

**Service
Manual**

SINGER*

569U

1 1 0 0 S E R I E S

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GENERAL DESCRIPTION

569U Class machine is a high speed lockstitch bar tacking machine recommended for men's suits, slacks, working clothes, denim and cotton products, and other general clothing.

FEATURES

- One pedal type pneumatic clamp foot lifter
- Central lubrication system with oil wicks
- Oil reservoir needle thread lubrication system
- Positive feed adjustment by lock nut
- Driven by AC servo motor
- Stitch pattern change easy
- Thread trimming completed during clamp lifting
- Left and right clamp foot adjustable independently

SPECIFICATION

Model	569U1108-42M	569U1141-28M	569U1142-36M	569U1108-42H	569U1141-28H
Application	General Clothing	General Clothing	General Clothing	Denim	Denim
Stitch Pattern					
No. of Stitches	42	28	36	42	28
Bar Tack Length (mm)	3.2 ~ 16.0	3.2 ~ 16.0	3.2 ~ 16.0	3.2 ~ 16.0	3.2 ~ 16.0
Bar Tack Width (mm)	1.0 ~ 3.0	1.0 ~ 3.0	1.0 ~ 3.0	1.0 ~ 3.0	1.0 ~ 3.0
Needle (Catalog No.)	1955-01	1955-01	1955-01	1955-01	1955-01
Max. Presser Foot Lift (mm)	17	17	17	17	17
Max. Speed (s.p.m.)	2,300	2,300	2,300	2,300	2,300

Model	569U1142-36H	569U1109-21L	569U1109-28L	569U1111-42L	569U1138-21M
Application	Denim	Knitting	Knitting	Knitting	Buttonholing
Stitch Pattern					
No. of Stitches	36	21	28	42	21
Bar Tack Length (mm)	3.2 ~ 16.0	3.2 ~ 8.0	3.2 ~ 8.0	9.6 ~ 22.2	3.2 ~ 6.4
Bar Tack Width (mm)	1.0 ~ 3.0	1.0 ~ 3.0	1.0 ~ 3.0	1.0 ~ 3.0	1.0 ~ 3.0
Needle (Catalog No.)	1955-01	1955-01	1955-01	1955-01	1955-01
Max. Presser Foot Lift (mm)	17	17	17	17	17
Max. Speed (s.p.m.)	2,300	2,300	2,300	2,300	2,000

Model	569U1138-28M	569U1139-28M	569U1149-28M		
Application	Buttonholing	Belt Loops	Belt Loops		
Stitch Pattern					
No. of Stitches	28	28	28		
Bar Tack Length (mm)	3.2 ~ 6.4	3.2 ~ 12.7	4.8 ~ 25.4		
Bar Tack Width (mm)	1.0 ~ 3.0	-	-		
Needle (Catalog No.)	1955-01	1955-01	1955-01		
Max. Presser Foot Lift (mm)	17	17	17		
Max. Speed (s.p.m.)	2,000	2,000	2,000		

Model	569U1105-22			569U1117-16			
Application	Button Sewing			Button Sewing			
Stitch Pattern							
No. of Stitches	22	11+11	11	16	8+8	8	
Across Arm Length (mm)	2.5 ~ 6.5			2.5 ~ 6.5			
Up Arm Length (mm)	0 ~ 6.5			0 ~ 6.5			
Diameter of Button (mm)	8 ~ 32			8 ~ 32			
Needle (Catalog No.)	3355-01			3355-01			
Max. Button Clamp Lift (mm)	13			13			
Max. Speed (s.p.m.)	2,000			2,000			

