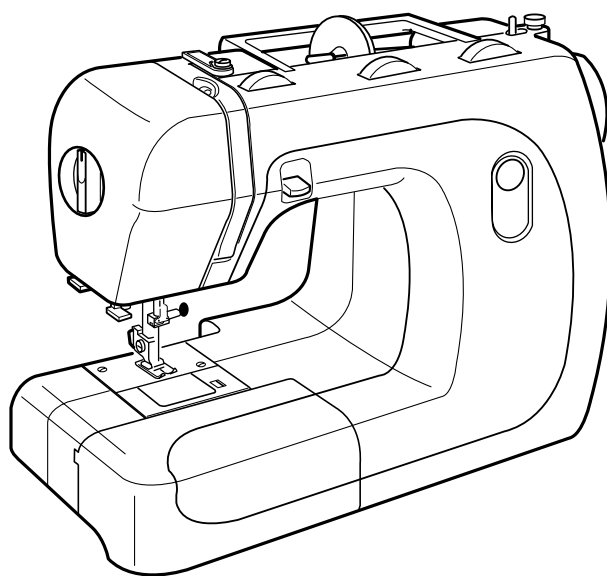


SERVICING MANUAL

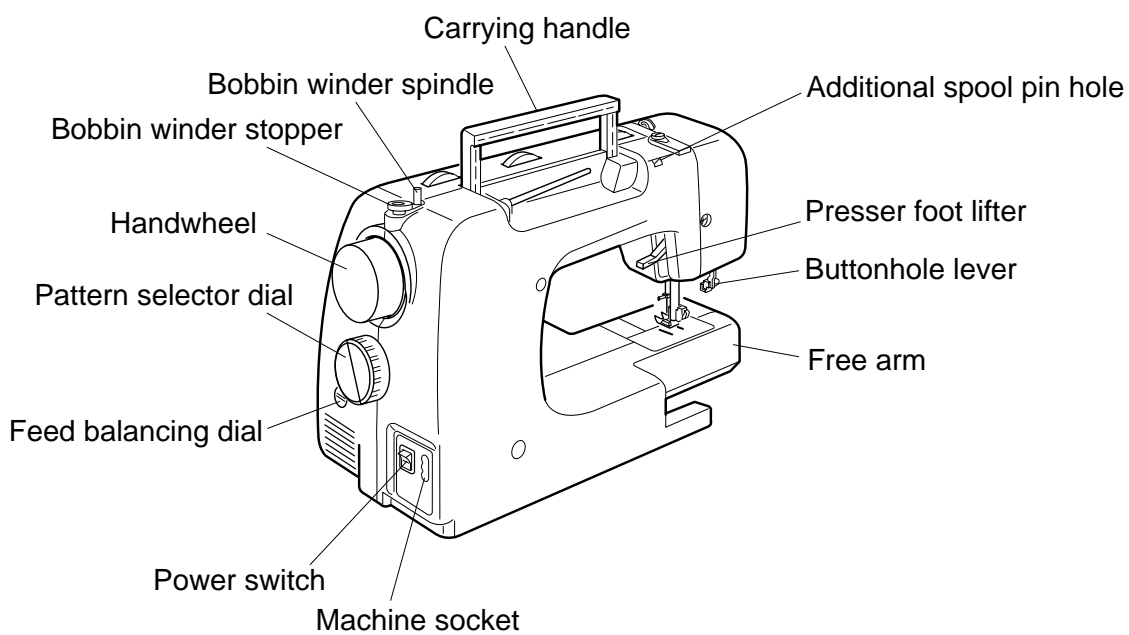
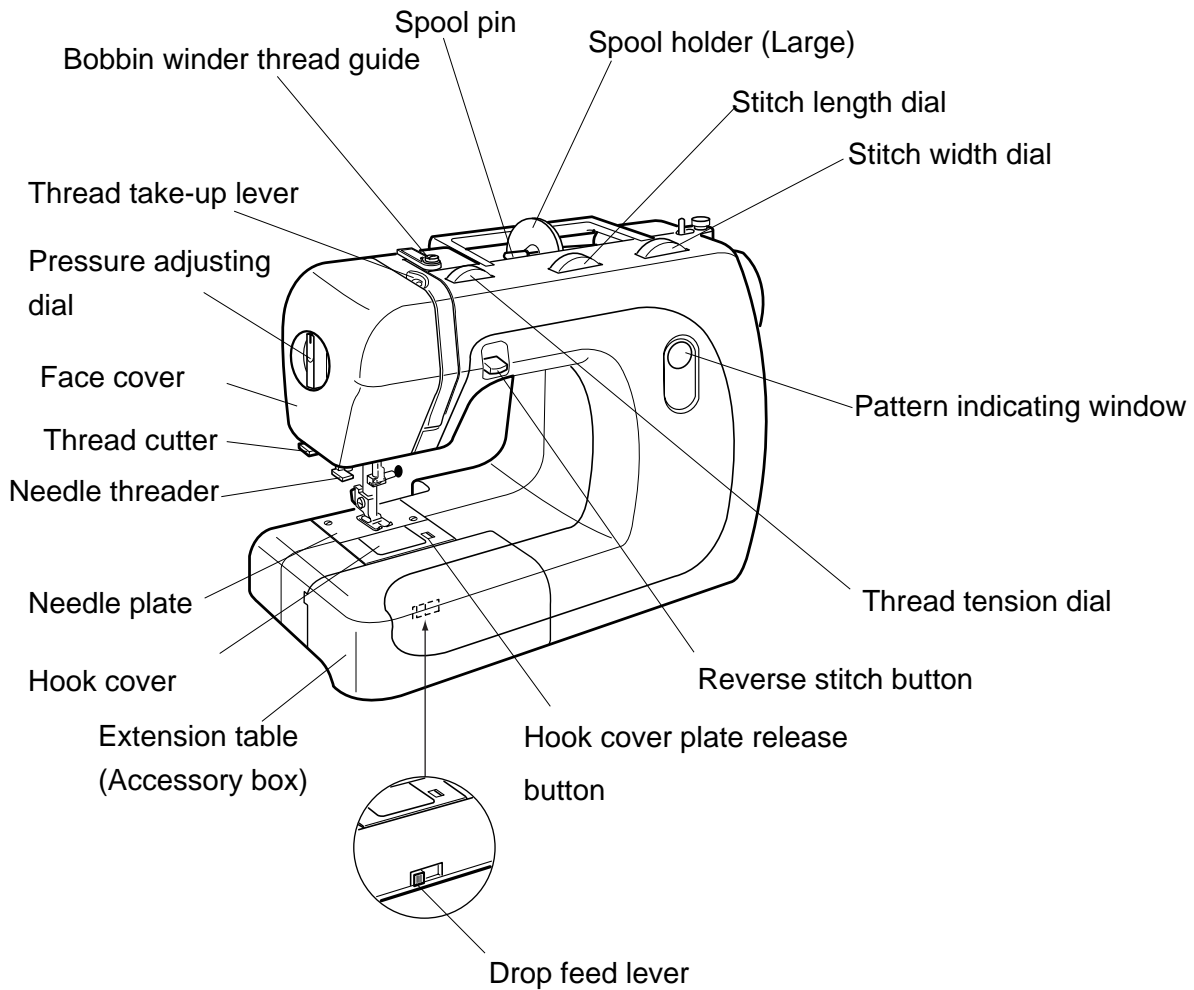


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LOCATE AND IDENTIFY THE PARTS



WHAT TO DO WHEN

CONDITION	CAUSE	HOW TO FIX	REFERENCE
1. SKIPPING STITCHES	1. NEEDLE IS NOT INSERTED PROPERLY.	INSERT THE NEEDLE PROPERLY.	
	2. NEEDLE IS BENT OR WORN.	CHANGE THE NEEDLE.	
	3. INCORRECTLY THREADED	RETHREAD.	
	4. NEEDLE OR THREAD ARE INAPPROPRIATE FOR FABRIC BEING SEWN.	USE THE RECOMMENDED SEWING NEEDLE AND THREAD.	
	5. SEWING ON STRETCH FABRIC	USE A #11 BLUE TIP NEEDLE.	
	6. PRESSER FOOT PRESSURE IS TOO WEAK.	ADJUST THE PRESSER BAR LEVEL TO MAKE THE PRESSURE STRONGER.	
	7. INAPPROPRIATE NEEDLE BAR HEIGHT	SEE MECHANICAL ADJUSTMENT "NEEDLE BAR HEIGHT".	P.16
	8. INAPPROPRIATE NEEDLE TO SHUTTLE TIMING	SEE MECHANICAL ADJUSTMENT "NEEDLE TO SHUTTLE TIMING".	P.17
	9. INAPPROPRIATE NEEDLE TO SHUTTLE CLEARANCE	SEE MECHANICAL ADJUSTMENT "NEEDLE CLEARANCE TO SHUTTLE."	P.18
2. FABRIC NOT MOVING	1. PRESSER FOOT PRESSURE IS TOO WEAK.	ADJUST THE PRESSER BAR LEVEL TO MAKE THE PRESSURE STRONGER.	
	2. INCORRECT F.D. HEIGHT	SEE MECHANICAL ADJUSTMENT "FEED DOG HEIGHT."	P.15
	3. F.D. IS IN DOWN POSITION.	RAISE THE F.D. LEVEL.	
	4. THREAD ON BOTTOM SIDE OF FABRIC IS JAMMED UP.	MAKE SURE TO BRING BOTH NEEDLE AND BOBBIN THREAD UNDER THE FOOT WHEN STARTING SEWING.	
	5. FEED DOG TEETH ARE WORN.	CHANGE THE FEED DOG.	

CONDITION	CAUSE	HOW TO FIX	REFERENCE
3. BREAKING UPPER THREAD	<ol style="list-style-type: none"> 1. INITIAL SEWING SPEED IS TOO FAST. 2. THREAD PATH IS INCORRECT. 3. NEEDLE IS BENT OR DULL. 4. UPPER THREAD TENSION IS TOO STRONG. 5. NEEDLE SIZE IS INAPPROPRIATE FOR FABRIC. 6. NEEDLE EYE IS WORN. 7. NEEDLE HOLE IN NEEDLE PLATE IS WORN OR BURRED. 	<p>START WITH MEDIUM SPEED.</p> <p>USE THE PROPER THREAD PATH.</p> <p>REPLACE WITH A NEW NEEDLE.</p> <p>ADJUST UPPER THREAD TENSION CORRECTLY.</p> <p>USE APPROPRIATE NEEDLE FOR FABRIC AND THREAD IN USE.</p> <p>CHANGE THE NEEDLE.</p> <p>REPAIR THE HOLE OR REPLACE THE NEEDLE PLATE.</p>	
4. BREAKING BOBBIN THREAD	<ol style="list-style-type: none"> 1. INCORRECTLY THREADED BOBBIN. 2. TOO MUCH THREAD IS ON THE BOBBIN. 3. LINT IS STUCK INSIDE THE BOBBIN HOLDER. 4. THREAD QUALITY IS TOO LOW. 5. THREAD IS JAMMING AROUND THE BOBBIN. 	<p>THREAD BOBBIN CORRECTLY.</p> <p>ADJUST THE POSITION OF STOPPER.</p> <p>CLEAN THE SHUTTLE.</p> <p>CHANGE TO A HIGHER QUALITY SEWING THREAD.</p> <p>CLEAR OUT THE JAMMING THREAD.</p>	
5. NEEDLE BREAKS	<ol style="list-style-type: none"> 1. NEEDLE IS HITTING THE NEEDLE PLATE. 2. NEEDLE IS BENT OR WORN. 3. NEEDLE IS HITTING THE SHUTTLE. 4. THE FABRIC MOVES WHILE THE NEEDLE IS PIERCING IT, OR THE NEEDLE ZIGZAGS WHILE IN FABRIC. 5. FABRIC IS BEING PULLED TOO STRONGLY WHILE SEWING. 	<p>SEE MECHANICAL ADJUSTMENT "NEEDLE POSITION."</p> <p>CHANGE THE NEEDLE.</p> <p>SEE MECHANICAL ADJUSTMENT "NEEDLE CLEARANCE TO SHUTTLE."</p> <p>SEE MECHANICAL ADJUSTMENT "NEEDLE SWING."</p> <p>GUIDE THE FABRIC GENTLY WHILE SEWING.</p>	<p>P.20</p> <p>P.18</p> <p>P.11</p>

CONDITION	CAUSE	HOW TO FIX	REFERENCE
6. NOISY OPERATION	1. BACKLASH BETWEEN SHUTTLE HOOK GEAR AND LOWER SHAFT GEAR IS TOO GREAT.	SEE MECHANICAL ADJUSTMENT "BACKLASH (LOWER SHAFT GEAR)."	P.19
	2. LOWER SHAFT GEAR IS LOOSE.	ELIMINATE THE LOOSENESS.	
	3. INAPPROPRIATE BELT TENSION.	SEE MECHANICAL ADJUSTMENT "MOTOR BELT TENSION."	P.26
	4. NOT ENOUGH OIL	OIL ALL MOVING PARTS.	
	5. UPPER SHAFT IS LOOSE.	ELIMINATE THE LOOSENESS.	
7. DEFORMATION PATTERN	1. INAPPROPRIATE FEED BALANCE.	SEE MECHANICAL ADJUSTMENT "STRETCH STITCH BALANCE."	P.14
	2. INAPPROPRIATE ZIGZAG SYNCHRONIZATION.	SEE MECHANICAL ADJUSTMENT "NEEDLE SWING."	P.11
	3. UPPER THREAD TENSION IS TOO STRONG.	SEE MECHANICAL ADJUSTMENT "TOP TENSION."	P. 9
8. IMPROPER BUTTONHOLE RESULTS	1. BUTTONHOLE STITCH BALANCE IS NOT CORRECT.	SEE MECHANICAL ADJUSTMENT "BUTTONHOLE STITCH BALANCE."	P.22
	2. CHANGING TO BAR TACK IS TOO EARLY OR WILL NOT WORK.	SEE MECHANICAL ADJUSTMENT "BUTTONHOLE FUNCTION ."	P.24

THREADING OF MACHINE

THE STEP NUMBE CORRESPONDS WITH THE NUMBER IN THE ILLUSTRATIONS.
DOTTED LINES SHOW THE PLACES WHERE THE THREAD LOOPS AND IS THEN PULLED TIGHT.

