1 in.	DRAWN BY CHARLES P. O'BRIEN
B SHEET 19	DATE 07/22/2023	WEIGHT	

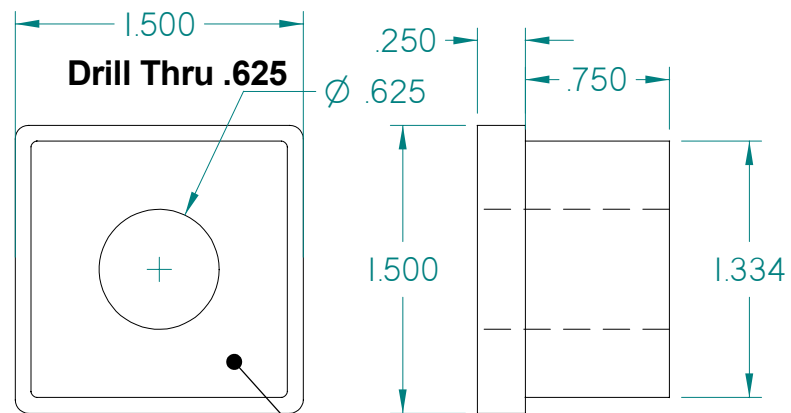
5/8" - 8 Acme Coupling
 Cut (1) of These Nuts Approx. in half.
 (2) Halves Per Assembly.



McMaster Carr #93023A662
Carbon Steel Acme Coupling Nut,
Right Hand, 5/8"-8 Thread Size
 (1) Whole Nuts Per Assembly,
 TO BE CUT IN HALF
 AS SHOWN ABOVE

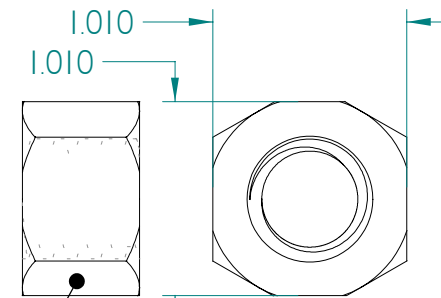


CA 5



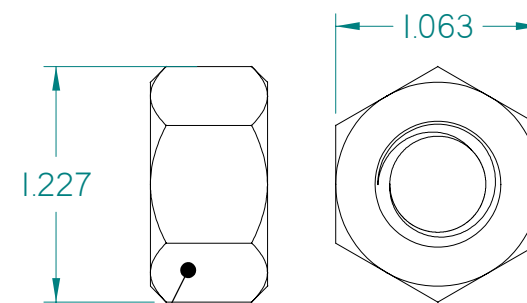
CA 7

9116K41
Oversized Hardened 4140 Alloy Steel Bar
1-1/2" Thick, 1-1/2" Wide



CA 8G

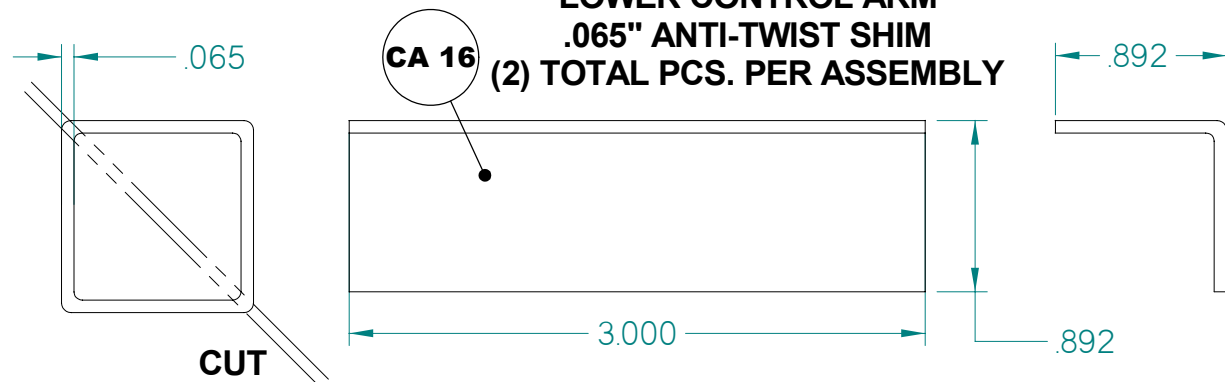
GRIND (1) (CA 8G) NUT
TO FIT 1-1/4" SQ. TUBE
1.010" X 1.010" ID.



CA 8F

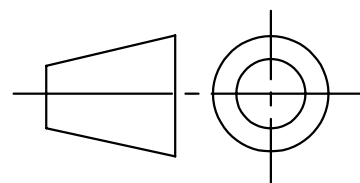
94815A108
Carbon Steel Acme Hex Nut
Right Hand, 5/8"-8 Thread Size
GRIND TO 1.010" X 1.010"
AS SHOWN ABOVE

CA 16
LOWER CONTROL ARM
.065" ANTI-TWIST SHIM
(2) TOTAL PCS. PER ASSEMBLY



6527K174
Low-Carbon Steel Rectangular Tube
0.065" Wall Thickness, 1" x 1" Outside Size

CUT



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FOR HIGHWAY SAFETY
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B

