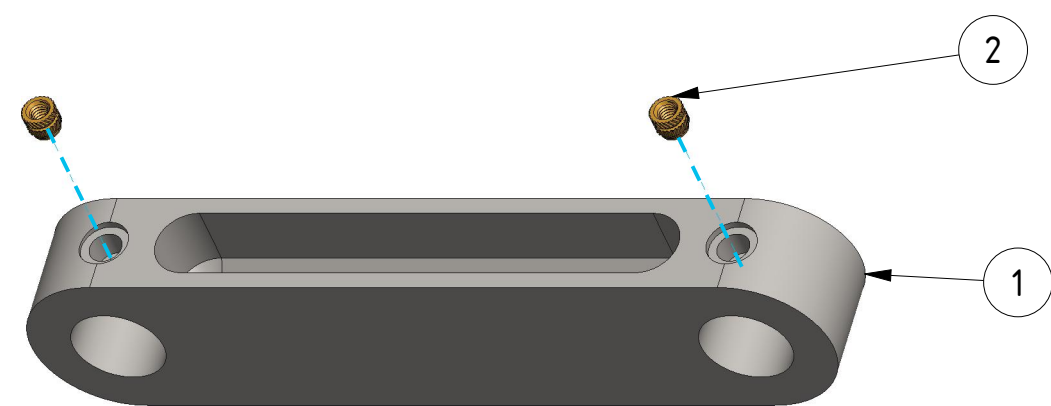
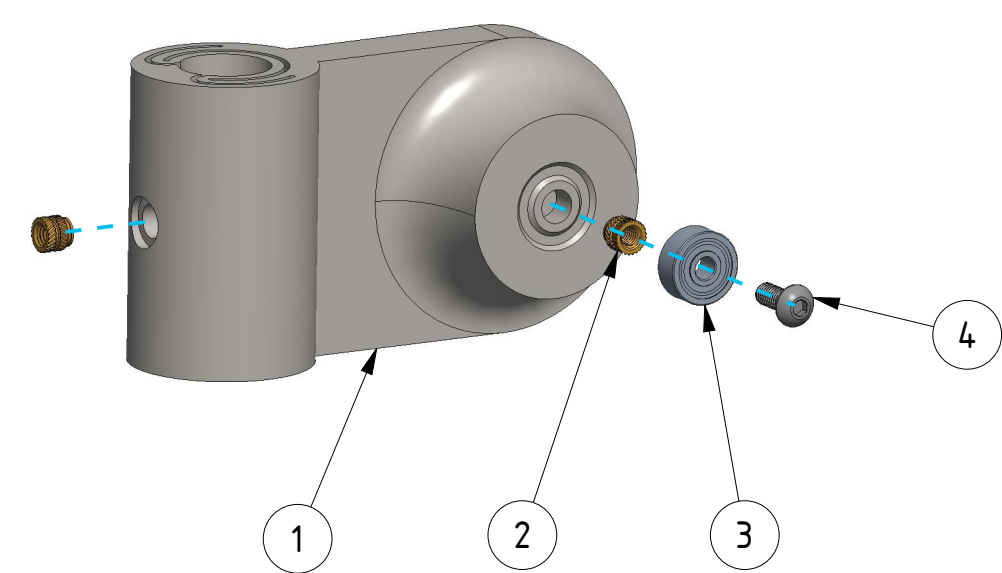


# ELECTRONICS BRACKET SUBASSEMBLY



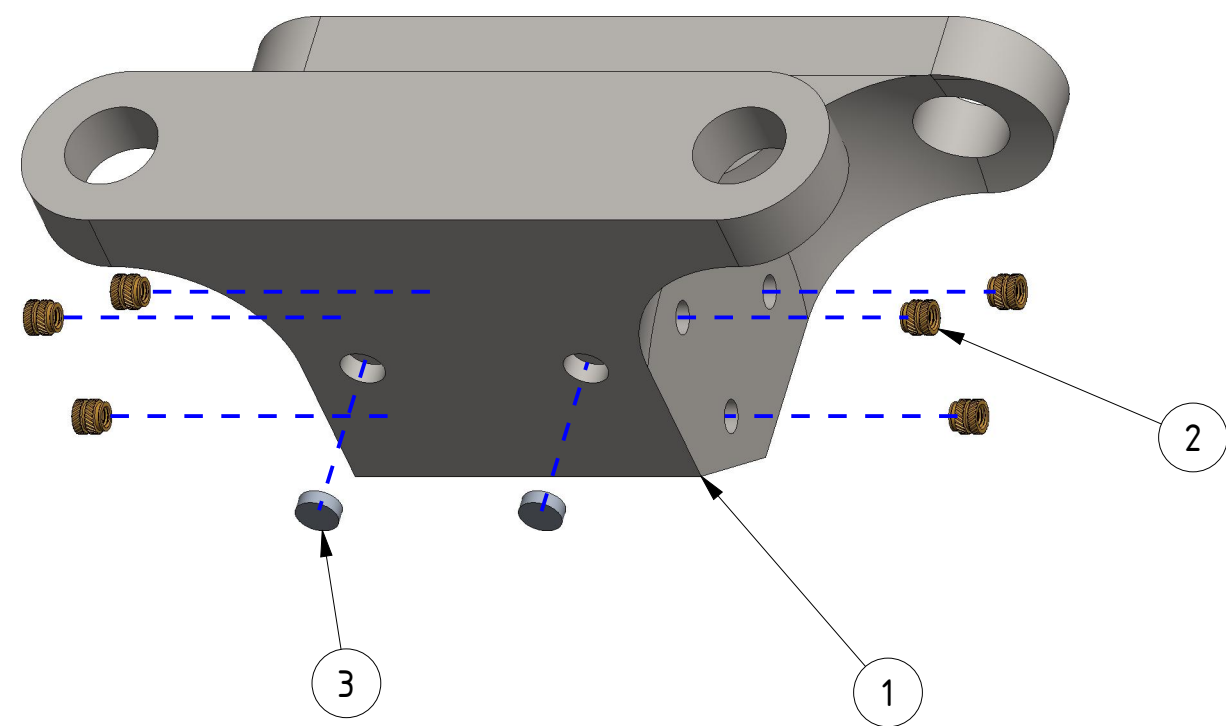
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	ELECTRONICS_BRACKET	1	ELECTRONICS BRACKET	ELECTRONICS_BRACKET.STL
2	INSERT_M3	2	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON

# FILAMENT GUIDLER SUBASSEMBLY



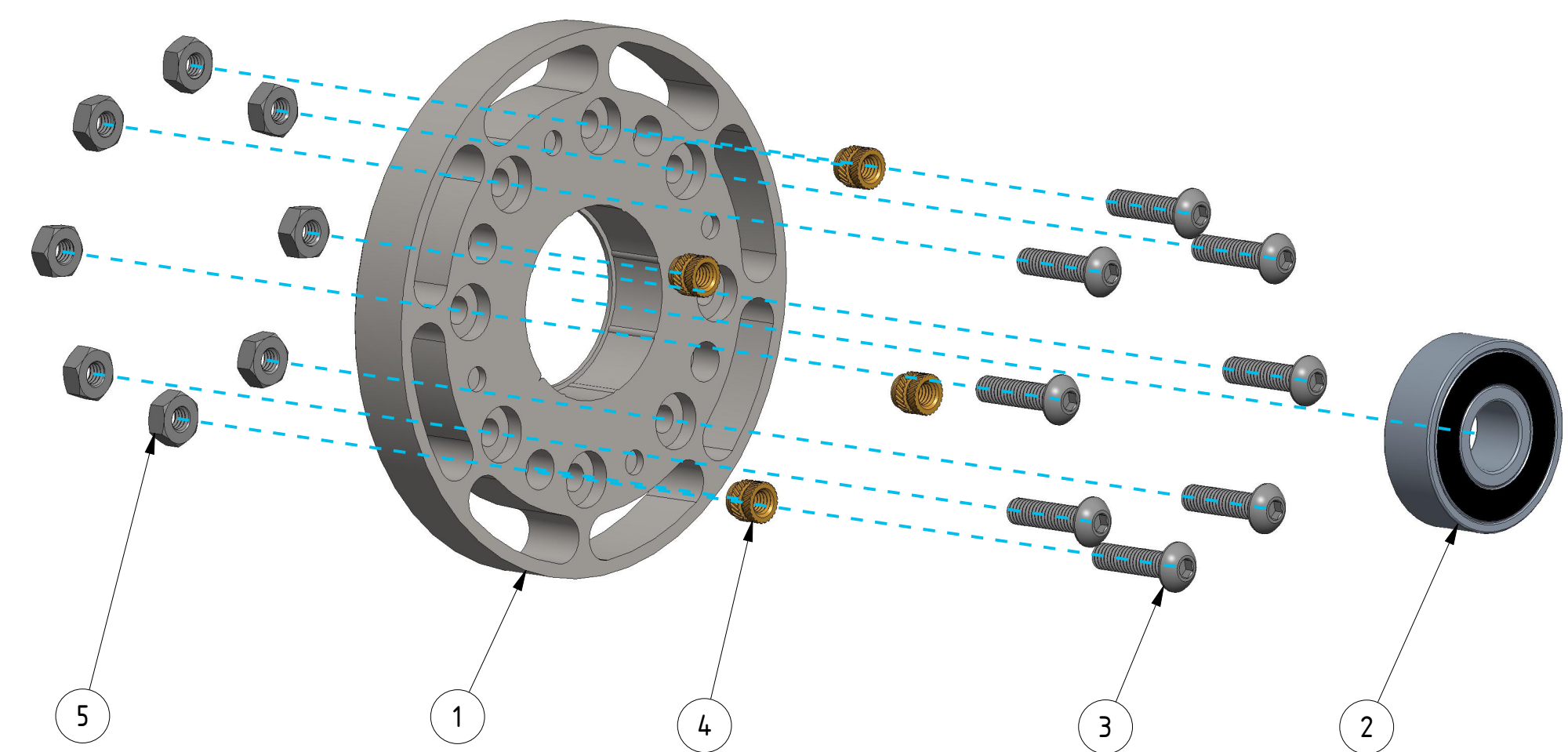
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	FILAMENT_GUIDLER	1	FILAMENT GUIDLER	FILAMENT_GUIDLER.STL
2	INSERT_M3	2	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
3	BEARING_623-2Z	1	BEARING 623-2Z	INSTALL AS SHOWN
4	BHCS_M3_8MM	1	BUTTON HEAD CAP SCREW - M3 X 8mm	INSTALL AS SHOWN

