

Walt Disney World®

PROJECT RED

SNAILS

OPERATIONS AND REPAIR MANUAL



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Revision History

Date	Version	Description	Author
09/15/24	1.0	First iteration	Bridget Reilly Beauchamp, Brieaunna Avery
10/22/24	1.1	Addition of Comprehensive Materials	Bridget Reilly Beauchamp, Brieaunna Avery
10/30/24	2.2	Final Iteration before installation	Bridget Reilly Beauchamp, Betsy Falk

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1 Introduction and Preface

1.1 General Project Information

1.1.1 Notes from Monkey Boys Productions

This character is designed for use in collaboration with Walt Disney World/Disney's Hollywood Studios for use in the Voyage of the Little Mermaid Theater. All information contained herein was prepared for Monkey Boys Productions, LLC and is property of the Disney Corporation and not to be used in any way without their consent.

1.1.2 From the Disney Scope of Work, section 1.2-1.4:

General Resort Overview

Movie magic comes to life at Disney's Hollywood Studios. This park features 8 sections: Hollywood Boulevard, Echo Lake, Grand Avenue, Sunset Boulevard, Commissary Lane, Star Wars: Galaxy's edge, Toy Story Land and Animation Courtyard.

General Venue Overview

Project Red will take place in the Voyage of the Little Mermaid (VOLM) Theater located within the One Man's Dream building next to Animation Courtyard in Disney's Hollywood Studios. The VOLM Theatre is a 400-seat theatre with a small, elevated stage with access between the house and backstage on Stage Left. All elements must fit through a double door at most due to limited load in infrastructure.

General Show Overview

A reimagined retelling of the classic film seen through the unique perspective of Ariel, a 16-year-old girl. Through cutting edge technology, mixed media, puppetry, and live actors, we follow Ariel's journey as she boldly pursues her dream to be part of the human world above, even if it means leaving her under the sea home.

1.2 Item Description

1.2.1 ~~Summarized from the Disney Scope of Work, Section 4.:~~

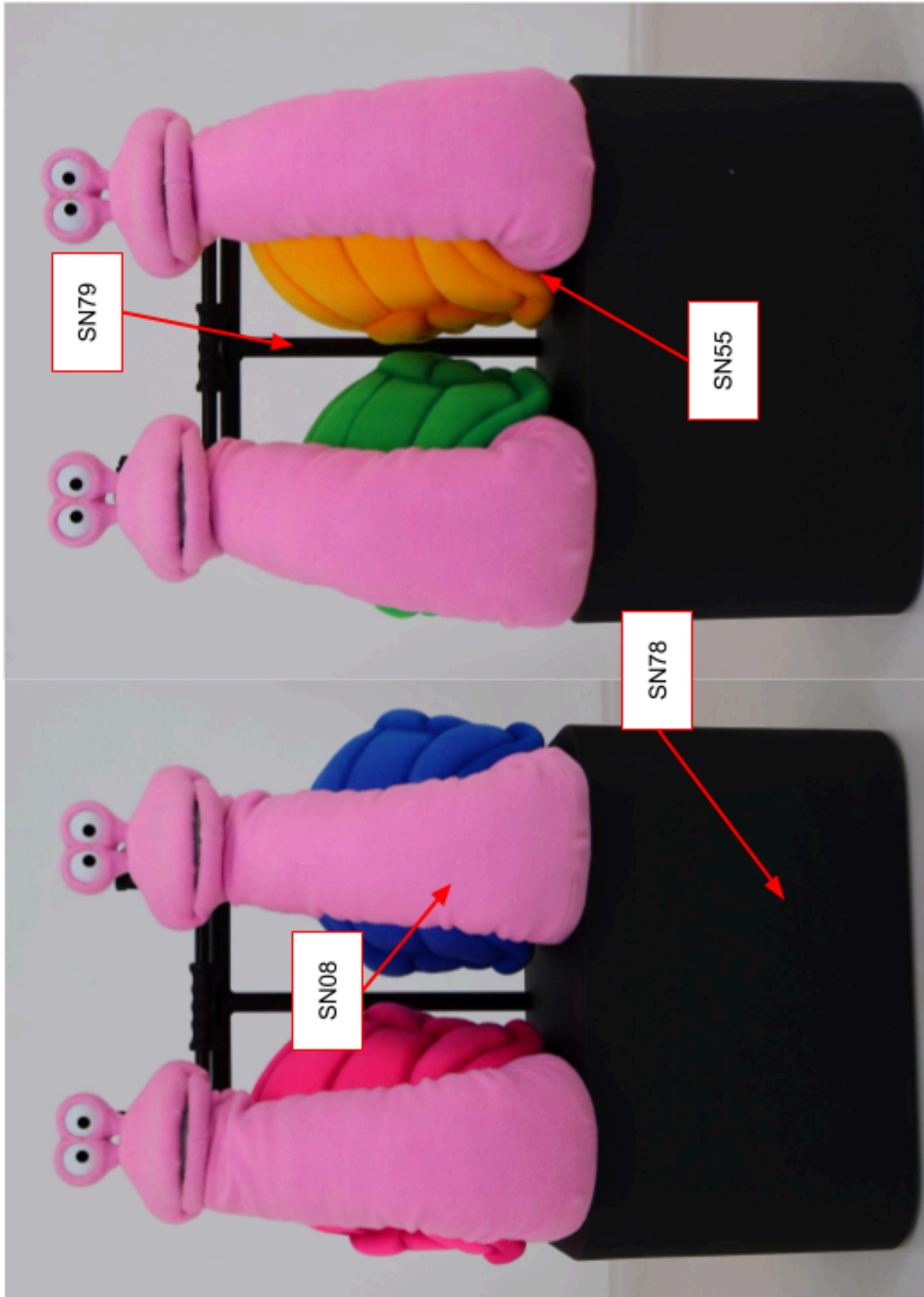
The Snails puppet has a rolling custom-built box base with 2 Snail characters affixed to the top. The Snails' heads and mouths are controlled via a connected control rod with triggers for the mouths. Each team of 2 snails is operated by a single performer.

1.2.2 Basis of Engineering

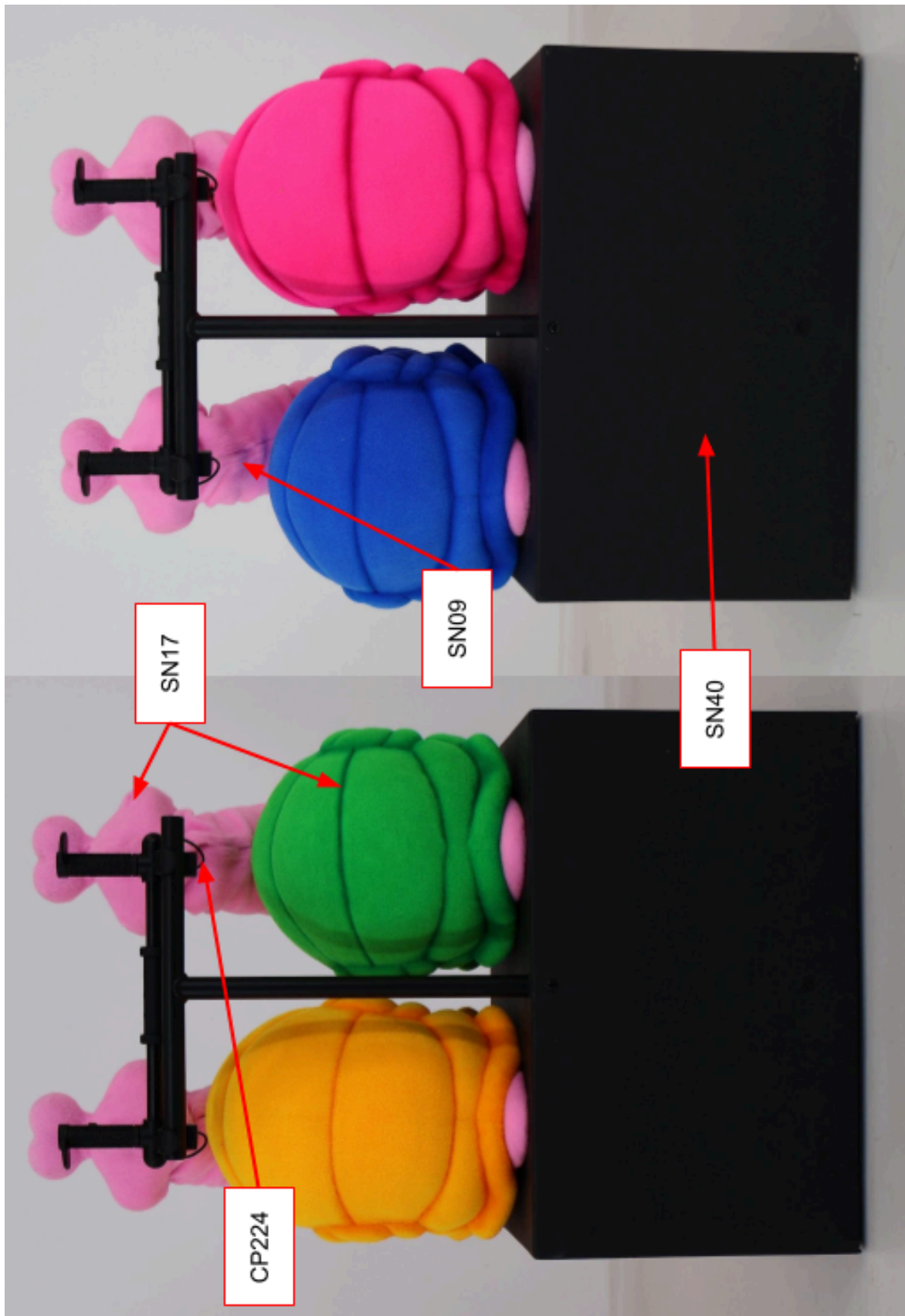
The snail puppets have shells made of L200 foam covered in custom-dyed, UV-reactive F3 fleece. The heads are 3D-printed nylon covered in bra foam, and the necks are a mesh and boning cylinder, both also covered in custom-dyed, uv-reactive fleece. The eyes and teeth are painted with UV-reactive paint.

