

Heli-Chair Mechanical Drawings

(see thick line version at end of document for printing)

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Heli-Chair Mechanical Drawings

(see thick line version at end of document for printing)

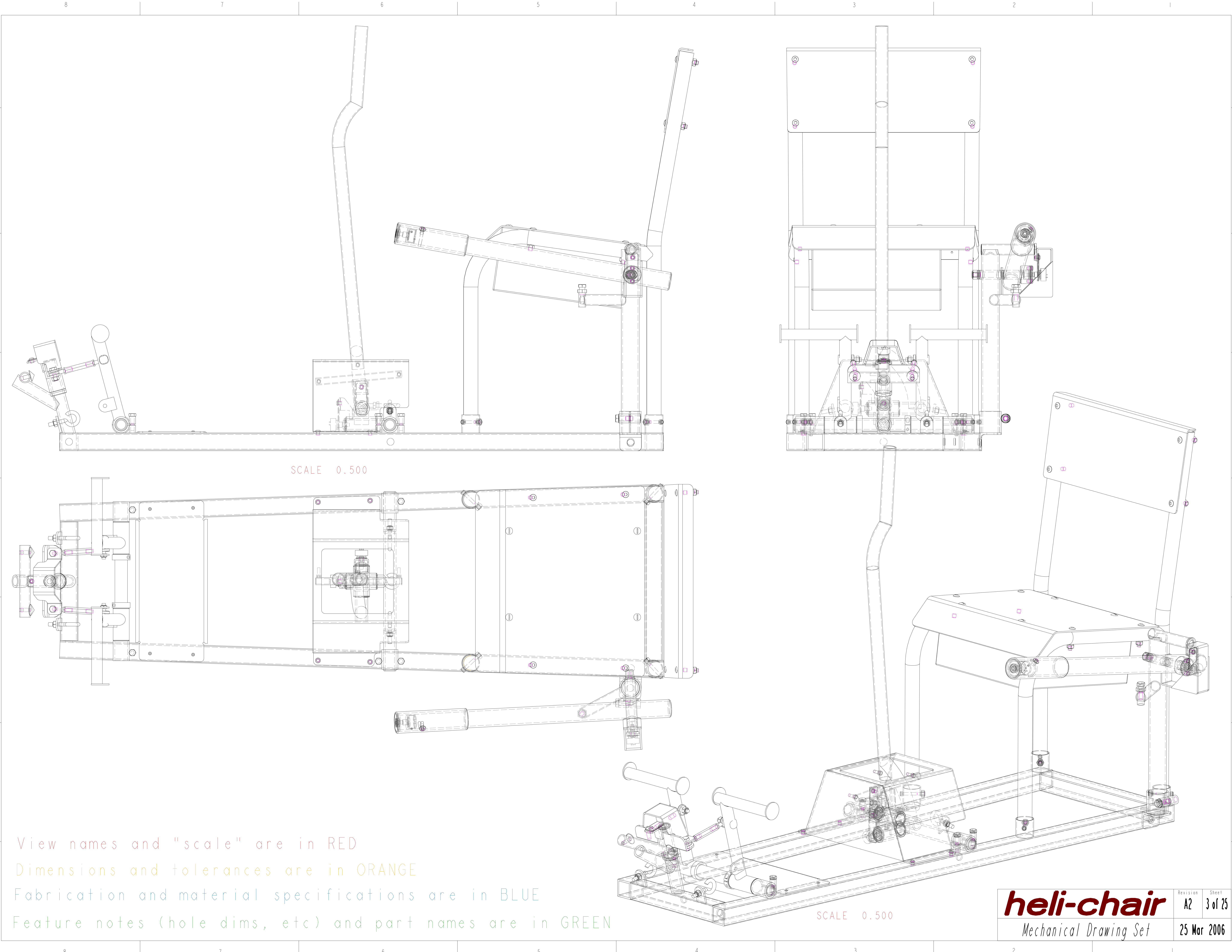
8	7	6	5	4	3	2	1
H							H
G							G
F							F
E							E
D							D
C							C
B							B
A							A
8	7	6	5	4	3	2	1

Date	Rev.	Changes
19 Mar 2006	A1	Initial drawing release
25 Mar 2006	A2	Added "people proofing" guard assemblies, under seat box

Part Listing and BOM				
IDX #	Item Name			Qty
1	BASE_FRAME_WELDMENT_ASSEMBLY	BASE_FRAME_FRONT		
		BASE_FRAME_REAR		
		BASE_FRAME_LEFT		
		BASE_FRAME_RIGHT		
		PAN_TAB_SHORT		
		COLLECTIVE_MOUNT_WELDMENT	COLLECTIVE_MOUNT_ANGLE_BRACKET	1
			COLLECTIVE_MOUNT_BOSS	1
			COLLECTIVE_MOUNT_THREADED_SPUD	1
			WASHER_0313_040	1
			BOLT_0313X24_L1000	1
		SPLIT_CLAMP_DOUBLE	SPLIT_CLAMP_BOSS	1
			SPLIT_CLAMP_THREADED_SPUD	2
			WASHER_0250_040	2
			BOLT_0250X28_L1000	2
		SPLIT_CLAMP_SINGLE_RIGHT	SPLIT_CLAMP_BOSS	1
			SPLIT_CLAMP_THREADED_SPUD	1
			WASHER_0250_040	1
			BOLT_0250X28_L1000	1
		SPLIT_CLAMP_SINGLE_LEFT	SPLIT_CLAMP_BOSS	1
			SPLIT_CLAMP_THREADED_SPUD	1
			WASHER_0250_040	1
			BOLT_0250X28_L1000	1
		SEAT_FOOTPRINT		
		SEAT_SPUD_SUBASSEMBLY	SEAT_MOUNT_SPUD	1
			BOLT_10-32_1500_SOCKETHEAD	1
			WASHER_1032_040	1
			NUT_0250-20_NYLOCK	1
		PEDAL_POST_WELDMENT	PEDAL_POST	1
			PEDAL_POST_FLANGE	1
			PEDAL_POST_STOP_POSSITIONER	1
			PEDAL_POST_STOP_BAR	1
			RUBBER BUMPER	2
			PEDAL_POST_POT_GRIPWASHER	1
2	SEAT_STANDARD_ASSEMBLY	SEAT_FOOTPRINT		
		SEAT_FRAME_HALF	SEAT_FRAME_POST	1
			SEAT_FRAME_LEG	1
		SEAT_BACK		
		SEAT_BOTTOM		
		BOLT_BUTTONHEAD_0250_1500		
		WASHER_0250_040		
		NUT_0250-20_NYLOCK		
		UNDER_SEAT_BOX		
		DZEUS_BUTTON		
		RIVET_BLIND		
		DZEUS_SPRING		
3	KICK_PLATE			
4	RIVET_BLIND			
5	PEDAL_PIVOT_BAR			
6	SPACER_NYLON_025			
7	SPACER_NYLON_100			
8	WALKING_BAR_WELDMENT	WALKING_BAR_PIVOT_BUSHING		
		WALKING_BAR_ARM_LEFT		
		WALKING_BAR_ARM_RIGHT		

		WALKING_BAR_POT_MOUNT		
9	EYE_BOLT			
10	WASHER_0250_040			
11	NUT_0250-20_NYLOCK			
12	PEDAL_WELDMENT_LEFT	PEDAL_PIVOT_BUSHING		
		PEDAL_RISER		
		PEDAL_FOOT_BAR		
		PEDAL_FOOT_CATCH		
		PAN_TAB_SHORT		
13	PEDAL_WELDMENT_RIGHT	PEDAL_PIVOT_BUSHING		
		PEDAL_RISER		
		PEDAL_FOOT_BAR		
		PEDAL_FOOT_CATCH		
		PAN_TAB_SHORT		
14	PEDAL_LINKAGE_ASSEMBLY	THREADED_LINKAGE_HEX		
		ROD_END_0250_LH		
		ROD_END_0250_RH		
		NUT_JAMB_0250_LH		
		NUT_JAMB_0250_RH		
15	BOLT_CUSTOM_SHAPED			
16	NUT_0250-28_NYLOCK			
17	BOLT_0250X28_L0750			
18	SPLIT_BAR_CLAMP			
19	POTENTIOMETER_PLATE_PEDALS			
20	BOLT_BUTTONHEAD_0188_0250			
21	WASHER_0375_070			
22	POTENTIOMETER			
23	CIRCLIP			
24	CYCLIC_SUBASSEMBLY	CYCLIC_MOUNT_WELDMENT	CYCLIC_CROSS_BAR	1
			CYCLIC_MOUNT_STUB	1
			PAN_TAB_COPEd	2
			CYCLIC_GIMBAL_POT_GRIPWASHER	1
		CIRCLIP		
		SPACER_NYLON_025		
		CYCLIC_GIMBAL_WELDMENT	CYCLIC_GIMBAL_LATERAL_BUSHING	1
			CYCLIC_GIMBAL_FOREAFT_BUSHING	1
			CYCLIC_GIMBAL_POT_MOUNT	2
			CYCLIC_GIMBAL_TIEPLATE	2
			CYCLIC_FOREAFT_SPRING_SUPPORT	1
			CYCLIC_GIMBAL_SPRING_ROD	1
			BOLT_10-32_0500_SOCKETHEAD	2
			CYCLIC_GIMBAL_AFT_SPRING_MOUNT	1
		GROMMET		
		EYE_BOLT		
		WASHER_0250_040		
		NUT_0250-20_NYLOCK		
		POTENTIOMETER_PLATE_CYCLIC		
		BOLT_BUTTONHEAD_0188_0250		
		WASHER_0375_070		
		POTENTIOMETER		
		CYCLIC_WELDMENT	CYCLIC_STICK_PIVOT	1
			CYCLIC_GIMBAL_POT_GRIPWASHER	1
			CYCLIC_STICK_S1	1
			CYCLIC_STICK_P2	1

			BOLT_10-32_0500_SOCKETHEAD	1
		N14		
25	GROMMET			
26	COLLECTIVE_SUBASSEMBLY	COLLECTIVE_RISER_WELDMENT	COLLECTIVE_RISER	1
			COLLECTIVE_RISER_PIVOT_BUSHING	1
			COLLECTIVE_RISER_UPSTOP	1
			COLLECTIVE_RISER_DOWN_STOP	1
			COLLECTIVE_RISER_DOWNSTOPSPUD	1
			COLLECTIVE_POT_MOUNTING_TAB	1
		COLLECTIVE_HOUSING		
		BOLT_0375X24_L1000		
		N38		
		WASHER_0375_070		
		COLLECTIVE_WELDMENT	COLLECTIVE	1
			COLLECTIVE_PIVOT	1
			COLLECTIVE_GROMMET_BOSS	1
		POTENTIOMETER_PLATE_COLLECTIVE		
		BOLT_BUTTONHEAD_0188_0250		
		POTENTIOMETER		
		COLLECTIVE_POT_GRIP_PLATE		
		GROMMET		
		BOLG_375-16_3500_SOCKETHEAD		
		WASHER_NYLON_375_020		
		NUT_0375-16_NYLOCK		
		THROTTLE_GRIP_WELDMENT	THROTTLE_GRIP	1
			THROTTLE_GRIP_ENDPLATE	1
		THROTTLE_POT_POSITIONER		
		THROTTLE_CUSTOM_BOLT		
		SET_SCREW_5-40_0125		
		COLLECTIVE_HOUSING_CORNERPLATE		
27	CYCLIC_GIMBAL_HOUSING			
28	WALKING_BAR_HOUSING			
29	WALKING_BAR_HOUSING_PLATE			
30	CYCLIC_HOUSING_PLATE_FRONT			



View names and "scale" are in RED

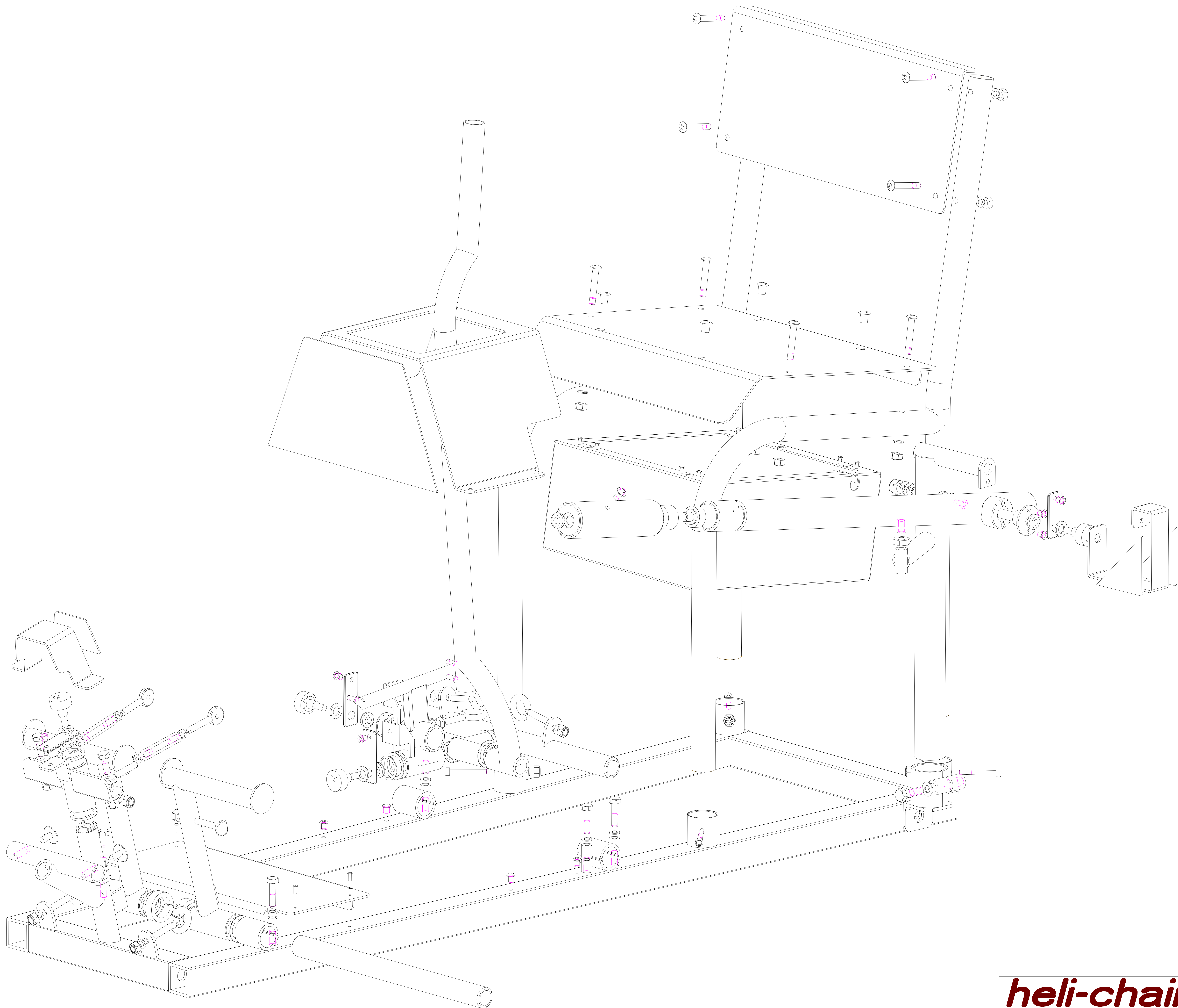
Dimensions and tolerances are in ORANGE

Fabrication and material specifications are in BLUE

Feature notes (hole dims, etc) and part names are in GREEN

heli-chair
Mechanical Drawing Set

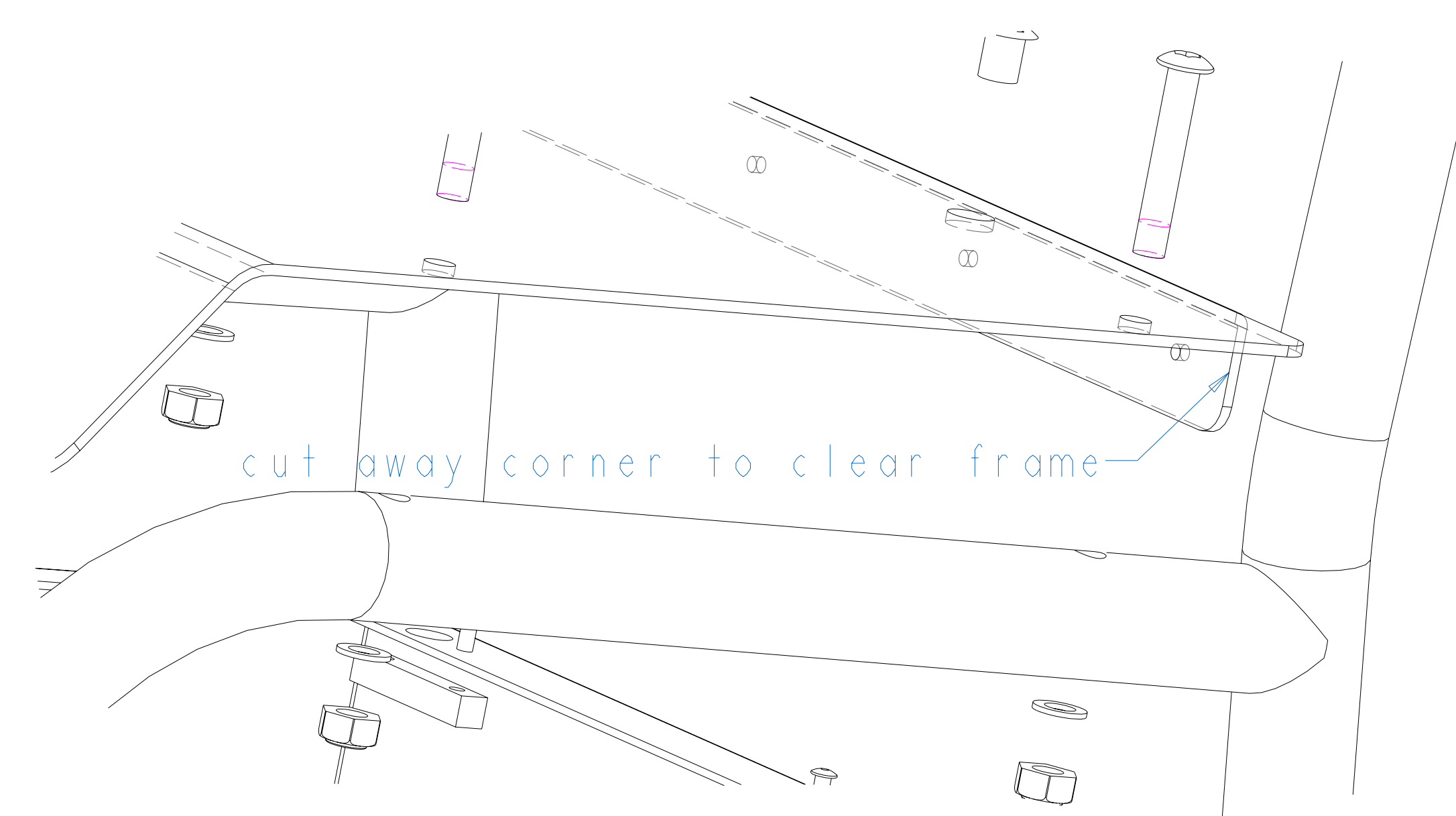
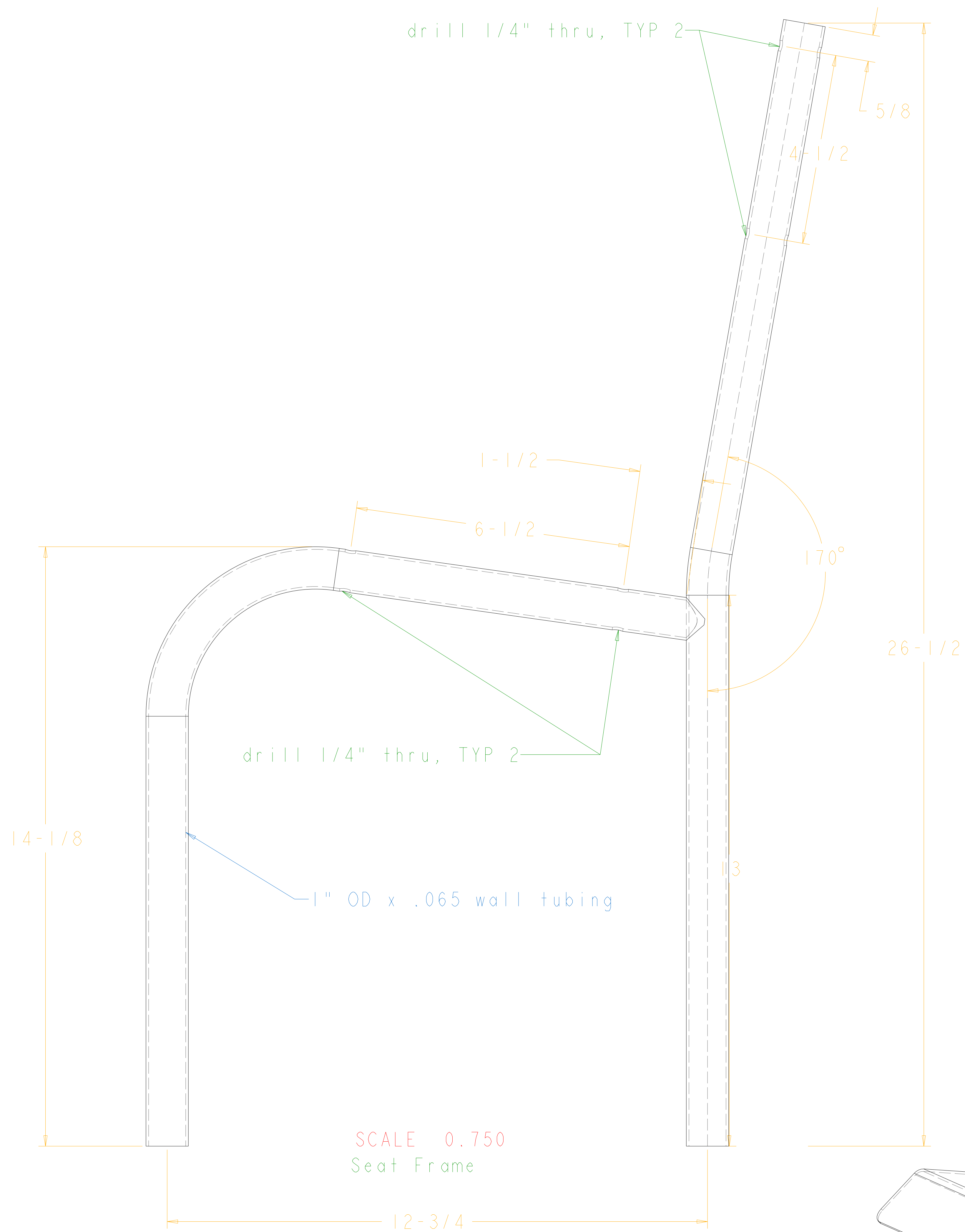
Revision	Sheet
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25 Mar 2006	



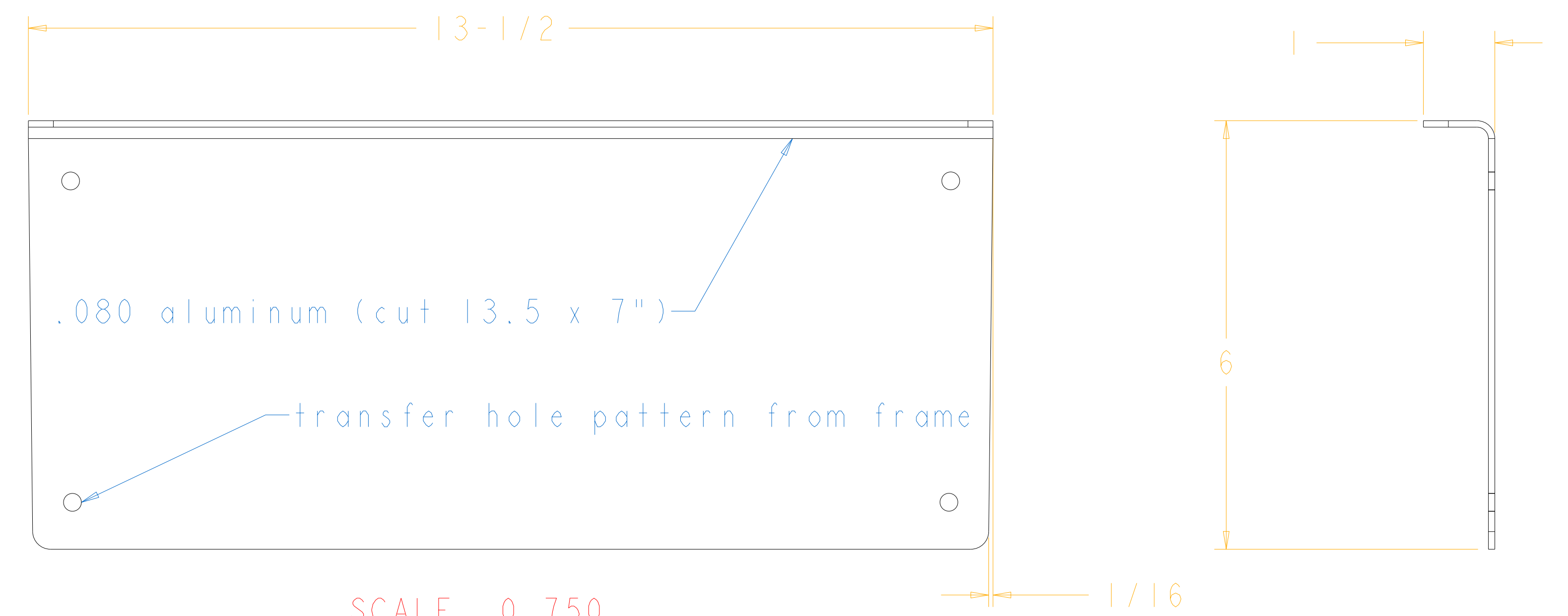
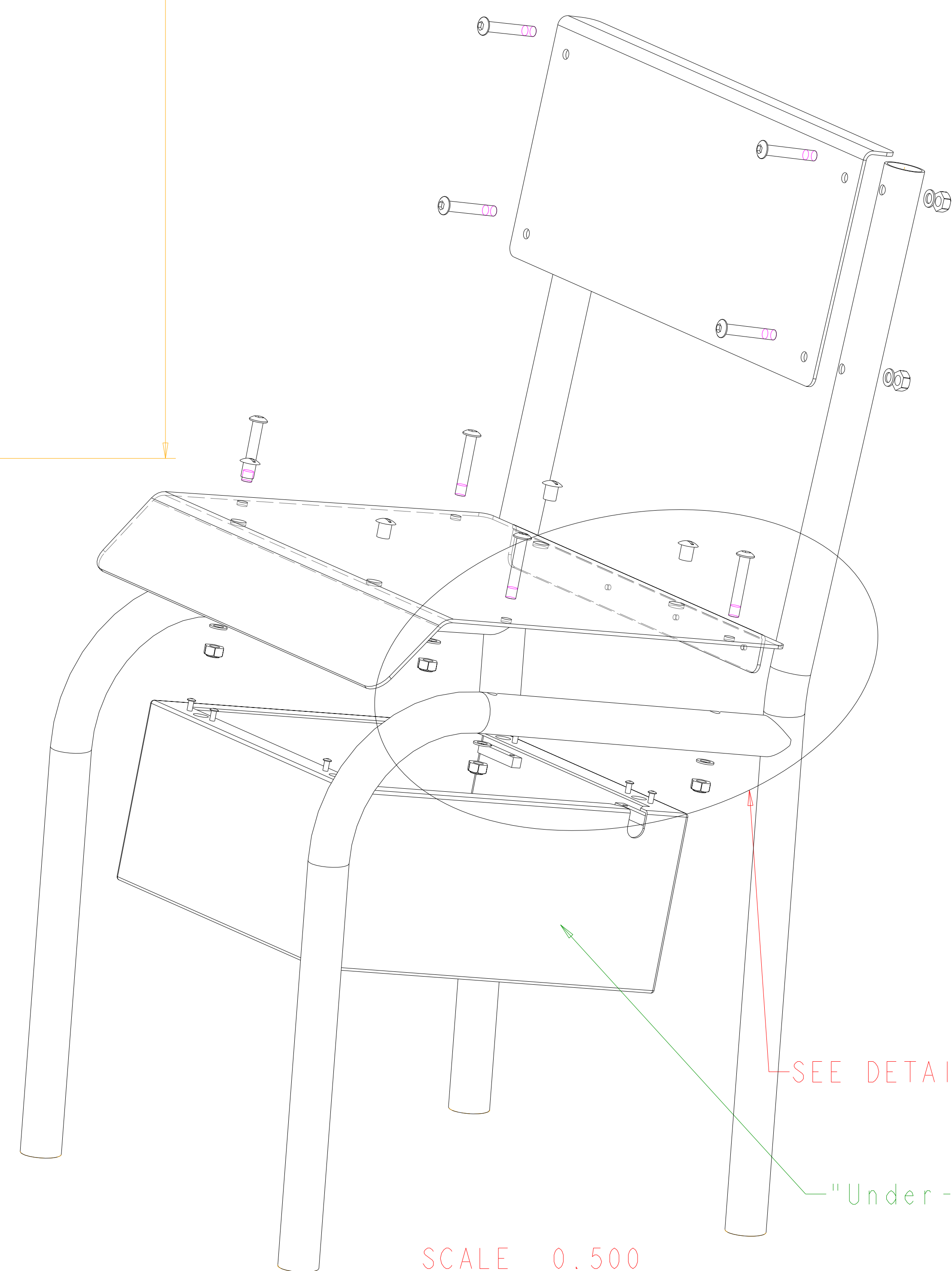
SCALE 0.750

heli-chair
Mechanical Drawing Set

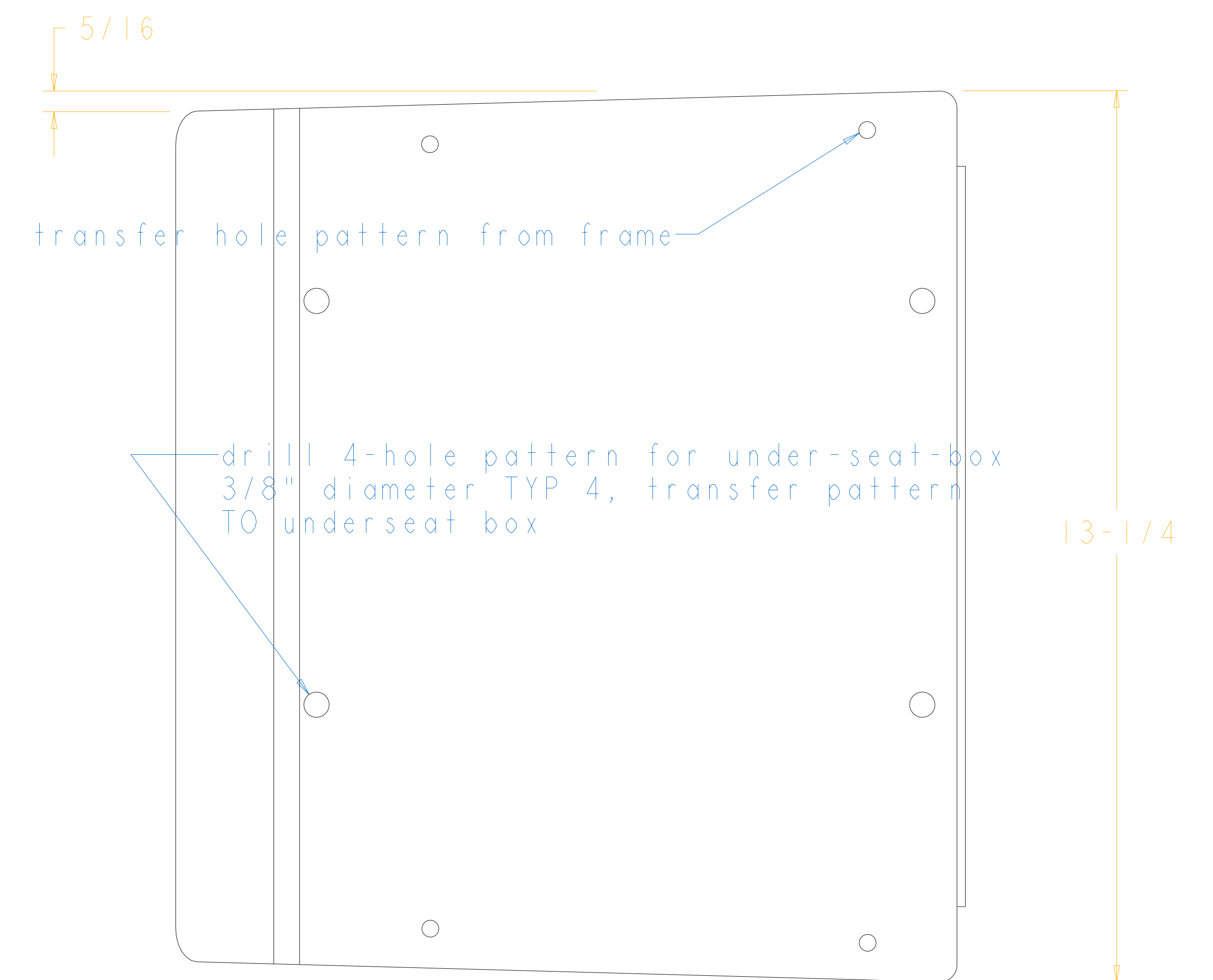
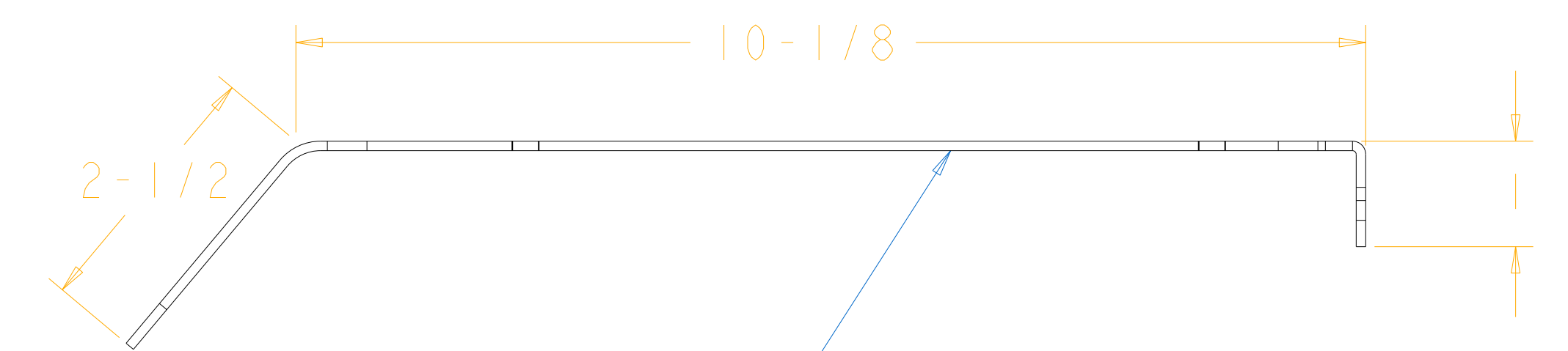
Revision	Sheet
A2	4 of 25
25 Mar 2006	



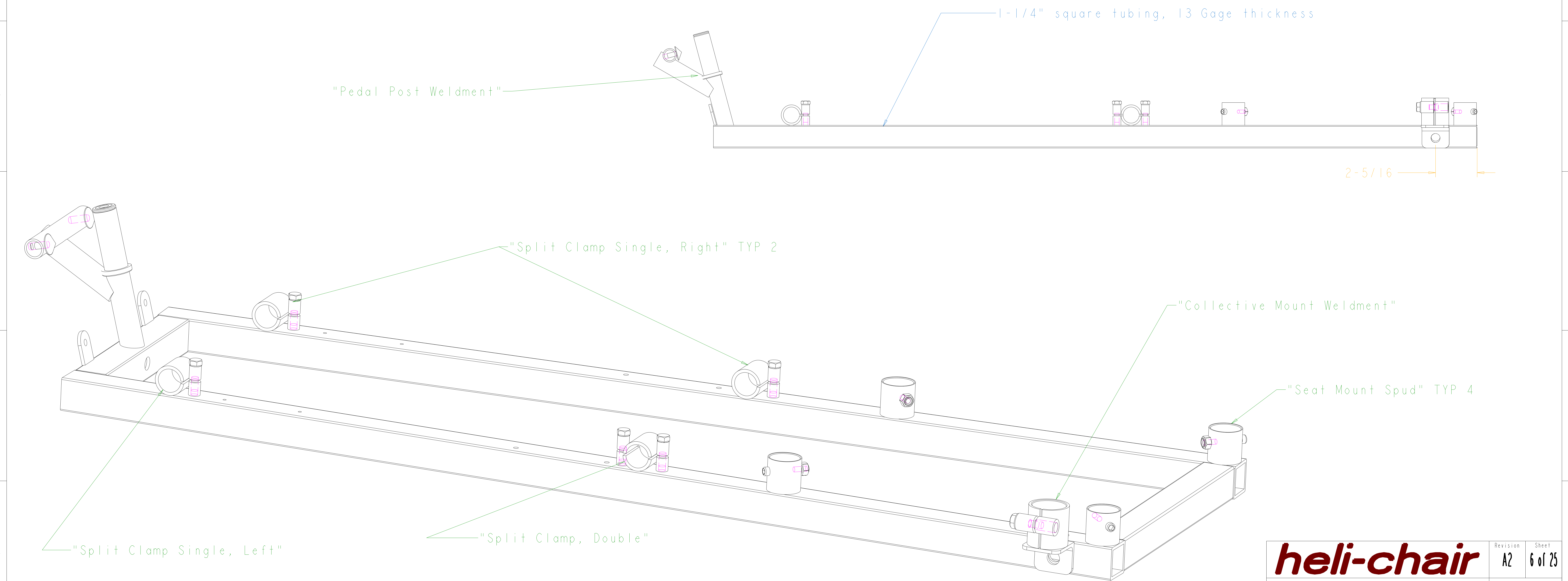
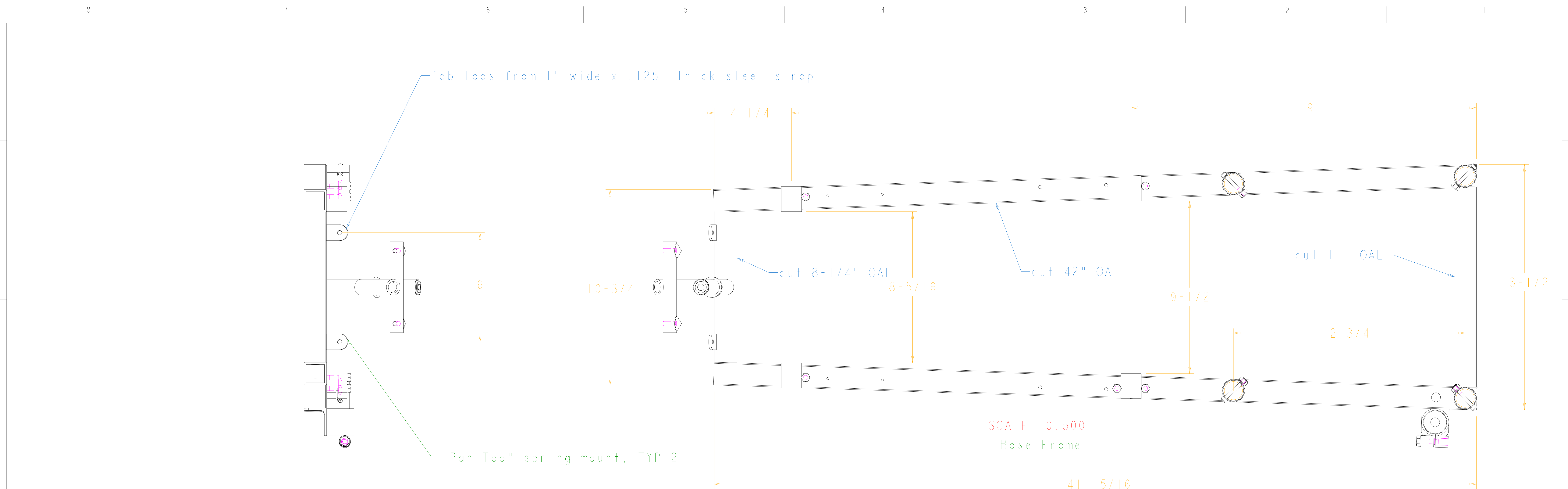
DETAIL SEAT BOTTOM CUT
SCALE 1.000

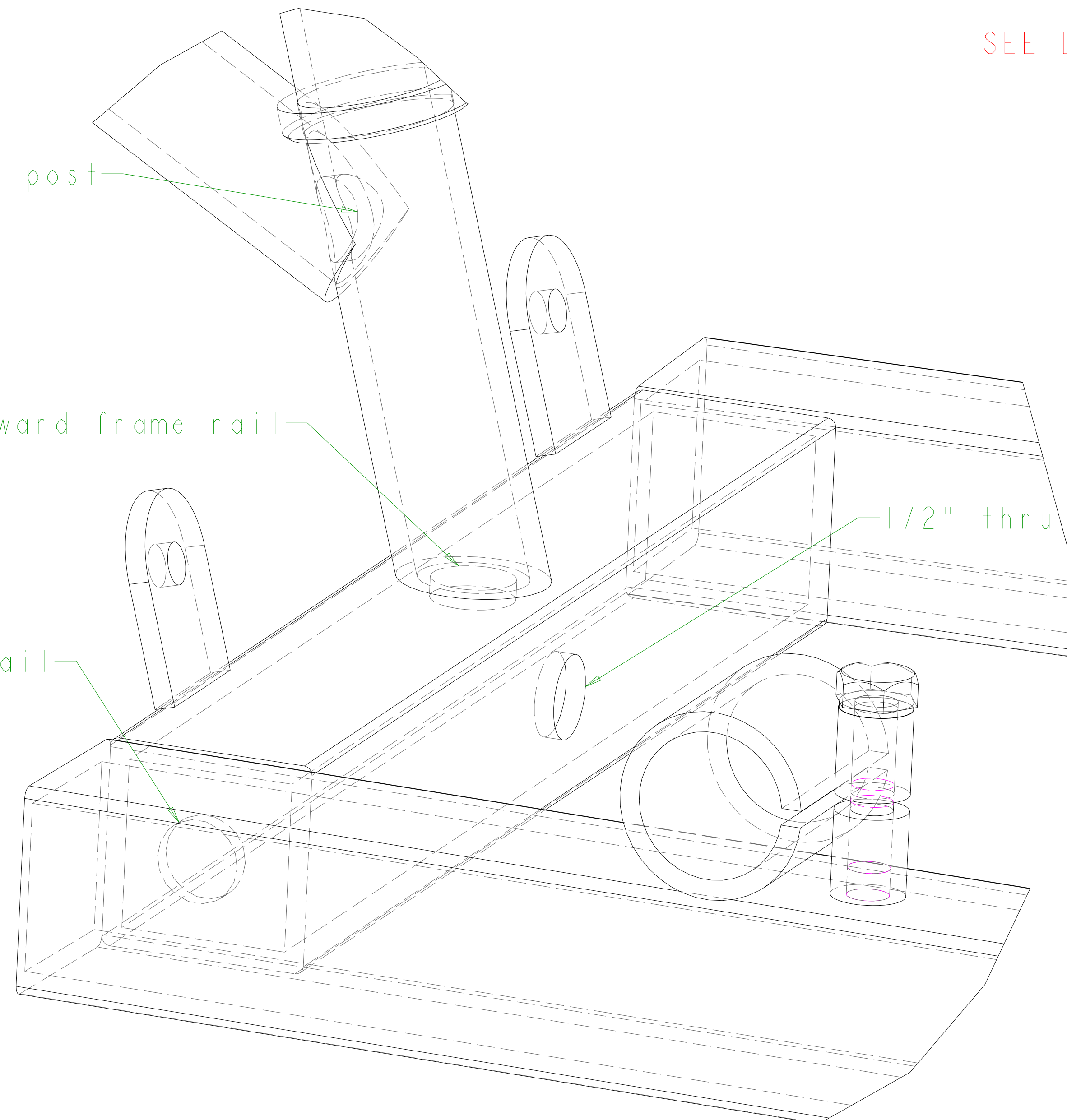


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Seat Back

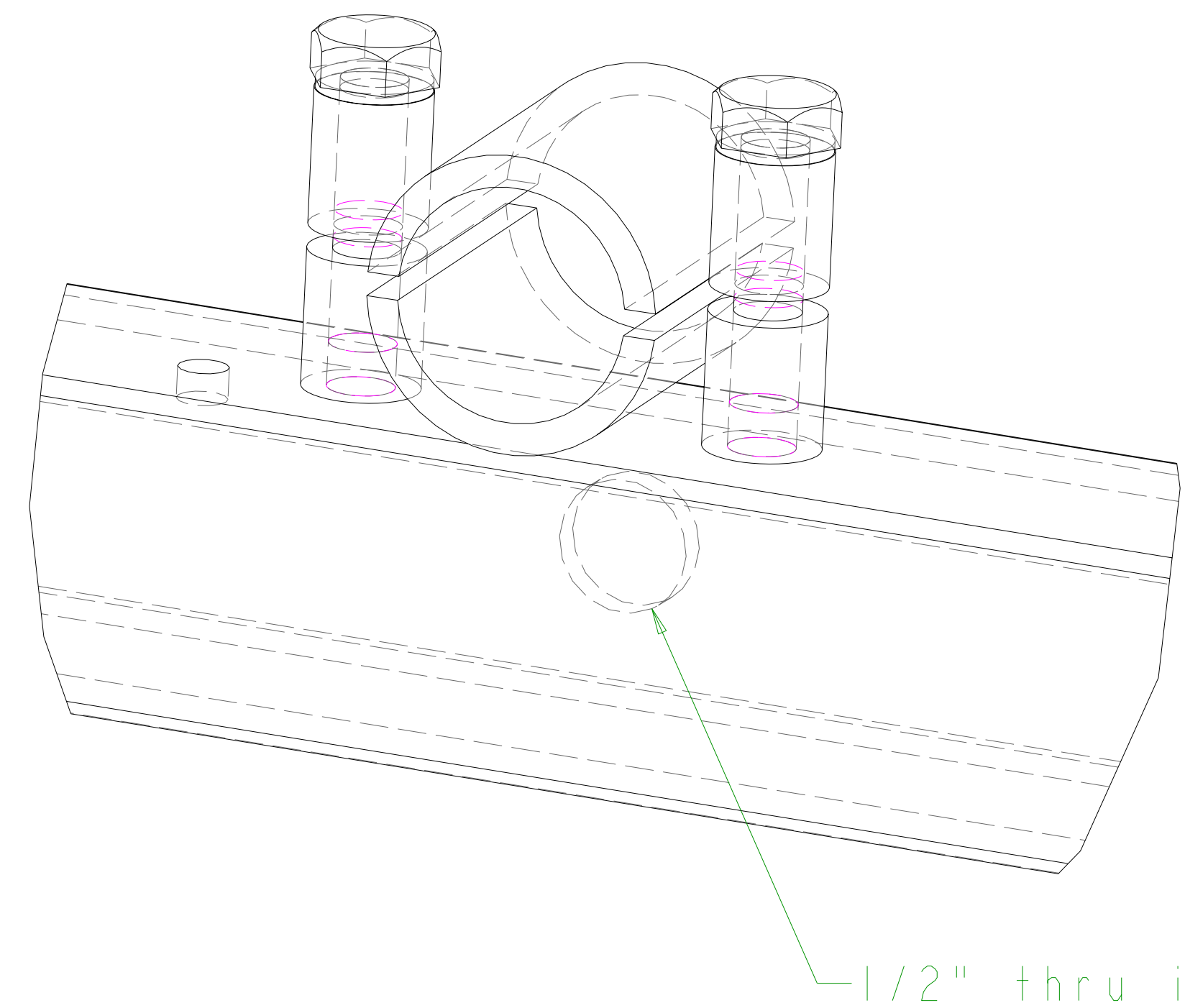


SCALE 0.750
Seat Bottom

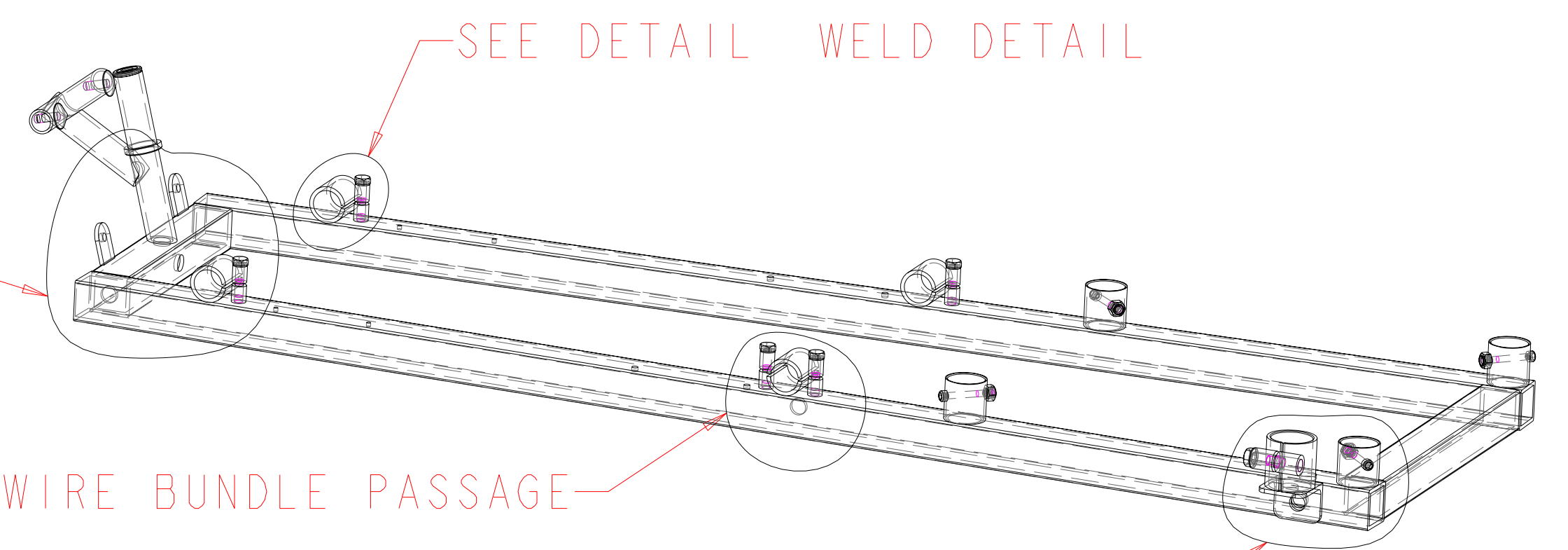




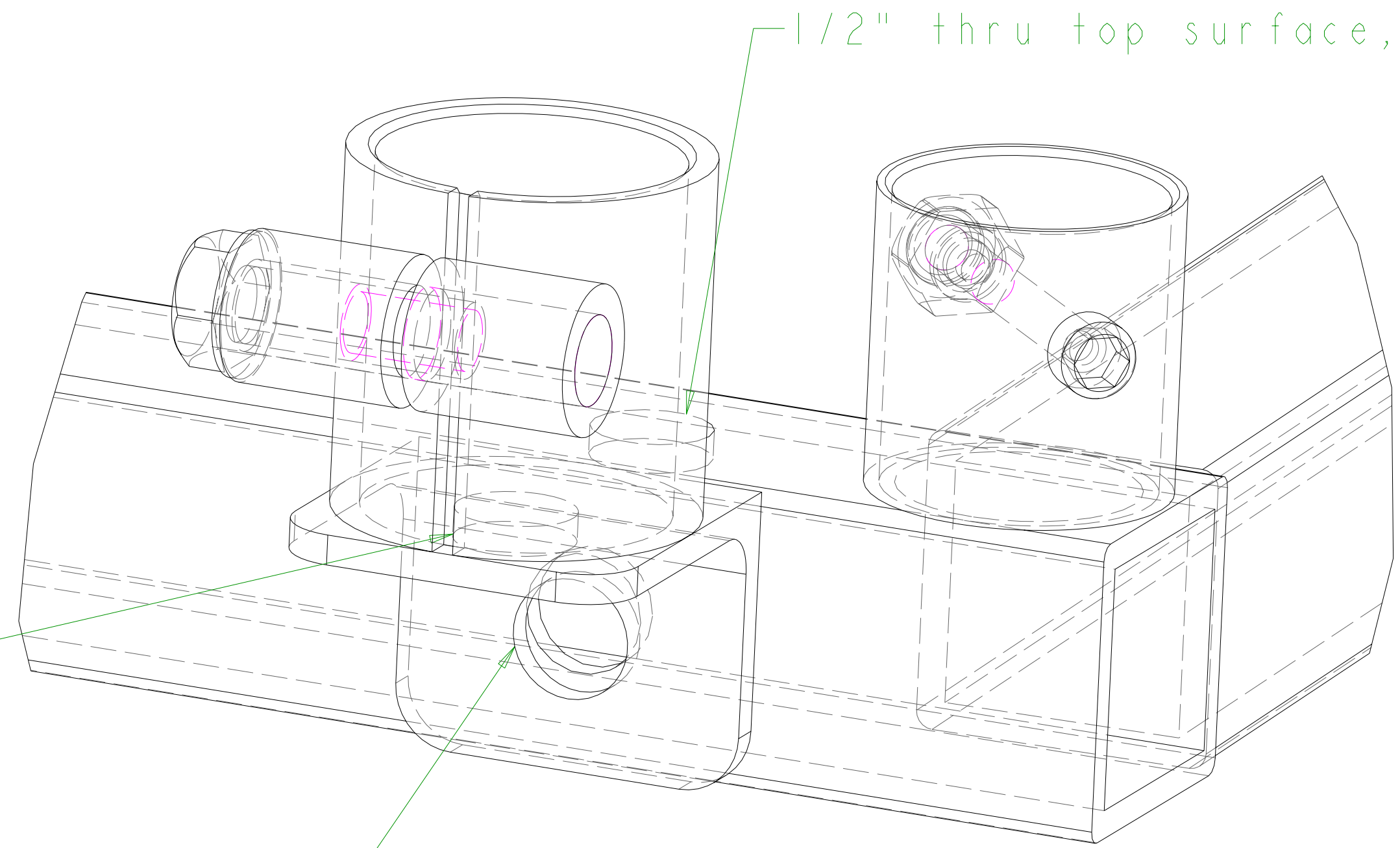
DETAIL FORWARD WIRE BUNDLE PASSAGE
SCALE 2.000



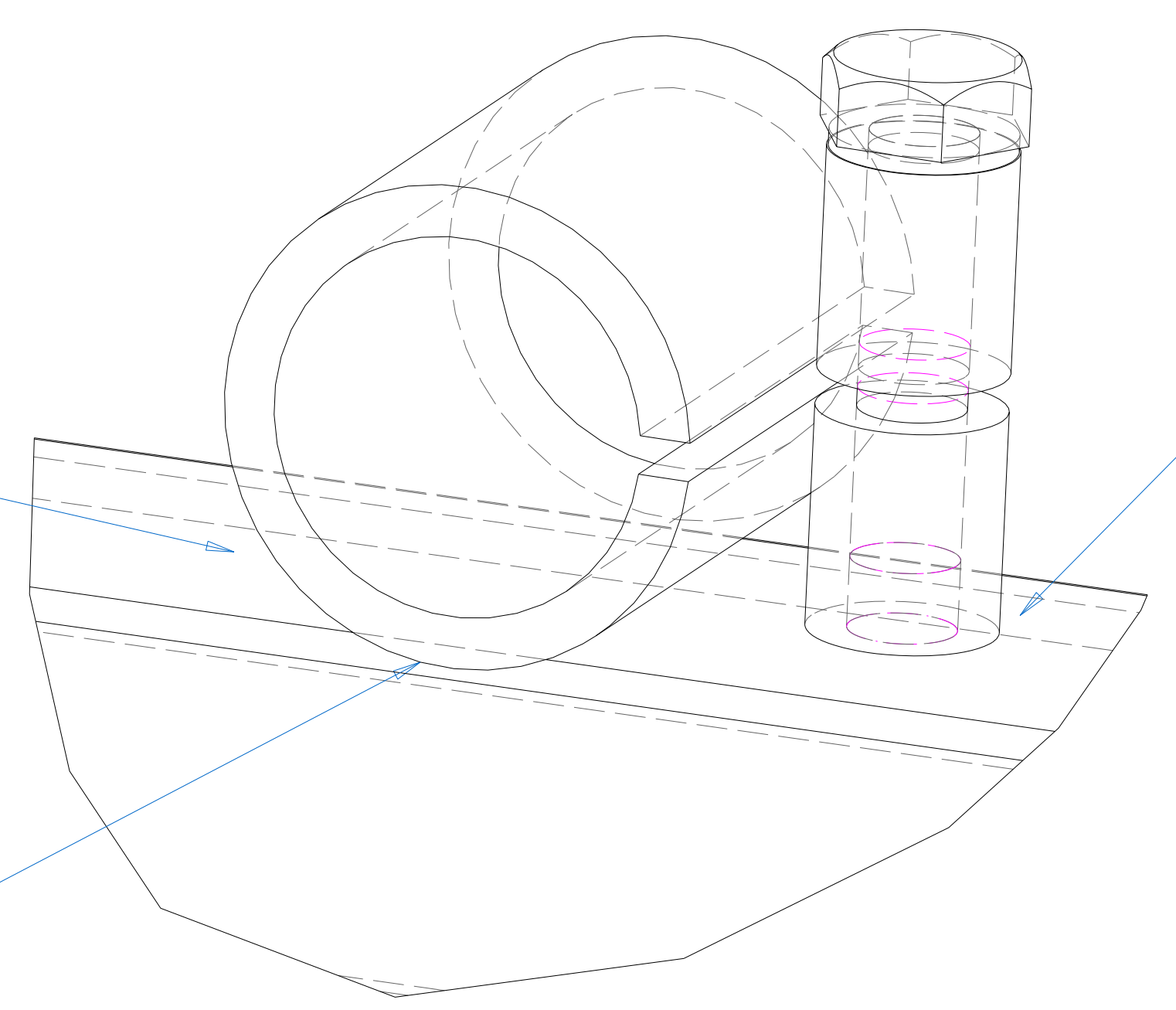
DETAIL CYCLIC WIRE BUNDLE PASSAGE
SCALE 2.000



SCALE 0.250

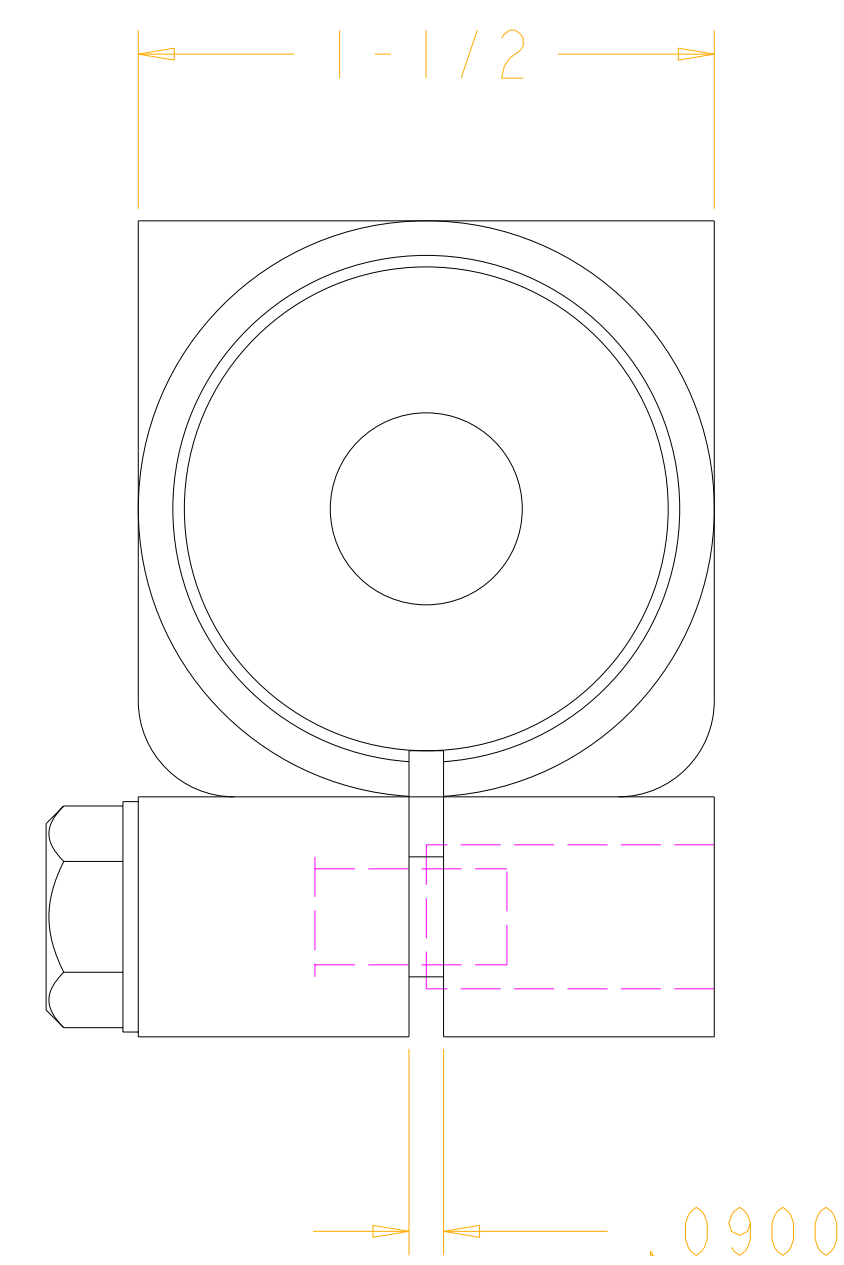
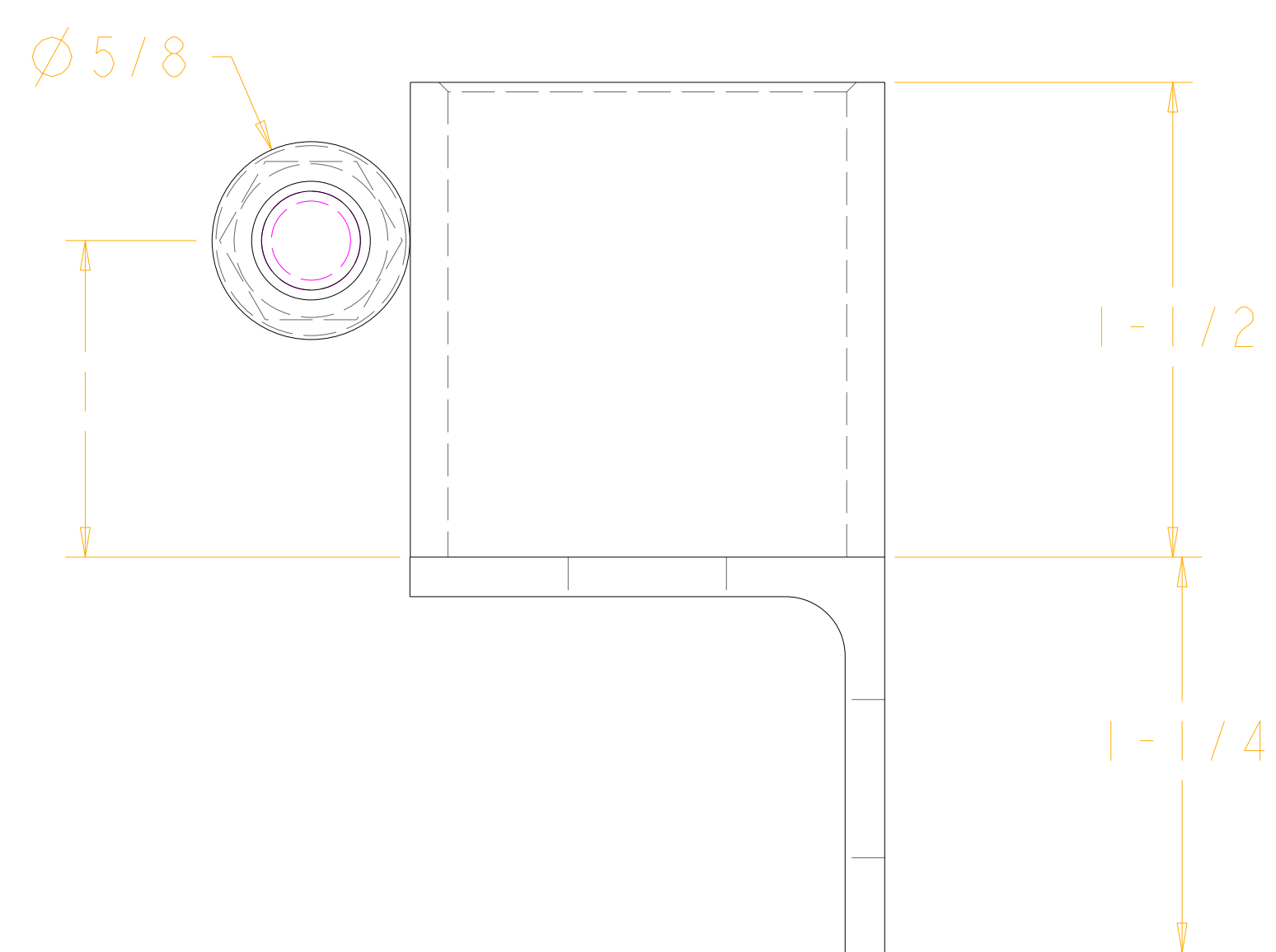
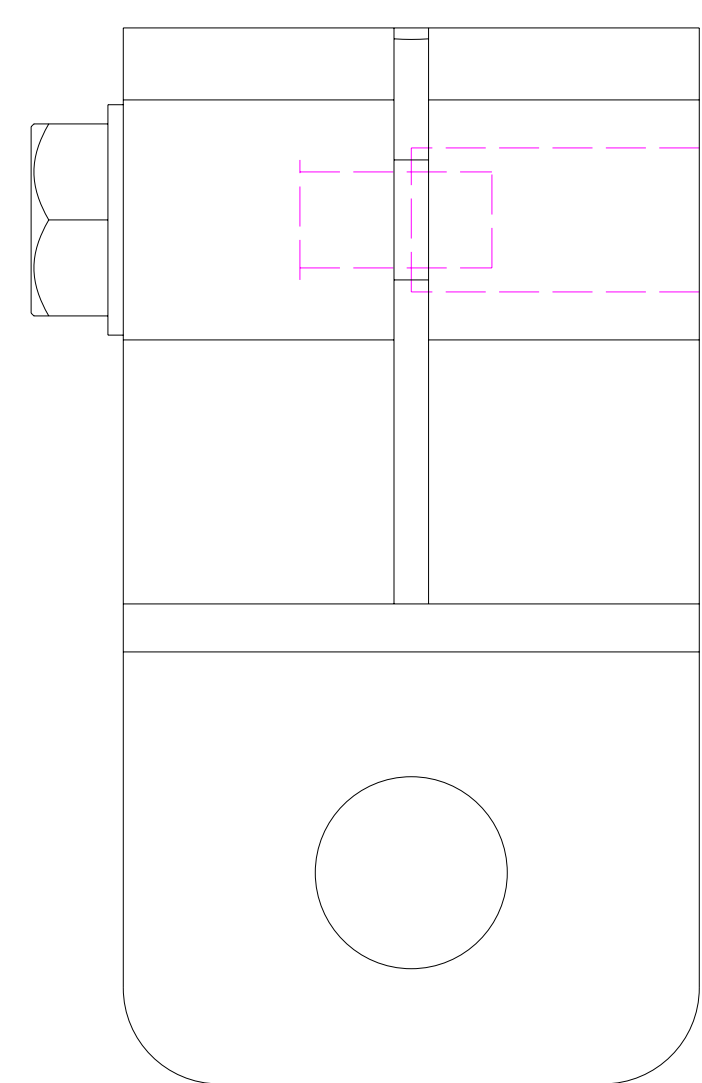


DETAIL AFT WIRE BUNDLE PASSAGE
SCALE 2.000

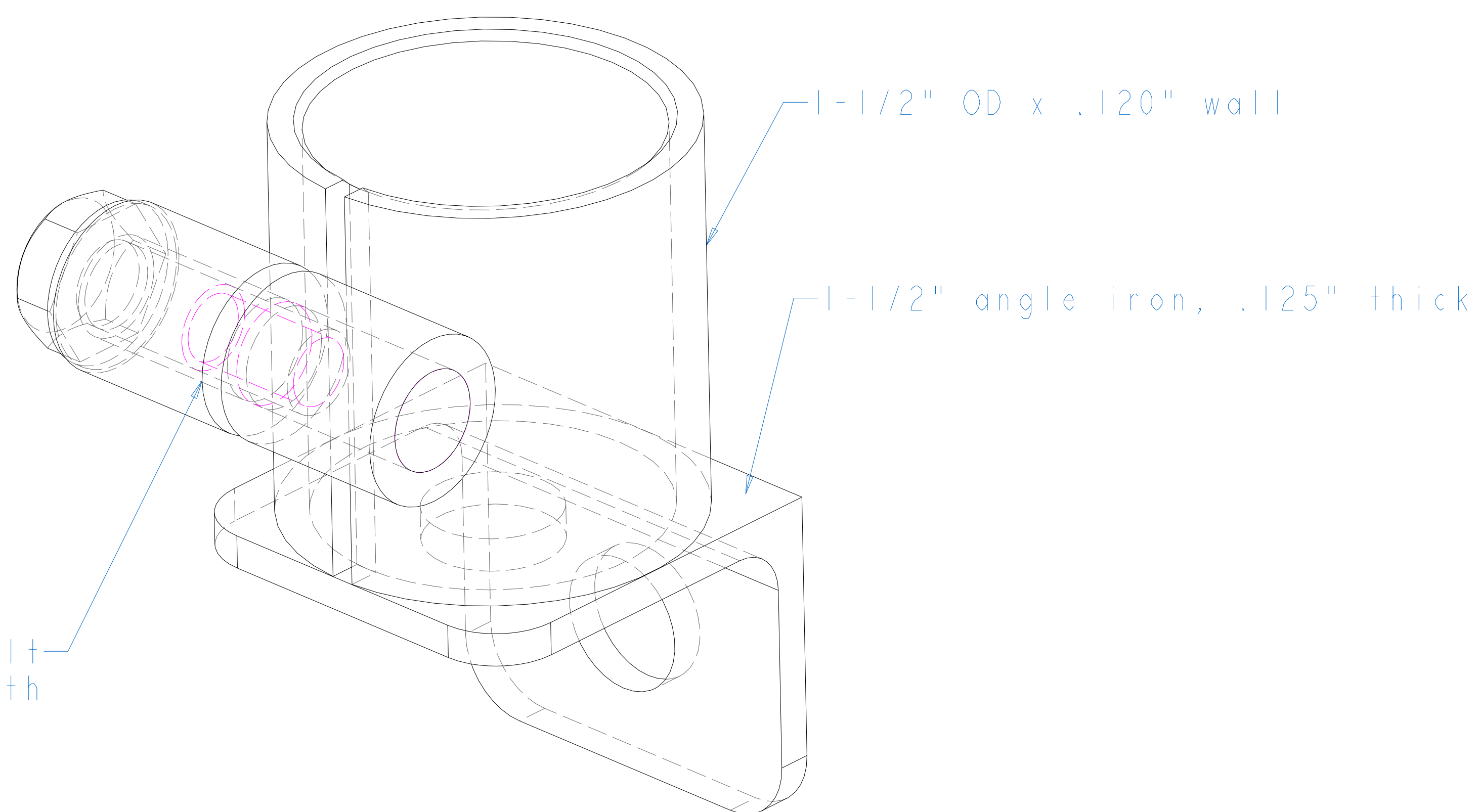


DETAIL WELD DETAIL
SCALE 3.000

SCALE 2.000



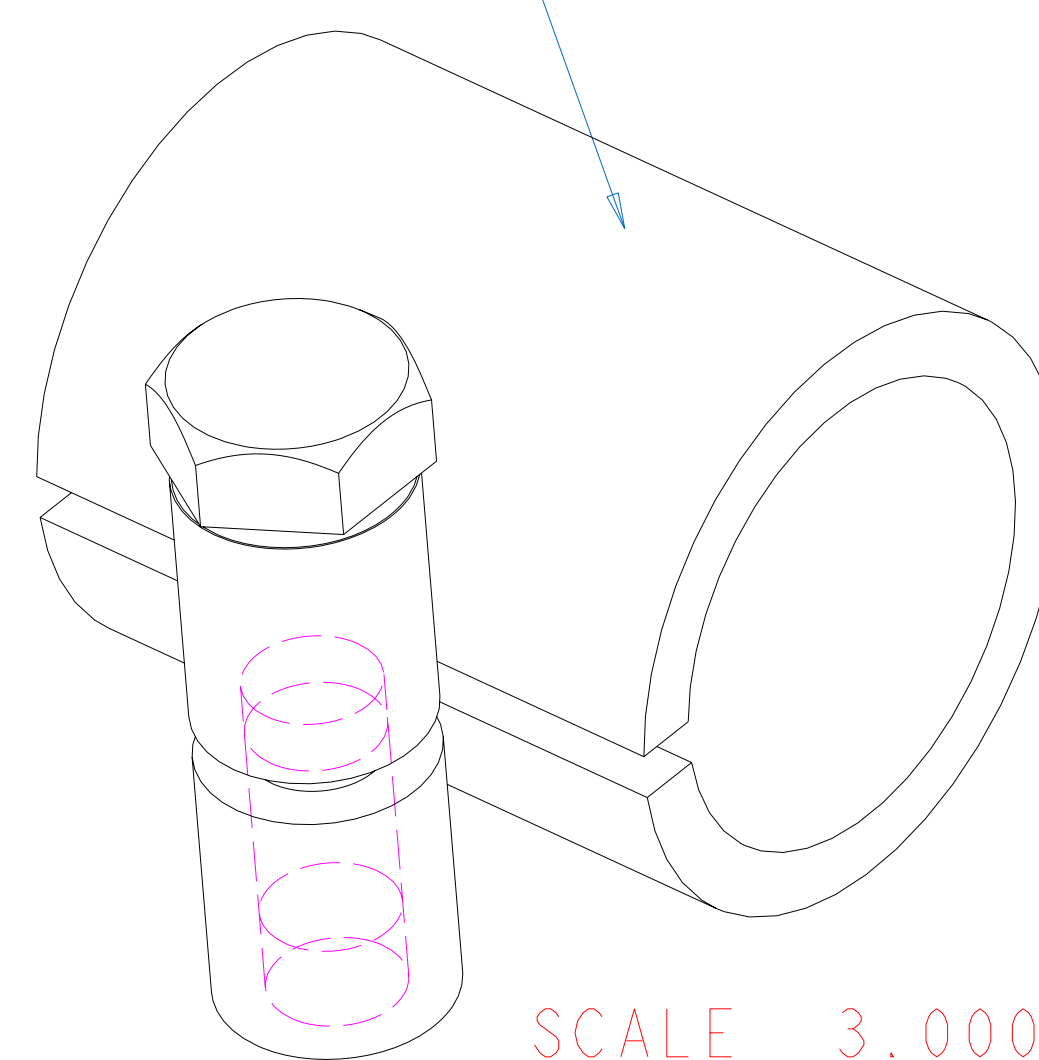
tapped spud for 3/8 x 24 bolt
tap thru full, drill .375 to mid-depth



SCALE 3.000

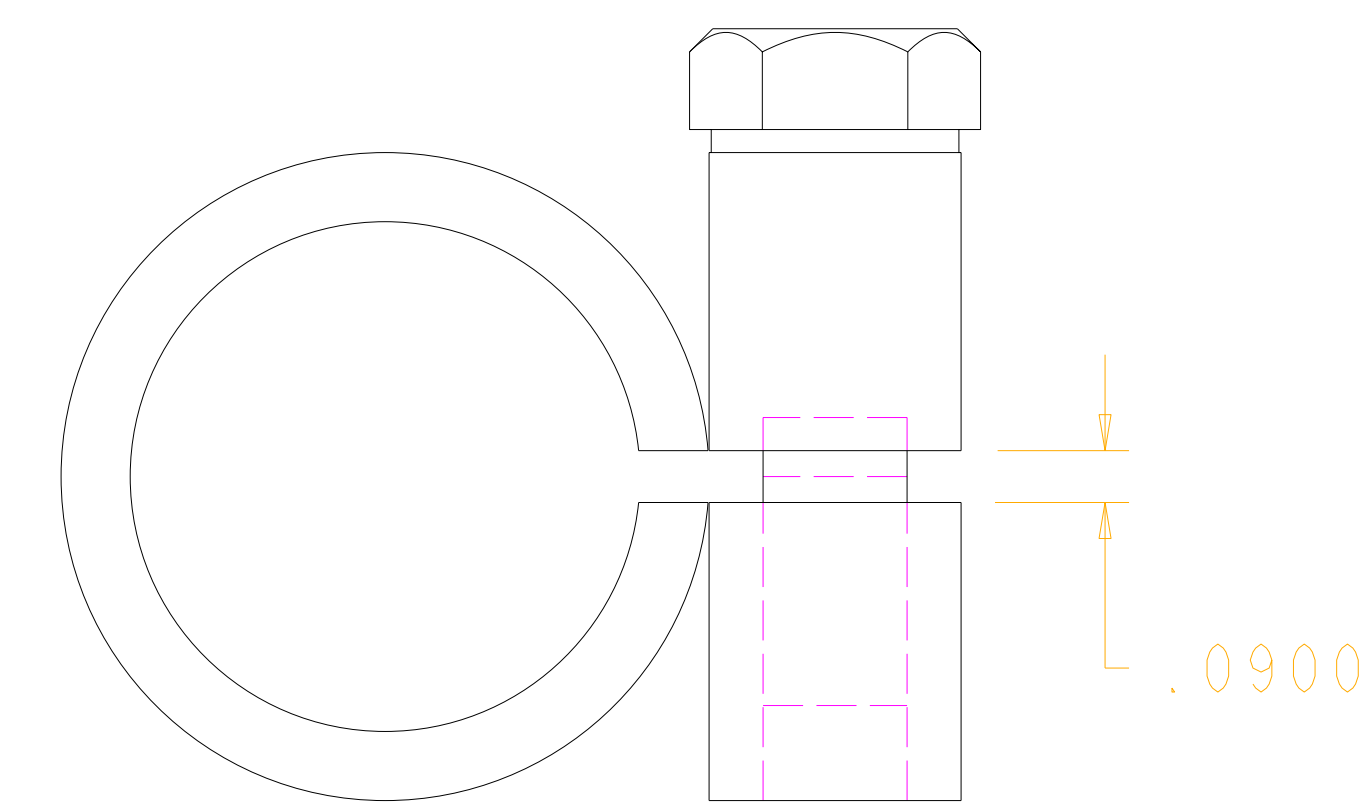
Collective Mount Weldment

1-1/8" OD x .120 wall

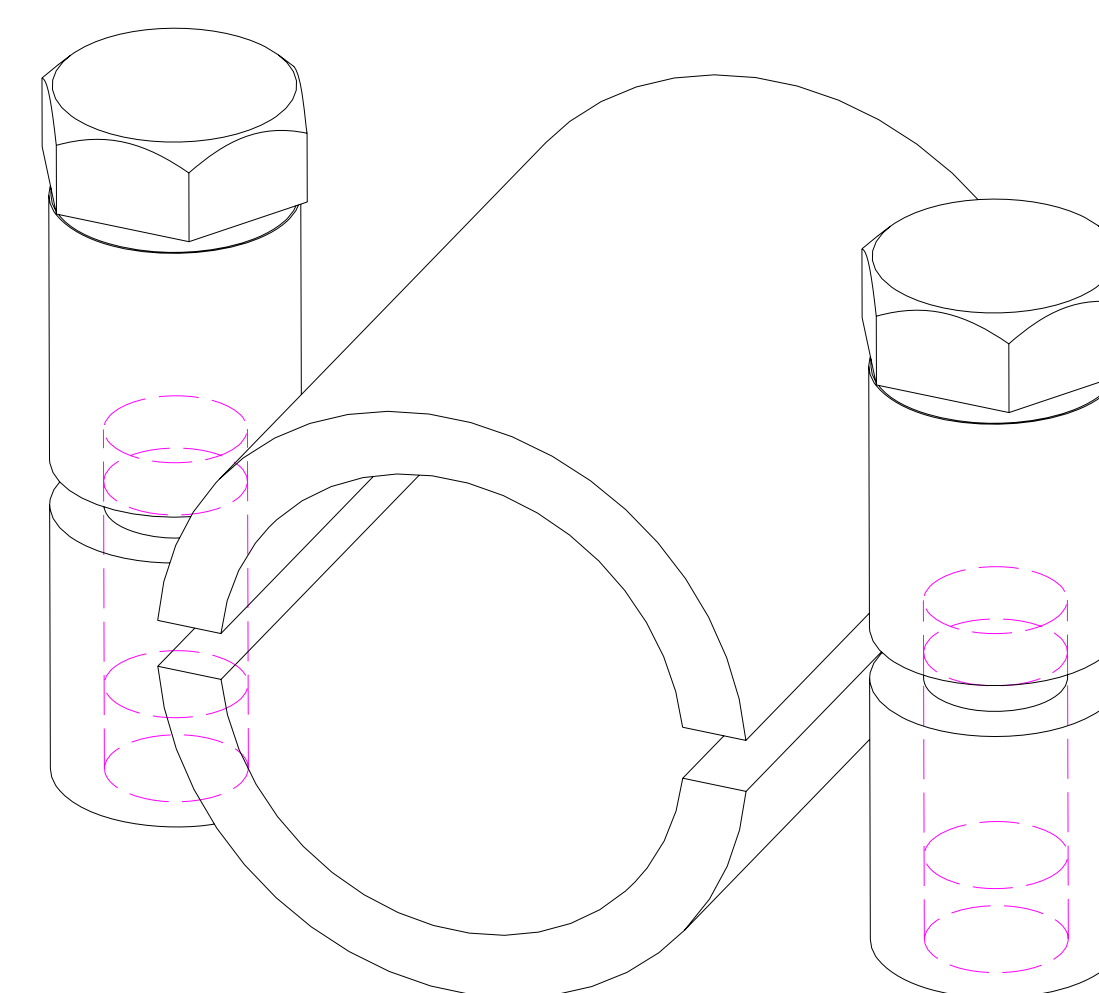


SCALE 3.000

Split Clamp Single (shown: Right)

