# SERVICE MANUAL & PARTS LIST

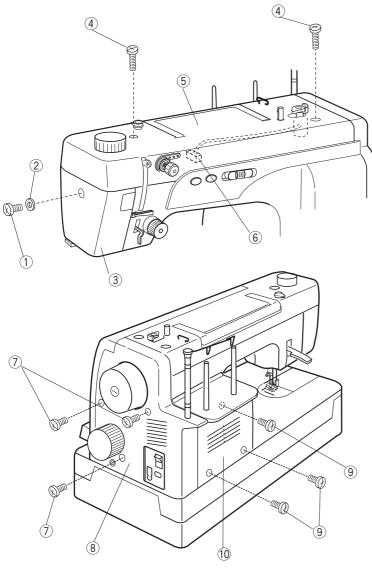
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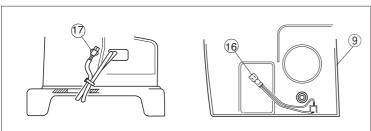
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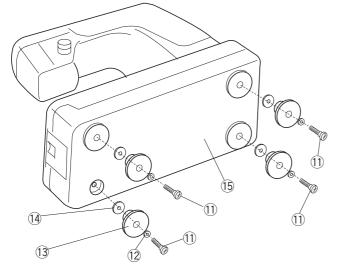
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# **Replacing the External Parts**







#### 1. Face Plate

Remove the setscrew (4 x 10)  $\bigcirc$  and washer  $\bigcirc$  . Remove the face plate  $\bigcirc$  .

#### 2. Top Cover \_\_\_\_\_

Remove the setscrews (4 x 25) 4

Lift the top cover ⑤ and pull out the motor connector ⑥. Remove the top cover.

#### 3. Belt Cover

Remove the 3 setscrews (4 x 12) 7 and the belt cover 8.

Pull out the socket connector (6) from the printed circuit board UD connector (7).

#### NOTE:

When attaching the belt cover, engage the hooks with the motor cover.

#### 4. Motor Cover \_\_\_\_\_

Remove the 3 setscrews (4 x 12) 9 and remove the motor cover 10.

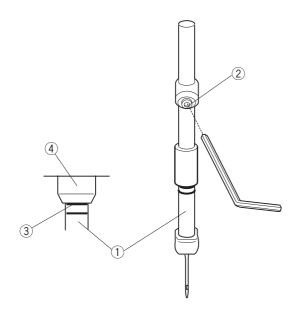
#### 5. Base

Remove the 4 hinge screws (1), washers (2), rubber feet (3) and base washers (4). Remove the base (15).

#### To attach:

Follow the above procedures in reverse.

# **Mechanical Adjustment**



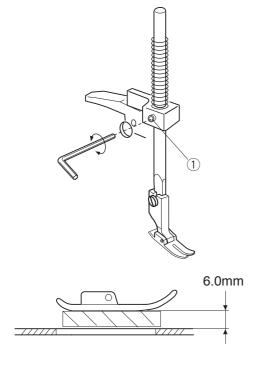
#### 1. Needle Bar Height —

- 1 Remove the face plate.
- 2 Turn the handwheel to bring the needle bar 1 to the lowest position.
- 3 Loosen the setscrew ②. Move the needle bar ① up or down and match the upper hairline ③ with the bottom edge of the needle bar bushing ④.

#### NOTE:

Be sure not to rotate the needle bar when adjusting the needle bar height. The needle clamp screw should be parallel to the upper shaft.

4 Tighten the setscrew and attach the face plate.



#### 2. Presser Bar Height =

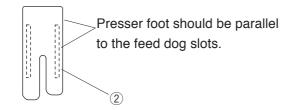
The distance between the bottom of the presser foot in up position and the needle plate should be 5.7–6.3 mm.

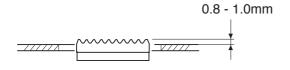
- 1 Remove the face plate and needle.
- 2 Lower the feed dog below the needle plate. Place a block 6 mm thick under the presser foot and lower the presser foot lifter.
- 3 Loosen the setscrew ①. Raise the presser foot lifter and tighten the setscrew ① firmly.

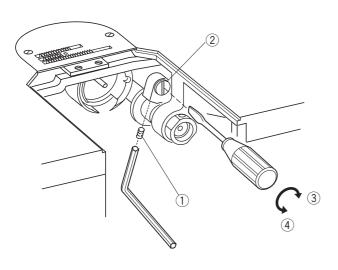
  Attach the needle and face plate.

#### NOTE:

Make sure that the presser foot should be parallel to the feed dog slots ② in the needle plate.





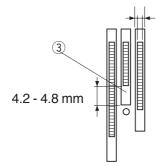


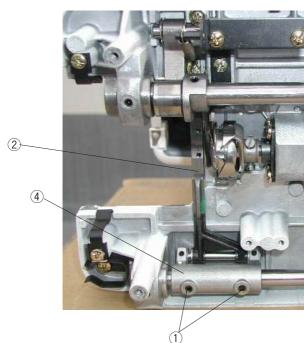
#### 3. Feed Dog Height -

When the feed dog is fully raised the height should be 0.8–1.0 mm above the needle plate.

- Set the stitch length dial at 6 (Maximum). Turn the handwheel to bring the feed dog to the highest position.
- 2 Loosen the setscrew 1).
- 3 Turn the eccentric pin 2 to adjust the feed dog height to 0.9 mm.
- If the feed dog is too low, turn the pin to the right ③.
- If the feed dog is too high, turn the pin to the left 4.
- Tighten the setscrew 1.

Lateral gaps should be even.



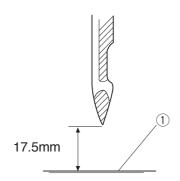


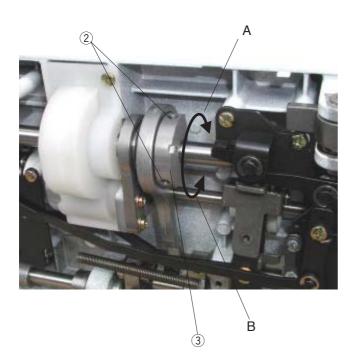
#### 4. Feed Dog Alignment

The lateral gaps between both sides of feed dogs and needle plate slots should be even.

The crealance between the front end of the center feed dog and center slot should be 4.2–4.8 mm when the stitch length dial is set at 0.

- 1 Remove the base and lay the machine on its back.
- 2 Set the stitch length dial at 0.
- 3 Loosen the setscrews ①. Move the feed base ② up or down to adjust the clearance ③between the front end of the center feed dog and center slot to 4.5 mm. Adjust the lateral position of the feed dogs by moving the feed rock shaft ④ to the right or left if neccessary.
- 4 Tighten the setscrews① . Set the stitch length dial at 6 and turn the handwheel to check if the feed dogs do not touch the needle plate.
- 5 Attach the base.





#### 5. Feed Cam Timing \_\_\_\_

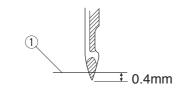
#### To Check:

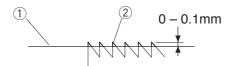
- 1 Lower the needle bar by turning the handwheel until the point of the needle is 17.5 mm above the upper sur face of the needle plate 1.
- The feed dogs should not move when moving the reverse stitch lever up and down.
  If the feed dogs move, adjust the feed cam timing as follows.

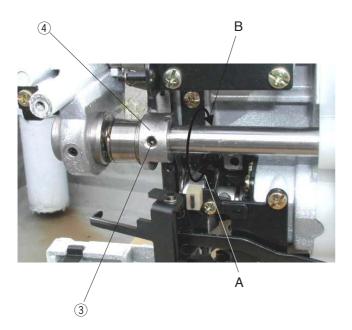
#### To Adjust:

- 1 Remove the base and lay the machine on its back.
- 2 Lower the needle bar until the needle point is 17.5 mm above the needle plate ①.
- 3 Loosen the setscrews ②.

  While moving the reverse stitch lever, turn the feed cam ③ in the direction either **A** or **B** until the feed dogs stop moving.
- 4 Tighten the setscrews 2 and attach the base.







#### 6. Feed Lifting Cam Timing \_\_\_

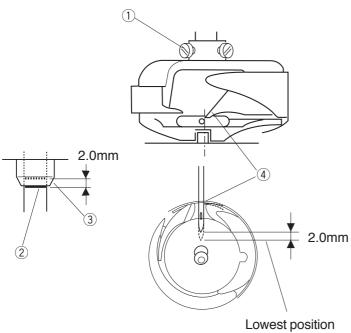
#### To check:

- 1 Lower the needle bar until the point of needle is 0.4 mm below the needle plate 1.
- 2 The top of the feed dogs 2 should be 0–0.1 mm above the needle plate.

#### To adjust:

- 1 Remove the base and lay the machine on its back.
- 2 Lower the needle bar until the needle point is 0.4 mm below the needle plate 1.
- 3 Loosen the setscrew (3).
- 4 If the feed dogs are higher, turn the feed lifting cam 4 in the direction **A**.

  If the feed dogs are lower, turn the feed lifting cam 4 in the direction **B**.
- 5 Tighten the setscrew e and attach the base.



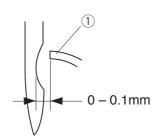
#### 7. Needle to Hook Timing

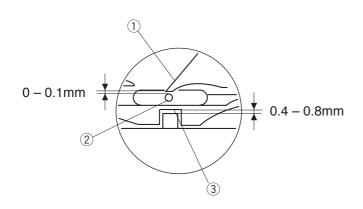
- 1 Remove the needle plate.
- 2 Loosen the 3 setscrews ①. Pull out the hook race very slightly (less than 0.5 mm).
- 3 Raise the needle bar from the lowest position until the lower heirline ② of the needle bar matches the edge of the needle bar bushing ③.

#### NOTE:

The needle bar rises 2 mm from the lowest position.