2 Construction and Assembly

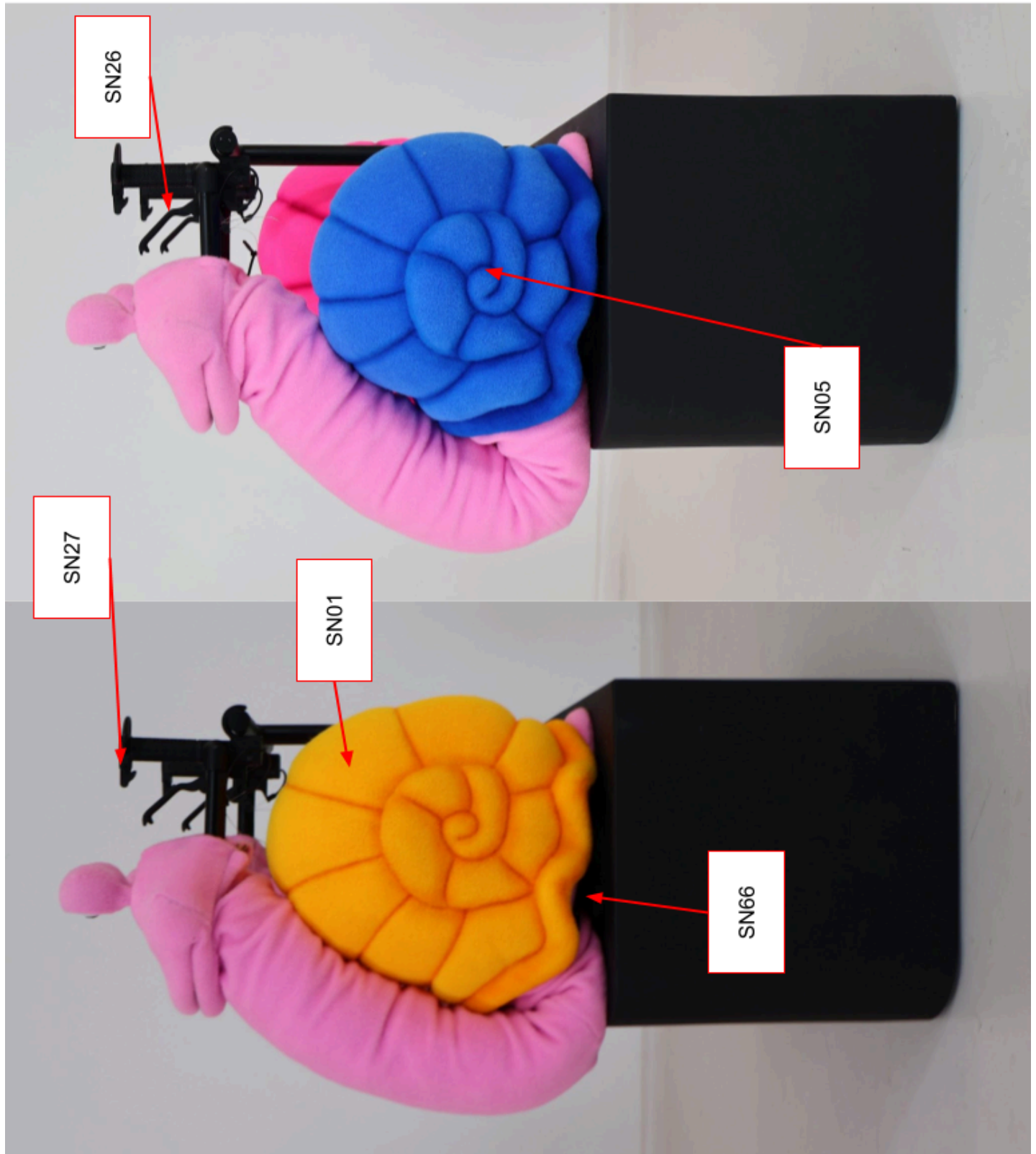
2.1 Front View



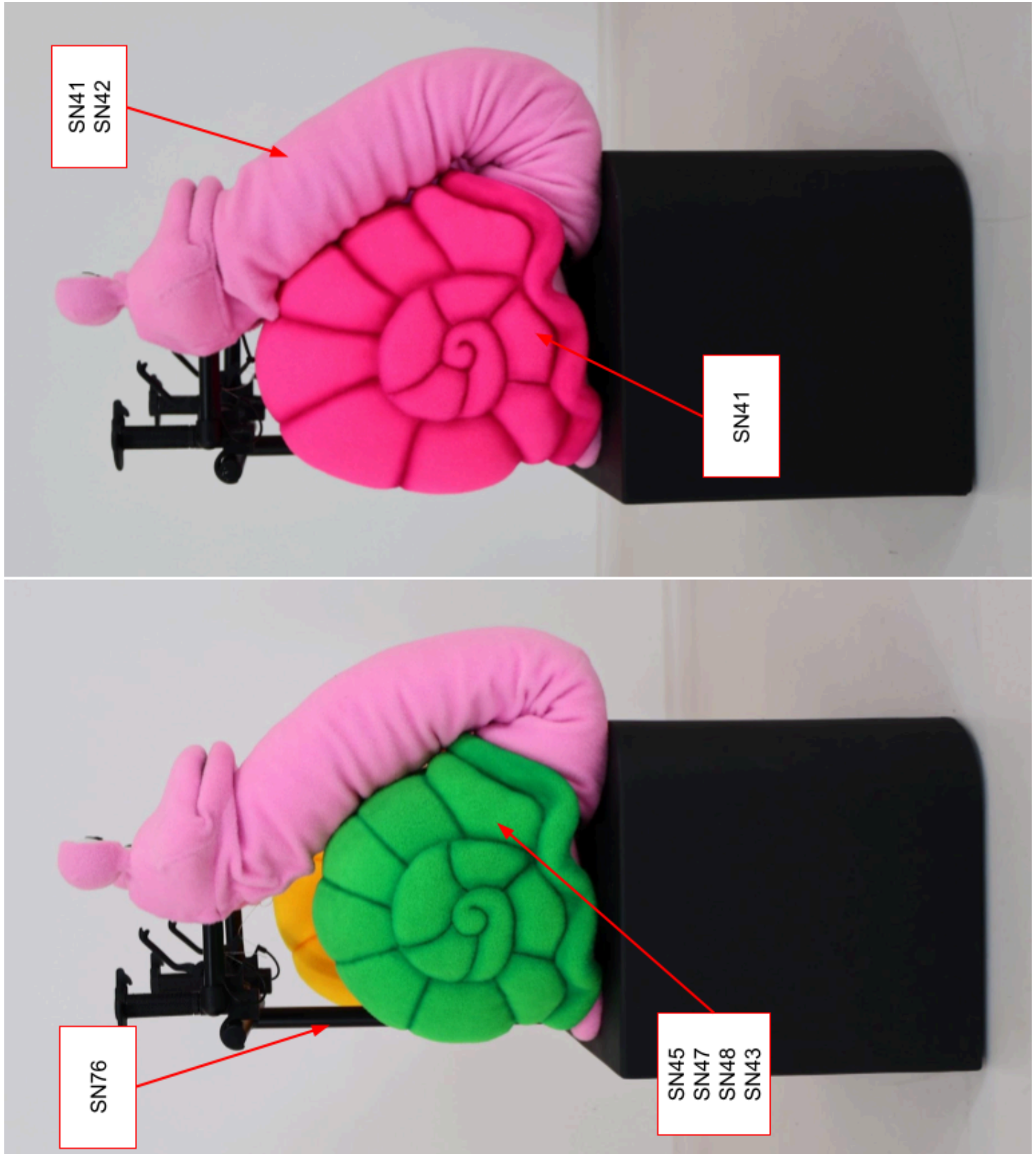
2.2 Rear View



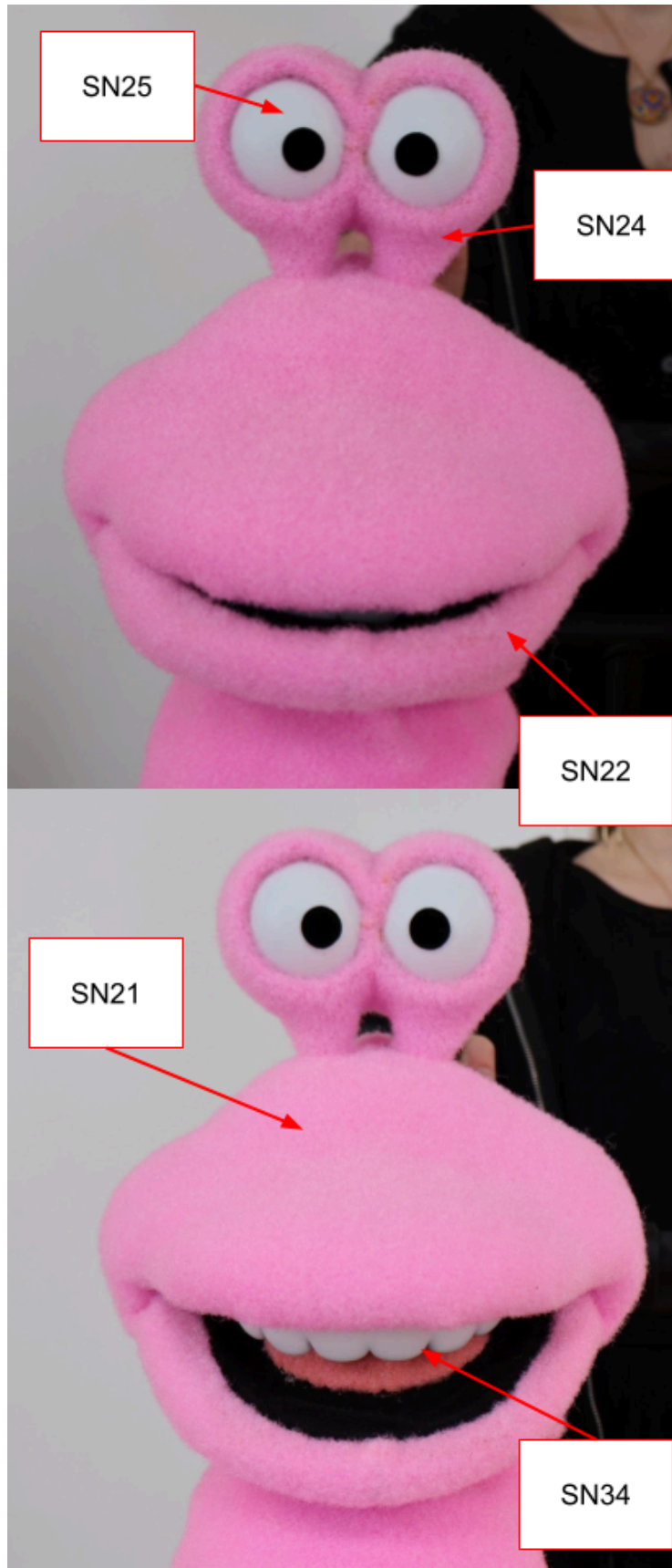
2.3 Left view



2.4 Right View



2.5 Closeup of Face



2.6 UV View



3 Description of Operating Modes

3.1 Operating Modes

3.1.1 Storage

The Snails puppet will be stored on a stand during the show.

Between performances, the puppet should be covered with its custom cover in order to protect it from the elements.

At no point should a puppet be stacked on top of or underneath another puppet or prop.

3.1.2 Performance

Each Snails puppet unit is operated by a single performer. They should be able to do all performing actions without assistance.

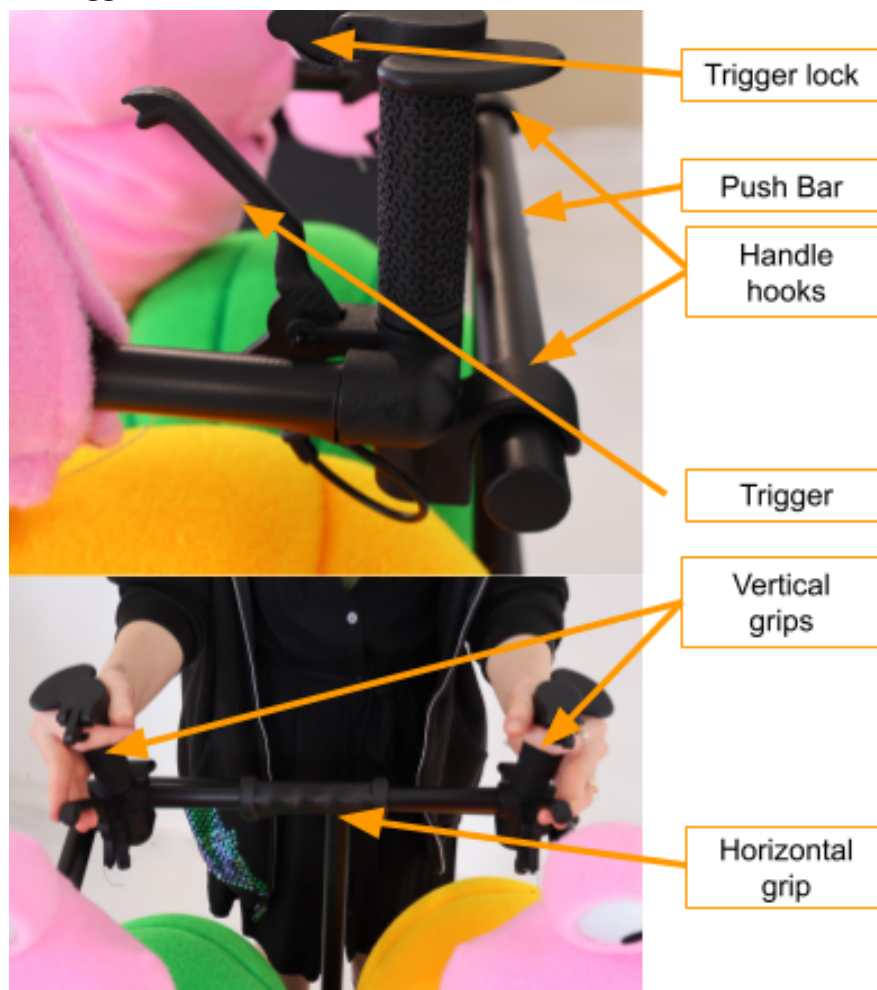
3.2 Operating Procedures

3.2.1 Removing the puppet from the stand

Please ensure that you have clean hands before handling this puppet.

The puppets and box are a Unit, and the box acts as a built in stand. Simply remove the storage cover, grasp the horizontal grip and move into position.

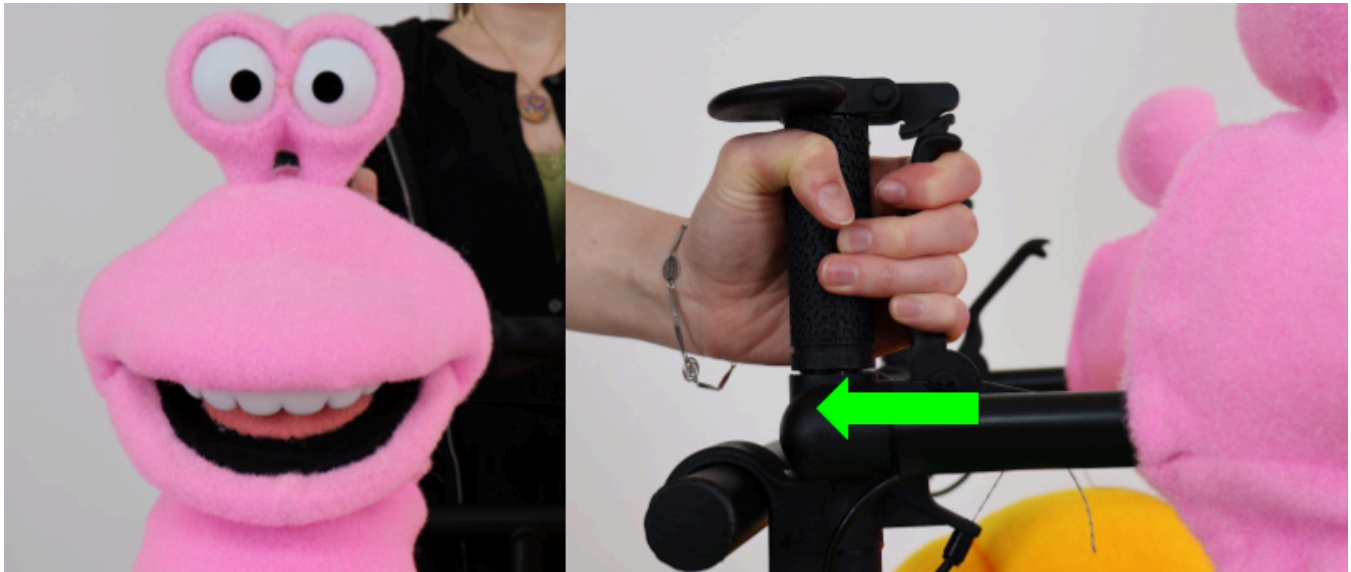
3.2.2 Handles and triggers



3.2.3 Action: Moving Mouth

Character's mouth is closed in a neutral position. Each mouth is operated by a separate trigger.

1. To open the mouth, the performer should squeeze the corresponding trigger located on the trigger handle.



2. To close the mouth, release the trigger.



3. To achieve a "smile" (continuous open mouth), squeeze the trigger as far as it will go, until the locking mechanism engages.
4. To release the "smile", lift the locking mechanism up with the index finger of the hand operating the trigger.



3.2.4 Action: Moving Heads

The heads of the 2 Snails on a box move in concert with one another. The heads can look up, down, side to side, and tilt. The performer can achieve a limited range of movement by pivoting their wrist while holding the control rod and/or trigger handle(s). DO NOT try to force the heads past the point of resistance. Doing so will damage the puppet.

3.2.5 Action: Moving Bodies

The bodies of the 2 Snails on a box move in concert with one another. The bodies can move side to side, approximately 20 degrees in each direction. The performer can achieve a limited range of movement by moving their arm in the direction of the desired movement while holding the control rod and/or trigger handle(s). DO NOT try to force the bodies past the point of resistance. Doing so will damage the puppet.

3.2.6 Placing puppet on stand

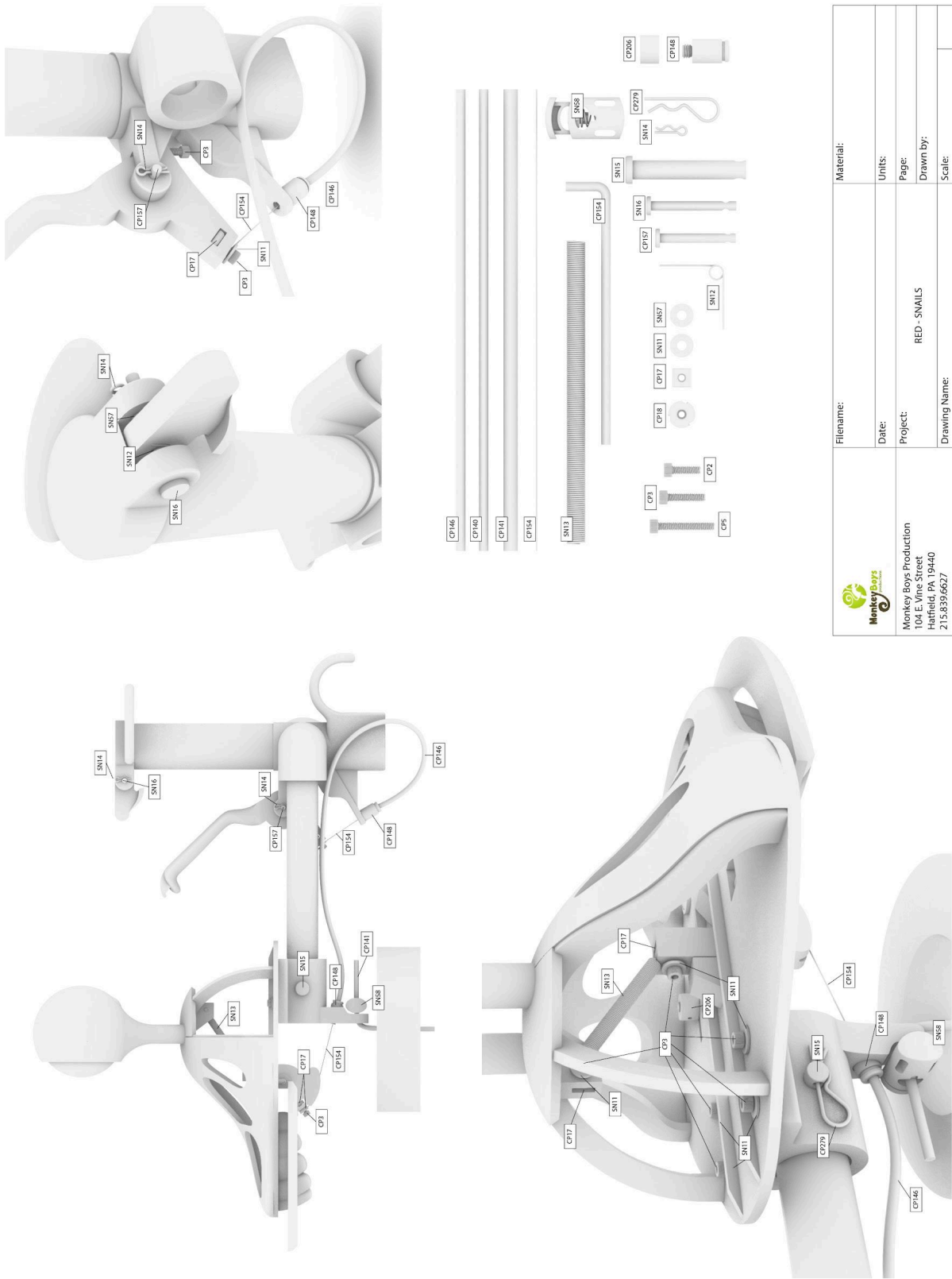
Reverse the actions of section 3.2.1

3.2.7 Storage

To store the puppet ensure that the puppet is stable on the stand and lower the cover over the top. Draw the string around the bottom of the puppet and pull the cord lock to secure it in place. The cover does not need to be cinched completely closed around the stand.

4 Detailed Diagrams of Mechanisms and Hardware

4.1 Head & Mouth mech



 Monkey Boys Productions 104 E. Vine Street Hatfield, PA 19440 215.839.6627	Filename:	Material:
	Date:	Units:
	Project:	Page:
	Drawing Name:	Scale:

5 Safety and Hazards

5.1 Safety Precautions and Hazard Identification

As is the case with any puppet, care must be taken when handling this item to make sure that the item does not become damaged beyond normal expectations.

- Care should be taken that the puppet and its accessories do not crash against walls, doorframes, other props, or other items. This could cause the puppet to become damaged or soiled.
- If the hardware on the puppet becomes loosened, pieces of the puppet will be likely to behave erratically. Care should be taken to ensure that all hardware is present and properly tightened at all times.
- All electrical systems should be regularly checked and maintained to the utmost safety standards.

5.2 Hazard Mitigation Strategy

There is always a chance of breakage and small injury when handling puppets and props, but Monkey Boys Productions has done their best to keep these chances low and keep both performers and technicians safe. All items have been built to be safe to handle with little chance of injury when handled correctly.

- All carbon fiber parts have been sanded to a smooth surface and sealed or covered.
- All wires and other such electrical parts have been assembled in the most safe and logical way to avoid injury and avoid becoming a hazard to performers or technicians.
- Weights and distribution of weight have been thought through to make the carrying and handling of the props easier on the performers to avoid muscular injury or strain.

These puppets are not a hazard to the environment or the performance location.

6 Repair & Service

6.1 Daily Checks and Inspections

The following list is provided as a basis for daily inspection of the puppet. Items may be added to or removed from this list as the on-site technical director sees fit.

Check Point	How to Inspect
Mouth triggers	Engage & disengage
Mouth trigger lock	Engage & disengage

6.2 Periodic Testing

The following list is provided as a basis for periodic testing of the puppet. Items may be added to or removed from this list as the on-site technical director sees fit.

Check Point	How to Inspect	When to Inspect
Bungee connection	visually and manually	every 10 shows
Casters	visually and manually	every 10 shows

6.3 Routine Corrective Maintenance

The following list is provided as a basis for routine maintenance of items that will commonly need replacement or adjustment. Items may be added to or removed from this list as the on-site technical director sees fit.

Check Point	Corrective Action	When to Address
UV paint	touch up	as needed
paint on box	touch up	as needed

6.4 Puppet-specific Service Items

A basic service kit has been supplied for use with this specific prop. Refills of the items in this kit can be handled by direct purchase from the source or by emailing contact@monkeyboysproductions.com. A full manifest of these items is supplied inside the kit and is included on the final page of this manual.

6.5 Cleaning Fabrics

*****Please note that using liquids or detergents on UV treated fabrics may cause the UV reactivity to fade*****

6.5.1 Spot Cleaning

- Spot clean as soon as dirt and grime are noticed.
- Gently wipe with Shout or Tide wipe.
- Dab product into deeper stains.
- Blot and gently wipe with a clean, white towel.
- Make sure that the area dries well.

6.5.2 Deep Cleaning Option 1 for widespread stains

- Dilute a drop of Woolite detergent in room temperature water.
- Dab on with a white cloth.

- Gently wipe & dab with clean white towel.

6.5.3 Deep Cleaning Option 2 for deep stains

- Spray Bissell Pro Carpet Cleaner on worst of spot.
- Allow it to rest for 1 minute.
- Carefully dab and wipe with a clean towel, being mindful that fabric doesn't pull away from the material beneath.

