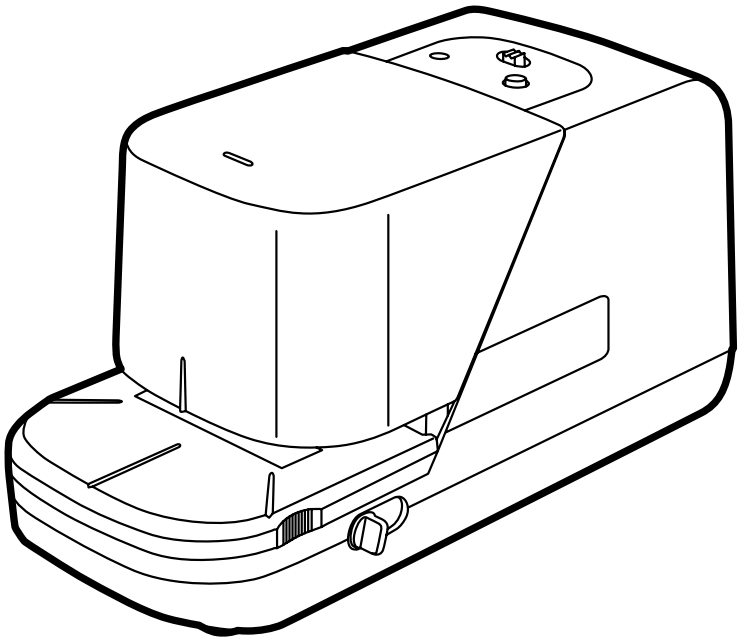
MAX®

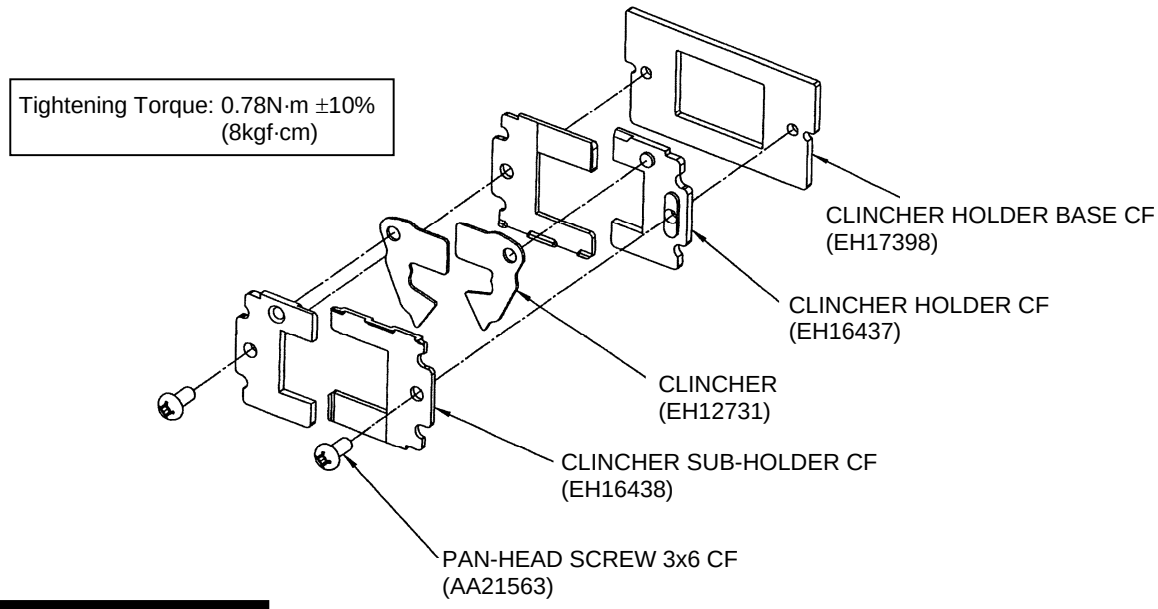
ELECTRONIC STAPLER

EH-70F

SERVICE MANUAL



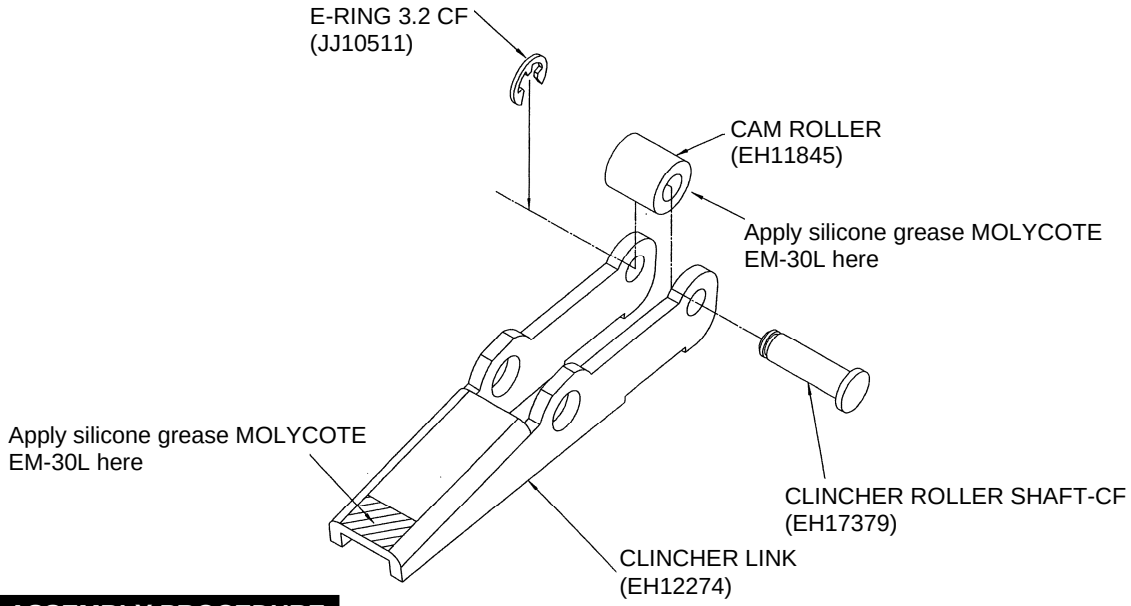
1. CLINCHER ASSY.



ASSEMBLY PROCEDURE

1. Matching the hole on the upper part of the Clincher with the projection on the upper part of the Clincher Holder CF, place the two pieces together. Make two assemblies in the same way.
2. Setting the assemblies so that the Clincher side is facing upwards, place the Clincher Sub-holder CF on top, matching the screw holes with those of the Clincher Holder CF. Make two assemblies in the same way.
3. As shown in the diagram, place the assemblies produced in part 2 on top of the Clincher Holder Base so that the Clincher Holder CF is closest to the Clincher Holder Base on the right hand side and the Clincher Sub-holder is closest to the Clincher Holder Base on the left hand side, and fix using the Pan-head Screws 3x6 CF.

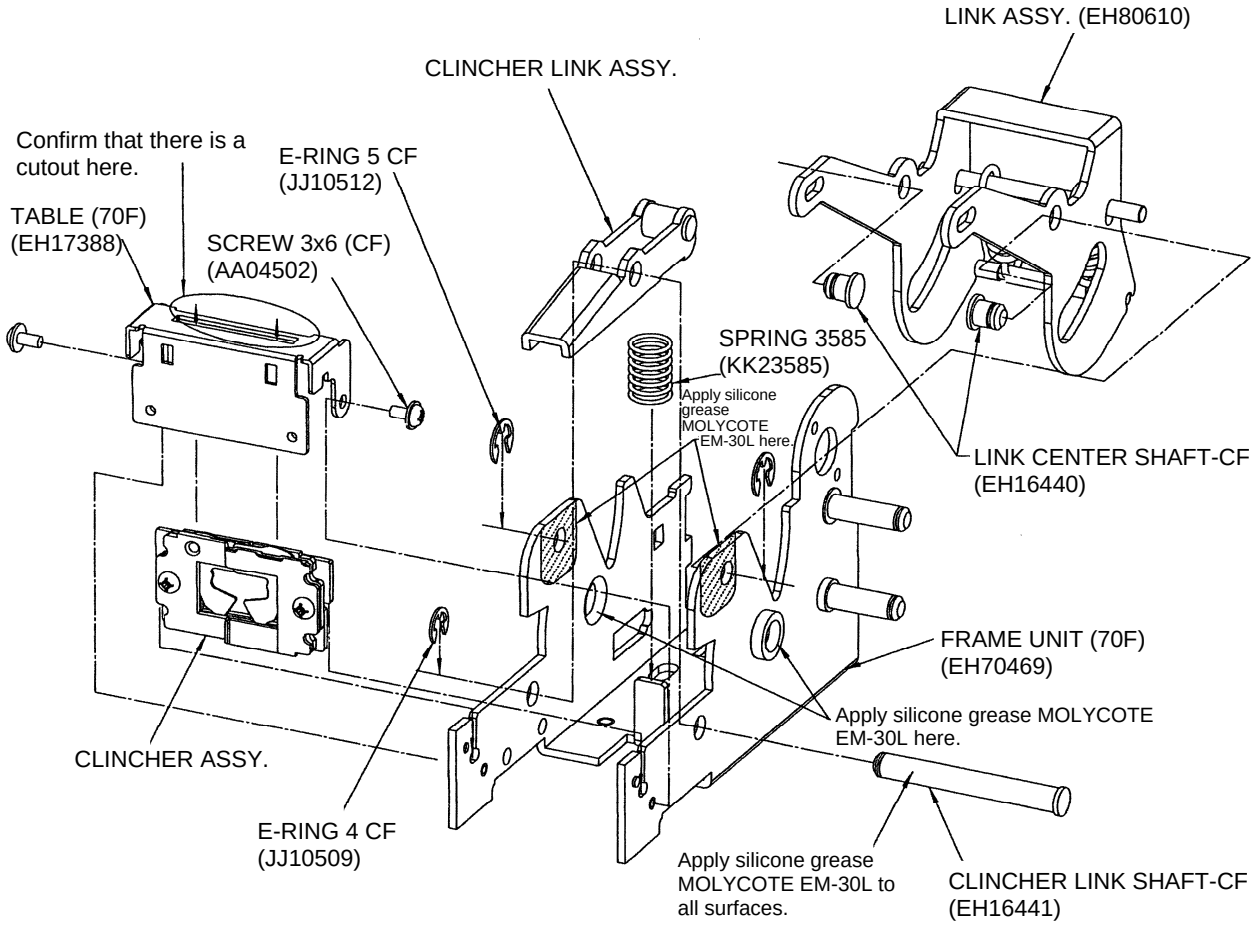
2. CLINCHER LINK ASSY.



ASSEMBLY PROCEDURE

1. Insert the Cam Roller in between the holes on the rear part of the Clincher Link, pass the Clincher Roller Shaft-CF through the holes in the Clincher Link and Cam Roller and fix it using the E-ring 3.2 CF. (Apply silicone grease MOLYCOTE EM-30L to the Cam Roller beforehand.)
2. Apply silicone grease MOLYCOTE EM-30L to the end of the Clincher Link.