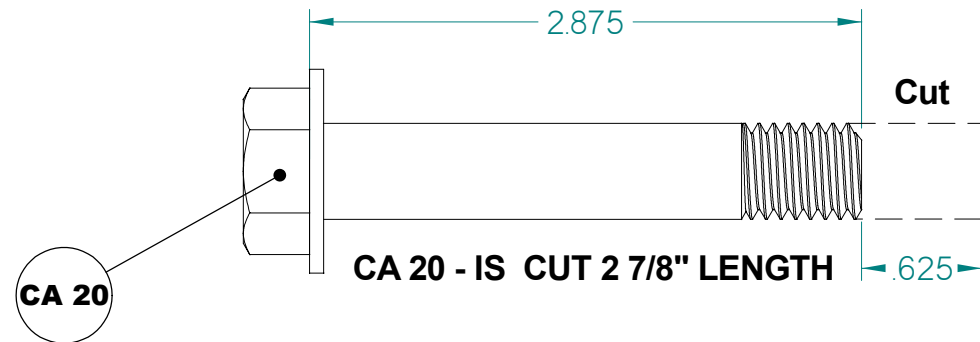
SCALE 1:1 in.
 SHEET 20

LOWER CONTROL ARM
COMPONENTS

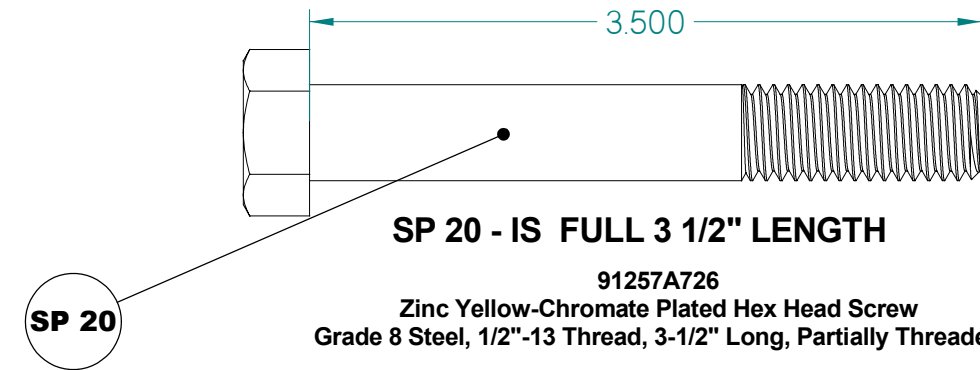
DRAWN BY CHARLES P. O'BRIEN

DATE 07/22/2023

WEIGHT

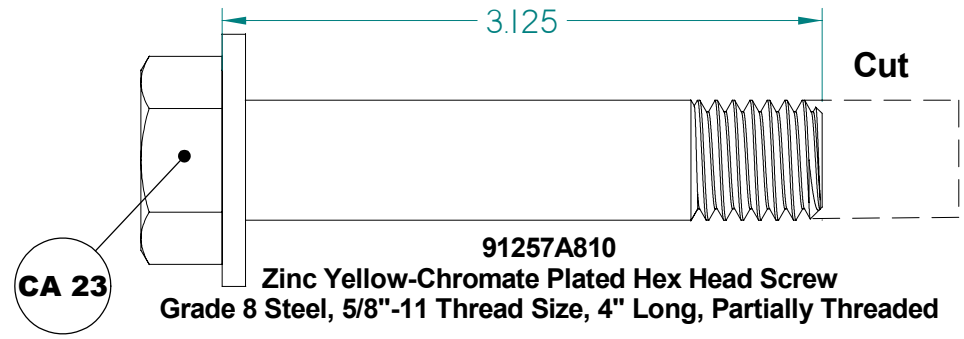


CA 20 - IS CUT 2 7/8" LENGTH

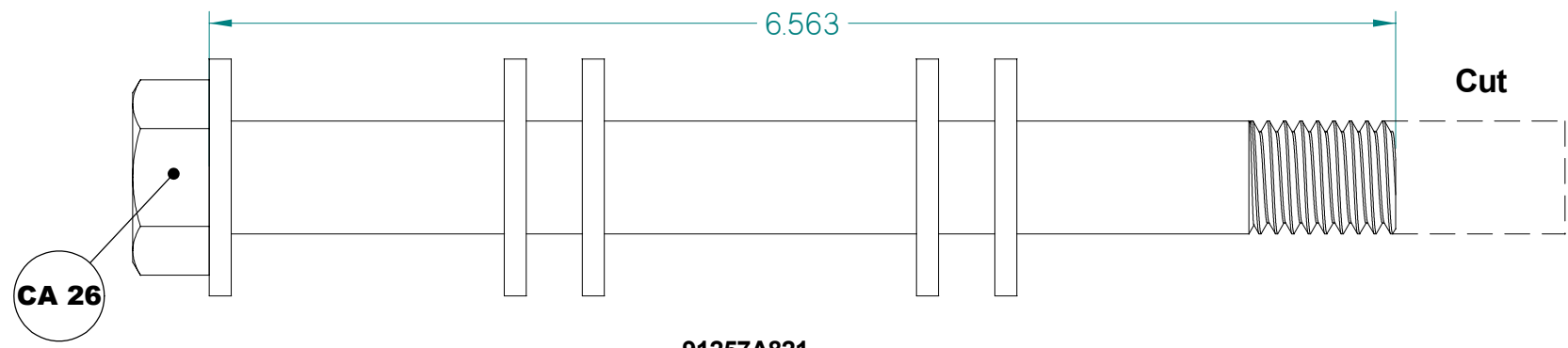


SP 20 - IS FULL 3 1/2" LENGTH

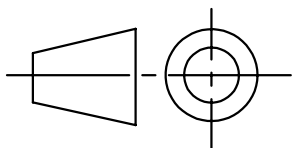
91257A726
 Zinc Yellow-Chromate Plated Hex Head Screw
 Grade 8 Steel, 1/2"-13 Thread, 3-1/2" Long, Partially Threaded



91257A810
 Zinc Yellow-Chromate Plated Hex Head Screw
 Grade 8 Steel, 5/8"-11 Thread Size, 4" Long, Partially Threaded