# FRAME BRACKET SUBASSEMBLY



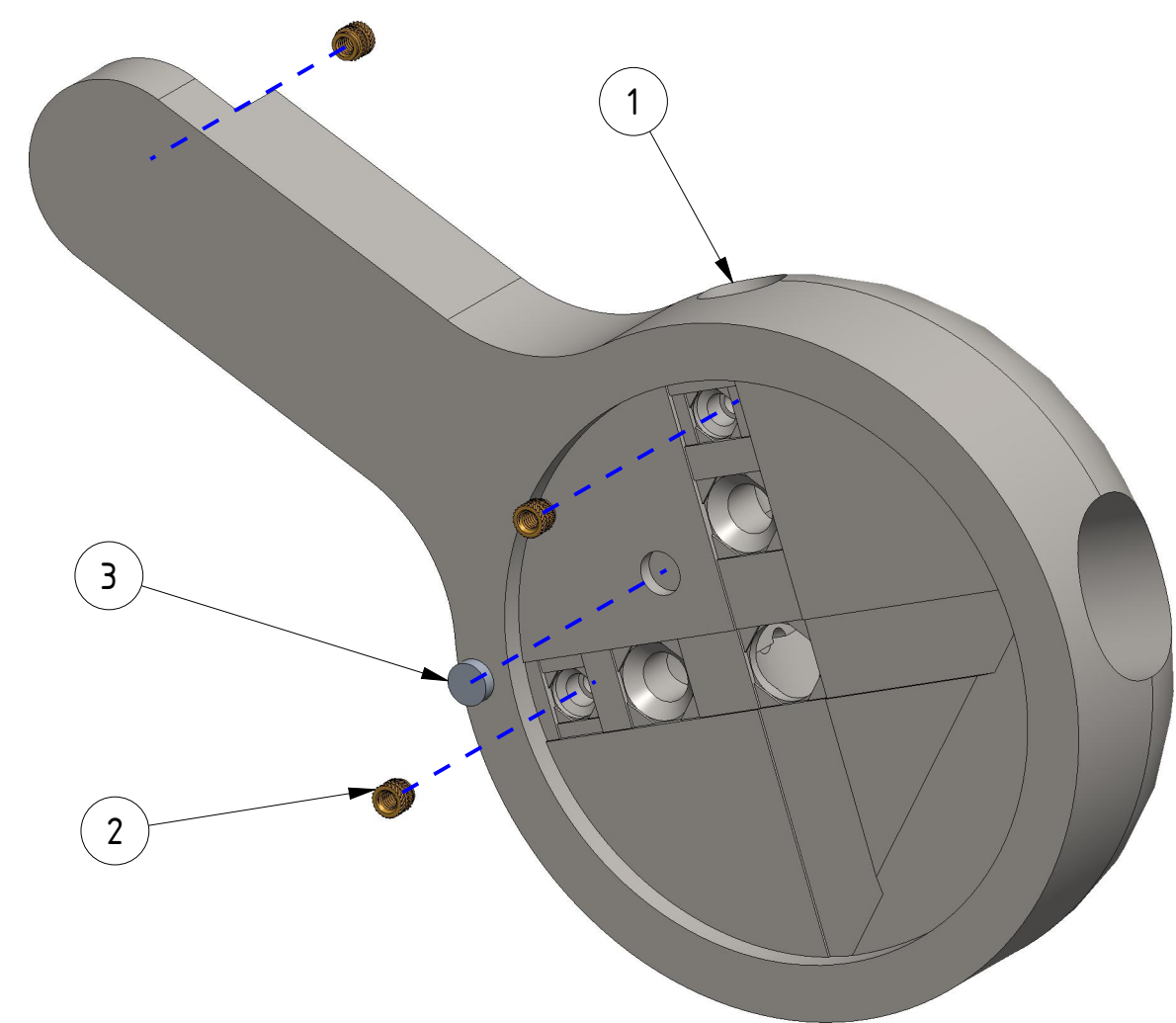
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	FRAME_BRACKET	1	FRAME BRACKET	FRAME_BRACKET.STL
2	INSERT_M3	6	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
3	MAGNET_6MMX2MM	2	MAGNET 6mm X 2mm	INSTALL WITH SUPERGLUE IF NEEDED

# GEARBOX OUTPUT GEAR SUBASSEMBLY



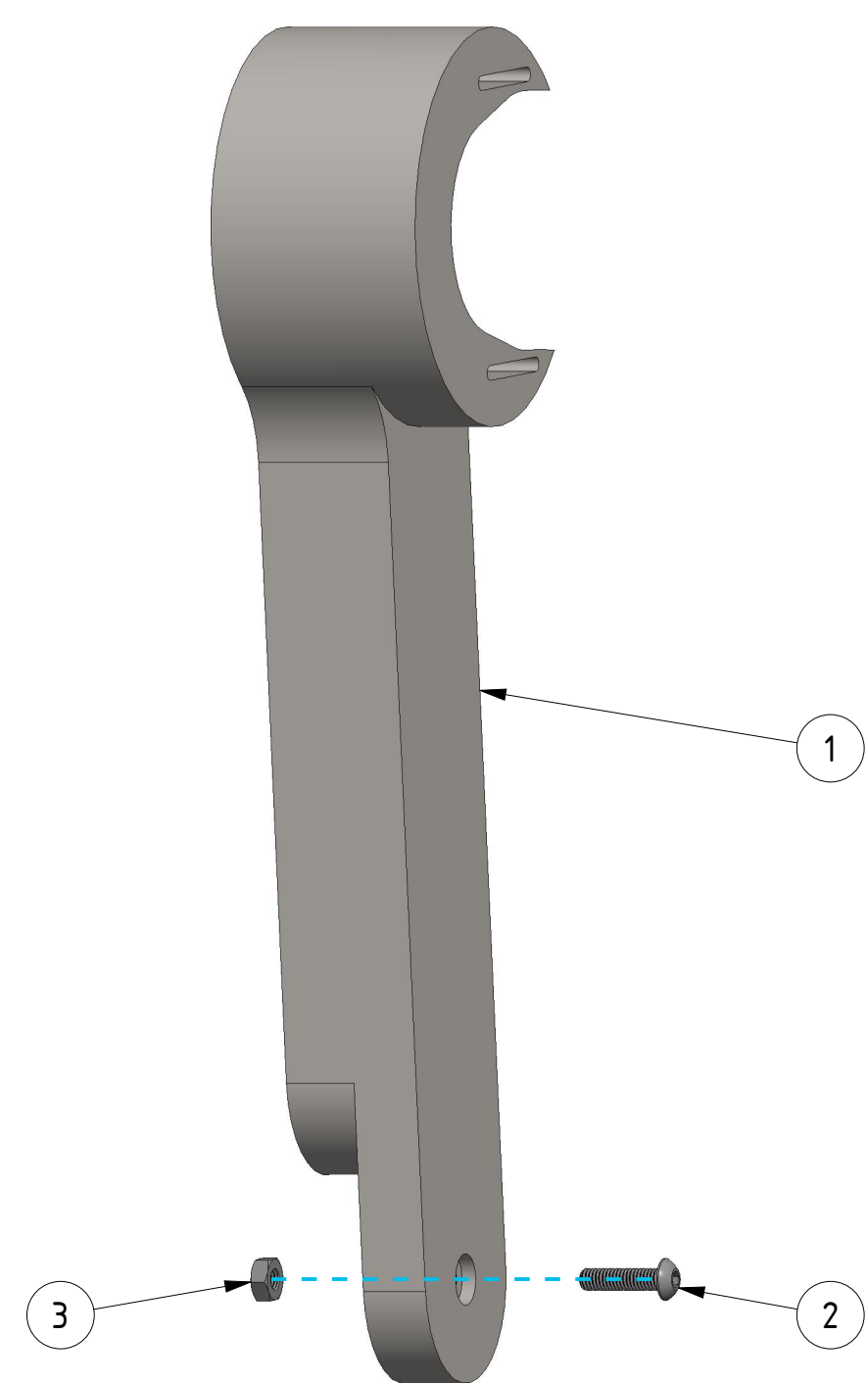
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	GEARBOX_OUTPUT_GEAR	1	GEARBOX OUTPUT GEAR	GEAR_BOX_OUTPUT_GEAR.STL
2	BEARING_608-2RS	1	BEARING 608-2RS	PRESS INTO CENTER OF OUTPUT GEAR
3	BHCS_M3_12MM	8	BUTTON HEAD CAP SCREW - M3 X 12mm	INSTALL AS SHOWN ABOVE
4	INSERT_M3	4	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
5	NUT_M3	8	HEX NUT - M3	INSTALL AS SHOWN ABOVE