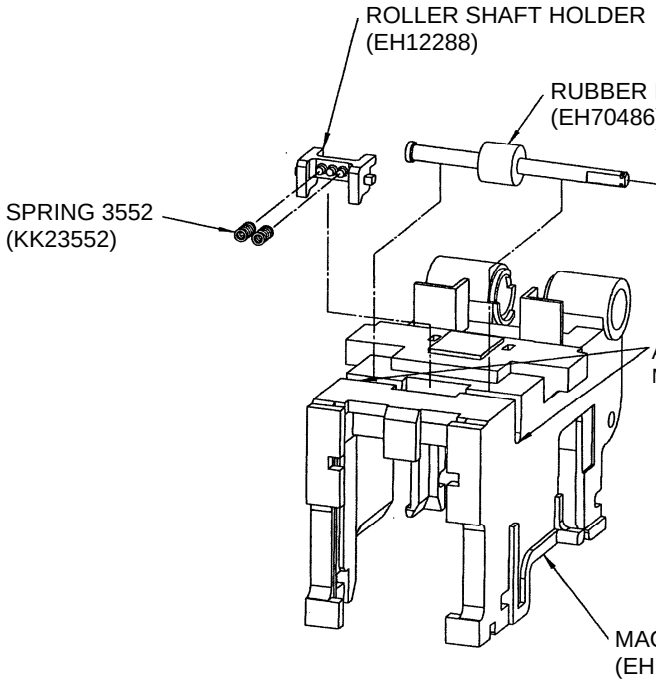
3. FRAME ASSY.



ASSEMBLY PROCEDURE

1. Slide the Clincher Assy. into the vertical groove of the front part of the Frame Unit (70F) in the direction shown in the diagram, then place the Table (70F) over the top and fix it to the Frame Unit (70F) using the Screws 3x6 (CF) at the left and right.
2. Mount the Spring 3585 in the position shown in the diagram in the center of the Frame Unit (70F). Place the Clincher Link Assy. on top, and insert the Clincher Link Shaft through it to set the Clincher Link Assy. in the Frame Unit (70F). Fix the other end of the Clincher Link Shaft with the E-ring 4 CF. (Apply silicone grease MOLYCOTE EM-30L to the two holes in the Frame Unit and the two holes in the Clincher Link Assy.)
3. Set the Link Assy. into the Frame Unit (70F) in the direction shown in the diagram. Then insert the two Link Center Shafts-CF from inside the Link Assy. out through the Frame Unit (70F) at the left and right, and fix them on the outside of the Frame Unit (70F) using the two E-rings 5 CF. (Apply silicone grease MOLYCOTE EM-30L to the Link Center Shafts-CF.)
4. Apply silicone grease MOLYCOTE EM-30L to the two Drive Shaft holes in the central part of the Frame Unit. (Two holes at the left and right.)

4. MAGAZINE ASSY. (1)



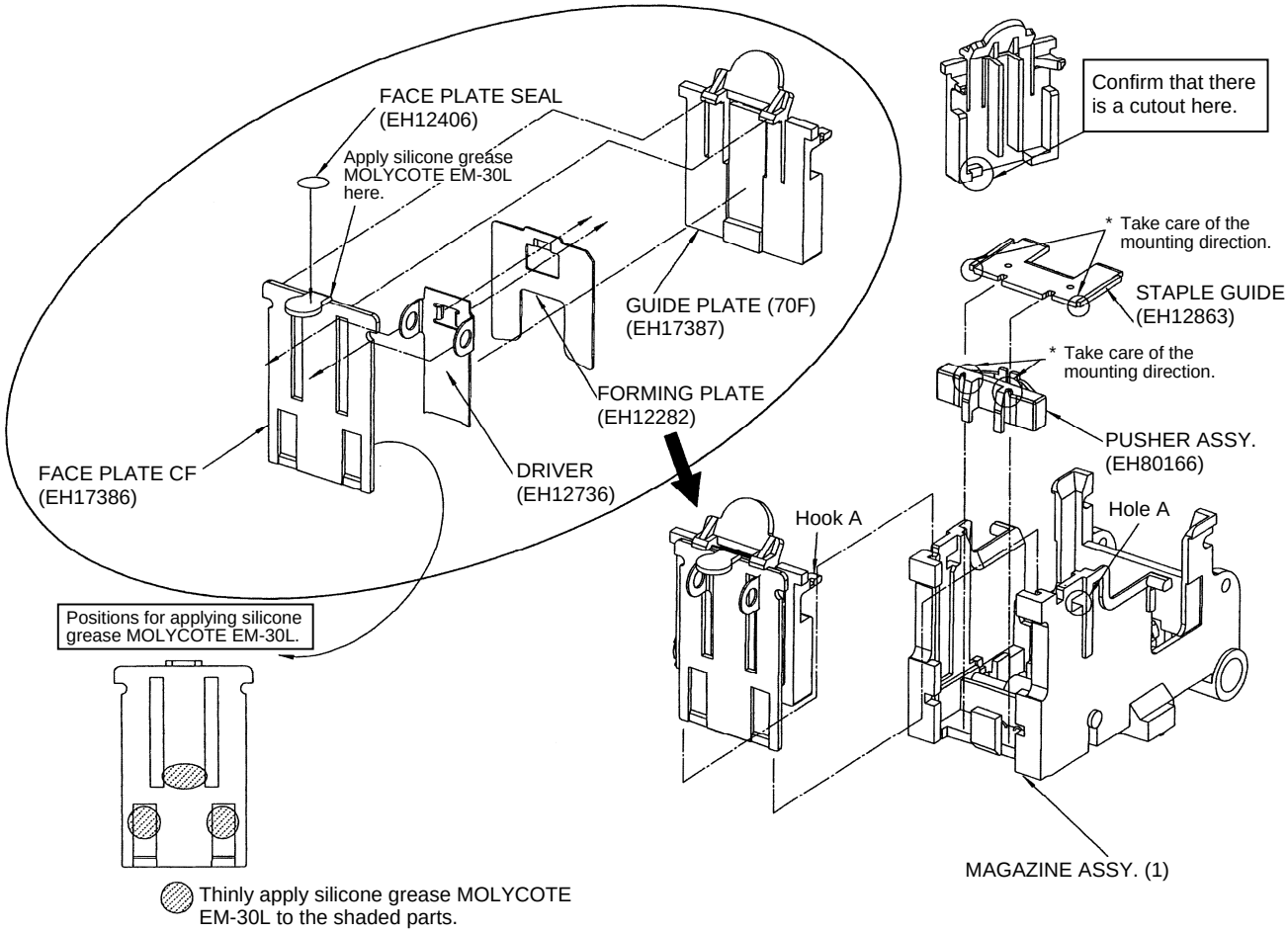
* Do not apply oil (particularly not silicone grease) to the Rubber Roller Unit. If oil is attached, replace the Rubber Roller Unit CF and the Rubber Roller Shaft CF as a set. This is because if oil is attached, it may cause staple feeding problems.

(Apply grease to the parts where the Rubber Roller Shaft and the Magazine come into contact.)
After fixing the Rubber Roller Shaft, apply silicone grease and rotate the Shaft.

ASSEMBLY PROCEDURE

1. Insert the Ratchet on to the Rubber Roller Unit CF and fix it using the E-ring 2.3. Insert the Rubber Roller Unit CF in the Magazine as shown in the diagram. (Apply silicone grease MOLYCOTE EM-30L to the parts that come into contact with the Rubber Roller Shaft CF and the Magazine beforehand.)
2. Attach the Roller Shaft Holder from above on to the Rubber Roller Shaft CF that has been inserted in the Magazine. Insert the Springs 3522 between the protruding parts of the Roller Shaft Holder shown in the diagram and the Magazine wall.

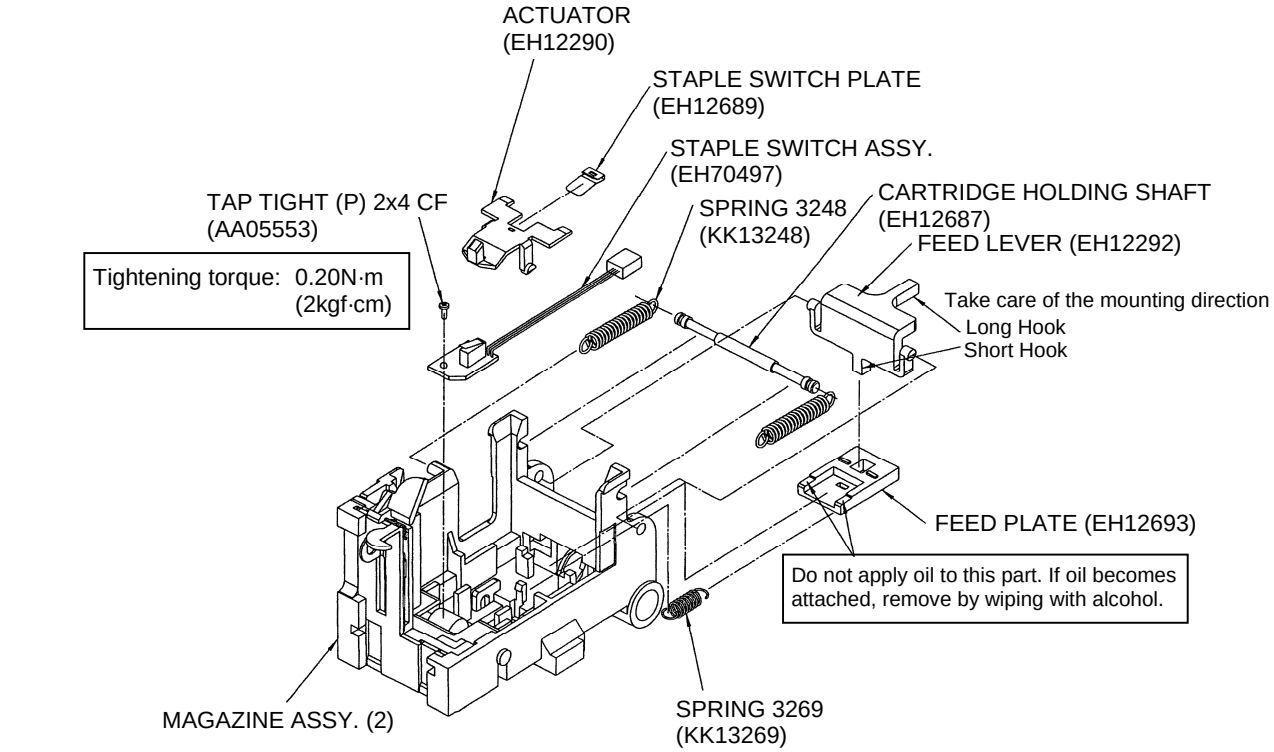
5. MAGAZINE ASSY. (2)

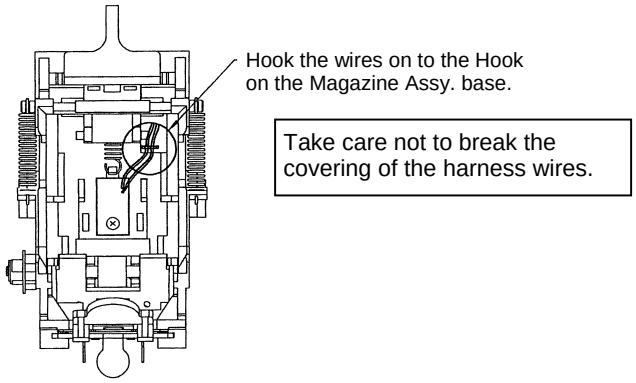


ASSEMBLY PROCEDURE

1. Insert the Pusher Assy. in to the Magazine Assy. in the position shown in the diagram, and place the Staple Guide on top by matching it from above.
2. Affix the Face Plate Seal to the Face Plate CF.
3. Place the Driver, Forming Plate, and Guide Plate (70F) in this order on the Face Plate CF, matching them together in the direction shown in the diagram. (Apply silicone grease MOLYCOTE EM-30L to the surfaces of the Face Plate CF that come into contact with the Driver.)
4. Insert the assembly produced in part 3 into the Magazine Assy. (1) in the position shown in the diagram. (Press the assembly in until a click is heard when the Hook A of the Guide Plate (70F) enters the Hole A of the Magazine Assy. (1).)