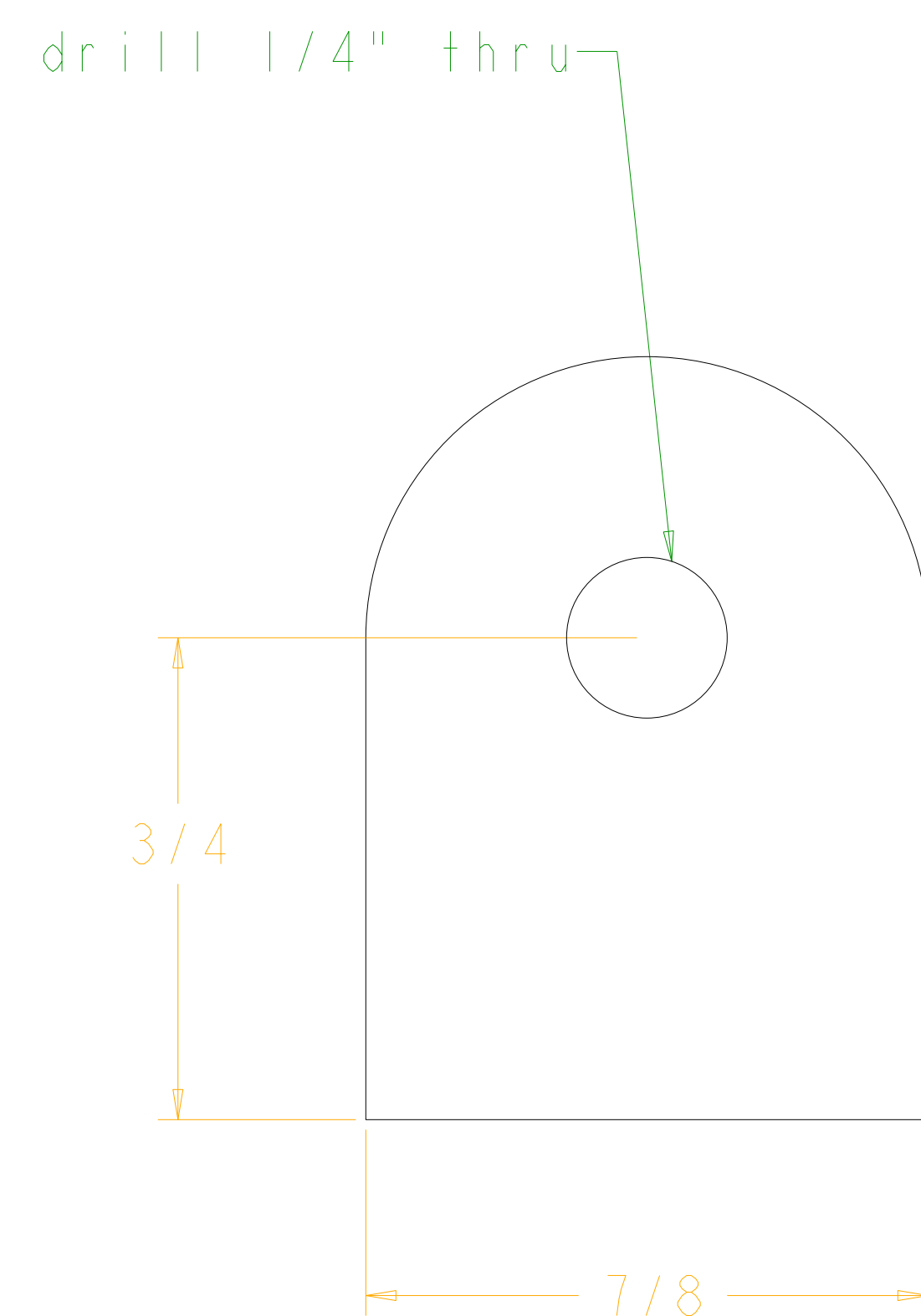
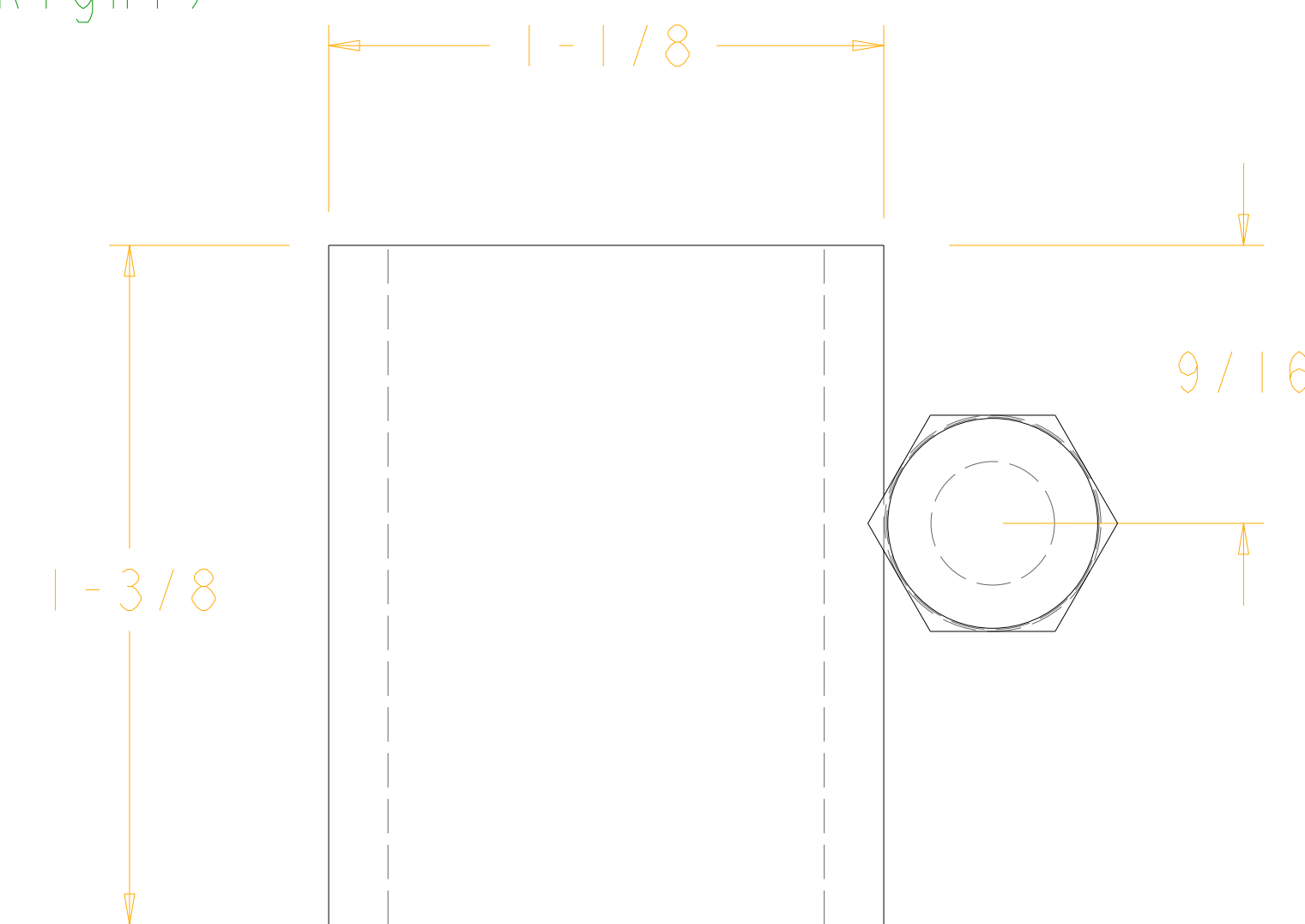


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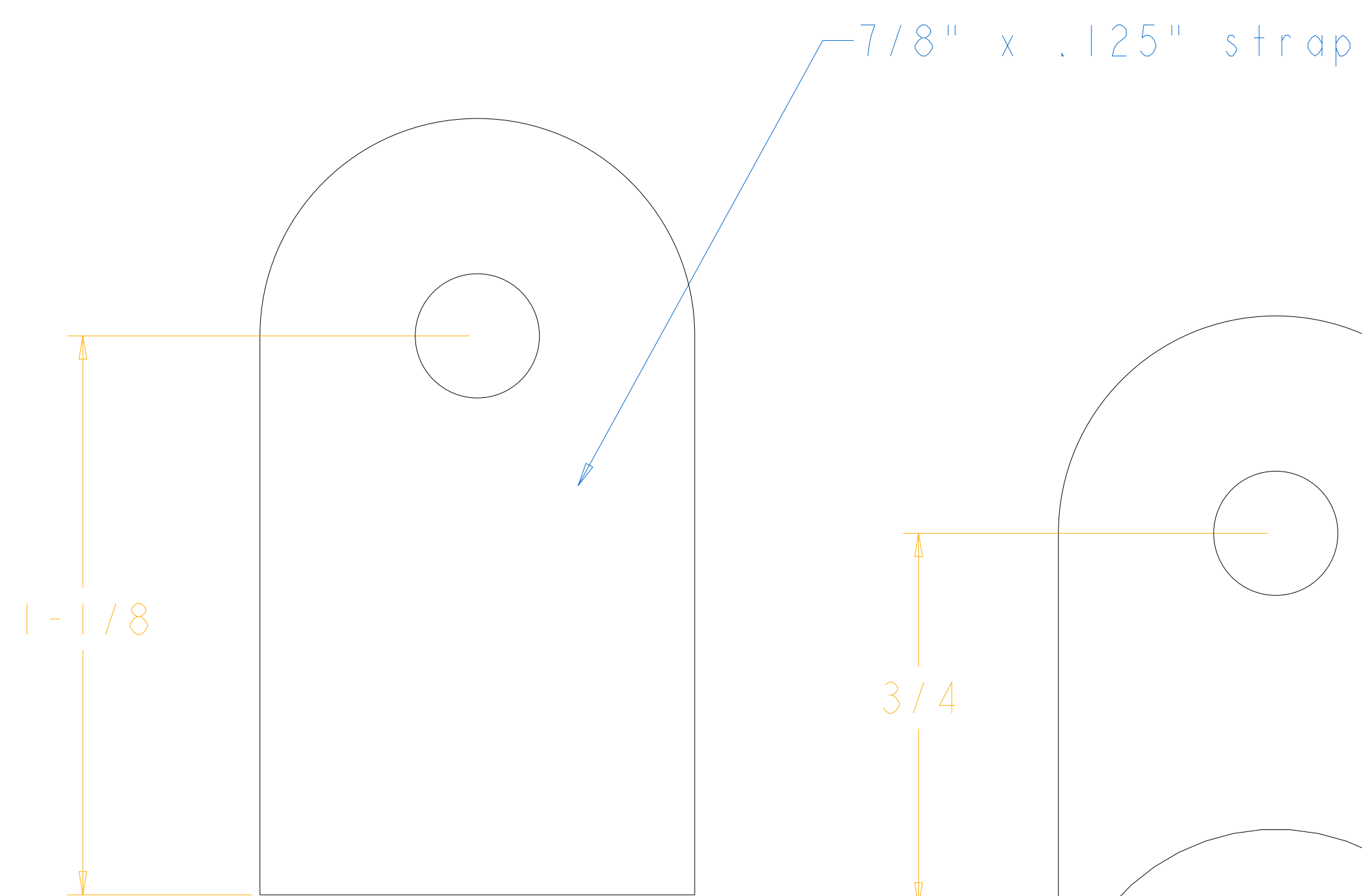
SCALE 3.000

Split Clamp Double



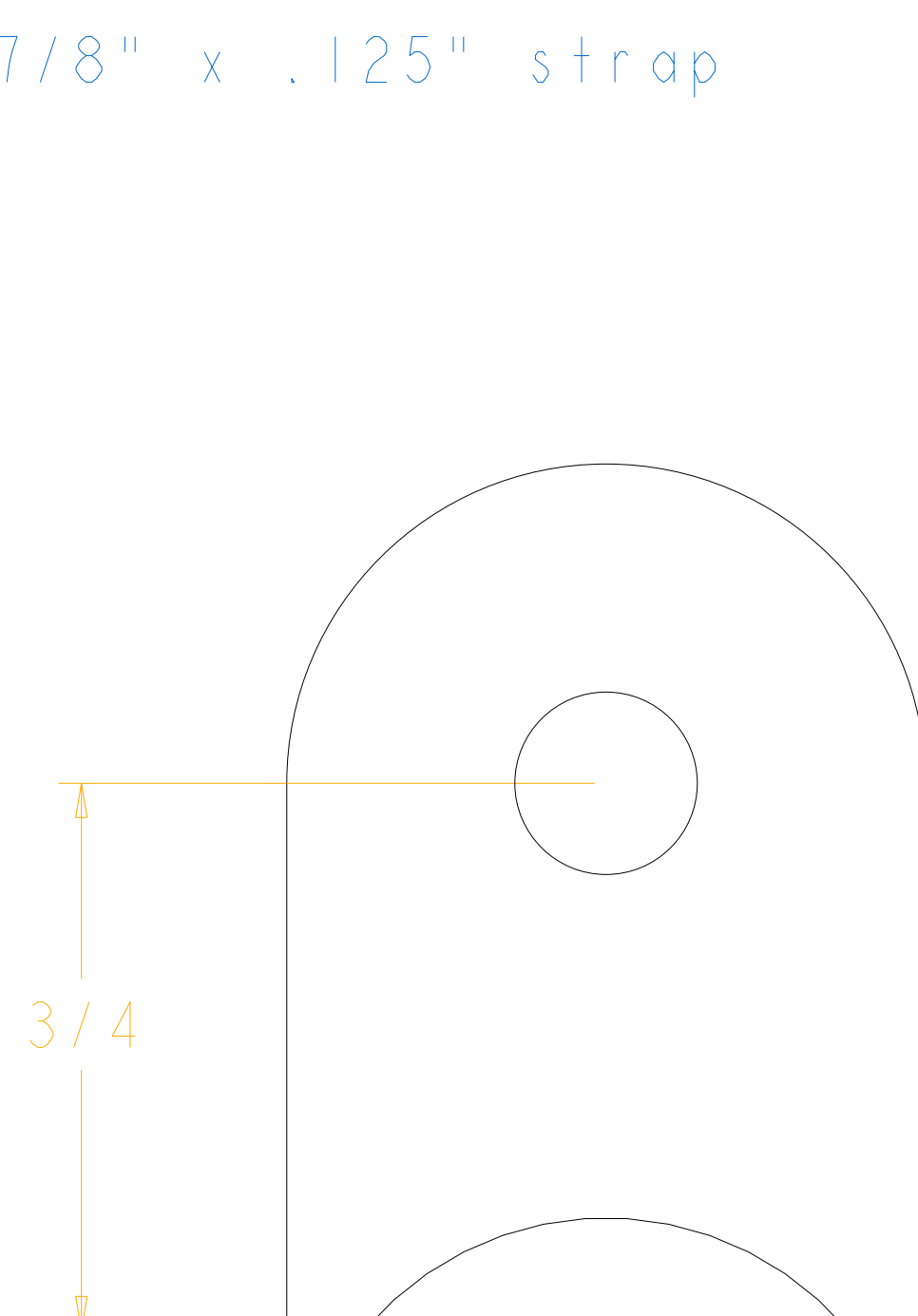
SCALE 4.000

Pan Tab, short



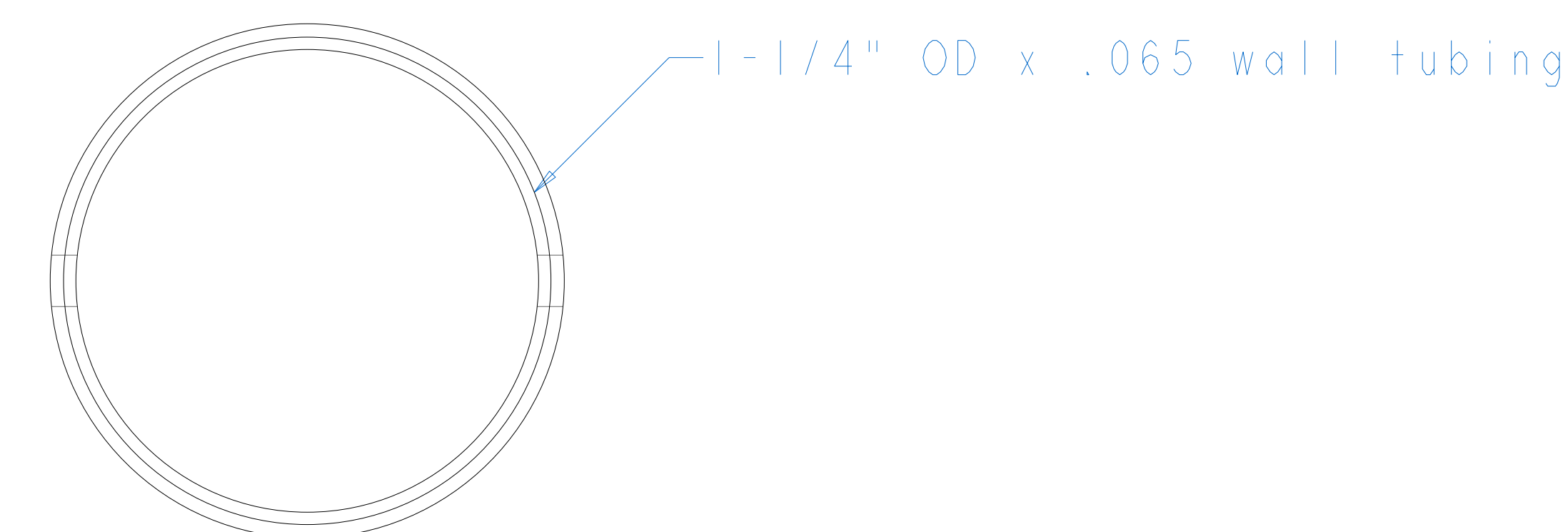
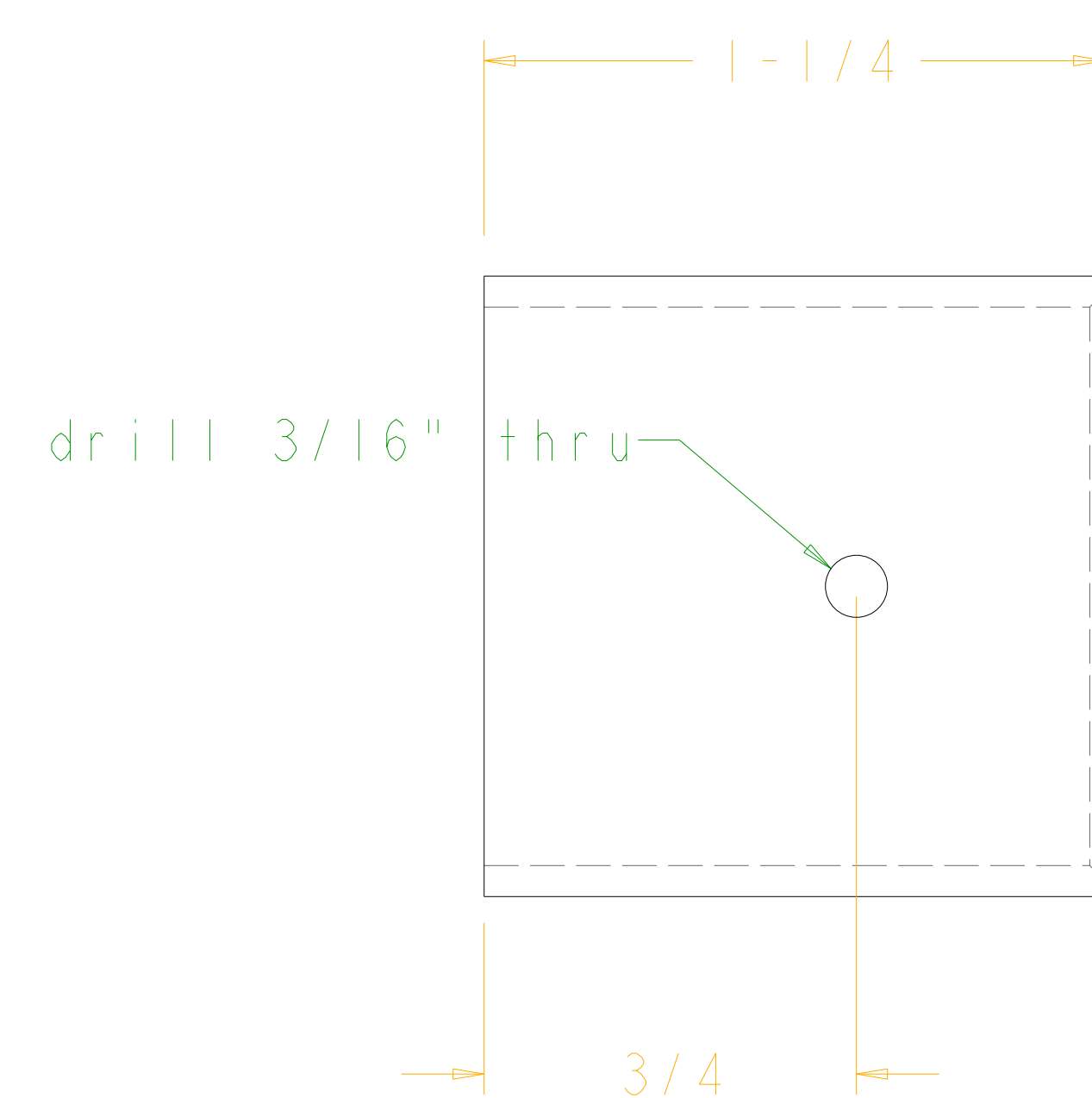
SCALE 4.000

Pan Tab, long



SCALE 4.000

Pan Tab, coped



SCALE 3.000

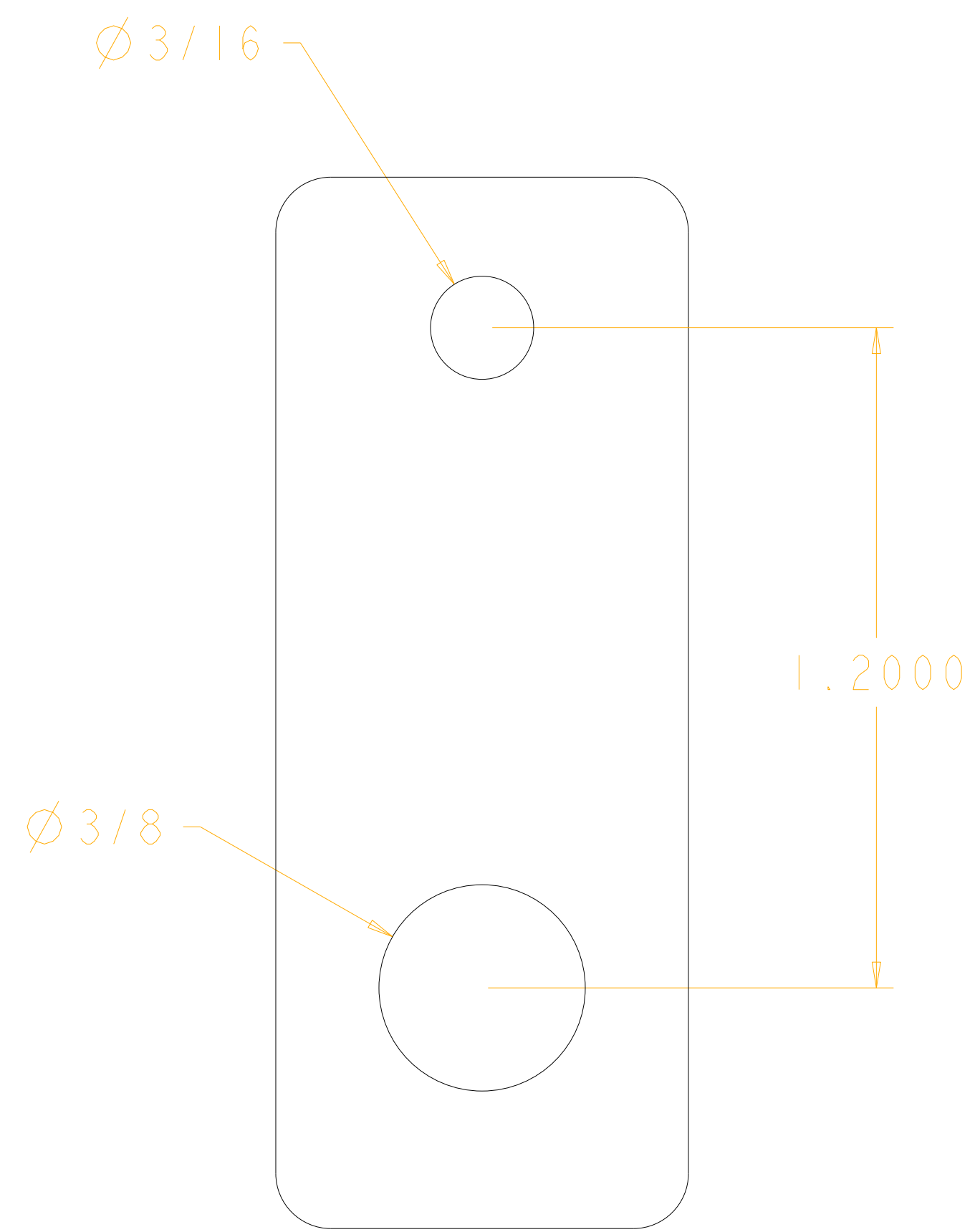
Seat Mount Spud

heli-chair

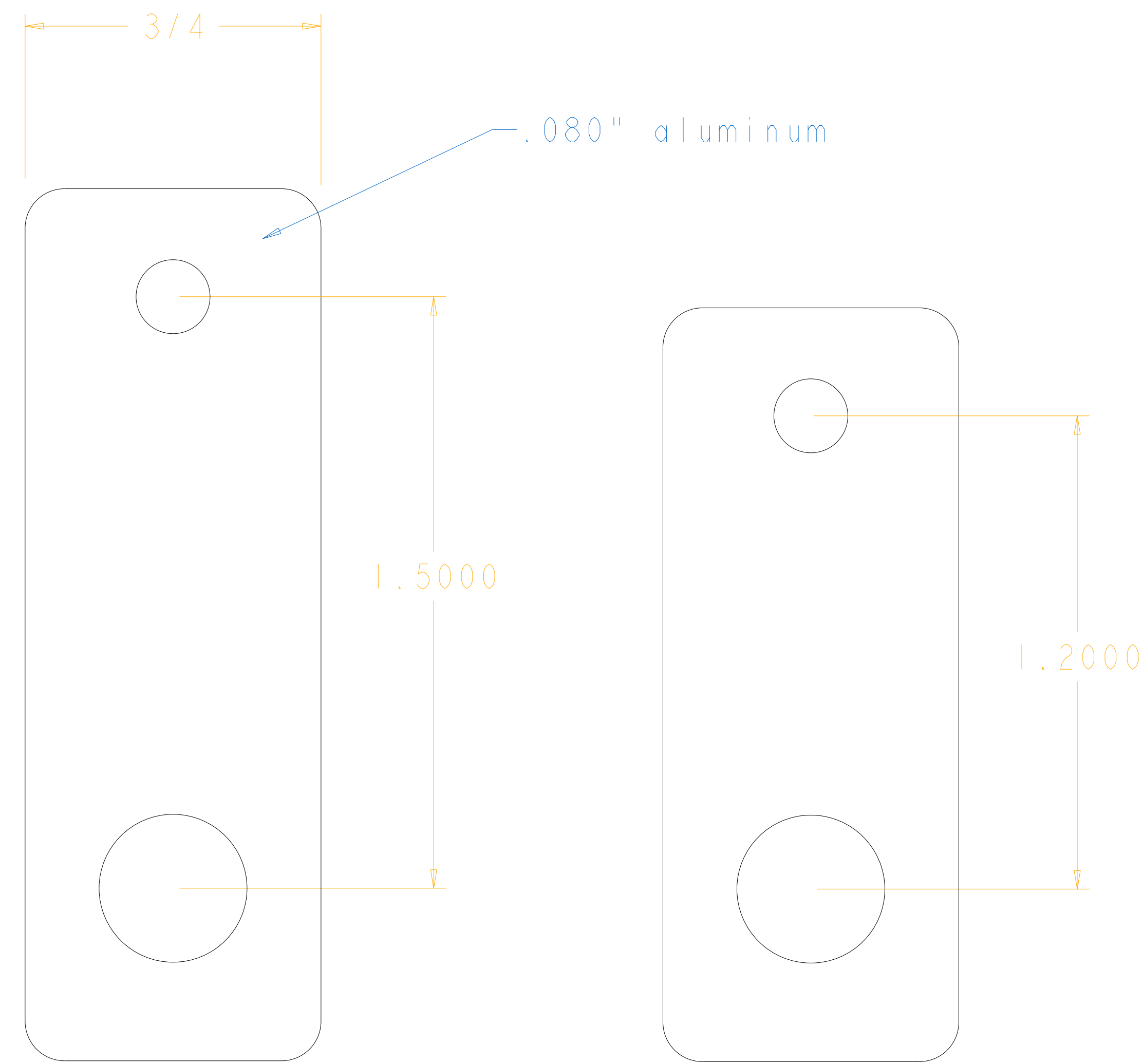
Mechanical Drawing Set

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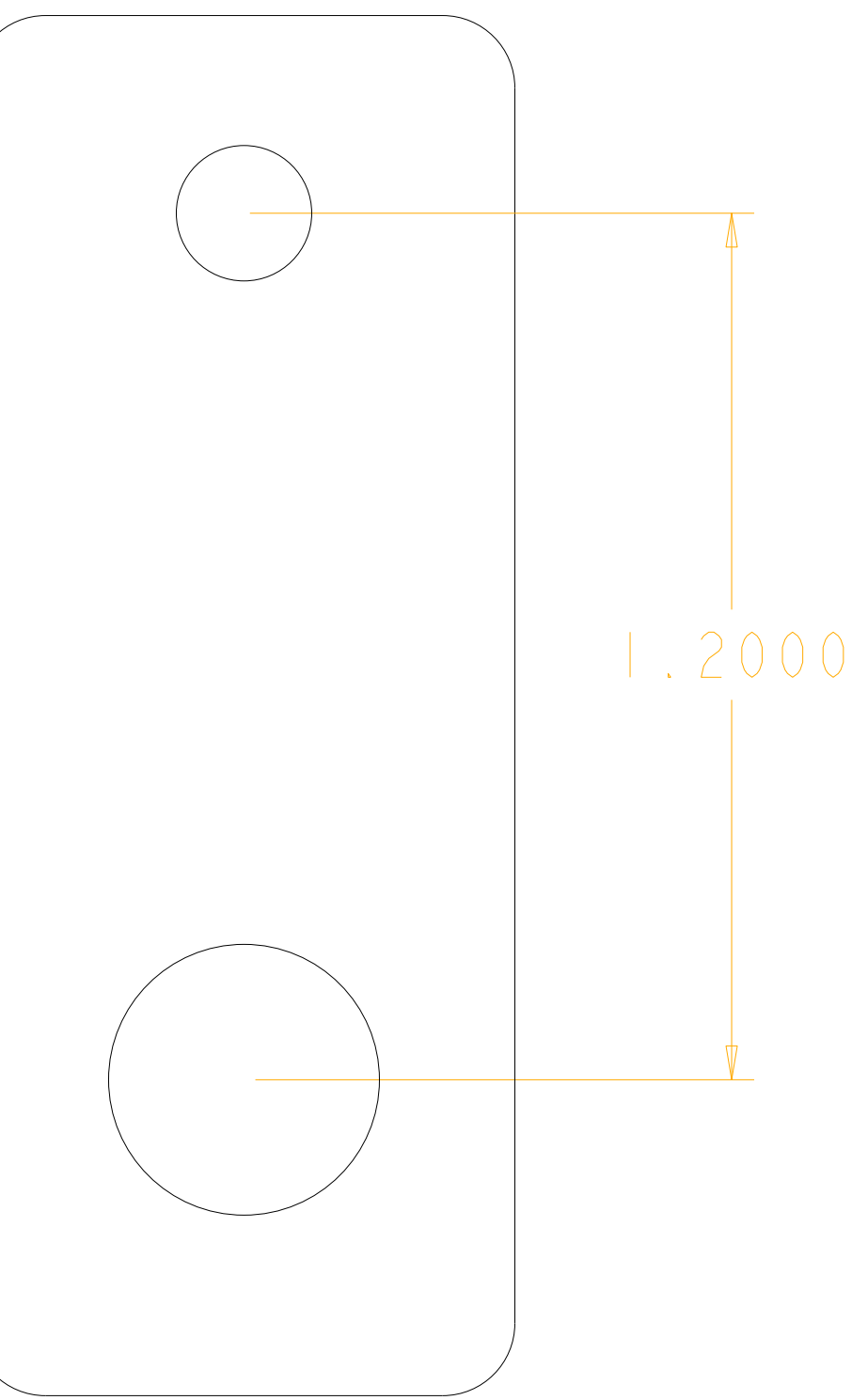
25 Mar 2006



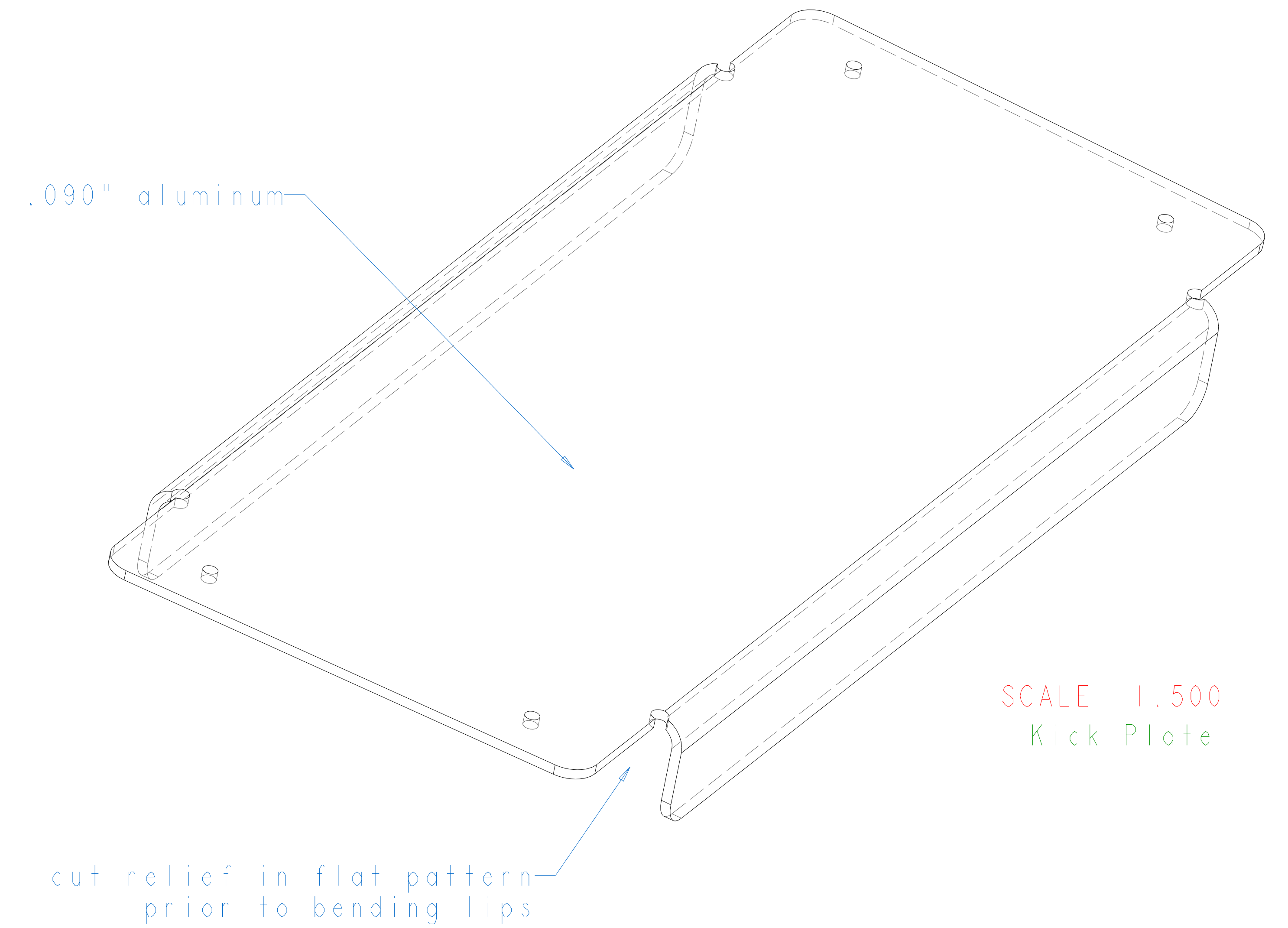
SCALE 4.000
Anti-Torque Pedals
Potentiometer Positioning Plate



SCALE 4.000
Cyclic (2 used)



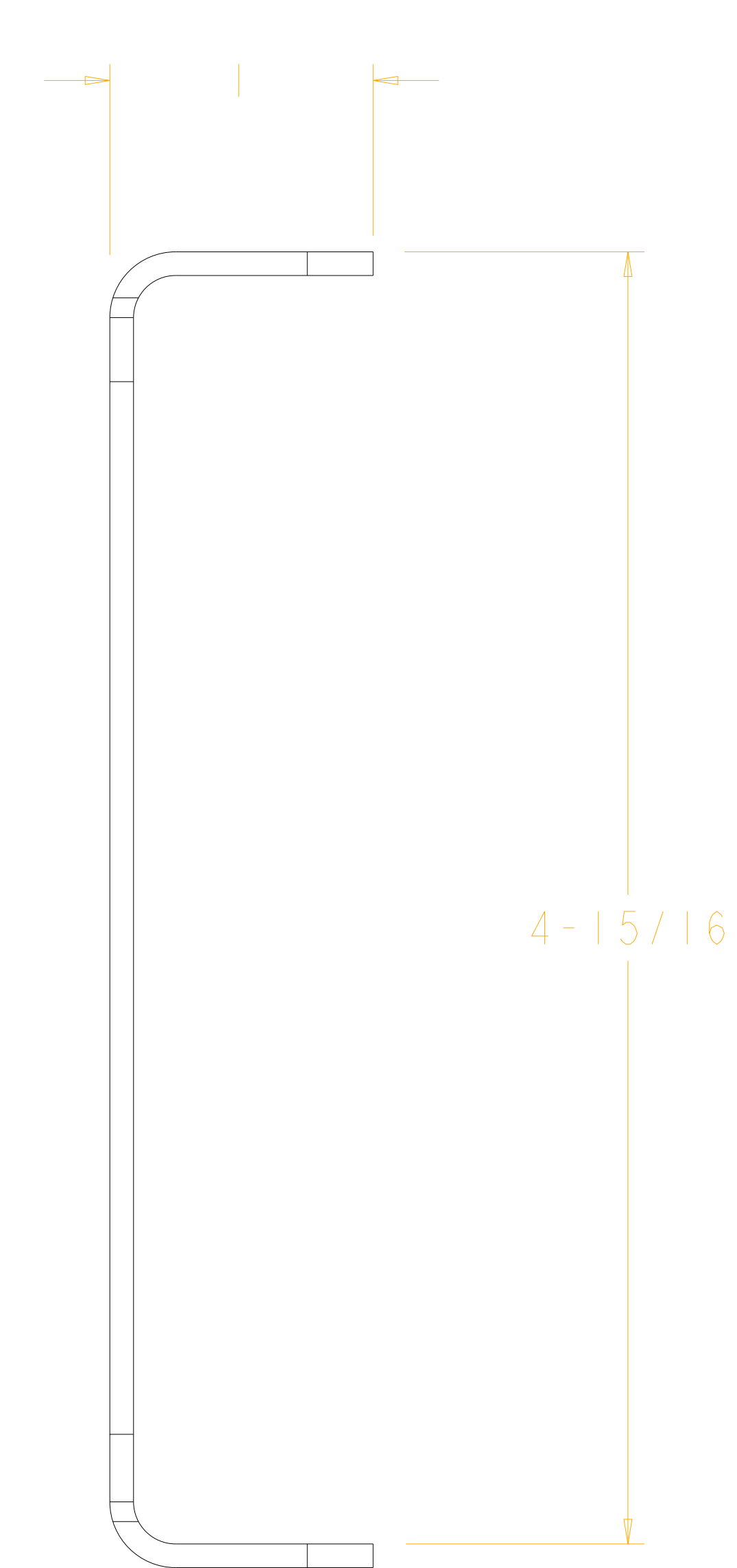
SCALE 4.000
Collective



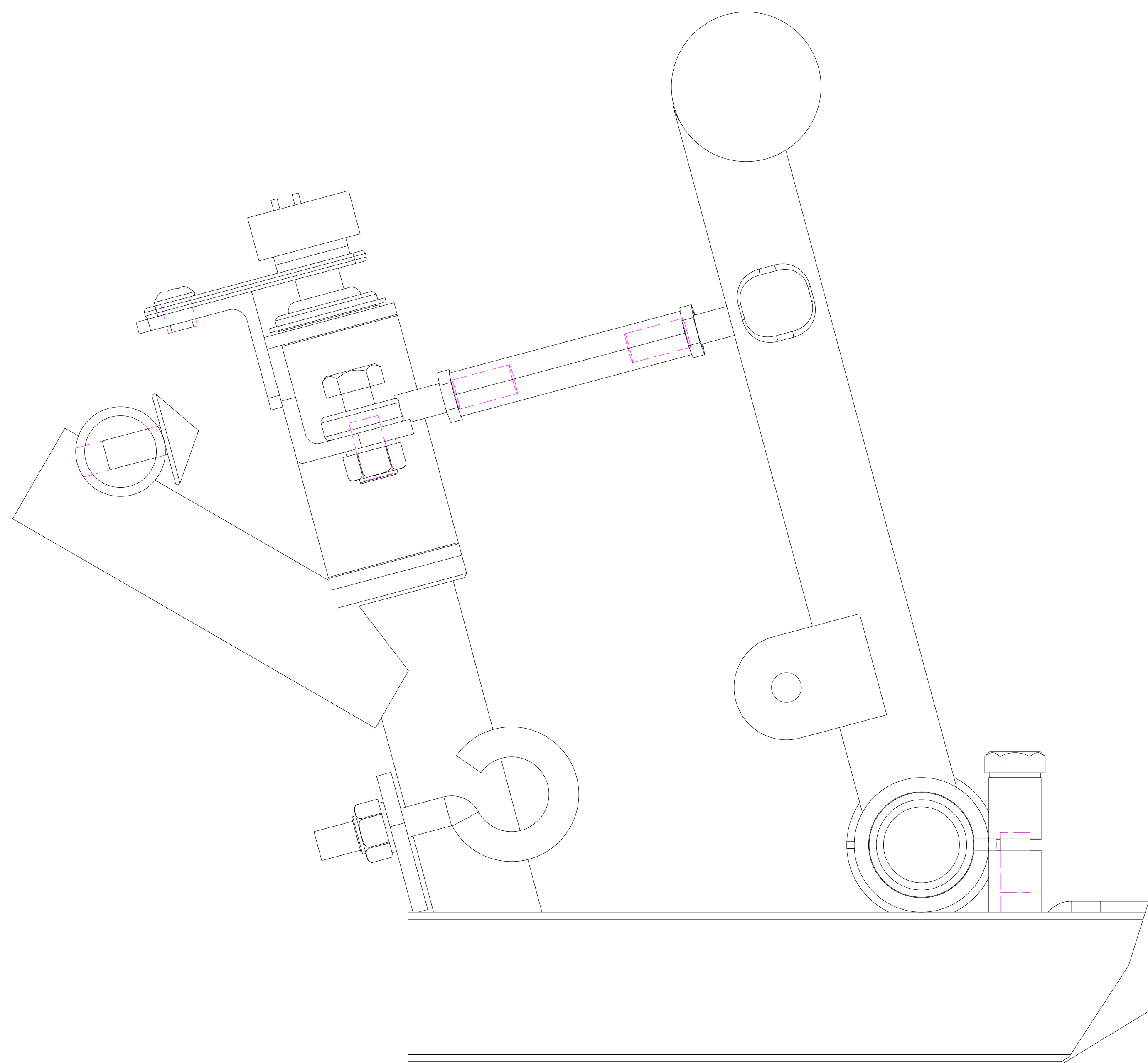
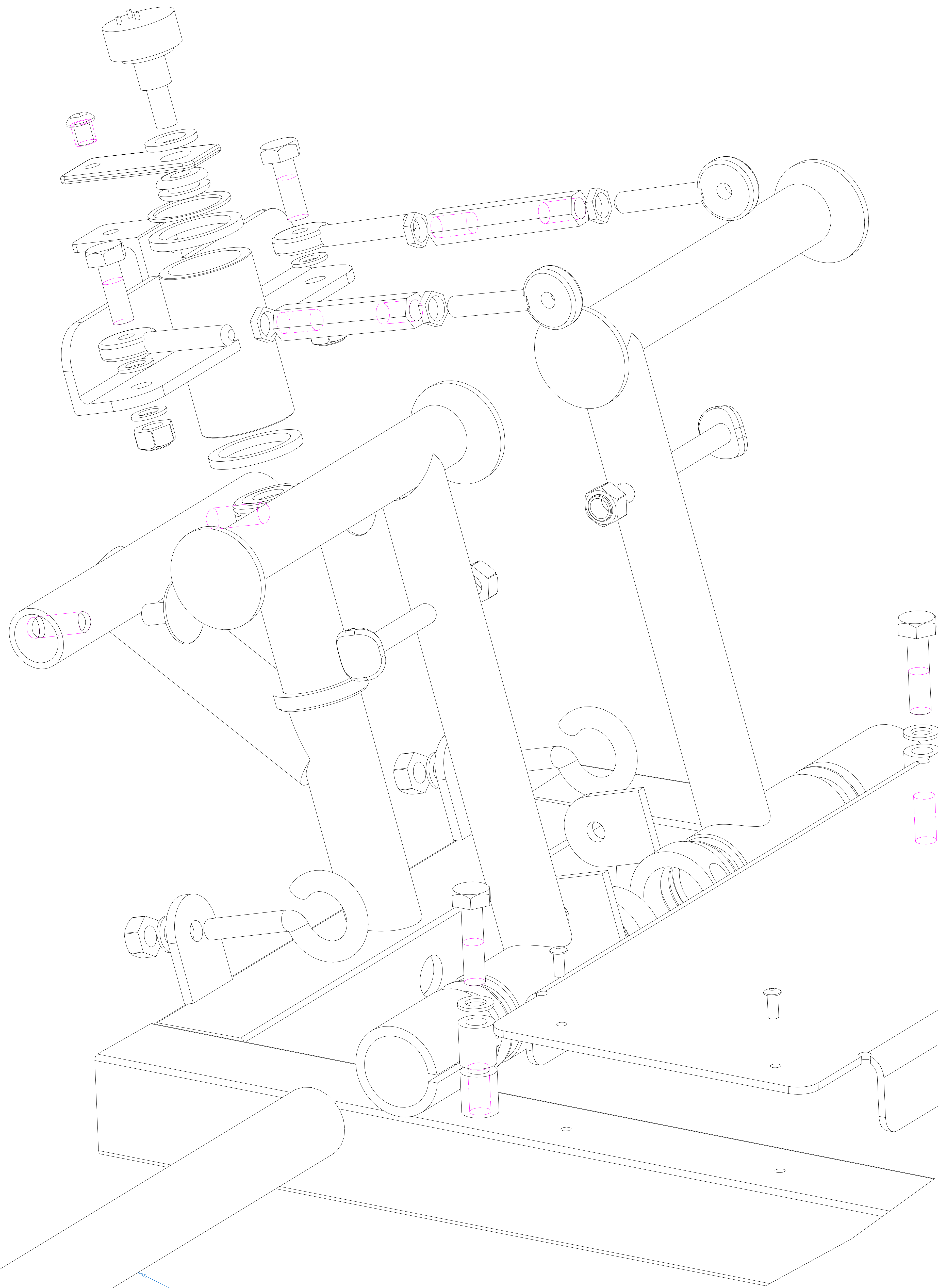
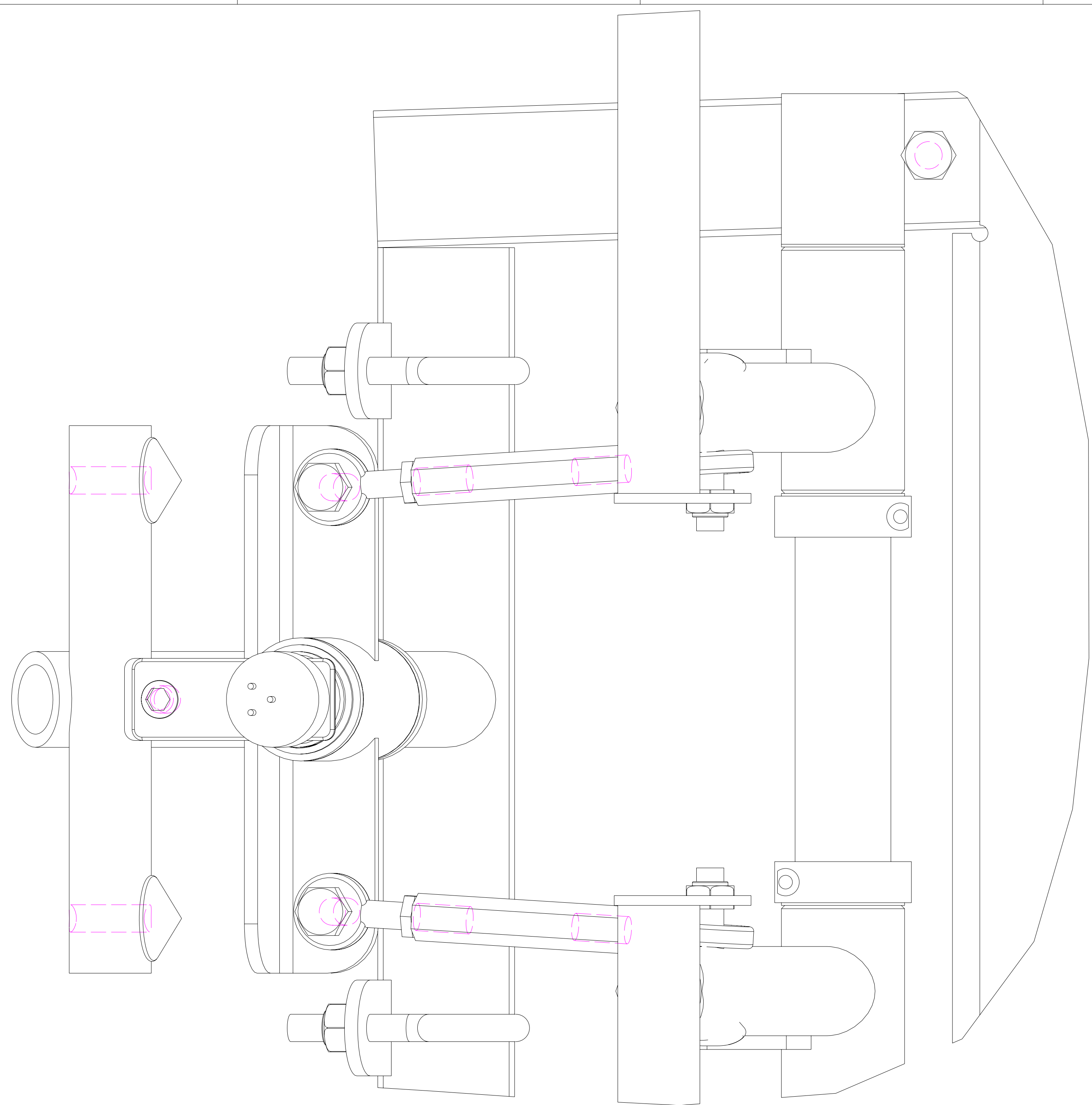
SCALE 1.500
Kick Plate



SCALE 2.000

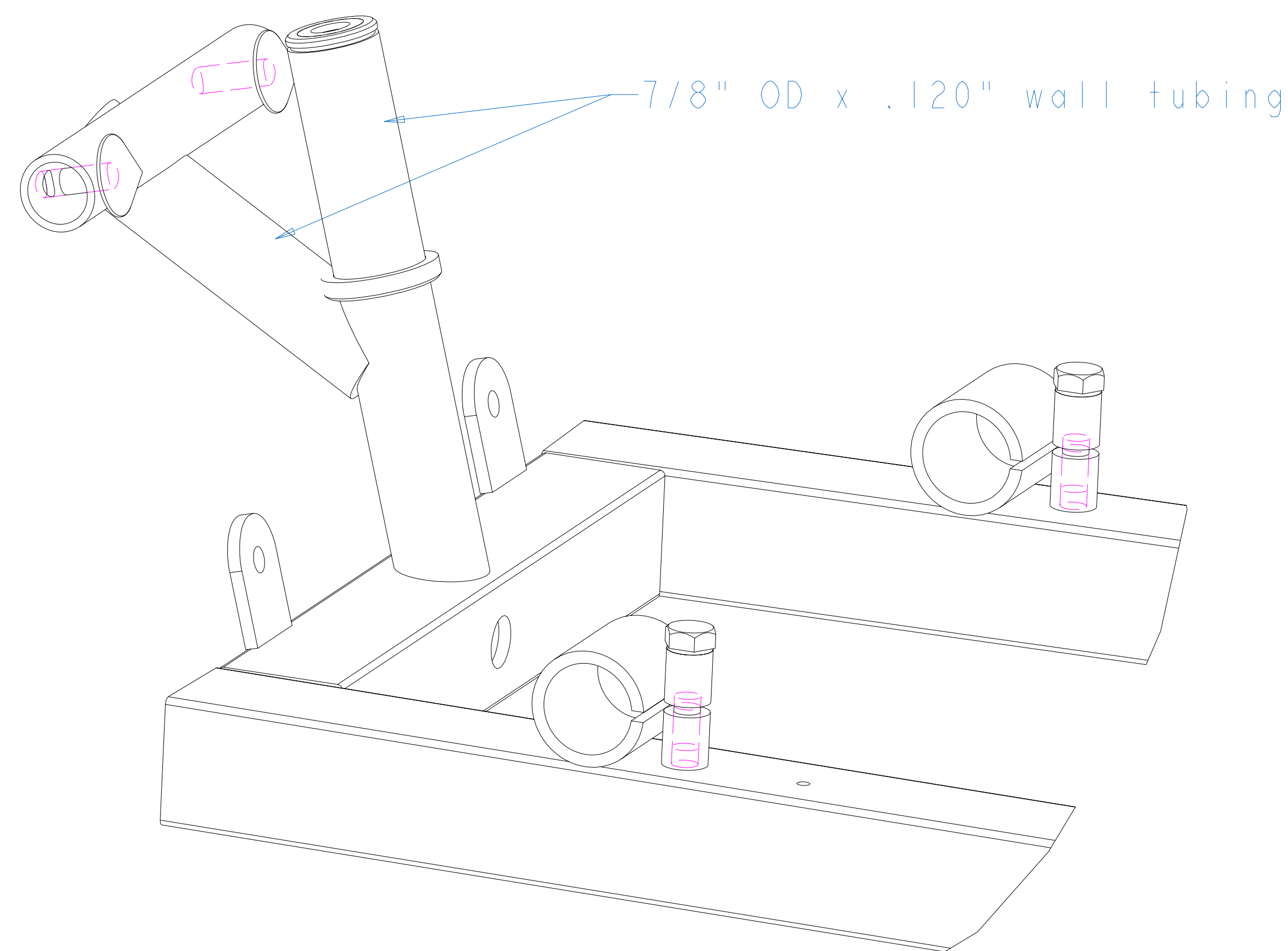


4-15/16

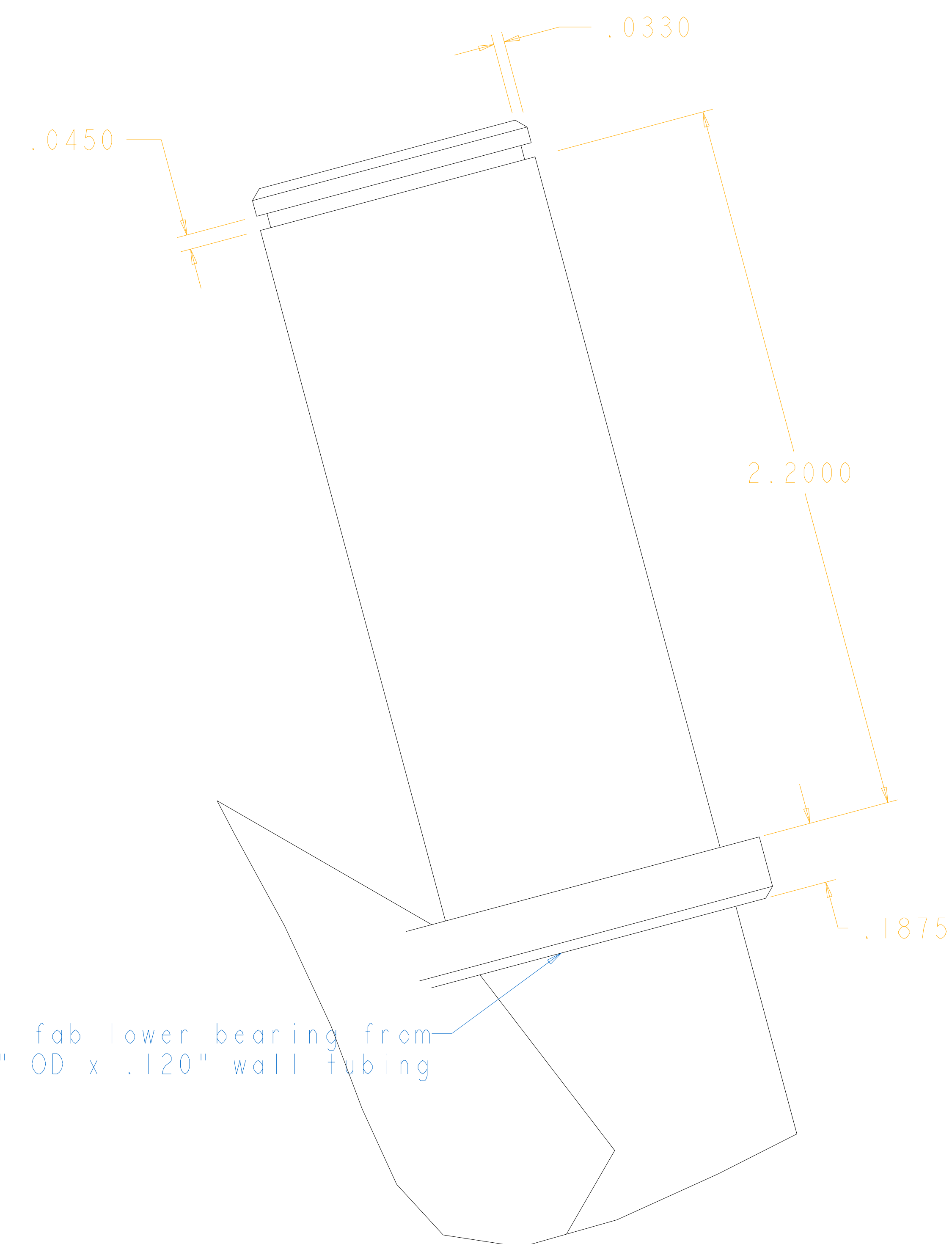
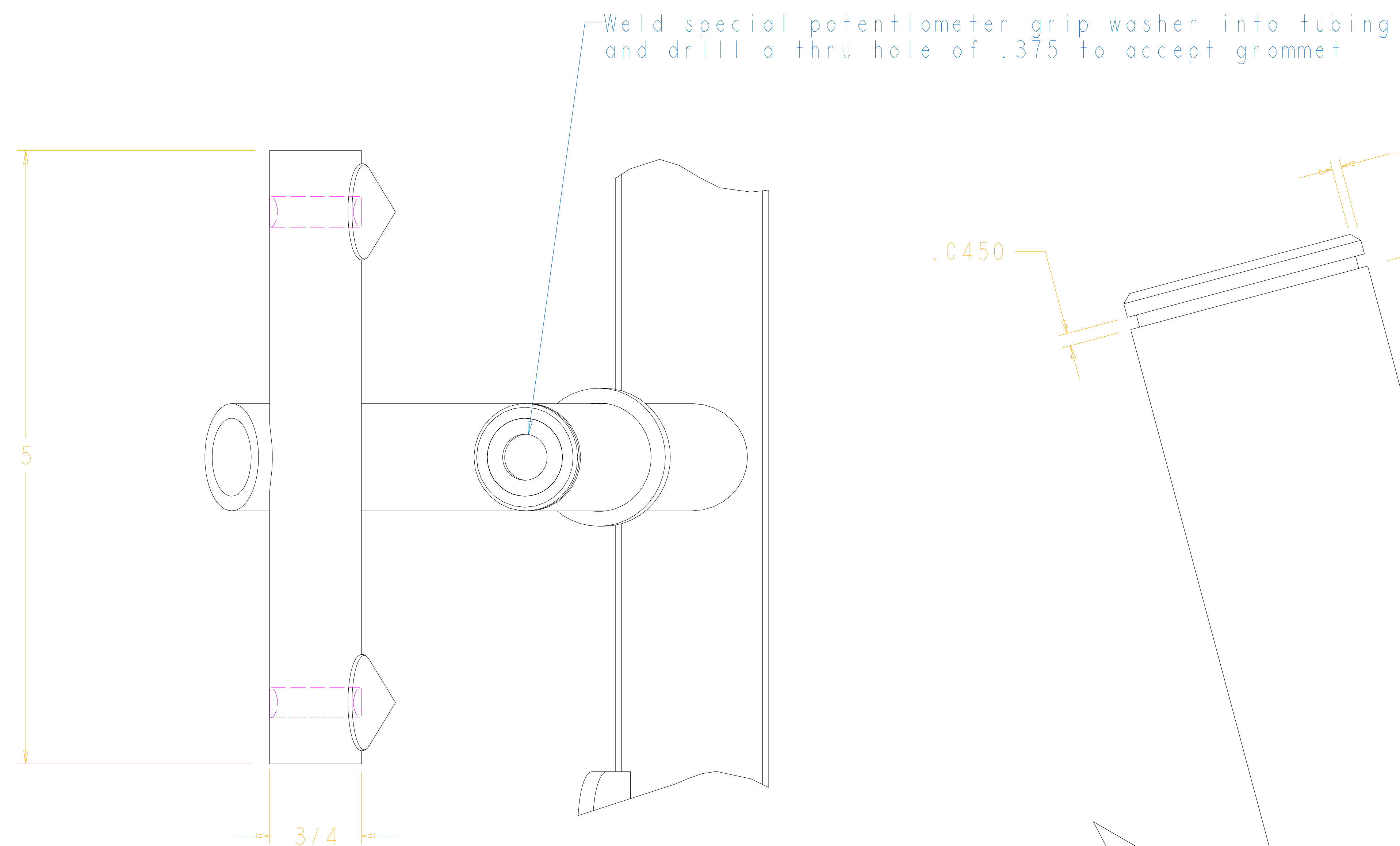


SCALE 1:500

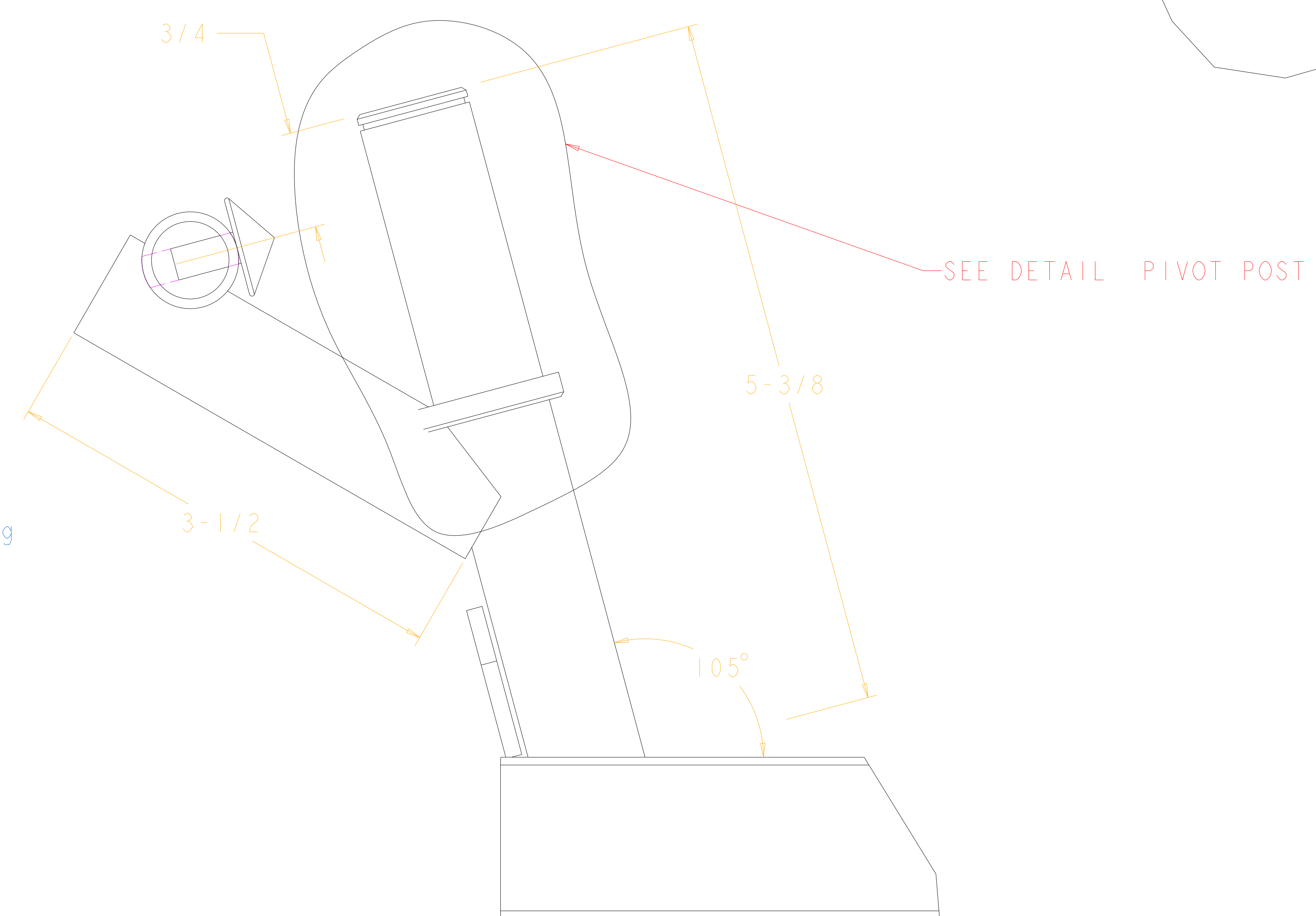
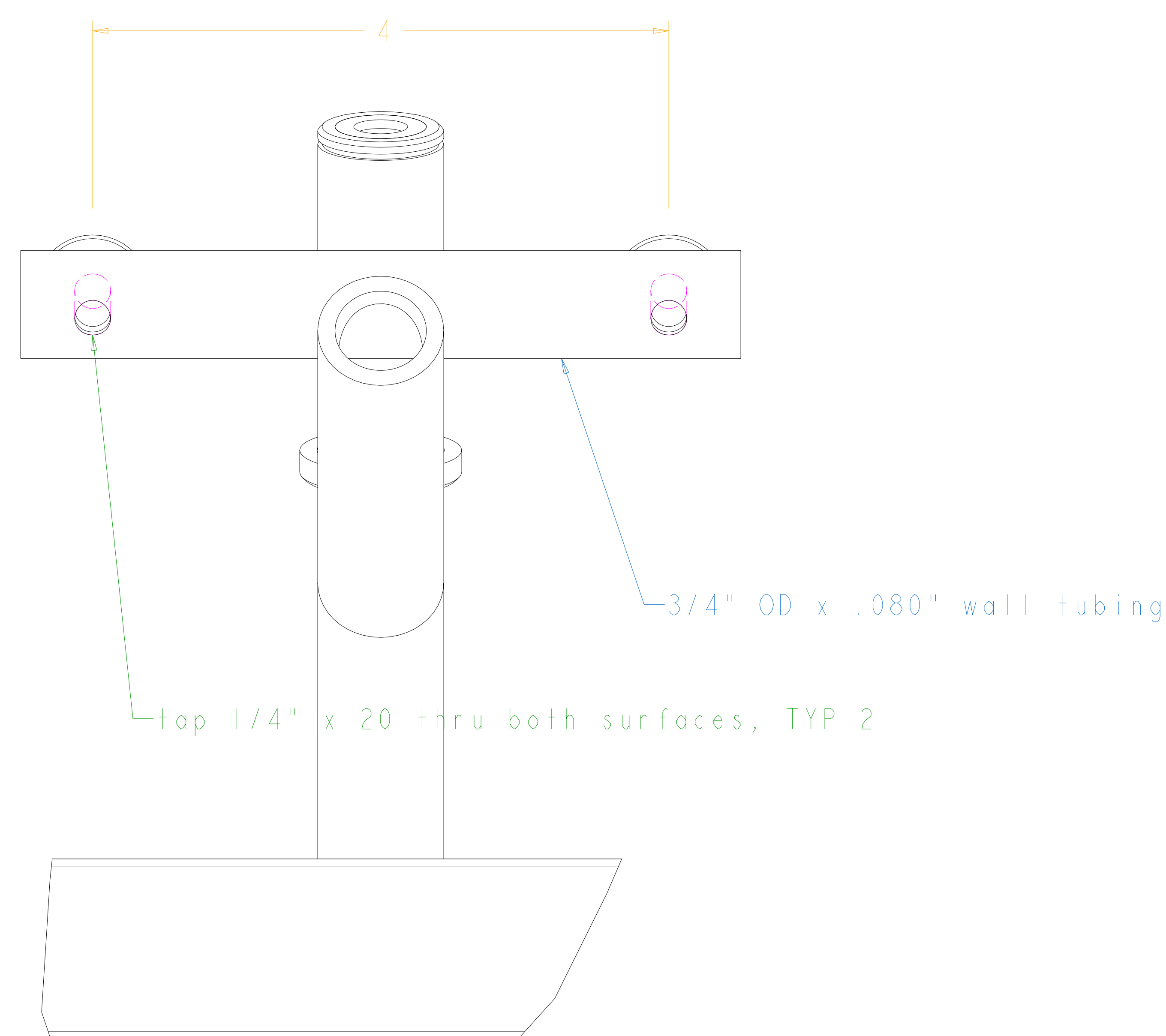
7/8" OD x .120" wall, cut 11" OAL
Pedal Pivot Bar