# LEFT LOWER ARM SUBASSEMBLY



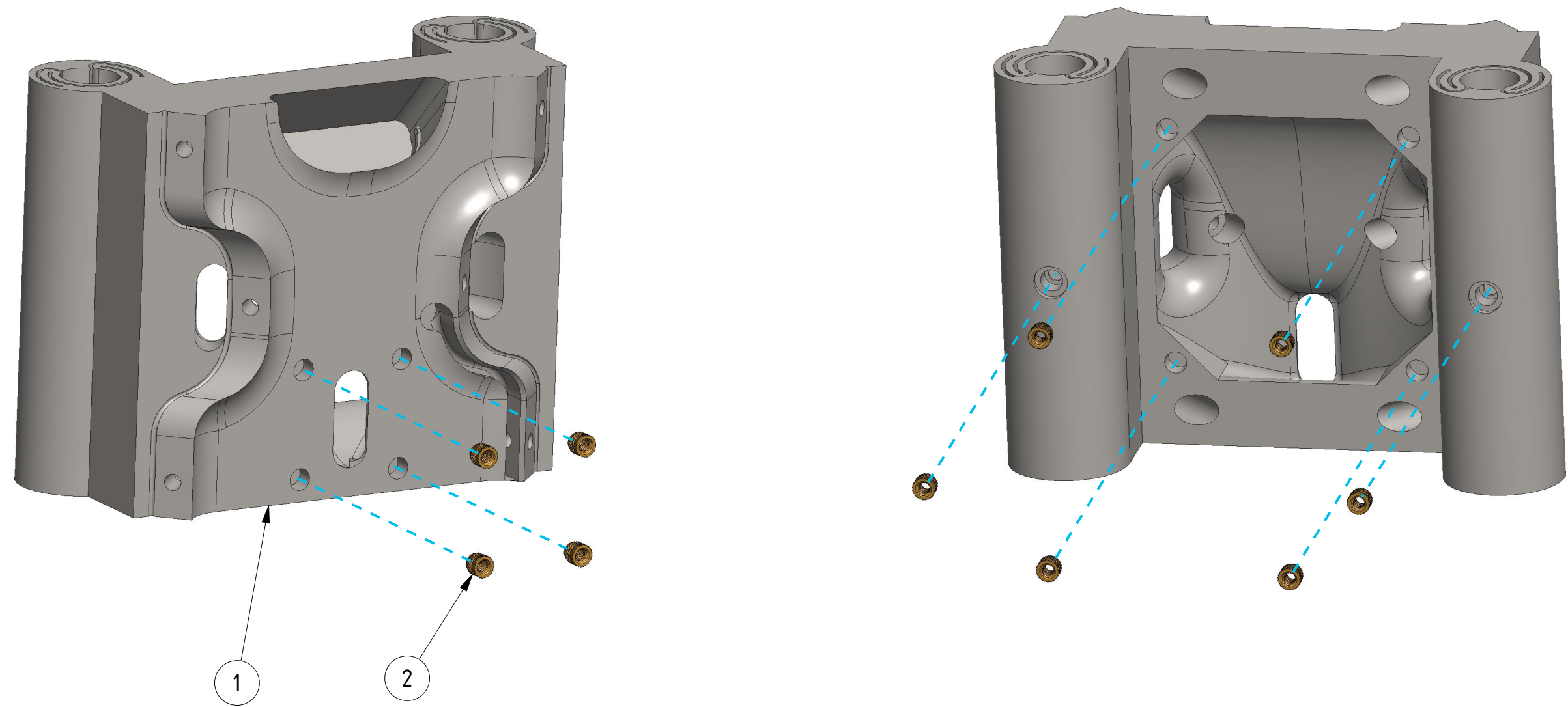
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	LEFT_LOWER_ARM	1	LEFT LOWER ARM	LEFT_LOWER_ARM.STL
2	INSERT_M3	3	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
3	MAGNET_6MMX2MM	1	MAGNET 6mm X 2mm	INSTALL WITH SUPERGLUE IF NEEDED

# LEFT UPPER ARM SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	LEFT_UPPER_ARM	1	LEFT UPPER ARM	LEFT_UPPER_ARM.STL
2	BHCS_M3_12MM	1	BUTTON HEAD CAP SCREW - M3 X 12mm	INSTALL AS SHOWN
3	NUT_M3	1	HEX NUT - M3	INSTALL AS SHOWN

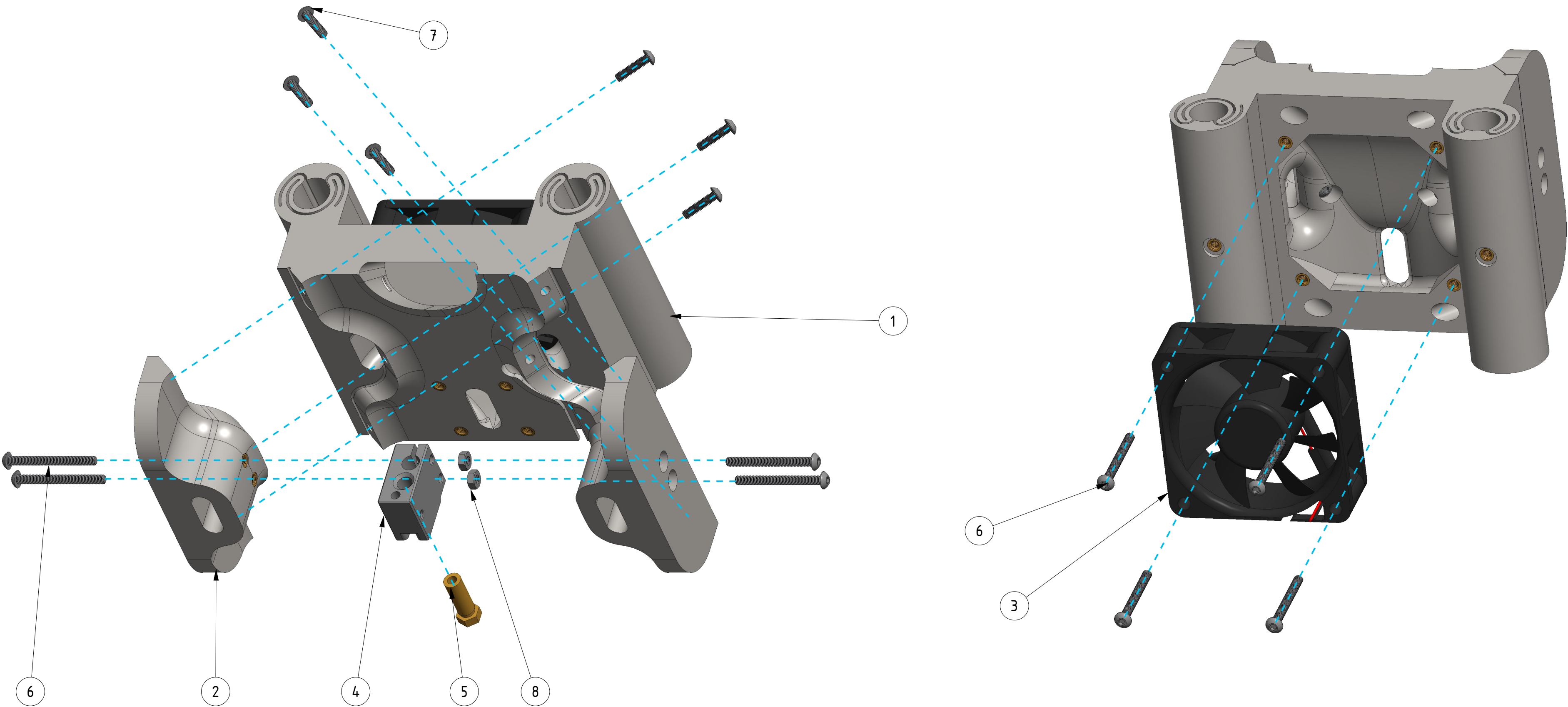
MELTZONE SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	MELTZONE	1	MELTZONE	MELTZONE.STL
2	INSERT_M3	10	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON



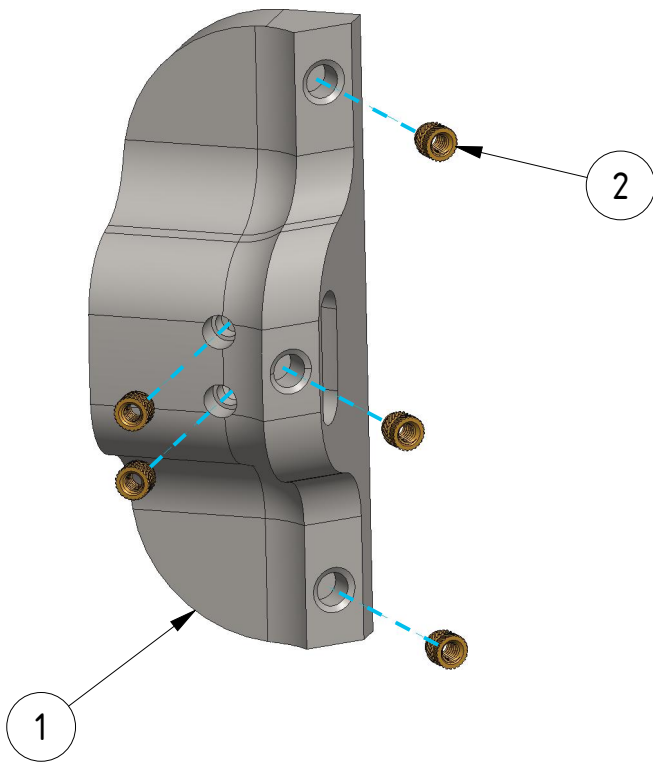
# MELTZONE COMPLETE ASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	MELTZONE_ASSEMBLY	1	MELTZONE SUBASSEMBLY	
2	MELTZONE_WING_ASSEMBLY	2	MELTZONE WING SUBASSEMBLY	INSTALL MELTZONE WINGS BEFORE FAN
3	FAN_6020	1	FAN 24V 60mm X 60mm X 20mm	
4	VOLCANO_HOTEND	1	VOLCANO HOTEND BLOCK	
5	NOZZLE	1	NOZZLE	
6	BHCS_M3_30MM	8	BUTTON HEAD CAP SCREW - M3 X 30mm	
7	BHCS_M3_12MM	6	BUTTON HEAD CAP SCREW - M3 X 12mm	
8	NUT_M3	2	HEX NUT - M3	TIGHTEN NUTS AFTER INSTALLING HEATER