6. MAGAZINE ASSY. (3)

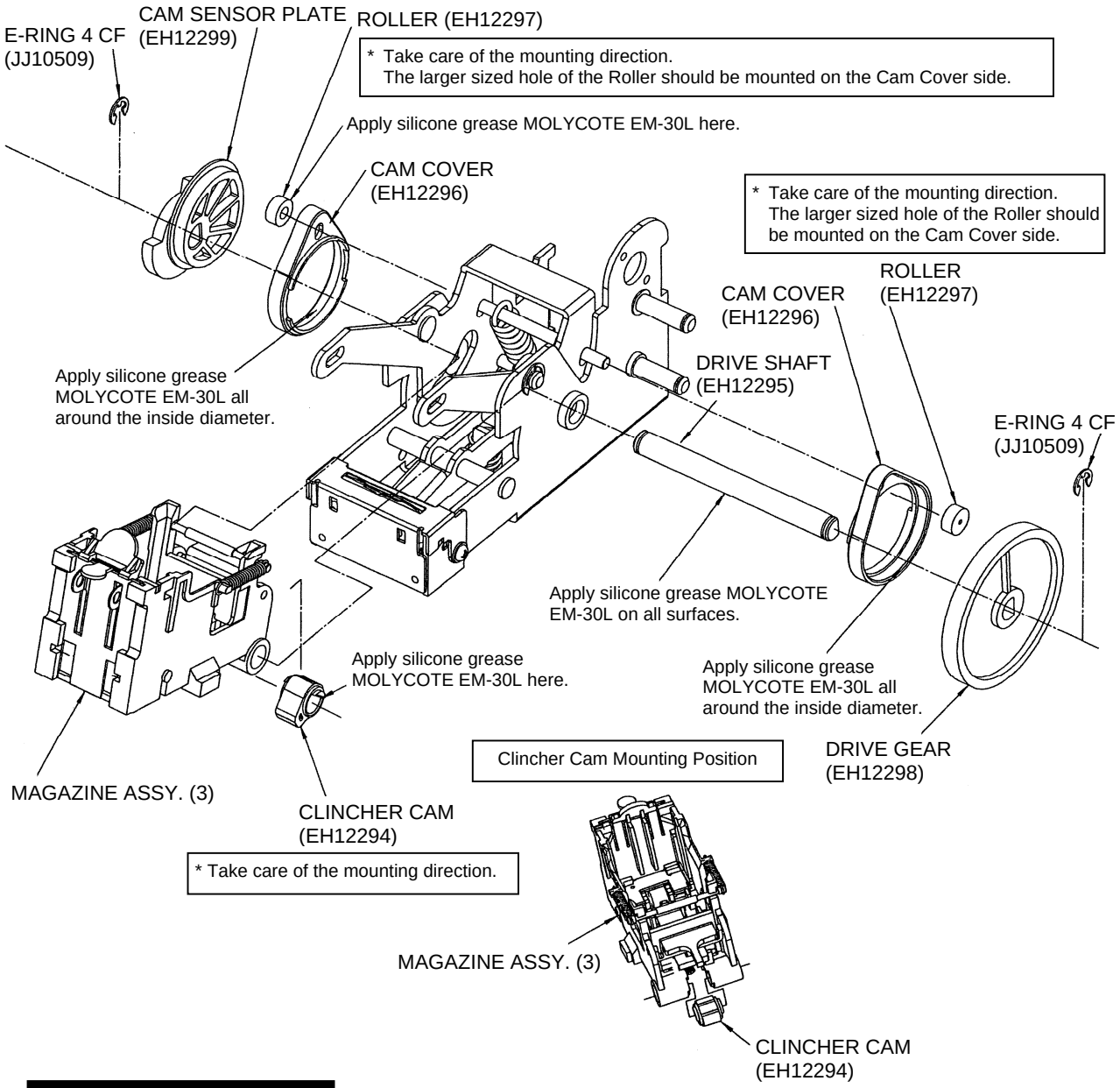




ASSEMBLY PROCEDURE

1. Place the circuit board part of the Staple Switch Assy. in the center of the lower part of the Magazine Assy. in the direction as shown in the diagram, and fix to the Magazine Assy. using the Tap Tight (P) 2x4 CF. Insert the wires coming from the circuit board into the Hook on the Magazine Assy. as shown in the diagram.
2. Hook one end of the Spring 3269 on to the hook of the Feed Plate. Insert the Feed Plate in the direction shown in the diagram from the entrance in the rear part of the Magazine until it has been completely inserted, and then hook the other end of the Spring 3269 onto the hook on the Magazine according to the diagram.
   After mounting the Spring, confirm that the hook parts have not changed shape.
3. Matching the tip of the Short hook of the Feed Lever (see diagram) to the hole of the Feed Plate, insert the round projections on both sides of the Feed Lever into the corresponding holes in the rear part of the Magazine Assy.
4. Holding the Staple Switch Plate inserted in the Actuator, mount the assembly in the Magazine Assy. so that it is located on top of the circuit board of the Staple Switch Harness Unit that was previously installed in the Magazine Assy.
5. Hook the ends of the two Springs 3248 onto the grooves at both ends of the Cartridge Holding Shaft. Mount the Cartridge Holding Shaft in the U-shaped depressions at the rear of the Magazine Assy., and hook the other ends of the Springs 3248 on to the protuberances on the Magazine as shown in the diagram. (In 2 places, at left and right.)

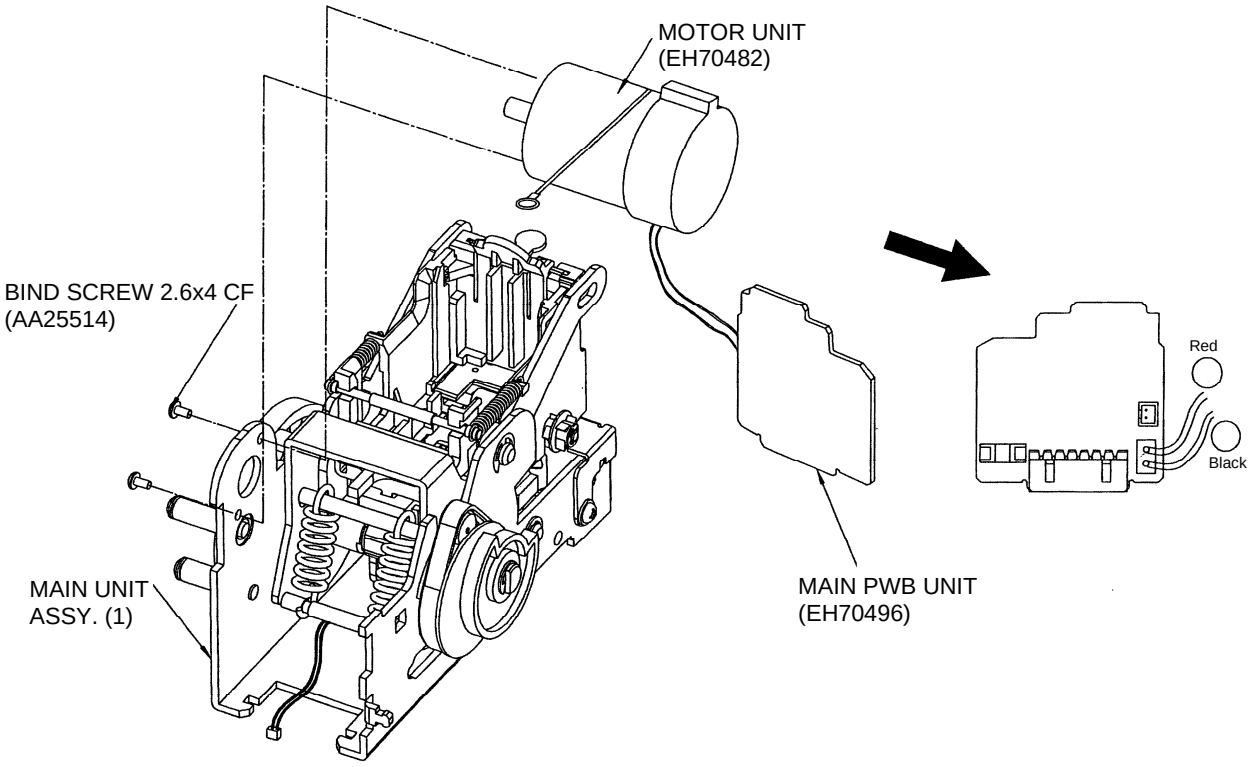
7. MAIN UNIT ASSY. (1)



ASSEMBLY PROCEDURE

1. After applying silicone grease MOLYCOTE EM-30L to the Clincher Cam, mount the Clincher Cam in the rear part of the Magazine Assy., in the direction shown in the diagram (taking care of the direction).
   (Matching the projection on the side of the Clincher Cam with the groove on the Magazine, slightly rotate the Clincher Cam.)
2. After applying silicone grease MOLYCOTE EM-30L to the Rollers, match the Rollers with the Cam Covers as shown in the diagram, making 2 assemblies.
   (Apply silicone grease MOLYCOTE EM-30L to the inside surface of the circular part of the Cam Covers.)
3. Combine one of the assemblies produced in part 2 with the Drive Gear. Pass the Drive Shaft through this assembly from the Cam Cover side, and fix using the E-ring 4 CF on the Drive Gear side. (Apply silicone grease MOLYCOTE EM-30L on all surfaces of the Drive Gear.)
4. Combine the remaining assembly produced in part 2 with the Cam Sensor Plate.
5. Pass the assembly produced in part 3 through the hole in the center of the Frame Assy., the shaft hole in the Magazine Assy. and the shaft hole of the Clincher Cam until the tip of the Drive Shaft protrudes from the other side of the Frame Assy.
6. Mount the Cam Cover side of the assembly produced in part 4 on to the tip of the Drive Shaft of part 5, and fix on the Cam Sensor Plate side using the E-ring 4 CF.