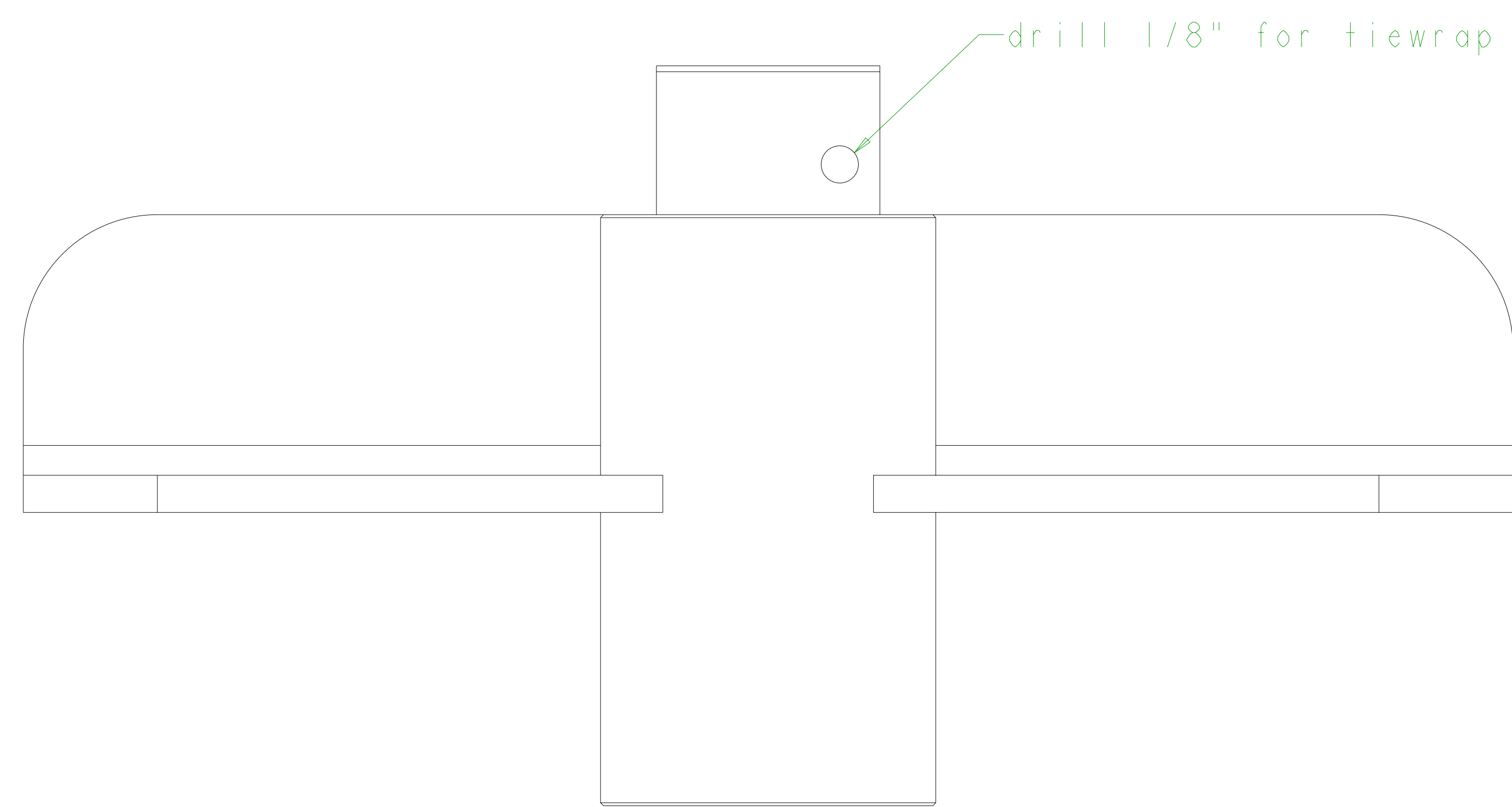
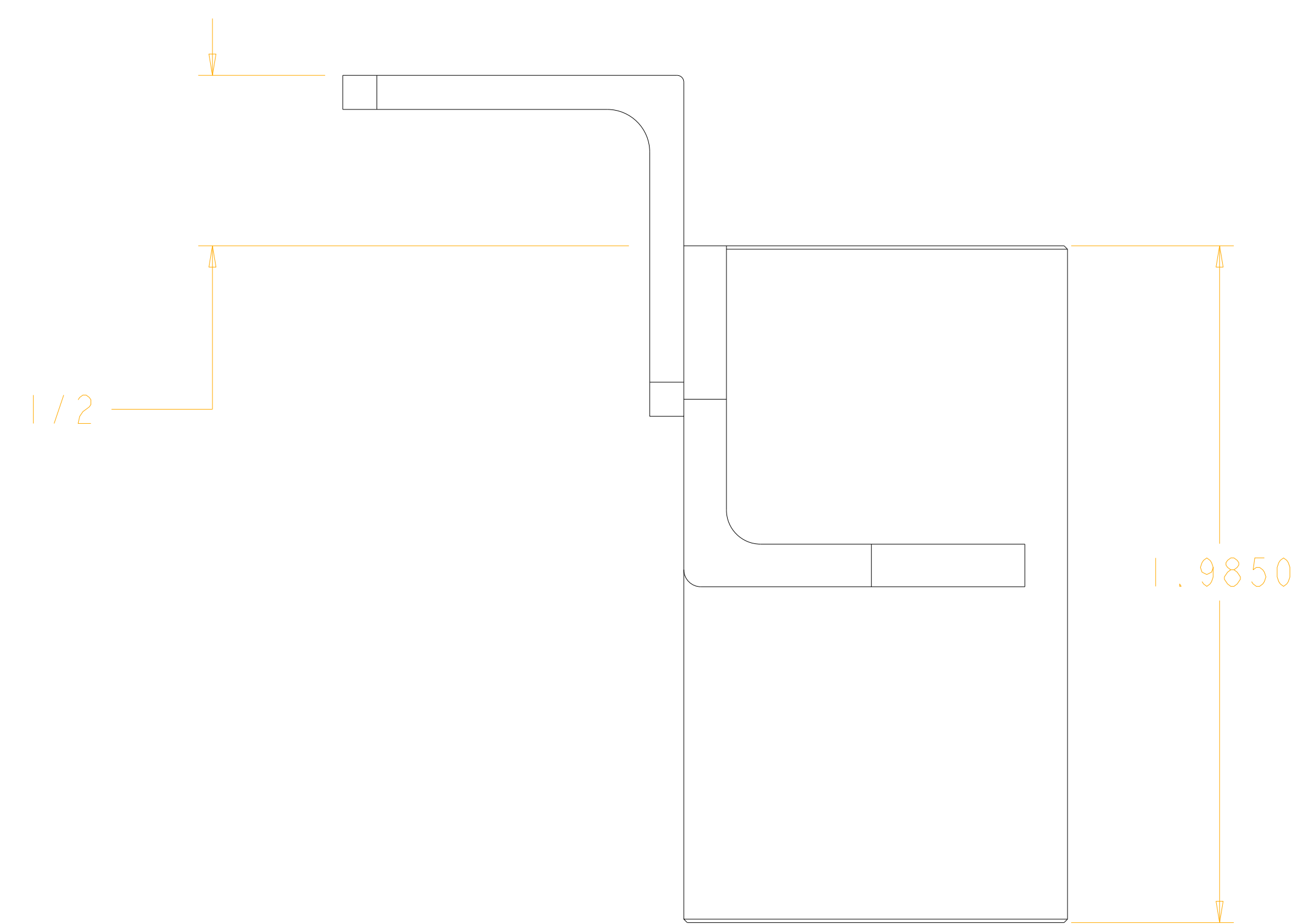
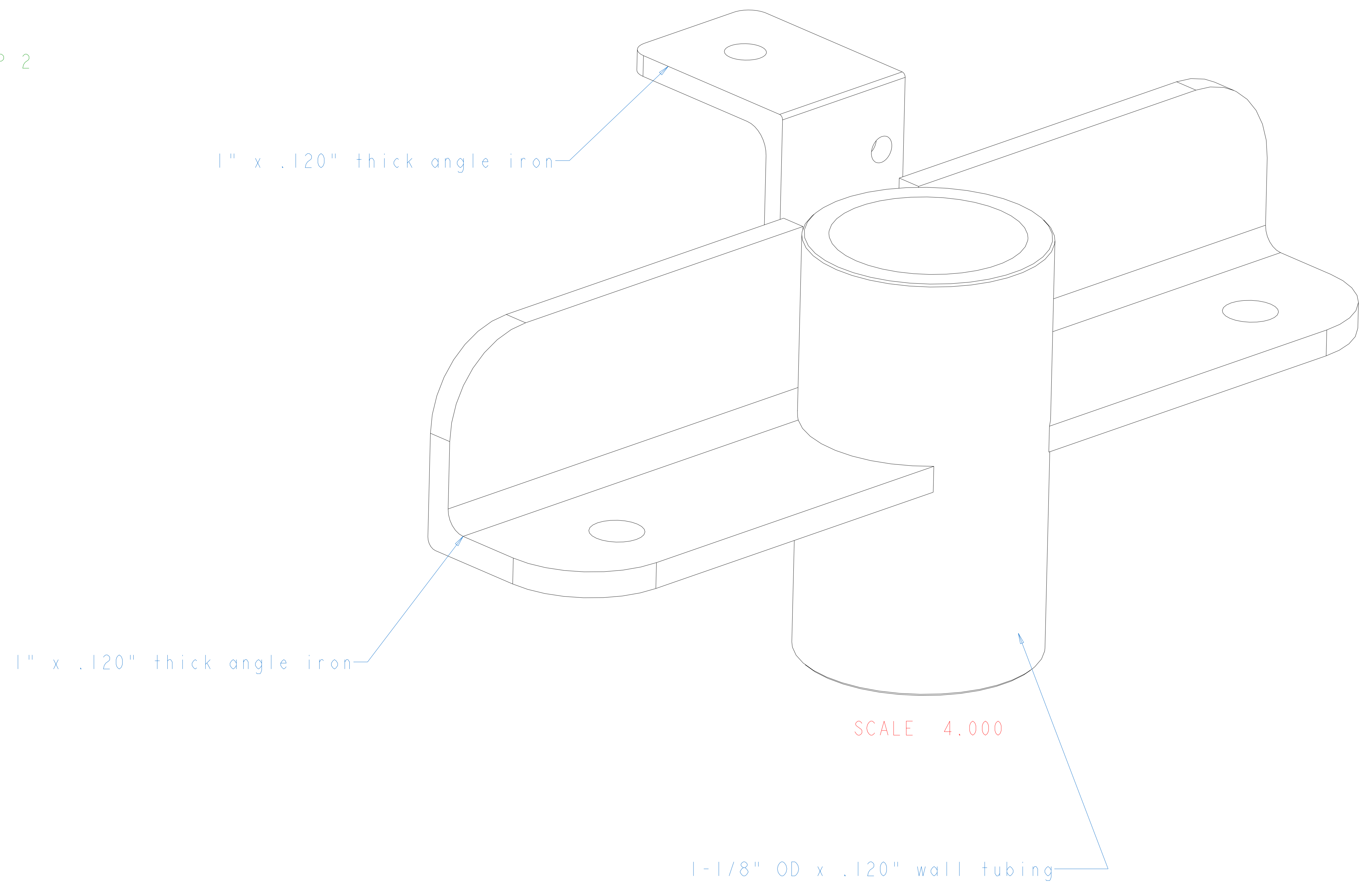
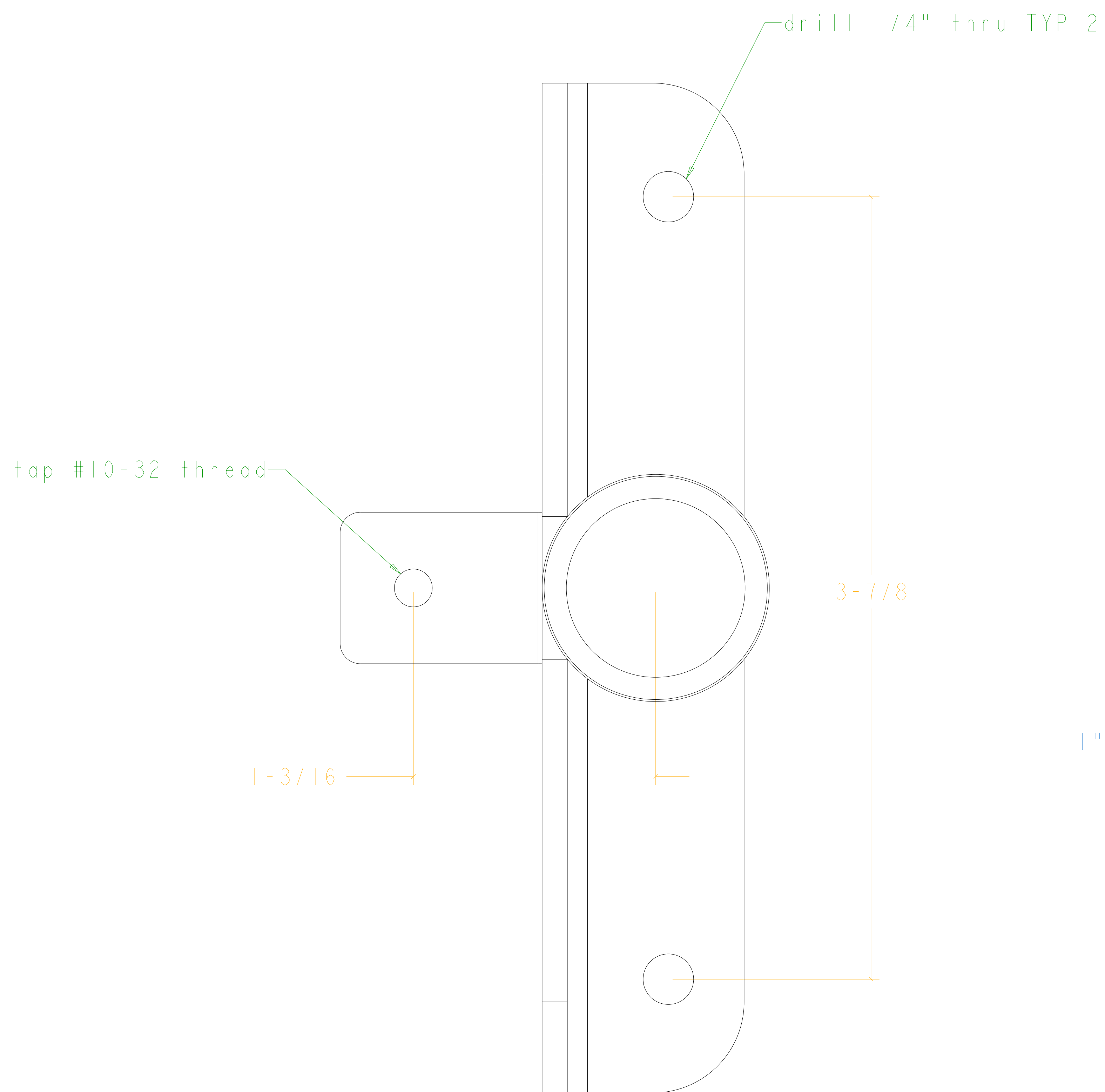
SCALE 1.000



DETAIL PIVOT POST
SCALE 4.000



SCALE 1.750



SCALE 3.000

fab end plates from 1" x .125" steel strap

3/4" OD x .065" wall tubing

"Pan Tab"

SCALE 3.000

Pedal Weldment (shown: Left)

1-1/8" OD x .120" wall tubing

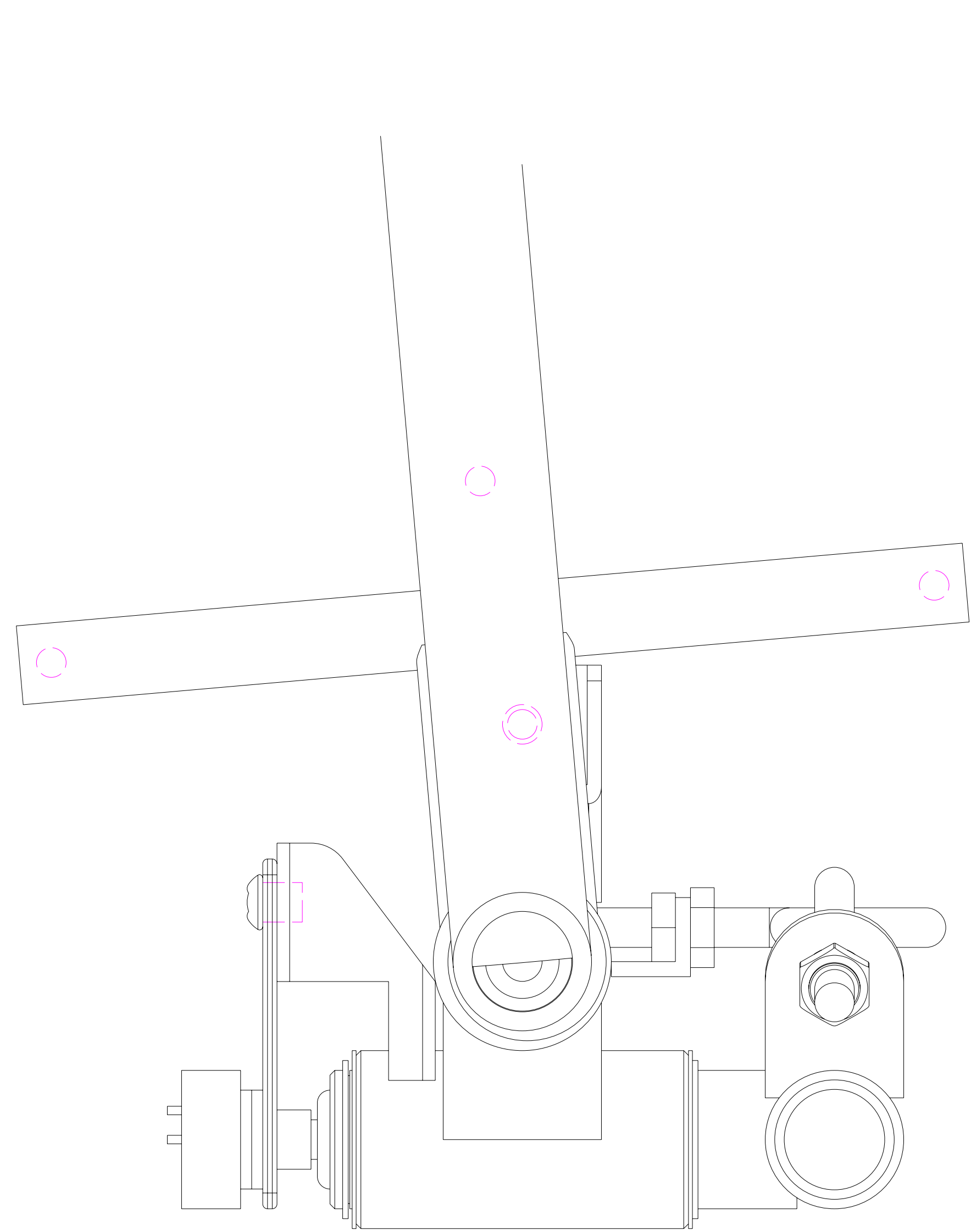
SCALE 2.000

heli-chair

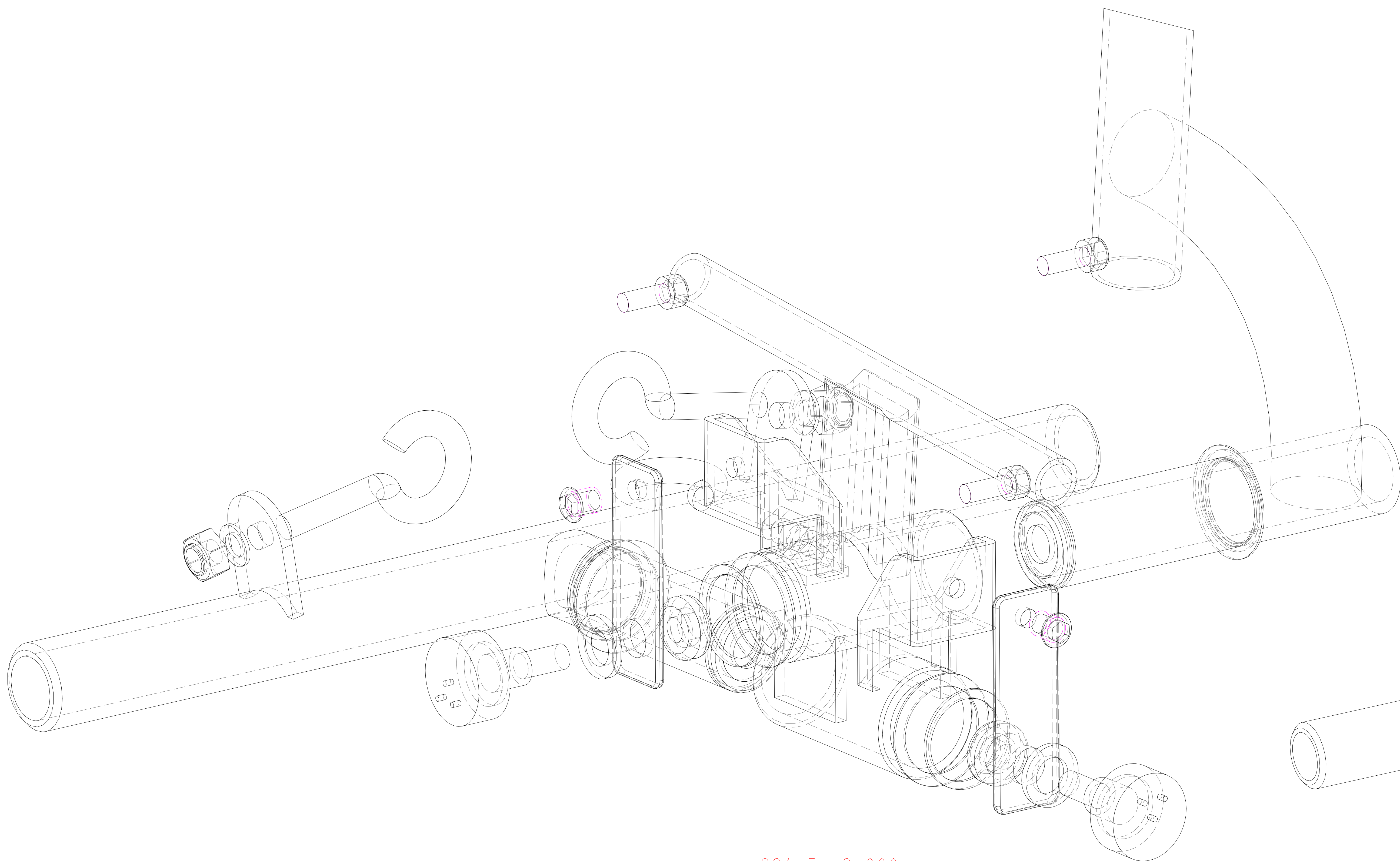
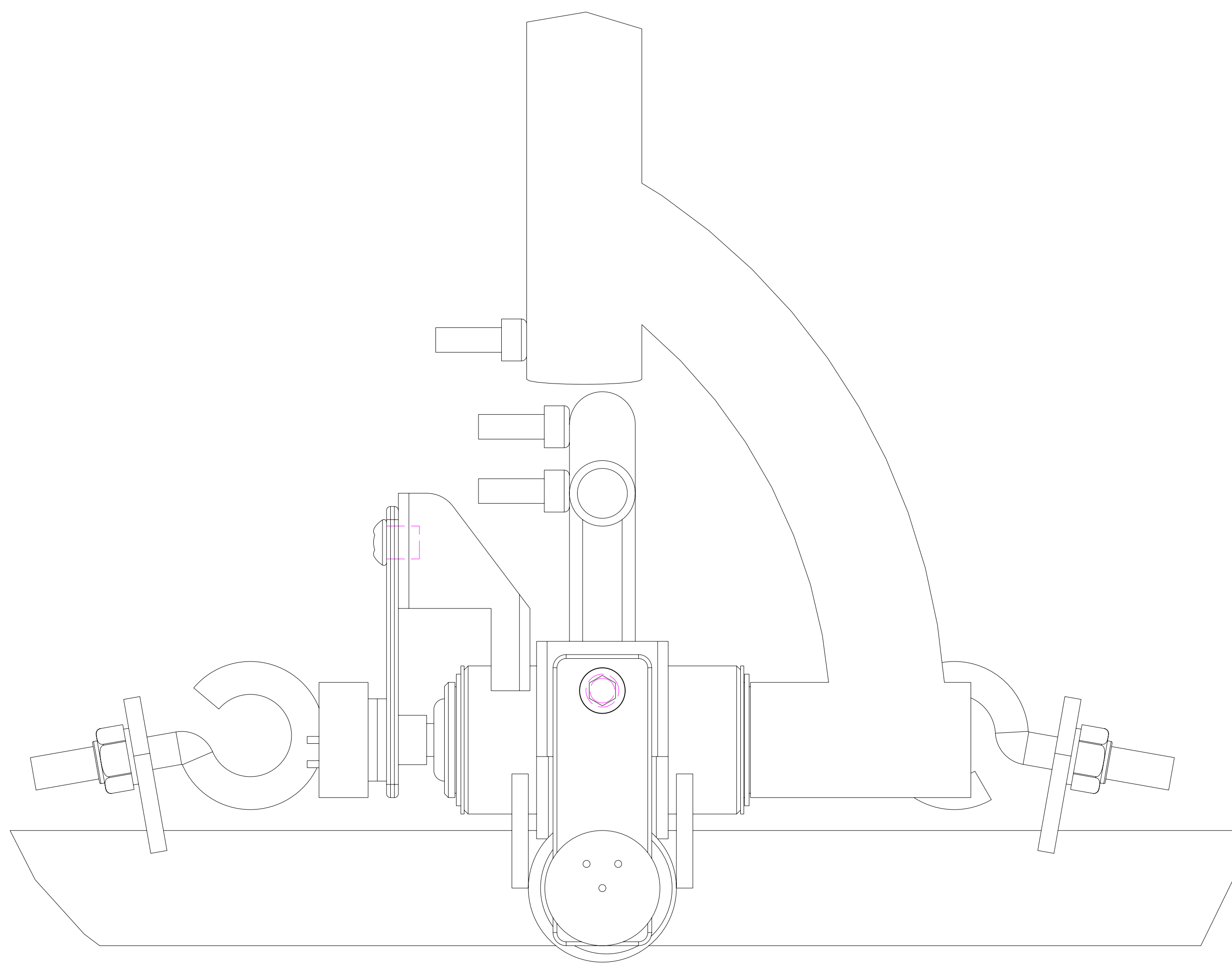
Mechanical Drawing Set

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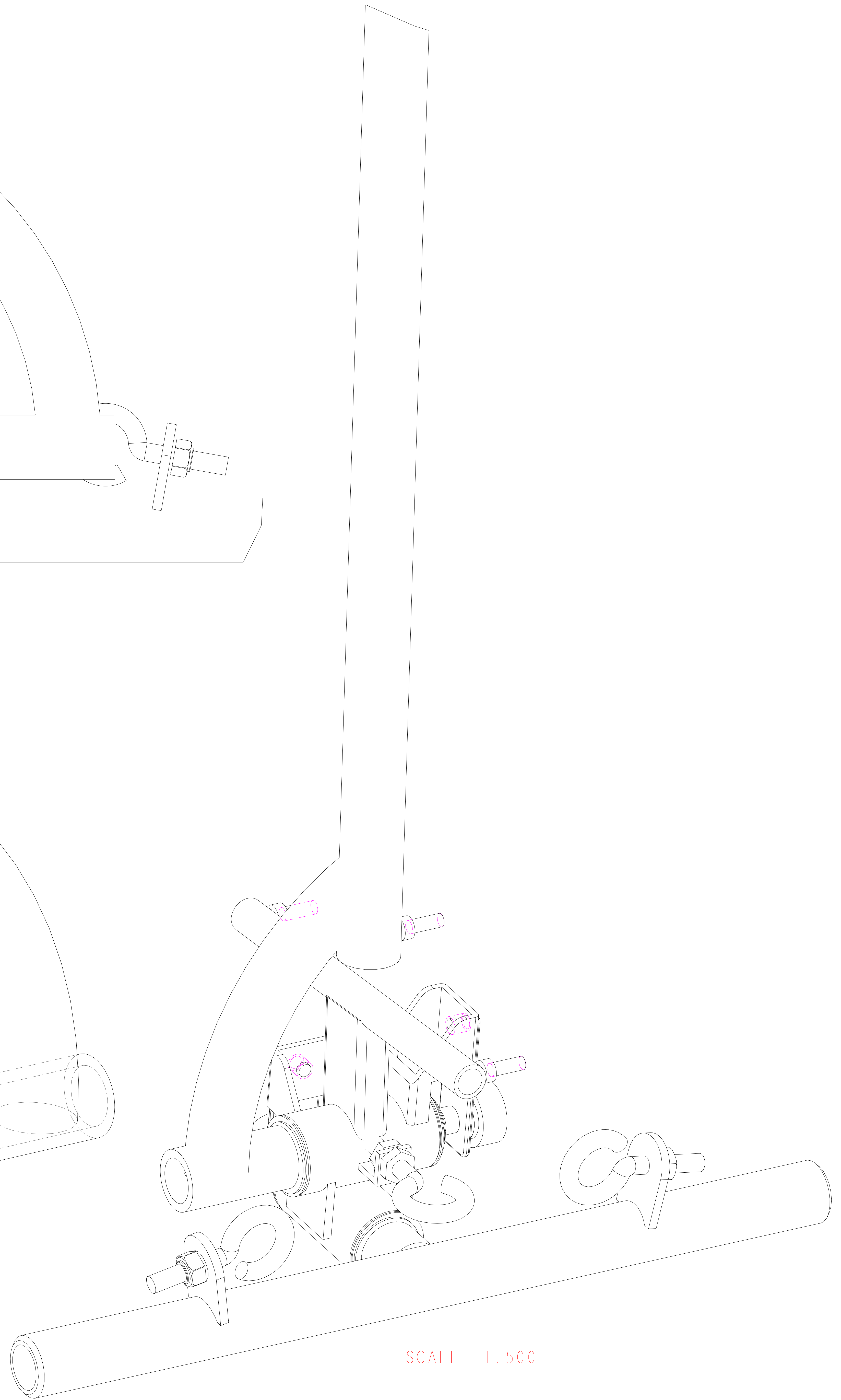
25 Mar 2006



SCALE 1.500



SCALE 2.000



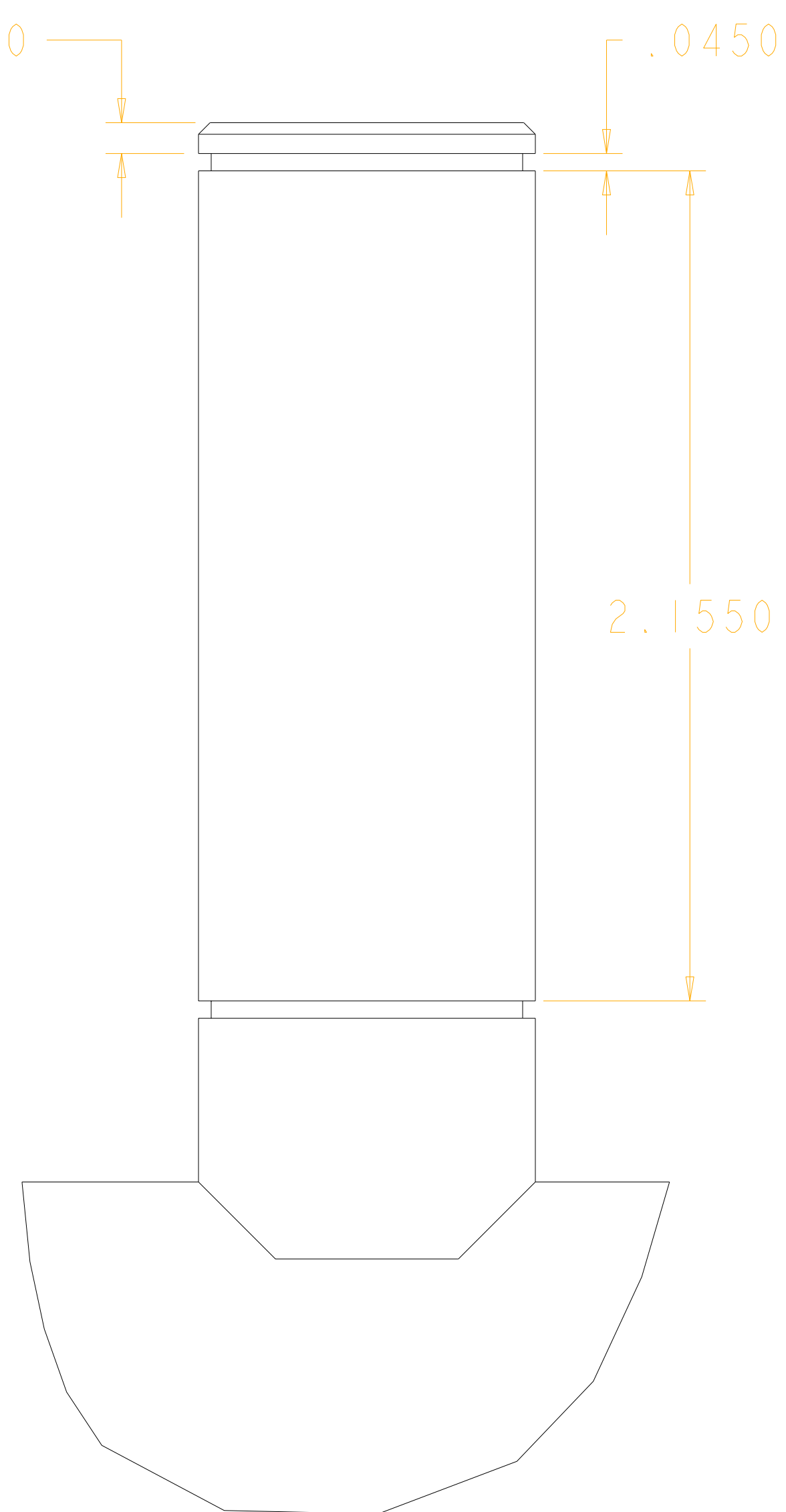
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heli-chair

Mechanical Drawing Set

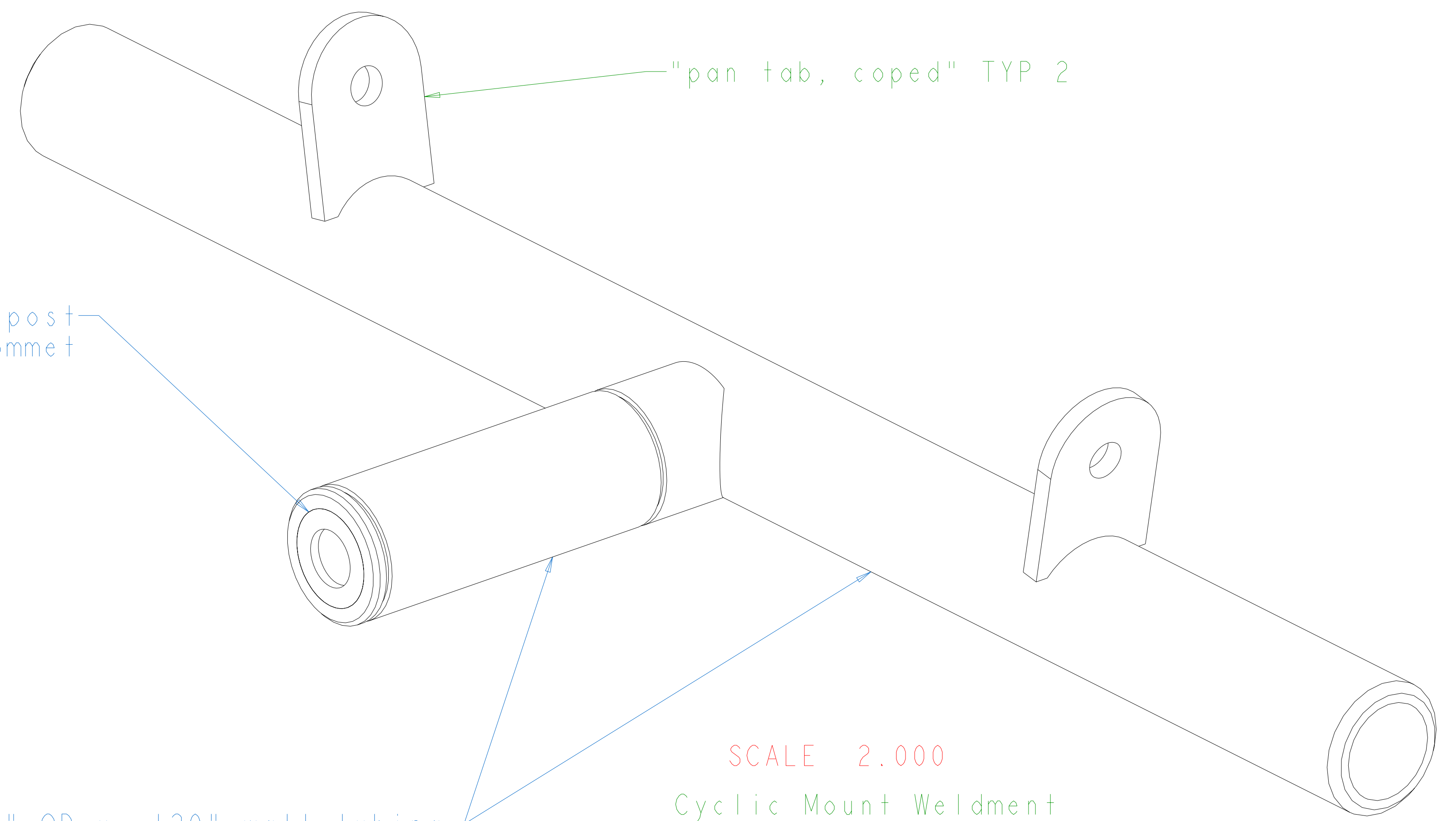
Revision Sheet
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25 Mar 2006

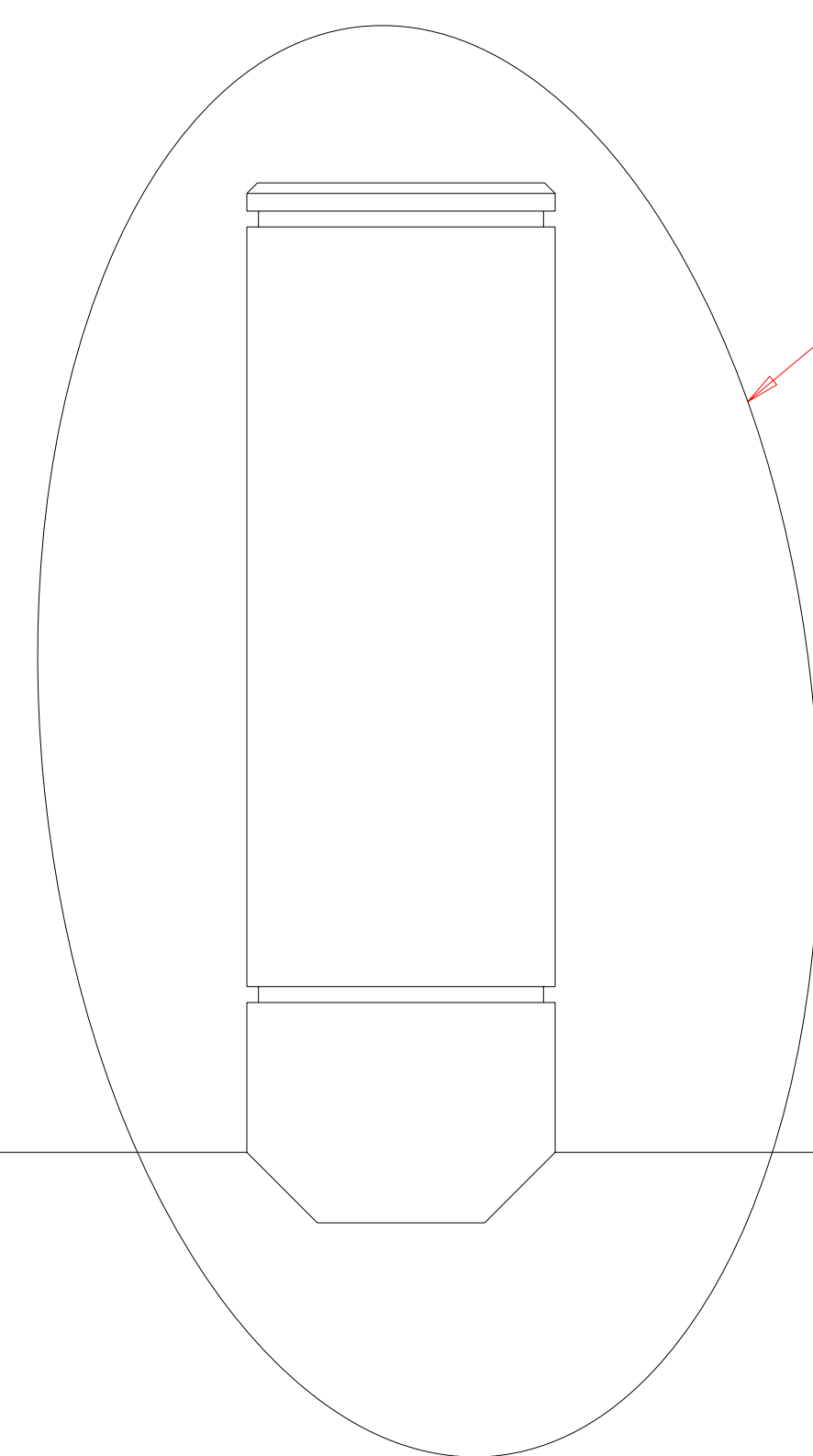


DETAIL CYCLIC POST
SCALE 3.000

Weld special potentiometer grip washer into post
drill 3/8" hole on center to grip grommet

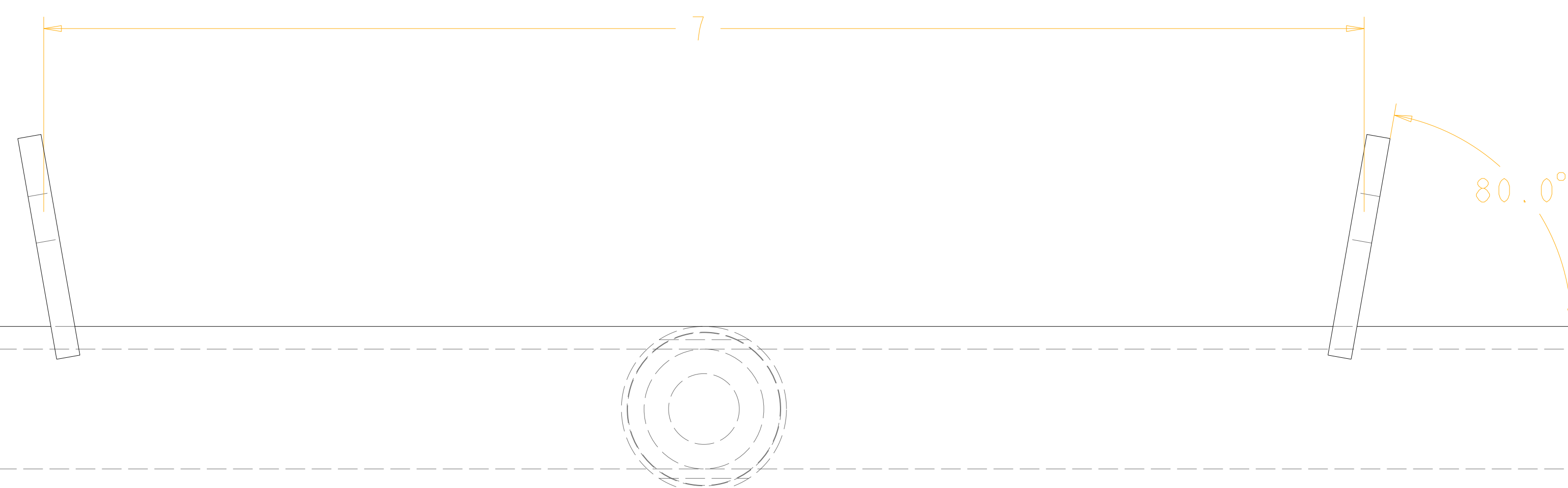
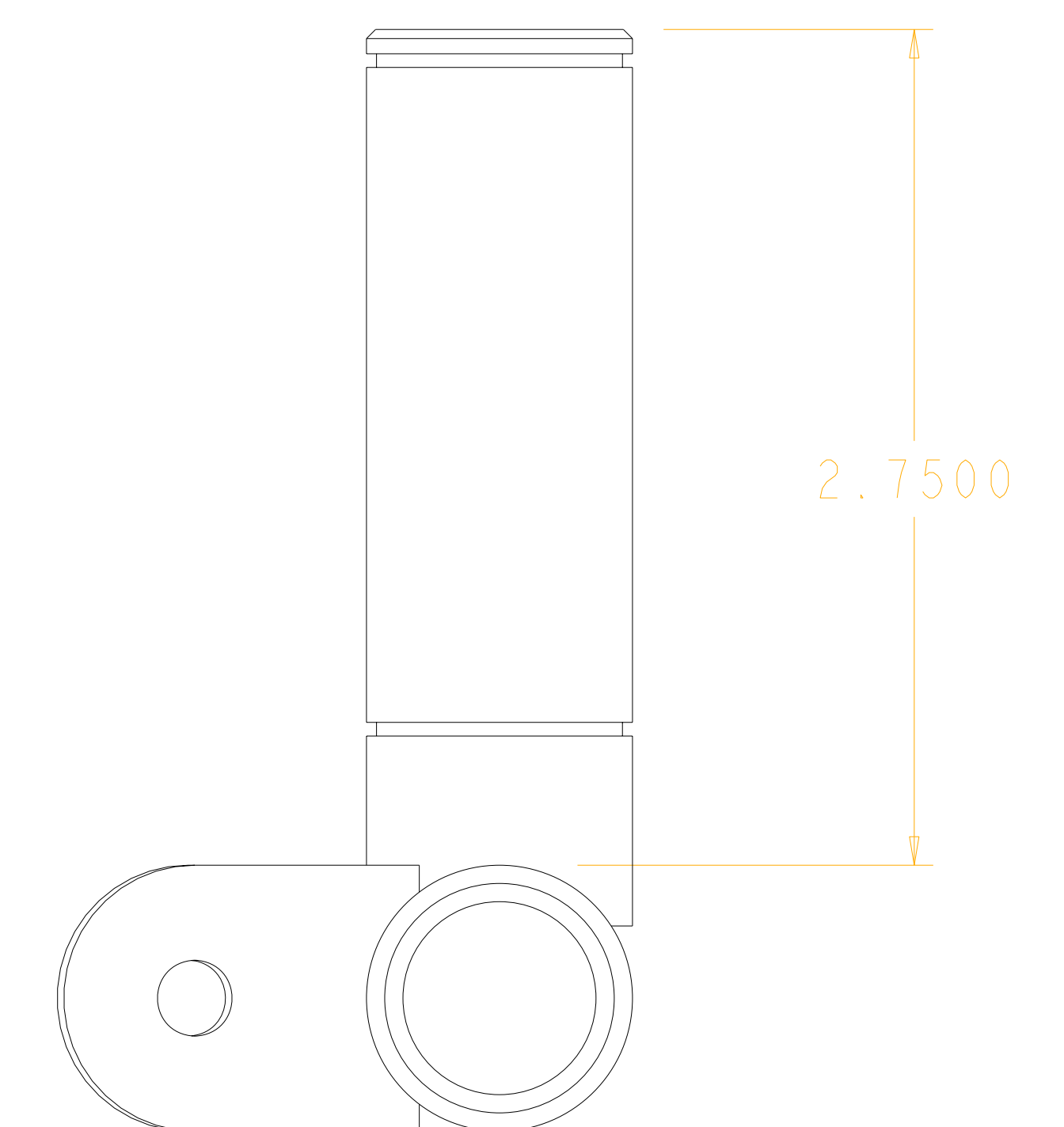
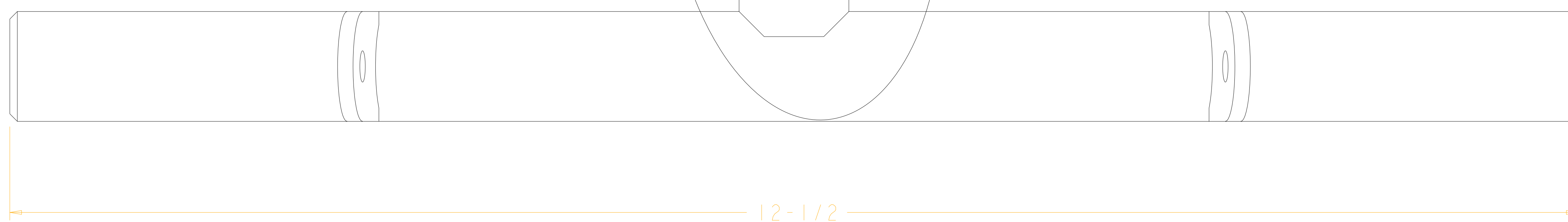


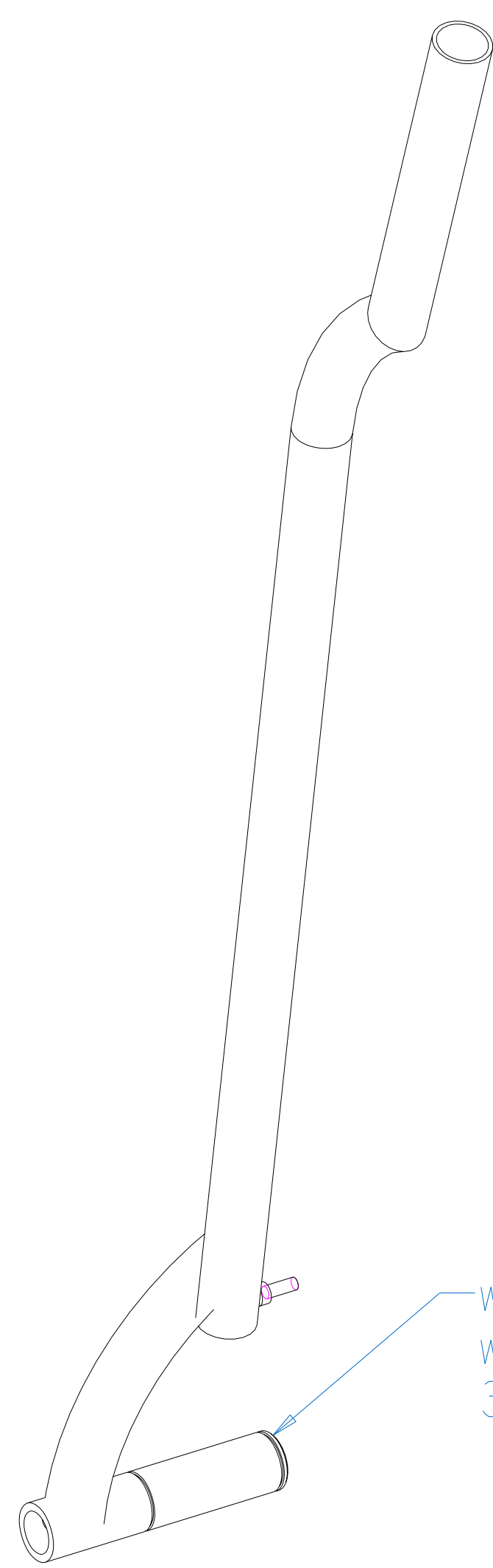
SCALE 2.000
Cyclic Mount Weldment



SEE DETAIL CYCLIC POST

SCALE 2.000





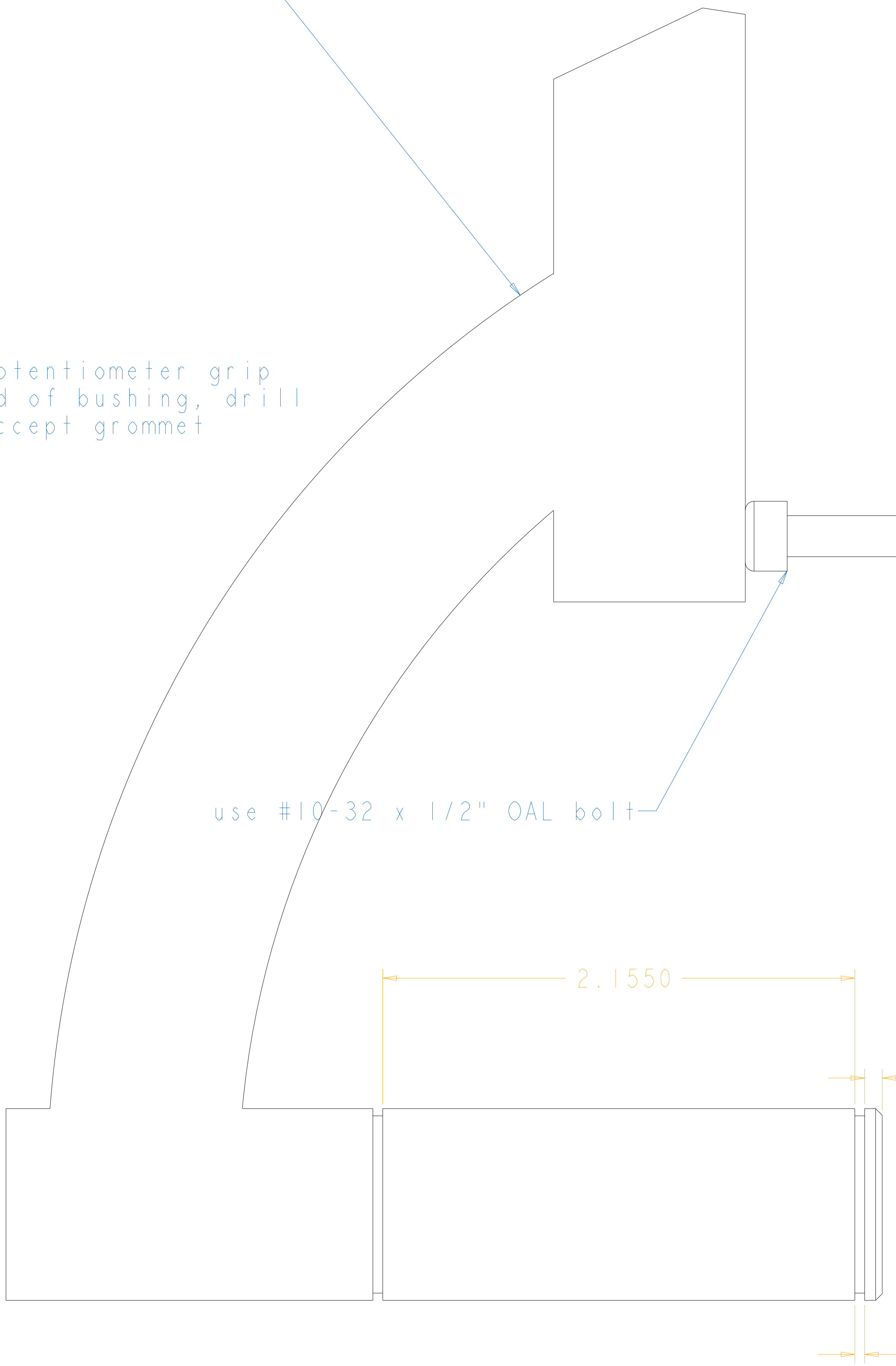
weld special potentiometer grip washer into end of bushing, drill 3/8" thru to accept grommet

7/8" OD x .120" wall tubing, all components

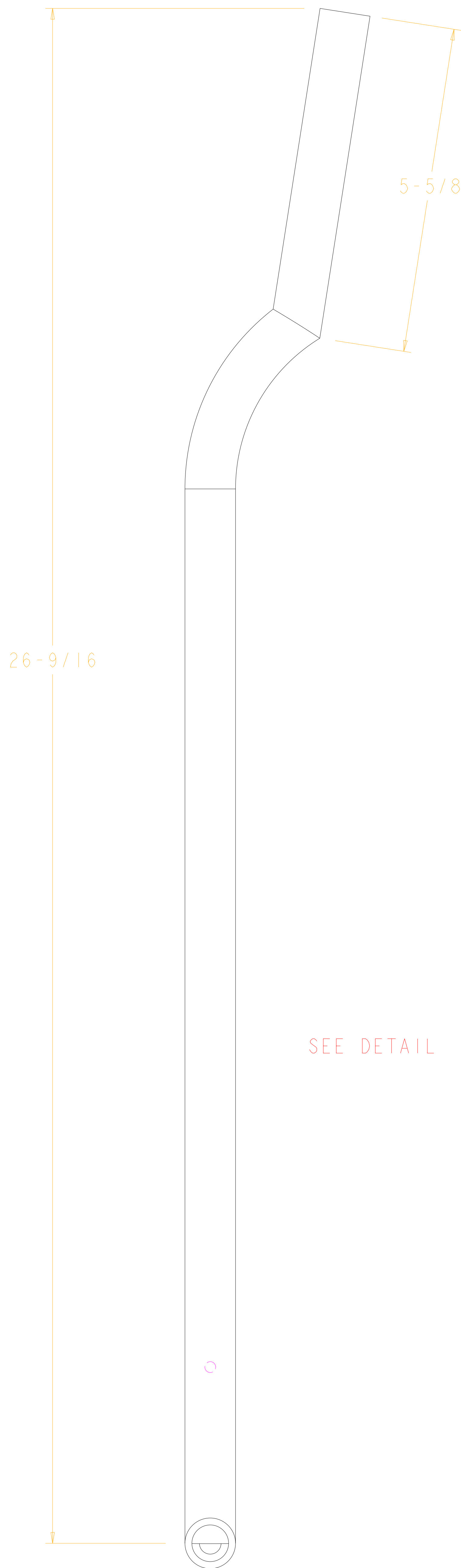
use #10-32 x 1/2" OAL bolt

SCALE 0.500

Cyclic Weldment

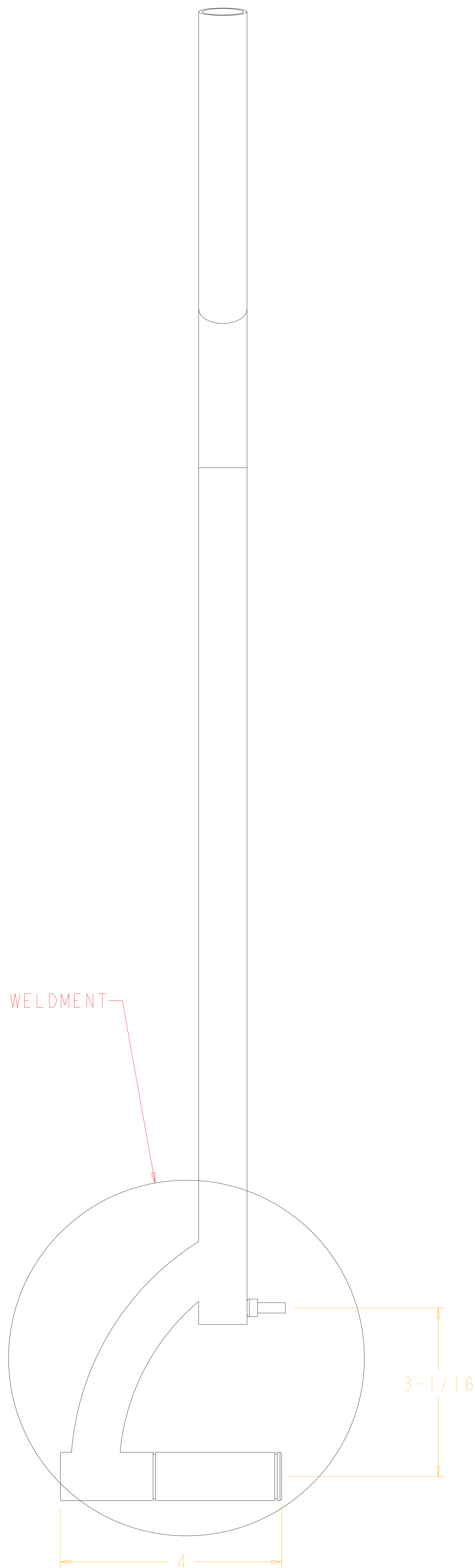


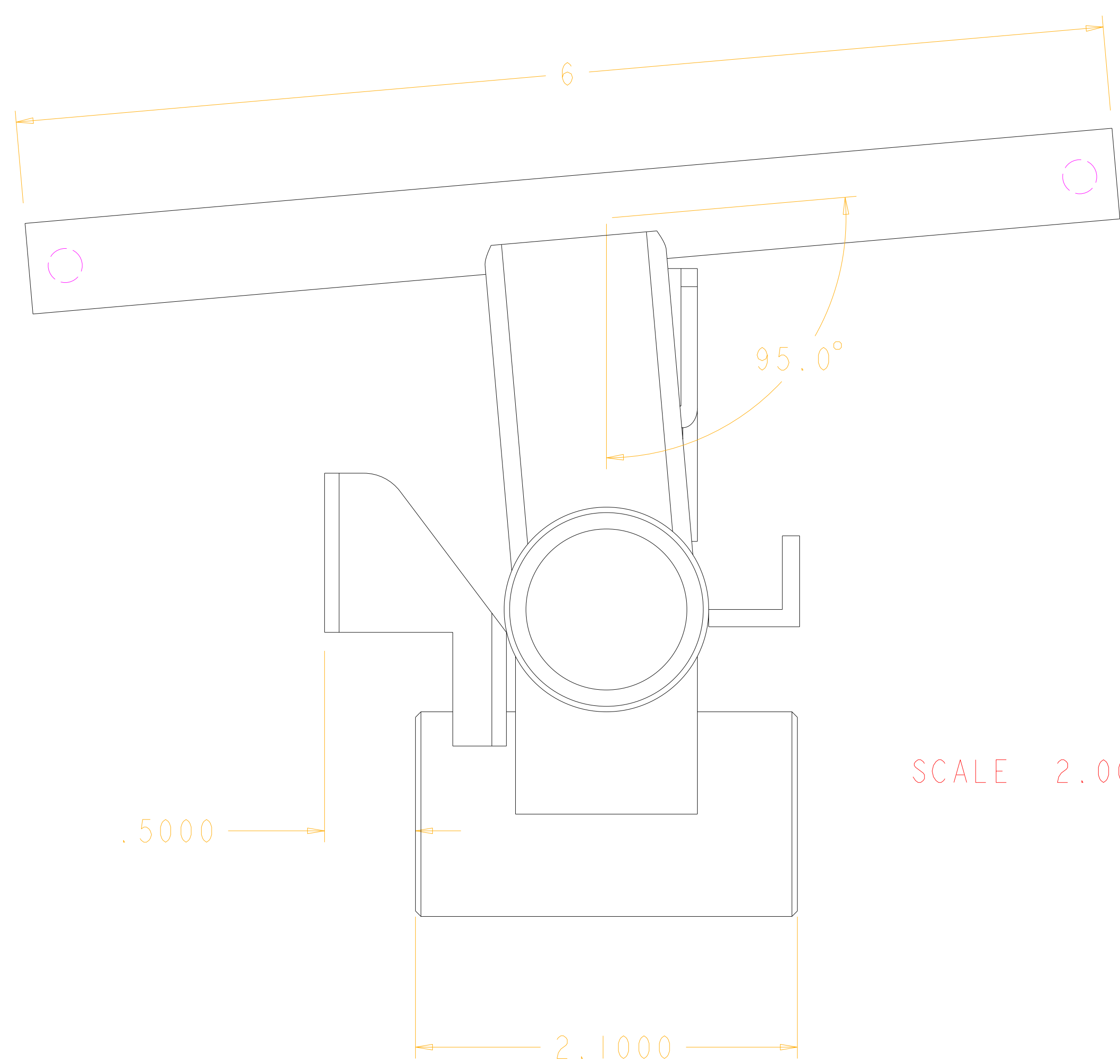
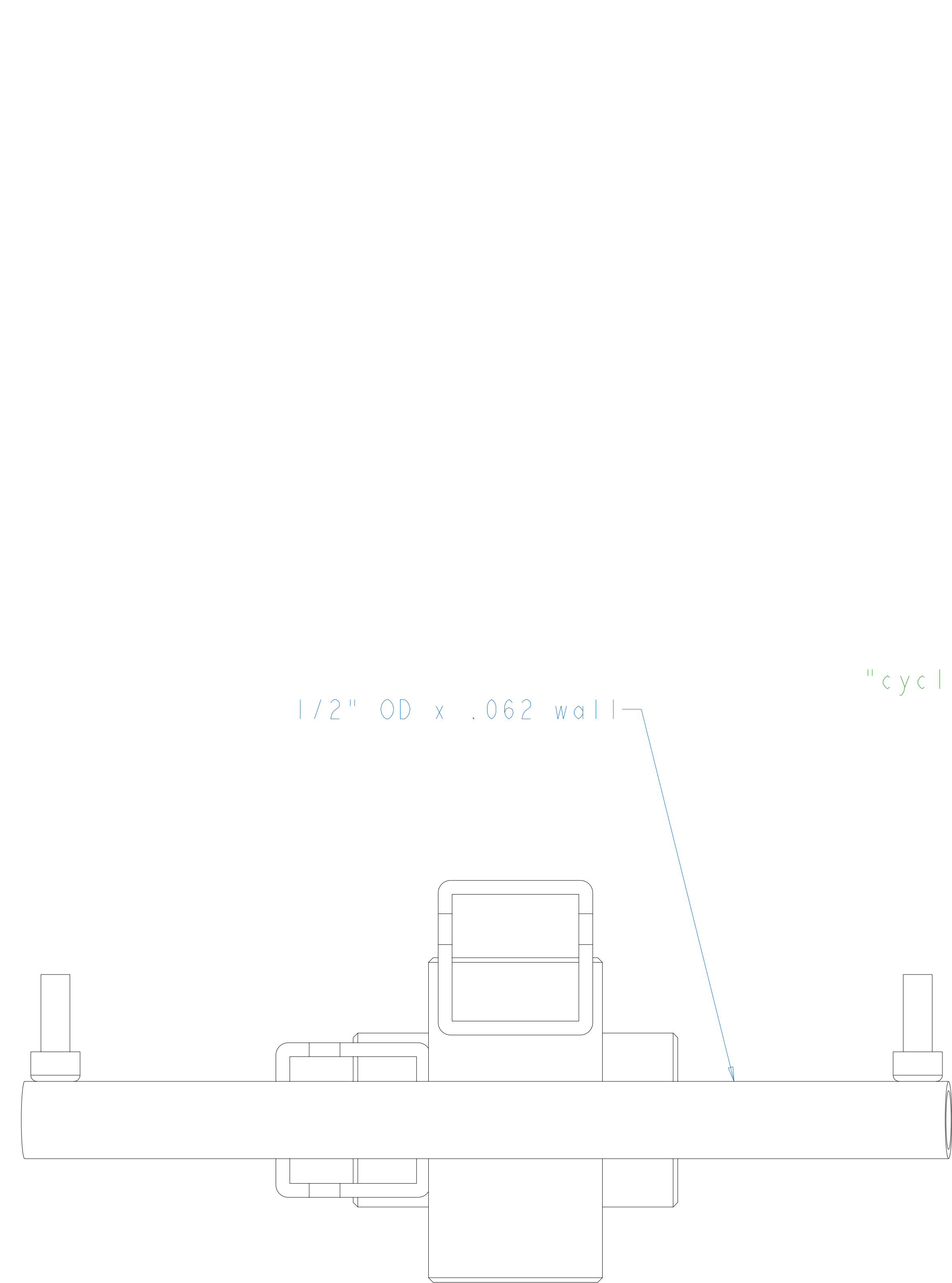
DETAIL LOWER WELDMENT
SCALE 3.000