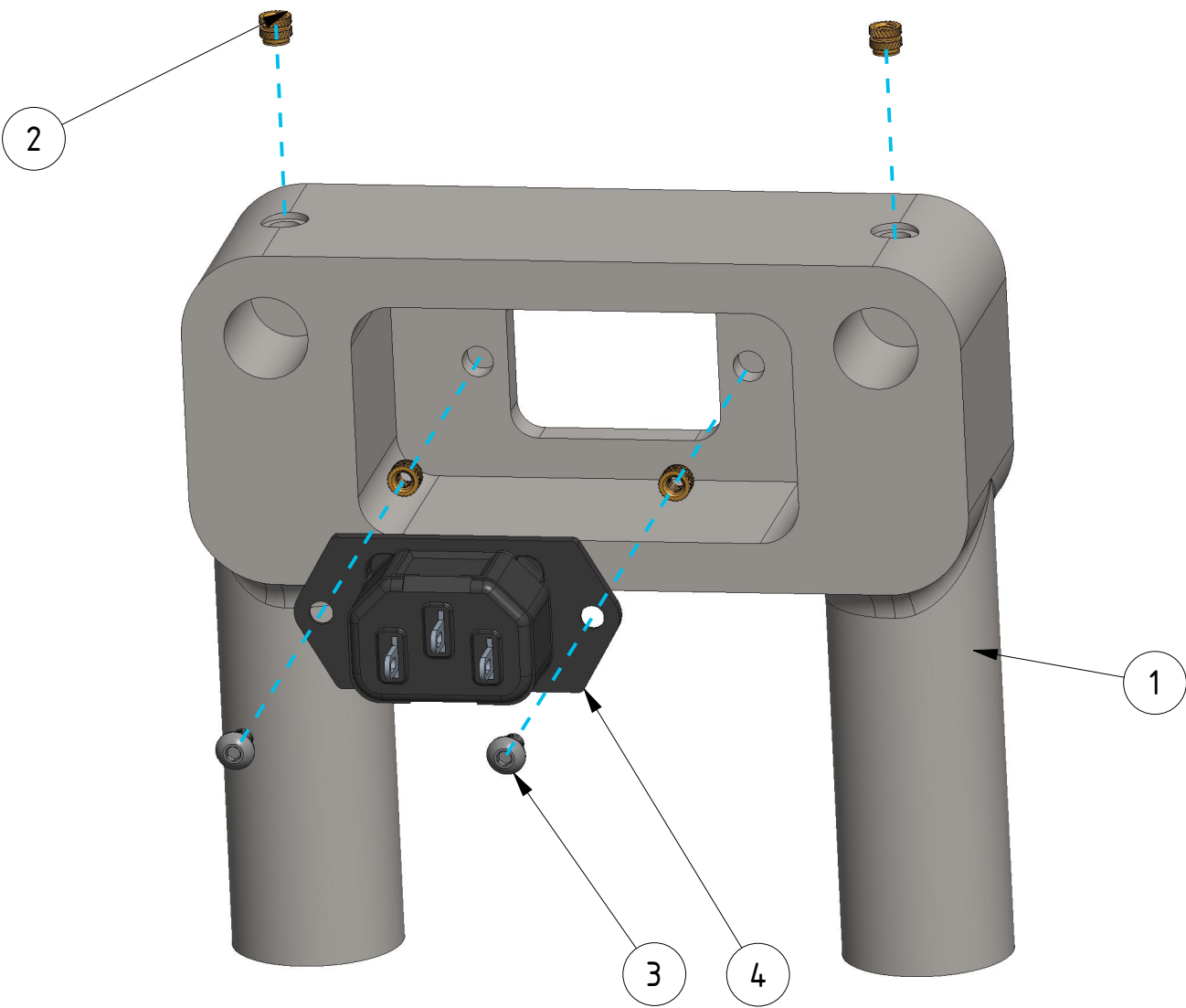


# MELTZONE WING SUBASSEMBLY



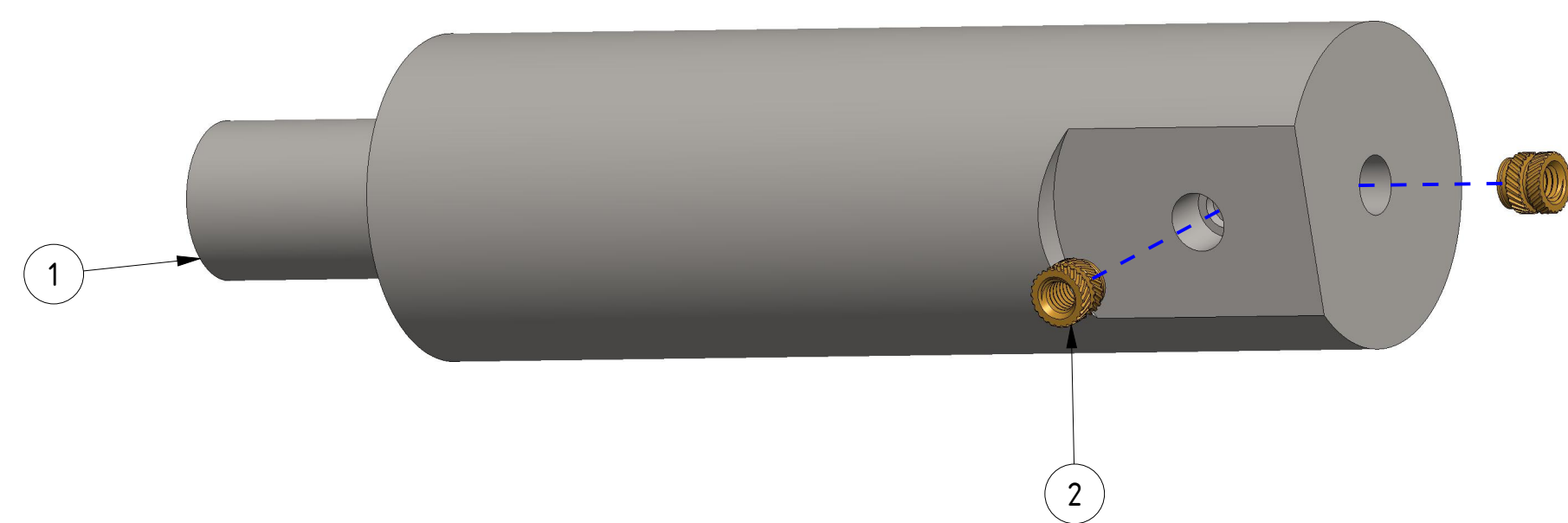
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	MELTZONE_WING	1	MELTZONE WING	MELTZONE_WING.STL
2	INSERT_M3	5	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON

# OUTLET SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	OUTLET	1	OUTLET	OUTLET.STL
2	INSERT_M3	4	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
3	BHCS_M3_6MM	2	BUTTON HEAD CAP SCREW - M3 X 6mm	INSTALL AS SHOWN
4	C14_PANEL_MOUNT_PLUG	1	C14 PANEL MOUNT PLUG	INSTALL AS SHOWN

PANEL STABILIZER SUBASSEMBLY

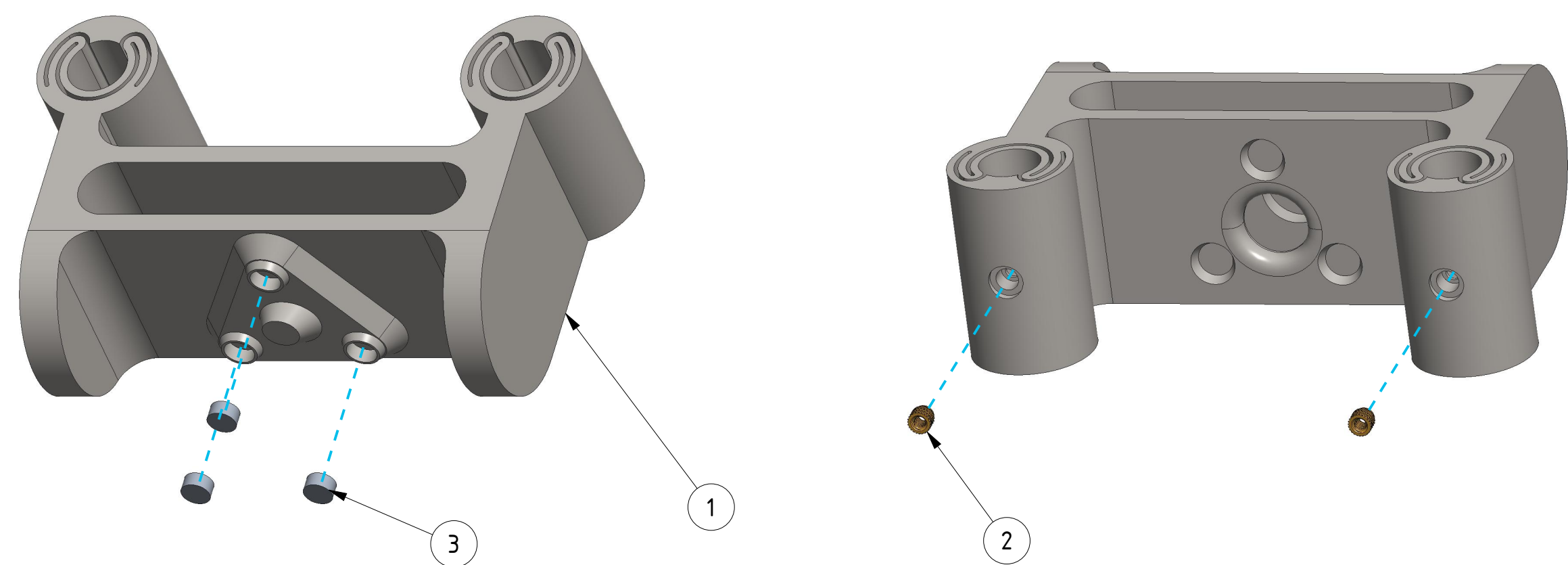


ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	PANEL_STABILIZER	1	PANEL STABILIZER	PANEL_STABILIZER.STL
2	INSERT_M3	2	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON

Feel free to find these parts on **Alesegres** too, they are mostly available on **Triangle Labs** and **Mellow**.  
And are usually much cheaper at the cost of taking longer to ship.  
The Amazon links are **AFFILIATE** links!!! It helps support the development and maintenance of the project.

