

	Color	Code/Supplier
1	Brown red	RAL 3011
2	Black	MOTIP
3	White	RAL 9010
4	Sweet brown	DUPLI-COLOR
5	Terracota	DUPLI-COLOR
6	Light ivory	RAL 1015
7	Green	TAMIYA, X-5
8	Flat red	TAMIYA, X-7
9	Gold Leaf	TAMIYA, X-12
All colors satin mat		

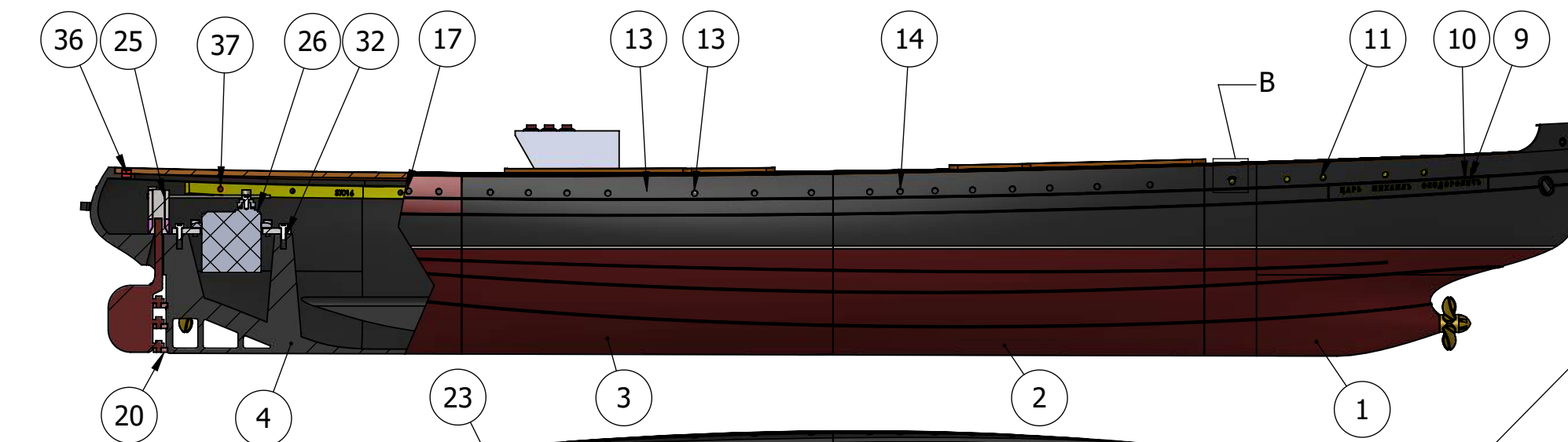
29	20	Shackle	ST108	
28	1	Rope through	ST094	
27	1	Windlass	ST058	
26	4	Winch	ST099	
25	4	Knecht	ST022	
24	2	Crane	ST021	
23	4	Coal pit port	ST076	
22	1	Boiler room cargo port	ST077	
21	1	Aft cargo port	ST071	
20	1	Manhole	ST078	
19	1	Bow windlass	ST064	
18	2	Anchor chain port cover	ST097	
17	10	Bollard	ST098	
16	2	Anchor	ST121	
15	2	Anchor chain locks	ST096	
14	4	Stair 1	ST089	
13	4	Knecht	ST023	
12	8	Cowl vent 8	ST086	
11	2	Cowl vent 5	ST083	
10	1	Bow cargo port	ST075	
9	1	Handrails	ST093	10
8	1	Boiler room skylight assembly	ST074	9
7	2	Aft skylight assembly	ST069	8
6	1	Bow mast	ST088	7
5	1	Entrance 04 assy	ST034	6
4	1	Entrance 01 assy	ST030	5
3	1	Boat deck assy	ST053	4
2	1	Wheelhouse assembly	ST117	3
1	1	Hull assembly	ST095	2
Item	QTY	Title	Drw.No.	Sheet no.



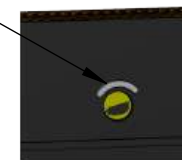
Icebreaker
assembly

ST120

Sheet:
1

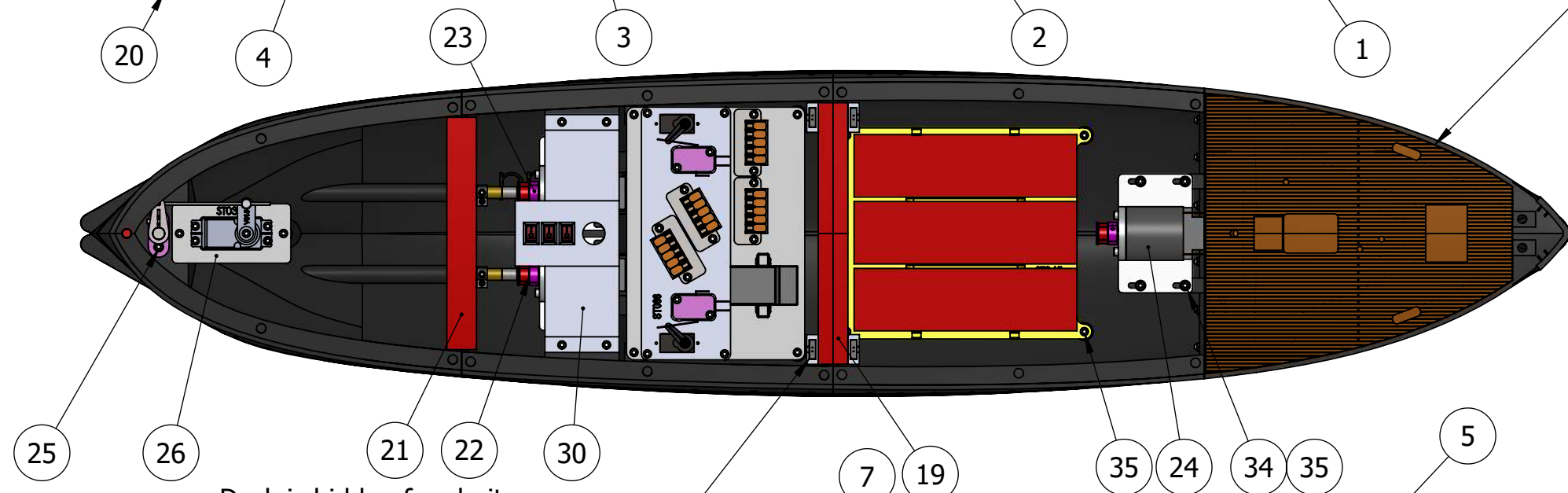


Illuminator visor,
Brass wire dia.0,9mm



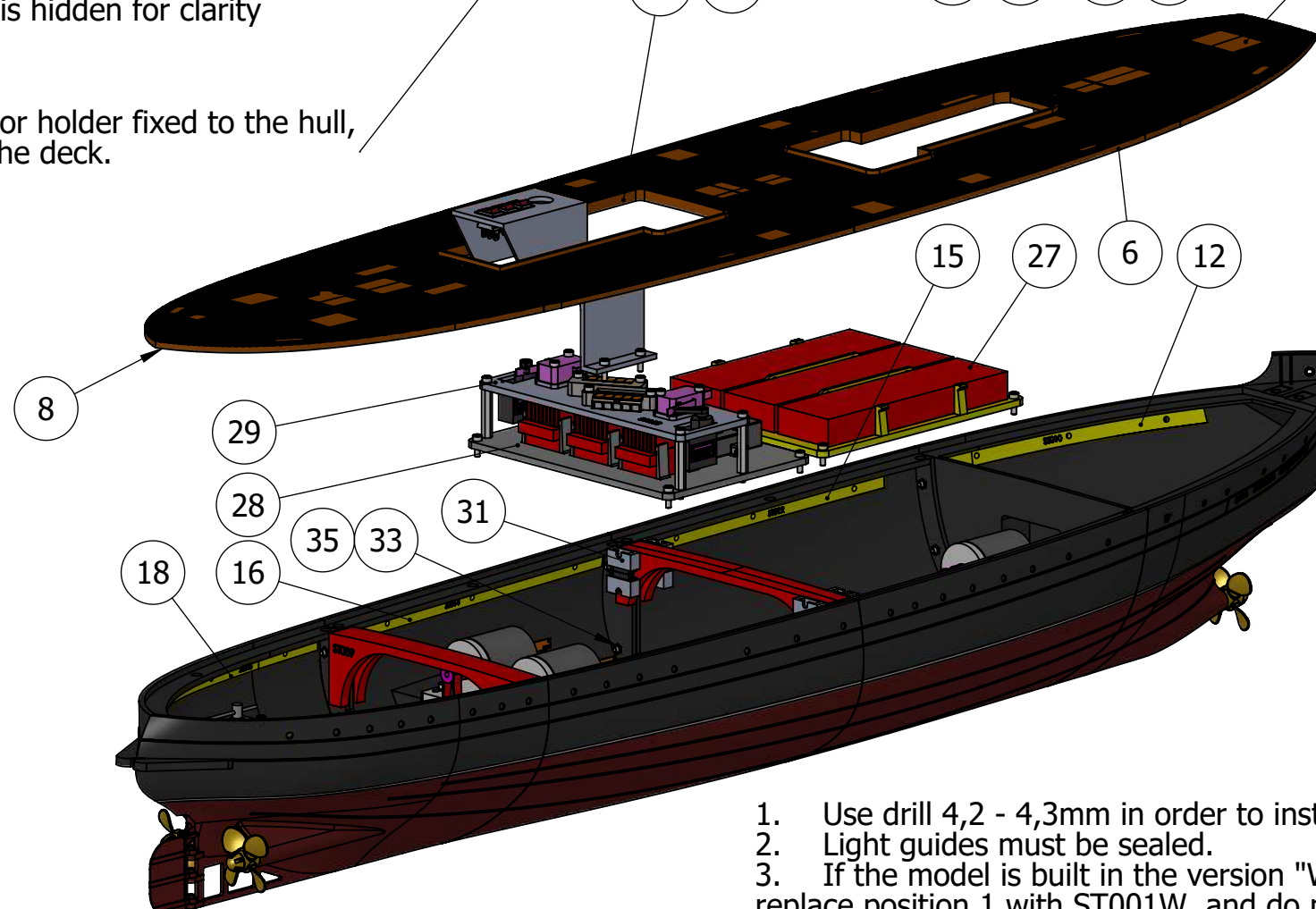
DETAIL B
SCALE 1 : 1

Seal after balancing and wiring.



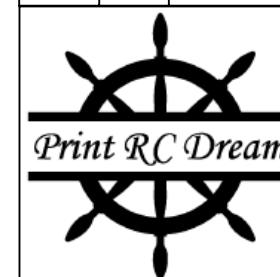
Deck is hidden for clarity

Lower connector holder fixed to the hull,
upper one to the deck.



1. Use drill 4,2 - 4,3mm in order to install light guides.
2. Light guides must be sealed.
3. If the model is built in the version "Wäinämöinen" or "Suur Töll," replace position 1 with ST001W, and do not use positions 9-10.
4. Use resistors 100Ohm in order to connect LEDs.
5. Pos.31 is used in case of steamer and illumination versions.

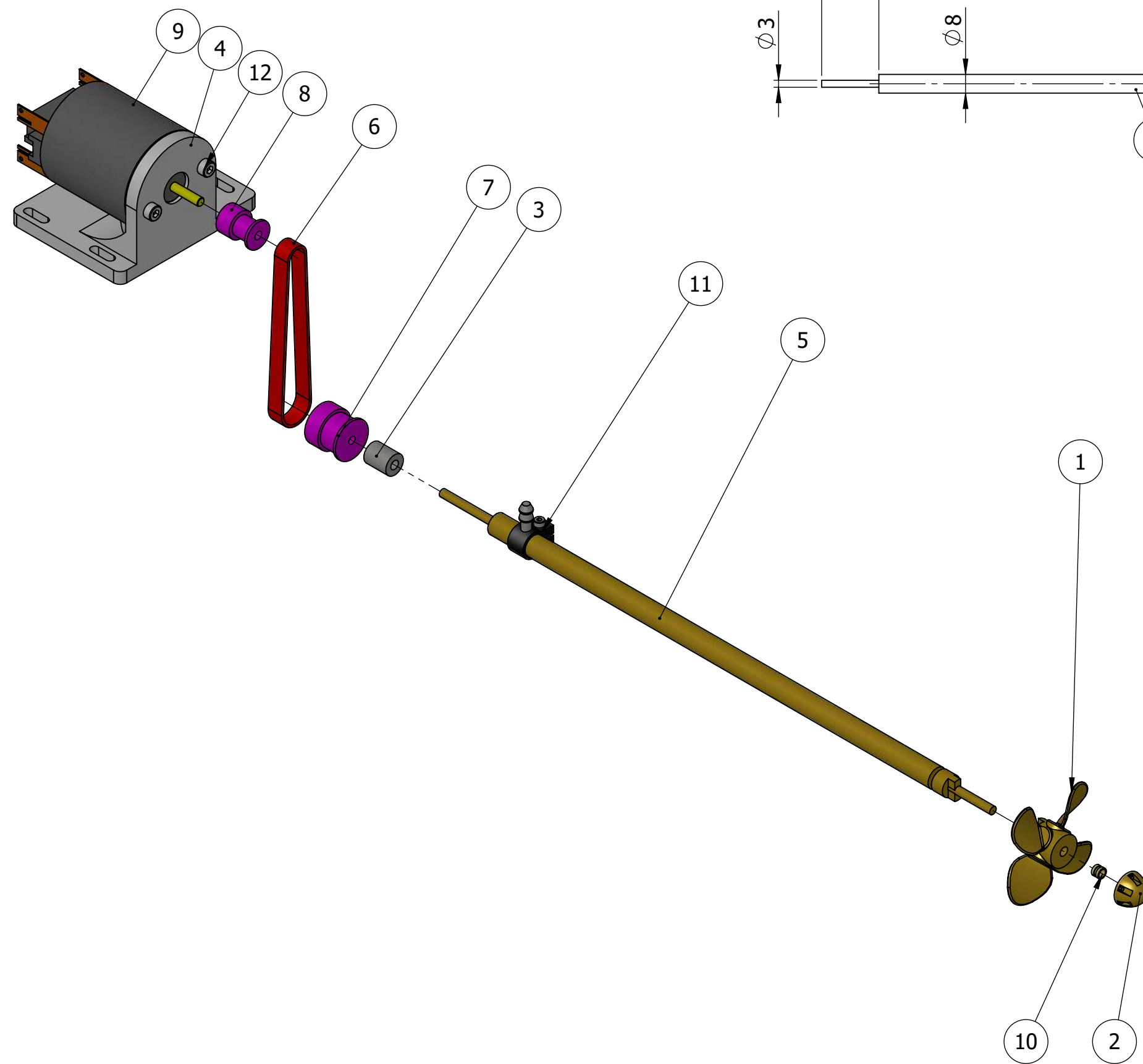
37	16	3mm LED	3mm led	Warm white
36	34	Magnet		D6 H=2.6
35	46	Hexagon socket head cap screw		DIN912 M3x10 - A2-70
34	12	Washer		DIN125A 3 - 200 HV - A2
33	22	Hexagon thin nut		ISO4035 M3 - A2-035 -
32	28	Knurled nut		M3 L=3
31	4	Magnetic connector assembly	ST092	
30	1	Main switch assembly	ST113	
29	1	Switches panel assy (optional)	ST067	
28	1	ESC panel	ST112	
27	1	Battery assembly	ST111	
26	1	Servo assembly	ST109	
25	1	Rudder assembly	ST110	
24	1	Drive assembly 3	ST107	
23	1	Drive assembly 2	ST106	
22	1	Drive assembly 1	ST105	
21	1	Hull connector	ST039	
20	3	Rudder eye	ST020	
19	1	Hull connector	ST019	
18	1	Light guide 42	ST016	
17	1	Light guide 42	ST015	
16	1	Light guide 32	ST014	
15	1	Light guide 22	ST012	
14	1	Light guide 21	ST011	
13	1	Light guide 31	ST013	
12	1	Light guide 12	ST010	
11	1	Light guide 11	ST009	
10	1	Name plate 2	ST018	
9	1	Name plate 1	ST017	
8	1	Hull section 31	ST008	
7	1	Hull section 21	ST007	
6	1	Hull section 11	ST006	
5	1	Hull section 01	ST005	
4	1	Hull section 32	ST004	
3	1	Hull section 22	ST003	
2	1	Hull section 12	ST002	
1	1	Hull section 02	ST001	
Item	QTY	Title	Drw.No.	Size/STD



Hull assembly

ST095

Sheet:
2



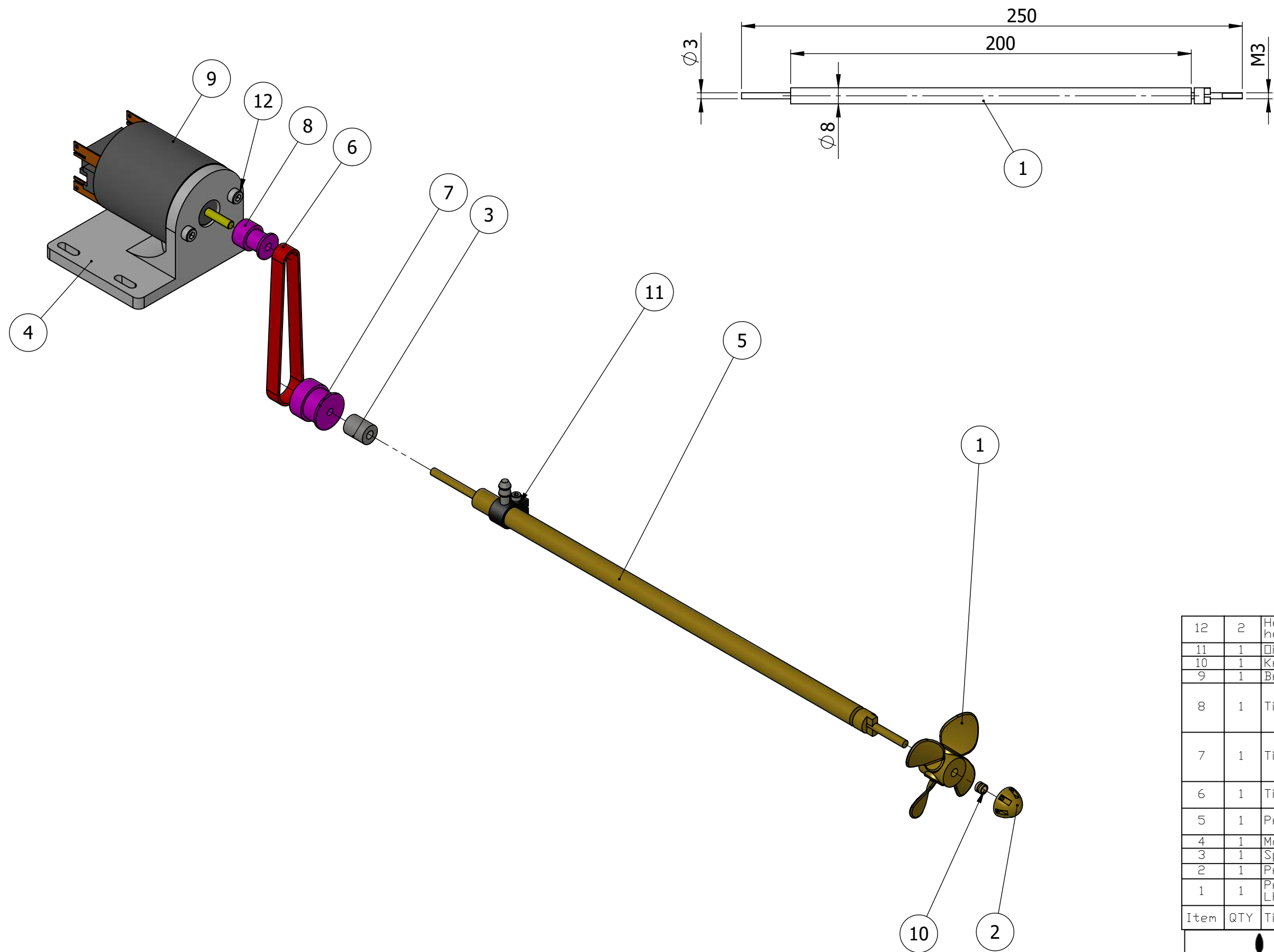
12	2	Hexagon socket head cap screw		DIN912 M3x8 - A2-70
11	1	Oil nozzle		8mm
10	1	Knurled nut		M3 L=3
9	1	Brushed motor		540, 80T
8	1	Timing pulley		2GT, 12 Teeth/ Bore 3.175 mm/ Width 6 mm
7	1	Timing pulley		2GT, 20 Teeth/ Bore 3mm/ Width 6 mm
6	1	Timing Belt		2GT, 6mm/150mm
5	1	Propeller shaft		3mm, 200/250mm
4	1	Motor holder	ST026	
3	1	Spacer	ST046	
2	1	Propeller nut	ST104	
1	1	Propeller 42mm RH	ST062	
Item	QTY	Title	Drw.No.	Size/STD




