

SERVICE MANUAL
&
PARTS LIST

BL30A

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Service Access (1)

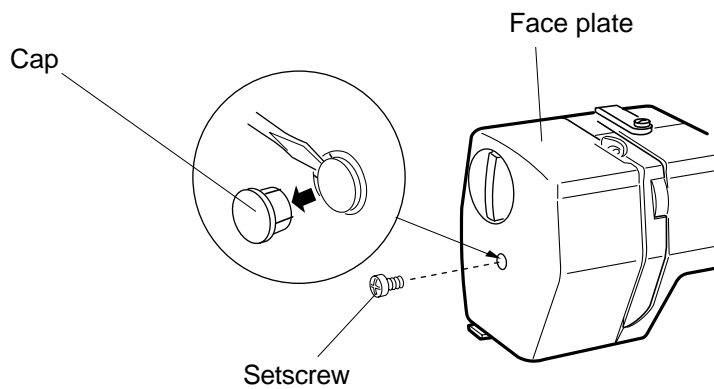
- Face plate

<To remove>

Remove the cap and setscrew. Remove the face plate.

<To attach>

Attach the face plate with the setscrew. attach the cap.



Service Access (2)

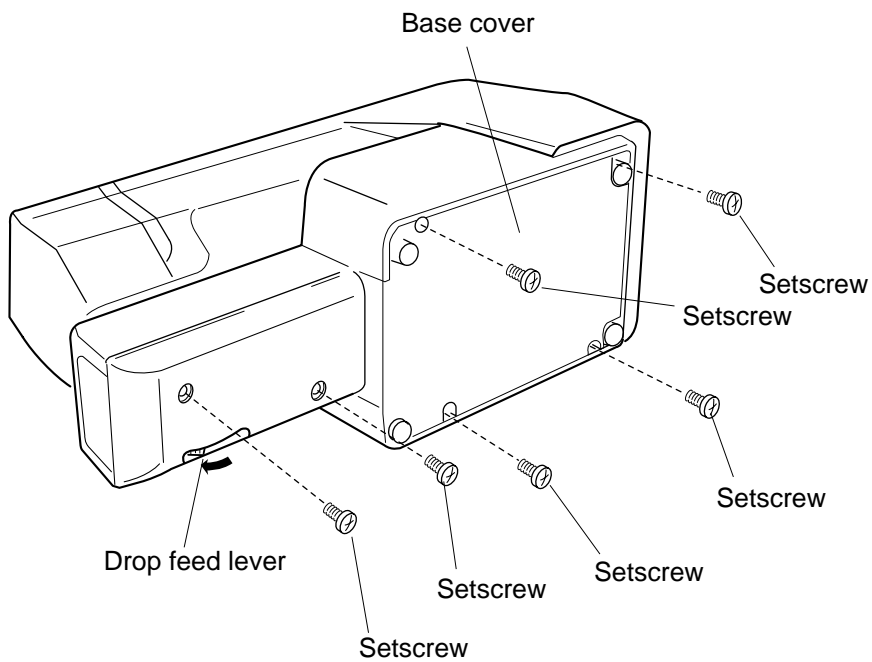
- Base cover

<To remove>

Remove the setscrews (6 pcs.) and remove the base cover.

<To attach>

Shift the drop feed lever in the direction of the arrow. Attach the base cover with setscrews.



Service Access (3)

- Front cover

<To remove>

Remove the face plate and base cover (see pages 1 and 2).

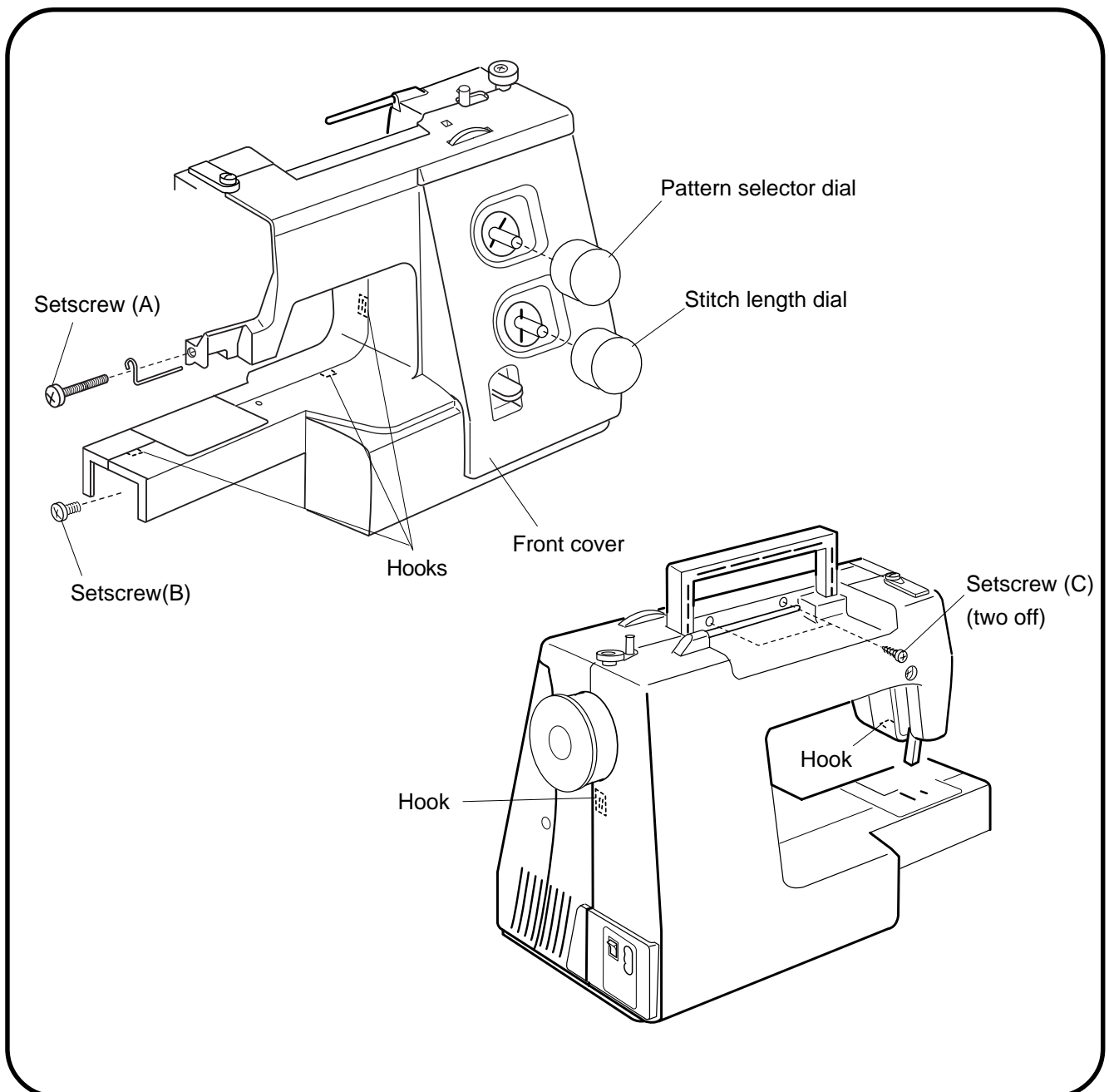
Pull out the pattern selector dial and stitch length dial.

Remove the setscrews (A), (B) and (C) (two off).

Remove the front cover, unlocking all the hooks.

<To attach>

Follow the above procedure in reverse.



Service Access (4)

- Rear cover

<To remove>

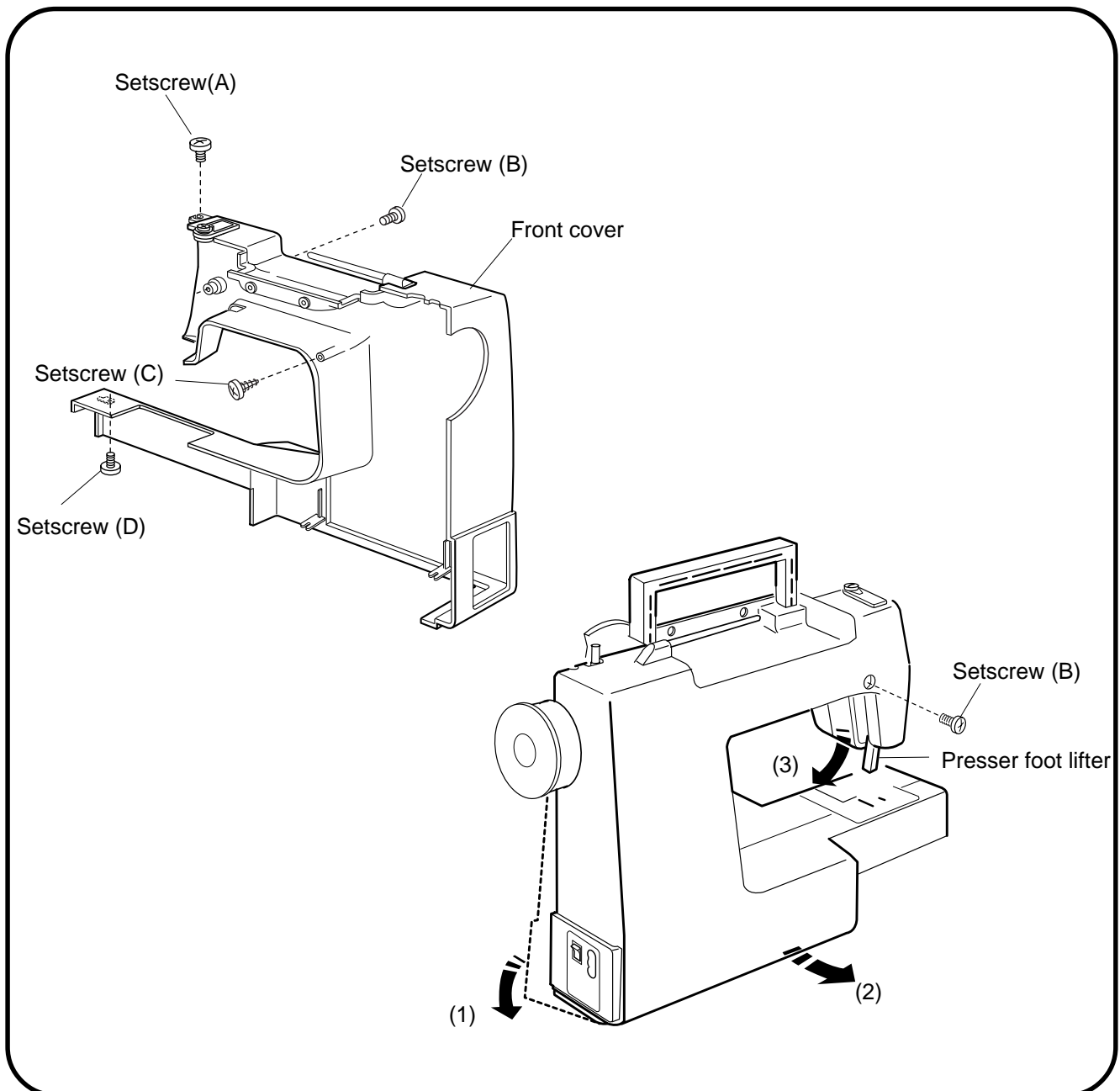
Remove the face plate, base cover and front cover (see pages 1-3).

Remove the setscrews (A), (B), (C) and (D).

Lower the presser foot lifter and pull away the rear cover from the machine, clearing the parts (1), (2) and (3), in this order.

<To attach>

Follow the above procedure in reverse.



Adjusting Thread Tension

- The standard tension should be 75 - 90 grams measured with a white polyester thread #50 being pulled in the direction of the arrow, when the tension dial is set at "4".

