



MOUNTBATTEN BRAILLER SERVICE MANUAL.

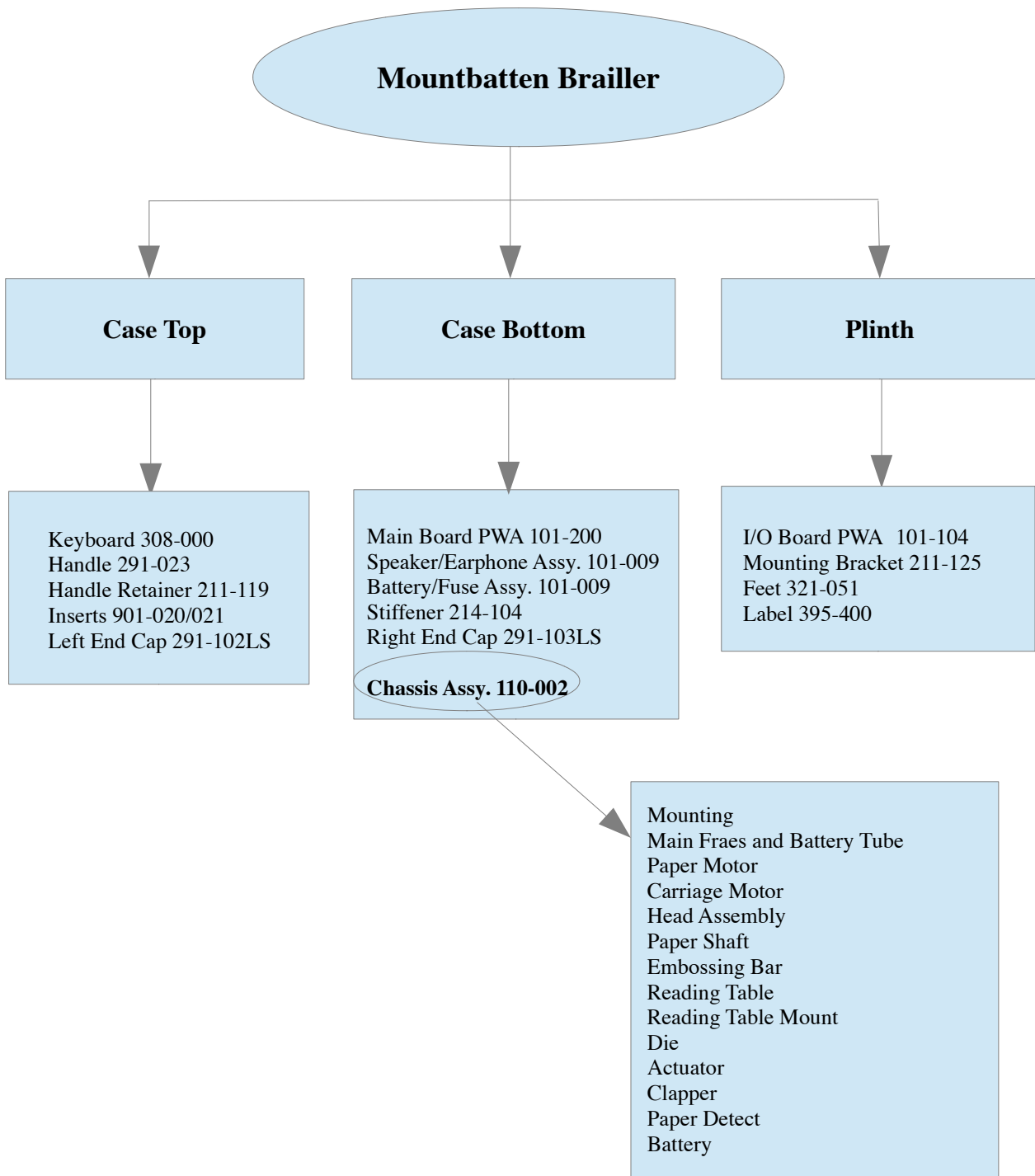
Mountbatten Braille Table of Content.

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Mountbatten Brailler assembly procedure overview.

1. Mountbatten Brailler assembly procedure overview.

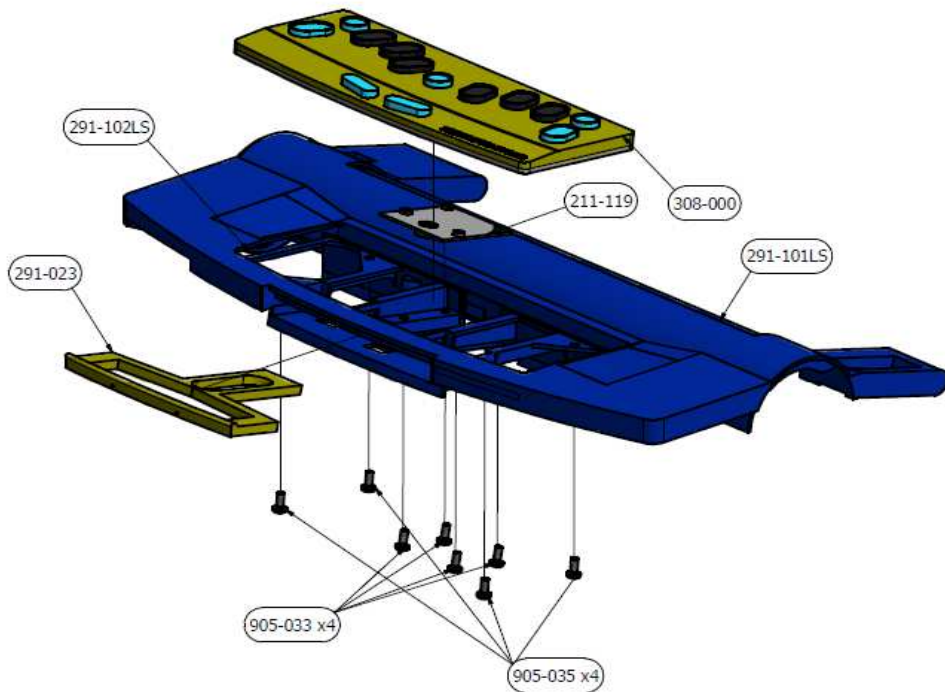


Mountbatten Braille Case Top Assembly.

2. Case Top assembly 291-101LS.



1. Slide Handle 291-023 into Case Top slot 291-101LS. Fit Handle Retainer Plate 211-119 with 4x M3x8 Screws 905-033.
2. Fit Keyboard assy 308-000 with 4 x M3x10 Screws 905-035.



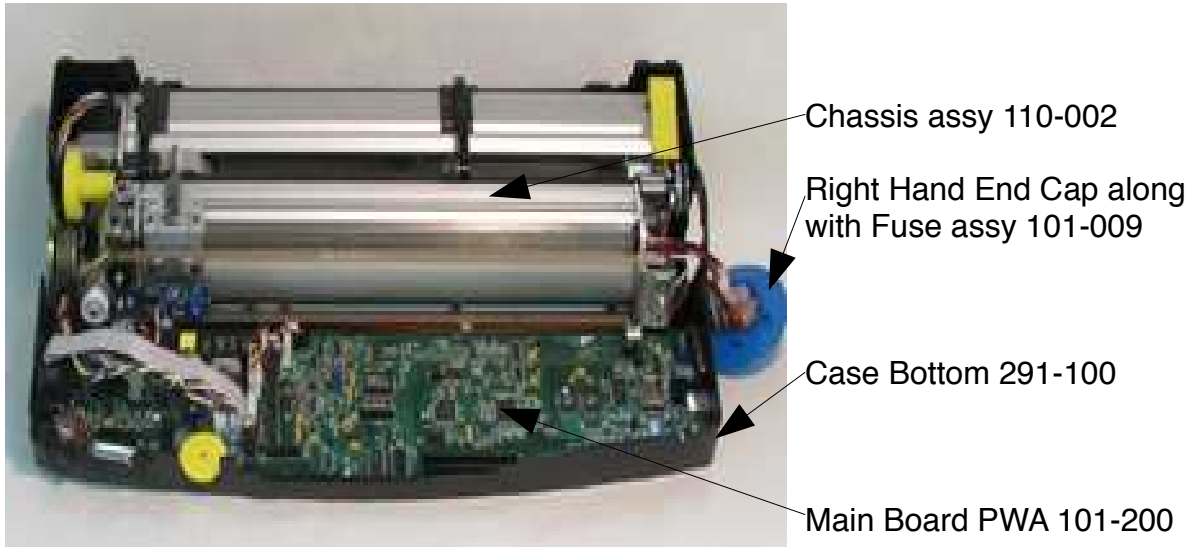
Mountbatten Braille Case Top Assembly.



Speaker Grill left end cap
291-102LS glued to the
Case Top 291-101LS

Mountbatten Braille Case Bottom Assembly.

2. Case Bottom assembly 291-100.



Wire Channel and Clips 320-020

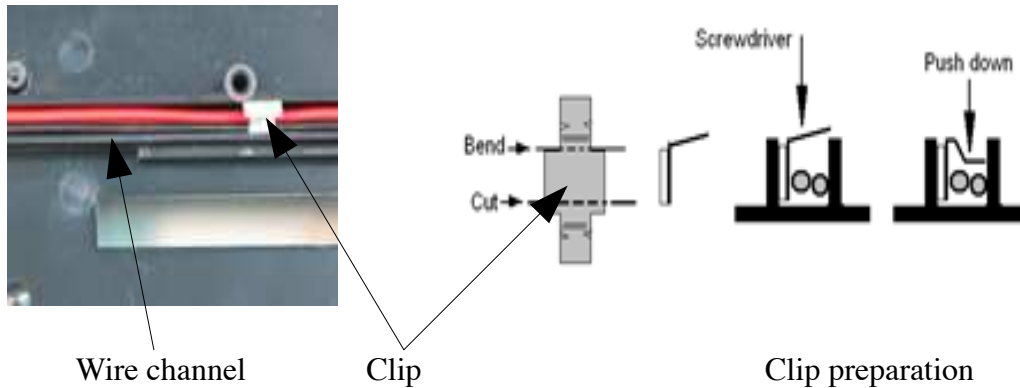
Speaker/Earphone assy

Fuse PWA

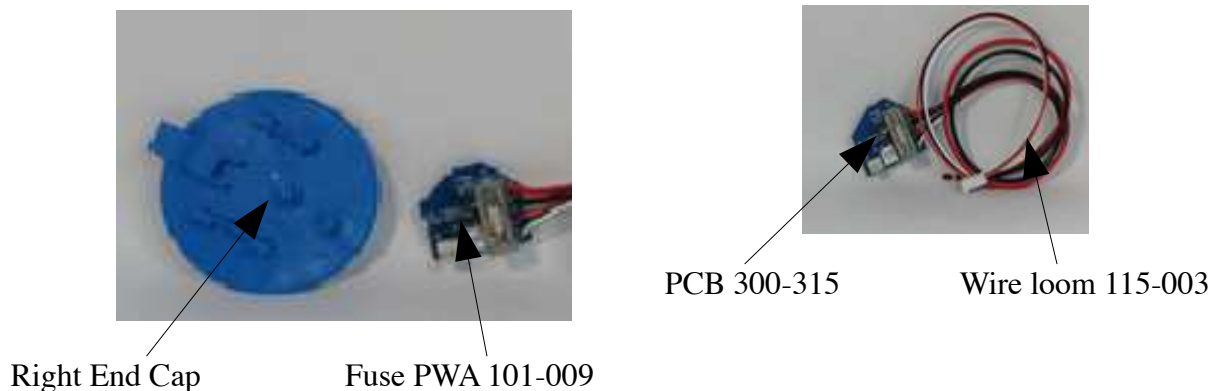


Mountbatten Braille Case Bottom Assembly.

1. Fit Fuse End Cap assembly to Case bottom on right hand side. Prepare battery wire channel by securing 3 off cable Clips 320-020 into channel. Lay Battery and Temperature sensor wires from Fuse PWA into Case Bottom channel and secure with the cable clips.



Mount Fuse PWA on right End Cap 291-103LS using soldering iron with shaped tip to deform plastic mounting post over PWA.



Fuse PWA and End Cap Assy 399-703

Mountbatten Braille Case Bottom Assembly.

2. Fit Speaker / Earphone assembly on Left hand side of case. Mount Speaker 316-001 in slots on Left hand side.



Earphone /Speaker PWA 101-009
(fits behind Left hand end cap
speaker grille).



Earphone PCB assembly 399-
703

Mount Speaker 316-001 in slots on Case Bottom's Left hand side.



Speaker mount.



Earphone socket nut mounting

Mountbatten Braille Case Bottom Assembly.

3. Fit Main board PWA 101-200 to case bottom. Requires 5 x screws 900-284. Secure battery wires into terminal block TB1 and connect temperature sensor plug to J13. Connect Earphone / Speaker plug to J9.



Clip

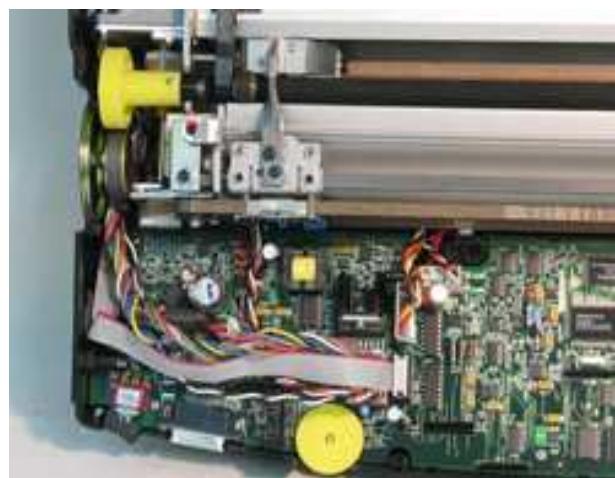
Temperature sensor connector J13

Main Board PWA 101-200. PCB 300-301.
Assembly 399-708

4. Fit Chassis assembly 110-002 into Case bottom behind PWA. Secure with 2x M4x10 countersunk screws 900-073.



Chassis assy 110-002



Wire connections detailed view.

Mountbatten Braille Case Bottom Assembly.

Connect all plugs from Chassis to PWA. Fit battery assembly into Chassis tube and connect.



Battery assembly with temperature sensor



Fuse board and battery connection

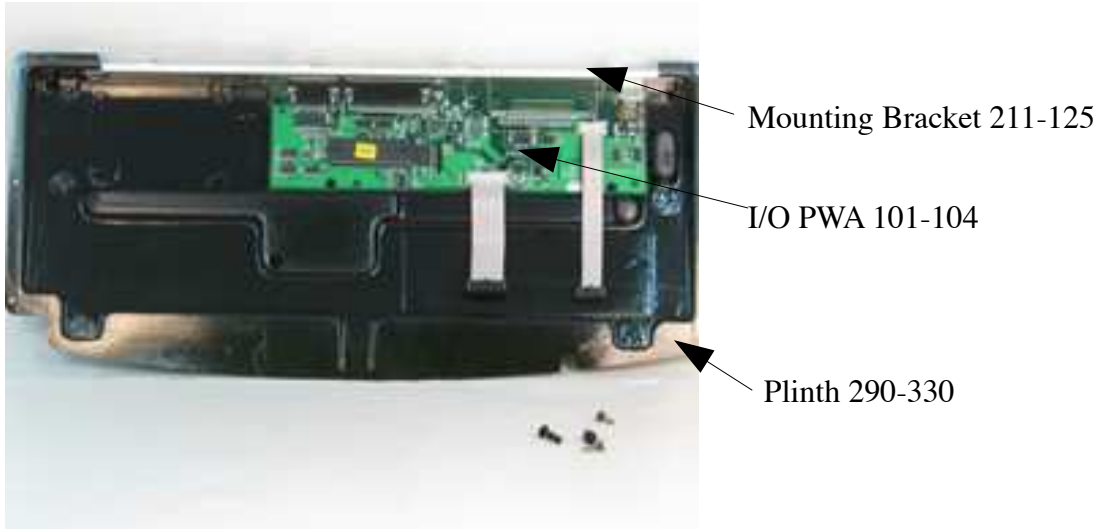


Case Bottom assy complete.

Mountbatten Braille Plinth assembly.

3. Plinth assembly 103-025

Plinth is attached to Case Bottom with retaining lungs and screws.



1. Fit 4 x Rubber feet 321-051 to underside of Plinth. These are a Self adhesive Bump-on located in defined hollows. Use some Methylated spirits to De-grease feet areas before affixing feet.

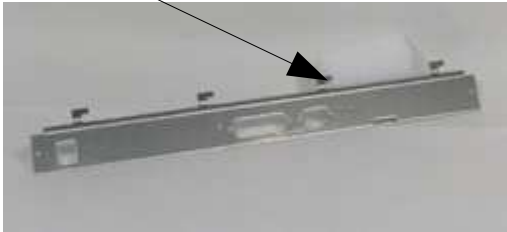


Rubber feet 4 off 321-051 (underneath)

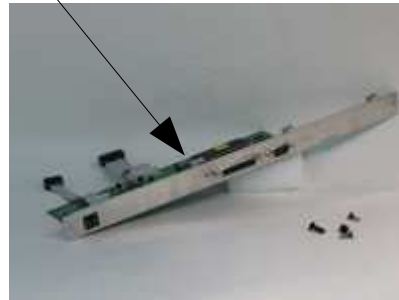
Mountbatten Braille Plinth assembly.

2. Prior to proceed to assembling complete Plinth, fix Plinth mounting bracket 211-125 to I/O PWA 101-104 first.

Retaining lugs



Mounting Bracket 211-125



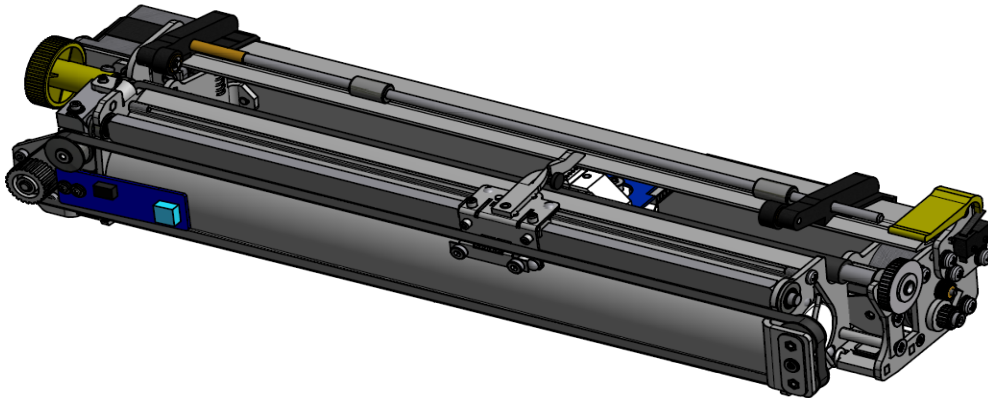
Remove Hex nuts from connectors JP5 & JP10 and then fix bracket to I/O board by replacing hex nuts on connectors. Fix I/O board c/w bracket to rear of the Plinth with 3x 900-288 screws and 5x 900-003 Farnell item Plastic snap rivet SR4070B.

3. To attach Plinth assembly to Case bottom fit lugs first and then make connections with main board.



Mountbatten Braille Chassis Assembly.

4. Chassis assembly 110-002.

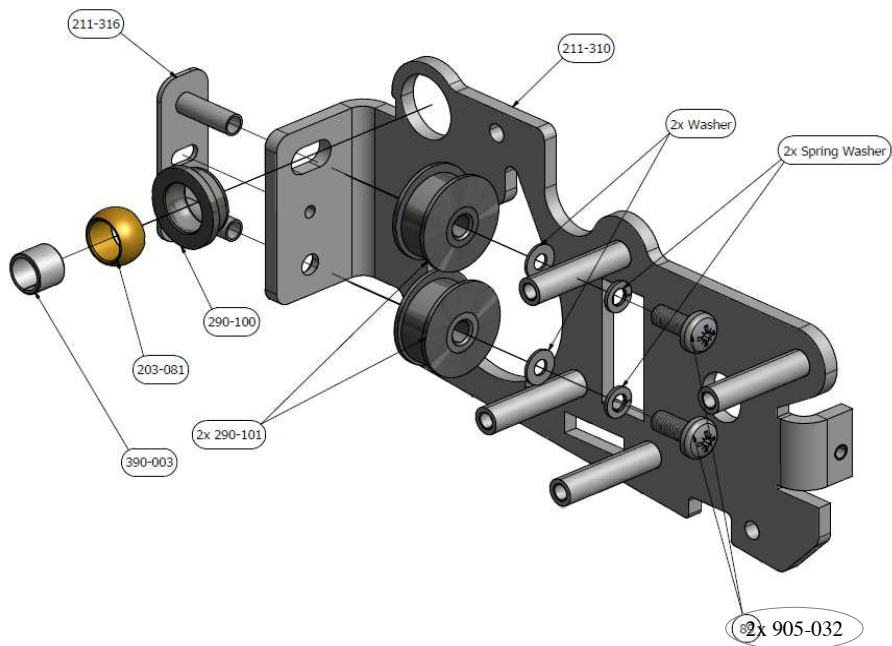


1. Chassis assembly order:

- 1) Assemble Main Frames to Battery Tube; install Head cable
- 2) Assemble Carriage Motor to Left Hand Secondary Frame
- 3) Assemble paper Motor to Right Hand Secondary Frame
- 4) Fit Carriage Motor and Paper Motor assemblies to main frame assembly; attach Paper Grip Lever mounting; Attach Actuator assembly
- 5) Assemble Head and fit to Main Frame
- 6) Attach Head drive belt
- 7) Assemble and fit Paper Shaft
- 8) Assemble Embossing Bar with Die assembly
- 9) Fit Clapper assembly
- 10) Fit Drive Belt
- 11) Fit Paper Detect PCB
- 12) Fit Reading table Assembly

Mountbatten Braille Chassis Assembly.

- 1) Assembling main frames to Battery Tube.
 - a) Assembling Right Hand Frame



Right Head Frame assembly order:

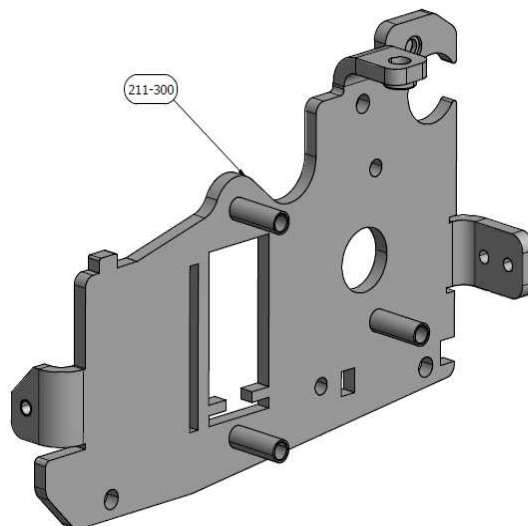
- Prepare by fitting 1/4" Bearing assembly 390-003.
- Fit bush from inside face (Battery tube side)
- Fit Die belt adjustor 211-316 with M3x6 Screw 905-032
- Grease pulley axles lightly and fit Pulleys 290-101 with M3x8 Screws 905-033

Mountbatten Braille Chassis Assembly.



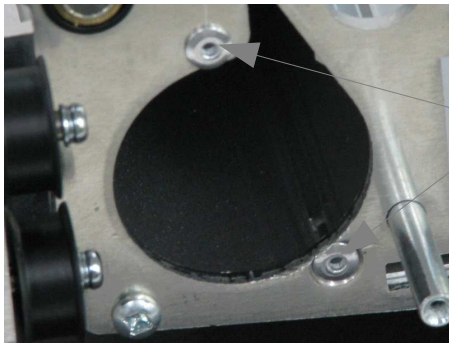
Right Hand Frame Assembly complete

b) Left Hand Frame



Left Hand Frame Assembly complete

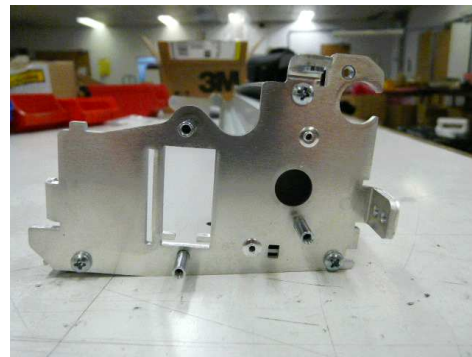
Mountbatten Braille Chassis Assembly.



Right hand frame rivets. File down lower rivet to meet edge of cavity (to clear battery) with Half round bastard file.



Right hand view



Left hand view

-Fit Outer paper guide 201-015 with 6 self-tapping screws 900-285 in sequence listed below (make sure it is clean and free from grease):

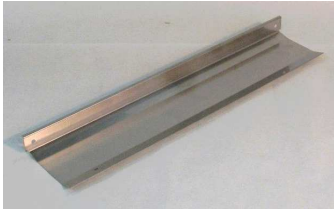
- 1] First fit right frame middle (bottom) screw
- 2] Next fit left frame two bottom screws
- 3] Next fit left frame top screw - slight pressure may be needed to align paper guide.
- 4] Fit remaining left hand screws while aligning guide



Self tapping screw, located in 2 points each side

Mountbatten Braille Chassis Assembly.

-Fit Inner paper guide 205-032 with 2x M3x8 Screws 905-033. Push in and down on guide as screws are fitted.



Inner paper Guide



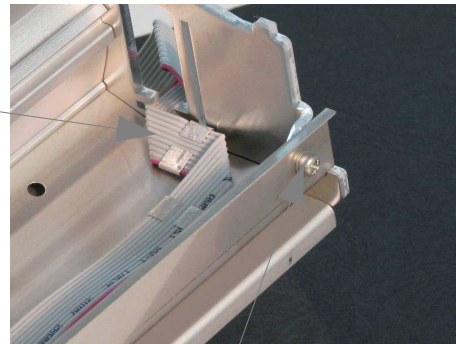
Detail showing fitting to battery tube

-Fit Head Cable assy 115-009 c/w clips to inner paper guide. Pass through left hand frame as shown on the diagrams below. Make sure clips are located along the fold line.

Cable fitted to Inner guide pass through left frame



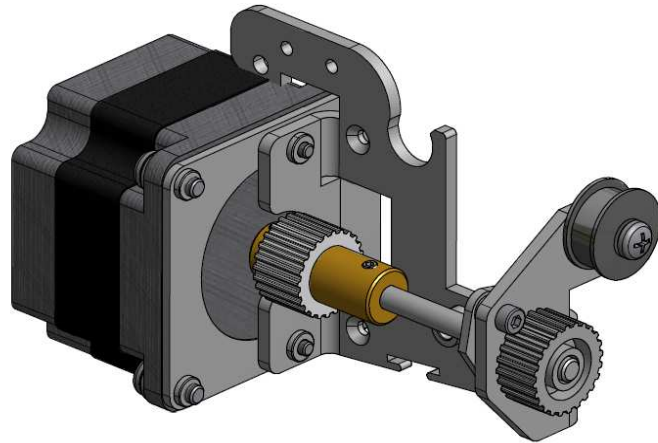
Fit head cable through left frame first and then secure first clip. Then lay cable along crease of guide..



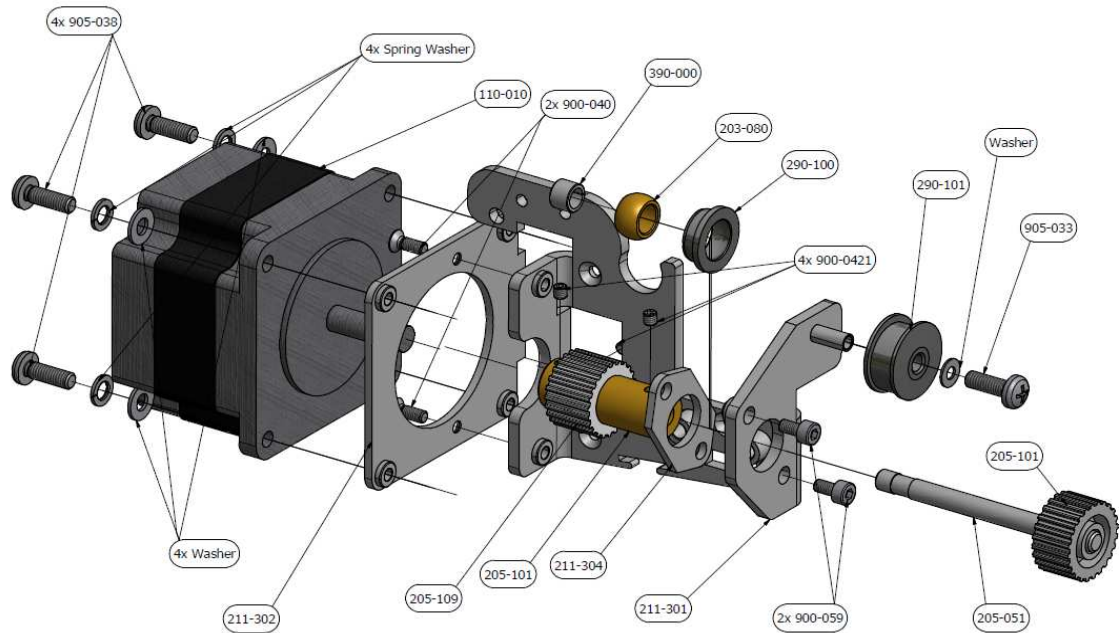
Inner Guide screw both sides after fitting to tube.

Mountbatten Braille Chassis Assembly.

2) Assemble Carriage Motor to Left Hand Secondary Frame

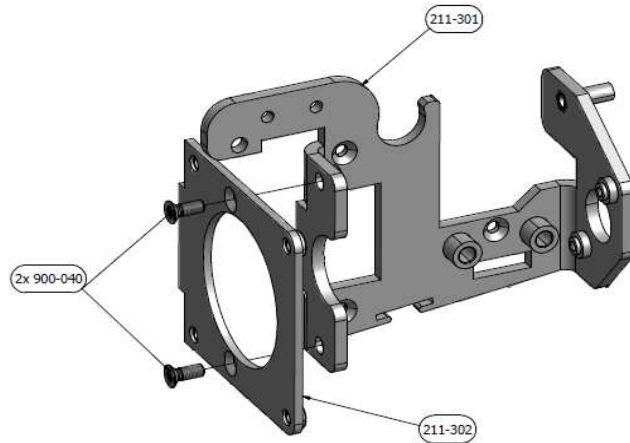


Assembly order:

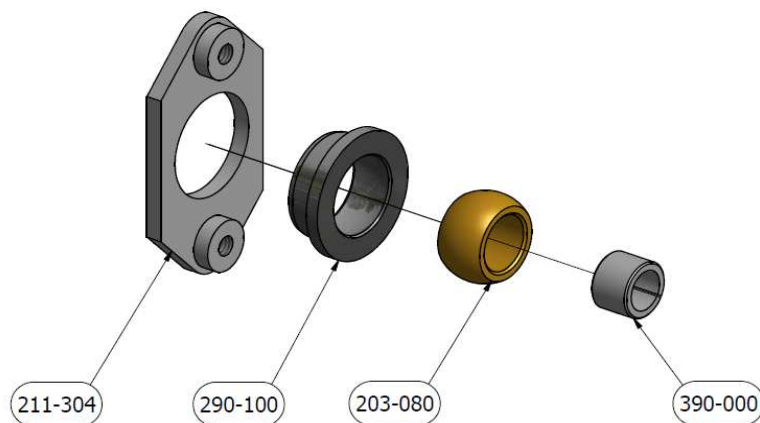


Mountbatten Braille Chassis Assembly.