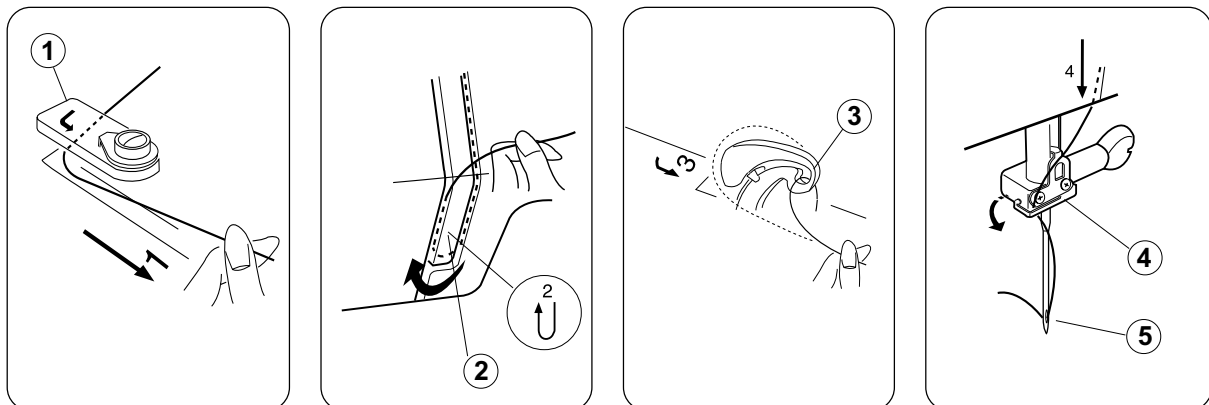
RAISE THE TAKE-UP LEVER TO ITS HIGHEST POSITION BY TURNING THE HANDWHEEL TOWARD YOU.

RAISE THE PRESSER FOOT LEVER.

PLACE THE SPOOL ON A PIN WITH THE THREAD COMING FROM THE BACK OF THE SPOOL.

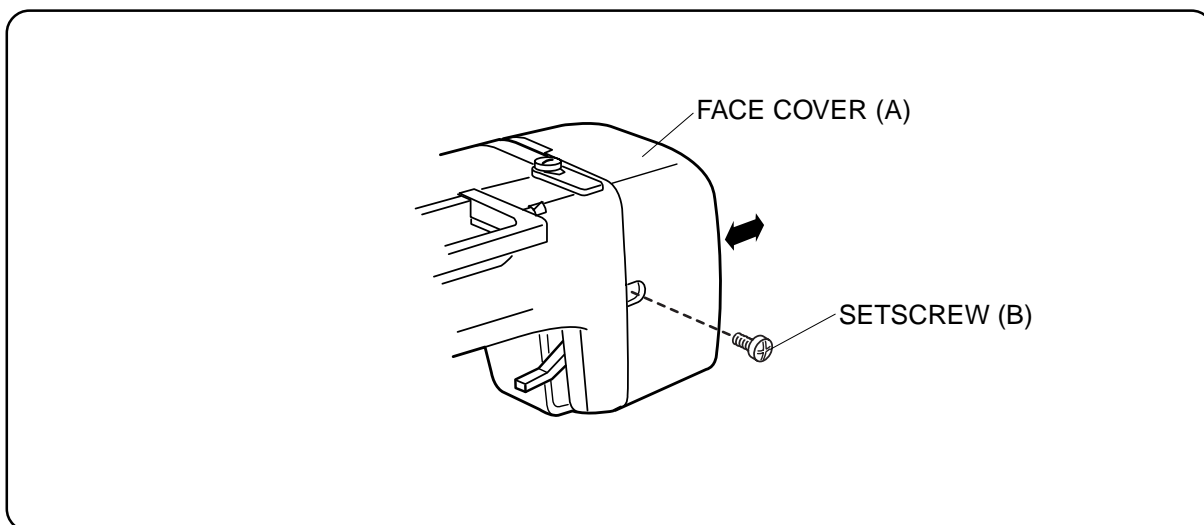
1. DRAW THE THREAD THROUGH THE THREAD GUIDE.
2. HOLDING THE THREAD TAUT WITH YOUR RIGHT HAND, DRAW THE THREAD DOWN INTO THE TENSION AREA AND THEN AROUND THE CHECK SPRING HOLDER.
3. FIRMLY DRAW THE THREAD UP AND THROUGH THE TAKE-UP LEVER FROM RIGHT TO LEFT.
4. PULL THE THREAD TO THE LEFT, AND SLIP IT INTO THE NEEDLE BAR THREAD GUIDE.
5. THREAD THE NEEDLE FROM FRONT TO BACK.

NOTE: YOU MAY WANT TO CUT THE END OF THE THREAD WITH SHARP SCISSORS FOR EASIER NEEDLE THREADING.



SERVICE ACCESS (1)

FACE COVER



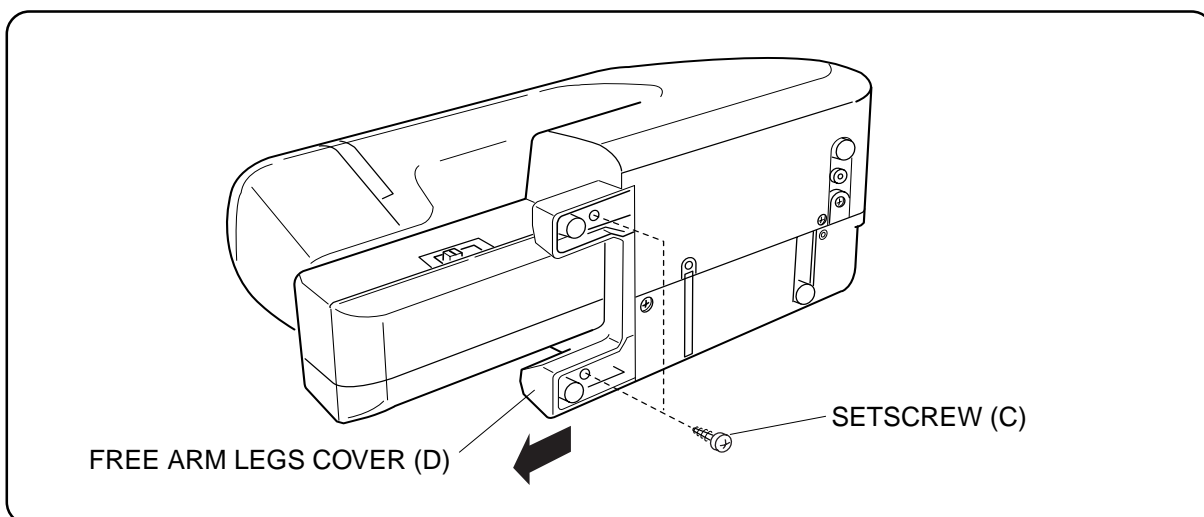
TO REMOVE:

REMOVE THE SETSCREW (B) TO TAKE OUT THE FACE COVER (A).

TO ATTACH:

TO REPLACE, FOLLOW THE ABOVE PROCEDURE IN REVERSE.

FREE ARM LEGS COVER



TO REMOVE:

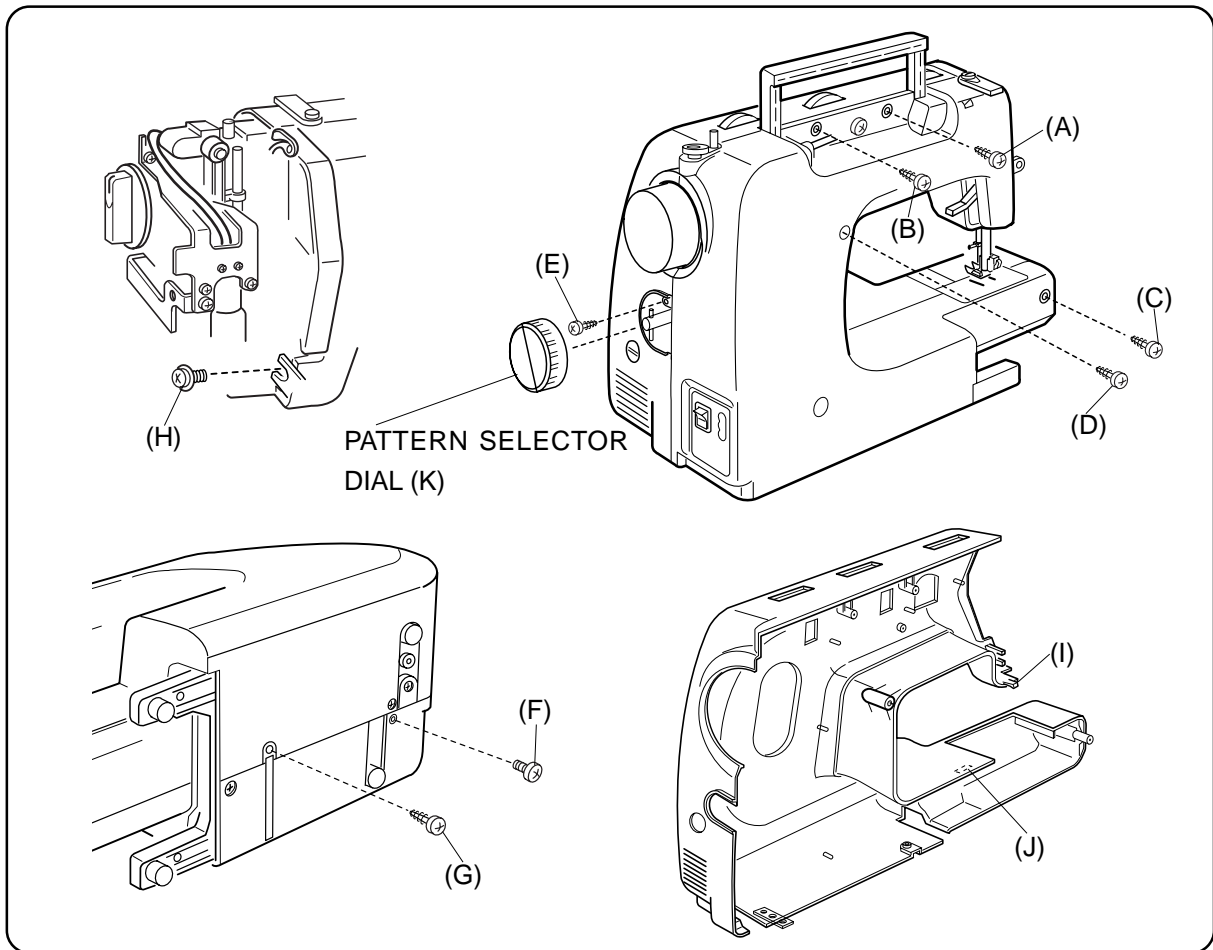
1. REMOVE THE SETSCREW (C).
2. REMOVE THE FREE ARM LEGS COVER (D).

TO ATTACH:

TO REPLACE, FOLLOW THE ABOVE PROCEDURE IN REVERSE.