<To adjust>

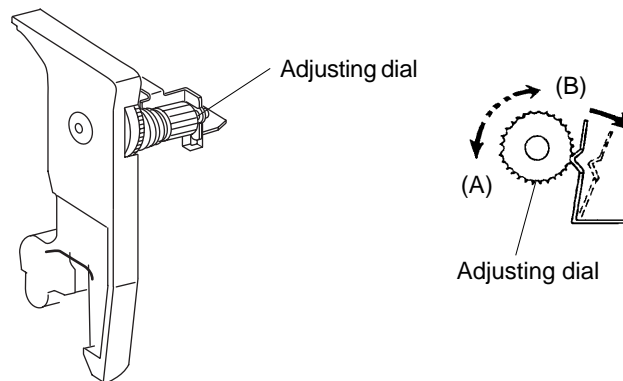
Remove the front cover (see page 3).

Set the tension dial at "4".

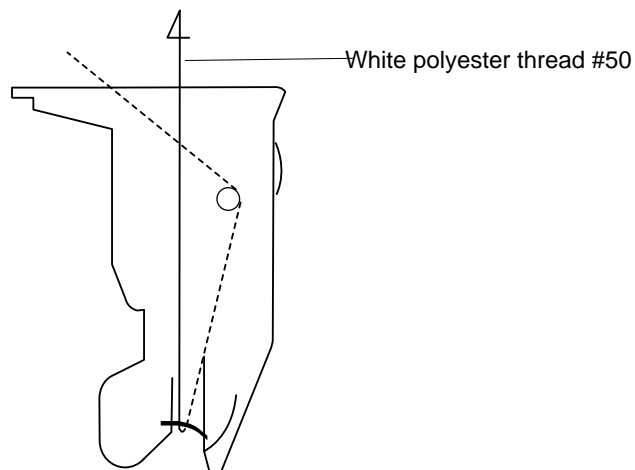
If the tension is too tight, turn the adjusting dial in the direction (A).

If the tension is too loose, turn the adjusting dial in the direction (B).

Check the tension again and attach the front cover.



Pull the thread in this direction at approx.
110 mm per second.



Adjusting Presser Foot Height and Alignment

- The distance between the bottom of the presser foot in up position and the needle plate should be 6.0 mm.

<To adjust>

Remove the face plate and needle.

Lower the feed dog below the needle plate. Place a block 6 mm thick under the presser foot and lower the presser foot lifter.

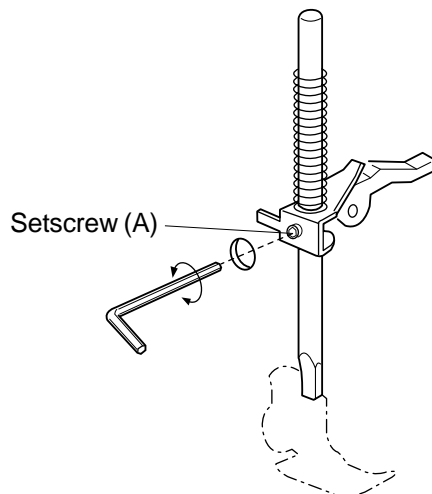
Loosen the setscrew (A). Raise the presser foot lifter and tighten the setscrew (A) firmly.

Attach the needle and face plate.

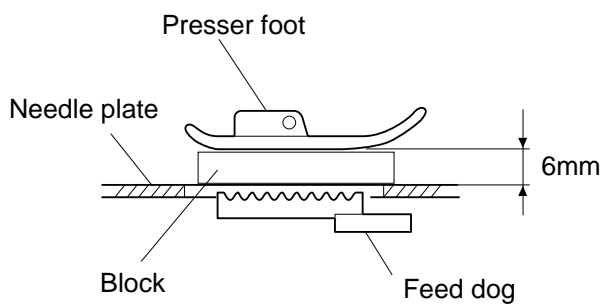
Attach the face plate.

NOTE:

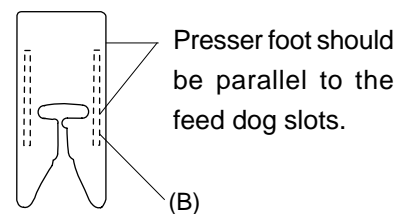
Make sure that the presser foot should be parallel to the feed dog slots (B) in the needle plate.



Presser foot height



Presser foot alignment




Adjusting Needle Swing

- If the needle swing when it is still in the fabric, correct it as follows.

<To adjust>

Remove the front cover (see page 3).

Select the zigzag stitch () and set the stitch width dial at 5.0.

Loosen the setscrews on the worm.

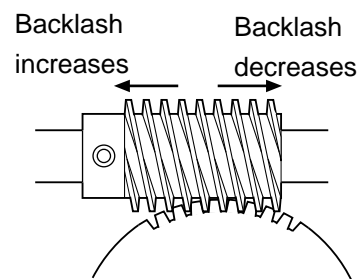
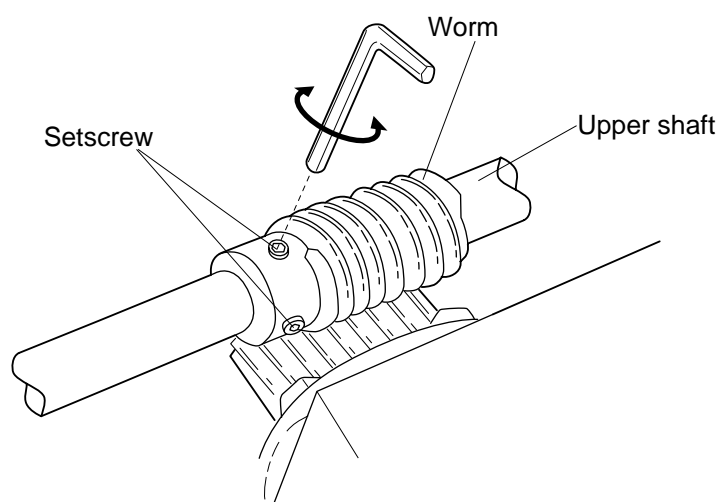
While holding the worm as not to rotate, turn the handwheel to adjust the needle bar swing so that the needle starts to swing 2 - 3 mm above the needle plate in the right outflow.

Tighten the setscrews on the worm securely.

Attach the front cover.

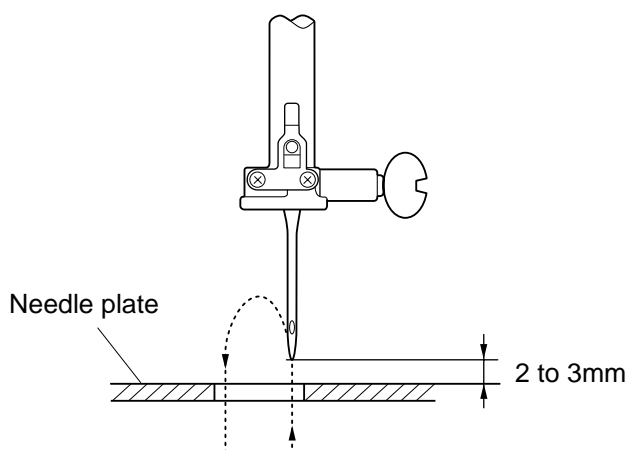
Note:

The upper shaft should turn smoothly without an excessive backlash between the worm and gear.




Note:

Make sure the worm does not move sideways when turning the handwheel, otherwise the backlash will change.




Adjusting Needle Drop Position

- The clearance between the needle and side edges of the needle hole should be 0.2 mm or more when the maximum width zigzag stitch () is selected. And the needle should drop in the center of the needle hole when the straight stitch is selected.

<To adjust>


Remove the face plate (see page 1).

Select the straight stitch ().

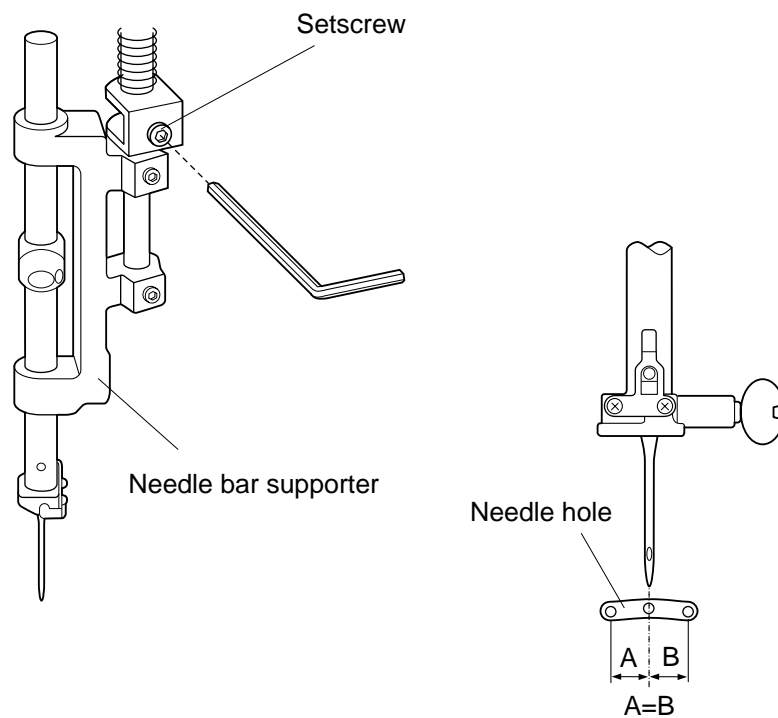
Loosen the setscrew.

Move the needle bar supporter so that the needle drops in the center of the needle hole.


Tighten the setscrew.

Select the zigzag stitch () and set the stitch width dial at 5.0 to check the clearance between needle and side edges of the needle hole.


Attach the face plate.



Adjusting Needle to Hook Timing

- The amount of ascending travel of the needle in the maximum width zigzag stitch () from the right lowest position should be 1.4 to 2.0 mm where the hook point meets the right side of the needle.

<To adjust>

Select the maximum width zigzag stitch ().

Remove the base cover (see page 2).

Remove the needle plate and bobbin holder.

Loosen the setscrews on the lower shaft gear.

Turn the handwheel toward you to bring the needle to the right lowest position. Then raise the needle 1.7mm from the lowest position.

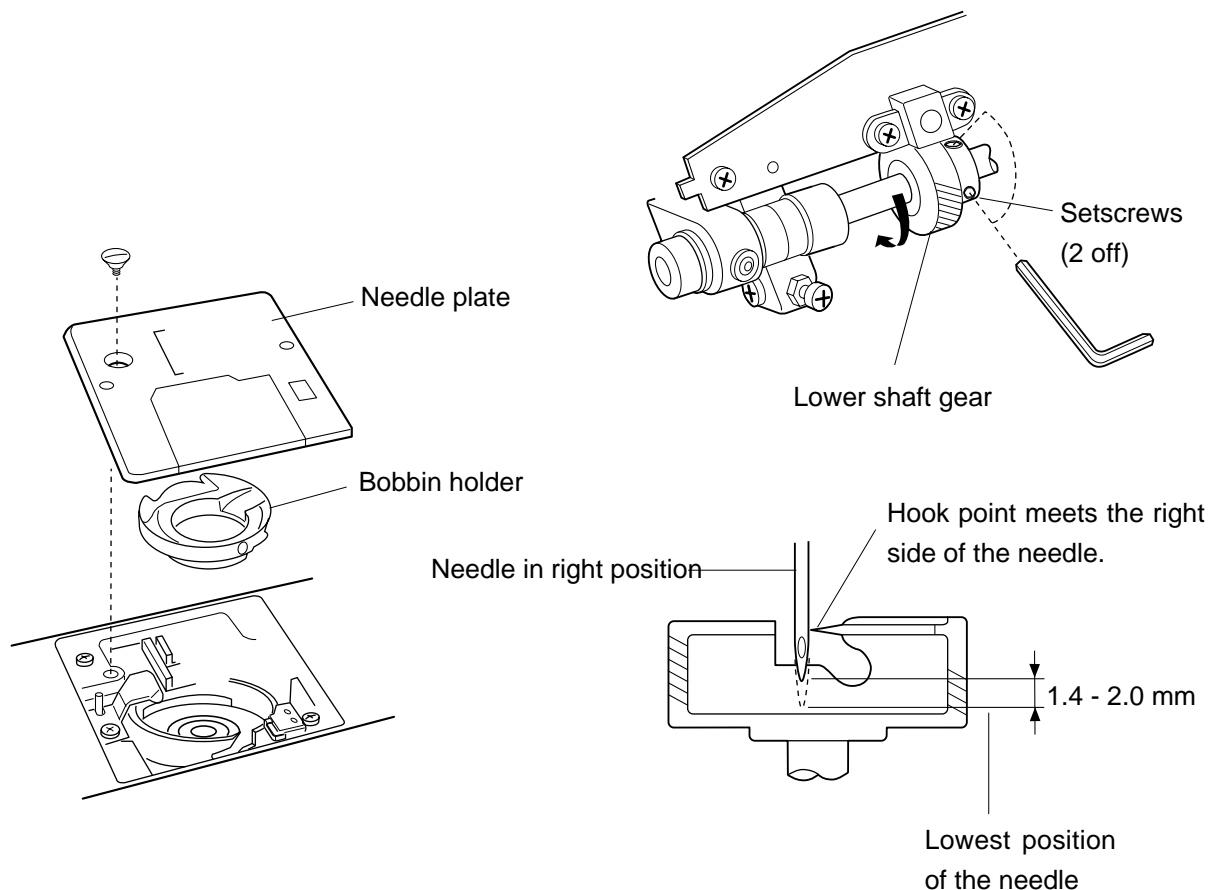
While holding the handwheel as not to move the needle bar, rotate the hook race until the hook point meets the right side of the needle.