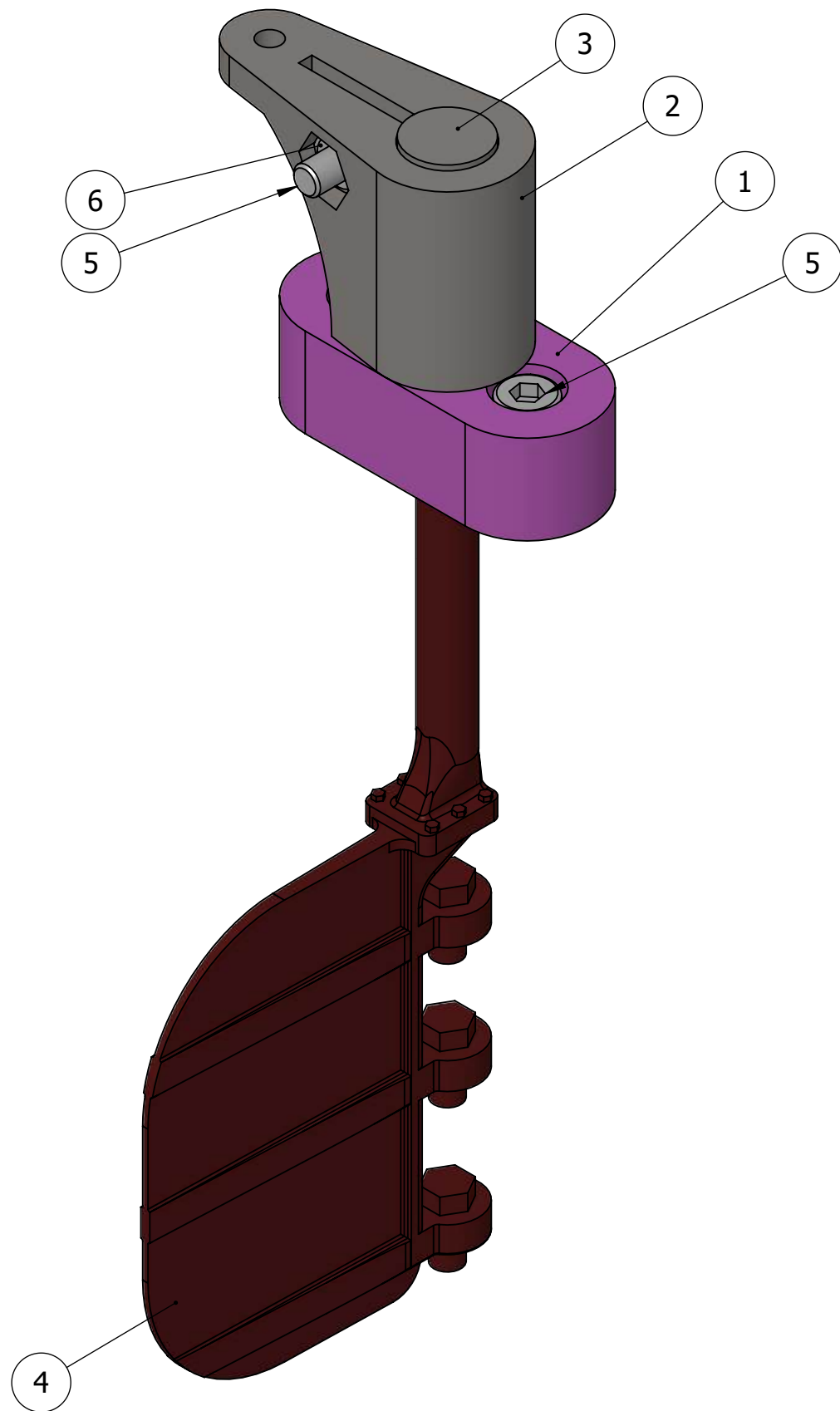
Drive assembly 1


ST105

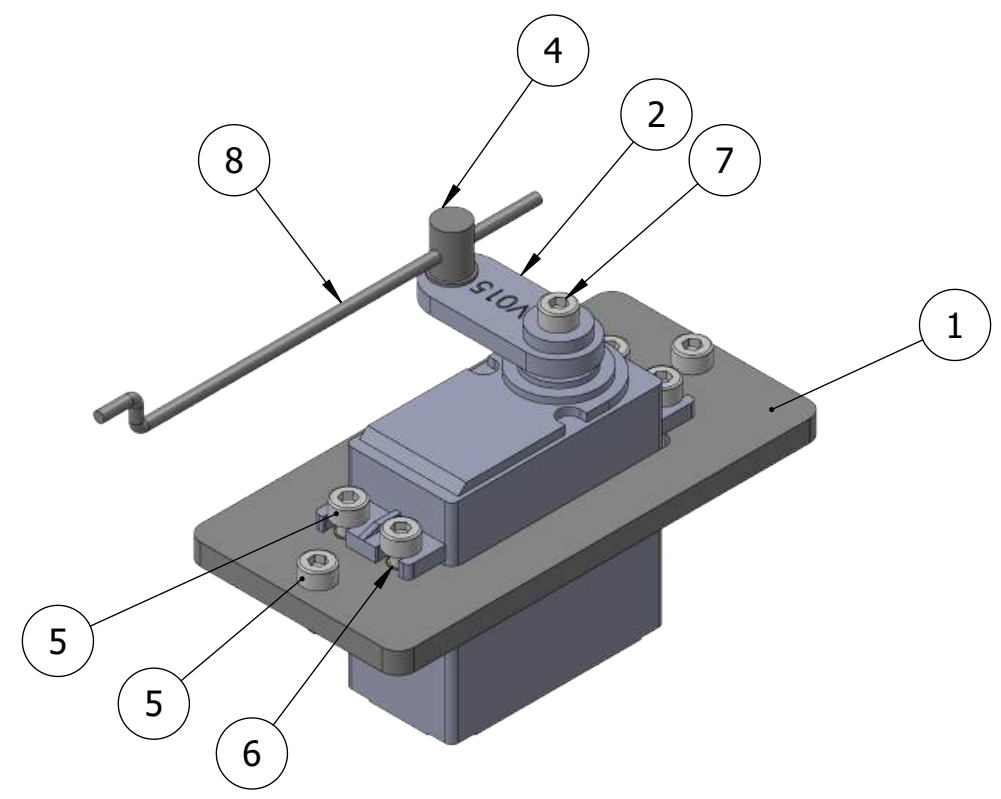
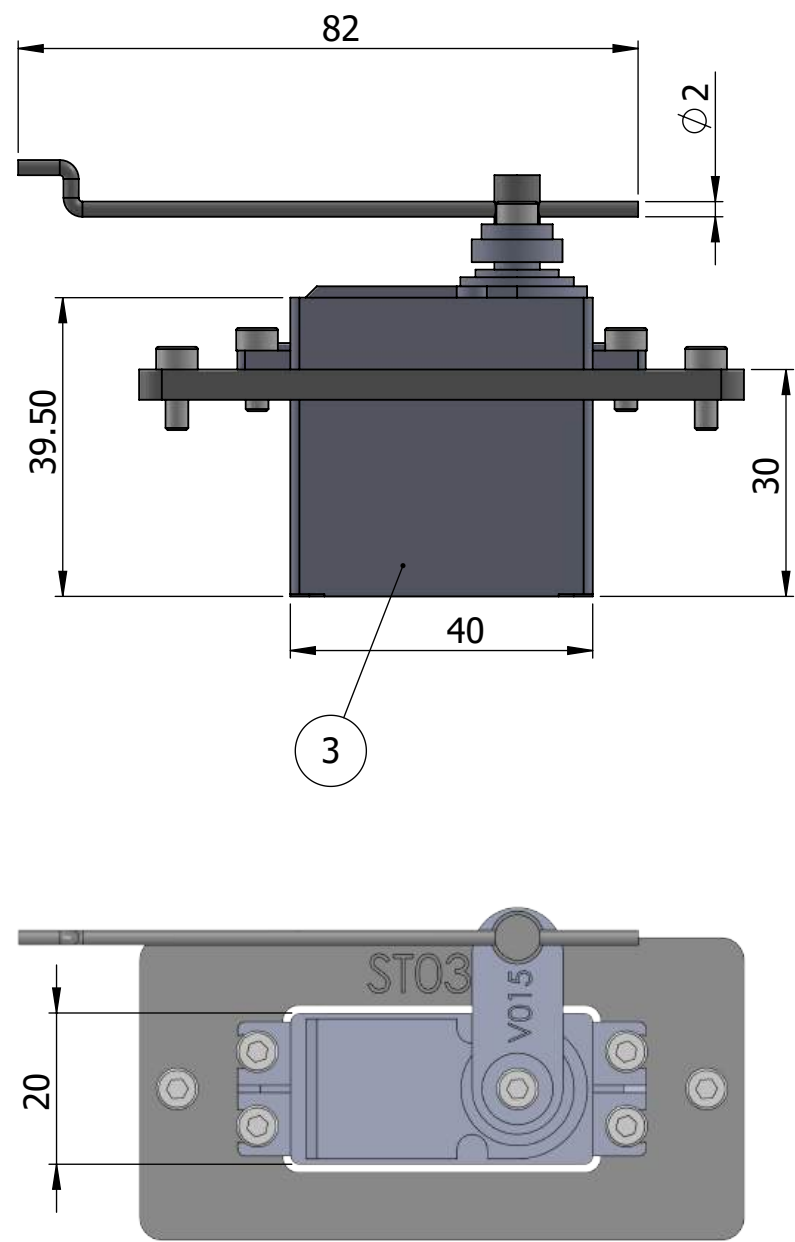
Sheet:
2.1




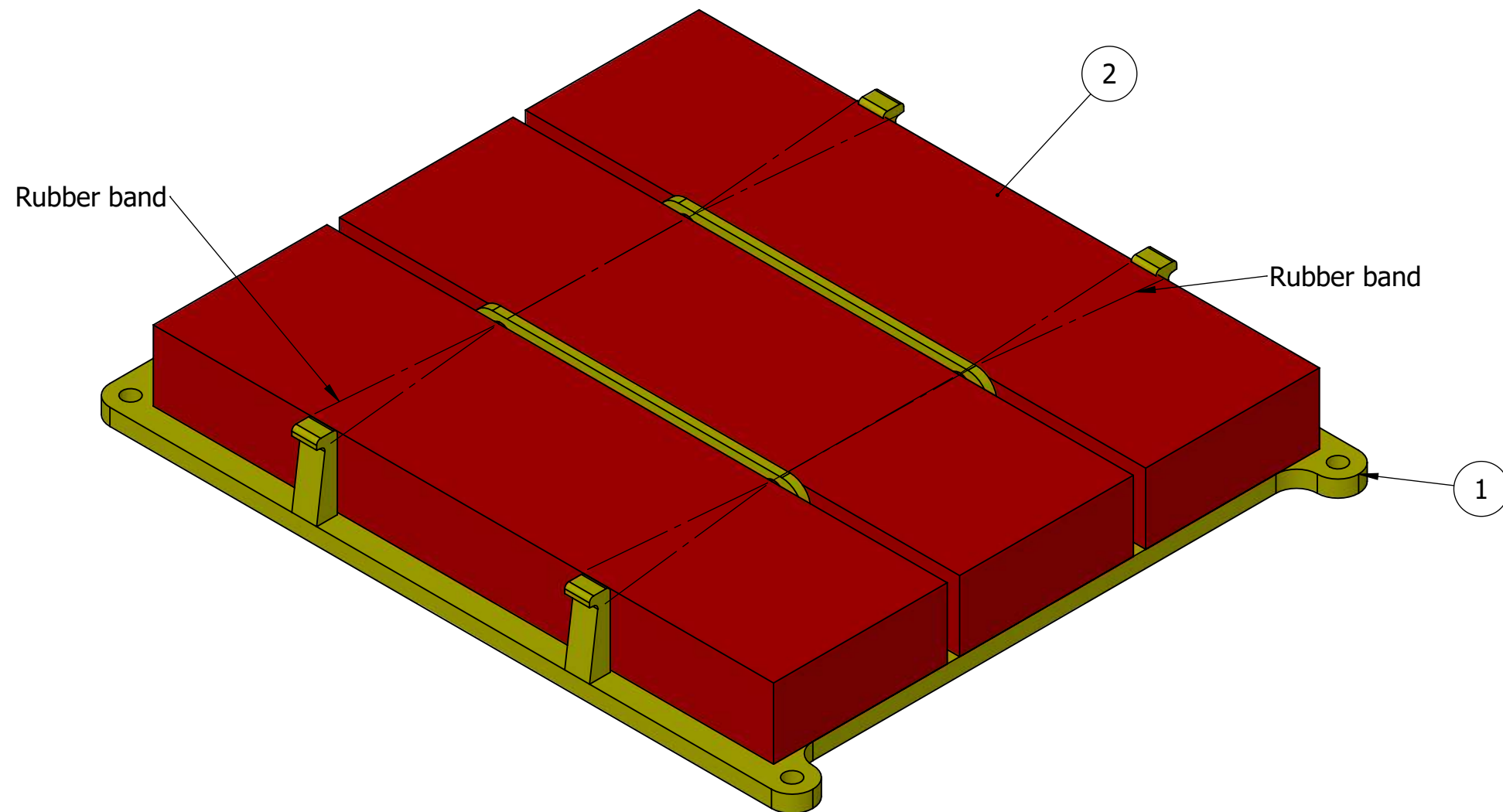
12	2	Hexagon socket head cap screw		DIN912 M3x8 - A2-70
11	1	Oil nozzle		8mm
10	1	Knurled nut		M3 L=3
9	1	Brushed motor		540, 80T
8	1	Timing pulley		2GT, 12 Teeth/ Bore 3.175 mm/ Width 6 mm
7	1	Timing pulley		2GT, 20 Teeth/ Bore 3mm/ Width 6 mm
6	1	Timing Belt		2GT, 6mm/150mm
5	1	Propeller shaft		3mm, 200/250mm
4	1	Motor holder	ST027	
3	1	Spacer	ST046	
2	1	Propeller nut	ST104	
1	1	Propeller 42mm LH	ST063	
Item	QTY	Title	Drw.No.	Size/STD
			Drive assembly 2	
			ST106	Sheet: 2.2




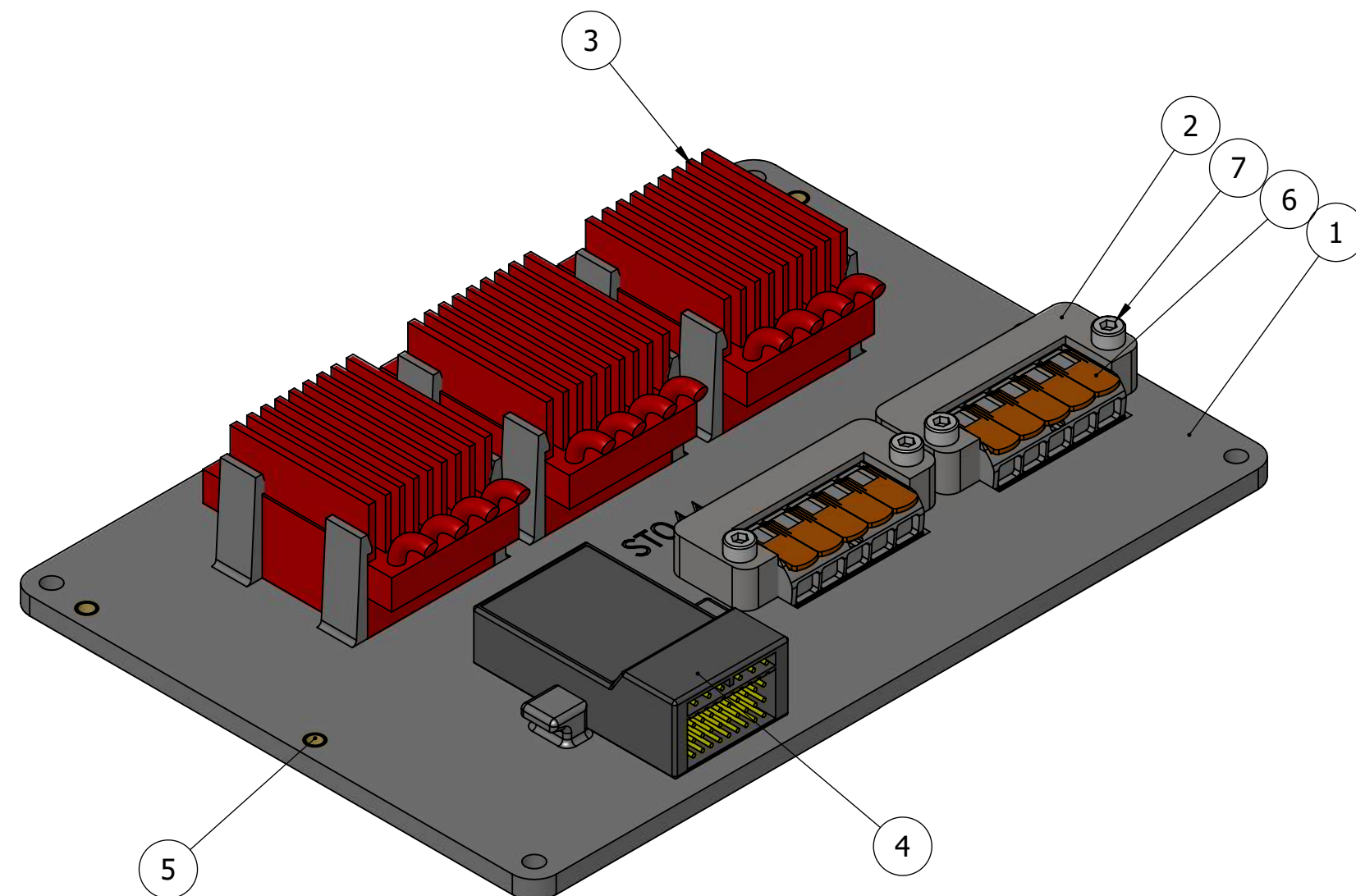
6	1	Hexagon thin nut		ISO4035 M3 - A2-035 -
5	3	Hexagon socket head cap screw		DIN912 M3x10 - A2-70
4	1	Rudder	ST054	
3	1	Rudder lever bushing	ST049	
2	1	Rudder lever	ST050	
1	1	Lever bearing	ST048	
Item	QTY	Title	Drw.No.	Size/STD
			Rudder assembly	
			ST110	Sheet: 2.4