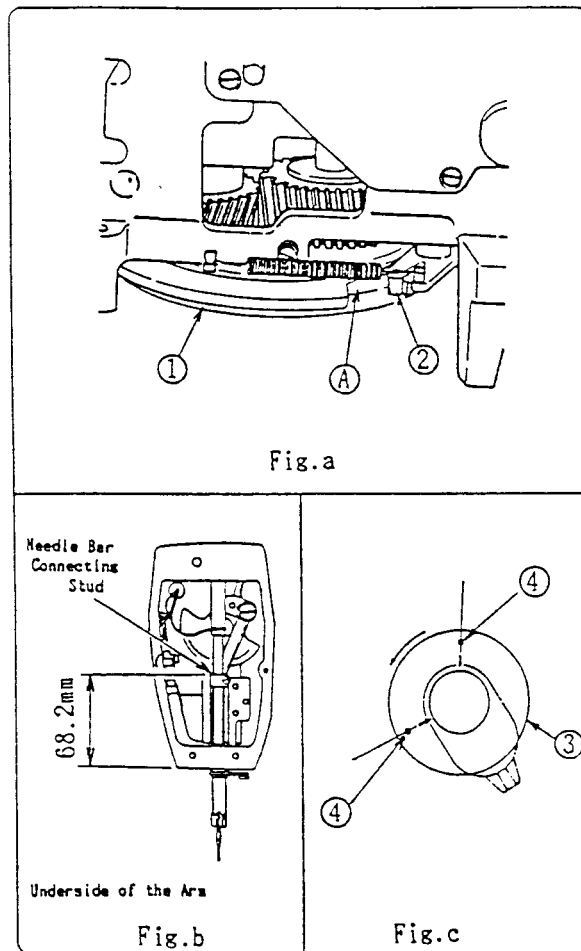
MOTOR PULLEY AND BELT

Motor Pulley
Belt

DIA 60
M type V-Belt

Part No. 373031-001
Part No. 418487

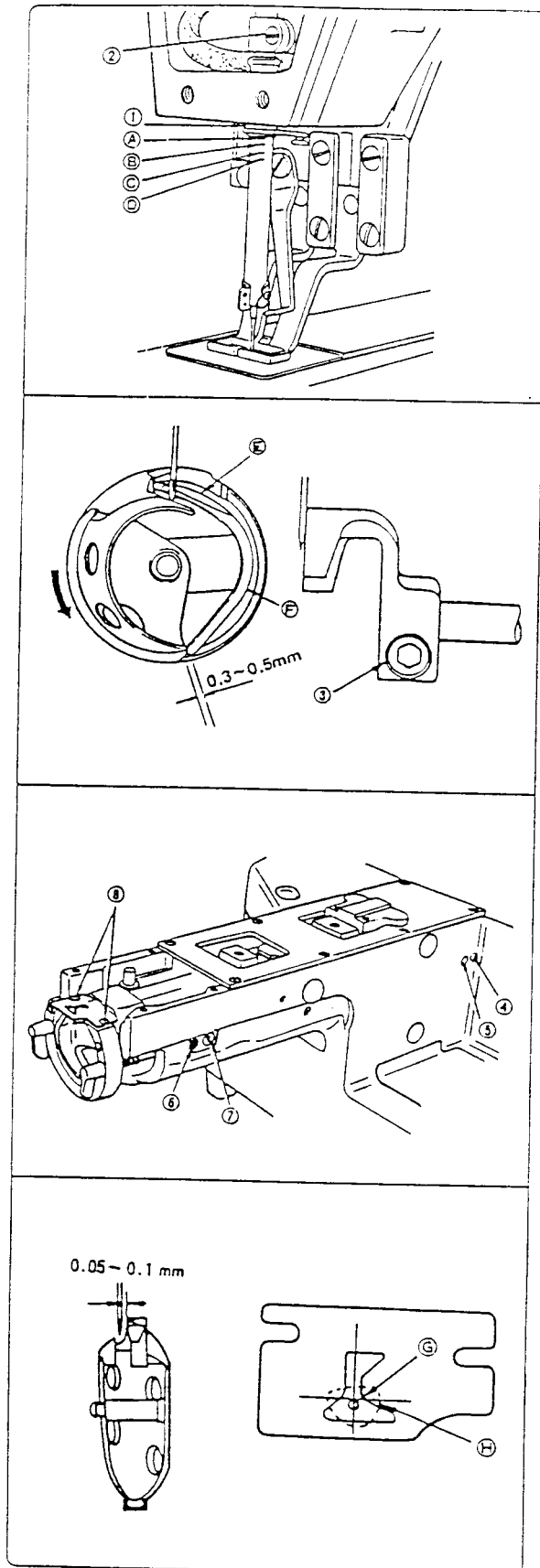
MACHINE STOP POSITION



The machine is in its stop position when Knife Bar Operating Cam Releasing Lever Arm Roller (2) is located in the notch (A) on Feed Cam (1) and the topside of Needle Bar Connecting Stud located 68.2mm from underside of the arm as shown in Fig. b.

When machine is in correct stop position, the Timing Mark (4) on Machine Pulley (3) should be located at the position shown in Fig. c.

ADJUSTMENT OF NEEDLE AND SHUTTLE



1. To Adjust Needle Bar Height

Turn Driving Wheel by hand until Needle Bar is at its lowest point. Loosen Needle Bar Connecting Link Screw ② and move Needle Bar up or down until the highest mark ① on Needle Bar aligns with lower end of Needle Bar Lower Bushing ①. If Catalog No. 3355-01 needle is used, align lower end of Needle Bar Lower Bushing with the third mark ③.

2. To Adjust Timing of Needle and Shuttle

Raise Needle Bar from its lowest point by turning Driving Wheel with hand and align the second mark ② on Needle Bar with end of Needle Bar Lower Bushing ①. Loosen Screw ③ and turn Shuttle Body in the arrow direction so that the center of needle aligns with shuttle point. If Catalog No. 3355-01 needle is used, align lower end of Needle Bar Lower Bushing with mark ④.

3. To Adjust Needle and Shuttle Driver

Turn Driving Wheel by hand and align shuttle point with the center of needle.

Loosen Screw ④ and turn Oscillating Shaft Bushing Adjusting Stud ⑤ so that Needle contacts with Shuttle Driver. If Shuttle Driver does not properly contact needle, needle and shuttle point will interfere causing damage to the parts. If the contact is too heavy, it will cause skip stitching.

4. Adjustment of Shuttle Body and Driver

Rotational Direction Clearance

Tap part ⑤ and ⑥, and adjust so that clearance between Shuttle Body and Driver in the rotational direction is 0.3 to 0.5mm.

5. To Adjust Clearance Between Needle and Shuttle Point

Shuttle Point

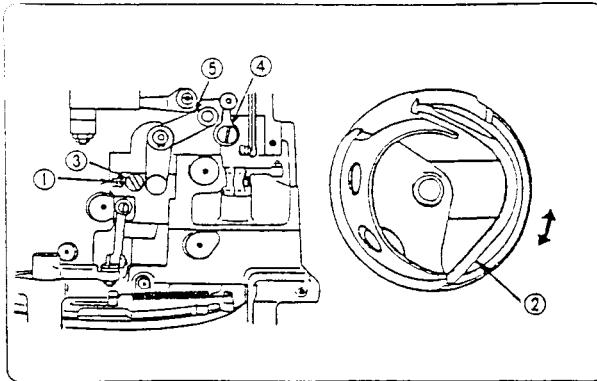
Turn Driving Wheel by hand and align shuttle point with the center of needle.

Loosen Set Screw ⑥ and turn Shuttle Race Body Adjusting Stud so that clearance between Needle and shuttle point is 0.05 to 0.1mm.

6. To Adjust Shuttle Bobbin Cap Location

Loosen two Screws ⑧, move and adjust Shuttle Bobbin Cap so that needle location at penetration is equal in the left and right direction, and back of needle is even with corner ③ in the back and forth direction. Care must be taken as when Shuttle Bobbin Cap is out of position either in left and right or back and forth direction, needle thread will be caught in Shuttle. If there should be any bruises at location ④, this will be causes for bobbin thread breakage and so remove bruises with emery cloth and polish with green rouge.