-Fit Carriage Motor Mount Plate 211-302 to Left frame Secondary plate 211-301 with 2 x M3x8 Screws 900-040

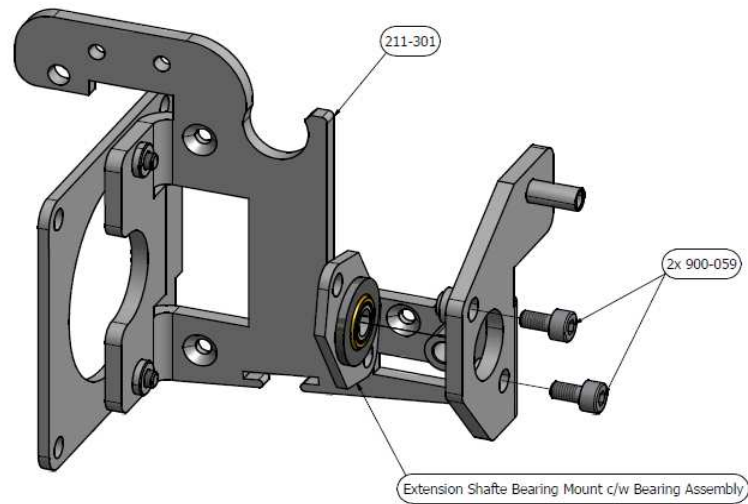


-Assemble 5mm Bearing from Outer Bush 290-100, Inner Spherical Bush 203-080 and 5mm DU Bearing 390-000. Fit Bearing/Bush assembly to Extension Shaft Bearing Mount Plate 211-304. **Complete bearing should be assembled before fitting into Bearing Mount Plate.**

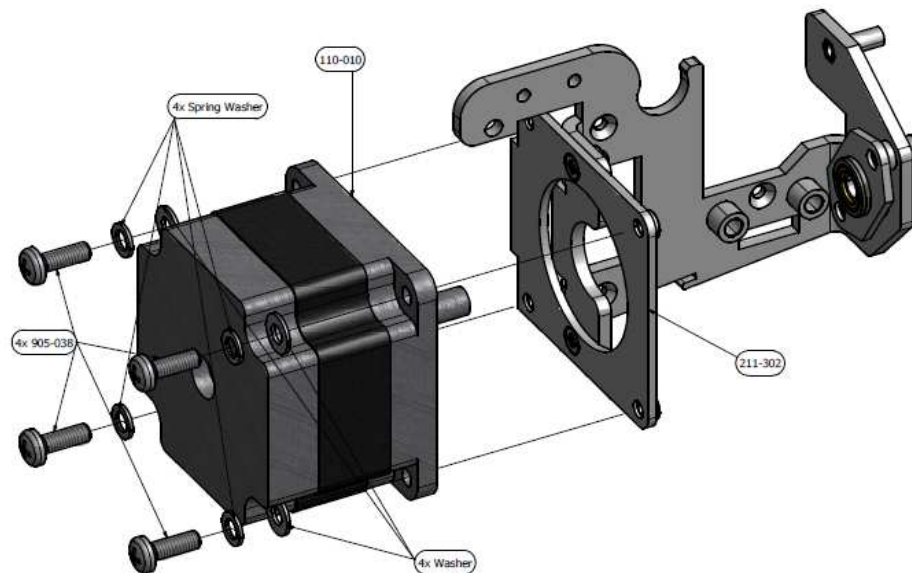


Mountbatten Braille Chassis Assembly.

-Fit Extension Shaft Bearing Mount c/w Bearing assy to Left frame secondary plate 211-301 using 2x M3x6 Button Head Screws 900-059. **Do not tighten.**



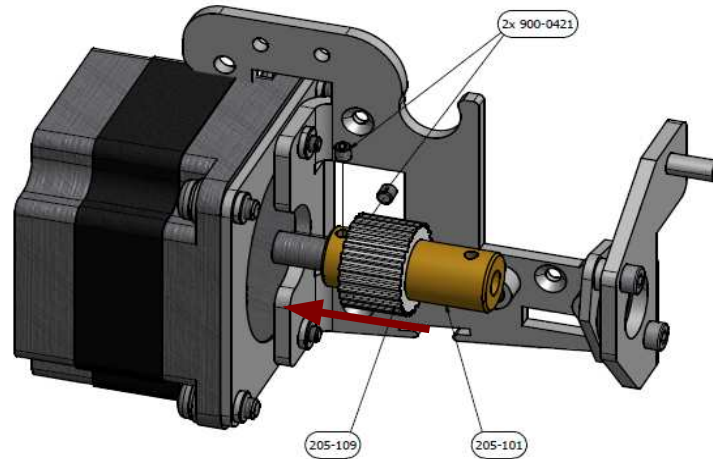
-Fit Carriage Motor assy 110-010 to Carriage Motor Mount Plate using 4 x M3x12 Screws 905-038.



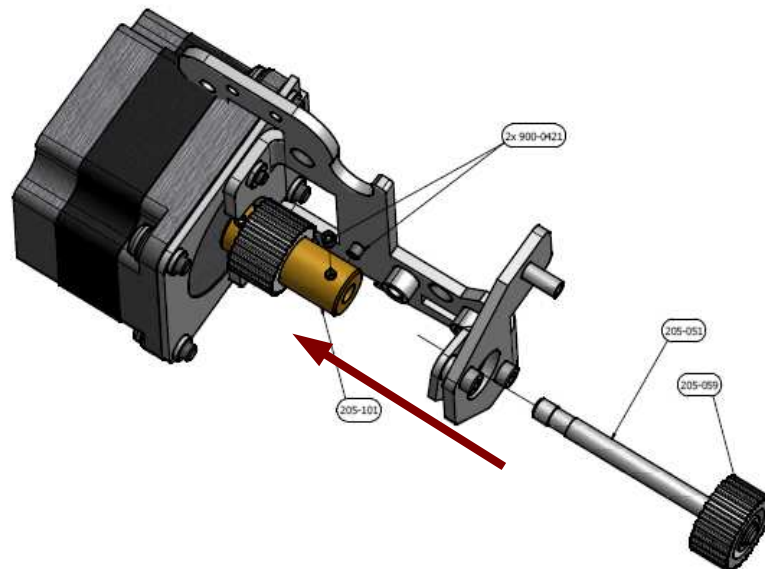
! Note: When securing the Motor, take up the mounting slack such that the motor is positioned at the bottom of the frame.

Mountbatten Braille Chassis Assembly.

-Fit Head Drive Core 205-101 with Moulded Gear 205-109 onto Motor Shaft.
Tighten core with 2 x Grub Screws 900-0421.



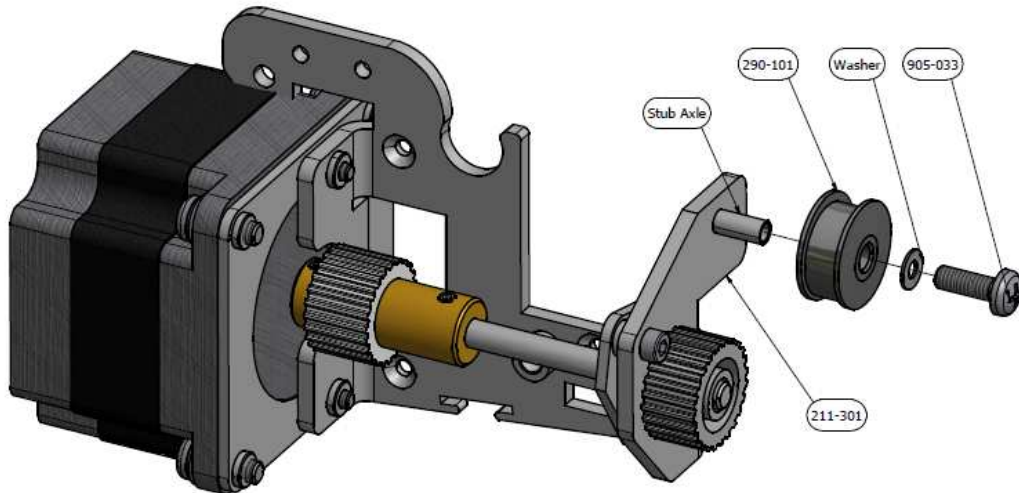
-Fit Extension shaft 205-051 with Moulded Gear 205-059 to Head drive core 205-101 using 2x Grub Screws 900-0421.



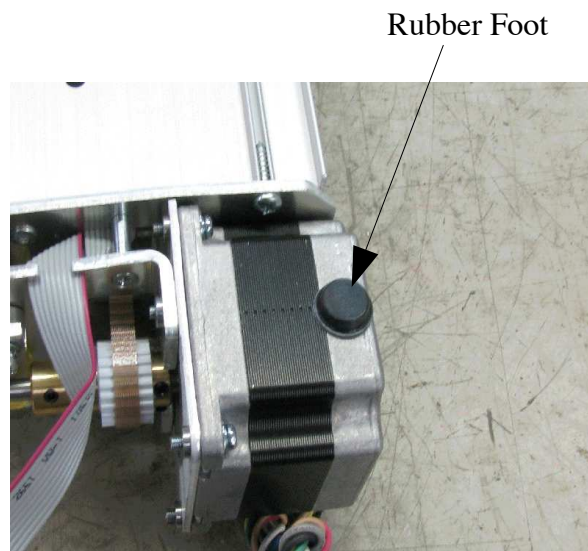
! Note: Slide extension shaft through bearing. Make sure grub screws locate in undercut on shaft. Screw sufficiently to hold shaft in undercut without tightening.

Mountbatten Braille Chassis Assembly.

-Lightly grease Stub Axle on front face of Left Hand Secondary Frame and fit Plain Pulley 290-101 using M3x8 Screw 905-033.

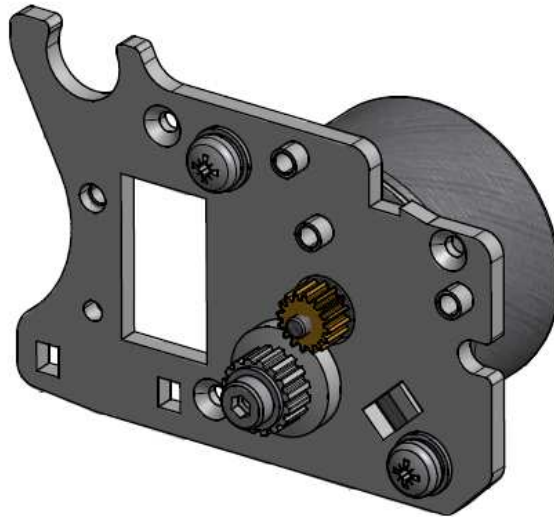


-Adhere Rubber Foot 321-051 on the bottom of Carriage Motor 110-010 as shown on the diagram below.

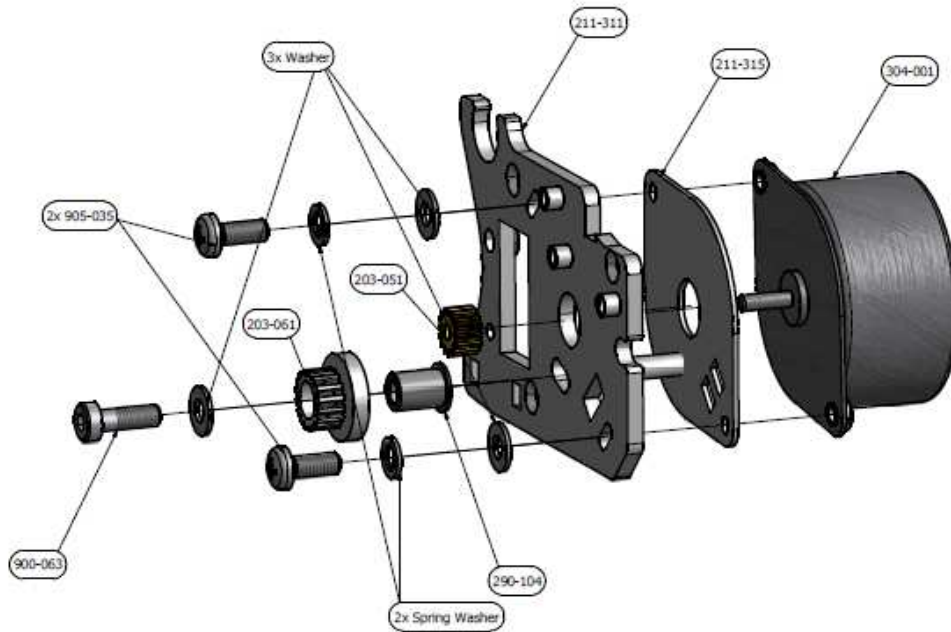


Mountbatten Braille Chassis Assembly.

3) Assemble Paper Motor to Right Hand Secondary Frame



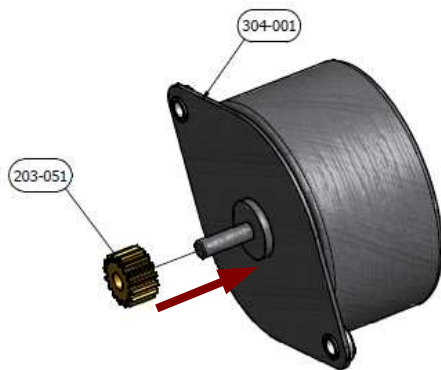
Assembly order:



Mountbatten Braille Chassis Assembly.

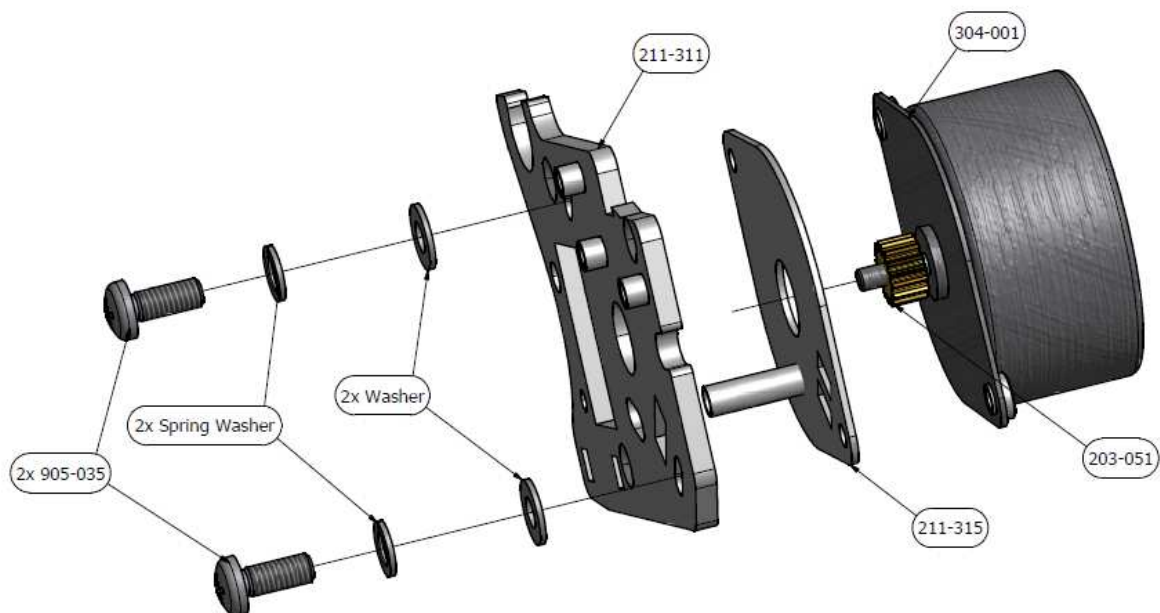
-Fitting Pinion 203-051 to Paper Motor shaft. **Press fit!**

If Pinion is marginally loose on shaft then cautiously use a centre punch or pliers to deform or close down around pinion centre hole prior to fitting.



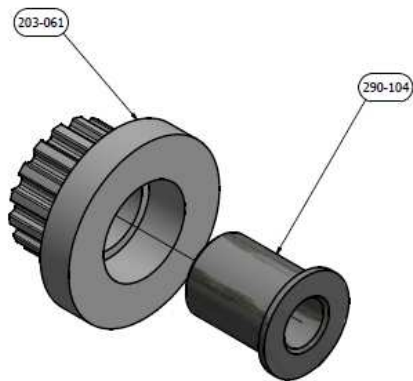
Keep 1mm gap between
Pinion and Paper Motor

-Fit Reduction Mount Plate 211-315 over motor pinion. Reduction gear axle nearest to wire entry of motor. Fit Right frame secondary plate 211-311 over Reduction mount plate with axle through matching slot. Use 2 x screws 905-035 (M3x10). **Do not tighten.**



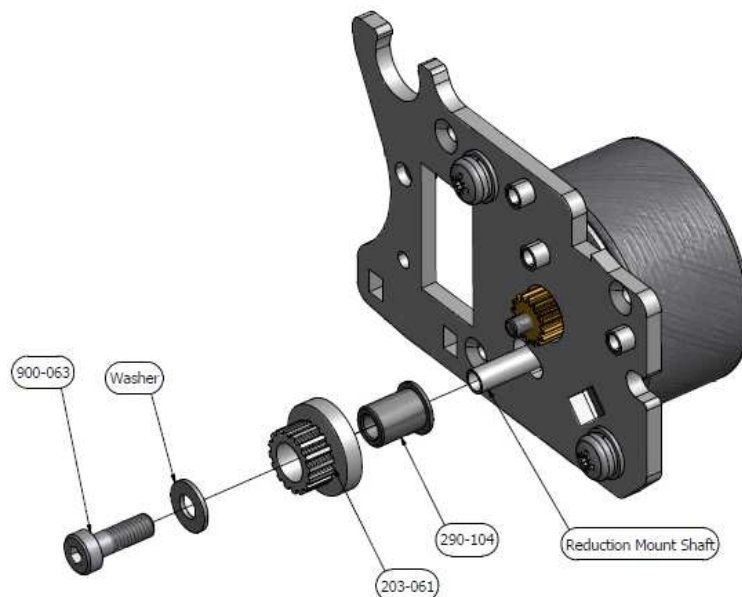
Mountbatten Braille Chassis Assembly.

-Prepare Reduction Cluster Gear 203-061. Insert Reduction Gear Bush 290-104 into Gear cluster and apply a small amount of lubricating grease (Molycoat EM60L) to base of cluster on bearing surface.



Reduction Gear Cluster complete

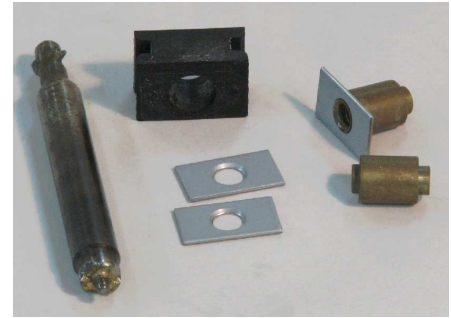
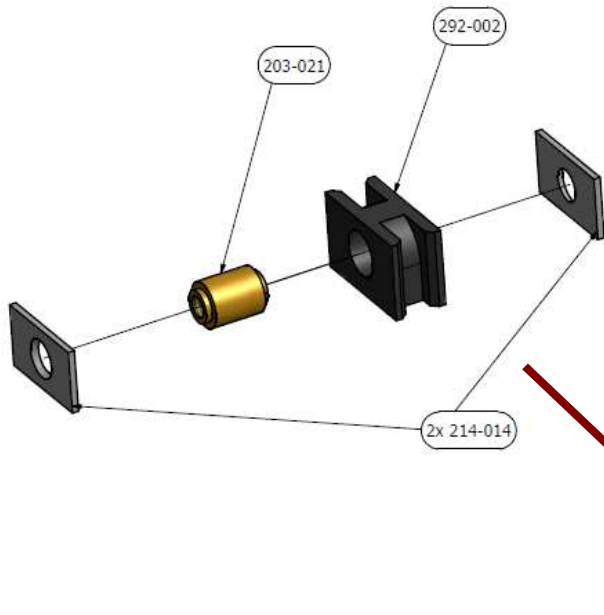
-Fit Prepared Reduction cluster 203-061 to Reduction Mount shaft. Place large washer 902-024 (with smooth surface toward cluster) over mounting and secure with 1 x Button head screw 900-063.



Mountbatten Braille Chassis Assembly.

- 4) Fitting Carriage Motor and Paper Motor assemblies to main frame assembly; attaching Paper Grip Lever mounting; attaching Actuator assembly.

a) Assembling 2 sets of Mounting Grommets



Parts to assemble Mounting Grommet with special tool

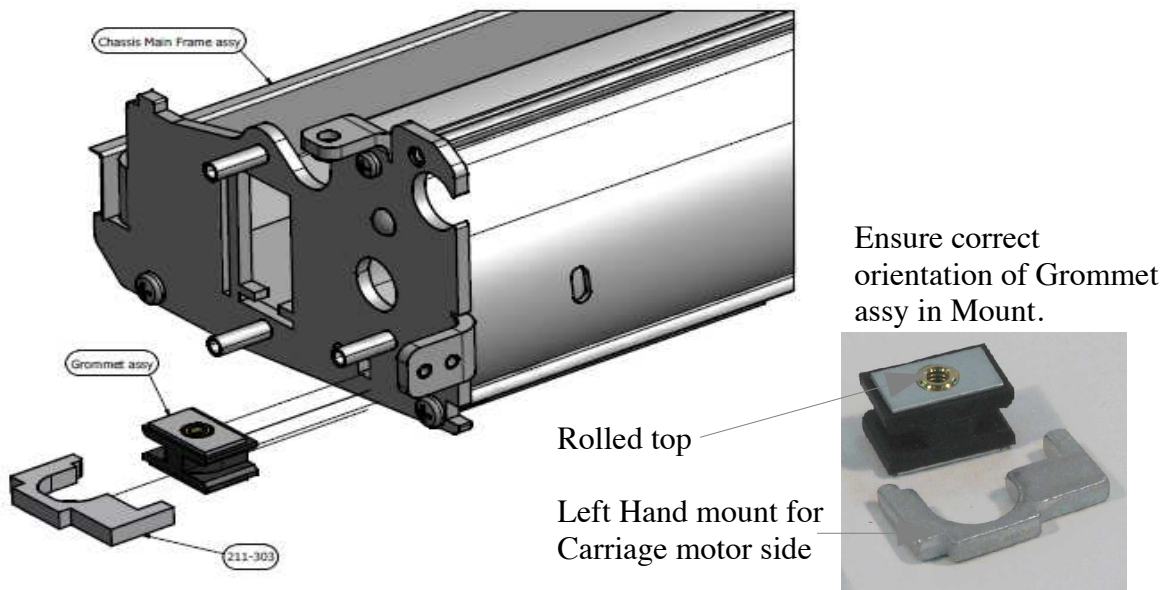
-Sandwich a Rubber Grommet 292-002 between two grommet plates 214-014. Secure assembly by rolling annealed core pin 203-021 over with special tool. **Note: Long end of core is rolled over.**

Mountbatten Braille Chassis Assembly.

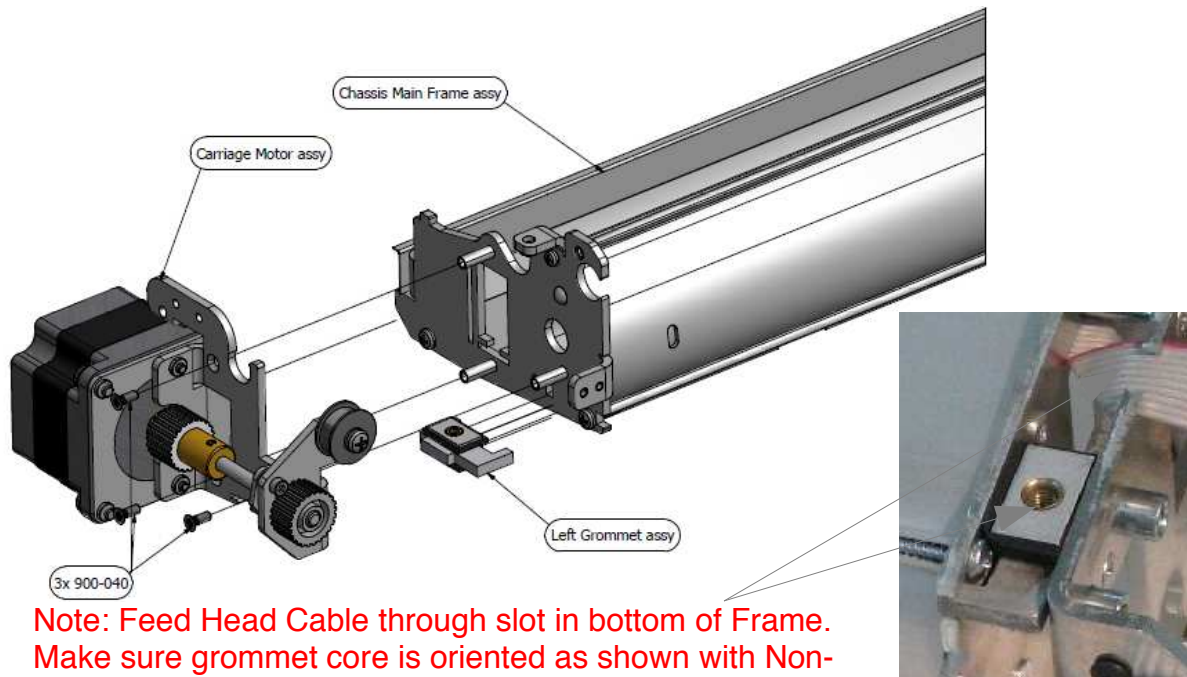
b) Assembling Carriage Motor assy to Chassis assy

Assembly order:

-Fit 1 x Grommet Assy to Left hand Grommet Mount 211-303. Ensure correct orientation of Grommet assy in Mount.



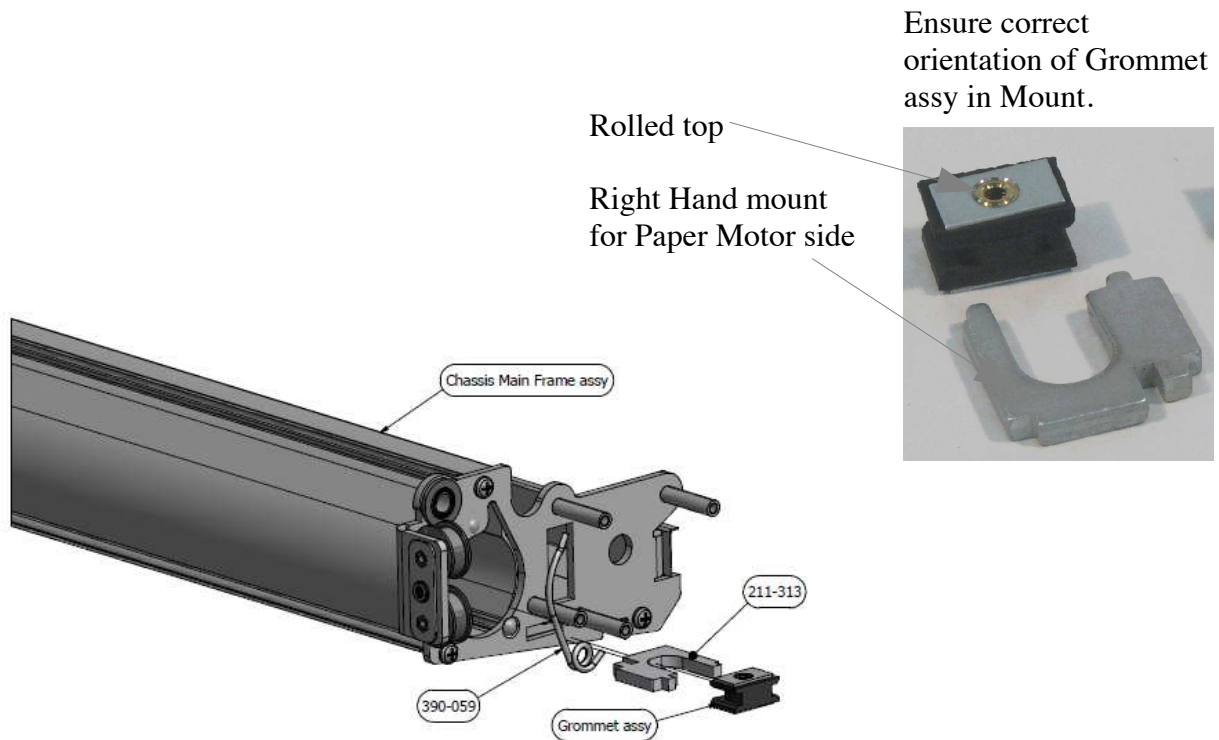
-Fit Left Grommet assy between the Main and secondary frames then fit Carriage Motor assy to the Left Main frame using 3x M3x8 Screws 900-040.



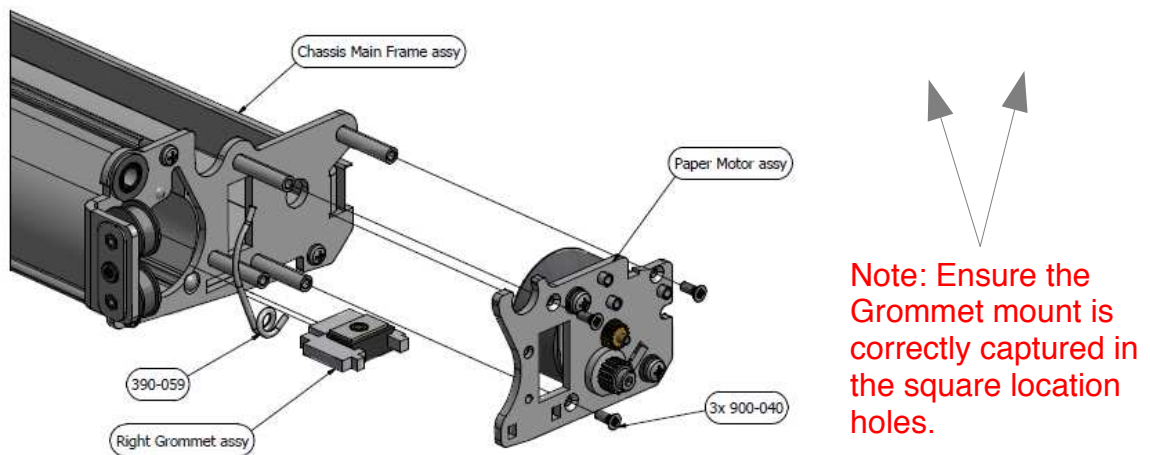
Mountbatten Braille Chassis Assembly.

c) Assembling Paper Motor assy to Chassis assy

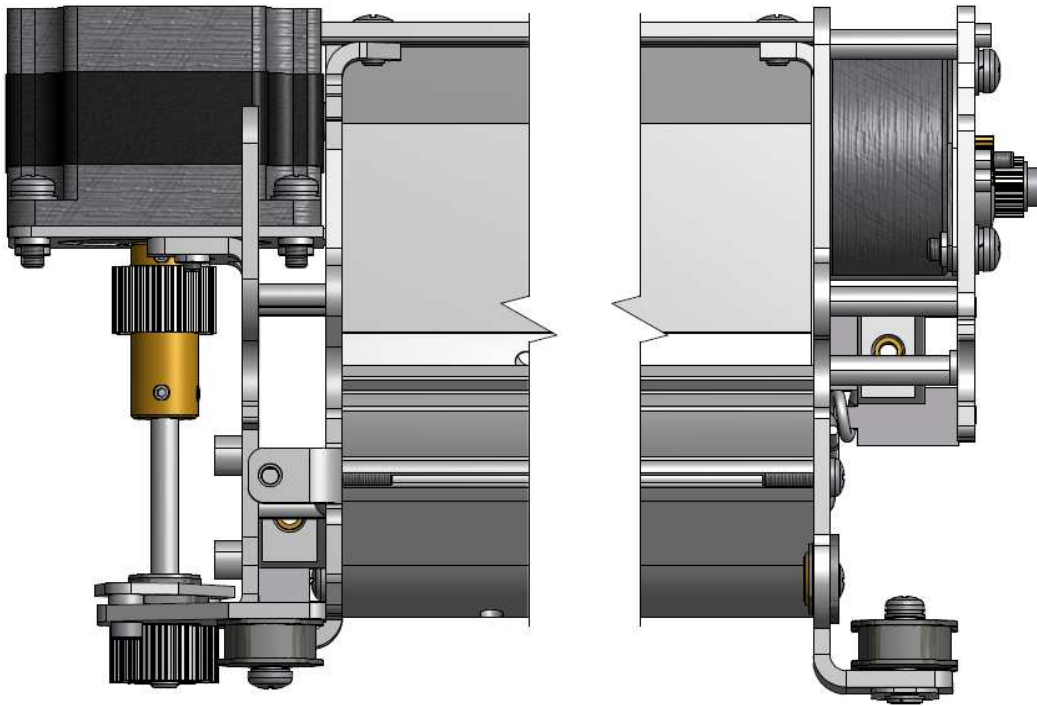
-Fit 1 x Grommet Assy to Left hand Grommet Mount 211-303.



-Fit Battery retainer spring 390-059 to grommet Mount and fit complete assy to Right hand Frame stand-offs with 3x M3x8 Screws 900-040.