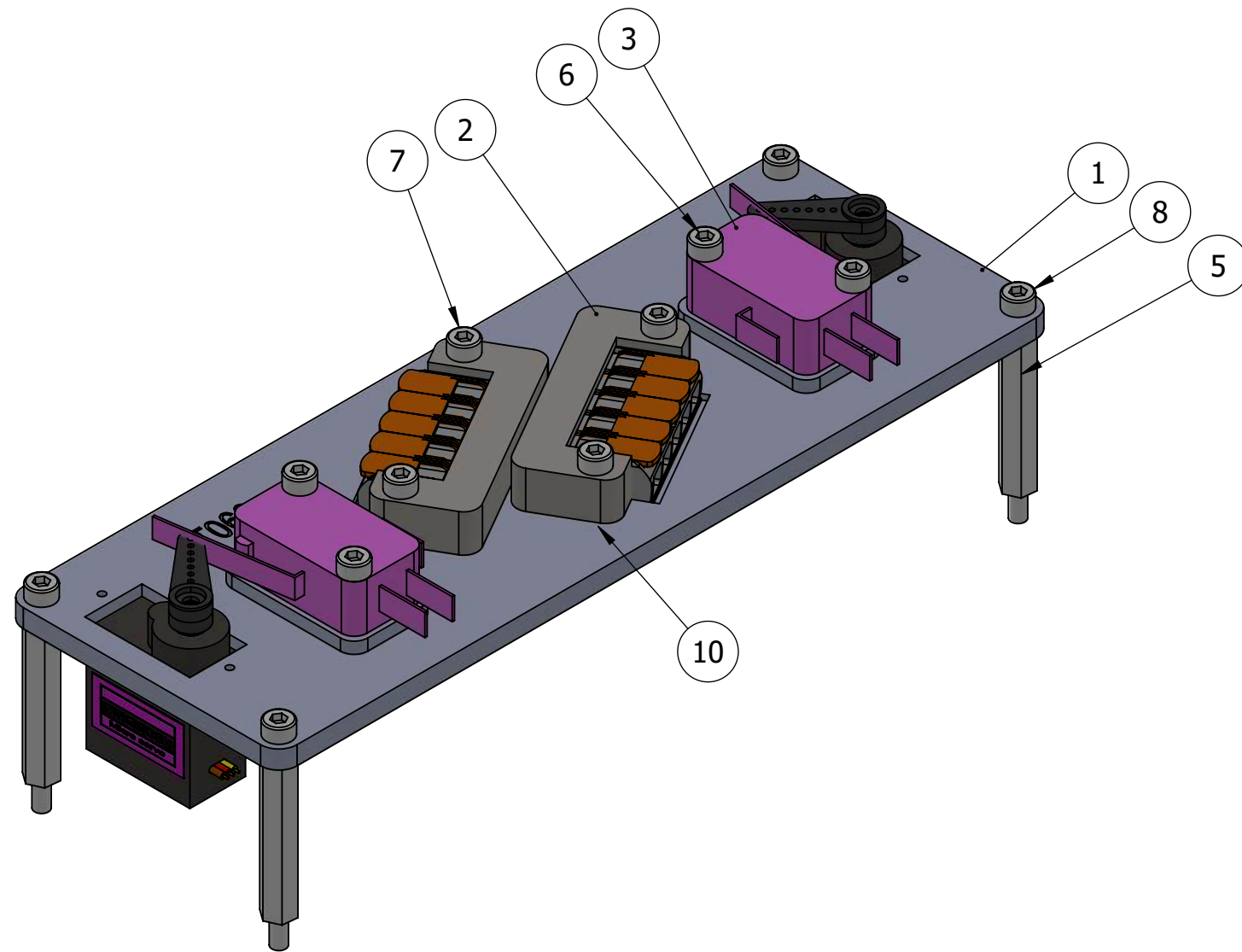
8	1	Connecting rod		2mm L=300mm
7	1	Hexagon socket head cap screw		DIN912 M3x6 - A2-70
6	5	Knurled nut		M3 L=3
5	7	Hexagon socket head cap screw		DIN912 M3x8 - A2-70
4	1	Push rod connector		DD6 M3
3	1	Servo		MG996 90-180
2	1	Servo lever	V015	
1	1	Servo holder	ST037	
Item	QTY	Title	Drw.No.	Size/STD
			Servo assembly	
			ST109	Sheet: 2.5



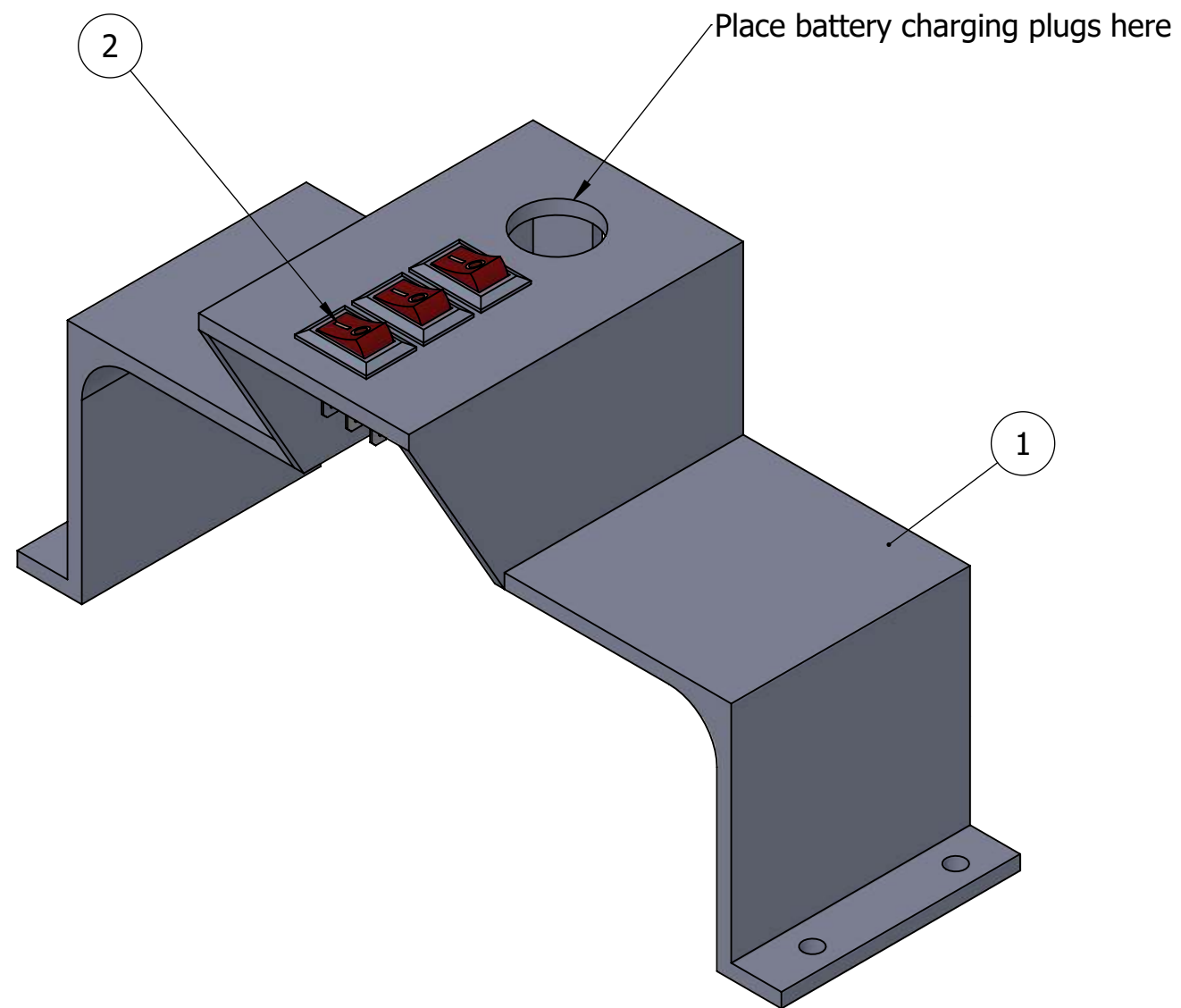
2	3	Battery		Sigma, 45C, 4200 mAh, 2S1P, 7.4V, XT-60
1	1	Mounting plate 02	ST045	
Item	QTY	Title	Drw.No.	Size/STD
		<i>Battery assembly</i>		
		ST111	Sheet: 2.6	



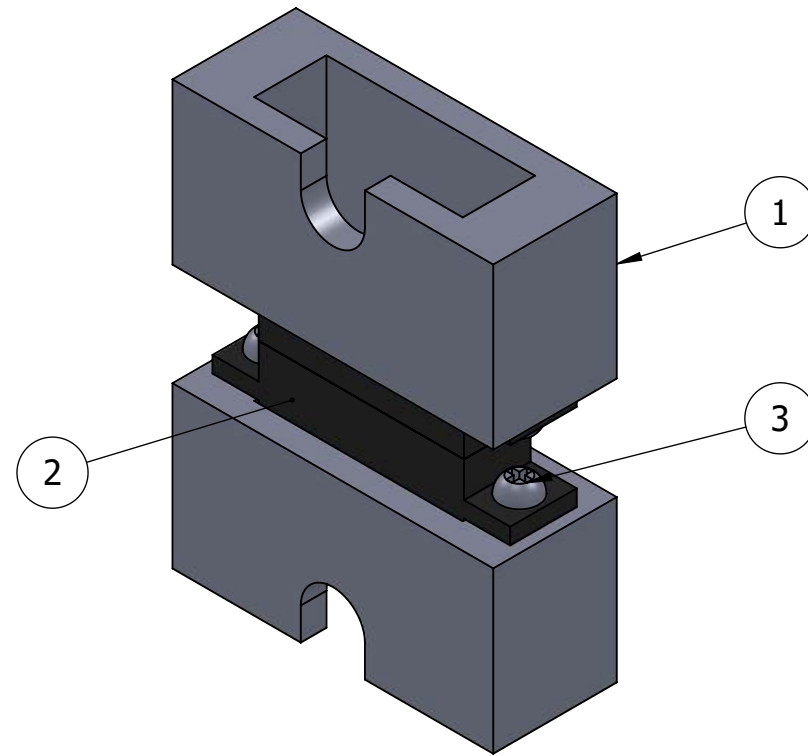
7	4	Hexagon socket head cap screw		DIN912 M3x12 - A2-70
6	2	Connector		WAGO 221-615
5	8	Knurled nut		M3 L=3
4	1	Receiver		Radiomaster R88 v2
3	3	Speed controller		Brush-X60
2	2	Connector fastener	ST047	
1	1	Mounting plate	ST044	
Item	QTY	Title	Drw.No.	Size/STD
			ESC panel	
			ST112	Sheet: 2.7