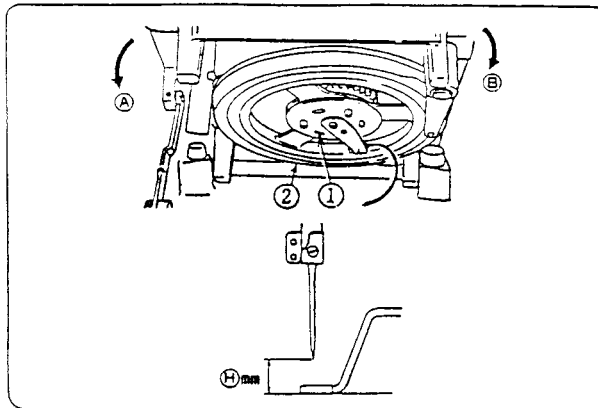
ADJUSTMENT OF OSCILLATING SHAFT GEAR BACKLASH



Loosen Set Screw ①, turn and adjust Oscillating Rock Shaft Eccentric Hinge Pin ② so that when Shuttle Driver is turned by hand in the rotating direction, play at the end of Driver is less than 0.05mm.

When adjusting, remove Light Responsive Arch Clamp Lifting Mechanism.

ADJUSTMENT OF FEED TIMING



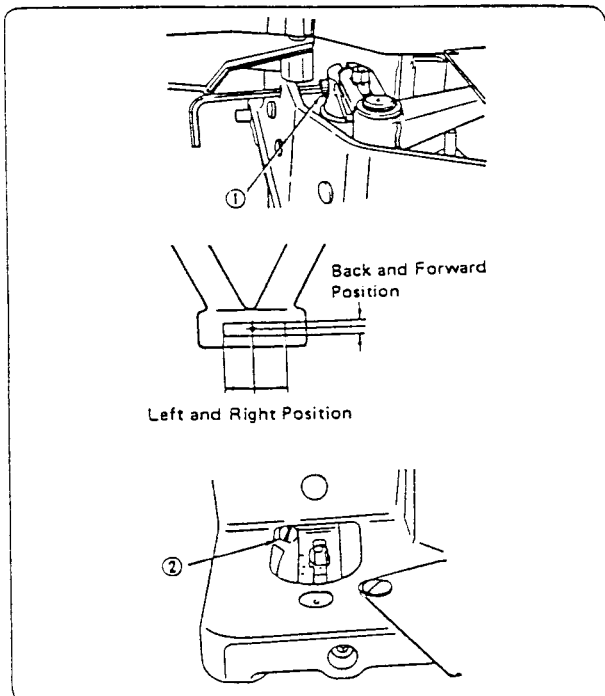
Loosen three Socket Head Bolts ① and adjust timing by turning Feed Cam ② so that when needle point is lowered to the height of H mm from throat plate upper surface, Feed Dog stops.

For earlier feeding, turn Feed Cam to direction A, and for later feeding, turn to direction B.

Height H differs according to models as shown in the following chart.

Model	1108-42M	1111-42L	1109-28L	1141-28H	1142-36M	
	1108-42H	1138-21M	1138-28H	1149-28M		1142-36H
	1109-21L		1139-28M	1105-22		
			1141-28H	1117-16		
H Height (mm)	6		10		7	

ADJUSTMENT OF CLAMP FOOT POSITION

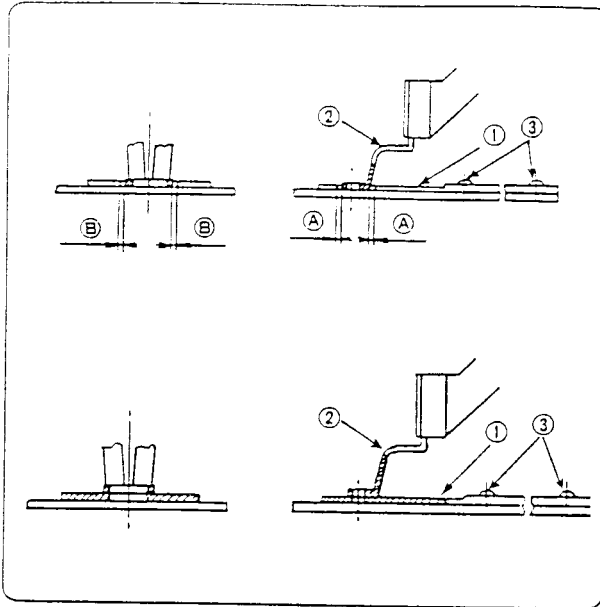


1. To Adjust Back and Forward Position Clamp Foot
Turning Driving Wheel by hand lower needle into needle hole the specified times shown in the chart below and with needle in the hole, loosen Socket Head Bolt ① and move Clamp Foot back or forward.

2. To Adjust Left and Right Position of Clamp Foot
Lower needle into needle hole in the same way as item ①. With needle in hole, loosen Screw ② and move Clamp Foot left or right so that clearance between needle and Clamp Foot is even left and right.

Model	1108-42M	1109-21L	1138-21M	
	1108-42H	1109-28L	1138-28H	
Stitch	6	4		
Model	1139-28M	1142-36H	1149-28M	1111-42L
		1142-36H		1141-28H
			1141-28H	
Stitch	1	7	2	5

ADJUSTMENT OF FEED PLATE LOCATION



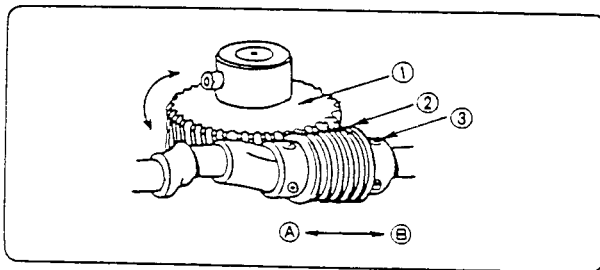
For Light Material

Loosen Screws (3) and adjust so that each of the clearances (A) (front and back direction) and each of the clearances (B) (left and right direction) between opening in Feed Plate (1) and Arch Clamp Foot (2) are even.