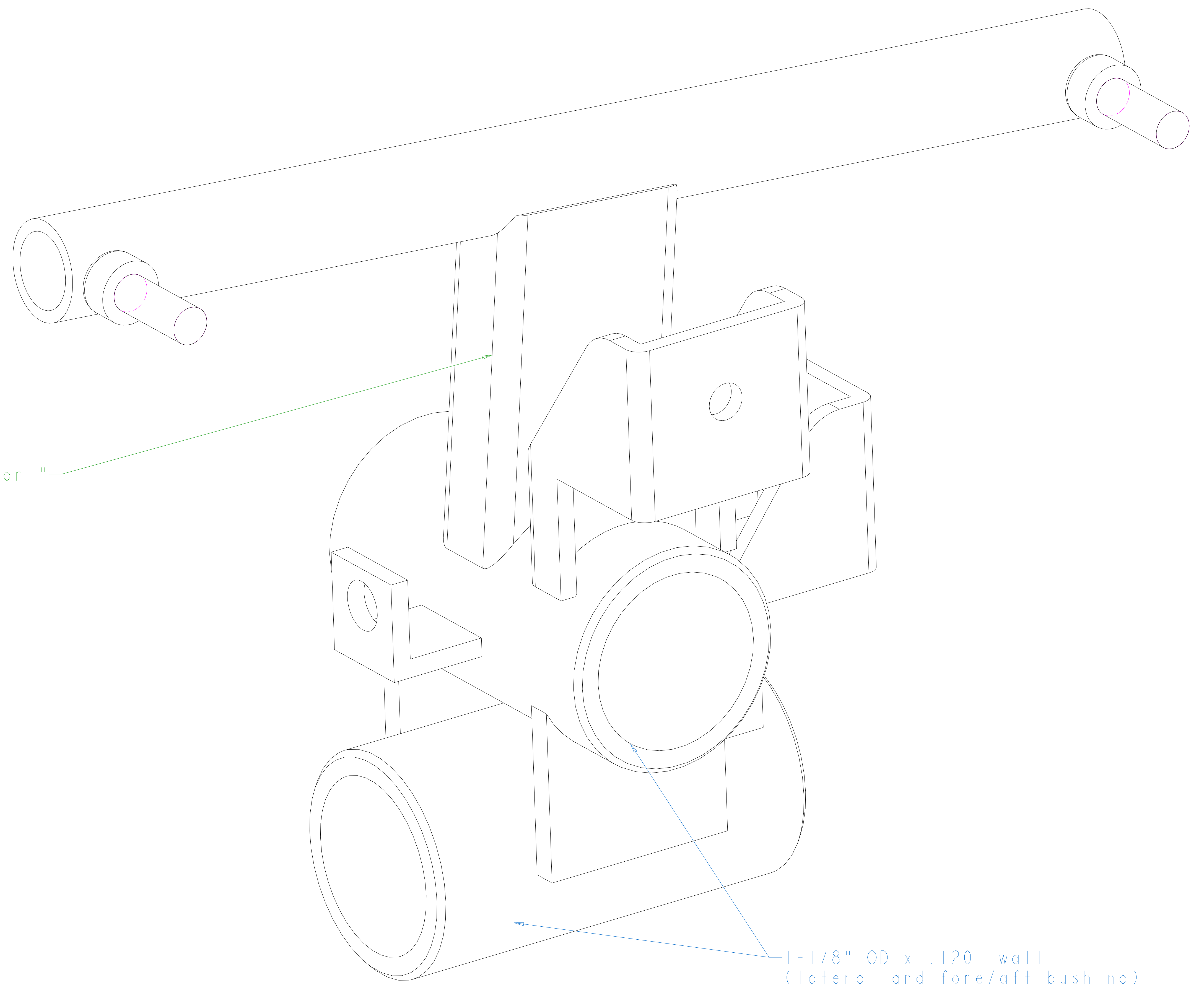
SEE DETAIL LOWER WELDMENT

SCALE 1.000

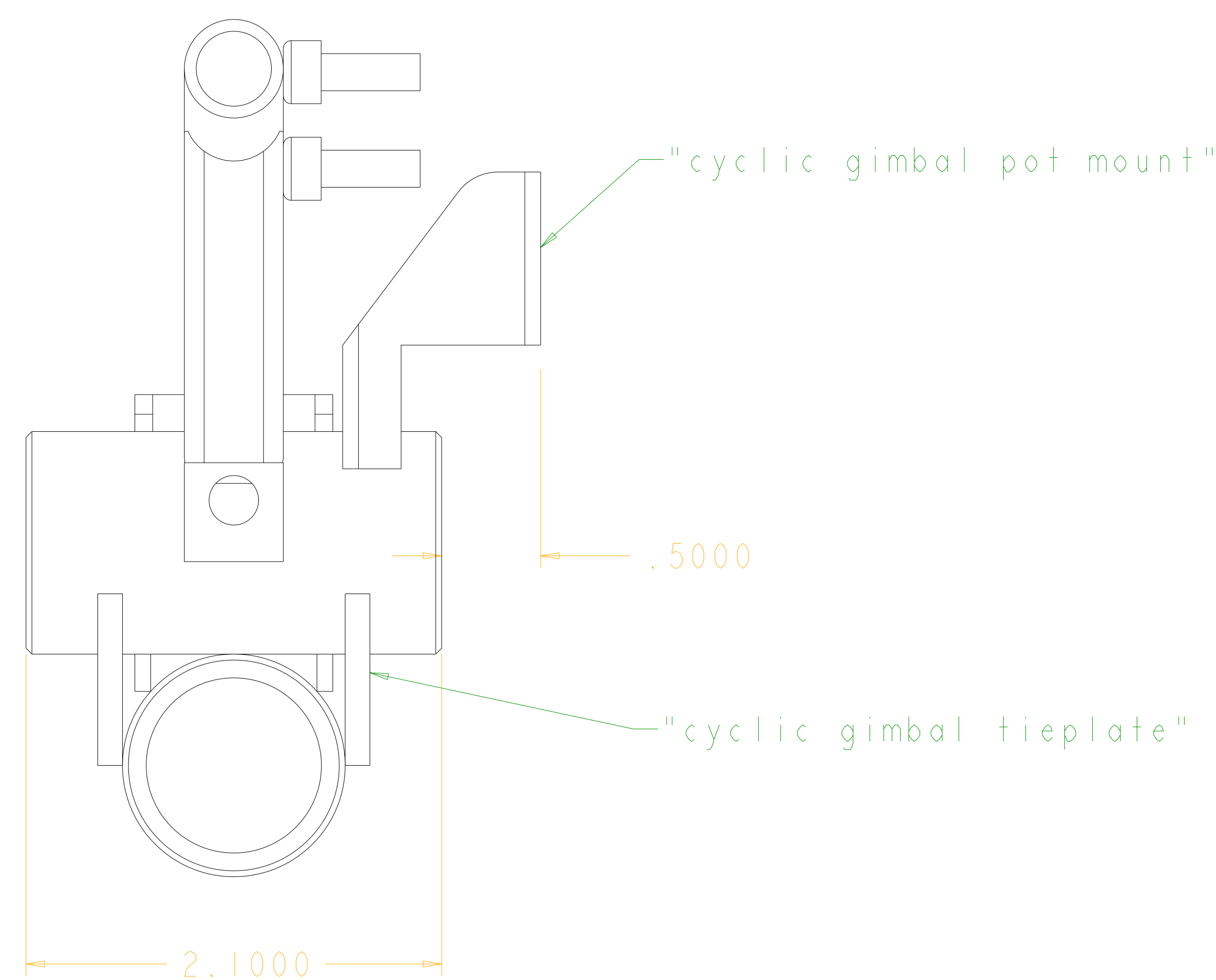


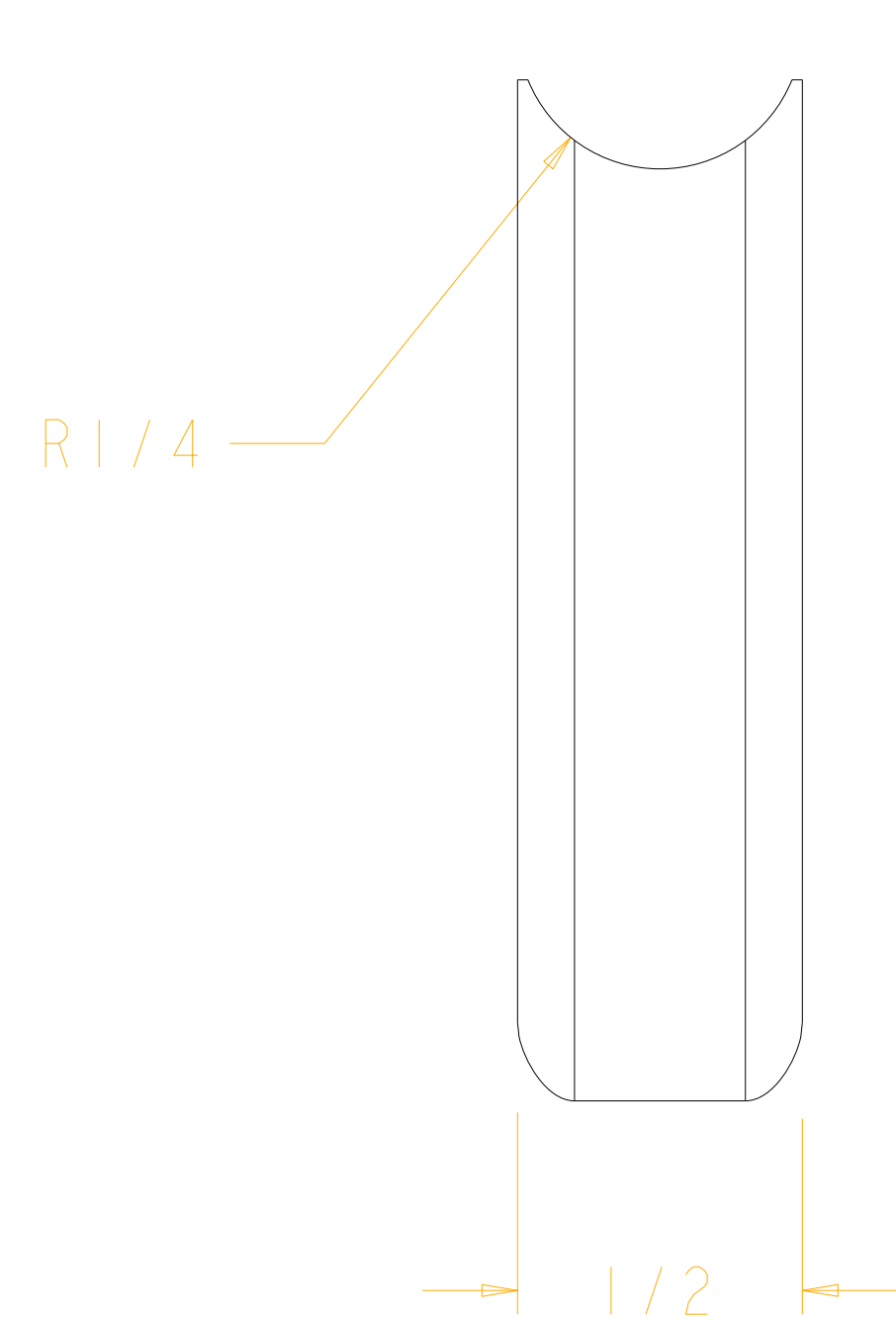


SCALE 2.000

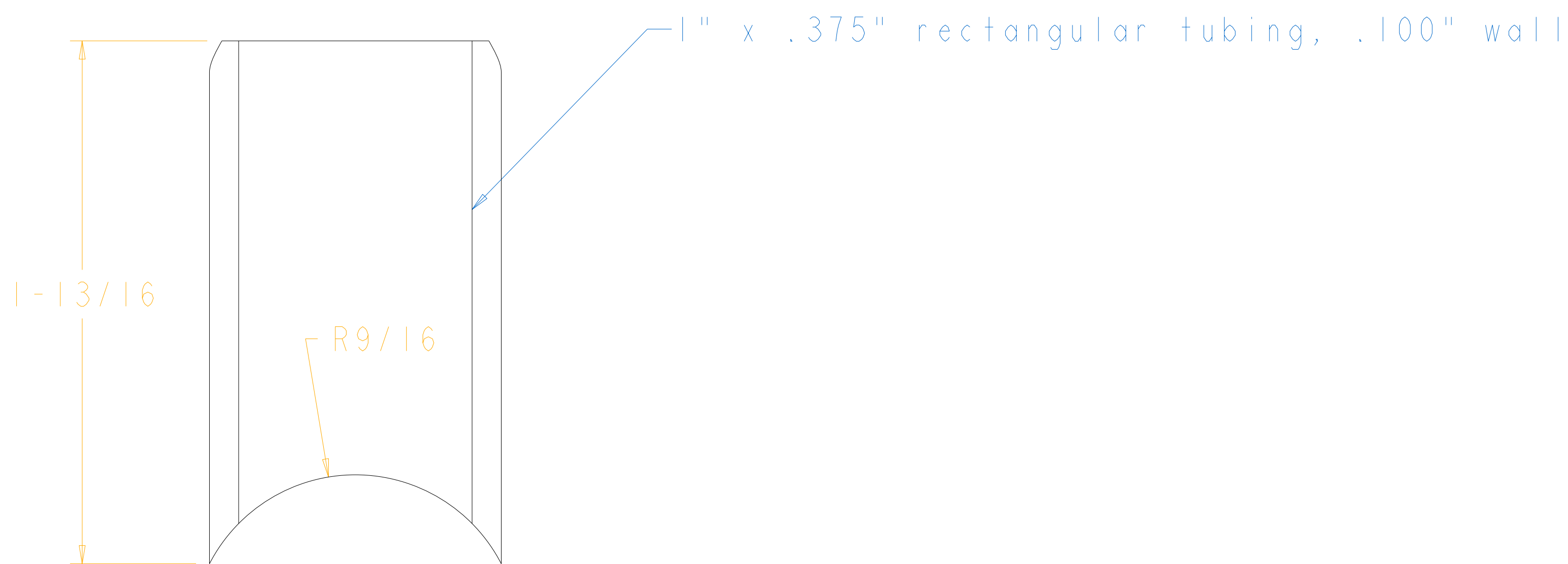


SCALE 4.000
Cyclic Gimbal Weldment

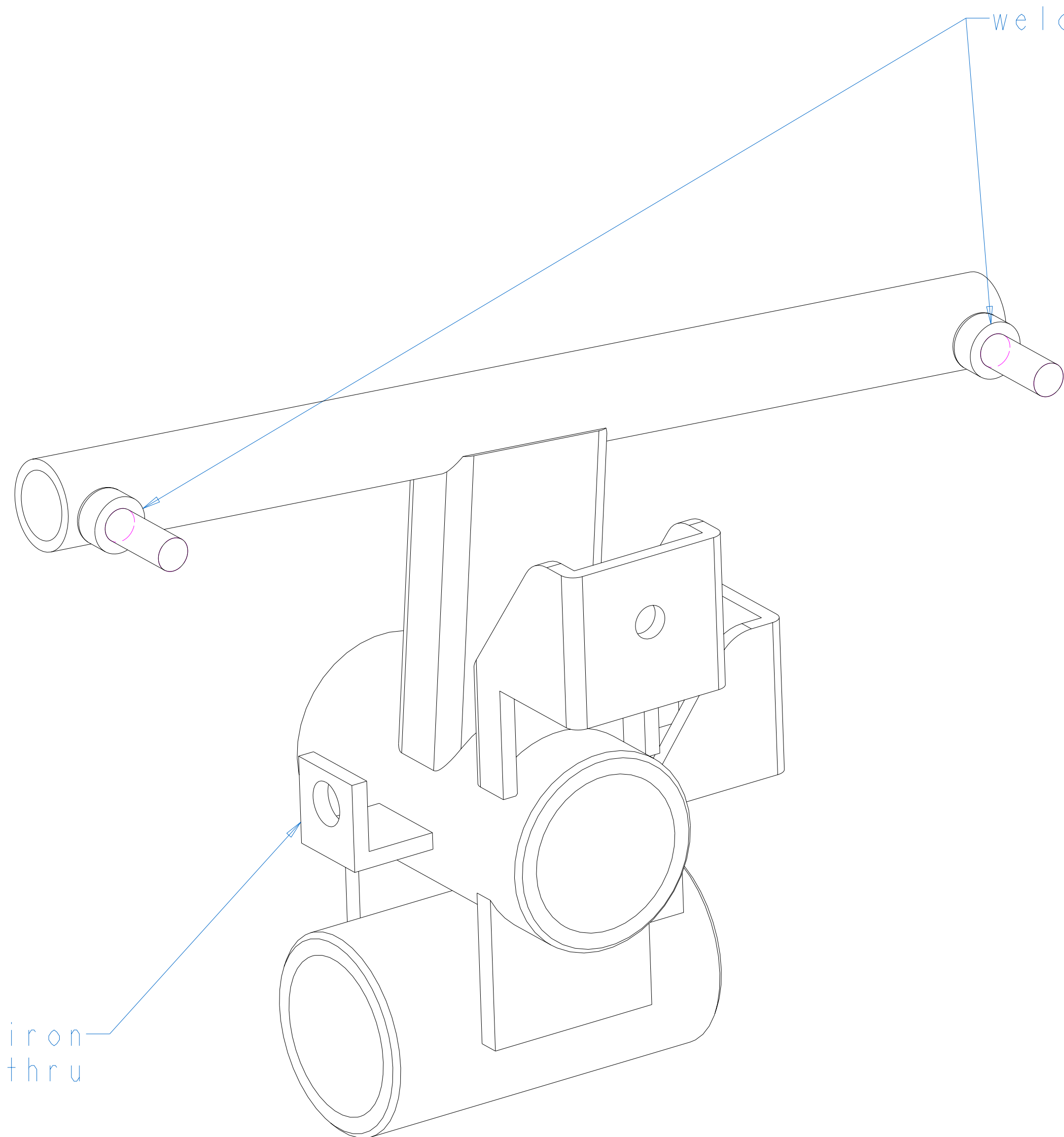




SCALE 3.000
cyclic gimbal fore-aft spring support

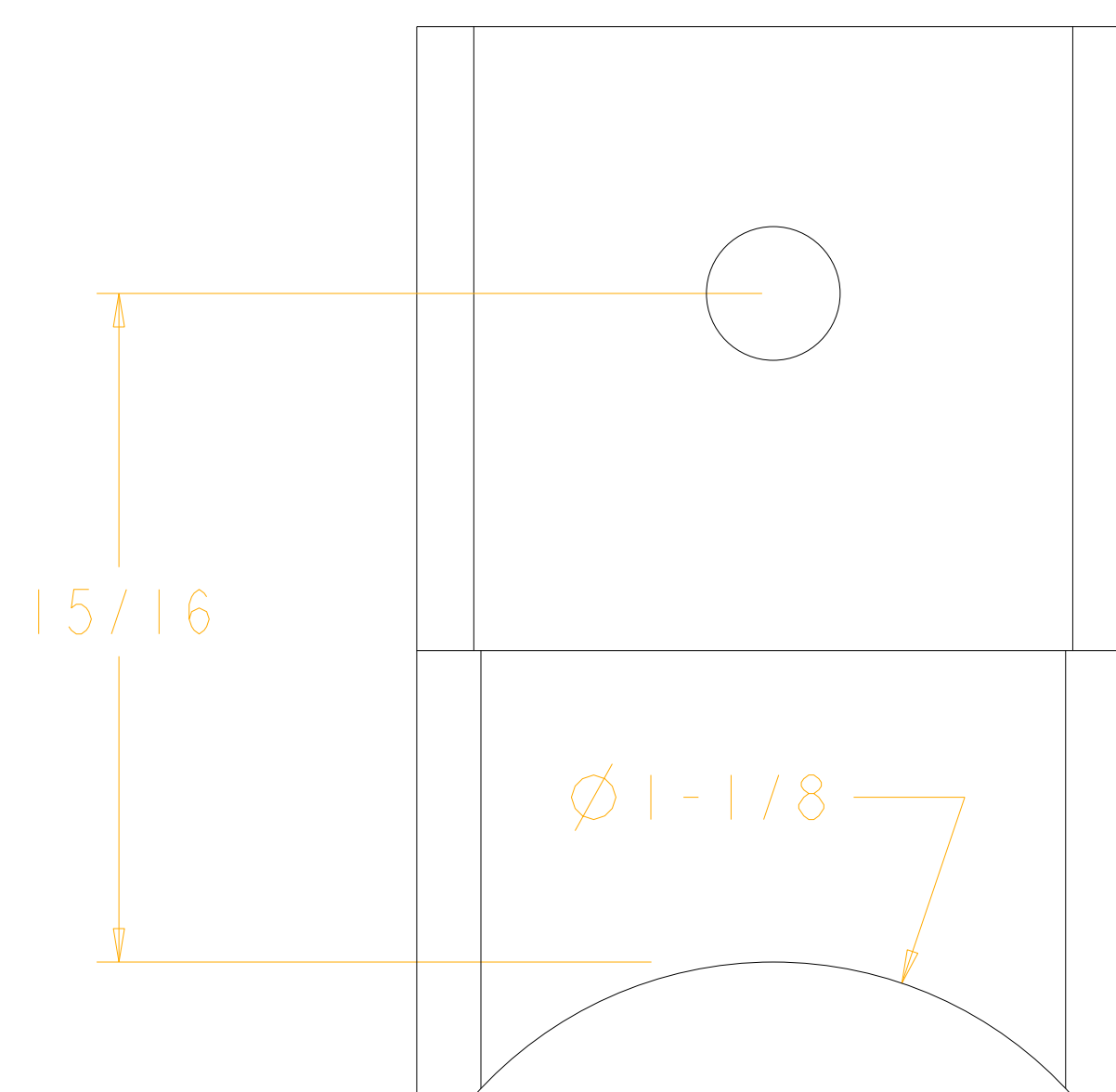


1" x .375" rectangular tubing, .100" wall

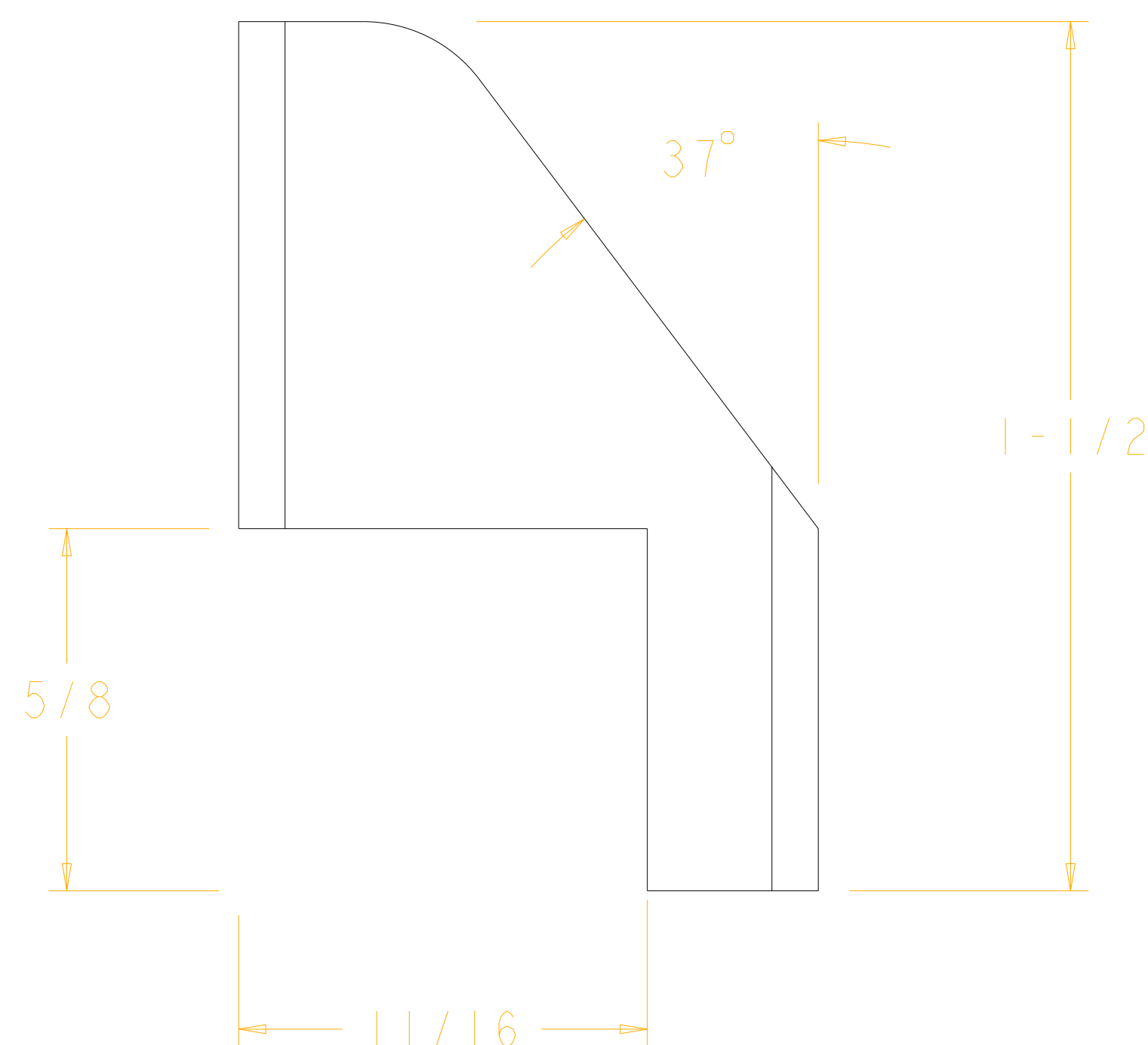


1/2" angle iron
drill 1/4" thru

SCALE 2.000



SCALE 4.000

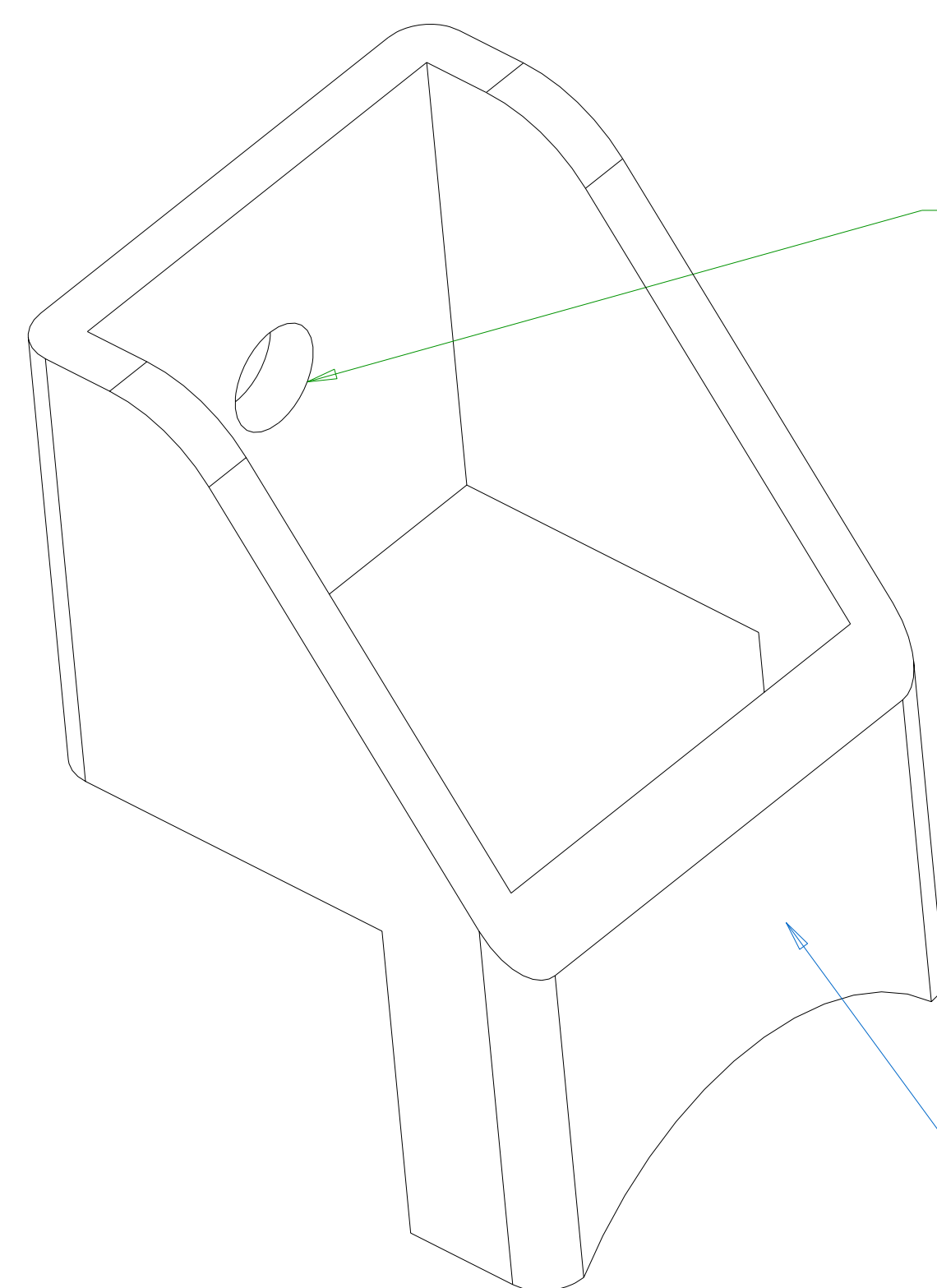


37°

1-1/2

5/8

11/16

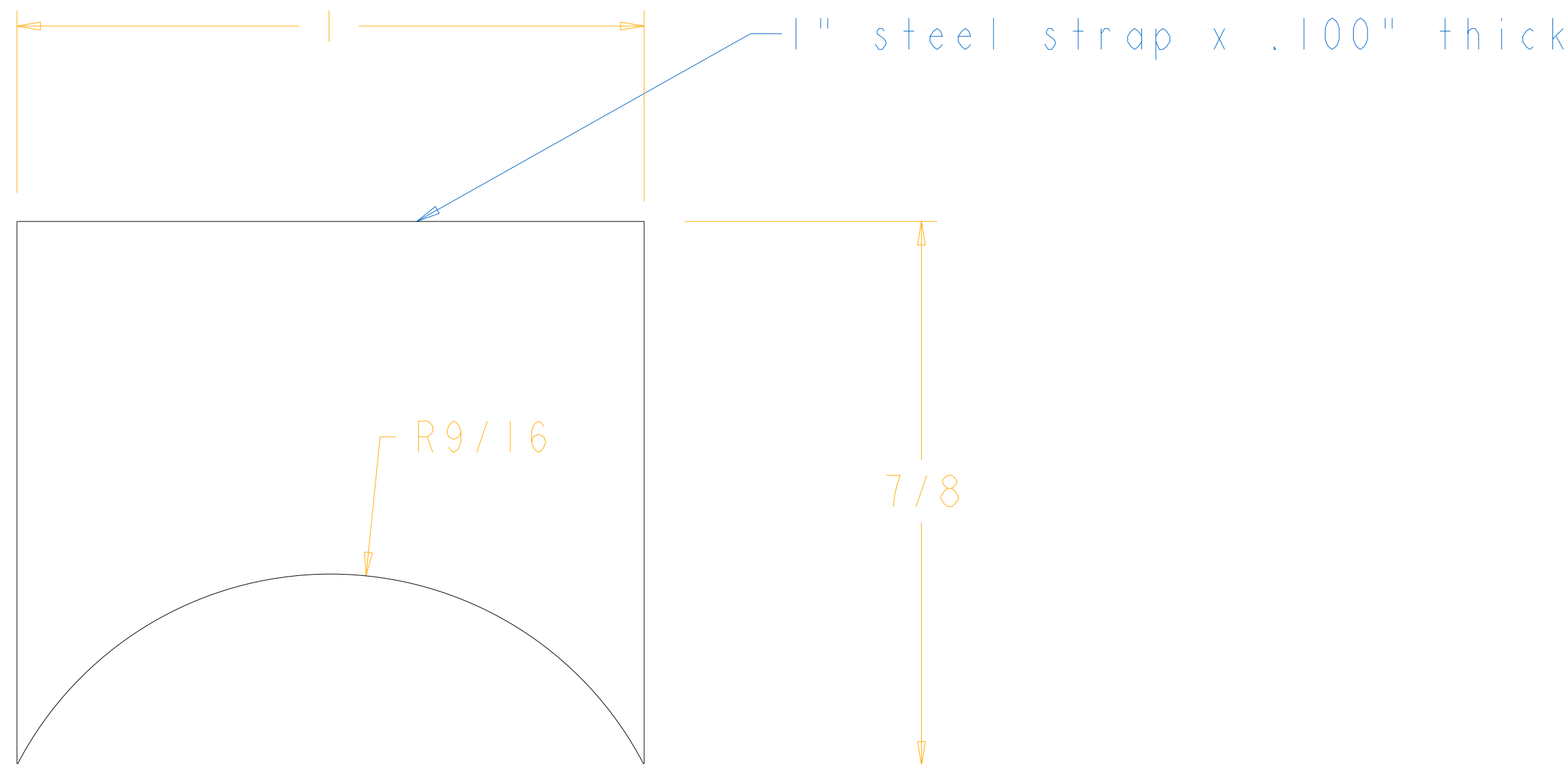


tap #10-32 thru

1" square tubing, 11 gage

SCALE 4.000

cyclic gimbal potentiometer mount



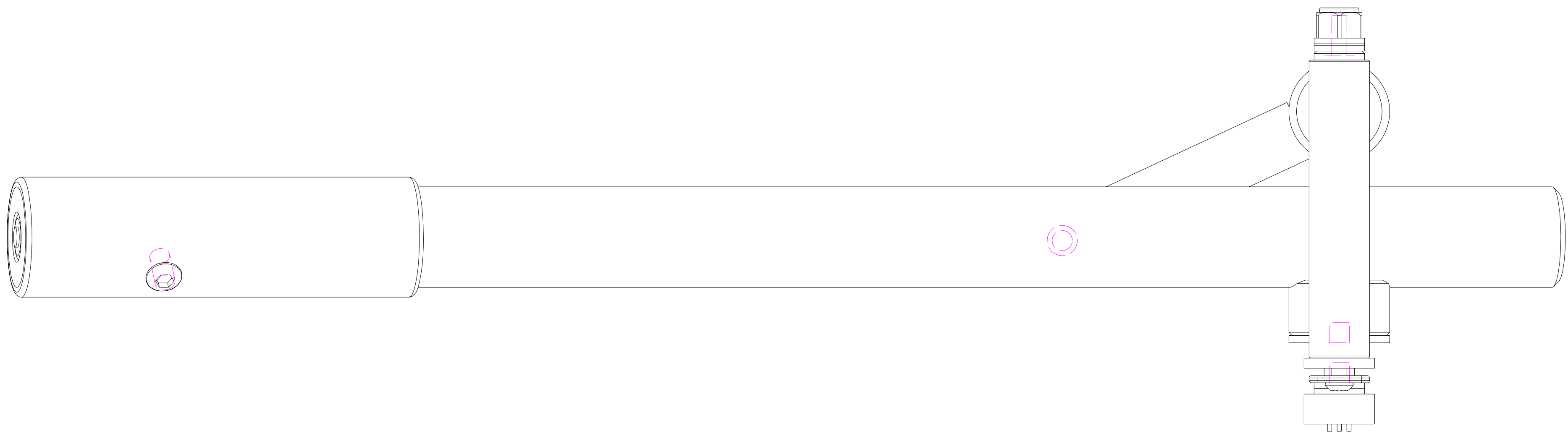
1" steel strap x .100" thick

R9/16

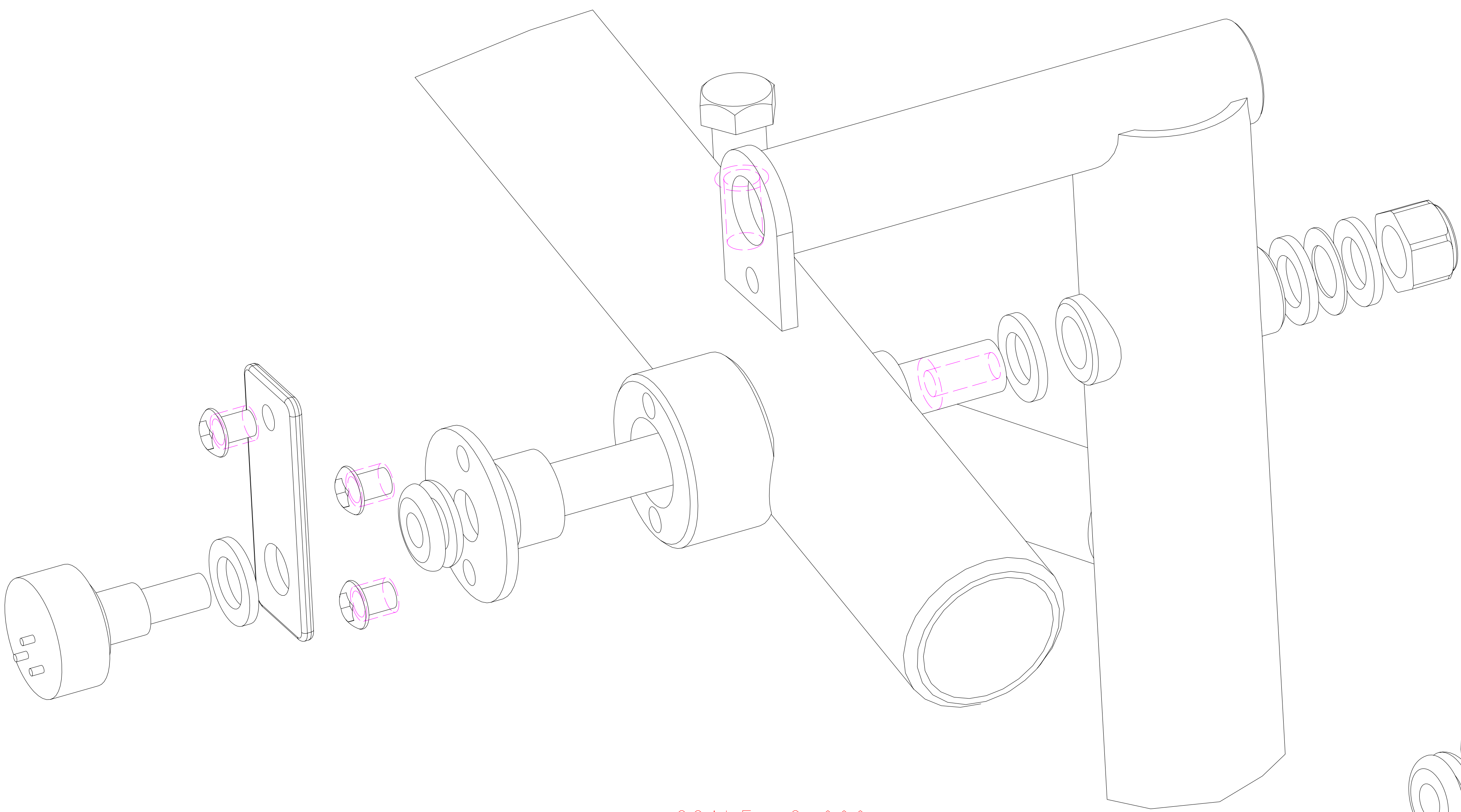
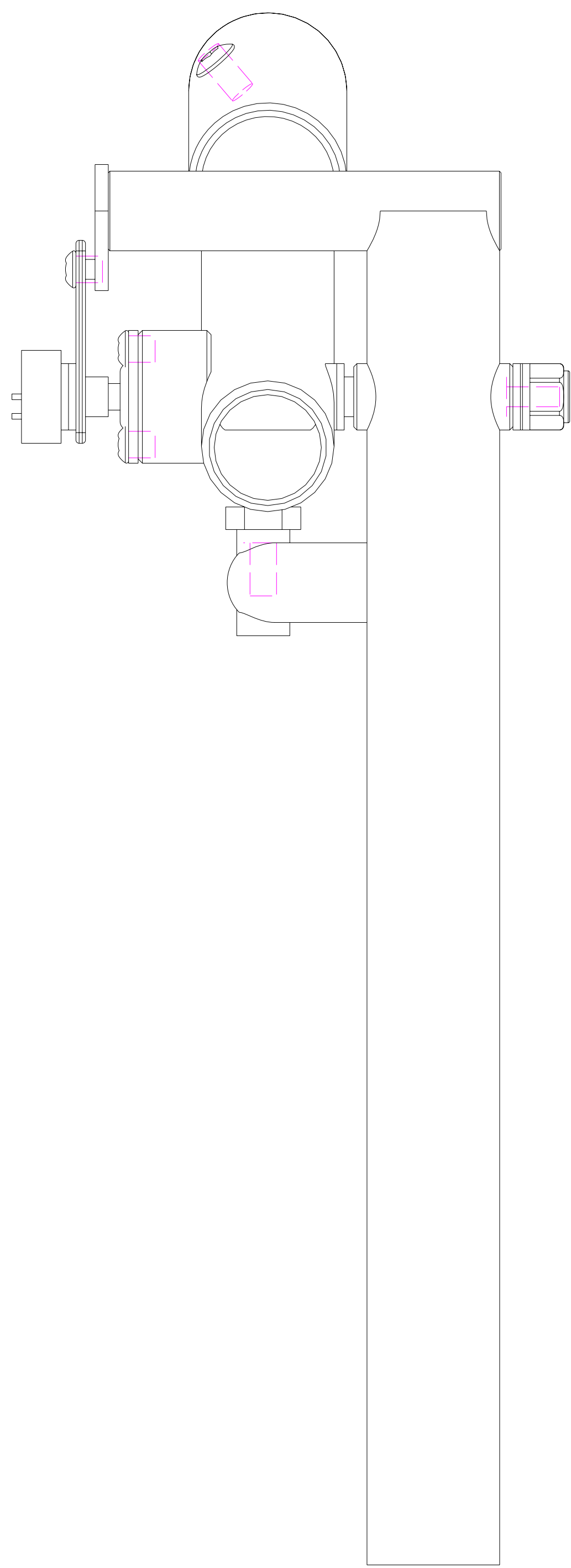
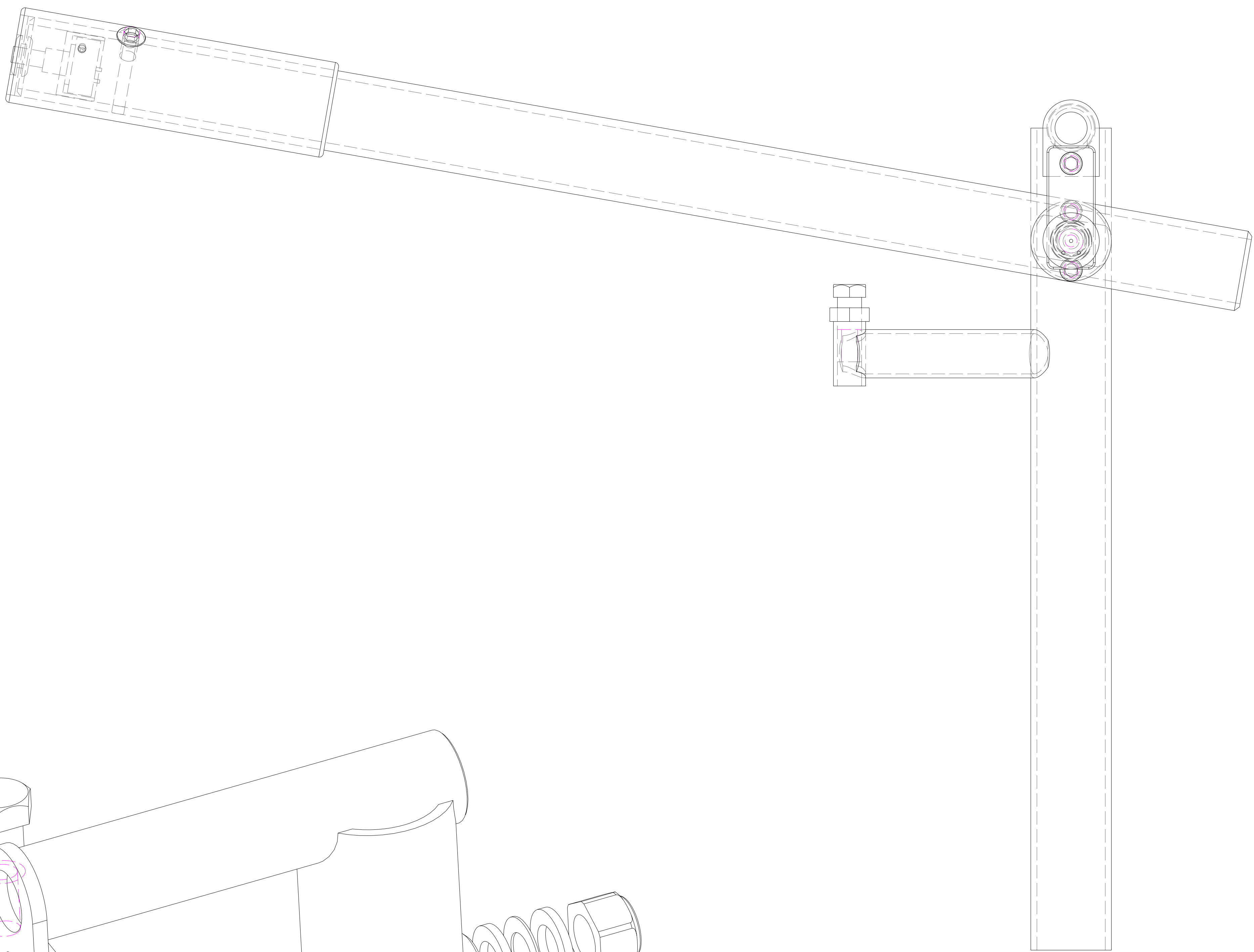
7/8

SCALE 5.000

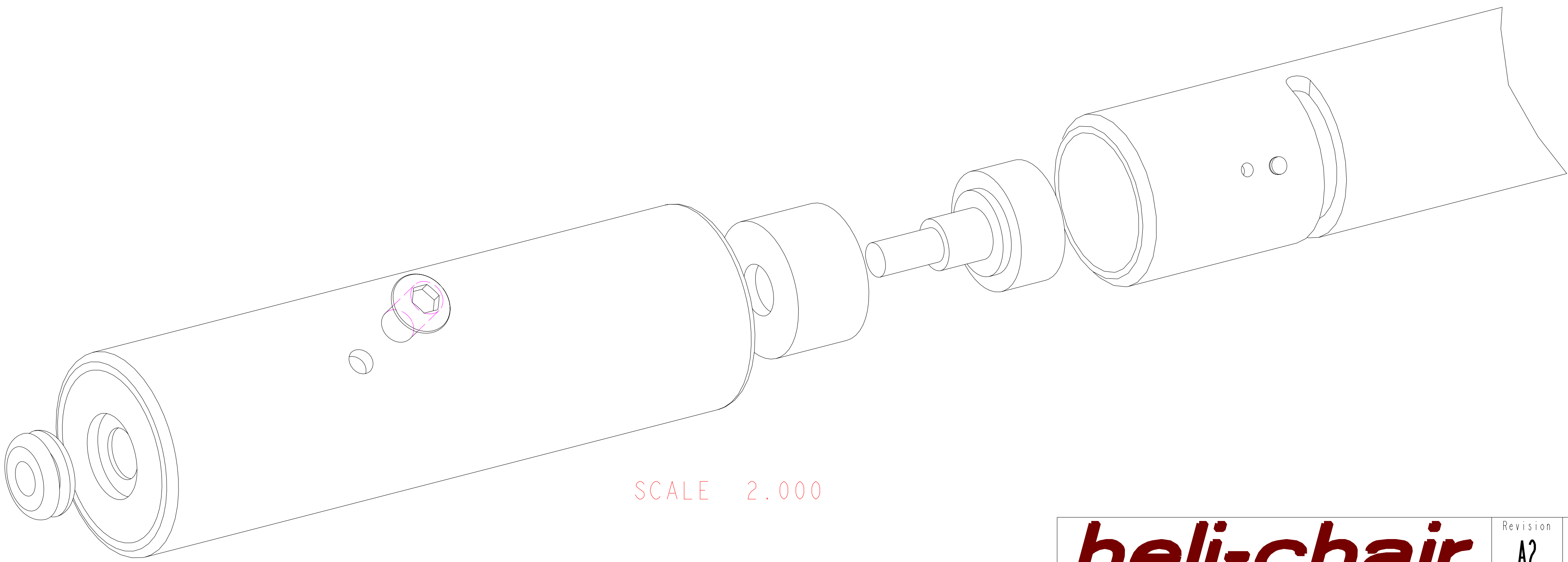
cyclic gimbal tieplate



SCALE 1.000



SCALE 2.000



SCALE 2.000

heli-chair

Mechanical Drawing Set

Revision A2 Sheet 19 of 25

25 Mar 2006

fab from 7/8" steel strap

1.2000

9-1/4

12-3/4

use 5/8" spud MTL or solid bar

3-13/16

25.0°

3-11/16

2-7/16

SCALE 1.500

3/4" OD x .065" wall tubing

tap #10-32 thru

tap 3/8-24 thread

3/4" OD x .120 wall, 1-9/16" OAL

1-1/4" OD x .120" wall tubing

drill 1/2" thru hole for wire passage

SCALE 1.500

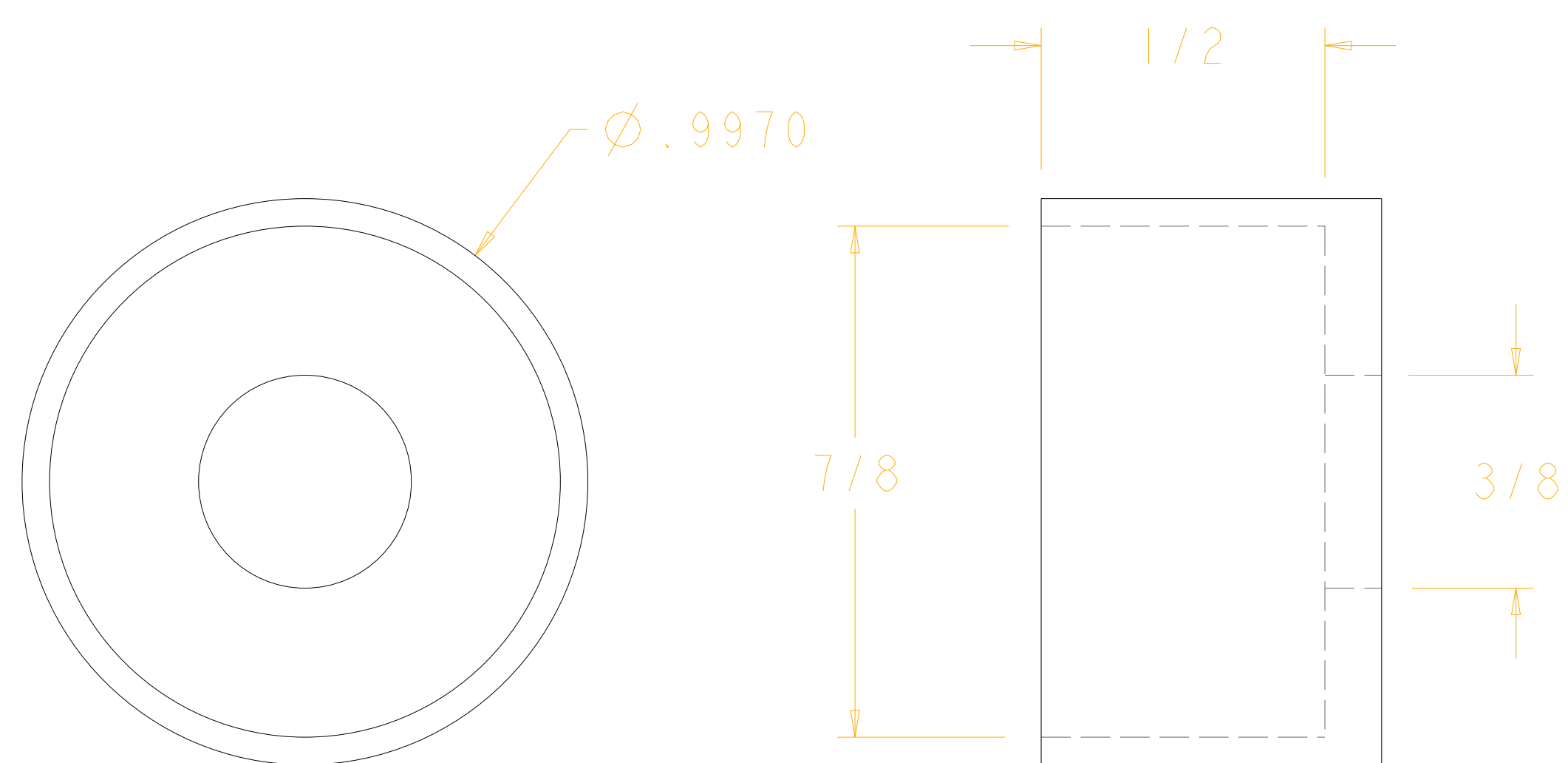
Collective Riser Weldment

heli-chair

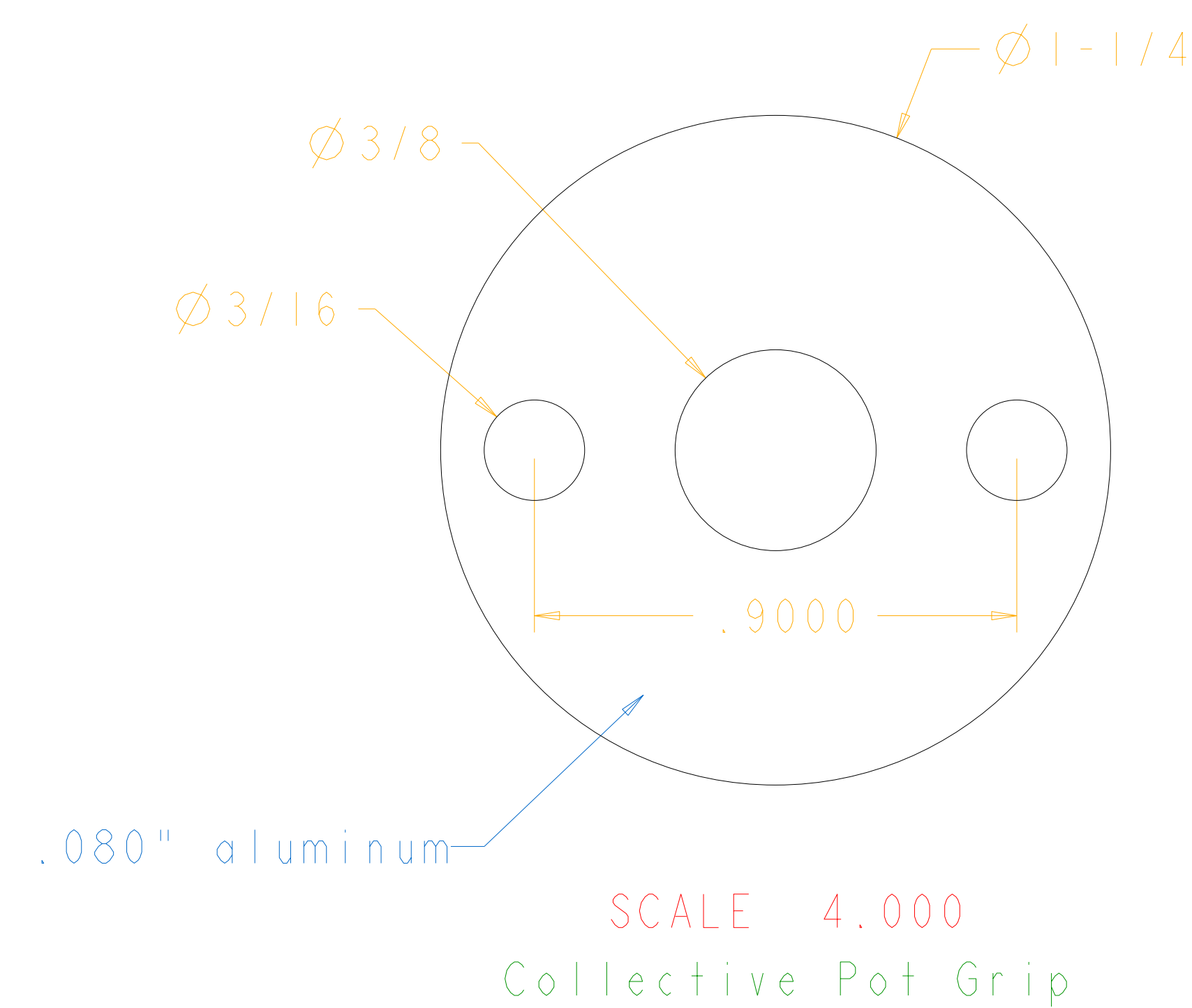
Mechanical Drawing Set

Revision A2 Sheet 20 of 25

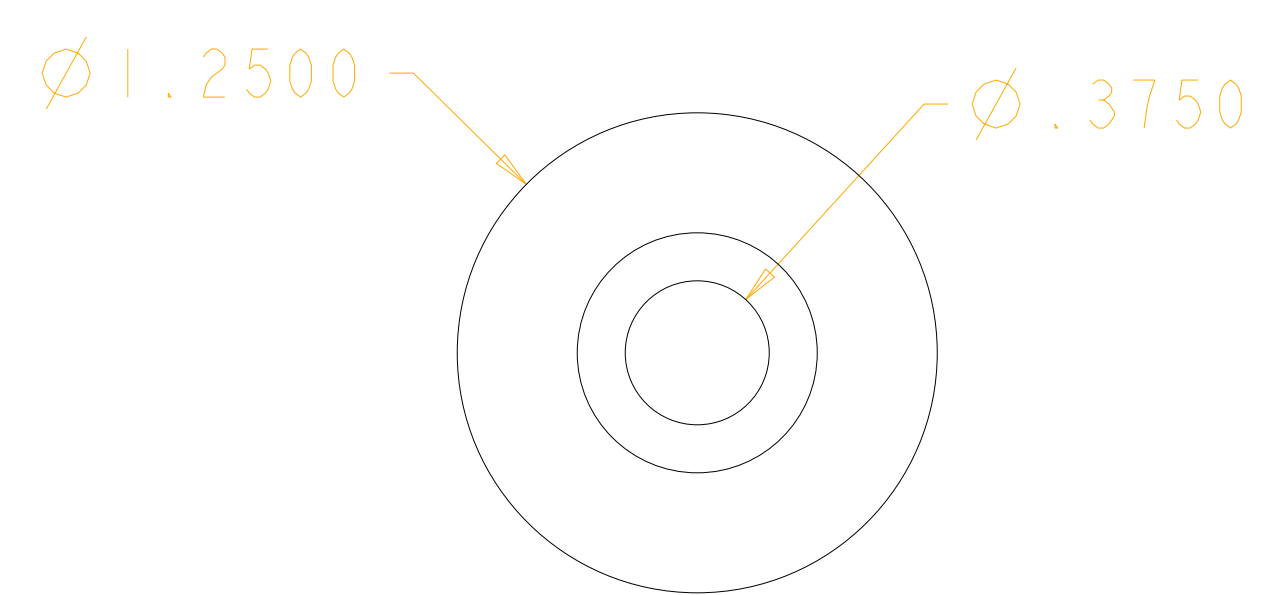
25 Mar 2006



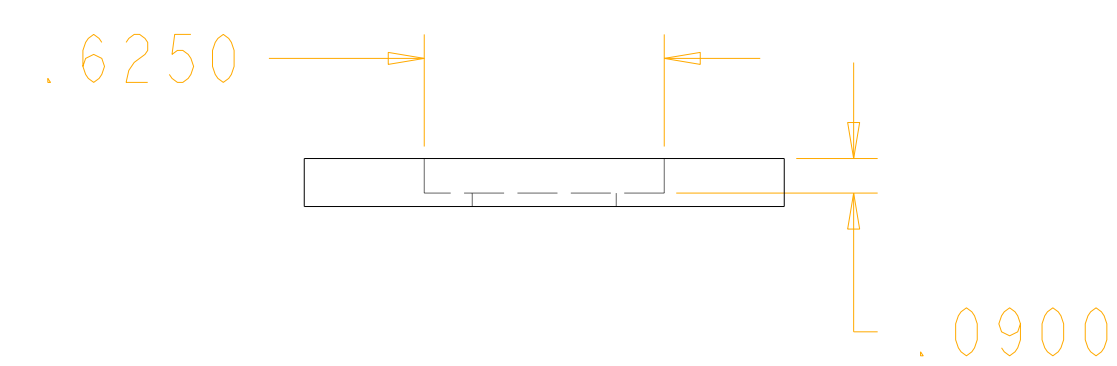
SCALE 4.000
Throttle Pot Grip



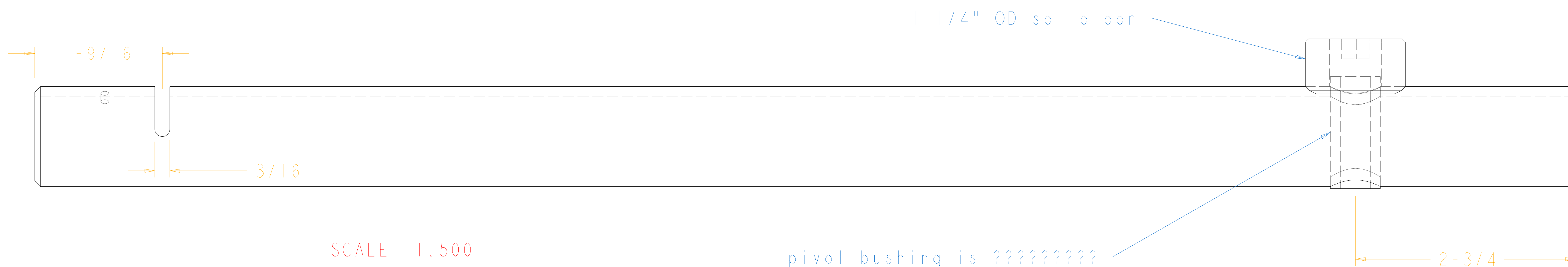
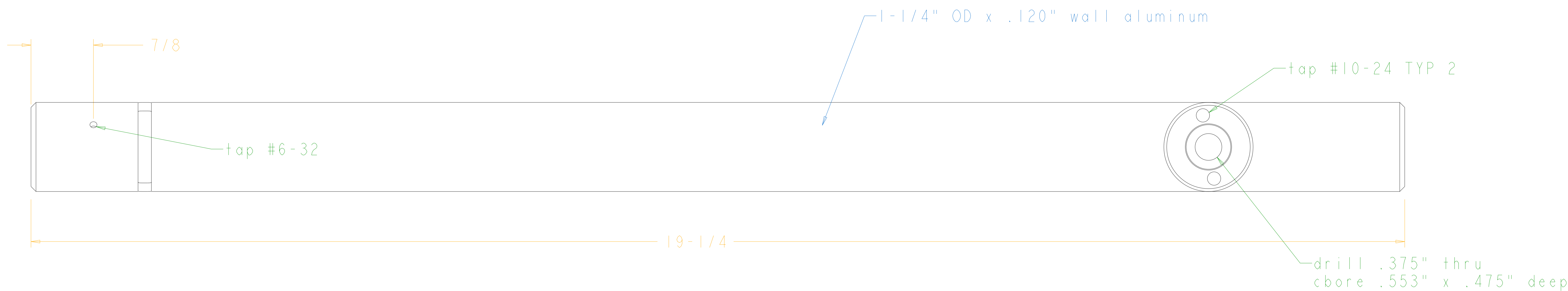
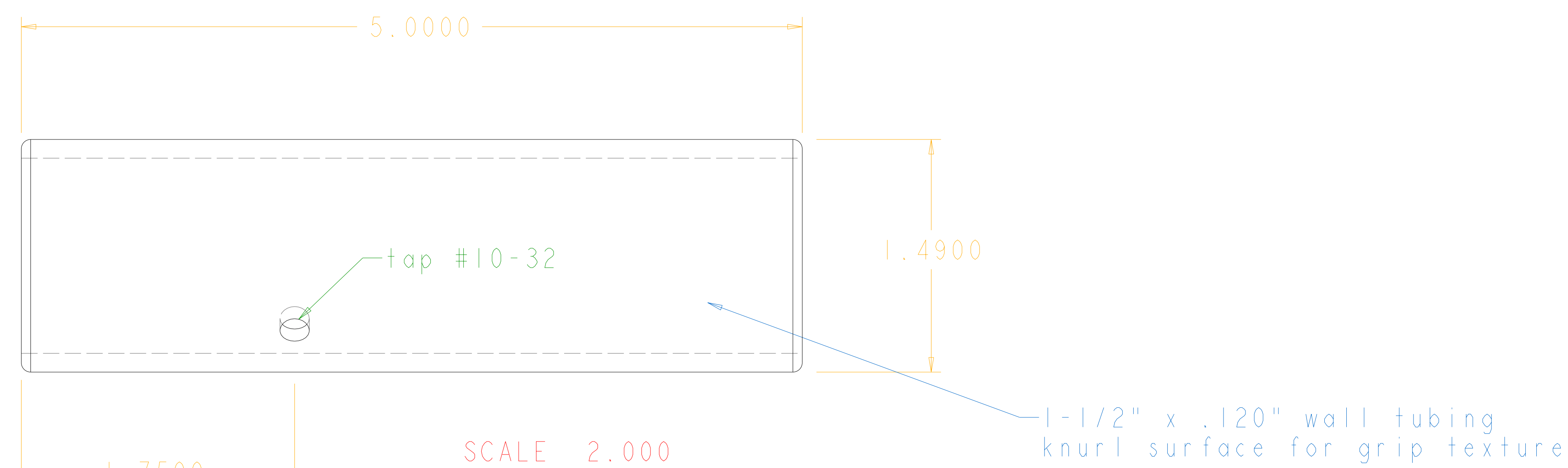
SCALE 4.000
Collective Pot Grip



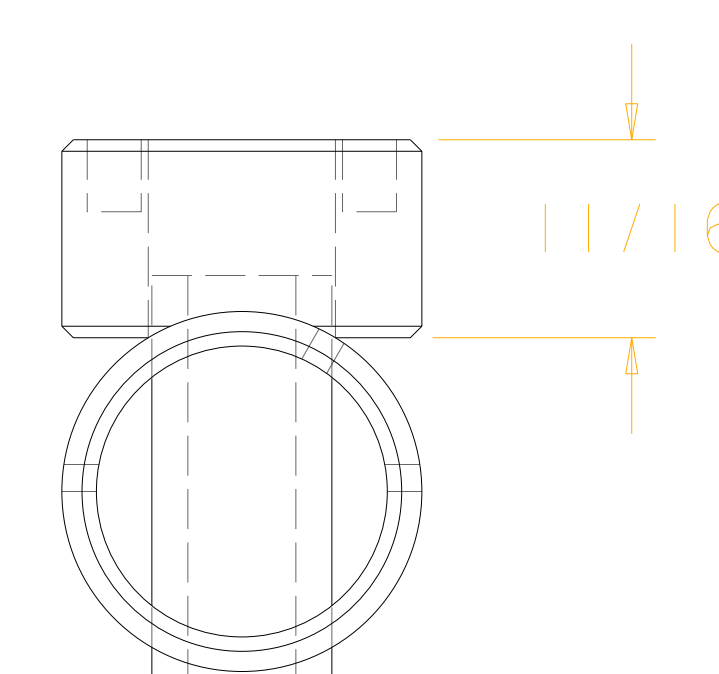
SCALE 2.000
Throttle Endplate

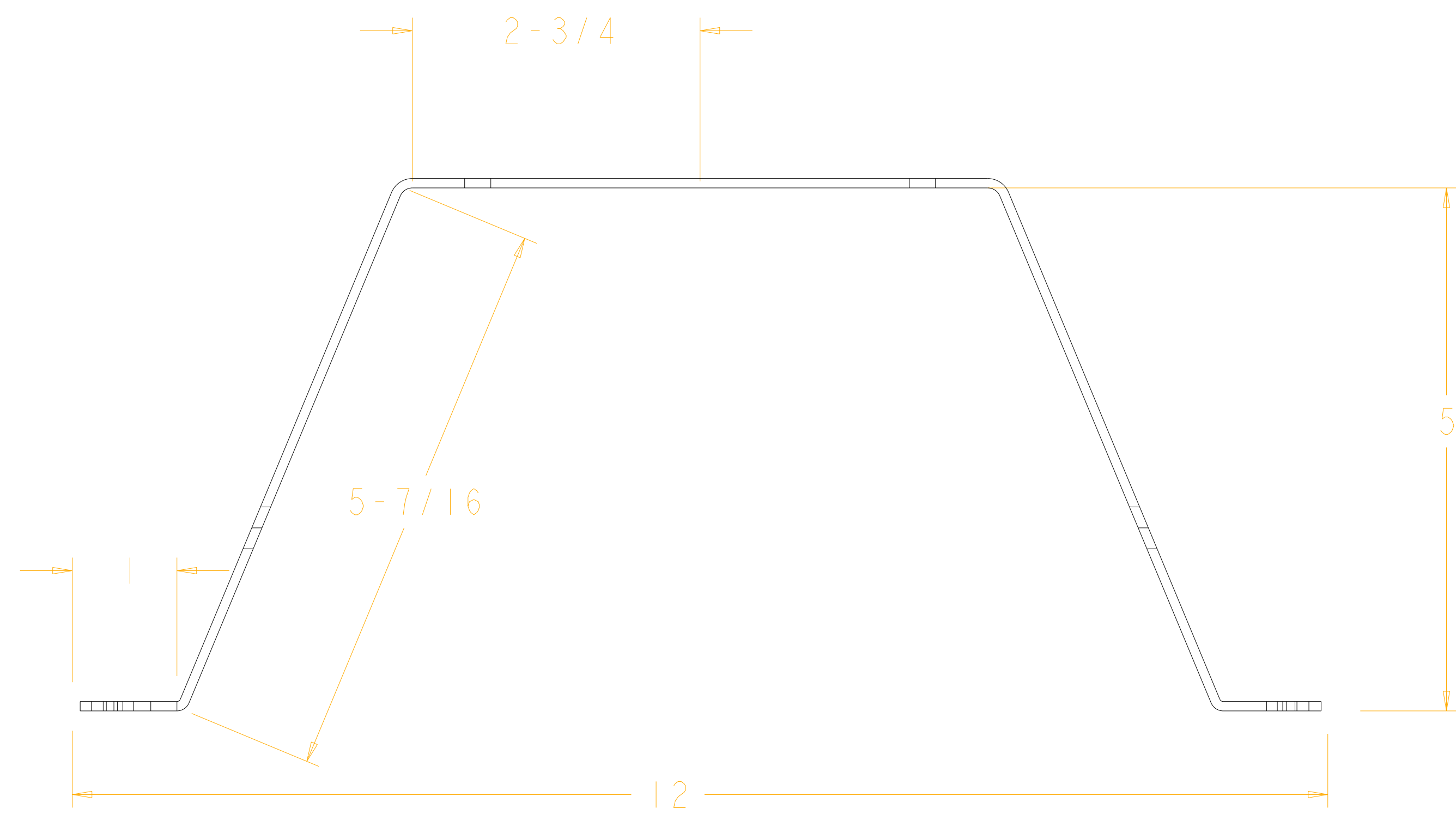


SCALE 2.000
Throttle Grip



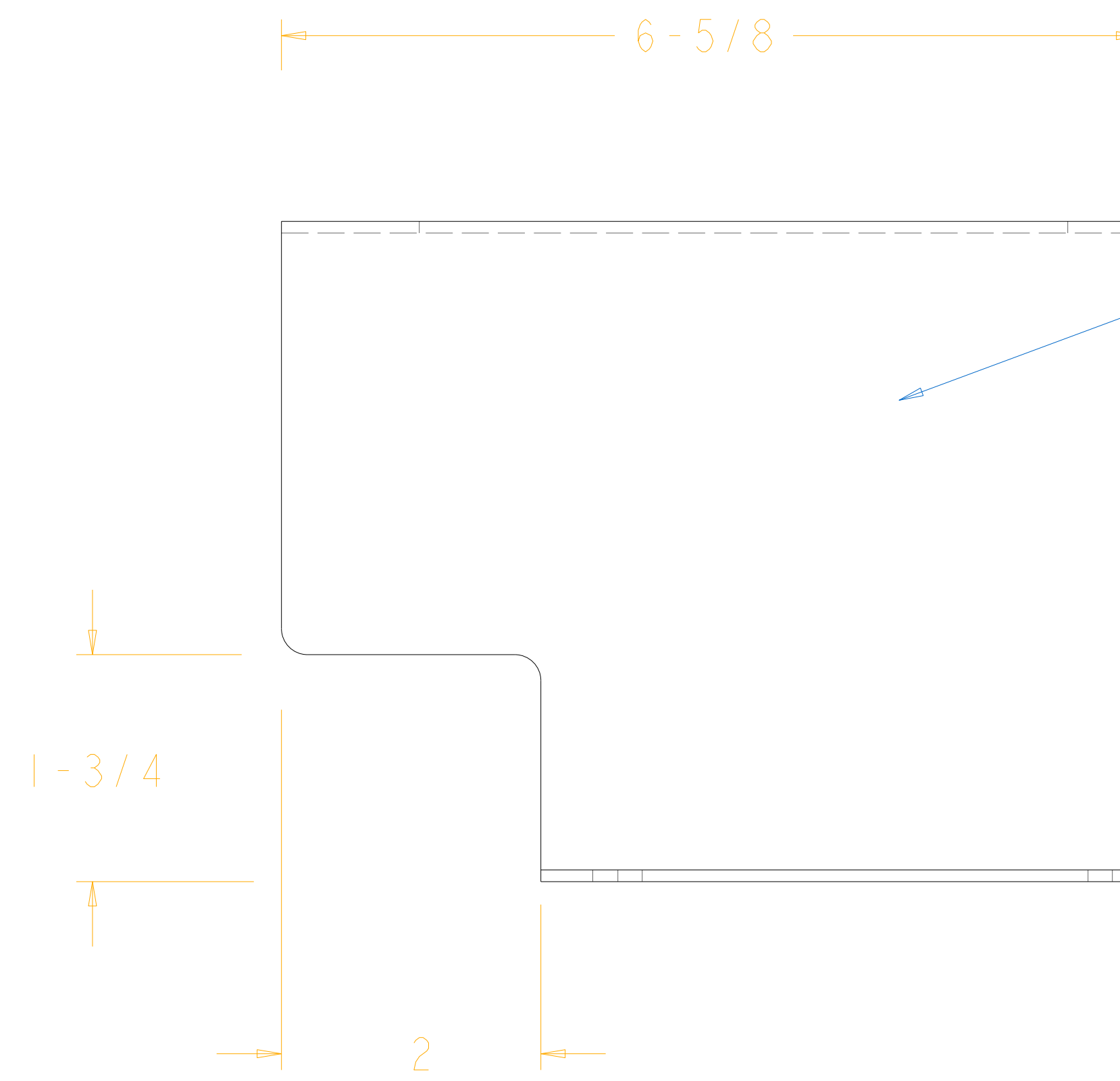
SCALE 1.500
Collective Weldment



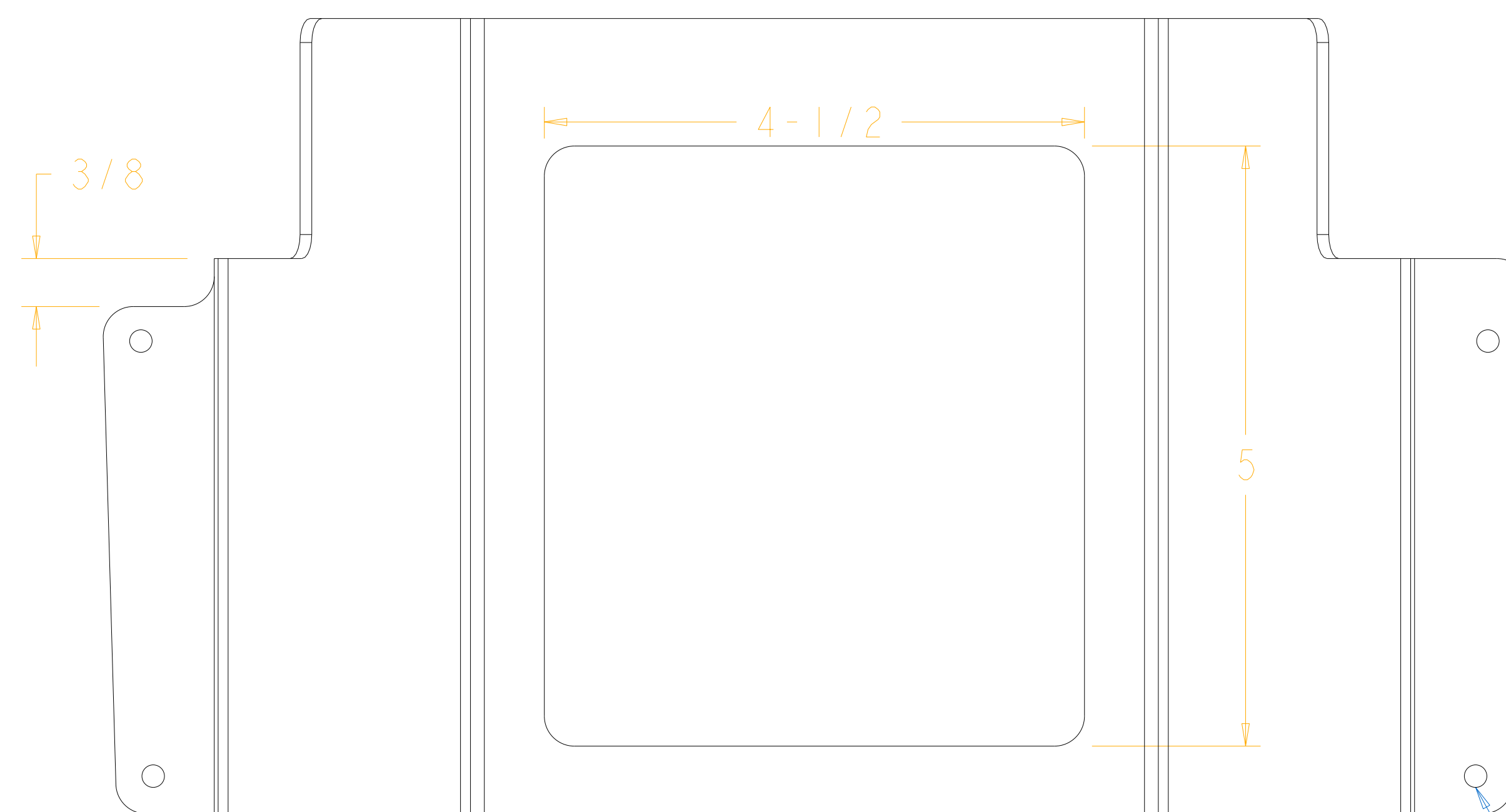


SCALE 1.000

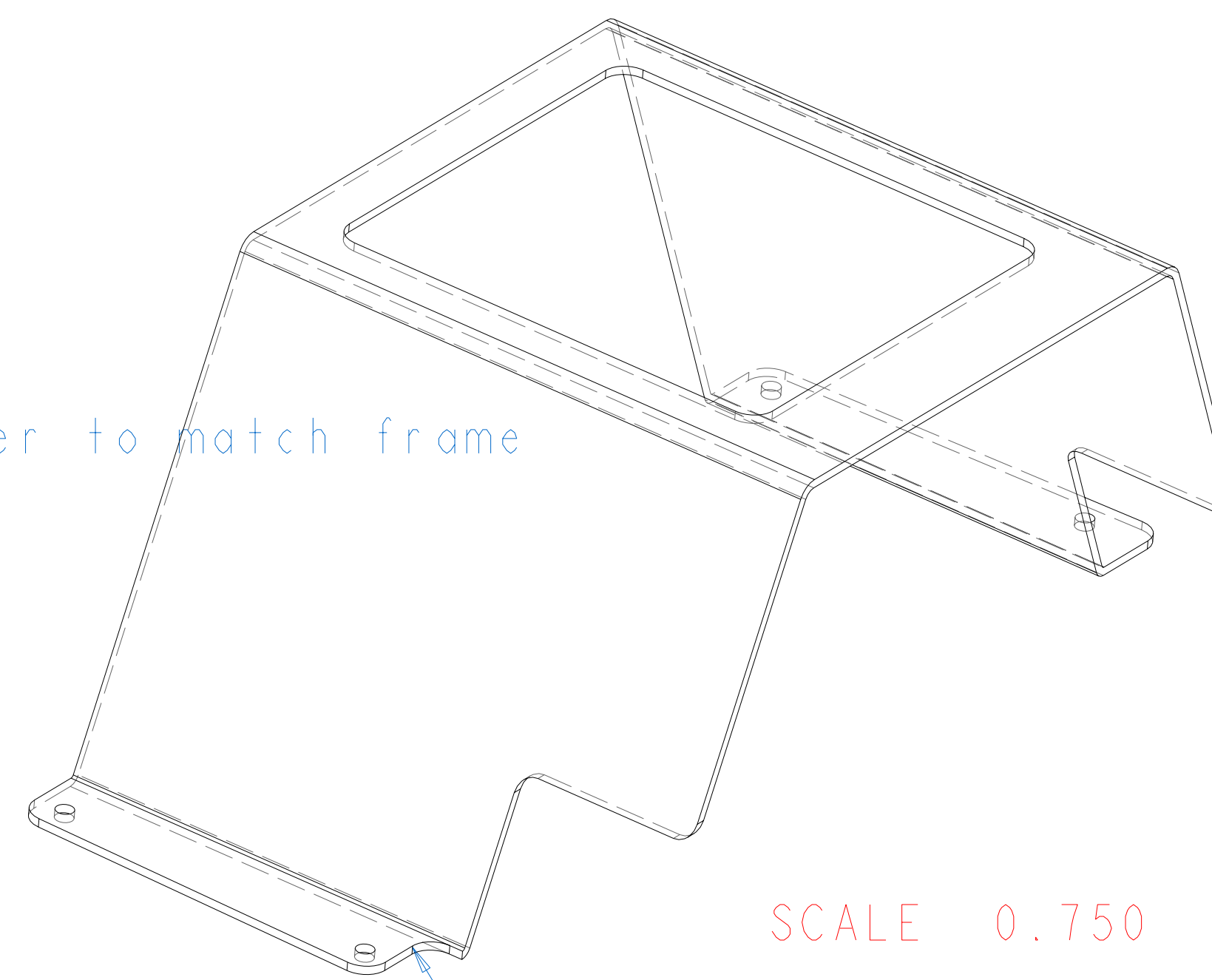
Cyclic Gimbal Housing



.060" aluminum sheet



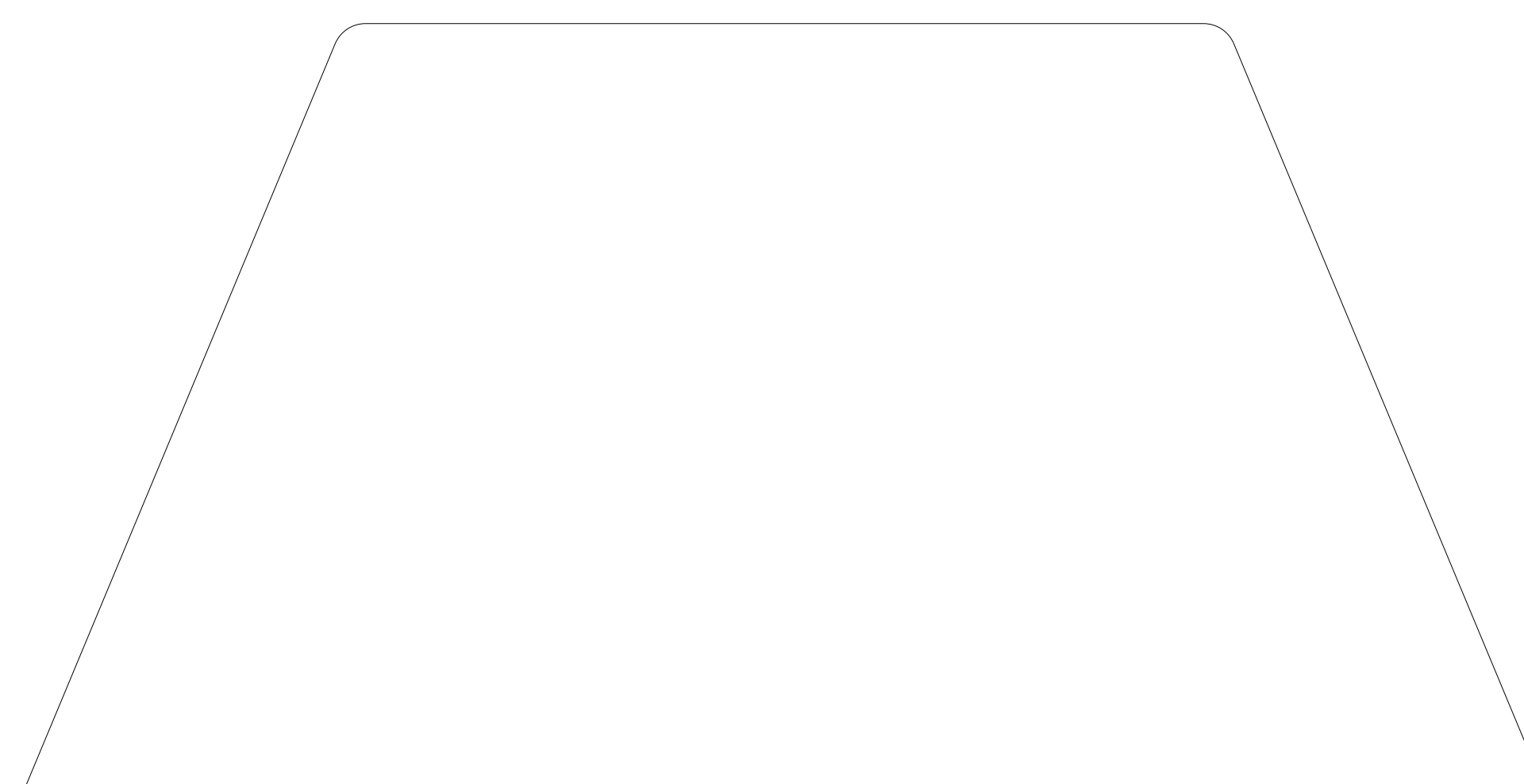
taper to match frame



SCALE 0.750

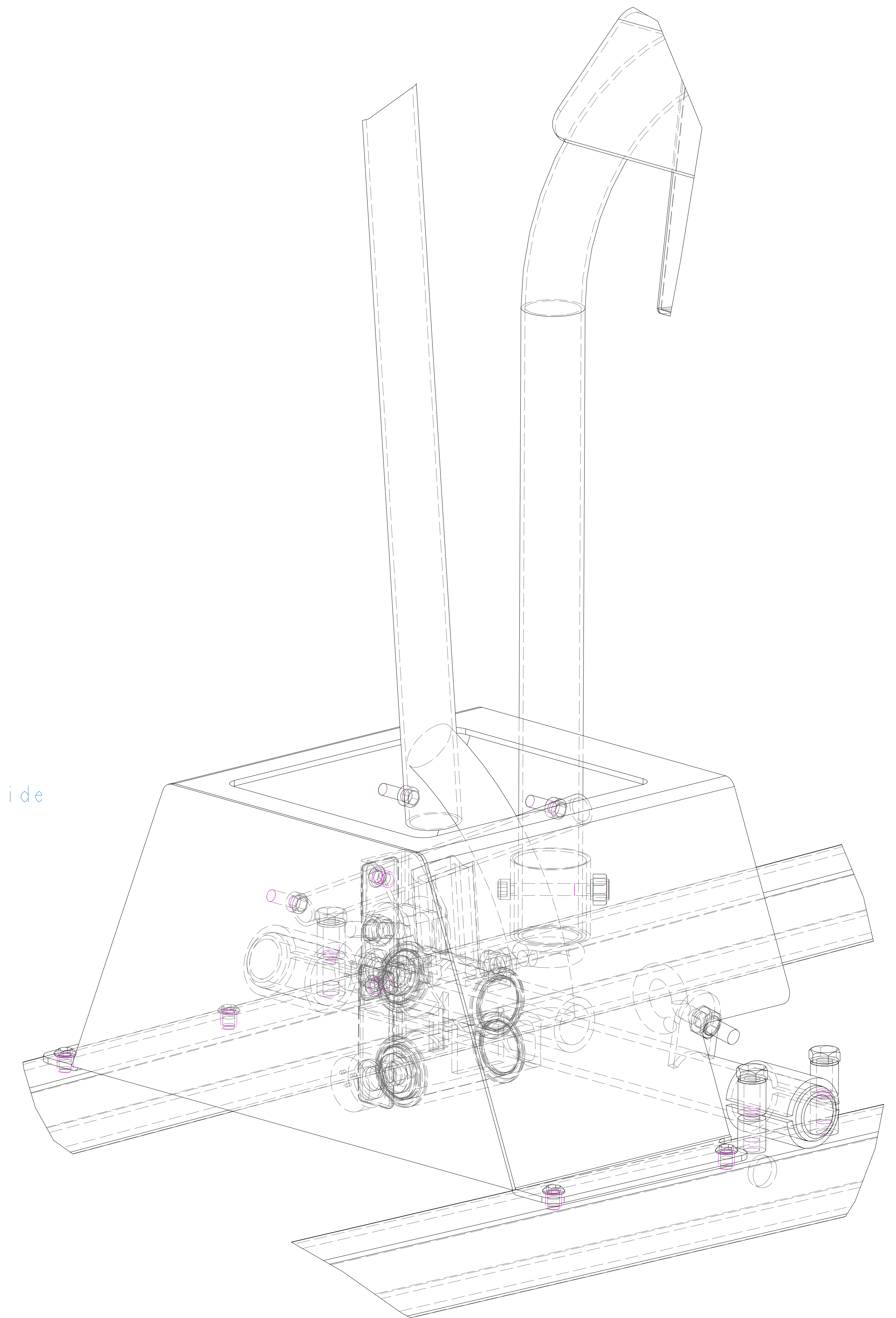
note additional cutaway on this side

drill 4 holes during assembly for #10 screw
transfer pattern to base frame and tap holes
(transfer using 1/8" bit, then open holes and tap)

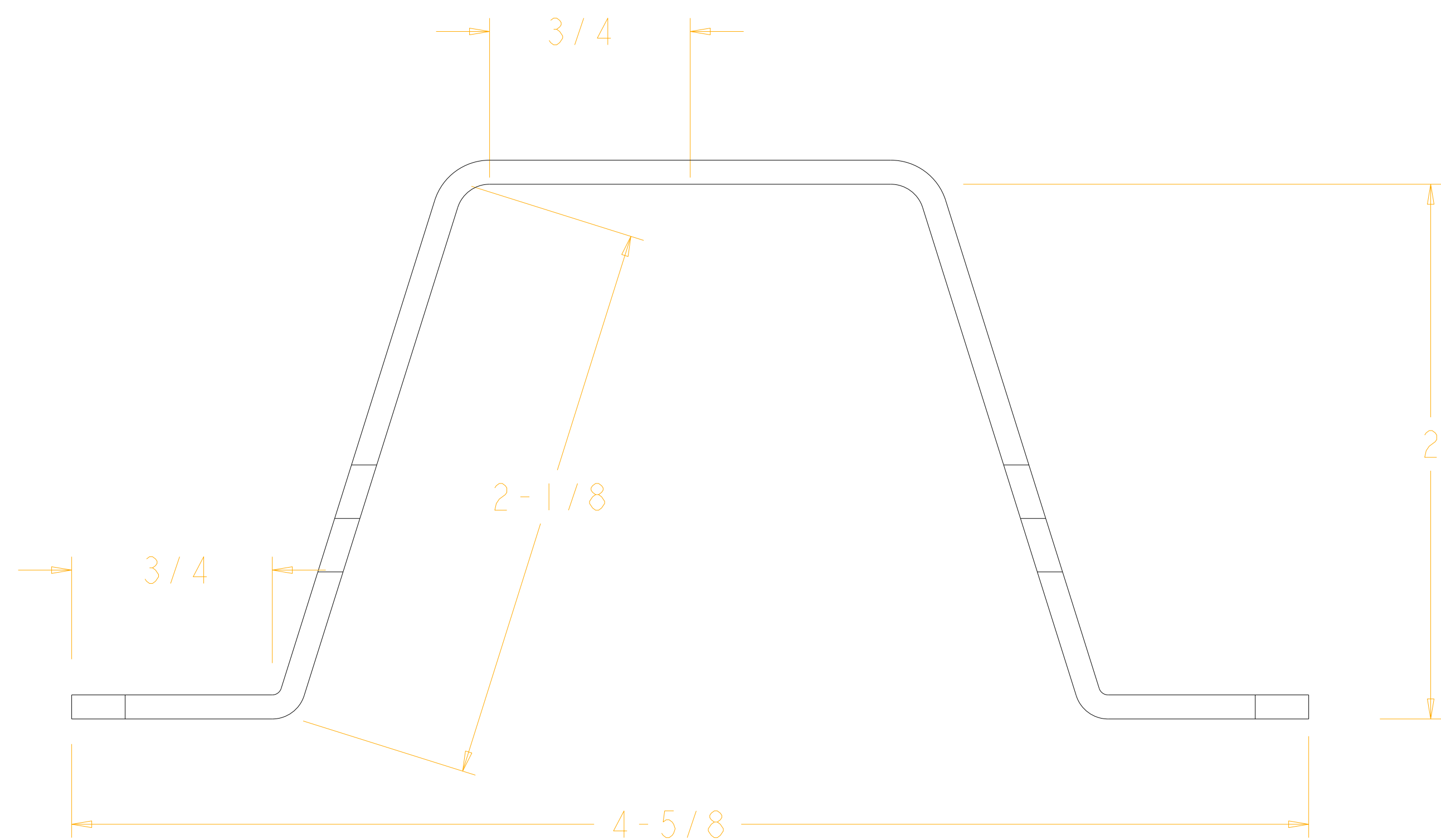


SCALE 1.000

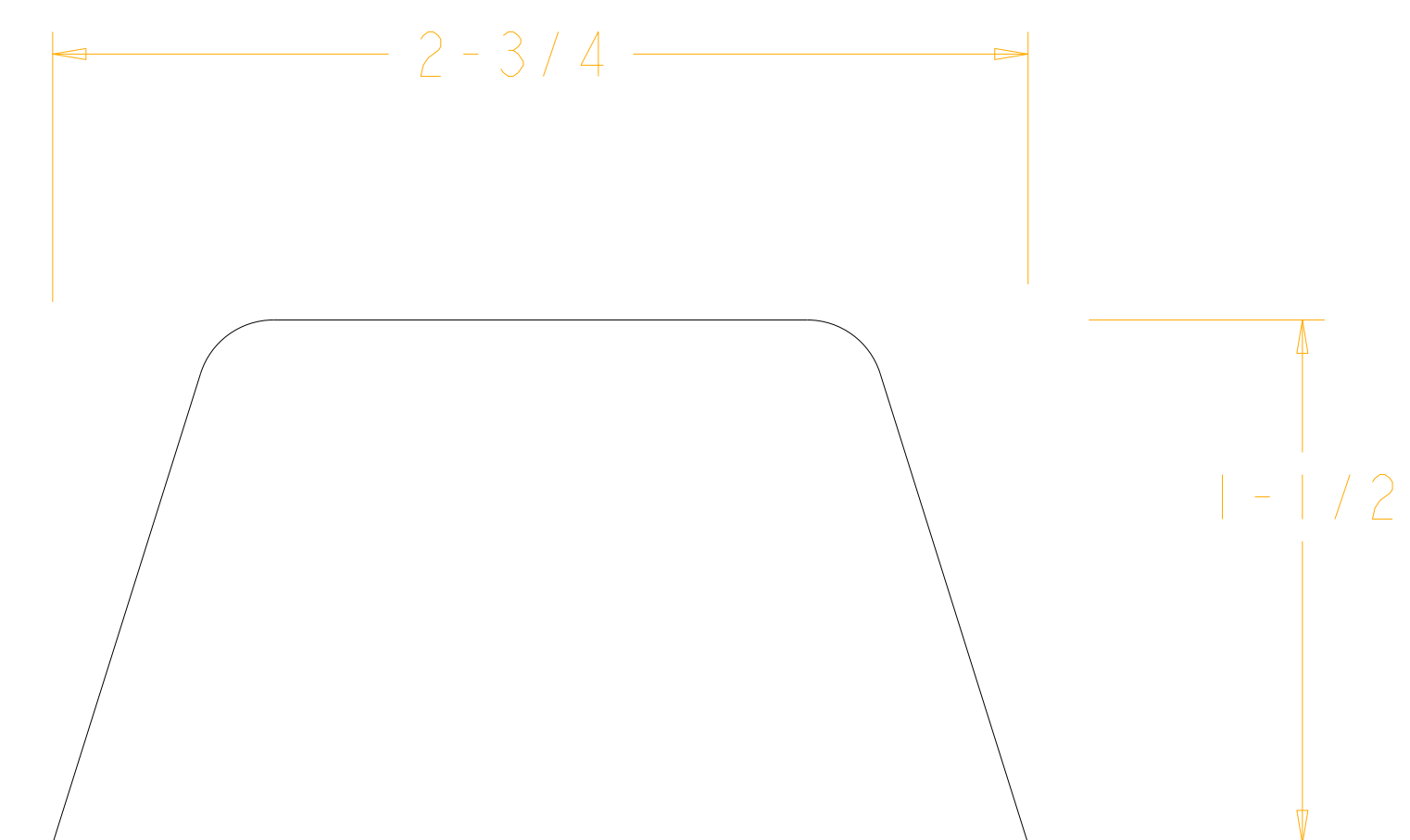
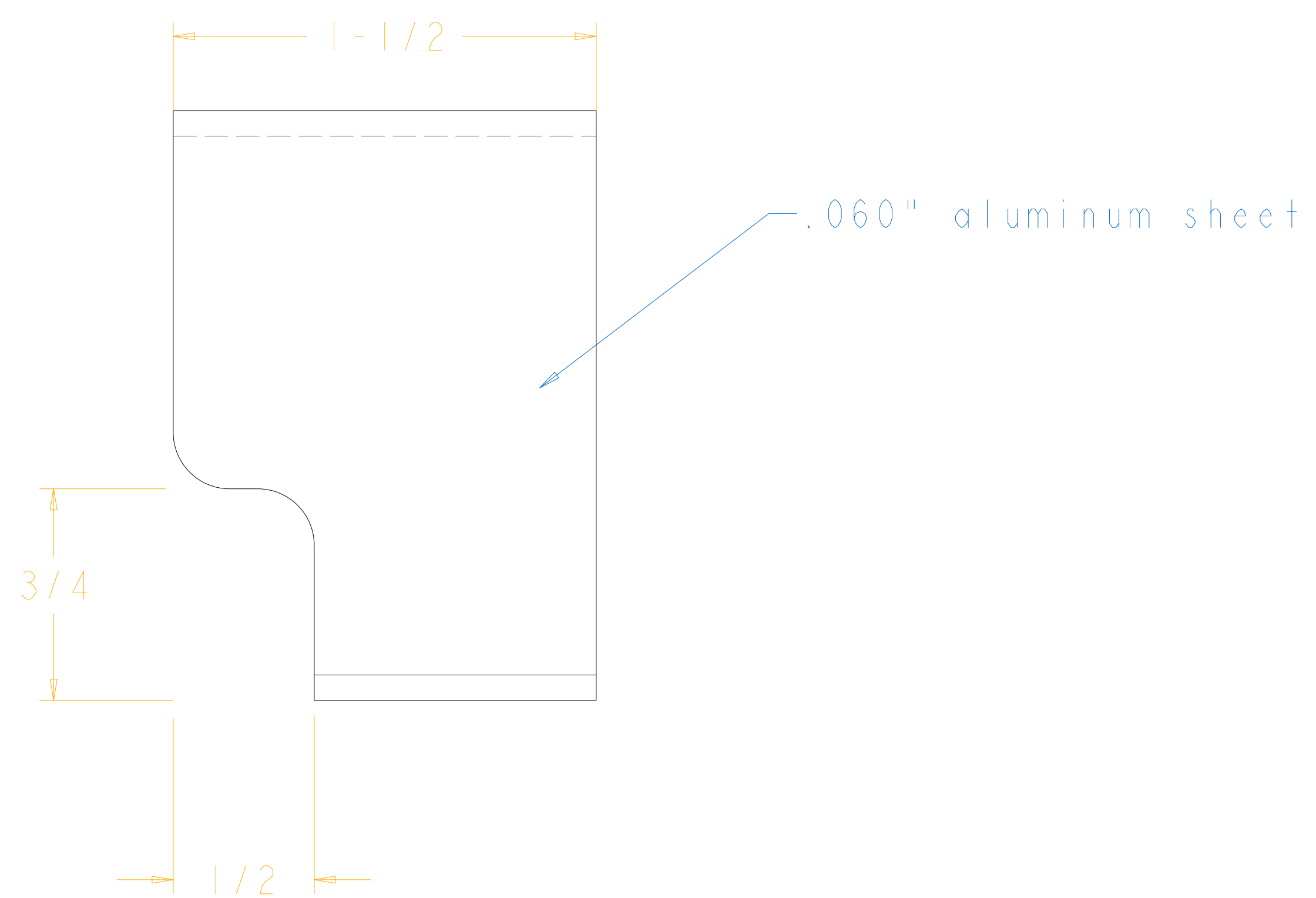
Cyclic Housing Front Plate