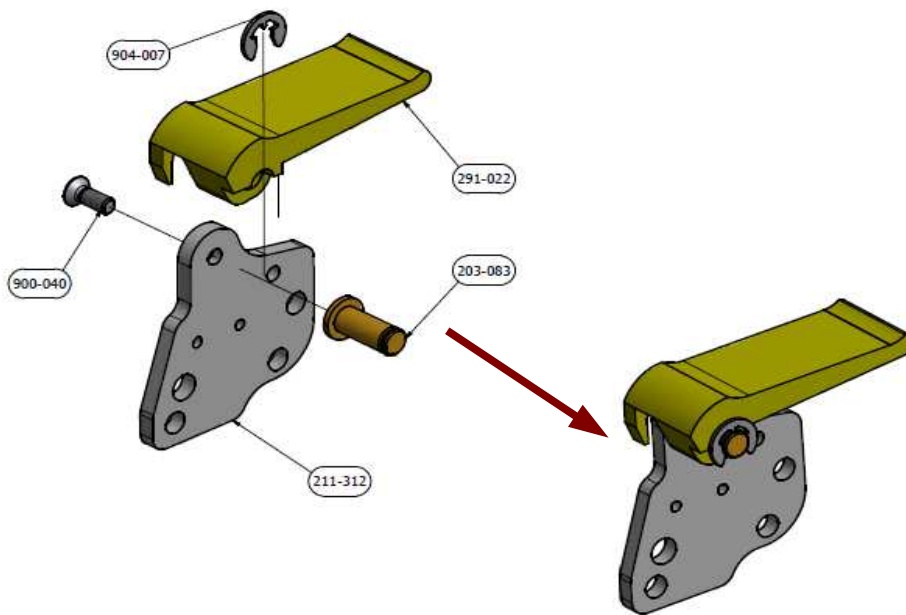


Mountbatten Braille Chassis Assembly.



Carriage Motor and Paper Motor assembled to Chassis Main Frame

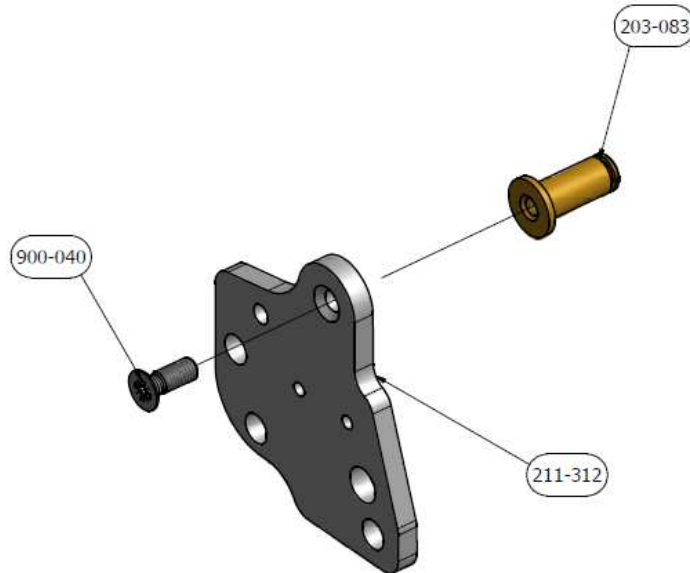
d) Paper Grip Lever Mounting



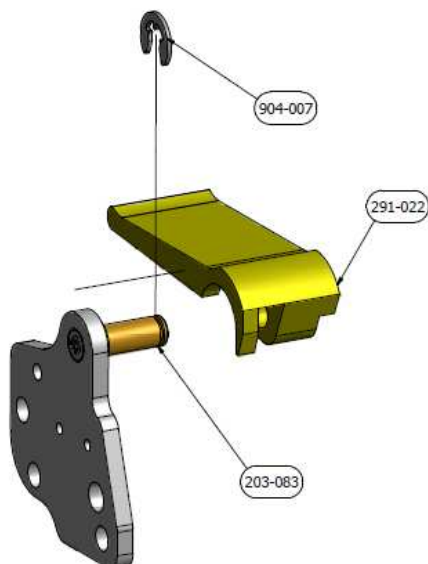
Mountbatten Braille Chassis Assembly.

Assembly order:

-Fit Stub Axle 203-083 to Read Table Mount 211-312 using M3x8 Screw 900-040

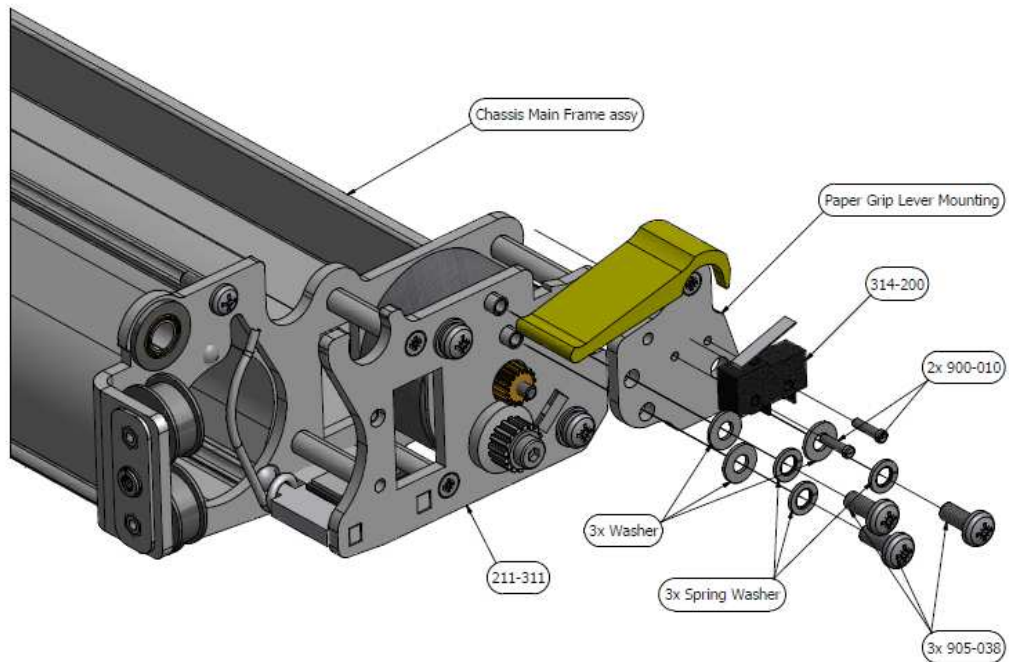


-Fit Grip Lever 291-022 to Stub Axle and capture with Circlip 904-007. Snap circlip on squarely to avoid breaking. **Check if circlip is not broken first.**

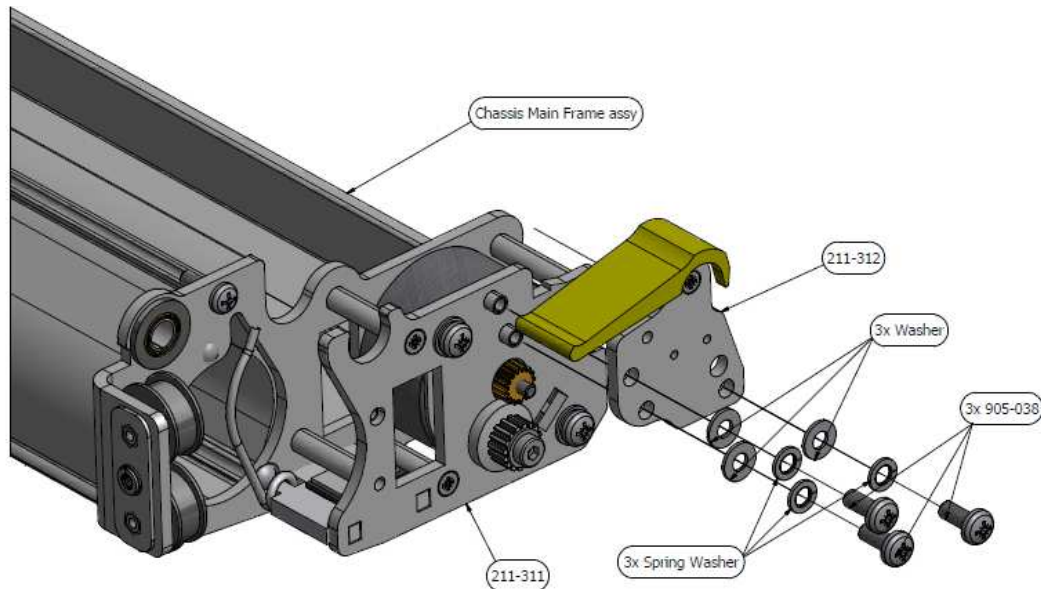


Mountbatten Braille Chassis Assembly.

e) Assembling Paper Grip Lever Mounting onto Chassis Main Frame assy

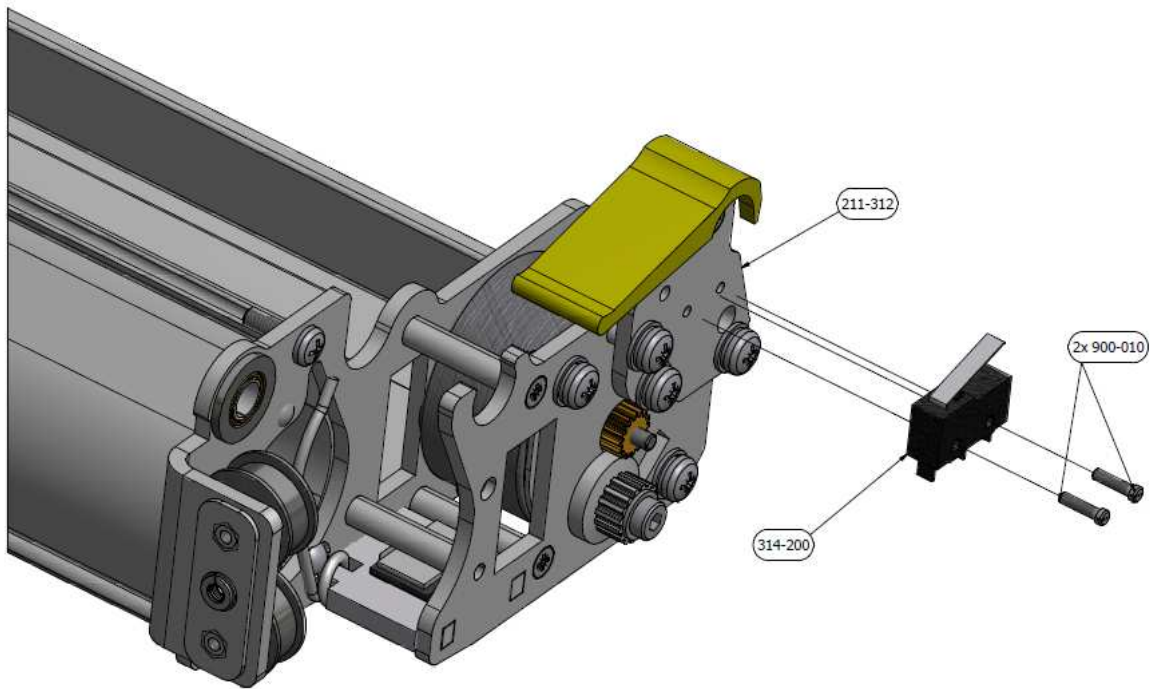


-Fit Read Table Mount Bracket 211-312 to Right Frame Secondary Plate 211-311.
Use 3x M3x8 Screws 905-033.

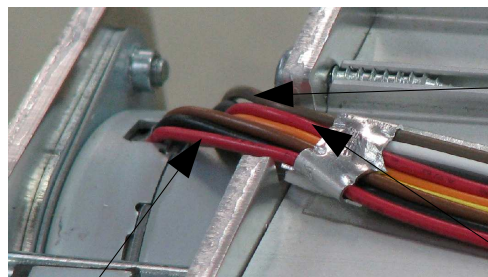


Mountbatten Braille Chassis Assembly.

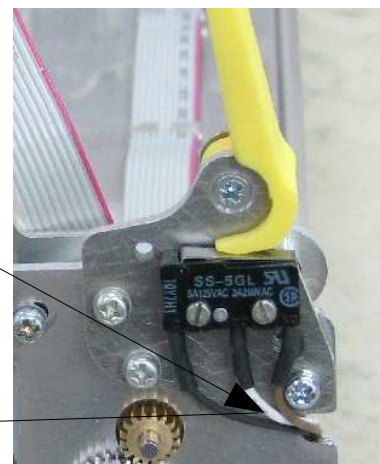
-Fit Micro Switch 314-200 to Mount Bracket 211-312 using 2 x Cheese Slot Head Screws 900-010. **Apply Loctite 222 to screws when fitting.** Push switch down while tightening.



Note: The Micro switch is part of the loom attached to the Paper motor. The wires run through the cut-out in the Secondary Frame and down under the Motor.



Paper Motor wiring loom



Micro Switch wiring loom

Mountbatten Braille Chassis Assembly.

-Fit Double-sided adhesive tape and clips to bottom of Outer Paper guide and run the Paper Motor wiring loom across the tape as per drawing and photos. Arrange wires to form a "flat" cable. Leave a small amount of slack at the motor end for motor adjustment rotation.



Note: Flat cable exits where the Outer Paper Guide has been flattened. Twist connector wires so that the connector is side on (one side wires longer than other).

f) Assembling Actuator assy to Left Secondary Frame 211-301 (Chassis Main Frame)



Actuator is being assembled by third party companies.

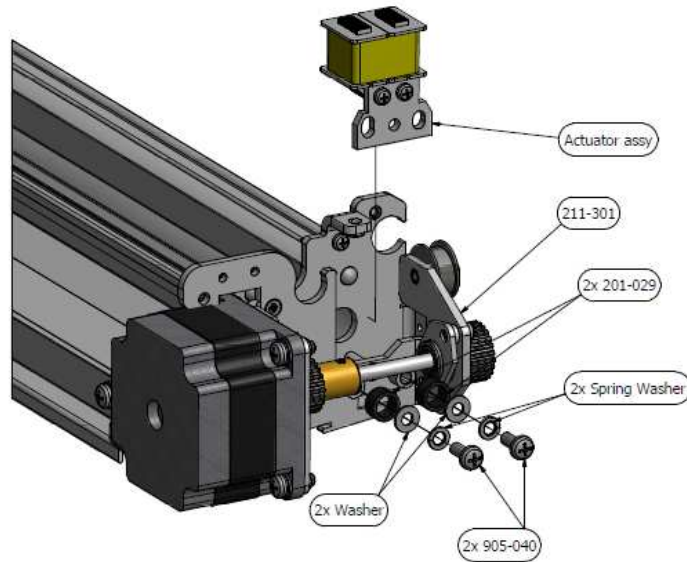
Actuator assembly order:

- Stamp laminations
- Mould bobbins
- Manufacture Bracket
- Assemble core and wind bobbins
- Surface grind top of laminations for flat finish
- Fit ferrite and connector to cable.

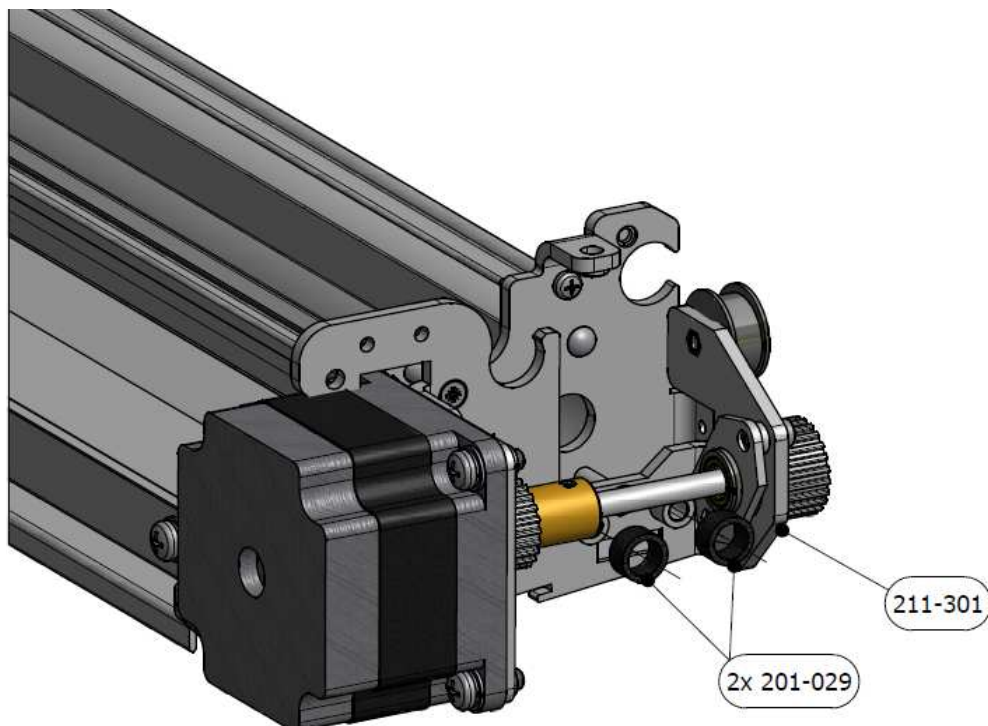


Mountbatten Braille Chassis Assembly.

Assembling Actuator assy to Left Secondary Frame order:

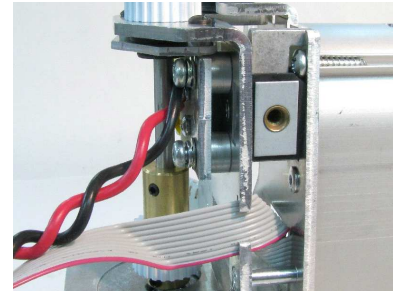
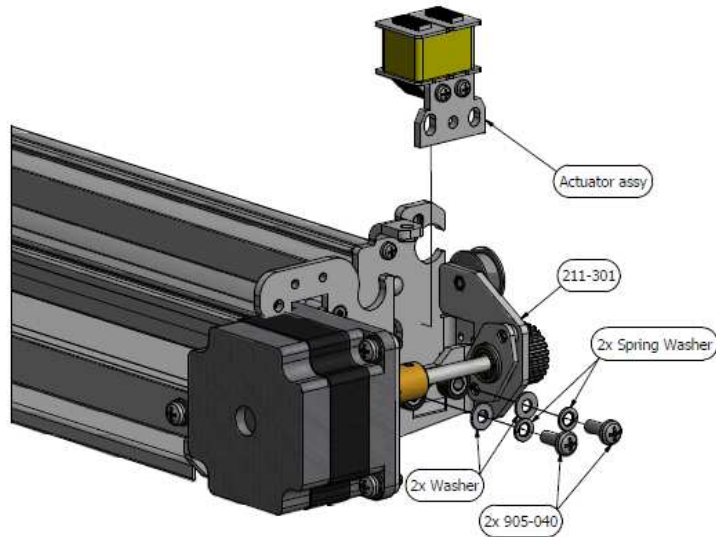


-Place Spacers 201-029 on the Frame stand-offs to space Actuator Frame from Carriage Motor Frame 211-301.



Mountbatten Braille Chassis Assembly.

-Fit Actuator assembly to Carriage Motor frame using 2x M4x10 Screws 905-040



Do not tighten screws fully - leave loose.

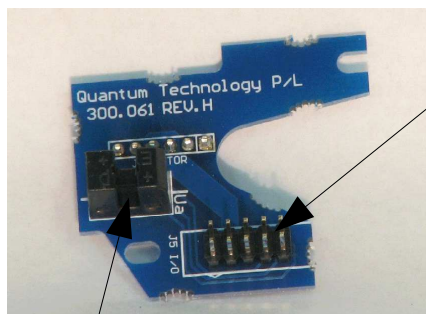
5) Assemble Head and fit to Main Frame

Head Assembly 110-009 consists of several sub-assemblies:

- a) Head Board PWA 101-004
- b) Pin Block Assembly 105-113
- c) Daisy Arm Assembly 105-112

a) Head Board PWA 101-004

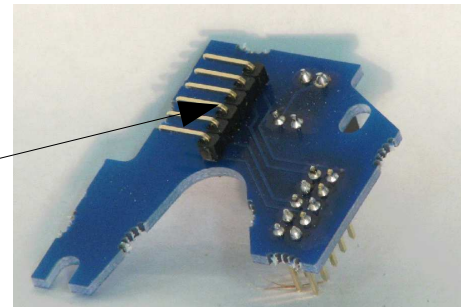
Prepare by soldering Connectors and Opto Interrupter to PCB.



Opto Interrupter
H22A1 610-020

5 Pin Dual Header
Strip 303-772

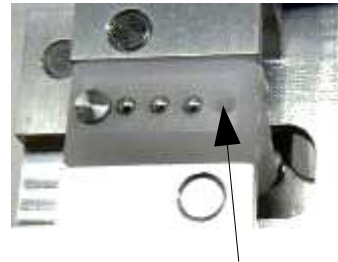
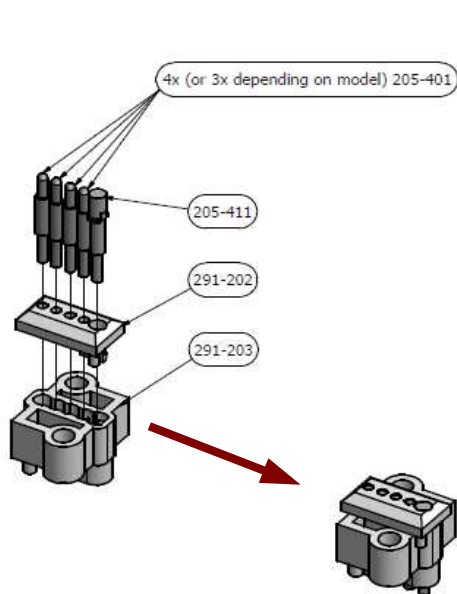
6 Pin Single RA
Header Strip 303-060



! Note: Connectors may first require some preparation according to supplied parts.

Mountbatten Braille Chassis Assembly.

b) Pin Block Assembly 105-113



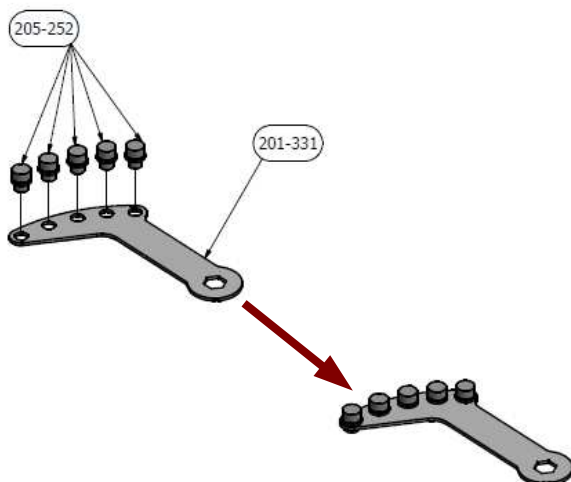
No pin here for 6 dot machine

For 6 dot machines leave the last pin out of the pin block.

-Fit Dot and Rub-out Pins to Block. Refer drawing. Then heat weld top and bottom block together to keep pins captive.

c) Daisy Arm Assembly 105-112

-Prepare Daisy Arm complete with 5 x Anvils 205-252 and Centre Boss 201-331. **Press fit.**

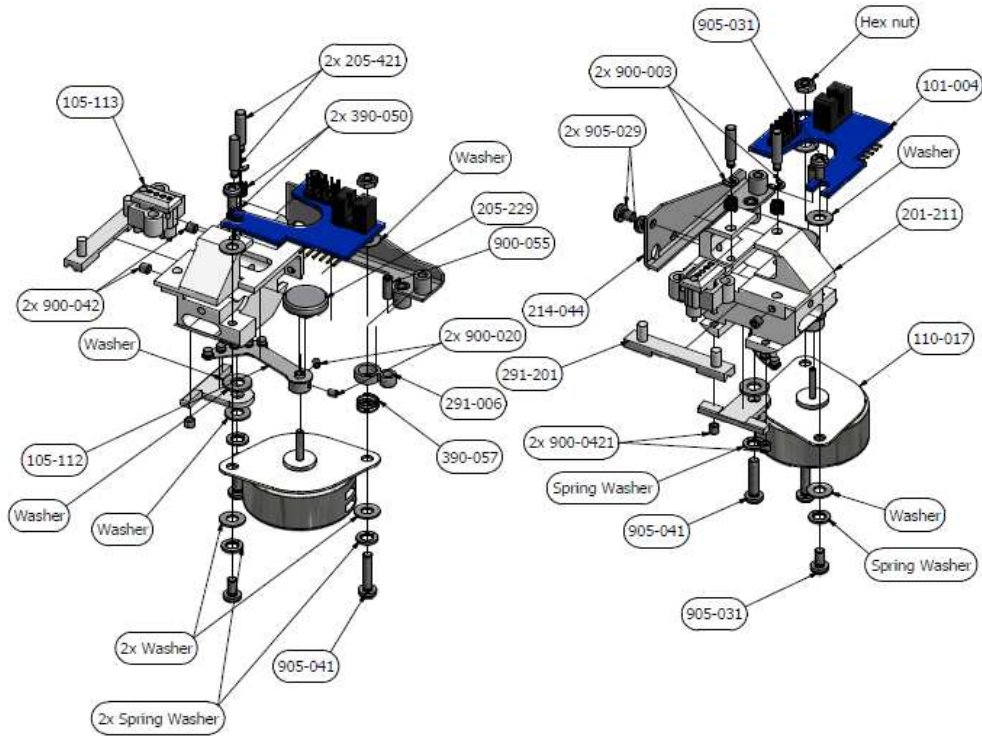


! Note: Daisy Arm Boss may require gentle clean-out on underside with 2mm drill in the event the press fit has deformed the mounting hole.

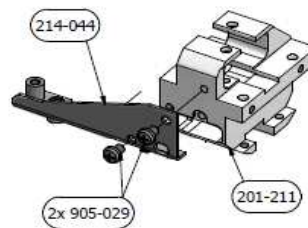
Underside of Anvils that rub on the Strike Plate may also require "very gentle" cleaning with fine file to remove any burrs and to ensure all are even.

Mountbatten Braille Chassis Assembly.

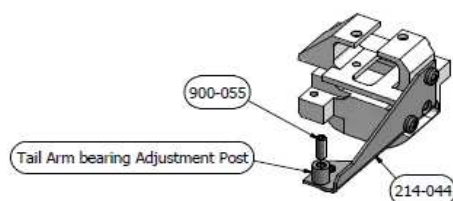
Assembly order:



-Fit Tail Arm 214-044 to Head Frame 201-211 using 2x M3x6 Screws 905-029. **Use Loctite 222 on screws when assembling.**

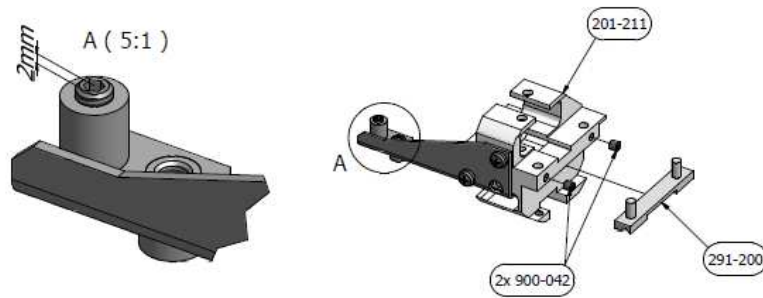


-Fit Socket Head Grub M3x12 Screw 900-055 into the Tail Arm Rear Bearing adjustment post. **Leave about 2mm of screw head showing above.**

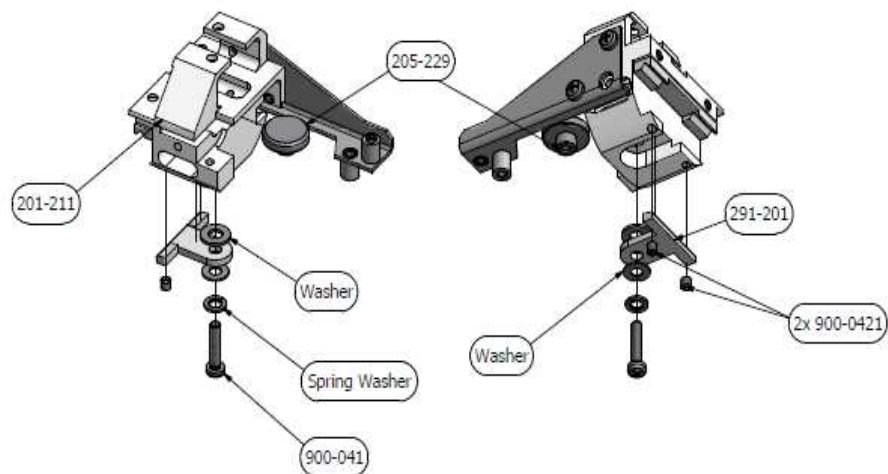


Mountbatten Braille Chassis Assembly.

-Fit Top V-Bearing 291-200 to head frame using 2x M3x3 Socket Head Grub screws 900-042. **Apply Loctite 222 to screws when assembling.**

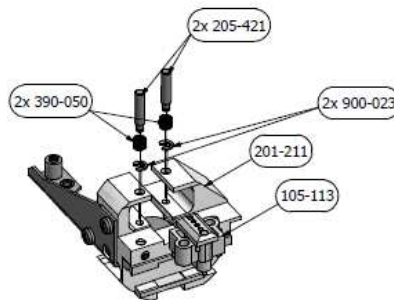


-Fit Strike Plate 205-229 and V-Bearing Retainer 291-201 to Head Frame using M3x14 Screw 900-041. Place 2x M3x4 Socket Head Grub Screws 900-0421 under V-bearing for later adjustment. **Apply Loctite 222 to grub screws when assembling.**

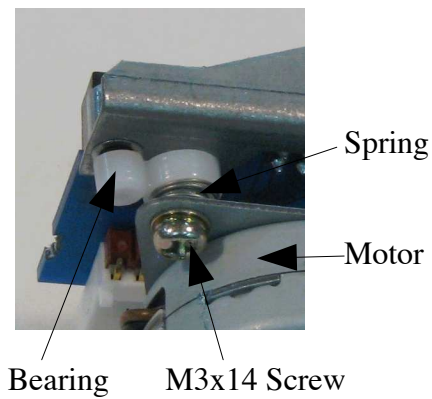
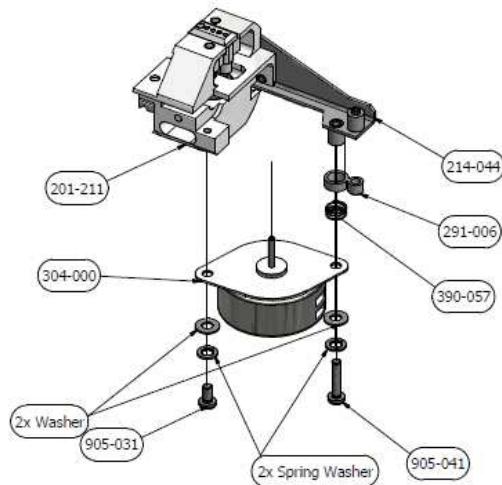


Mountbatten Braille Chassis Assembly.

-Fit Pin Block Assy into Head Frame using Mounting Shafts 205-421. Locate Pin Block springs 390-050 on Mount Shafts under Pin Block as they are assembled. Use E-clips 904-003 to secure shafts to Head frame.



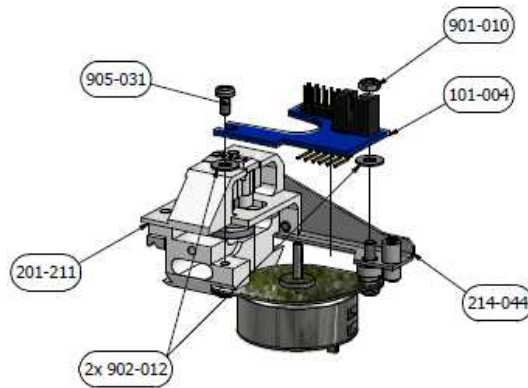
-Fit Tail Bearing 291-006 onto Tail Arm 214-044 rear post. Then fit Tail Bearing Spring 390-057 onto the post to sit on Tail Bearing.
Fit Selector Stepper Motor 304-000 to Head Frame 201-211 and tail Arm 214-044, make sure Spring 390-057 is inbetween the Bearing and Stepper Motor. Use M3x6 Screw 905-031 from one side and M3x14 Screw 905-041 on another to stabilise the Stepper Motor.



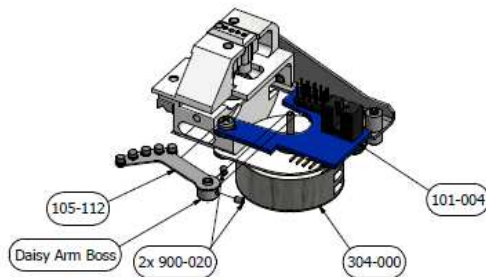
Mountbatten Braille Chassis Assembly.

-Fit PCB 101-004 to Head Frame 201-211. Fit M5 Brass Washers 902-012 over mounting holes in PCB underneath PCB.

Fit Head Board PWA by sliding in from rear onto Rear mounting screw and fix at front with M3x6 Screw 905-031. Fix at rear with M3 nut 901-010.



-Fit Daisy Arm assembly 105-112 to Stepper Motor Axle 304-000. The Daisy Arm fits with the centre Boss downwards with anvils upright under the pins in the Pin Block.