For Heavy Material

Loosen Screws (3) and adjust so that openings in Feed Plate (1) and Arch Clamp Foot (2) match both in front and rear, left and right direction.

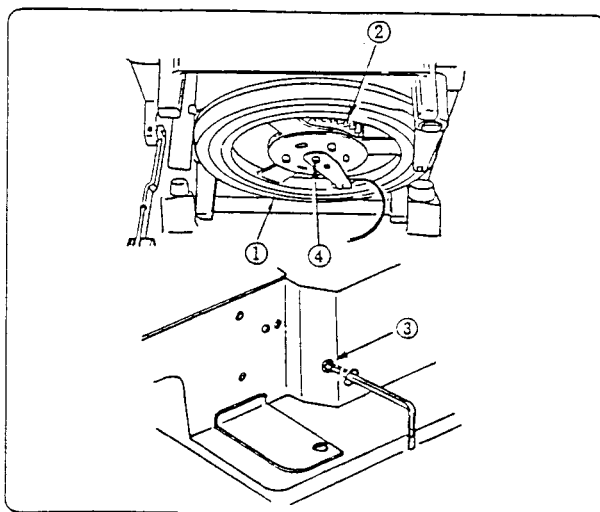
ADJUSTMENT OF WORM WHEEL BACKLASH



Loosen 4 Socket Head Set Screws (3) and Worm (2) and adjust so that when Driving Wheel Stop Cam is lightly moved by hand at machine stop position, play of Worm Wheel (1) is less than 0.05mm.

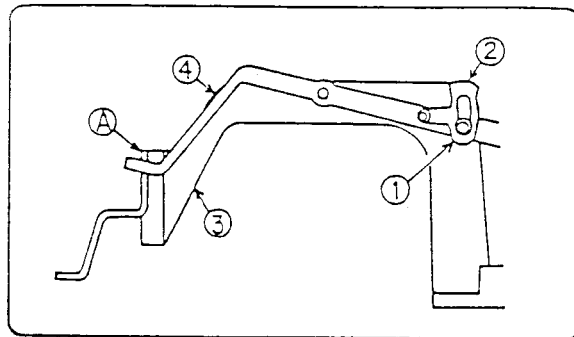
When moved in (A) direction, play becomes smaller and when moved in (B) direction, becomes larger.

ADJUSTMENT OF FEED CAM GEAR BACKLASH



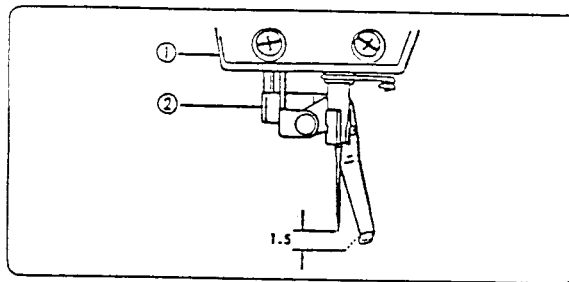
Loosen Socket Head Set Screw (3), turn and adjust Feed Cam Gear Shaft (4) so that when Feed Cam (1) is turned by hand at machine stop position, play of Feed Cam Gear (2) is less than 0.05mm.

ADJUSTMENT OF CLAMP FOOT HEIGHT



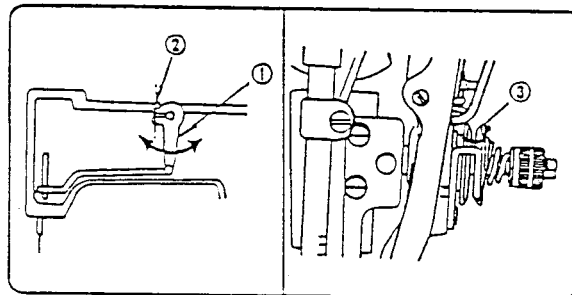
Loosen Socket Head Bolt ① and adjust Clamp Foot height by moving Arch Clamp Foot Lifting Lever Adjusting Plate ② up or down. Maximum Clamp Foot lift amount is 17mm from Throat Plate upper surface. Check and make sure there is no interference between Arch Clamp Frame ③ and Arch Clamp Foot Lifting Lever ④ at point A. Note: When Clamp Foot height is set higher than 17mm, there is a possibility that interference may occur between Arch Clamp Frame ③ and Clamp Foot Lifting Lever ④.

ADJUSTMENT OF WIPER HEIGHT



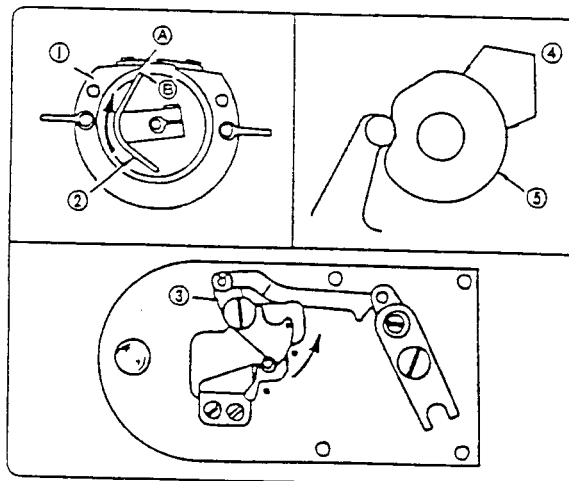
Loosen Screw ① and adjust Wiper height by moving Wiper Bracket ② up or down so that when Wiper passes needle point, clearance between Wiper and needle point is 1.5mm.