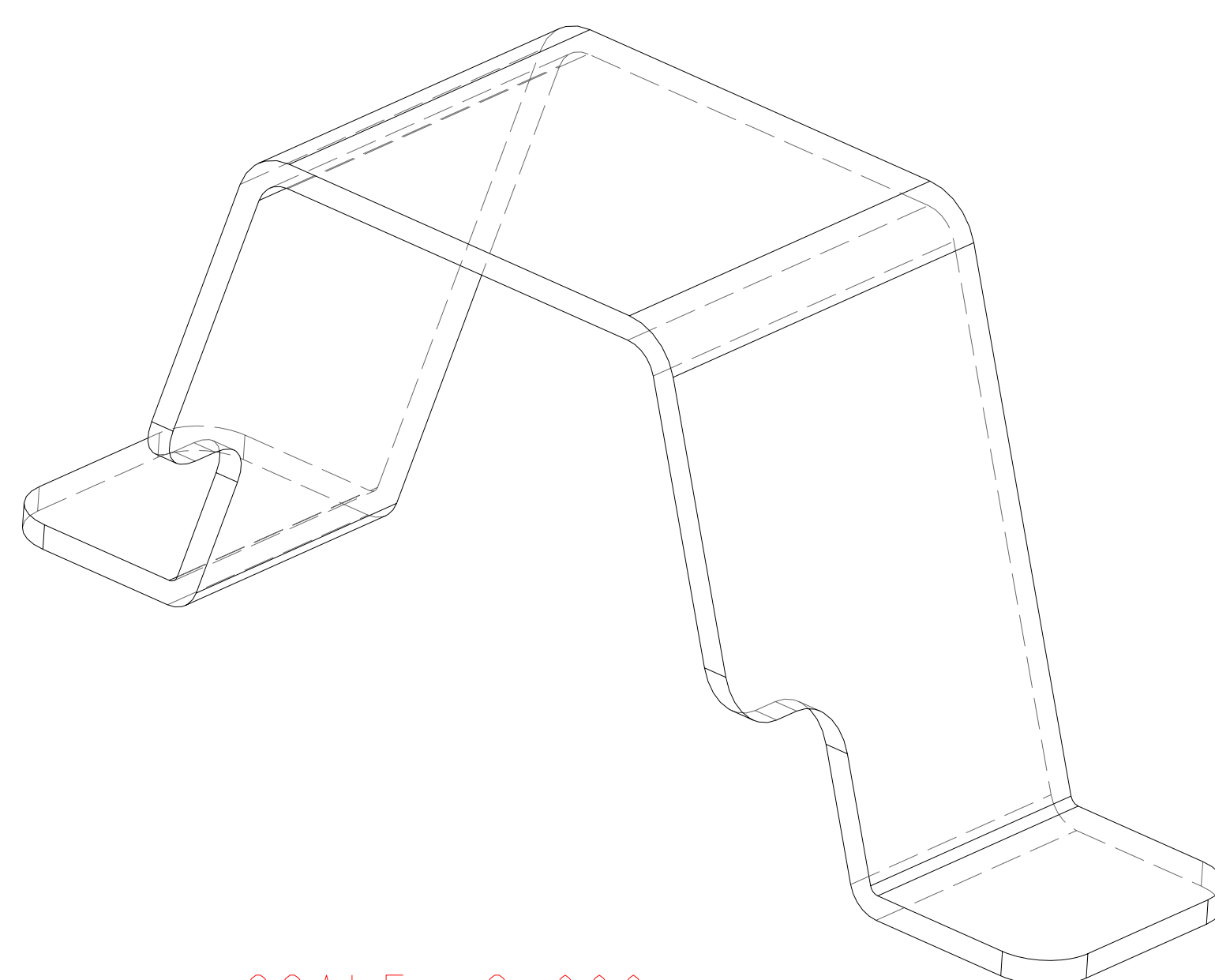
SCALE 1.000



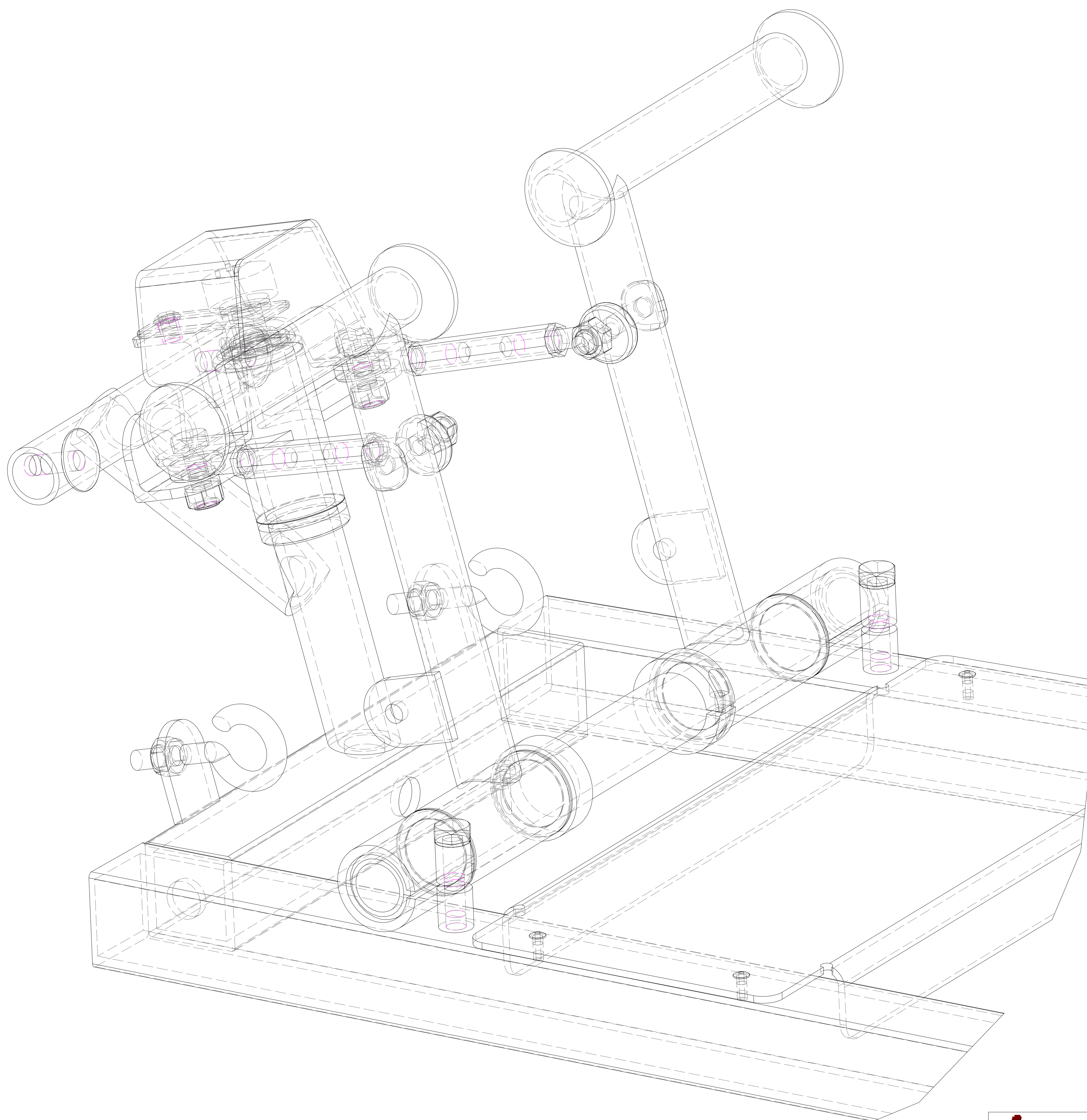
SCALE 2.500
Walking Bar Housing



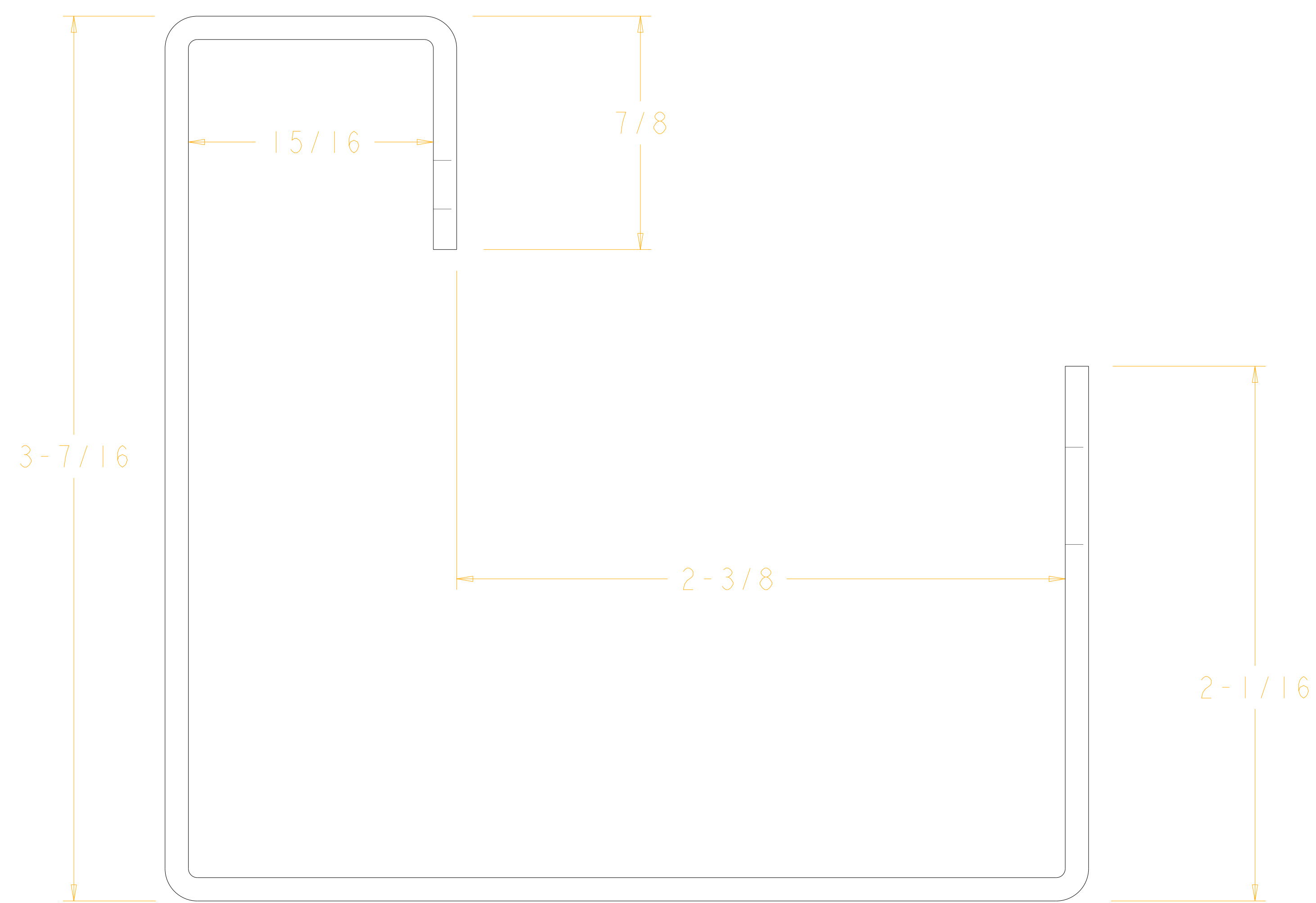
SCALE 2.000
Walking Bar Housing Plate



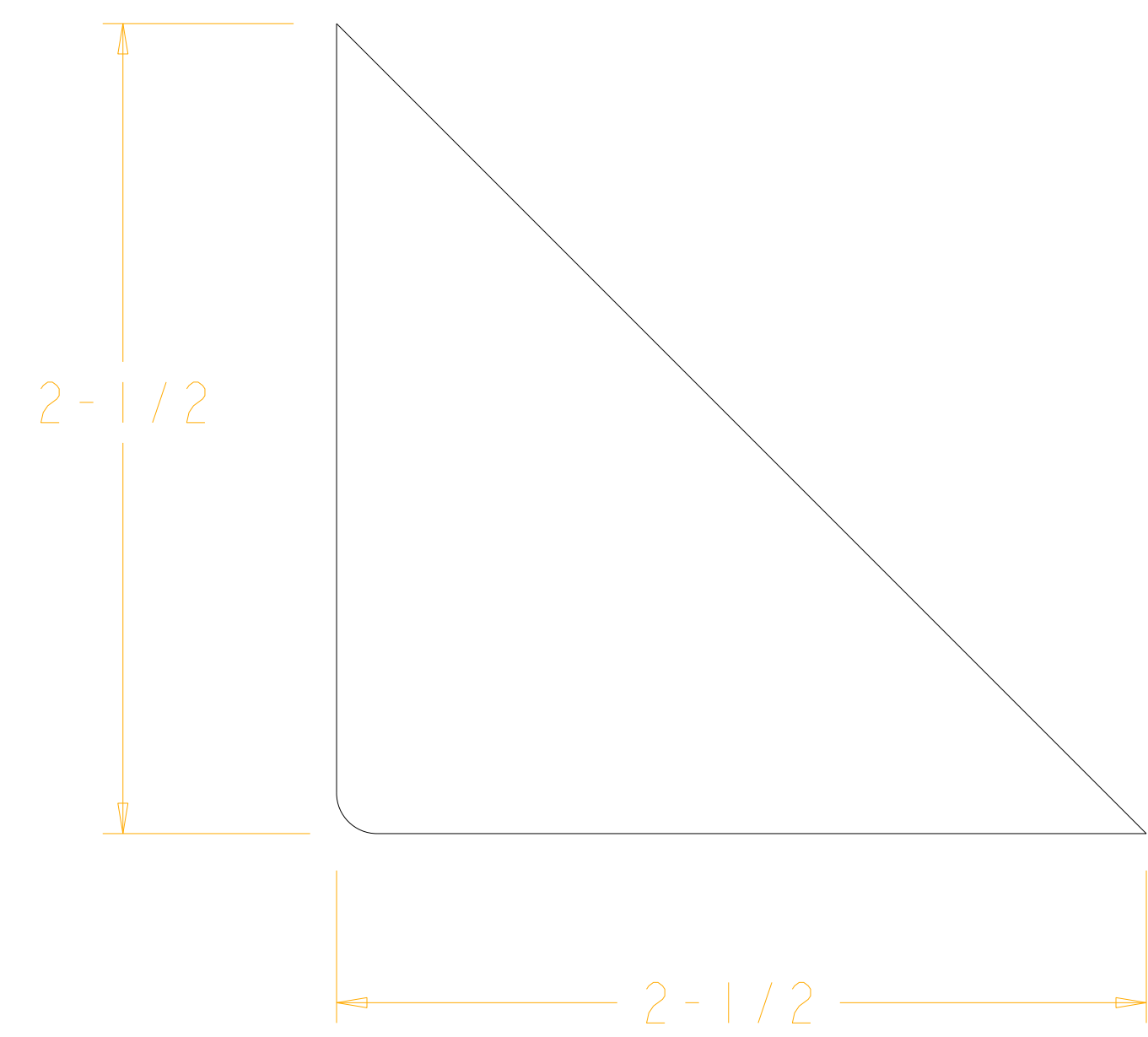
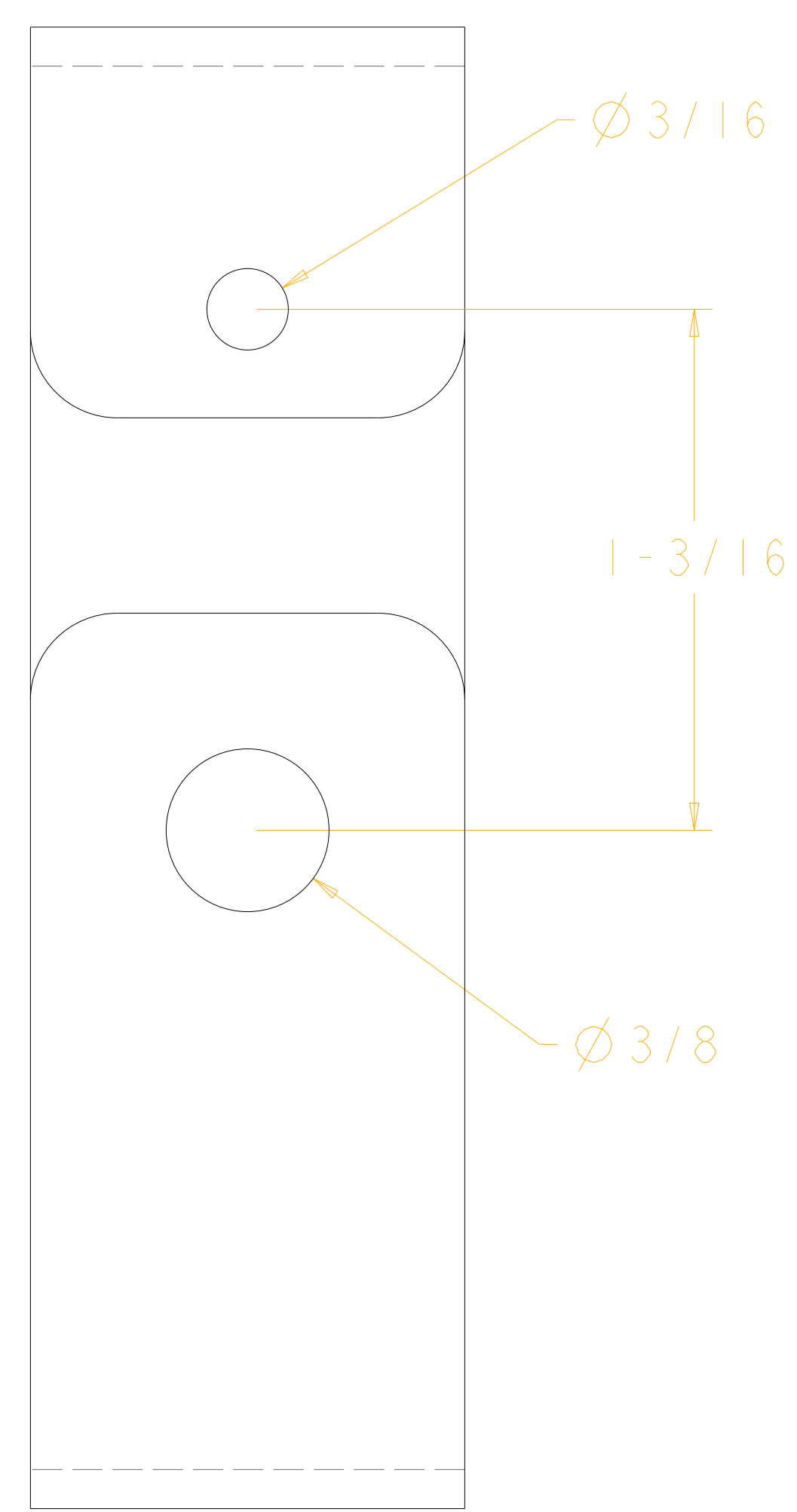
SCALE 2.000



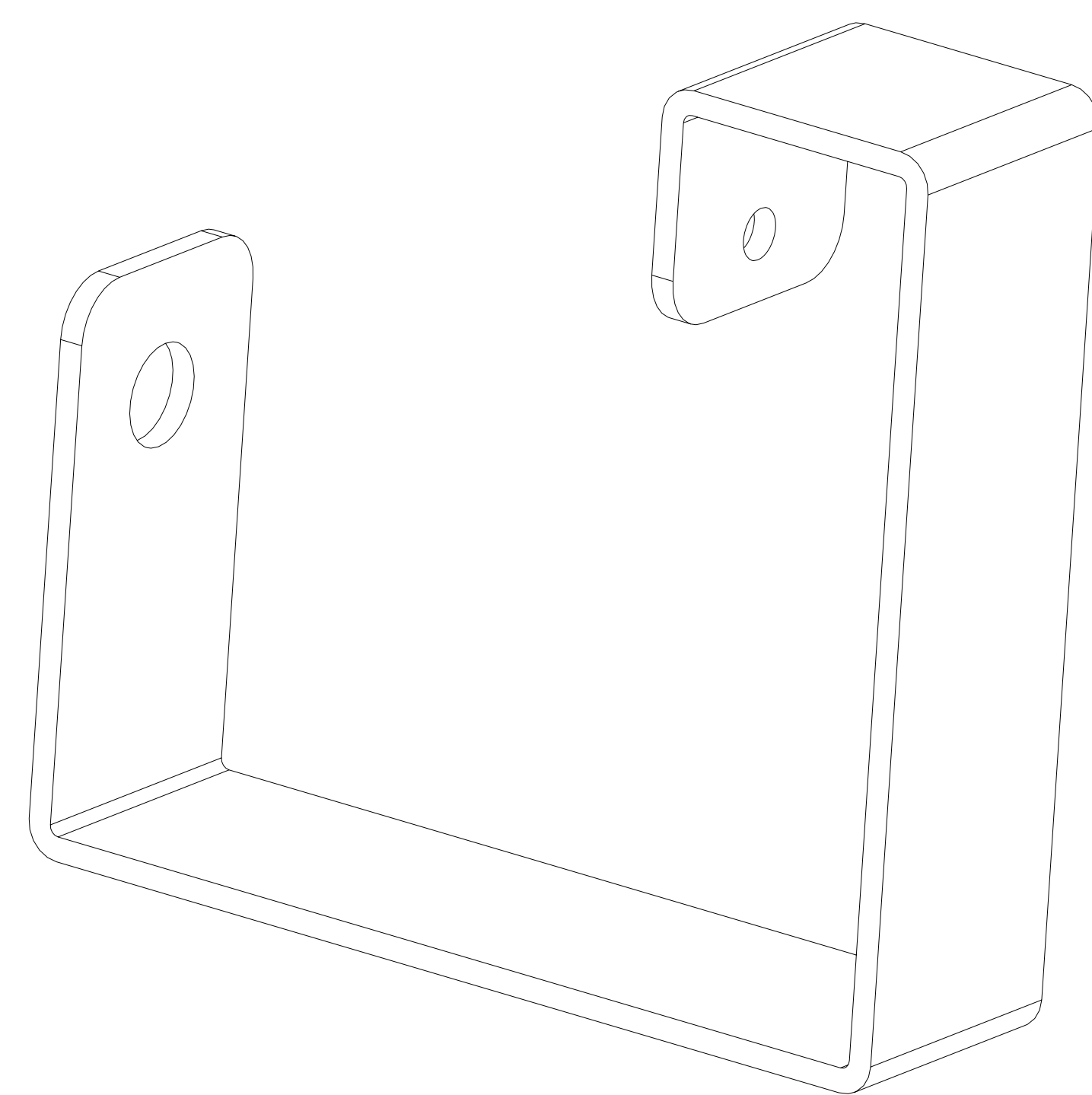
SCALE 1.500



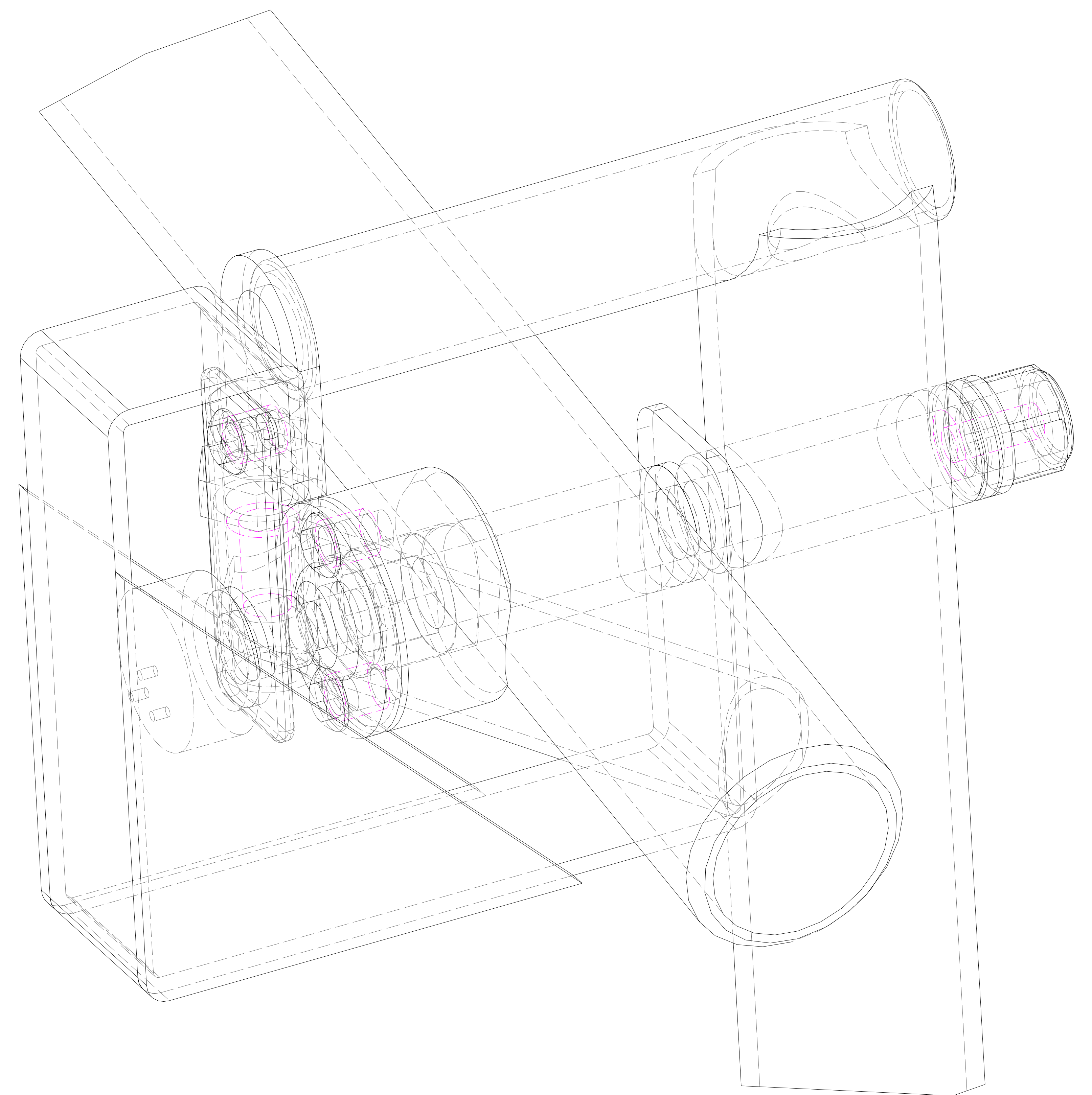
SCALE 3.000
Collective Housing



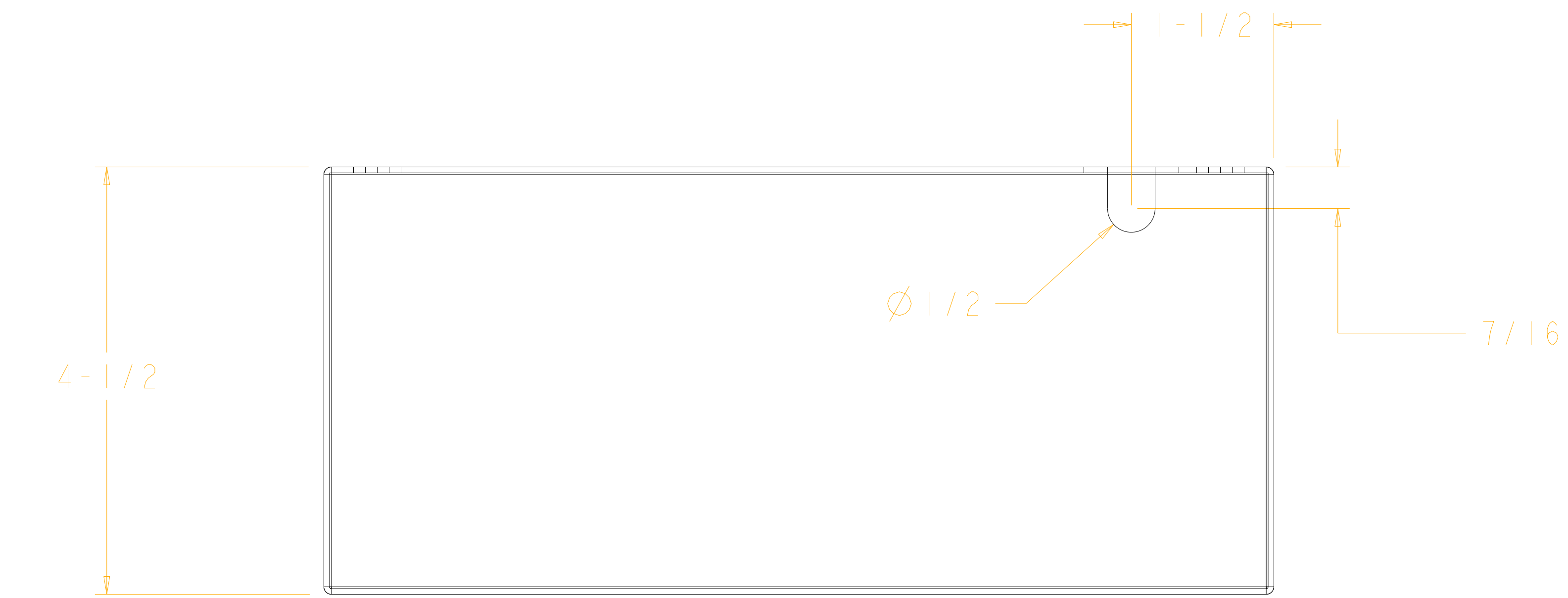
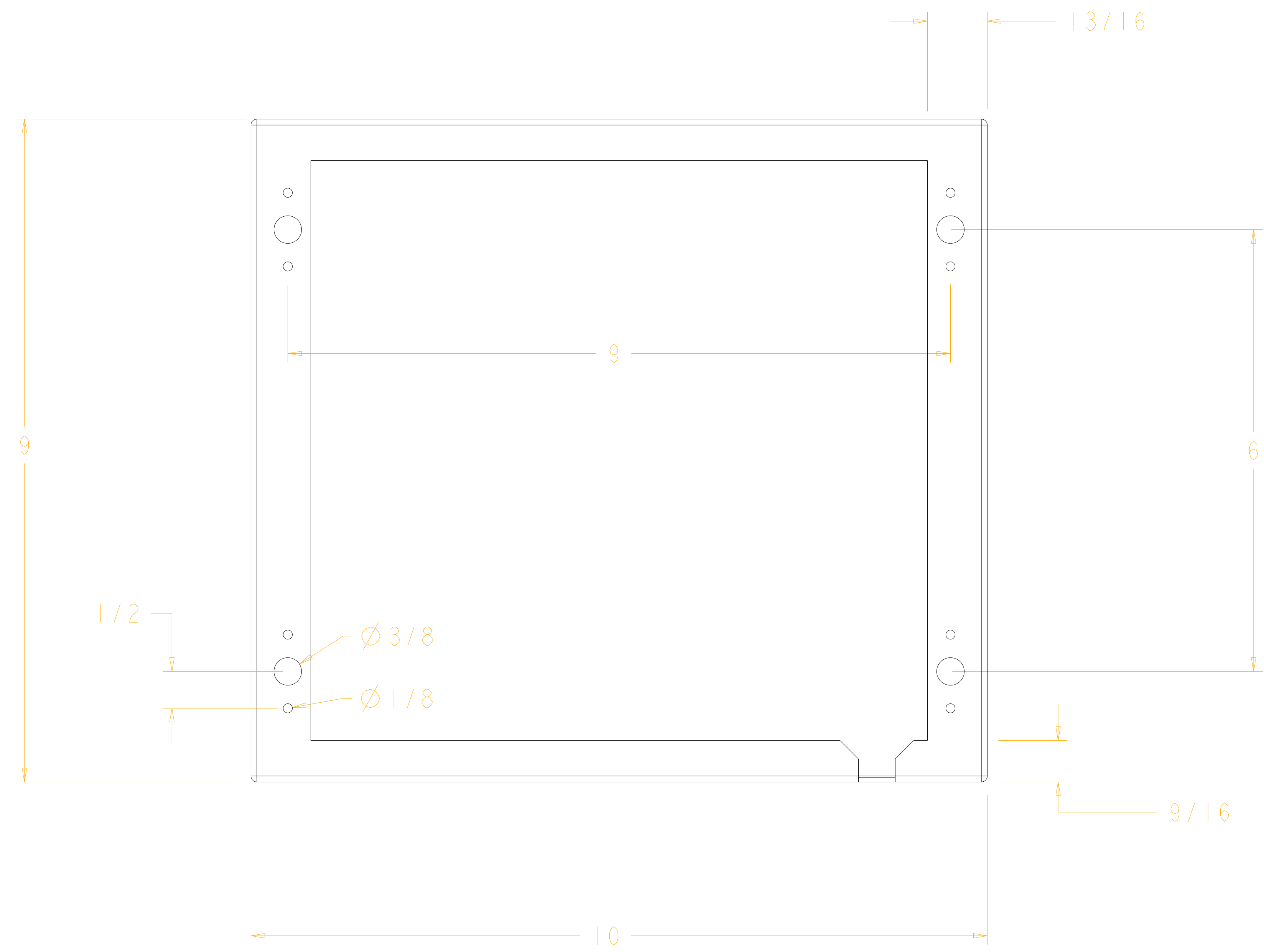
SCALE 2.000
Collective Housing Plate (TYP 2)



SCALE 2.000

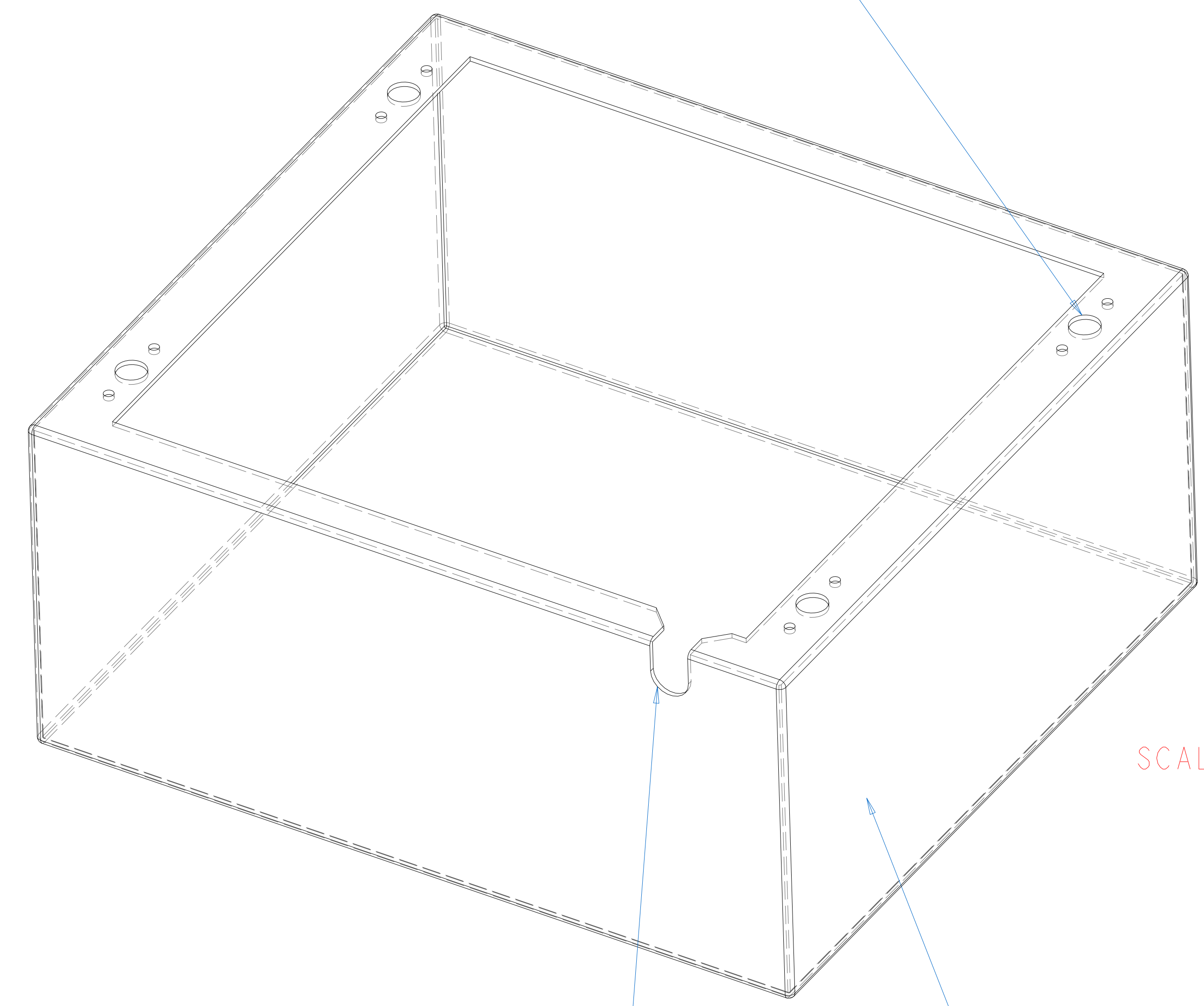


SCALE 3.000



SCALE 1.000

drill 4-hole pattern in seat bottom first, then transfer



drill hole and notch for cable clearance

fabricate using .060" aluminum

SCALE 1.000

Weldment Photographs























Detail Assembly Photos











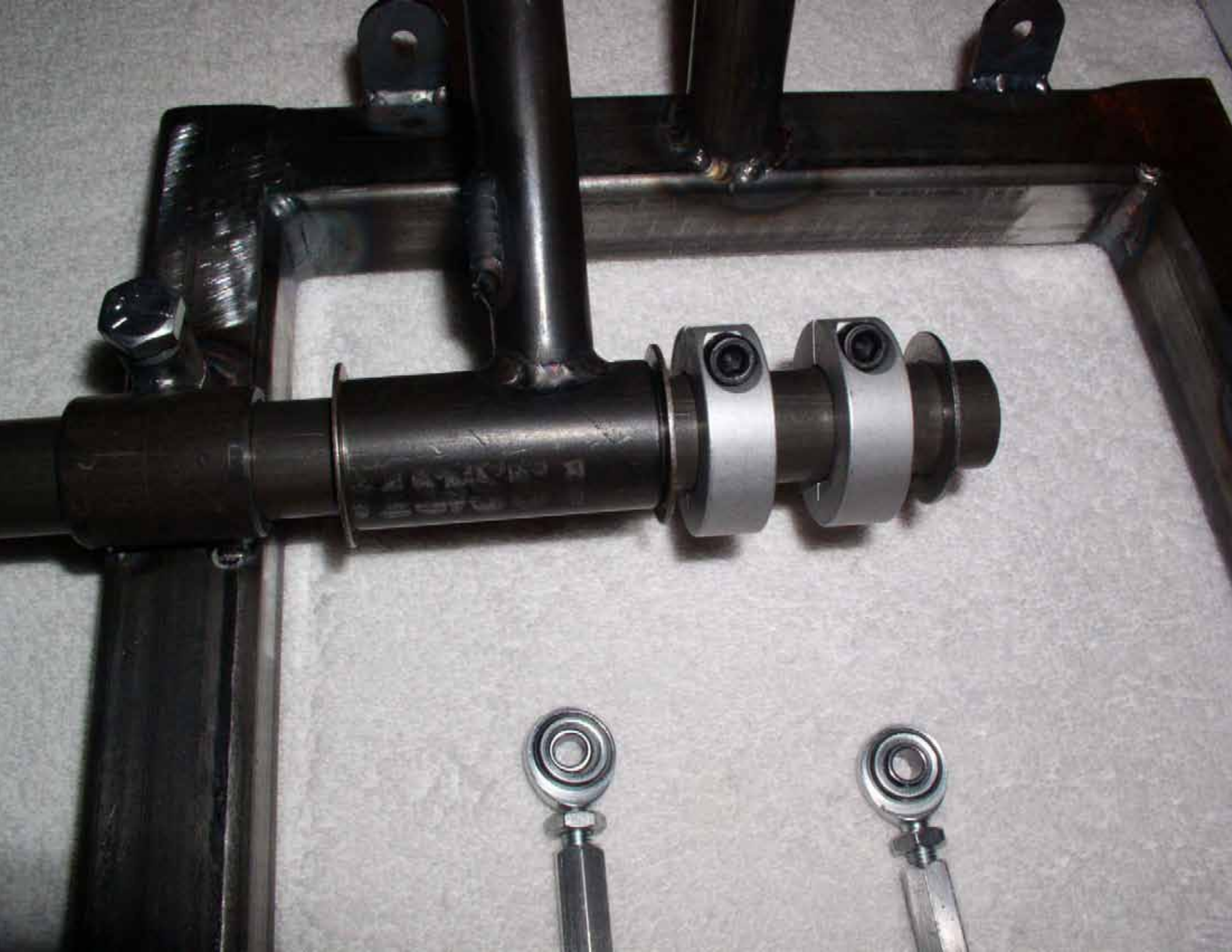


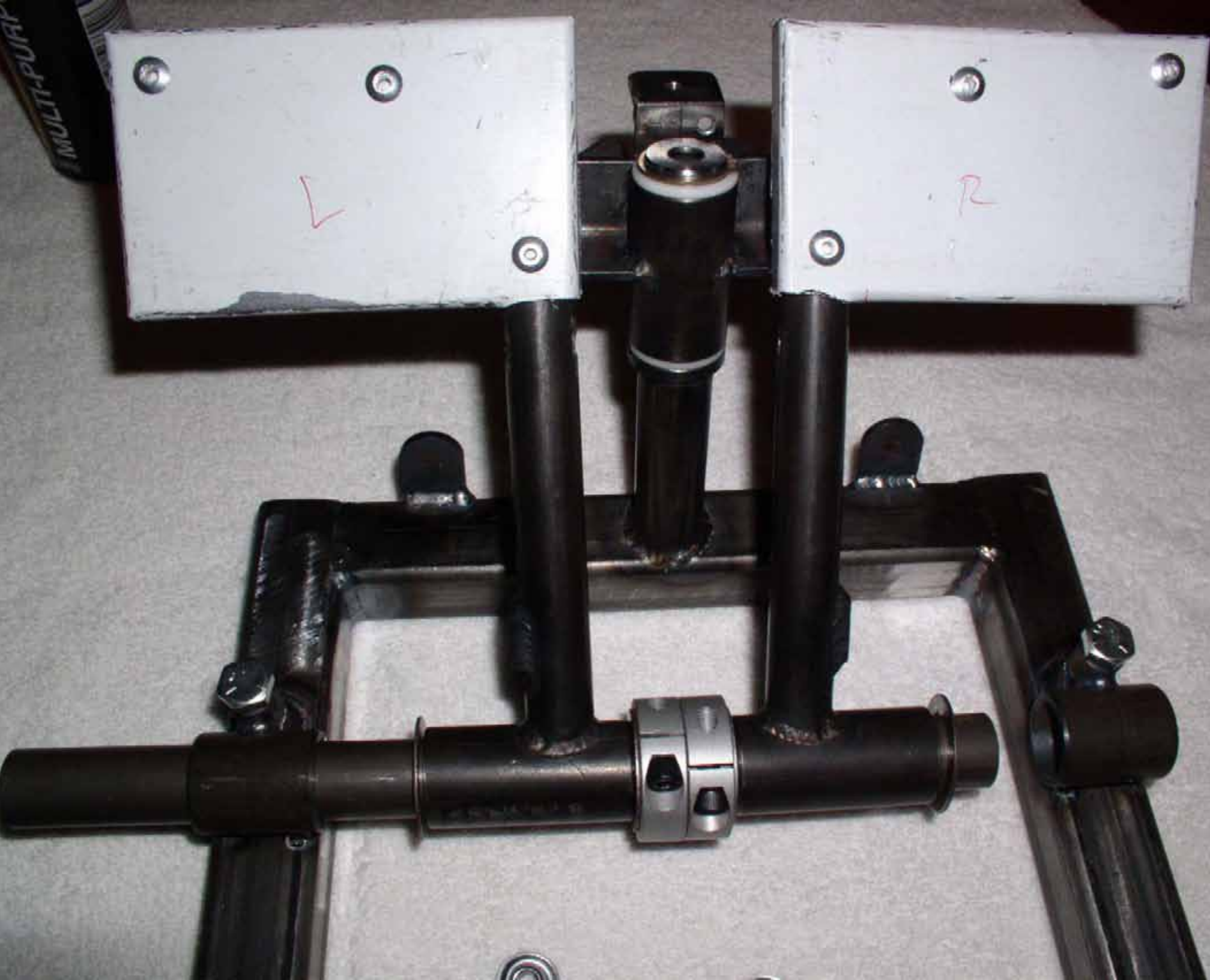
















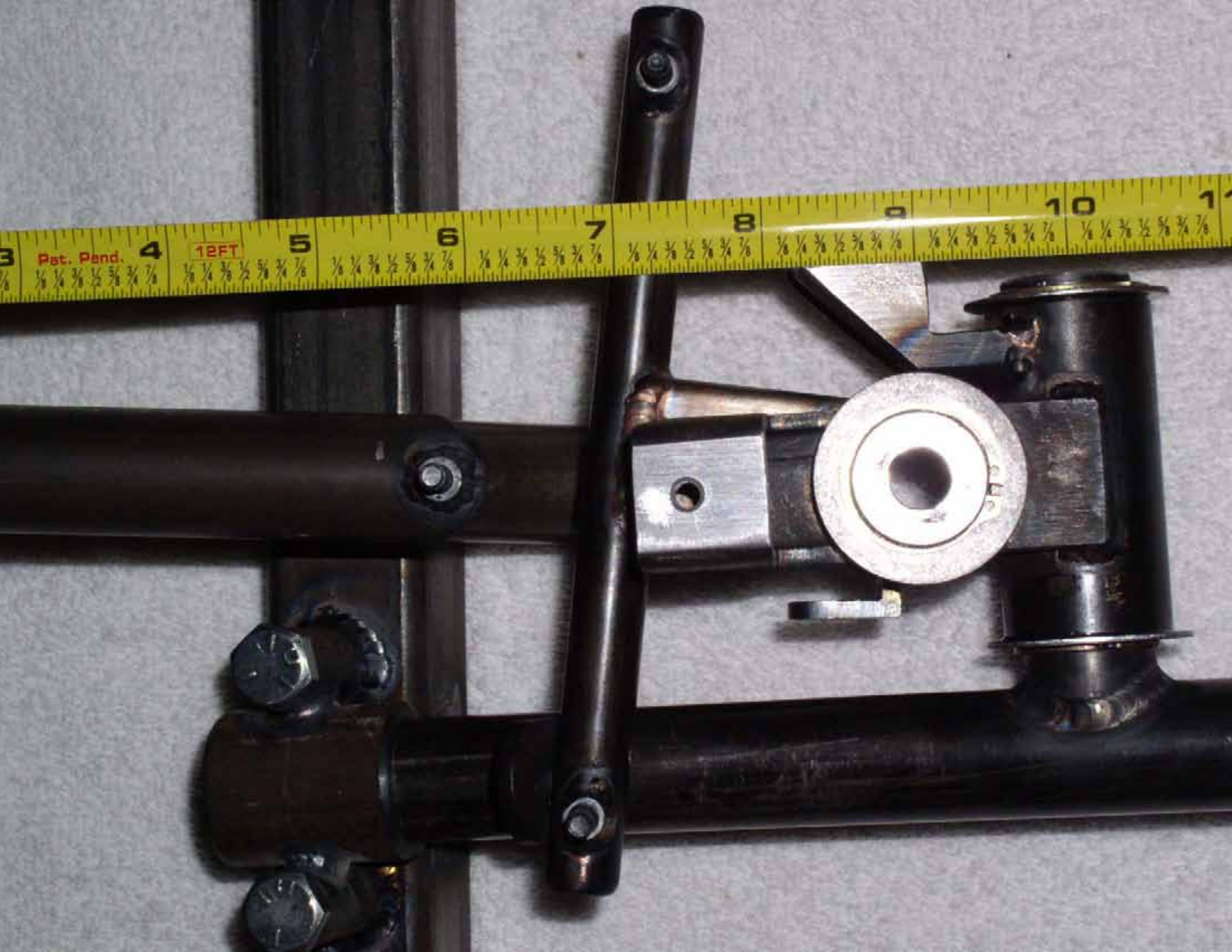


































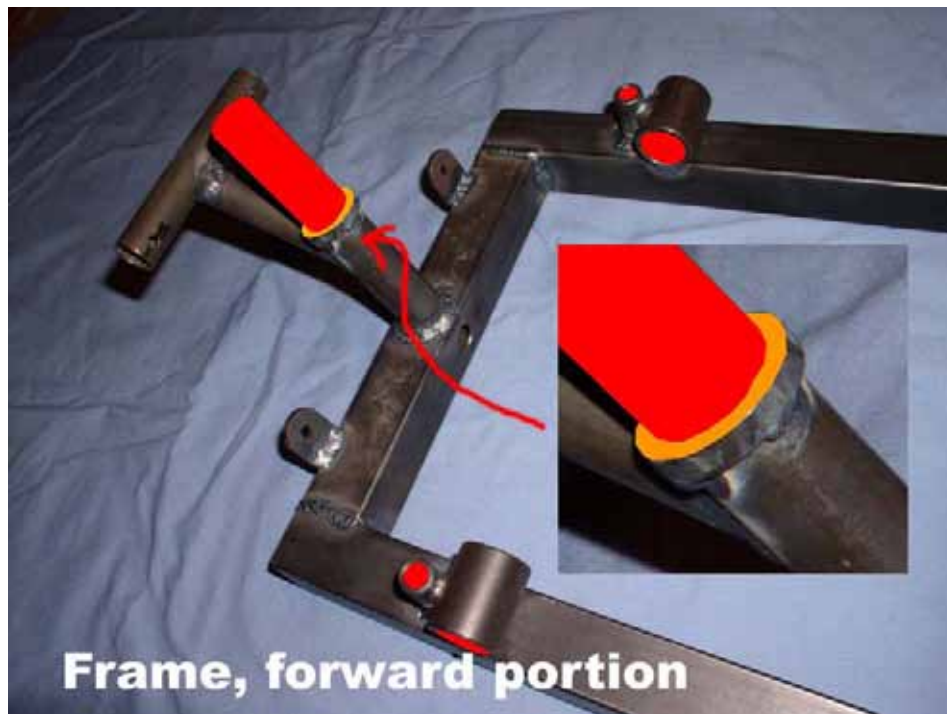


Powdercoat Finishing Details

Rev. B - Apr 18 2006



Heli-Chair full powder-coat specification





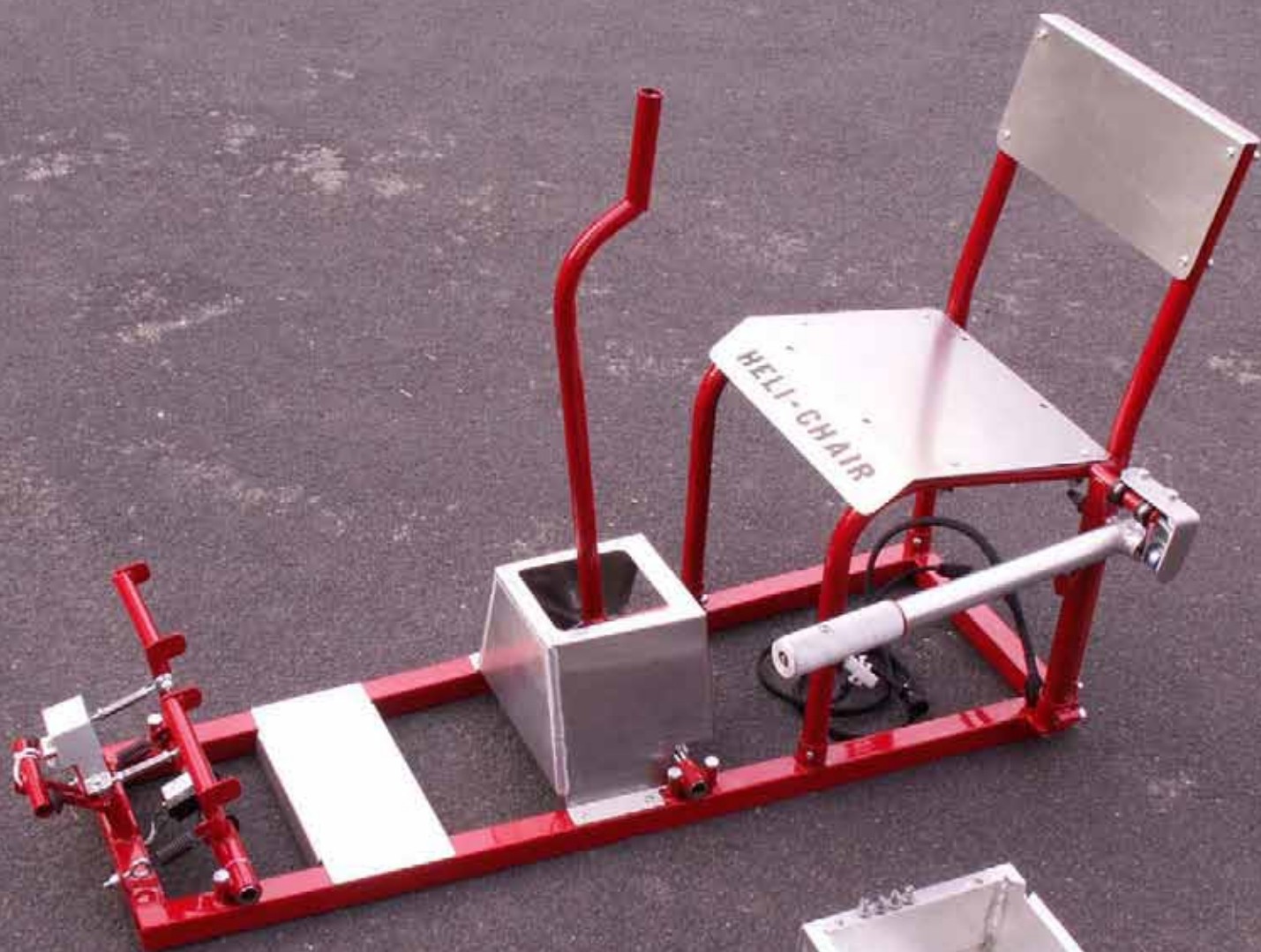
Part Name	Qty/assy	Finish	Thickness	Masking
Frame	1	powdercoat	normal	see photo
Frame (split clamp loose piece)	1	powdercoat	normal	see photo
Pedal, left	1	powdercoat	normal	see photo
Pedal, right	1	powdercoat	normal	see photo
Seat half	2	powdercoat	normal	none
Collective riser	1	powdercoat	normal	see photo
Cyclic	1	powdercoat	normal	see photo
Walking bar	1	powdercoat	normal	see photo
Cyclic cross bar	1	powdercoat	normal	see photo
Cyclic gimbal	1	powdercoat	normal	see photo
Pedal cross bar	1	NO FINISH	-	-

Final Assembly Sequence

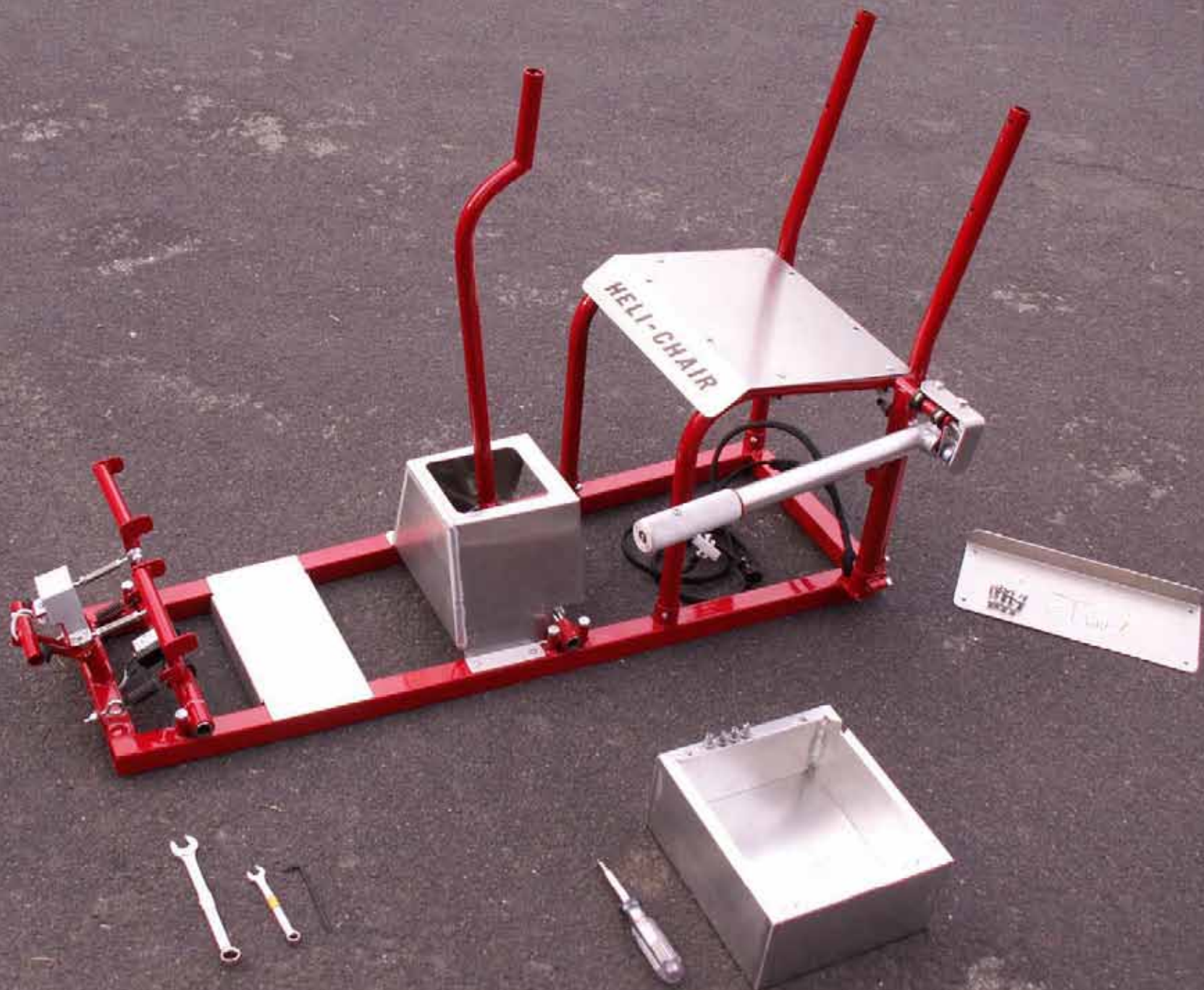
(photos of the production Heli-Chair assembly sequence)