6.5.4 In all cases

- DO NOT rub, twist, or pull when cleaning
- DO NOT use heat, steam, or pressure
- DO NOT use bleach or other harsh chemicals
- DO NOT immerse in or saturate with water

6.6 Cleaning Hard Surfaces

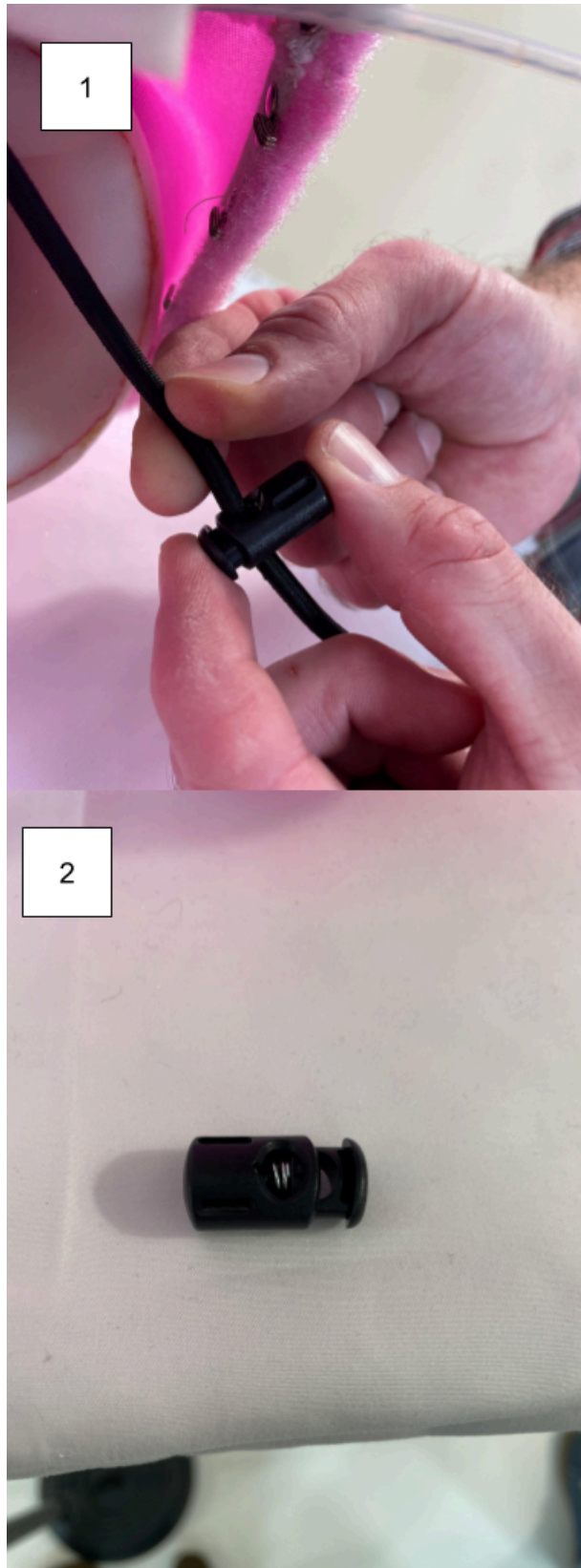
******Please note that using liquids or detergents on UV treated surfaces may cause the UV reactivity to fade******

- Hard surfaces (Carbon fiber, plastic, aluminum, grip tapes, etc.) can be wiped clean with water or a mild cleanser such as Dawn dish detergent diluted in water.
- Always use a soft cloth and work carefully to avoid scratching or damaging any coatings or paints.
- Always wipe all surfaces dry immediately after cleaning to avoid leaving water spots or otherwise damaging finishes.

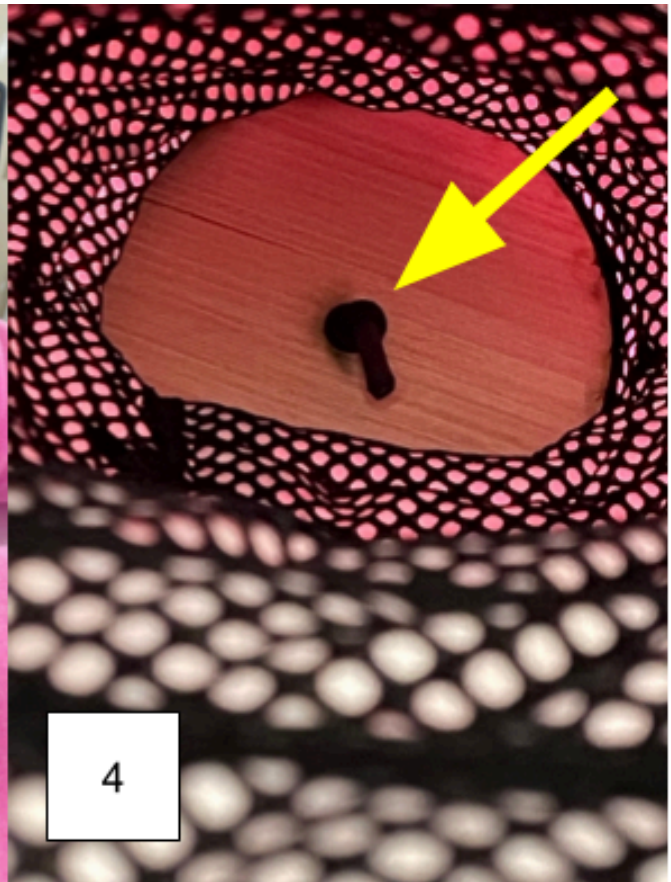
7 Detailed Maintenance Procedures

7.1 Specialty information about replacing the neck bungees

1. Begin by detaching the bungee lock. Press and slide off, then set aside in a safe location. **Fig 1 - Fig 2**

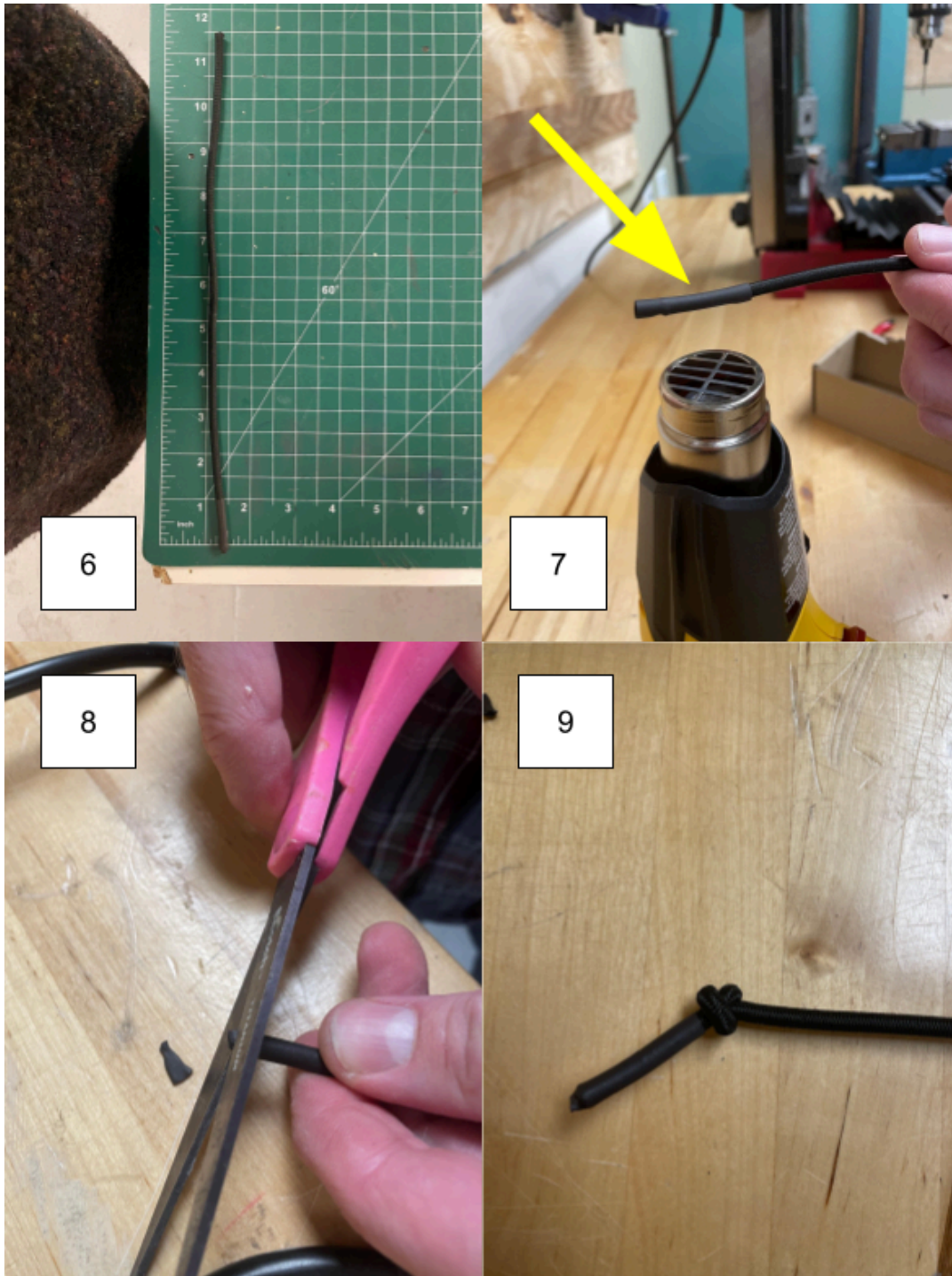


2. Reach into the neck cavity and pull the bungee out. **Fig 3 - Fig 5**



3. Get the replacement bungee.

- a. There should be bungees in your repair kit, however, if you run out, you can use the following process to make new ones.
 - i. Using 3/16 size black bungees, cut to 11 ½ inches in length. It is helpful to melt the ends of the bungee after cutting. **Fig 6**
 - ii. Heat wrap both ends of the bungee and then cut off any excess wrapping. **Fig 7 - Fig 8**
 - iii. Tie a knot on one end at approximately 10in. **Fig 9**



- iv. Using a previous bungee as a guide if possible, mark the bungee with a silver sharpie.

4. Take the new bungee and thread it up through the Neck Cavity and into the hole in the wooden neck disc. From there, slide the bungee into the Attachment point in the neck. **Fig 10 - Fig 12**



5. Reattach the bungee clip and pull to where the bungee is marked with a silver Sharpie. **Fig 13 - Fig 14**

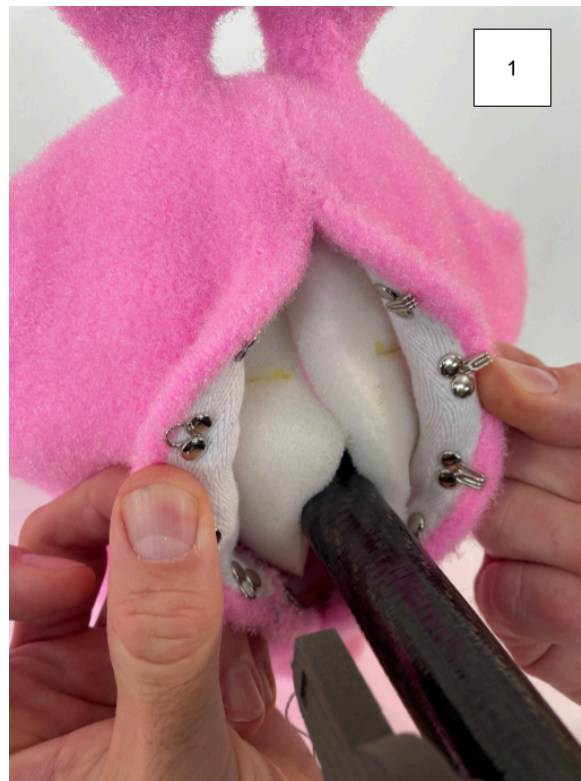


7.2 Specialty information about restringing the mouth mech

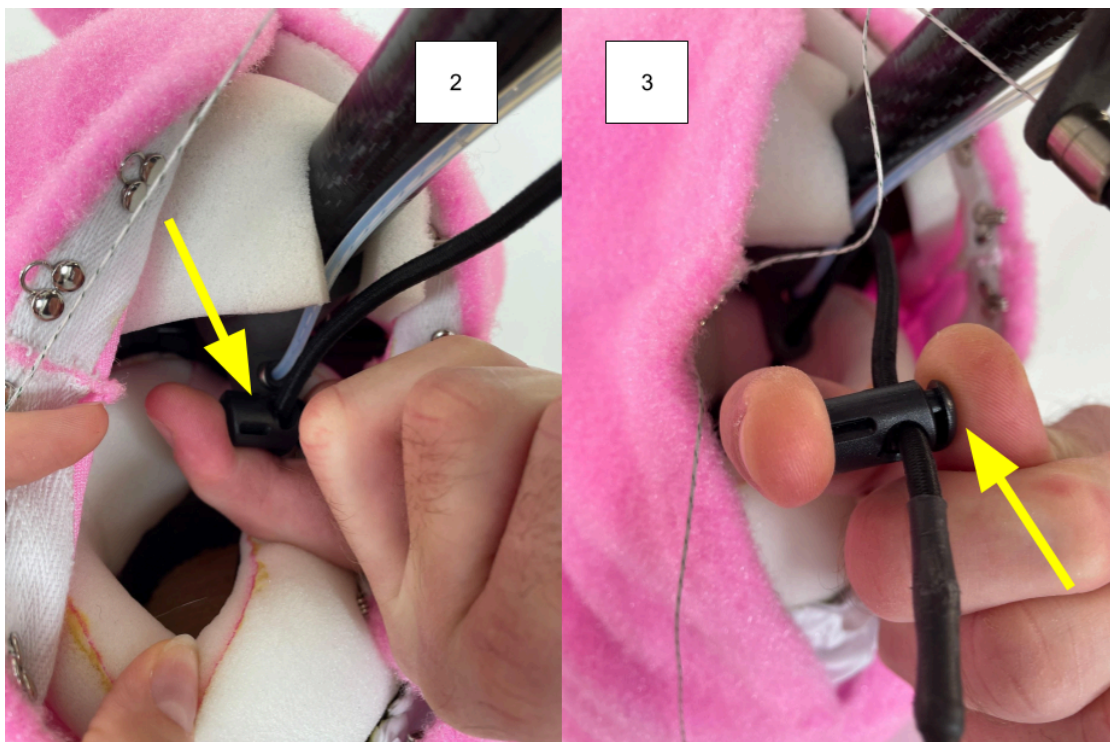
Remove the String

1. To access the internal side of the mouth mechanism, start by undoing the Hook and Eyes, which total 10.

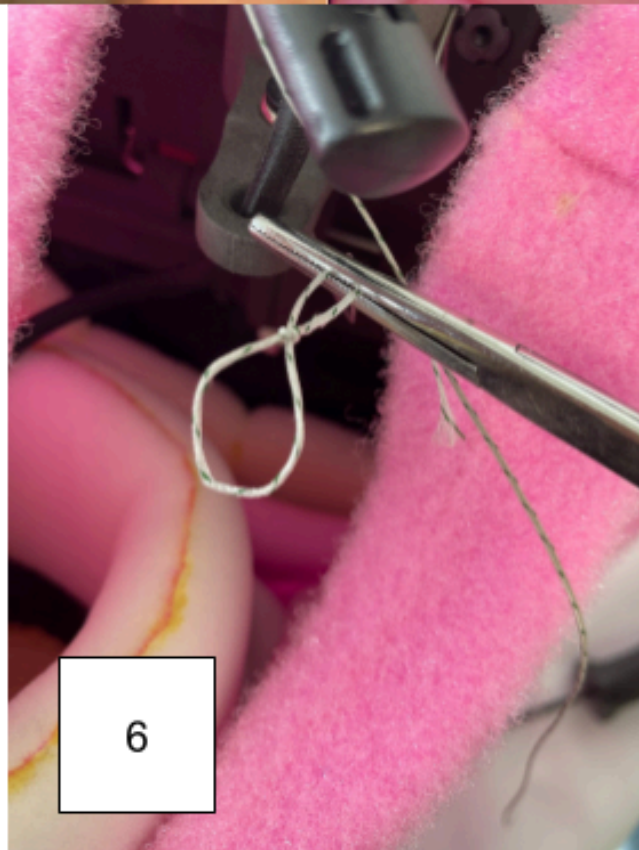
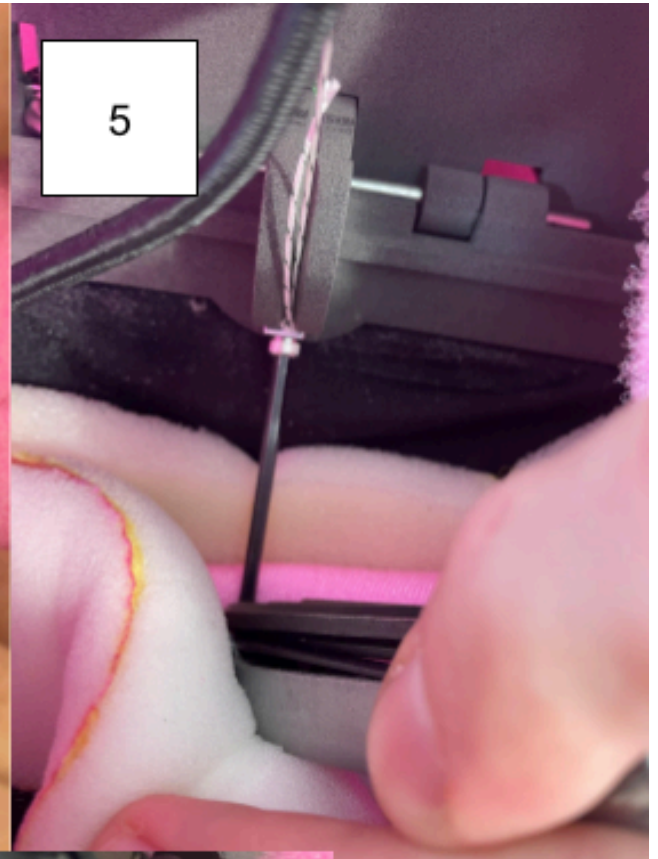
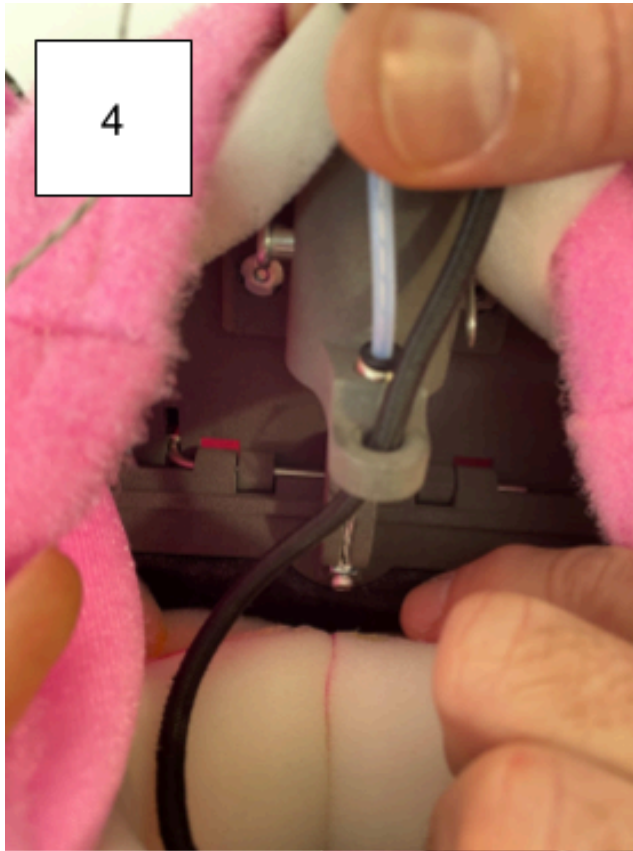
Fig 1