ADJUSTMENT OF TENSION RELEASING BAR



Loosen Tension Releasing Bar Operating Arm Screw ② and adjust Tension Releasing Bar Operating Arm ① so that the Tension Discs ③ will begin to release when Movable Knife start to move as the Clamp Foot is raised. Note: Be sure the Tension Discs are not open when Clamp Foot is in its down position.

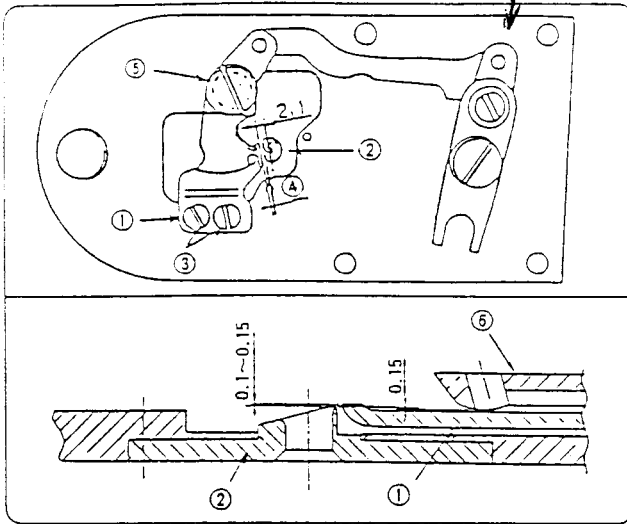
ADJUSTMENT OF KNIFE BAR OPERATING CAM POSITION



Loosen Screw ④ and adjust Knife Bar Operating Cam ⑤ so that Movable Knife ③ will move to its extreme forward position (in the direction of arrow) when point A of Shuttle Race Body ① aligns with point C of Shuttle Driver ② (moving in the direction of arrow) at the last stitch.

Make sure is centered (10/12)

ADJUSTMENT OF KNIFE POSITION



Loosen Stationary Knife Screw ③ and move Stationary Knife ① so that clearance between the knife and the center of needle hole ② in Throat Plate is 2.1mm.

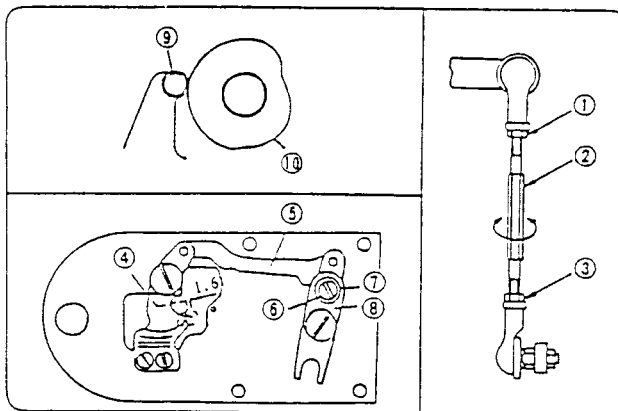
Size of needle hole	Clearance between stationary knife and center of needle hole	(for reference) Clearance ④ between stationary knife and edge of needle hole
φ 1.6	2.1mm	0.6mm
φ 2.0	2.1mm	0.6mm
φ 2.5	2.1mm	0.6mm

Adjust height of Stationary Knife ① so it is 0.1–0.15mm higher than Throat Plate needle hole ② higher edge. Adjust height of Movable Knife ⑥ by Movable Knife Hinge Screw Adjusting Washer ⑤ so that there is a clearance of 0.15mm with Throat Plate needle hole ② higher edge when engaging.

Following size Adjusting Washers can be made available.

Part No.	Adjusting Washer Thickness
418314-004	0.5 ± 0.02
418314-003	0.45 ± 0.02
418314-002	0.4 ± 0.02
418314-001	0.35 ± 0.02

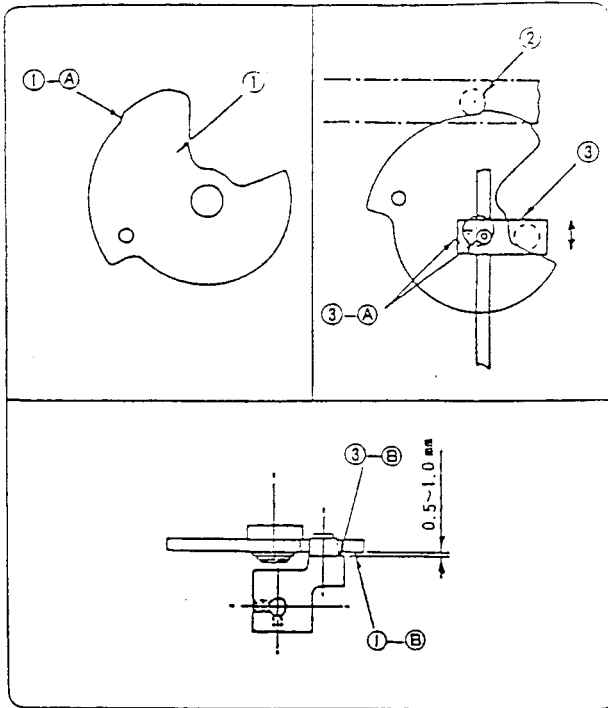
ADJUSTMENT OF KNIFE TIMING



Loosen Upper and Lower Connection Bearing Nuts ① and ③ and adjust the position of Movable Knife ④ by rotating Knife Bar Operating Crank Connection ② so that the distance between the point of Movable Knife ④ and the center of needle hole is approximately 1.6mm when upper Knife Bar Operating Cam Connecting Crank Roller ⑨ touches Knife Bar Operating Cam ⑩ at the last stitch.