- A Rotate the hook to match the hook point (4) with the right side of the needle.
- 5 Tighten the setscrews ① slightly and proceed with the adjustment of the clearance between the needle and hook point.





# 8. Clearance Between Needle and Hook Point

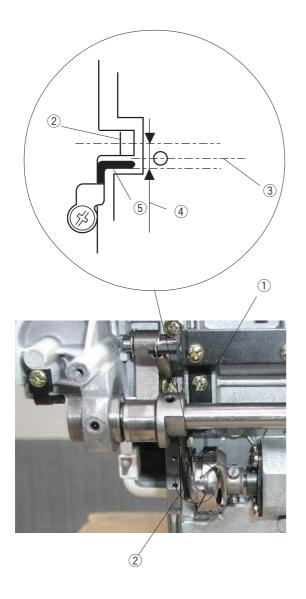
The clearance between the needle and hook point should be 0–0.1 mm.

- 1 Turn the handwheel to bring the hook point 1 behind the needle 2.
- 2 Knock on the hook race rim lightly to make a slight clearance between the needle and hook point.

#### NOTE:

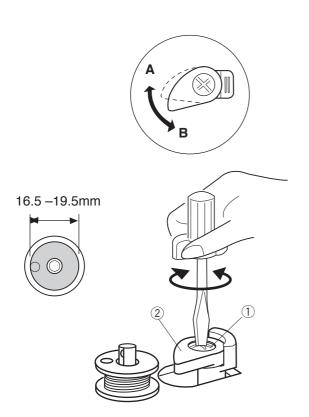
Do not knock on the hook body.

- 3 Tighten the setscrews firmly and check the needle to hook timing and the thread path 3 (0.4–0.8 mm).
- 4 Attach the needle plate.



#### 9. Hook Stopper Position

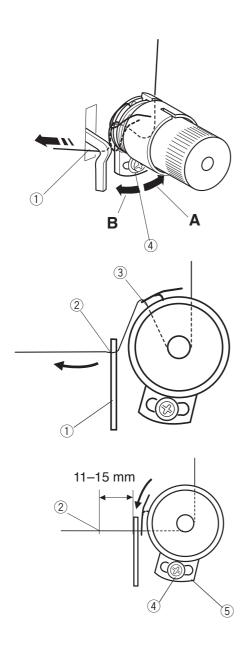
- 1 Remove the needle plate, base and feed dog.
- 2 Loosen the setscrew 1 and move the hook stopper 2 so that the center of the needle 3 is located between the center of th hook stopper 4 and outer side of the hook stopper spring 5.
- $\ensuremath{\,^{\mbox{\footnotesize 3}}}$  Tighten the setscrew  $\ensuremath{\,^{\mbox{\footnotesize 1}}}$  and attach the needle plate and base.



#### 10. Bobbin Winder Stopper —

The amount of thread wound on the bobbin should be 16.5–19.5 mm in diameter.

- 1 Loosen the setscrew 1. Turn the bobbin winder stopper 2 to adjust the thread amount.
- If the amount is too mauch, turn the stopper in the direction A.
- If the amount is not enough, turn the stopper in the direction **B**.
- 2 Tighten the setscrew 1 firmly.



#### 11. Check Spring Stroke \_\_\_\_\_

The amount of the needle thread supplied by the check spring should be 11–15 mm.

- Thread the machine up to the thread guide ① and lower the presser foot.
   Lower the needle bar to the lowest position.
- 2 Hold the thread end and mark the point 2 on the thread beside the thread guide.

#### NOTE:

There should be no slack in the thread.

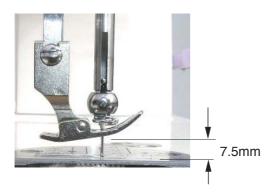
- 3 Pull the thread gently to the left until it stops (the check spring 3 went full stroke).
- 4 Measure the length of thread drawn out.
- 5 Loosen the setscrew 4 and move the tension dial guide 5 to adjust the stroke.
- If the length is too long, turn the guide in the direction A.
- If the length is too short, turn the guide in the direction B.
- 6 Tighten the setscrew (4).

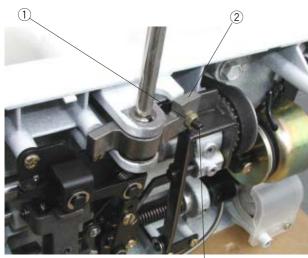


#### 12. Pre-tension Dial

The standard position of the pre-tension dial is as follows:

The screw head ① sinks 4 mm below the dial face.





3

#### 13. Knee Lifter Lever —

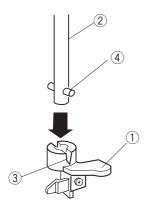
The presser foot rises 7.5 mm when it is fully raised with the knee lifter.

- 1 Remove the base and lay the machine on its back.
- 2 Loosen the nut 1 on the knee lifter lever 2 slightly and turn the adjusting screw 3 to adjust the height.
- If it is lower than 7.5 mm, turn the adjusting screw ③ clockwise.
- If it s higher than 7.5 mm, turn the adjusting screw ③ counterclockwise.
- 3 Tighten the nut 1 firmly and attach the base.

#### NOTE:

Lower the needle bar to the lowest position and check if the needle cramp does not hit against the presser foot when it is fully raised.

#### 14. Needle Threader —

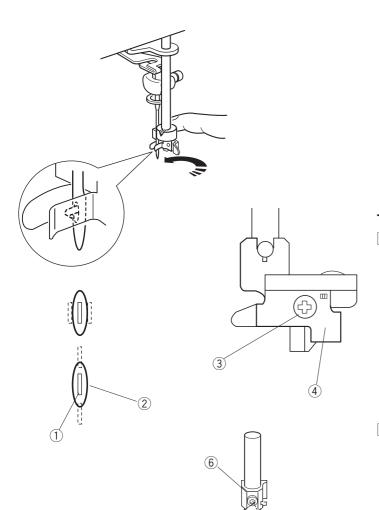


#### To remove:

- 1 Remove the face plate.
- 2 Pull the threader 1 out from the threader shaft 2.

#### To attach:

3 Align the groove 3 of the theader with the pin 4 on the threader shaft. Push the threader up until it snaps in place.



(5)

#### To adjust:

1 If the threader hook 1 thrusts or hits against either left or right edge of the needle eye 2:

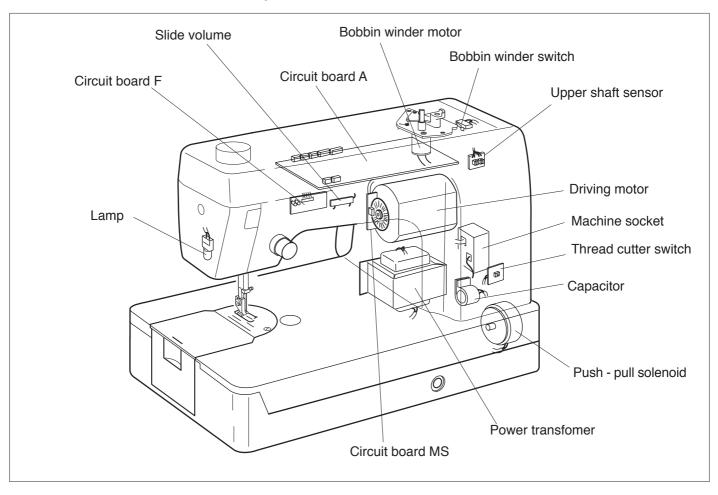
Loosen the setscrew ③. Move the threader plate ④ to adjust the lateral position of the threader hook ①.

If the threader hook 1 thrusts or hits against either top or bottom edge of the needle eye 2, or misses the needle eye 2:

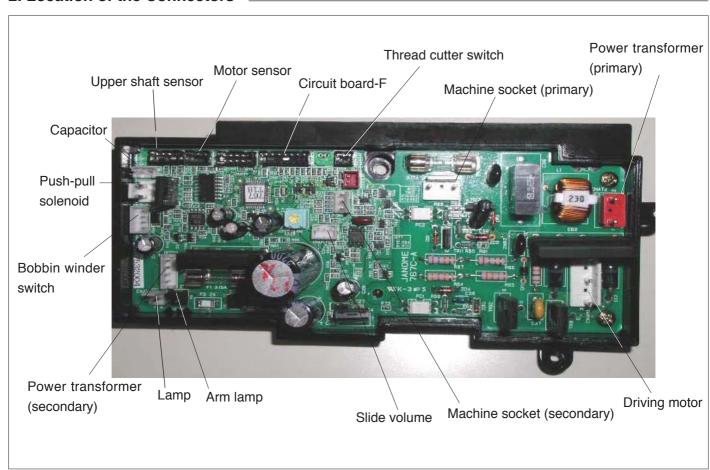
Loosen the setscrew ⑤. Move the threader position setting plate ⑥ up or down to adjust the vertical position of the threader hook ①.