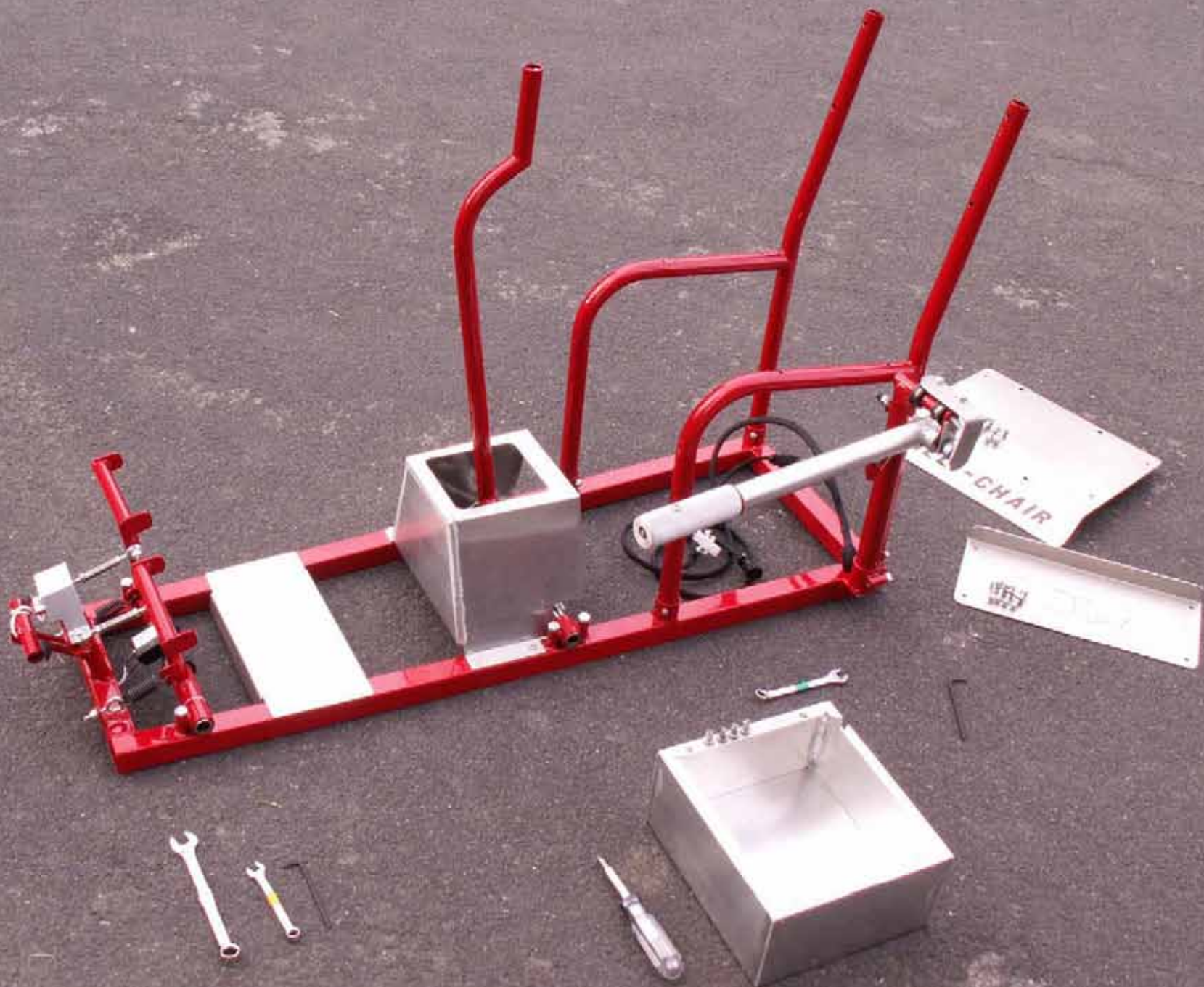


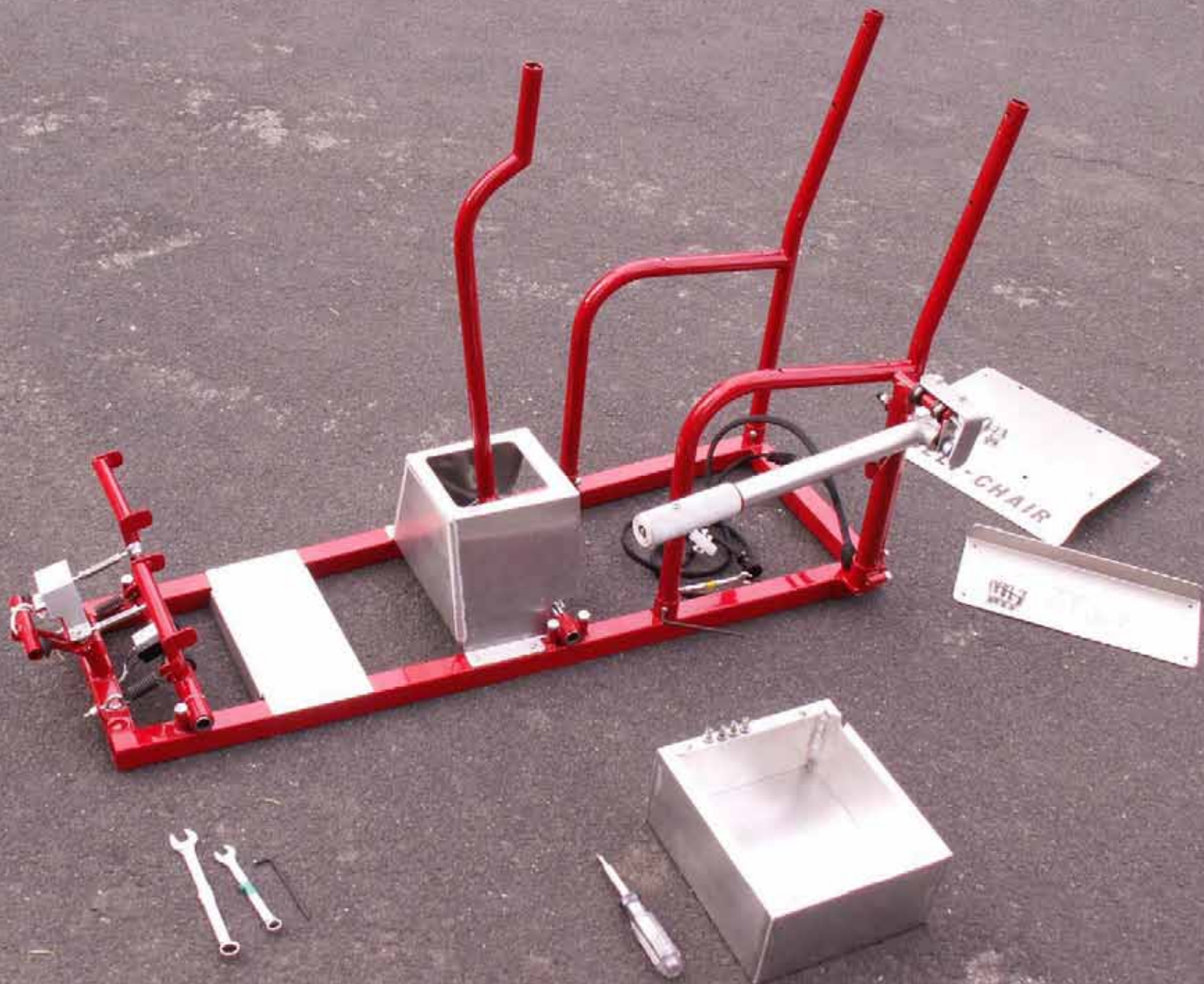


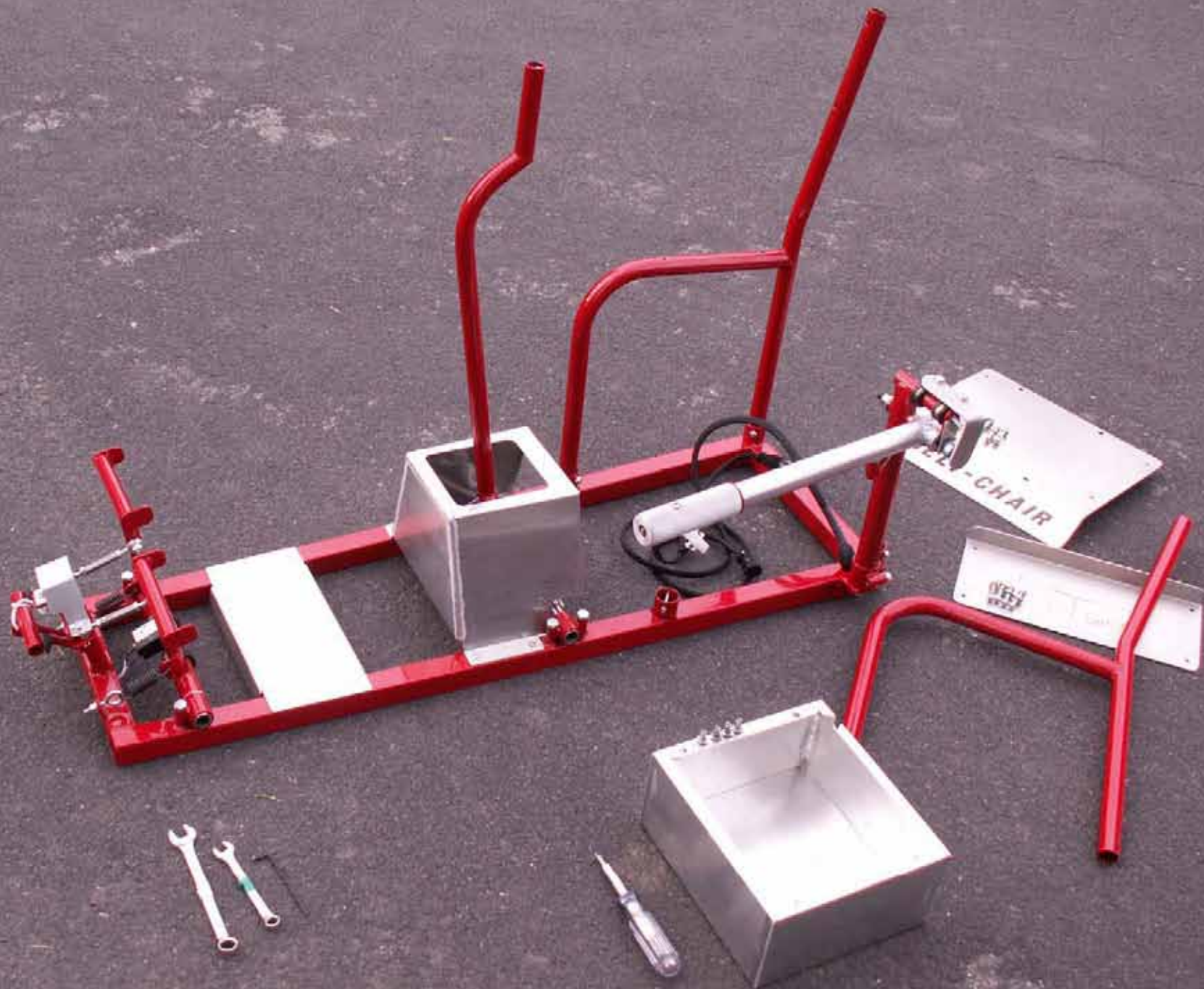


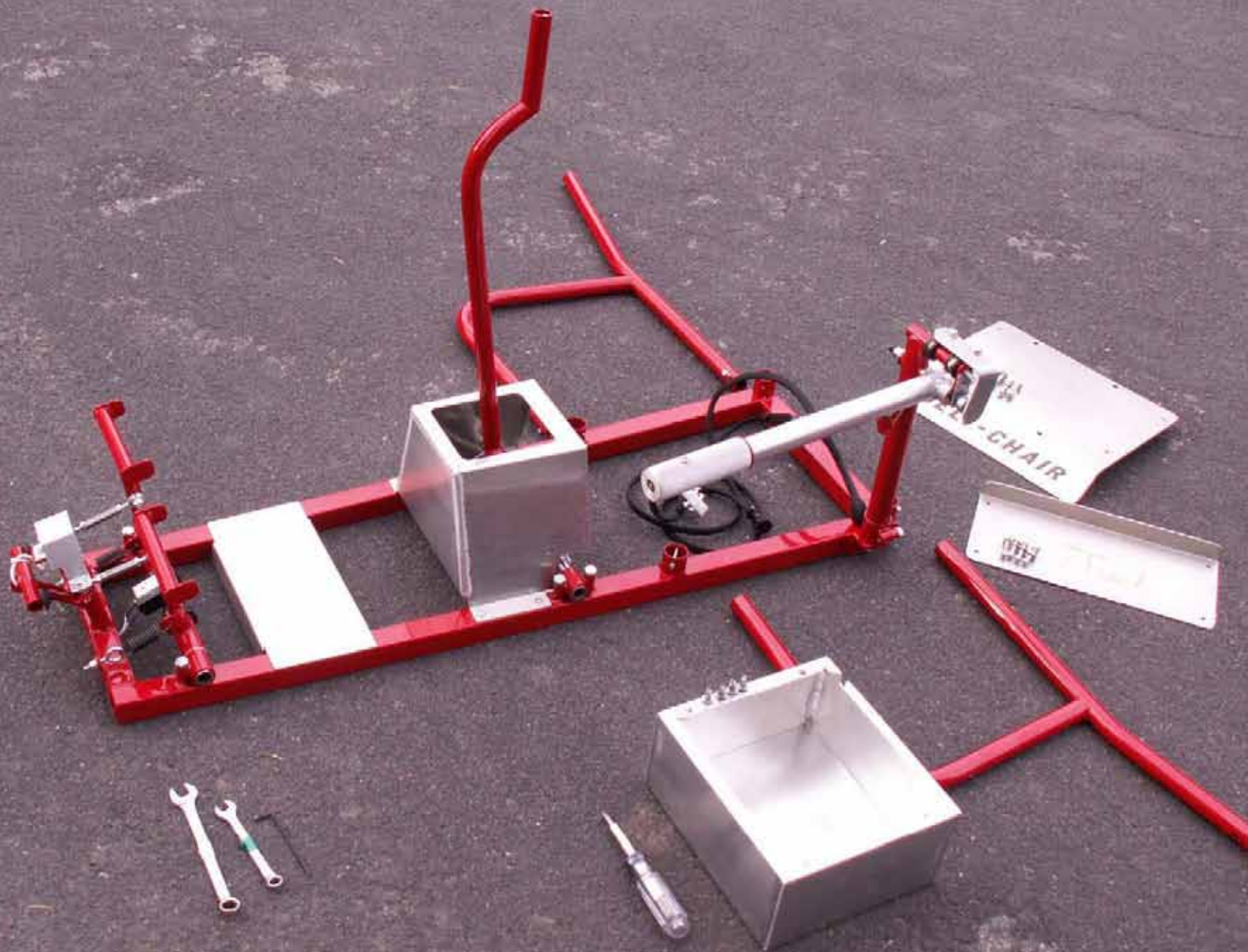


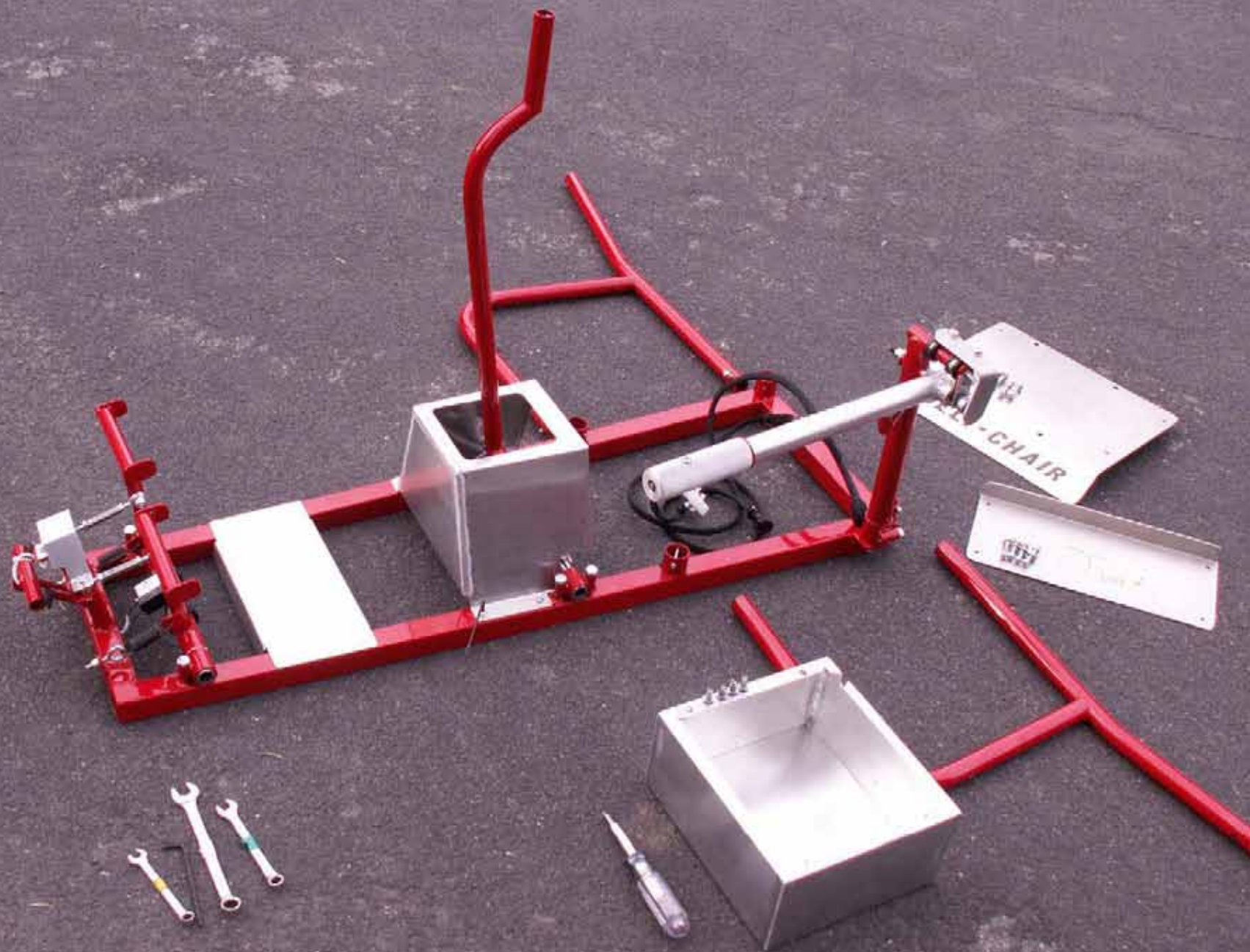


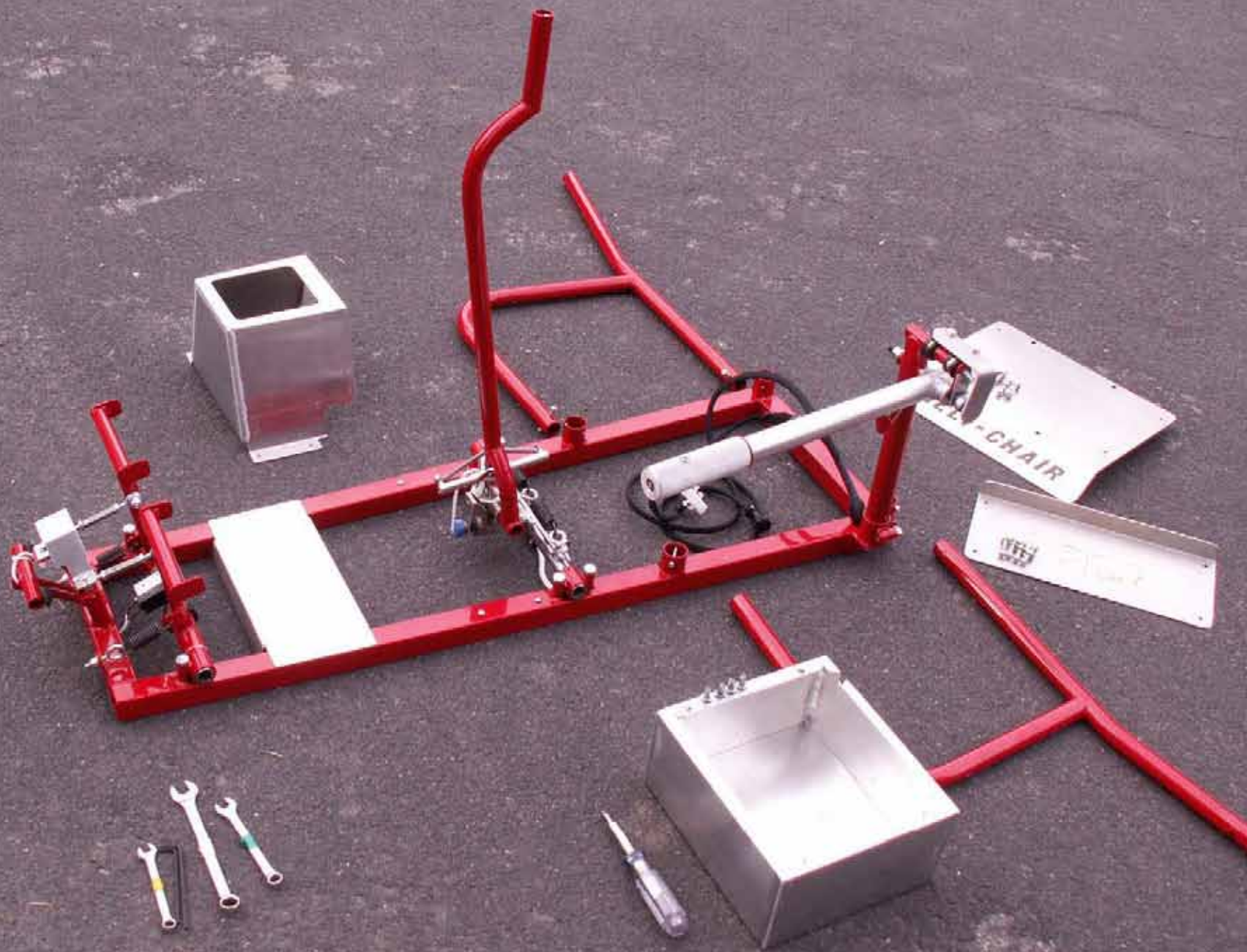


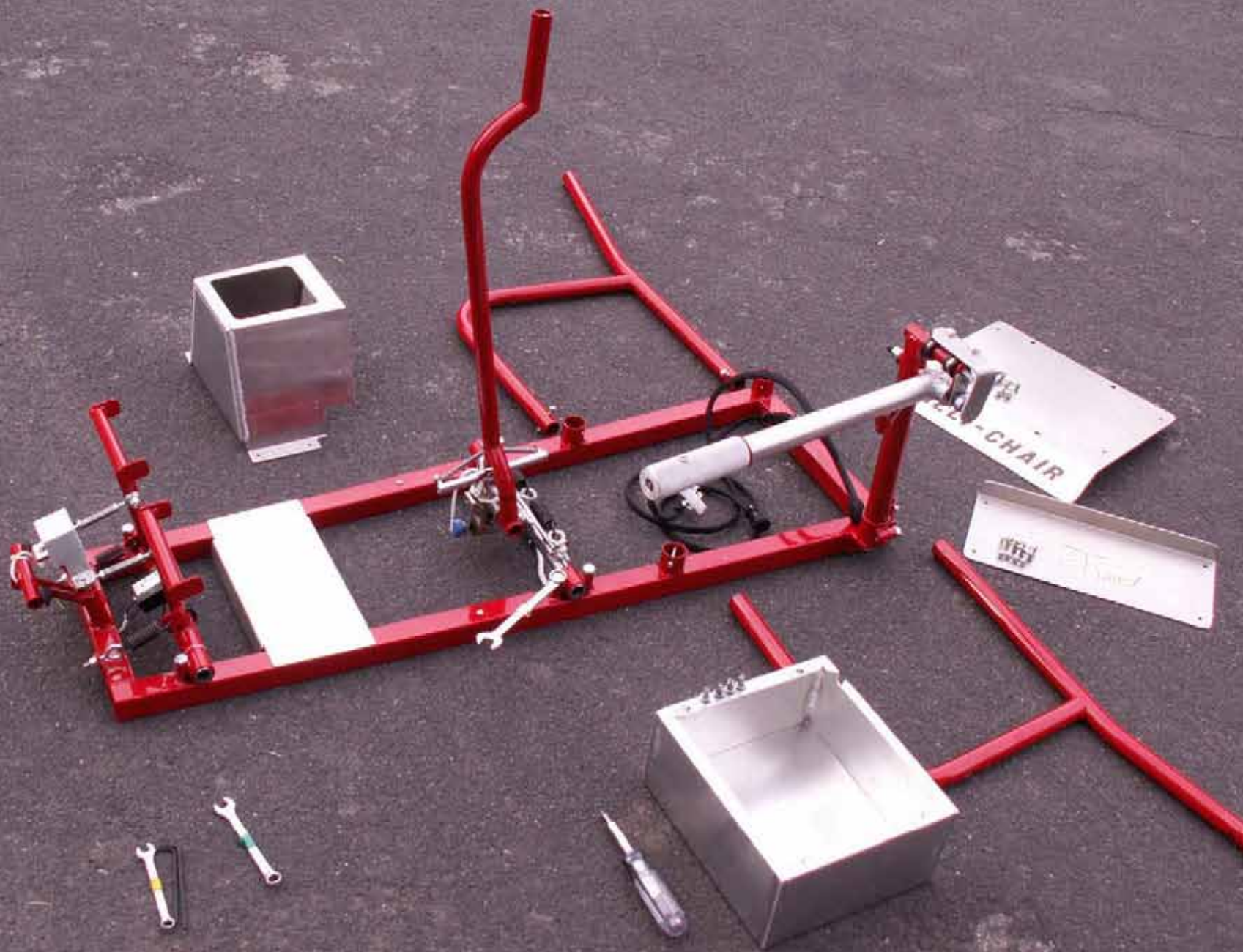


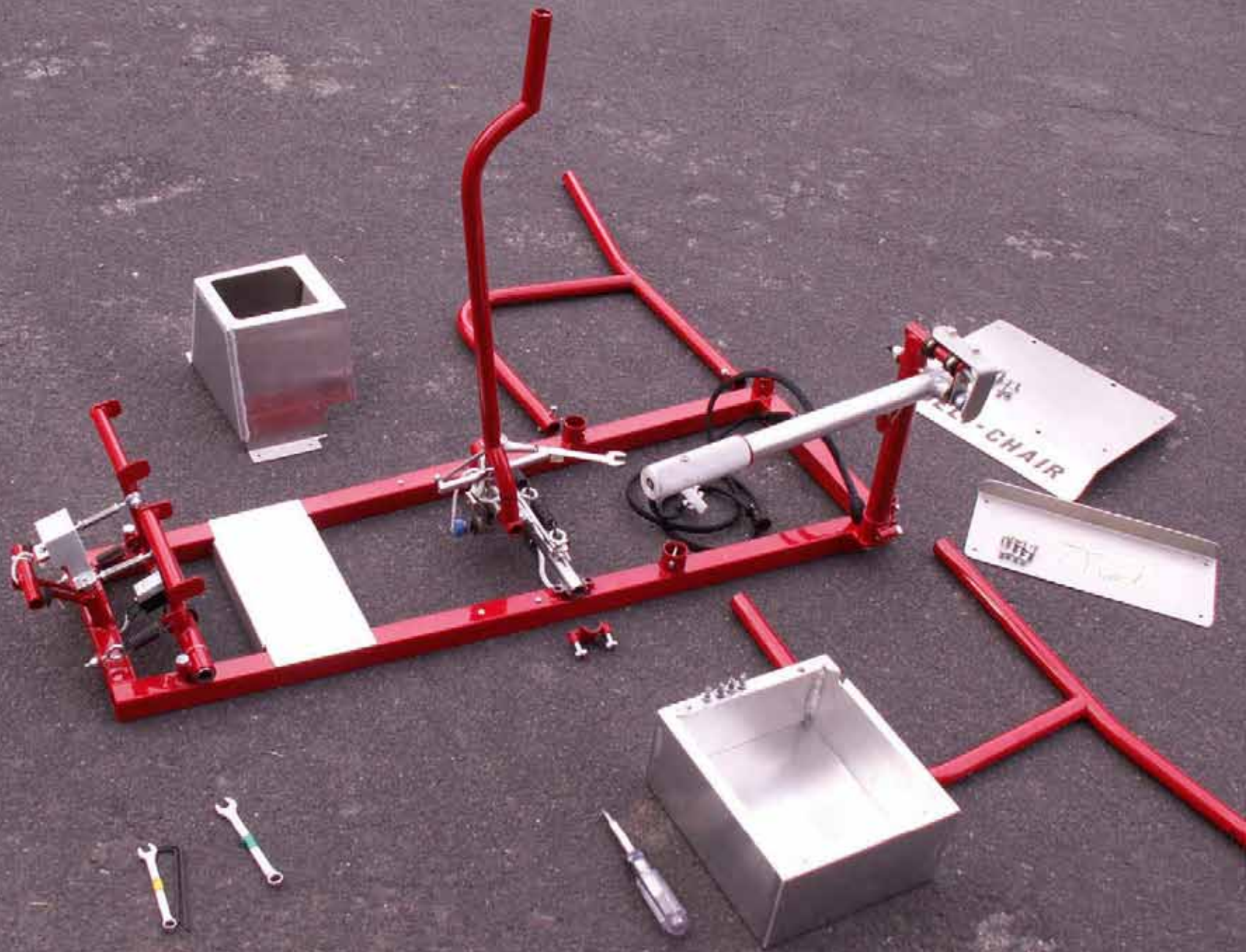


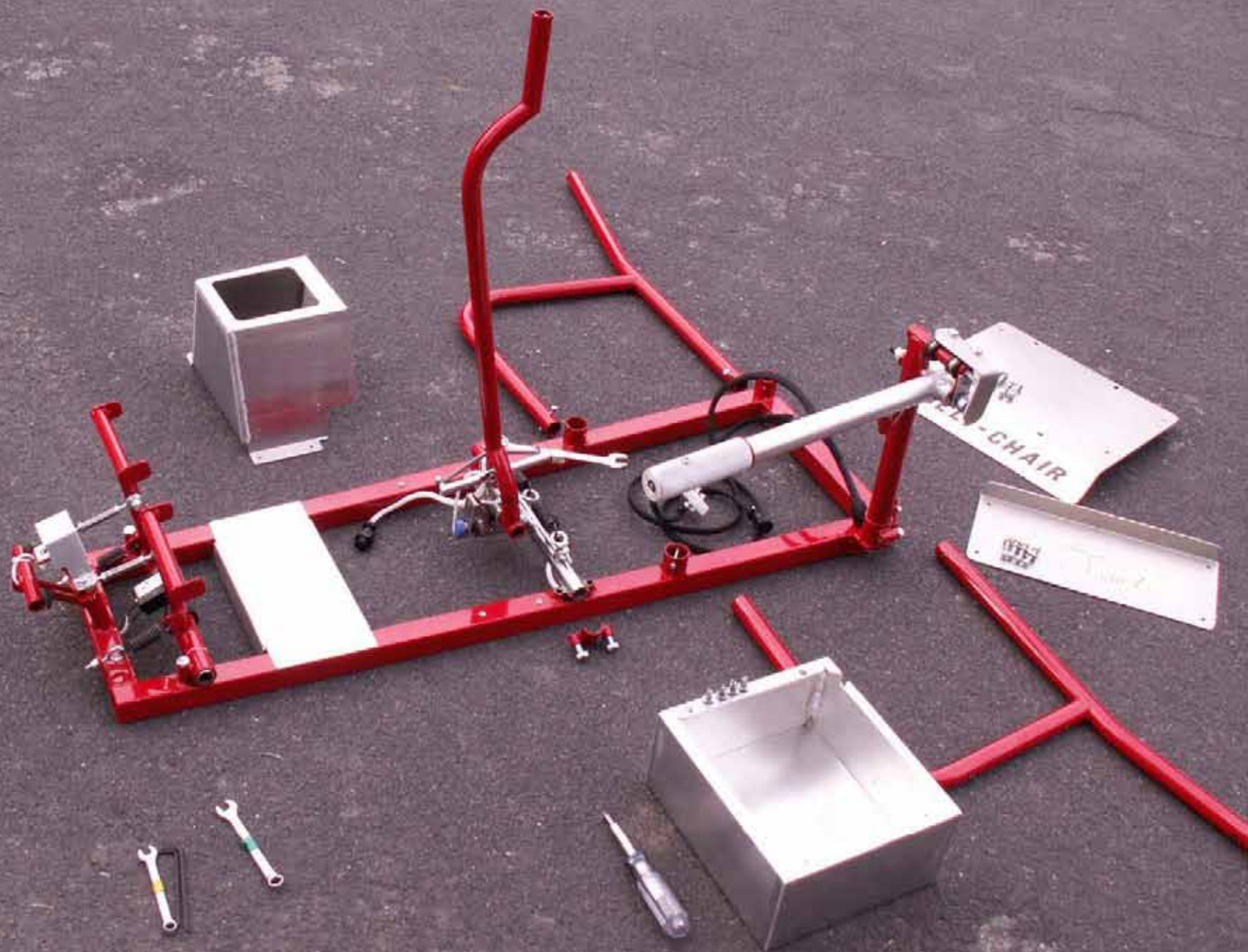


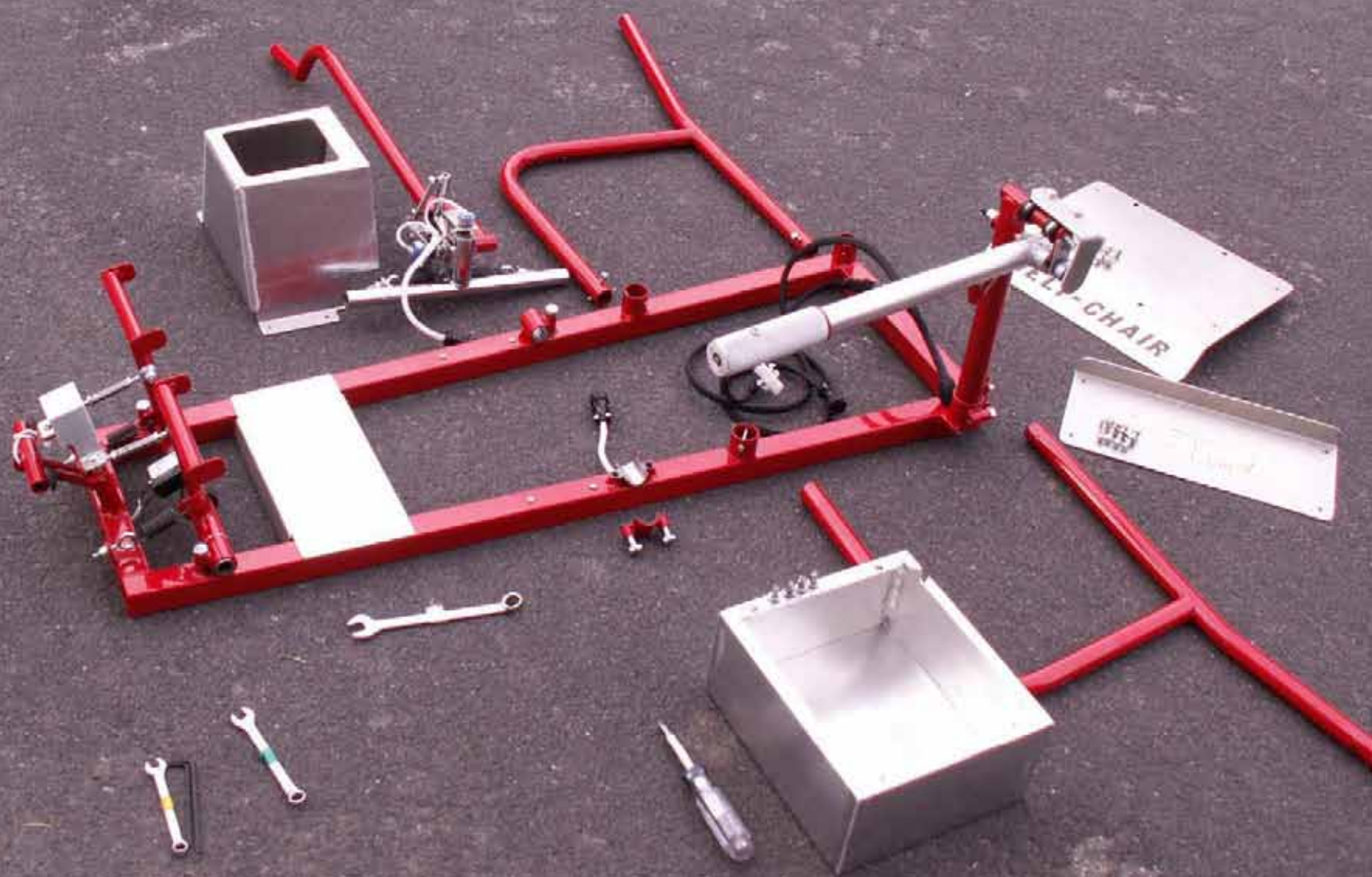


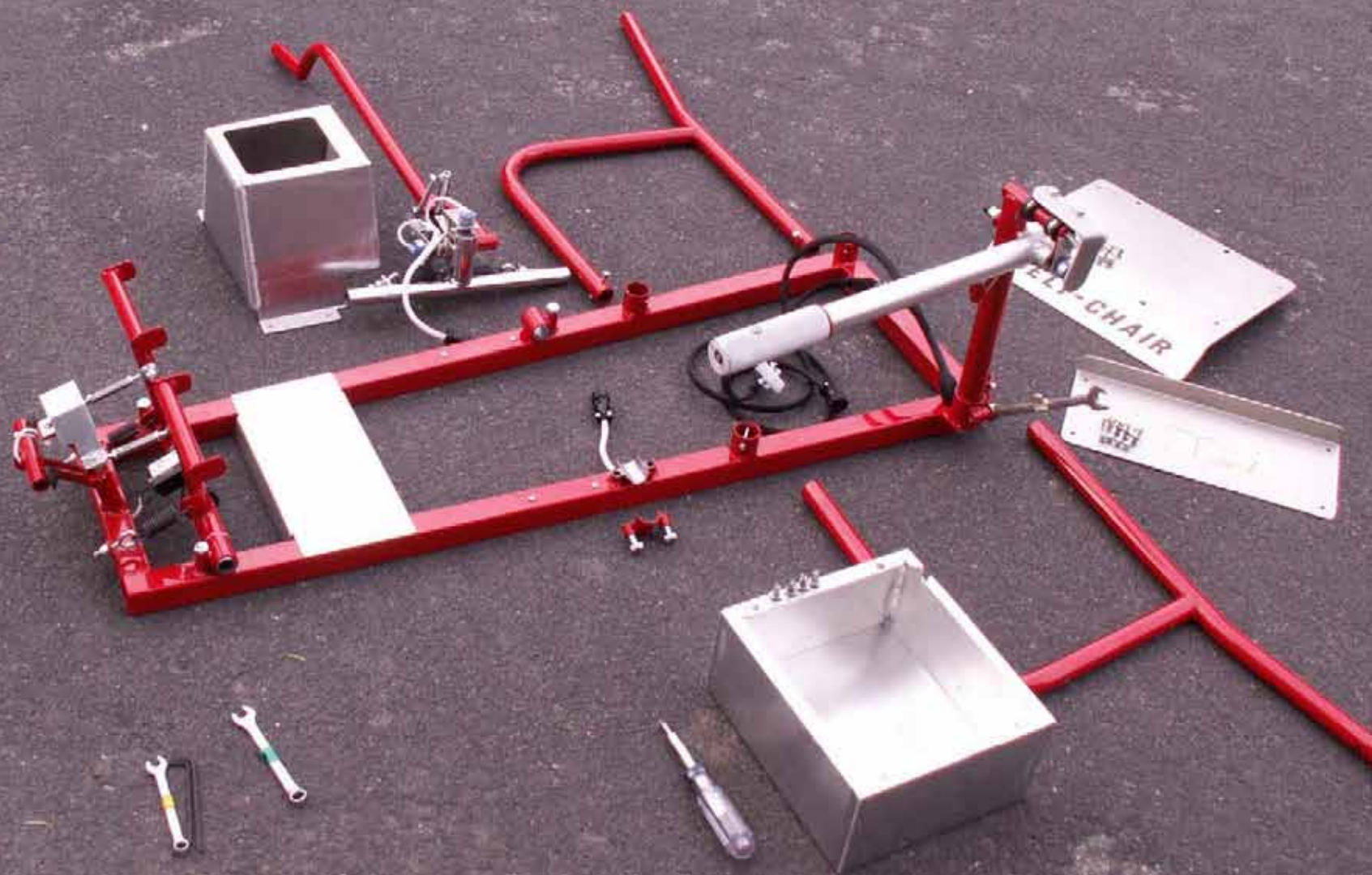


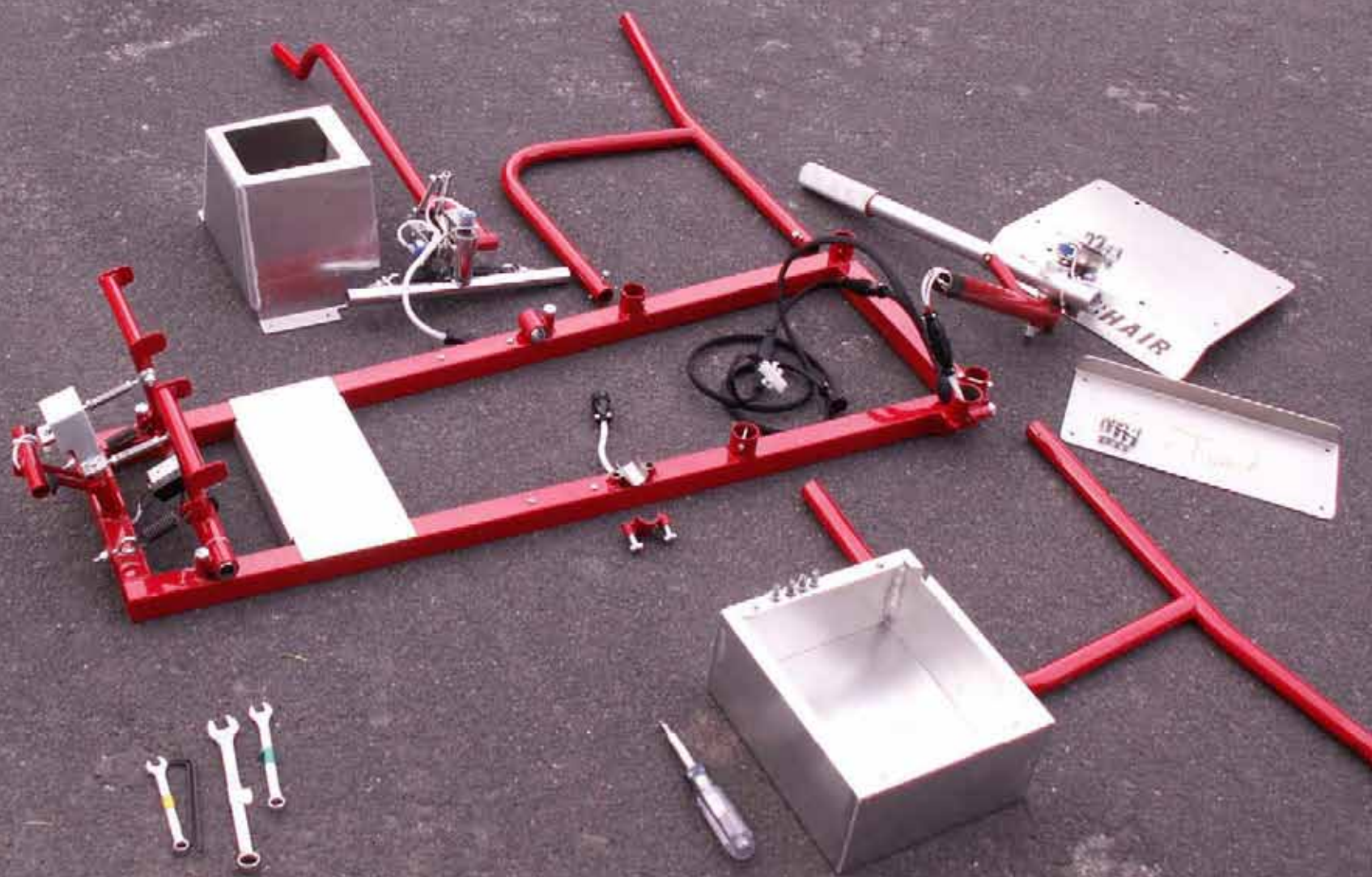


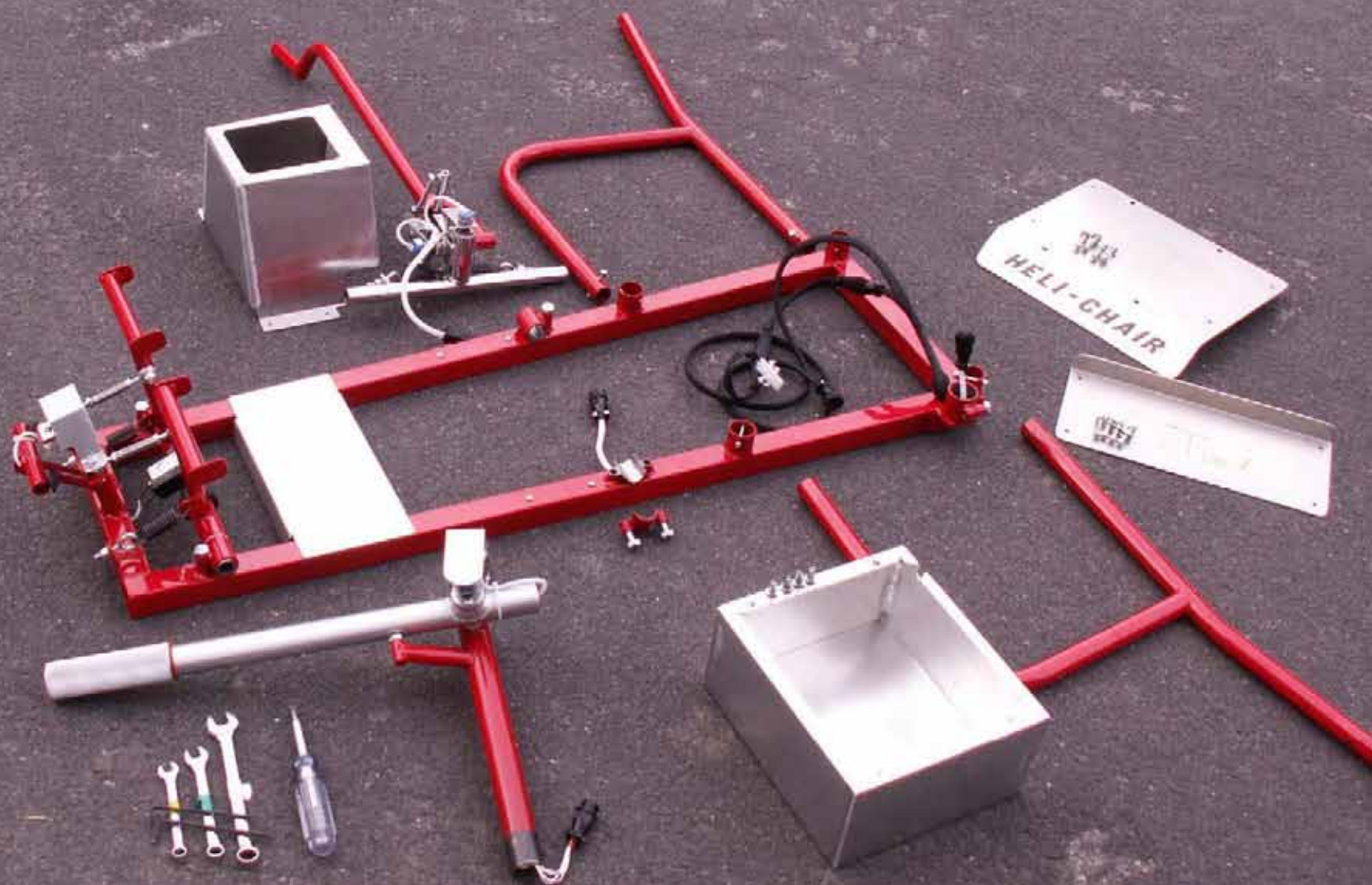


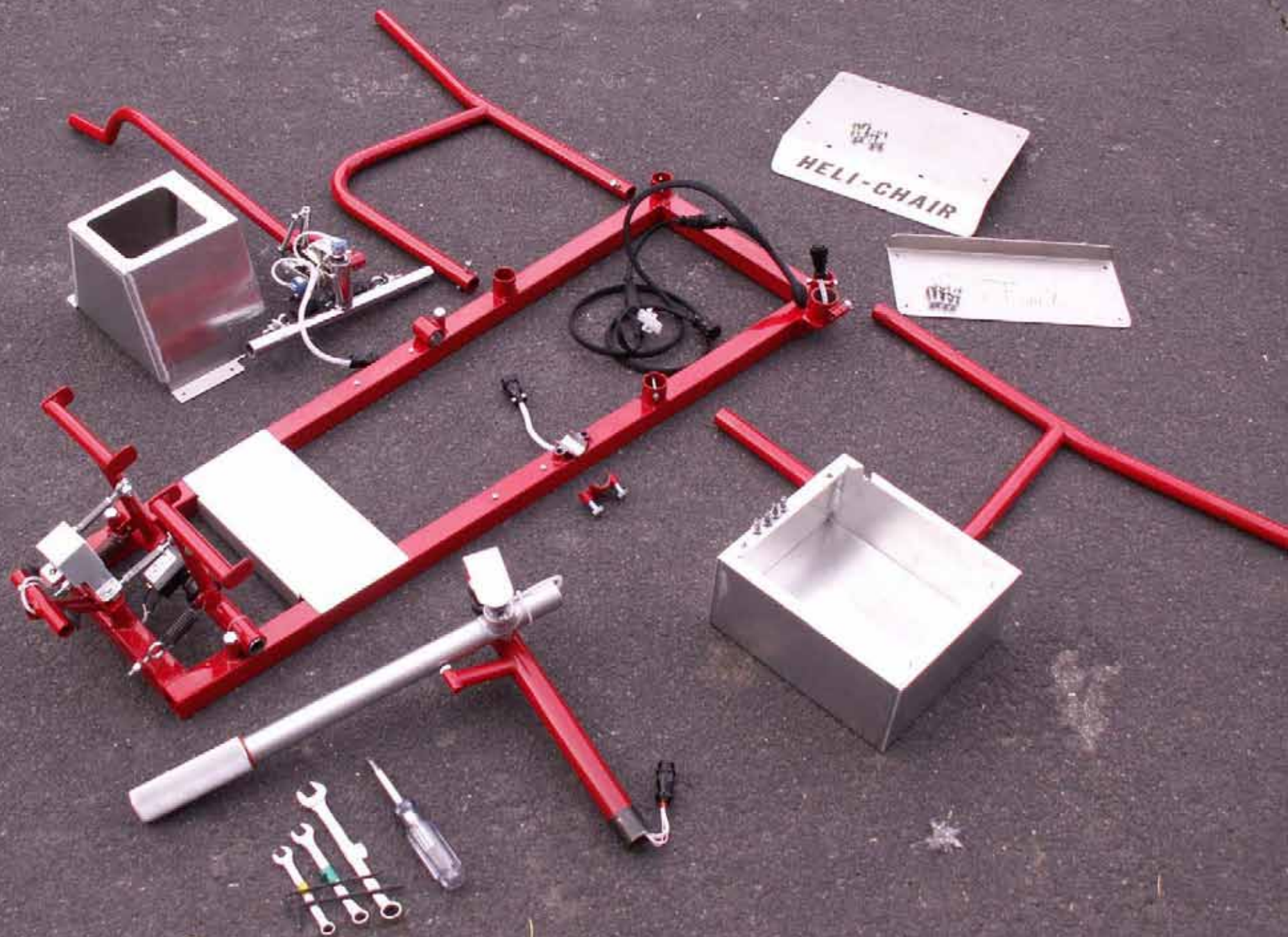


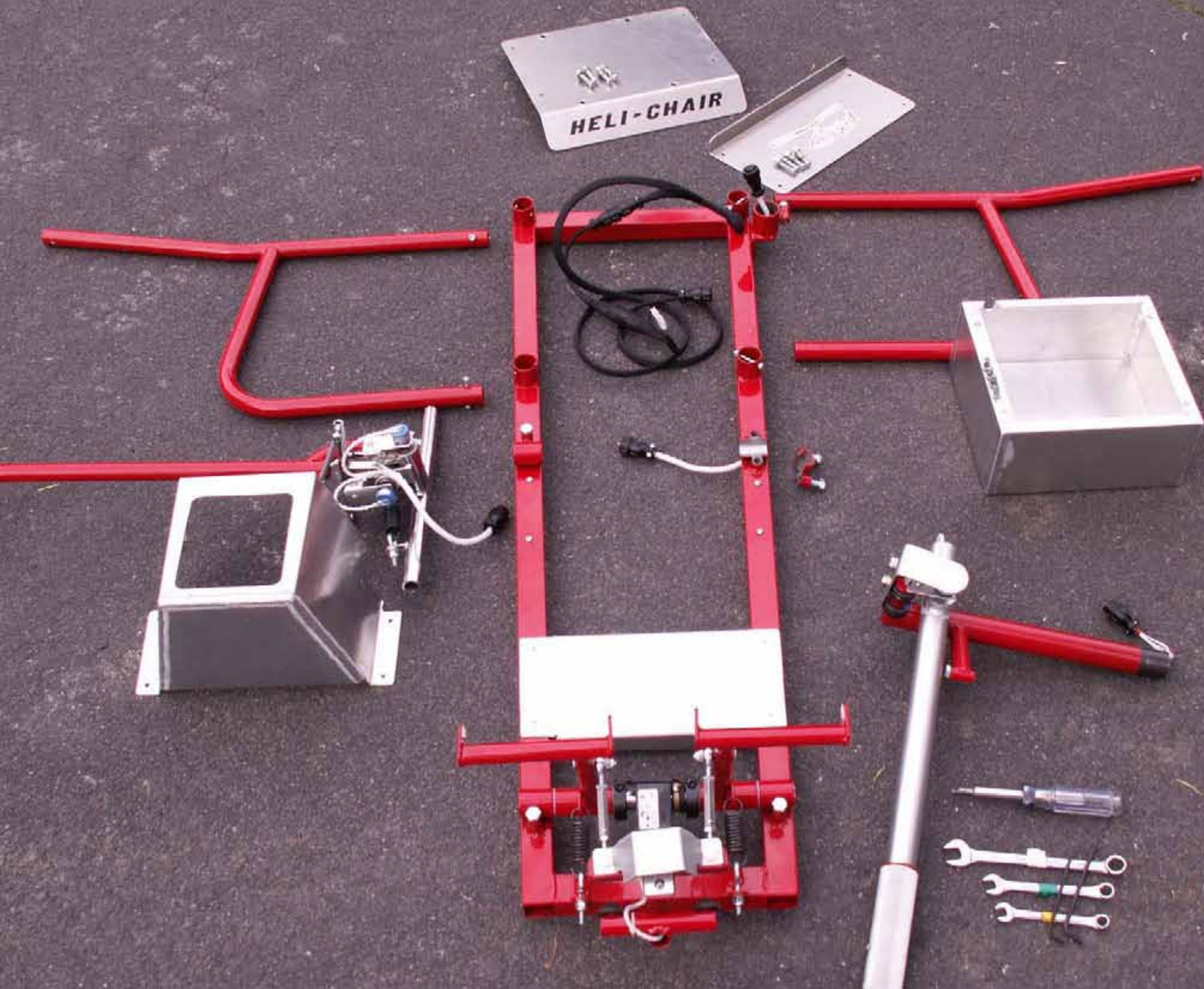




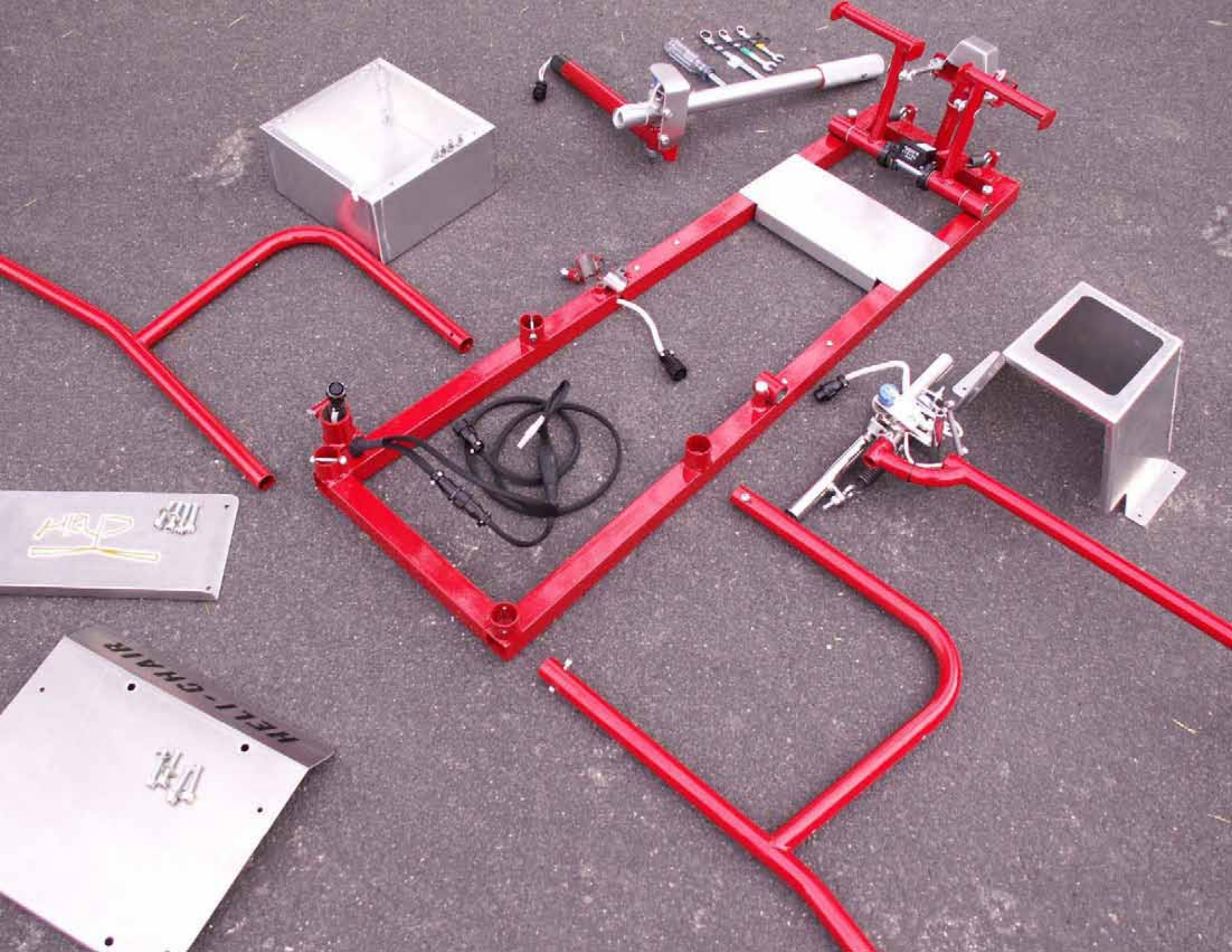


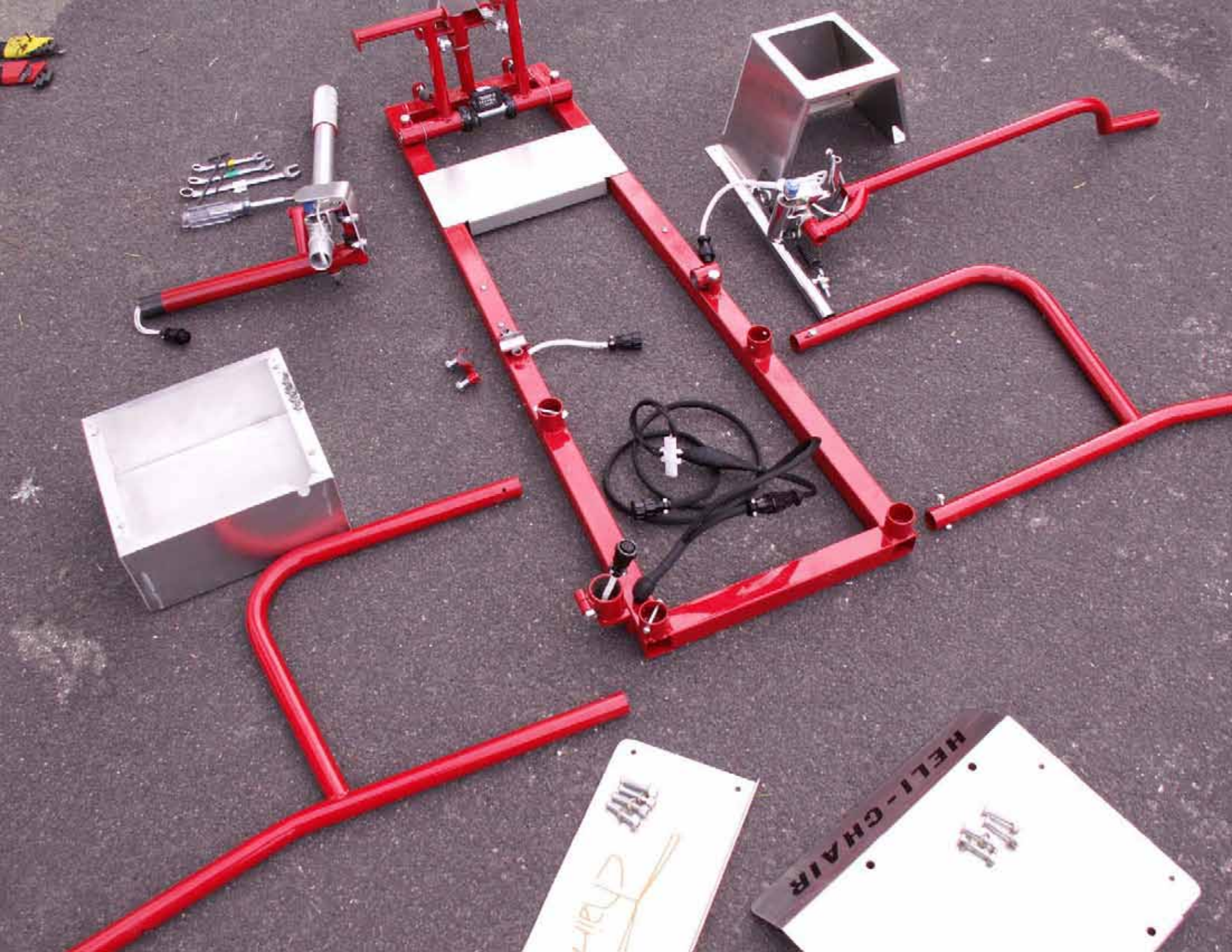










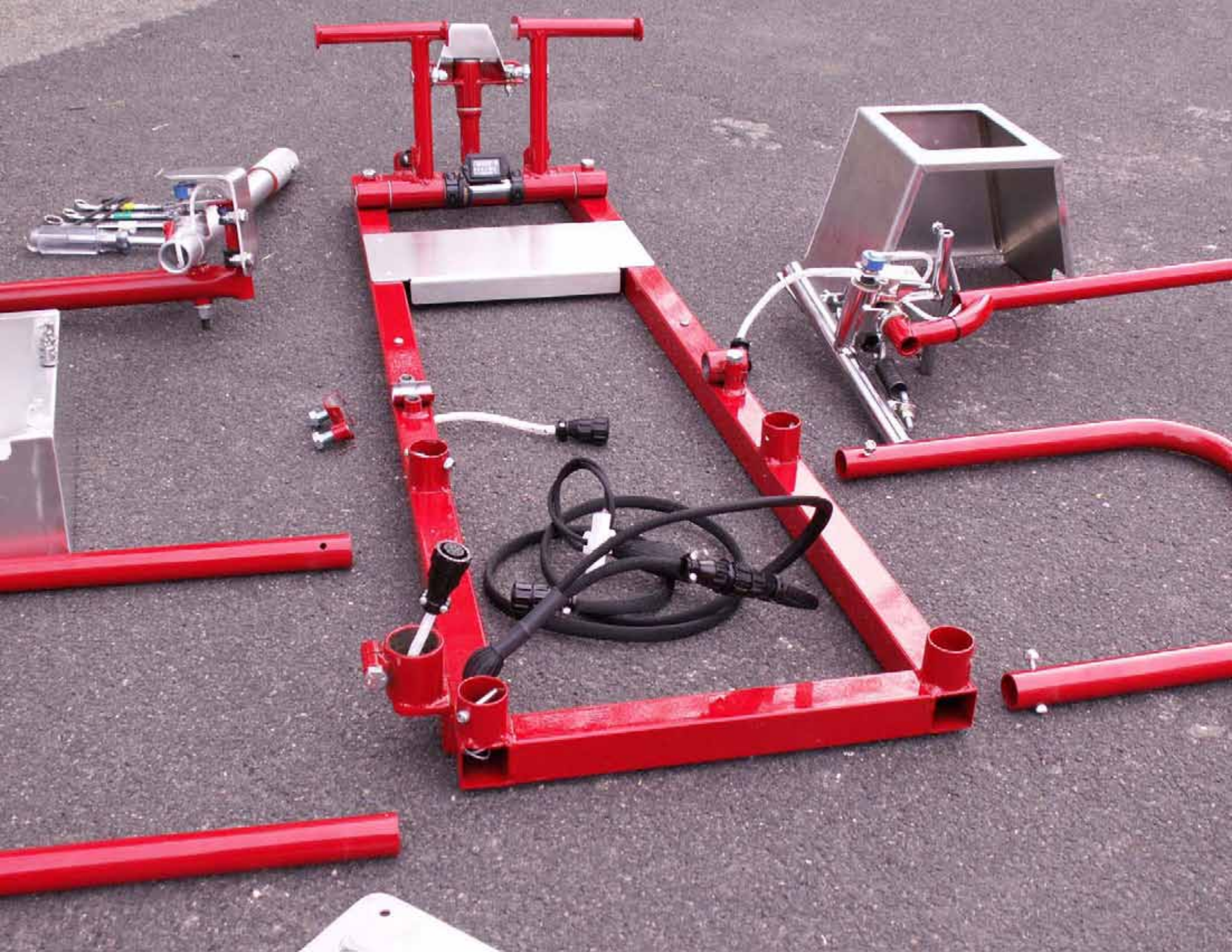


HELI-CHAIR

Chair

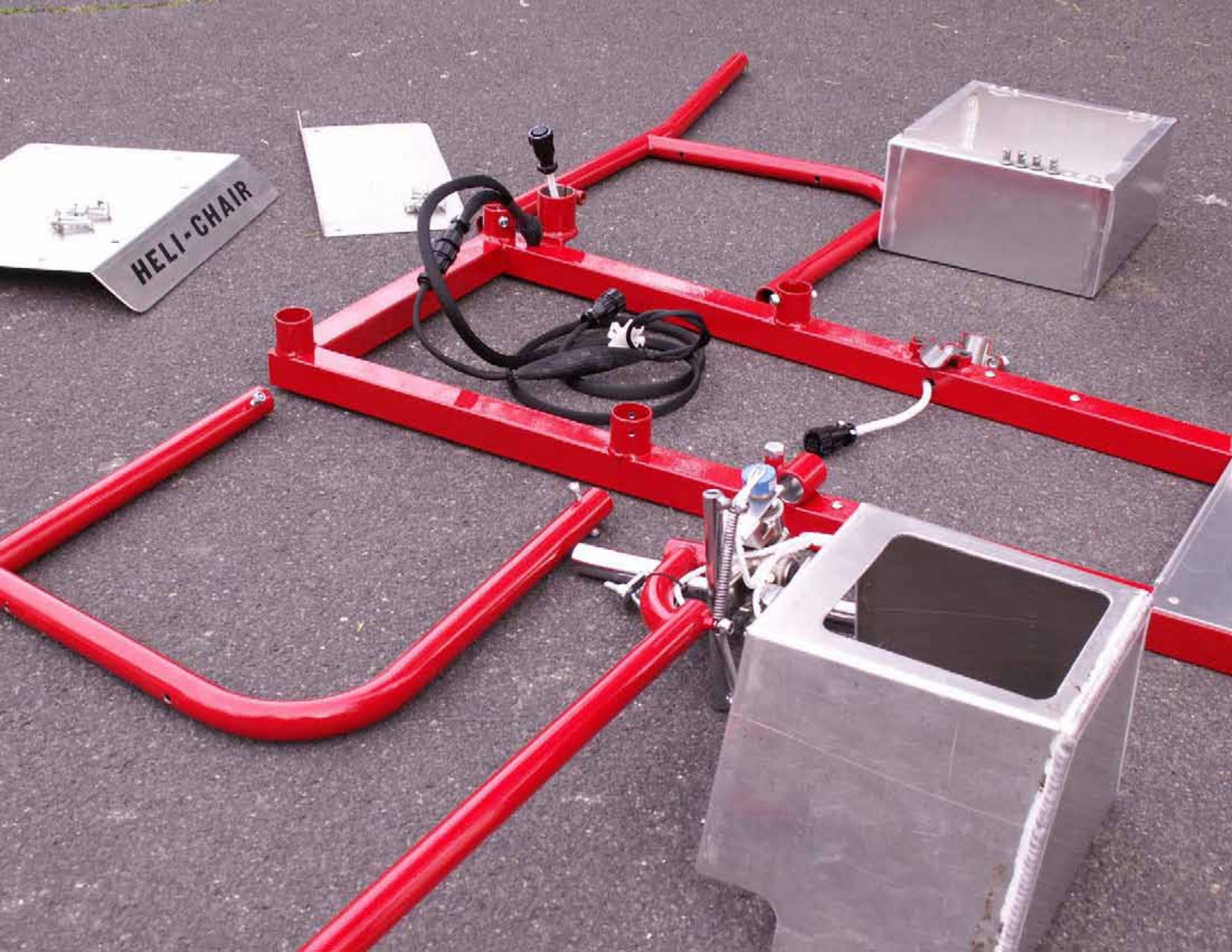












HELI-CHAIR









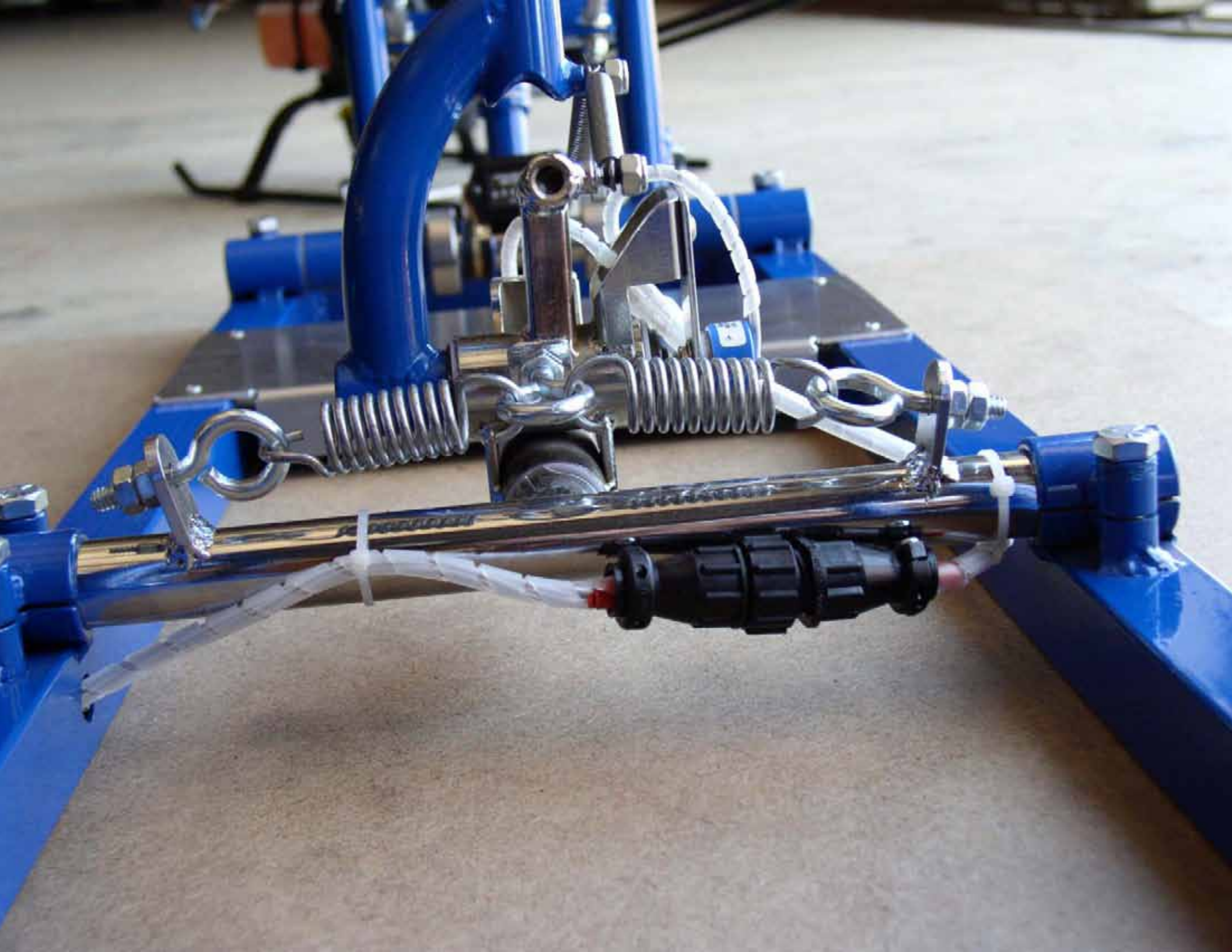


First Example Heli-Chair

Blue, Standard Features

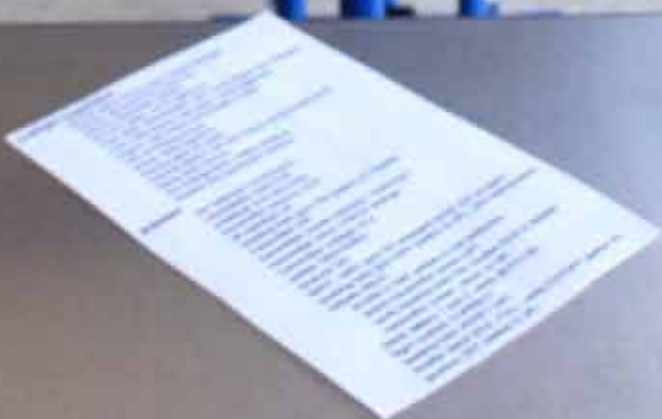






























Second Example Heli-Chair

Black, Standard Features

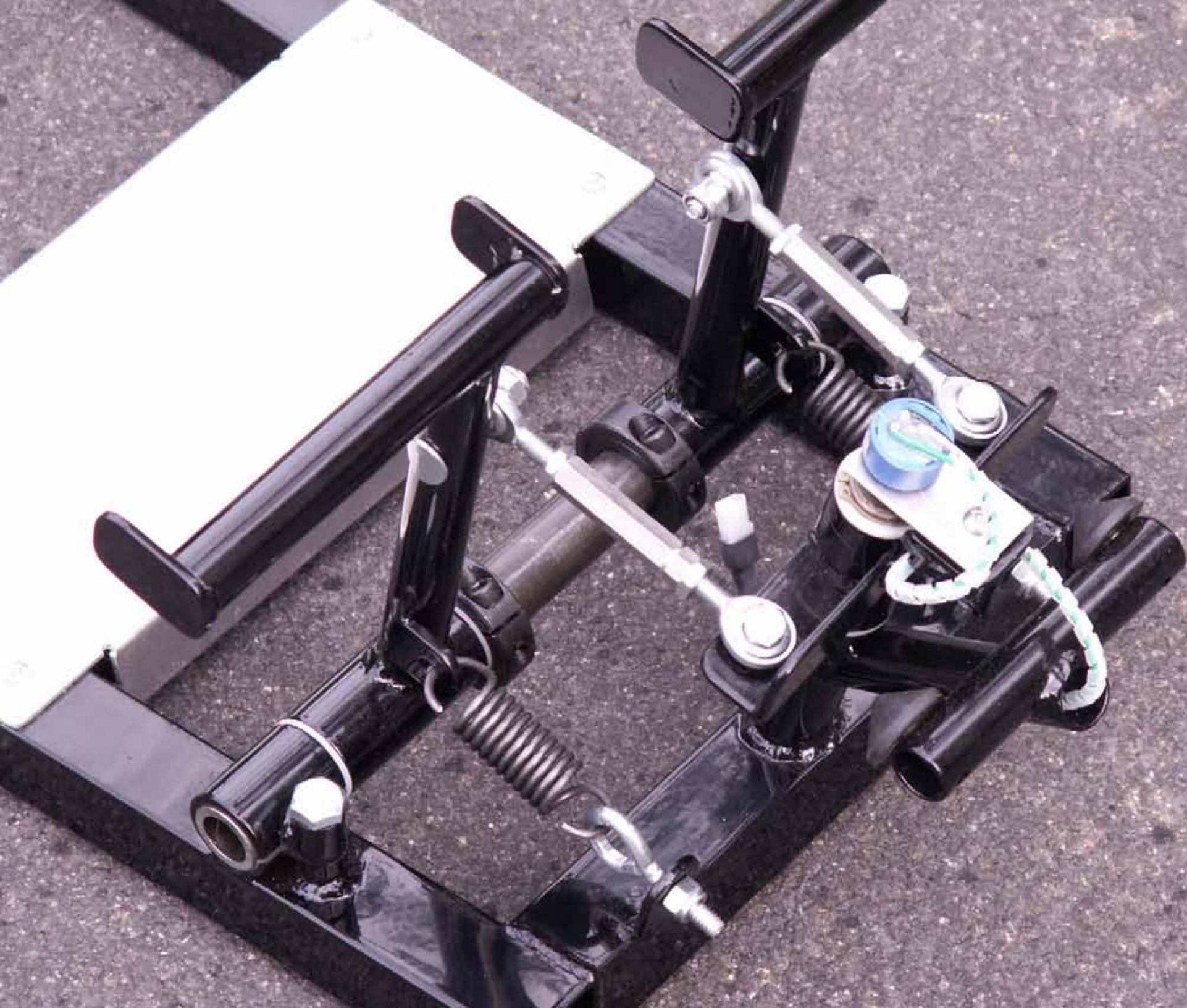




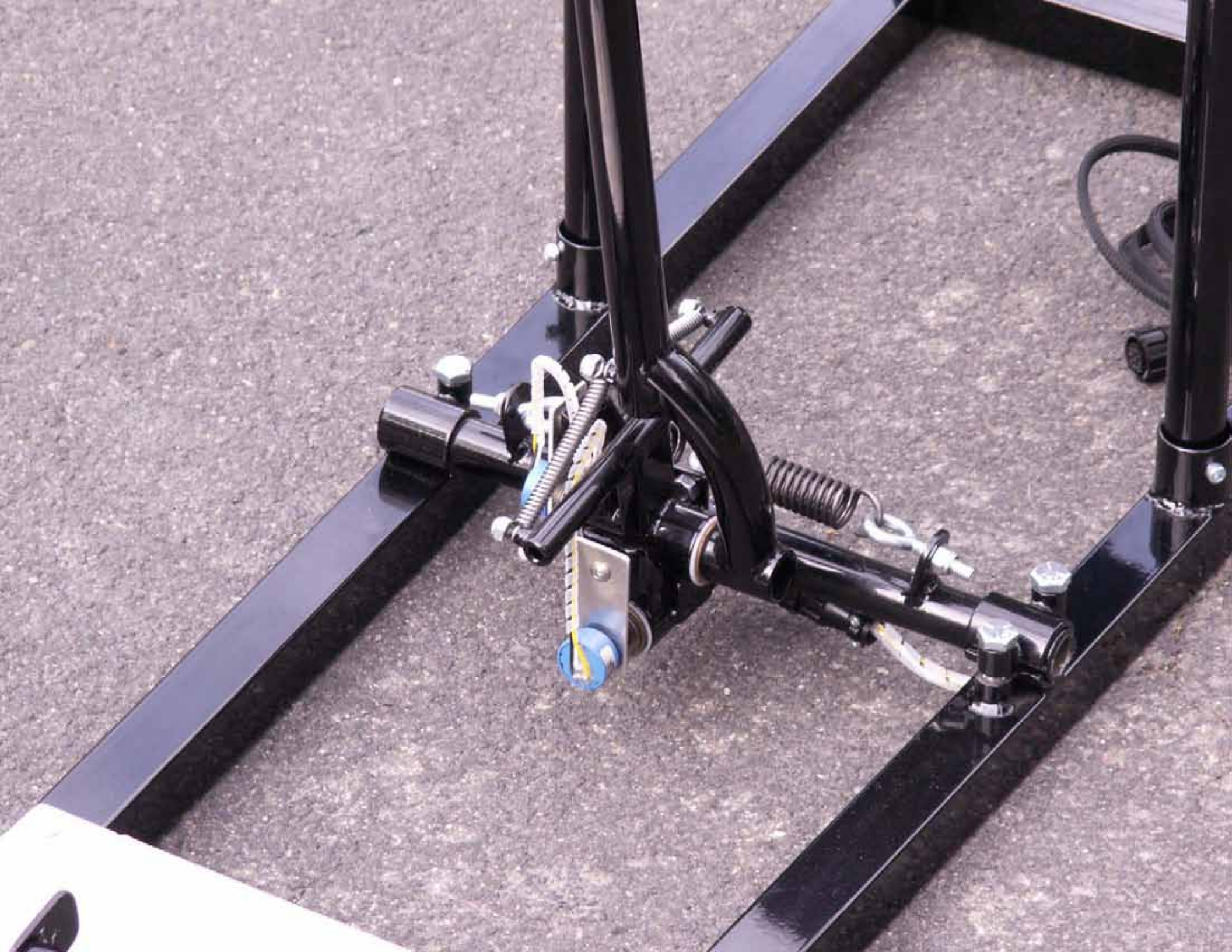


Chair











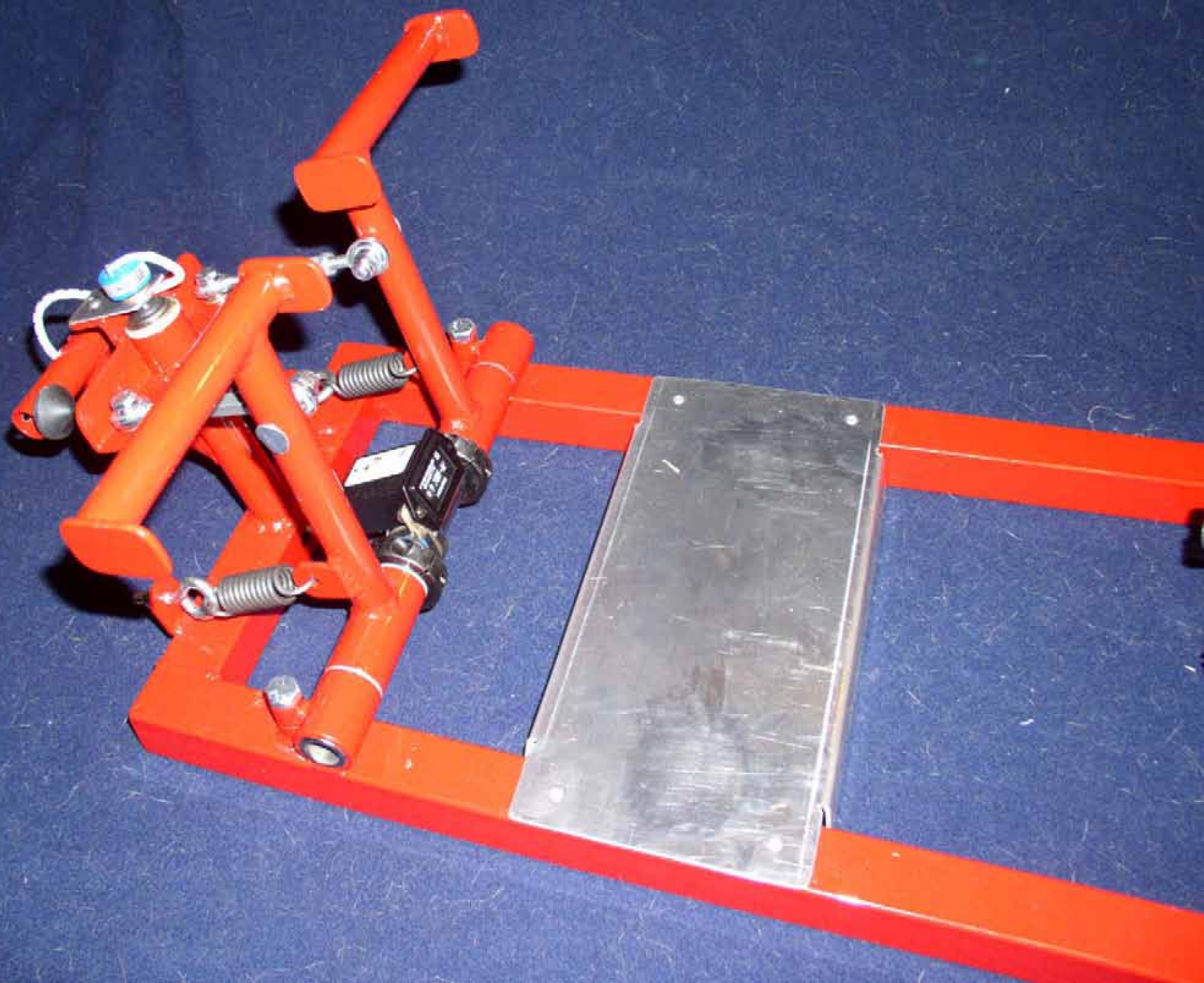


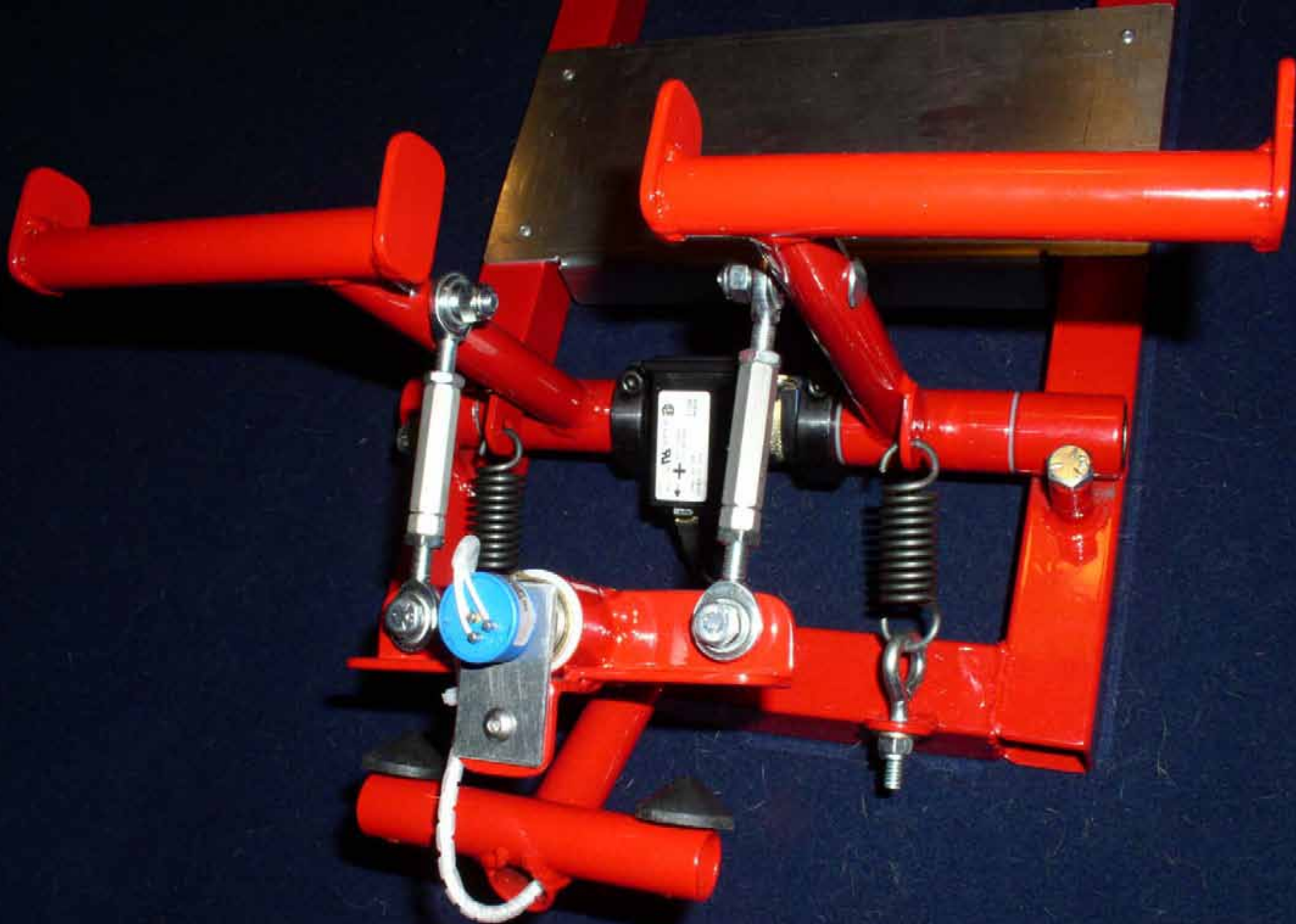




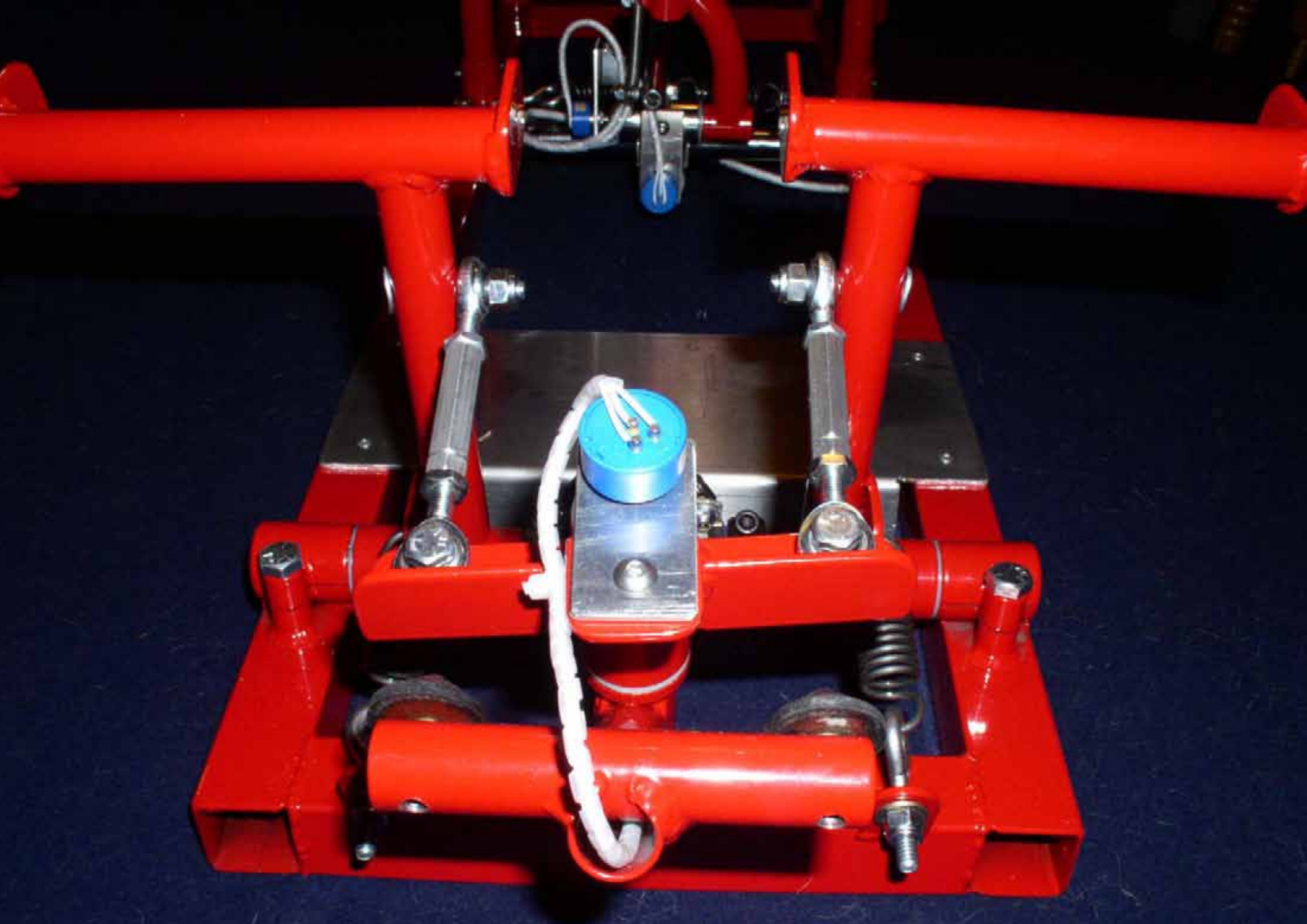
Third Example Heli-Chair

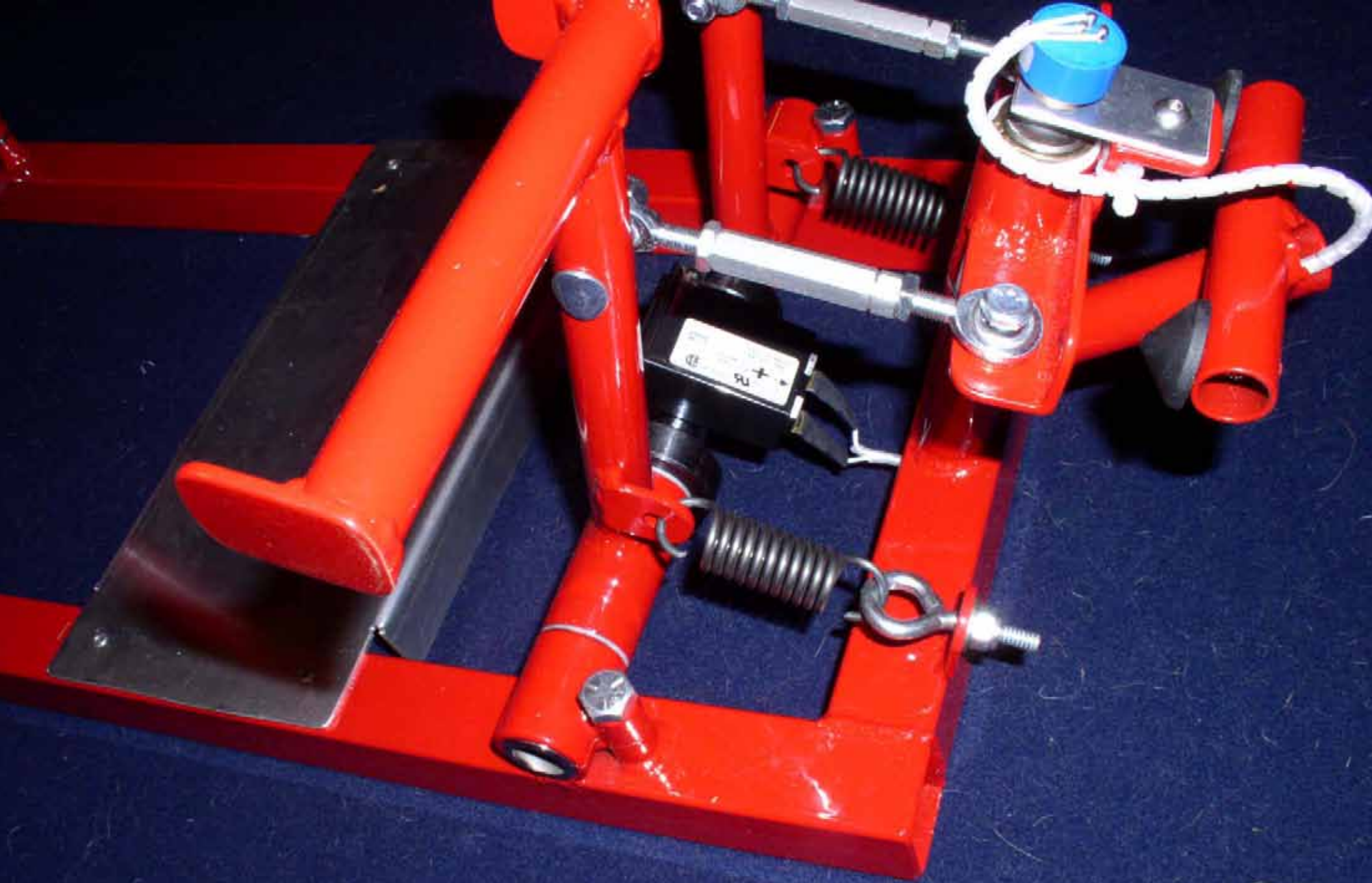
Red, with and without “people proofing guards”