8. MAIN UNIT ASSY. (2)



ASSEMBLY PROCEDURE

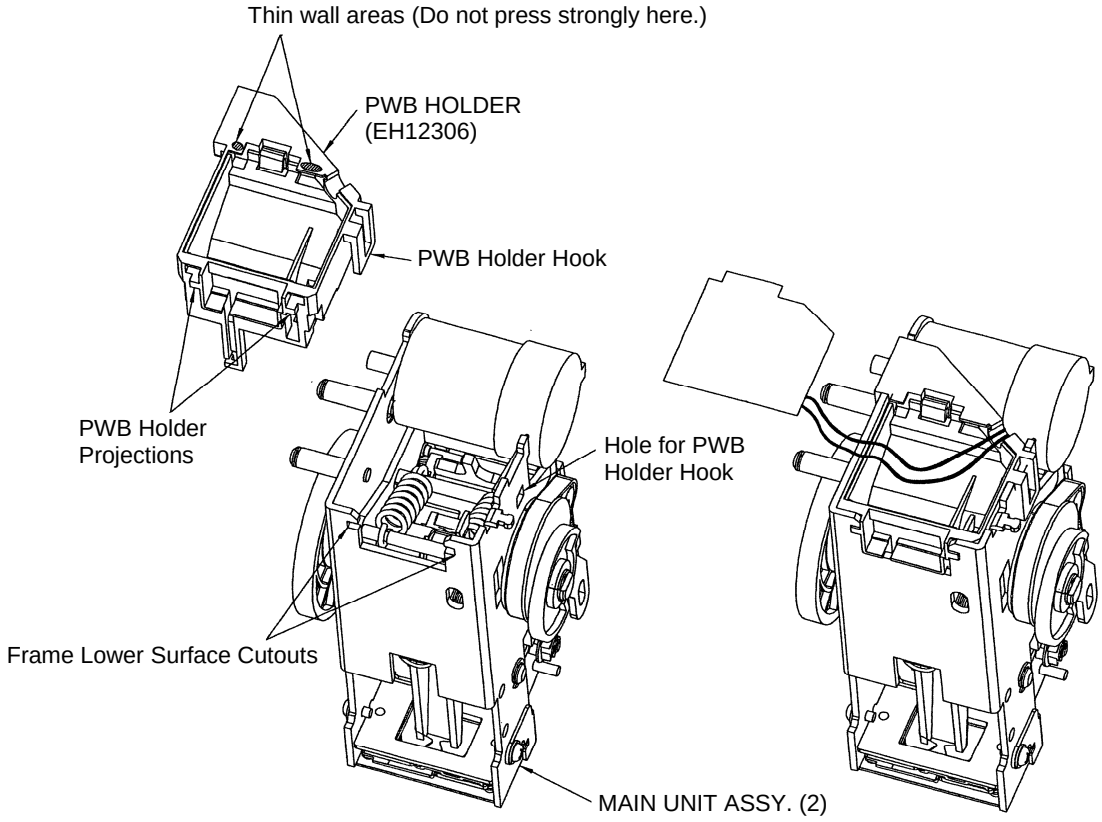
1. Fix the Motor Unit in the Main Unit Assy.(1) by inserting and tightening the two Bind Screws 2.6x4 CF.

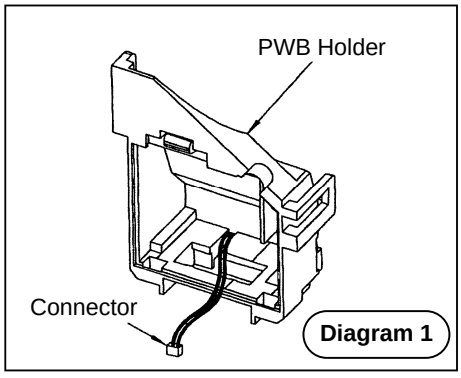
   Tightening Torque: 0.59N·m ±10%
   (6kgf·cm)

2. Insert the wires (board-in connectors) from the Motor Unit into the Main PWB Unit and solder the Motor Unit terminals. (Soldering temperature 350ºC ± 10%)

   *** Take care of the terminal direction**

9. MAIN UNIT ASSY. (3)

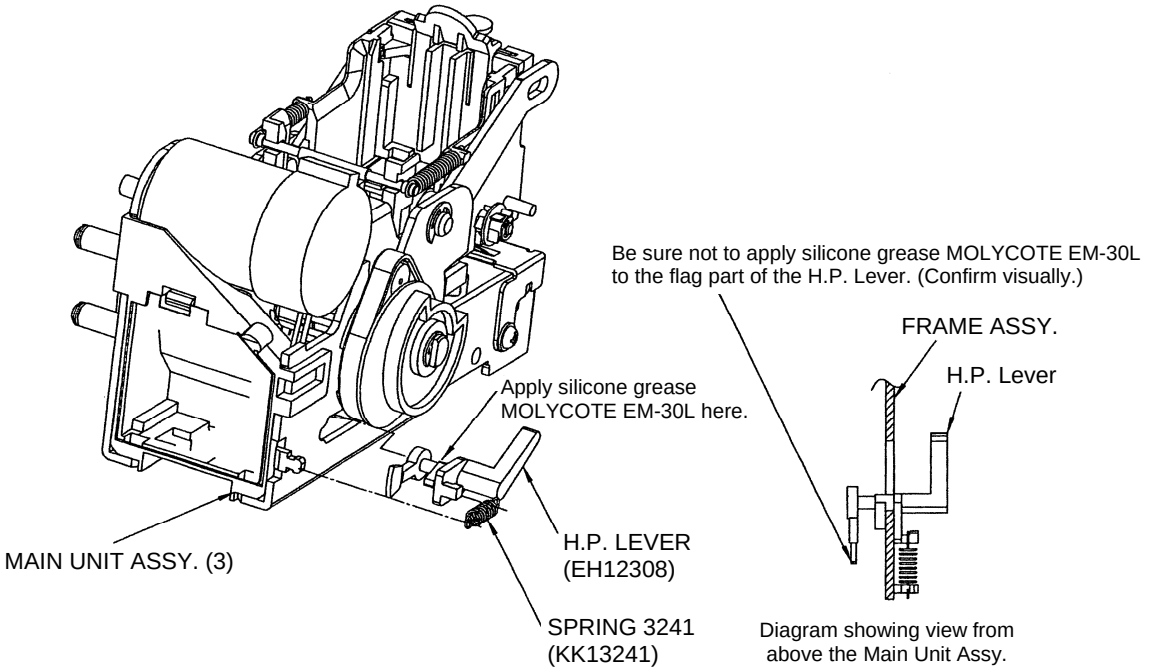




ASSEMBLY PROCEDURE

1. Pass the Wire (Staple Switch Harness) of the Staple Switch Harness Unit through the Wire Groove in the lower part of the PWB Holder, and draw out the connector at the end of the wires so that the connector is inside the space in the PWB Holder. (Refer to Diagram 1.)
2. While gently pulling on the wires from part 1, mount the PWB Holder by pressing it into the Main Unit Assy.(2)
   At this time, using the Link Assy. as the lower dead point, insert the PWB Holder from the base.
   Match the cutouts on the lower surface of the Main Unit Assy.(2) with the projections on the PWB Holder.
   Then press on the top part of the PWB Holder to hook the PWB Holder Hook in to the Hook hole.
3. Insert the Connector (brown color) at the end of the wires of the assembly produced in part 1 into the Connector Receptor (brown color) on the Main PWB Unit.
4. Matching the lower part of the Main PWB Unit with the PWB Holder, press the Main PWB Unit in to the hooks on the top of the PWB Holder.

10. MAIN UNIT ASSY. (4)

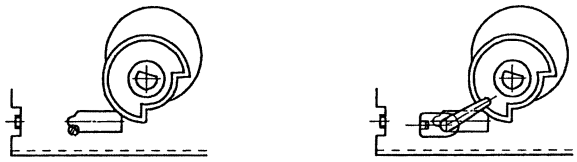


ASSEMBLY PROCEDURE

1. Mount the H.P. Lever in the Main Unit Assy., and hook the Spring 3241 between the hook part of the H.P. Lever and the hook of the Main Unit Assy.(3) (Refer to the diagram showing the view from above the Main Assy.)

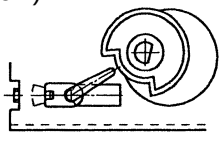
Detailed explanation of the H.P. Lever Assembly

1. Set the Cam Sensor Plate to the position shown in the diagram below, and insert the H.P. Lever. Temporarily place the H.P. Lever tip on top of the Cam Sensor Plate.
   At this time, temporarily set the H.P. rotating shaft to the shaded position of the hole ⊘ in the Frame Assy.

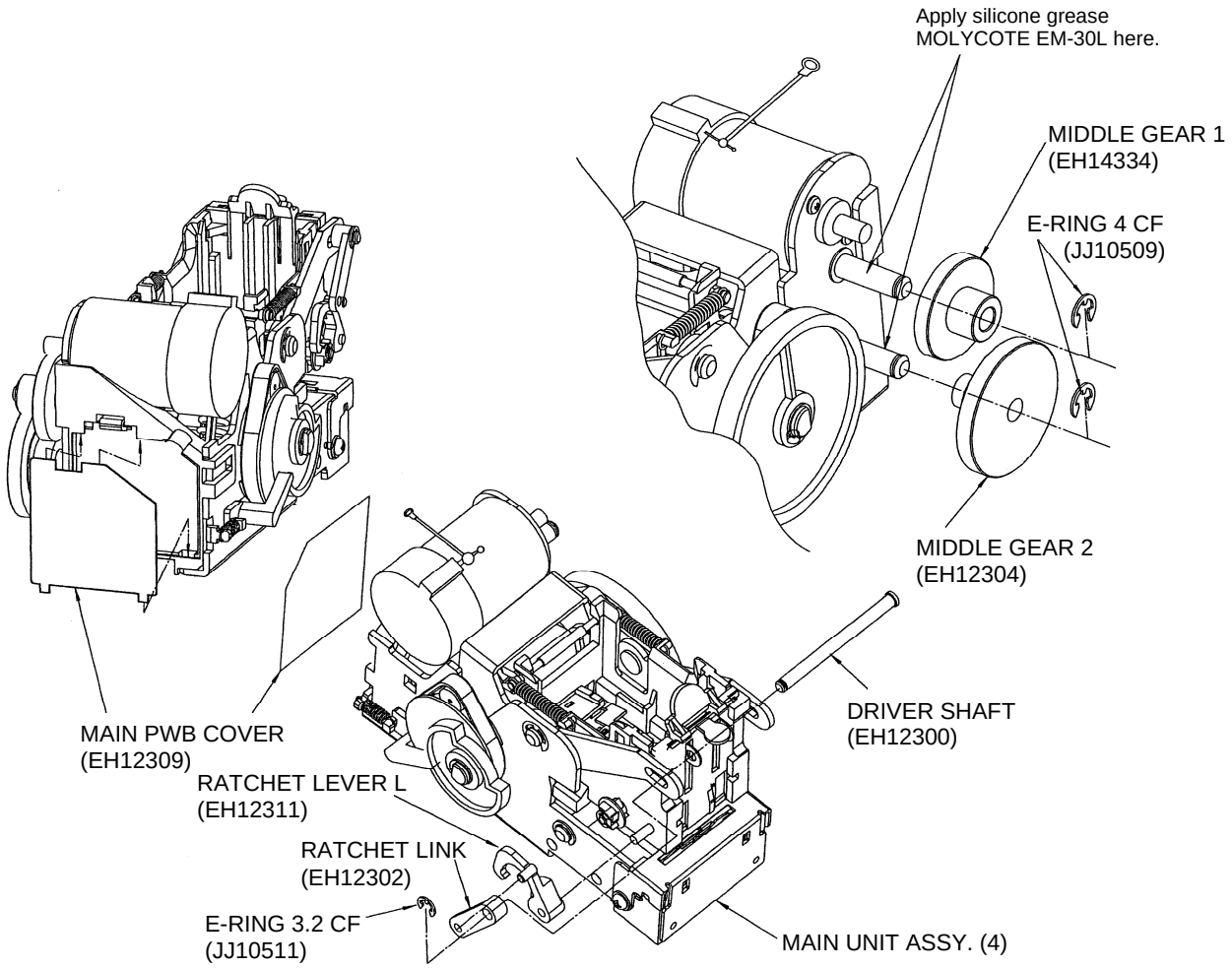


2. Rotate the Cam Sensor Plate (Drive Gear) until it comes to the position shown below.
   Match the tip of the H.P. Lever to the cutout part of the Cam Sensor Plate and slide the H.P. Lever back until the rotating shaft is set in the R part of the Frame Assy.