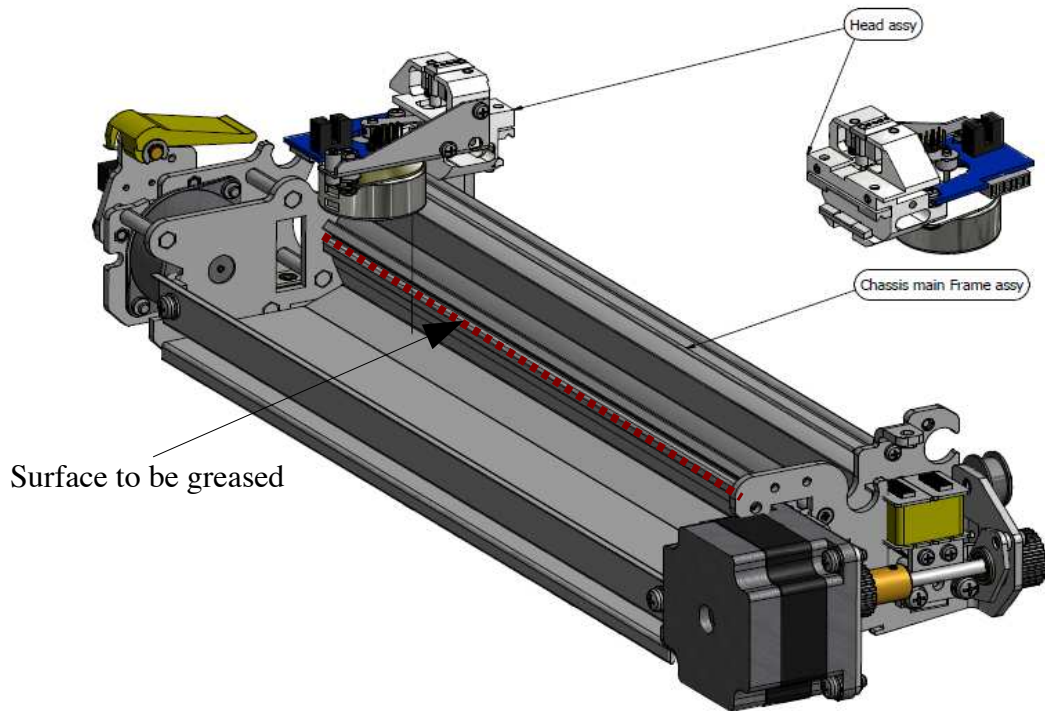


Adjust Daisy Arm to be level and square on the Motor shaft such that the bottoms of the anvils are as close as possible to the strike plate without binding or catching.

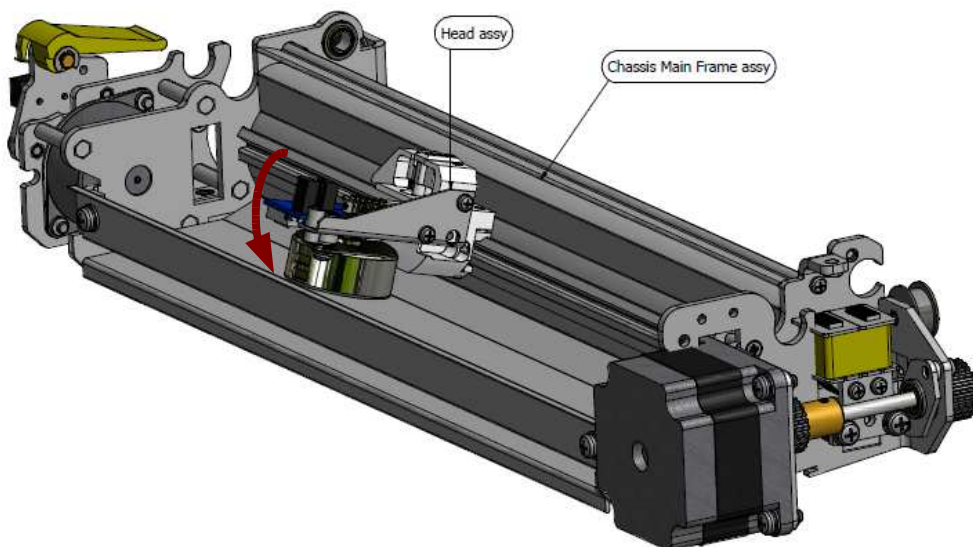
Mountbatten Braille Chassis Assembly.

Assembling Head assy to Chassis:

-Prior to assemble Head assy to Chassis Main Frame, grease with Molycoat EM60L surface shown on the diagram below



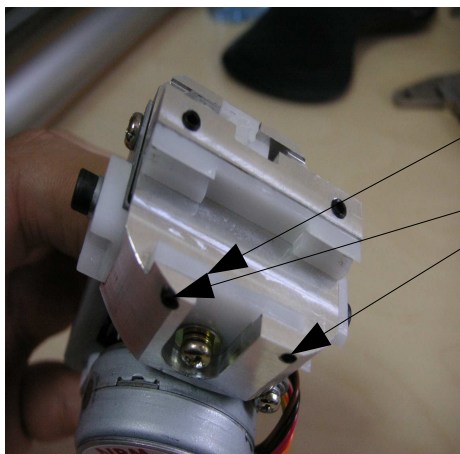
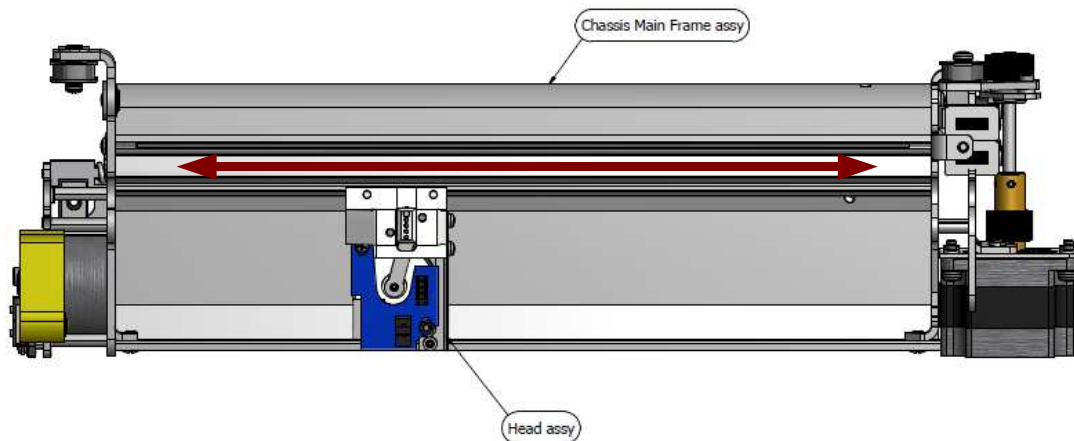
-Locate upper Head bearing on upper guide and rotate down to click lower bearing onto tube lower bearing surface, exactly as red arrow indicates below until Head assy clutches on the fence.



Mountbatten Braille Chassis Assembly.

-Run Head along tube several times, whilst pressing down on the Head and see, whether Head runs smooth on fence. Make sure Head stands steady on fence either.

Should there be any clearances, V-bearing retainer 291-201 needs to be adjusted. Tighten the 2x M3x3 Screws 900-0421 holding the V-bearing Retainer 291-201 with Allen key until Head moves smoothly on Battery tube extrusion. This may take some time and you may be forced to check, whether the fitting is tight enough several times by detaching and inserting the Head assy on fence again. **Do not use excessive force.**

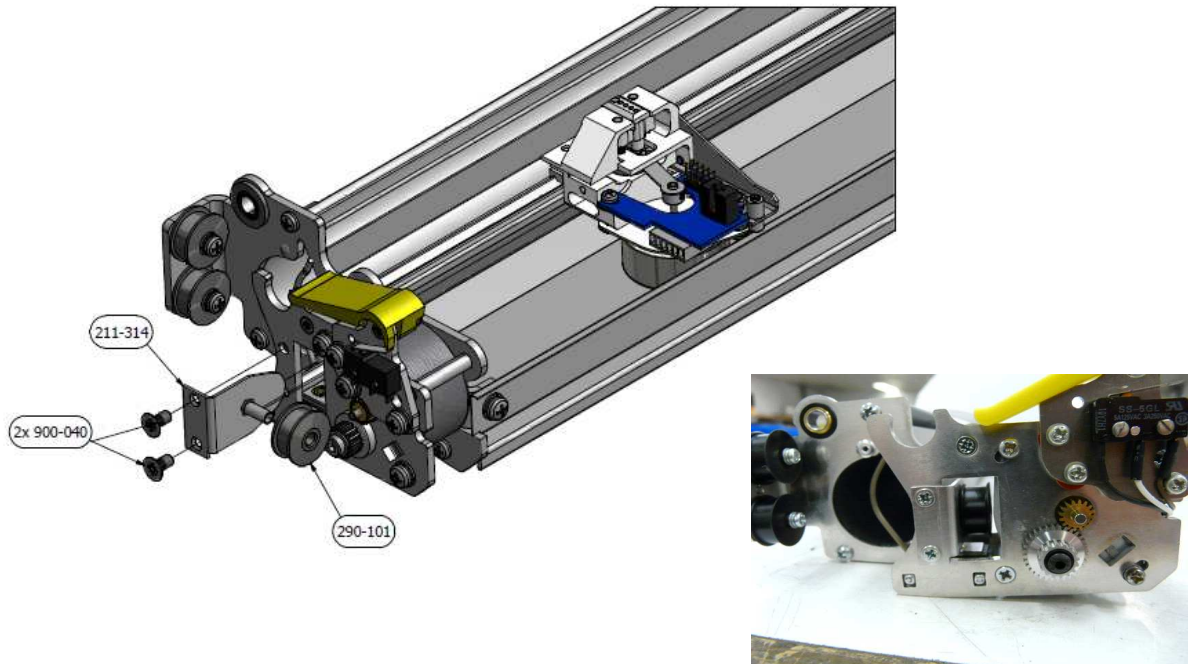


V-bearing retainer

M3x3 Screws

Mountbatten Braille Chassis Assembly.

-Fit Plain pulley 290-101 onto axle on Head Pulley Frame Mount 211-314.
Apply small amount of grease to axle before fitting pulley. No axle screw is needed. Pull mounting toward front while tightening. Fit Mounted Pulley into Paper motor Secondary Frame 211-311 and secure with 2x M3x8 Screws 900-040.

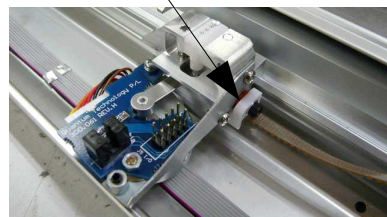


-On Left hand of Head fit Drive Belt 391-001 to Head assy using Head Belt Clamp & Retainer 291-204. Use loctite 222 on M3x12 Head Screw 900-045 and in threaded hole. Place M3x7 Washer 902-003 on screw before fitting.



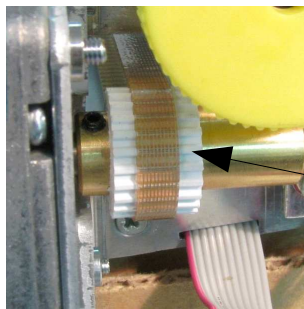
! Note: If belt has been cut a tooth short, sometimes it may be needed to fit a fibre washer to pack out left hand clamp.

Check belt clamp for proper fit in Head slot and adjust as necessary.



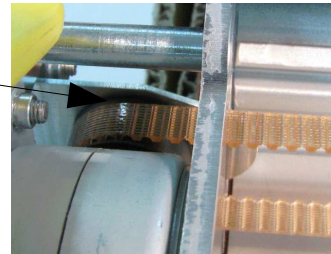
Mountbatten Braille Chassis Assembly.

-Run Head Drive Belt 391-001 around Carriage Motor Moulded Gear 205-109 and then around Right Hand Pulley 290-101. Fit Right Hand Belt Clamp 291-204. Place washer on screw before fitting. **Use Loctite 222 on screw.**



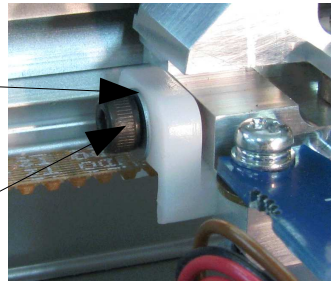
Right hand pulley

Moulded Gear



Washer

M3x12 Screw

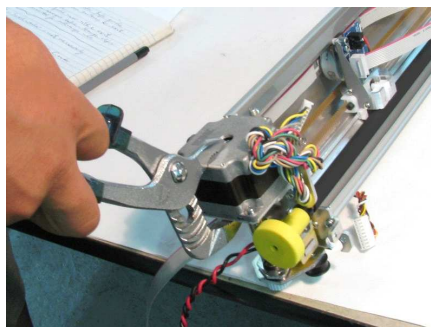


Leave 1mm gap inbetween Head Frame 201-211 and Right Hand Belt Clamp 291-204 for later adjustment.

Head Frame 201-211

Right Hand Belt Clamp

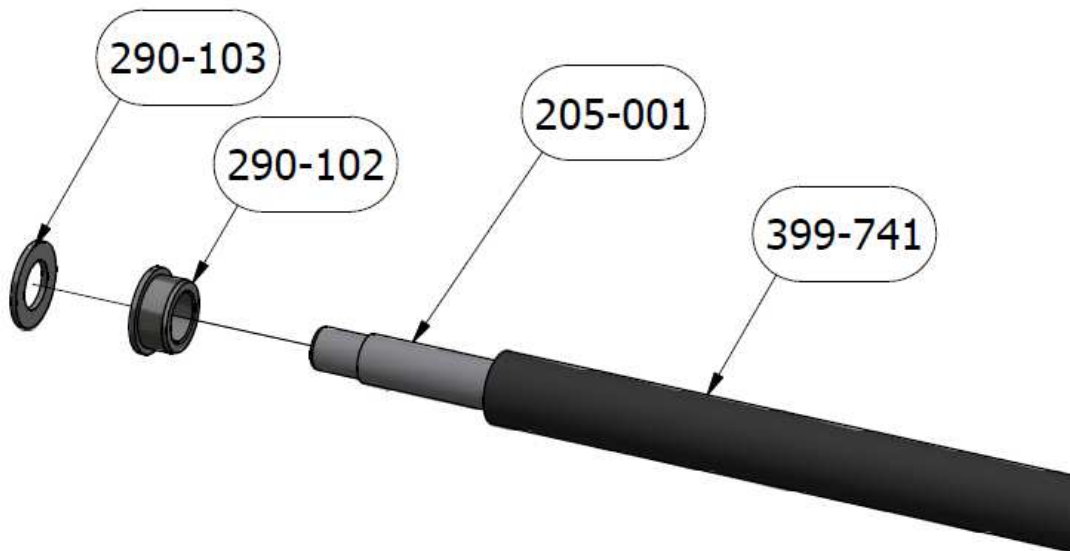
-Tension the belt using the Left Belt Clamp 291-204. **Do not over-tension!** Run the Head assy across the carriage and note how the belt runs on the Carriage Moulded Gear 205-109. The belt should stay in the centre of the gear. If the belt runs toward the motor then, with multi-grips (see the diagram below for reference), bend the motor frame toward the front of the chassis. If the belt runs away from the motor, then bend backwards. Try running the head again and re-adjust until belt runs in centre of pulley. Be gentle and only enough bend to correct the problem.



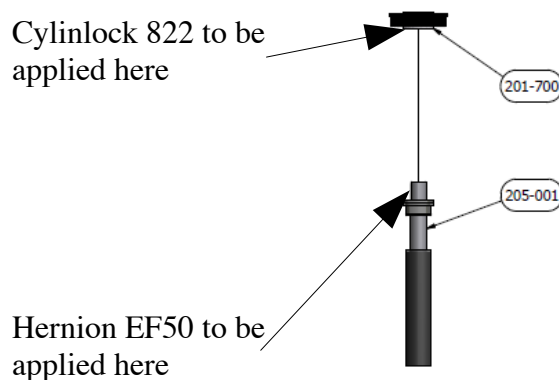
Mountbatten Braille Chassis Assembly.

7) Assemble and fitting Paper Shaft

-Clean and de-grease stepped end of Paper Shaft 205-001 with paper Shaft Coating 399-741 on (inserted by third party company) and inside of pulley with Methanol and fit Bearing 290-102 and Thrust Washer 290-103 to right end (pulley end) of Paper Shaft 205-001.

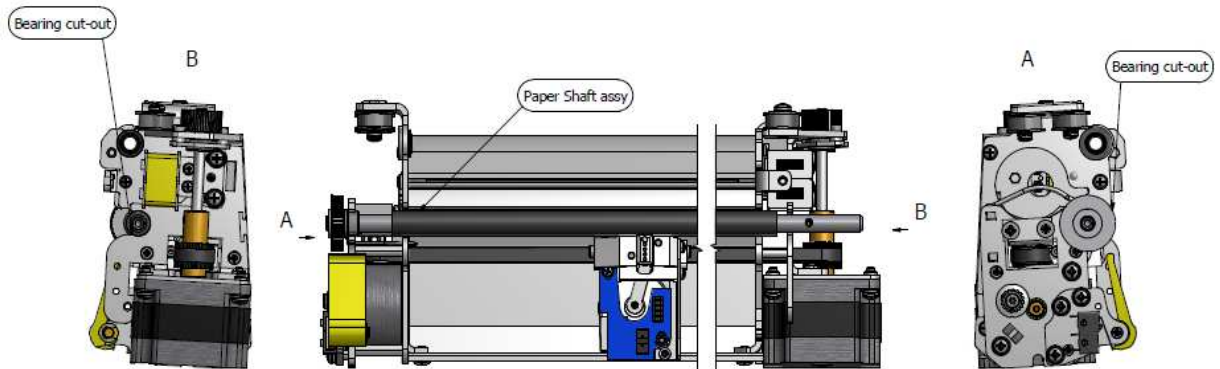


-Apply Hernion EF50 activator solution to shaft pulley step. Apply Hernion Cylinlock 822 on inside of Pulley 201-700 hole. Slide pulley onto Paper Shaft 205-001 and turn to obtain an even distribution of the Cylinlock 822. Firmly seat the pulley onto the shaft step. Stand upright for 12 hours to allow Cylinlock to set.

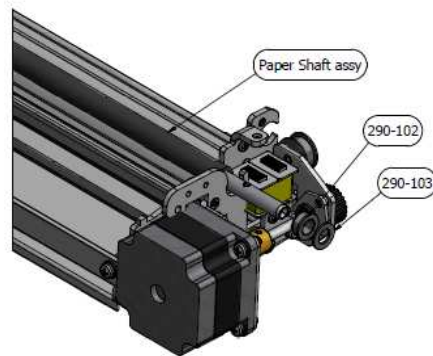


Mountbatten Braille Chassis Assembly.

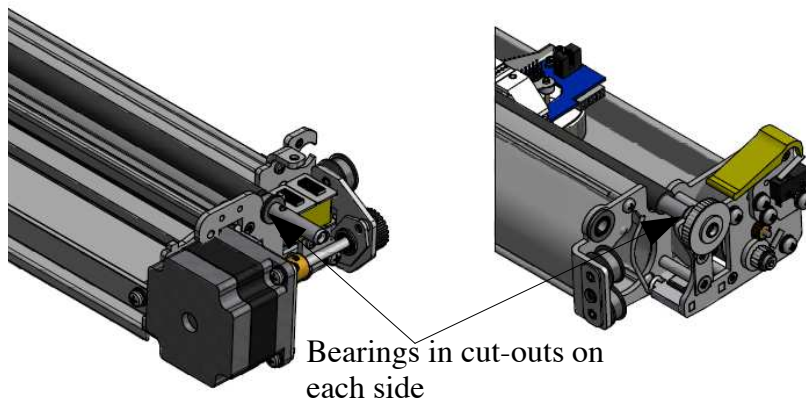
-Drop the Paper Shaft into the two bearing cut-outs on the end Chassis frames as shown below. **Make sure the right hand bearings is outside of the frame for later adjustment.**



-Slide left side Bearing 290-102 and Washer 290-103 onto the left side of the Shaft assy. **Make sure the right hand bearings is outside of the frame for later adjustment.**

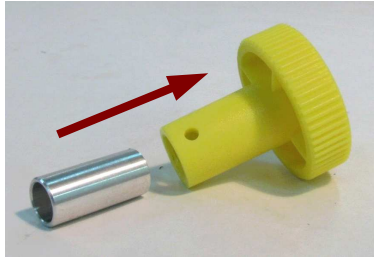


-Now slide the bearings at each end into the cut-outs to support the shaft.



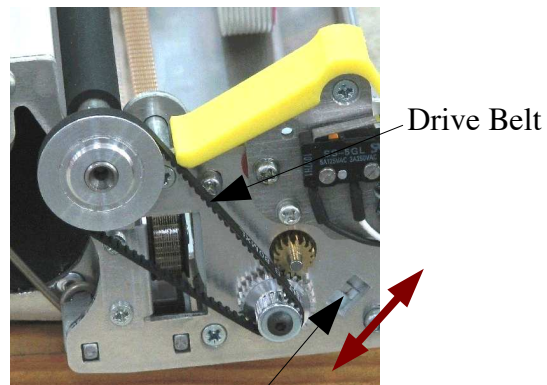
Mountbatten Braille Chassis Assembly.

-Attach Thumbwheel 291-021 to Left end of shaft using M3x16 Screw 900-033. Prepare Thumbwheel by inserting Sleeve 201-032 into the Thumbwheel spindle beforehand.



-On the right hand side of the Paper Shaft, slip the Paper Motor Drive Belt 391-000 over the Paper Shaft Pulley and then over the outer gear of the reduction gear set on the Paper Motor.

Adjust tension on paper drive belt by rotating the paper motor. Drive belt should bend ~1mm whilst pressed. Tighten mounting screws to secure position of motor.

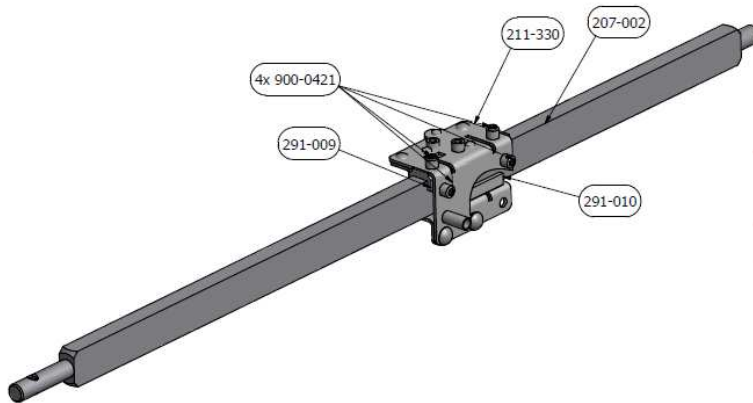


Adjust drive belt tension by rotating here

Mountbatten Braille Chassis Assembly.

8) Assemble Embossing Bar with Die assembly

-Fit 2x Bearing 291-009 and 1x Bearing 291-010 to Die Body 211-330 and Fit body to Embossing Bar 207-002 afterwards. Fit 4x M3x4 Bearing Grub Screws 900-0421. **Apply loctite 222 - Do not tighten.**



Note: The bars will not be completely square. Some bars may require some fine grinding or straightening to eliminate any high spots. Blunt sharp edges on the Embossing Bar if witnessed.

Now Slide Die Body on Bar and feel for high or low spots. Tighten bearing grub screws to eliminate any free play. Die Body should run smooth.

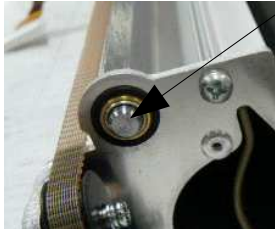
-Fit Die Arm 212-001 to the Die Body 211-330. Use 2x M3x6 Socket Head Screws 900-059 to secure arm to body. The front screw is fitted with Washer 902-024 . **Do not use Loctite and only tighten snug for later adjustment.**



Mountbatten Braille Chassis Assembly.

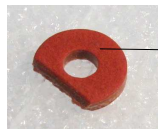
-Fitting Embossing Bar with Die to Chassis frame

- Fit Flat Thrust Washer 290-015 onto short axle of Embossing Bar 207-002.
- Slide the short axle end of the Bar into the right hand bearing on the frame.
- On the left hand frame rotate the bar into the bearing cut-out.
- Slide the left 1/4" bearing onto the long stub axle and push into the frame.

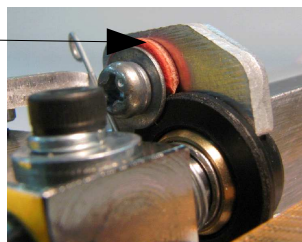


Note: Once installed - check bar end-play. If too tight then remove thrust washer from right hand end. If too loose then check to see if you can fit a thrust washer on the left hand end. Make sure the bar is snug end to end and pivoting freely.

-Use M3x6 Screw 905-032 with large Washer and cut Fibre Washer 902-082 to clamp the left bearing

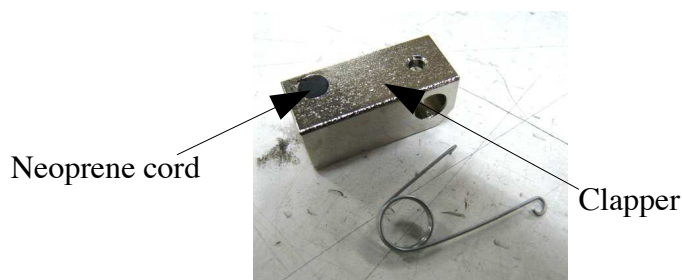


Cut Fibre Washer



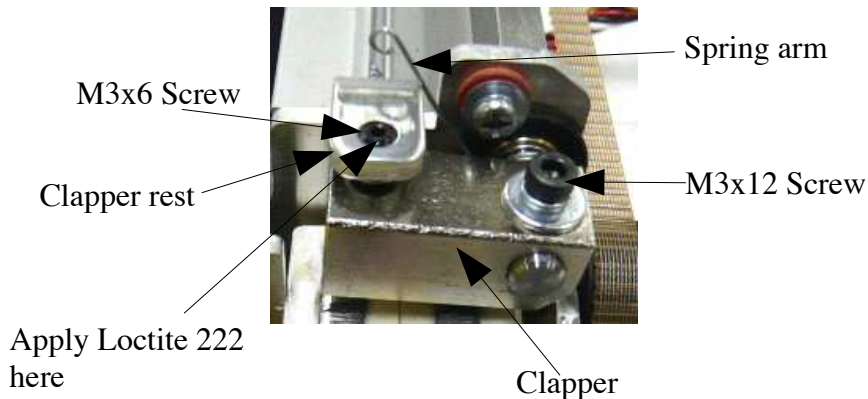
9) Fit Clapper assembly

-Cut Neoprene O-ring cord 321-100 to length 2mm and store inside the hole on Clapper 206-039 as shown below.



Mountbatten Braille Chassis Assembly.

-Slide the Clapper Spring over the Embosser bar left hand axle. **Note direction of spring arm on diagram below.** Slide Clapper onto bar. Secure the clapper with M3x12 Screw 900-045, large Washer 900-024 and Spring Washer 902-047. **When tightening, hold Clapper upward.** Apply loctite 222 to M3x6 Grub Screw 900-043 and fit to the Clapper rest. Screw down 3/4 length

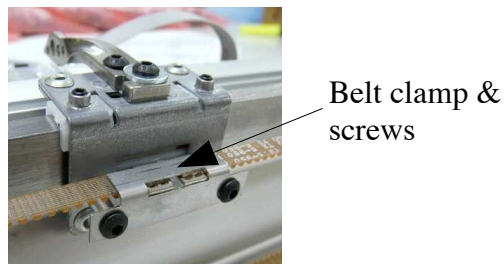


10) Fit Drive Belt

-Prepare Drive belt 391-001

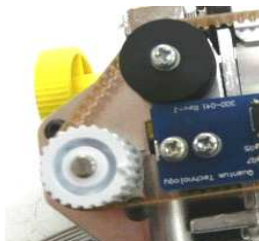
a) Cut belt to correct length using supplied jig.

b) Crimp Belt Clamp onto belt using supplied press and die. The belt will now be a loop captured by the clamp at both ends.



-Run the belt around the left hand pulley and drive gear.

Run the pulley around the right hand pulleys. **Rotate right pulleys to allow slack for belt.** Move the Head and Die into the middle of the carriage.



Belt around left gear and pulley

Mountbatten Braille Chassis Assembly.

-Line up the die over the Head and pins and then fit the belt clamp to the two stand-offs on the Die body using 2x M3x10 900-063 Button Head Screws.

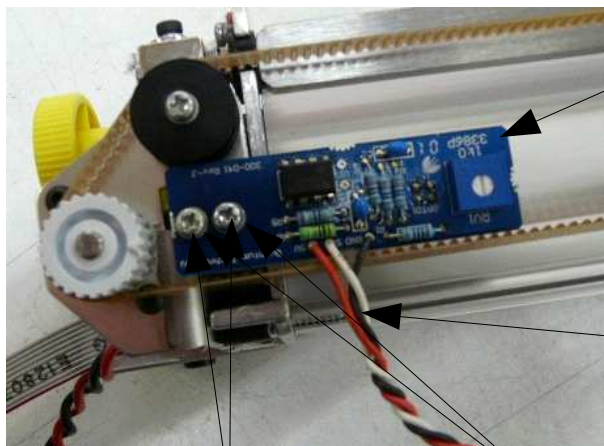
M3x10
Screws



Tension belt slightly by rotating right hand pulleys. Correctly assembled belt should bend for about 1mm.

11) Fit Paper Detect PCB

-Attach Paper Detect PWA 399-703 to the Chassis Main Frame. Use 2x M3x8 Screws 905-033 with small Washer.



PCB 300-041

Note: make sure the IR sensor on the rear of the PCB is located in the centre of the tube cut-out.

Wire Loom
115-022

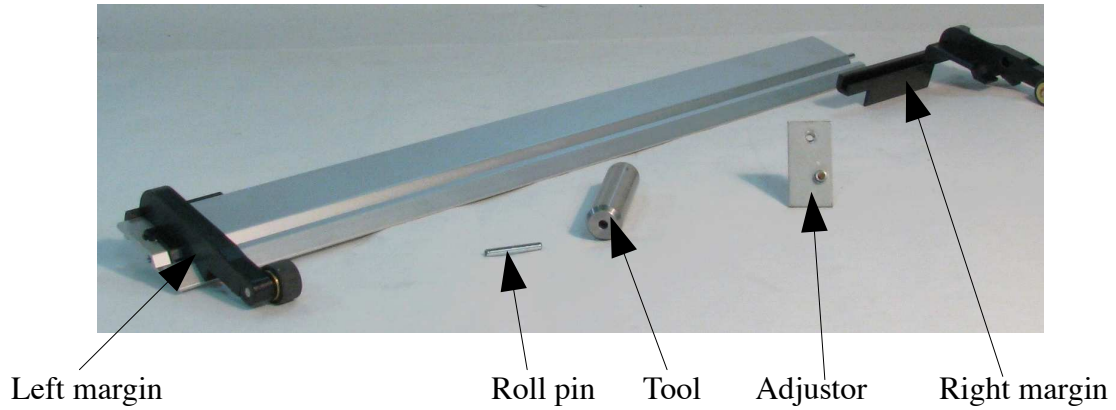
M3x8 Screws

Washer

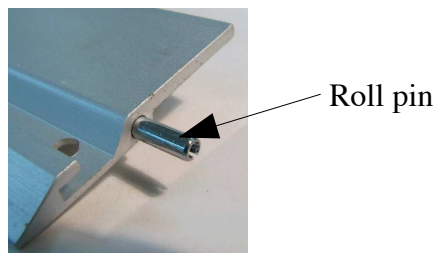
Mountbatten Braille Chassis Assembly.

12) Fit Reading table Assembly

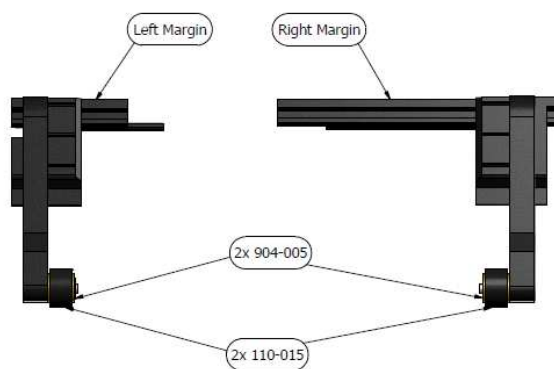
-Check Table for straightness before assembling. **Straighten if needed!**



-Insert Roll pin 904-023 on right hand side using roll pin tool. Requires small hammer.