SERVICE ACCESS (2)

FRONT COVER



TO REMOVE:

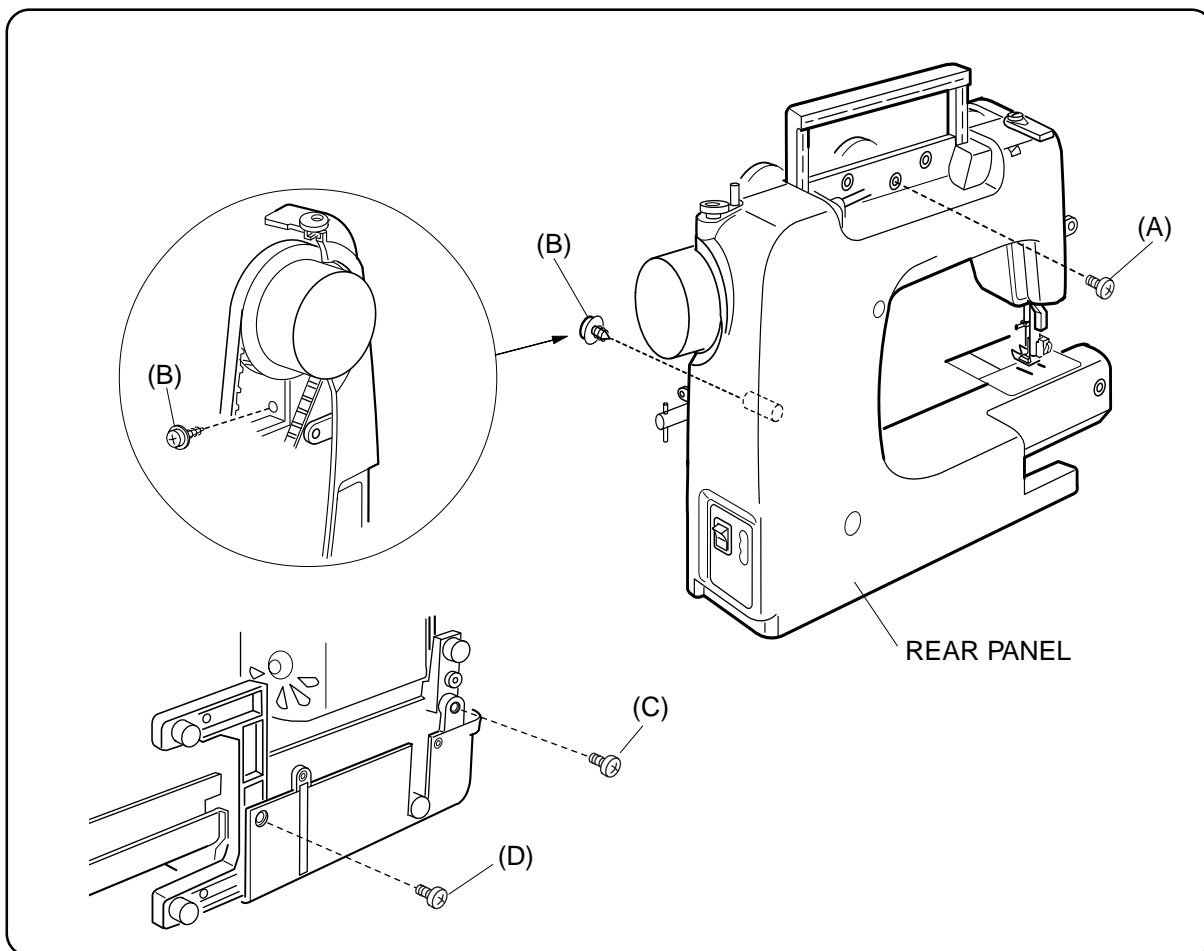
1. REMOVE THE FACE COVER AND FREE ARM LEGS COVER (SEE PAGE 6.)
2. REMOVE THE PATTERN SELECTOR DIAL (K), AND SETSCREWS (A) - (G)
3. LOOSEN SETSCREW (H).
4. DISENGAGE THE FRONT COVER HOOK (I), (J) AND THEN REMOVE THE FRONT COVER.

TO ATTACH:

TO REPLACE, FOLLOW THIS PROCEDURE IN REVERSE.

SERVICE ACCESS (3)

REAR PANEL



TO REMOVE:

1. REMOVE THE FACE COVER AND FREE ARM LEGS COVER AND THE FRONT COVER (SEE PAGE 6 &7).
2. REMOVE THE SETSCREWS (A), (B), (C), (D) AND THE REAR COVER.

TO ATTACH:

TO REPLACE, FOLLOW THE ABOVE PROCEDURE IN REVERSE.

MECHANICAL ADJUSTMENT

TOP TENSION

TO CHECK:

1. THE STANDARD UPPER THREAD TENSION SHOULD BE 85 G WHEN PULLING THE THREAD (COTTON THREAD #50) IN THE DIRECTION OF (C) WITH SETTING THE TENSION DIAL AT "4". (MAKE SURE THE FOOT SHOULD BE LOWERED.)

IF THE TENSION IS OUT OF THE STANDARD RANGE, ADJUST IT AS FOLLOWS:

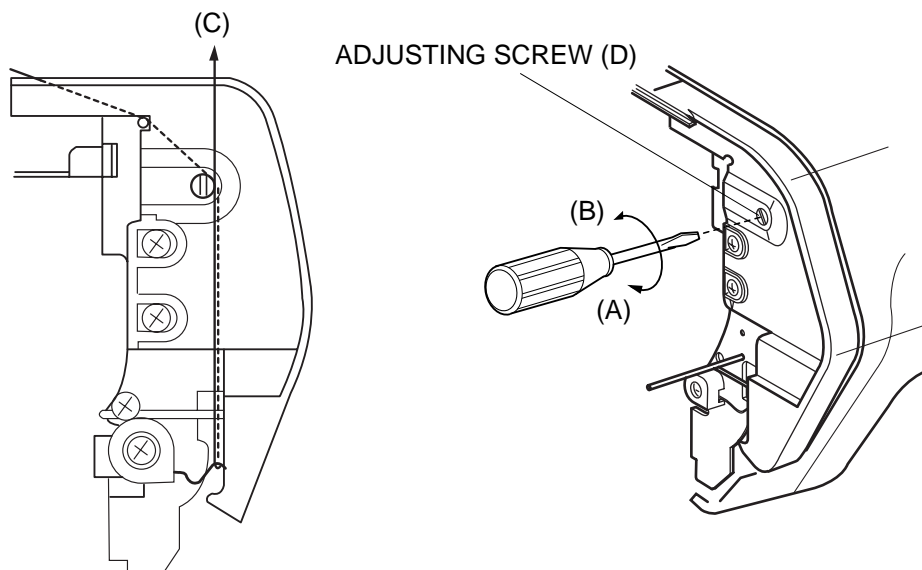
* PULLING SPEED FOR THE NEEDLE THREAD IS APPROXIMATELY 59 MM/ SECOND.

2. REMOVE THE FACE COVER, AND TURN THE ADJUSTING SCREW WITH THE SCREWDRIVER.

IF THE TOP TENSION IS TOO TIGHT, TURN THE ADJUSTING SCREW (D) IN DIRECTION "A".

IF THE TOP TENSION IS TOO LOOSE, TURN THE ADJUSTING SCREW (D) IN DIRECTION "B".

3. ATTACH THE FACE COVER.



MECHANICAL ADJUSTMENT

PRESSER BAR HEIGHT AND ALIGNMENT

TO CHECK:

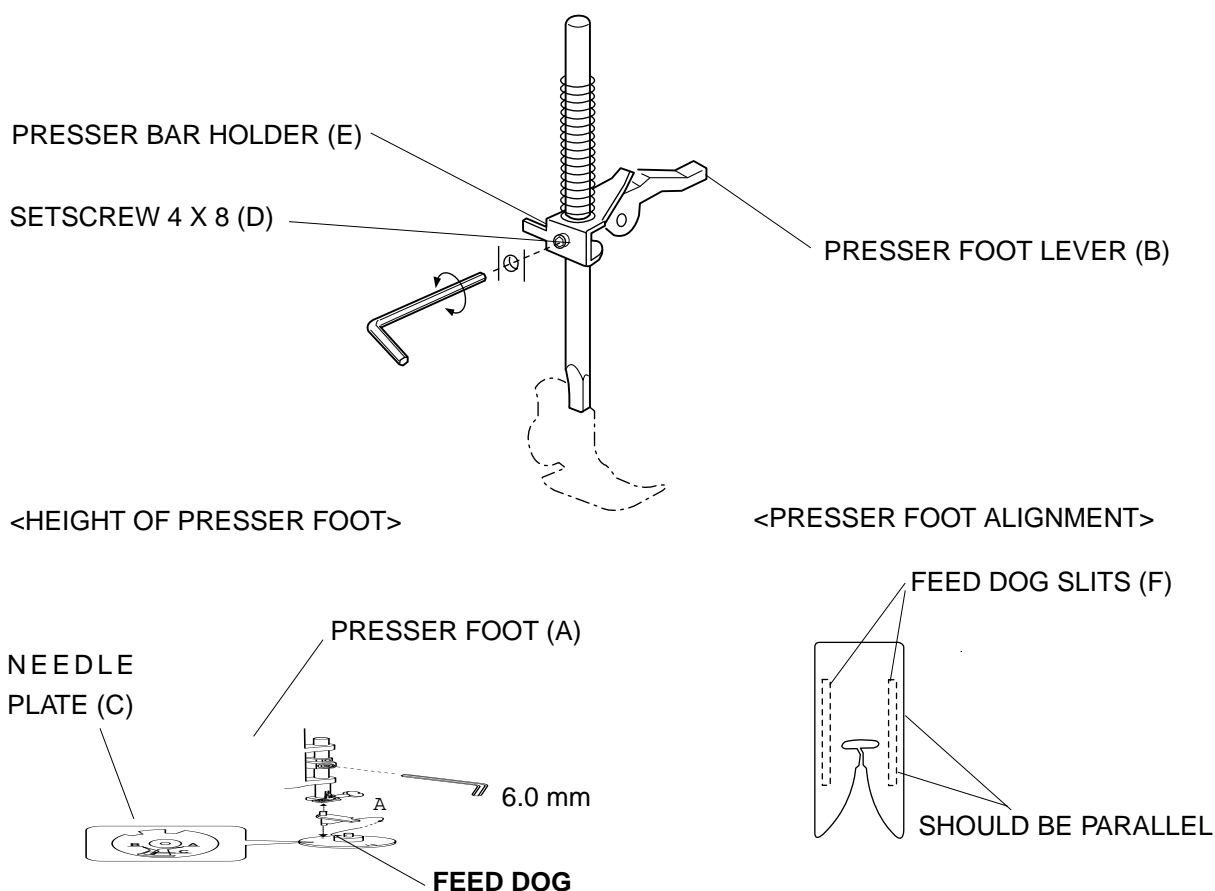
1. RAISE THE PRESSER FOOT LEVER (B).
2. THE DISTANCE BETWEEN THE PRESSER FOOT (A) AND THE NEEDLE PLATE (C) SHOULD BE 6.0 MM (0.24").
IF THIS IS NOT THE CASE, ADJUST AS FOLLOWS.

ADJUSTMENT PROCEDURE:

1. REMOVE THE FACE COVER. RAISE THE PRESSER FOOT LEVER (B) AND LOOSEN THE SETSCREW (D) ON THE PRESSER BAR HOLDER (E).
ADJUST THE DISTANCE BETWEEN THE PRESSER FOOT AND THE NEEDLE PLATE TO 6.0 MM (0.24").
2. TIGHTEN THE SETSCREW (D) SECURELY.
3. ATTACH THE FACE COVER.

NOTE:

WHEN YOU TIGHTEN THE SETSCREW, MAKE SURE THAT BOTH SIDES OF THE PRESSER FOOT ARE PARALLEL TO THE FEED DOG SLOTS (F) ON THE NEEDLE PLATE.



MECHANICAL ADJUSTMENT

NEEDLE SWING


TO CHECK:

SET THE PATTERN SELECTOR DIAL AT “” AND MAXIMUM ZIGZAG WIDTH.