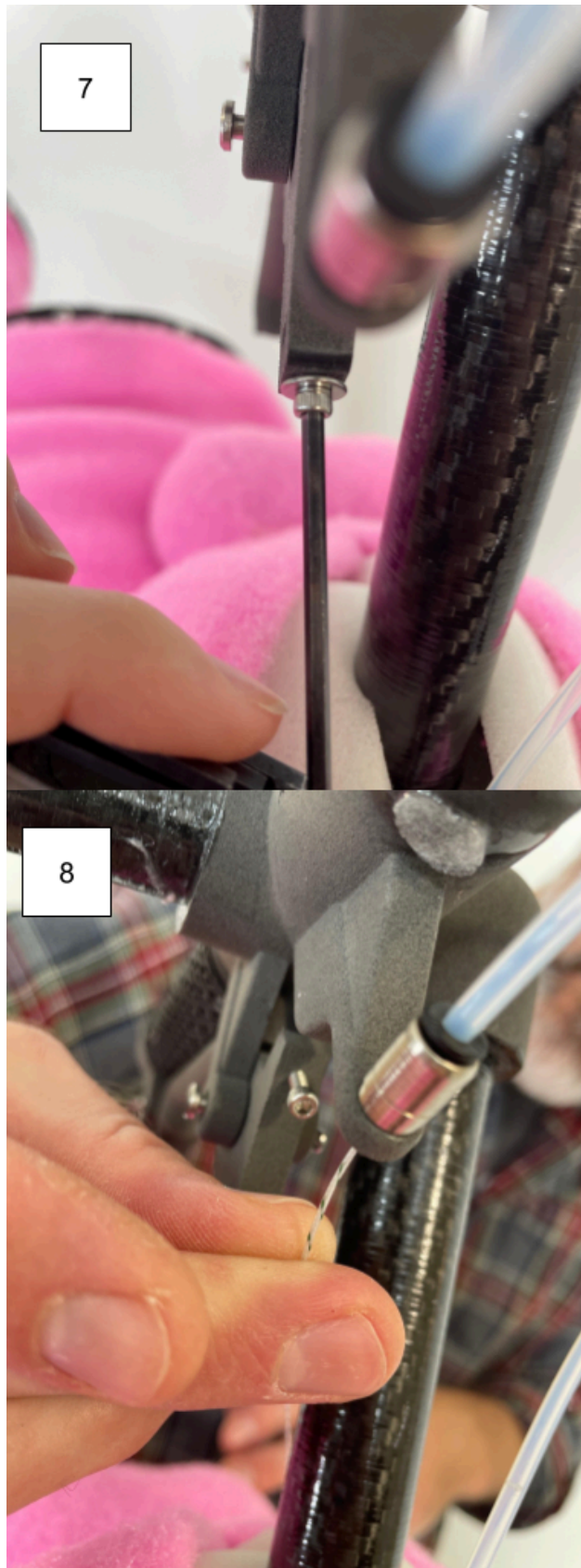
2. Inside the head, locate the bungee lock and press it. To perform maintenance, you will need the neck to have a bit of slack. **Fig 2 - Fig 3**



3. With an Allen wrench, loosen the 4-40 connecting the string to the inner mech. It should be a slip knot, which you can use a hemostat (shown) or pliers to undo. **Fig 4 - Fig 6**



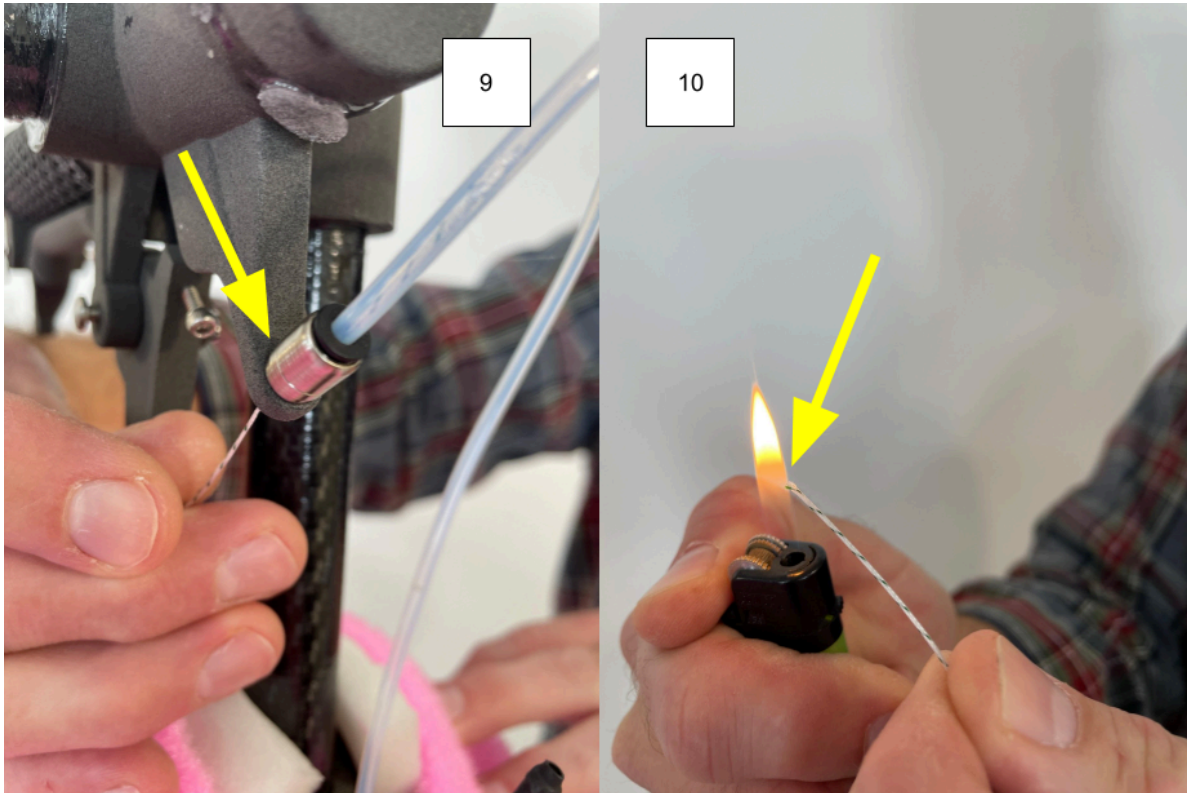
4. From the Trigger, Loosen the 4-40 that holds the string into place with an Allen wrench.
5. Pull the String from the Mech. **Fig 7 - Fig 8**



Install New String

1. Feed the new string through the push connect on the Trigger. **Fig 9**

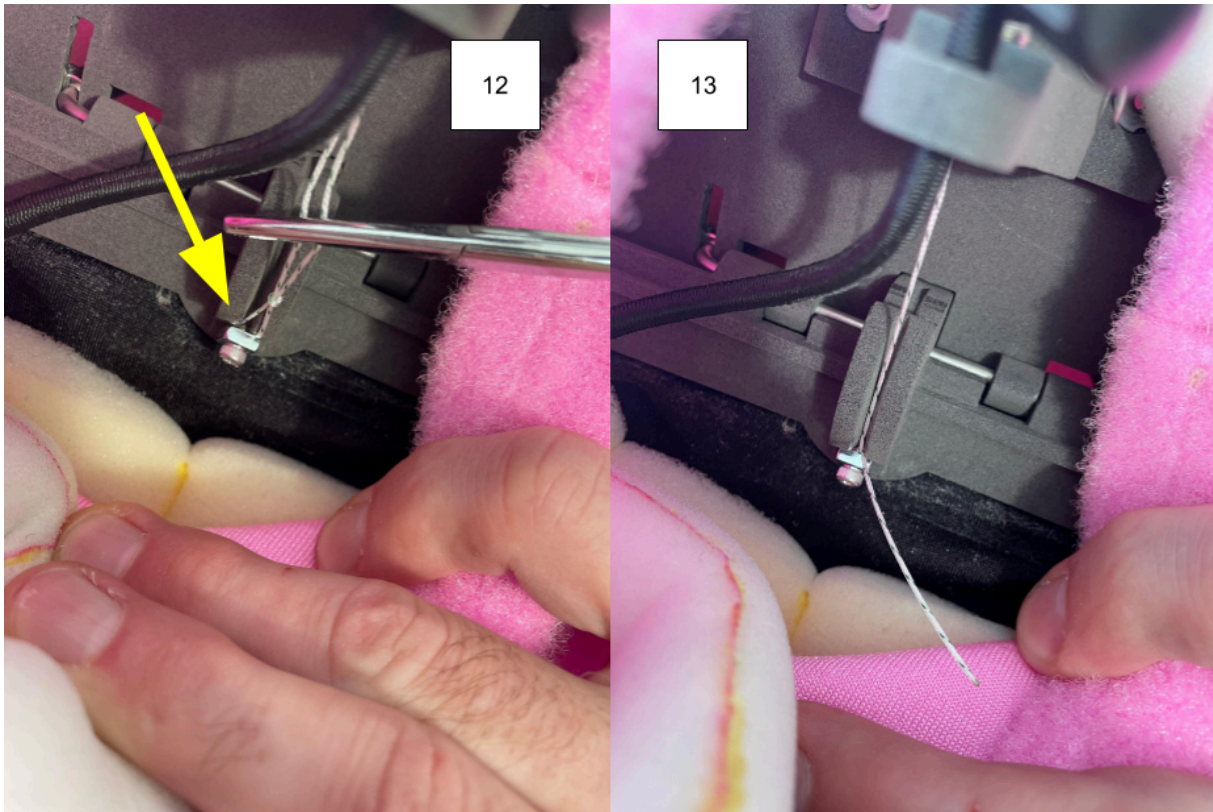
a. Note: If you are cutting your strings for the mechanism, cut at 24in long so that you have excess to work with, and be sure to melt both ends. Melting the ends will make feeding the string into the tube easier. **Fig 10**



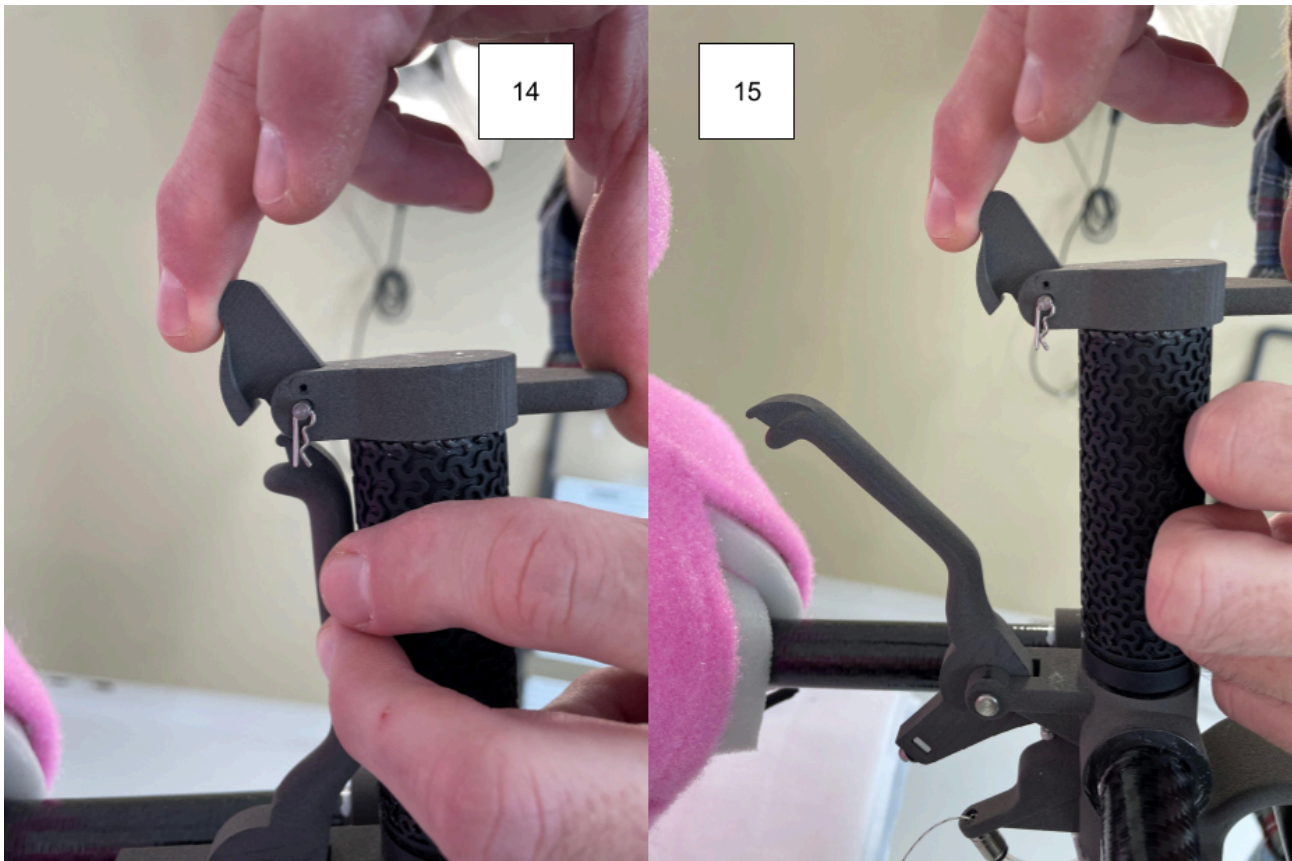
2. After feeding the string through the tube, tie a slip knot at the end towards the jaw. **Fig 11**



3. Loop the slip knot around the 4-40, then tighten with a 3/32 Allen Wrench. **Fig 12 - Fig 13**



4. Release the trigger from its locked position, then pull the string taut and loop around the 4-40 on the trigger. **Fig 14 - Fig 15**

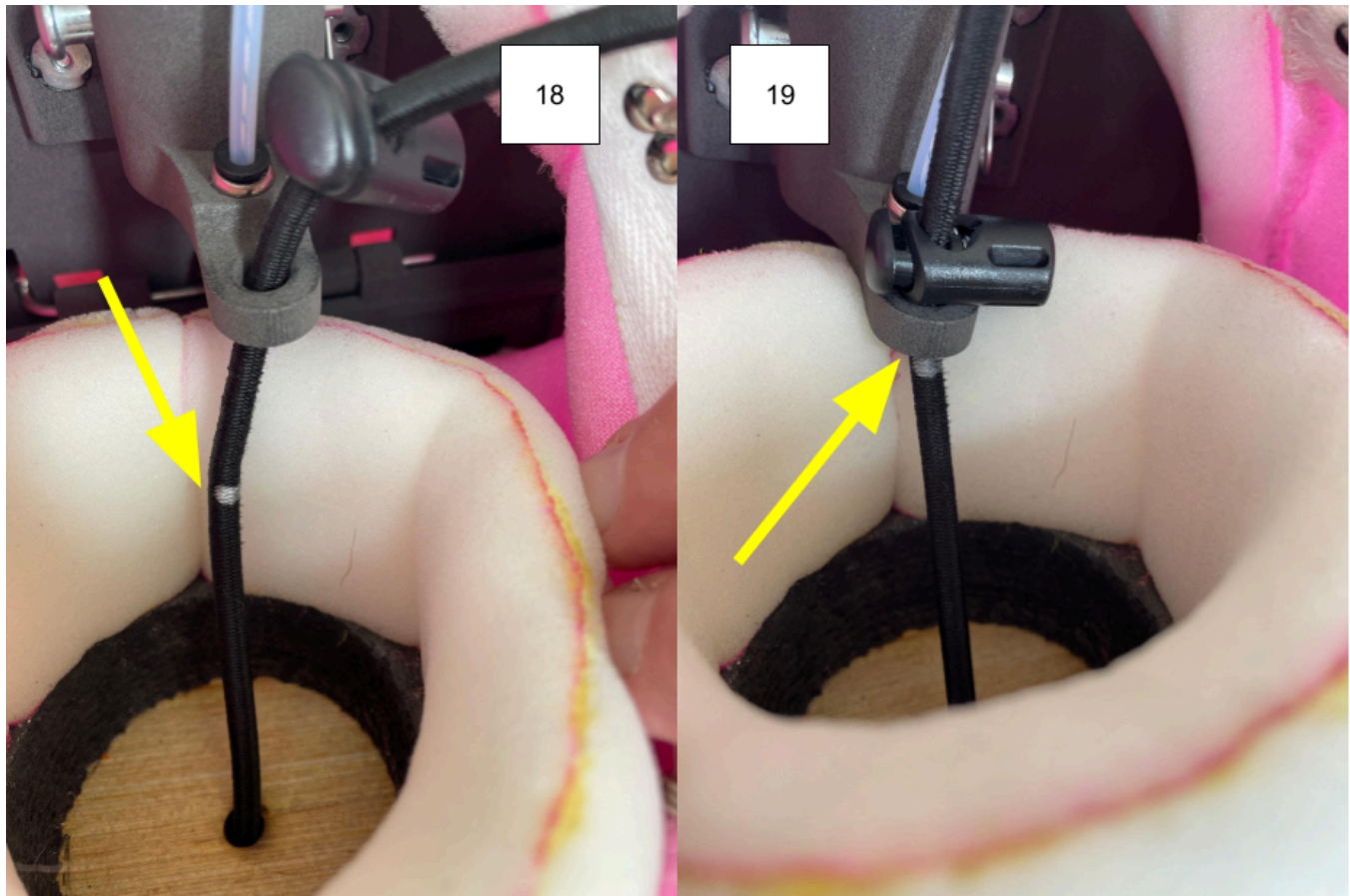


5. While still holding the string taut, tighten the 4-40 on the trigger. **Fig 16 - Fig 17**

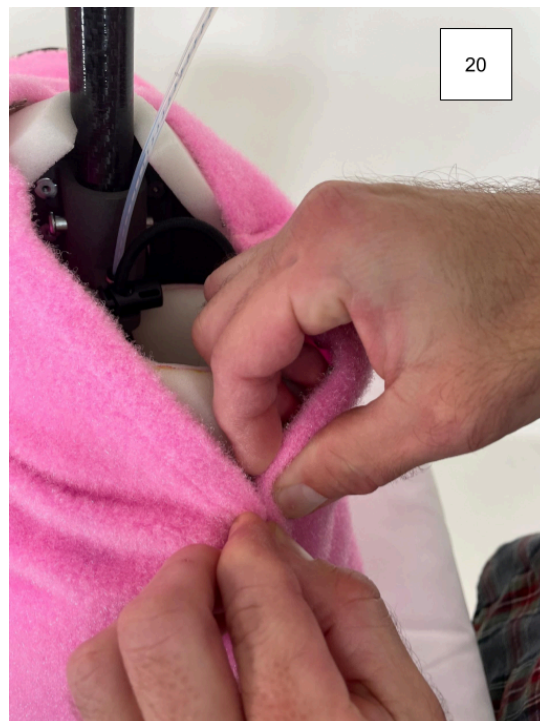


6. Cut the excess, leaving about an inch and a half, and then melt the end to prevent fraying.

7. When closing back up, pull the bungee up so that the silver mark is level with the Mech Attachment point. Lock into position. **Fig 18 - Fig 19**