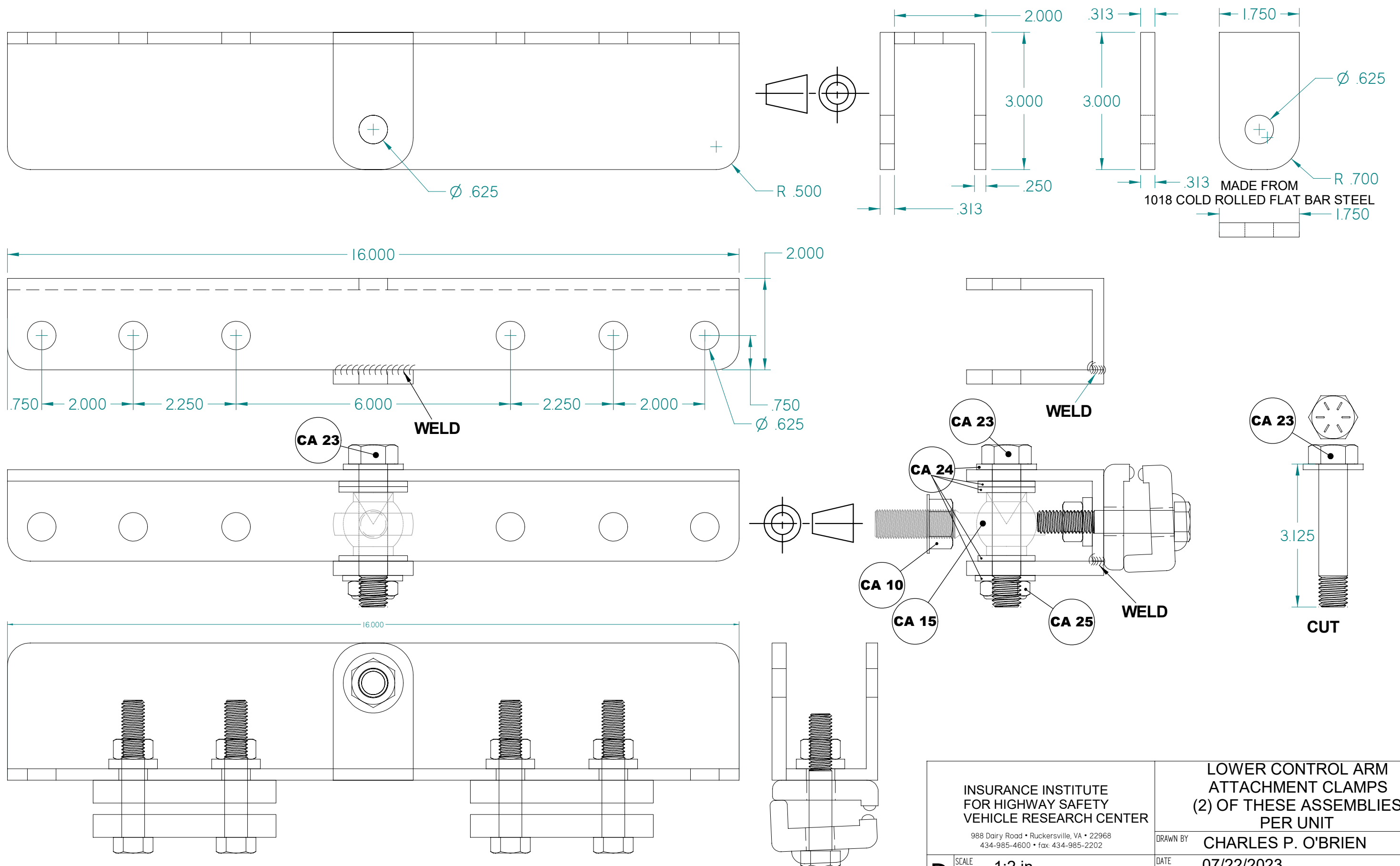


91257A821
 Zinc Yellow-Chromate Plated Hex Head Screw
 Grade 8 Steel, 5/8"-11 Thread Size, 7-1/2" Long



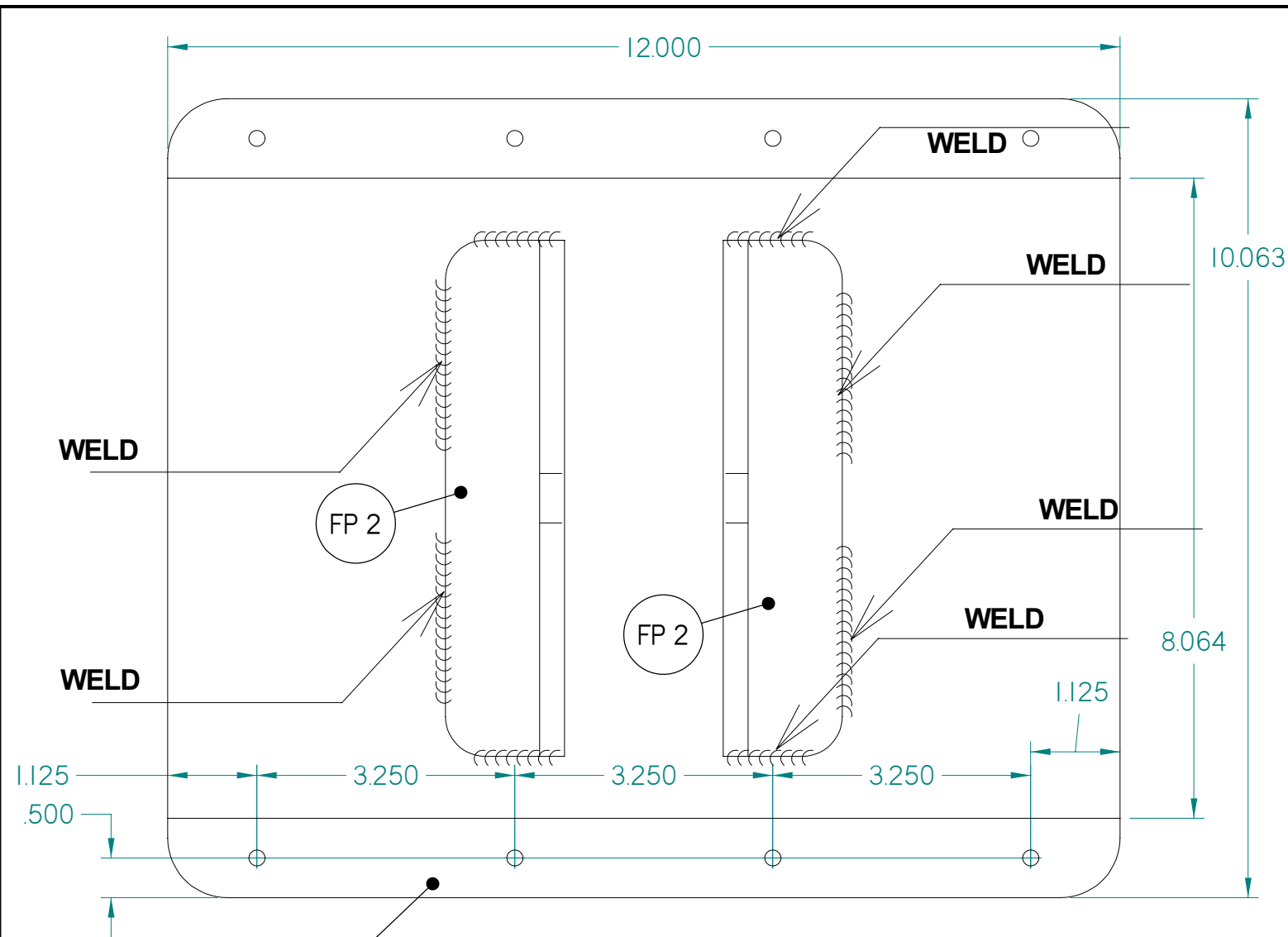
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		LOWER CONTROL ARM HARDWARE	
		DRAWN BY	CHARLES P. O'BRIEN
SCALE	1:1 in.	DATE	07/22/2023
SHEET	21	WEIGHT	