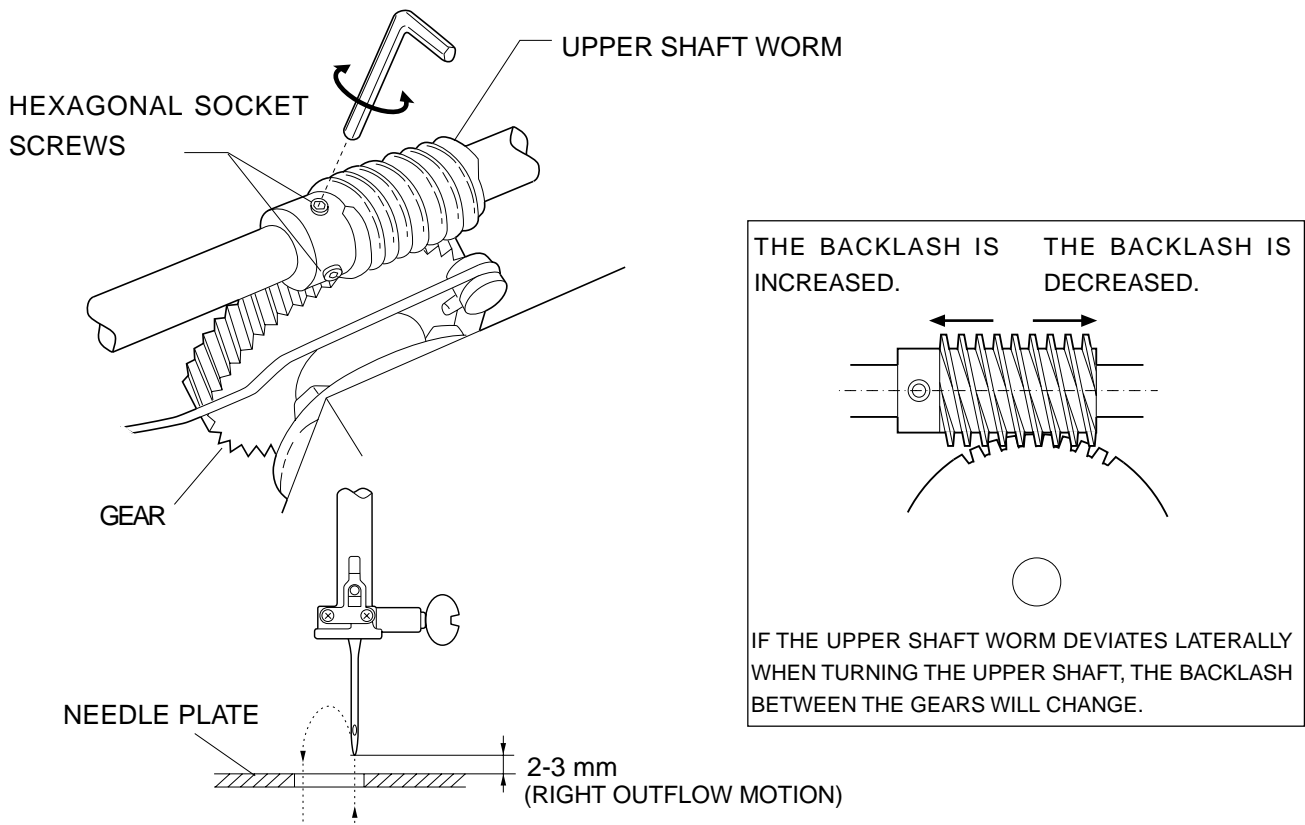
IF THE NEEDLE MOVES SIDEWISE WHILE THE NEEDLE IS COMING OUT FROM THE FABRIC, ADJUST IT AS FOLLOWS:

(THE NEEDLE SHOULD START SWINGING WHEN ITS TIP IS AT 2 MM (0.08”) TO 3 MM (0.12”) ABOVE THE NEEDLE PLATE IN UPWARD MOTION).

ADJUSTMENT PROCEDURE:

1. REMOVE THE FACE COVER AND FRONT COVER (SEE PAGES 6 AND 7).
2. SELECT THE PATTERN SELECTOR DIAL AT “” AND SET THE ZIGZAG WIDTH AT “5”.
3. LOOSEN THE TWO HEXAGONAL SOCKET SCREWS ON THE UPPER SHAFT WORM.
4. WHILE HOLDING THE UPPER SHAFT WORM IN PLACE, CAREFULLY TURN THE HANDWHEEL AND ADJUST SO THAT LATERAL NEEDLE SWING STARTS FROM A POSITION 2 MM (0.08”) TO 3 MM (0.12”) ABOVE THE NEEDLE PLATE IN RIGHT OUTFLOW MOTION.
5. TIGHTEN THE TWO HEXAGONAL SOCKET SCREWS ON THE UPPER SHAFT WORM.
6. ATTACH THE FRONT COVER AND FACE COVER.

NOTE: MAKE SURE THAT THERE IS NO BACKLASH BETWEEN THE UPPER SHAFT WORM AND CAM BLOCK GEAR, AND THE UPPER SHAFT SHOULD TURN SMOOTHLY.




MECHANICAL ADJUSTMENT

STRAIGHT STITCHING (1)

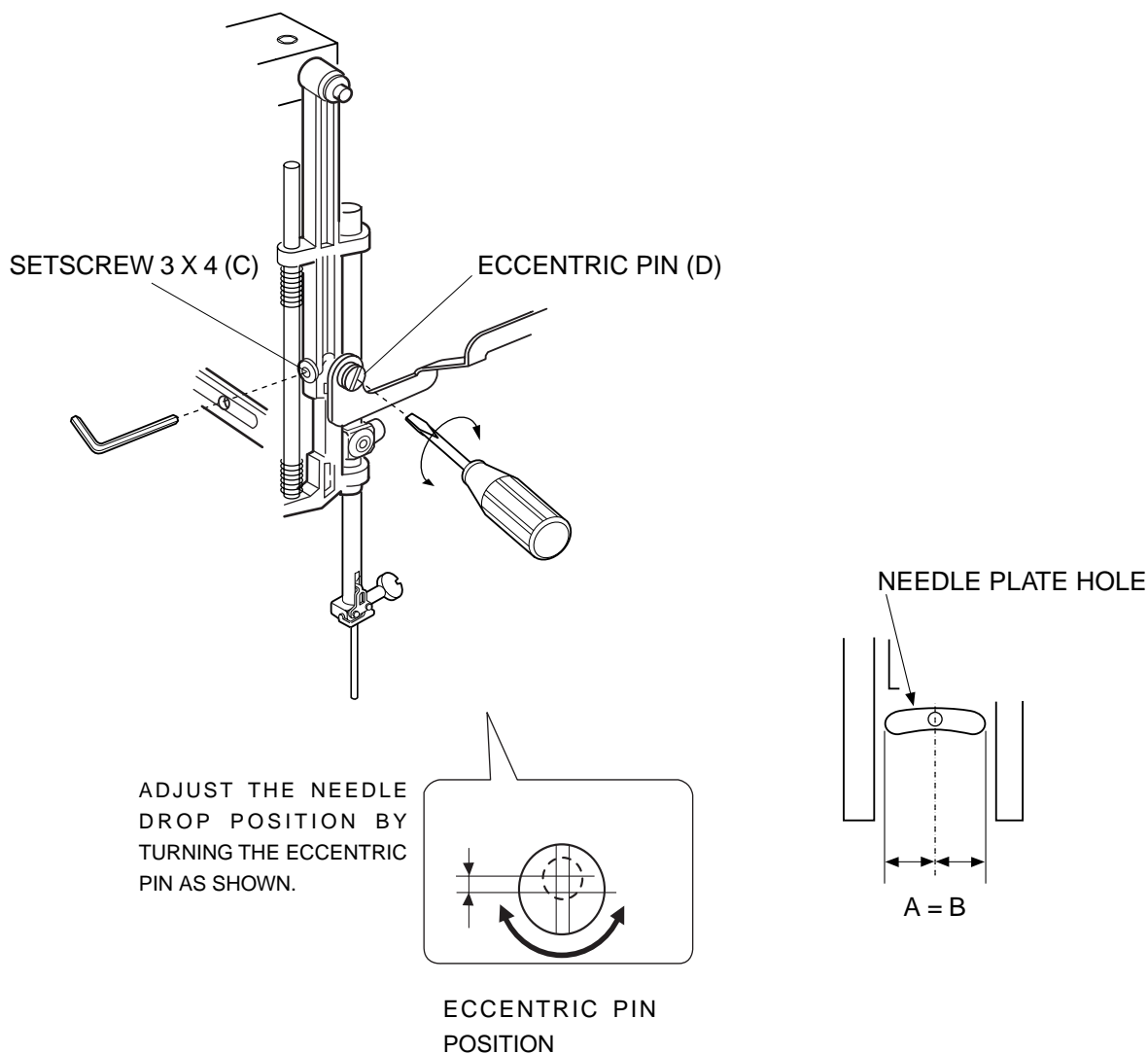
SET THE PATTERN SELECTOR DIAL AT “”, THE STANDARD NEEDLE DROP POSITION SHOULD BE AT THE CENTER OF NEEDLE PLATE HOLE.

ADJUSTMENT PROCEDURE:

1. REMOVE THE FACE COVER (SEE PAGE 6).
2. SET THE PATTERN SELECTOR DIAL AT “” AND ZIGZAG WIDTH DIAL AT “0”, THEN CHECK THE NEEDLE DROP POSITION.
3. IF THE NEEDLE DROP POSITION IS NOT THE CENTER OF THE NEEDLE PLATE HOLE, REMOVE THE FACE COVER AND LOOSEN THE SETSCREW (C) AND ADJUST THE NEEDLE DROP POSITION BY TURNING THE ECCENTRIC PIN.

NOTE: WHEN ADJUSTING THE NEEDLE DROP POSITION, MAKE SURE THE ECCENTRIC PIN SHOULD SIT WITH ITS HEAD OFF-CENTERED DOWNWARD.


4. AFTER THE ADJUSTMENT OF NEEDLE DROP POSITION, TIGHTEN SETSCREW (C) AND ATTACH THE FACE COVER.




MECHANICAL ADJUSTMENT

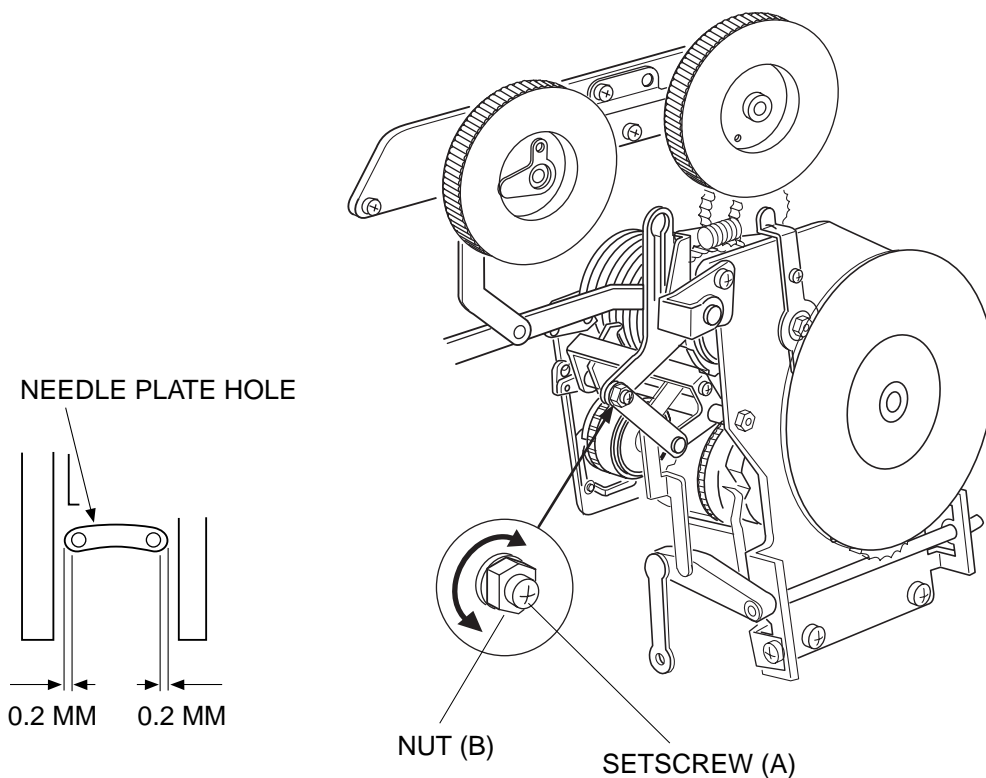
NEEDLE DROP (2)

TO CHECK:

WHEN THE NEEDLE SWINGS IN MAXIMUM ZIGZAG WIDTH “”, THE DISTANCE BETWEEN BOTH ENDS OF THE NEEDLE HOLE ON THE NEEDLE PLATE AND THE NEEDLE SHOULD BE 0.2 MM OR MORE. IF NOT, ADJUST AS FOLLOWS:

ADJUSTMENT PROCEDURE:

1. REMOVE THE FACE COVER, FREE ARM LEGS COVER AND FRONT COVER. (SEE PAGE 6 AND 7).
2. SET THE PATTERN SELECTOR DIAL AT “” AND THE ZIGZAG WIDTH DIAL AT “5”, AND CHECK BOTH NEEDLE DROP POSITIONS WITH THE MAXIMUM ZIGZAG WIDTH.
3. IF THE BOTH NEEDLE DROP POSITIONS ARE NOT EQUAL, LOOSEN THE SETSCREW (A) AND TURN THE NUT TO ADJUST THE NEEDLE DROP POSITION.
4. TIGHTEN THE SETSCREW (A) AND ATTACH THE FRONT COVER, FREE ARM LEGS COVER AND FACE COVER.