Tighten the setscrews.


Attach the bobbin holder and needle plate.

Attach the base cover.


Note: Before performing this adjustment, be sure to check the needle bar height.



Adjusting Needle Bar Height

- The standard distance between the upper edge of the needle eye and the upper surface of the hook race should be in the range of 3.0 - 3.3 mm when the hook point meets the right side of the needle in its ascending travel from the right lowest position of the maximum width zigzag stitch ().

<To adjust>

Select the maximum width zigzag stitch () and bring the needle to the right lowest position.

Remove the face plate (see page 1).

Remove the needle plate and bobbin holder.

Turn the handwheel toward you until the hook point meets the right side of the needle.

Loosen the setscrew and move the needle bar up or down to adjust the needle bar height.

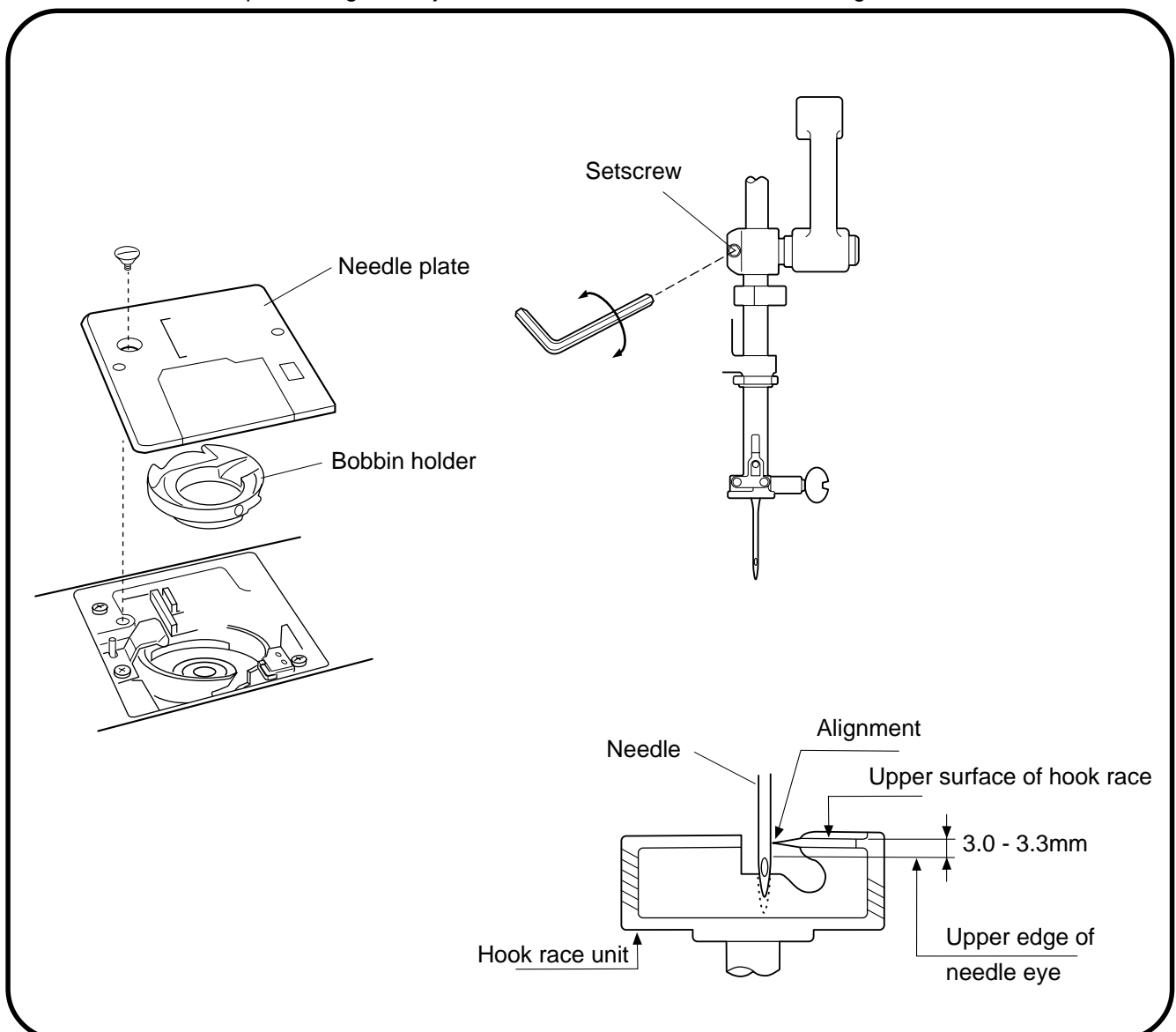
Note: Be careful not to rotate the needle bar.

Tighten the setscrew.

Attach the bobbin holder, needle plate and face plate.

Note:


Before performing this adjustment, check the needle to hook timing.



Adjusting Clearance between Needle and Hook Point

- The standard clearance between the needle and hook point should be -0.10 to +0.05 mm.

<To adjust>

Select the maximum width zigzag stitch ().

Remove the base cover (see page 2). Remove the needle plate and bobbin holder.

Replace the needle with the test pin. Loosen the setscrews (B) and (C). Slightly loosen the setscrew (A).

Turn the handwheel toward you to bring the hook point behind the test pin.

Adjust the clearance to -0.1 to +0.05 mm by moving the hook base plate up or down.

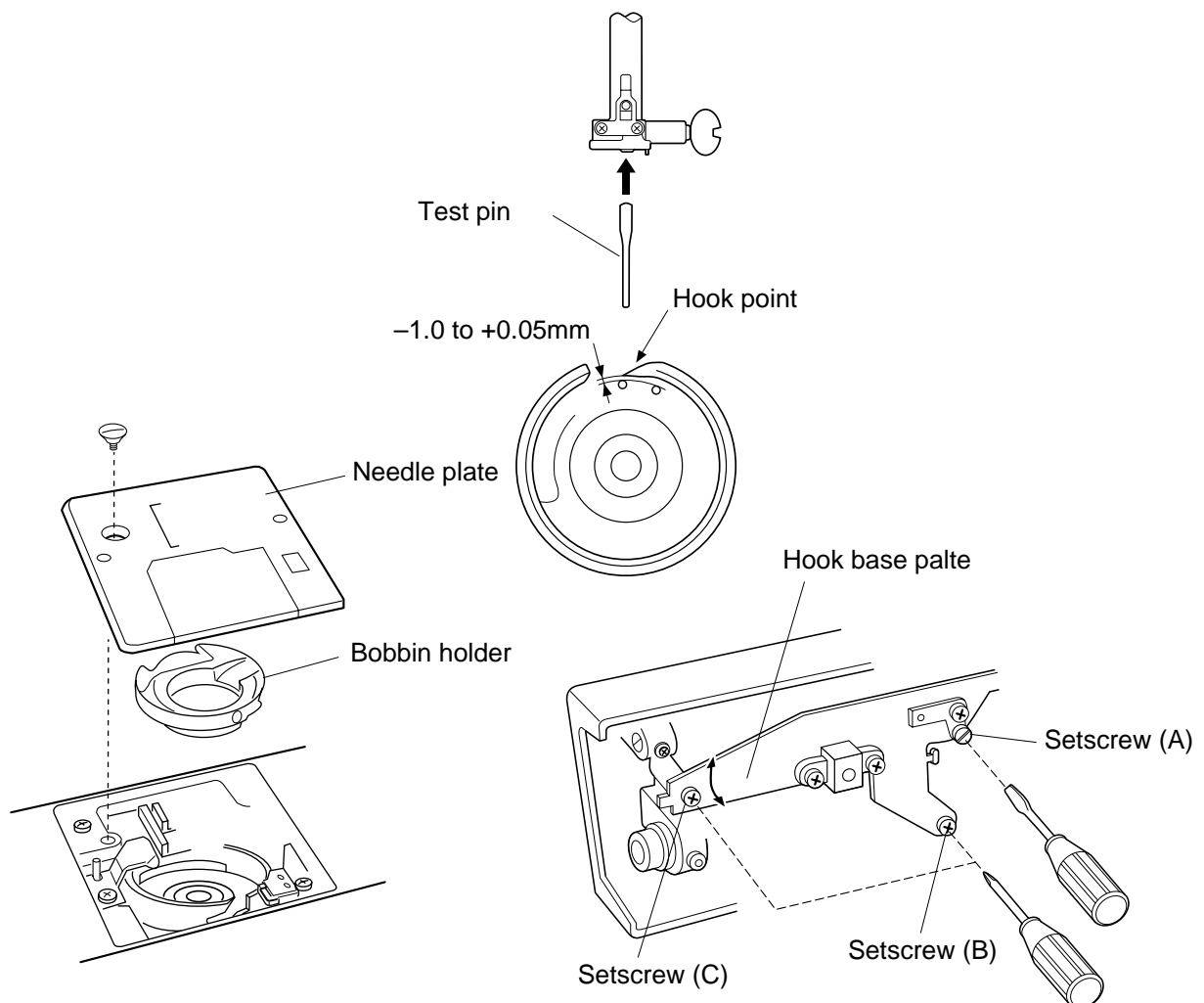
Tighten the setscrews (A), (B) and (C) securely.

Check the backlash of the hook drive gear and lower shaft gear.

Note: Adjust the backlash if necessary (see page 12).

Attach the base cover.

Replace the test pin with the needle. Attach the bobbin holder and needle plate.



Adjusting Backlash between Hook Drive Gear and Lower Shaft Gear

- The rotary play should be 0.8 mm or less when the hook point is within the span of the feed dog, and the gears should turn smoothly.

<To adjust>

Remove the base cover (see page 2).

Loosen the setscrews.