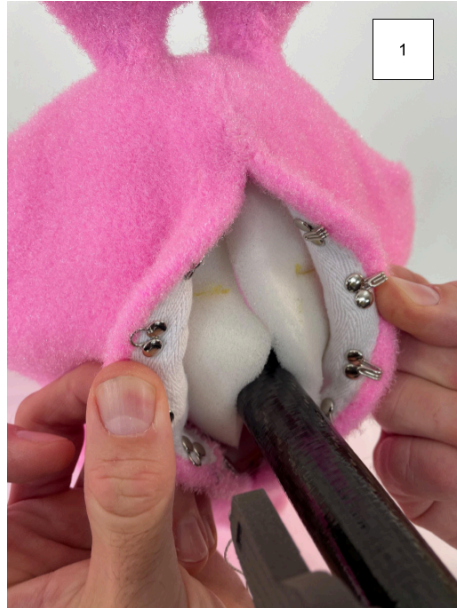
8. Secure the hook and eyes. **Fig 20**



7.3 Specialty information about replacing the springs for the mouth mech

1. To access the internal side of the mouth mechanism, start by undoing the Hook and Eyes, which total 10.

Fig 1



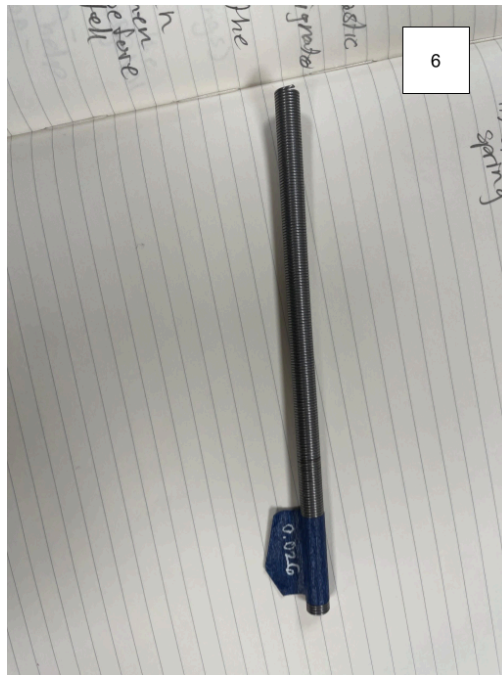
2. Start by removing the 4-40 at the bottom of the spring with an Allen Wrench. **Fig 2**



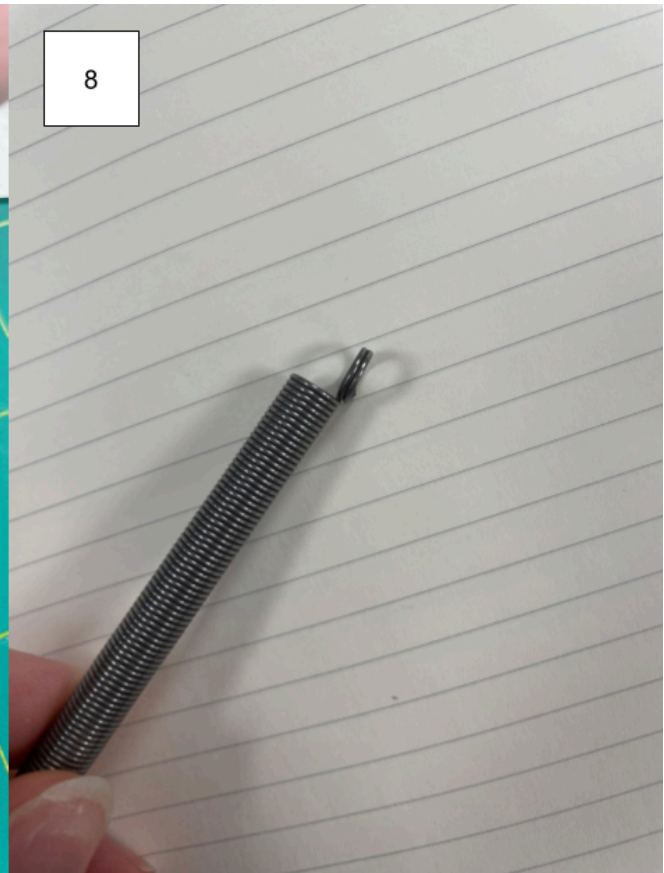
3. Take out the 4-40 at the top and set aside the two 4-40s, the two washers and the spring in a safe location. **Fig 3 - Fig 5**



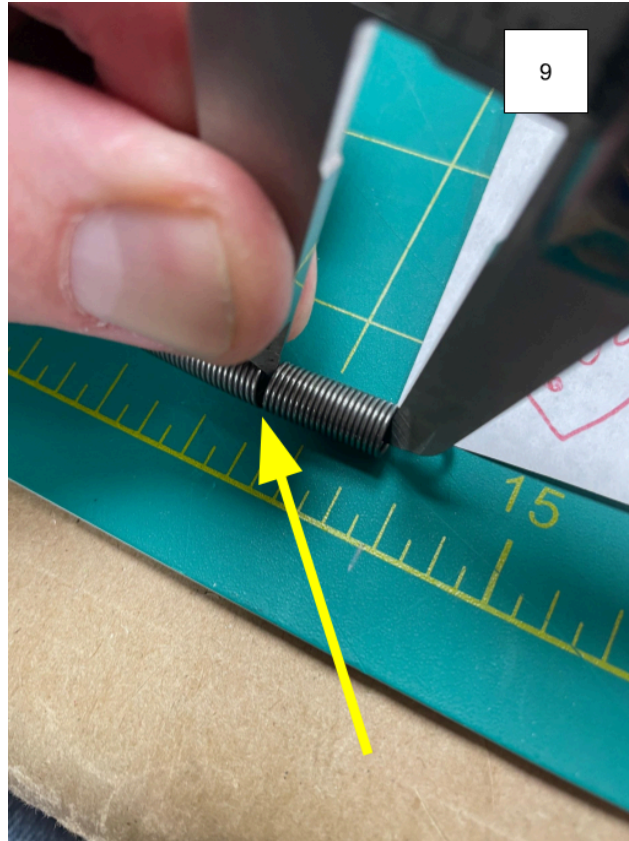
4. Get your new spring.
 - a. Your repair kit should contain extra springs for replacement; however, if you run out, you can follow this procedure to make more.
 - i. Start with a length of 0.026 extension spring. **Fig 6**



- ii. With pliers, bend two rings worth off the end of the spring at almost a 90° angle. **Fig 7 - Fig 8**



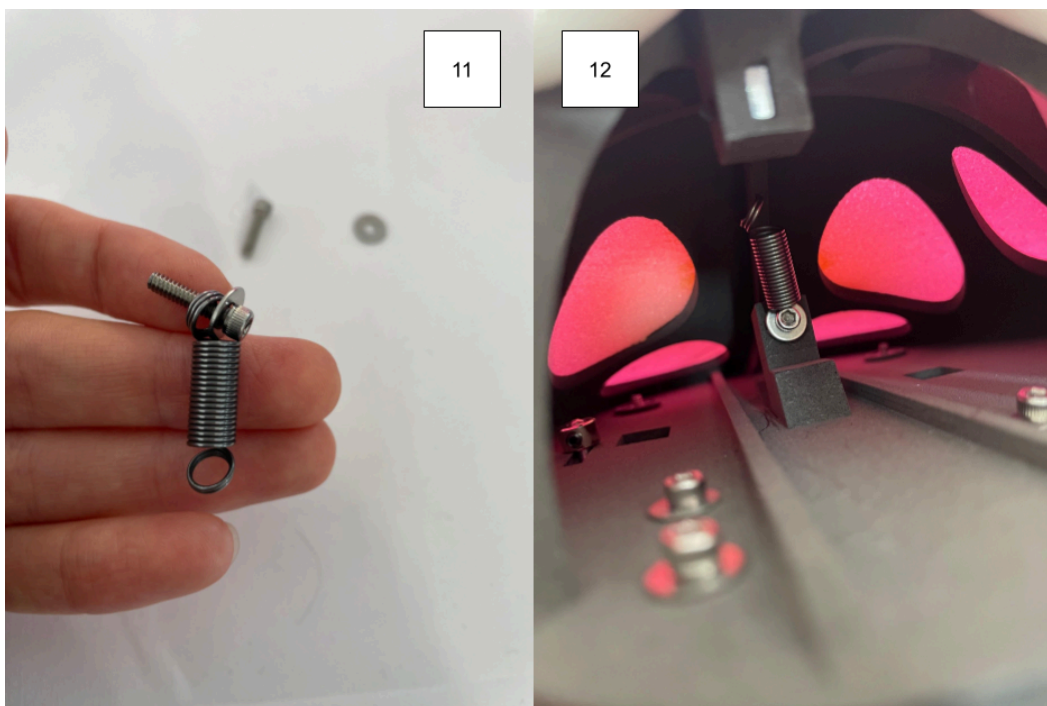
- iii. Measure 9/16ths from the bend. At your measurement bend at a less severe angle. **Fig 9**



- iv. Cut so that there are 2-3 coils on the second bend. **Fig 10**

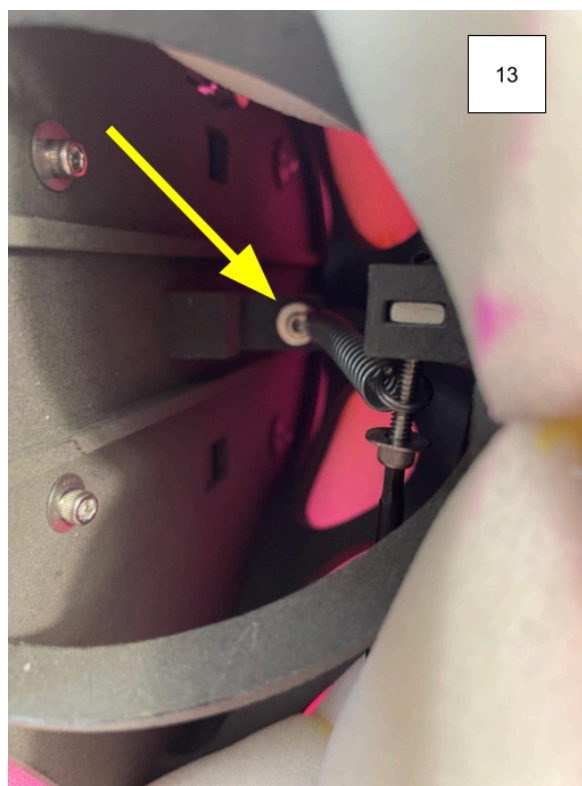


5. To put back in, screw in the 4-40 through the washer and the spring to the bottom. Tighten the whole way, making sure the spring aligns to the top. **Fig 11 - Fig 12**



a. Note: You can use a pair of pliers to help angle the screw into the hole.

6. Using pliers to help you place the 4-40 and the washer through the spring, screw into the top of the head. **Fig 13**



a. Note: This may be easier to do with the puppet's head lying on its side.

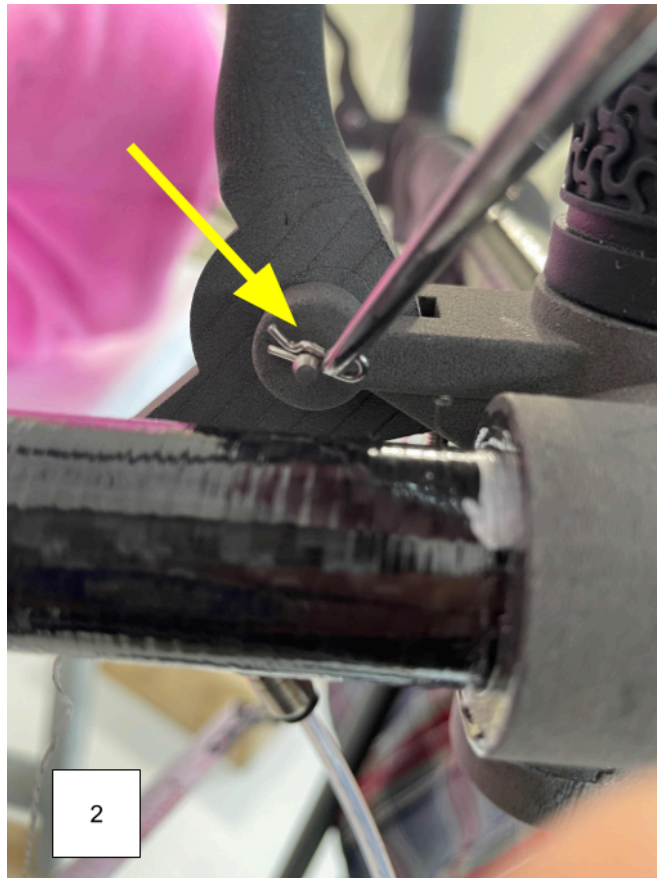
7. Once Maintenance is completed, close up the hook and eyes on the head and you are done!