# **Replacing the Electronic Components**

#### 1. Location of the Electronic Components

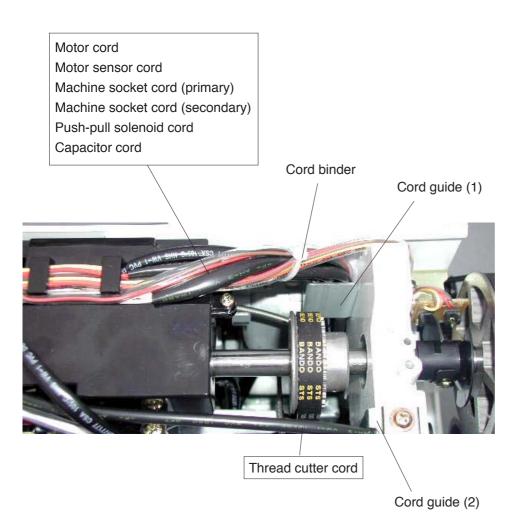


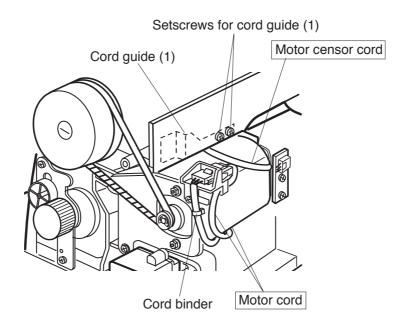
#### 2. Location of the Connectors

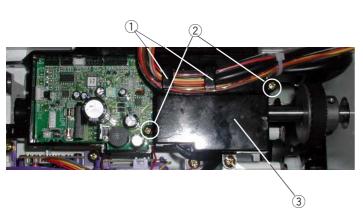


#### 3. Internal Wiring

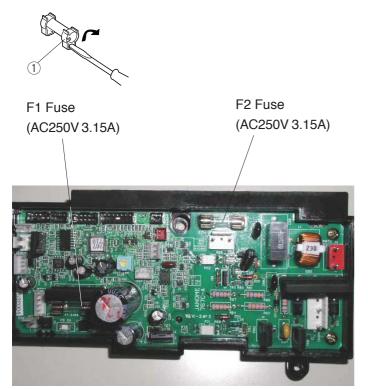
To prevent the internal wirings from contacting the moving parts or being caught in the joint of the external parts, the internal wirings should properly be routed and secured as illustrated.











#### 4. Circuit Board-A

#### To remove:

- 1 Remove the top cover.
- 2 Pull out connectors from the circuit board-A. Remove the cords from the cord clips ①.
- 3 Remove the setscrews 2 and the board-A case lid 3.
- Pull out the connectors under the case lid. Remove setscrews (4) and circuit board-A.

#### To attach:

Install the circuit board-A and secure it with the setscrews (4) .

- 5 Insert the following connectors:
  - 5 Machine socket (primary)
  - 6 Power transformer (primary)
  - 7 Driving motor
- 6 Attach the board-A case lid 3 and secure it with the setscrews 2.
- [7] Insert the remaining connectors and secure the cords with the cord clips ① on the case lid.
- 8 Attach the top cover.

#### NOTE:

Do not disconnect the connectors by pulling on cord. To disconnect, grasp the connector, not the cord.

#### **Changing the Fuse**

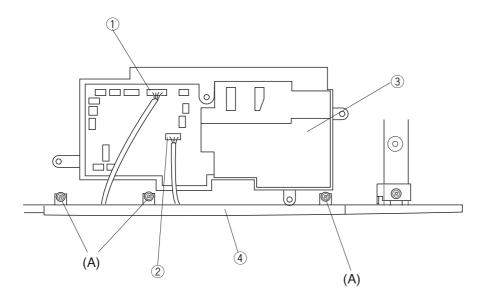
- 1 Remove the Fuse from Fuse clip 1 with a screw driver.
- 2 Insert a new fuse and push it down into the fuse clip.

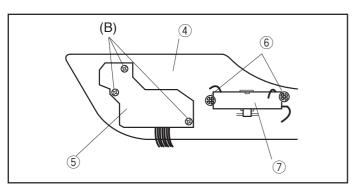
#### NOTE:

Replace the fuse with the same type and rating. If there is any trace of burning, browning or other abnormalities on the circuit board-A, replace it.

Fuse	Manufacture	Туре
F1	SOC	ET-3.15A-250V
F2	SOC	ET-3.15A-250V

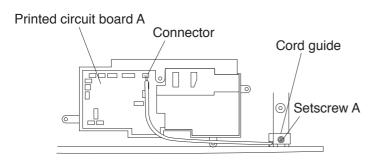
#### 5. Circuit Board-F and Slide Volume



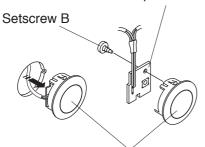


- 1 Removed the top cover.
- 2 Pull out the circuit board-F connector ①, slide volume connector ② from the circuit board-A ③.
- Loosen the 3 set screw (A). Remove the ornamental panel 4.
- Remove the 3 set screws (B) and remove the circuit board-F (5) from the panel.
- Emove the 2 CS-rings (and slide volume ?).
- 6 To attach: follow the above procedure in reverse.

# Cord binder



New printed circuit board UD



Thread cutter button unit

#### 6.To Replace the Printed Circuit Board UD -

To remove:

- 1 Remove the top cover, belt cover and base.
- 2 Remove the cord binder below the handwheel.
- 3 Disconnect the connector of the thread cutter from the printed circuit board A.

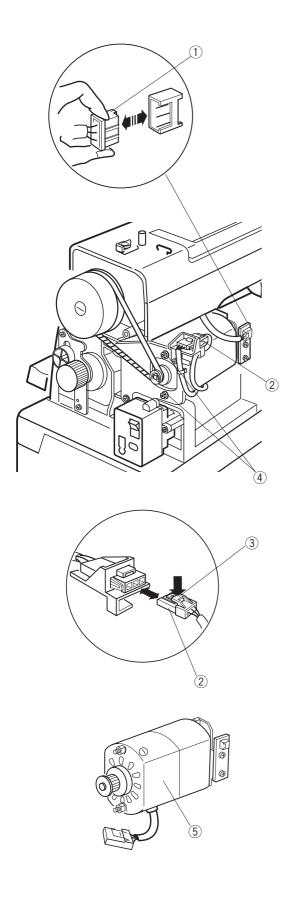
Remove the setscrew A and cord guide.

A Remove the setscrew B and the thread cutter button unit.

Replace the printed circuit board UD.

#### To attach:

Follow the procedure above in reverse.



#### 7. Driving Motor \_

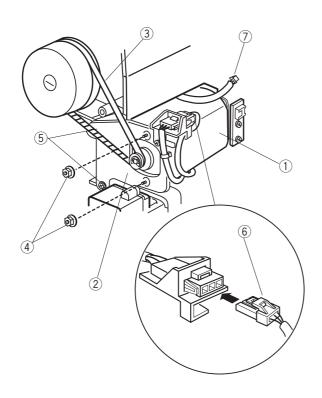
#### To remove:

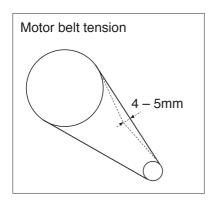
- 1 Remove the belt cover and motor cover.
- 2 Pull out the motor sensor connector 1.
- 3 Pull out the motor connector ②, while pushing the connector lock ③.
- 4 Remove the nuts4 and driving motor 5.

#### NOTE:

Do not disconnect the connectors by pulling on cord. To disconnect, grasp the connector, not the cord.

(to be continued on next page.)





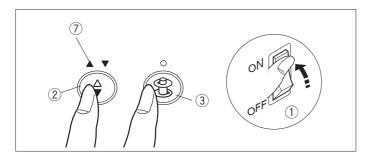
#### 8. Driving Motor (continued) —

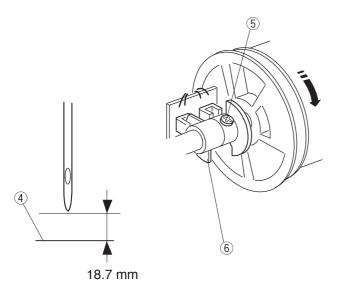
#### To attach:

- Install the driving motor ① to the motor bracket ② and attach the motor belt ③. Tighten the nuts ④ firmly.
- 2 Loosen the setscrews (5) slightly and move the motor up or down to adjust the motor belt tension.

  The belt should deflect 4–5 mm when applying 300 grams of load to the middle of the belt.

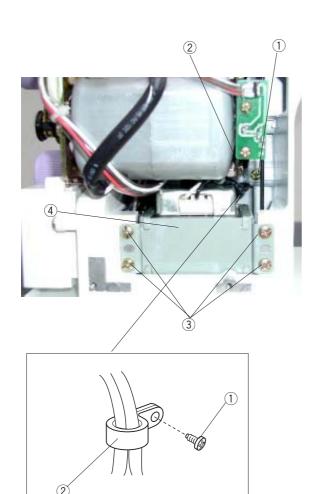
  Tighten the setscrews (5) firmly.
- 3 Insert the motor connector 6 and motor sensor connector 7.
- 4 Attach the motor cover and belt cover.

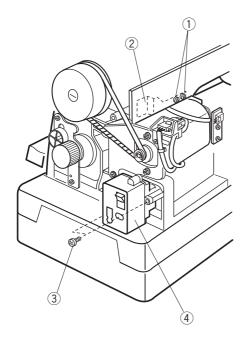




#### 9. Needle Stop Position

- 1 Turn the power switch 1 on while pressing the Up/ Down needle position button 2 and bobbin winding button 3 at the same time.
- 2 Remove the top cover.
- 3 Lower the needle bar by turning the handwheel until the needle point is 18.7 mm above the upper surface of the needle plate 4.
- 4 Loosen the setscrew ⑤ . Rotate the upper shaft shielding plate ⑥ toward you until the green LED ⑦ turns on.
- 5 Tighten the setscrew 5 and turn the power switch off.
- 6 Attach the top cover.



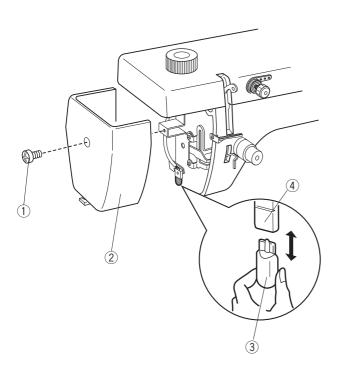


#### 10. Power Transformer

- Remove the top cover and motor cover.
- 2 Remove the board-A case lid and pull out the transformer connectors (primary and secondary) from the circuit board-A.
- 3 Remove the driving motor.
- 4 Remove the setscrew 1 and cord binder 2.
- 5 Remove the setscrews 3 and transformer 4.
- 6 To attach: follow the above procedure in reverse.