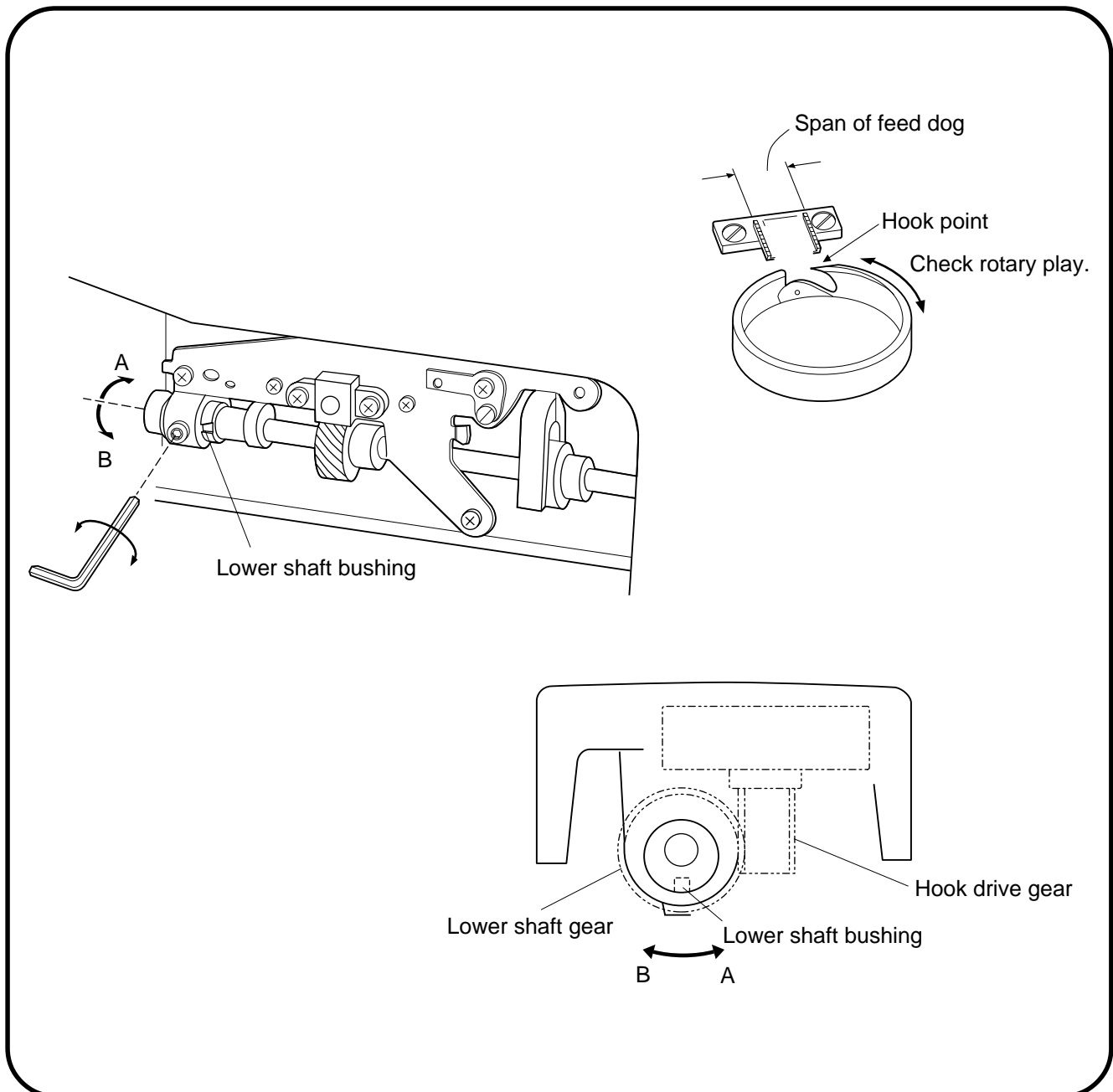
If the backlash is too big, turn the lower shaft bushing in the direction (B).

If the gear engagement is too tight, turn the lower shaft bushing in the direction (A).

Tighten the setscrews and attach the base cover.

Note:

Be sure to check and adjust the needle to hook timing and feed dog height if necessary, after performing this adjustment.



Adjusting Feed Dog Height

- The distance between the lowered presser foot and needle plate should be 0.75 to 0.85 mm when the feed dog is in its highest position.

<To adjust>

Select the straight stitch (\oplus) and set the stitch width at "4".

Lower the presser foot. Turn the handwheel to bring the feed dog to its highest position.

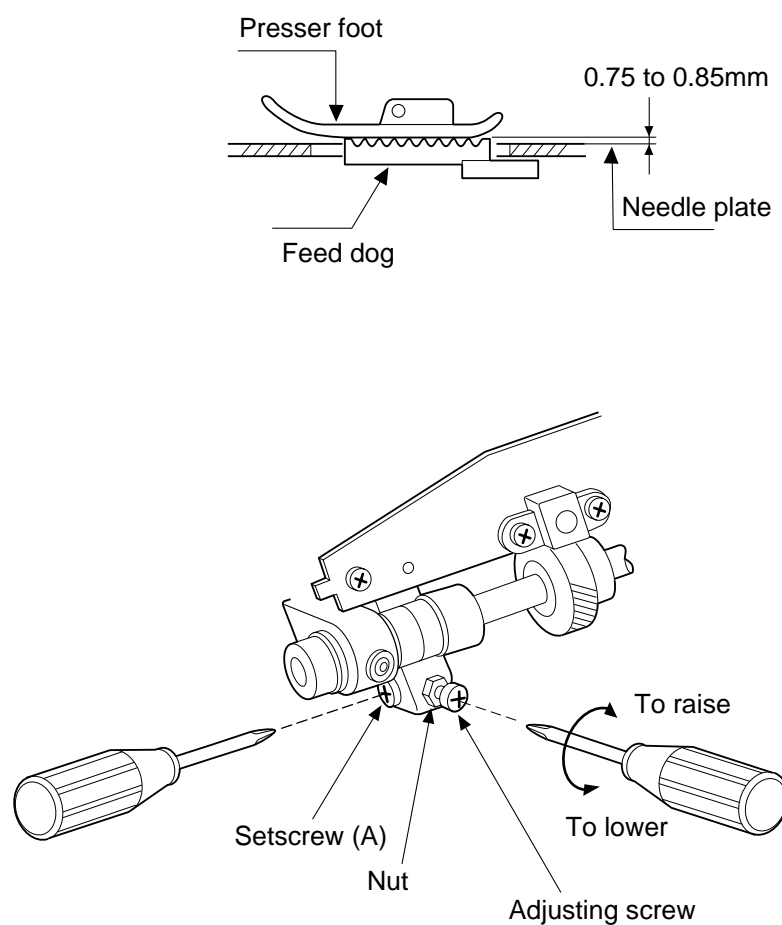
Remove the base cover (see page 2).

Loosen the setscrew (A) and nut.

Turn the adjusting screw to set the feed dog height to 0.75 to 0.85 mm.

Tighten the nut and setscrew (A).


Attach the base cover.



Adjusting Feed Balance

The forward feeding (A) and backward feeding (B) should be equal when sewing stretch stitch pattern.

<To adjust>

Select the straight stretch stitch ().

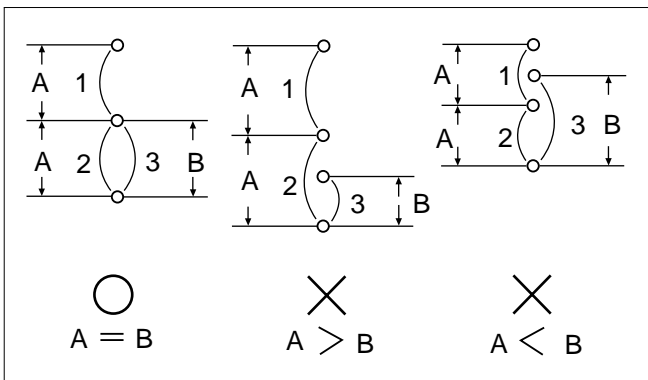
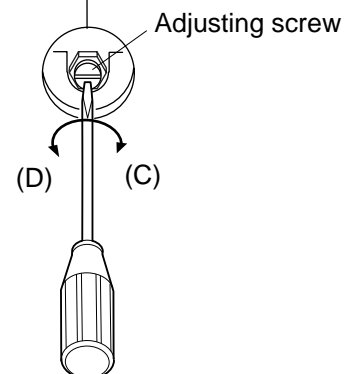
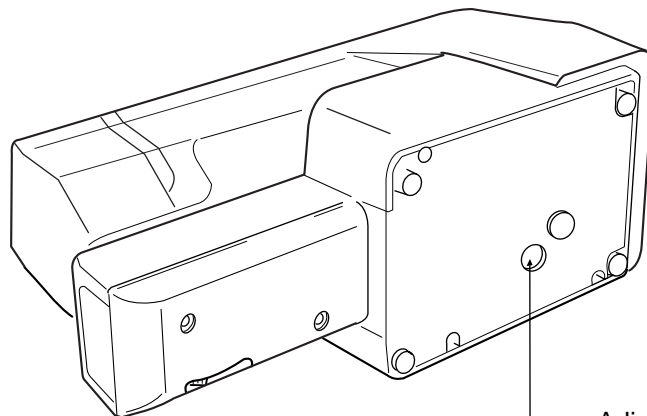
Place a piece of paper under the foot. Turn the handwheel to check the needle marks.

Remove the cap to access the adjusting screw.

If the forward feeding (A) is longer than backward feeding (B), turn the adjusting screw in the direction (C).

If the forward feeding (A) is shorter than backward feeding (B), turn the adjusting screw in the direction (D).

Attach the cap.



Adjusting Buttonhole Feed Balance

- When sewing a buttonhole, the stitches on each side of the buttonhole should be the same density.

The range of 9 to 12 stitches in the right side row against 10 stitches in the left side row is considered acceptable.

<To adjust>

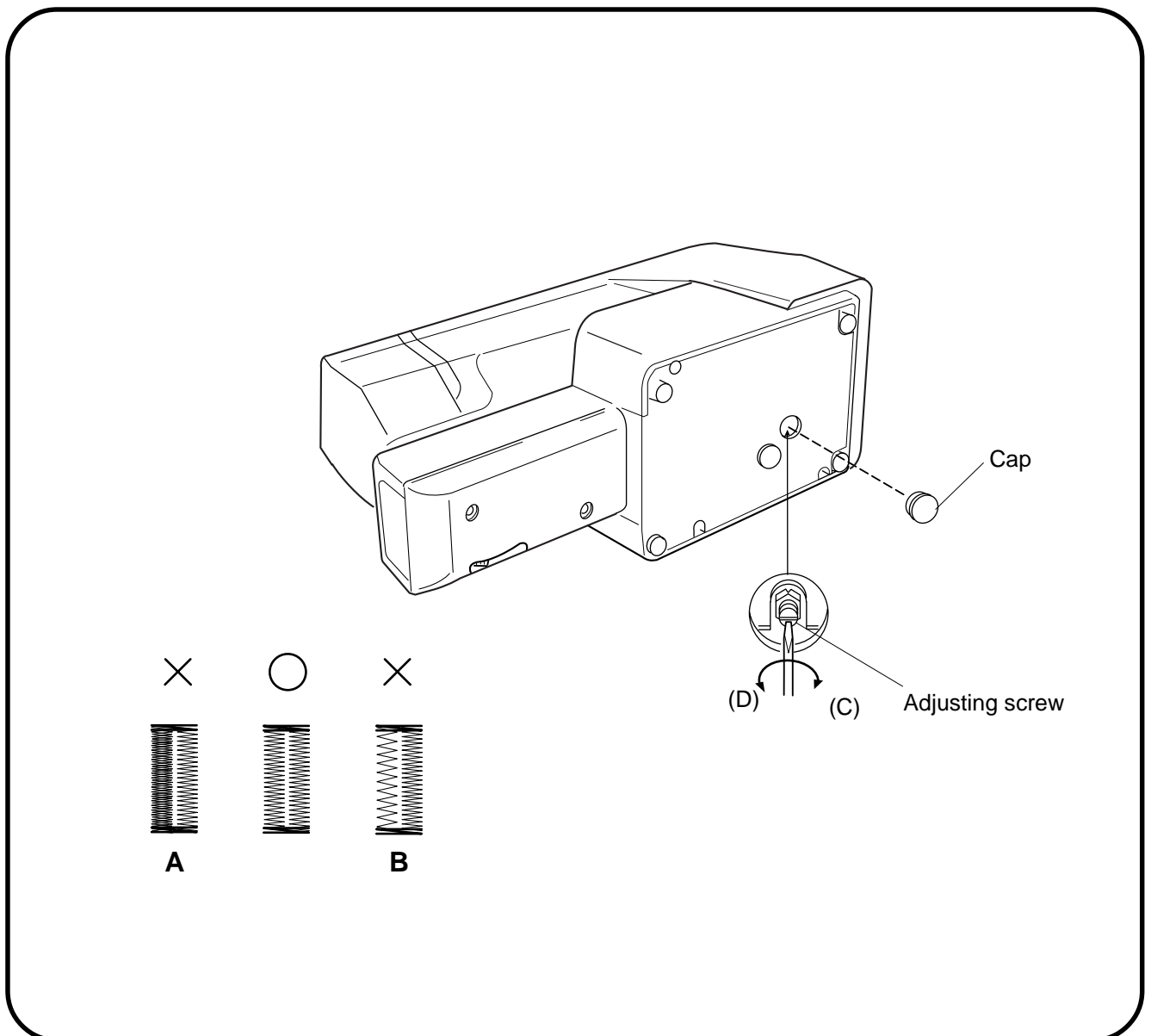
Sew a test buttonhole and count the stitches on each side.