After the above adjustment, check that the point of Movable Knife ④ is in the position as shown above by pressing the knife in the direction of arrow as far as it will go. Further, make sure that the screw holding the Movable Knife Lower Lever ⑧ is located in the center of its elongated hole ⑦.

ADJUSTMENT OF THREAD TRIMMING CAM TIMING

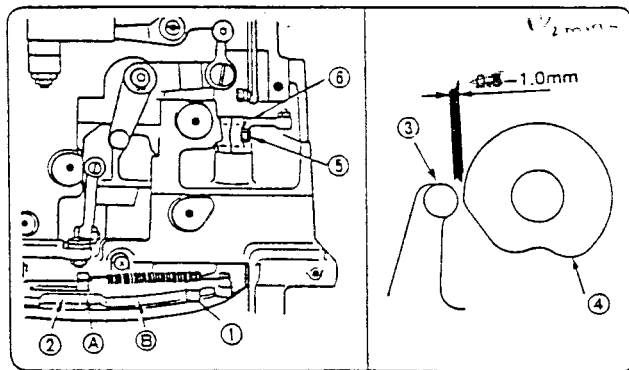


Loosen Thread Trimming Cam Operating Block Set Screw ③-A and adjust Thread Trimming Cam Operating Block ③ by moving it up or down so that Lower Knife Bar Operating Cam Connecting Crank Roller ② will be located at point ①-A of Thread Trimming Cam ① when thread trimming is completed and Presser Bar is in its up position.

Also adjust clearance between portion ①-B of the cam and portion ③-B of Thread Trimming Cam Operating Block to 0.5 - 1.0 mm as shown in the sketch.

After above adjustment, move Clamp Foot up and down and make sure that Thread Trimming Cam ① does not move.

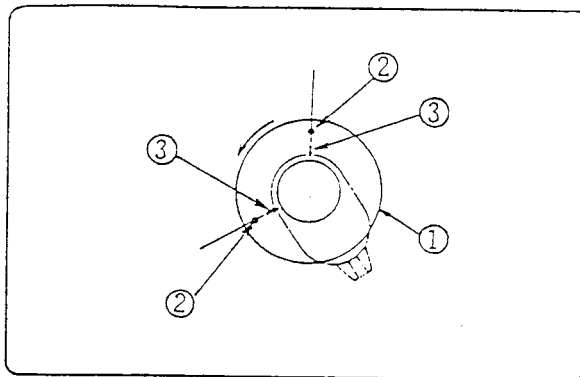
ADJUSTMENT OF KNIFE BAR OPERATING CAM ROLLER POSITION



① has to be set up in this position
 ② Loosen Screw ⑤, move Knife Bar Operating Cam Upper Releasing Lever Arm ⑥ to left or right and adjust so that when Knife Bar Operating Cam Lower Releasing Lever Arm Roller ① has moved from slot A to lobe B of Feed Cam ② (machine position other than stop), there is a clearance of 0.5-1.0mm between Knife Bar Operating Cam Connecting Link Roller ③ and Knife Bar Operating Cam ④.

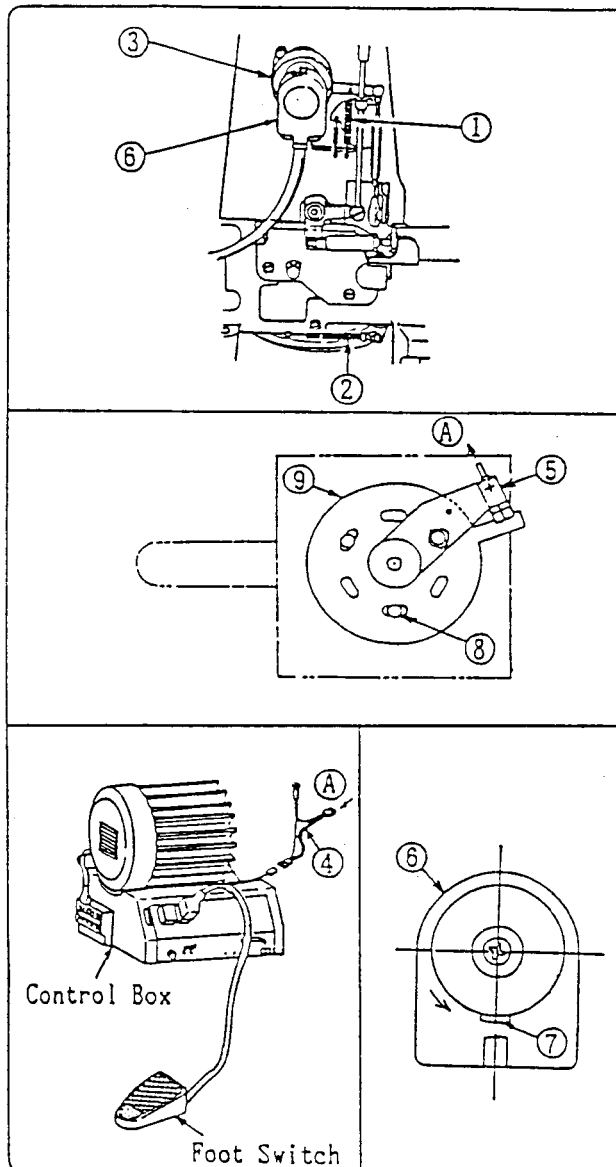
Tight screw ⑤ along this all the way to the right -
 Then machine to guarantee operation of thread trimming cam should be set.

ADJUSTMENT OF SETTING OF SYNCHRONIZER



Locate synchronizer so that its Set Screw (3) is in line with the Timing Mark (2) on the Machine Pulley (1), then tighten Set Screw (3).