#### 11. Machine Socket

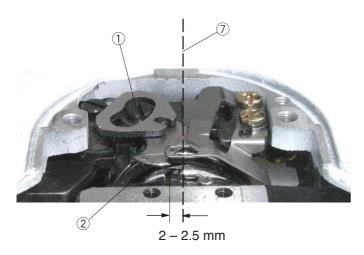
- 1 Remove the top cover, belt cover and motor cover.
- 2 Remove the board-A case lid and pull out the machine socket connectors (primary and secondary) from the circuit board-A.
- 3 Remove the setscrews 1 and cord guide (1) 2.
- 4 Remove the setscrews 3 and machine socket 4.
- 5 To attach: follow the above procedure in reverse.

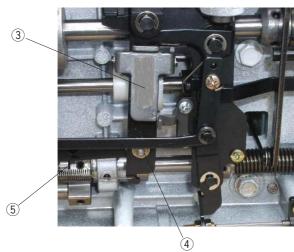


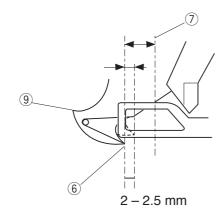
#### 12. Light Bulb —

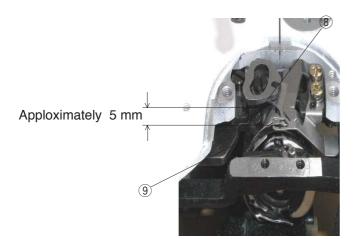
- $\ \ \, \ \, \ \ \, \ \,$  Loosen the set screw  $\ \ \, \ \ \, \ \,$  and remove the face plate  $\ \ \, \ \, \ \, \ \,$  .
- 2 Pull out the light bulb 3 from the lamp socket 4.
- 3 Insert a new bulb and push it into the lamp socket.
- 4 Attach the face plate.

### **Adjustment of the Thread Cutter Mechanism**









#### 1. Thread Cutter Blade \_\_\_\_\_

#### To replace:

- Remove the needle plate and base.
- 2 Remove the static cutter blade. Remove the hinge screw (1) and thread cutter balde (2).
- 3 Attach the new thread cutter balde and secure it with the hinge screw (1).

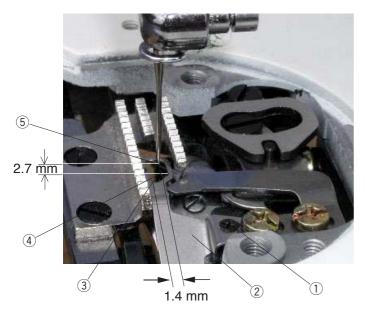
Attach the static cutter blade and adjust the position of the static cutter balde and thread cutter blade.

#### To adjust:

- 1 Remove the needle plate and base.
- 2 Lower the needle bar to the lowest position. Turn the handwheel toward you while pushing up the link body 3 to engage the thread cutter blade 2 and bring it to the end of the stroke.
- 3 Loosen the nut 4 and move the thread cutter link 5 to the left or right to adjust the position of the thread cutter blade. The point 6 of the thread cutter blade should be 2–2.5 mm from the center of the needle drop position 7.
- 4 Tighten the nut 4 Attach the needle plate and base.

#### NOTE:

Check if there is apploximately 5 mm distance between the tail of the hook wing ® and the end point 9 of the thread cutter blade when the end point 9 of the thread cutter blade is aligned with the center of thr needle drop position 7.



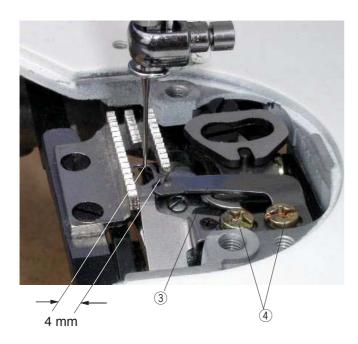
#### 2. Thread Guide Plate —

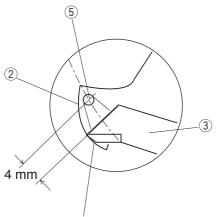
- 1 Remove the needle plate.
- 2 Loosen the flat screw 1 and adjust the position of the thread guide plate 2.
- The left inner edge ③ of the thread guide plate should be approximately 1.4 mm from the center of the needle drop position ④ and the back inner edge ⑤ of the thread guide plate should be approximately 2.7 mm from the center of the needle drop position ④.
- 4 Tighten the flat screw firmly. Attach the needle plate.



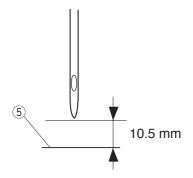
#### 3. Static Cutter Blade =

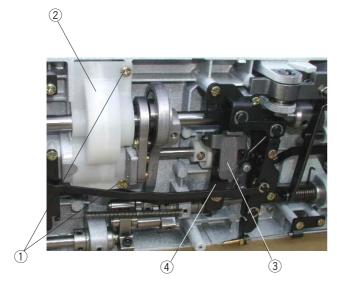
- 1 Remove the needle plate and base.
- 2 Lower the needle bar to the lowest position. Turn the handwheel toward you while pushing up the link body 1 to engage the thread cutter blade 2 and bring it under the static blade 3.
- 3 Loosen the setscrews 4 and adjust the position of the static cutter blade 3 so that the distance between the center of the needle drop position 5 and the static cutter blade 3 is 4 mm and the left edges of the static blade and thread cutter blade are aligned.
- 4 Tighten the setscrews 4. Attach the needle plate and base.

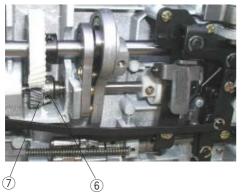


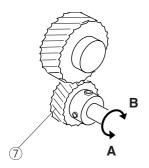


Align the left edges of the thread cutter blade and the static cutter blade.









#### 4. Needle to Cutter Cam Timing

- 1 Remove the base.
- 2 Pemove the setscrews 1 and gear cover 2.
- 3 Lower the needle bar to the lowest position. Turn the handwheel toward you to raise the needle bar while pusging up the link body 3.
- 4 Continue to turn the handwheel until the thread drawing arm 4 starts to move to the right.

  The needle point should be 10.5 mm above the upper surface of the needle plate 5 when the thread drawing arm starts to move.
- 5 Loosen the setscrews 6 and turn the hook shaft gear 7 to adjust the timing.
- If the needle point is too high, turn the hook shaft gear in the direction **A**.
- If the needle point is too low, turn the hook shaft gear in the direction **B**.

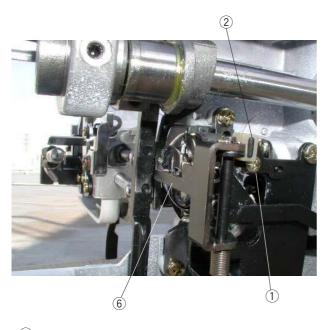
#### **NOTES:**

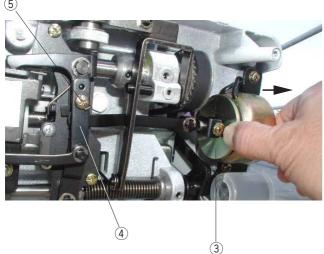
Hold the hook so that it will not rotate when turning the hook shaft gear.

Check the needle to hook timing and adjust it if neccessary.

6 Tighten the setscrews 6 firmly. Attach the gear cover 2 and secure it with the setscrews 1.

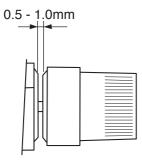
Attach the base.

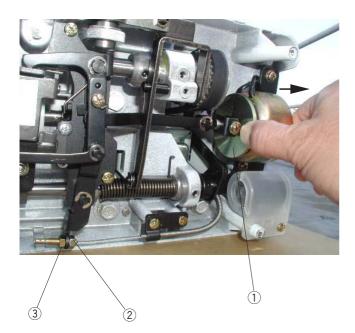




#### 5. Thread Drawing Lever

- 1 Remove the base.
- 2 Loosen the setscrew 1 and free the stopper 2.
- 3 Turn the the handwheel toward you to raise the needle bar from the lowest position until the needle point is 10.5 mm above the upper surface of the needle plate.
- Push the solenoid disk ③ fully to swing the thread drawing lever ④ .
  Loosen the setscrew ⑤ and move the thread drawing arm ⑥ to the left or right so that the tip of the thread drawing lever ④ lightly contacts with the bobbin.
- 5 Tighten the setscrew 5.
- 6 Restore the stopper 2 and press it against the thread drawing lever 4, while pushing the solenoid disk 3. Tighten the setscrew 1 firmly.
- 7 Attach the base.





#### 6. Auto Tension Release

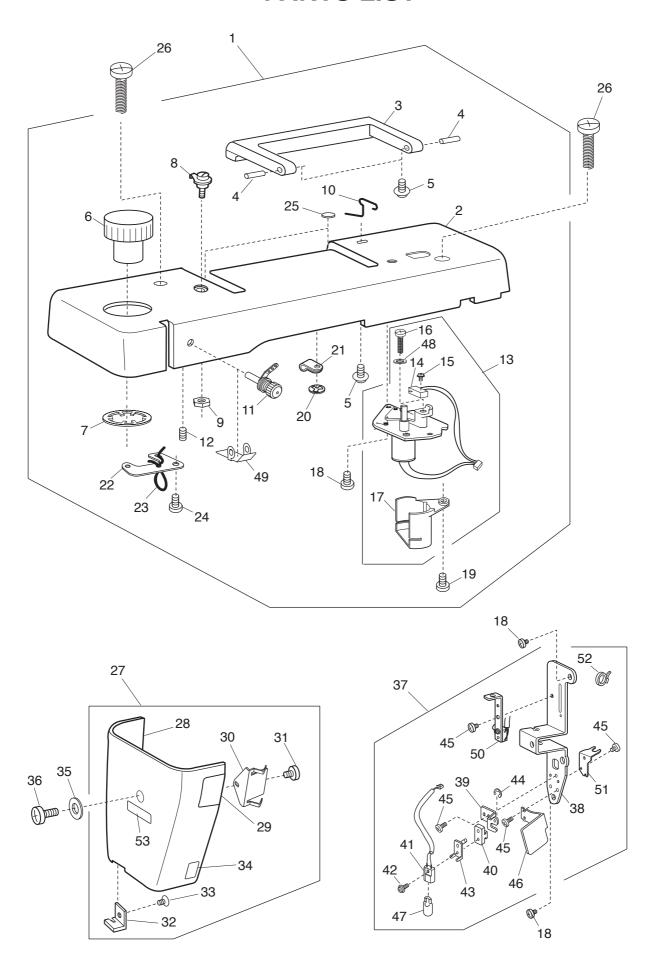
1 Turn the handwheel toward you to raise the needle bar until the needle point is just above the needle plate.