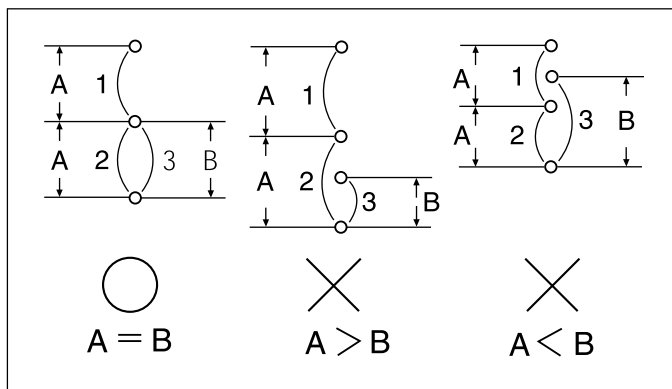
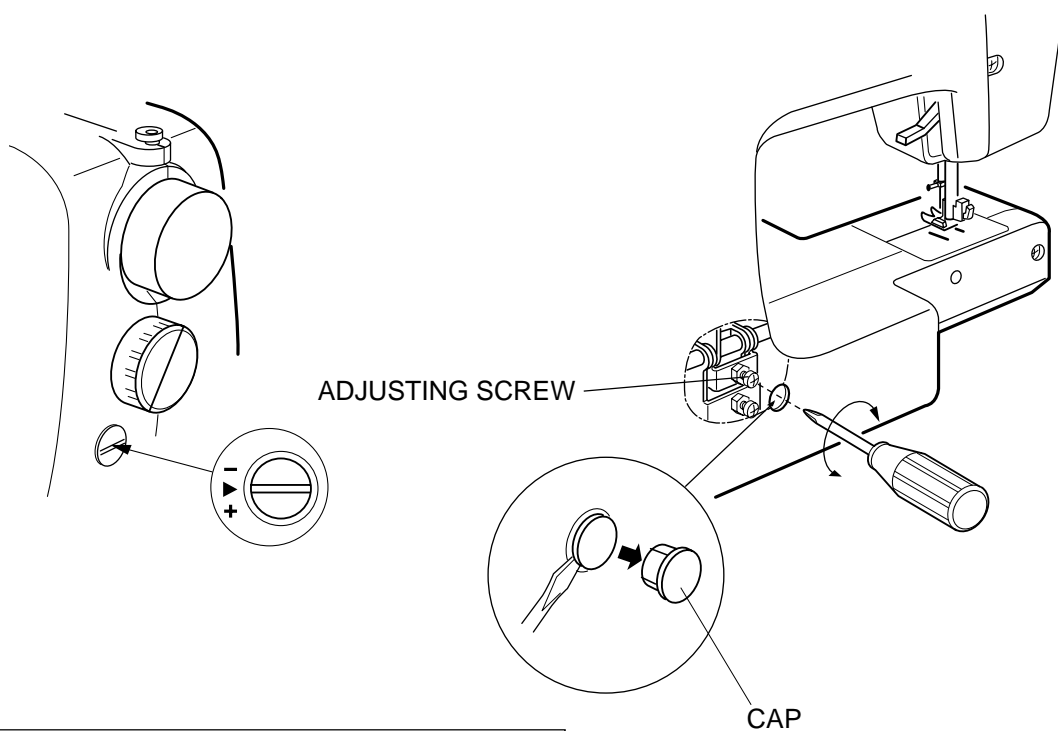
MECHANICAL ADJUSTMENT

STRETCH STITCH BALANCE

ADJUSTMENT PROCEDURE:

1. SET THE PATTERN SELECTOR DIAL AT "|||", ZIGZAG WIDTH DIAL AT "0", AND STITCH LENGTH DIAL AT "S1".
2. SET THE FEED ADJUSTING KNOB AT "▶".
3. PLACE A PIECE OF PAPER ON THE NEEDLE PLATE.
4. LOWER THE PRESSER FOOT AND TURN THE HANDWHEEL TOWARD YOU TO CHECK THE FORWARD AND BACKWARD NEEDLE DROP POSITIONS.
5. REMOVE THE CAP AS SHOWN BELOW.

IF THE REVERSE STITCH LENGTH (B) IS SHORTER THAN THE FORWARD STITCH LENGTH (A), TURN THE ADJUSTING SETSCREW IN THE DIRECTION OF (C). IF THE REVERSE STITCH LENGTH (B) IS LONGER THAN THE FORWARD STITCH LENGTH (A), TURN THE ADJUSTING SETSCREW IN THE DIRECTION OF (D).



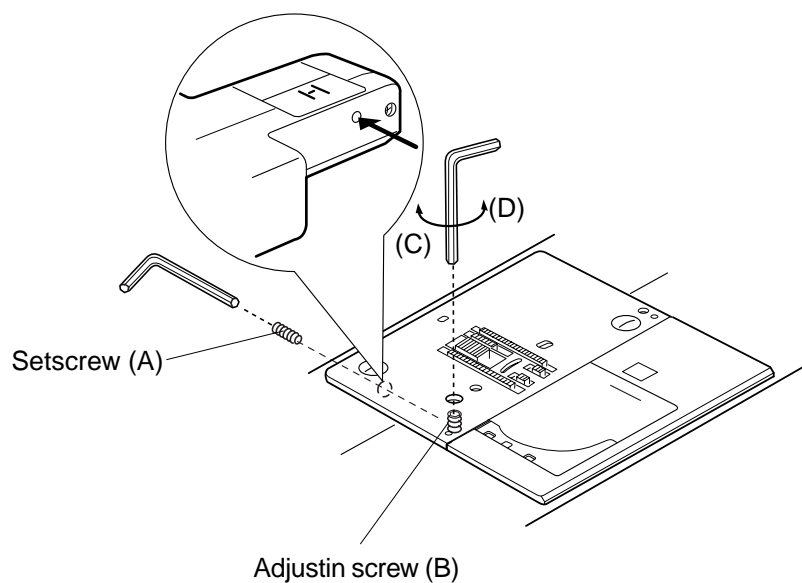
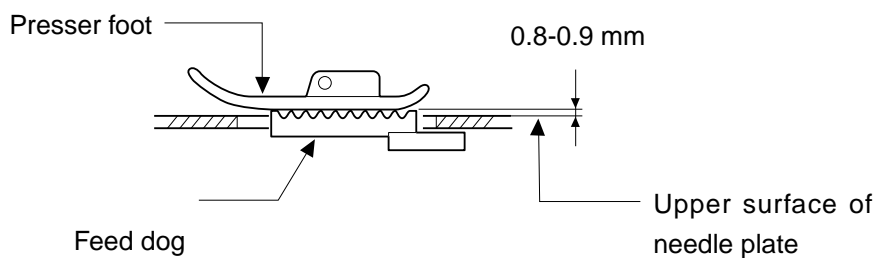
Mechanical Adjustment

Feed Dog Height

The height of the feed dog should be 0.8-0.9 mm above the needle plate.

Adjustment procedure:

1. Select the straight stitch “1” and set the stitch width control at “0”.
2. Set the foot pressure dial at “3” and lower the foot.
3. Loosen the setscrew (A)
4. Turn the handwheel to bring the feed dog to its highest position.
5. If the feed dog height is lower than 0.8 mm: Turn the adjusting screw (B) in the direction of (C).
6. If the feed dog height is higher than 0.9 mm: Turn the adjusting screw (B) in the direction of (D).
7. Tighten the setscrew (A).



Mechanical Adjustment

Needle Bar Height

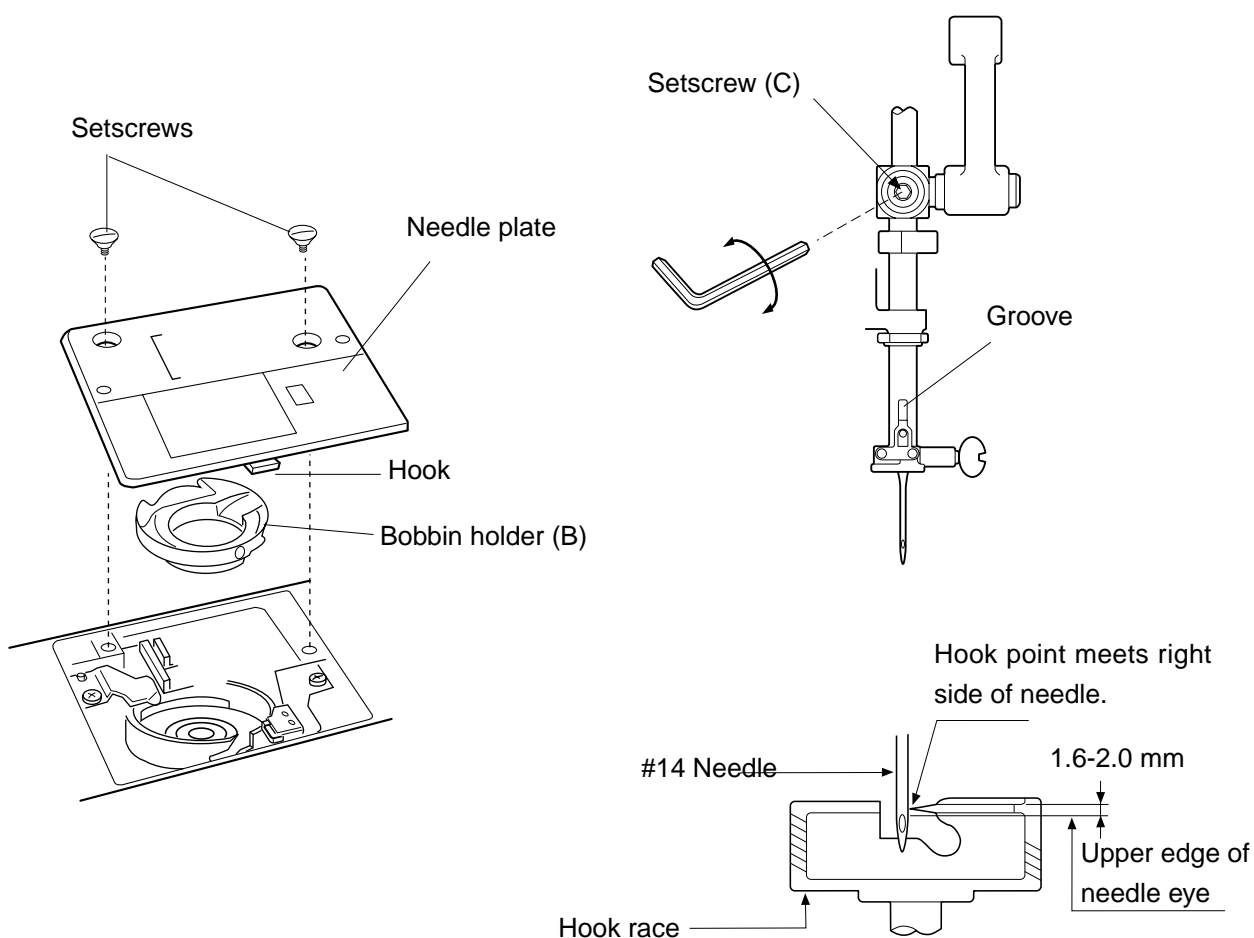
When the tip of the hook meets the left side of the needle in ascending travel of the needle from its left and lowest position, the distance between the top of the needle eye and the tip of the hook should be in the range of 1.6-2.0 mm.

Adjustment procedure:

1. Select the straight stitch “ | ” and set the stitch width control at “6.5”.
2. Remove the needle plate (A) and bobbin holder (B).
3. Turn the handwheel until the tip of the hook meets with the right side of the needle.
4. Remove the face cover and loosen the setscrew (C).
5. Adjust the needle bar height by moving the needle bar up or down.
6. Tighten the setscrew (C).

Note: Be sure that the groove on the needle bar is facing right in the front.

7. Attach the face cover, bobbin case and needle plate.



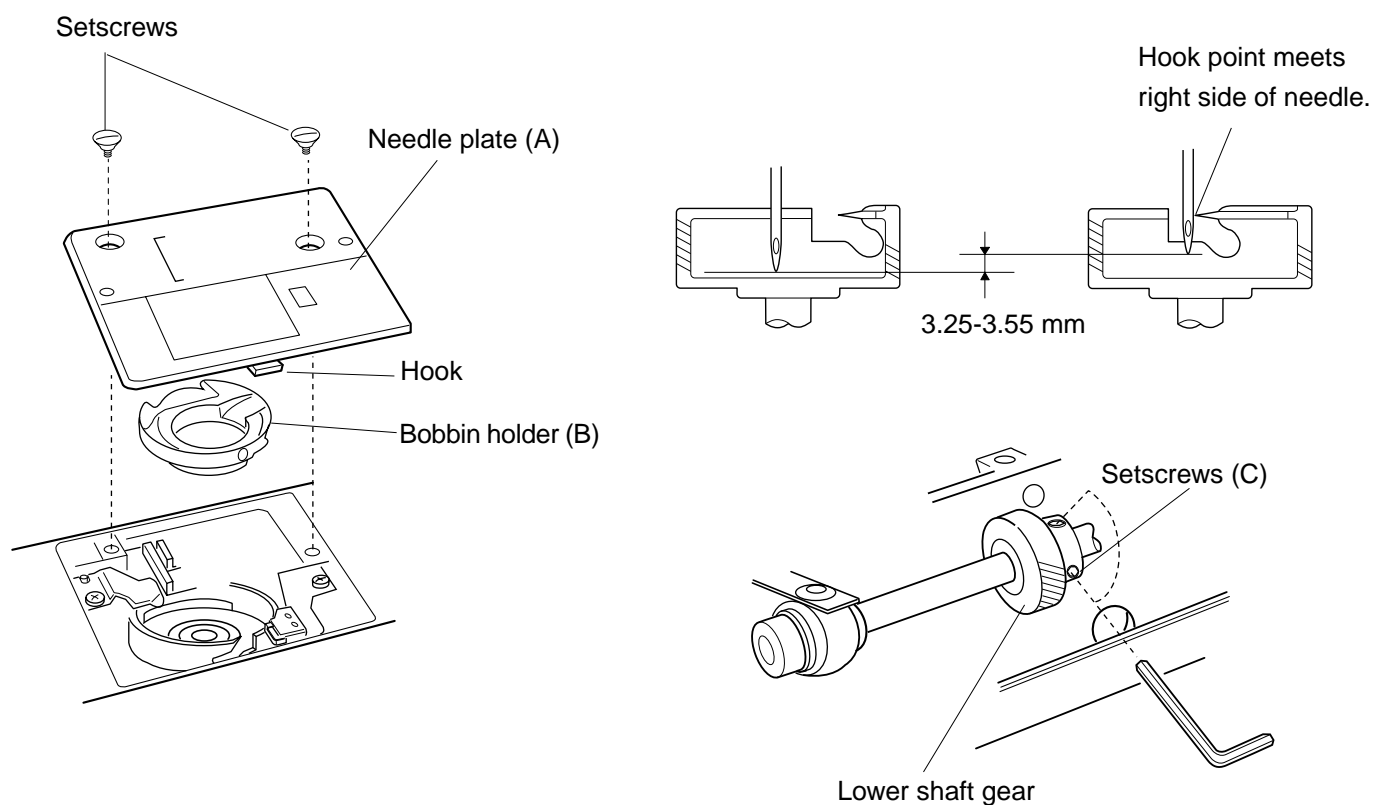
Mechanical Adjustment

Needle Timing to Hook

When the hook point meets with the right side of the needle, the height of needle point from its lowest and left most position should be 3.25-3.55 mm.