Remove the cap to access the adjusting screw.

If the left row is denser (A), turn the adjusting screw in the direction (C).

If the right row is denser (B), turn the adjusting screw in the direction (D).

Attach the cap.



Adjusting Buttonhole Zero Feed

- If the fabric is fed when sewing a bartack of the buttonhole, correct it as follows:

<To adjust>

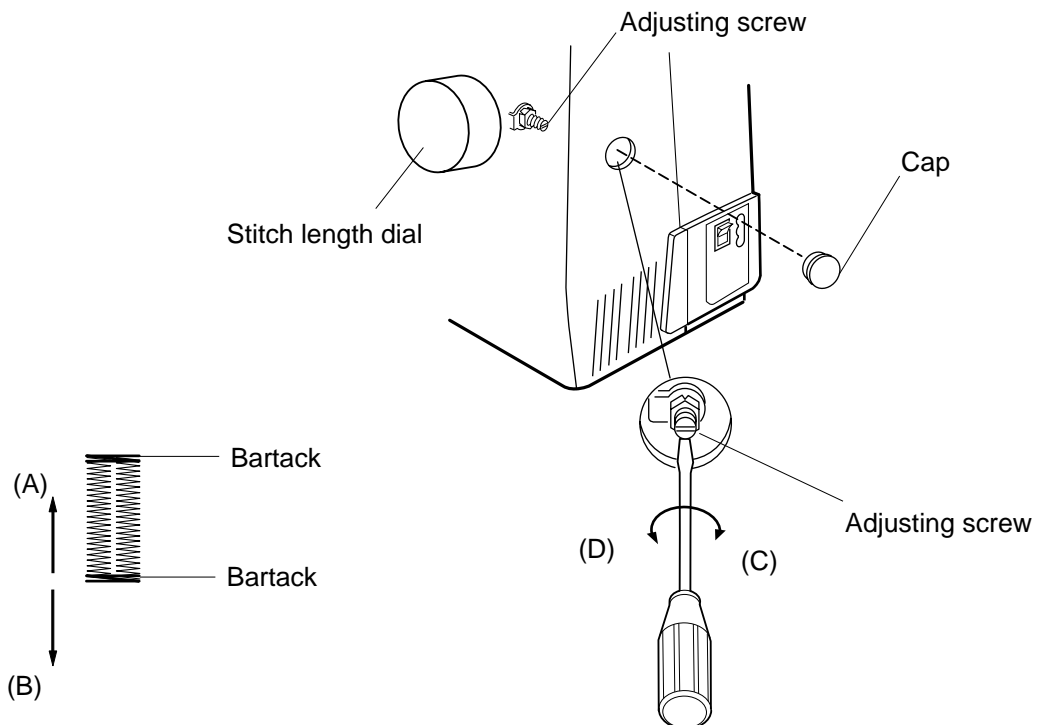
Sew a test buttonhole to check if the fabric is fed while sewing the bartacks.

Remove the cap to access the adjusting screw.

If the fabric is fed forward (A), turn the adjusting screw in the direction (C).

If the fabric is fed backward (B), turn the adjusting screw in the direction (D).

Attach the cap.



Adjusting Buttonhole Function

<To check>

Buttonhole should be about 3mm longer than the length set by the R foot.

if this length cannot be obtained, then check and adjust as follows:

<To adjust>

Lower the feed dog and set the R foot.

Remove the face plate. Loosen the setscrew (A).

Lower the buttonhole lever to its lowest position and press it against the R foot.

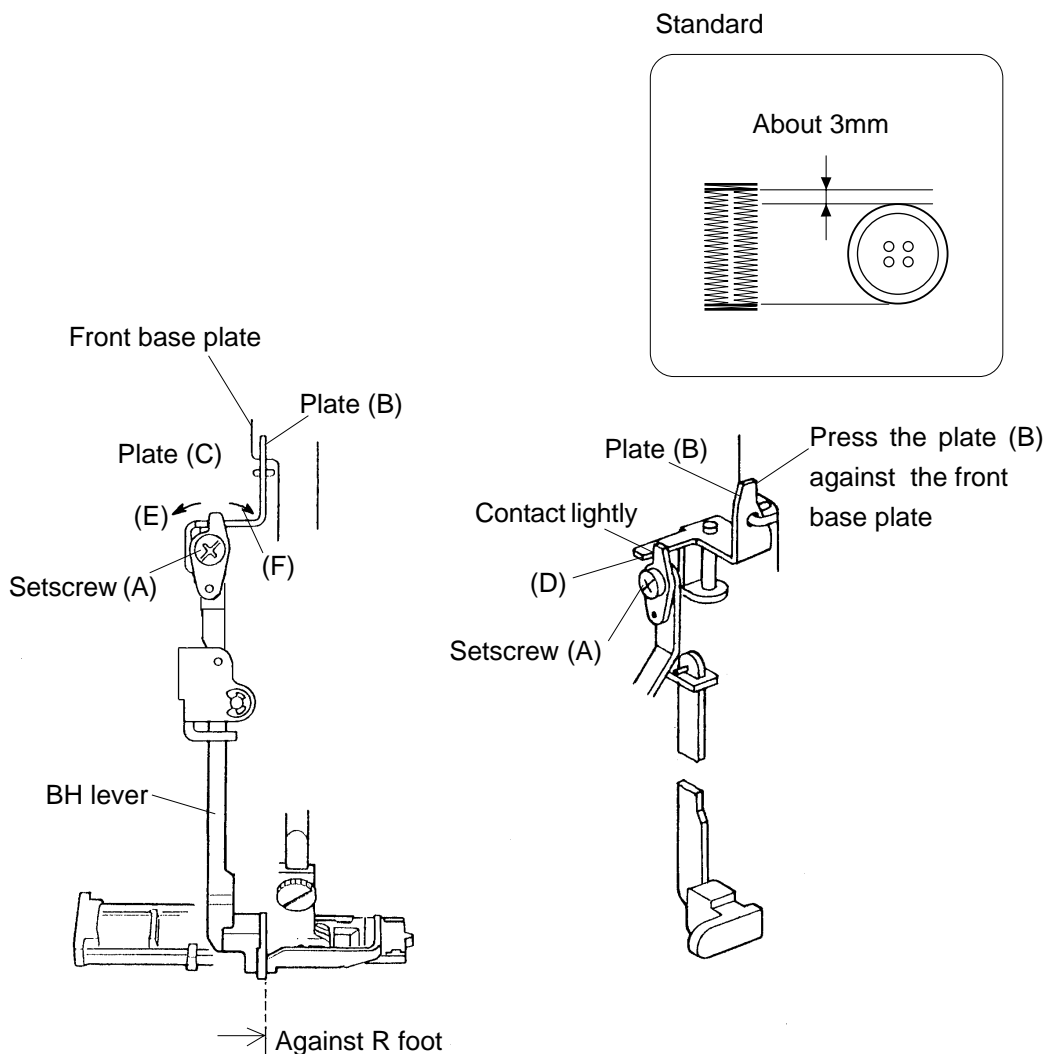
Press the plate (B) against the front base plate lightly. Move the plate (C) so that it contacts with the plate (D) and tighten the setscrew (A).

Raise the feed dog and sew a test buttonhole to check the length.

Move the plate (C) in the direction of (E) if the buttonhole stitch length is longer than the standard, or in the direction of (F) if the buttonhole stitch length is shorter than the standard.

Tighten the setscrew (A).

Attach the face plate.



Replacing Motor and Adjusting Motor Belt Tension

<To replace the motor>

Remove the face plate, base cover, front cover and rear cover (see pages 1 to 4).

Remove the setscrews (A) and machine socket. Remove the setscrews (B) and machine socket lid.

Remove the nuts and disconnect the motor cords.

Remove the setscrews (C) and motor.

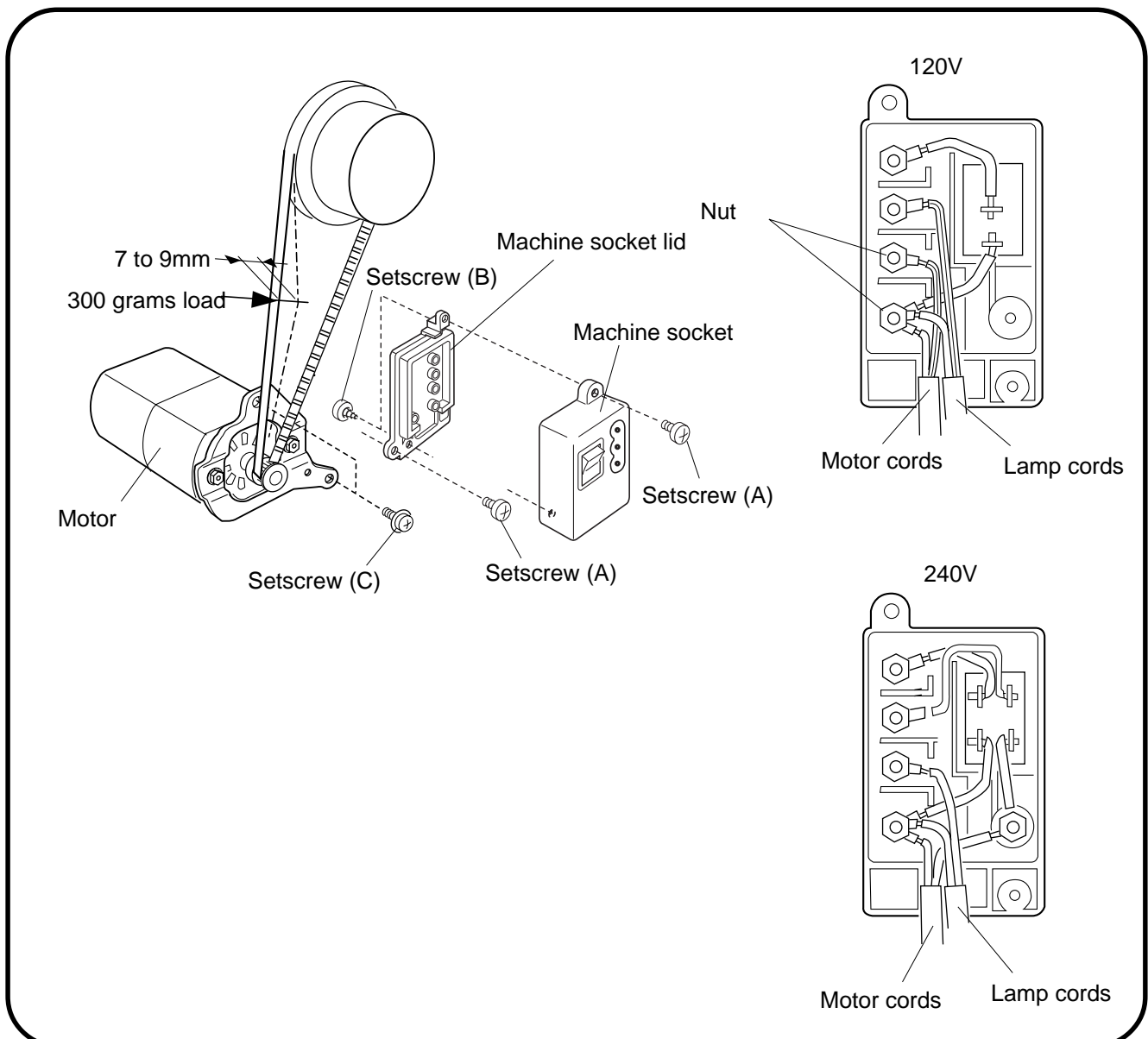
To attach the motor, follow the above procedure in reverse.