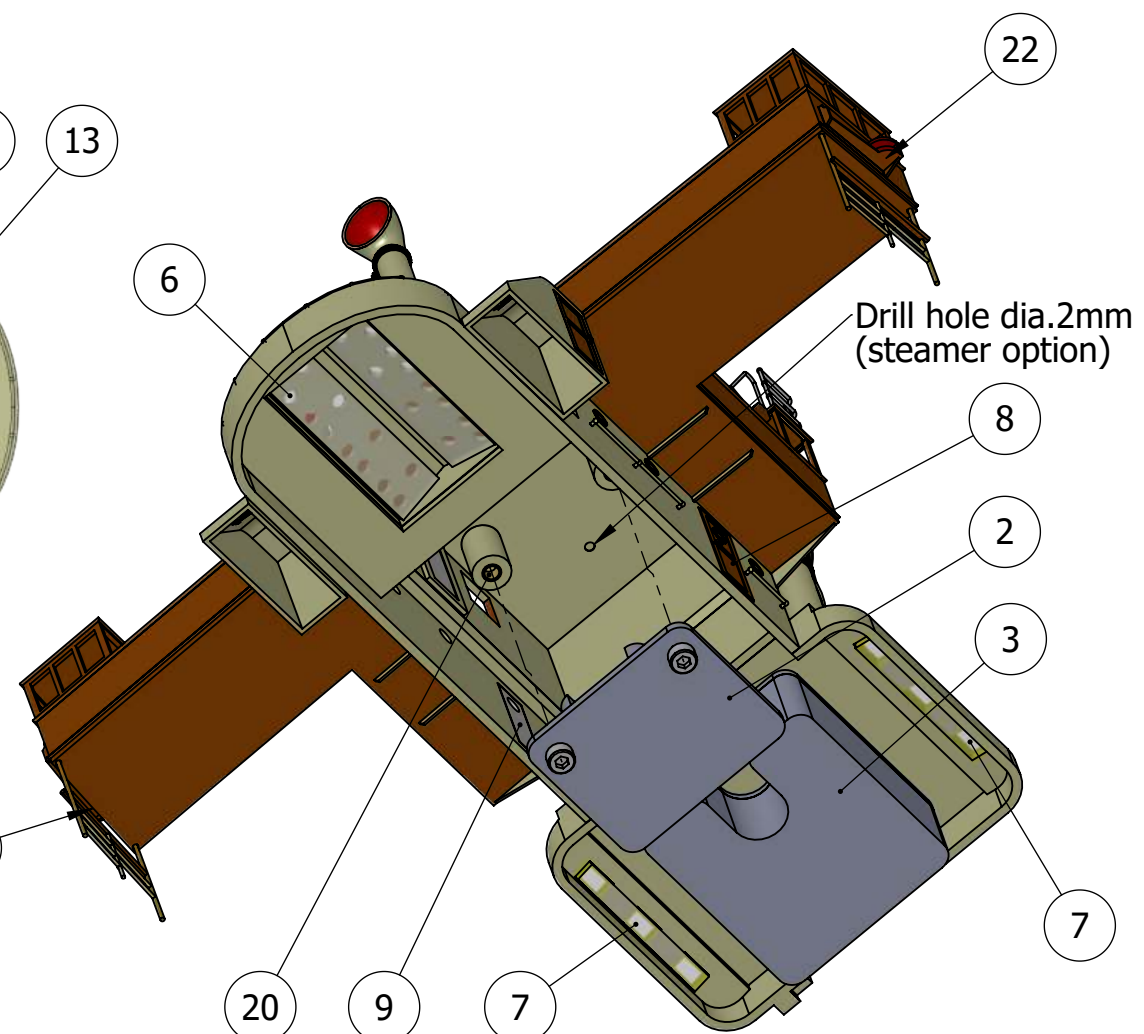
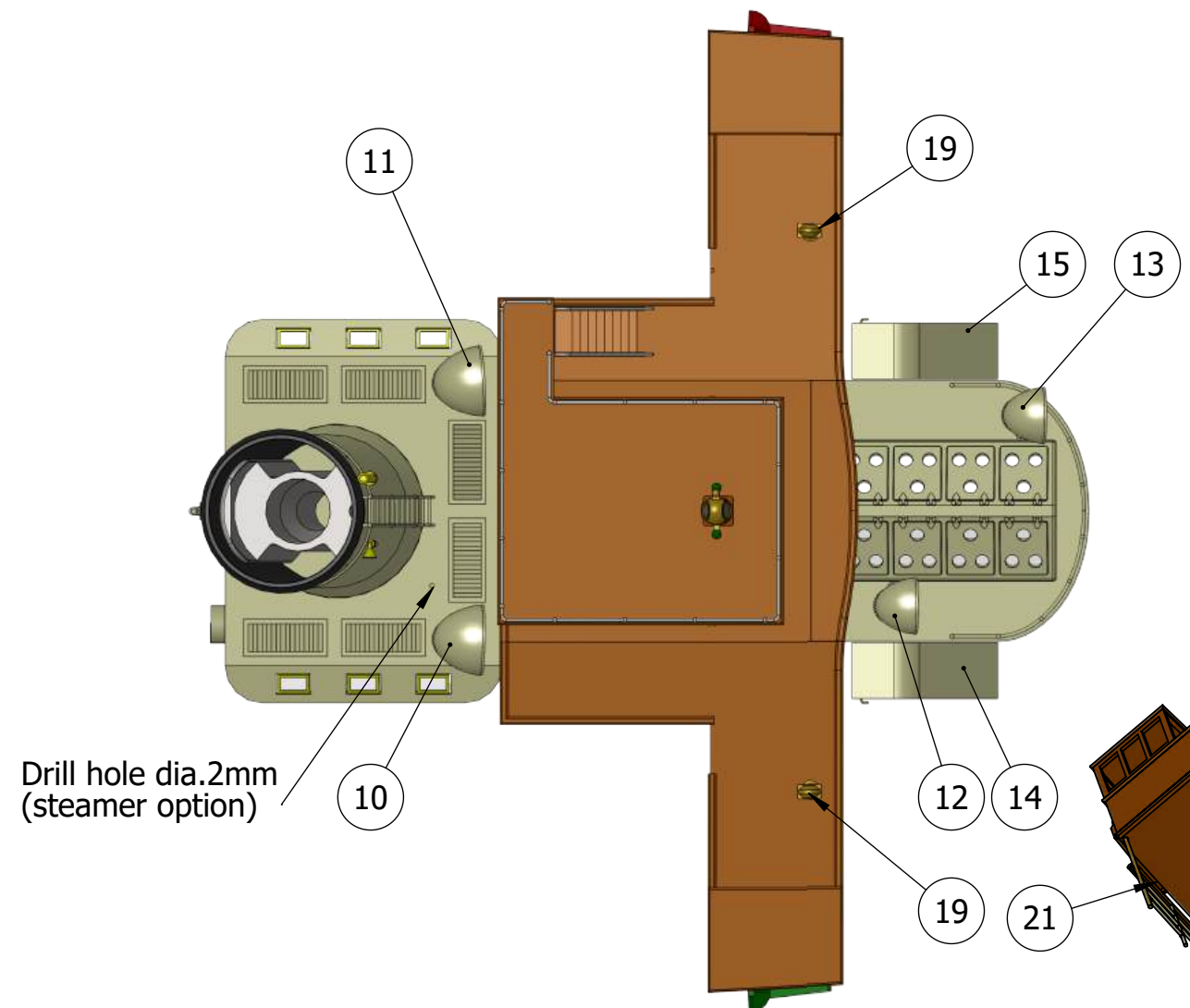
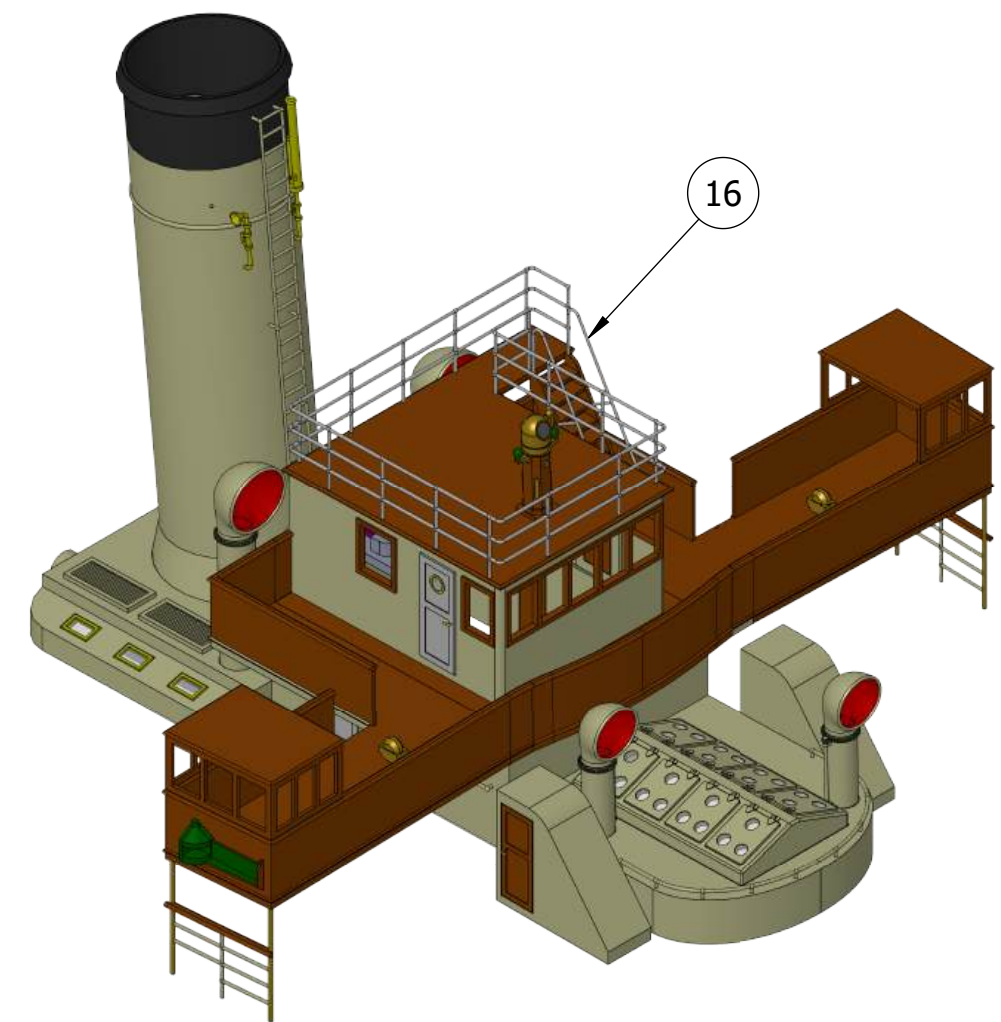
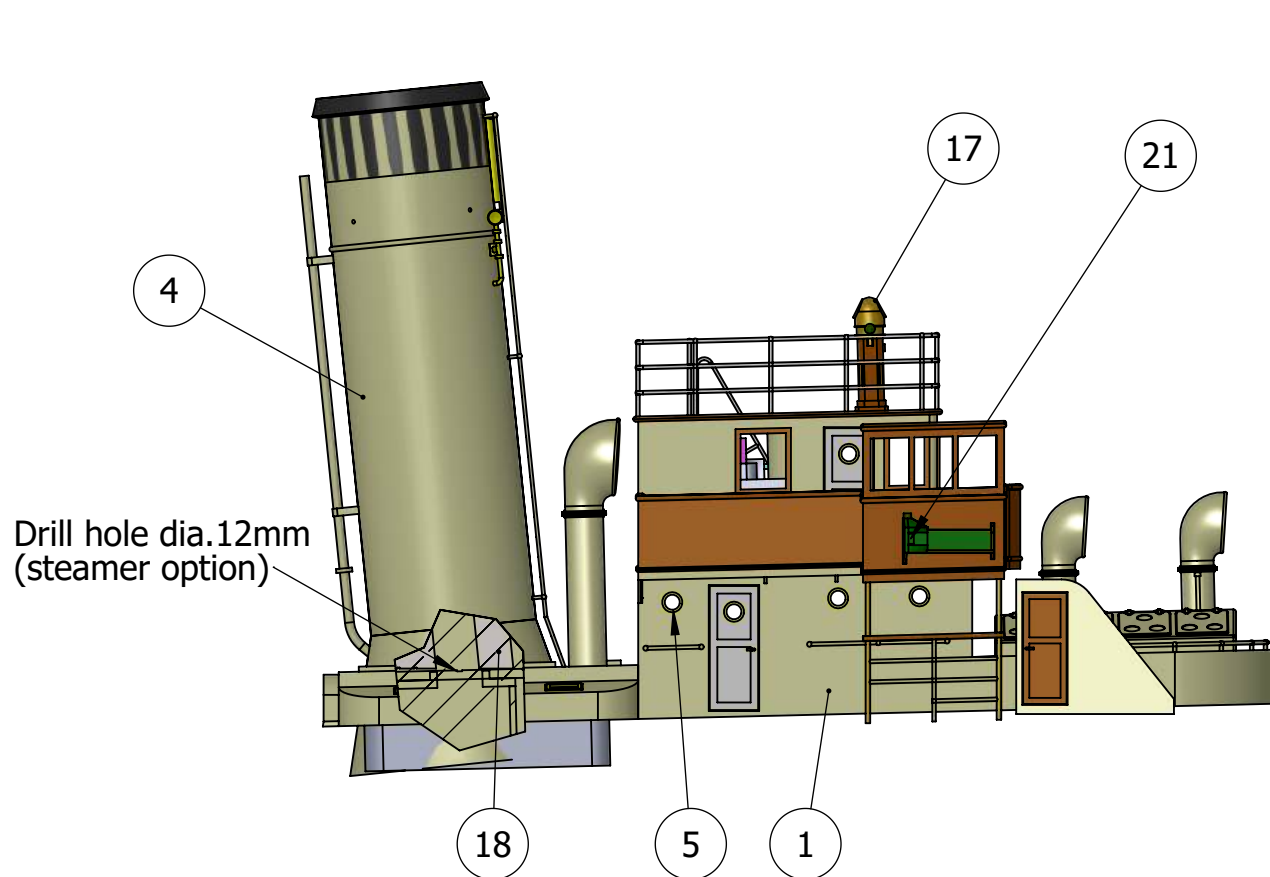
10	8	Knurled nut		M3 L=3
9	2	Connector		WAGO 221-615
8	4	Hexagon socket head cap screw		DIN912 M3x8 - A2-70
7	4	Hexagon socket head cap screw		DIN912 M3x12 - A2-70
6	4	Hexagon socket head cap screw		DIN912 M3x16 - A2-70
5	4	Standoff, Female-Male, M3-M3		L=30mm
4	2	Servo	Servo M90S	MG90S
3	2	Micro switch		V-152-1C25
2	2	Connector fastener	ST047	
1	1	Switches panel	ST066	
Item	QTY	Title	Drw.No.	Size/STD
		Switches panel assy (optional)		
		ST067		Sheet: 2.8




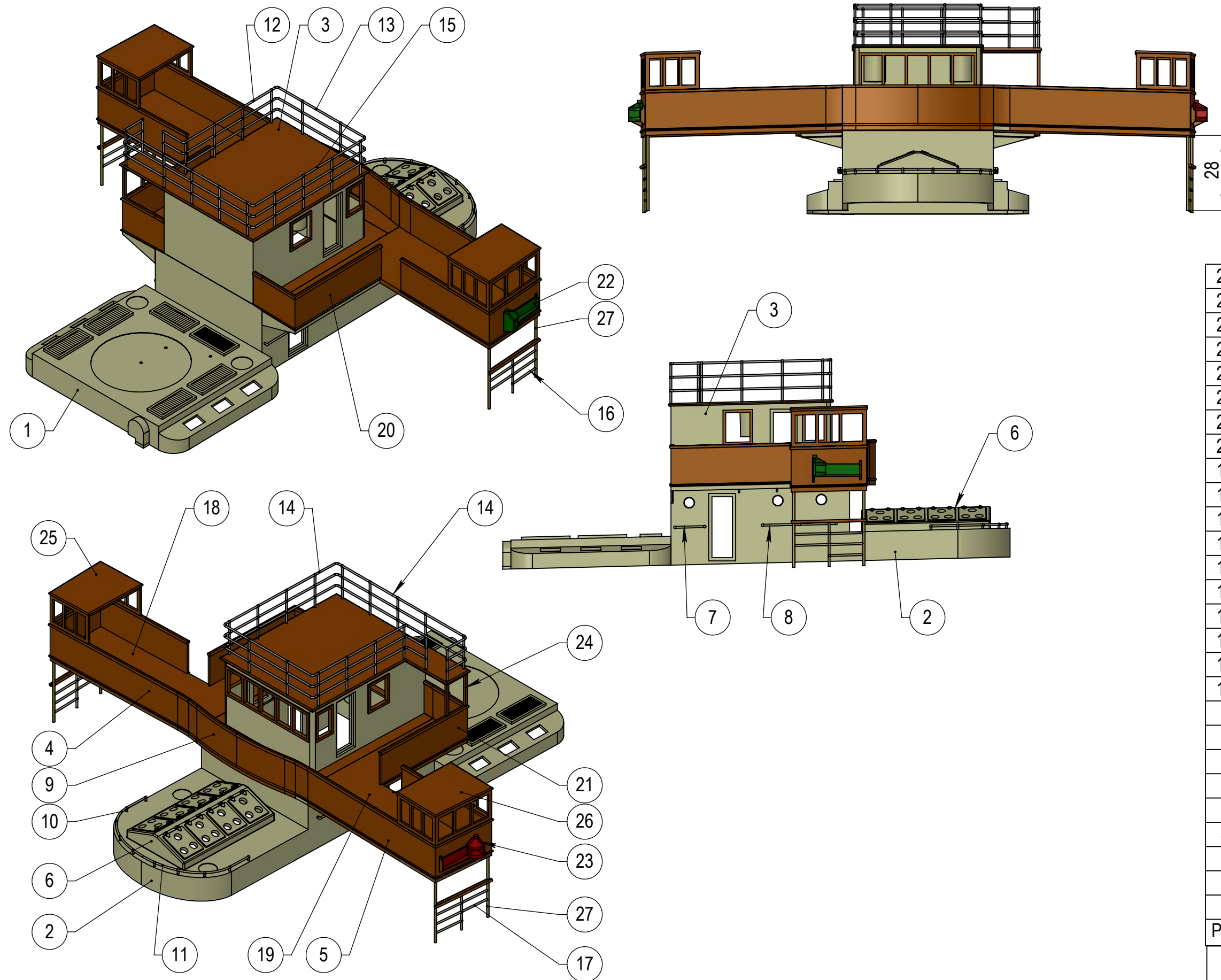
2	3	Rocker switch		KCD11-101
1	1	Main switch mounting bracket	ST087	
Item	QTY	Title	Drw.No.	Size/STD
		Main switch assembly		
		ST113	Sheet:	2.9




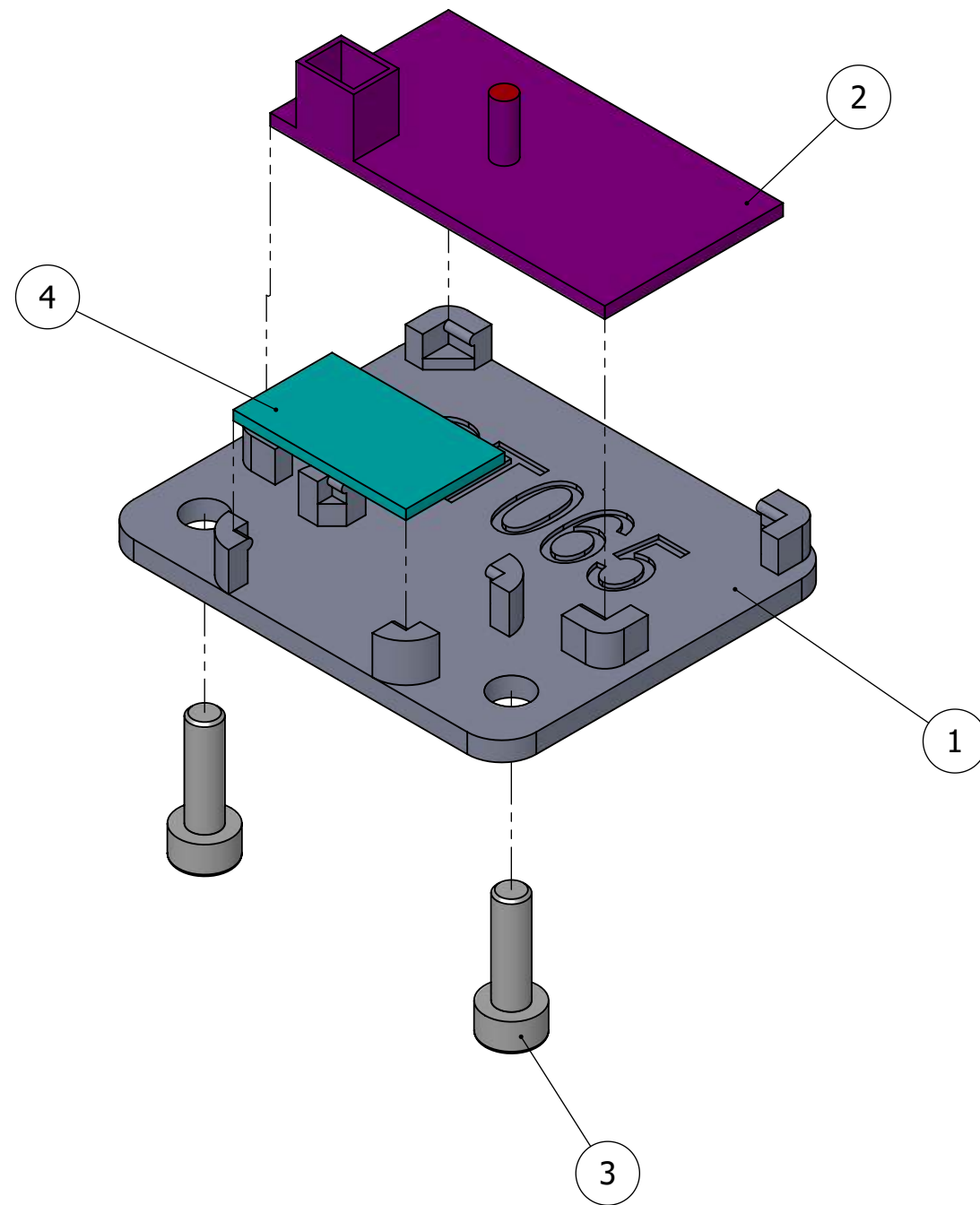
3	4	Tapping screw		M1,4x6
2	1	Pogopin connector (pair)		2 Pins, 2,8mm spacing, ears 2,54mm
1	2	Magnetic connector mounting	ST091	
Item	QTY	Title	Drw.No.	Size/STD
		Magnetic connector assembly		
		ST092	Sheet:	2.10




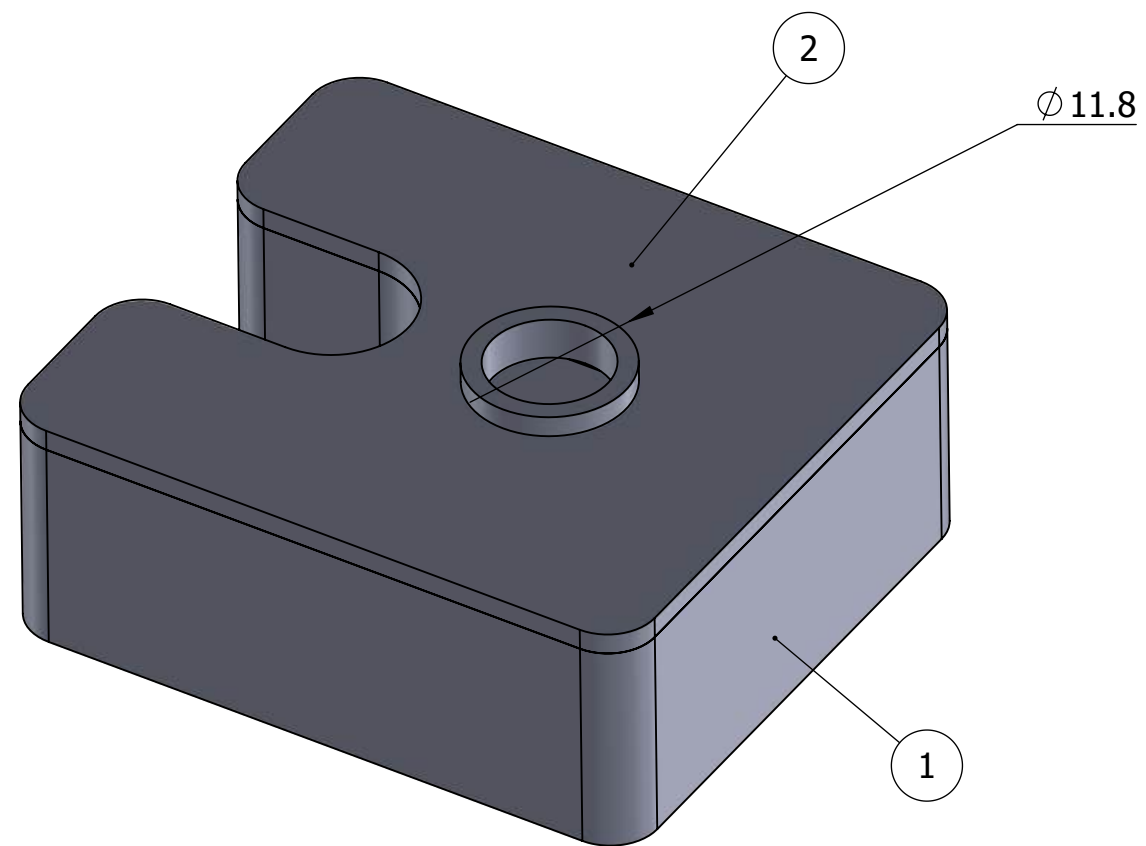
22	1	LED, Red		0805 Prewired SMD, 12V
21	1	LED, Green		0805 Prewired SMD, 12V
20	2	Knurled nut		M3 L=3
19	2	Telegraph	ST119	
18	1	Evaporator holder	ST060	
17	1	Compass	ST118	
16	1	Stair 2	ST090	
15	1	Entrence 02	ST031	
14	1	Entrence 03	ST032	
13	1	Cowl vent 4	ST082	
12	1	Cowl vent 3	ST081	
11	1	Cowl vent 2	ST080	
10	1	Cowl vent 1	ST079	
9	2		ST041-3	
8	2		ST041-4	
7	2	Bow funnel skylight illuminators	ST038	
6	2	Illuminators 3mm	ST036	
5	10	Illuminator 4mm	ST035	
4	1	Bow funnel	ST042	
3	1	Water tank	ST059	
2	1	Steamer control panel	ST116	
1	1	Wheelhouse subassy	ST024	
Item	QTY	Title	Drw.No.	Size/STD
				