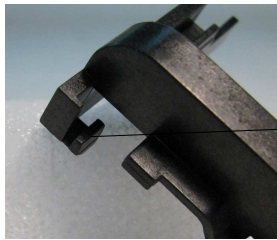


-Fit Grip Wheels 110-015 to Left and Right margins using E-Clips 904-005



Mountbatten Braille Chassis Assembly.

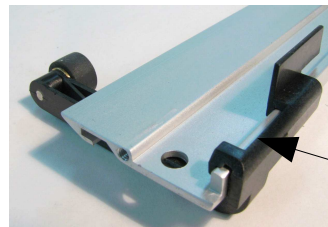
-Modify Left margin by removing end stop and fit to the reading table.



Left Margin

Margin key hole

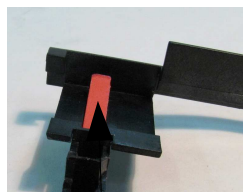
-Glue Left Margin in place using two part Glue



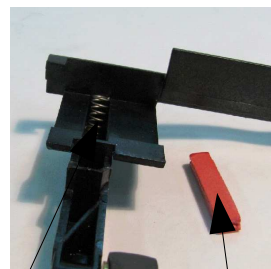
Apply glue
inside edge

-Slide on the Right hand margin. **Lightly grease right margin sliding tabs with Molycoat EM60L.**

Fit Pressure Pad 902-088 and Spring 390-074 under margin as it is fitted. Place spring underneath in recess and rest pad on top.



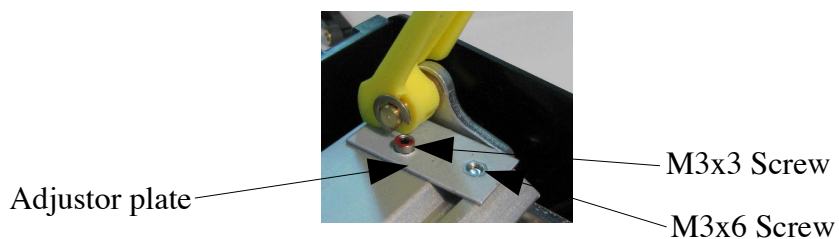
Pressure Pad



Spring

Pad

-Fit Reading table Adjustor using 1x M3x6 Screw 905-032.
Fit M3x3 Grub Screw 900-042 to adjustor. **Use loctite 222.**



Adjustor plate

M3x3 Screw

M3x6 Screw

Mountbatten Braille Chassis Assembly.

Reading Table to Chassis Main Frame assembly order:

- a) Fit the Reading Table Springs to the Chassis. Fit Left Spring on mounting tab. Right spring is inserted after fitting the table.
- b) Leave the grip Lever in the down position. Locate the Roll pin in the pivot hole on the left frame and slide the table into position.
- c) Fit the Brass sleeve 203-052 into the left frame table mounting hole.
- d) Push down on the left end of the table and fit M3x10 Button Head Screw 900-063 to capture table.
- e) On the right hand side compress and slide the spring in under the table.



Right Spring on mounting tab

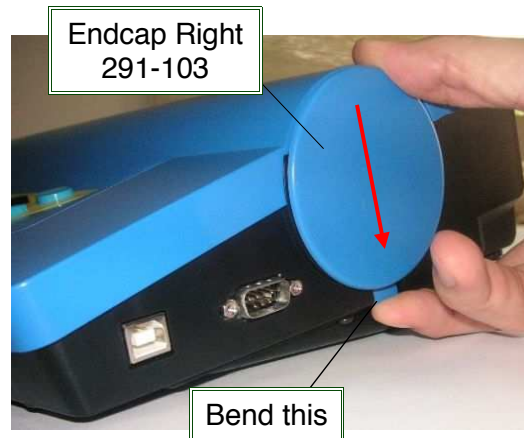


Left Spring on mounting tab

Mountbatten Braille disassembling for service.

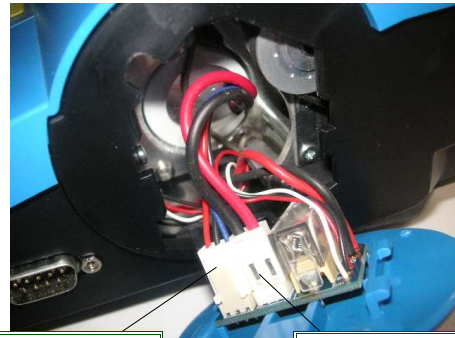
1) Removing the Chassis from the MB

1. Open Endcap Right:
bend the bottom part of Endcap Right from MB as in the photo,
then push it down to open.



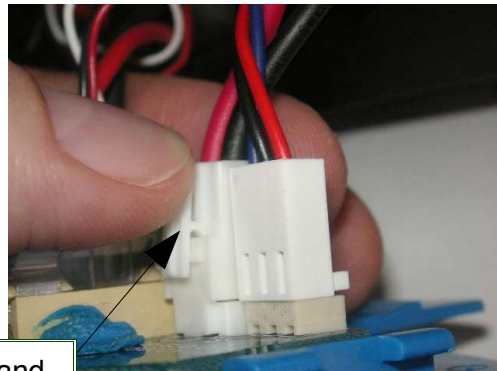
Mountbatten Braille disassembling for service.

2. Disconnect the Main Battery connector from the Fuse Board PWA 101-009B (you have to press on plastic) and the temperature sensor connector, too.



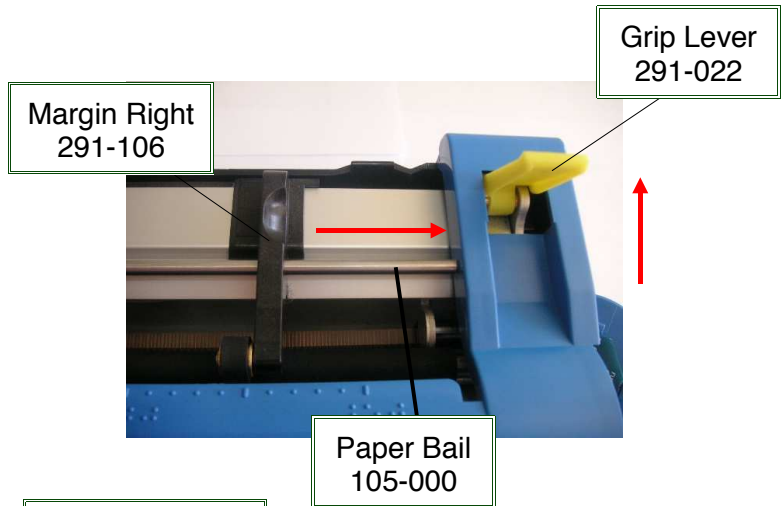
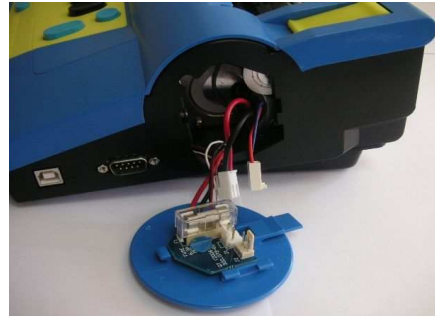
temperature sensor connector

Main Battery connector



press and then unplug

Mountbatten Braille disassembling for service.



3. Remove the Paper Bail:
You have to lift the Grip Lever and move the Margin Right all the way to right (look at the picture), then hold the Paper Bail Plunger, pull it right towards the Grip Lever and remove it.



Mountbatten Brailier disassembling for service.

4.

Remove the 5 screws located on the Case Bottom of the MB (4 screws M4 x 30 and 1 screws M4 x 10) at the below picture.

Note:

We recommend a screwdriver with a magnetic tip.



5. Raise the Top Cover, unlatching it from the lugs at the rear of the case (the Grip Lever has to be up).

Note:

We recommend a screwdriver with a magnetic tip.

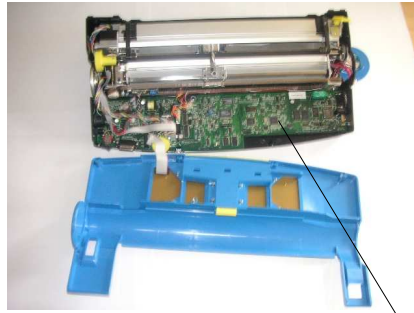


Top Cover (consists of Case Top 291-101 with Endcap Left 291-102; Keyboard 308-000; Case Handle 291-023 and Retaining Plate Handle 211-119)



Mountbatten Braille disassembling for service.

6. Disconnect the Keyboard from the Main PWA and lay the Top Cover aside.



MB Main PWA
101-200



Top Cover

7. Remove the 2 screws M4 x 10 from the Case Bottom.



Case Bottom
291-100

M4 x 10

Note:

Hold the Chassis as in the picture (exactly, do not hold on to other parts) when removing the screws.

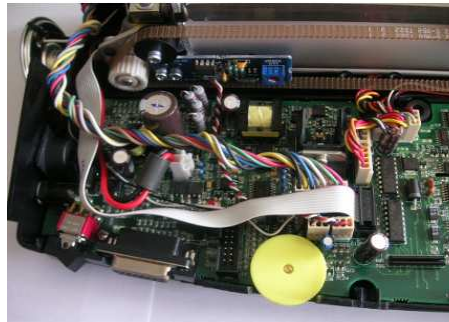


Mountbatten Brailier disassembling for service.

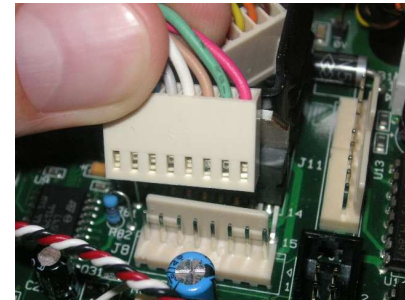
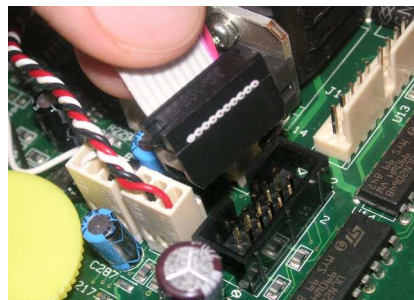
8. Remove the speaker and disconnect cables from the Main PWA.



Speaker

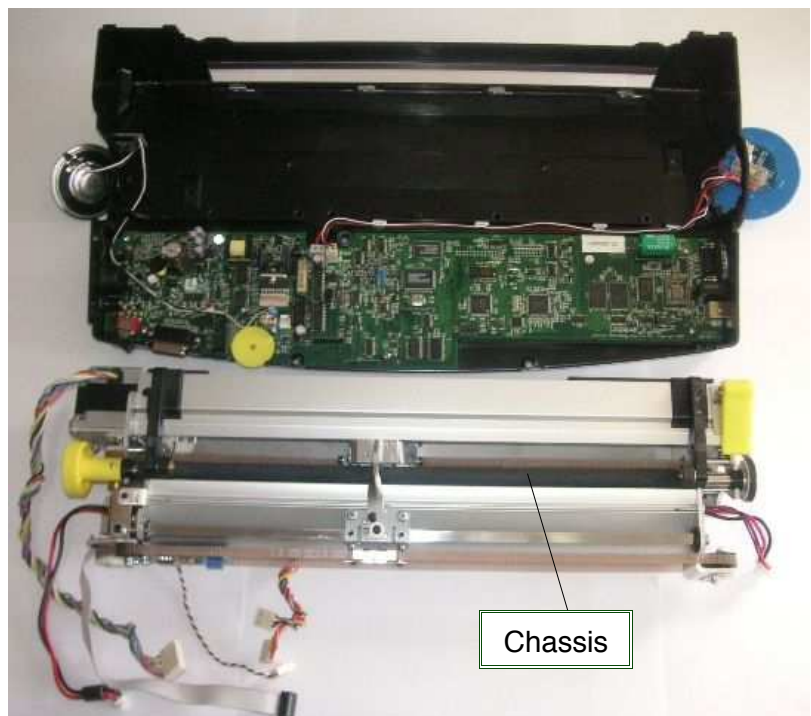


Main PWA



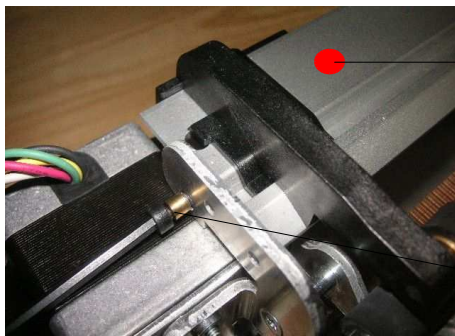
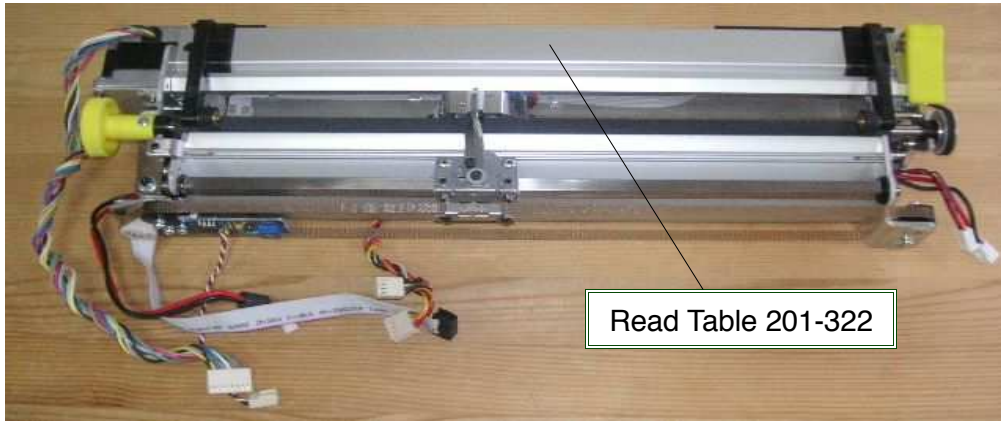
Mountbatten Braillel disassembling for service.

9. Carefully lift the Chassis to remove it from the Case Bottom.



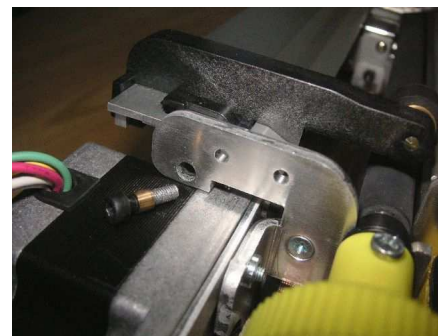
2) Removing the Reading Table Assembly

1. Remove the read table screw and sleeve. Press slightly on the area shown below while removing the screw.



pressing's point

Read table
screw 900-045
and sleeve 203-
052

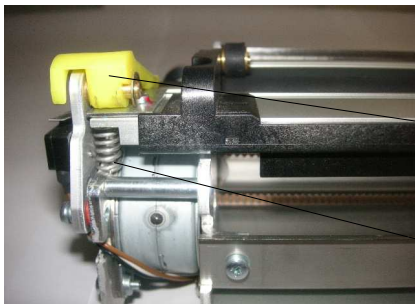


Mountbatten Braille disassembling for service.

2. Remove the Read Table and the 2 springs in rear part of chassis.



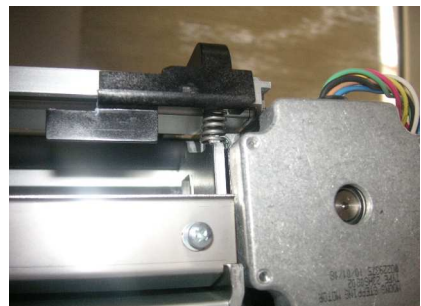
First you have to move forward the Roll Pin from the hole then remove the Read Table



Rear view of springs

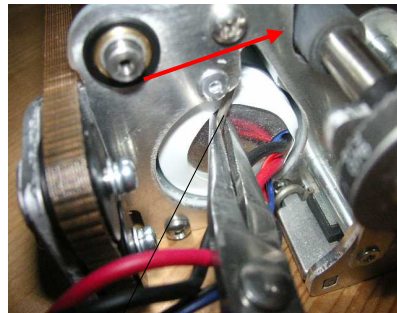
When removing the lever, it is better to keep it in the down position

Note: This one can spring after removing

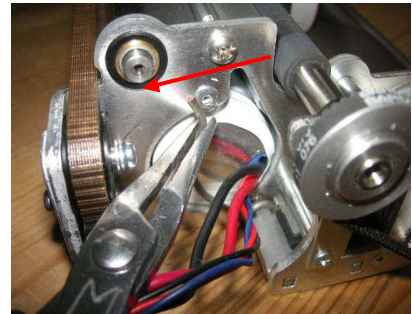


3) Removing the Main Battery

1. Unhook the Battery Retainer Spring using pliers as at the photos. The spring is solid and you have to keep it and move strong. Be careful.

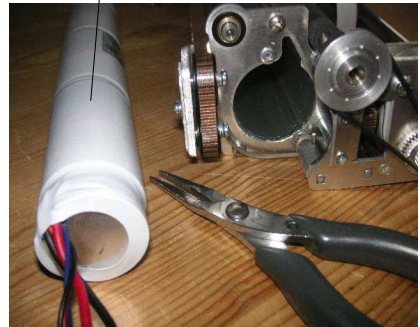
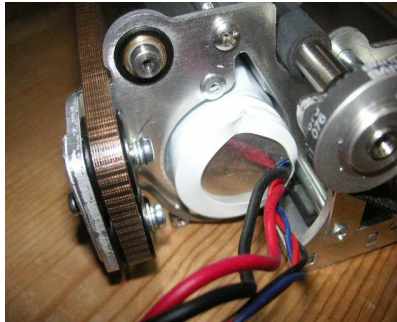


Battery Retainer Spring 390-059

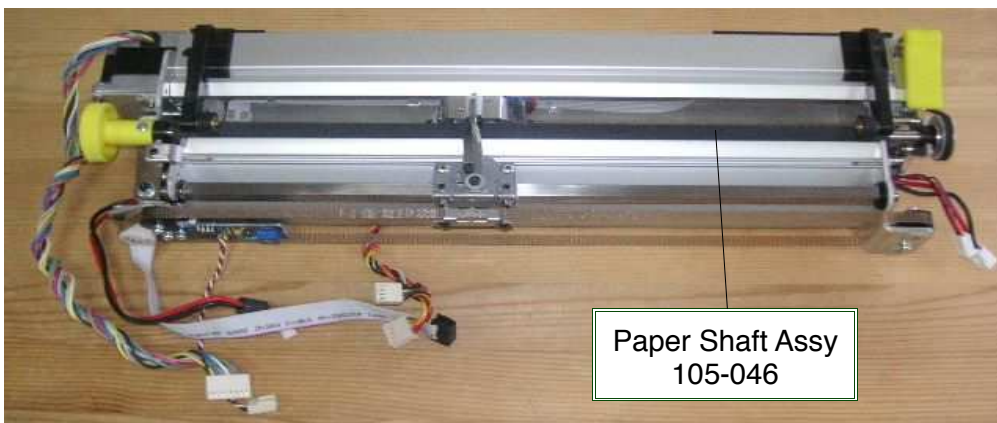


Main Battery 102-000

2. Then remove the battery.



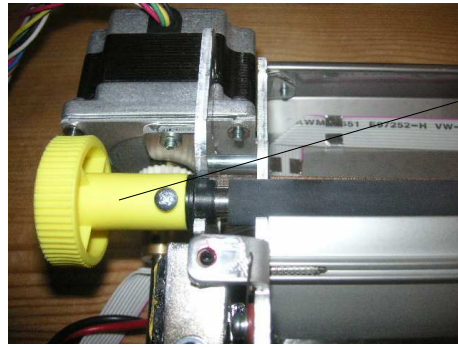
4) Removing the Paper Shaft Assembly



Paper Shaft Assy 105-046

Mountbatten Braille disassembling for service.

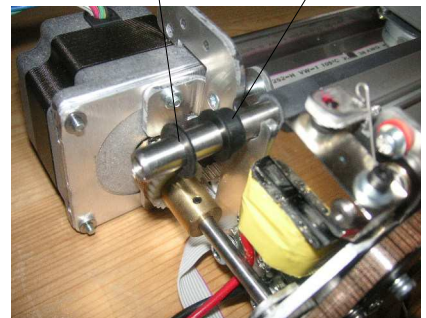
3. Remove the screw from the Thumbwheel 291-021, then remove the Thumbwheel, slide the bearing 290-102 and the washer 290-103 off.



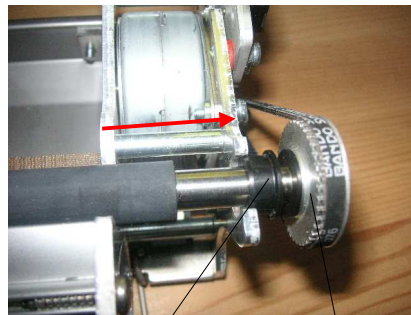
Thumbwheel
291-021

Washer
290-103

Bearing
290-102



4. Slide the second bearing and washer to the right from their location slot in the chassis. Then take the belt off from Paper Shaft Pulley.



Bearing and
washer

Paper Shaft
Pulley 201-700



Belt – MB
Paper 391-000

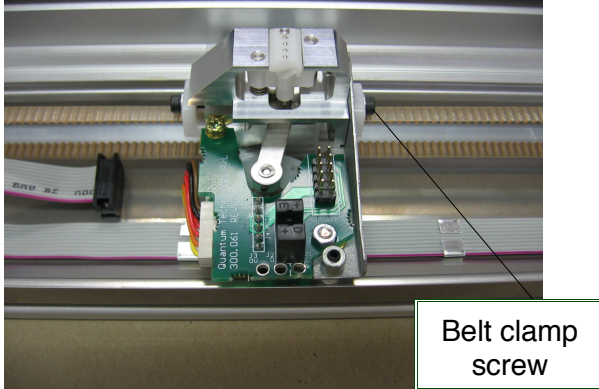
5. Shift the shaft horizontally to the right to remove it from the housing.



Paper Shaft
Assy 105-046

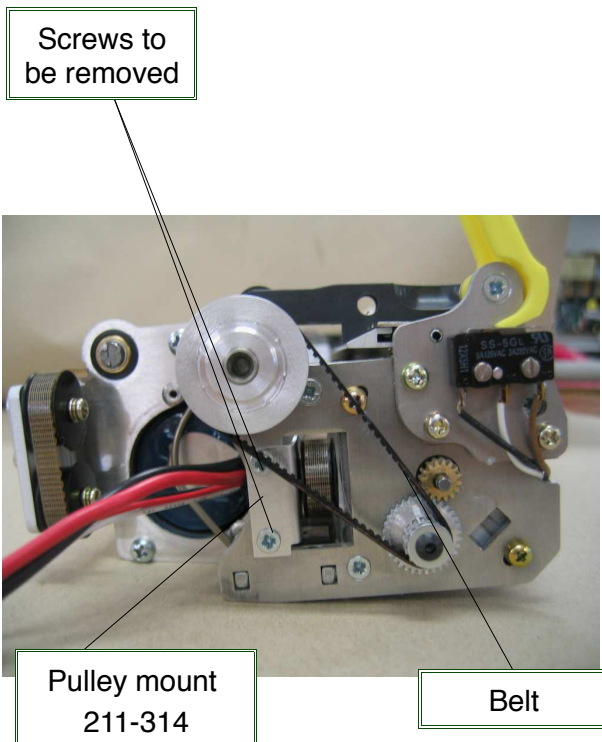
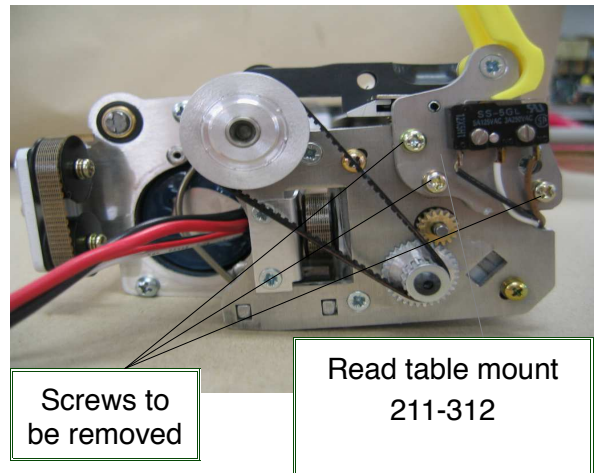
5) Removing the Paper Motor assembly

3. Remove the reading table as per the earlier section.



1. Remove the belt clamp screw on the right-hand side (opposite the data cable), and retain the belt in the **clamp with a rubber band or similar**.
2. The screw and the clamp on the other side have been adjusted correctly for the head alignment.
3. It will be easier to assemble and align the head when reassembling.

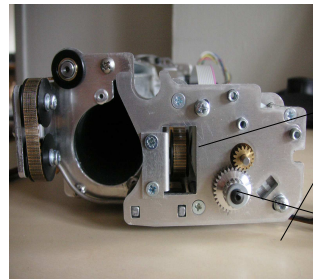
4. Remove the indicated screws; note the serrated spacers between the plates.
5. Remove read table mount.



1. Remove belt.
2. Remove the 2 indicated screws.
3. Remove pulley mount.

Mountbatten Braille disassembling for service.

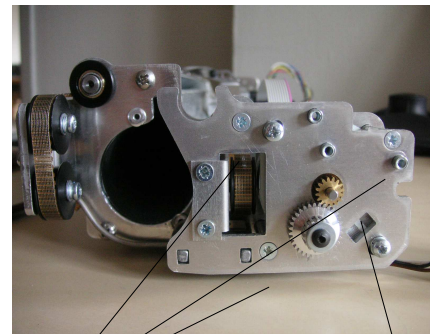
1. Remove 2 screws, washers and nuts.
2. When reassembling do not screw them too tight.
3. Remove cap screw and gears.



Screws to be removed

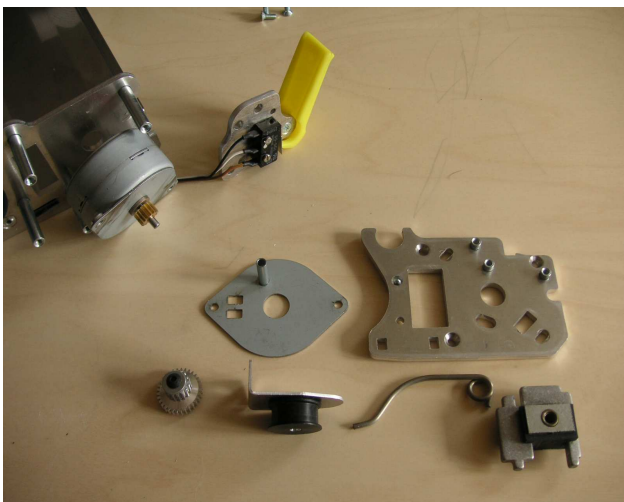
Cap screw and gears

1. Remove 3 screws.
2. Remove right frame secondary plate.



Screws to be removed

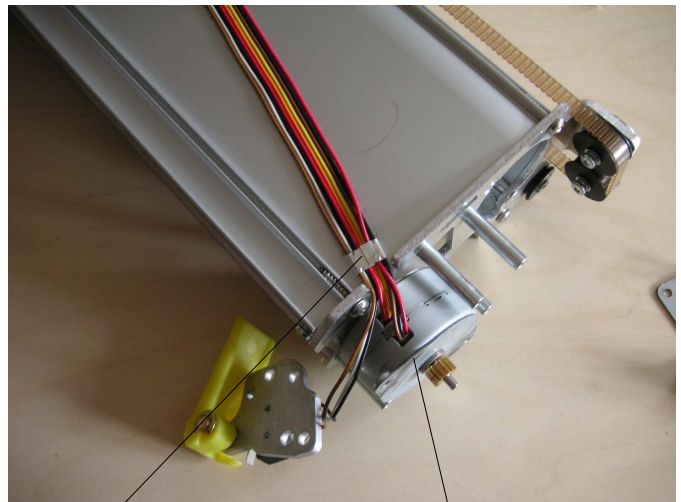
Right frame secondary plate
211-311



1. Collect all the parts shown on the corresponding diagram and store securely.

Mountbatten Braille disassembling for service.

2. Unfold the clamp and peel off the paper motor power cables
3. Remove the paper motor.

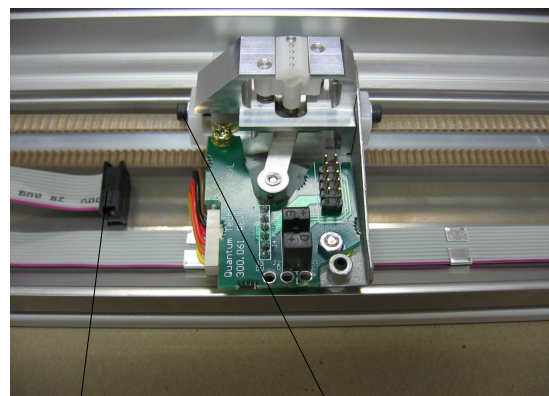


Clamp
475-154

Paper motor
PF42-24D1

Removing the Head & Die assemblies.

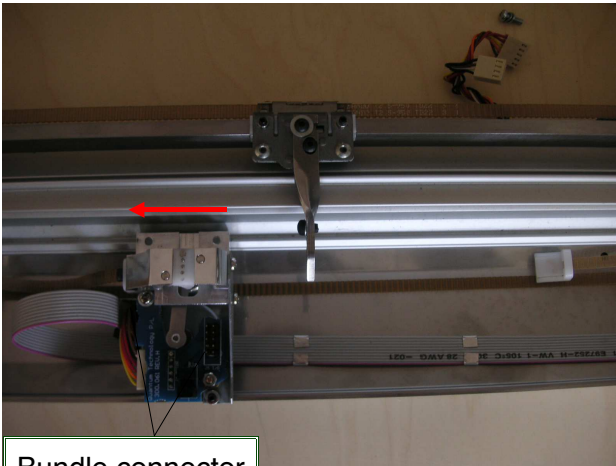
1. Remove the belt clamp screw on the right-hand side (opposite the data cable), and retain the belt in the clamp with a rubber band or similar.
2. Disconnect the bundle connector.



Bundle connector

Belt clamp screw

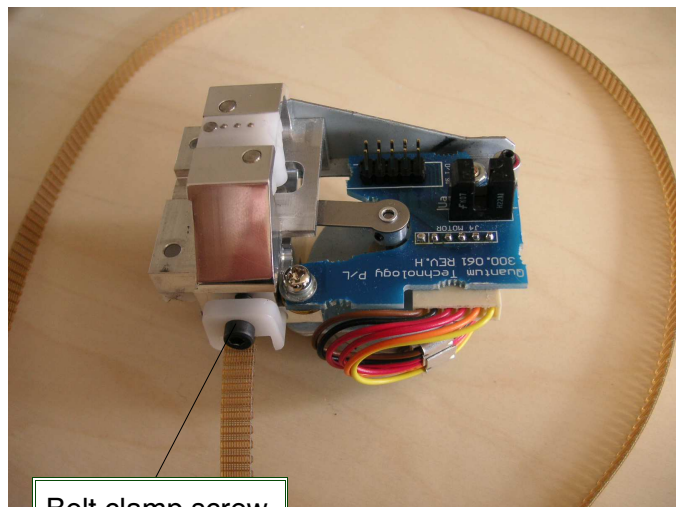
Mountbatten Braillel disassembling for service.



Bundle connector

1. Slide the Head to the left and remove it from battery tube's fence.

2. Remove the belt clamp screw and retain the belt in the clamp with a rubber band or similar.



Belt clamp screw.

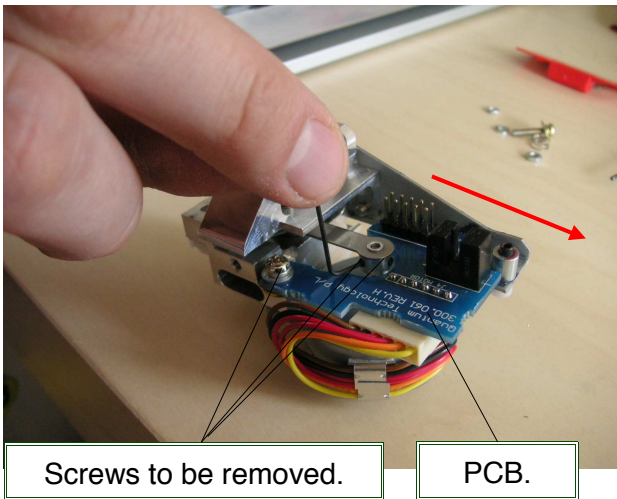
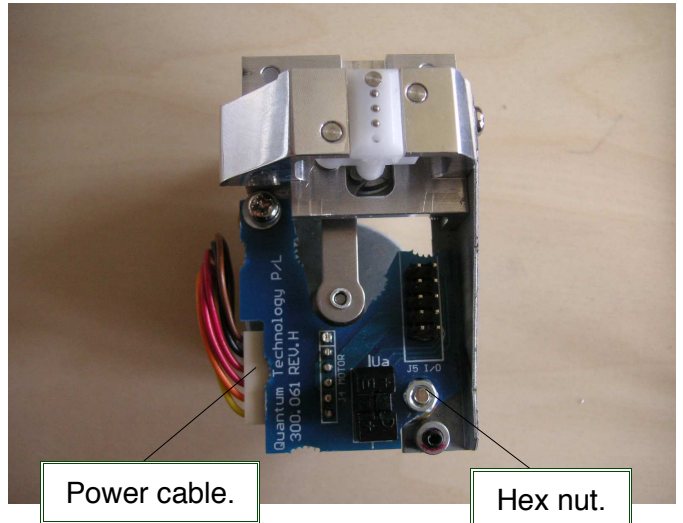
3. Remove 2 screws.