7.4 Specialty information about removing the trigger from the handle

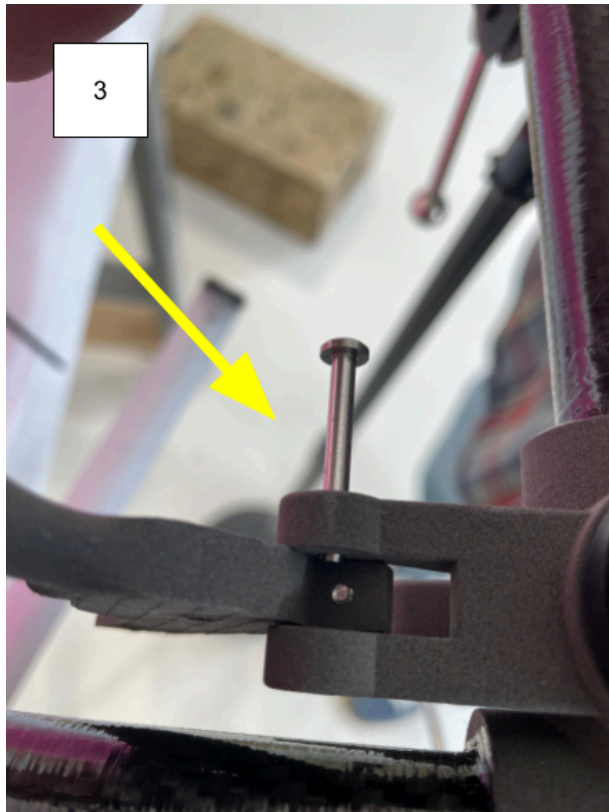
1. Start by removing the string from the trigger. To do this, loosen the 4-40 with a 3/32 Allen Wrench. **Fig 1**



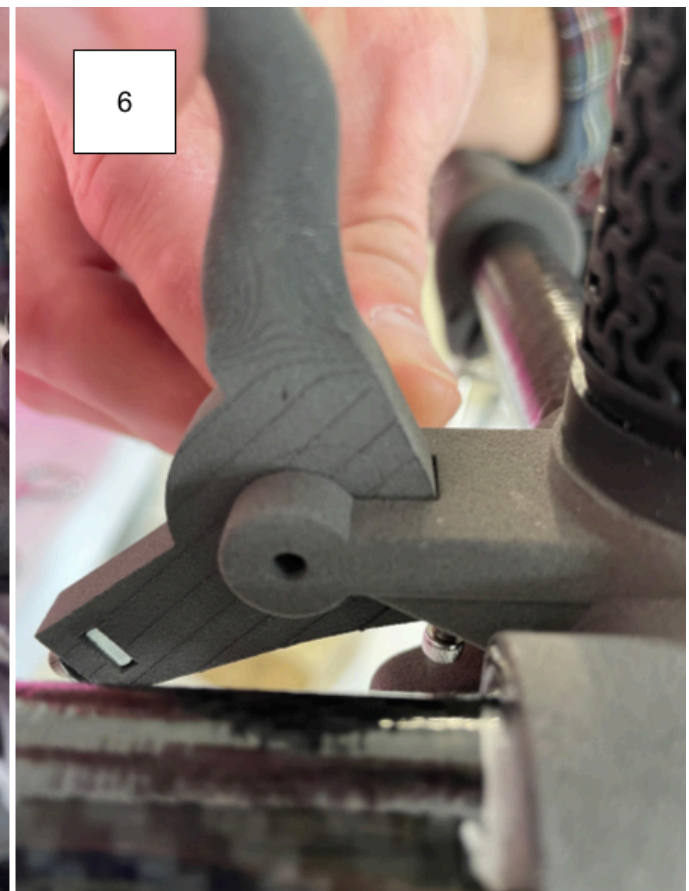
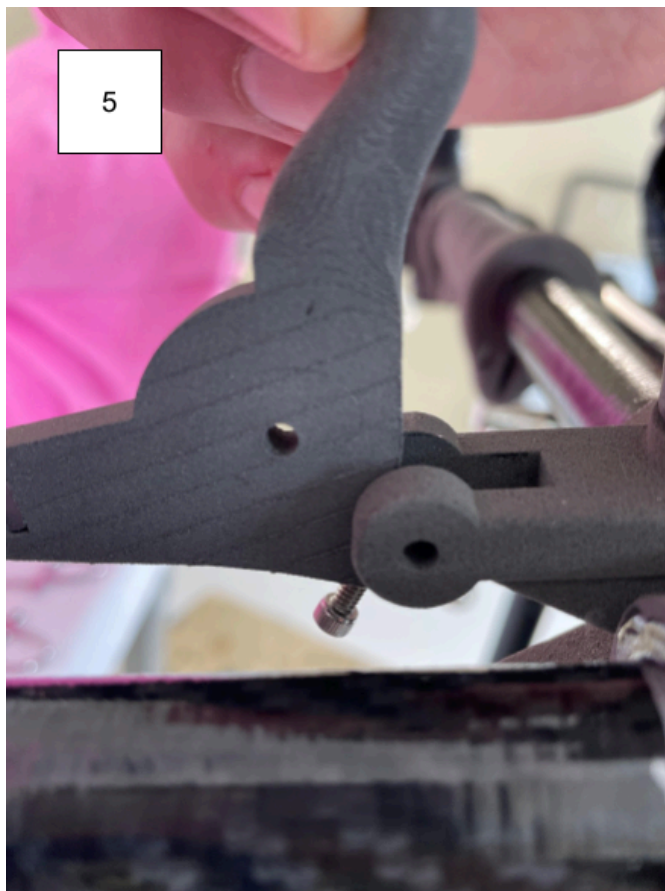
2. Remove the Cotter Pin from the Clevis in the trigger. **Fig 2**



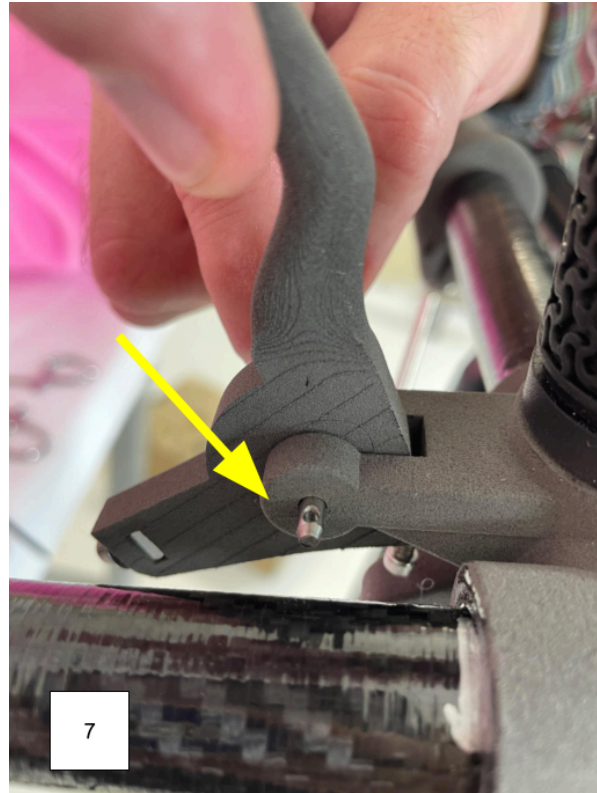
3. Remove the Clevis and pull out the trigger. Take all removed parts and set them aside. **Fig 3 - Fig 4**



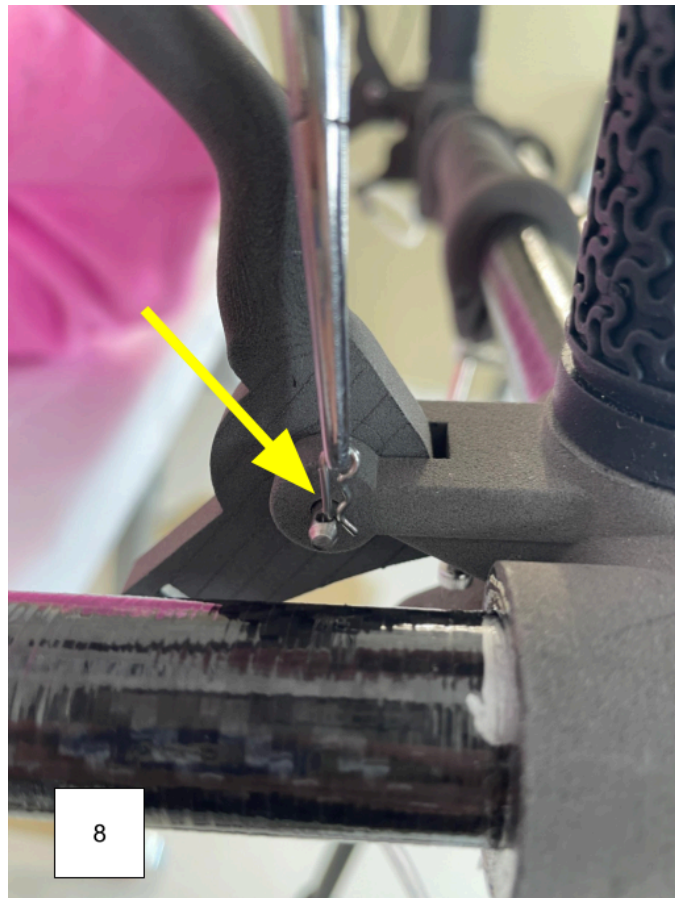
4. To put back in, slot the Trigger in the handle making sure that the holes align. **Fig 5 - Fig 6**



5. Thread the Clevis back through the holes in the handle and trigger. **Fig 7**

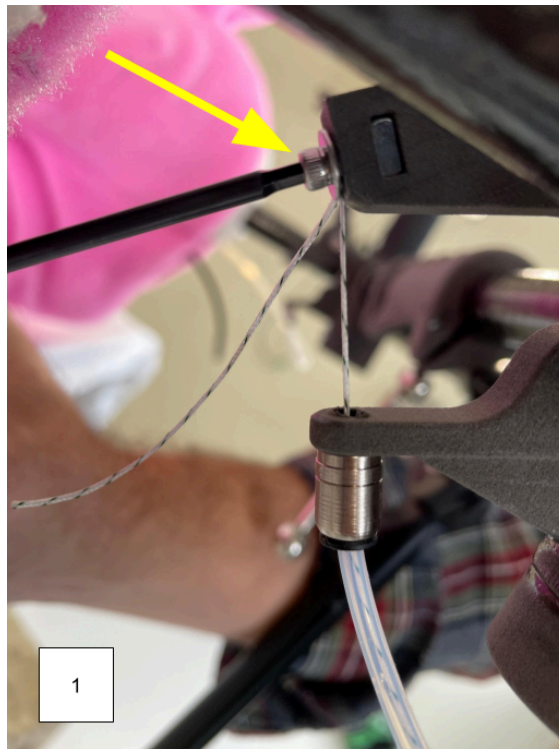


6. Replace the Cotter pin. **Fig 8**

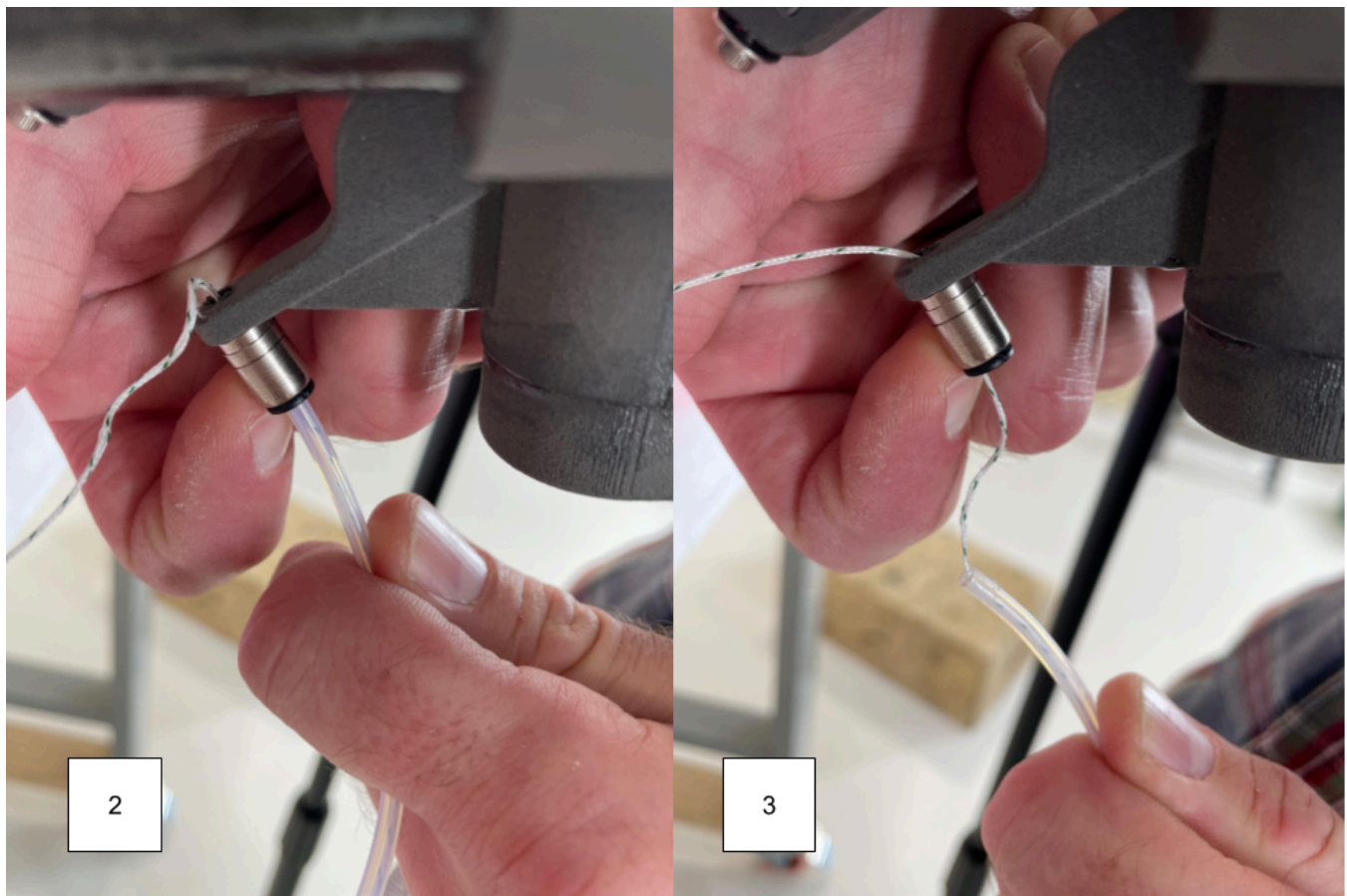


7.5 Specialty information about removing the handle from the head

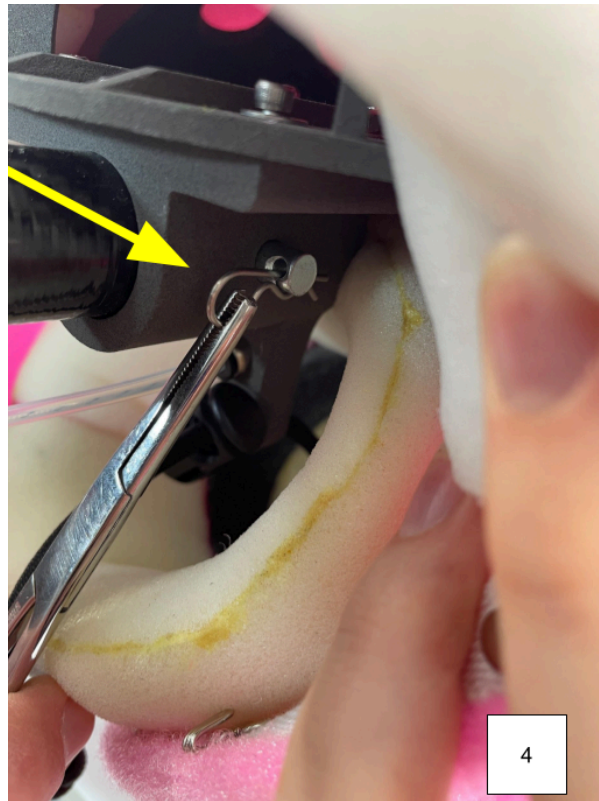
1. Start by removing the string from the trigger. To do this, loosen the 4-40 with a 3/32 Allen Wrench. **Fig 1**



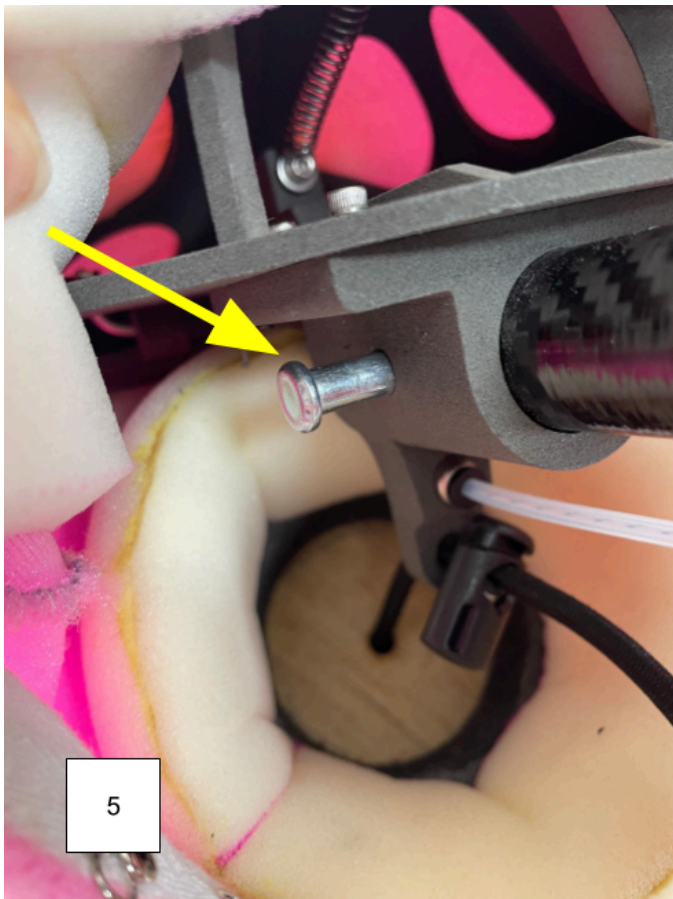
2. Disconnect the Teflon tubing from the push-connect **Fig 2 - Fig 3**



3. Go into the head and remove the Cotter pin from the clevis. **Fig 4**



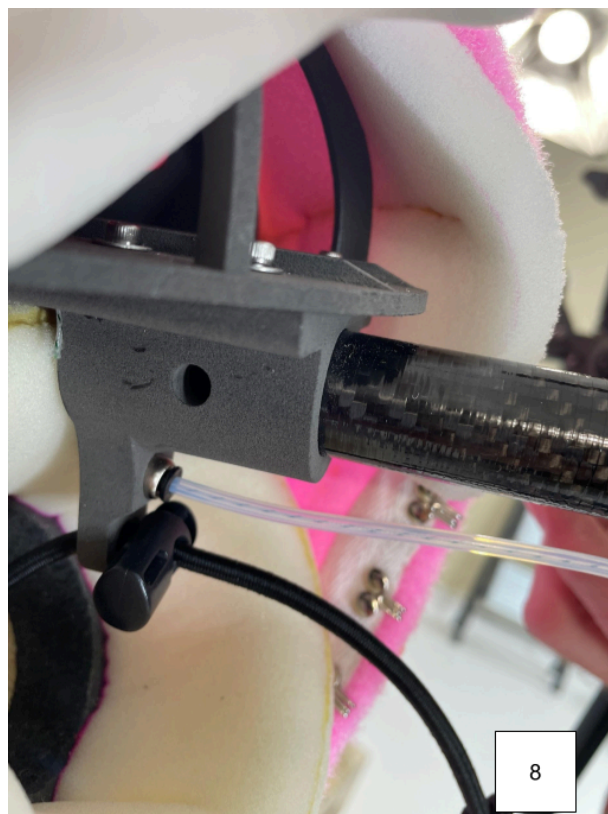
4. Remove the Clevis Pin. Set aside these parts in a safe location. **Fig 5 - Fig 6**