Adjustment procedure:

1. Select the straight stitch “ | ” and set the stitch width control at “6.5”.
2. Remove the presser foot, needle plate (A) and bobbin holder (B).
3. Remove the front cover (See page 8.).
4. Turn the handwheel to bring the needle to its lowest position.
5. Loosen the 2 setscrews (C) in the lower shaft gear.
6. Turn the handwheel to raise the needle bar 3.4 mm from the lowest position.
7. Rotate the lower shaft gear until the hook point meets the right side of the needle, while holding the handwheel in place.
8. Tighten the setscrews (C).
9. Attach the front cover.
10. Attach the bobbin holder, needle plate and presser foot.




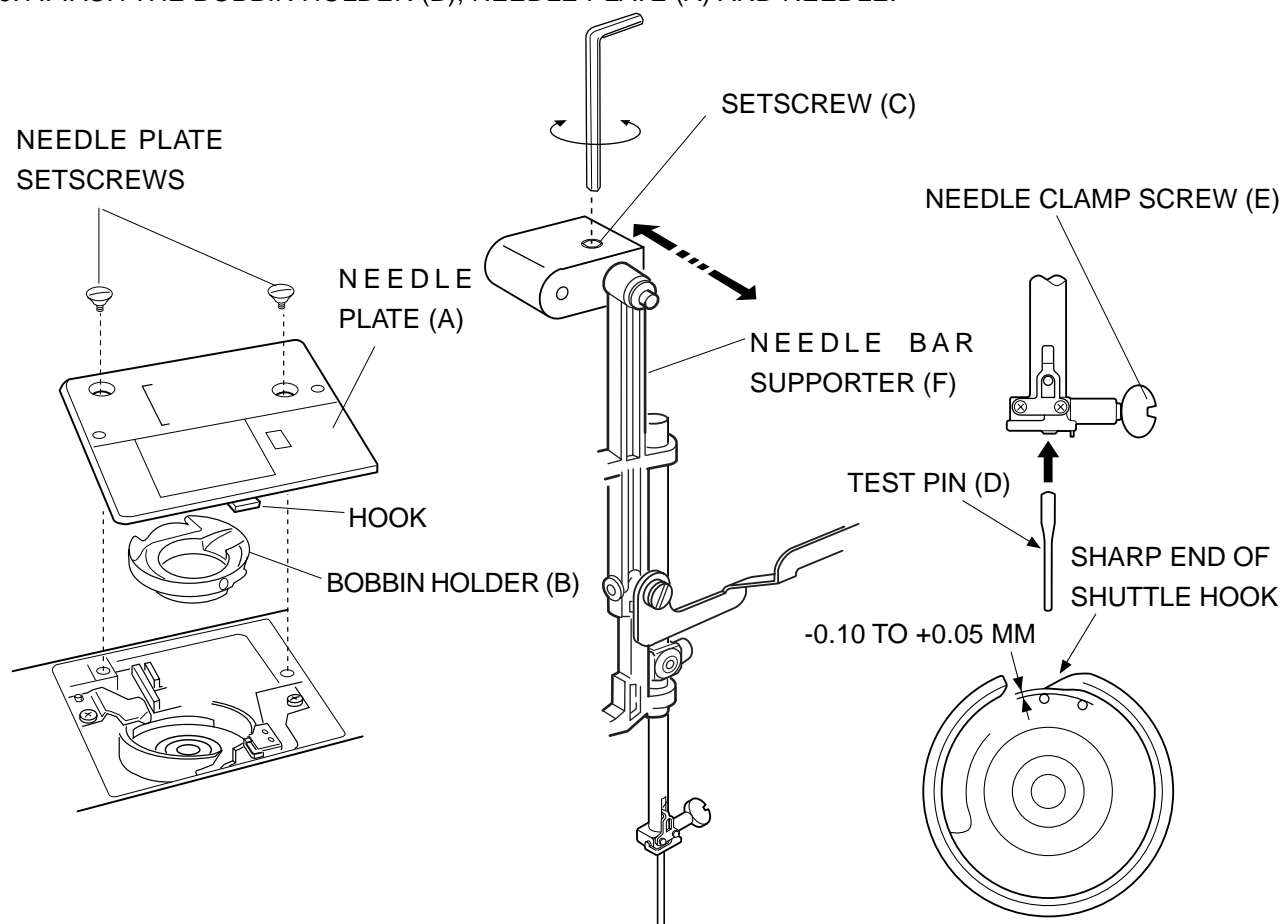
MECHANICAL ADJUSTMENT

NEEDLE CLEARANCE TO SHUTTLE

THE CLEARANCE BETWEEN THE TEST PIN AND THE TIP OF THE SHUTTLE HOOK SHOULD BE BETWEEN -0.10 MM TO +0.05 MM.

TO CHECK:

1. SET THE PATTERN SELECTOR DIAL AT “”, ZIGZAG WIDTH DIAL AT “0”.
2. REMOVE THE NEEDLE PLATE (A), AND BOBBIN HOLDER (B).
3. ATTACH THE TEST PIN (D) AND PUSH IT UP UNTIL IT STOPS AND THEN TIGHTEN THE NEEDLE CLAMP SCREW (E).
4. REMOVE THE FACE COVER (SEE PAGE 6).
5. TURN THE HANDWHEEL TOWARD YOU SLOWLY BY HAND UNTIL TIP OF THE TEST PIN MEETS JUST IN FRONT OF THE TIP OF THE SHUTTLE HOOK, LOOSEN THE SETSCREW (C) AND MOVE THE NEEDLE BAR SUPPORTER BACK OR FORTH AS SHOWN BY THE ARROW TO ADJUST THE CLEARANCE WITHIN A RANGE OF -0.10 TO +0.05 MM.
6. TIGHTEN THE SETSCREW (C).
7. SET THE ZIGZAG WIDTH DIAL AT “5”, TURN THE HANDWHEEL TOWARD YOU TO CHECK THE NEEDLE CLEARANCE AT BOTH LEFT AND RIGHT NEEDLE DROP POSITION.
8. ATTACH THE FACE COVER.
9. ATTACH THE BOBBIN HOLDER (B), NEEDLE PLATE (A) AND NEEDLE.

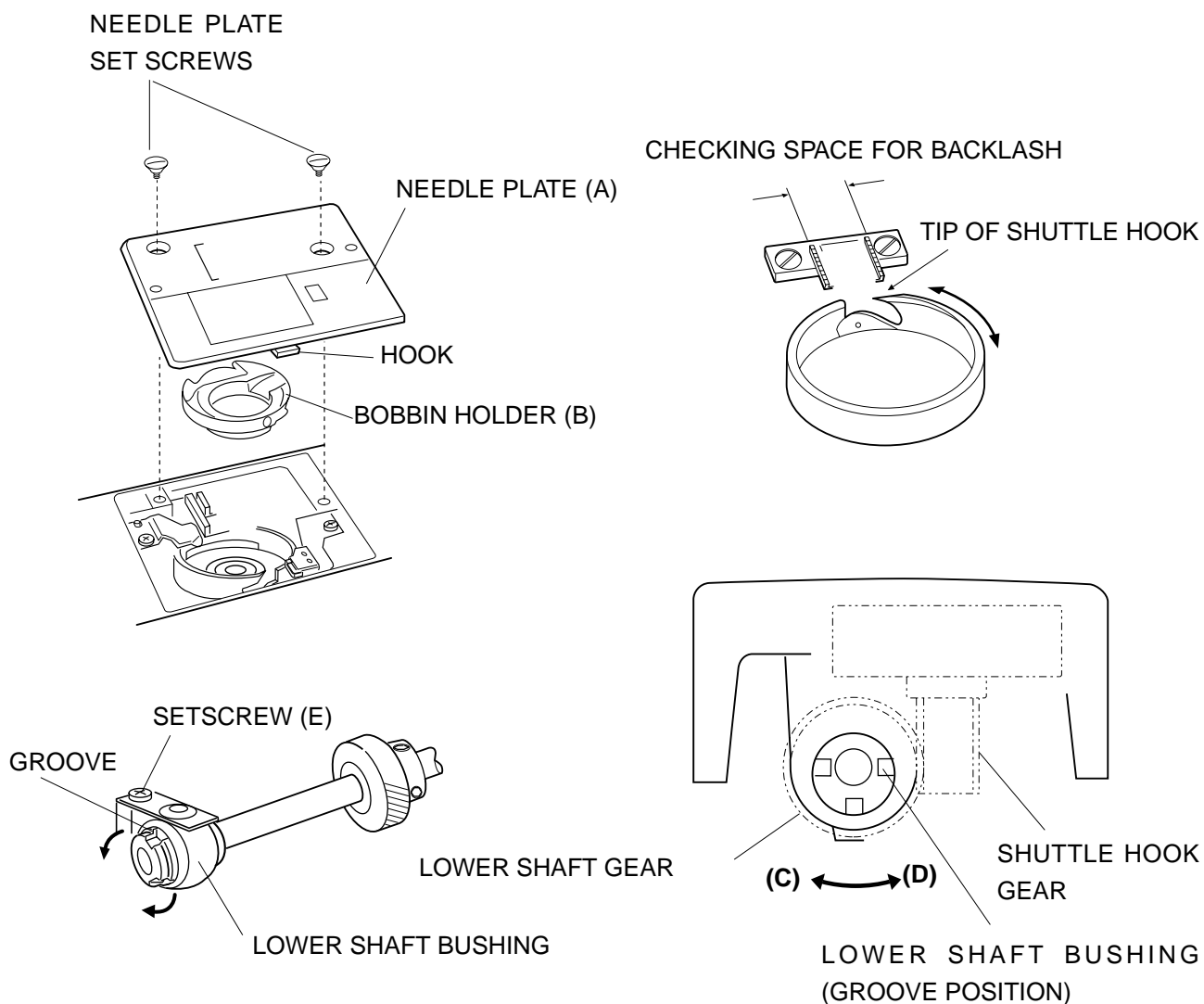


MECHANICAL ADJUSTMENT

BACKLASH (BETWEEN LOWER SHAFT GEAR AND SHUTTLE HOOK GEAR)


TO CHECK:

1. REMOVE THE NEEDLE PLATE (A) AND BOBBIN HOLDER (B).
2. REMOVE THE FRONT COVER (SEE PAGE 7).
3. LOOSEN SETSCREW (E).
4. TURN THE LOWER SHAFT BUSHING (ECCENTRIC BUSHING) IN DIRECTION (C) WHEN THE PLAY AT THE SHUTTLE HOOK TIP IS TOO LARGE.
5. TURN THE LOWER SHAFT BUSHING (ECCENTRIC BUSHING) IN DIRECTION (D) WHEN THE PLAY AT THE TIP OF SHUTTLE HOOK IS TOO SMALL.
6. TIGHTEN THE SETSCREW (E).
7. ATTACH THE FRONT COVER.
8. INSERT THE BOBBIN HOLDER (B) AND ATTACH THE NEEDLE PLATE (A).