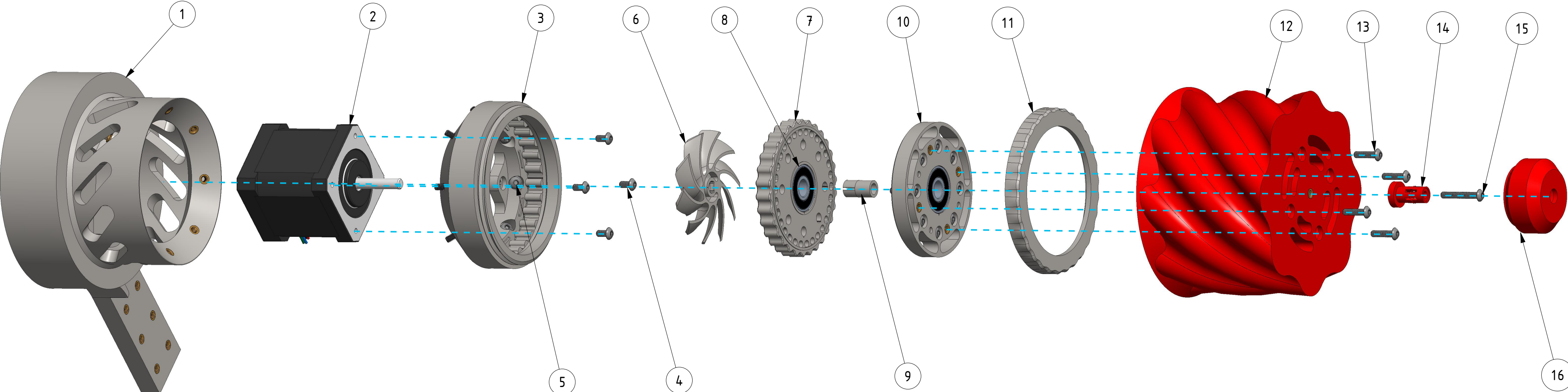
Component	Qty	Unit Price	Total Price	Notes	Link
<b>Hardware</b>					
M3x4mm Nut&star insert	4			check below	
G23 Bearings 3x23x4mm	4			M3 x 5mm OD x 4mm Depth	<a href="#">Amazon</a> <a href="#">Spartan3D</a> <a href="#">Formlabs</a>
G08 Bearing 8mm x 22mm x 7mm	3				<a href="#">Amazon</a>
1/16in or 1.6mm ØID Bit	1				<a href="#">Amazon</a> <a href="#">Amazon</a>
1.2mmx300mm Tubing or Rod (No wooden dowel please!) (There is a shortage on the tube, please share the link in #resources if you find some)	5				<a href="#">Amazon</a> <a href="#">Amazon</a> <a href="#">Amazon</a>
M3 (7mm"preferred - 6mm) x 0.5mm black oxide carbon steel washer	check below			OW 125A	<a href="#">Amazon</a>
Assorted M3 BHCS screws 6/9/12/20/30mm	1			The link only has 50pcs 12mm, yet	<a href="#">Amazon</a>
M3 BHCS screws 12mm 120° Flx	1			The M3 above doesn't have enough	<a href="#">Amazon</a>
Optional: Buy the screws separately					<a href="#">B&amp;B</a>
PTFE Lubricant	1				<a href="#">Amazon</a>
Optional: Wera 2mm Hex screwdriver 80mm length	1				<a href="#">Amazon</a> <a href="#">B&amp;B</a>
<b>Electronics</b>					
BTB X8R Pro, SDR 1.3 or any other cheaper MCU that can run Klipper	1				<a href="#">Amazon</a> <a href="#">B&amp;B</a>
6020 or 6025 24v Fan	1				<a href="#">Amazon</a> <a href="#">B&amp;B</a>
Raspberry Pi Zero W, or Raspberry Pi Zero 2 W, Raspberry Pi 1, Pi 2, Pi 3, Pi 4, (optional if you have a Klipper printer)	1			<a href="#">Pi Store</a>	
MicroSD Card, (optional if you have a Klipper printer)	1				<a href="#">Amazon</a> <a href="#">Amazon</a>
NEMA17 stepper 57Nm less than 48mm length	1				<a href="#">Amazon</a> <a href="#">Amazon</a>
C13 Power Cable	1				<a href="#">Amazon</a>
C14 Fanul Mount Plug	1				<a href="#">Amazon</a>
Mean Well LRS-75-24 or LRS-100-24 power supply	1				<a href="#">Amazon</a> <a href="#">Amazon</a> <a href="#">Digikey</a> <a href="#">Digikey</a>
Option 1: Knock off VolcanoThermistor+Nozzle Bundle (Good enough and cheap)	1				<a href="#">Amazon</a>
Option 1: 24v 40W heater cartridge (the bundle has a few cartridge which doesn't work, so please also get a 24v 40w cartridge)	1				<a href="#">Digikey</a> <a href="#">Amazon</a> <a href="#">Microcenter</a>
Option 1: 3T Xr Extension cable	1				<a href="#">Amazon</a>
Option 2: E3D Volcano Heater Block	1				<a href="#">Amazon</a>
Option 2: 24v 40W Heater Cartridge	1				<a href="#">Digikey</a> <a href="#">Amazon</a> <a href="#">Microcenter</a>
Option 2: M3 Screw Thermistor 1204T	2				<a href="#">Amazon</a>
Option 2: Genuine E3D Brass Volcano Nozzle - 1.00mm x 1.20mm / Generic 1.0mm x whatever nozzle	1				<a href="#">Amazon</a> <a href="#">Amazon</a>
<b>Misc.</b>					
6mmx3mm magnets	24				<a href="#">Amazon</a>
60C safety thermistor (optional)	1				<a href="#">PaperThermistor</a> <a href="#">Amazon</a>
E3D Volcano Hotend Slican screws (optional, needs some cutting to fit)	1				
7 kg of main color and 0.5 kg of accent color	1				
<b>Printed Parts</b>					
PLA, ABS, PETG or PET (Please adjust for the shrink rate in slicer, ex. ABS has "0.6% shrink, PETG has "0.15%", or scale the model only in XY accords					
<b>Fasteners list</b>					
BHCS M3x6mm	39			110%	
BHCS M3x8mm	14			110%	
BHCS M3x12mm	58			110%	
BHCS M3x20mm	9			110%	
Stainless Steel BHCS M3x30mm	4			110%	
M3 Nut	13			110%	
Carbon Steel M3 Washer	11			110%	
M3x4mm Nut&star insert	108			110%	
<b>PolyCutter_Lite</b>					
G23 Bearings 3x23x4mm	2				<a href="#">Amazon</a>
M3x4mm Nut&star insert	3				<a href="#">Digikey</a> <a href="#">Amazon</a> <a href="#">Spartan3D</a> <a href="#">Formlabs</a>
BHCS M3x12mm	5				<a href="#">B&amp;B</a>
1.2mmx300mm Tubing or Rod (No wooden dowel please!) (There is a shortage on the tube, please share the link in #resources if you find some)	1				<a href="#">Amazon</a> <a href="#">Amazon</a> <a href="#">Amazon</a> <a href="#">Amazon</a>
<b>Suppliers</b>					
Formlabs EU					
Decupret3D EU					
W33D de EU					
Verningre EU					
Lectro EU					
DFFBformosissima 3D printing US					
Talavera US					
Printed_Solid US					
Dignach US					
W33 US					
Flashtruder US					
Spartan3D CA					
3dbasech CA					
Uniquaprints AU					
Onweb3D GB					
printyphase GB					
Powee CN					
Magichotools CN					

# RIBBON CARTRIDGE HOLDER SUBASSEMBLY



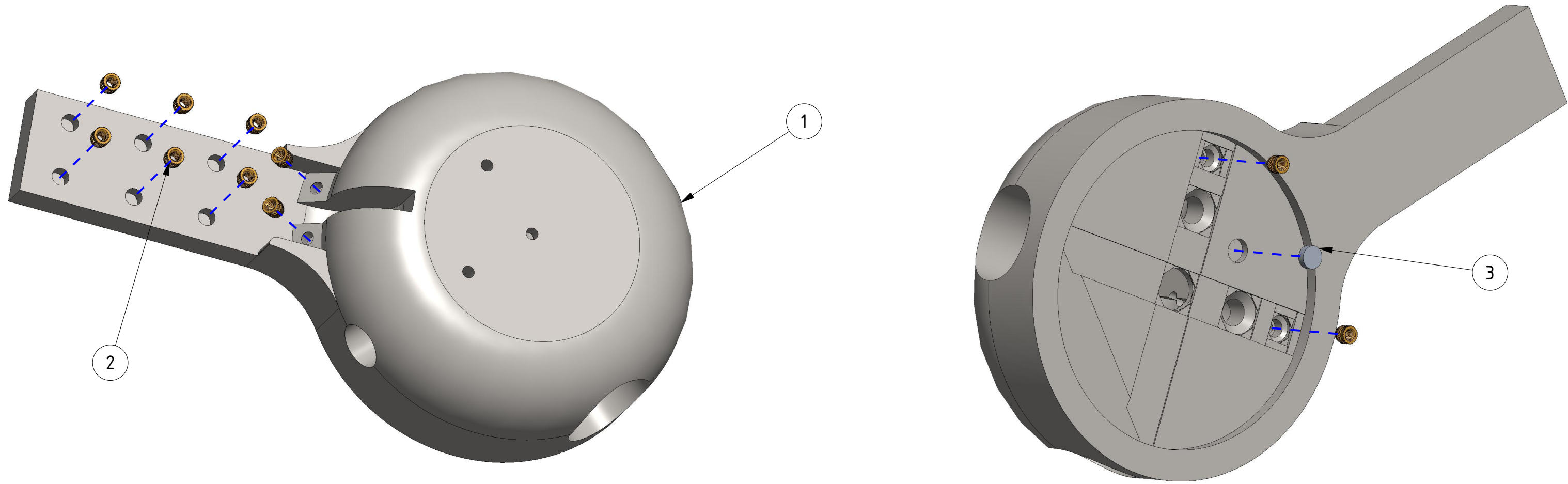
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	RIBBON_CARTRIDGE_HOLDER	1	RIBBON CARTRIDGE HOLDER	RIBBON_CARTRIDGE_HOLDER.STL
2	INSERT_M3	2	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
3	MAGNET_6MMX3MM	3	MAGNET 6mm X 3mm	INSTALL WITH SUPERGLUE IF NEEDED