5. Pull the Handle carefully off and set aside. **Fig 7**



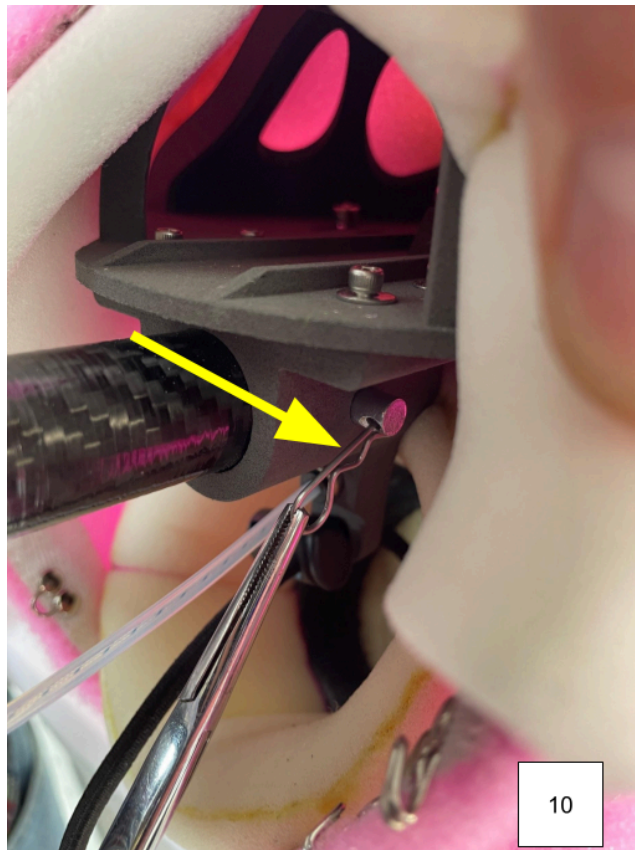
6. To put back in, push back into the head attachment point while making sure that the holes are aligned. **Fig 8**



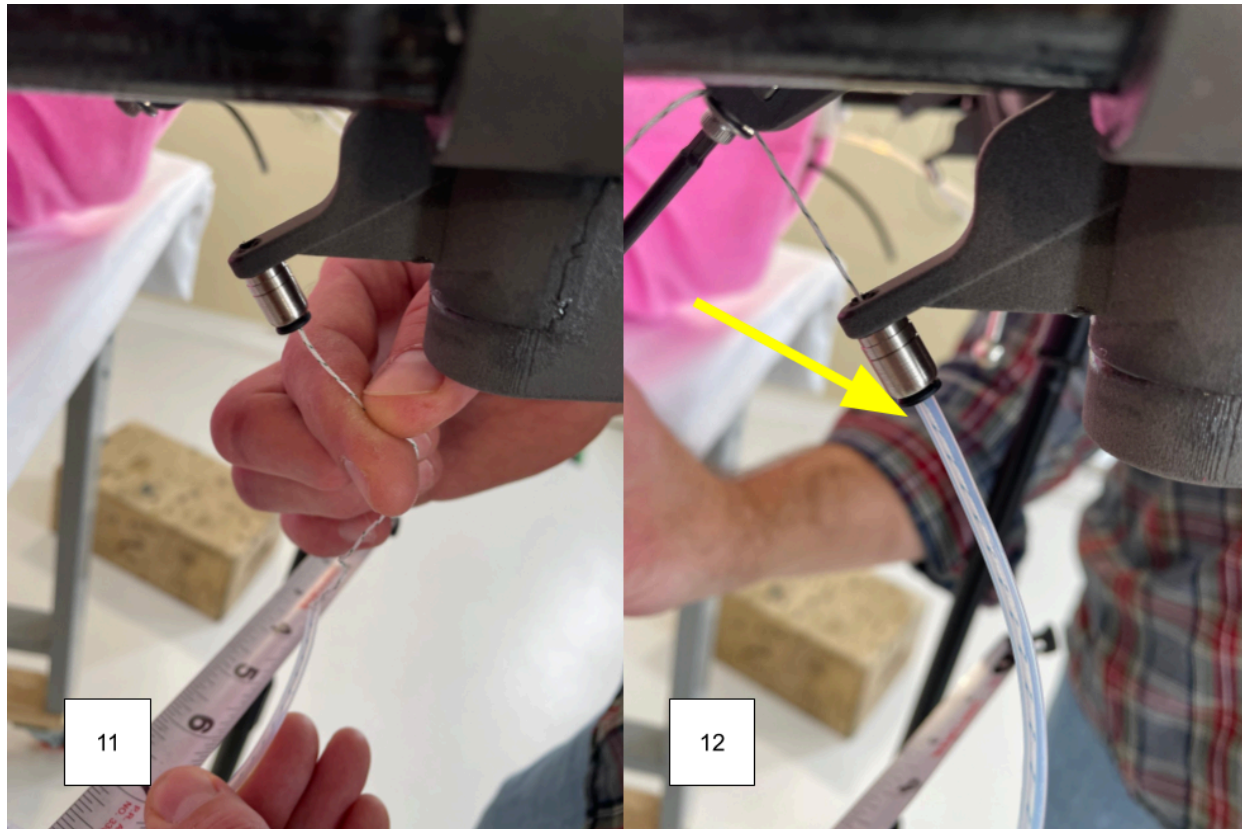
7. Replace the Clevis. **Fig 9**



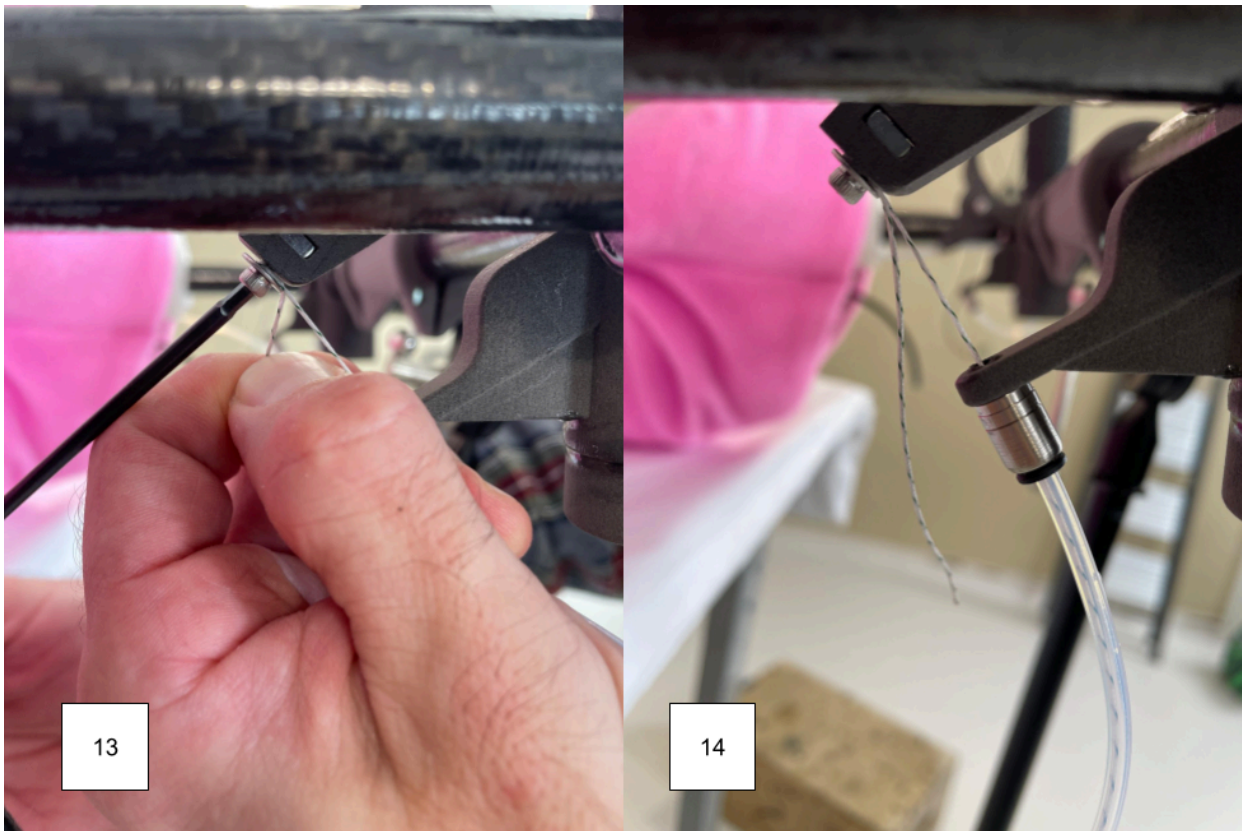
8. Replace the Cotter pin. **Fig 10**



9. Feed the string into the push connect before pushing it into the Teflon tubing. **Fig 11 - Fig 12**

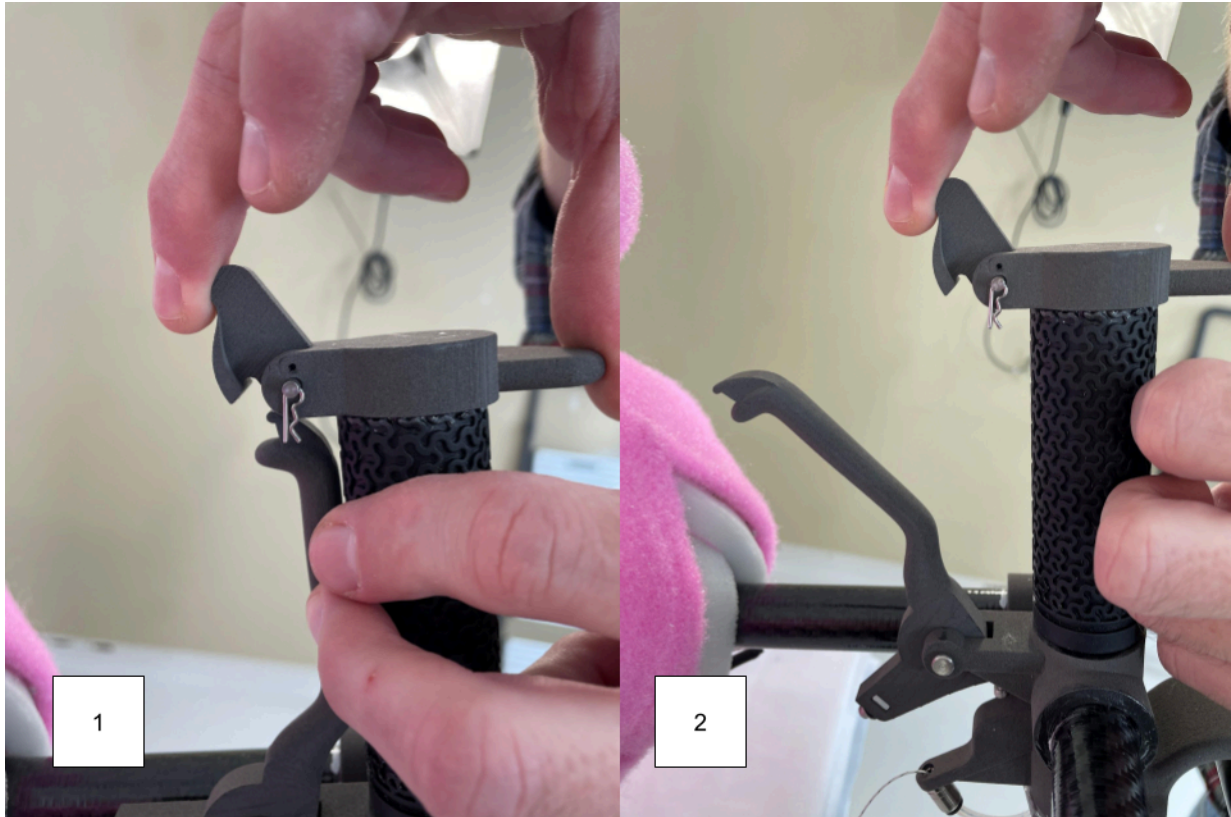


10. With tension, wrap around the 4-40 and tighten. **Fig 13 - Fig 14**



7.6 Specialty information about removing the trigger lock

1. Undo the Locking mechanism for the trigger by lifting it up to release the trigger. **Fig 1 - Fig 2**



2. Remove the Cotter pin. **Fig 3**



3. Remove the Clevis. **Fig 4 - Fig 5**

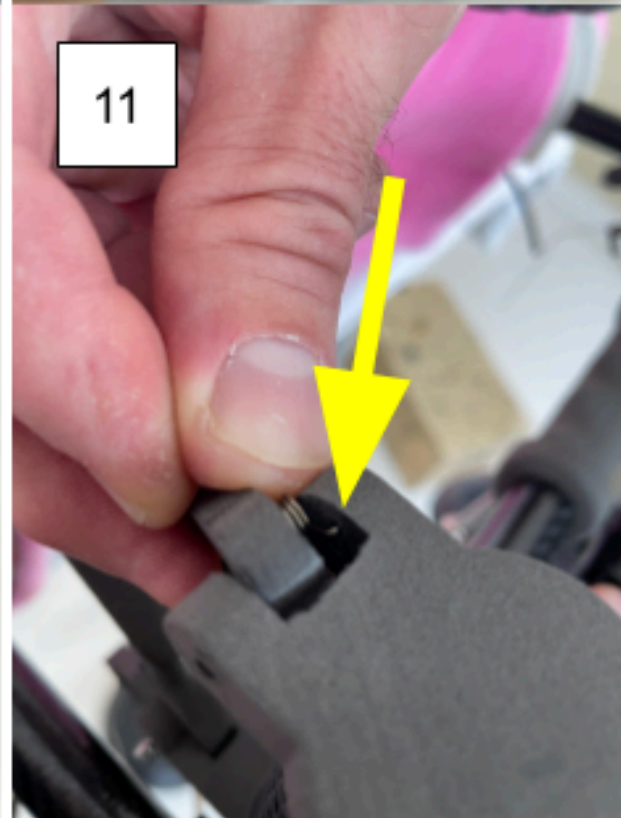
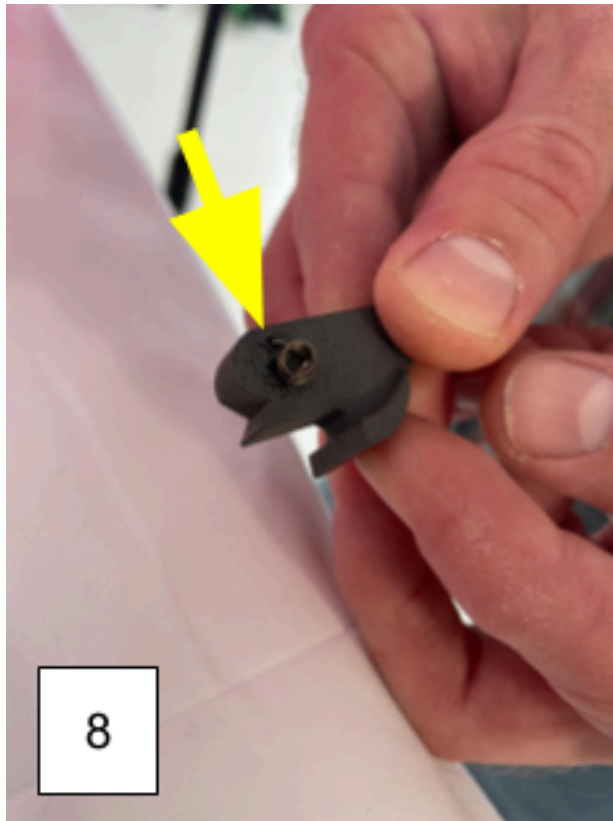


a. **Note: Be advised that there is a spring in the lock and a plastic washer.**

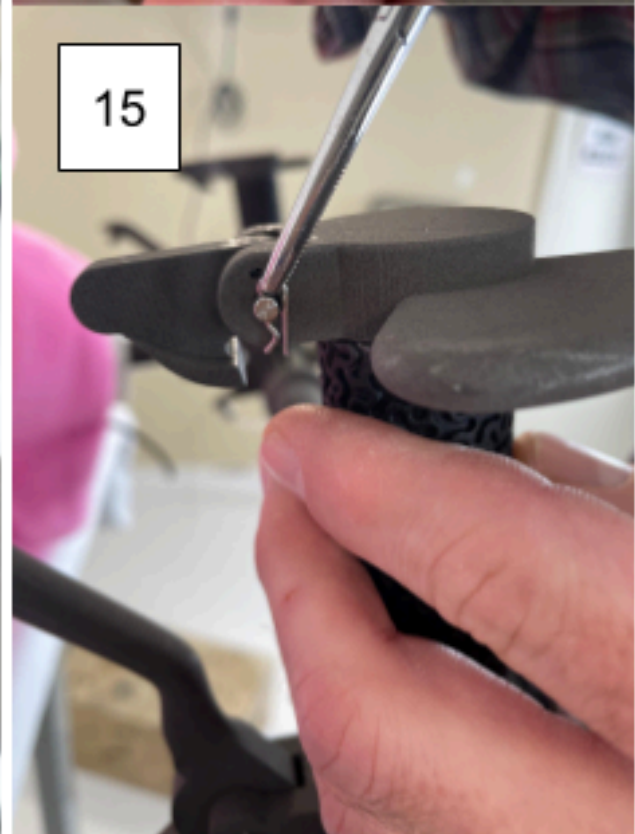
4. Carefully remove the spring, the washer and the locking mechanism and then set aside the lock, spring, Cotter, and the Clevis and the washer in a safe location. **Fig 6 - Fig 7**



5. When replacing the lock, line up the spring arm with the hole in the back of the lock Then insert back into its place on the Trigger. The other arm of the spring should slot into a corresponding hole in the Trigger. **Fig 8 - Fig 11**



6. Thread the Clevis through the spring first, then through the hole in the lock, then place the washer on the other side before threading the clevis through completely. **Fig 12 - Fig 14**
7. Replace the Cotter and make adjustments accordingly. **Fig 15**



7.7 Specialty information about how to attach and remove the neck from the shell

1. First, locate the snap closest to the Center Back seam of the Snail's neck, then locate its corresponding snap at the centermost point on the shell snaps. This will help to keep you oriented during the process.