<To adjust the motor belt tension>

Slightly loosen the setscrews (C).

While pushing the middle of the motor belt with a 300 grams load, move the motor up or down so that the belt deflects 7 to 9 mm.

Tighten the setscrews (C) securely.



Replacing and Adjusting Threader

<To replace>

Remove the face plate (see page 1).

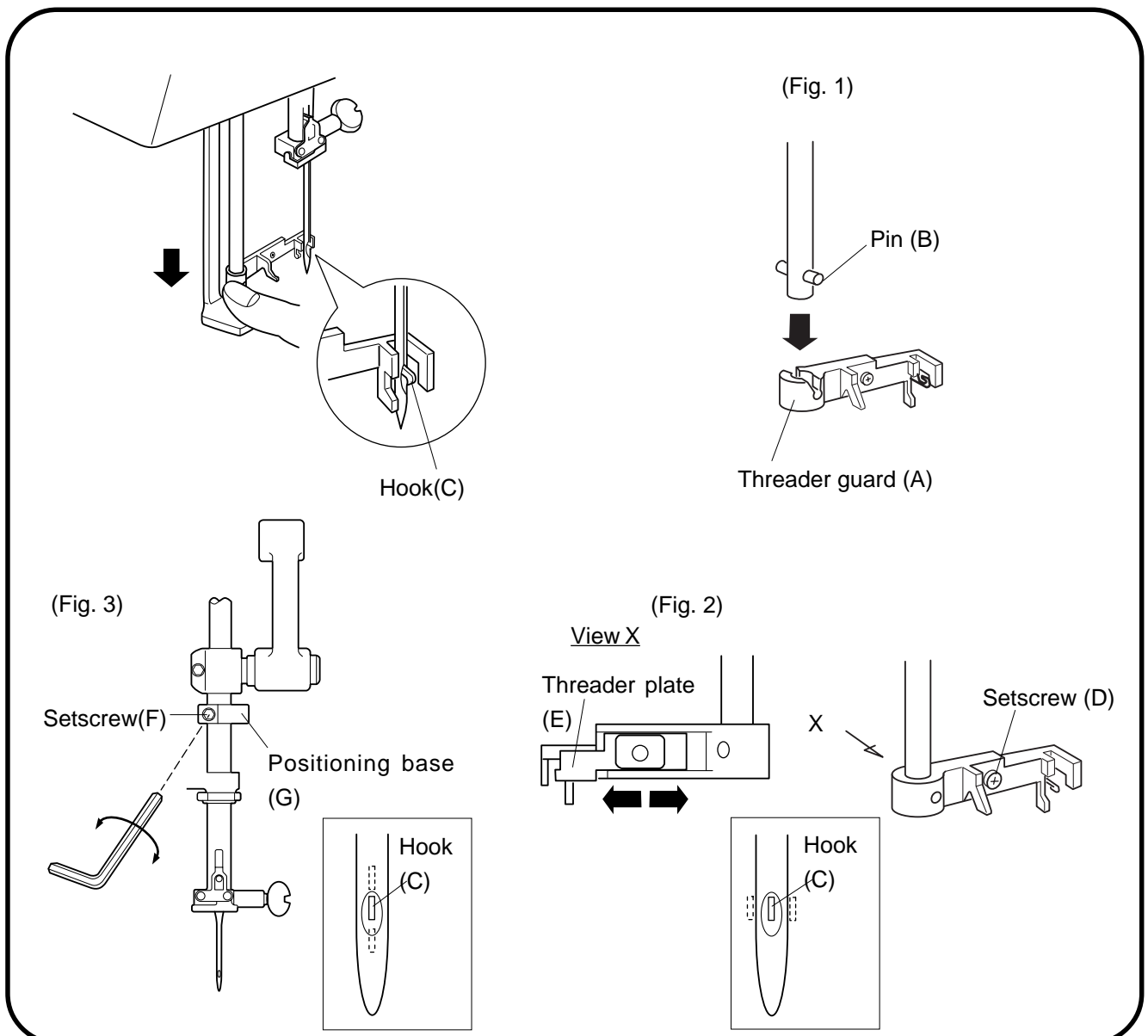
Pull the threader guard away from the threader.

Align the groove on the threader guide with the pin on the threader shaft and push the threader guide up to snap it in place. (see Fig. 1).

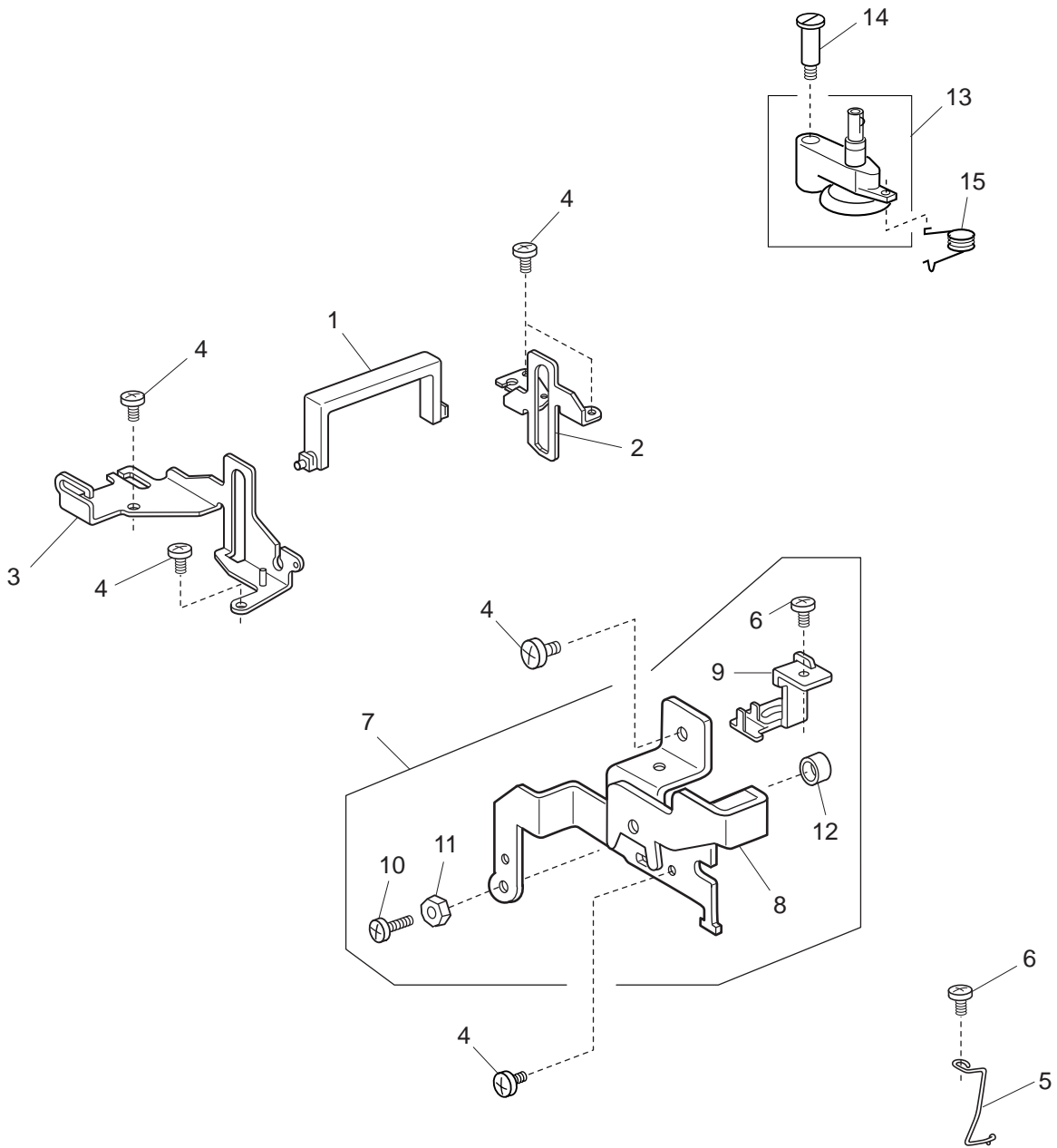
<To adjust>

If the hook (C) of the threader thrust or hit against the side edge of the needle eye, loosen the setscrew (D) and adjust the lateral position of the threader palte (see Fig. 2).

If the hook (C) thrust against upper or lower edge of the needle eye, remove the face plate and loosen the setscrew (F) and move the positioning base (G) up or down so that the hook enters through the needle eye (see Fig. 3).



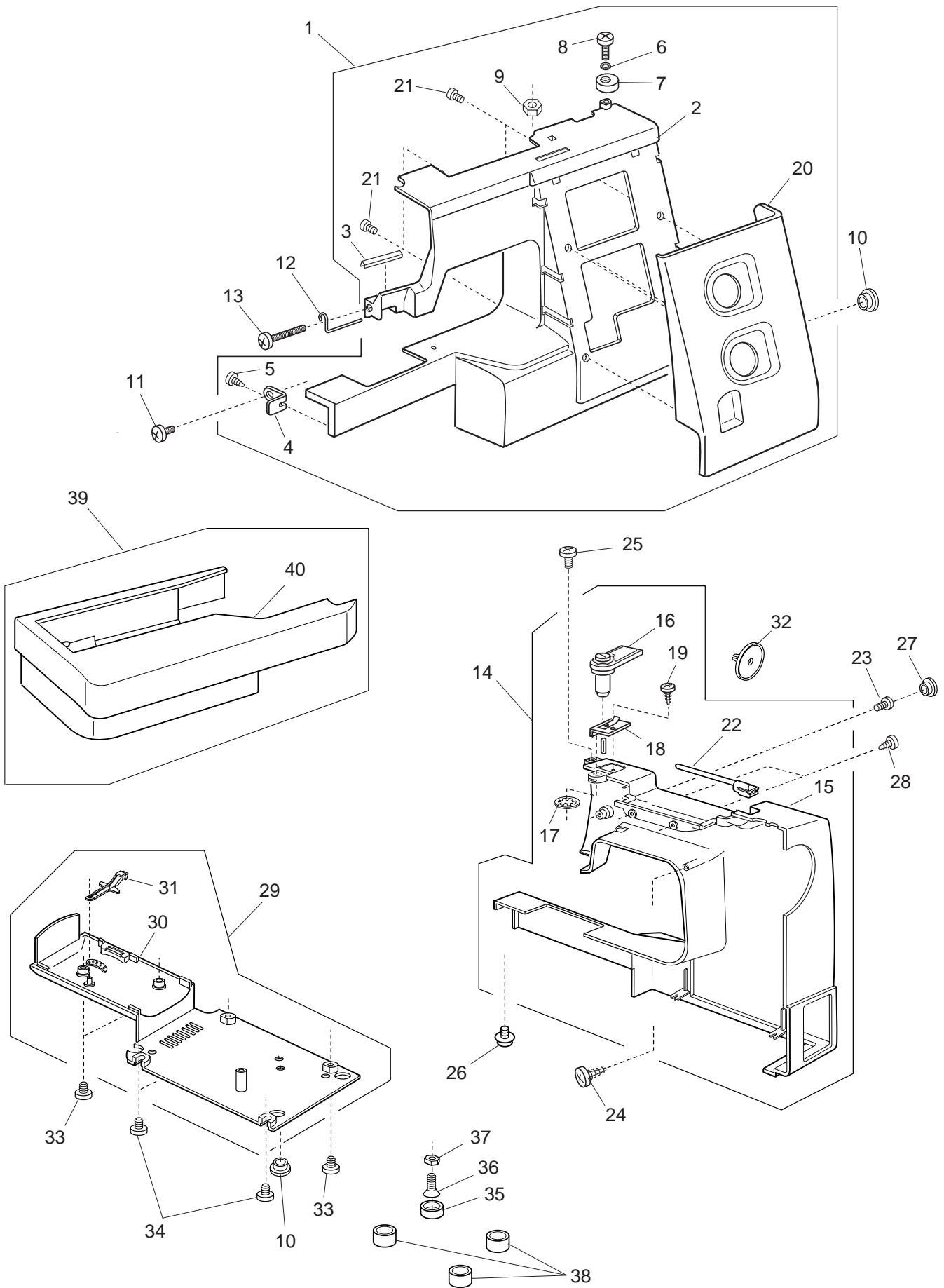
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	751100000	Carrying handle
2	507150002	Carrying handle supporter (right)
3	751077029	Carrying handle supporter (left)
4	000081005	Setscrew 4x8
5	652137006	Arm thread guide (2)
6	000101404	Setscrew 4x6
7	507605007	Face plateset plate (unit)
8	507006002	Face plateset plate
9	751020027	Threader shaft guide (upper)
10	000105419	Setscrew 4x20
11	000160102	Adjustable lock nut 4
12	685042005	Supporter stopper
13	652506000	Bobbin winder (unit)
14	652093009	Setscrew
15	659034003	Spring