Set the tension dial at 4 and push the solenoid disk 1 fully to the right. The tension disks should open 0.5 – 1 mm.

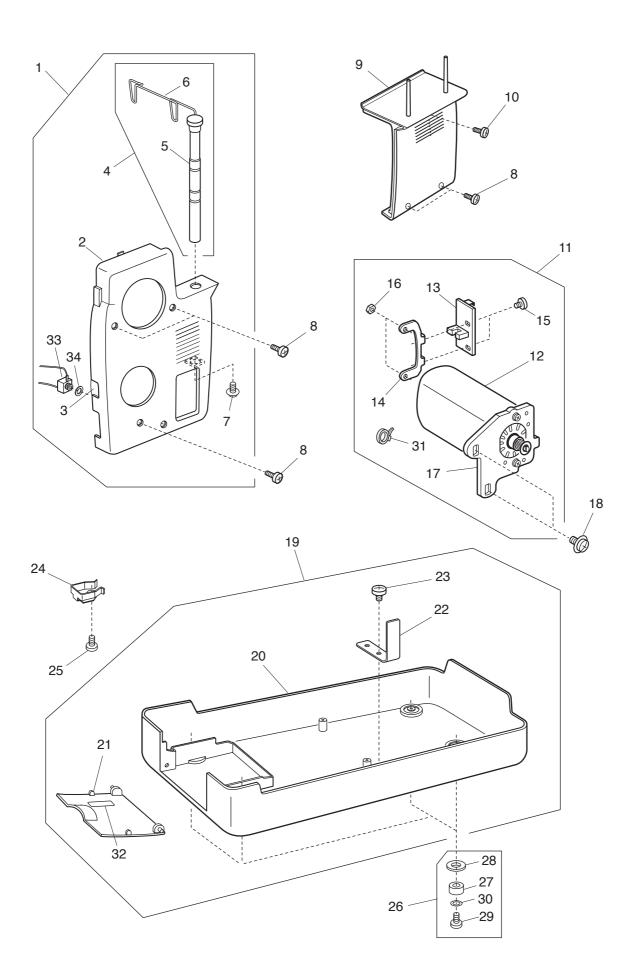
- 3 Loosen the lock nut 2 and turn the adjusting nut 3 to adjust the gap between the tension disks.
- If the gap is too wide, tun the adjusting nut counterclock wise.
- If the gap is too narrow, tun the adjusting nut clockwise.
- 4 Tighten the lock nut 2.

# **Thread Cutter Troubleshooting**

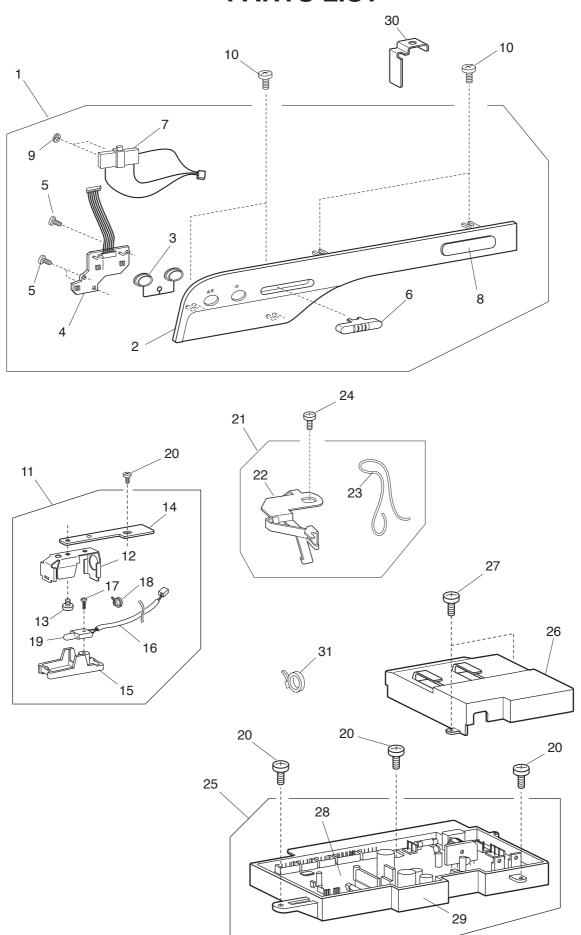
The needle thread is not cut.	The static cutter is dull.	Replace or grind the static cutter blade.
	The static cutter blade is out of position.	Adjust the position of the static cutter blade (see page 25).
	Skipped stitch before thread cutting.	Reduce the check spring stroke (see page 10). Adjust the needle to hook timing (see page 7).
The bobbin thread is not cut.	The thread cutter blade is out of position.	Adjust the stroke of the thread cutter blade (see page 23).
	The thread guide plate is out of position.	Adjust the position of the thread guide plate (see page 24).
The thread slips out the needle eye when starting sewing.		Adjust the needle to cutter cam timing (see page 26).
	The thread drawing lever is out of position.	Adjust the thread drawing lever position (see page 27).
The needle thread bunches up on the wrong side of the fabric at the beginning of the seam.	thread is left after thread cut-	Adjust the needle to cutter cam timing (see page 26).  Adjust the position of the static cutter blade (see page 25).
The tail of the needle thread appears on the right side of the fabric.	The pre-tension is too loose.	Tighten the pre-tension.
	The needle to cutter cam timing is too late.	Adjust the needle to cutter cam timing (see page 26).
	The static cutter blade is out of position.	Adjust the position of the static cutter blade (see page 25).
Skipped stitches at the beginning of the seam due to a too short tail of the thread after thread cutting.		Adjust the auto tension release (see page 28).
	The needle to cutter cam timing is too early.	Adjust the needle to cutter cam timing (see page 26).
	The thread drawing lever is outt of position.	Adjust the thread drawing lever position (see page 27).
	The static cutter blade is out of position.	Adjust the static cutter blade position (see page 25).



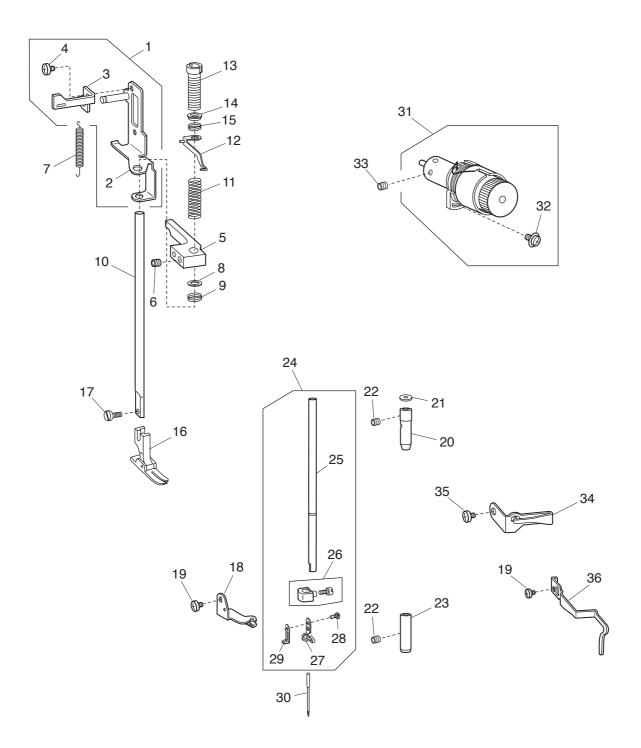
	DADTO	
KEY NO.	PARTS NO.	DESCRIPTION
1	767603605	Top cover (unit)
2	767007201	Top cover
3	846015004	Handle
4	846016005	Pin
5	000115205	Setscrew 4x6
6	767008109	Foot pressure adjusting dial
7	000015101	Snap ring CS-22
8	767639002	Thread guide (unit)
9	000160102	Adjustable lock nut
10	846021003	Top cover thread guide
11	767514608	Pre-tension (unit)
12	000111201	Hexagonal socket screw 4x4
13	767604008	Bobbin winder (unit)
14	846514101	Micro switch
15	000115308	TP screw 2x8
16	000104119	Setscrew 4x20
17	846179007	Motor cover
18	000081005	Setscrew 4x8
19	000101703	Setscrew 4x12
20	000014007	Snap ring CS-4
21	000188405	Cord binder 2
22	767152006	Oil wick fixing plate
23	763033204	Oil wick
24	000101404	Setscrew 4x6
25	767211004	Felt
26	000080901	Setscrew 4x25
27	767602202	Face plate (unit) (U.S.A.) (Australia) (UK) (Continental Europe
	767602604	Face plate (unit) (Canada)
28	767005200	Face plate
29	767006107	Foot pressure display window
30	767197003	Presser bar base
31	000103004	Setscrew 3.5x6
32	840602109	Thread cutter (unit)
33	000095105	Setscrew 3x5
34	767208008	Needle sticker
35	000071024	Washer 4
36	000071024	Setscrew 4x10
37	767611101 767016203	Front bracket (unit) Front bracket
38		
39	767038005	Lamp bracket
40	767174004	Lamp cushion
41	501509703	Lamp socket (unit)
42	000114905	Setscrew TP 2x10
43	767183006	Lamp set plate
44	000001104	Snap ring E-2.3
45	000103808	Setscrew 3x5
46	767146007	Lamp shield plate
47	000026002	Wedge base lamp 12V 5W
48	000071013	Washer
49	846227001	Handle spring
50	767696007	Presser foot lifter switch (unit)
51	767224000	Set plate
52	000053008	Cord binder
53	100517008	Sticker (Canada)