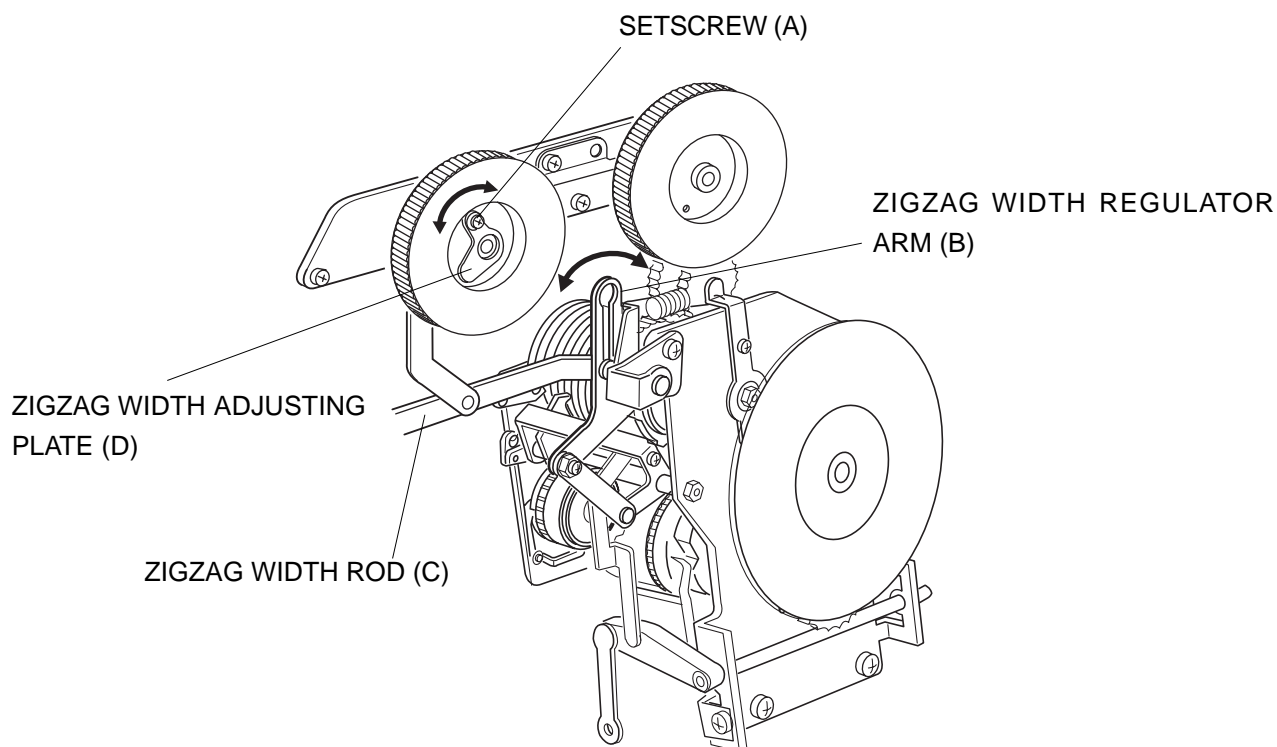
MECHANICAL ADJUSTMENT

NEEDLE POSITION MISALIGNMENT

IF THE NEEDLE BAR MOVES SIDWISE (ZIGZAG) WHEN THE PATTERN “” IS SELECTED AND THE ZIGZAG WIDTH IS SET AT “0”, ADJUST AS FOLLOWS:

ADJUSTMENT PROCEDURE:


1. SET THE PATTERN SELECTOR DIAL AT “”, ZIGZAG WIDTH DIAL AT “0” AND REMOVE THE FRONT COVER (SEE PAGE 7).
2. LOOSEN THE SETSCREW (A) AND GENTLY PUSH DOWN THE ZIGZAG ROD (C) TO THE BOTTOM OF THE SLOT ON ZIGZAG REGULATOR ARM (B).
3. TIGHTEN THE SETSCREW (A), SWING THE ZIGZAG WIDTH REGULATOR ARM (B) AS SHOWN BY THE ARROW
TO CHECK IF THE NEEDLE BAR DOES NOT MOVE SIDWISE.
IF THE NEEDLE BAR STILL MOVES, LOOSEN THE SETSCREW (A) AND MOVE THE ZIGZAG WIDTH ADJUSTING PLATE (D) UNTIL THE NEEDLE BAR STOPS MOVING SIDWISE WHEN SWINGING THE ZIGZAG WITH REGULATOR ARM.
4. ATTACH THE FRONT COVER.

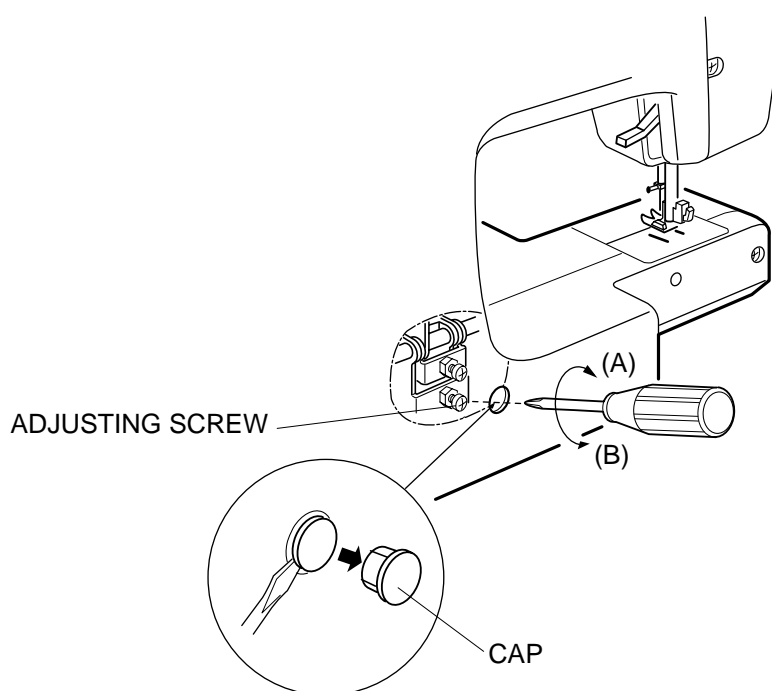


MECHANICAL ADJUSTMENT

ZERO FEEDING

ADJUSTMENT PROCEDURE:

1. SET THE PATTERN SELECTOR DIAL AT “”, AND THE STITCH LENGTH DIAL AT “0”.
2. PLACE A PIECE OF PAPER ON THE NEEDLE PLATE. TURN THE HANDWHEEL TOWARD YOU SLOWLY BY HAND AND CHECK THE MOVEMENT OF A PAPER.
3. IF THE PAPER MOVES FORWARD, REMOVE THE CAP AND TURN THE ADJUSTING SCREW IN DIRECTION (A).
IF THE PAPER MOVES BACKWARD, TURN THE ADJUSTING SCREW IN DIRECTION OF (B).



MECHANICAL ADJUSTMENT

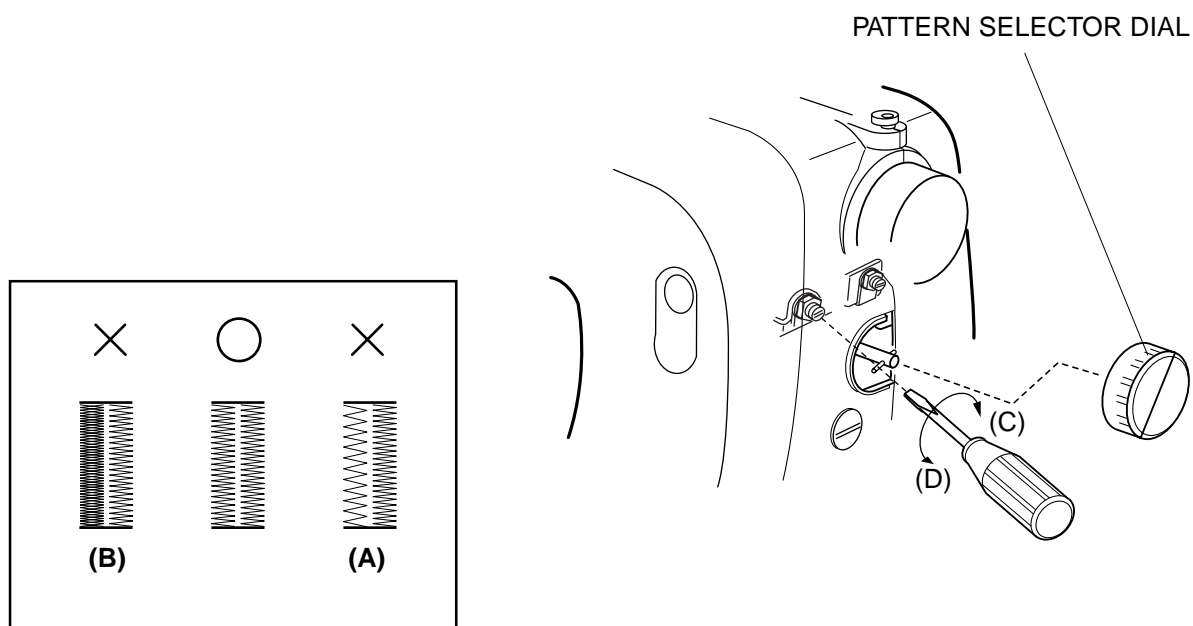
BUTTONHOLE STITCH BALANCE

TO CHECK:

SEW THE BUTTONHOLE, AND CHECK THE BALANCE OF STITCH DENSITY BETWEEN THE RIGHT AND LEFT SIDES OF BUTTONHOLE, THE STANDARD STITCH DENSITY OF THE RIGHT AND LEFT SIDES OF BUTTONHOLE IS 10 STITCHES OF RIGHT SIDE (FORWARD) AGAINST 9 - 12 STITCHES OF LEFT SIDE (BACKWARD).

ADJUSTMENT PROCEDURE:

1. SEW A BUTTONHOLE AND CHECK THE STITCHES.
2. PULL OUT THE PATTERN SELECTOR DIAL.
3. IF THE RIGHT SIDE OF THE BUTTONHOLE IS TOO COARSE, TURN THE ADJUSTING SCREW IN THE DIRECTION OF (C).
IF THE LEFT SIDE OF THE BUTTONHOLE IS TOO COARSE, TURN THE ADJUSTING SCREW IN THE DIRECTION OF (D).
4. INSERT THE PATTERN SELECTOR DIAL.



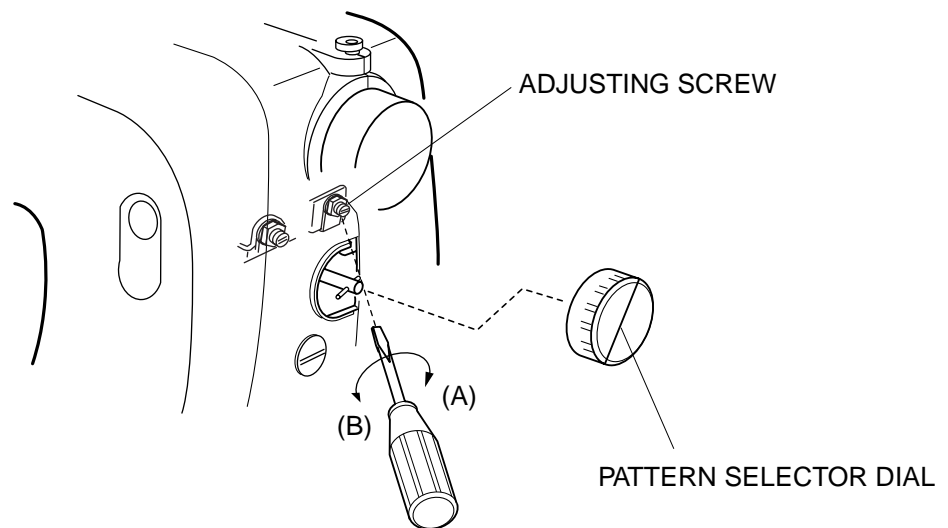
MECHANICAL ADJUSTMENT

ZERO FEEDING

IF THE FABRIC MOVES BACKWARD OR FORWARD AT THE BARTACK SEWING, ADJUST THE ZERO FEEDING OF THE BUTTONHOLE STITCH AS FOLLOWS;

ADJUSTMENT PROCEDURE:

1. SEW A BUTTONHOLE AND CHECK THE STITCHES.
2. REMOVE THE PATTERN SELECTOR DIAL.
3. PLACE A PIECE OF FABRIC ON THE NEEDLE PLATE. LOWER THE PRESSER FOOT AND SEW.
IF THE FABRIC MOVES FORWARD, TURN THE ADJUSTING SCREW IN DIRECTION OF (A).
IF THE FABRIC MOVES BACKWARD, TURN THE ADJUSTING SCREW IN DIRECTION OF (B).
4. AFTER THE ADJUSTMENT, ATTACH THE PATTERN SELECTOR DIAL.