# RIGHT ARM DRIVE UNIT SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	RIGHT_UPPER_ARM_ASSEMBLY	1	RIGHT UPPER ARM SUBASSEMBLY	SEE SUBASSY DRAWING FOR DETAILS
2	17HS19-2004S1	1	STEPPER MOTOR, NEMA 17 X 48mm	FEED STEPPER WIRES THROUGH UPPER ARM
3	GEARBOX_MOTOR_MOUNT	1	GEARBOX MOTOR MOUNT	GEARBOX_MOTOR_MOUNT.STL
4	BHCS_M3_6MM	4	BUTTON HEAD CAP SCREW - M3 X 6mm	INSTALL STEPPER TO MOTOR MOUNT PRIOR TO INSTALLATION INTO UPPER ARM
5	BHCS_M3_8MM	8	BUTTON HEAD CAP SCREW - M3 X 8mm	ASSEMBLE MOTOR MOUNT AND MOTOR TO ARM WITH THIS HARDWARE
6	GEARBOX_FAN	1	GEARBOX FAN	SLIDE ONTO STEPPER SHAFT
7	GEARBOX_RING_GEAR	1	GEARBOX RING GEAR	INSTALL AS SHOWN
8	BEARING_608-2RS	1	BEARING 608-2RS	INSTALL INTO RING GEAR AND INSERT BOTH INTO MOTOR MOUNT
9	GEARBOX_CAM	1	GEARBOX CAM	INSTALL ONTO SHAFT THROUGH RING GEAR BEARING
10	GEARBOX_OUTPUT_GEAR_ASSEMBLY	1	GEARBOX OUTPUT GEAR SUBASSEMBLY	INSTALL ONTO CAM AND ALIGN SCREWS INTO HOLES IN RING GEAR
11	GEAR_BOX_CAP	1	GEARBOX CAP	INSTALL BY ROTATING ANTI-CLOCKWISE (LEFT-HAND THREADS)
12	SPOOL_SHAFT_ASSEMBLY	1	SPOOL SHAFT SUBASSEMBLY	SLIDE OVER GEARBOX ASSEMBLY
13	BHCS_M3_12MM	4	BUTTON HEAD CAP SCREW - M3 X 12mm	ASSEMBLE AS SHOWN TO ATTACH SPOOL SHAFT TO OUTPUT GEAR ASSY
14	SHAFT_KNOB_FASTENER	1	SHAFT KNOB FASTENER	ASSEMBLE AS SHOWN
15	BHCS_M3_20MM	1	BUTTON HEAD CAP SCREW - M3 X 20mm	USE TO SECURE SHAFT KNOB FASTENER
16	SHAFT_KNOB_ASSEMBLY	1	SHAFT KNOB SUBASSEMBLY	SNAP KNOB ASSEMBLY ONTO SHAFT KNOB FASTENER

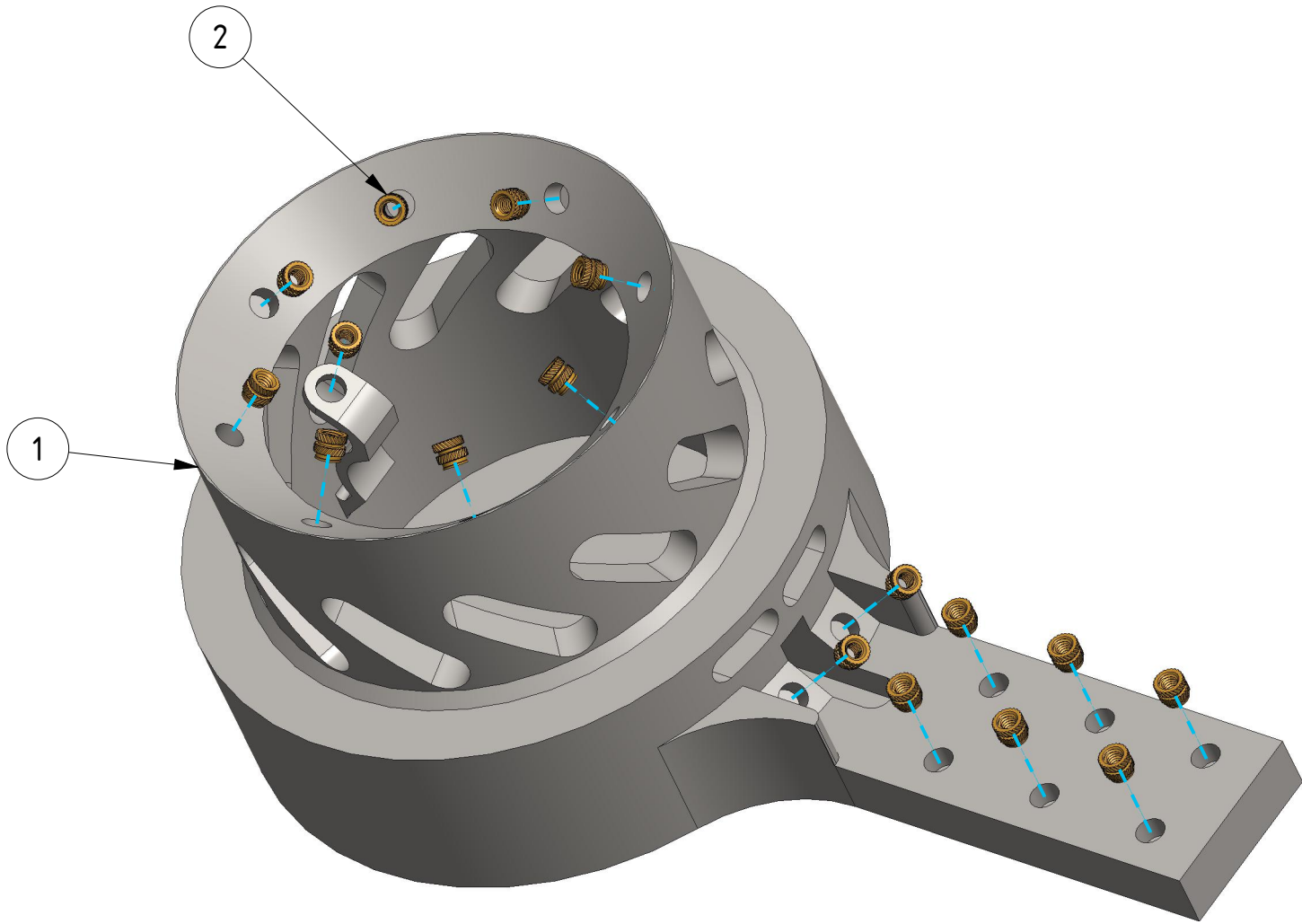
RIGHT LOWER ARM SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	RIGHT_LOWER_ARM	1	RIGHT LOWER ARM	RIGHT_LOWER_ARM.STL
2	INSERT_M3	10	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON
3	MAGNET_6MMX2MM	1	MAGNET 6mm X 2mm	INSTALL WITH SUPER GLUE IF NEEDED