B

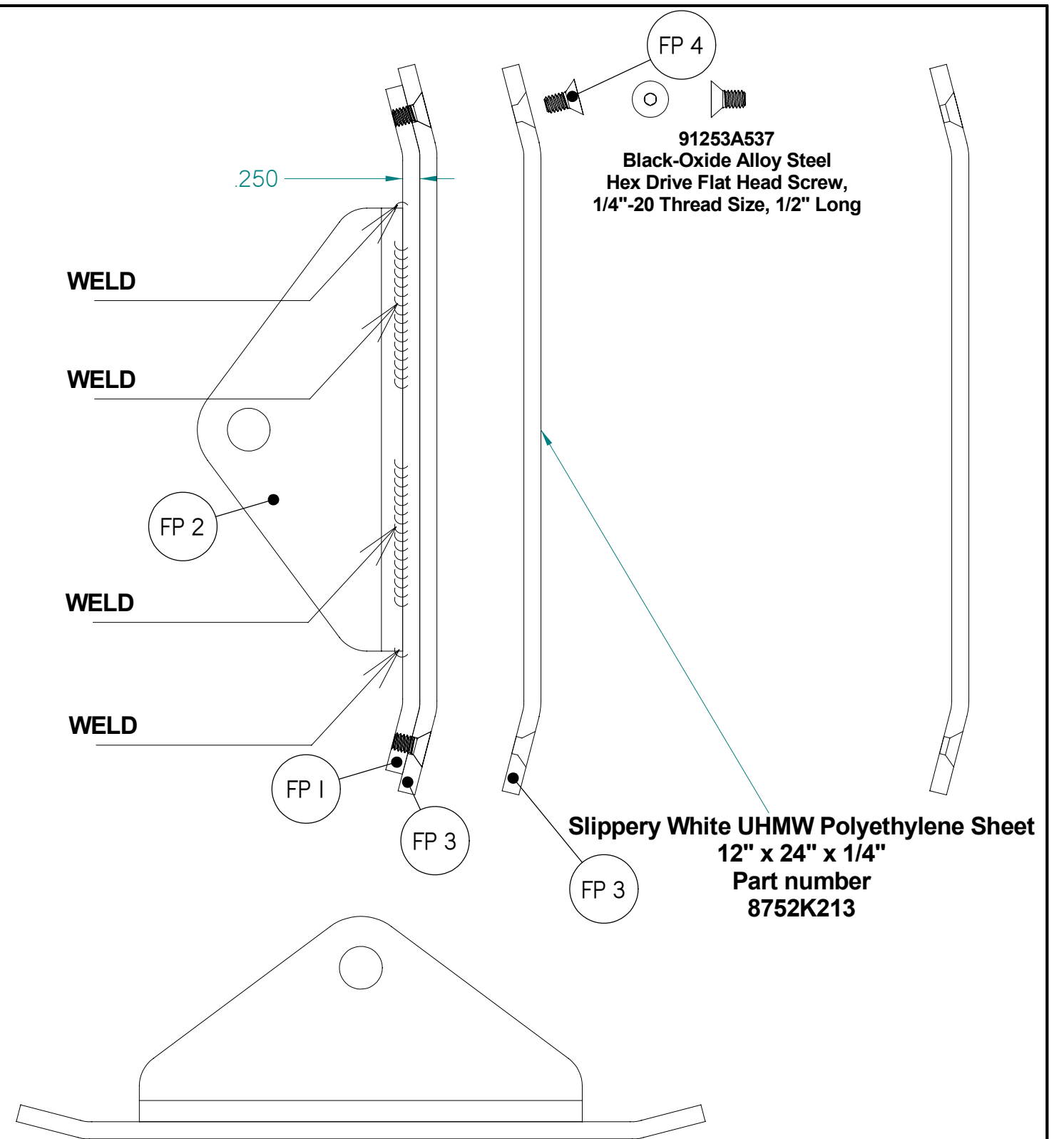
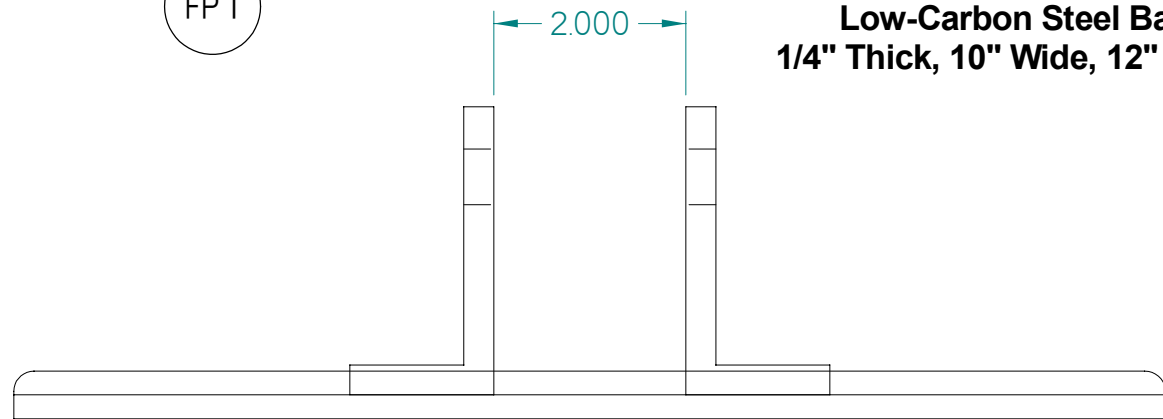