Screws to be removed.

Mountbatten Braille disassembling for service.

4. Disconnect the power cable and remove the hex nut.



5. Remove 3 screws, gently lift the PCB and slide it away from the main head assy.

Mountbatten Braille disassembling for service.

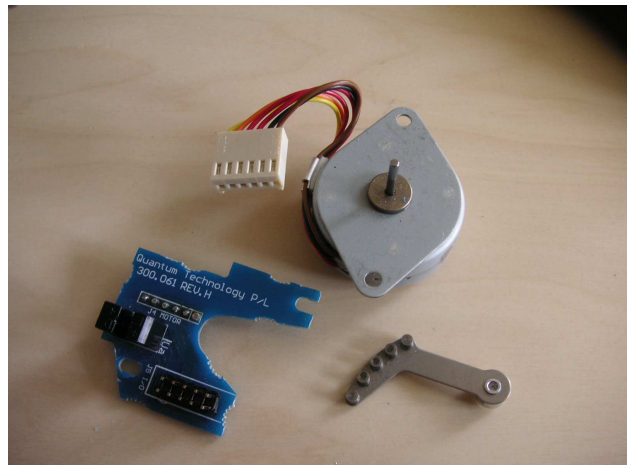


Daisy arm.

Head motor.

7. Slide the motor from the main head assy.
8. Take gently off Daisy arm from the motor shaft.

8. Store securely all the parts from the diagram.



Chassis Service - Test Commands

The Mountbatten (MB) has pre-programmed test routines to aid mechanical alignment and servicing. It is advisable to run the MB with a charger connected for any long running test.

NOTE: To operate the MB without paper in the mechanism press the NL + SP keys.

Full page dot test

command dots 2,5 enter

Press the Command Key, press dots 2 and 5 together and then press the Enter key to begin the test.

The test produces a full page of dots, testing each dot pin individually and then a complete cell. When the bottom of the page is reached the unit reverses line feeds to the page top and then begins to braille over the page again.

NOTE: The braille paper will eventually wear through as it is re-brailled on successive passes of the sheet.

This test can be used to test the machine after alignment or mechanical repairs. Pause the test by pressing the Command Key; resume by pressing any blue key other than the Command Key; terminate the test by pressing any black key after pausing.

Burn-In

Enter the word "test" - dots 3,2,4,5 dots 1,5 dots 3,2,4 dots 3,2,4,5 - as a command to initiate burn-in: **command test enter**

This test is used as the 24hour+ power test for each machine in production. The machine should be set to run with no paper in the mechanism.

Every two minutes the Actuator will fire, the Head and Die Arm will traverse the mechanism, the Actuator will fire and the Paper Roller will line feed and the Head Motor will reset the daisy arm.

13-Line Test

Enter L <space>13: **command dots 1 2 3 space dots 1 3 enter**

A pattern similar to that produced in the Full Page Dot Test is made. However each line is repeated 13 times before the paper is linefed and then the second line is brailled 13 times and so on.

One page of braille paper can be used to simulate 13 pages of test Braille.

Tools Required for Servicing

Part	Specifications	Harpo Part number
Hex (Allen Keys):	0.89mm, 1.5mm & 2.5mm	
Belt Weights:	62gm	
Feeler Gauge Set	0.020" to 0.030"	

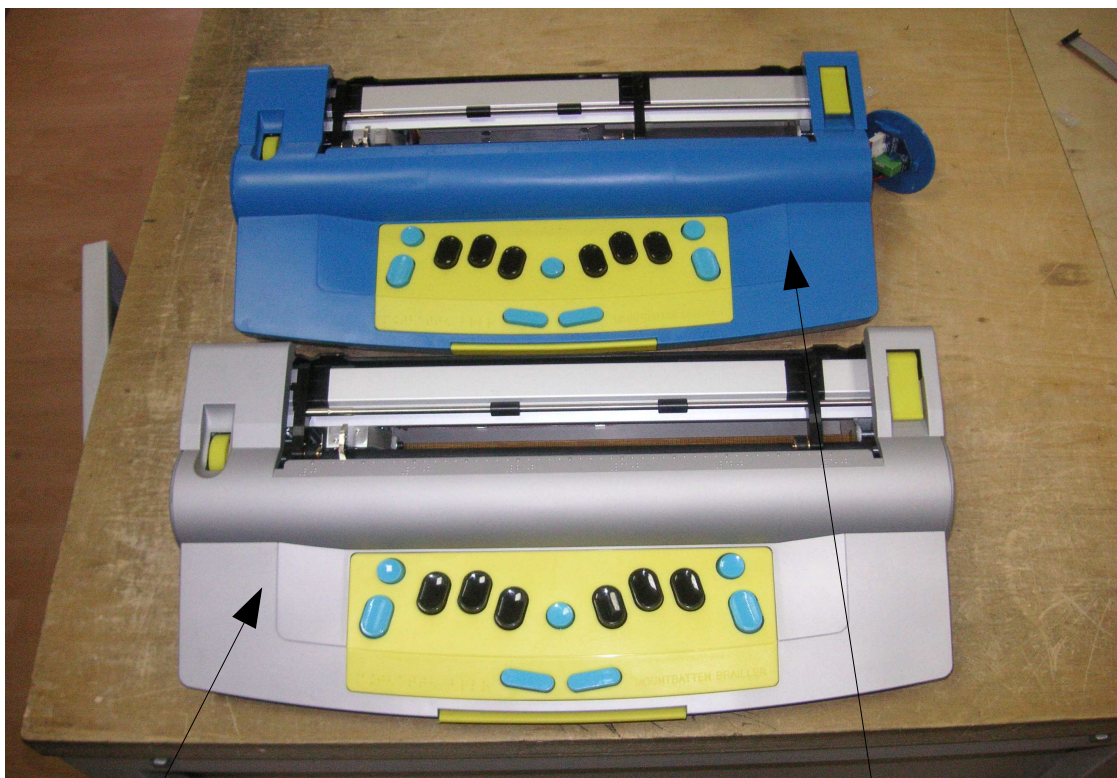
Mountbatten and Mountbatten Whisperer comparison.

9. Mountbatten and Mountbatten Whisperer comparison.

1. Top cover.

The main difference when you compare two Mountbattens is the color of the Top cover. The old one (291-101LS) is located on top on the picture below, whereas the new one (291-105LS) is underneath.

Apart from the color change newer one also gives the rubber feeling when you slide your hand on its external surface.



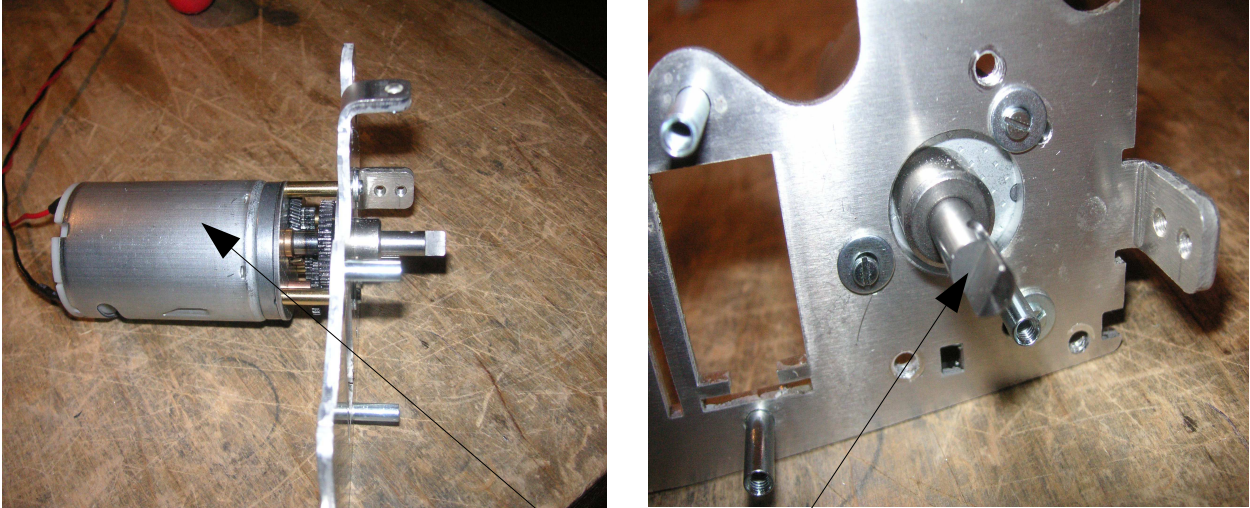
291-105LS

291-101LS

Mountbatten and Mountbatten Whisperer comparison.

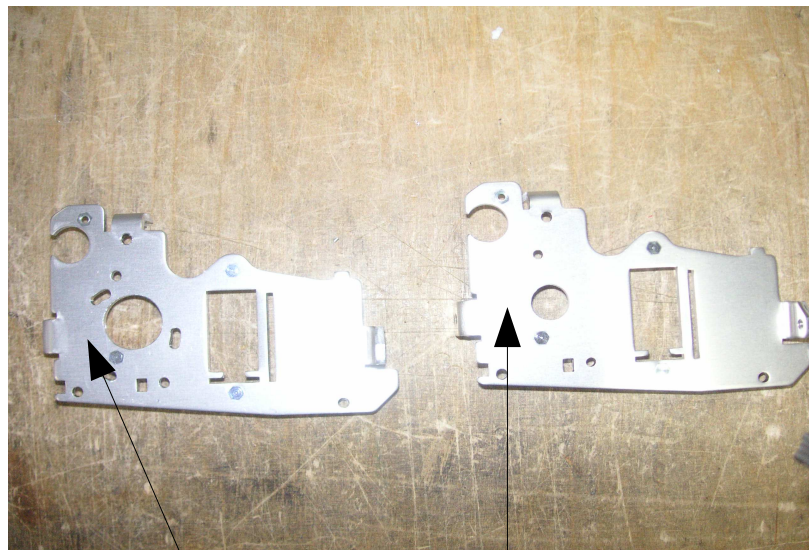
2. Chassis.

2.1 In general there is a completely new steering method. There is no longer Actuator responsible for embossing dots. It was replaced with a embossing motor 304-101.



304-101

Embossing Motor is mounted to Left Hand Frame, which is also modified and changed its index number from 211-300 to 211-306 (**only for Whisperers!**).

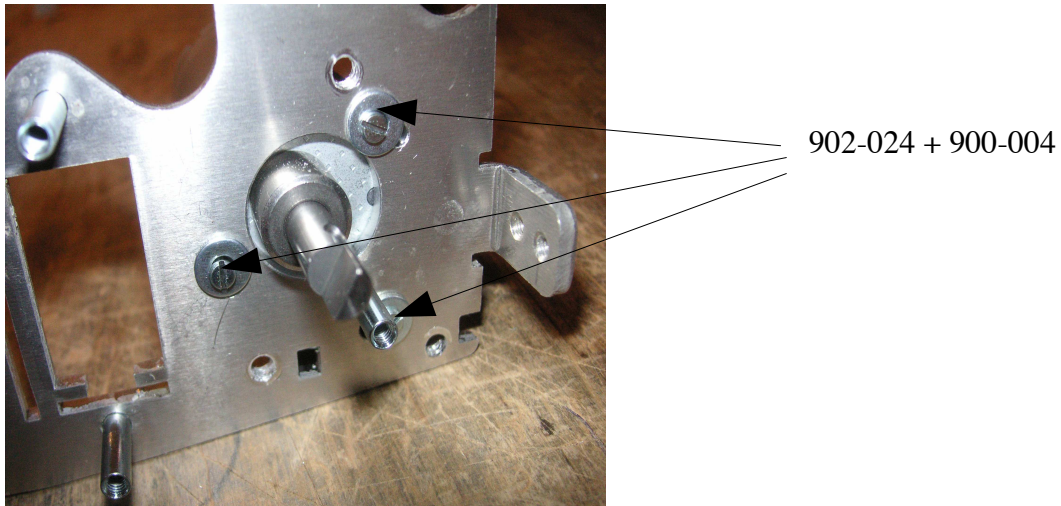


211-306

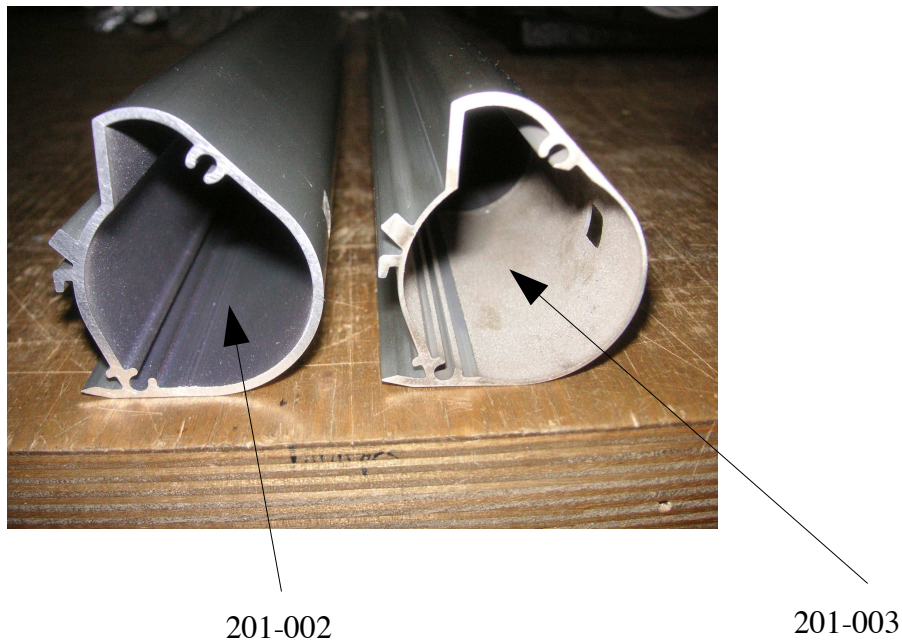
211-300

Mountbatten and Mountbatten Whisperer comparison.

There are extra holes that are used for assembling the Embossing Motor.
You need 3 902-024 Washers and 3 900-004 M2x25 Screws for the mount.



2.2 When Embossing Motor is assembled to Left Hand Frame Battery Tube is needed, which by the way is also modified and gets new index 201-003 (**again only for Whisperers!**)

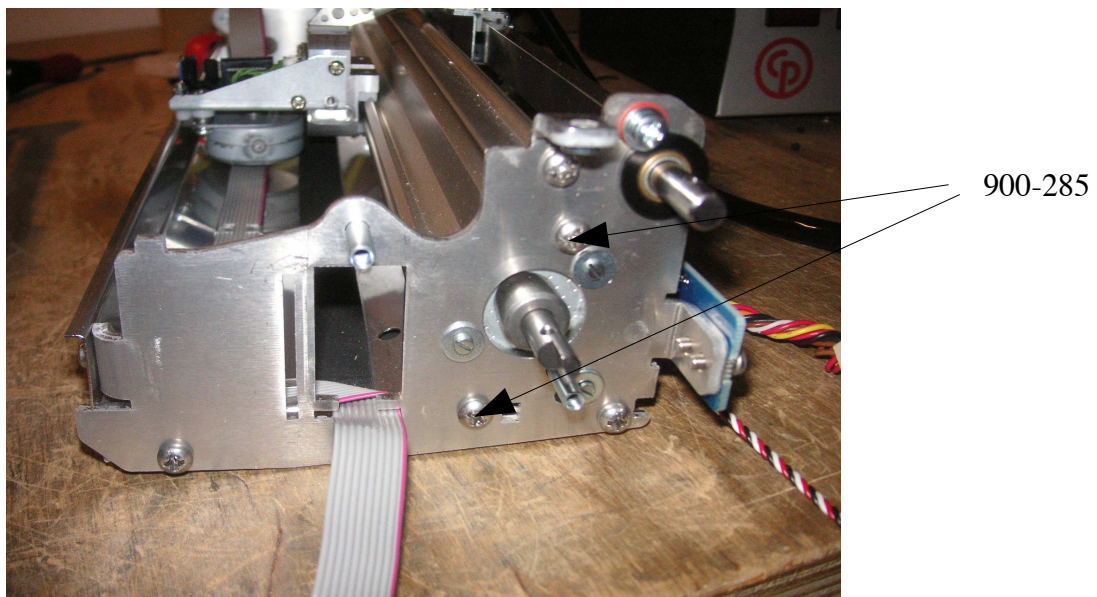


Mountbatten and Mountbatten Whisperer comparison.

The only difference between the two tubes is the diameter of the hole. Previously it only held the Main Battery 102-000 inside. Now it also stores the Embossing Motor, therefore hole diameter increased.



To attach the Left Hand Frame mount into the Battery Tube 2 self-tapping screws 900-285 are needed.

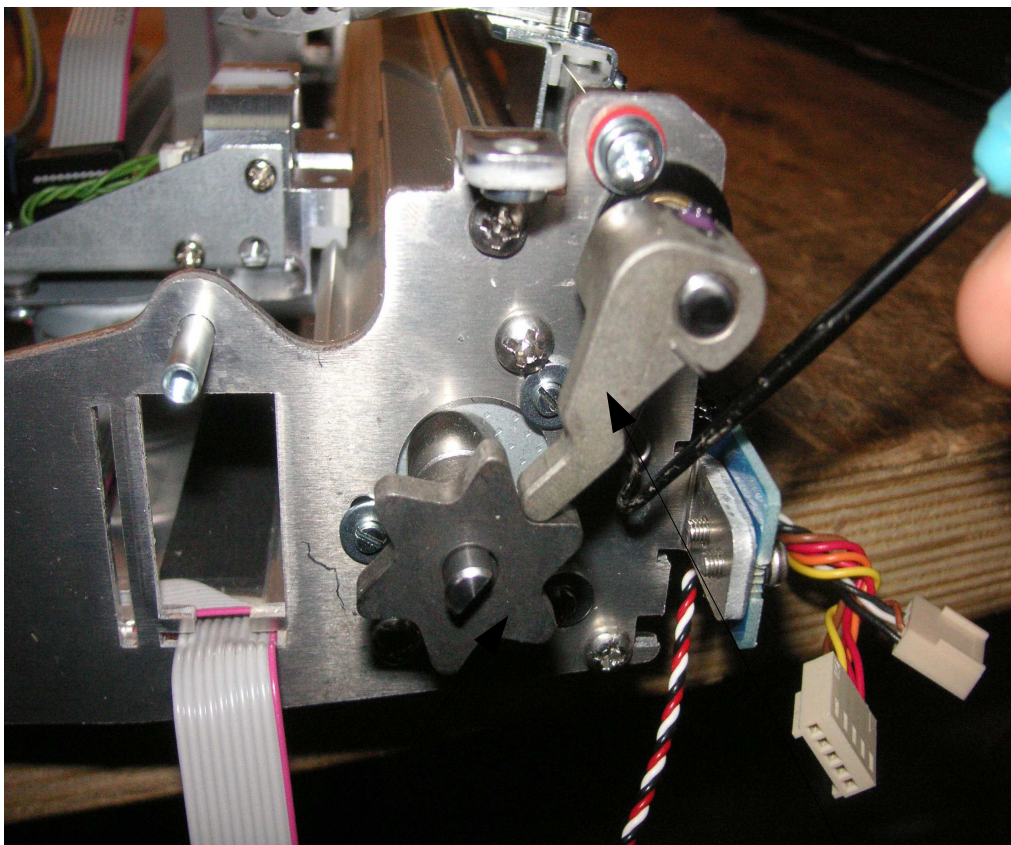


Mountbatten and Mountbatten Whisperer comparison.

2.3 As earlier said there is no longer actuator needed. It has been replaced by the Cam (6 Teeth Gear Wheel) 212-008 and Follower 212-007.

Cam is assembled straight onto the Embossing Motor shaft with 4 900-042 Socket Head Grub Screws (2 on each side of the cam). **Apply Loctite 222 to grub screws when assembling.**

Follower is assembled onto the Embossing Bar 207-002 with 3 900-042 Socket Head Grub Screws . **Apply Loctite 222 to grub screws when assembling.**

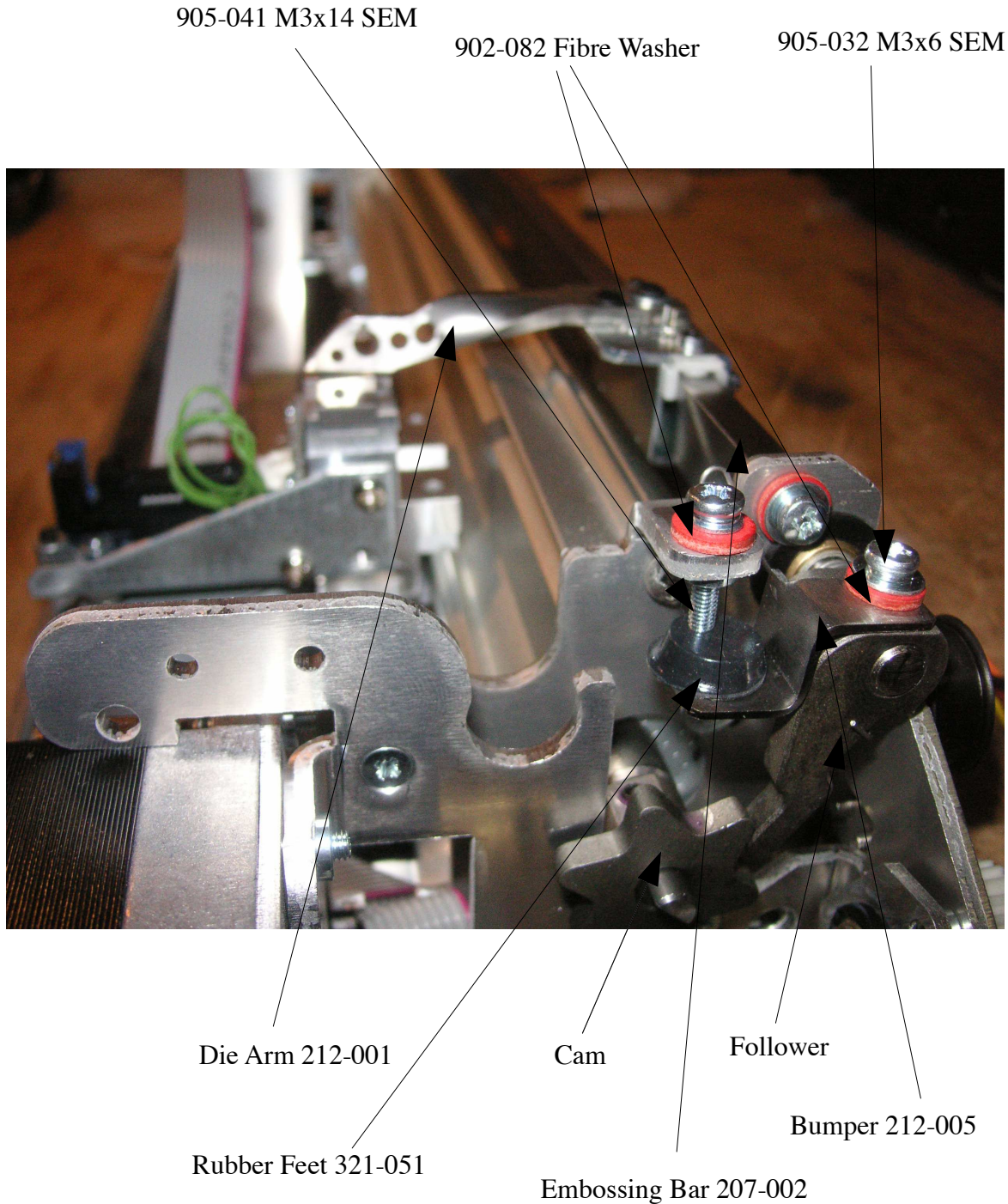


212-008

212-007

Mountbatten and Mountbatten Whisperer comparison.

When you press any key on Mountbatten keyboard Embossing Motor driven by the electronics will rotate clockwise for about 60° (1 teeth movement on cam). This will make the follower to rotate counterclockwise and the whole torque will go through the Embossing Bar 207-002 onto Die Arm 212-001 and striking force will emboss the dots on a sheet of paper. See the picture below for reference.



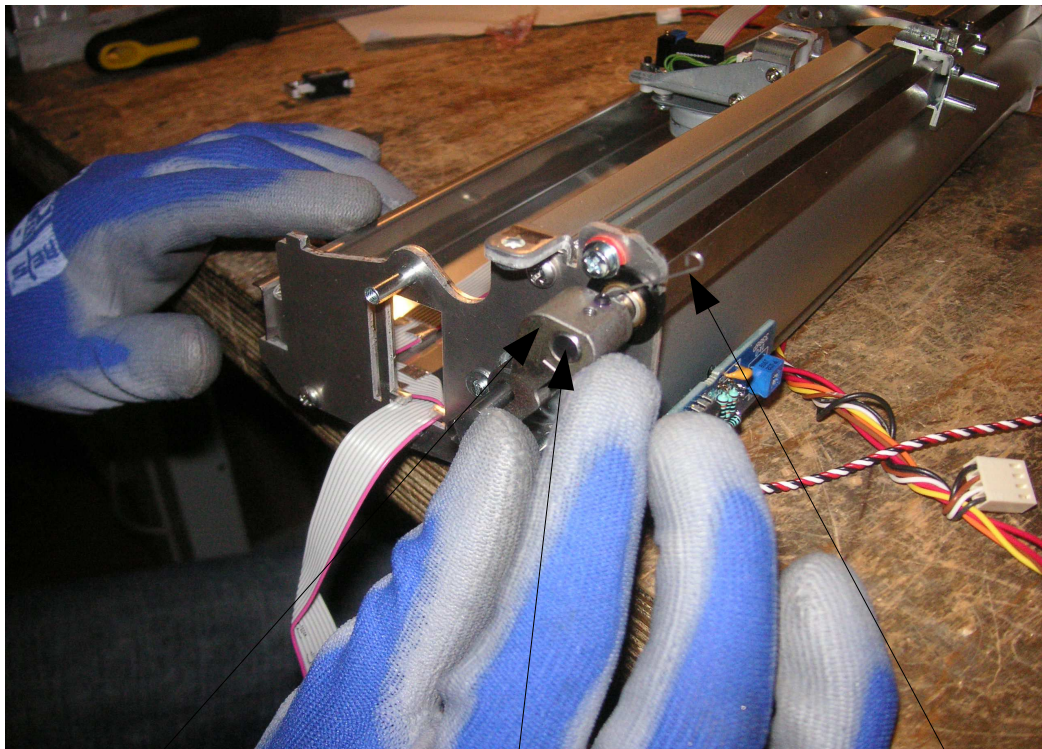
Mountbatten and Mountbatten Whisperer comparison.

There is also a Bumper 212-005 that prevents the Embossing Bar Assembly from unchecked movement. It locks the Follower on its marginal positions (after the whole embossing process stopped), where it awaits for further actions. Bumper is mounted onto the Follower with a 905-032 M3x6 SEM and 902-082 Fibre Washer.

To set the marginal positions for Bumper you require 321-051 Rubber Feet and 905-041 M3x14 SEM + 902-082 Fibre Washer.

To adjust the cam and follower assembly correctly follow the steps below:

a) Put the follower on the embossing bar end, make sure there is already 390-058 spring on the bar mounted.



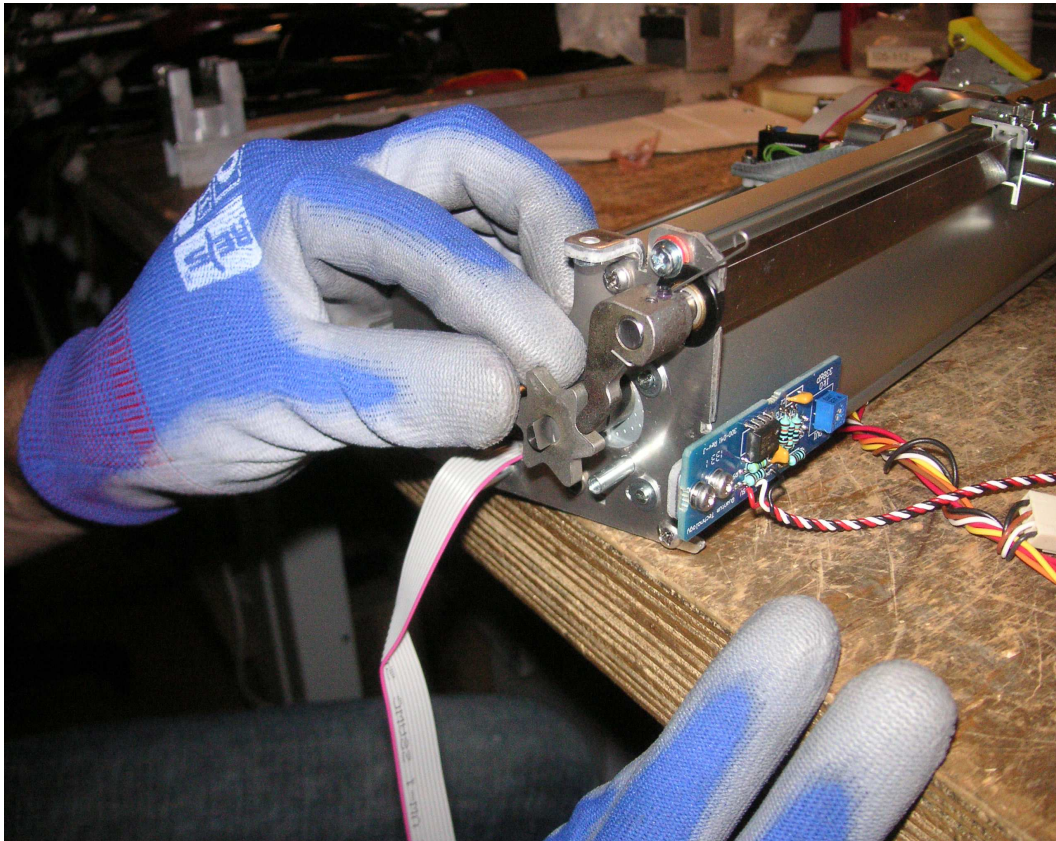
Follower

390-058

Embossing bar end

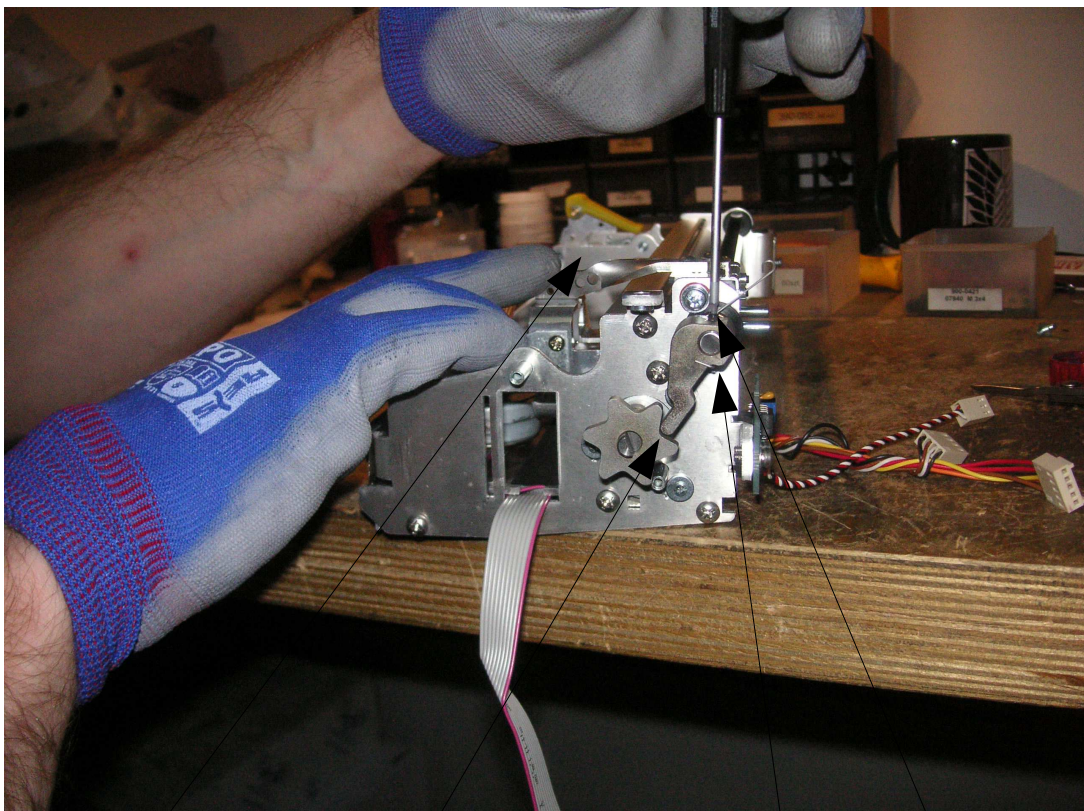
Mountbatten and Mountbatten Whisperer comparison.

b) Put the 6 teeth gear wheel on the Embossing motor shaft.