3. When the H.P. Lever has been set, rotate the Cam Sensor Plate to the position shown in the diagram and hook on the Spring 3241, confirming that the Spring does not change shape (do not stretch it too much). (Use the spring hooking hook.)



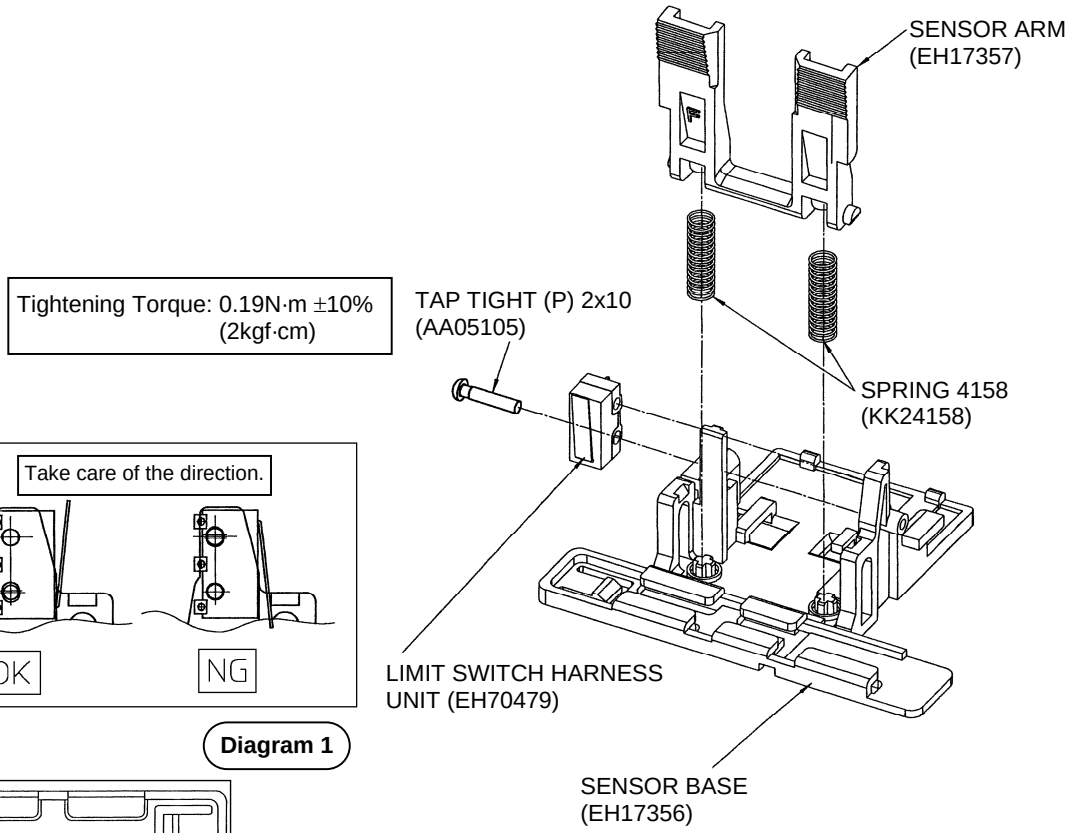
11. MAIN UNIT ASSY. (5)



ASSEMBLY PROCEDURE

1. Pass the Driver Shaft through the oblong hole at the front of the Link part of the Main Unit Assy.(4), through the two Driver holes, and out of the Link part oblong hole on the opposite side of the Link. (Insert the Driver Shaft from the right hand side when seen from the front, and pass it through to the left side.)
2. Insert the hole of the Ratchet Lever L onto the stud on the left hand side of the Main Unit Assy.(4) when seen from the front. Then insert the holes of the Ratchet Link on to the projection in the center of the Ratchet Lever L and the end of the Driver Shaft produced in part 1.
3. Fix the end of the Drive Shaft that passes through the Ratchet Link using the E-ring 3.2 CF.
4. After applying silicone grease MOLYCOTE EM-30L to the two middle gear studs, insert the Middle Gear 1 and Middle Gear 2 in this order onto the middle gear studs in the direction shown in the diagram, and fix both using two E-rings 4 CF.
5. Mount the Main PWB Cover on the PWB Holder.

12. PAPER SENSOR ASSY. (1)



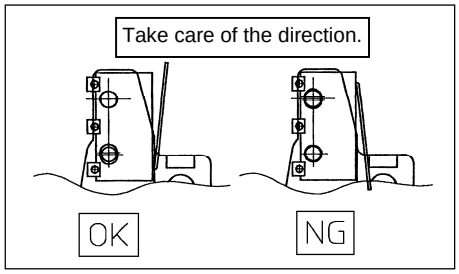


Diagram 1

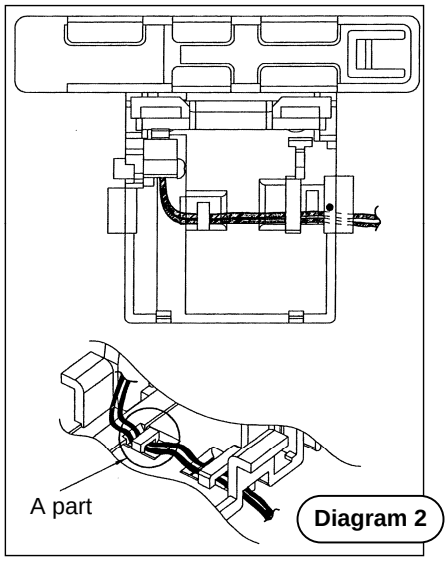


Diagram 2

ASSEMBLY PROCEDURE

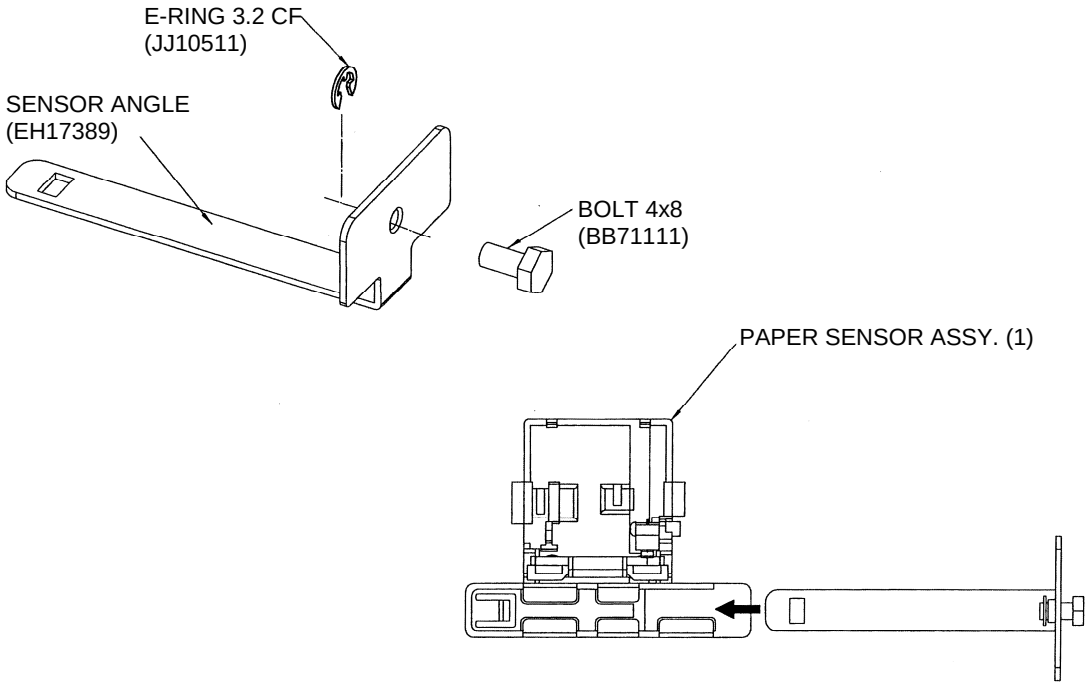
1. Place the two Springs 4158 on the Sensor Base, and mount the Sensor Arm on top of the Springs. At this time, the hooks of the Sensor Arm should be inside the holes on the Sensor Base. (Take care of the Sensor Arm mounting direction; confirm the position of the “F” mark.)

* Confirmation
  Confirm that the Springs 4158 are inserted in the projections of the Sensor Arm and Sensor Base, and that the Sensor Arm can slide up and down.

2. Hook the wires of the Limit Switch Harness Unit into the A part shown in Diagram 2.
3. Mount the Limit Switch Harness Unit on the Sensor Base, and fix using the Tap Tight (P) 2x10. (Take care of the direction; refer to Diagram 1.)
4. Pass the wire of the Limit Switch Harness Unit through the Sensor Base and fix it as shown in Diagram 2.

* Confirmation
  Visually confirm that the Harness is arranged as shown in Diagram 2.

13. PAPER SENSOR ASSY. (2)



ASSEMBLY PROCEDURE

1. Mount the Bolt 4x8 on the Sensor Angle and fix the E-ring 3.2 CF in the groove in the screw part of the Bolt as shown in the diagram.
2. Insert the assembled Sensor Angle into the Paper Sensor Assy. (1). Keep inserting until you hear a click sound.