		Wheelhouse assembly		
		ST117		
		Sheet: 3		




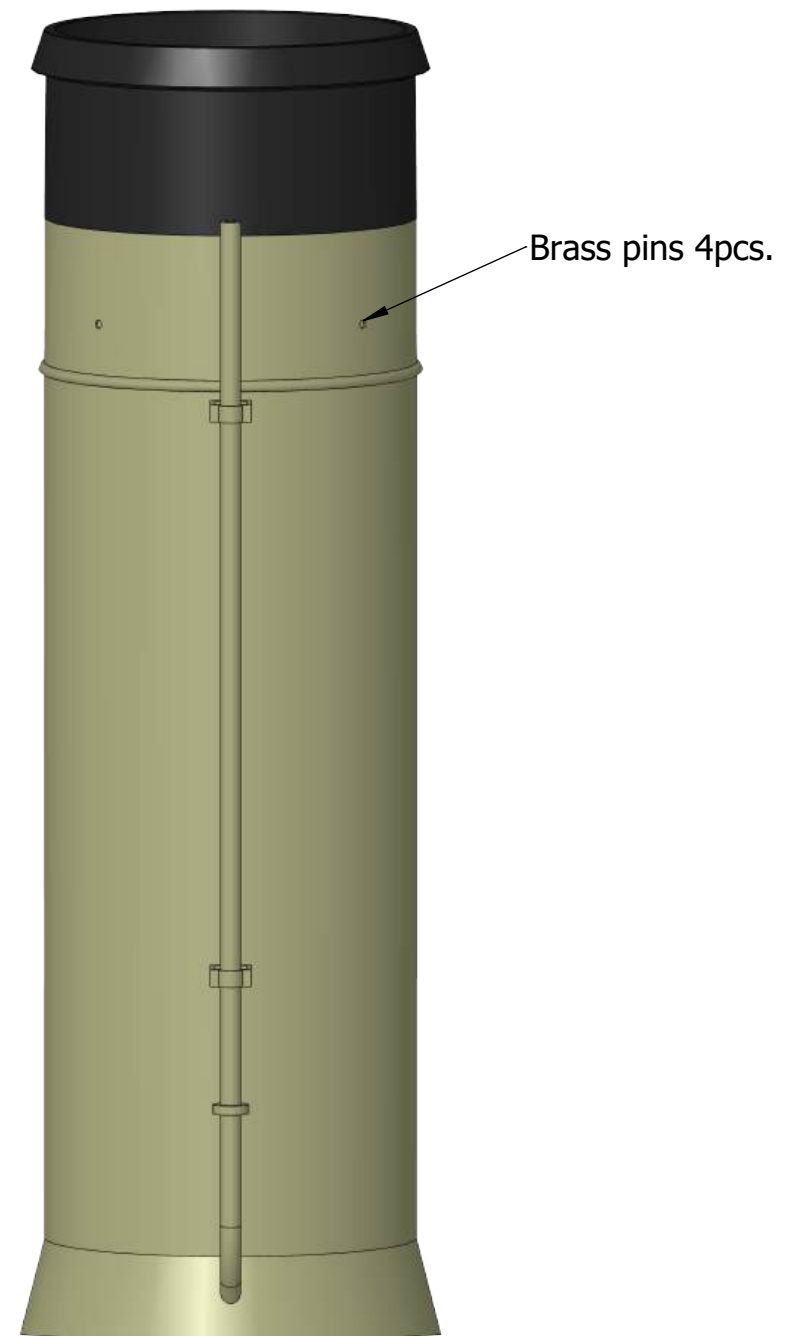
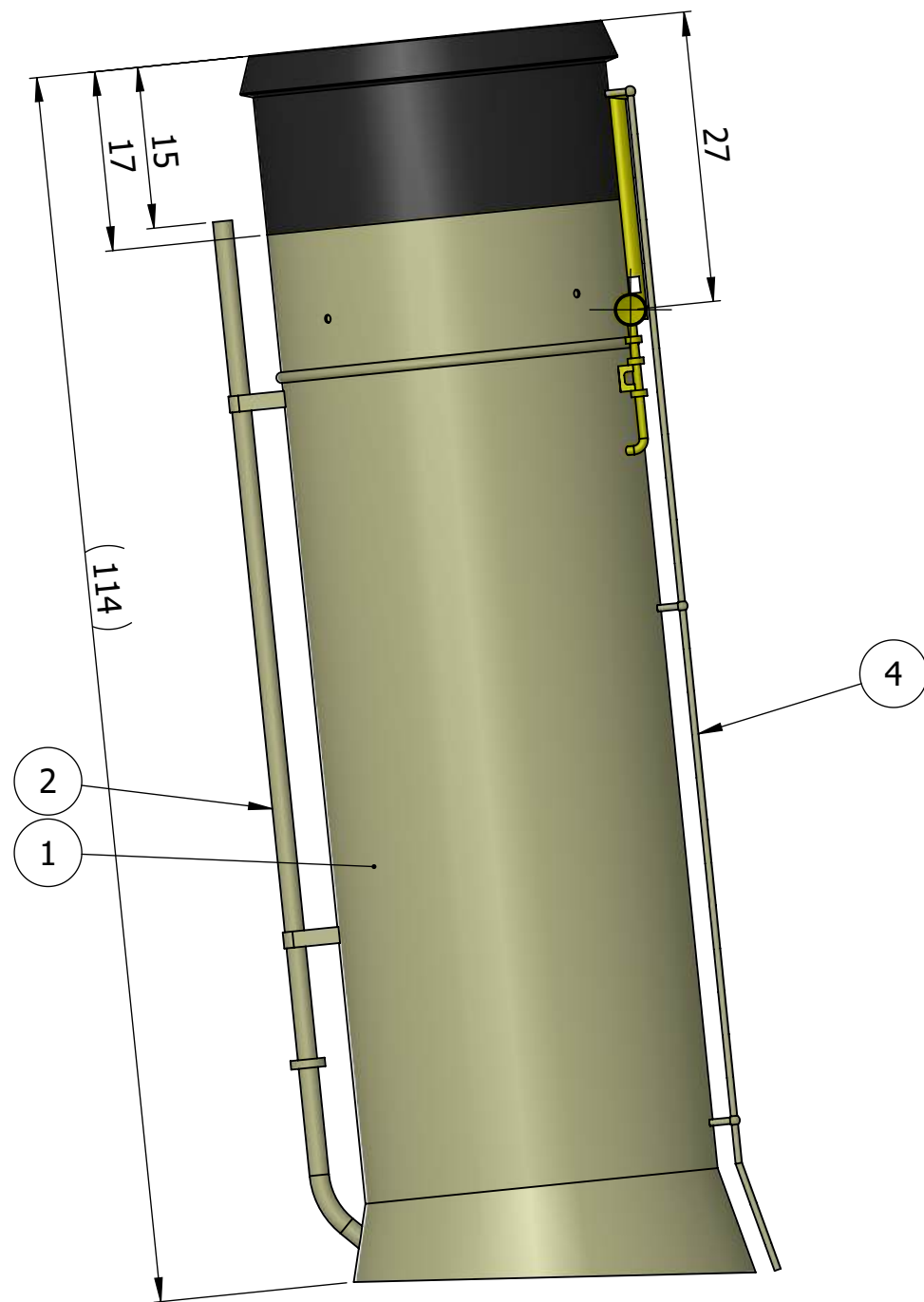
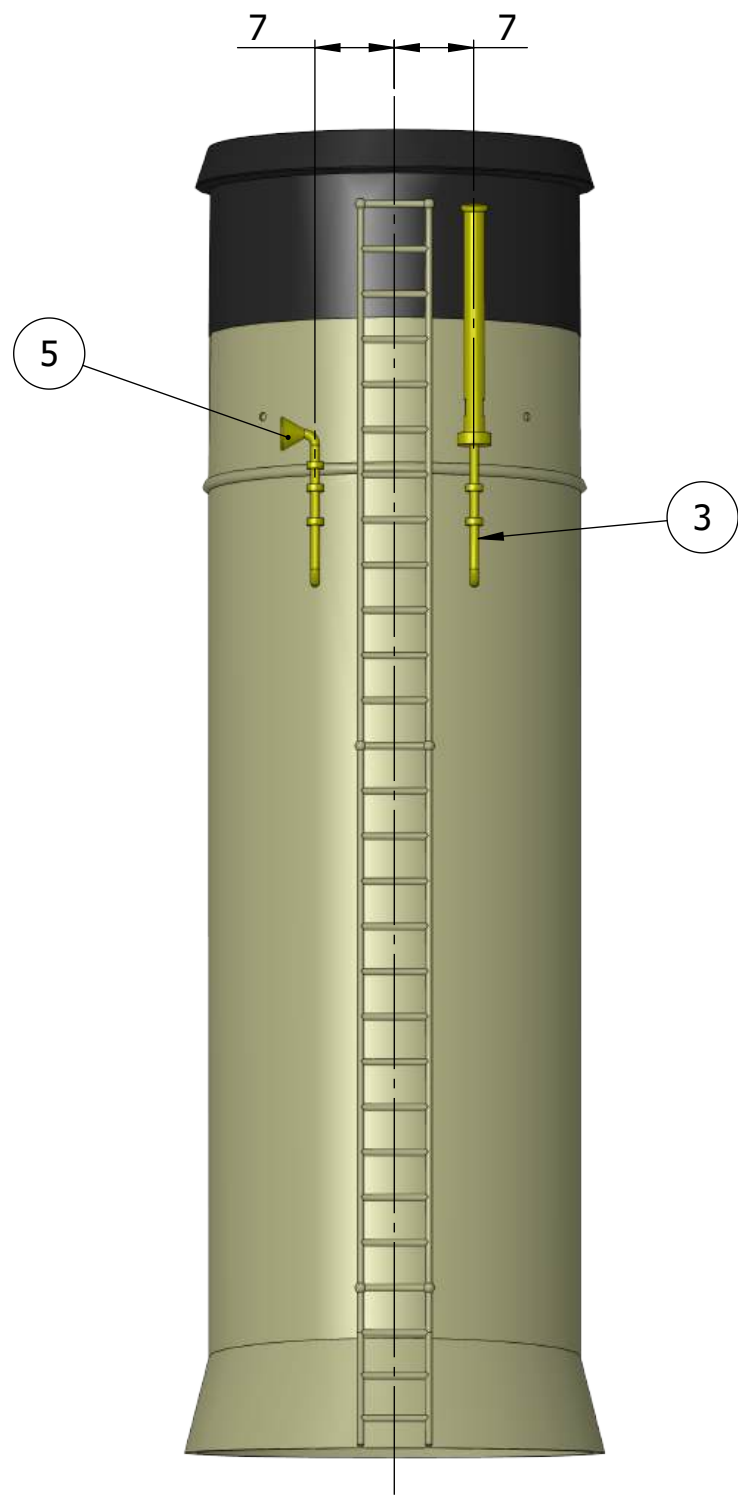
27	4		Brass	Wire 0.9x29mm
26	1	ST024-26		
25	1	ST024-25		
24	2	ST024-24		
23	1	ST024-23		
22	1	ST024-22		
21	1	ST024-21		
20	1	ST024-20		
19	1	ST024-19		
18	1	ST024-18		
17	1	ST024-17		
16	1	ST024-16		
15	1	ST024-15		
14	1	ST024-14		
13	1	ST024-13		
12	1	ST024-12		
11	1	ST024-11		
10	1	ST024-10		
9	1	ST024-9		
8	2	ST024-8		
7	2	ST024-7		
6	1	ST024-6		
5	1	ST024-5		
4	1	ST024-4		
3	1	ST024-3		
2	1	ST024-2		
1	1	ST024-1		
Pos	QTY.	No.	Material	Description
			Wheelhouse subassy	
			ST024	Sheet: 3.1




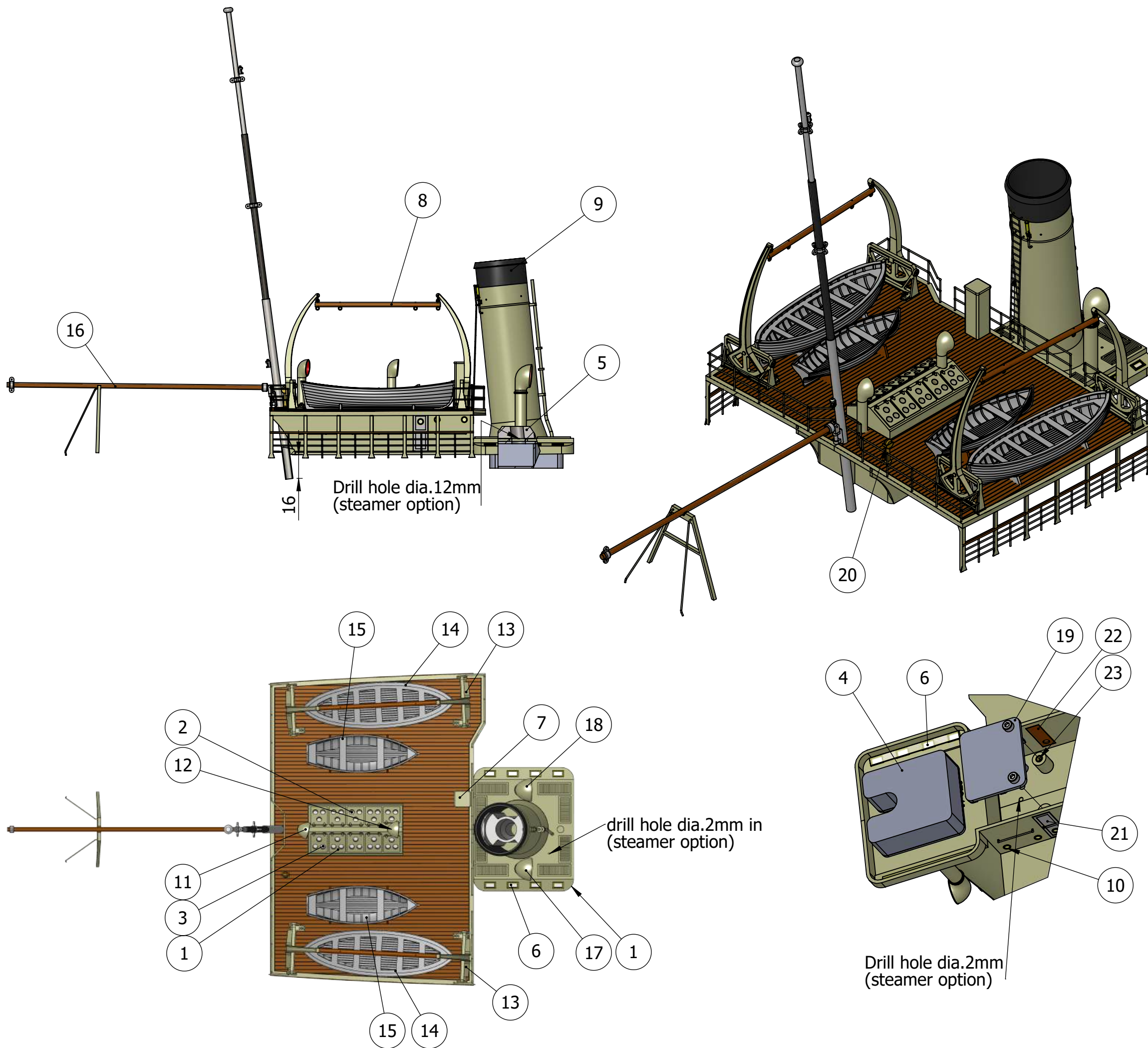
4	1	DC-DC Converter		7.4 to 5V
3	2	Hexagon socket head cap screw		DIN912 M3x10 - A2-70
2	1	Nibulizer PCB		
1	1	Steam generator mounting plate	ST065	
Item	QTY	Title	Drw.No.	Size/STD
		Steamer control panel		
		ST116	Sheet:	3.2