Mountbatten and Mountbatten Whisperer comparison.

c) make sure the cam against follower is in the same position as in the picture below. Then press the Die Arm with one hand and screw the 3 900-042 Socket Head Grub Screws with the order line that is indicated on the picture.



Die Arm and Head Assy.
below

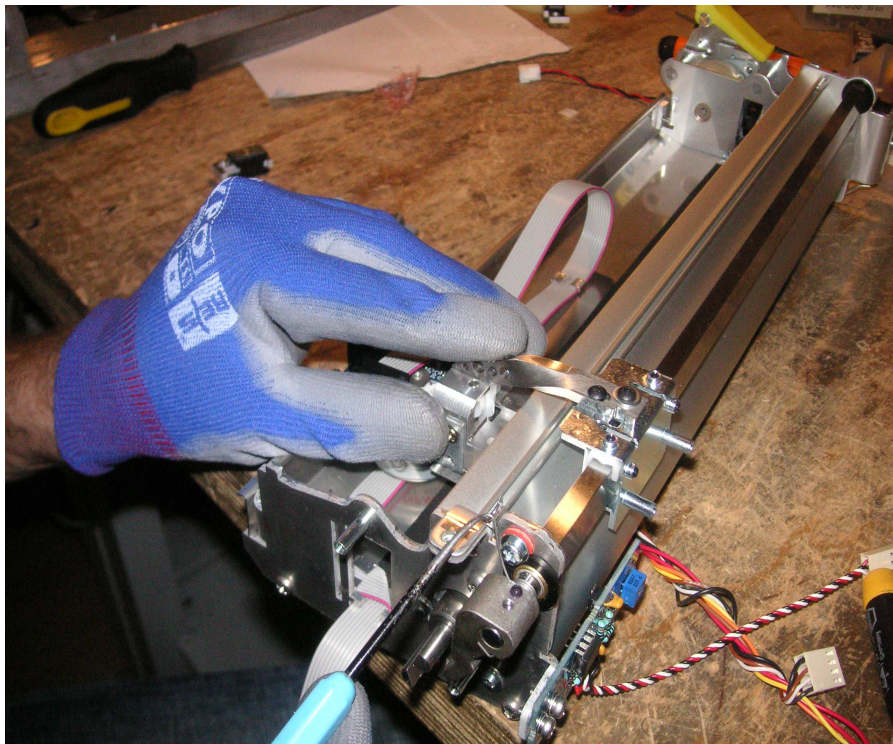
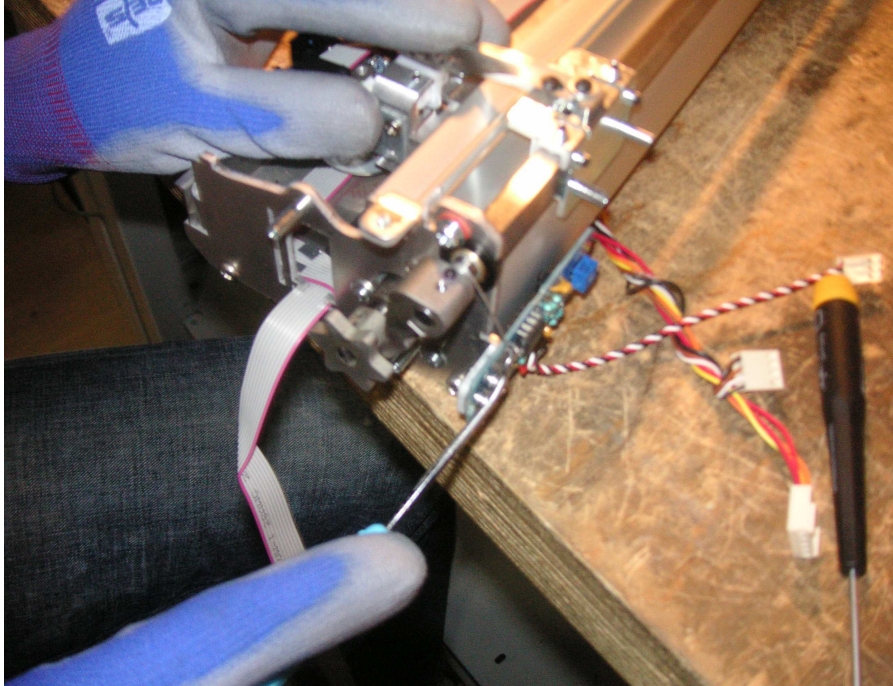
Cam against follower
correct mounting position

900-042 to be tightened as
2nd and 3rd

900-042 screw to be
tightened as 1st

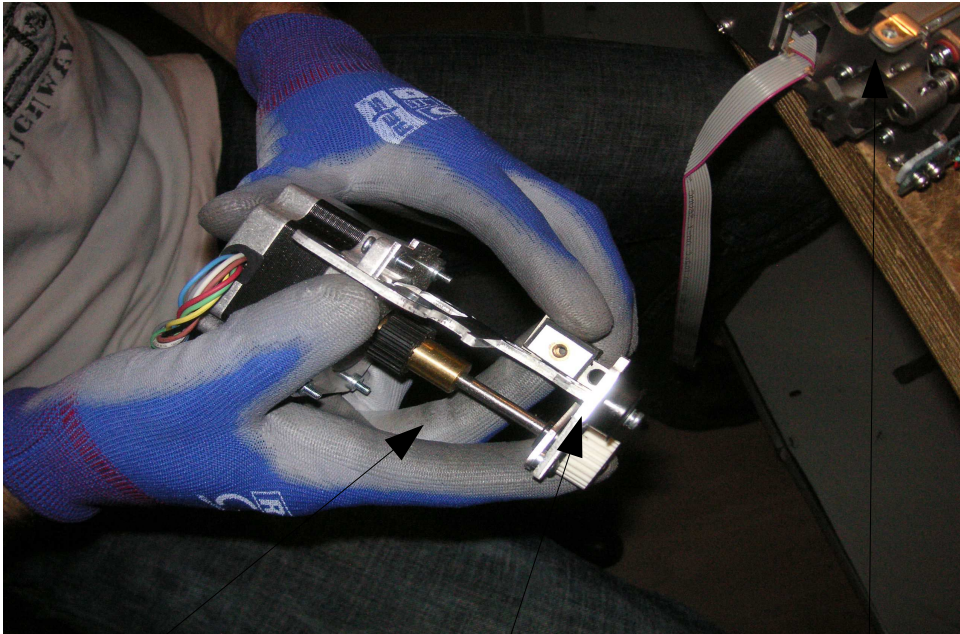
Mountbatten and Mountbatten Whisperer comparison.

d) Grab the spring loop with tweezers (or any kind of tool that will hold the spring firmly) and bend it around the embossing bar, behind the Follower, until it clutches on the Left Hand Frame as shown below. You might hold the Die Arm with one hand to get better grip.



Mountbatten and Mountbatten Whisperer comparison.

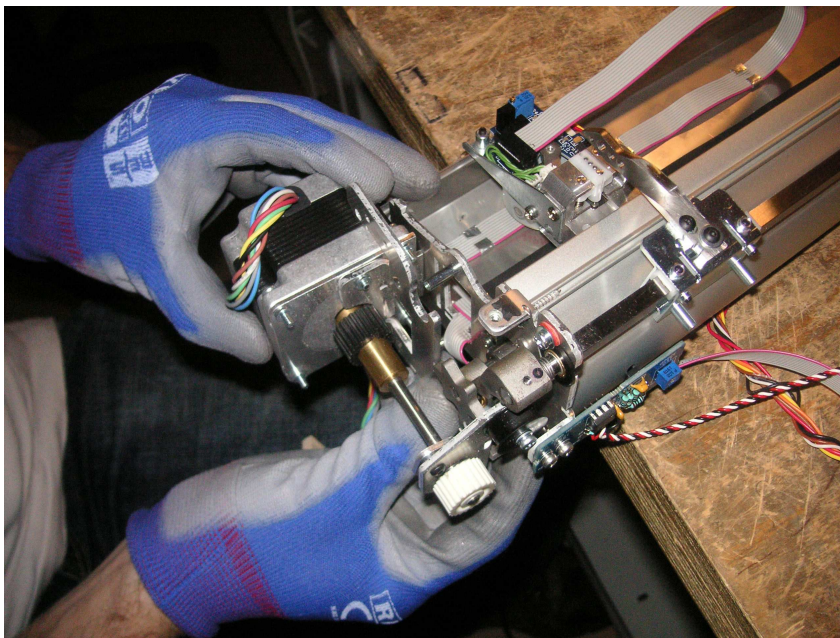
e) Mount the Carriage Motor assembly to the Left Hand Frame.
Make sure you secure the Grommet inbetween the Carriage Motor Assy. and Left Hand Frame.



Carriage Motor Assembly

Grommet

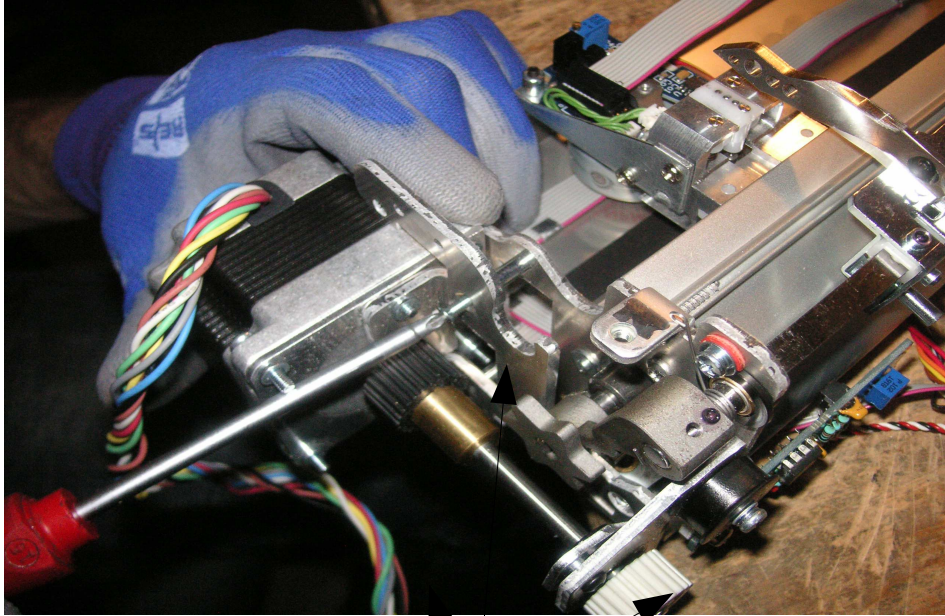
Left Hand Frame



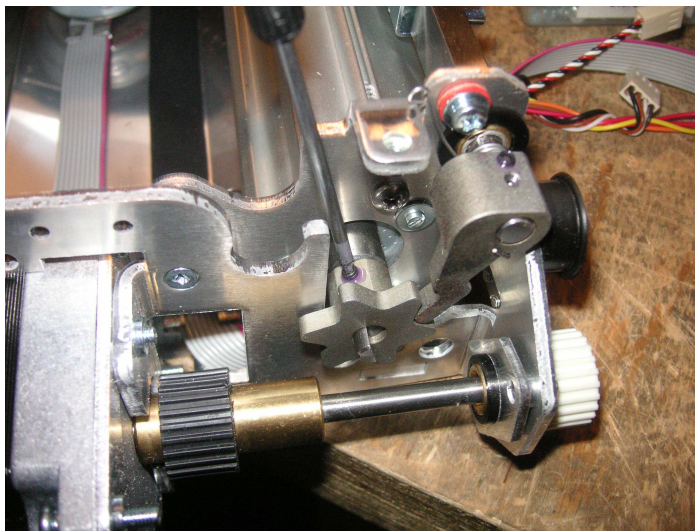
When assembling the Carriage Motor Assy. onto Left Hand Frame move the Cam on the Embossing Shaft towards yourself a bit to make the whole process easier.
Make sure it stays on the shaft still though!

Mountbatten and Mountbatten Whisperer comparison.

Use 3 M3x8 900-040 Screws to secure Carriage Motor Assy. on Left Hand Frame and slide the cam back on its original position. Make sure it front Cam and Follower facests are aligned.



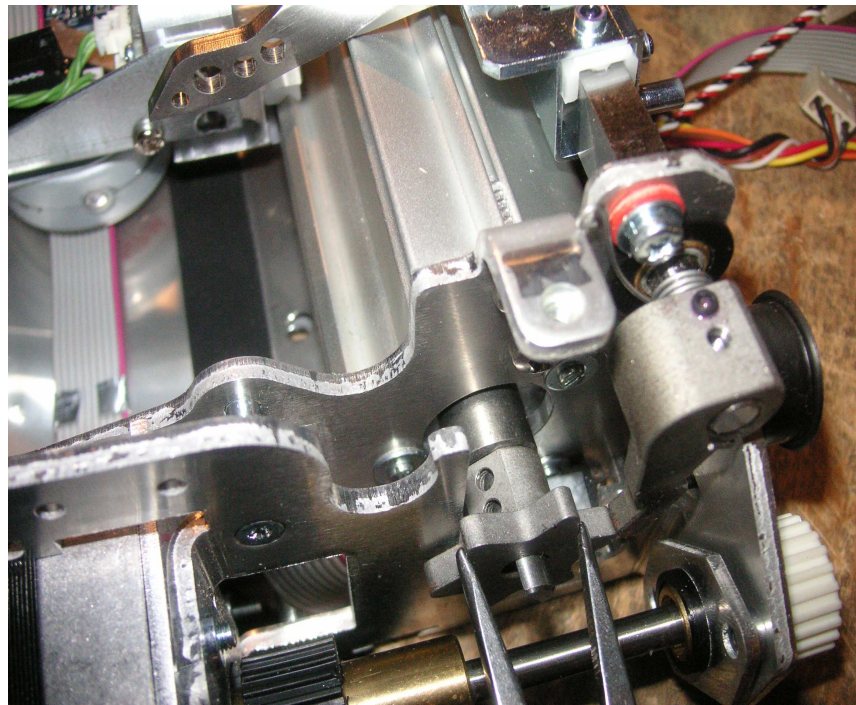
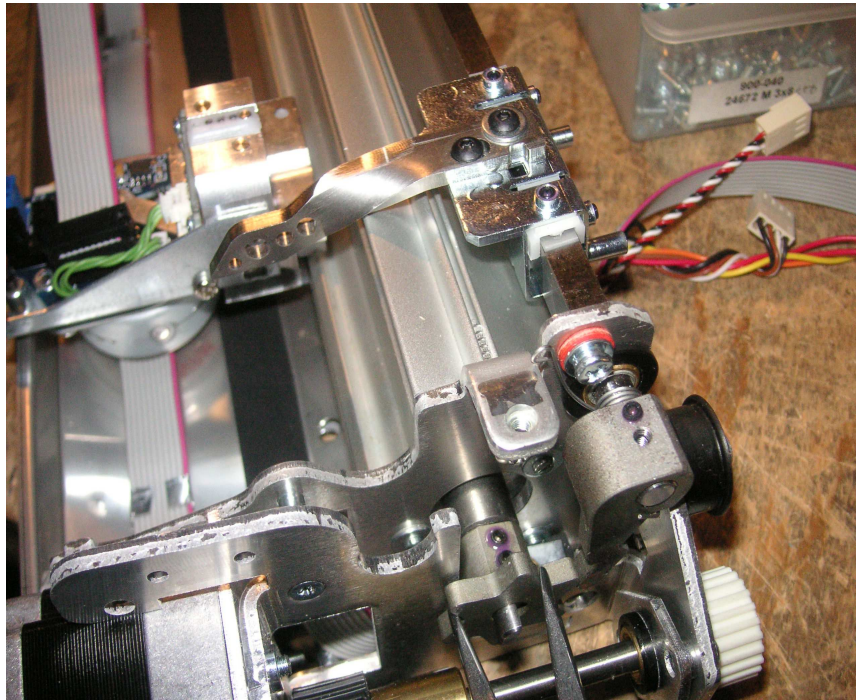
3 M3x8 900-040



Tighten Cam into the Embossing Motor shaft with 4 900-042 Socket Head Grub Screws (2 on each side of the cam). **Apply Loctite 222 to grub screws when assembling.**

Mountbatten and Mountbatten Whisperer comparison.

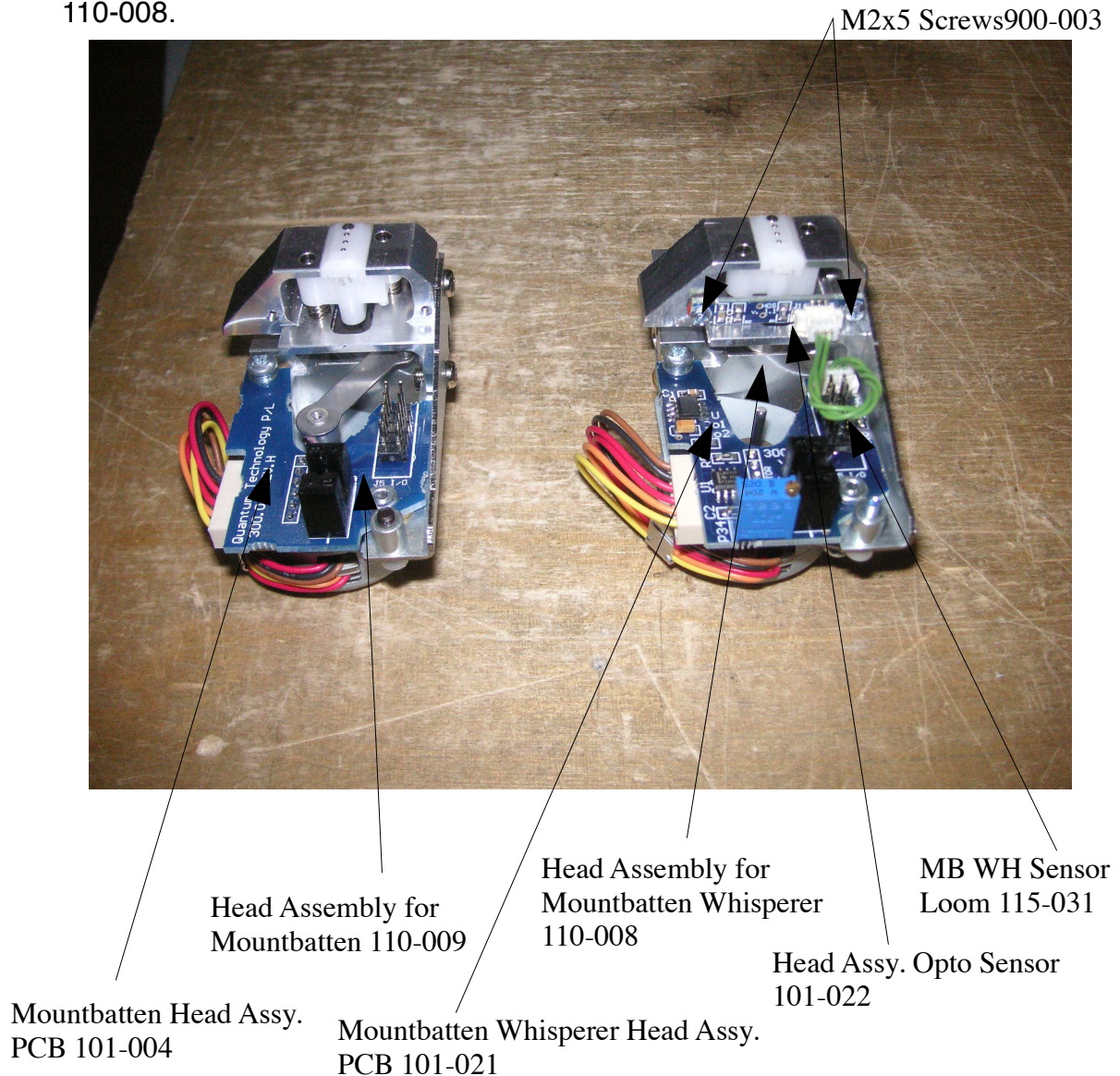
Use pliers to rotate the Cam on Embossing Motor Shaft, whilst screwing the bolts on each side of the Cam. To make this easier you might break the align inbetween the Die Arm and Head Assy. Whenever you tighten all 4 bolts, you need the Die Arm and Head Assy. aligned back.



Mountbatten and Mountbatten Whisperer comparison.

2.4 New Head Assembly.

In order to maintain the control over the whole embossing process and keep it stable entire time whilst operating the Mountbatten Whisperer we have also modified the Head Assembly and (for Whisperers only!) it has a new index now 110-008.



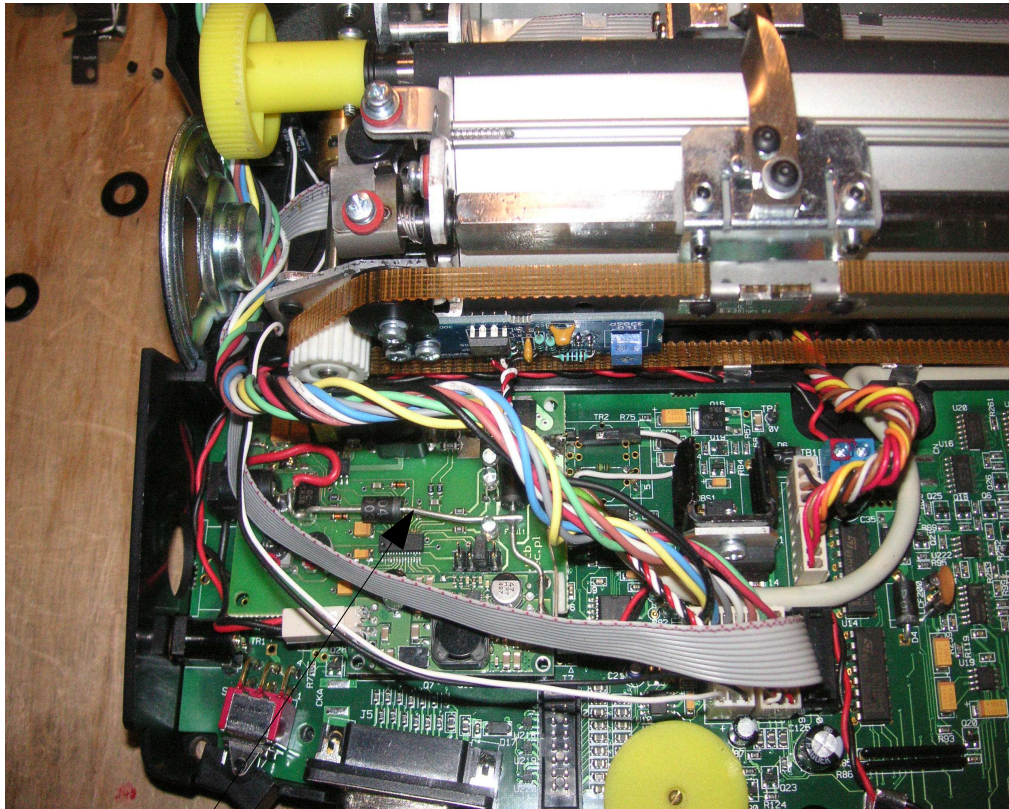
The key difference between the two is the extra opto sensor 101-022 on the 110-008 assy. It is connected to modified PCB 101-021, that includes the potentiometer used for adjusting the opto sensor operating range. The opto sensor gives the information about the current position of the embossing motor and embossing bar. It is needed to prevent the whole unit from jamming.

To mount the Opto Sensor on the Head Assembly 2 M2x5 900-003 Screws are needed. In order to do so two extra threaded holes were added onto the Head Body 201-211.

Mountbatten and Mountbatten Whisperer comparison.

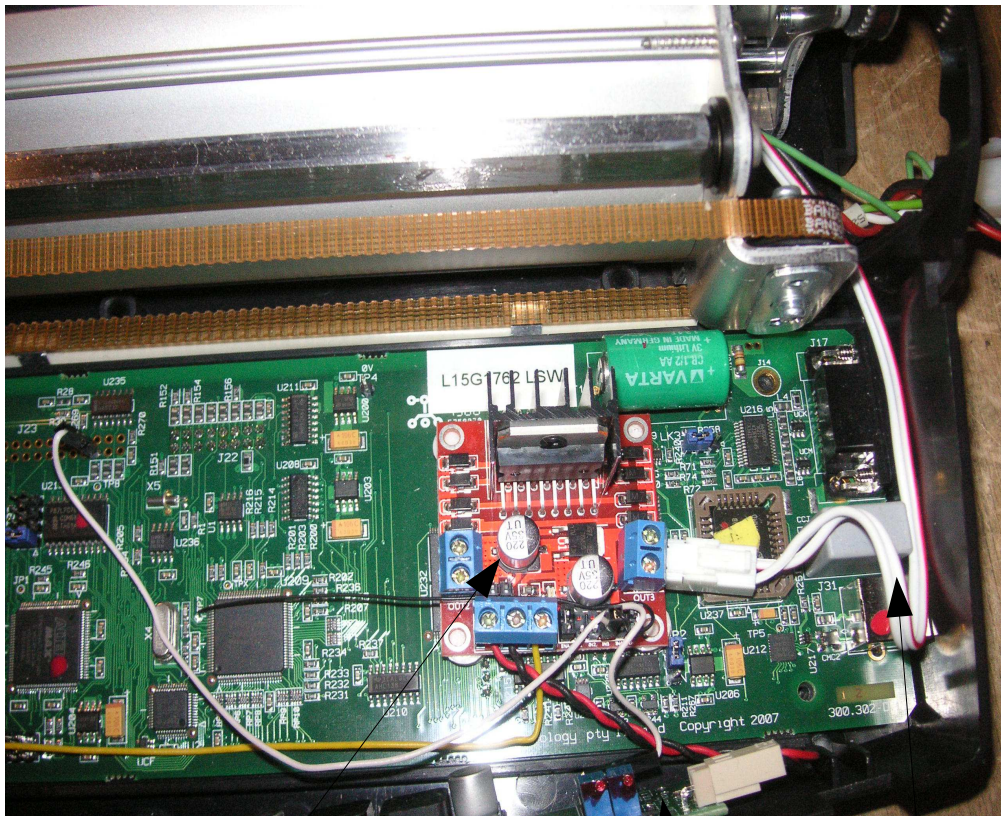
3. Electronics.

Chassis changes required changes in electronics as well, therefore there are several new modules inside The Mountbatten Whisperer.



New charger module for Li-Ion battery pack, integrated with new MB WH Mainboard PWA 101-201

Mountbatten and Mountbatten Whisperer comparison.



MB WH Motor Driver PWA
101-041

MB WH Motor Inverter PWA
101-031

Embassing Mottor bundle

There is a new Mainboard in Mountbatten Whisperer, because it is impossible to get the new functionality with the old one, hence the change.

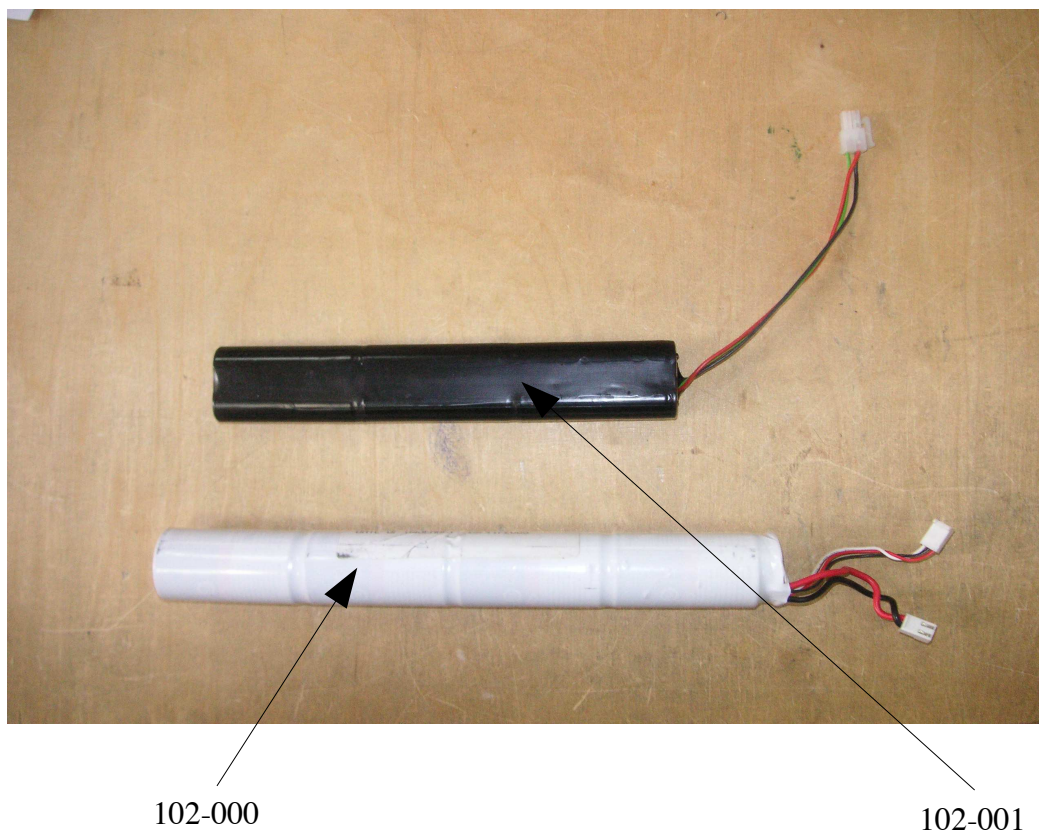
On the picture above there are two new extra modules: MB WH Motor Driver PWA 101-041 and MB WH Motor Inverter PWA 101-031. Motor inverter gives two different values of voltage to Embassing Motor. Depending, whether you operate the device in classroom mode (10V) , which is quieter or faster mode (14,5V) that is also a bit noisier.

Mountbatten and Mountbatten Whisperer comparison.

In previous model there was also a way to adjust the actuator striking force, due to the density of paper sheets and to reduce the noise level, whilst operating. With Mountbatten Whisperer you no longer have to worry about the striking force. Regerdless, whether this is 60g/m³ or 160g/m³ you should get the same quality of embossed dots, under the same noise level.

3.1 Battery

As mentioned earlier we have changed the charger and also switched from acid type battery 102-000 to Li-Ion type battery 102-001. Thanks to the newer battery construction Mountbatten Whisperer can now operate continuously for about 4 working hours straight, whereas it was operational for 40 minutes tops with old battery. It is mounted onto the battery tube and this has not changed.



Mountbatten and Mountbatten Whisperer comparison.

3.2 Power supplier.

With the new battery and charger we also had to replace power supplier. Old power supplier 006-022 from Mountbatten is now replaced with 006-023 MB WH 15V 6A Power supply. The only difference between them two is the plug end and the voltage (9V in 006-022 and 15V in 006-023).