14. BASE UNIT ASSY.

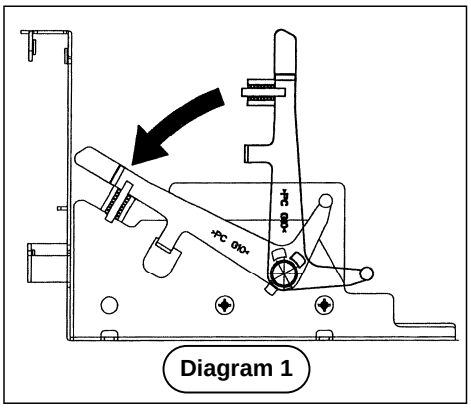
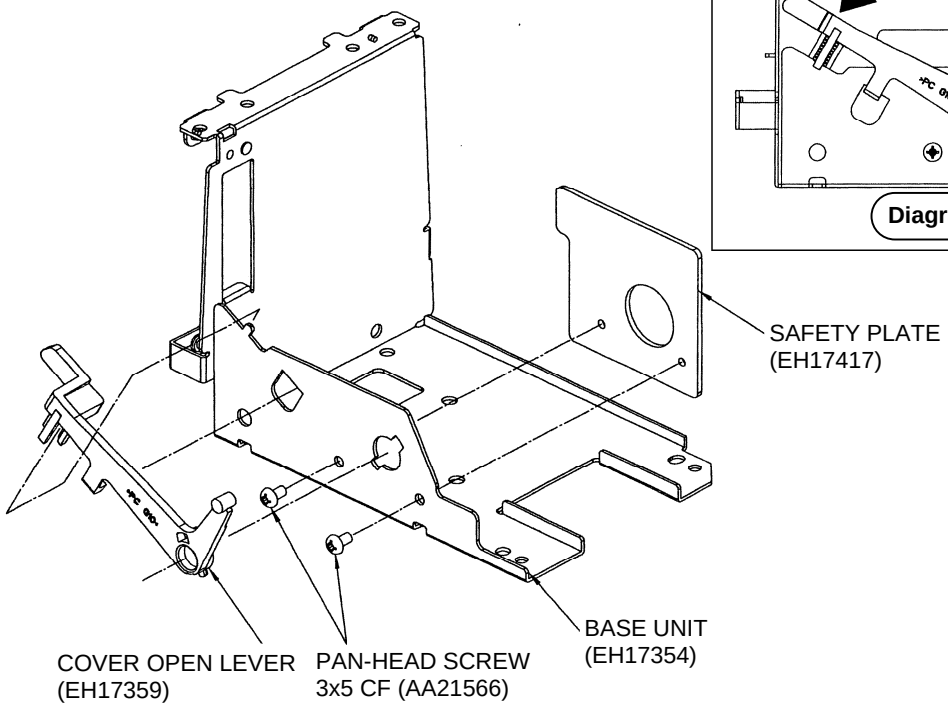


Diagram 1



ASSEMBLY PROCEDURE

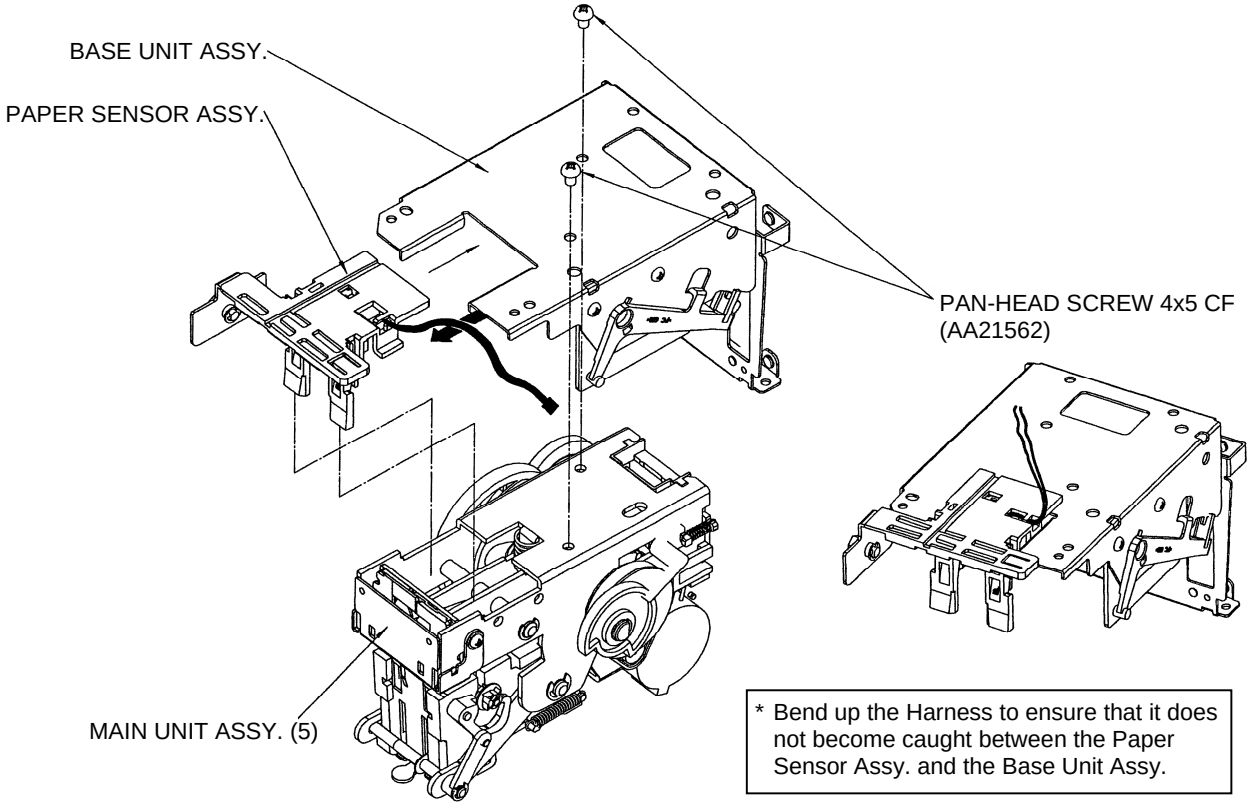
1. Fix the Safety Plate to the Base Unit using the Pan-head Screws 3x5 CF.

   Tightening Torque: 0.49N·m ±10%
   (5kgf·cm)

2. Insert the rotating pivot of the Cover Open Lever into the hole of the Base Unit.
   As shown in the diagram, rotate the Cover Open Lever to mount it in the Base Unit.

* Confirmation
Move the Cover Open Lever and confirm the movement.

15. MAIN UNIT ASSY. (6)



* Bend up the Harness to ensure that it does not become caught between the Paper Sensor Assy. and the Base Unit Assy.

⚠ CAUTION

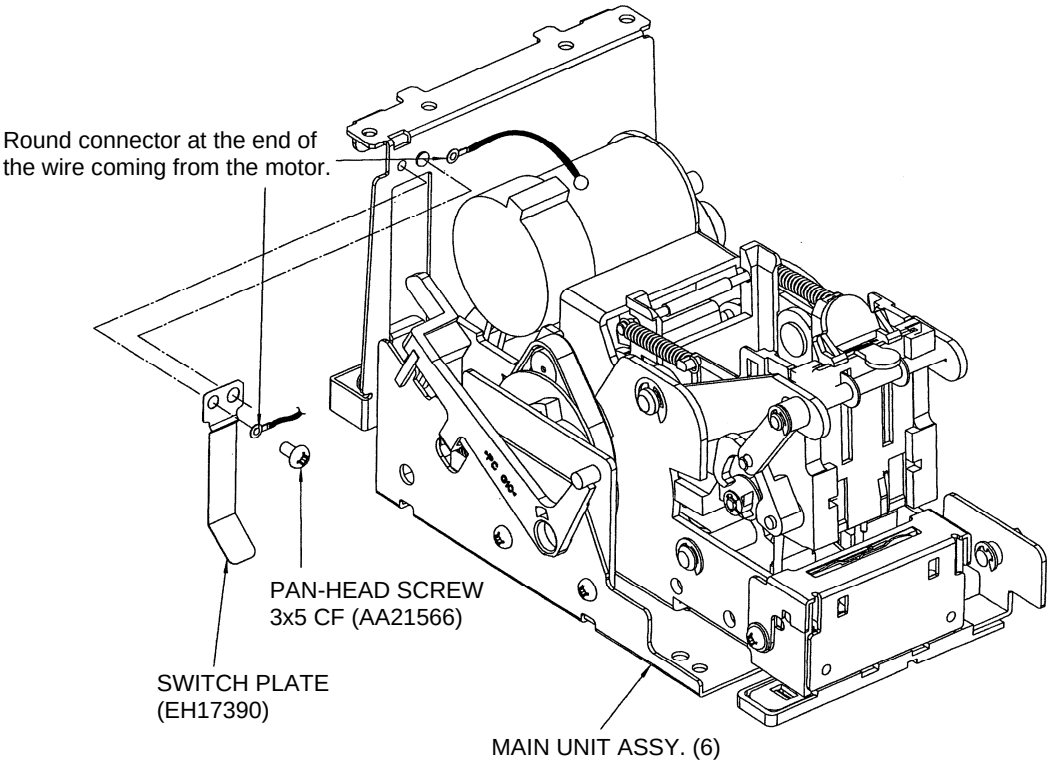
Take care not to trap the Harness that comes out of the Sensor Base.

ASSEMBLY PROCEDURE

1. Place the Paper Sensor Assy. on the Base Unit Assy.
2. Turn the Main Unit Assy. (5) upside down, mount the Base Unit Assy. and Paper Sensor Assy. on top and fix them with the Pan-head Screws 4x5 CF.

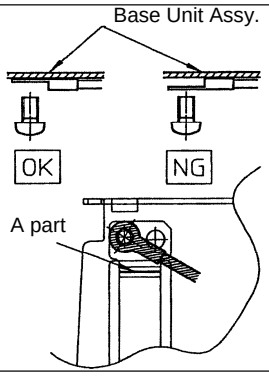
Tightening Torque: 0.78N·m ±10%
(8kgf·cm)

16. MAIN UNIT ASSY. (7)

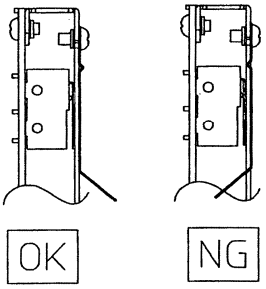


Terminal Mounting Direction

Mount the terminal so that it is pointing slightly downwards from the horizontal without allowing it to come into contact with the bent part (A part) of the Switch Plate.