Gator Jaws with Angle Bracket; Mo-Clamp Part #4015; 2 Assemblies; With Extra Tap As Shown Above, Welded On

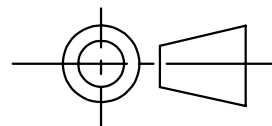
INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		LOWER CONTROL ARM ATTACHMENT CLAMPS (2) OF THESE ASSEMBLIES PER UNIT	
		DRAWN BY CHARLES P. O'BRIEN	DATE 07/22/2023
B	SCALE 1:2 in.	WEIGHT	
	SHEET 22		



9143K758
Low-Carbon Steel Bar
 1/4" Thick, 10" Wide, 12" Long



Slippery White UHMW Polyethylene Sheet
 12" x 24" x 1/4"
 Part number
 8752K213

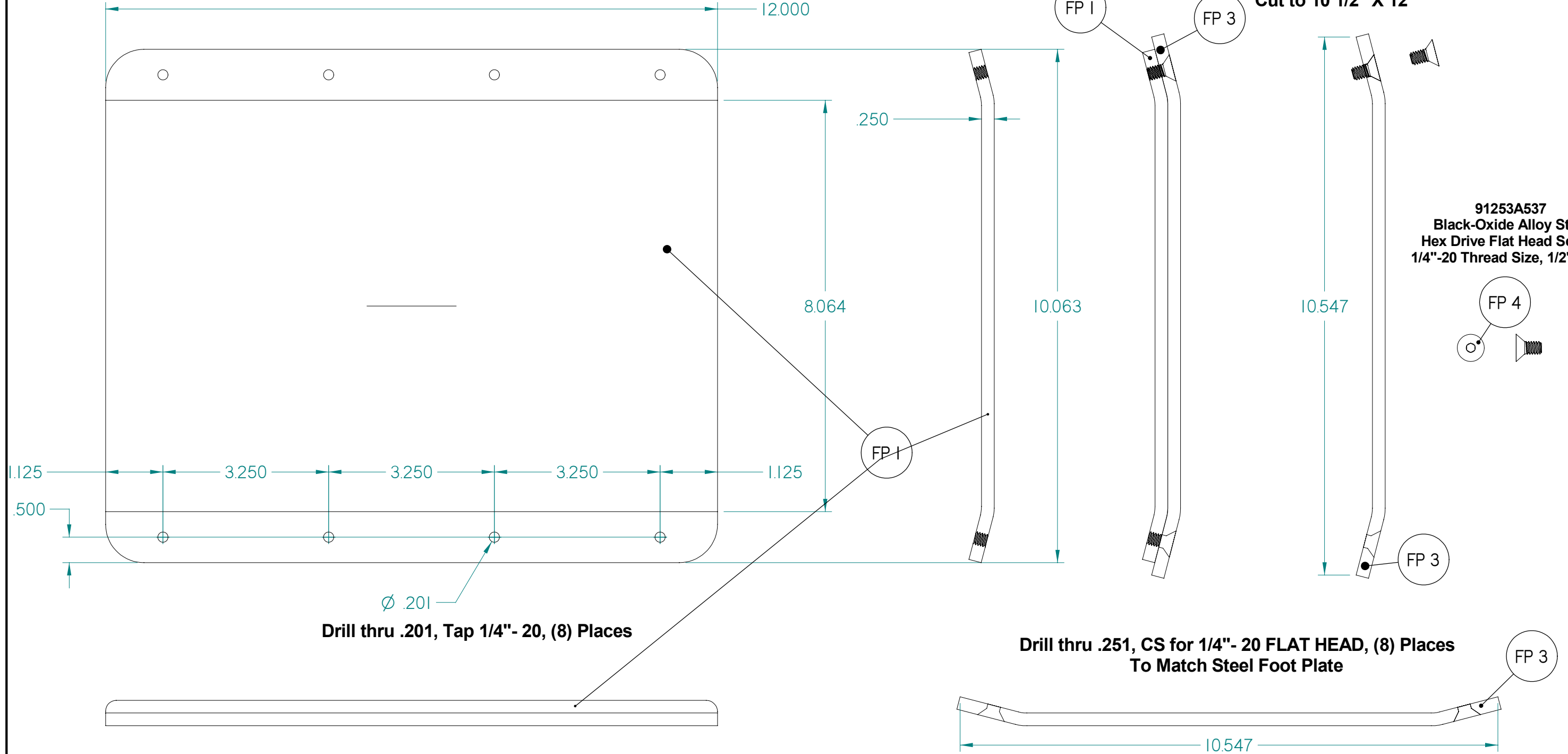


INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STEEL FOOT PLATE WITH POLYETHYLENE SHOE ASSEMBLY	
		DRAWN BY CHARLES P. O'BRIEN	DATE 07/22/2023
SCALE 1:2 in.	SHEET 23	WEIGHT	

9143K758
Low-Carbon Steel Bar
1/4" Thick, 10" Wide, 12" Long

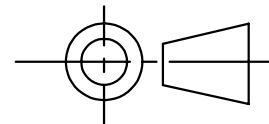
8752K213
Slippery White UHMW Polyethylene Sheet
12" x 24" x 1/4"
Cut to 10 1/2" X 12"