ADJUSTMENT OF STOP SENSOR BRACKET, STOP SENSOR DETECTING PLATE TIMING



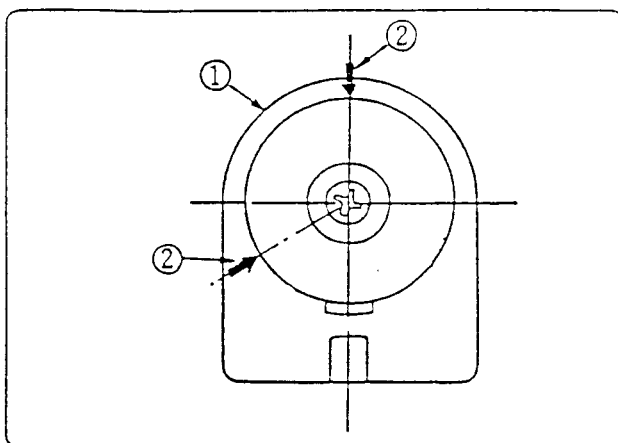
With the machine in its stop position, remove Knife Bar Operating Cam Connecting Crank Spring (1) and Knife Bar Operating Cam Releasing Arm Spring (2) and turn Machine Pulley (3) 2 turns in reverse direction. Connect Stop Sensor (5) to connector for Stop Sensor Position Checker (4) and turn on power switch.

Set Detecting Plate (7) on Synchronizer (6) so that the LED on Stop Sensor Position Checker (4) will light up when Stop Sensor Detecting Plate (9) is located at the position shown in Fig.

Then tighten Set Screw (3).

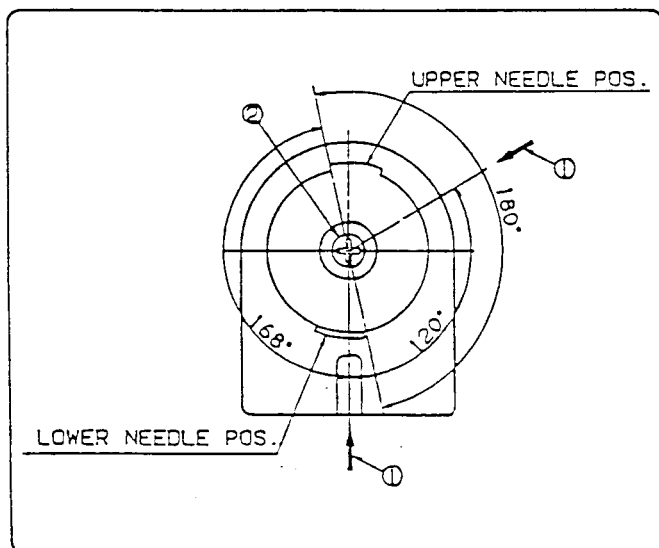
NOTE: Be sure to remove the Stop Sensor Position Checker (4) when adjustment is completed.

ADJUSTMENT OF MACHINE STOP POSITION



Remove needle after making sure the machine is in its stop position. Turn on power switch, run machine and check height of needle bar when machine is in stop position. If needle bar is not at specified height (68.2mm from underside of arm to topside of needle bar connecting stud) loosen Set Screw ② and adjust Synchronizer ①, as required, making sure there is no interference between needle and wiper. Then tighten the Set Screw ②.

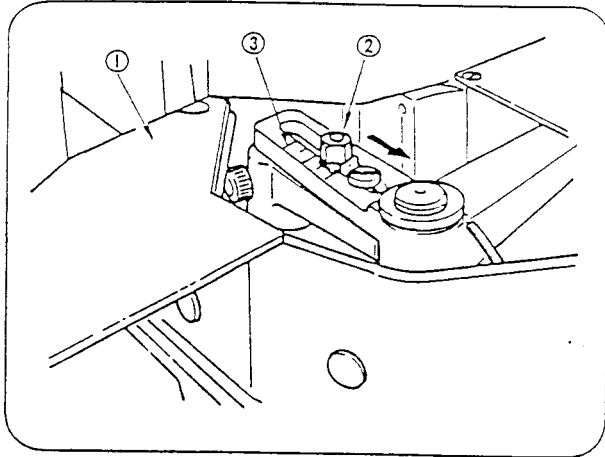
ADJUSTMENT OF SENSOR PLATE



Before the Synchronizer leaves the factory, the Sensor Plate is set correctly in position however, if for any reason it is necessary to alter the setting, it should be fine tuned as instructed below. The setting of Sensor Plate in relation to Screw ① of the Synchronizer is as shown in the sketch. To adjust setting of the Sensor Plate, loosen Screw ② located at the end of the Synchronizer and turn Sensor Plate as required, then tighten Screw ②. Also, set lower needle position to approximately 180° opposite the upper needle position.

ADJUSTMENT OF BUTTON SEWING MACHINE (569U1105-22-569U1117-16)

1. ADJUSTMENT OF UP ARM LENGTH



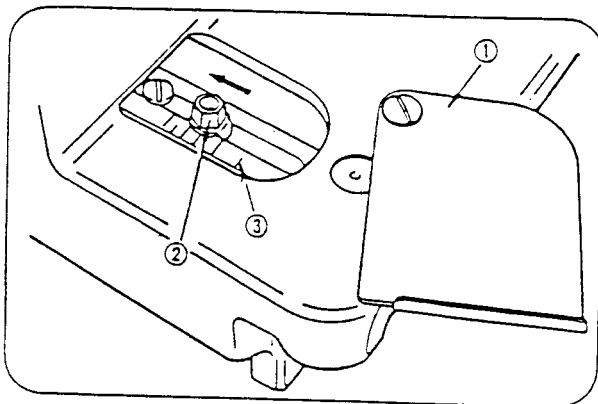
Open Cover ①, loosen Nut ② and while turning the machine pulley slowly by hand, move Nut ② forward or backward as required, until the up arm length corresponds with the distance between the holes in the button. Check and make certain the needle descends into the center of the button holes.

Note: The graduation mark ③ are for reference purpose only and do not denote actual distance between the button holes.