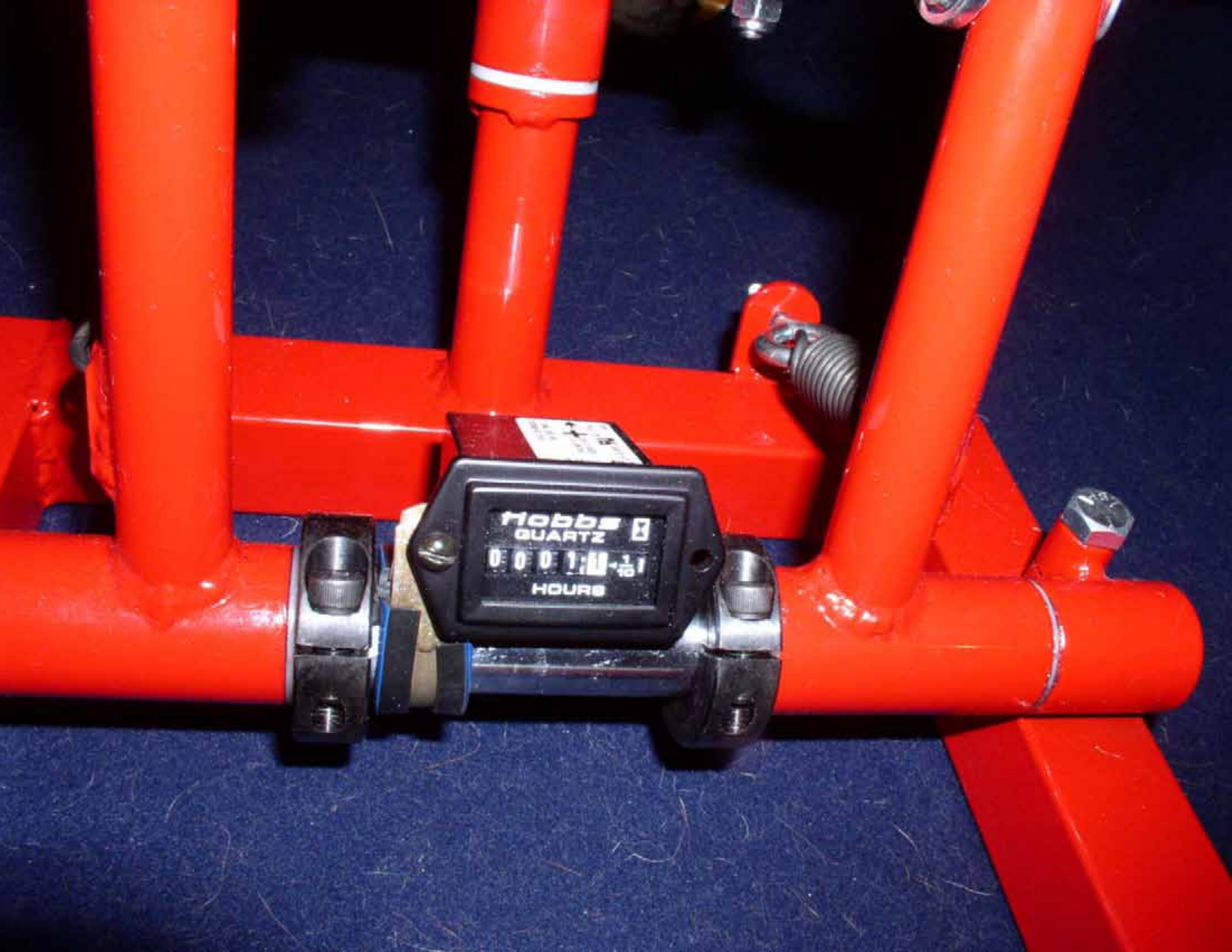




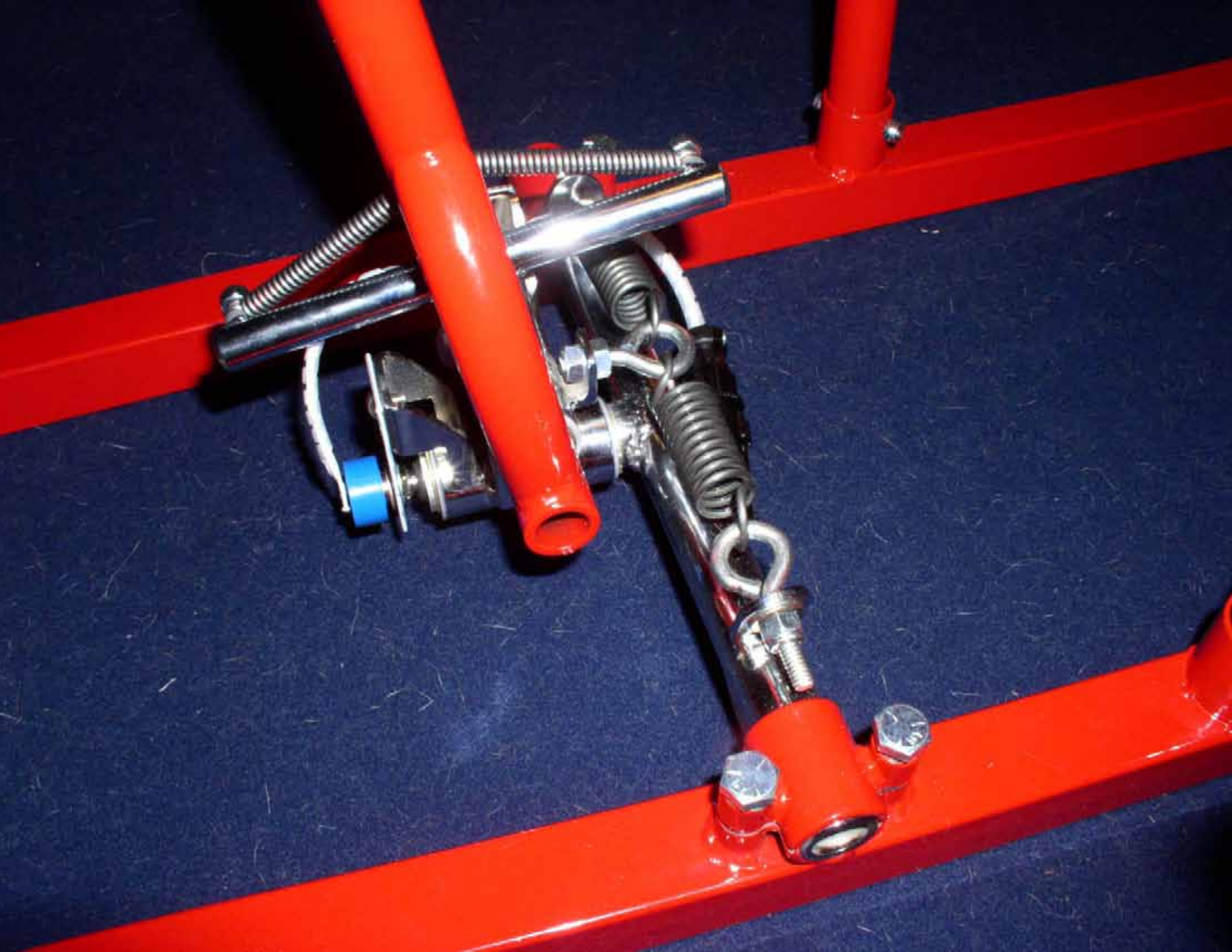






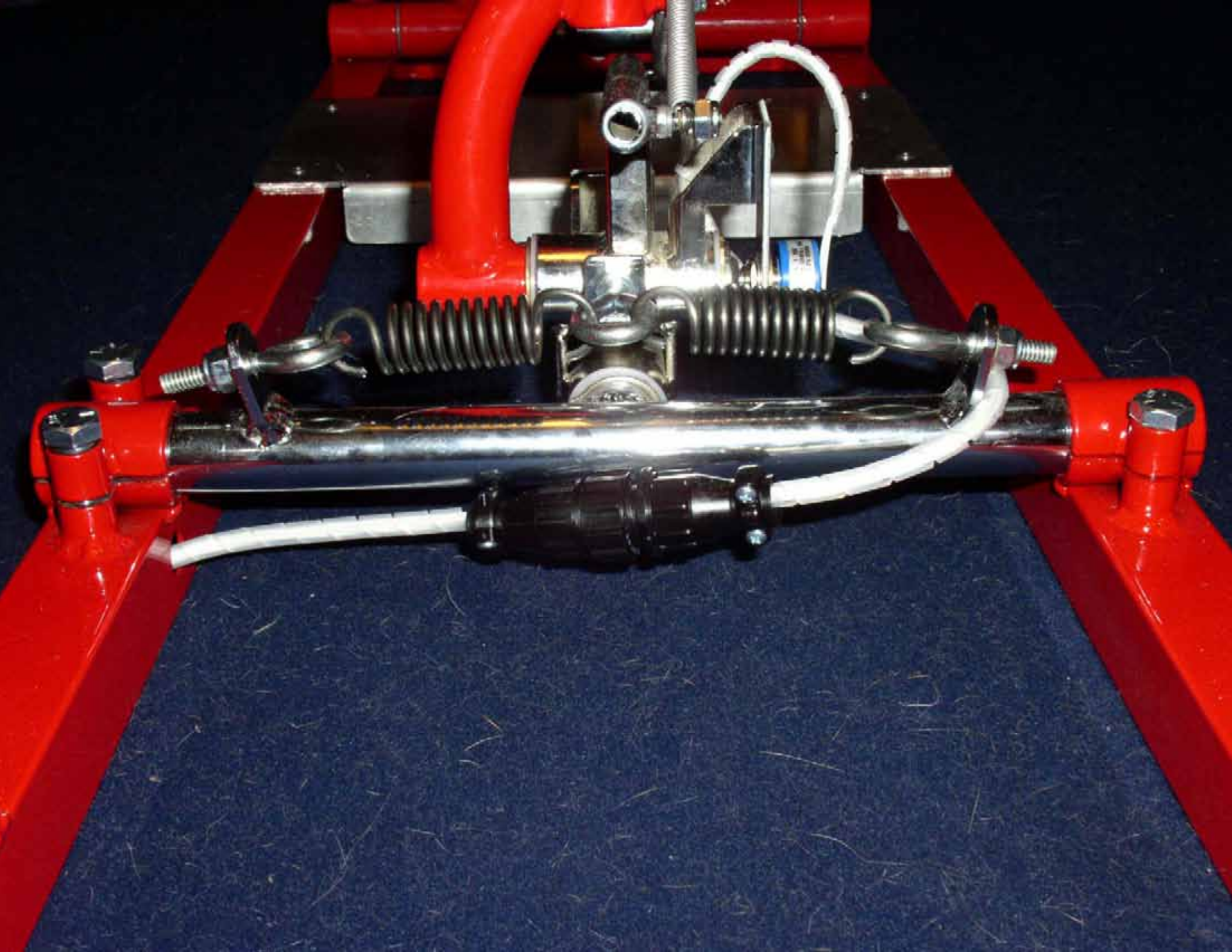


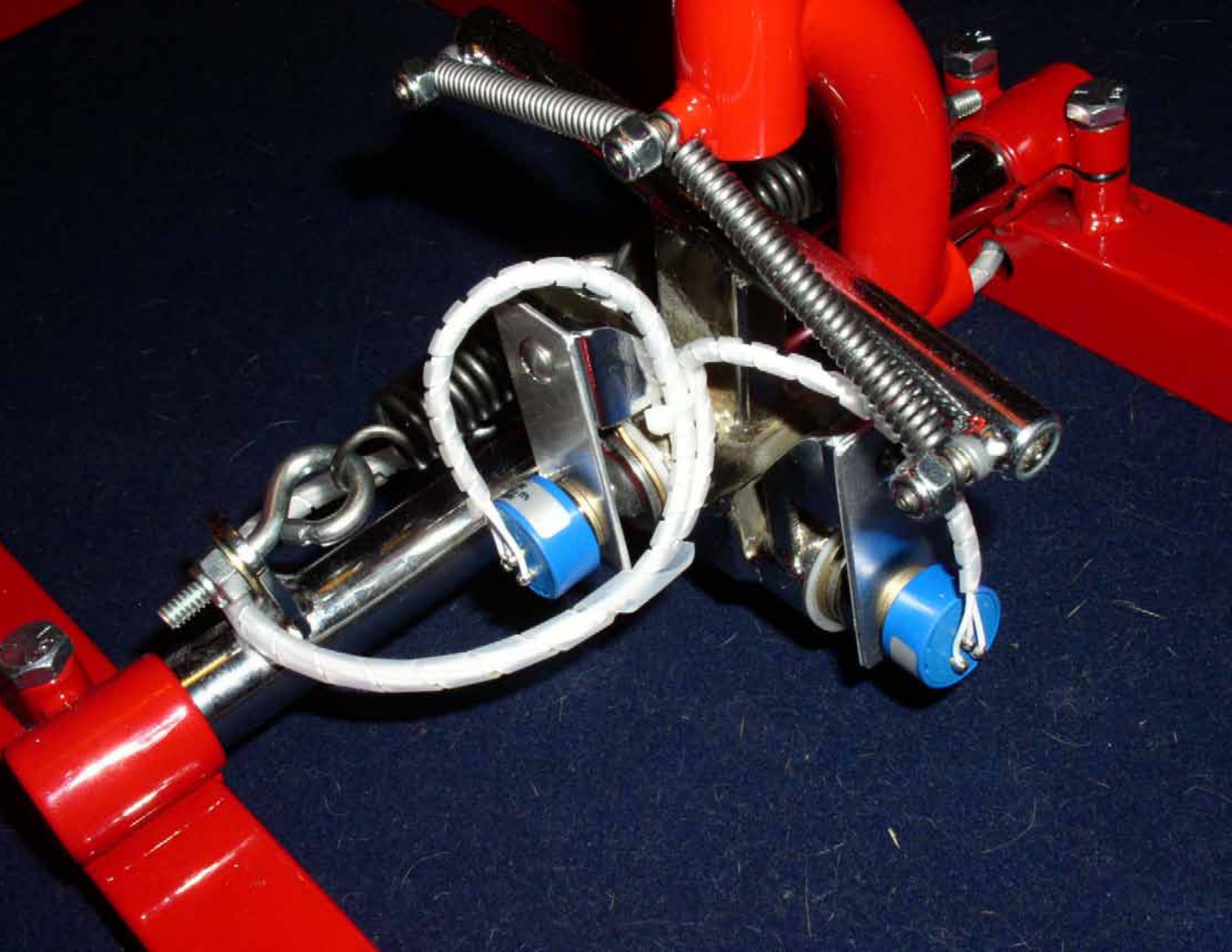
Hobbs
QUARTZ
0001:00
HOURS

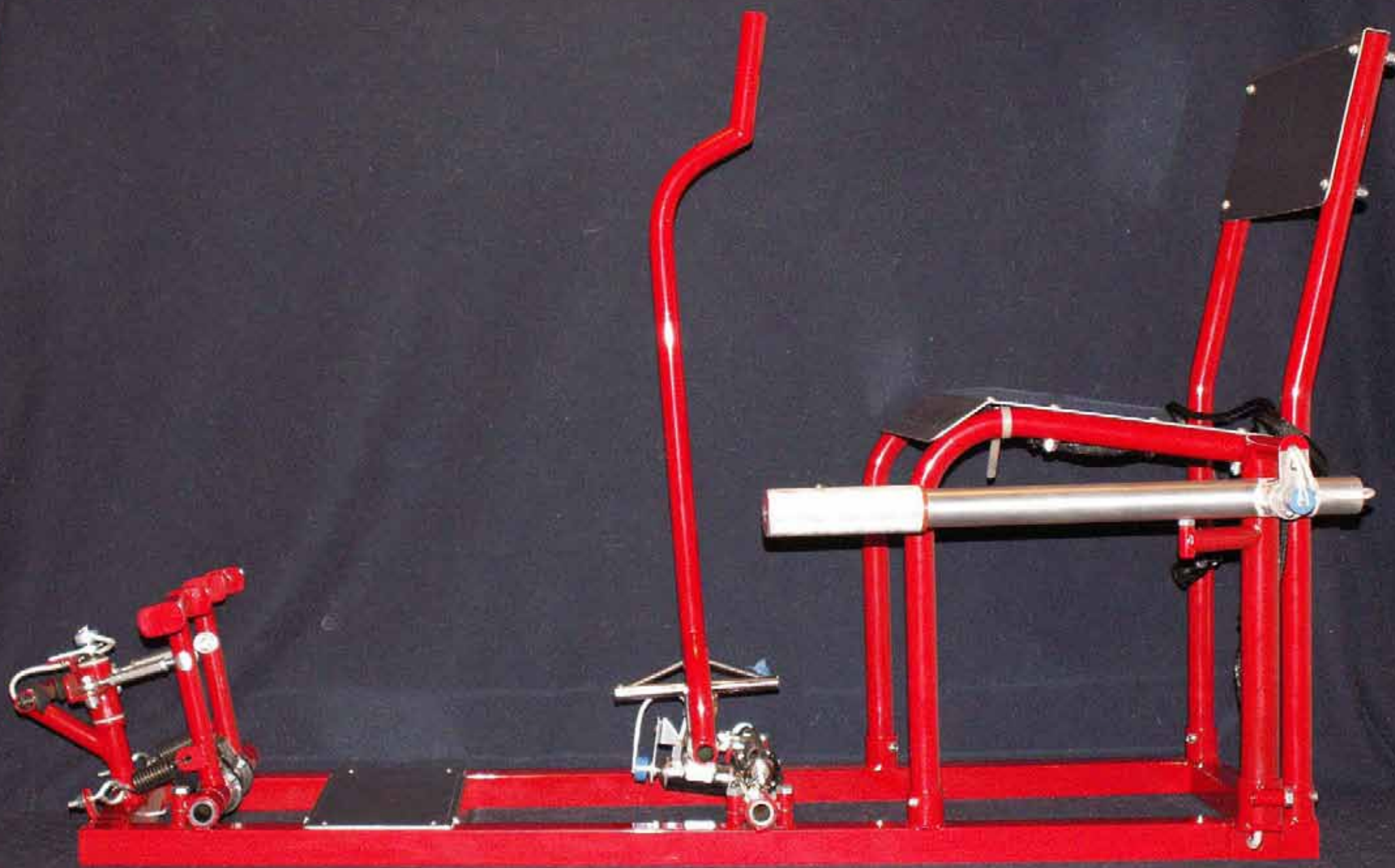
















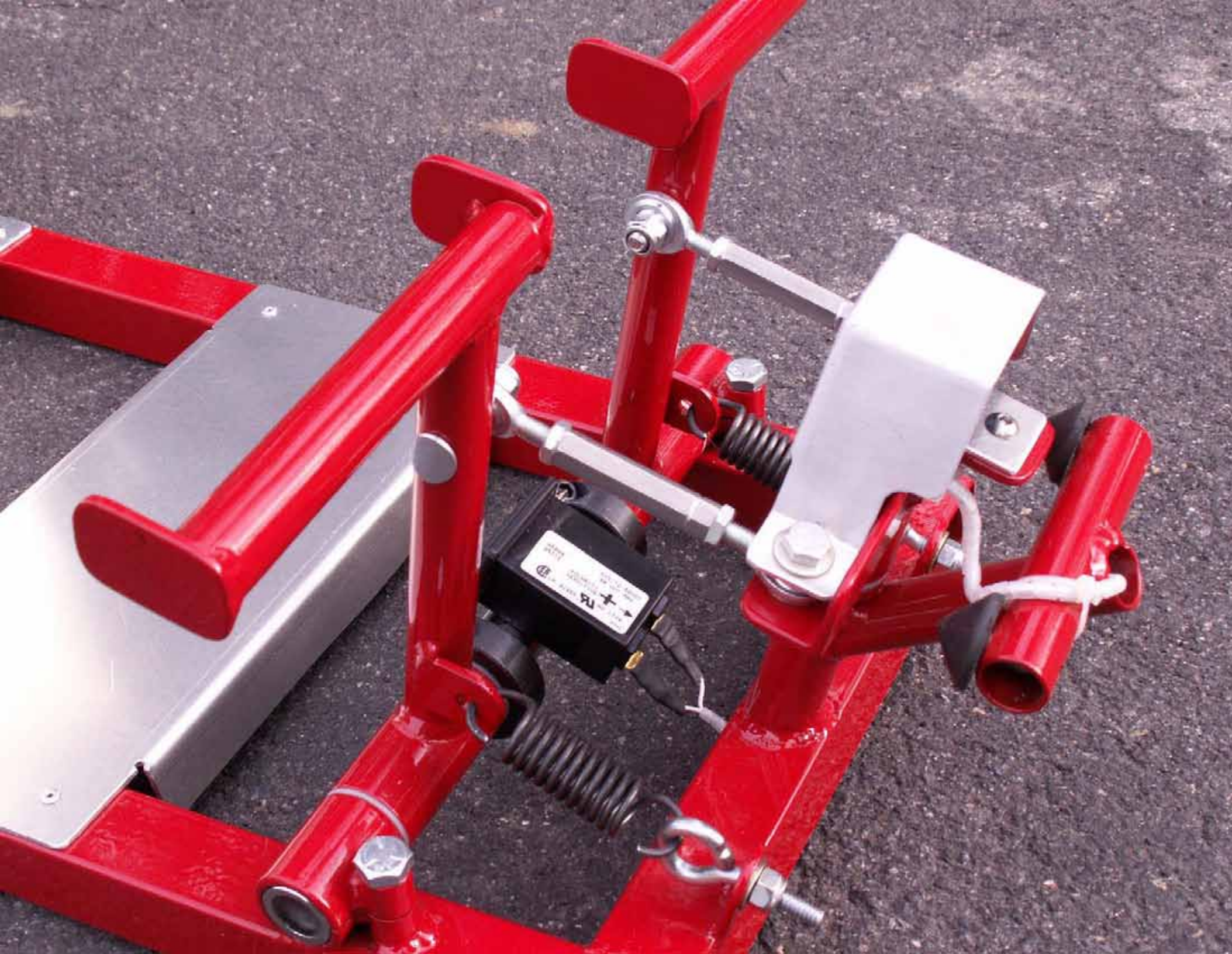




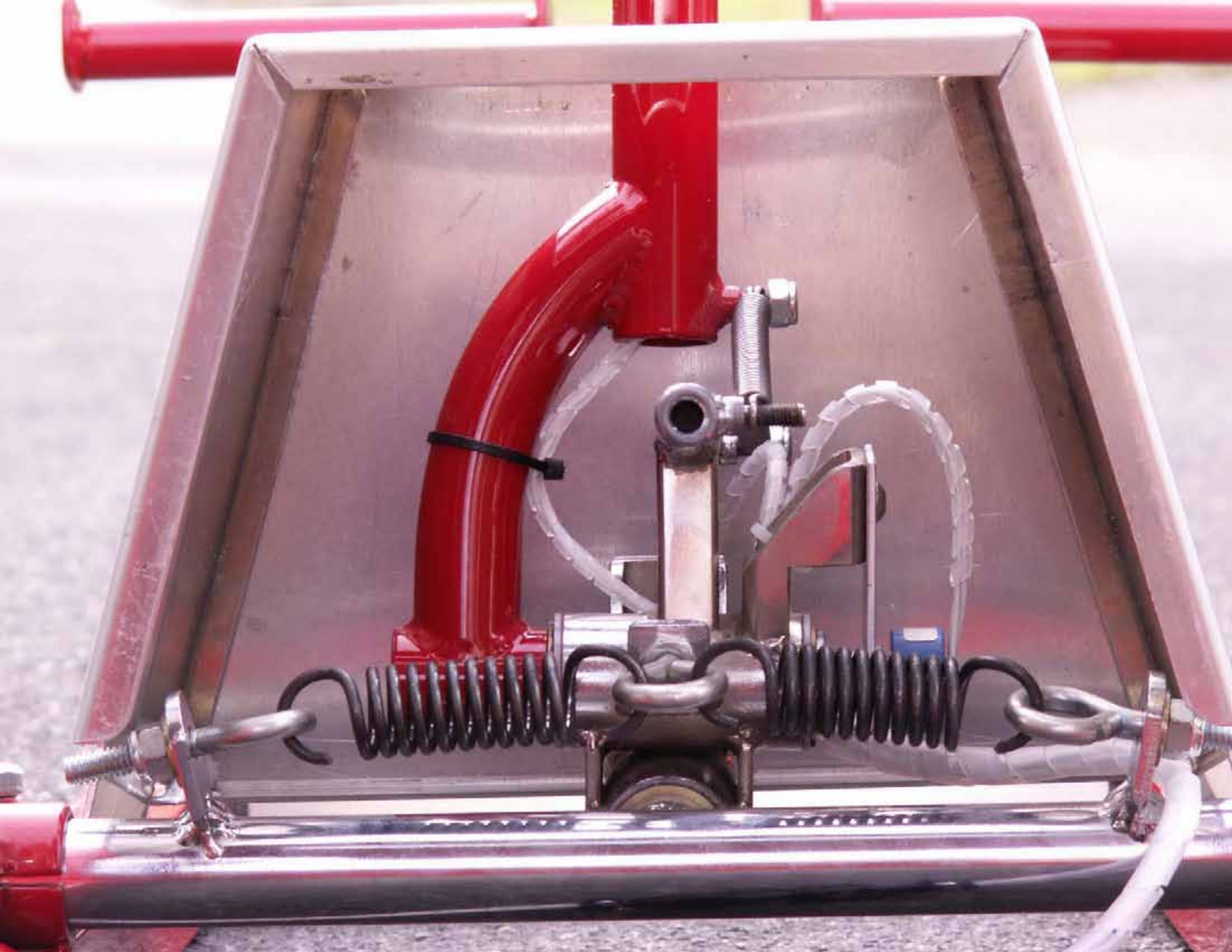














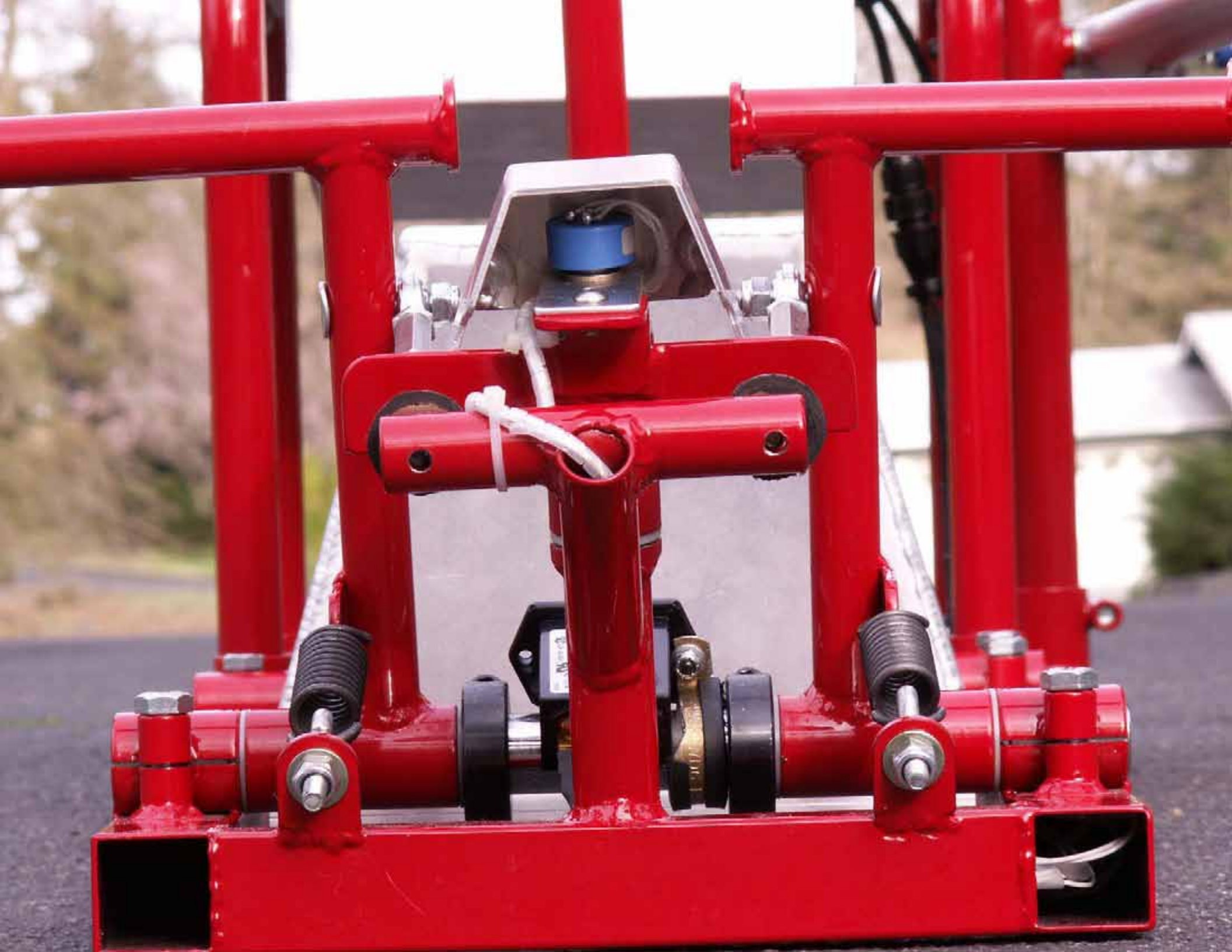




















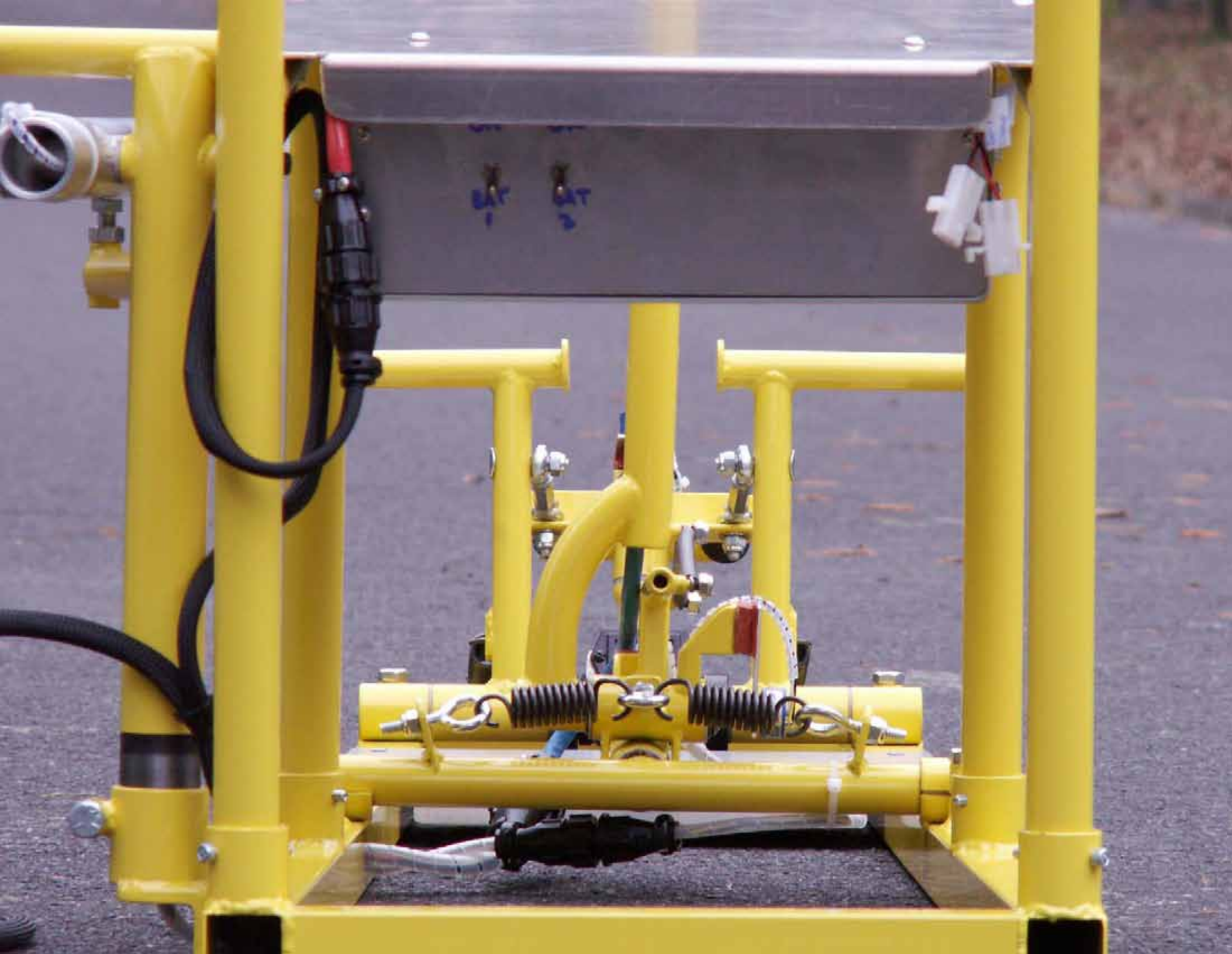
Fourth Example Heli-Chair

Yellow, on-board power supply, cyclic grip feature and new upgraded potentiometer mounts

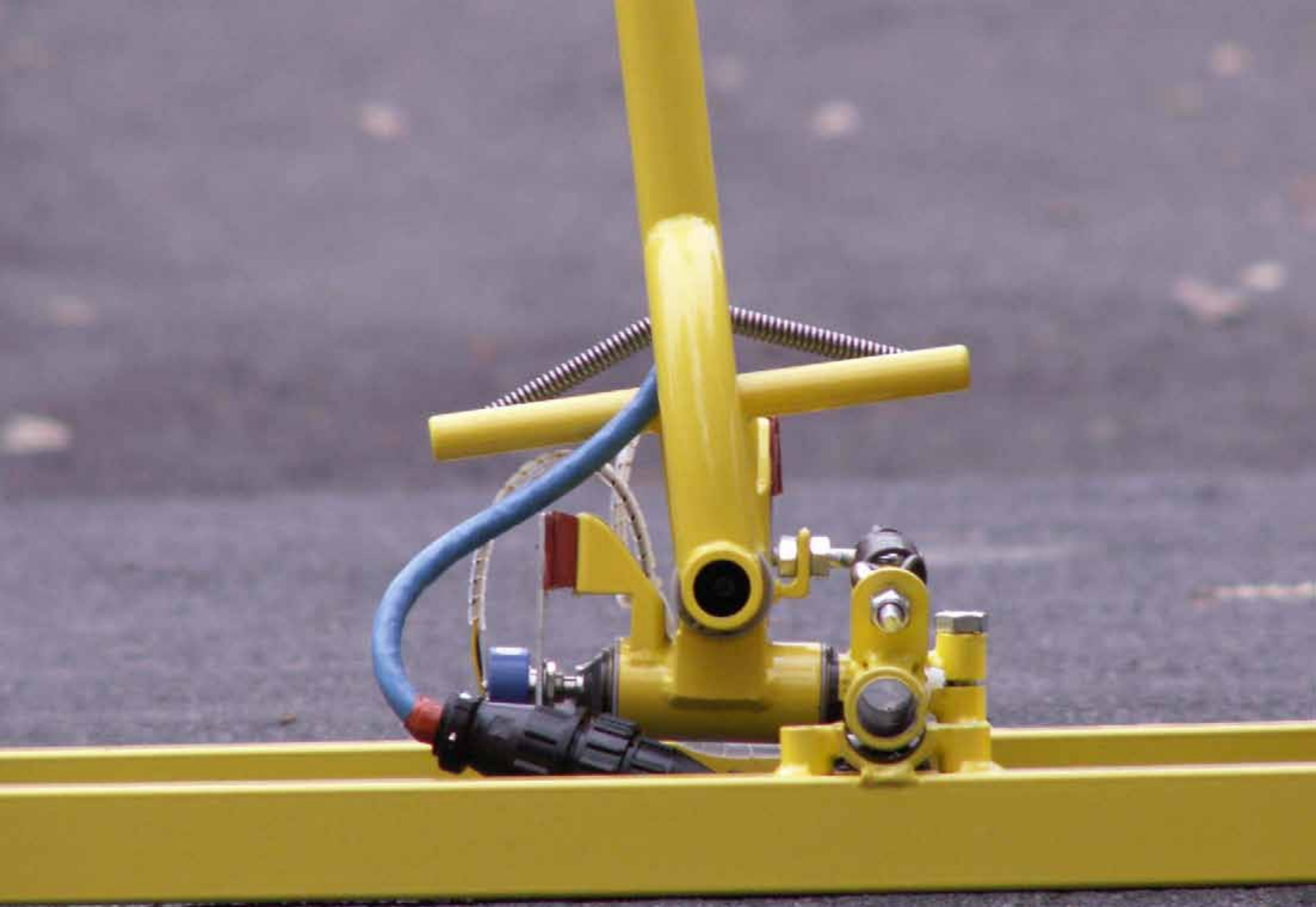


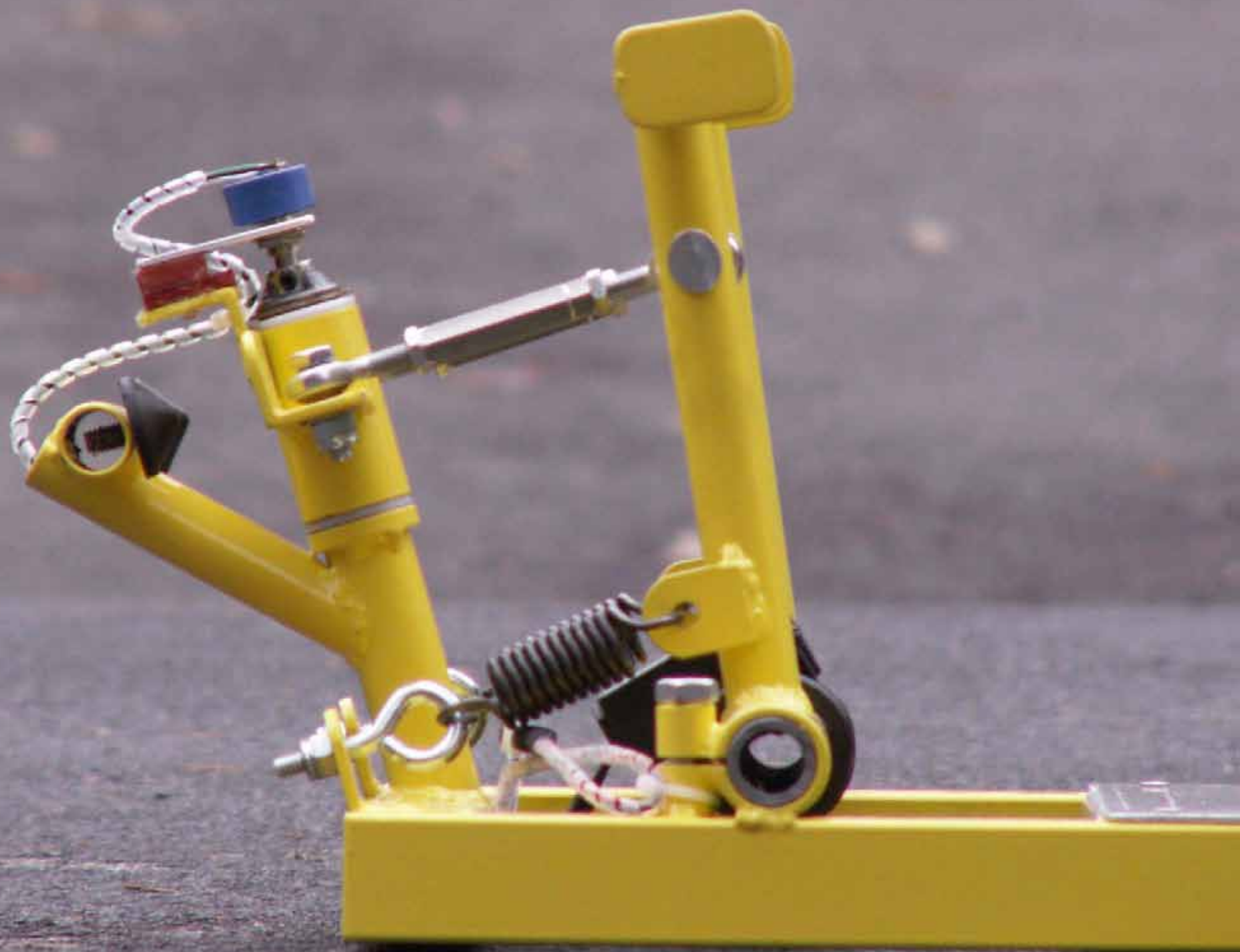


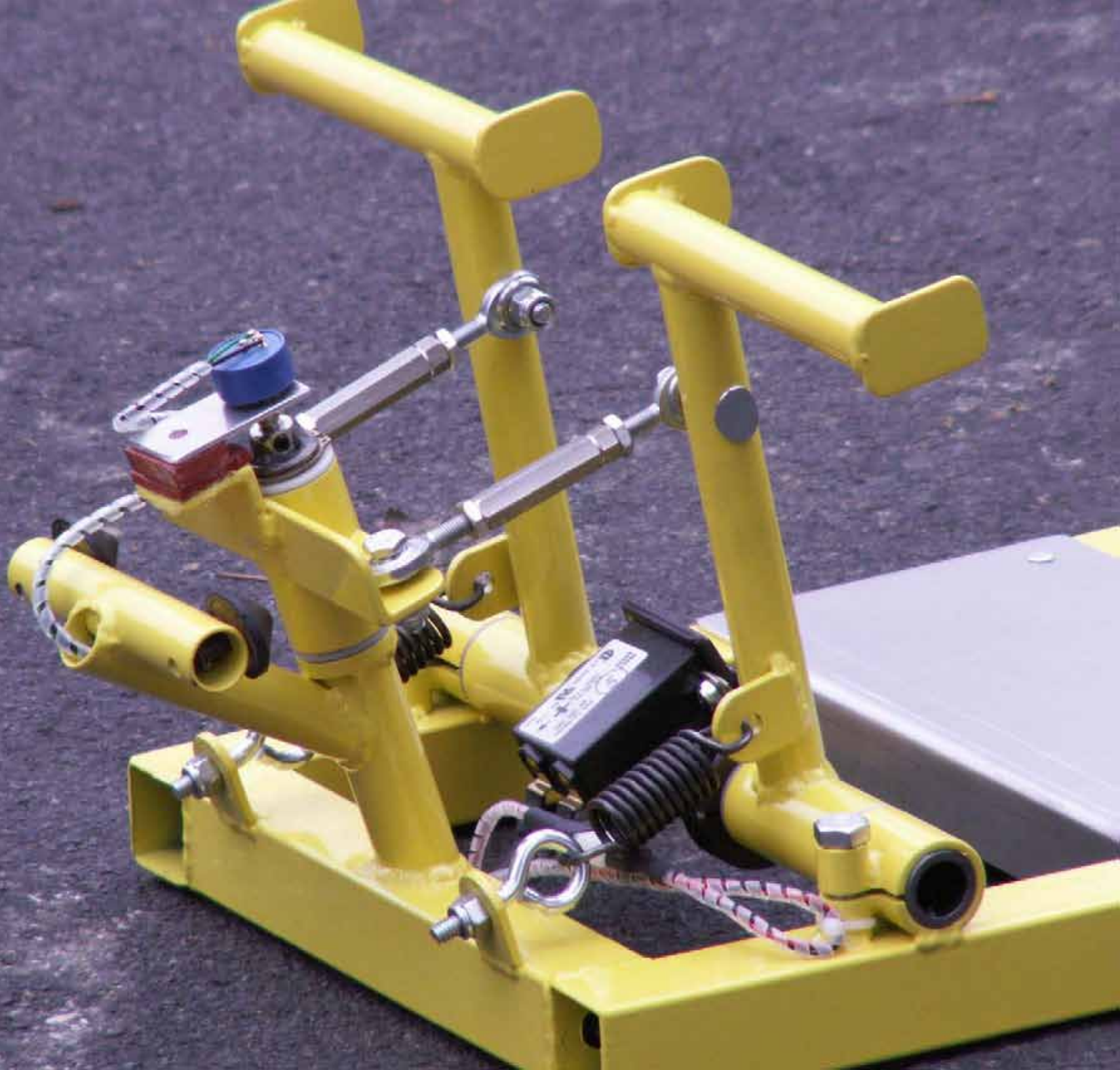


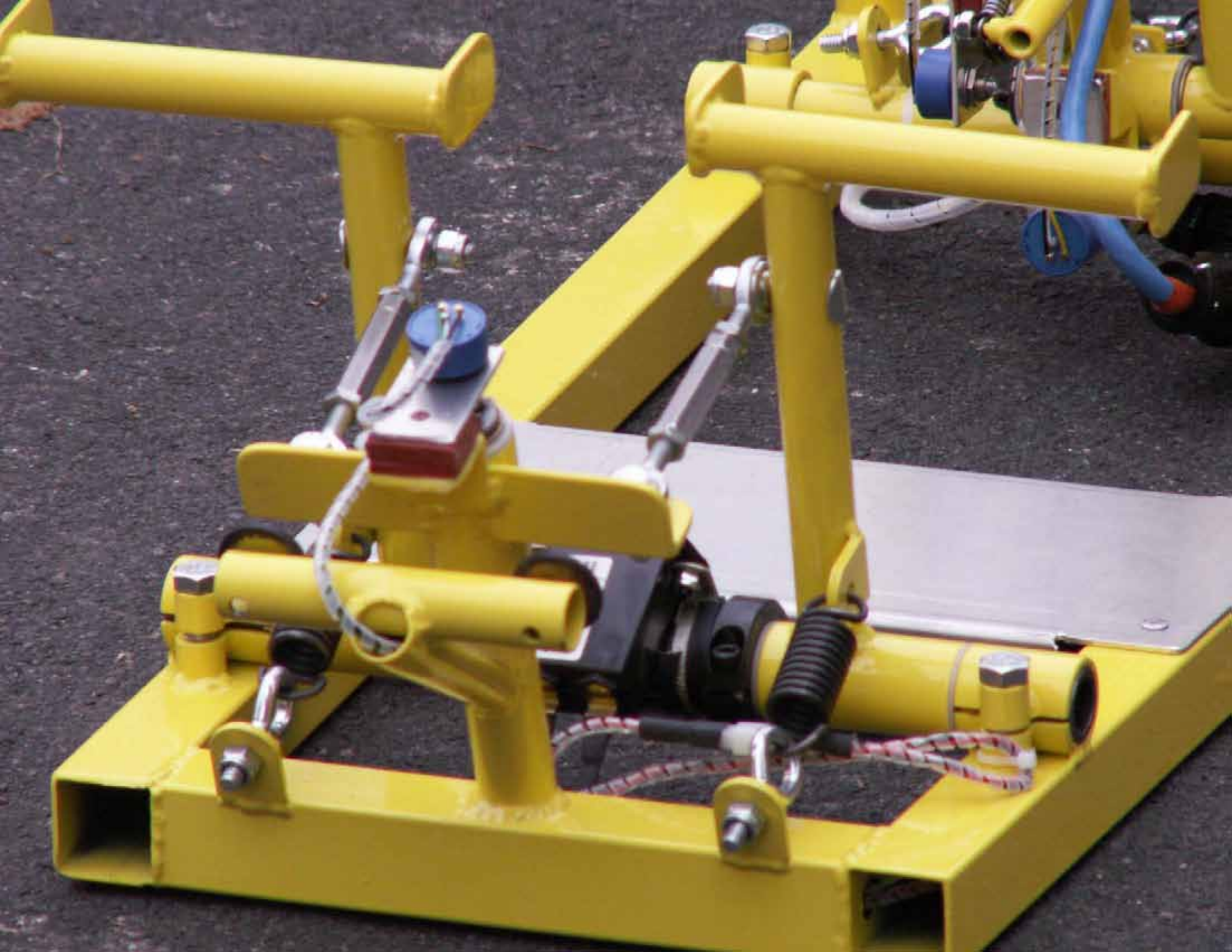


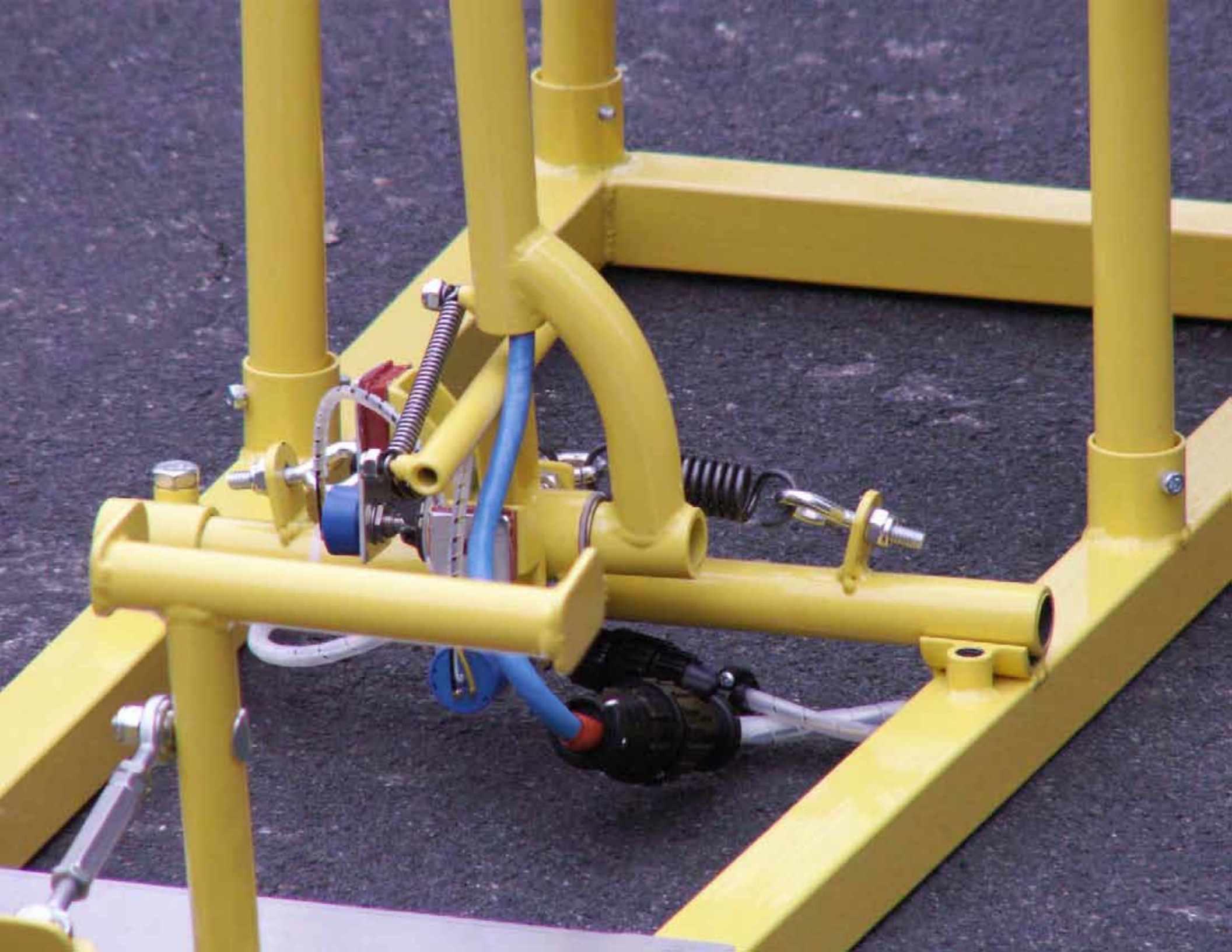


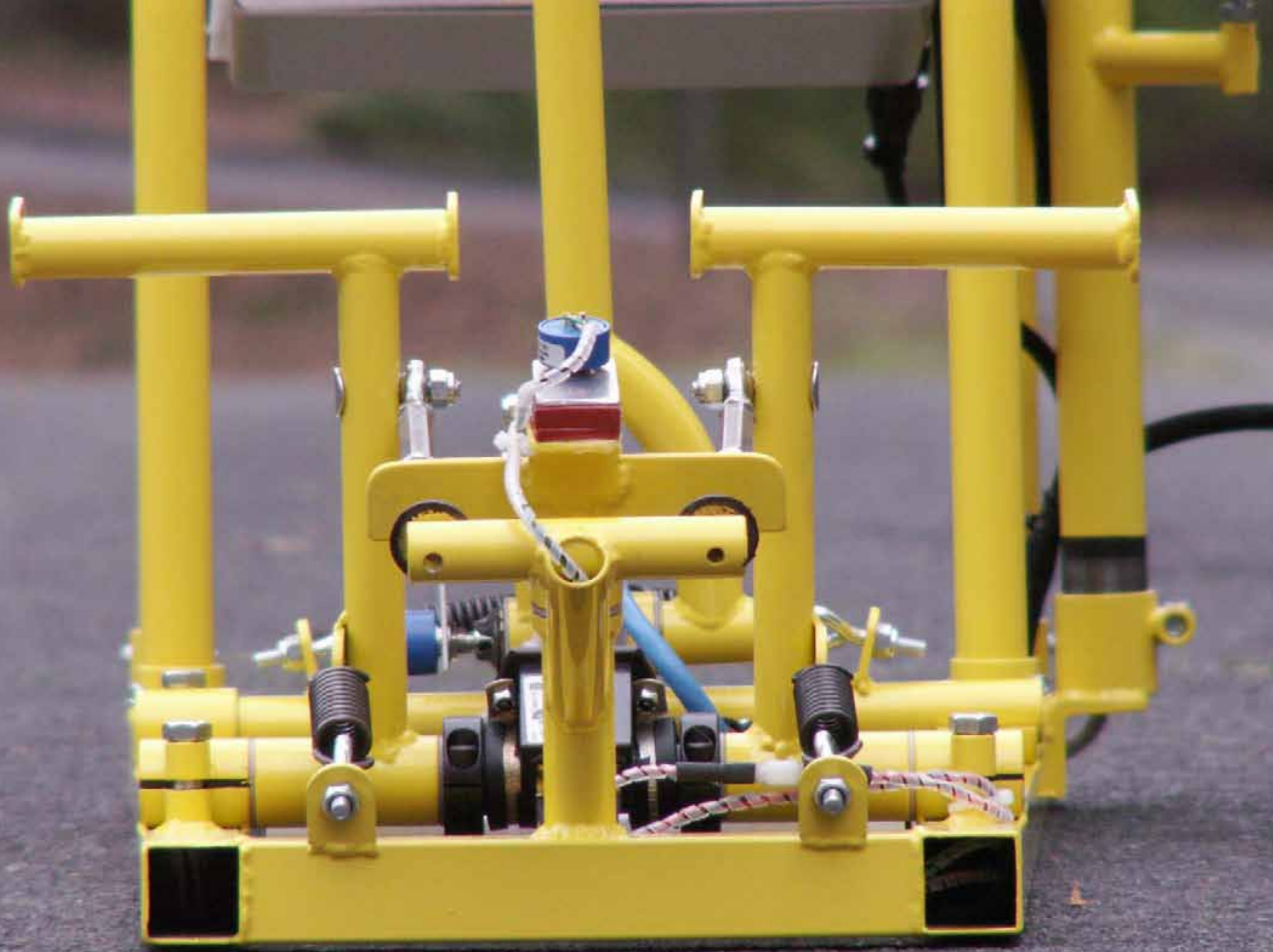




















Hobbs
QUARTZ
0000
HOURS



HAIR

H







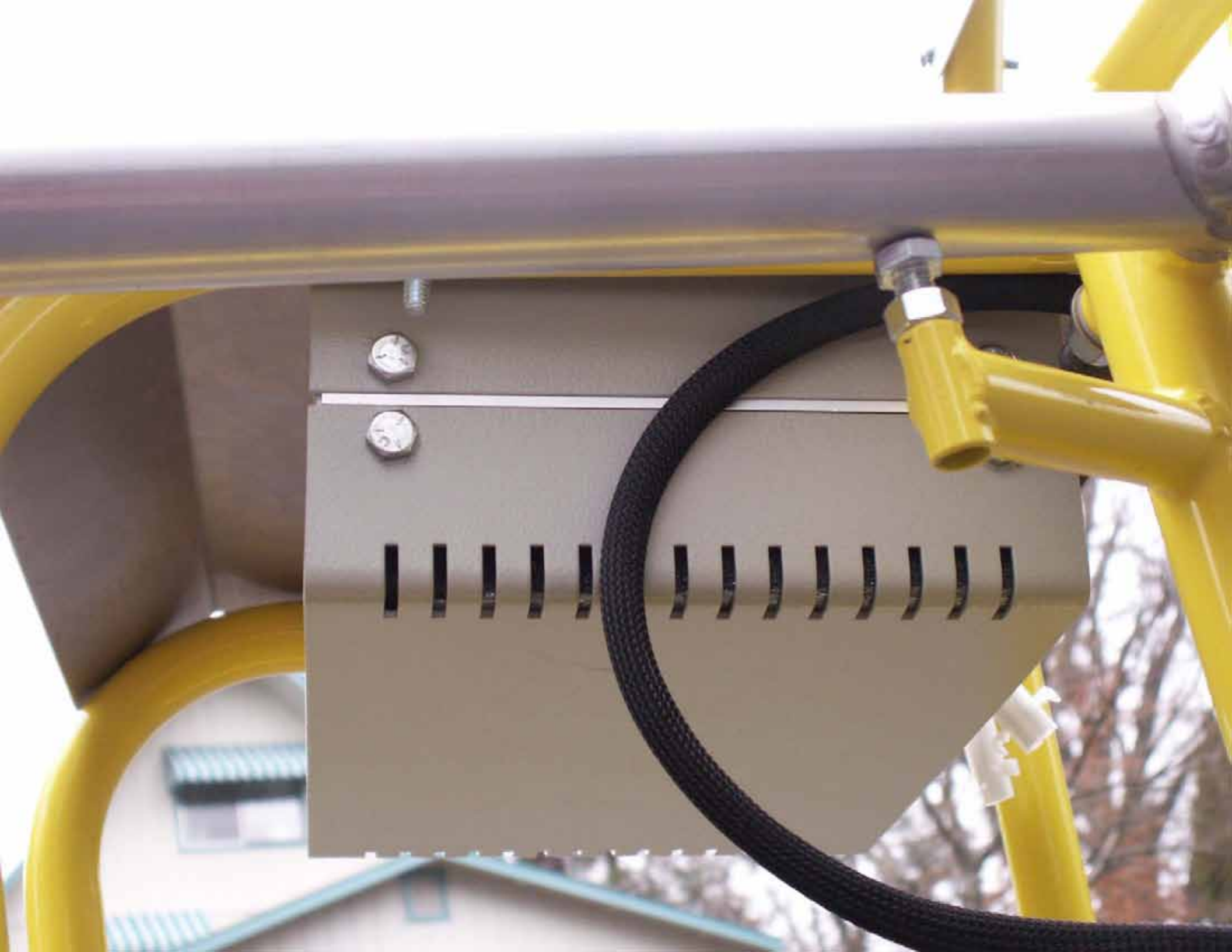


















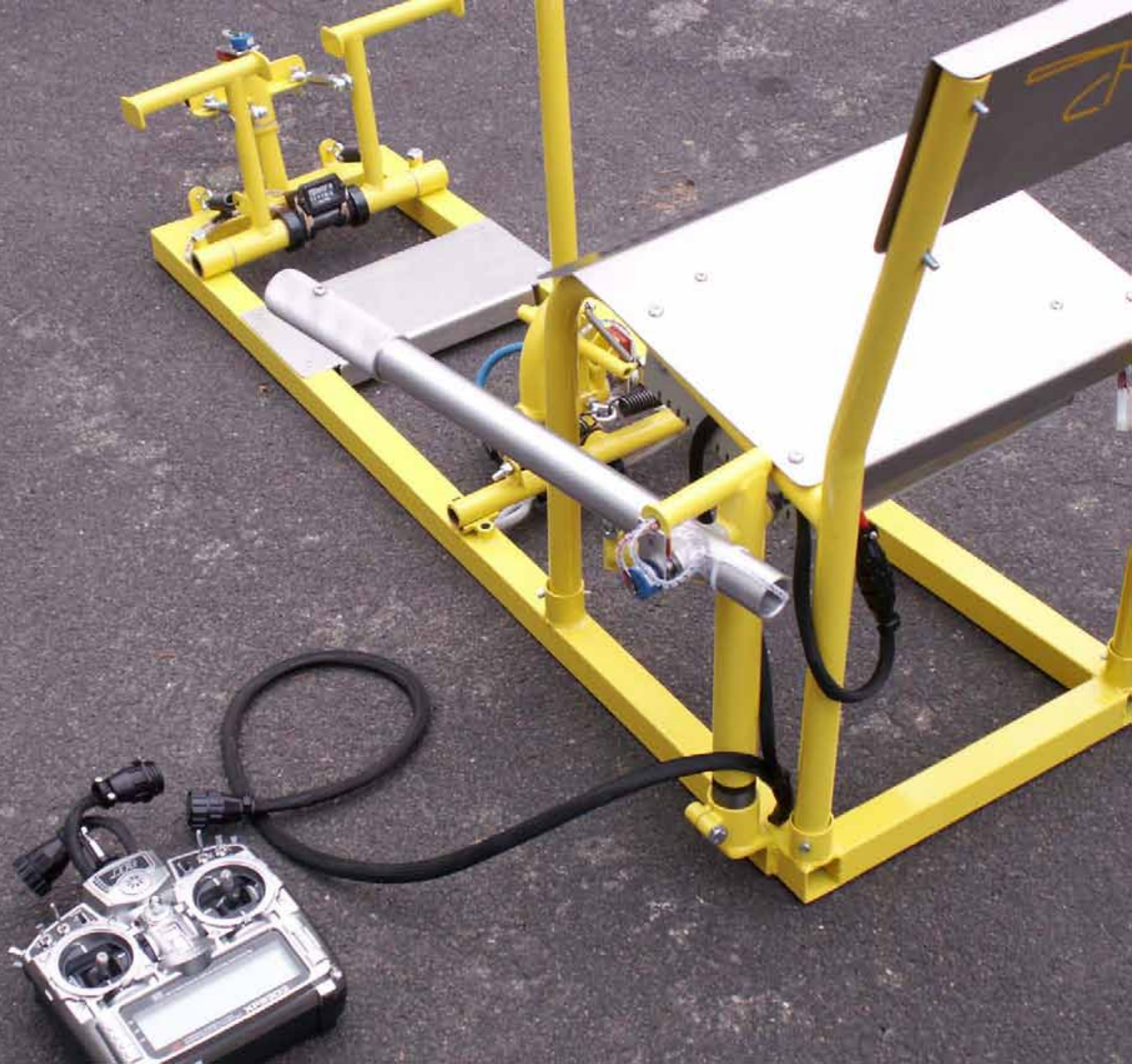
ON

ON

BAT
1

BAT
2





Thick Line Mechanical Drawings

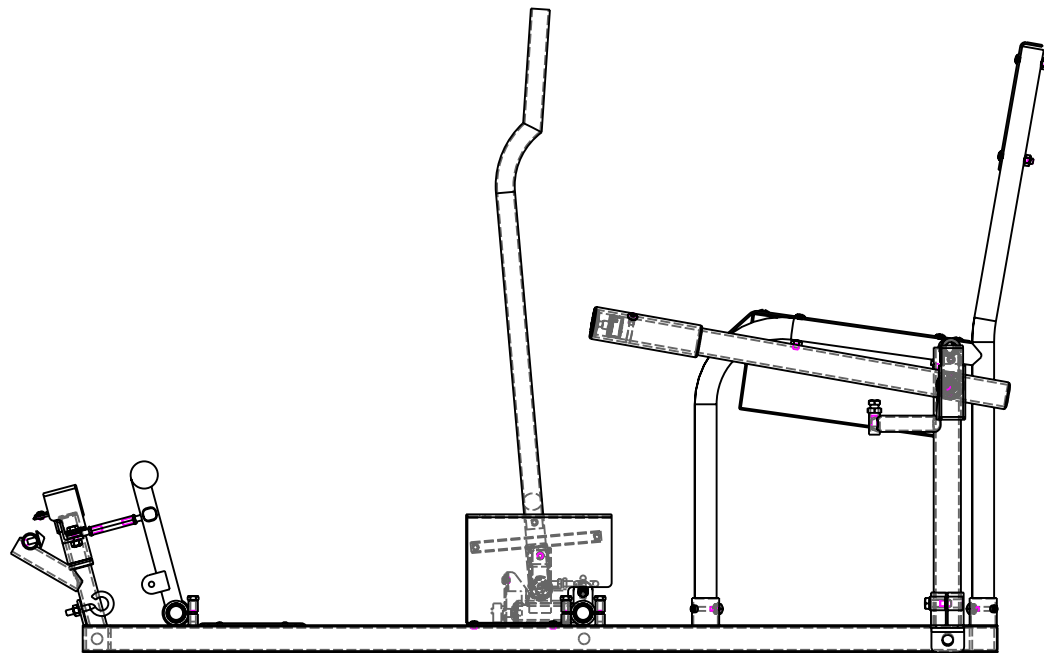
Date	Rev.	Changes
19 Mar 2006	A1	Initial drawing release
25 Mar 2006	A2	Added "people proofing" guard assemblies, under seat box

Part Listing and BOM

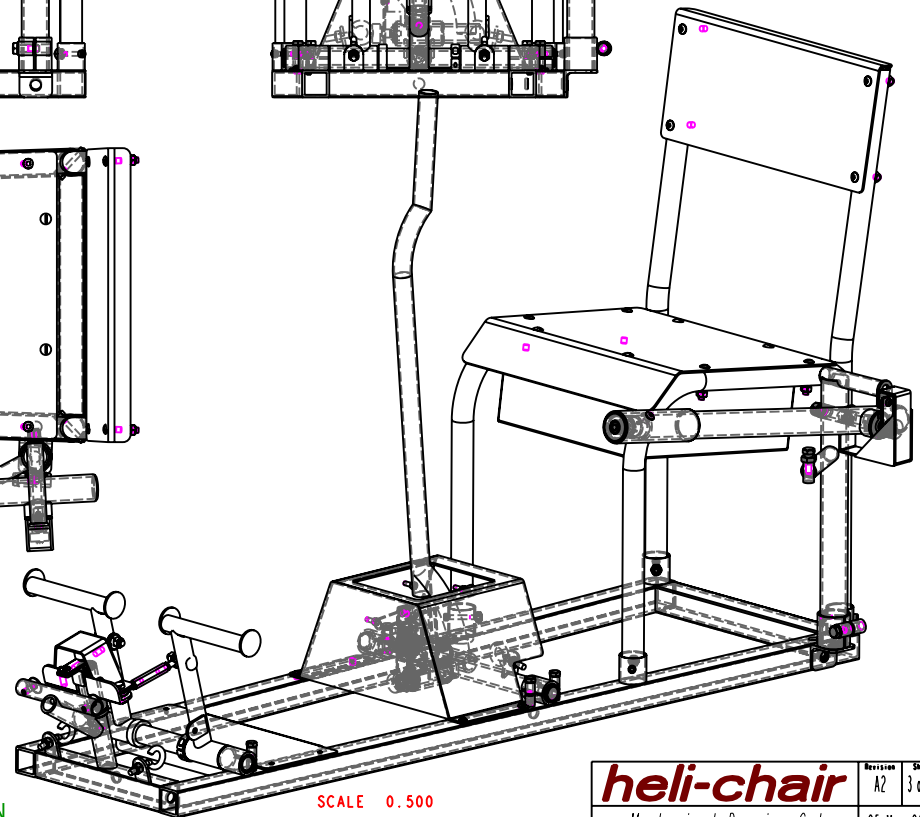
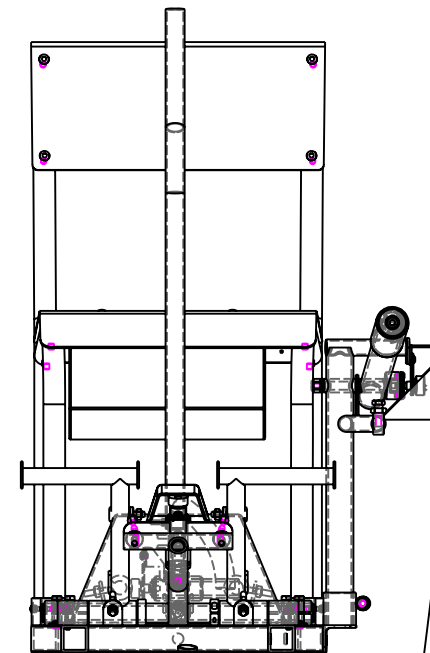
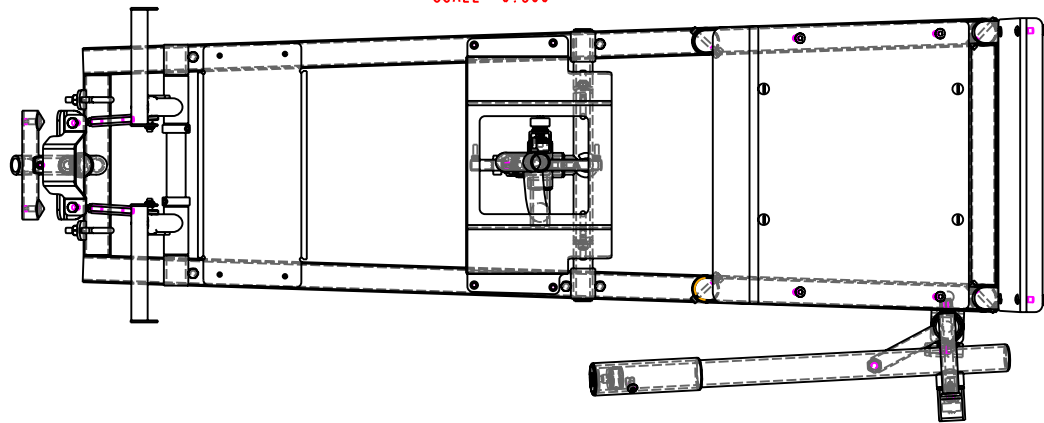
IDX #	Item Name	Qty
1	BASE, FRAME, WELDMENT, ASSEMBLY	
	BASE, FRAME, FRONT	
	BASE, FRAME, REAR	
	BASE, FRAME, LEFT	
	BASE, FRAME, RIGHT	
	PAN, TAB, SHORT	
	COLLECTIVE, MOUNT, WELDMENT	
	COLLECTIVE, MOUNT, ANGLE, BRACKET	1
	COLLECTIVE, MOUNT, BOSS	1
	COLLECTIVE, MOUNT, THREADED, SPUD	1
	WASHER, 0313, 040	1
	BOLT, 0313x24, L1000	1
	SPLIT, CLAMP, DOUBLE	
	SPLIT, CLAMP, BOSS	1
	SPLIT, CLAMP, THREADED, SPUD	2
	WASHER, 0250, 040	2
	BOLT, 0250x20, L1000	2
	SPLIT, CLAMP, SINGLE, RIGHT	
	SPLIT, CLAMP, BOSS	1
	SPLIT, CLAMP, THREADED, SPUD	1
	WASHER, 0250, 040	1
	BOLT, 0250x20, L1000	1
	SPLIT, CLAMP, SINGLE, LEFT	
	SPLIT, CLAMP, BOSS	1
	SPLIT, CLAMP, THREADED, SPUD	1
	WASHER, 0250, 040	1
	BOLT, 0250x20, L1000	1
	SEAT, FOOTPRINT	
	SEAT, SPUD, SUBASSEMBLY	
	SEAT, MOUNT, SPUD	1
	BOLT, 10-32, 1500, SOCKETHEAD	1
	WASHER, 1032, 040	1
	NUT, 0250-20, NYLOCK	1
	PEDAL, POST, WELDMENT	
	PEDAL, POST	1
	PEDAL, POST, FLANGE	1
	PEDAL, POST, STOP, POSITIONER	1
	PEDAL, POST, STOP, BAR	1
	RUBBER, BUMPER	2
	PEDAL, POST, POT, GRIPWASHER	1
2	SEAT, STANDARD, ASSEMBLY	
	SEAT, FOOTPRINT	
	SEAT, FRAME, HALF	
	SEAT, FRAME, POST	1
	SEAT, FRAME, LEG	1
	SEAT, BACK	
	SEAT, BOTTOM	
	BOLT, BUTTONHEAD, 0250, 1500	
	WASHER, 0250, 040	
	NUT, 0250-20, NYLOCK	
	UNDER, SEAT, BOX	
	OZEUS, BUTTON	
	RIVET, BLIND	
	OZEUS, SPRING	
3	KICK, PLATE	
4	RIVET, BLIND	
5	PEDAL, PIVOT, BAR	
6	SPACER, NYLON, 025	
7	SPACER, NYLON, 100	
8	WALKING, BAR, WELDMENT	
	WALKING, BAR, PIVOT, BUSHING	
	WALKING, BAR, ARM, LEFT	
	WALKING, BAR, ARM, RIGHT	

9	WALKING, BAR, POT, MOUNT	
10	EYE, BOLT	
11	WASHER, 0250, 040	
12	NUT, 0250-20, NYLOCK	
13	PEDAL, WELDMENT, LEFT	
	PEDAL, PIVOT, BUSHING	
	PEDAL, RISER	
	PEDAL, FOOT, BAR	
	PEDAL, FOOT, CATCH	
	PAN, TAB, SHORT	
14	PEDAL, WELDMENT, RIGHT	
	PEDAL, PIVOT, BUSHING	
	PEDAL, RISER	
	PEDAL, FOOT, BAR	
	PEDAL, FOOT, CATCH	
	PAN, TAB, SHORT	
15	PEDAL, LINKAGE, ASSEMBLY	
	THREADED, LINKAGE, HEX	
	ROD, END, 0250, LH	
	ROD, END, 0250, RH	
	NUT, JAMB, 0250, LH	
	NUT, JAMB, 0250, RH	
16	BOLT, CUSTOM, SHAPED	
17	NUT, 0250-20, NYLOCK	
18	BOLT, 0250x20, L0750	
19	SPLIT, BAR, CLAMP	
20	POTENTIOMETER, PLATE, PEDALS	
21	BOLT, BUTTONHEAD, 0188, 0250	
22	WASHER, 0375, 070	
23	POTENTIOMETER	
24	CIRCLIP	
25	CYCLIC, SUBASSEMBLY	
	CYCLIC, MOUNT, WELDMENT	
	CYCLIC, CROSS, BAR	1
	CYCLIC, MOUNT, STUB	1
	PAN, TAB, COPE	2
	CYCLIC, GIMBAL, POT, GRIPWASHER	1
	CIRCLIP	
	SPACER, NYLON, 025	
	CYCLIC, GIMBAL, WELDMENT	
	CYCLIC, GIMBAL, LATERAL, BUSHING	1
	CYCLIC, GIMBAL, FOREAFT, BUSHING	1
	CYCLIC, GIMBAL, POT, MOUNT	2
	CYCLIC, GIMBAL, TIEPLATE	2
	CYCLIC, FOREAFT, SPRING, SUPPORT	1
	CYCLIC, GIMBAL, SPRING, ROD	1
	BOLT, 10-32, 0500, SOCKETHEAD	2
	CYCLIC, GIMBAL, AFT, SPRING, MOUNT	1
	GROMMET	
	EYE, BOLT	
	WASHER, 0250, 040	
	NUT, 0250-20, NYLOCK	
	POTENTIOMETER, PLATE, CYCLIC	
	BOLT, BUTTONHEAD, 0188, 0250	
	WASHER, 0375, 070	
	POTENTIOMETER	
	CYCLIC, WELDMENT	
	CYCLIC, STICK, PIVOT	1
	CYCLIC, GIMBAL, POT, GRIPWASHER	1
	CYCLIC, STICK, S1	1
	CYCLIC, STICK, P2	1

25	GROMMET	
26	COLLECTIVE, SUBASSEMBLY	
	COLLECTIVE, RISER, WELDMENT	
	COLLECTIVE, RISER	1
	COLLECTIVE, RISER, PIVOT, BUSHING	1
	COLLECTIVE, RISER, UPSTOP	1
	COLLECTIVE, RISER, DOWN, STOP	1
	COLLECTIVE, RISER, DOWNSTOPSPUD	1
	COLLECTIVE, POT, MOUNTING, TAB	1
	COLLECTIVE, HOUSING	
	BOLT, 0375x24, L1000	
	R38	
	WASHER, 0375, 070	
	COLLECTIVE, WELDMENT	
	COLLECTIVE	1
	COLLECTIVE, PIVOT	1
	COLLECTIVE, GROMMET, BOSS	1
	POTENTIOMETER, PLATE, COLLECTIVE	
	BOLT, BUTTONHEAD, 0188, 0250	
	POTENTIOMETER	
	COLLECTIVE, POT, GRIP, PLATE	
	GROMMET	
	BOLG, 375-16, 3500, SOCKETHEAD	
	WASHER, NYLON, 375, 020	
	NUT, 0375-16, NYLOCK	
	THROTTLE, GRIP, WELDMENT	
	THROTTLE, GRIP	1
	THROTTLE, GRIP, ENDPLATE	1
	THROTTLE, POT, POSITIONER	
	THROTTLE, CUSTOM, BOLT	
	SET, SCREW, 5-40, 0125	
	COLLECTIVE, HOUSING, CORNERPLATE	
27	CYCLIC, GIMBAL, HOUSING	
28	WALKING, BAR, HOUSING	
29	WALKING, BAR, HOUSING, PLATE	
30	CYCLIC, HOUSING, PLATE, FRONT	



SCALE 0.500



SCALE 0.500

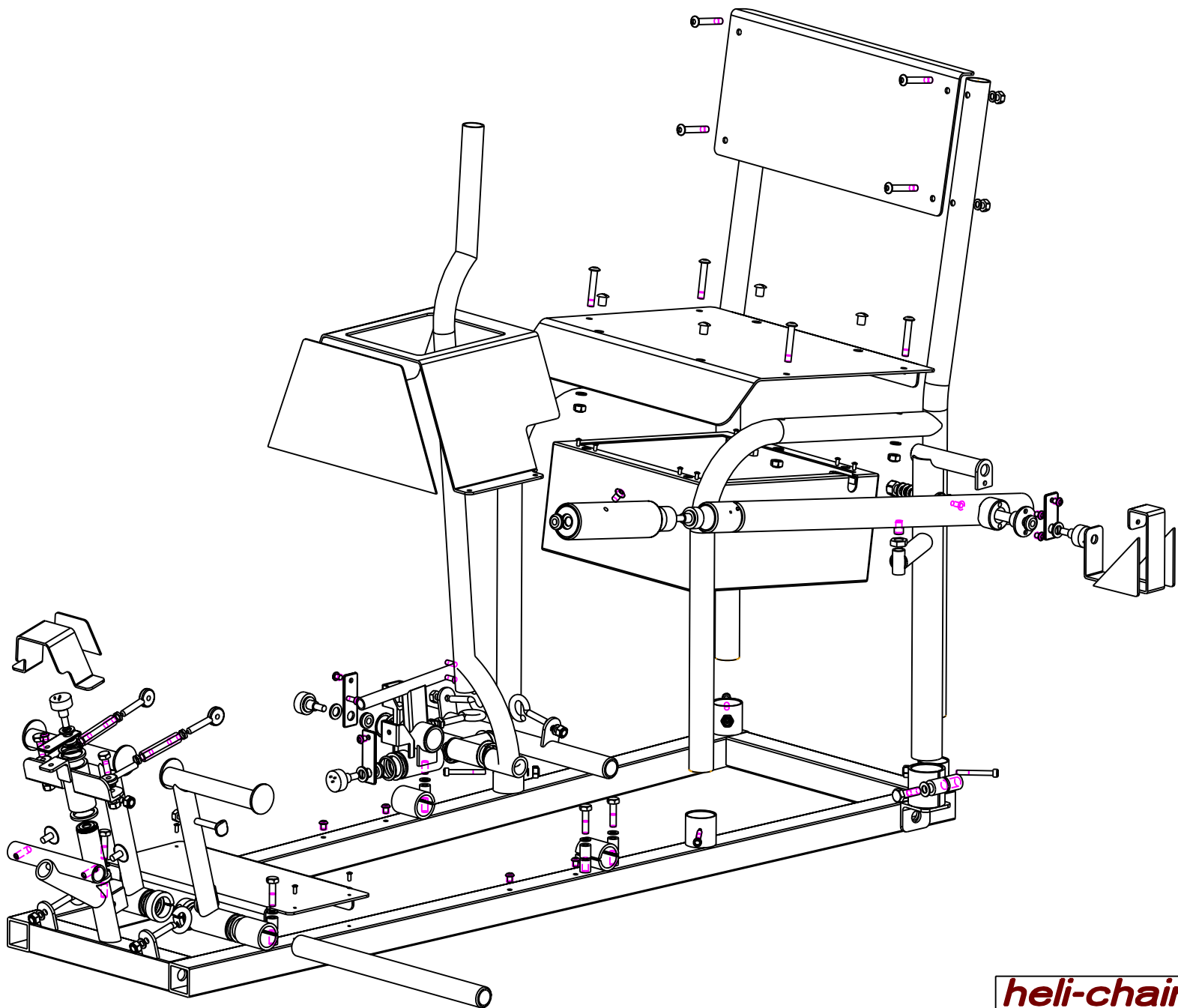
View names and "scale" are in RED

Dimensions and tolerances are in ORANGE

Fabrication and material specifications are in BLUE

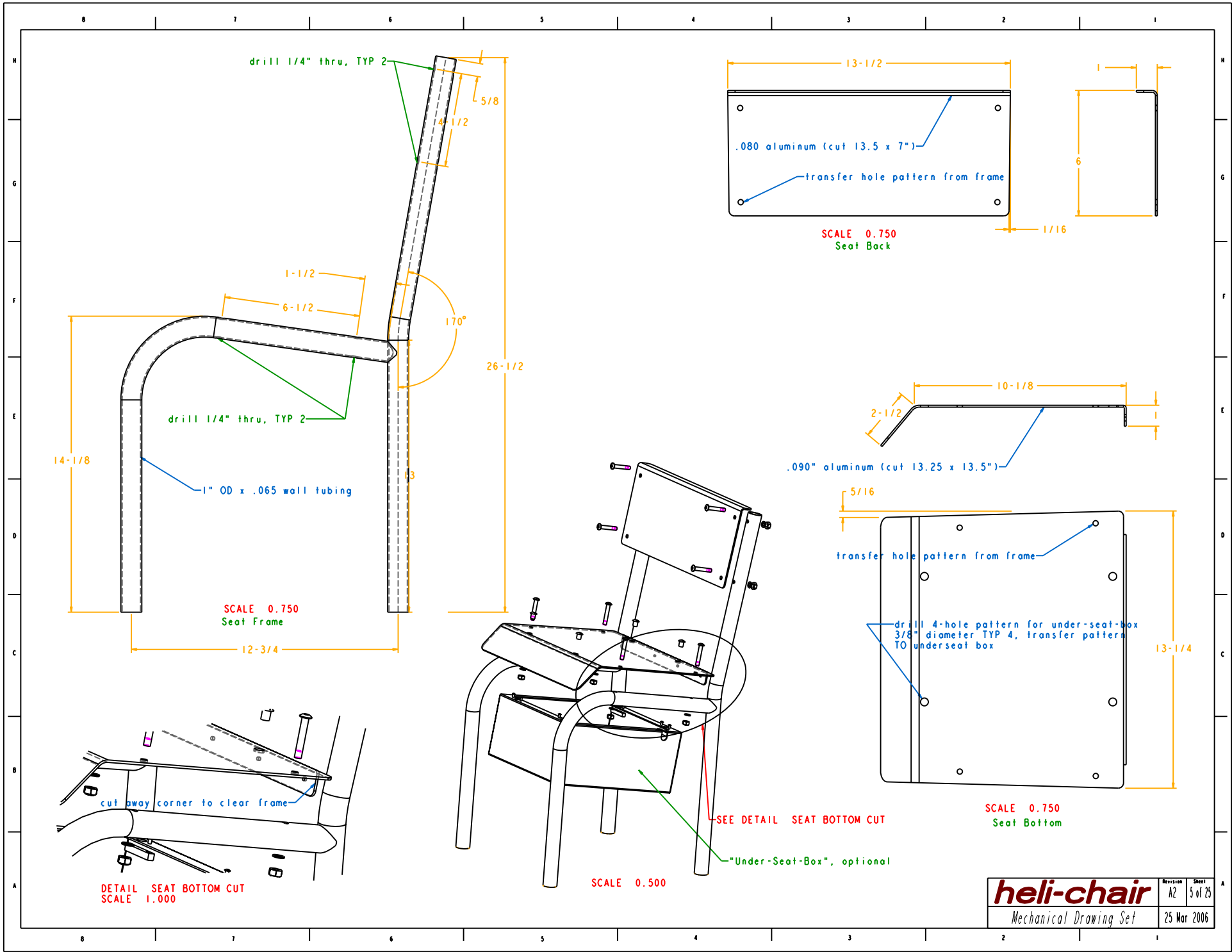
Feature notes (hole dims, etc) and part names are in GREEN