91253A537
Black-Oxide Alloy Steel
Hex Drive Flat Head Screw,
1/4"-20 Thread Size, 1/2" Long

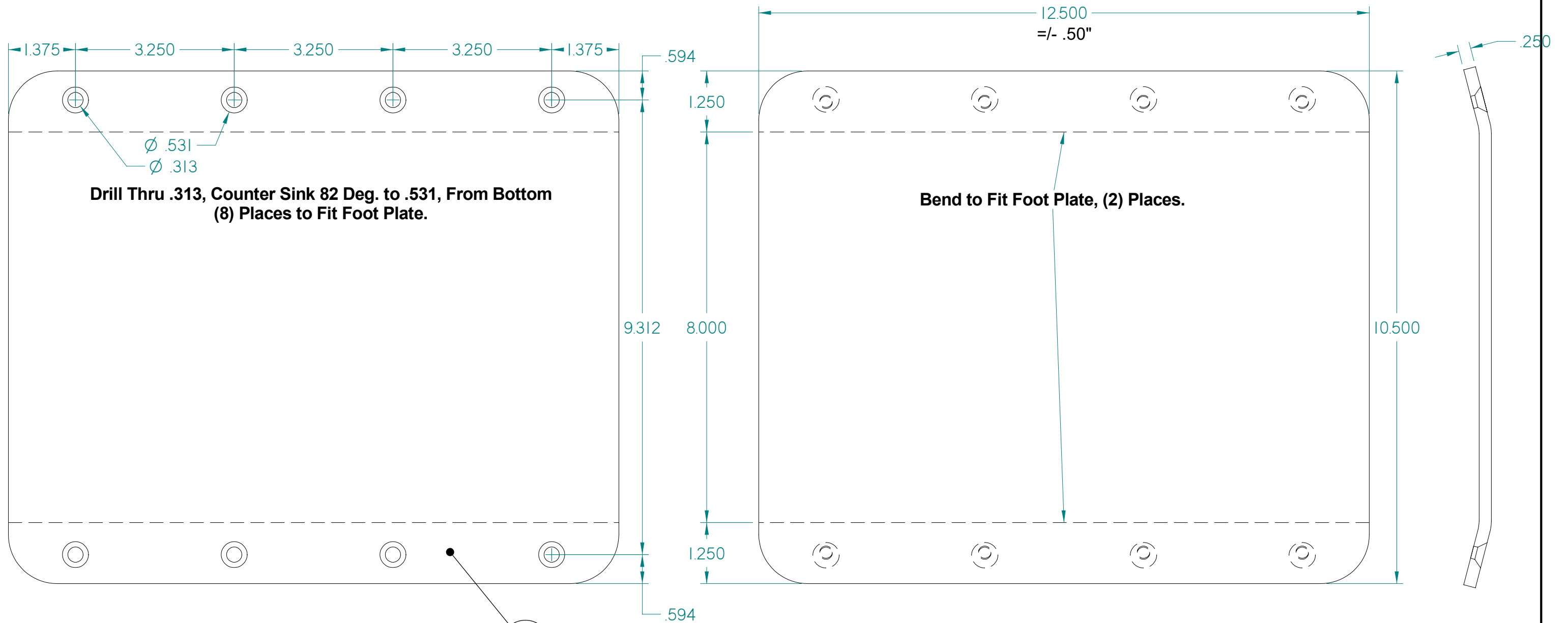


Drill thru .201, Tap 1/4"- 20, (8) Places

Drill thru .251, CS for 1/4"- 20 FLAT HEAD, (8) Places
To Match Steel Foot Plate



INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		STEEL FOOT PLATE DIMENSIONS	
		DRAWN BY	CHARLES P. O'BRIEN
SCALE	1:2 in.	DATE	07/24/2023
SHEET	24	WEIGHT	

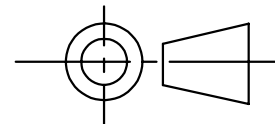


Drill Thru .313, Counter Sink 82 Deg. to .531, From Bottom
(8) Places to Fit Foot Plate.

Bend to Fit Foot Plate, (2) Places.