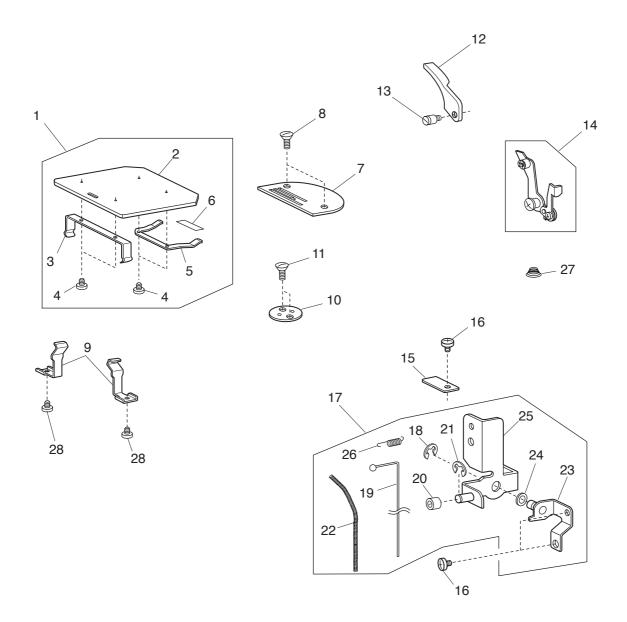
KEY	PARTS	
NO.	NO.	DESCRIPTION
1	767605504	Belt cover (unit)
2	767011116	Belt cover
3	767014304	Stitch length window
4	767636009	Thread guide (unit)
5	784177000	Thread guide post
6	767015006	Thread guide bar
7	000115700	Setscrew TP 4x10
8	000170507	Setscrew 4x12
9	767010001	Motor cover
10	000101806	Setscrew 4x16
11	767653002	Motor (unit) 120V (U.S.A.) (Canada)
	767665007	Motor (unit) 230V (Australia) (UK) (Continental Europe)
12	014390106	Motor (unit) (U.S.A.) (Canada)
	023690211	Motor (unit) (Australia) (UK) (Continental Europe)
13	767507000	Printed circuit board V (unit)
14	767134002	Set plate
15	000103808	Setscrew 3x5
16	000062402	Nut 4-2-7 (U.S.A.) (Canada)
17	767135003	Motor bracket
18	000115504	Setscrew TP 5x10
19	767606907	Base (unit) (U.S.A.)
	767606918	Base (unit) (Canada)
	767606206	Base (unit) (Australia) (UK) (Continental Europe)
20	767012209	Base
21	767013004	Base cover
22	767188001	Table latch spring (2)
23	000171302	Setscrew 4x8 (B)
24	767187000	Table latch spring (1)
25	000101404	Setscrew 4x6
26	767643102	Bed rubber foot (unit)
27	797363005	Bed rubber foot
28	785260004	Bed rubber foot plate
29	784169010	Bed rubber foot screw
30	000070300	Washer
31	000053008	Cord binder
32	830312016	Sticker (U.S.A.)
	100045000	Sticker (Canada)
33	767541006	Jack cord (unit)
34	000071024	Washer 4



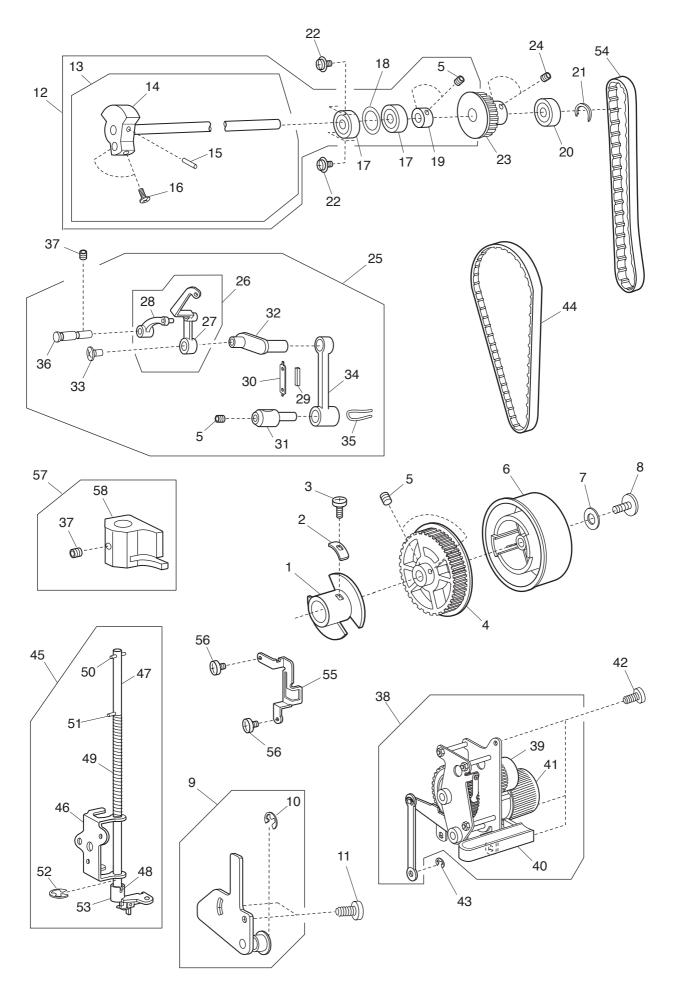
KEY	PARTS	
NO.	NO.	DESCRIPTION
1	767601142	Ornamental plate (unit)
2	767003908	Ornamental plate
3	767004600	Button 1
4	767501004	Printed circuit board F (unit)
5	000120203	Setscrew 3x8
6	767140207	Speed control slider
7	767516002	Slide volume
8	767354000	Emblem
9	000014306	Snap ring CS-3
10	000115205	Setscrew TP 4x6
11	767626006	Arm lamp (unit)
12	767126001	Reflector plate
13	000101127	Setscrew 3x4
14	767127002	Arm lamp set plate
15	767128003	Lamp holder
16	501509806	Lamp socket (unit)
17	000225209	Setscrew 2.3x12 (B)
18	000053008	Cord binder
19	000026002	Wedge base lamp 12V 5W
20	000081005	Setscrew 4x8
21	767612009	Oil wick fixing plate (2) (unit)
22	767153007	Oil wick fixing plate
23	763033020	Oil wick
24	000101404	Setscrew 4x6
25	767627708	Printed circuit board A (unit) (U.S.A.) (Canada)
	767627801	Printed circuit board A (unit) (Australia) (UK) (Continental Europe)
26	767130008	Printed circuit board A case (upper)
27	000075109	Setscrew 3x12-2V
28	767532107	Printed circuit board A (unit) 120V (U.S.A.) (Canada)
	767536101	Printed citcuit board A (unit) 230V (Australia) (UK)
		(Continental Europe)
29	767129004	Printed circuit board A case (lower)
30	767285009	Cord guide (2)
31	000053101	Cord binder



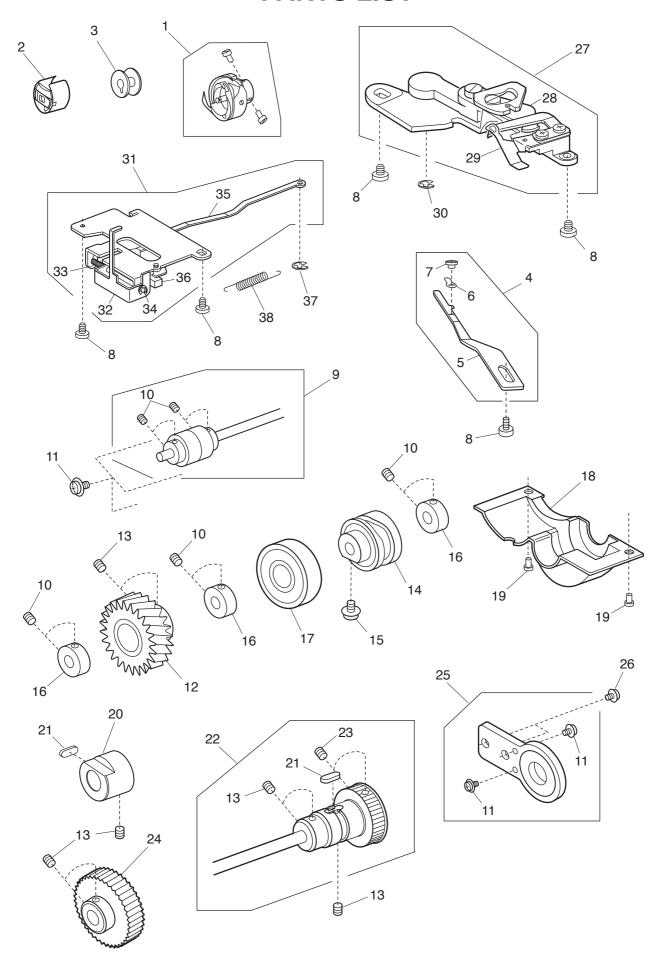
KEY	PARTS	
NO.	NO.	DESCRIPTION
1	767669001	Presser bar lifter (unit)
2	767026103	Presser bar lifter
3	767303004	Presser foot sensor plate
4	000103808	Setscrew 3x5
5	767027001	Presser bar bracket
6	000111304	Hexagonal socket screw 5x5
7	767222008	Spring
8	000036201	Washer FT-80
9	767225001	Spring
10	767028002	Presser bar
11	767029003	Presser bar spring
12	767030100	Presser foot pressure indicator
13	767031008	Presser foot pressure adjusting screw
14	767173003	Spacer
15	767172002	Presser foot support spring
16	762505003	Presser foot (unit) (U.S.A.) (Canada) (Australia)
	704511105	Presser foot (unit) (UK) (Continental Europe)
17	763048109	Setscrew
18	767039006	Arm thread guide (lower)
19	000101404	Setscrew 4x6
20	767041001	Needle bar bushing (upper)
21	767042002	Felt
22	000111201	Hexagonal socket screw 4x4
23	767091006	Needle bar bushing (lower)
24	767641030	Needle bar (unit)
25	767165013	Needle bar
26	767515001	Needle clamp (unit)
27	767209009	Needle bar thread guide
28	767210003	Setscrew
29	767169006	Needle guard
30	767401047	Needle HLx5–14
31	767502108	Thread tension (unit)
32	000114710	Setscrew TP 3x6
33	000111108	Hexagonal socket screw 4x6
34	767054007	Arm thread guide
35	000081119	Setscrew
36	767056009	Thread guide