Mounting Direction of the Switch Plate

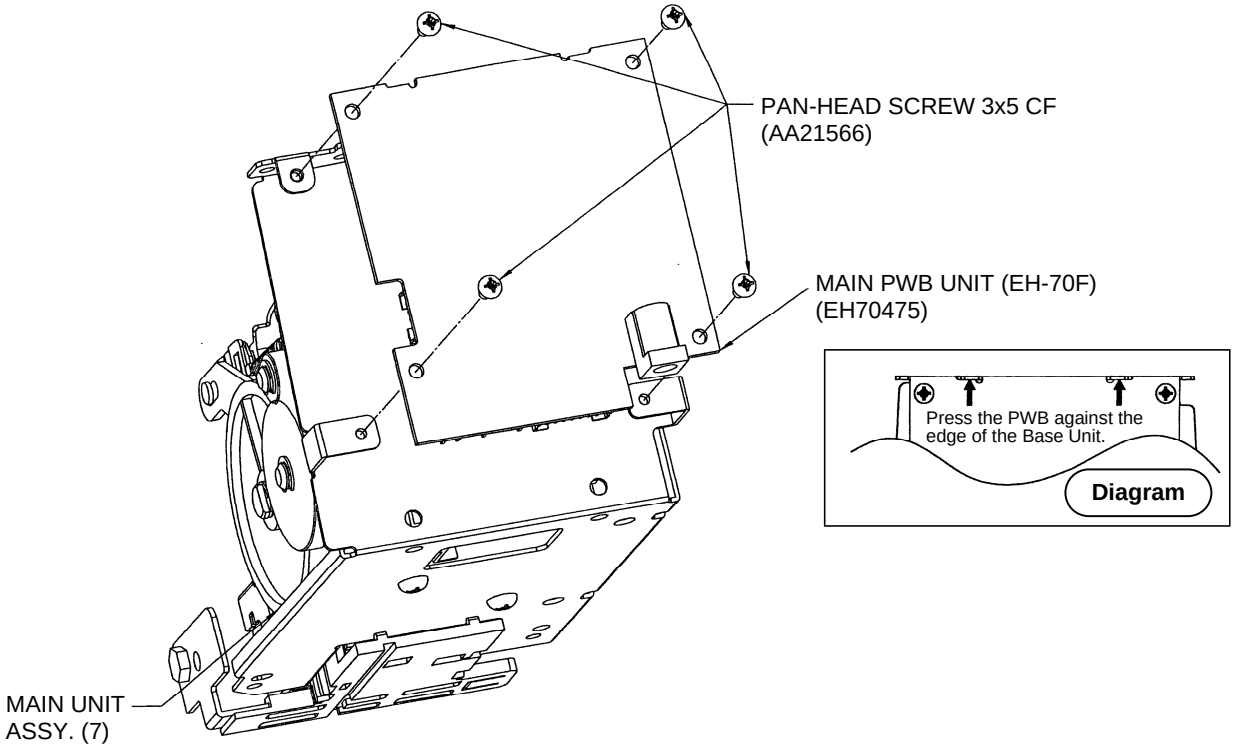


ASSEMBLY PROCEDURE

1. Match the projection on the Base Unit Assy. with the hole in the Switch Plate.
2. Fix the round connector on the end of the wire coming from the motor in the Main Unit Assy. (6), together with the Switch Plate, to the Base Unit Assy. using the Pan-head Screw 3x5 CF.

Tightening Torque: 0.49N·m ±10%
(5kgf·cm)

17. MAIN UNIT ASSY. (8)

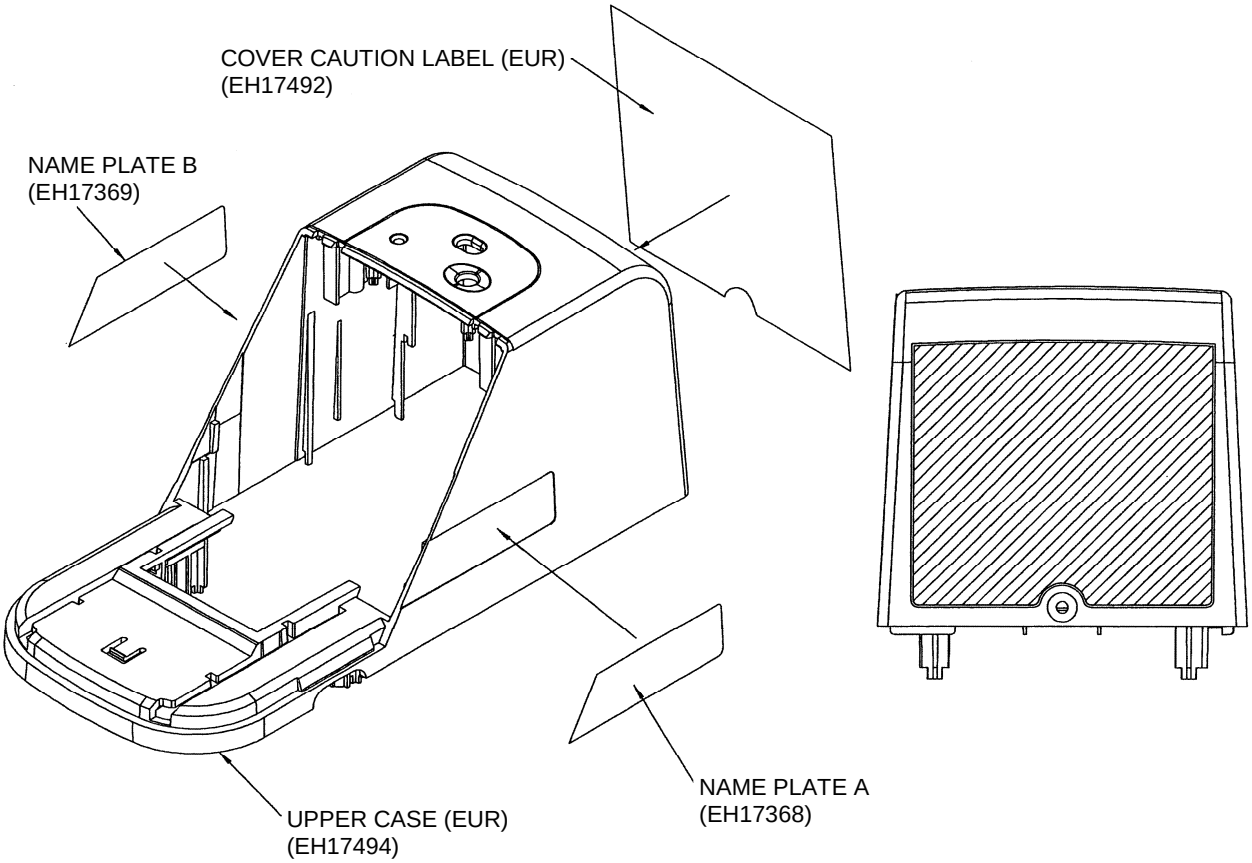


ASSEMBLY PROCEDURE

1. Fix the Main PWB Unit (EH-70F) to the Base Unit Assy. using the four Pan-head Screws 3x5 CF. At this time, the Main PWB Unit should be mounted in the position shown in the diagram where it is pressing against the edge of the Base Unit.

   Tightening Torque: 0.49N·m ±10%
   (5kgf·cm)

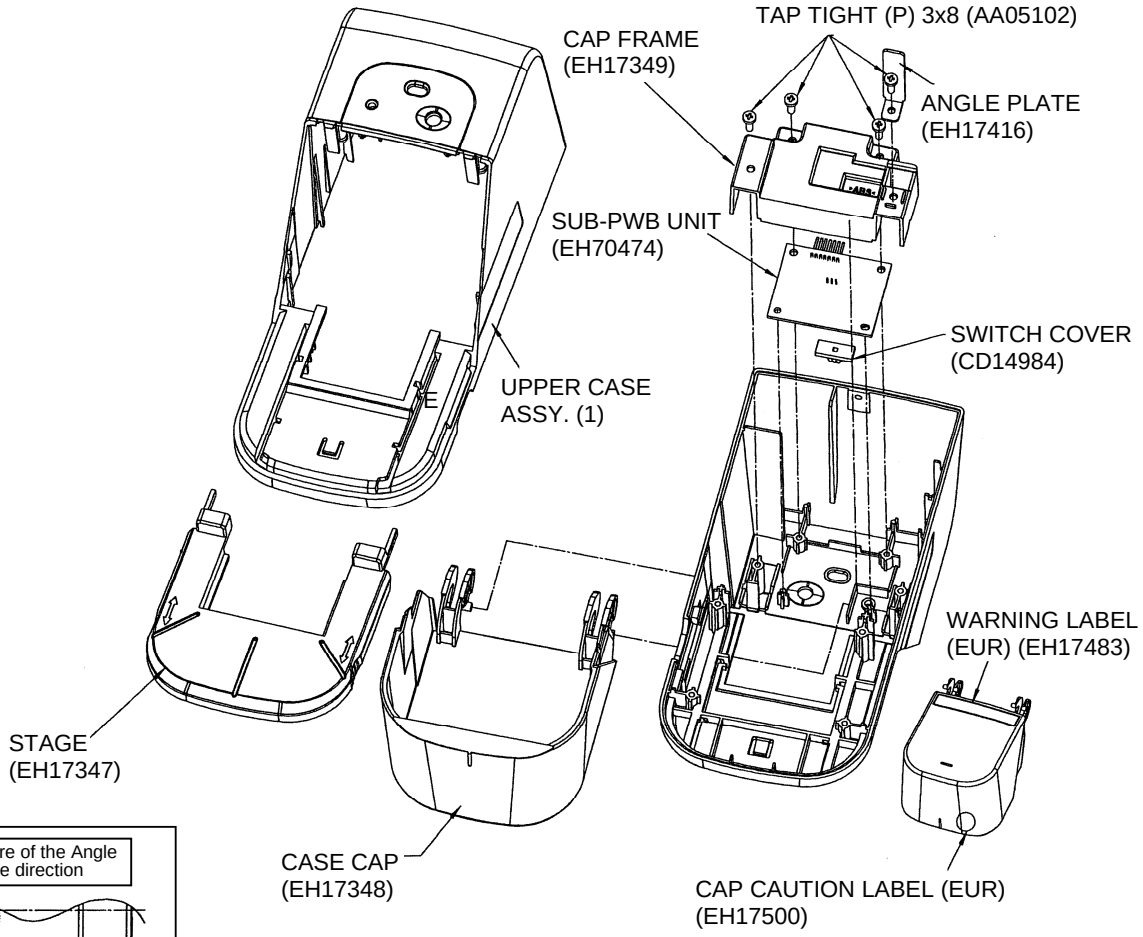
18. UPPER CASE ASSY. (1)