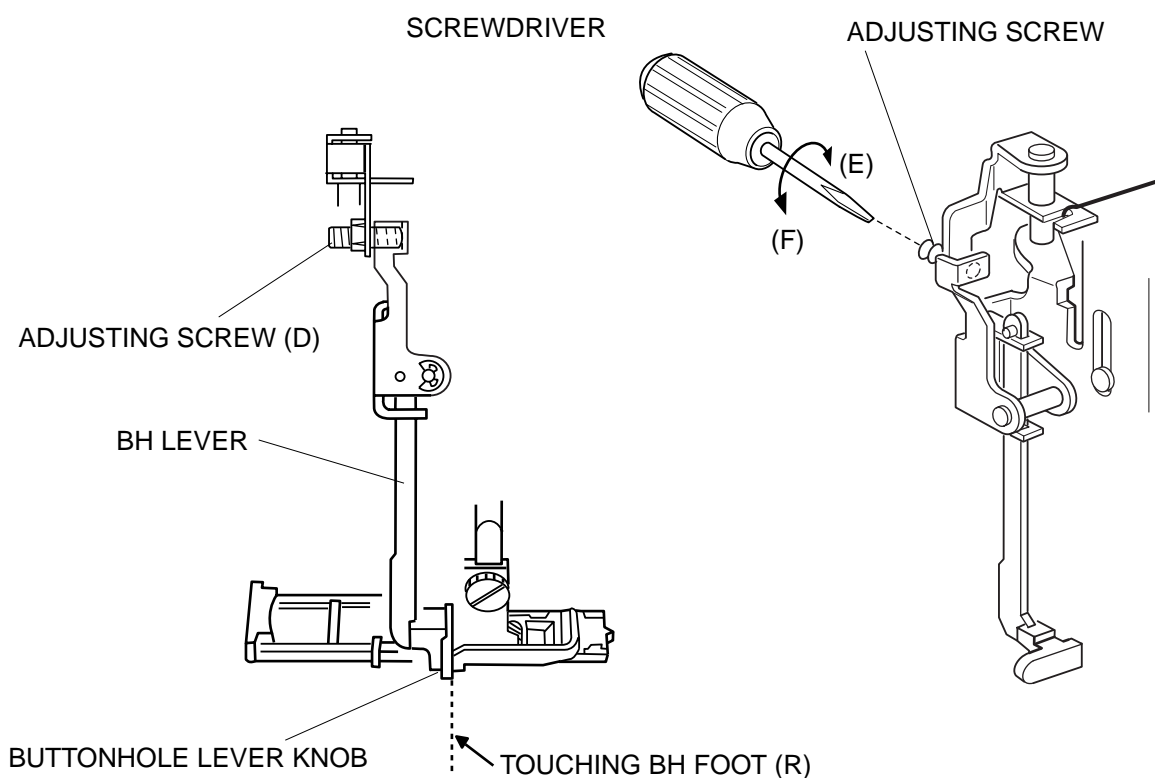
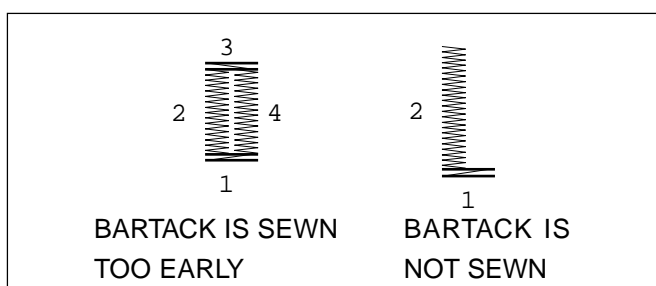
MECHANICAL ADJUSTMENT

BUTTONHOLE FUNCTION (1)

THE STANDARD BUTTONHOLE SIZE IS 3 MM (0.12") LONGER THAN THE ACTUAL BUTTON SIZE WHEN SEWING WITH THE AUTOMATIC BUTTONHOLE FOOT. ADJUSTED AS FOLLOWS:

ADJUSTMENT PROCEDURE:

1. ATTACH THE BUTTONHOLE FOOT (R).
2. PULL DOWN THE BH LEVER. TURN THE ADJUSTING SCREW UNTIL THE BH LEVER KNOB SLIGHTLY TOUCHES THE END OF THE STOPPER.
3. IF THE BUTTONHOLE SEWING STEP 2 SWITCHES OVER TO STEP 3 (BARTACK SEWING) TOO SOON, TURN THE ADJUSTING SCREW IN DIRECTION OF (E).
IF THE BUTTONHOLE SEWING STEP 2 DOES NOT SWITCH OVER TO STEP 3 (BARTACK SEWING), TURN THE ADJUSTING SCREW IN DIRECTION OF (F).



MECHANICAL ADJUSTMENT

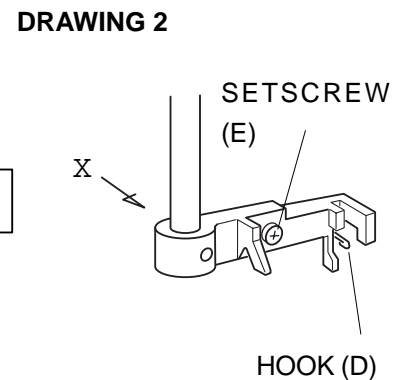
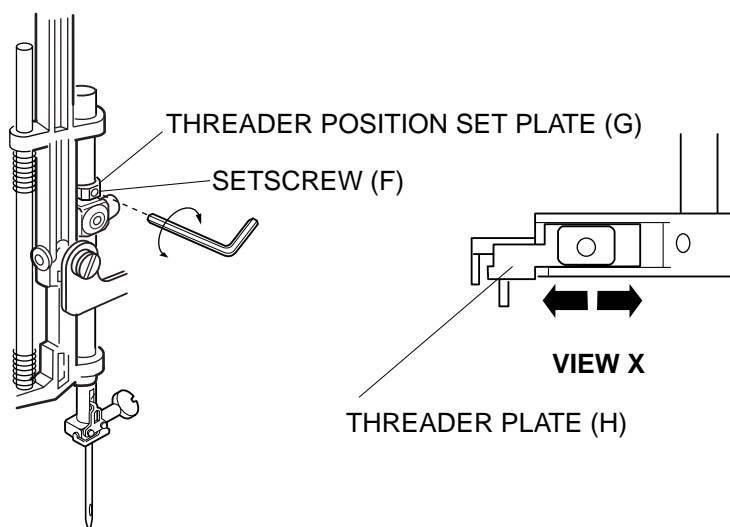
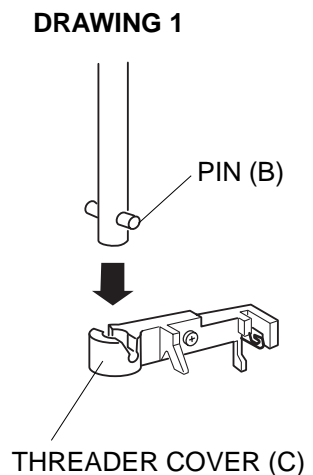
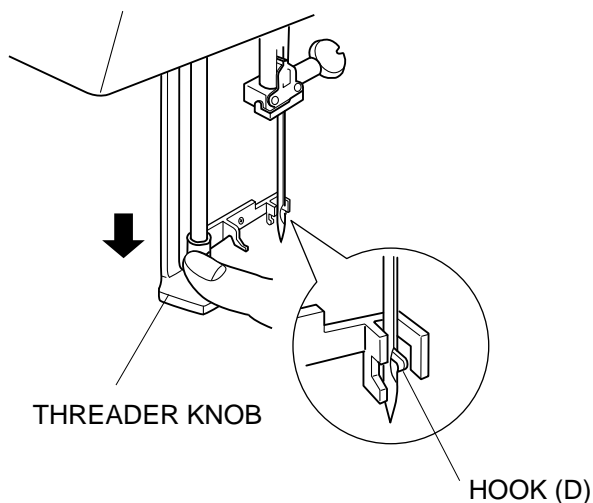
REPLACEMENT AND ADJUSTMENT OF NEEDLE THREADER PLATE

IF THE NEEDLE THREADER IS DAMAGED, REPLACE IT OR ADJUST AS FOLLOWS TO REPLACE THE NEEDLE THREADER COVER:

1. PULL OUT THE THREADER COVER (DRAWING. 1).
2. TO ATTACH THE THREADER COVER, MATCH THE GROOVE TO THE PIN (B) AND INSERT THE THREADER COVER (C).

ADJUSTMENT OF THREADER PLATE:

3. IF THE HOOK (D) IS TOUCHING THE RIGHT OR LEFT SIDE OF NEEDLE EYE, LOOSEN THE SETSCREW (E) AND SLIDE THE THREADER PLATE (H). (SEE DRAWING2)
4. IF THE HOOK (D) IS TOUCHING THE TOP OR BOTTOM SIDE OF NEEDLE EYE, REMOVE THE FACE COVER AND LOOSEN THE SETSCREW (F) AND ADJUST THE THREADER POSITION SET PLATE (G).



MECHANICAL ADJUSTMENT

MOTOR BELT TENSION

TO CHECK:

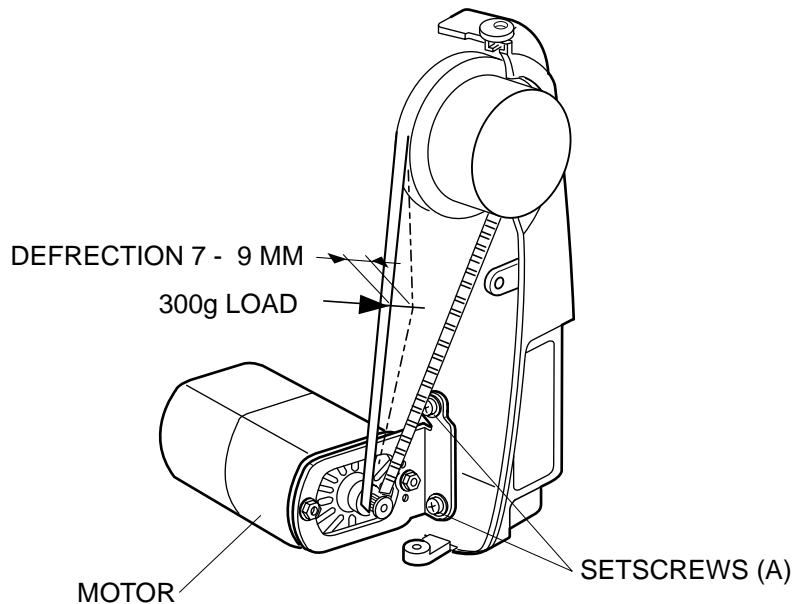
1. IF THE MOTOR BELT TENSION IS TOO TIGHT OR TOO LOOSE, IT MAY CAUSE BELT NOISE. ALSO, A TOO TIGHT BELT TENSION CAN CAUSE THE MACHINE TO RUN SLOWLY AND WILL OVERLOAD THE MOTOR.

TOO LOOSE MOTOR BELT TENSION MAY CAUSE THE BELT TEETH TO JUMP OVER THE PULLEY.

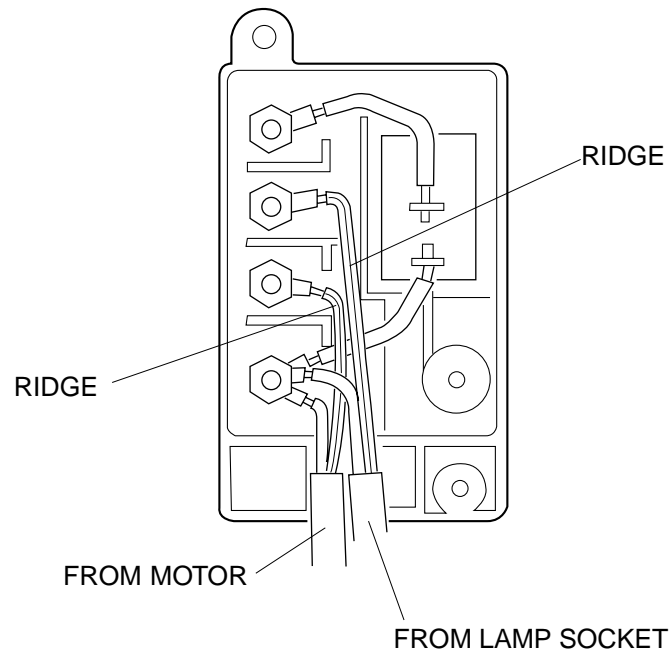
2. THE CORRECT MOTOR BELT TENSION IS ACHIEVED WHEN THE BELT PUSHES IN ABOUT 7 MM (0.28") - 9 MM (0.36") UNDER A PRESSURE OF ABOUT 300 GRAMS.

ADJUSTMENT PROCEDURE:

1. REMOVE THE FRONT COVER. (SEE PAGE 7)
2. LOOSEN SETSCREWS (A).
3. MOVE THE MOTOR UP OR DOWN TO ADJUST THE DEFLECTION TO ABOUT 7 MM (0.28") - 9 MM (0.36").
4. TIGHTEN SETSCREWS (A).



WIRING OF TERMINAL BLOCK



OILING

FACTORY LUBRICATED PARTS WILL PROVIDE YEARS OF HOUSEHOLD SEWING WITHOUT ROUTINE OILING, BUT YOU SHOULD STILL CHECK FOR POSSIBLE LUBRICATION NEEDS WHENEVER SEEVICING MACHINES.

OIL:

USE GOOD QUALITY SEWING MACHINE OIL AT THE POINTS (A,B,C,D,E,F,G & H) INDICATED BY THE BLACK ARROWS.

GREASE:

USE WHITE GREASE SUCH AS MOLYCOTE EM-40M AT THE POINTS (I,J & K) INDICATED BY THE WHITE ARROWS.