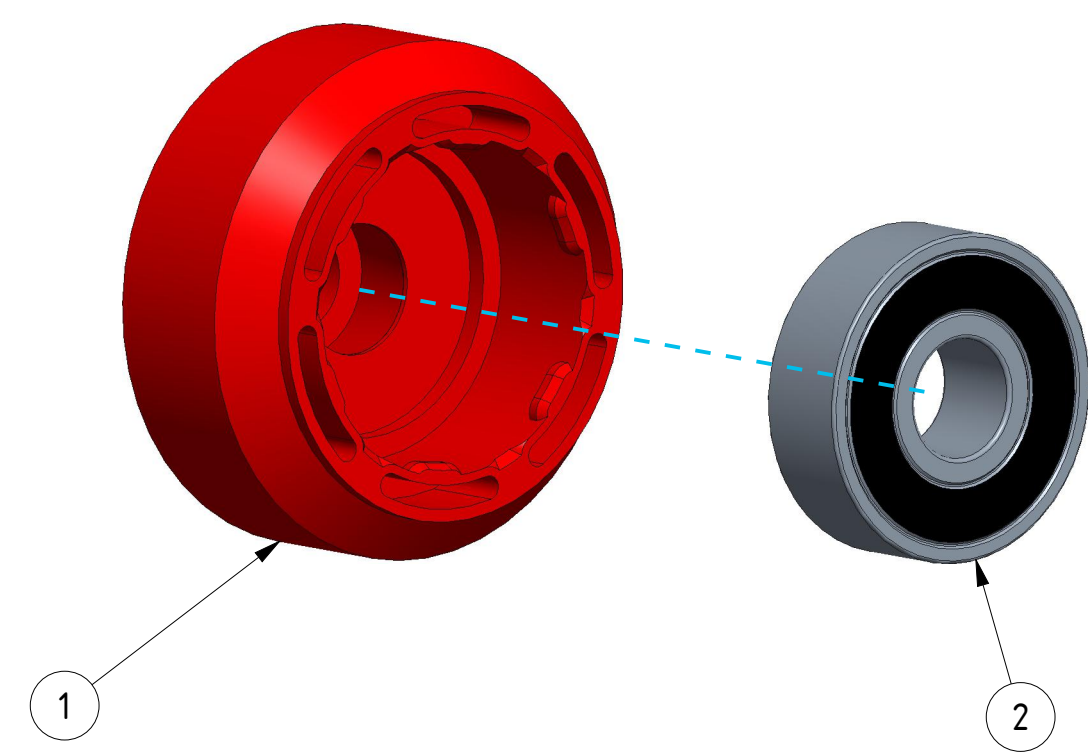


# RIGHT UPPER ARM SUBASSEMBLY



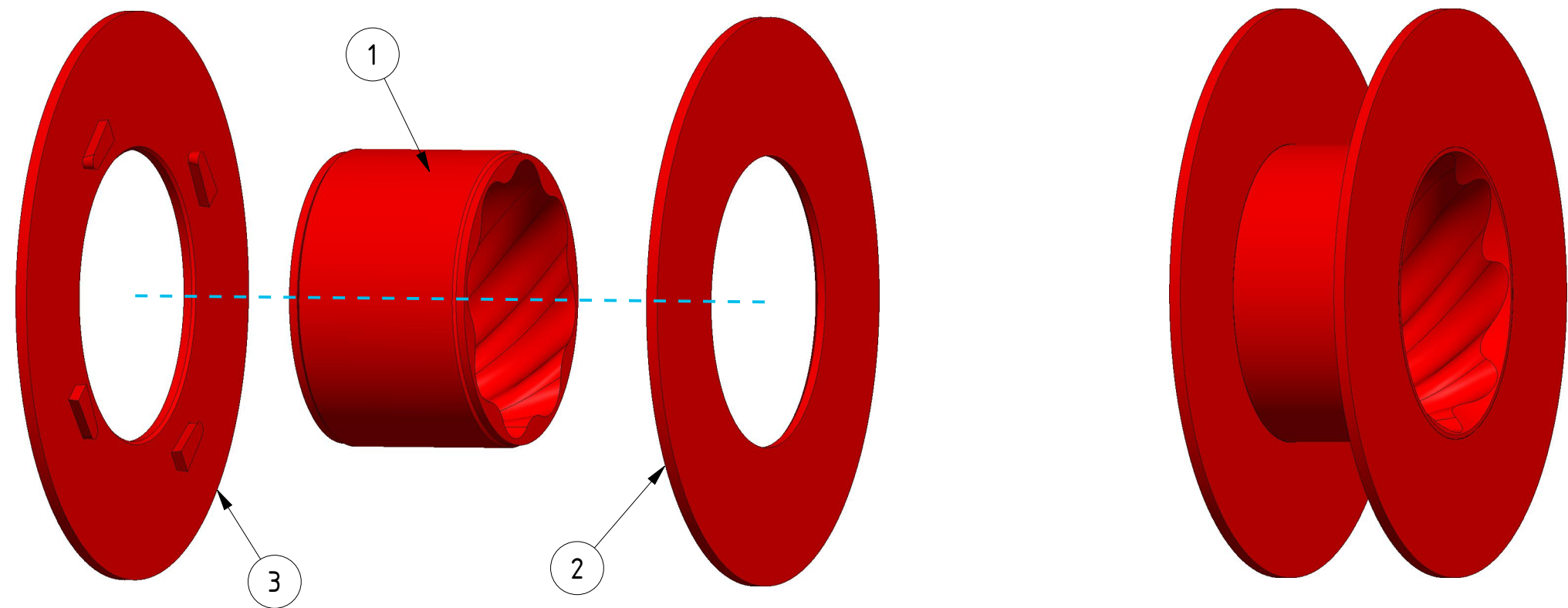
ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	RIGHT_UPPER_ARM	1	RIGHT UPPER ARM	RIGHT_UPPER_ARM.STL
2	INSERT_M3	17	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON

# SHAFT KNOB SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	SHAFT_KNOB	1	SHAFT KNOB	SHAFT_KNOB.STL
2	BEARING_608-2RS	1	BEARING 608-2RS	INSTALL AS SHOWN

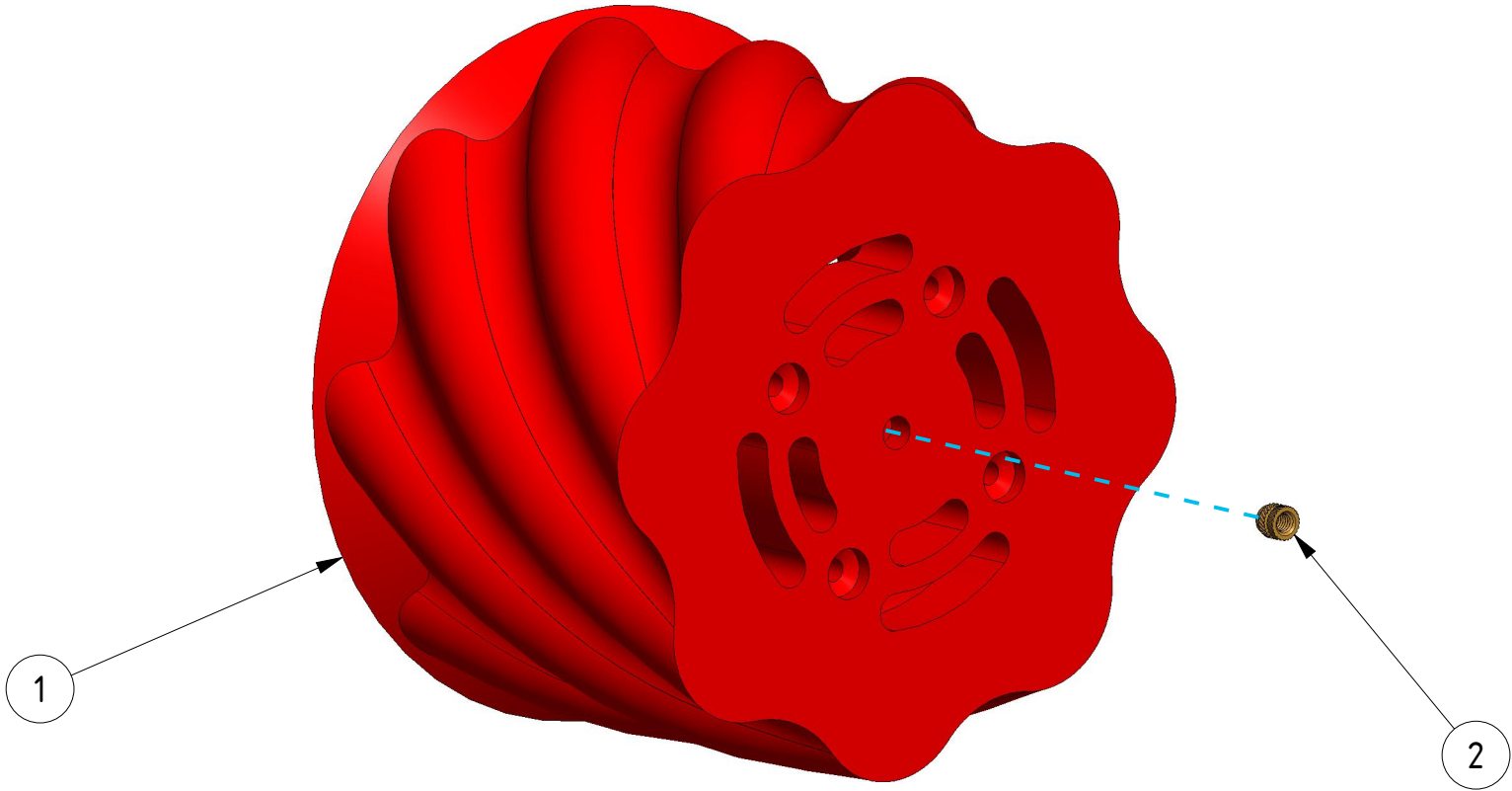
# SPOOL ASSEMBLY



SUPERGLUE  
SHIELDS TO BODY

ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	SPOOL_BODY	1	SPOOL BODY	SPOOL_BODY.STL
2	SPOOL_SHIELD_LEFT	1	SPOOL SHIELD LEFT	SPOOL_SHIELD_LEFT.STL
3	SPOOL_SHIELD_RIGHT	1	SPOOL SHIELD RIGHT	SPOOL_SHIELD_RIGHT.STL

# SPOOL SHAFT SUBASSEMBLY



ITEM NO	PART NUMBER	QTY	DESCRIPTION	NOTES
1	SPOOL_SHAFT	1	SPOOL SHAFT	SPOOL_SHAFT.STL
2	INSERT_M3	1	HEATSET INSERT - M3	INSTALL WITH SOLDERING IRON