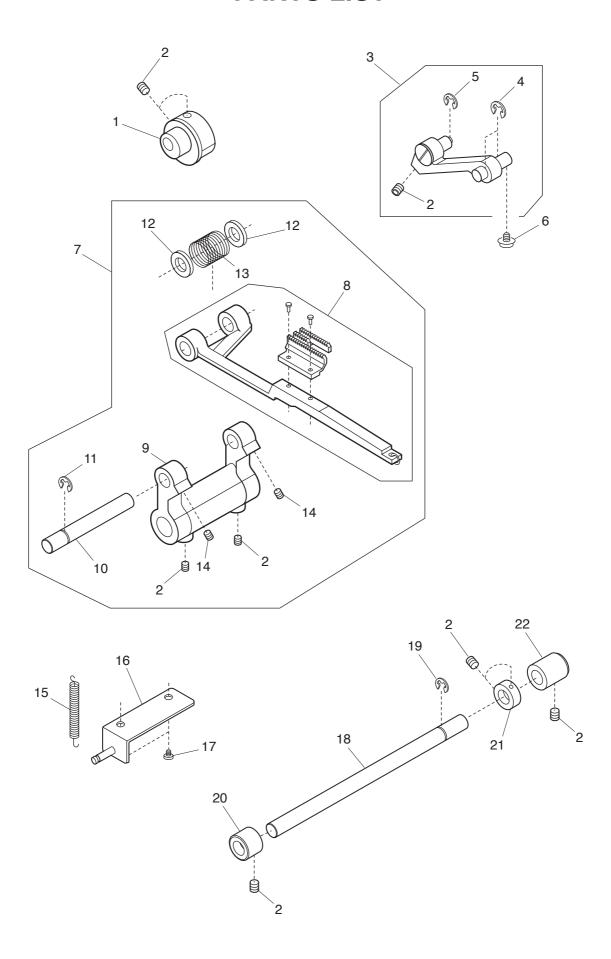
KEY	PARTS	PEGGEIPTION
NO.	NO.	DESCRIPTION
1	767609106	Hook cover plate (unit)
2	767018009	Hook cover plate
3	767019000	Hook cover plate spring
4	820374004	Setscrew 2x2.3
5	767020004	Hook cover plate supporter spring
6	767220006	Sticker
7	767281108	Needle plate
8	102053007	Setscrew
9	767017008	Hook cover plate retainer
10	767021005	Attachment mount
11	681009101	Setscrew
12	767171001	Presser foot lifter
13	846033008	Hinge screw
14	767650009	Thread tension release lever (unit)
15	767233002	Plate
16	000081005	Setscrew 4x8
17	767651103	Thread tension release base plate (unit)
18	000001609	Snap ring E-5
19	767530002	Wire (unit)
20	846210001	Roller
21	000002105	Snap ring E-3
22	767290007	Spring
23	767232001	Thread tension release base plate
24	000036500	Washer FT-60
25	767231000	Thread tension release crank
26	676222008	Spring
27	761045007	Thread tension release lever spring
28	000101404	Setscrew 4x6



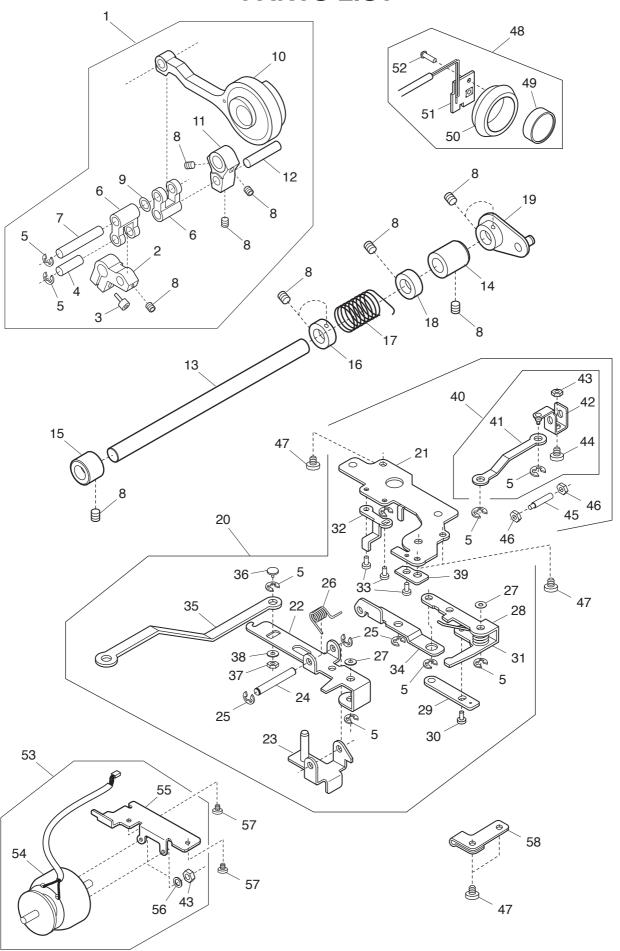
1757	DADTO	
KEY	PARTS	DESCRIPTION
NO.	NO.	DESCRIPTION
1	767271002	Upper shaft shield plate
2	820102009	Washer
3	000103509	Setscrew 4x10
4	767195012	Belt wheel
5	000111304	Hexagonal socket screw 5x5
6	767139100	Handwheel
7	556047007	Washer
8	618070004	Setscrew
9	767618005	Idler (unit)
10 11	000002806	Snap ring E-6 Setscrew TP 5x10
12	000115504 767697008	Upper shaft (unit)
13	767617004	Upper shaft (unit)
14	767065001	Take up lever crank
15	000028107	Spring pin 4x25
16	761102003	Setscrew
17	767304005	Ball bearing
18	767227003	Spacer
19	767077006	Ring
20	767178008	Ball bearing (6901ZZ)
21	000032702	Snap ring crescent (5103-46)
22	000115205	Setscrew TP 4x6
23	767070009	Upper shaft timing gear
24	000110107	Hexagonal socket screw WP 5x5
25	767682000	Take up lever (unit)
26	767503006	Take up lever (unit)
27	761088002	Take up lever
28	761089003	Take up lever supporter
29	650040005	Felt
30	650041006	Felt holder
31	767073013	Needle bar conn. stud
32	761086000	Needle bar crank pin
33	647139002	Setscrew
34	767072001	Needle bar crank rod
35	763033400	Oil wick
36	761091008	Take up lever pin
37	000111201	Hexagonal socket screw 4x4
38	767624004	Feed adjusting base (unit)
39	767118309	Indicator drum
40	767124124	Reverse stitch lever
41	767115100	Stitch length dial
42	000081005	Setscrew 4x8
43	000001609	Snap ring E-5
44 45	767136004 767632005	Timing belt Needle threader (unit)
45 46	767034001	Needle threader (unit)  Needle threader plate
46 47	767034001	Needle threader plate  Needle threader shaft
48	000004808	Spring pin 2x6
49	767033000	Needle threader spring
50	000125208	Pin E 2x10 – CH
51	000125208	Pin G 2x14 – CH
52	00002105	Snap ring E-3
53	767633006	Needle threader guard plate (unit)
54	767033000	Timing belt
55	767168005	Needle threader guide plate
56	000103808	Setscrew 3x5
57	767634007	Needle threader positioning base (unit)
58	767043003	Needle threader positioning base
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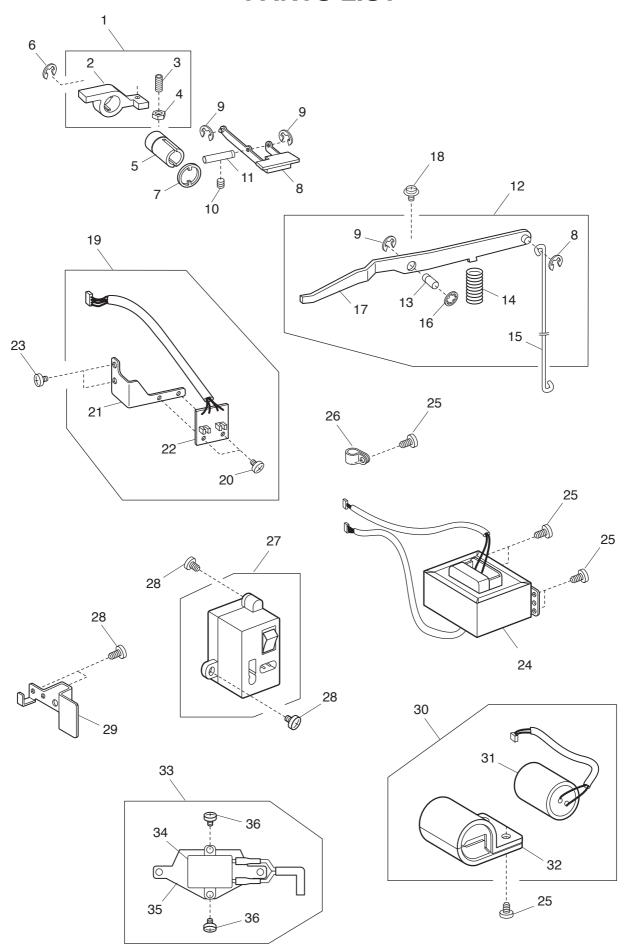
	DADTO	
KEY NO.	PARTS NO.	DESCRIPTION
1	767510101	Hook race (unit)
2	767510006	Bobbin case (unit)
3	761094115	Bobbin
4	767518004	Hook race stopper (unit)
5	767079008	Hook race stopper
6	767201001	Hook race stopper spring
7	000169709	Setscrew 2x2.3
8	000081005	Setscrew 4x8
9	767698102	Hook race shaft (unit)
10	000111201	Hexagonal socket screw 4x4
11	000115205	Setscrew TP 4x6
12	767081003	Hook race gear
13	000111304	Hexagonal socket screw 5x5
14	767241003	Thread cutter cam
15	000114606	Setscrew TP 3x14
16	820166001	Lower shaft ring
17	767182005	Ball bearing (698Z)
18	767084006	Gear cover
19	000101404	Setscrew 4x6
20	767085007	Lower shaft bushing
21	767067003	Felt
22	767644000	Lower shaft (unit)
23	000110107	Hexagonal socket screw WP 5x5
24	767221007	Lower shaft gear
25	767613000	Lower shaft supporter (unit)
26	000114802	Setscrew TP 4x12
27	767657006	Auto-thread cutter (unit)
28	767264002	Thread cutter blade
29	767266004	Thread guide plate
30	000001609	Snap ring E-5
31	767658007	Thread drawing lever (unit)
32	767268006	Thread drawing lever
33	767280004	Spring
34	000002105	Snap ring E-3
35	767251006	Link
36	767259004	Cushion 3
37	000002507	Snap ring E-4
38	767276007	Spring