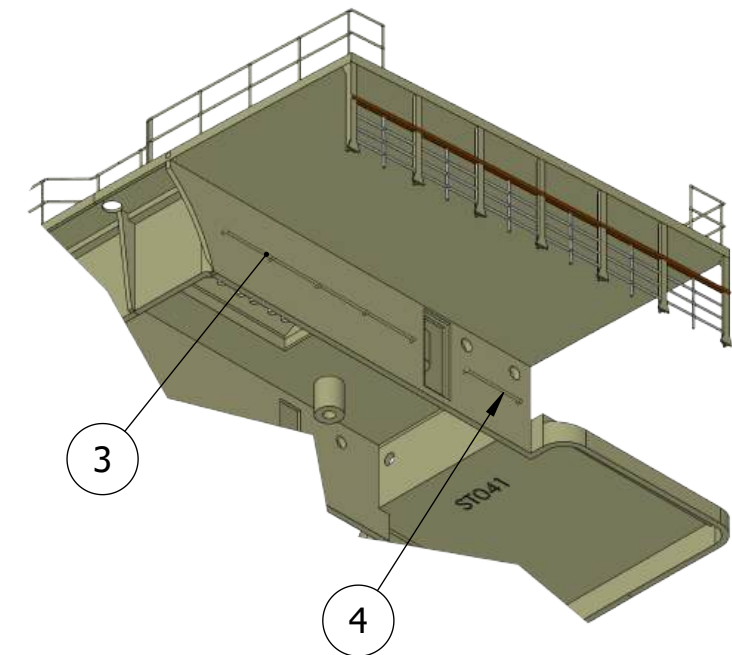
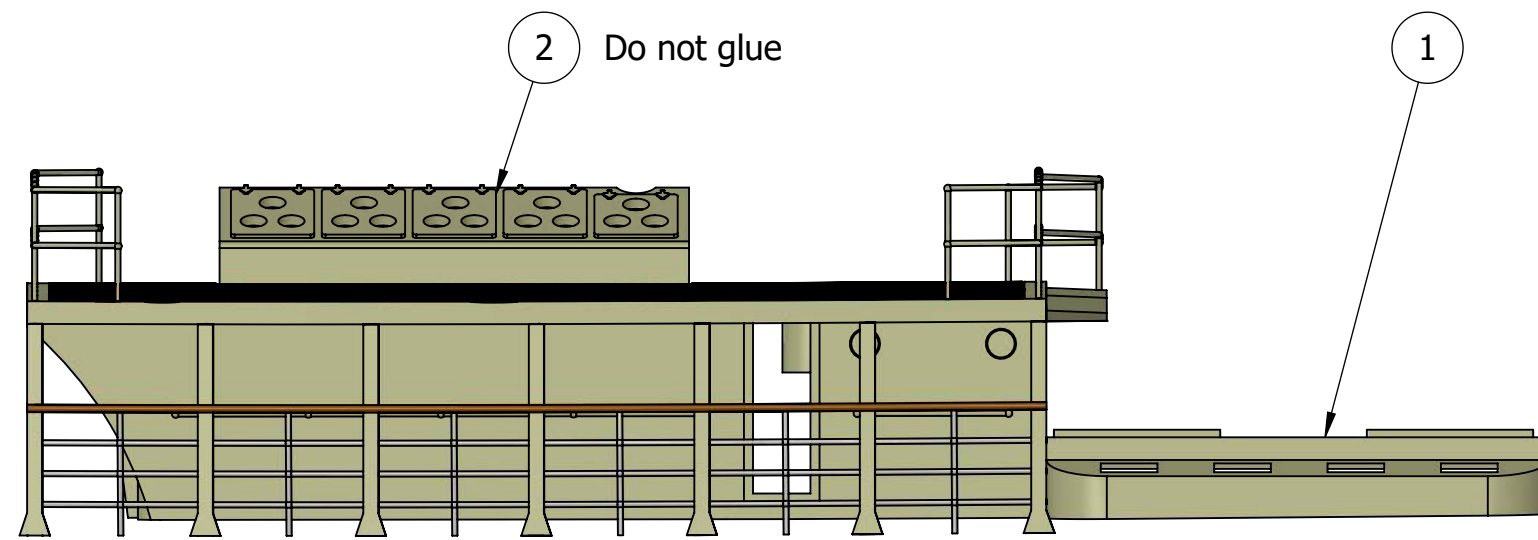
2	1	ST059-2		
1	1	ST059-1		
Pos	QTY.	No.	Material	Description
			Water tank	
			ST059	Sheet: 3.3



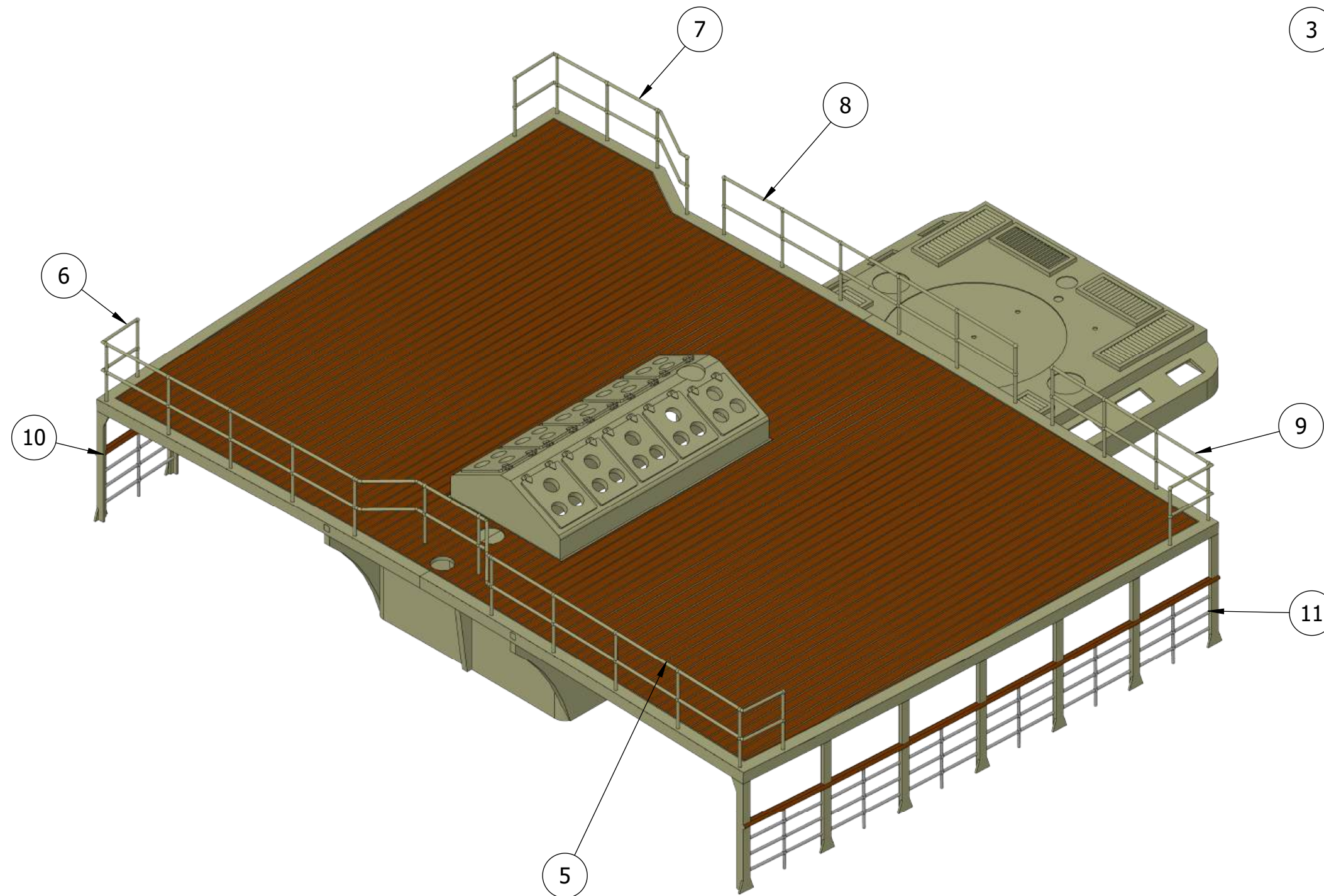
5	1	ST042-5		
4	1	ST042-4		
3	1	ST042-3		
2	1	ST042-2		
1	1	ST042-1		
Pos	QTY.	No.	Material	Description
			Bow funnel	
			ST042	Sheet: 3.4




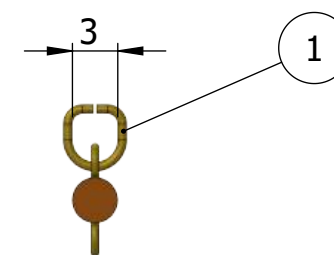
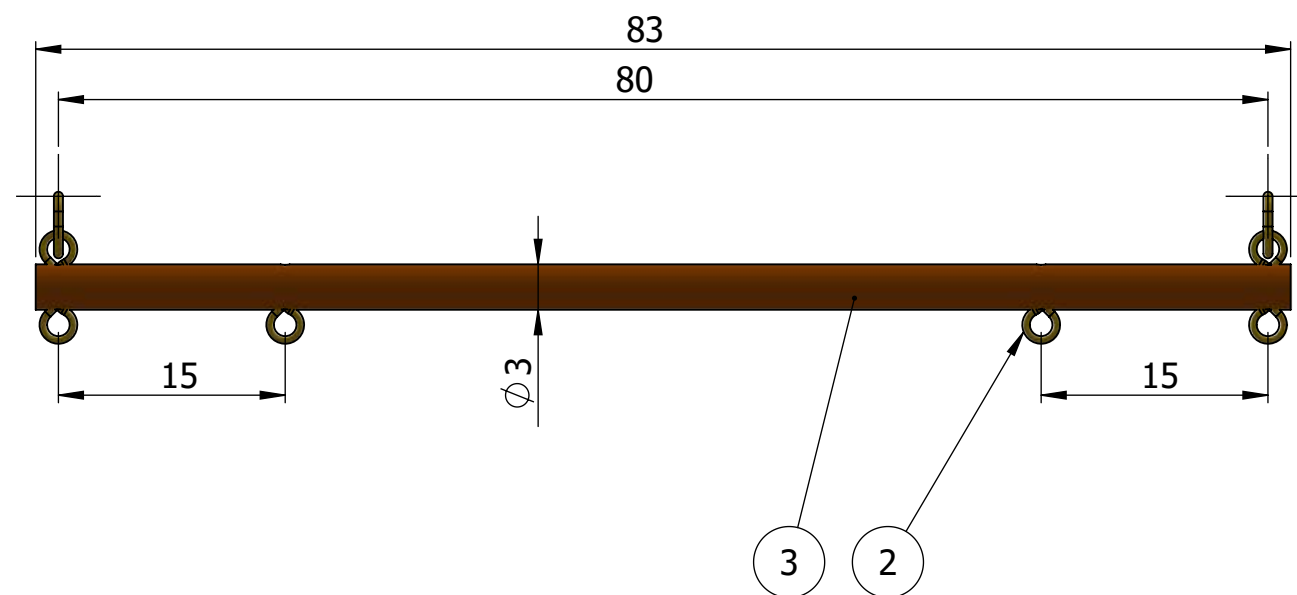
23	2	Knurled nut		M3 L=3
22	1		ST041-4	
21	1		ST041-3	
20	1	Telegraph	ST119	
19	1	Steamer control panel	ST116	
18	1	Cowl vent 2	ST080	
17	1	Cowl vent 1	ST079	
16	1	Aft mast	ST103	
15	2	Lifeboat 2	ST102	
14	2	Lifeboat 1	ST100	
13	2	Lifeboat davit	ST101	
12	1	Cowl vent 6	ST084	
11	1	Cowl vent 7	ST085	
10	7	Illuminator 4mm	ST035	
9	1	Aft funnel	ST043	
8	2	Davit beam assembly	ST115	
7	1	Boat deck pedestal	ST114	
6	2	Aft funnel light/sky illuminators	ST061	
5	1	Evaporator holder	ST060	
4	1	Water tank	ST059	
3	1	Boat deck skylight illuminators RH	ST052	
2	1	Boat deck skylight illuminators LH	ST051	
1	1	Boat deck	ST041	
Item	QTY	Title	Drw.No.	Size/STD
			Boat deck assy	
			ST053	Sheet: 4




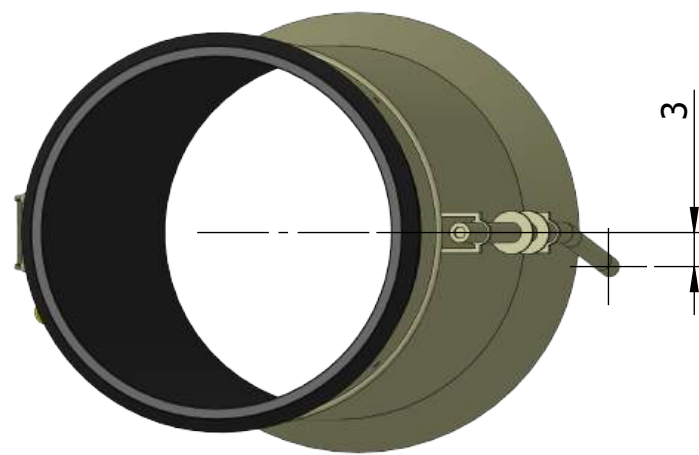
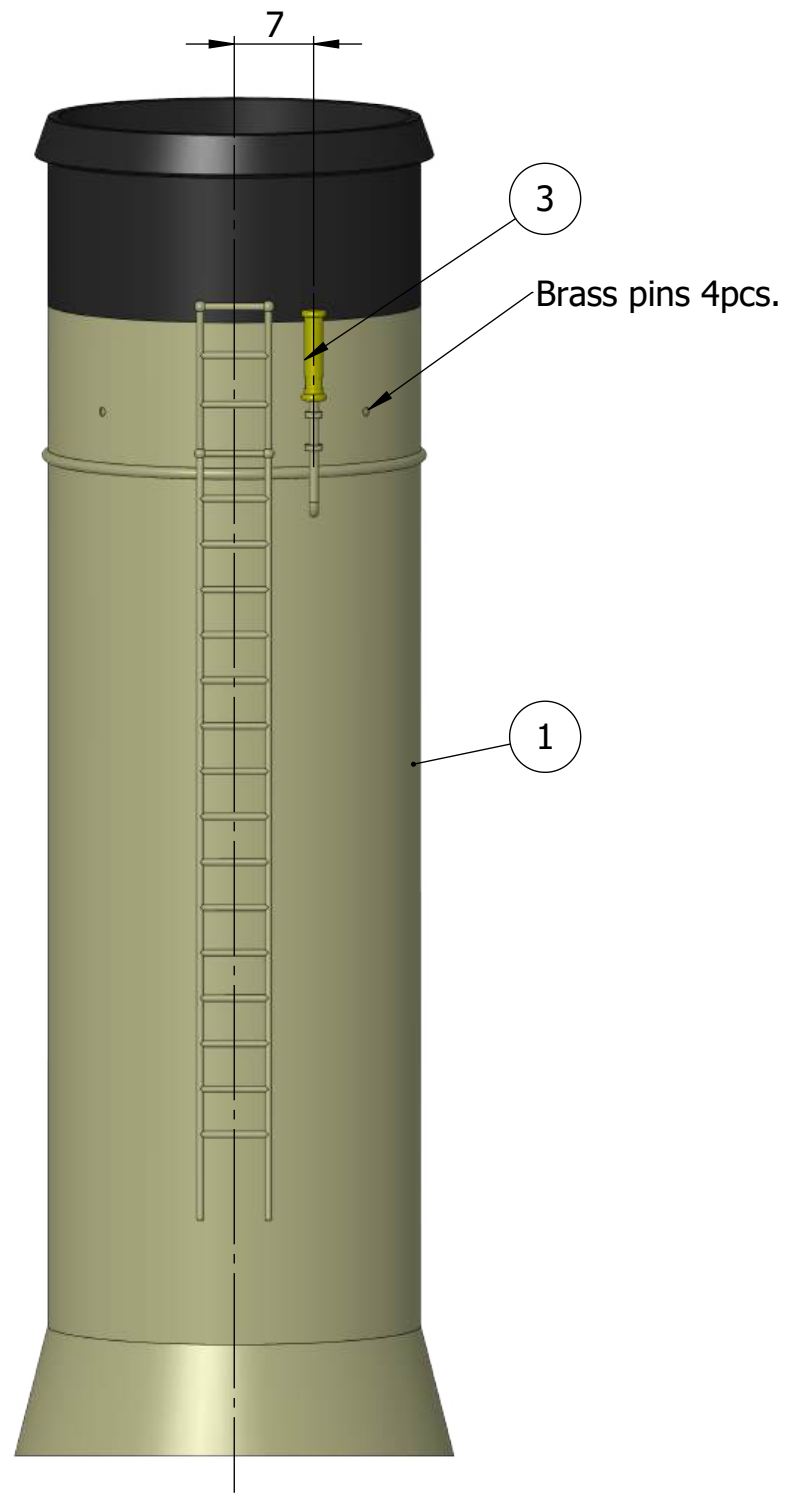
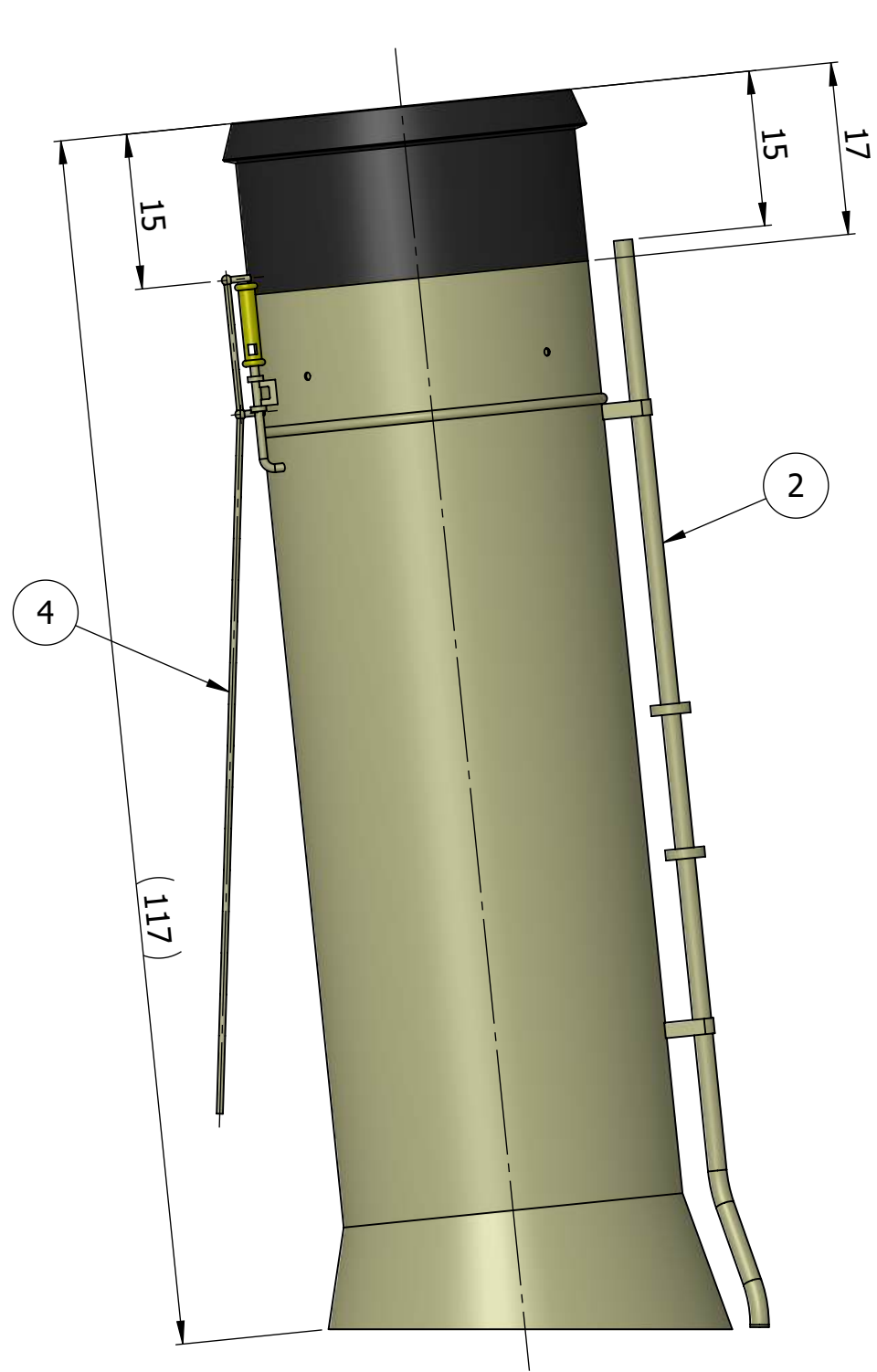
Install pos.3-4 also to the opposite side.