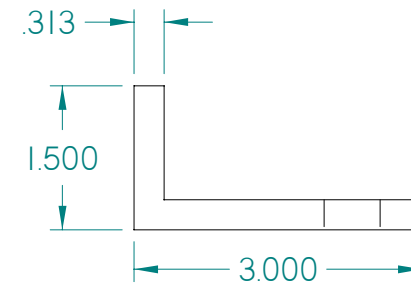
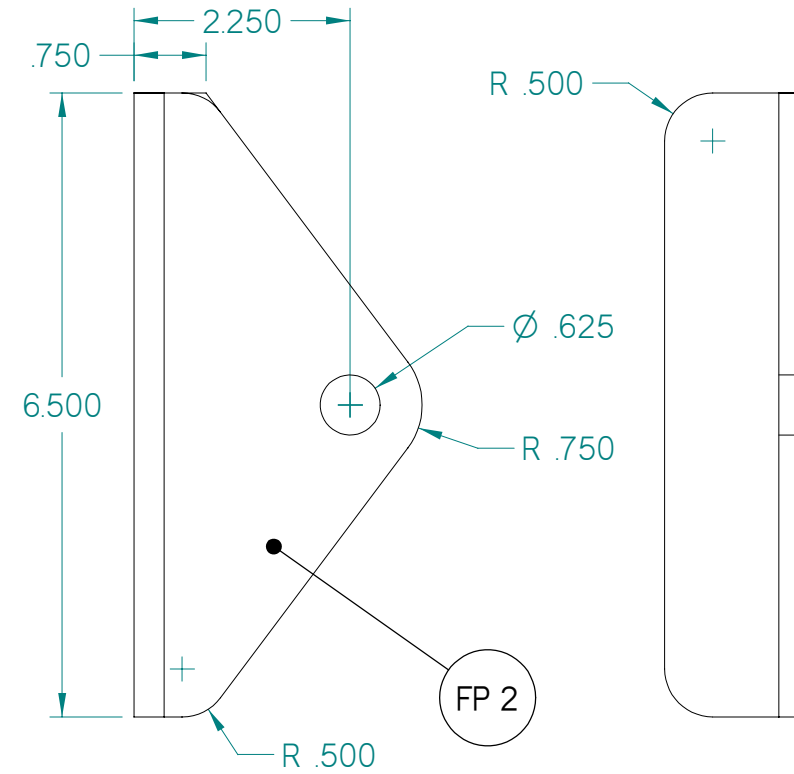
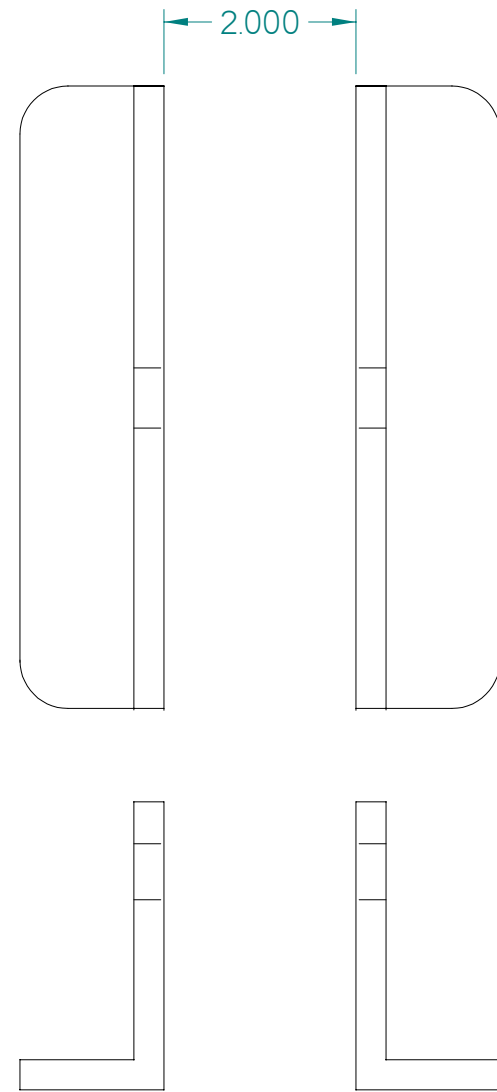
FP 3

(1) Pcs.
1/4" X 10.5" X 12.5", Cut From
Slippery White UHMW Polyethylene Sheet
12" x 24" x 1/4"
McMaster Carr Part number
8752K213

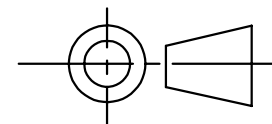


INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		POLYETHYLENE SHOE FOR STEEL FOOT PLATE DIMENSIONS	
SCALE 1:2 in.		DRAWN BY CHARLES P. O'BRIEN	
SHEET 25		DATE 07/22/2023	
B		WEIGHT	

2 OF THESE PER ASSEMBLY



6983N21
Low-Carbon Steel 90 Degree Angle
5/16" Wall Thickness, 3" x 2" Outside Size



INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		CLEVIS TABS FOR STEEL FOOT PLATE	
		DRAWN BY	CHARLES P. O'BRIEN
SCALE	1:2 in.	DATE	07/22/2023
	SHEET	26	WEIGHT

This device was built by IHS to be used in side impact tests of SUV's, pickups and minivans in the IHS Vehicle Research Center. Substitutions of parts, materials or fabrication methods may be required to facilitate the requirements at other test laboratories.