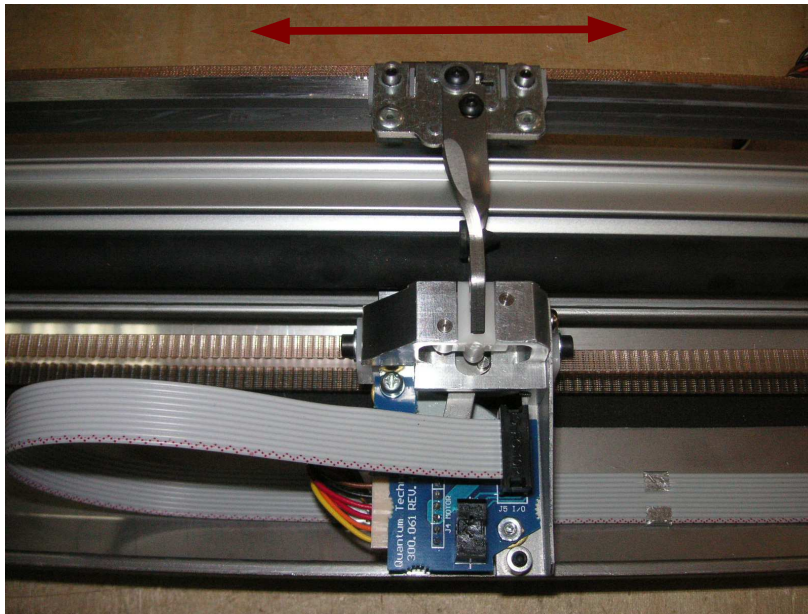
006-022

006-023

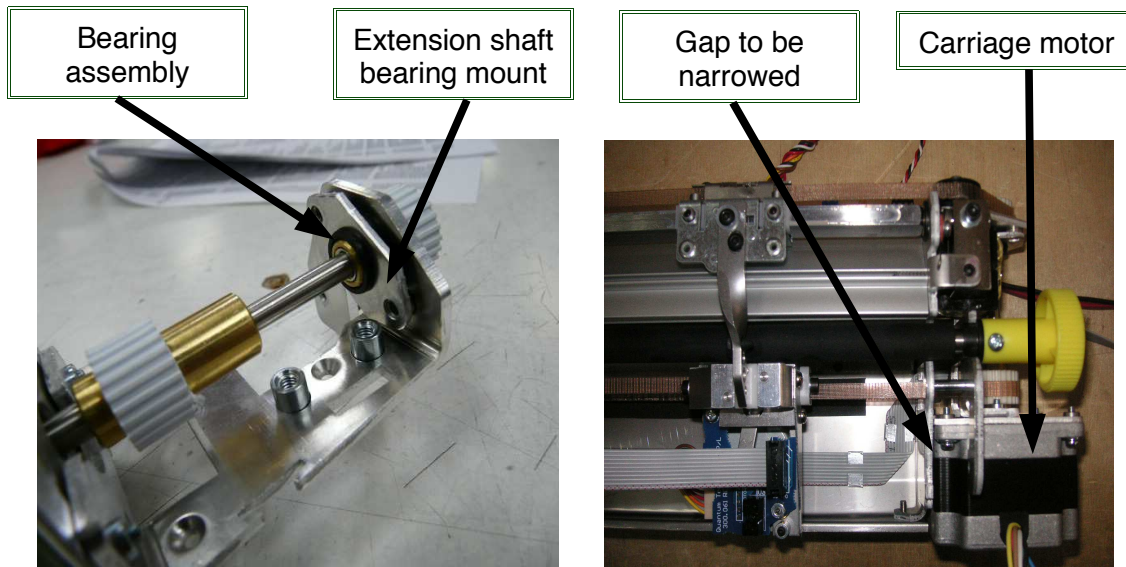
10. Head adjustments service tips

Problem 1:

Head moves in short leaps.

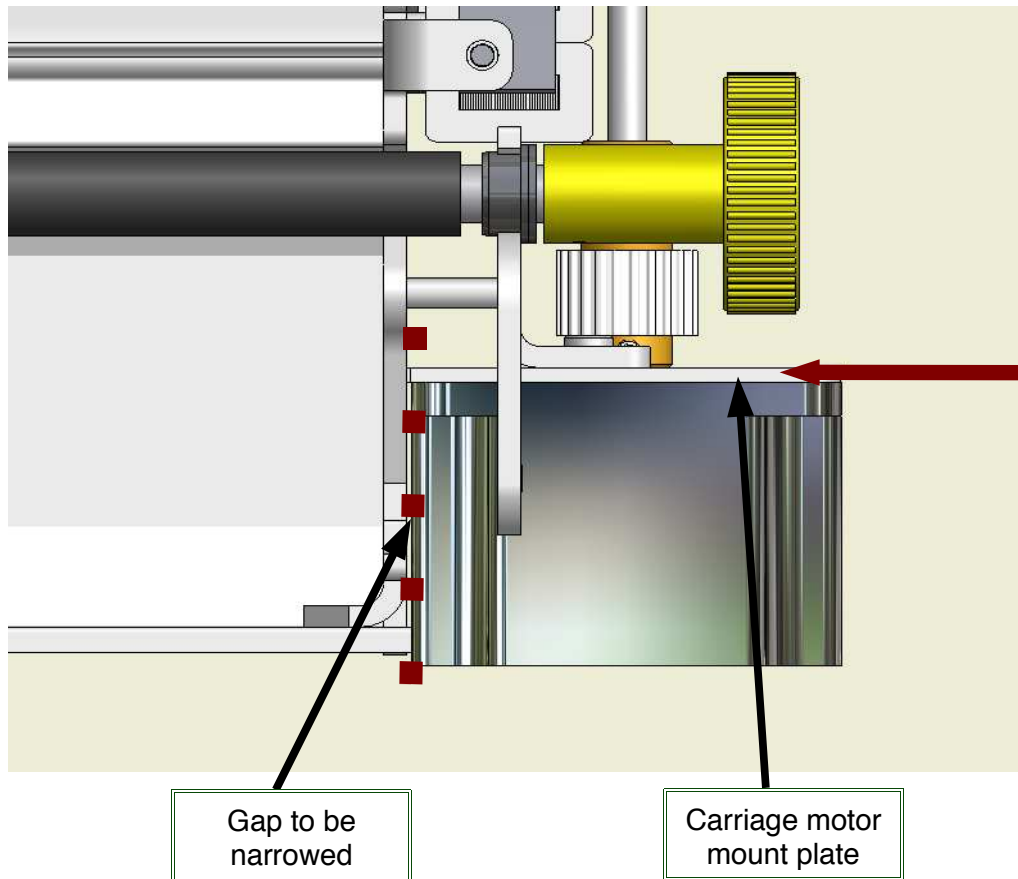


The Cause:



Either bearing assembly has been set incorrectly and may need adjustment or the gap between the Carriage Motor Mount (211-302) and Left Frame Main Plate Stud Assy is too big and needs to be narrowed.

Solution:



Use light hammer and knock Carriage Motor Mount plate (211-302) indicated with red arrow on the diagram above gently. **DO NOT KNOCK ON THE CARRIAGE MOTOR!** until the gap gets narrowed. This should reduce the stress on Carriage motor shaft and Head movement will not be affected anymore.

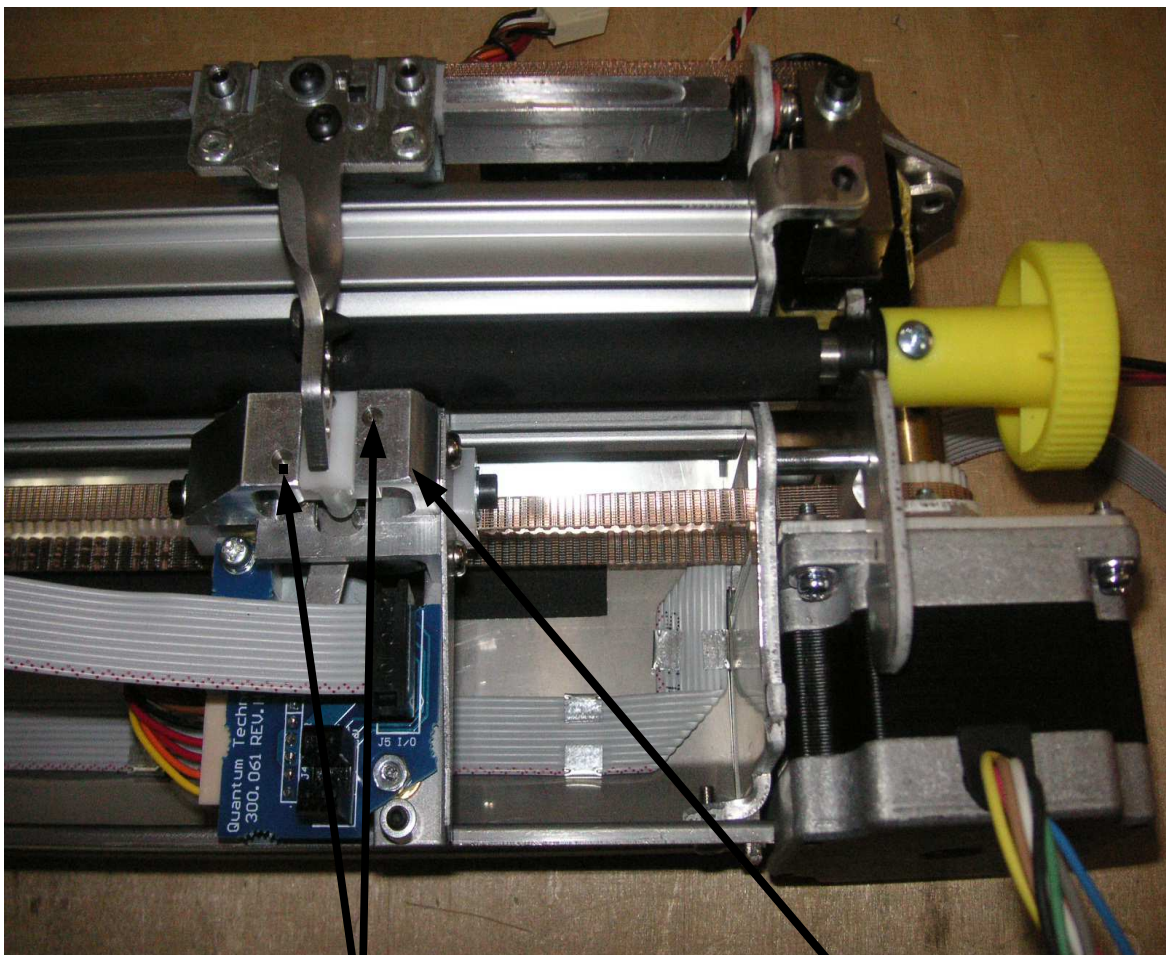
Mountbatten Head Assembly service tips.

Problem 2:

Head, whilst operating makes trembling, unpleasant noise.

The Cause:

Either Mount Shaft (205-421) diameter is too small against the corresponding hole in Head Frame (201-211) or the hole is too big against the Mount Shaft. The fitting is too loose and due to the Head movement trembling noise may occur.



Mount shaft

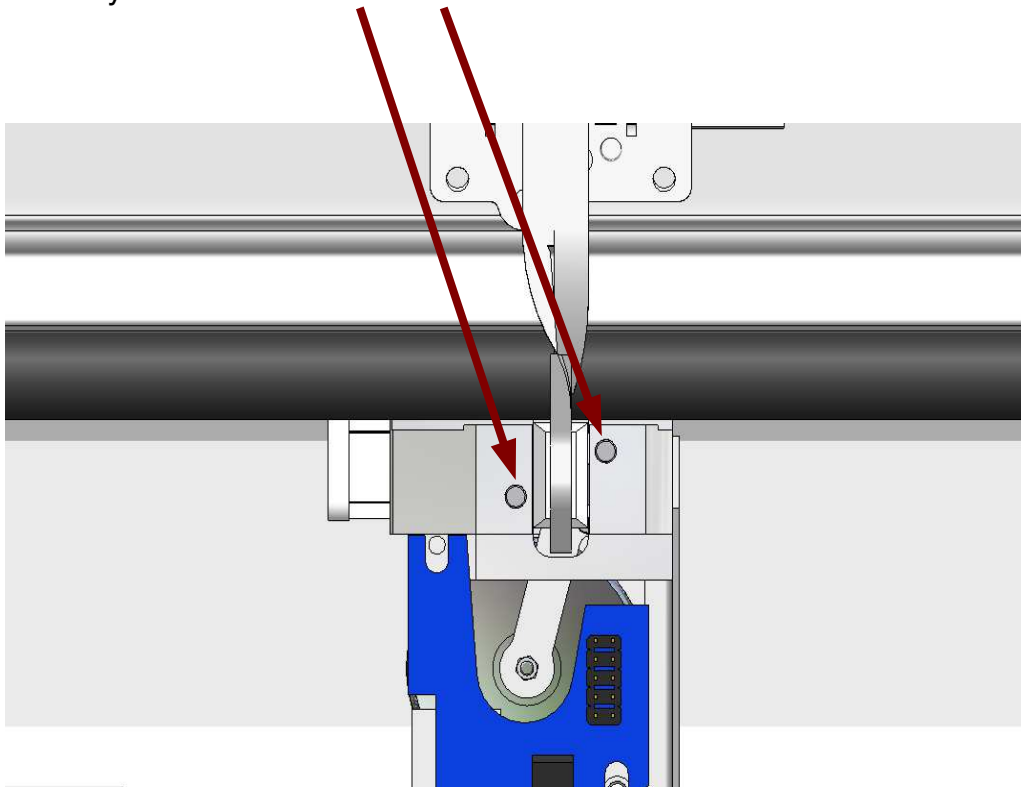
Head frame

Mountbatten Head Assembly service tips.

Solution:

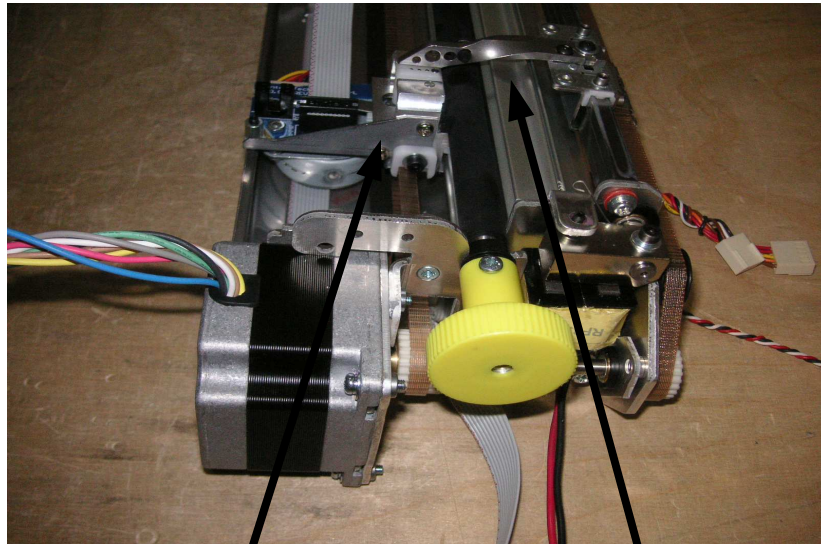
Apply **non-silicone heat transfer compound**, commonly used to cover processors before assembling them with mother boards sockets, into the bore holes indicated with red arrows.

Wait until the compound penetrates the connection and wipe the Head frame top surface with tissue dry.



Problem 3:

Head is loose and its movement on Battery Tube Extrusion's fence (200-000) seems to be unstable.



Head assembly

Battery tube extrusion

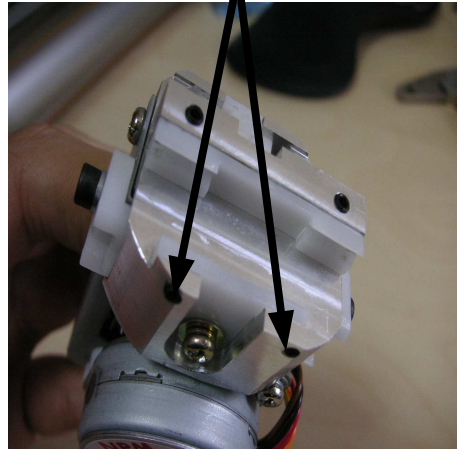
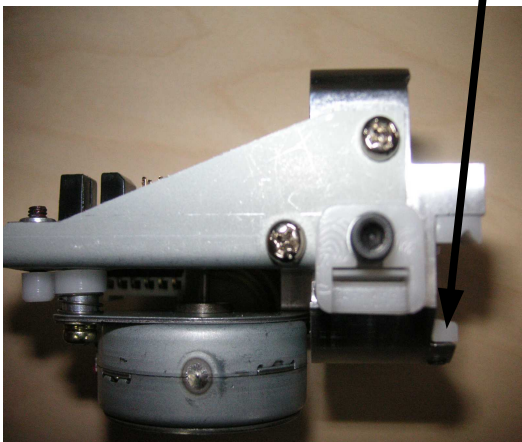
The Cause:

Sometimes, due to the shipment, Head assembly may detach from Battery tube extrusion and needs to be inserted on the fence again.

Solution:

V-bearing retainer

Bolts to be tightened



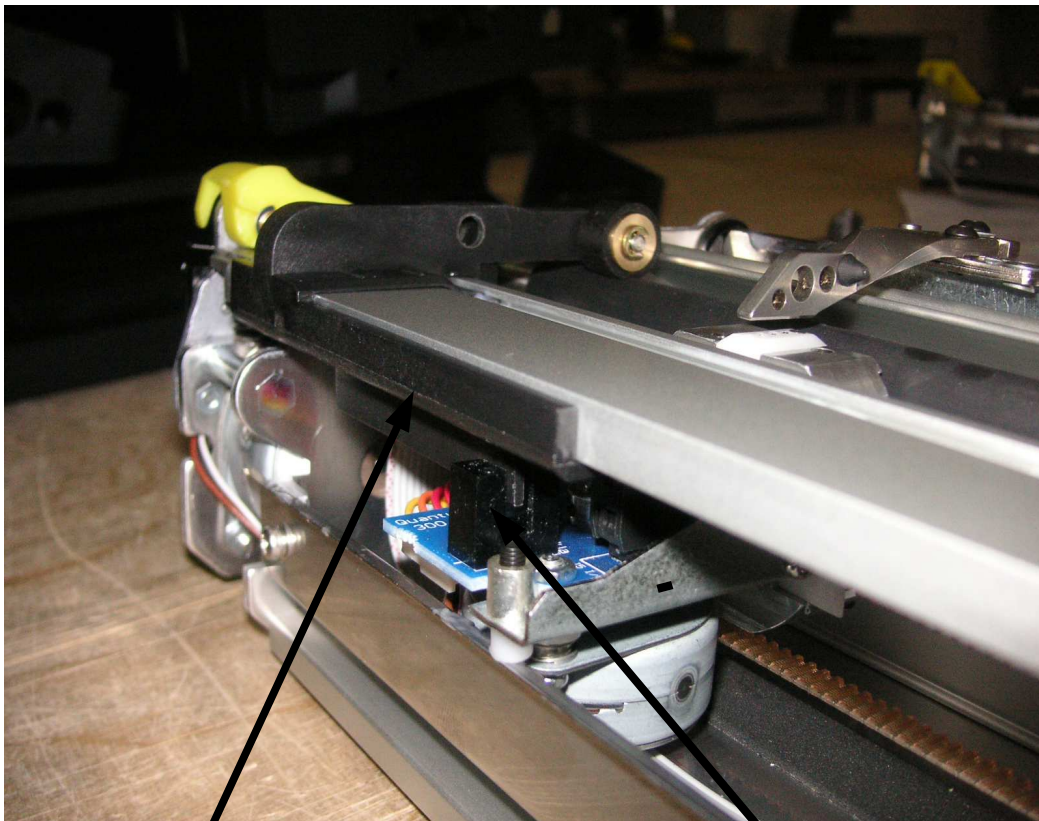
Tighten the 2 bolts M3x3 (900-0421) holding the V-bearing Retainer (291-201) with Allen key until Head moves smoothly on Battery tube extrusion.

Mountbatten Head Assembly service tips.

This may take some time and you may be forced to check, whether the fitting is tight enough several times by detaching and inserting the Head on the fence again.

Problem 4:

H22A1 Opto Interrupter (610-020) jams on the Right Margin's (291-106) fence.



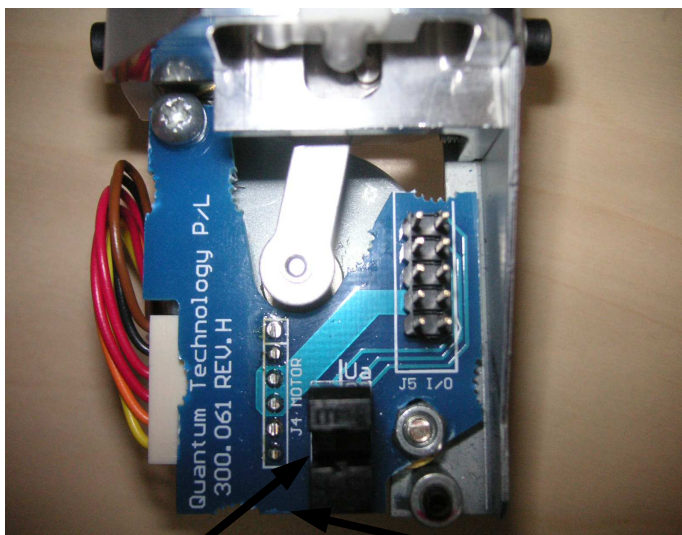
Right margin

H22A1 Opto interrupter

The Cause:

H22A1 Opto interrupter may be soldered incorrectly to the MB Head Board PWA (101-004). The gap between the interupter and right margin is not big enough, causing the Head being jammed against the margin.

Solution:



Rotation directions

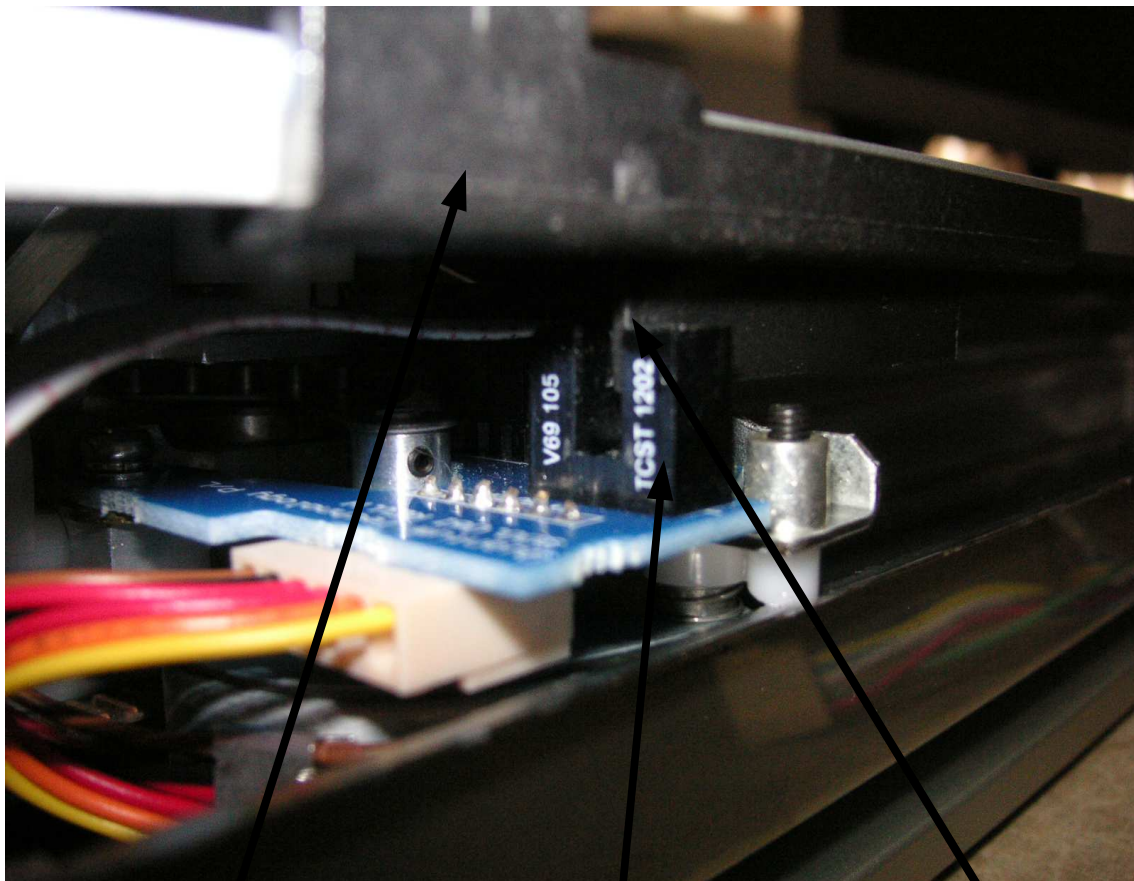
Try to push Opto interrupter gently on the PWA back and forth until the white rectangle located beneath the interrupter will be visible from each side. Note the interrupter should also be parallel to the PWA lower edge.

White rectangle to be visible

PWA lower edge

Problem 5:

H22A1 Opto Interrupter (610-020) jams the Head Assembly, even though it didn't stop on the Right Margin's (291-106) fence as mentioned in previous section.



Right margin

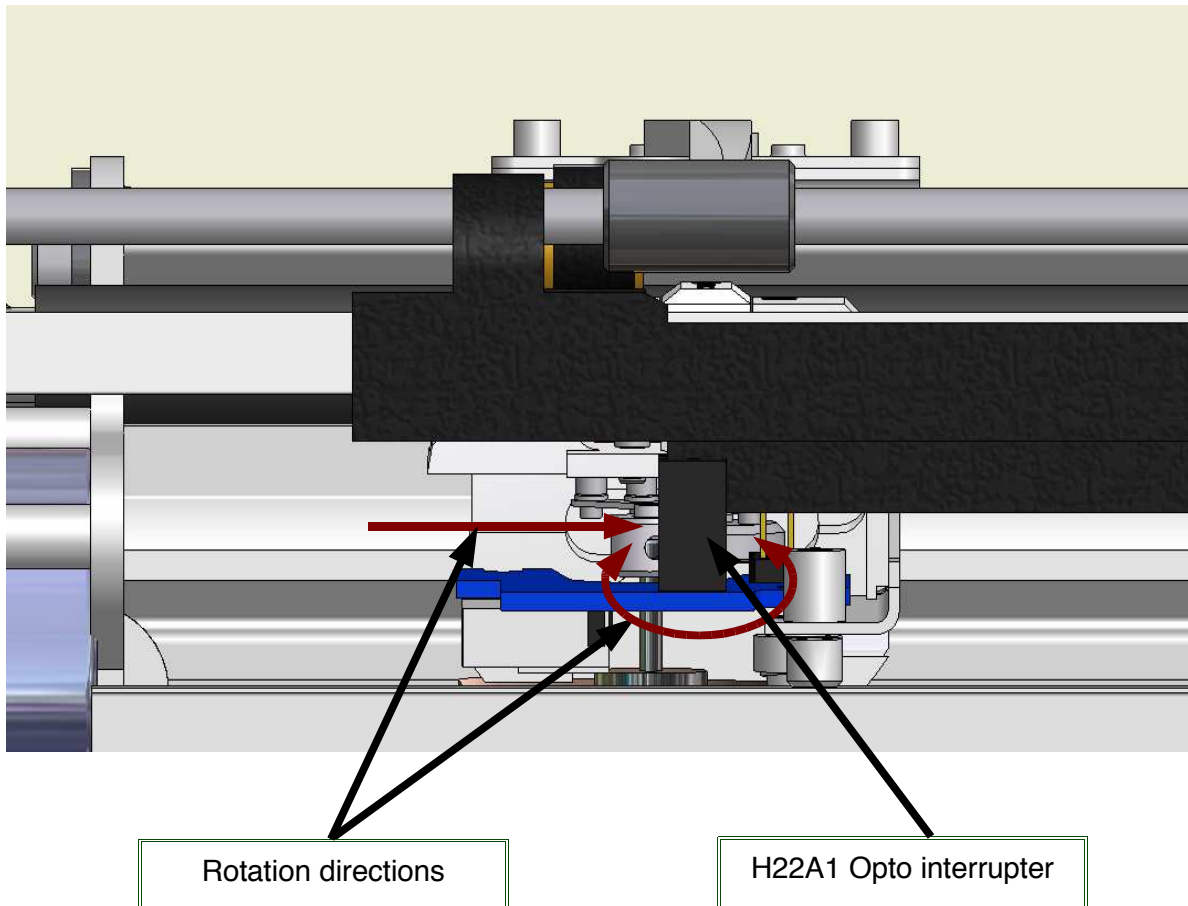
H22A1 Opto interrupter

Right margin's fence end

The Cause:

Sometimes Right margin's fence may not exactly match the Opto interrupter (the measurement gap has its range) and therefore there is no feedback to the software that Head Assy should be stopped, even though the Right margin's fence had already ended. This eventually cause Head being jammed.

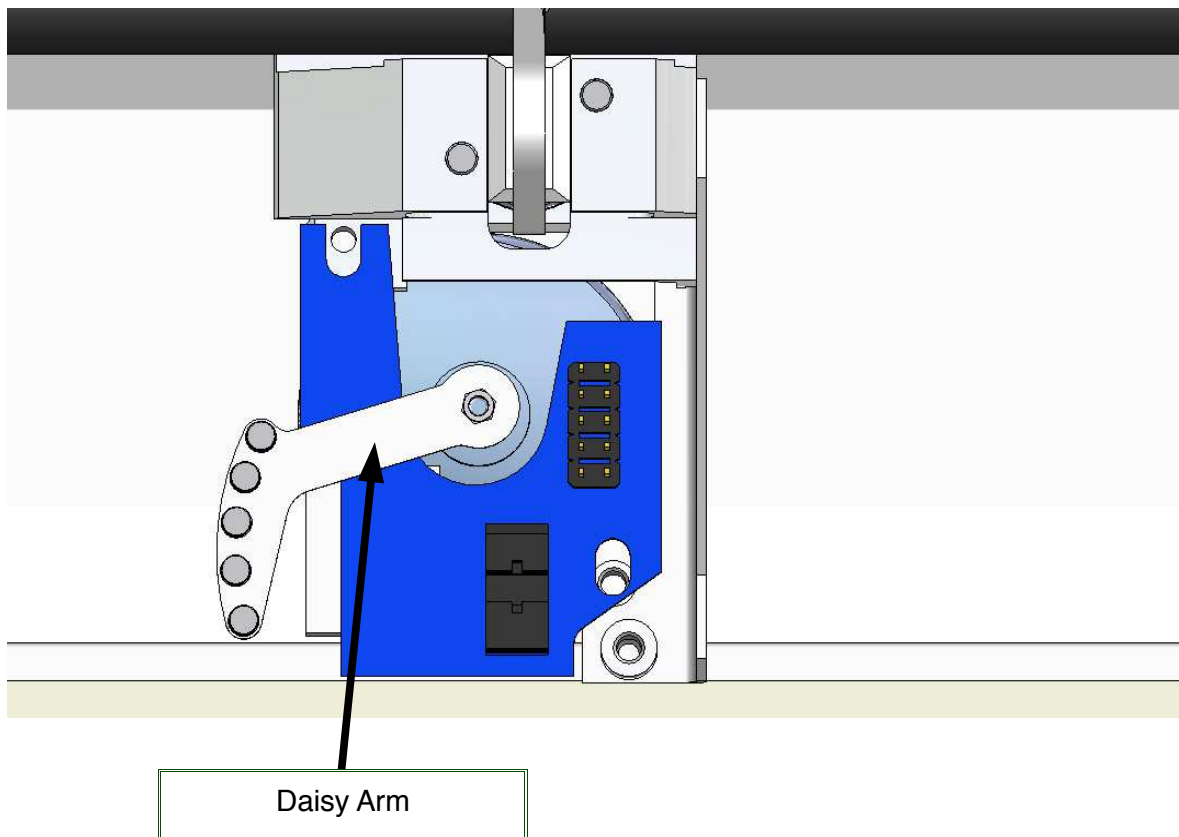
Solution:



Push the interrupter, exactly as the red arrows are indicating. This should result with measuring gap, located on the Opto interrupter, to collaborate with Right margin's fence again and thus solving the problem with jammed Head assy.

Problem 6:

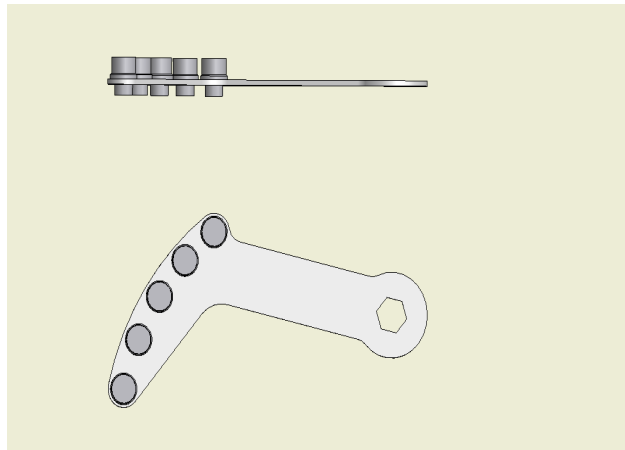
Daisy Arm (105-112) moves away from the work range.



The Cause:

Due to the fact Daisy arm is made out from thin sheet of steel it may deform a little on its surface.

Mountbatten Head Assembly service tips.



Solution:

Straighten it up and gently put the Daisy Arm on its spot, into the working range. This should prevent Daisy Arm tripping away from its working range in future.