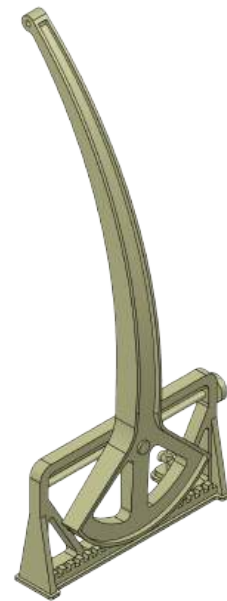
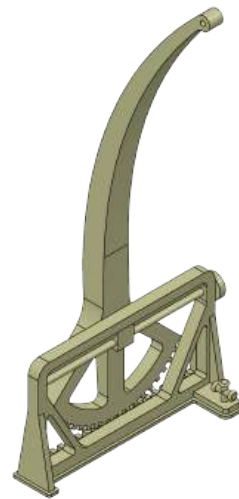
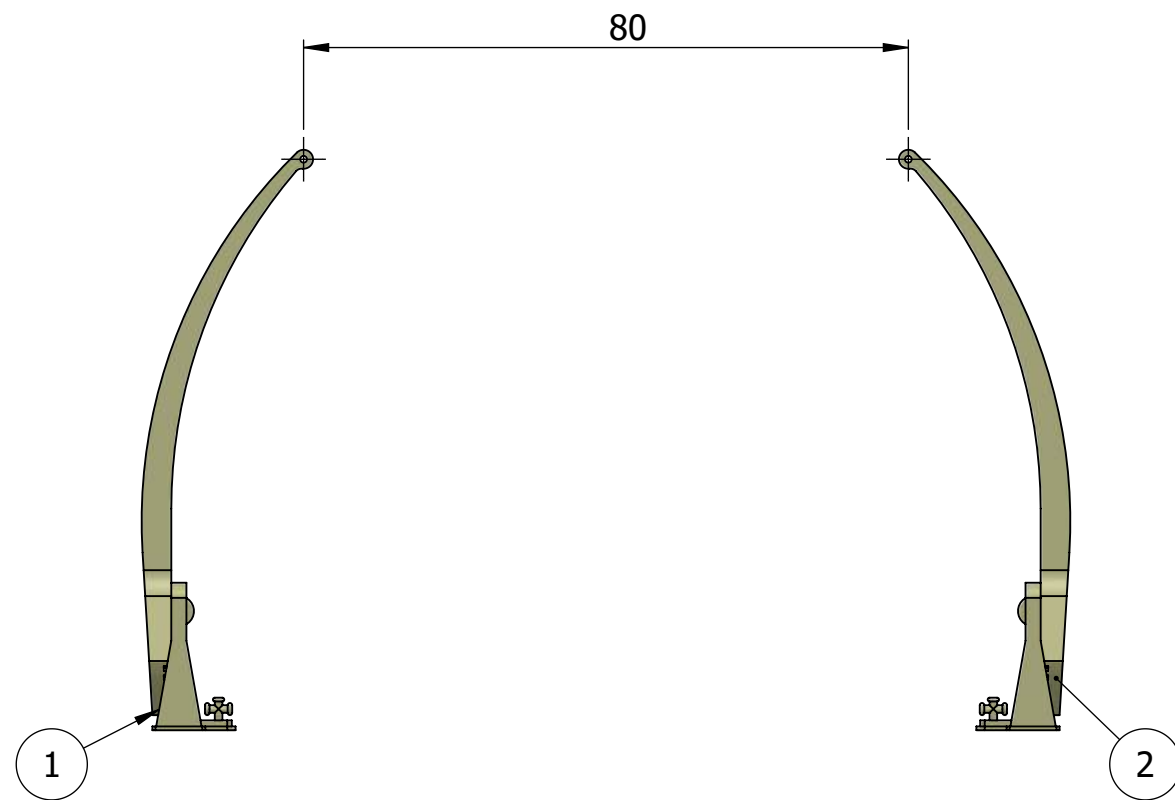
11	1	ST041-13		
10	1	ST041-12		
9	1	ST041-11		
8	1	ST041-10		
7	1	ST041-9		
6	1	ST041-8		
5	1	ST041-7		
4	2	ST041-6		
3	2	ST041-5		
2	1	ST041-2		
1	1	ST041-1		
Pos	QTY.	No.	Material	Description
			Boat deck	
			ST041	Sheet: 4.1




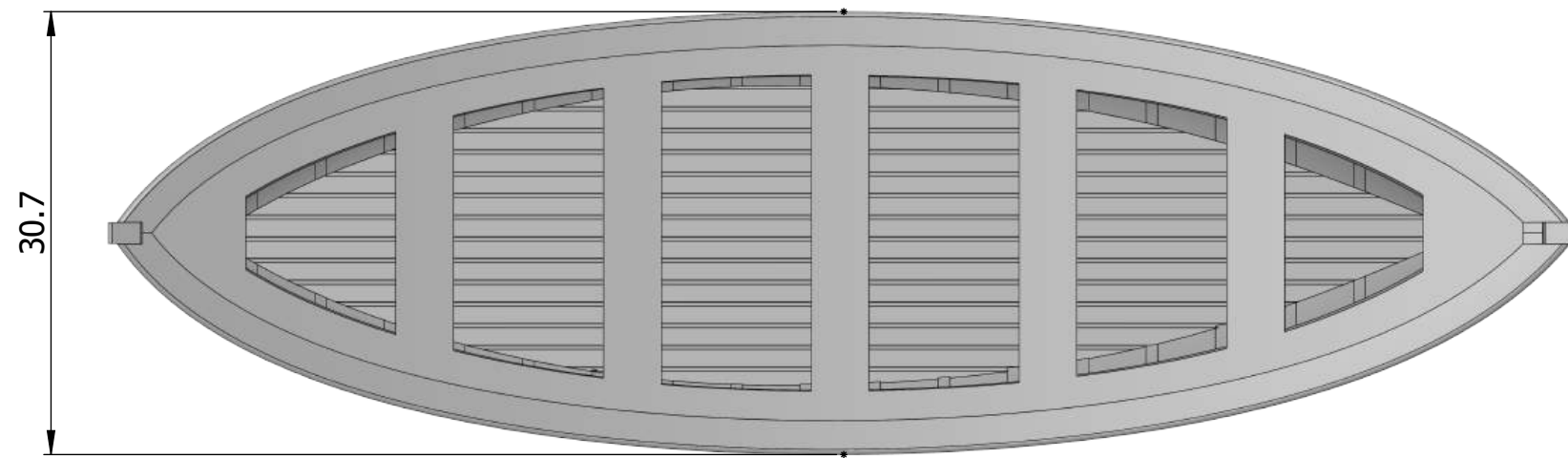
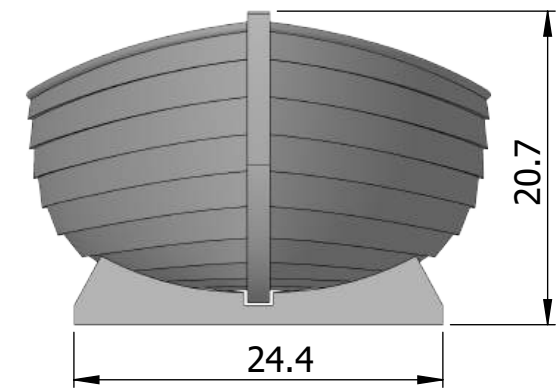
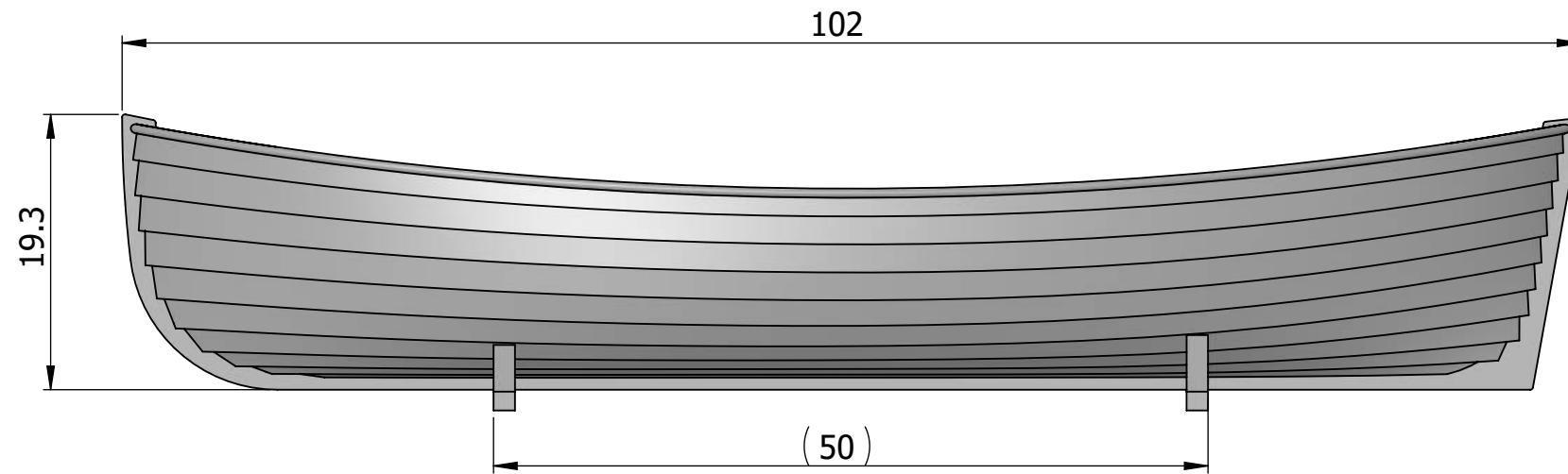
3	1			Bamboo stick, dia.3 L=83mm
2	6		Brass	Eye-pin, 2.5mm
1	2		Brass	Ring, Wire 0.6mm
Pos	QTY.	No.	Material	Description
			<i>Davit beam assembly</i>	
			ST115	<i>Sheet:</i> 4.2




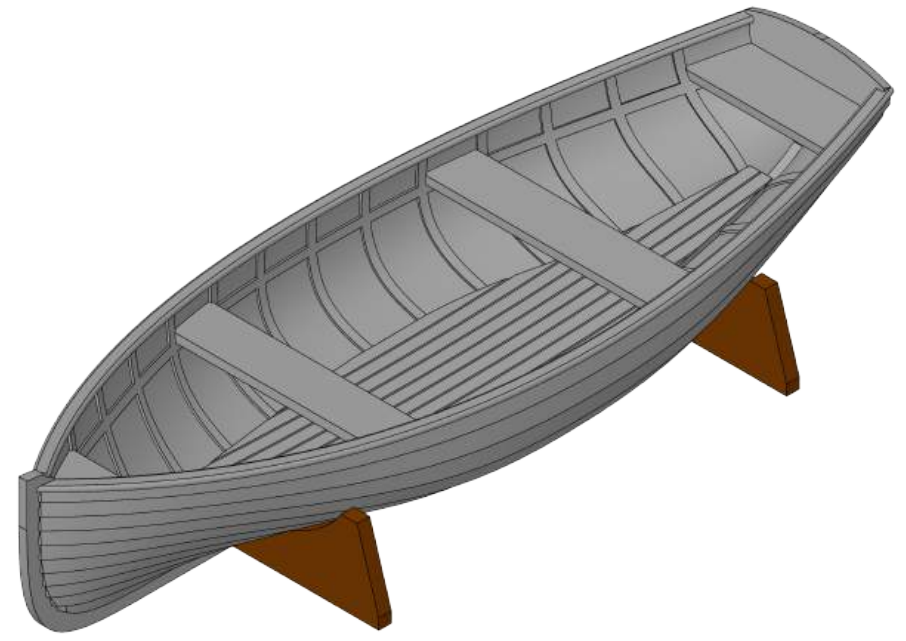
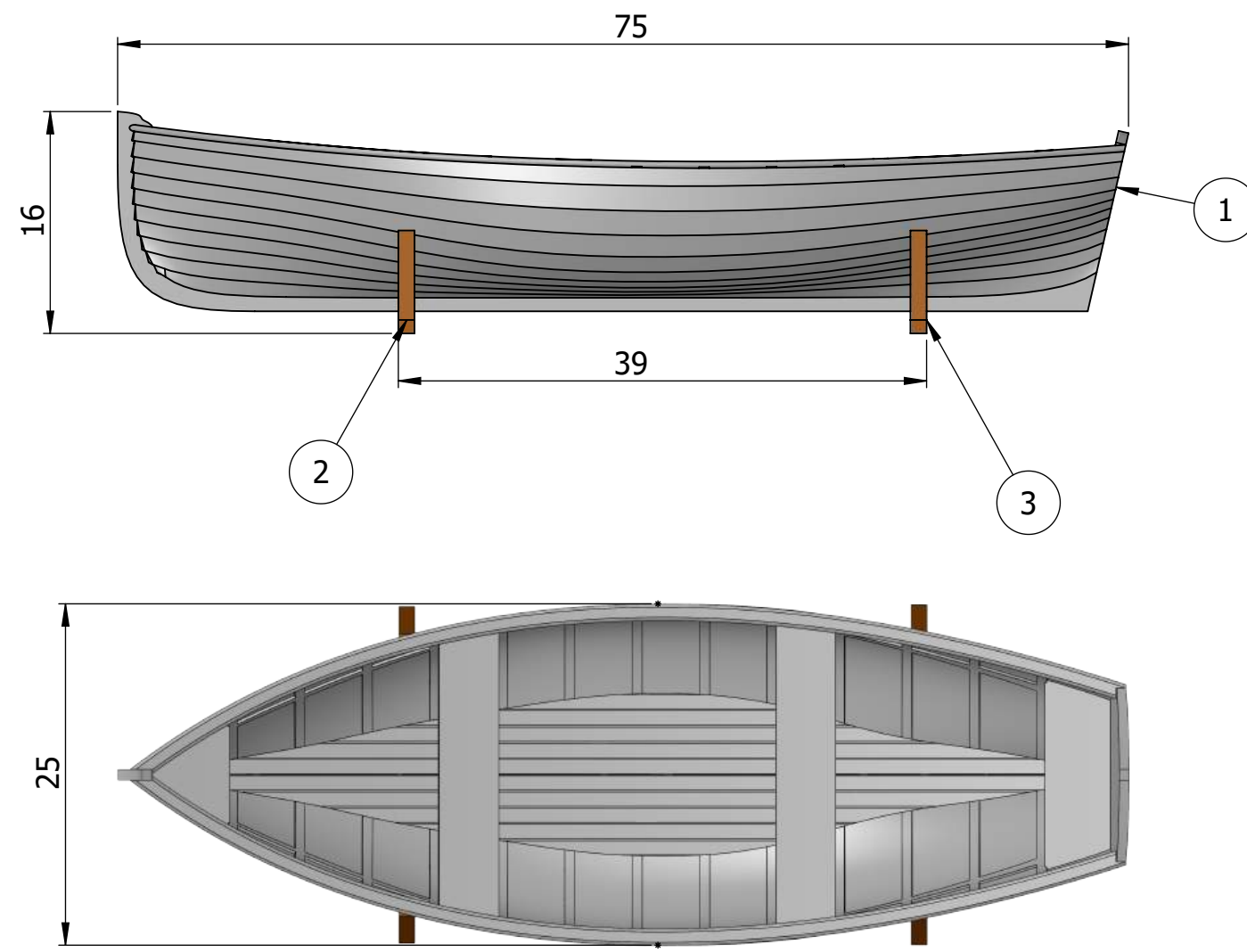
4	1	ST043-4		
3	1	ST043-3		
2	1	ST043-2		
1	1	ST043-1		
Pos	QTY.	No.	Material	Description
			Aft funnel	
			ST043	Sheet: 4.3




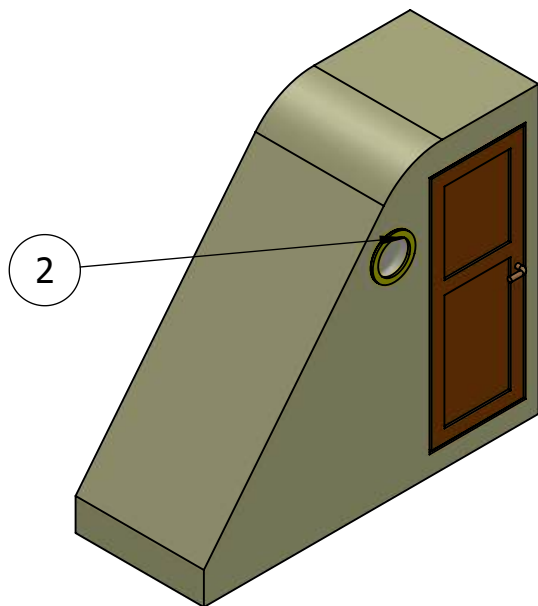
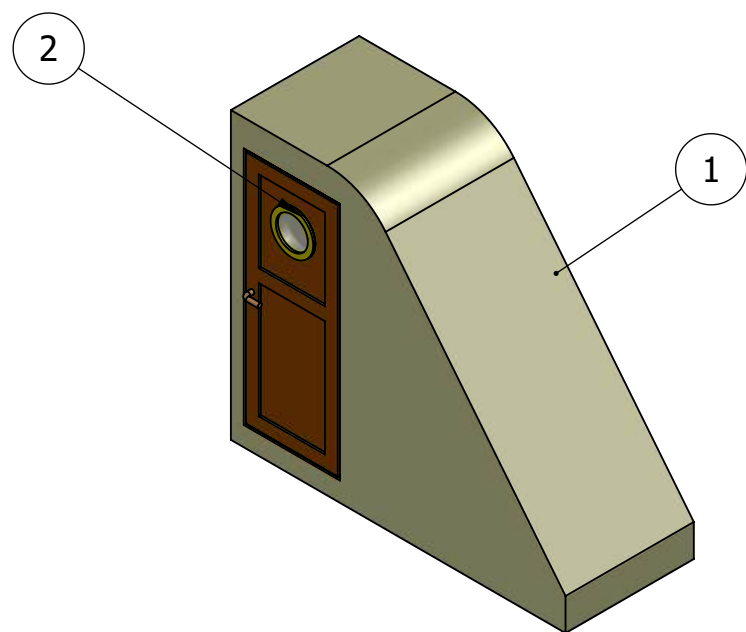
2	1	ST101-2		
1	1	ST101-1		
Pos	QTY.	No.	Material	Description
			Lifeboat davit	
			ST101	Sheet: 4.4