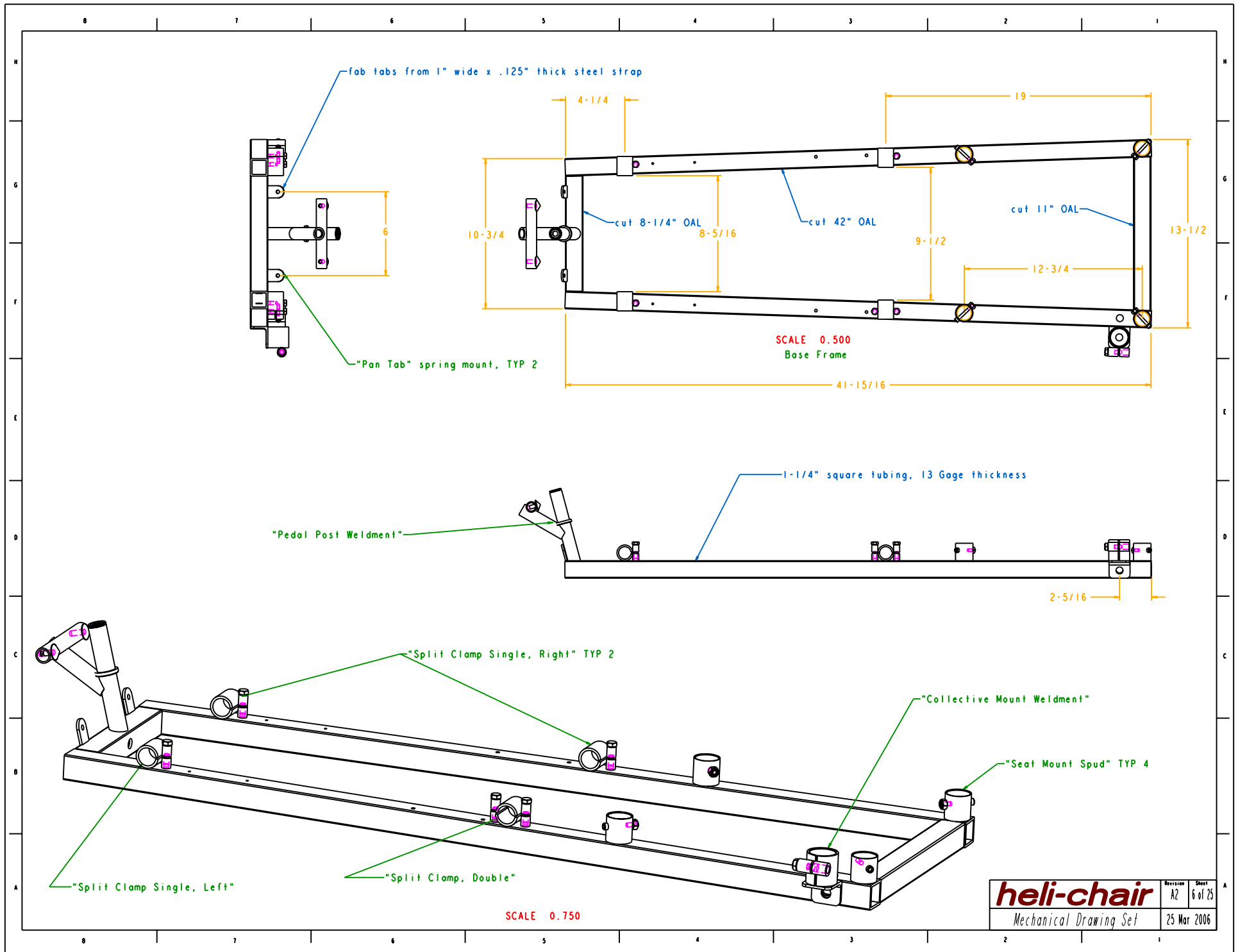
heli-chair Mechanical Drawing Set	Revision	Sheet
	A2	3 of 25
25 Mar 2006		

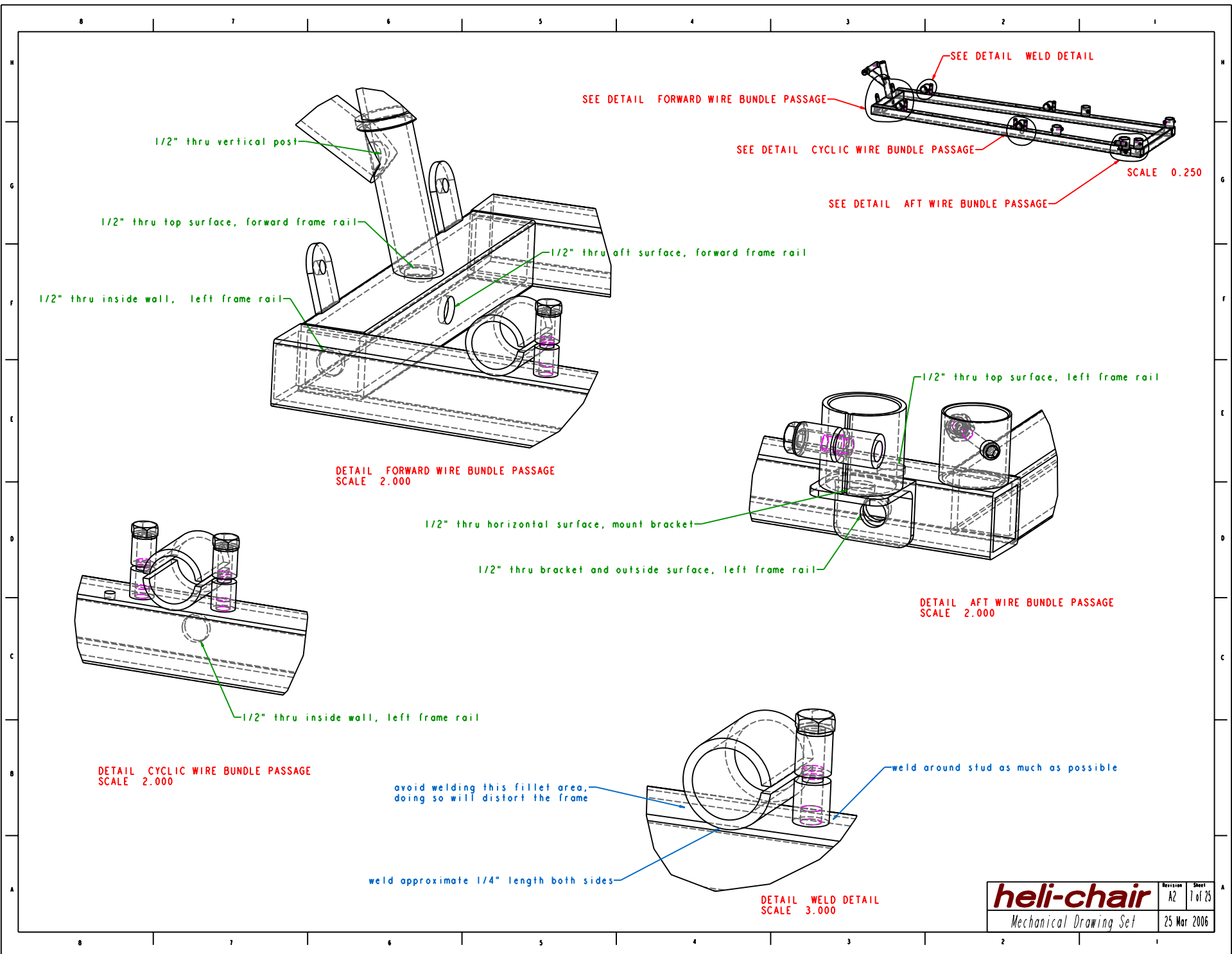


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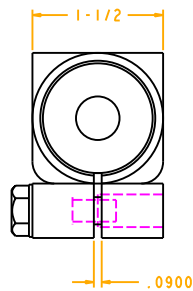
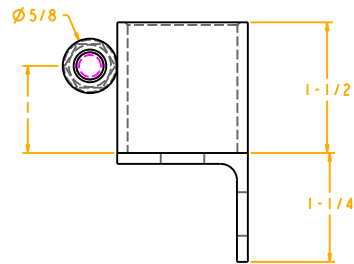
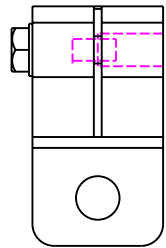
heli-chair		Revision	Sheet
Mechanical Drawing Set		A2	4 of 25
		25 Mar 2006	



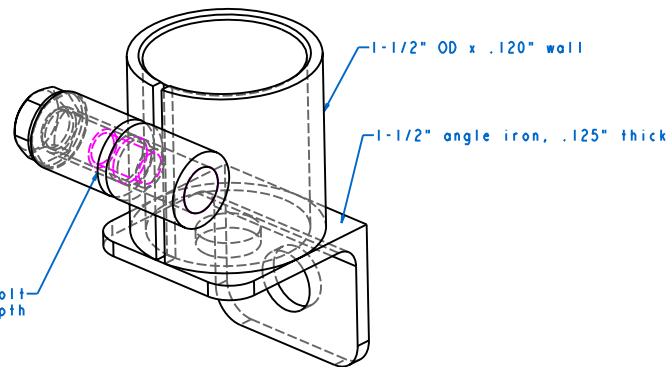




SCALE 2.000

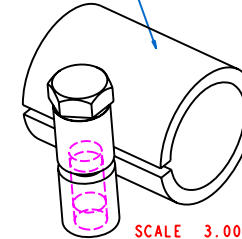


tapped spud for 3/8 x 24 bolt—
tap thru full, drill .375 to mid-depth

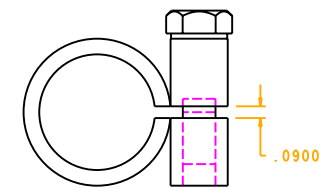


SCALE 3.000
Collective Mount Weldment

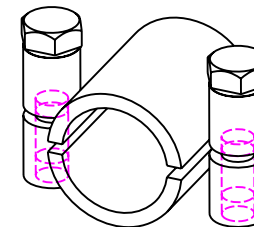
1-1/8" OD x .120 wall



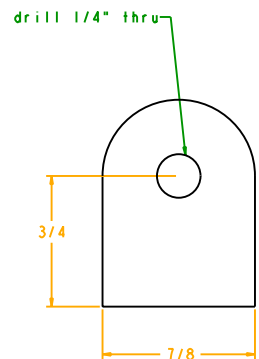
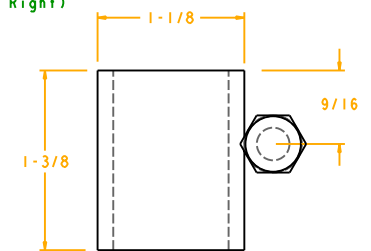
SCALE 3.000
Split Clamp Single (shown: Right)



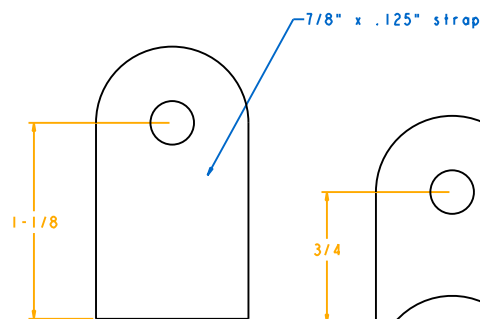
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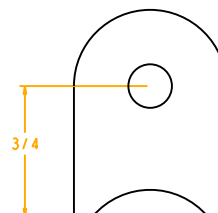
SCALE 3.000
Split Clamp Double



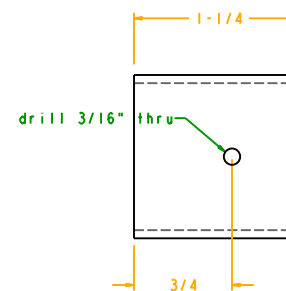
SCALE 4.000
Pan Tab, short



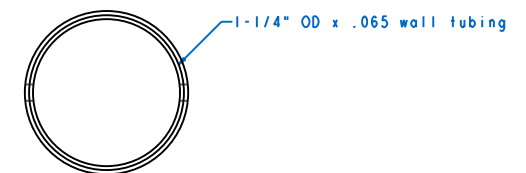
SCALE 4.000
Pan Tab, long



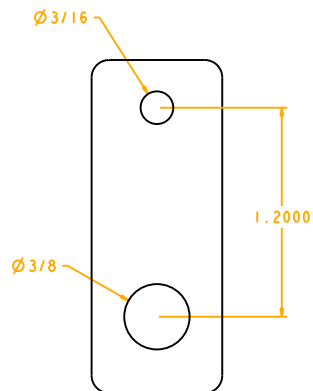
SCALE 4.000
Pan Tab, coped



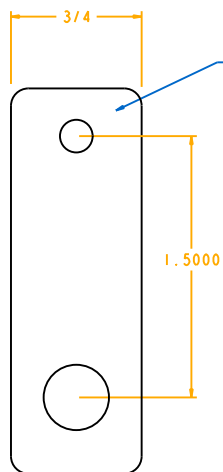
drill 3/16" thru



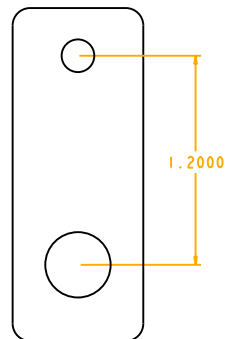
SCALE 3.000
Seat Mount Spud



SCALE 4.000
Anti-Torque Pedals
Potentiometer Positioning Plate

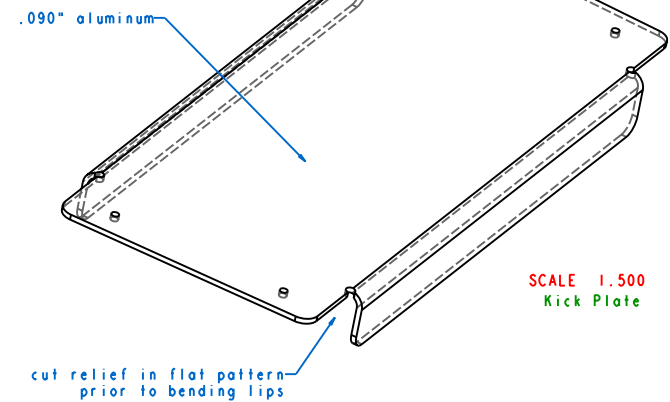


SCALE 4.000
Cyclic (2 used)

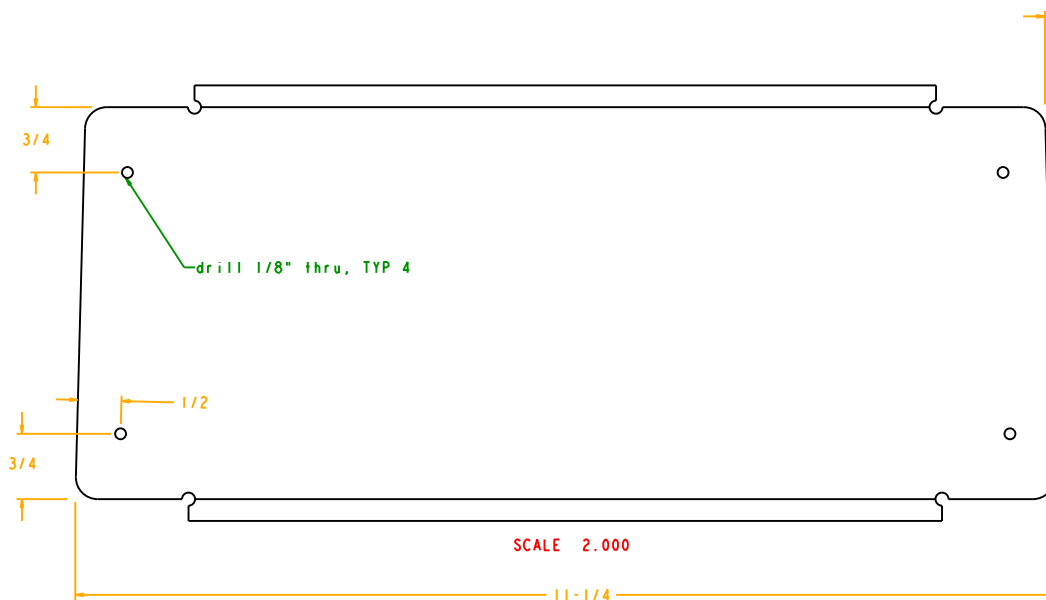


SCALE 4.000
Collective

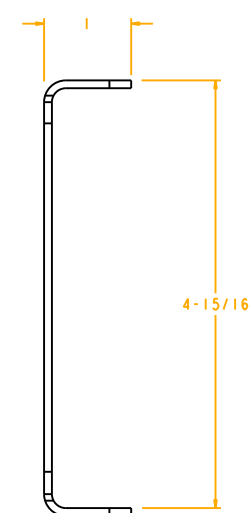
.080" aluminum

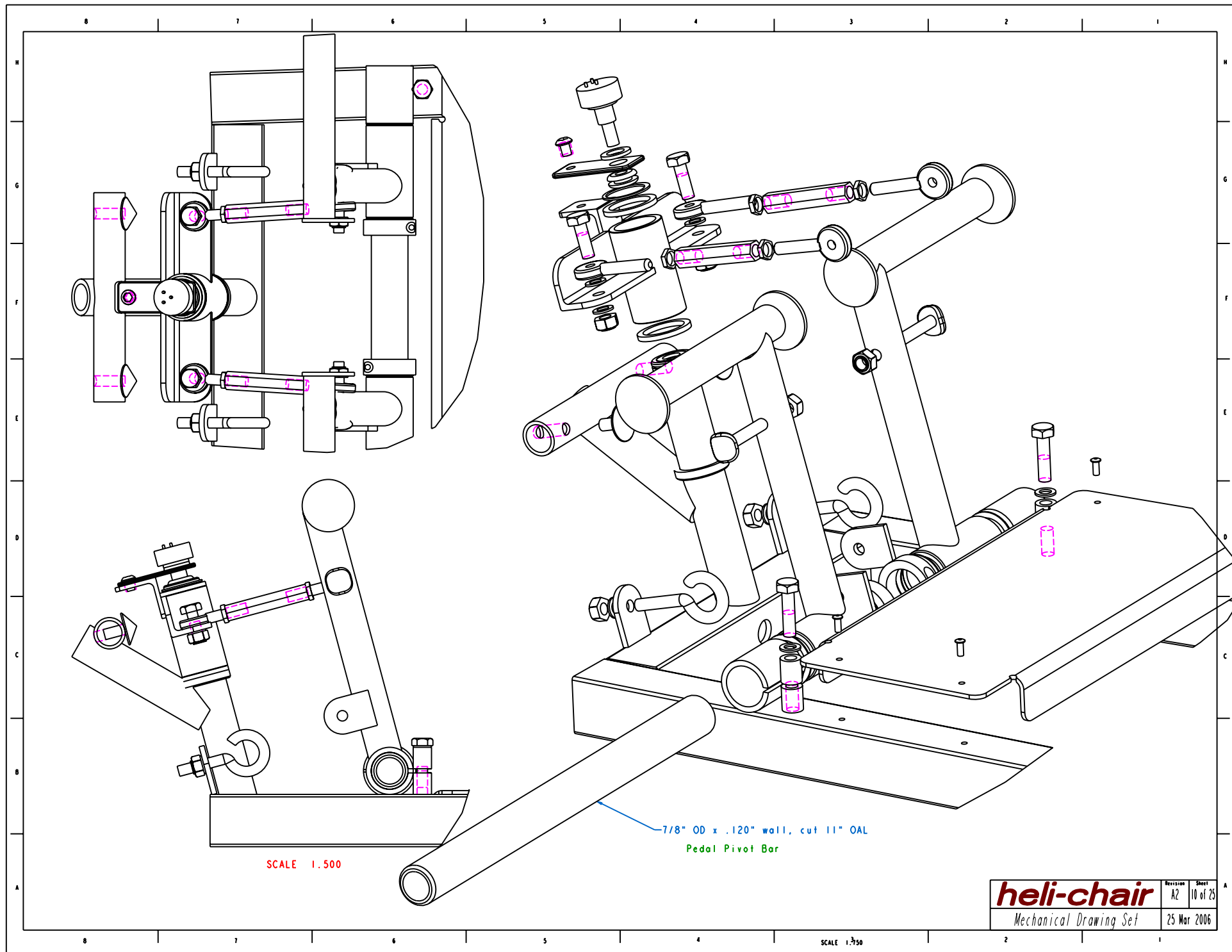


SCALE 1.500
Kick Plate



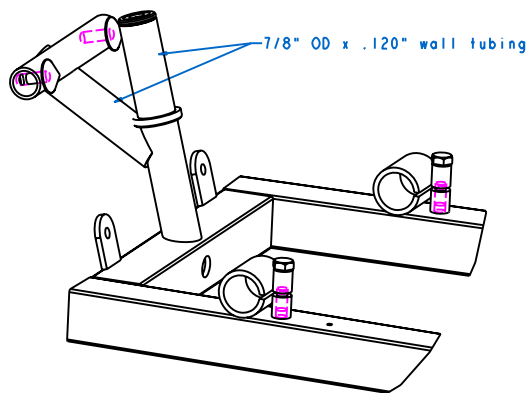
SCALE 2.000



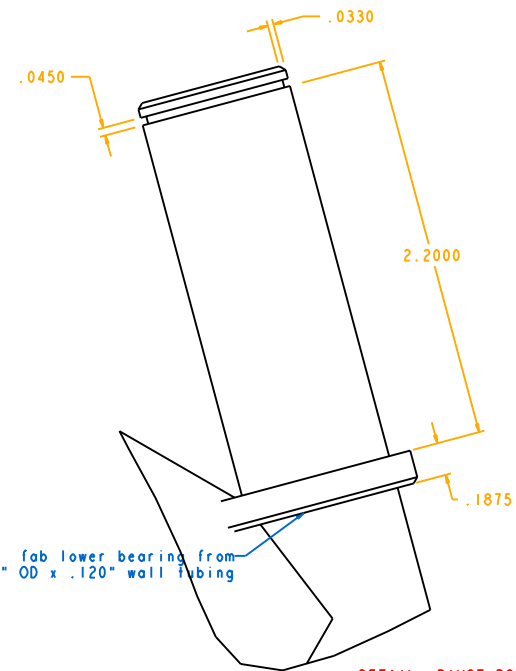
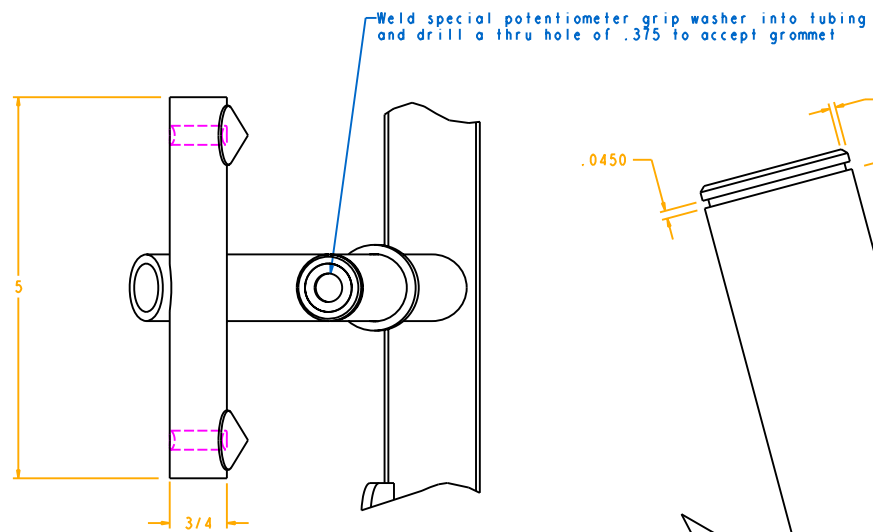


heli-chair Mechanical Drawing Set	Revision	Sheet
	A2	10 of 25
25 Mar 2006		

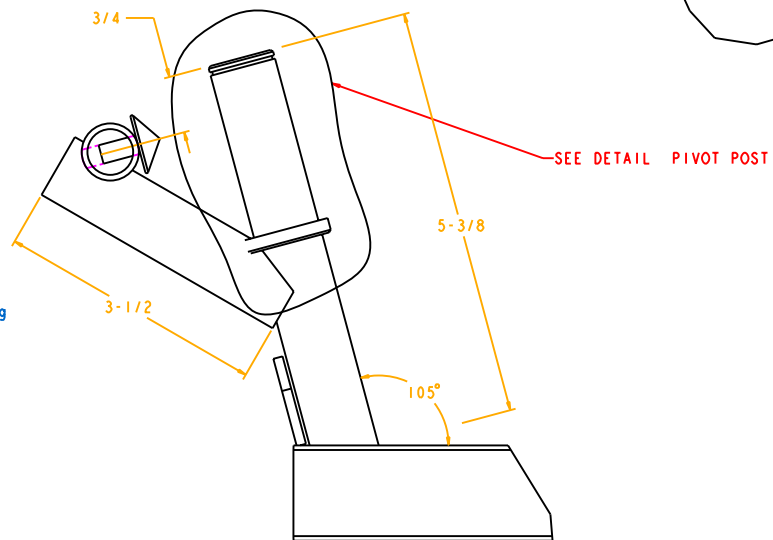
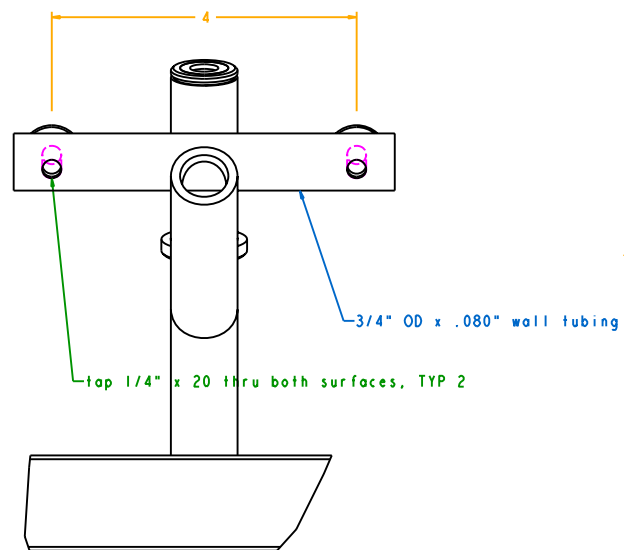
SCALE 1:1.500



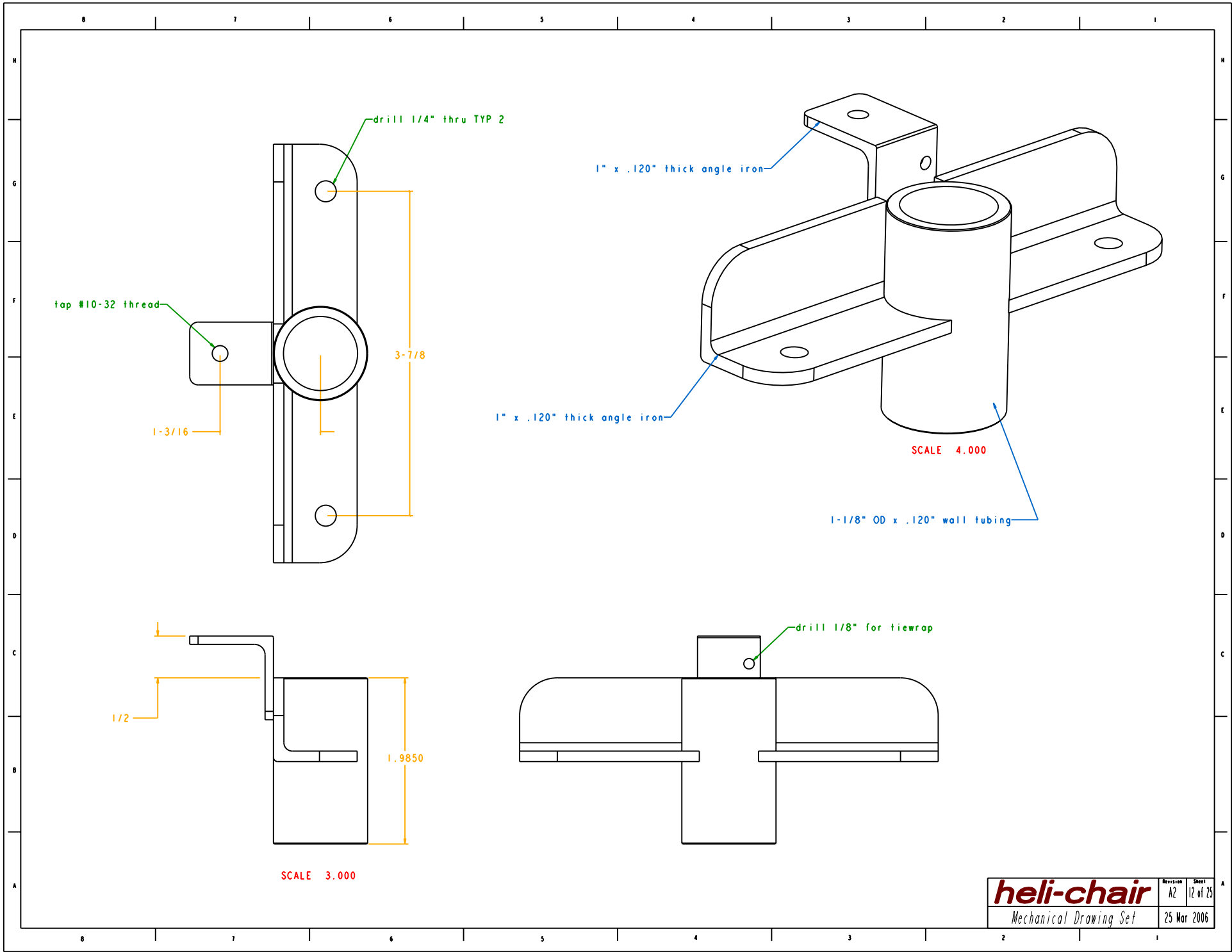
SCALE 1.000

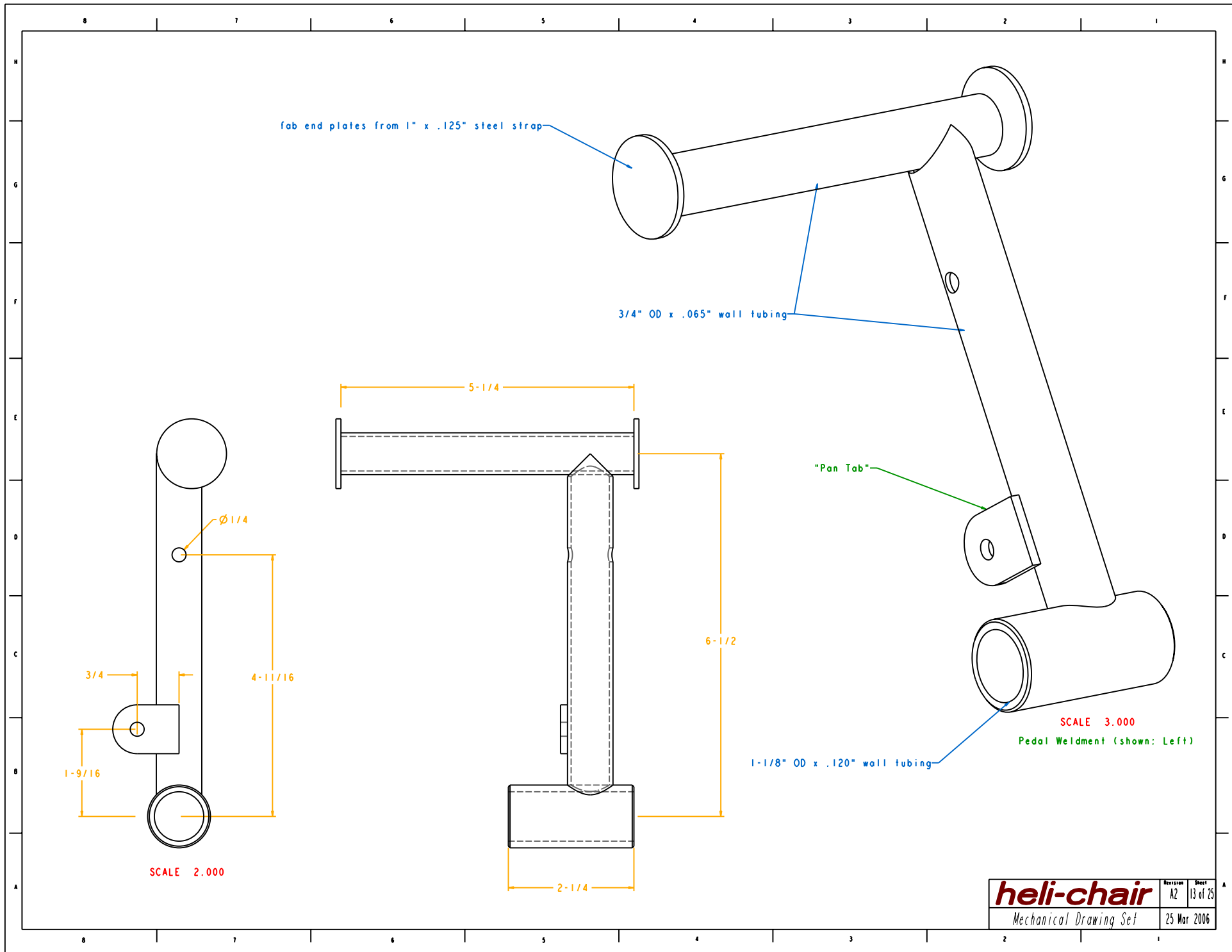


DETAIL PIVOT POST
SCALE 4.000



SCALE 1.750





fab end plates from 1" x .125" steel strap

3/4" OD x .065" wall tubing

"Pan Tab"

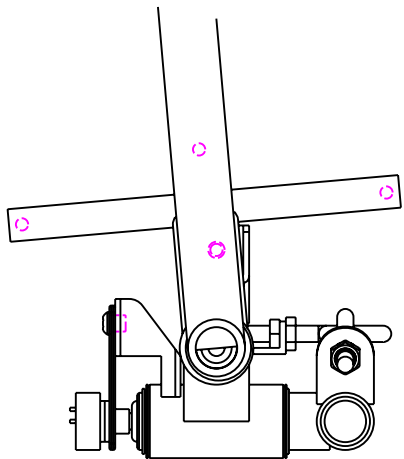
SCALE 3.000

Pedal Weldment (shown: Left)

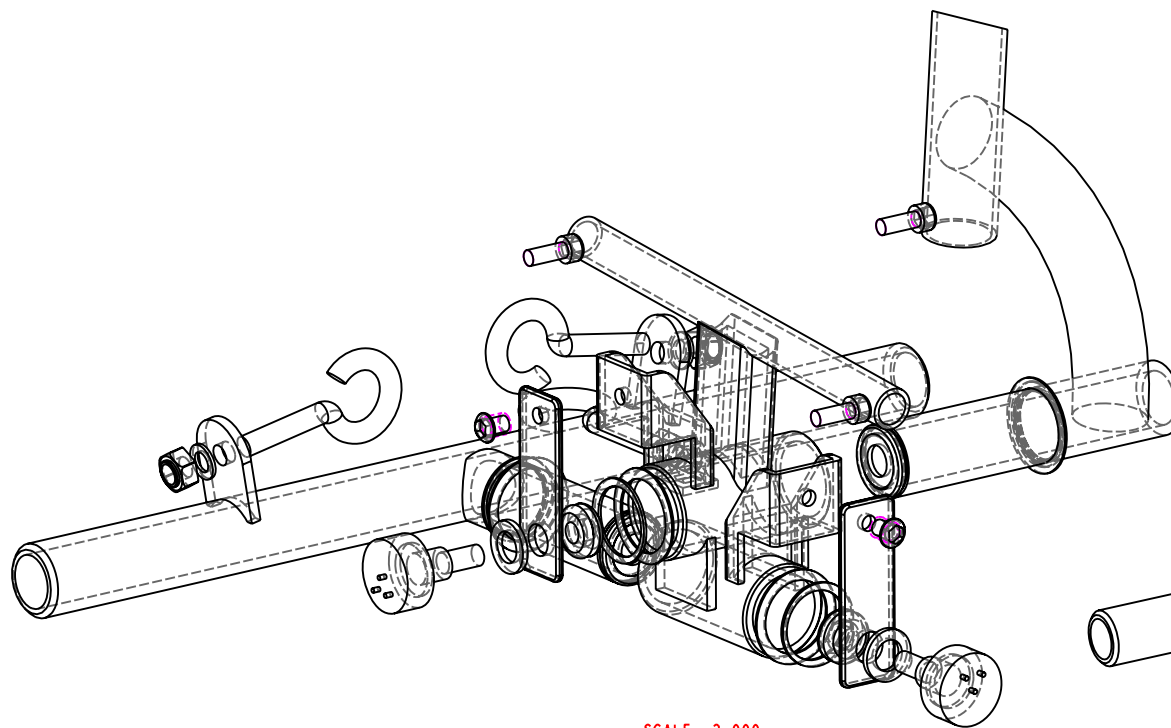
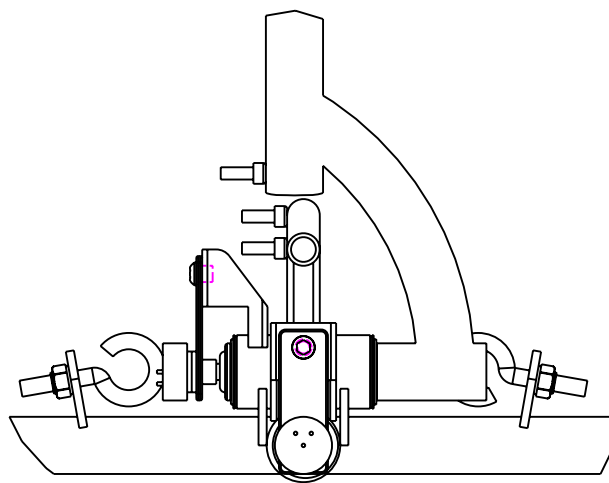
1-1/8" OD x .120" wall tubing

SCALE 2.000

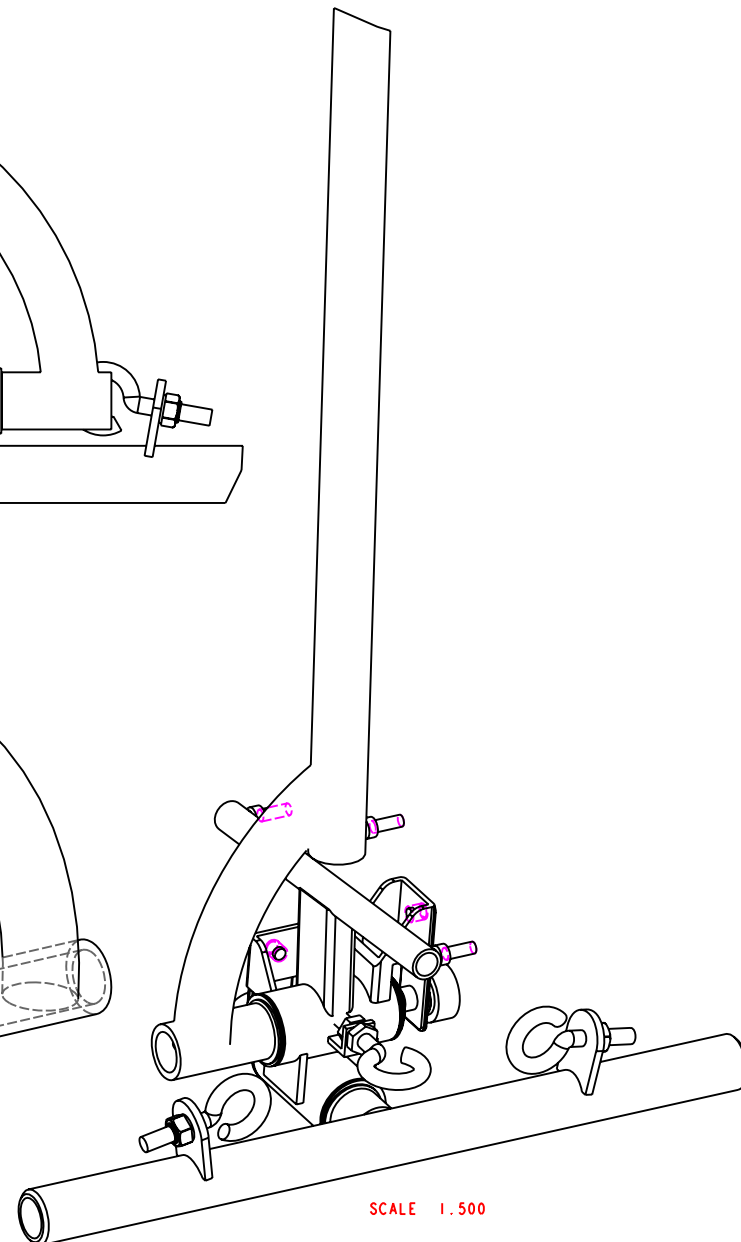
heli-chair		Revision	Sheet
Mechanical Drawing Set		A2	13 of 25
		25 Mar 2006	



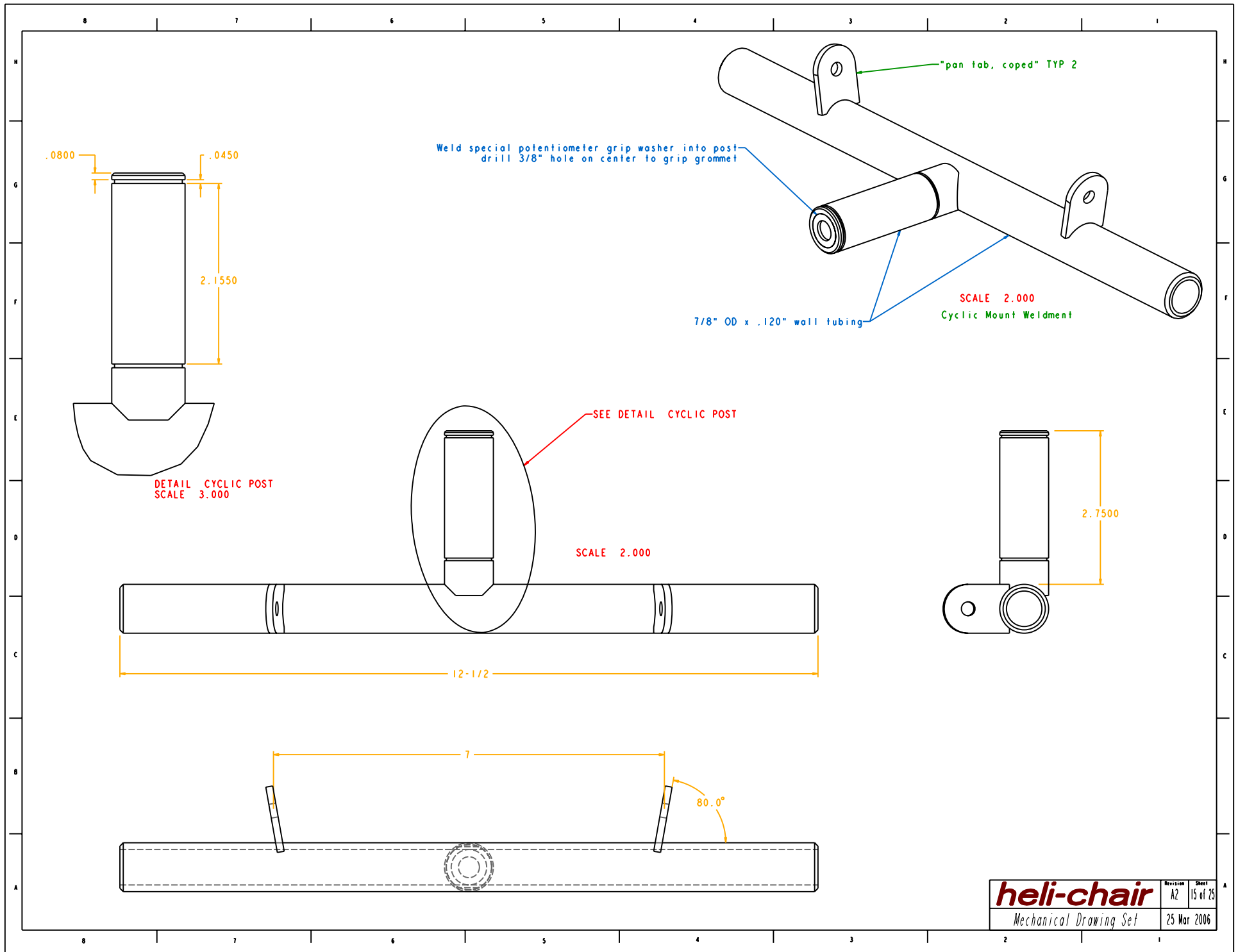
SCALE 1.500

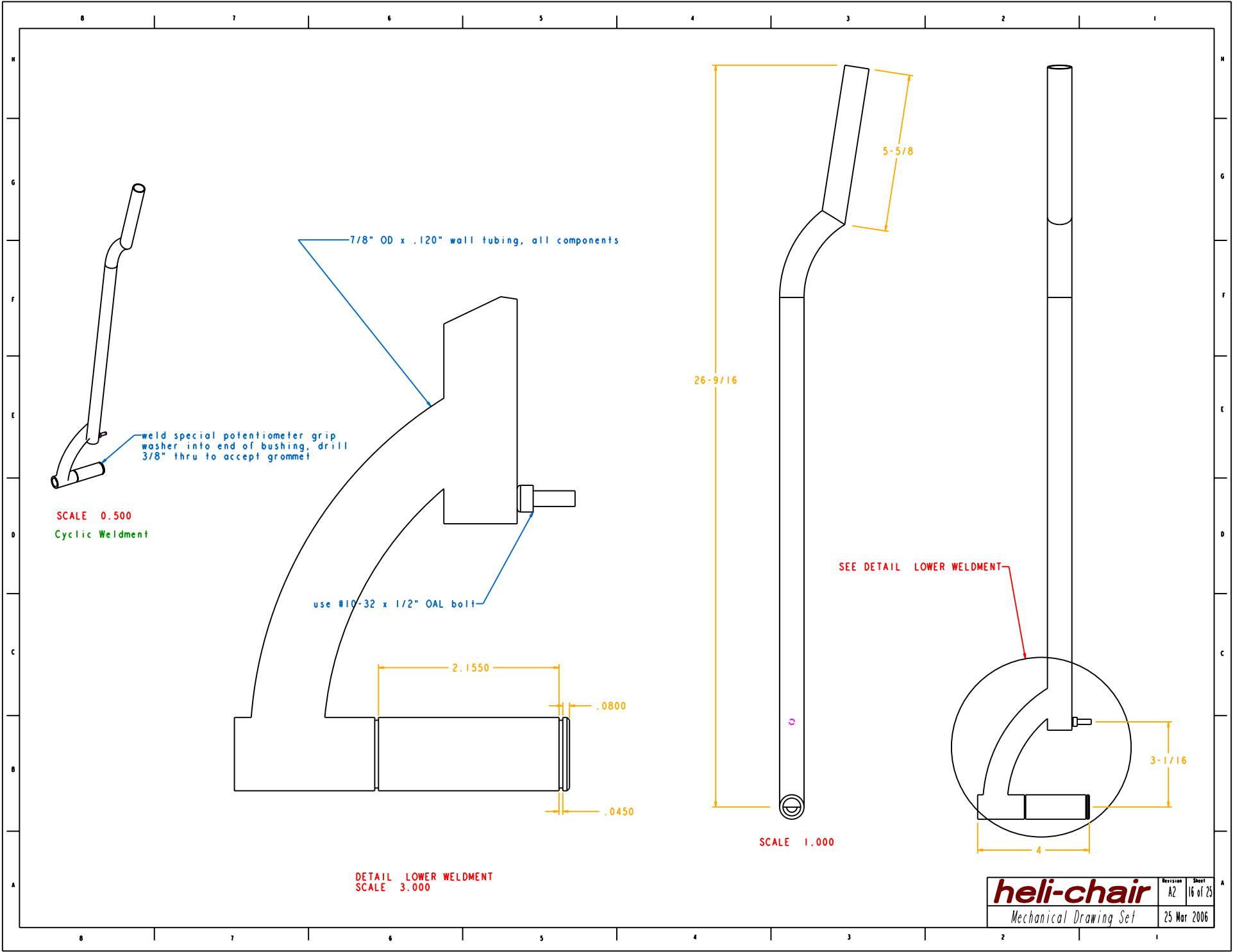


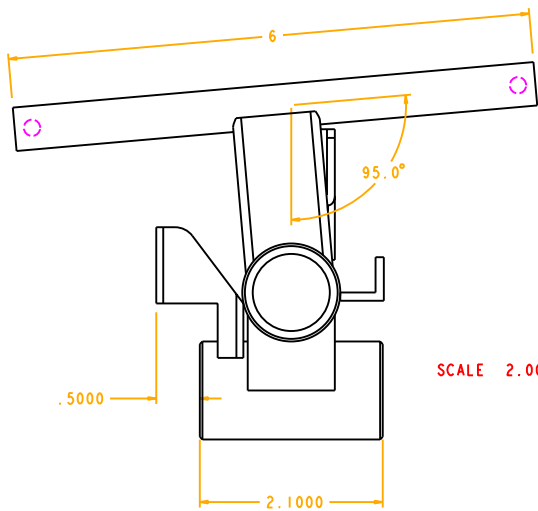
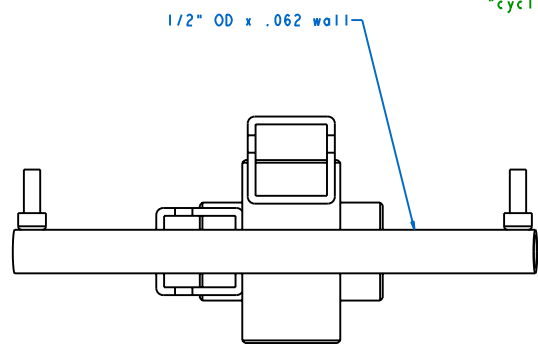
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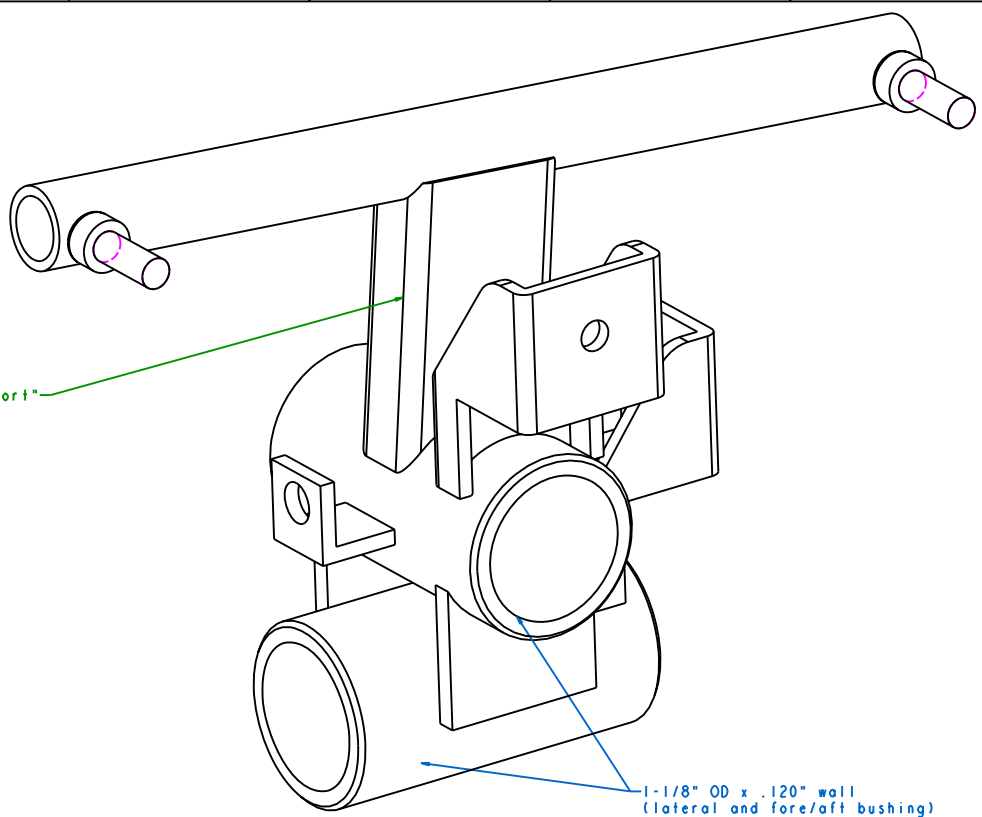
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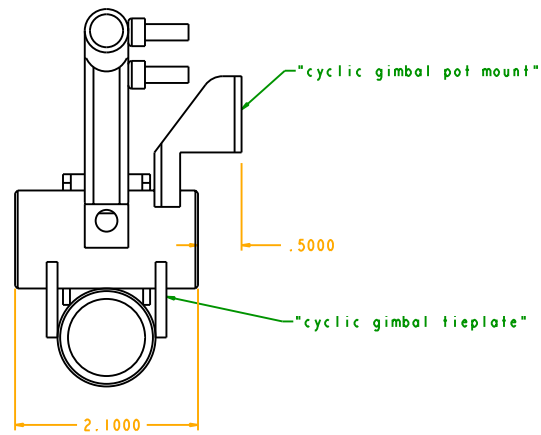




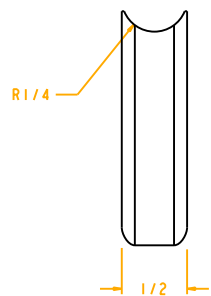
"cyclic fore-aft spring support"



SCALE 4.000
Cyclic Gimbal Weldment

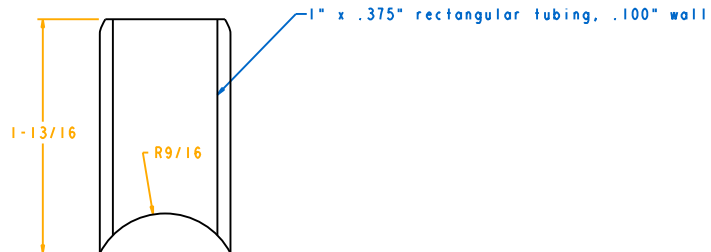


heli-chair		Revision	Sheet
Mechanical Drawing Set		A2	17 of 25
		25 Mar 2006	

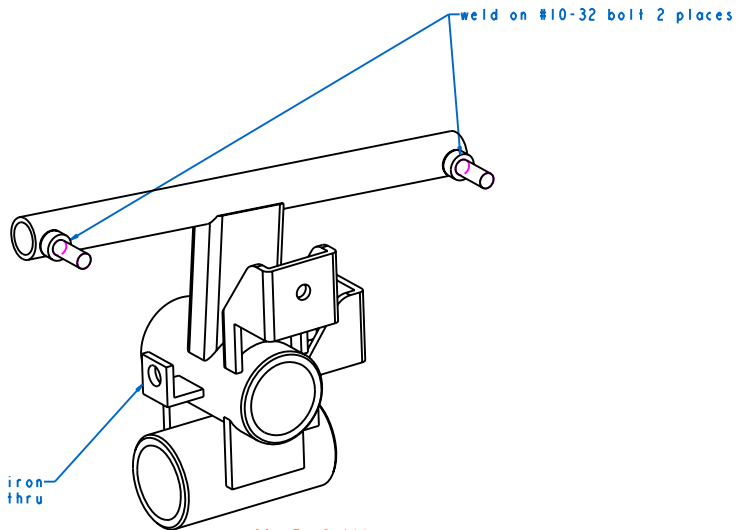


SCALE 3.000

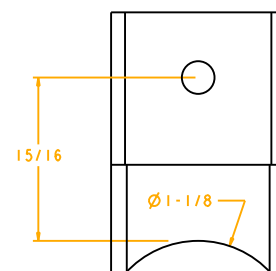
cyclic gimbal fore-aft spring support



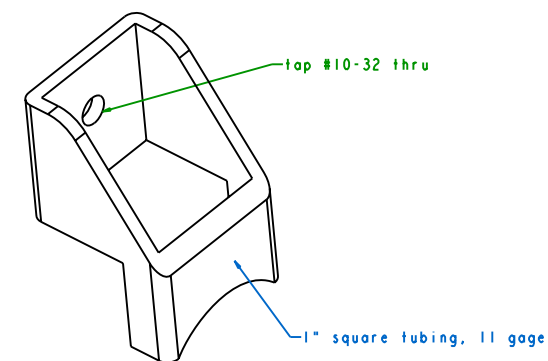
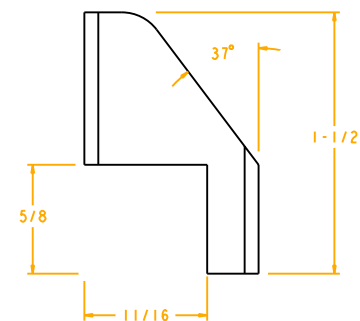
1" x .375" rectangular tubing, .100" wall



SCALE 2.000

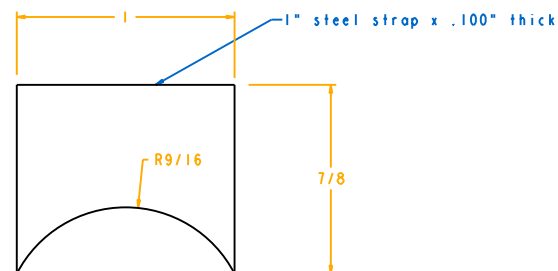


SCALE 4.000



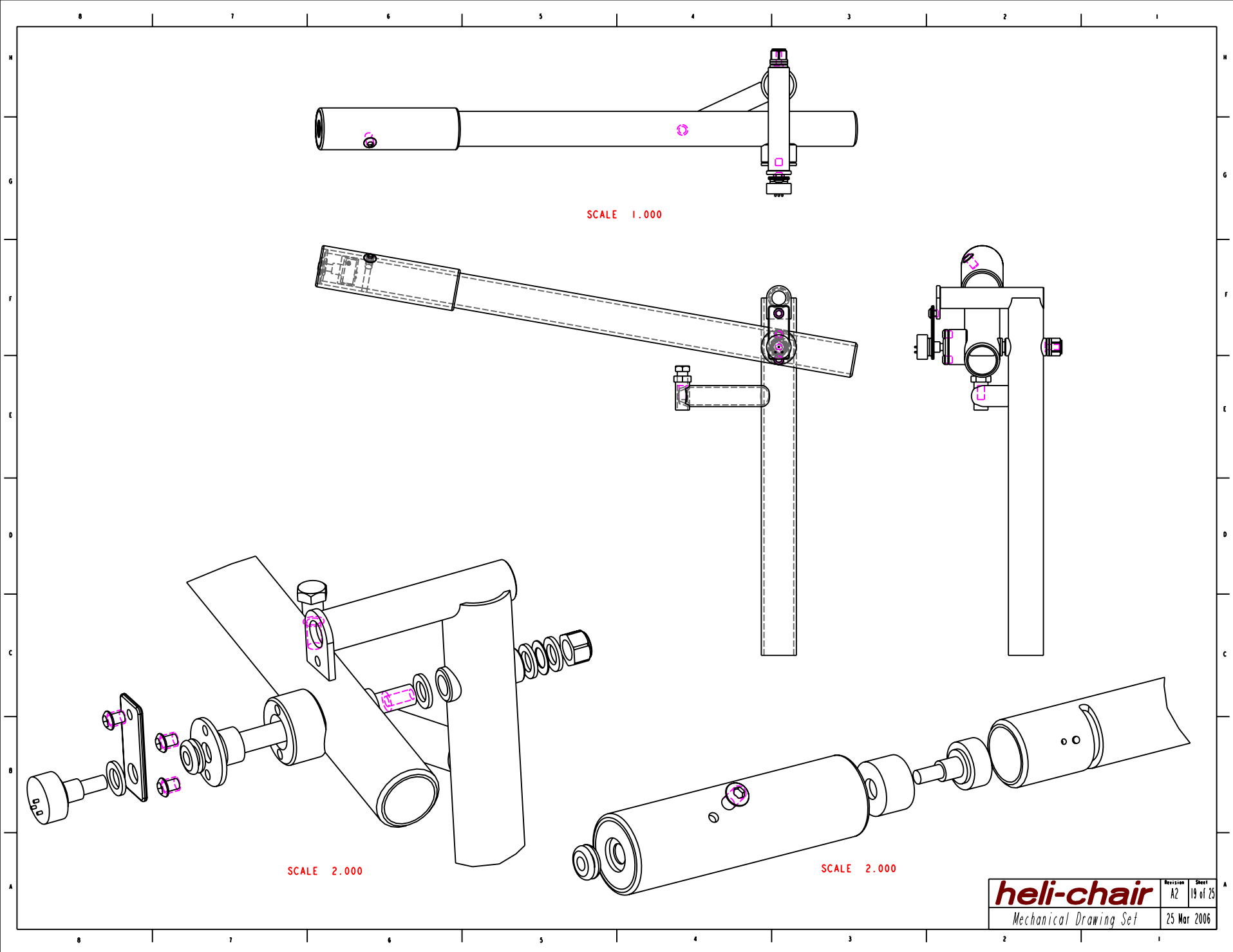
SCALE 4.000

cyclic gimbal potentiometer mount



SCALE 5.000

cyclic gimbal tieplate

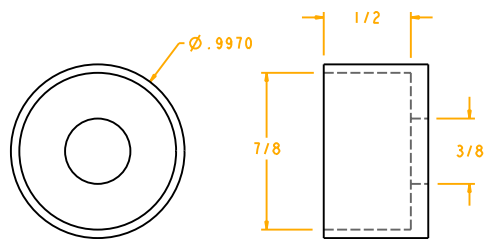


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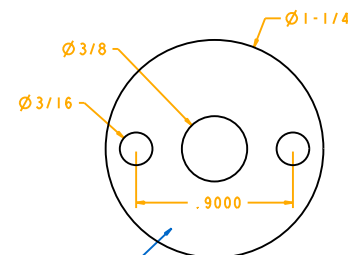
SCALE 2.000

SCALE 2.000

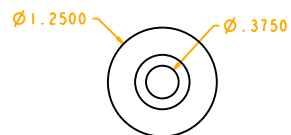
heli-chair		Revision	Sheet
Mechanical Drawing Set		A2	19 of 25
		25 Mar 2006	



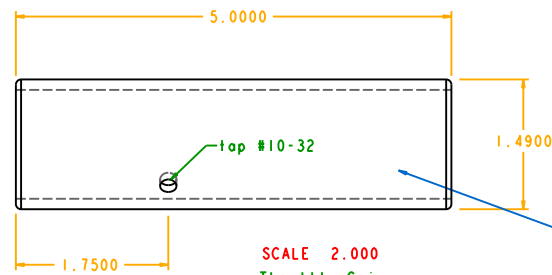
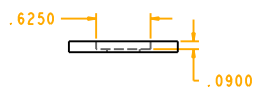
SCALE 4.000
Throttle Pot Grip



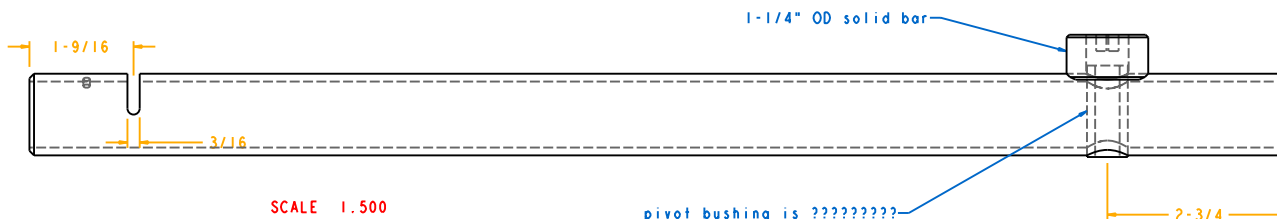
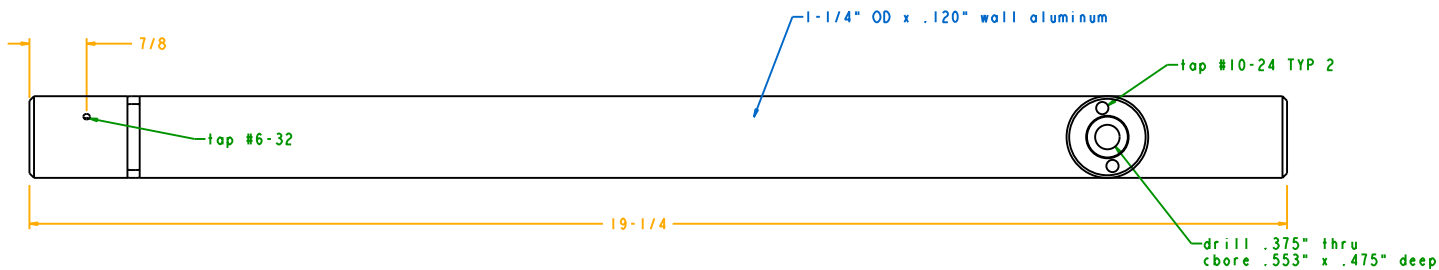
SCALE 4.000
Collective Pot Grip



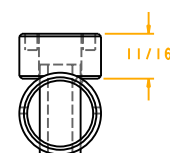
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Throttle Endplate

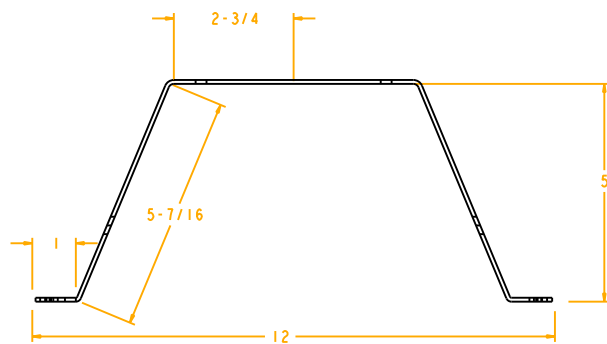


SCALE 2.000
Throttle Grip



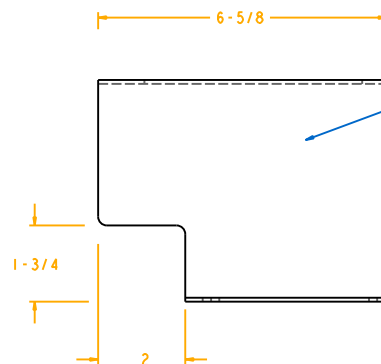
SCALE 1.500
Collective Weldment



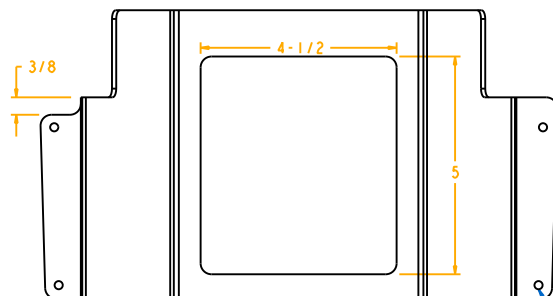


SCALE 1.000

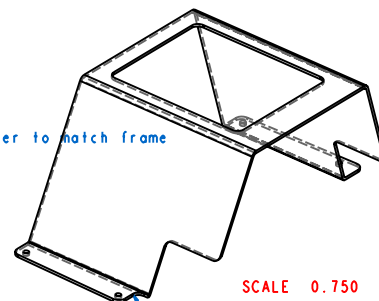
Cyclic Gimbal Housing



.060" aluminum sheet



taper to match frame



SCALE 0.750

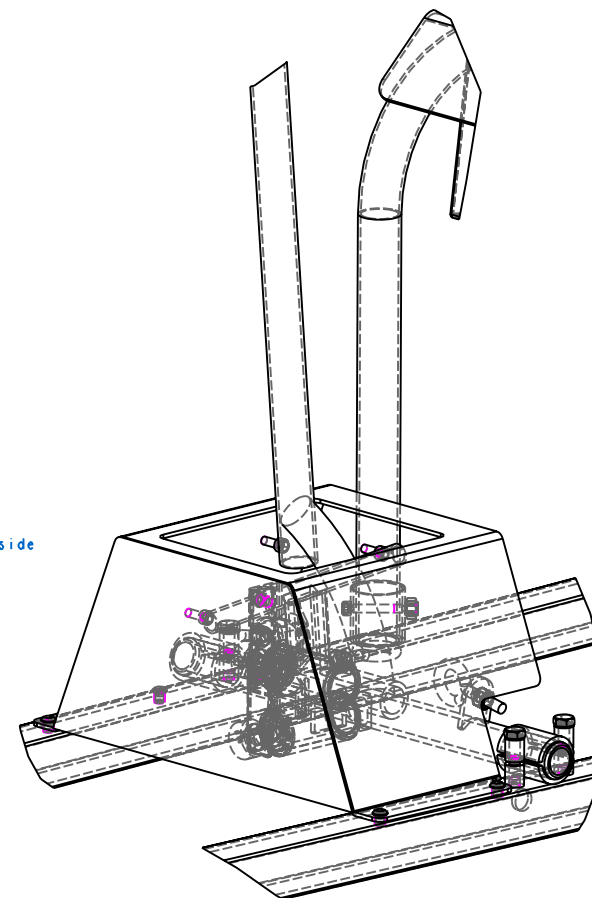
note additional cutaway on this side

drill 4 holes during assembly for #10 screw
transfer pattern to base frame and tap holes
(transfer using 1/8" bit, then open holes and tap)

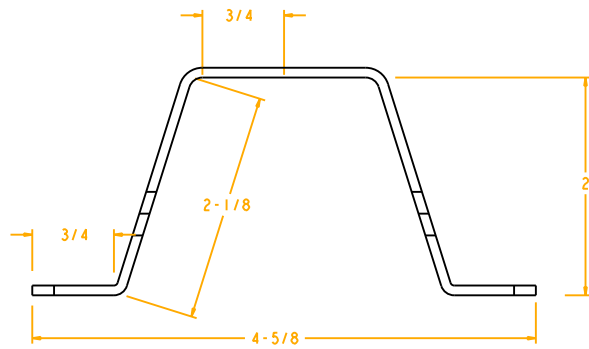


SCALE 1.000

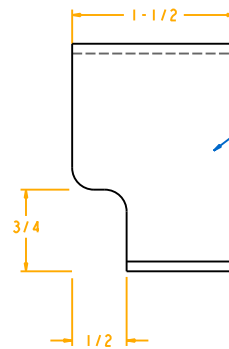
Cyclic Housing Front Plate



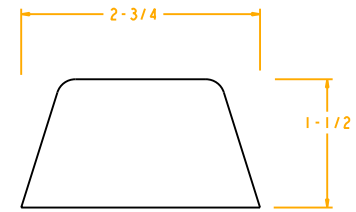
SCALE 1.000



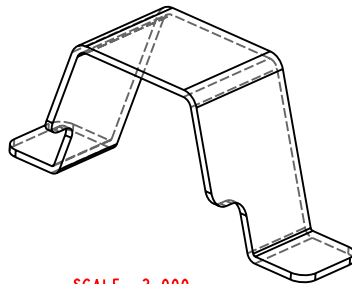
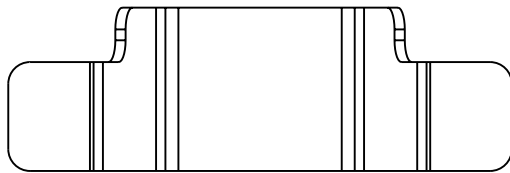
SCALE 2.500
Walking Bar Housing



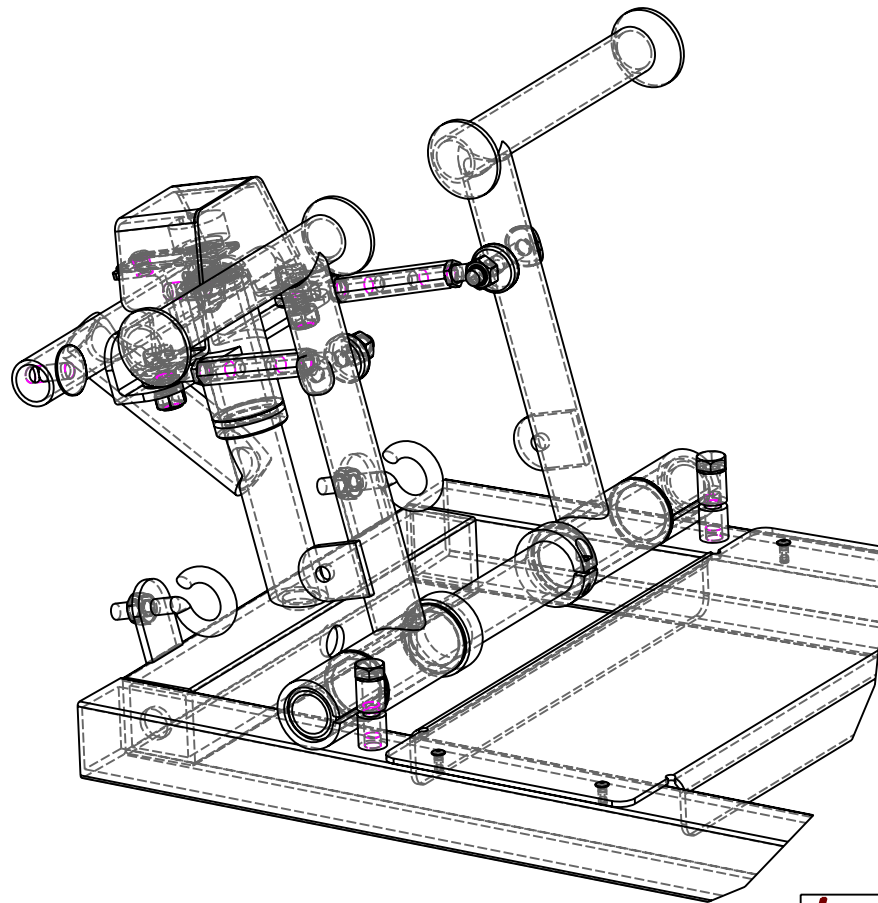
.060" aluminum sheet



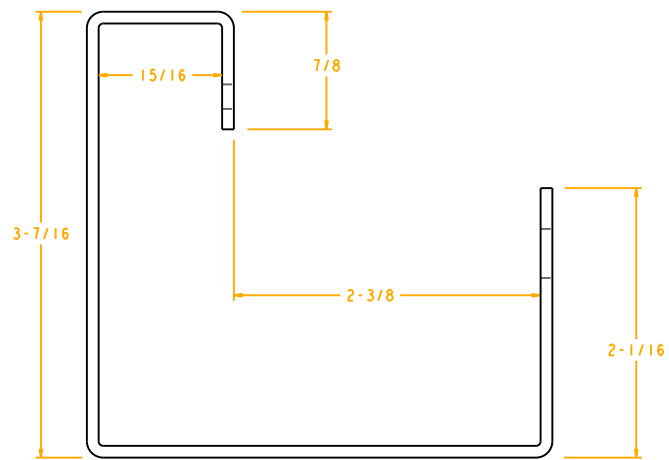
SCALE 2.000
Walking Bar Housing Plate



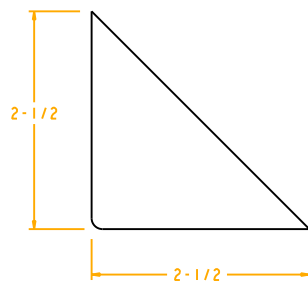
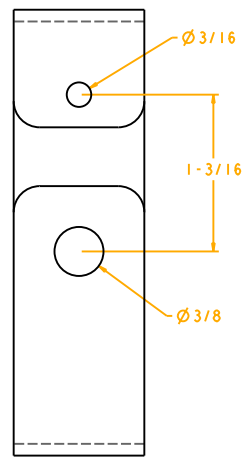
SCALE 2.000



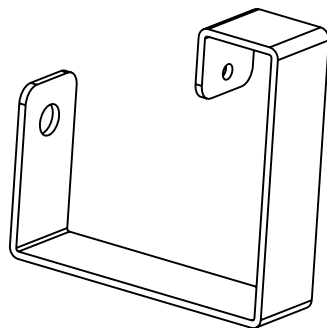
SCALE 1.500



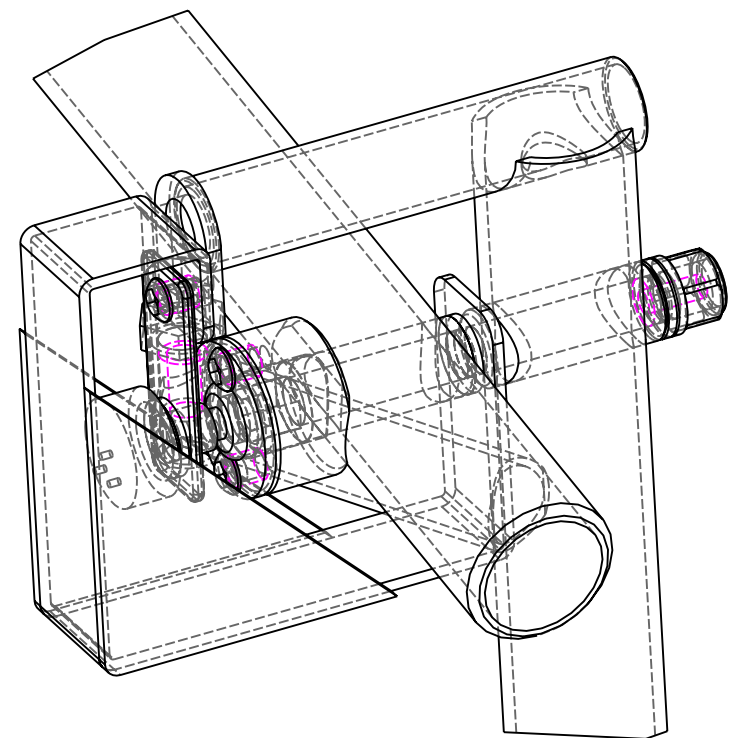
SCALE 3.000
Collective Housing



SCALE 2.000
Collective Housing Plate (TYP 2)



SCALE 2.000



SCALE 3.000