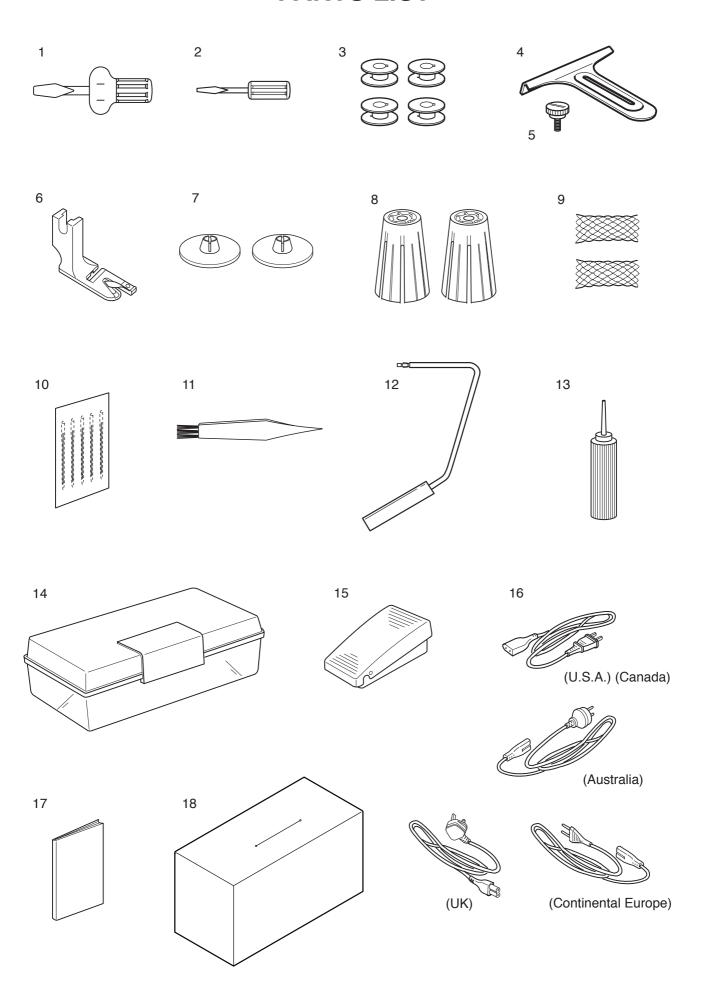
KEY	PARTS	
NO.	NO.	DESCRIPTION
1	767089001	Feed lifting cam
2	000111304	Hexagonal socket screw 5x5
3	767620000	Feed link (unit)
4	000002909	Snap ring E-7
5	000002507	Snap ring E-4
6	000114802	Setscrew TP 4x12
7	767619109	Feed base (unit) (1)
8	767621104	Feed base (unit) (2)
9	767094009	Feed rock arm
10	767095000	Feed rock arm pin
11	000001609	Snap ring E-5
12	822063003	Felt (2)
13	767212005	Felt holder sping
14	000111201	Hexagonal socket screw 4x4
15	767120005	Feed base spring
16	767121006	Spring attach plate
17	000101404	Setscrew 4x6
18	767096001	Feed rock shaft
19	000030205	Snap ring E-8
20	767097002	Bushing (Front)
21	639095000	Ring
22	767099004	Bushing (Rear)



- VEV	DADTO	
KEY	PARTS	DESCRIPTION
NO.	NO.	DESCRIPTION
1	767663005	Feed regulator (unit)
2	767100009	Feed adjusting arm
3	000218106	Bolt 5x16
4	767101000	Pin
5	000001609	Snap ring E-5
6 7	767102001	Feed link Pin
8	767106005 000111304	• • • • • • • • • • • • • • • • • • • •
9	767157001	Hexagonal socket screw 5x5 Washer
10	767664006	Feed cam (unit)
11	767107006	Feed adjusting arm
12	767159003	Pin
13	767108007	Feed adjusting shaft
14	767099004	Bushing (rear)
15	767097002	Bushing (front)
16	639095000	Lower shaft ring
17	767111003	Feed regulator spring
18	639095103	Lower shaft ring
19	767112004	Feed adjusting arm
20	767654003	Thread cutter driving base (unit)
21	767242004	Driving arm base plate
22	767244006	Driving arm
23	767243005	Link
24	767253008	Driving arm pin
25	000002507	Snap ring E-4
26	767247005	Cam spring
27	000036108	Washer FT-70
28	767245007	Driving lever
29	767252007	Thread drawing arm
30	000101404	Setscrew 4x6
31	767275006	Spring
32	767282006	Guard plate
33	000103004	Setscrew 3.5x6
34	767246008	Thread tension release arm
35	767247009	Thread cutter link
36	767248000	Hinge screw (3)
37	000061102	Nut 4-1-7
38	000070506	Washer 4
39	767289003	Limitter plate
40	767656005	Link (unit)
41	767249001	Link
42	767250005	Coupling
43 44	000061319	Nut 5-1-8 Setscrew 5x10
44 45	000102003 767238007	Wire joint
45 46	000061412	Nut 5-3-8
47	000081412	Setscrew 4x8
48	767661405	Thread cutter button (unit)
49	767283306	Button (2)
50	767284008	Button holder
51	767542007	Printed circuit board UD (unit)
52	000161701	Setscrew 2.3x5 (B)
53	767655200	Solenoid (unit)
54	767534109	Push-pull solenoid (unit)
55	767254009	Set plate
56	000070300	Washer 5
57	000115504	Setscrew TP 5x10
58	767235004	Plate (2)
- <del>-</del>	<del>-</del> -	\



KEY	PARTS	
NO.	NO.	DESCRIPTION
1	767642008	Knee lifter lever (1) (unit)
2	767057000	Knee lifter lever (1)
3	000196107	Hexagonal socket screw 5x20 (Ball point)
4	000061412	Nut
5	767058001	Knee lifter shaft
6	000030009	Snap ring E-10
7	767352008	Stopper
8	767060006	Knee lifter lever (2)
9	000001609	Snap ring E-5
10	000111201	Hexagonal socket screw 4x4
11	767059002	Shaft
12	767616003	Knee lifter lever (3) (unit)
13	767062008	Knee lifter lever shaft
14	846173001	Knee lifter lever spring
15	767063009	Presser foot lifter rod
16	000013800	Snap ring CS-6
17	846171009	Knee lifter lever (unit)
18	000115700	Setscrew TP 4x10
19	767631004	Upper shaft sensor (unit)
20	000103808	Setscrew 3x5
21	767131009	Sensor fixing plate
22	843505409	Printed circuit board P (unit)
23	000066705	Setscrew 3x8
24	767533005	Transformer (unit) 120V (U.S.A.) (Canada)
	767537009	Transformer (unit) 230V (Australia) (UK) (Continental Europe)
25	000081005	Setscrew 4x8
26	000188601	Cord binder
27	767660002	Machine socket (unit) (U.S.A.) (Canada)
	767666008	Machine socket (unit) (Australia) (UK) (Continental Europe)
28	000103509	Setscrew 4x10
29	767237006	Cord binder (1)
30	767659008	Capacitor (unit)
31	767535007	Capacitor
32	767279000	Capacitor case
33	767667009	Noise filter (unit) (Australia) (UK) (Continental Europe)
34	767538000	Noise filter (unit)
35	767277008	Noise filter set plate
36	000103808	Setscrew 3x5



	DADTO	
KEY	PARTS	DECODIDATION
NO.	NO.	DESCRIPTION
1	820832005	Large screwdriver
2	647803004	Small screwdriver
3	761094115	Bobbin
4	200100801	Cloth guide
5	825252000	Thumb screw
6	761172004	Hemmer foot
7	822020503	Spool cap
8	784223105	Spool holder
9	624806006	Net
10	767802008	Assorted needle set
11	802424004	Lint brush
12	846417000	Knee lifter (unit)
13	762456204	Oil
14	366401400	Accessory box
15	043670206	Foot control
16	653524007	Power supply cord (U.S.A.) (Canada)
	830314018	Power supply cord (Australia)
	830377008	Power supply cord (UK)
	830335004	Power supply cord (Continental Europe)
17	767800279	Instruction book (English/Spanish/French)
	767800327	Instruction book (Swedish/Norwegian/Danish)
18	767805001	Cover