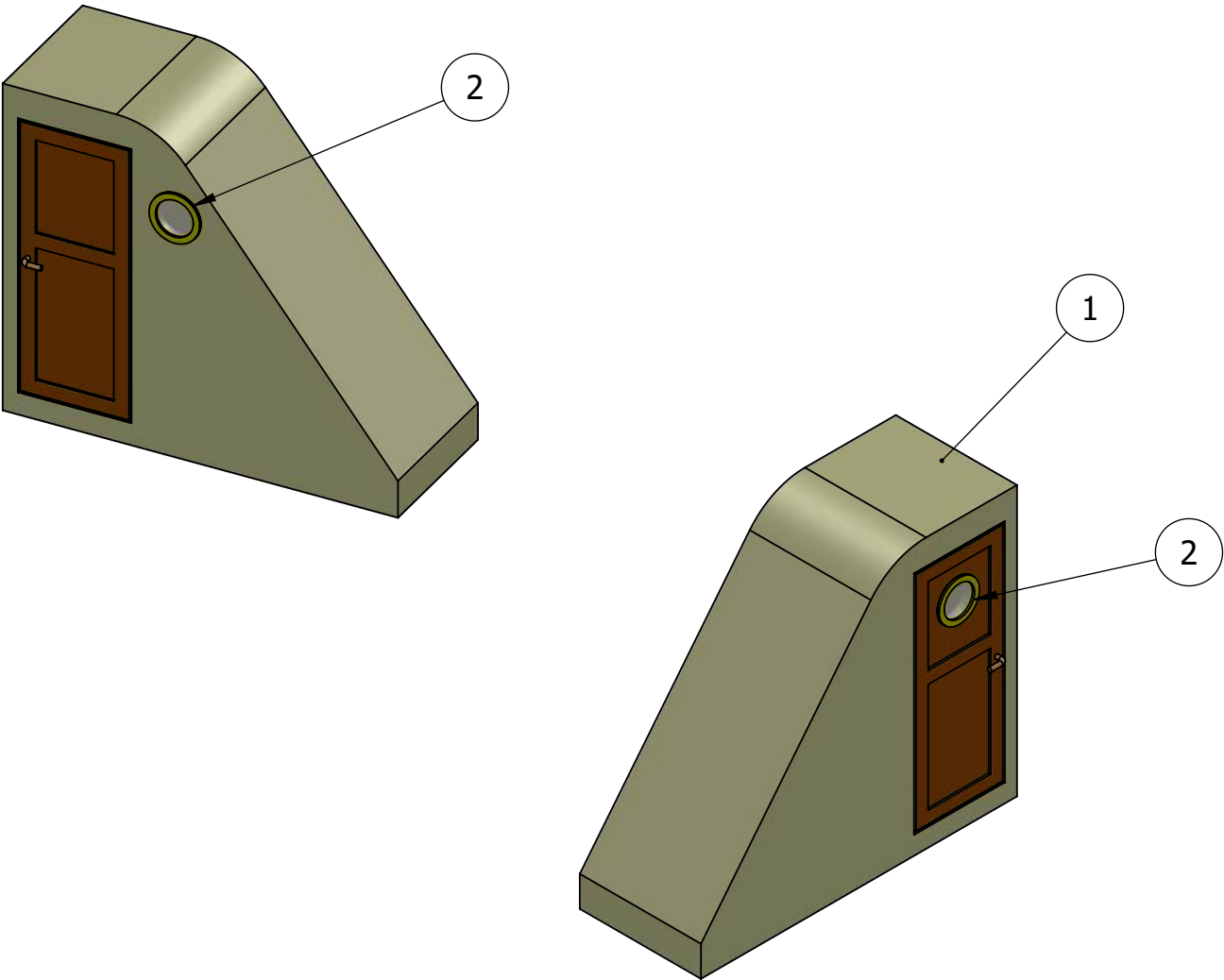
3	1	ST100-1		Lifeboat
2	1	ST100-2		Stand
1	1	ST100-3		Stand
Pos	QTY.	No.	Material	Description
			Lifeboat 1	
			ST100	Sheet: 4.5




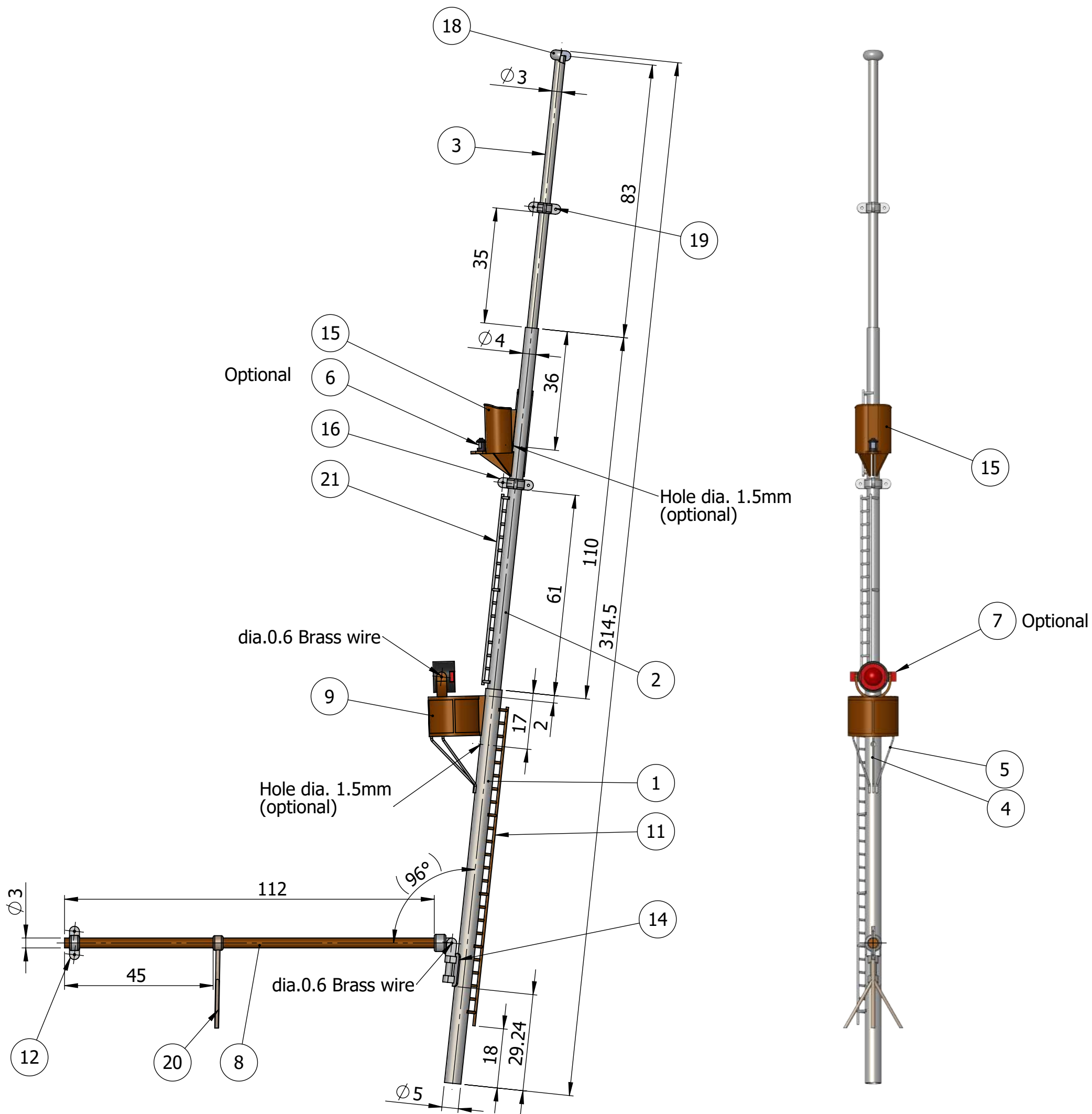
3	1		ST102-3	
2	1		ST102-2	
1	1		ST102-1	
Item	QTY	Title	Drw.No.	Size/STD
			Lifeboat 2	
			ST102	Sheet: 4.6




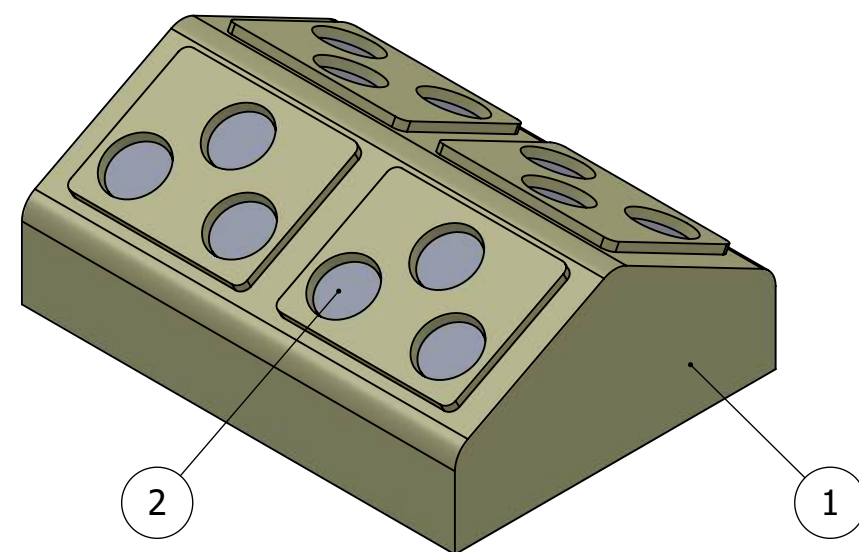
2	2	Illuminator 4mm	ST035	
1	1	Entrence 01	ST029	
Item	QTY	Title	Drw.No.	Size/STD
		Entrence 01 assy		
		ST030	Sheet: 5	




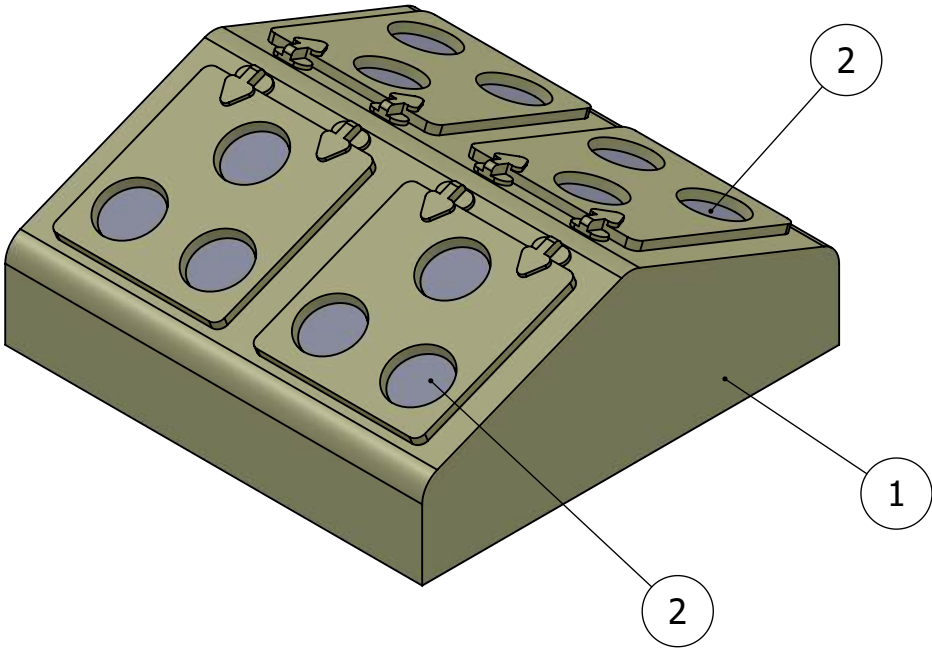
2	2	Illuminator 4mm	ST035	
1	1	Entrence 04	ST033	
Item	QTY	Title	Drw.No.	Size/STD
		Entrence 04 assy		
		ST034	Sheet: 6	




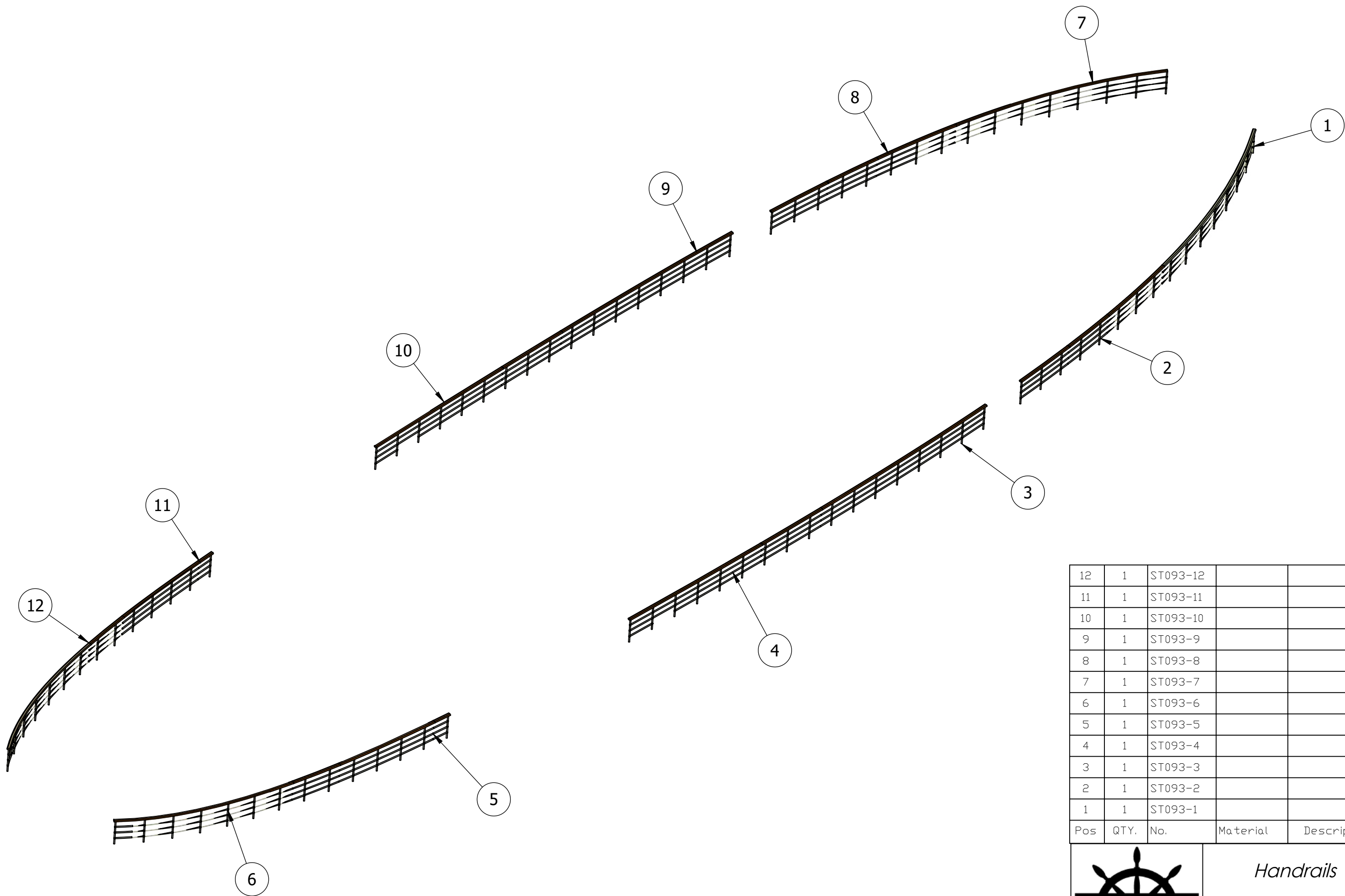
21	1	ST088-13		
20	1	ST088-12		
19	1	ST088-11		
18	1	ST088-10		
17	1	ST088-9		
16	1	ST088-8		
15	1	ST088-7		
14	1	ST088-6		
13	1	ST088-5		
12	1	ST088-4		
11	1	ST088-3		
10	1	ST088-2		
9	1	ST088-1		
8	1			Bamboo stick dia.3 L=115mm
7	1			Warm light SMD LED, 1W, 100- 120LM
6	1			Pre-wired SMD LED, Warm white, 0805, 12V
5	2		Brass	Wire dia.0.6
4	1		Brass	Wire dia.0.6
3	1		Brass	Tube 3x0.5 L=93mm
2	1		Brass	Tube 4x0.5 L=120mm
1	1		Brass	Tube 5x0.5 L=120mm
Pos	QTY.	No.	Material	Description
			Bow mast	
			ST088	Sheet: 7




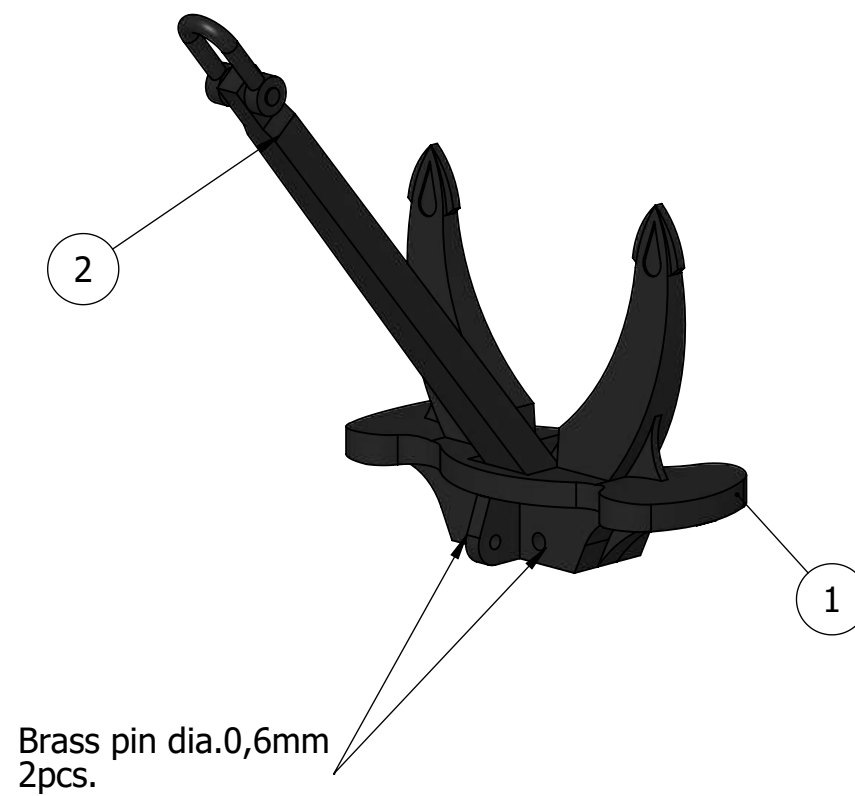
2	2	Aft skylight illuminators	ST070	
1	1	Aft skylight	ST068	
Item	QTY	Title	Drw.No.	Size/STD
		Aft skylight assembly		
		ST069	Sheet:	8




2	2	Boiler room skylight illuminators	ST073	
1	1	Boiler room skylight	ST072	
Item	QTY	Title	Drw.No.	Size/STD
		Boiler room skylight assembly		
			ST074	Sheet: 9



12	1	ST093-12		
11	1	ST093-11		
10	1	ST093-10		
9	1	ST093-9		
8	1	ST093-8		
7	1	ST093-7		
6	1	ST093-6		
5	1	ST093-5		
4	1	ST093-4		
3	1	ST093-3		
2	1	ST093-2		
1	1	ST093-1		
Pos	QTY.	No.	Material	Description
 Print RC Dream			Handrails	
			ST093	Sheet: 10



2	1	Anchor shank	V107	
1	1	Anchor head	V106	
Item	QTY	Title	Drw.No.	Size/STD
		Anchor		
		ST121	Sheet:	...