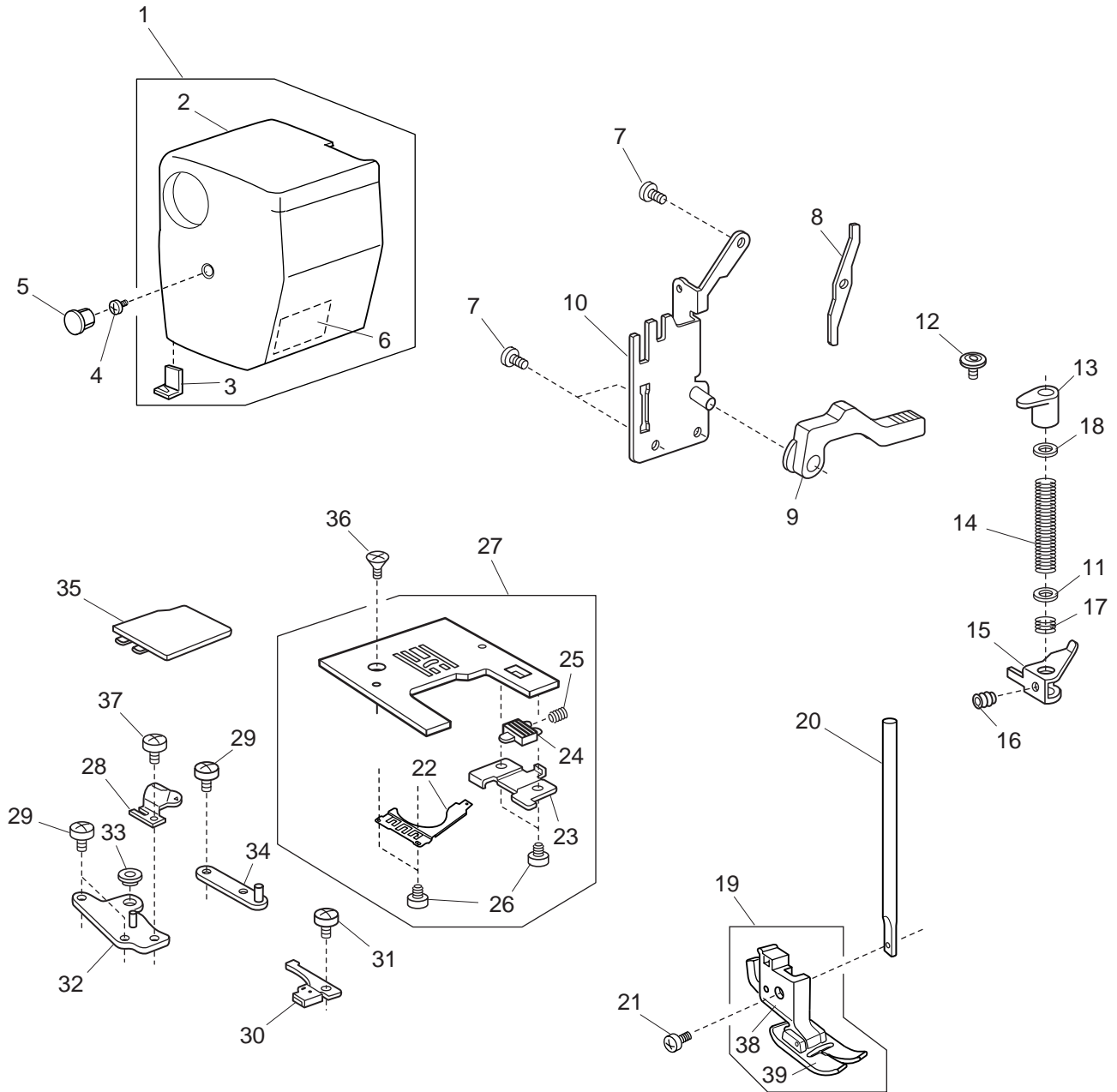
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507634016	Front cover (unit)
2	507110804	Front cover
3	753125007	Thread guide
4	827069004	Front cover set plate (lower)
5	000120203	Setscrew 3x8
6	000071013	Washer 4
7	735016307	Bobbin winder stopper
8	000103107	Setscrew 4x14
9	000061205	Nut
10	745033002	Cap
11	000101404	Setscrew 4x6
12	753126008	Arm thread guide
13	000092917	Setscrew 3.5x27
14	507631013	Rear cover (unit)
15	507102205	Rear cover
16	650503702	Thread guide (unit)
17	000014409	Snap ring CS8
18	827503005	Top cover thread guide (unit)
19	000162001	Setscrew 2.6x5B
20	507111263	Ornamental panel
21	000161402	Setscrew 2.3x8B
22	659067005	Additional spool pin
23	000101817	Setscrew 4x16
24	000121905	Setscrew 4x12B
25	810220003	Setscrew
26	000115205	Setscrew TP 4x6
27	653006101	Cap
28	000161310	Setscrew 3x12B
29	507601003	Base cover (unit)
30	507001007	Base cover
31	753005000	Drop feed lever
32	822020503	Spool holder (large)
33	000101703	Setscrew 4x12
34	000103509	Setscrew 4x10
35	735002001	Rubber foot
36	000097808	Setscrew 5x25
37	000061412	Nut
38	647009002	Bed rubber cushion
39	507637008	Extension table (unit)
40	507503004	Extension table (unit)

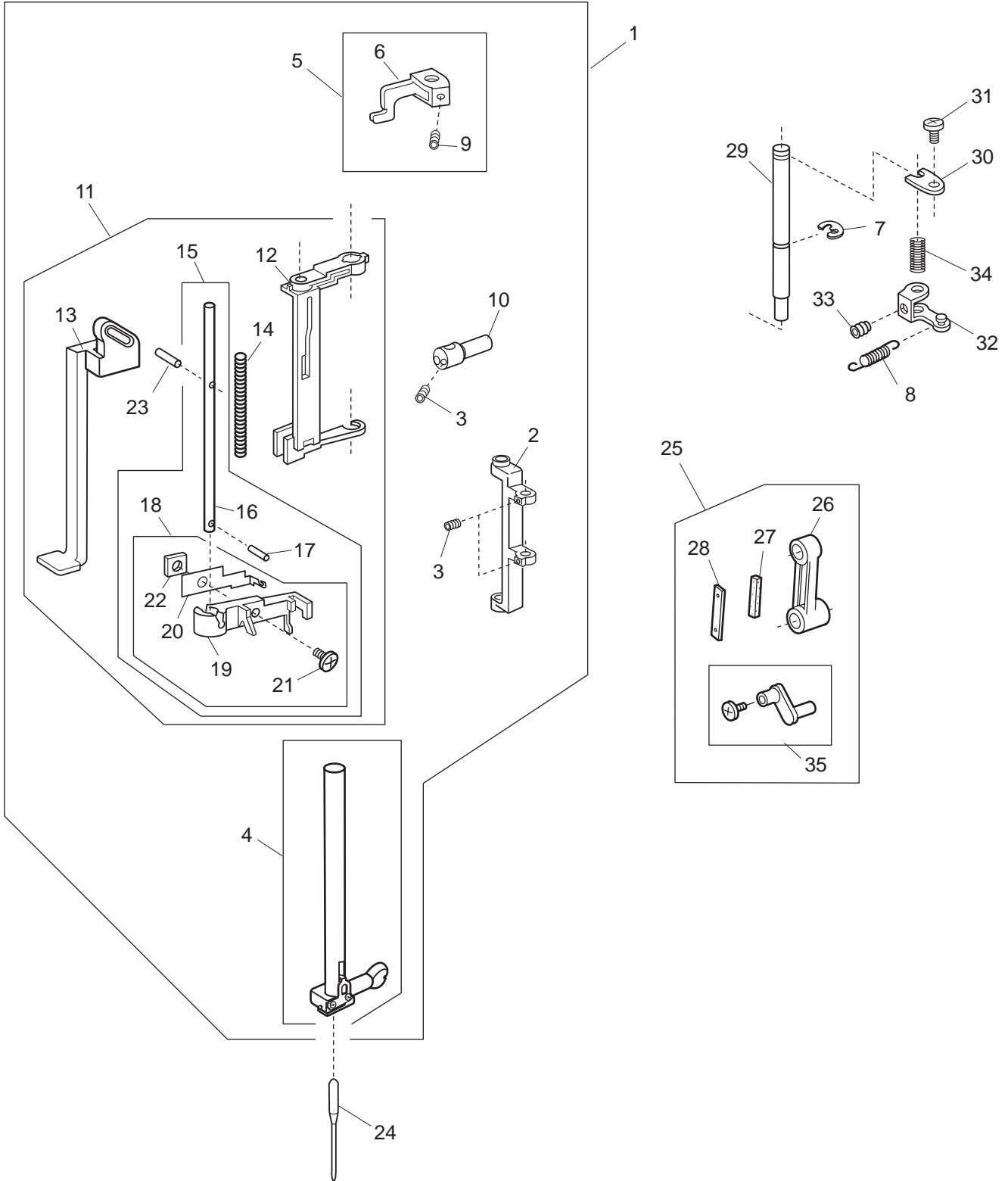
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507632162	Face plate (unit)
2	507105068	Face plate
3	840602006	Thread cutter (unit)
4	000101703	Setscrew 4x12
5	653006101	Cap
6	724025006	Reflecting sticker (2)
7	000081005	Setscrew 4x8
8	751142004	Thread tension release lever
9	735029004	Presser foot lifter
10	507156008	Presser bar base plate
11	826055004	Washer
12	000193001	Thin-head setscrew TP4x6
13	652104004	Presser bar bushing
14	826006000	Presser bar spring
15	735028003	Presser bar supporter
16	000111500	Hexagonal socket screw 4x8
17	826056005	Presser foot support spring
18	652201002	Washer
19	660508007	Presser foot (unit)
20	827021004	Presser bar
21	660106001	Thumb screw
22	832235010	Hook cover plate supporter (left)
23	825015010	Hook cover plate supporter (right)
24	825016000	Hook cover plate release button
25	825017001	Spring
26	820374004	Setscrew 2x2.3
27	751603400	Needle plate (unit)
28	822011109	Bobbin holder stopper
29	000066705	Setscrew 3x8
30	751502006	Bobbin holder stopper (unit)
31	810220003	Setscrew
32	751008007	Needle plate adjusting plate (left)
33	822314002	Nut
34	751009008	Needle plate adjusting plate (right)
35	750036012	Hook cover plate
36	820390109	Needle plate setscrew
37	000103808	Setscrew 3x5
38	660806008	Presser foot holder
39	685502019	Zigzag foot