Fig 1 - Fig 2

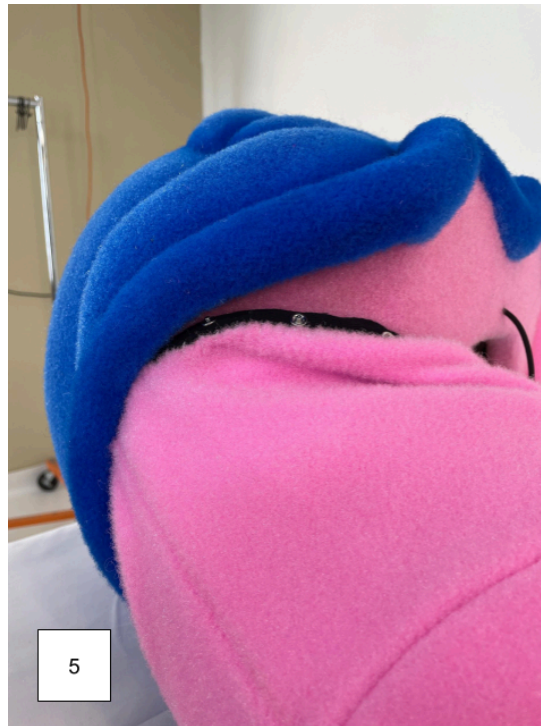


a. **Note: There are more snaps on the neck than you will use/need. Locating the center prevents the puppet from being oriented incorrectly.**

2. Once the centers are located, snap them together and then work the snaps from the outside in. **Fig 3 - Fig 4**



a. Note: We have found it is easier to secure the snaps while the shell is on its side. **Fig 5**



3. Once the neck is secured and snapped all around, secure the two tabs located in the mouth of the shell to the Center Front snaps. **Fig 6 - Fig 7**



4. To Remove the Neck from the Shell, simply undo the snaps at the center front before pulling the neck away from the shell with care and ease.

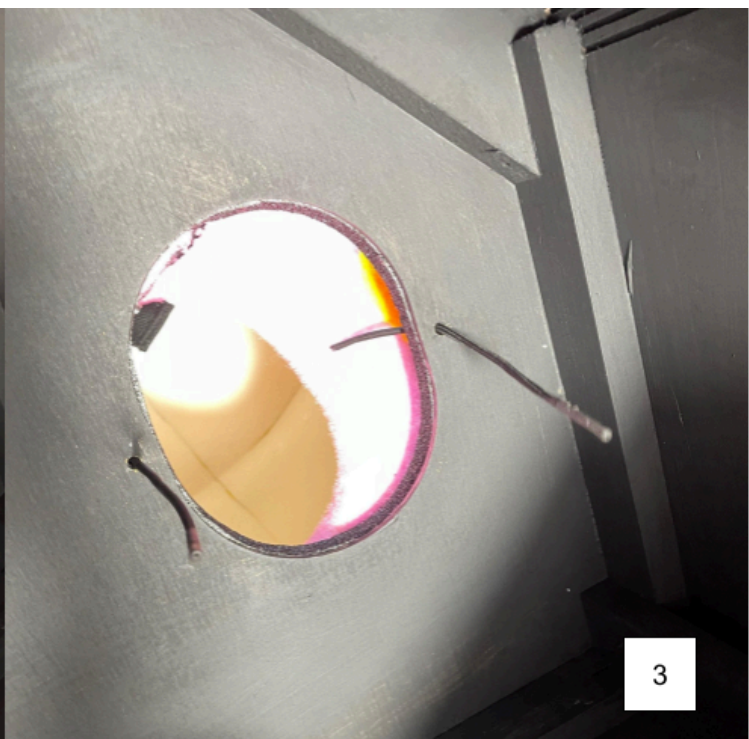
7.8 Specialty information about removing and returning the Snails to the Box

How to remove the Snails from the Box

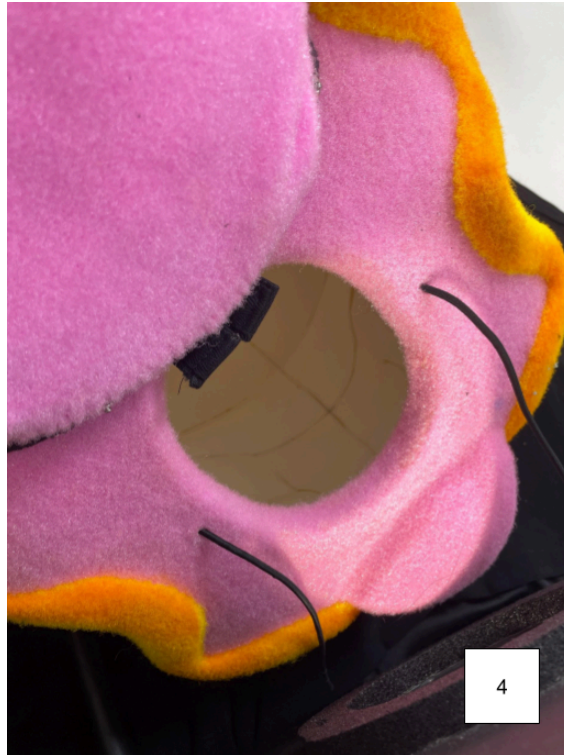
1. Lay a clean cloth down, and then tip the Snail Unit backwards so that the Snails are looking up and the inside of the box is exposed.
2. Each Snail is attached to the box by 2 bungee cords, secured by a bungee cord lock. **Fig 1**



3. Squeeze the lock to release the spring, then repeat for the second bungee. Set Cord locks aside. **Fig 2 & 3**



4. Pull the box away from the Snail until the bungees are clear. Repeat for the other Snail if needed. **Fig 4**



How to replace the Snails on the box

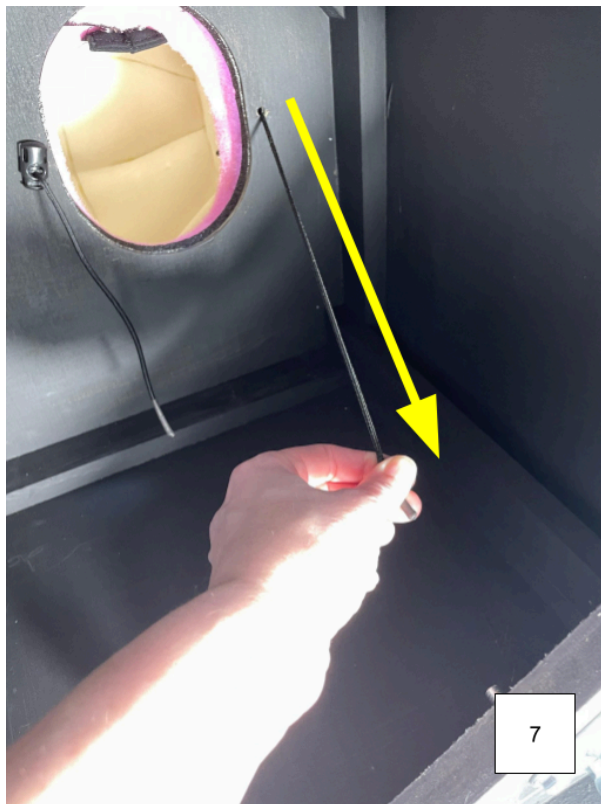
1. Locate the holes drilled into the foam ring on the top of the box. **Fig 5**



2. Insert one bungee into each hole and push through to the inside of the box. **Fig 6**



3. Pulling the bungee taut, slide a Cord lock onto the end, and all the way up to the underside of the box. Release the Spring and repeat on the other side. **Fig 7**



4. Repeat for second Snail if needed.

8 Comprehensive Parts List

8.1 Understructure and Base

Part #	Part	Usage	Vendor	Vendor Part ID
SN01	L200 - (1/2")	Main Shell Structure	Foam Factory	XPE2
SN02	Polyfoam - (1/2")	Head, Jaw, and Lip of Shell	Foam Factory	PE17-_1 / PE2-_1
SN03	Polyfoam - (1")	Shell Bumps	Foam Factory	P
SN04	HD110 Foam - (1/2")	Shell Underside	World Wide Foam	HD-110
SN05	1/8" Bra Foam	Quilted Spiral on Shells	coastpad.com	CPIT100021
SN06	Carbon Fiber Tube - (7/8")	Rods		
SN07	1/8" Teflon Tubing (CP146)	Mech	McMaster	5239K24
SN08	Black Featherlite Boning (1/4" Boning with 1/2" Casing)	Neck Tubes	wawak	Stock # MTR40BK
SN09	Hook & eye tape	Back of Head/Neck	amazon	B07YGZD3S1
SN10	Snap Button Tape	Neck/Shell	wawak	Stock # SRK102BK
SN55	rigilene 1/2" boning	top and bottom hoop of neck lining	wawak	MTR30WH
SN56	3/4" casing	top and bottom hoop of neck lining	Corset Making Supplies	CMS-BC-W34YD
SN78	Plywood Sheet (1/4"x4'x8')	Boxes/Stands	Lowes	12224
SN79	Aluminum Tube (1/4" OD)	Boxes Stands	McMaster	9390N26
SN80	1 in. x 2 in. x 8 ft. Premium Kiln-Dried Square Edge Whitewood Common Softwood Boards	Boxes Stands	Home Depot	SKU # 914584
SN84	MDF Board (3/4"x4'x8')	Boxes	Home Depot	D11612490970000

8.2 Hardware

Part #	Part	Quantity	Usage	Vendor	Vendor Part ID
CP2	SS Socket Head Screw (4-40 x 3/8")	8	Head/Mech	McMaster	92196A108
CP3	SS Socket Head Screw (4-40 x 1/2")	14	Head/Mech	McMaster	92196A110
CP5	SS Socket Head Screw (4-40 x 3/4")	2	Head/Mech	McMaster	92196A113
SN11	SS #4 Washer (.125" ID, 0.312 OD)	20	Head/Mech	McMaster	92141A005
CP17	Zinc Plated 4-40 Square Nut	12	Head/Mech	McMaster	94855A281
CP18	Zinc Plated 4-40 T-Nut	12	Head/Mech	McMaster	90975A002
CP154	SS Rotary Shafter (1/8" D)	2	Jaw Axle	McMaster	1257K39
CP206	SS Set Screw Shaft Collar (1/8"x1/4" OD)	2	Jaw Axle Lock	Dubro	SKU: 597
SN12	Torsion Spring (90 Degree Angle, Left-Hand Wound, 0.204" OD)	2	Trigger Lock Mechanism	McMaster	9271K109
SN13	Corrosion-Resistant Extension Spring Stock		Jaw Return	McMaster	9665K85
CP148	Push to Connect Tube Fitting	4	Mech	McMaster	5779K241
CP140	Bungee Elastic Cord (1/8")		Neck Attachment/Box Attachment	McMaster	8858T82
CP224	Heat Shrink Tubing (3/16" OD)		Ends of the Bungees	Amazon	(AISN - B01MRDG4NG)
CP145	IGFA Braided Dacron		Mech String	Amazon	B005EJ4NNC
SN14	Hairpin Cotter Pin (SS for 7/64"-9/64 Pin Diameter, 1/32 Wire Diameter)	4	Trigger and Trigger Lock	McMaster	92391A005
CP279	Hairpin Cotter Pin (3/16"-1/4" Pin Diameter, 3/64" Wire Diameter)	2	Head Bracket	McMaster	90492A150
SN15	Clevis Pin (1/4" Diameter, 1-5-16" Usable Length)	2	Carbon Fiber Tube (attachment to the head)	McMaster	97245A144
SN16	Clevis Pin (1/8" Diameter, 15/16" Usable Length)	2	Trigger Lock	McMaster	90378A116
CP157	Clevis Pin (1/8" Diameter, 13/16" Usable	2	Handle/Trigger	McMaster	92390A080

	Length)				
SN57	Nylon Plastic #4 Washer	2	Trigger Lock Spacer	McMaster	92150A103
SN58	Plastic Spring Cord Lock	6	Neck Attachment and Box/Shell Attachment	Amazon	X001H4R9SP
CP141	Bungee Elastic Cord (3/16")	4	Shell Attachments	McMaster	8858T21
SN81	SS Hex Nut (5/16"-18)		Boxes (Casters)	McMaster	92673A119
SN82	SS Hex Screw (1/4"-20, 2-3/4" Long)		Boxes	McMaster	92240A553
SN83	SS Hex Screw (5/16"-18, 1-1/2" Long)		Boxes	McMaster	92240A587
SN85	SS Washer (5/16")		Boxes	McMaster	92141A030
SN86	SS Washer (1/4")		Boxes	McMaster	92141A029
SN87	SS Nylon Lock Nut		Boxes	McMaster	91831A029

8.3 Fabric and Fibers

Part #	Part	Usage	Vendor	Vendor Part ID
SN17	F3 - Fleece	Face, Neck, Shells	Dharma Trading Company	#F3F
SN18	Black King Mesh Jersey Fabric	Necks	Pico Textiles	Style# KM446401
SN19	Spandex	Necks	Spandex House	MMT-55,
SN20	Craft Velour	Mouths	CRs Crafts	86027
SN59	Gutermann Mara 100 color 890	pink shell machine stitching	wawak	GTDA890
SN60	Gutermann Mara 100 color 106	yellow shell machine stitching	wawak	GTDA106
SN61	Gutermann Mara 100 color 4401	blue shell machine stitching	wawak	GTDA4401
SN62	Gutermann Mara 100 color 210	head and neck machine/hand stitching	wawak	GTDA210
SN63	Gutermann Mara 100 (black) color 000	lining	wawak	GTDA000
SN64	Amann Strongbond Nylon Bonded Thread - Tex	attaching spandex to tube	wawak	ATDP2000

	70	lining		
SN65	Polyfil Premium Polyester Fiber Fill	fat layer on necks	Michaels	MP509851
SN66	RB Cloth - black	belly snaps	RoseBrand	RBCL0001

8.4 Custom Made Parts—Quantities per set of 2 snails

Part #	Part	Quantity	Usage	Vendor	Filename
SN21	3D Print - Head	2	Head	Dan Cook	All files in Box Dive:
SN22	3D Print - Jaw	2	Jaw	Dan Cook	https://disney.box.com/s/ddqsqksm2lsyfr74yy5wnzhex02laxtr
SN23	3D Print - Head Bracket	2	Head Bracket	Dan Cook	
SN24	3D Print - Eye Mount	2	Eye Mount	Dan Cook	
SN25	3D Print - Eyes	4	Eyes	Dan Cook	
SN26	3D Print - Handles/Triggers	2	Handles/Triggers	Dan Cook	
SN27	3D Print - Trigger Lock	2	Trigger Lock	Dan Cook	
SN28	3D Print - Hilt (Left)	1	Hilt (Left)	Dan Cook	
SN29	3D Print - Hilt (Right)	1	Hilt (Right)	Dan Cook	
SN30	3D Print - Handle Bracket (Left)	1	Handle Bracket (Left)	Dan Cook	
SN31	3D Print - Handle Bracket (Right)	1	Handle Bracket (Right)	Dan Cook	
SN32	3D Print - Center Handle	1	Center Handle	Dan Cook	
SN33	3D Print - Handle Hook	1	Handle Hook	Dan Cook	
SN34	3D Print - Teeth	2	Teeth	Dan Cook	

8.5 Paints and Dyes

SDS sheets are available in the separate SDS Project Packet.

Part #	Part	Usage	Vendor	Vendor Part ID
SN37	Rustoleum 2X White Spray Paint - Flat	Eyes/Teeth - First Couple	Home Depot	Model # 334021

		Coats		
SN38	Wildfire Lighting Luminescent Paint (White)	Eyes/Teeth	World Paint Supply	WQT
SN39	Wildfire Lighting Reducer	Eyes/Teeth	World Paint supply	351641
SN40	Valspar SeasonFlex (Flat Exterior Paint + Primer)	Box/Stand	Lowes	Tricorn Black/Tint Base 4
SN41	Dharma Fluorescent Fuchsia	Snail Body, Pink shell	Dharma Trading Co.	406
SN42	Jacquard Blacklight Blue	Snail Body, Blue shell	Dharma Trading Co.	645
SN43	Jacquard Brilliant Blue	Snail Blue Shell, Green Shell	Dharma Trading Co.	623
SN45	Dharma Radioactive	Snail Green Shell	Dharma Trading Co.	479
SN47	Jacquard Aquatropic	Snail Green Shell	Dharma Trading Co.	647
SN48	Jacquard Fluorescent Yellow	Snail Green Shell	Dharma Trading Co.	640
SN50	Dharma Fluorescent Lemon	Snail - Yellow Shell	Dharma Trading Co.	445
SN51	Dharma Fluorescent Safety Orange	Snail - Yellow Shell	Dharma Trading Co.	456
SN67	Wicked Colors Flo. Pink 0026	Pink Shell	Amazon	B01HYA1ZLQ
SN68	Wicked Colors Flo. Raspberry 0021	Pink Shell	Amazon	B01HY9VPPS
SN69	Wicked Colors Flo. Green 0023	Green Shell	Amazon	B01HY9ZCL6
SN70	Createx Colors Flo. Violet 5401	Green and Yellow Shell	Amazon	B00HYZ0NK6
SN71	Createx Colors Opaque Blue 5201	Green and Blue Shell	Amazon	B001E53XMM
SN72	Createx Colors Flo. Sunburst 5410	Yellow Shell	Amazon	B01MZBU1TK
SN73	Wicked Colors Flo. Yellow 0024	Yellow Shell	Amazon	B01HYA0AOO
SN74	Wicked Colors Flo. Blue 0028	Blue Shell	Amazon	B01HYA2Z38
SN75	Wicked Colors Flo. Purple 0020	Blue Shell	Amazon	B01HY9GYIQ
SN76	SEM Self Etching Primer Black	T-Bar and Head Handles	Amazon	B08PMMZWL8

8.6 Glues, Treatments, Coatings, and Chemicals

SDS sheets are available in the separate SDS Project Packet.

Part #	Part	Usage	Vendor	Vendor Part ID
SN52	Barge	Foam Attachments	Frankford Leather	BAPCAR
SN53	JB Weld - ClearWeld Epoxy	Mech Attachments	Amazon	B07D1PP22T
SN54	Instashield	Fire Retardant	Northeast Fireshield	N/A
SN77	Beacon Fabri-Tac Permanent Adhesive	gluing tongues	Wawak	GLU7