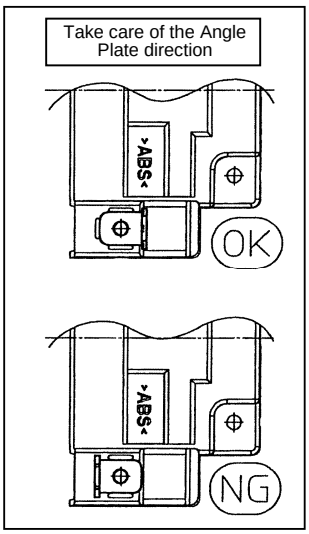


ASSEMBLY PROCEDURE

1. Affix the Cover Caution Label (EUR), Name Plate A and Name Plate B to the Upper Case (EUR).

19. UPPER CASE ASSY. (2)





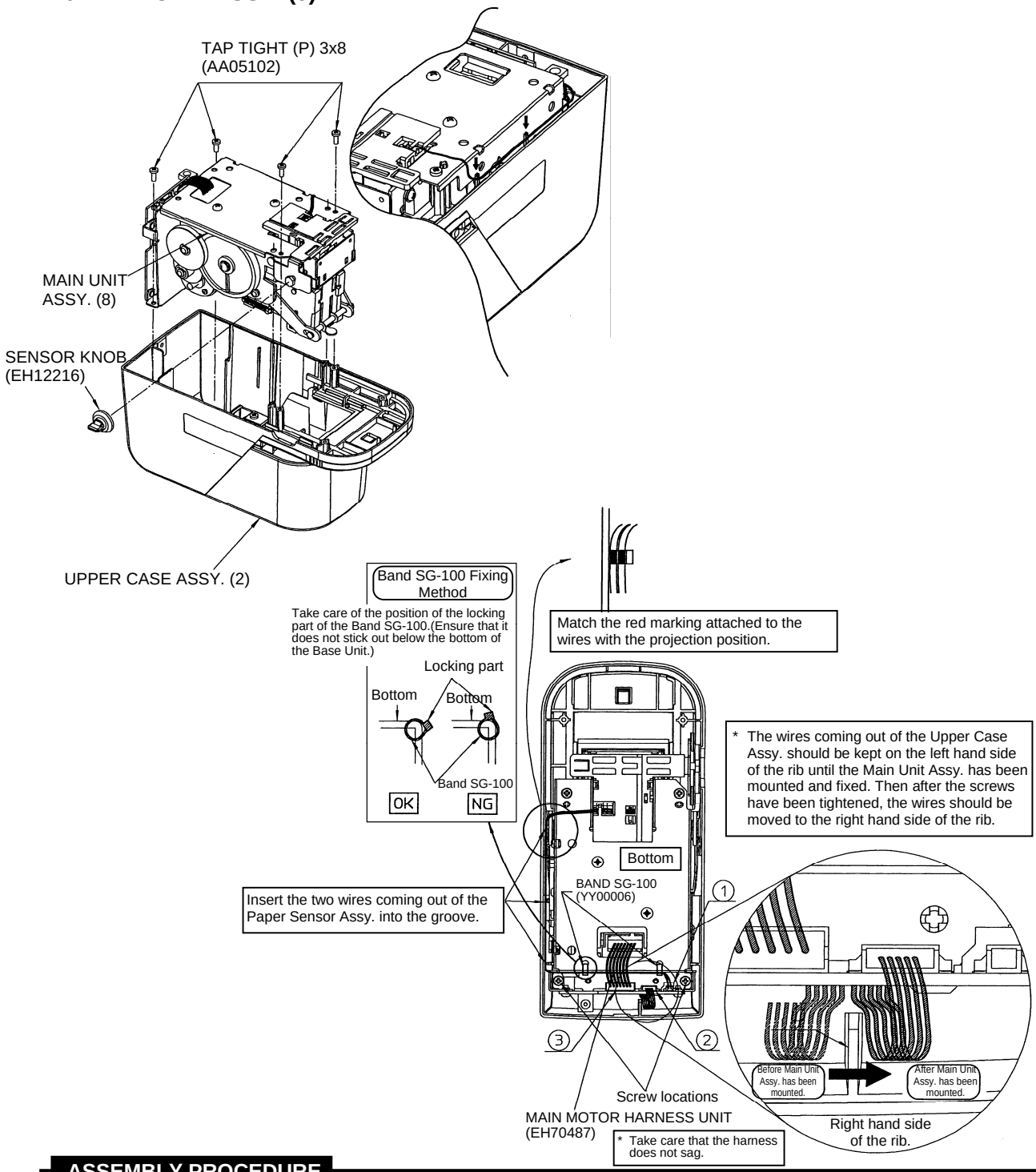
ASSEMBLY PROCEDURE

1. Affix the Warning Label (EUR) and Cap Caution Label (EUR) to the Case Cap.
2. Insert the Stage into the Upper Case Assy. (1).

   * Confirm that the Stage can slide and that the hooks are properly hooked.
3. Insert the rotation pivot parts of the Case Cap on to the ribs on the semi-circular shape of the Upper Case.
4. Insert the Switch Cover into the Upper Case Assy. (1), and place the Sub-PWB Unit on the Upper Case Assy. (1) so that the projection on the Sub-PWB Unit matches the hole in the Switch Cover.
5. Mount the Cap Frame on top of the above, and fix using the three Tap Tights (P) 3x8 CF.
6. Mount the Angle Plate on the Cap Frame and fix using one Tap Tight (P) 3x8 CF.

   Tightening Torque: 0.49N·m ±10% (5kgf·cm)

20. MAIN UNIT ASSY. (9)



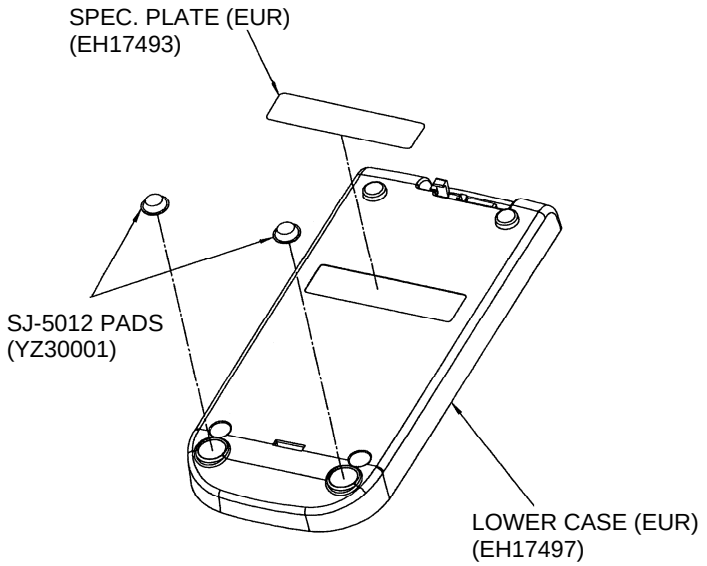
ASSEMBLY PROCEDURE

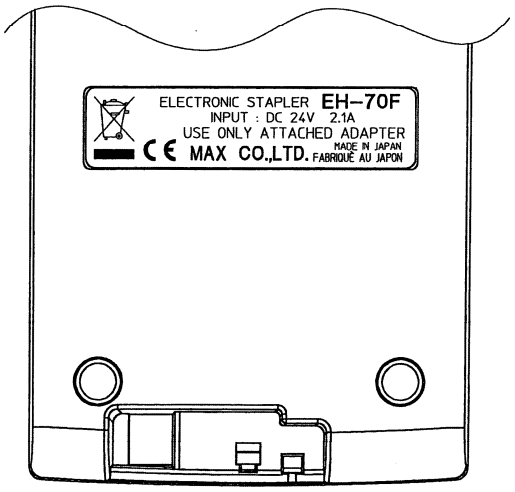
1. Turn the Upper Case Assy. (2) upside down, and mount the Main Unit Assy. (8) in the Upper Case Assy., matching it with the projections on the Upper Case Assy.
2. Mount the Sensor Knob on the head of the Bolt attached to the Sensor Angle of the Main Unit Assy. (8).
3. Fix the Base Unit Assy. to the Upper Case Assy. using the four Tap Tights (P) 3x8.

   Tightening Torque: 0.49N·m ±10%
   (5kgf·cm)

4. Insert the Sensor Harness in to the Connector as shown in Diagram 1.
5. Fix the Sensor Harness Wires to the Base Unit Assy. (in two locations) using the Bands SG-100. Cut off the excess band using nippers.
6. Connect the Harness to the connectors shown as (2) and (3) in the diagram.

21. LOWER CASE ASSY.

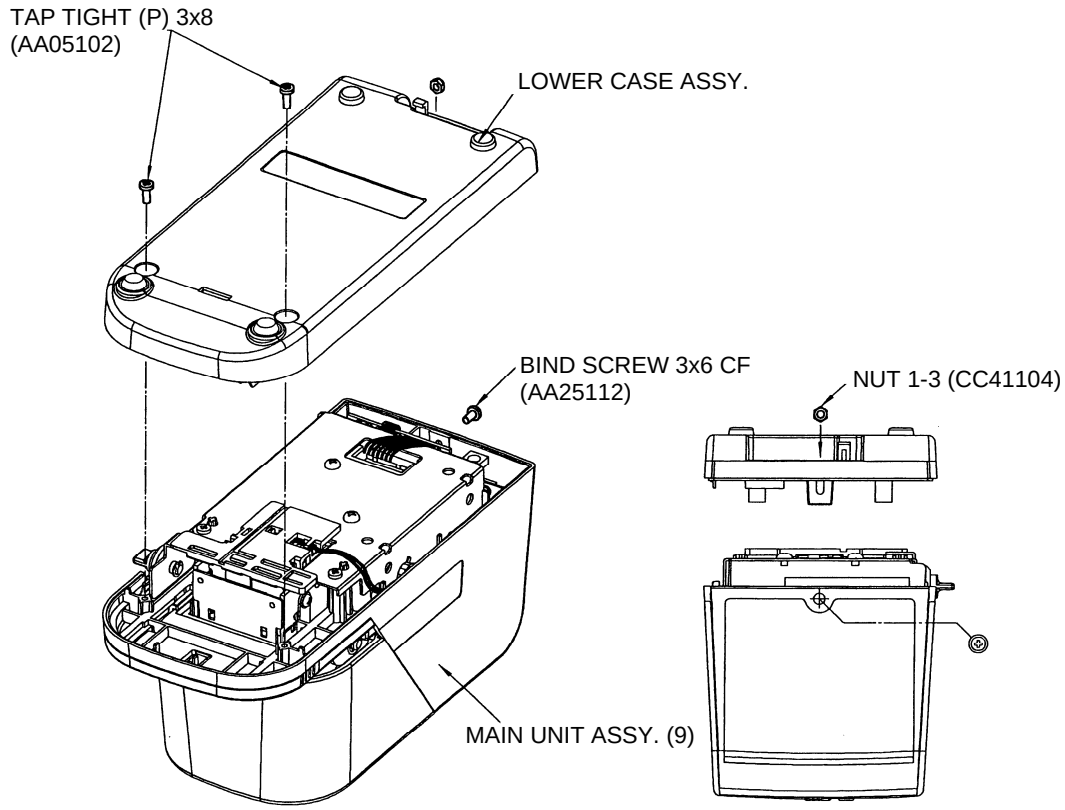


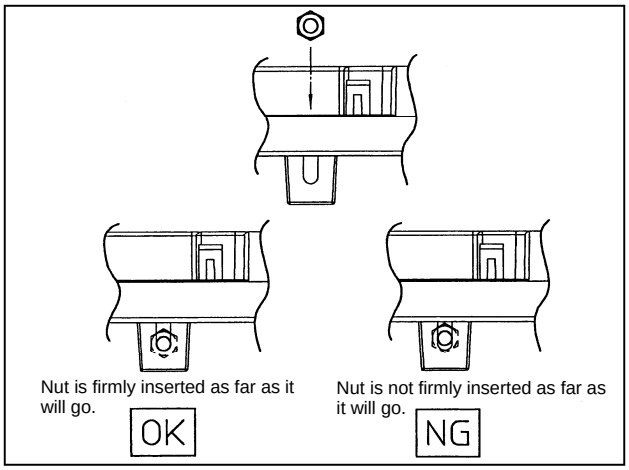


ASSEMBLY PROCEDURE

1. Affix the Spec. Plate and SJ-5012 Pads to the Lower Case. (Take care of the direction of the Spec. Plate.)

MAIN UNIT ASSY. (10)





ASSEMBLY PROCEDURE

1. Insert the Nut 1-3 into the hole at the rear of the Lower Case Assy.
2. Set the Upper Case Assy. in the direction shown in the diagram and mount the Lower Case Assy.

   * Caution!
   At this time, confirm that the wires are correctly contained in the Upper Case, and check that they are not caught in between the cases.
3. From the rear, fix the Upper Case and Lower Case using the Bind Screw 3x6 CF.

   Tightening Torque: 0.49N·m ±10%
   (5kgf·cm)
4. Fix the Upper Case and Lower Case using the two Tap Tights (P) 3x8.

   Tightening Torque: 0.49N·m ±10%
   (5kgf·cm)