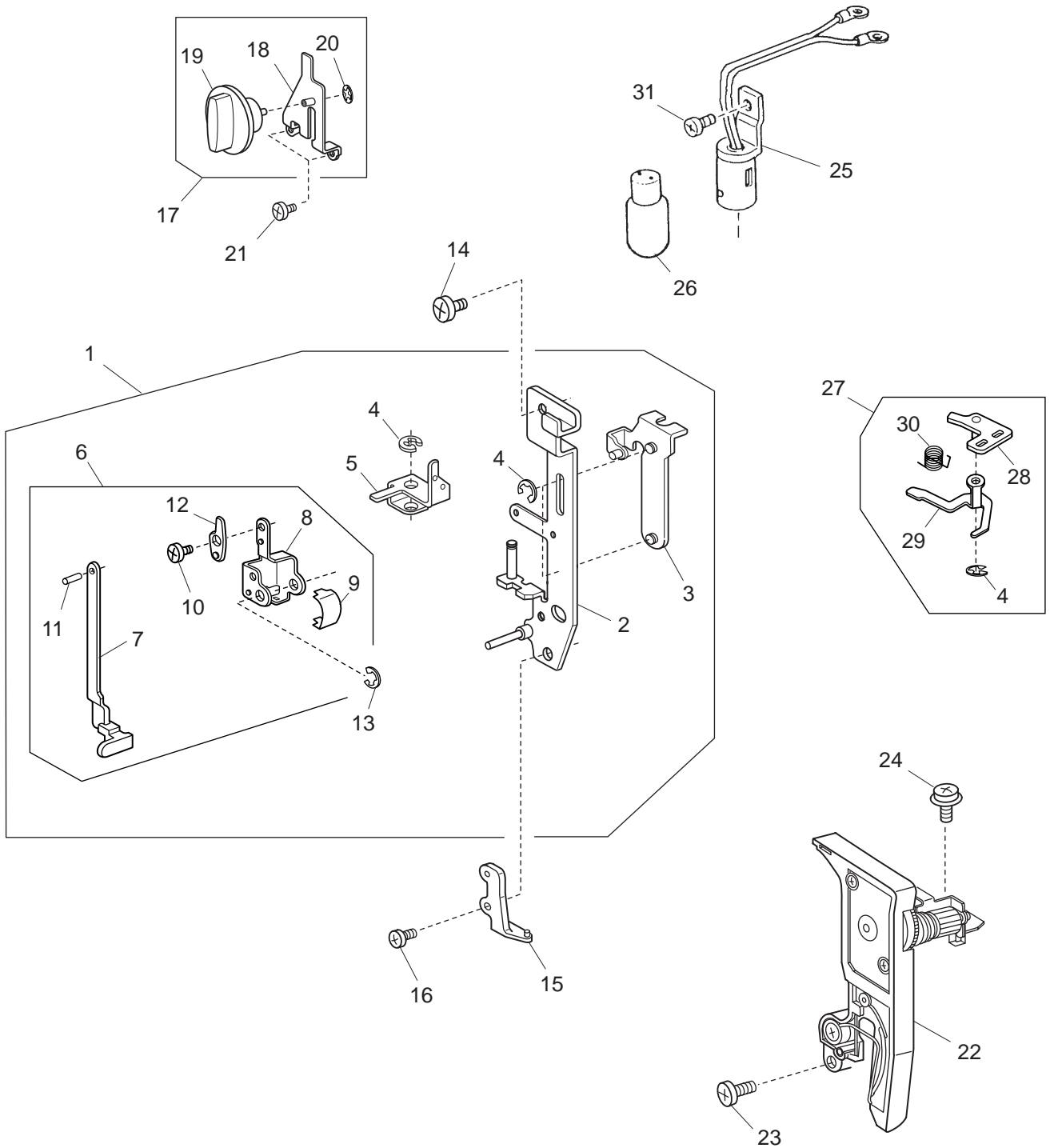
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	755627103	Needle bar supporter (unit)
2	751014006	Needle bar supporter
3	000111201	Hexagonal socket screw 4x4
4	751630015	Needle bar (unit)
5	807607019	Threader positioning setting plate (unit)
6	807018109	Threader positioning setting plate
7	000001609	Snap ring E5
8	507094007	Needle bar supporter spring
9	000111902	Hexagonal socket screw 3x4
10	751047008	Needle bar connecting stud
11	853509002	Needle threader (unit)
12	755062001	Threader frame
13	853026000	Threader lever
14	755067006	Needle threader spring
15	755625008	Threader shaft (unit)
16	755066005	Threader shaft
17	000003508	Knock pin 2x8
18	755643002	Threader plate (unit)
19	755064003	Threader guard plate
20	755065004	Threader plate
21	755096004	Setscrew
22	755095003	Nut
23	000125105	Pin 2x16
24	102408089	Needle HA-14
25	846615000	Needle bar crank (unit)
26	650039001	Needle bar crank rod
27	650040005	Felt
28	650041006	Spring
29	650033005	Supporter shaft
30	650034006	Supporter shaft stopper plate
31	000101404	Setscrew 4x6
32	650035007	Zigzag width arm
33	000111108	Hexagonal socket screw 4x6
34	650036008	Spring
35	652512009	Needle bar crank pin (unit)

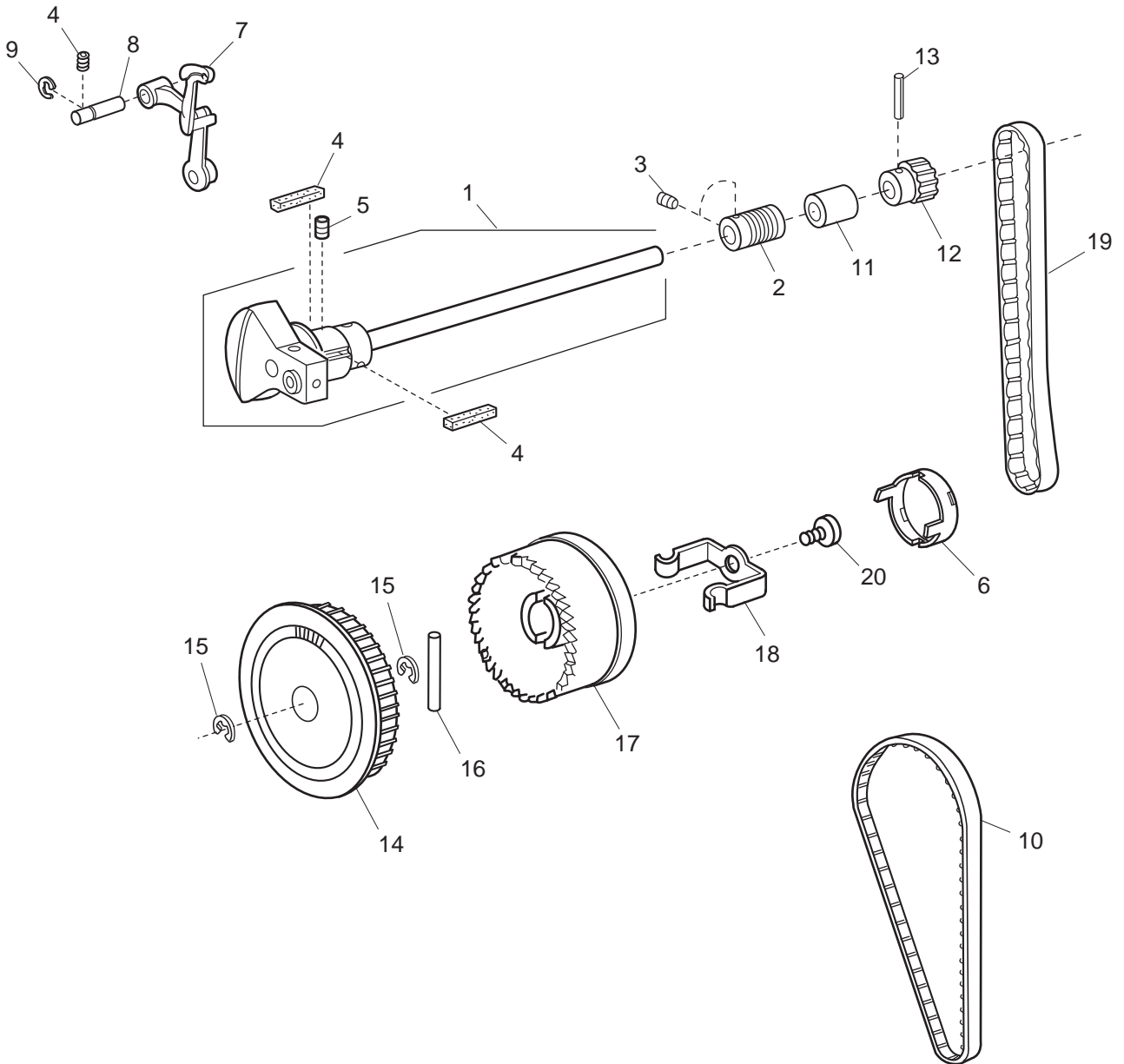
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507606008	Front bracket (unit)
2	507007014	Front bracket
3	501009007	Presser foot pressure adjusting plate
4	000002105	Snap ring E3
5	751022100	Drag rod link
6	751657007	Buttonhole lever (unit)
7	751610008	Buttonhole lever (unit)
8	753026203	Buttonhole lever supporter plate
9	753027008	Spring
10	652203004	Setscrew 3x3.5
11	000023009	Knock pin 1.6x4
12	753029000	Buttonhole lever adjusting plate
13	000001207	Snap ring E2.5
14	000081005	Setscrew 4x8
15	755074006	Threader guide plate
16	000103509	Setscrew 4x10
17	507607009	Presser foot pressure dial (unit)
18	501008109	Dial set plate
19	507008004	Presser foot pressure dial
20	000014007	Snap ring CS4
21	000106203	Setscrew 3.5x4
22	507504108	Thread tension (unit)
23	000101703	Setscrew 4x12
24	000115205	Setscrew TP 4x6
25	647510805	Lamp socket (unit)
26	000009803	Lamp 120V 15W
27	507638009	Thread tension release arm (unit)
28	752055002	Thread tension release arm base
29	751215009	Thread tension release arm
30	752056003	Thread tension release spring
31	000101404	Setscrew 4x6

PARTS LIST



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KEY NO.	PARTS NO.	DESCRIPTION
1	756504003	Upper shaft (unit)
2	507059000	Worm
3	000111201	Hexagonal socket screw 4x4
4	731384008	Felt
5	000111304	Hexagonal socket screw 5x5
6	650070509	Clutch cap
7	820511108	Thread take-up lever (unit)
8	650062003	Thread take-up lever pin
9	000002806	Snap ring E6
10	653139012	Timing belt
11	673062004	Upper shaft rear bushing
12	756017004	Upper shaft gear
13	000020501	Knock pin 3x22
14	756018005	Belt wheel
15	000030205	Snap ring E8
16	000023803	Knock pin 4x40
17	639097024	Handwheel
18	639113016	Clutch spring
19	650071005	Timing belt
20	000081005	Setscrew 4x8