IHS SIDE IMPACT OUTRIGGER_MATERIALS LIST

PART LIST NUMBERS	SHEETS NUMBERS FOR PART LOCATIONS	MCMASTER CARR NUMBERS	DESCRIPTIONS	QUANTITY TO ORDER
FP 1	23,24	9143K758	Low-Carbon Steel Bar 1/4" Thick x 10" Wide x 12" Length	1
FP 2	23,26	6983N21	Low-Carbon Steel 90 Degree Angle 5/16" THICKNESS 3" X 2" UNEQUAL LEG 2 Ft. Length	1
FP 3	23,24,25	8752K213	Slippery White UHMW Polyethylene Sheet 1/4" Thickness 12" X 24" 1 Pcs.	1
FP 4	23,24	91253A537	Black-Oxide Alloy Steel Hex Drive Flat Head Screw 1/4" - 20 Thread Size 1/2" Long pack of 50	1
SP 1	4	89955K349	Easy-to-Weld 4130 Alloy Steel Round Tube 0.120" Wall Thickness 1-3/4" OD ft.6 Length	1
SP 2,3	4,7	8935K13	Hardened Multipurpose 4140 Alloy Steel Rod 1-3/4" Diameter ft.1/2 Length	1
SP 4	4,7,8	8935K36	Hardened Multipurpose 4140 Alloy Steel Rod 1" Diameter 1/2 ft. Length	1
SP 5	3,6	8910K557	Low-Carbon Steel Bar 1/4" Thick 2" Wide ft.2 Length	1
SP 6	4	89955K388	Easy-to-Weld 4130 Alloy Steel Round Tube 0.095" Wall Thickness 2" OD ft.6 Length	1
SP 7	3,5	9621K47	Die Spring Stock for 1-13/16" Hole Diameter 1-1/16" Shaft Diameter 36 inch Length	1
SP 8	3,5	9621K27	Die Spring Stock for 15/16" Hole Diameter 1/2 Shaft Diameter 36 inch Length	1
SP 9	3	* REI COOP	BlueWater 1" Climb-Spec Tubular Webbing BLACK, STRENGTH 18 KNs 10 Ft. IENGTH	1
SP 11	8	6554K17	Multipurpose 4140 Alloy Steel Bar 3/8" Thick 1-1/2" Wide 1 FT. Long	1
SP 12	4,8	6554K27	Multipurpose 4140 Alloy Steel Bar 1/2" Thick 1-1/2" Wide 1/2 Ft. Length	1
SP 13	4,8	8935K15	Hardened Multipurpose 4140 Alloy Steel Rod 2" Diameter 1/2 Ft. Length	1
SP 14, CA 7,14	11,12,15,19,20	9116K41	Oversized Hardened 4140 Alloy Steel Bar 1-1/2" Thick 1-1/2" Wide 1 FT. Length	1
SP 17	3	92620A622	Zinc Yellow-Chromate Plated Hex Head Screw Grade 8 Steel 3/8"-16 Thread Size 3/4" Long pack of 50	1
	3	98023A031	Zinc Yellow-Chromate Plated Grade 8 Steel Washer for 3/8" Screw Size 0.406" ID 0.812" OD pack of 50	1
	3	91104A031	Zinc Yellow-Chromate Plated Steel Split Lock Washer for 3/8" Screw Size 0.385" ID 0.68" OD pack of 100	1
SP 20	1,9,10,21	91257A726	Zinc Yellow-Chromate Plated Hex Head Screw Grade 8 Steel 1/2"-13 Thread 3-1/2" Long pack of 10	1
SP 30	10	9017K85	Low-Carbon Steel 90 Degree Angle, 3/8" Wall Thickness, 2" x 2" Outside Size 3 ft Long	1
SP 32	10	8910K949	Low-Carbon Steel Bar, 1/2" Thick, 2" Wide 1/2 Ft Long	1
SP 34	9	3314N737	High-Strength Black-Oxide Steel Threaded Rod GRADE 8 5/8"-11 Thread Size 1 Foot Long	2
SP 35	9	94902A106	High-Strength Steel Flange Nut Grade 8 Black-Phosphate 5/8"-11 Thread Size pack of 10	1
SP 36	10	2009N1	Black Buna-N Belting for Roller-Bed Conveyors 0.375" Thick 12" WIDE X 12" LENGTH 1 Pcs.	1
CA 1, 11	13,16	6527K274	Low-Carbon Steel Rectangular Tube 0.083" Wall Thickness 1-1/2" x 1-1/2" Outside Size 6 ft. Length	2
CA 2, 12	14,17	6527K45	Low-Carbon Steel Rectangular Tube 0.12" Wall Thickness 1-1/4" x 1-1/4" Outside Size 6 ft. Length	2
CA 3, 13	13,16	93410A116	Alloy Steel Acme Lead Screw Right Hand 5/8"-8 Thread Size 4 Feet Long	2
CA 4	13,16,18	8910K572	Low-Carbon Steel Bar 1/4" Thick 3" Wide 1 Foot Long	1
CA 5	13,16,20	93023A662	Carbon Steel Acme Coupling Nut Right Hand 5/8"-8 Thread Size 7/8" Hex	1
CA 6, 24	13,16	91083A035	Steel SAE Washer for 5/8" Screw Size Grade 8 0.656" ID X 1.312" OD pack of 36	1
CA 8	13,14,16,17,20	94815A108	Carbon Steel Acme Hex Nut Right Hand 5/8"-8 Thread Size 1 1/16" Hex	4
CA 9, 10	12,14,15,17,22	94902A107	High-Strength Steel Flange Nut Grade 8 Black-Phosphate 5/8"-18 Thread Size pack of 10	1
CA 15	12,15,22	6960T26	Super-Swivel Ball Joint Rod End Zinc Plated 5/8"-18 Thread RH	2
CA 16	14,17,20	6527K164,	Low-Carbon Steel Rectangular Tube, 0.065" Wall Thickness, 3/4" x 3/4" Outside Size, Length, 1 ft.	1
CA 20	1,2,9,12,15,21	91257A726	Zinc Yellow-Chromate Plated Hex Head Screw Grade 8 Steel 1/2"-13 Thread 3-1/2" long Pack of 10	1
CA 21	1,9,12,15	98023A033	Zinc Yellow-Chromate Plated Steel Washer for 1/2" Screw Size Grade 8 0.531" ID X 1.062" OD pack of 25	1
CA 22	1,9,12,15	97135A250	High-Strength Steel Nylon-Insert Locknut Grade 8 Zinc Yellow-Chromate Plated 1/2"-13 Thread Size pack of 10	1
CA 23	1,12,15,21,22	91257A810	Zinc Yellow-Chromate Plated Hex Head Screw Grade 8 Steel 5/8"-11 Thread Size 4" Long Partially Threaded pack of 5	1
CA 24	1,2,12,15,22	98023A035	Zinc Yellow-Chromate Plated Grade 8 Steel Washer for 5/8" Screw Size 0.656" ID 1.312" OD pack of 25	1
CA 25	1,2,12,15,22	94945A227	High-Strength Steel Thin Nylon-Insert Locknut Grade 8 Zinc Yellow-Chromate Plated 5/8"-11 Thread Size pack of 10	1
CA 26	21,22	91257A821	Zinc Yellow-Chromate Plated Hex Head Screw Grade 8 Steel 5/8"-11 Thread Size, 7-1/2" long	1

ITEM# 12 - * (SP 9) FOUND AT_ <https://www.rei.com/product/737298/bluewater-1-climb-spec-tubular-webbing>,

(MO-CLAMP #4015 FRAME RACK CLAMPS)_ FOUND AT_ <https://shop.moclamp.com/shop/p/4015-frame-rack-clamps-w-angle-brackets-set-of-4>

(FP) = FOOT PLATE, (SP) = STRUT PART, (CA) = CONTROL ARM.

INSURANCE INSTITUTE FOR HIGHWAY SAFETY VEHICLE RESEARCH CENTER <small>988 Dairy Road • Ruckersville, VA • 22968 434-985-4600 • fax: 434-985-2202</small>		IHS SIDE IMPACT OUTRIGGER MATERIAL LIST	
		DRAWN BY	CHARLES P. O'BRIEN
B	SCALE	DATE	7/22/2023
	SHEET		WEIGHT
		27	