To increase the up arm length, move Nut ② in the direction indicated by arrow and to decrease the up arm length, move Nut ② in the opposite direction of the arrow.

Adjustment range : 0~6.5mm

2. ADJUSTMENT OF ACROSS ARM LENGTH



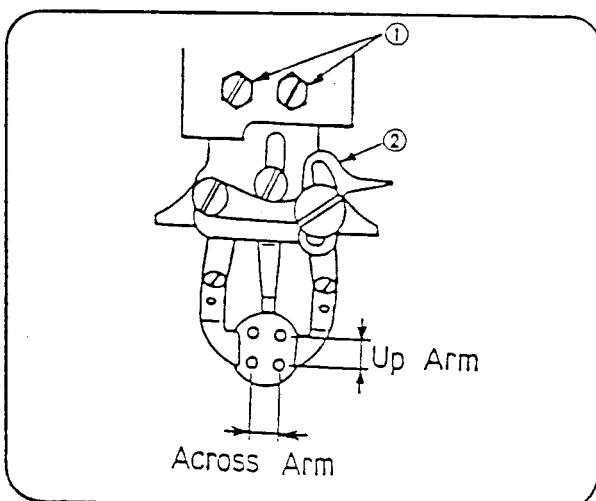
Open Cover ①, loosen Nut ② and while turning the machine pulley slowly by hand, move Nut ② sidewise as required, until the across arm length corresponds with the distance between the holes in the button. Check and make certain the needle descends into the center of the button holes.

Note: The graduation marks ③ are for reference purpose only and do not denote actual distance between the button holes.

To increase the across arm length, move Nut ② in the direction indicated by arrow and to decrease the across arm length, move Nut ② in the opposite direction of the arrow.

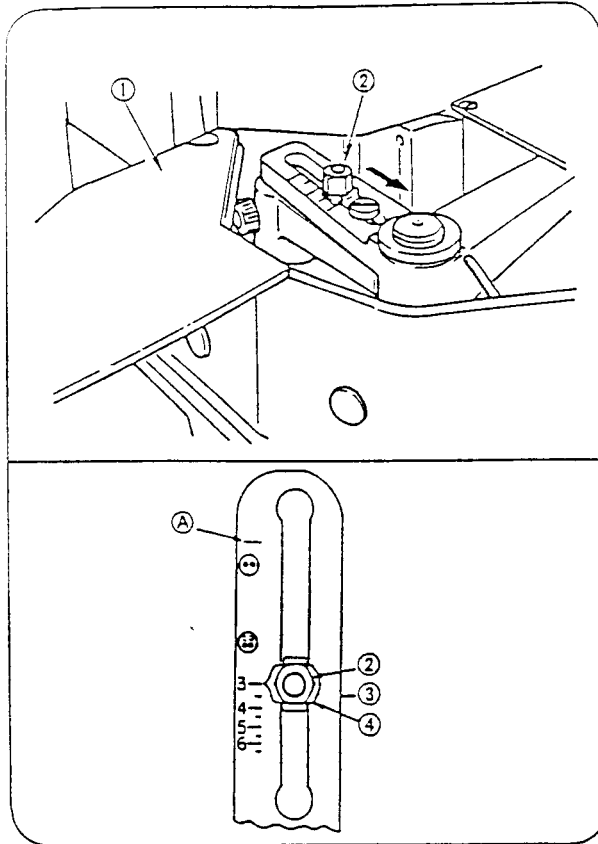
Adjustment range : 2.5~6.5mm

3. ADJUSTMENT OF SETTING OF BUTTON CLAMP



If needle is not located centrally in the button holes even if across arm and up arm lengths correspond with the distance between the button holes, loosen two Bolts ① and while turning the machine pulley slowly by hand, move button clamp 2 across arm or up arm as required, until correct setting is obtained. Securely tighten the two Bolts ①.

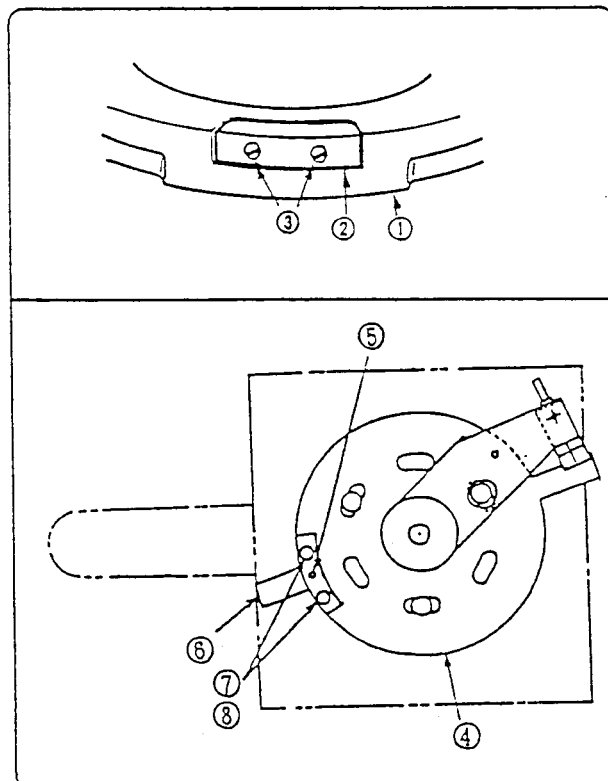
4. TO SET MACHINE FOR TWO HOLE AND FOUR HOLE BUTTON SEWING



1. To convert setting from four hole button sewing to two hole button sewing, open Cover ①, loosen Nut ② and move Nut ② to bring point of Slide Block Stud Washer ④ on Longitudinal Pivot Driving Arm ③ for two hole button sewing.

2. To convert setting from two hole button sewing back to four hole button sewing, open Cover ①, loosen Nut ② and move Nut ② away from point (A) until the up arm length corresponds with the distance between the button holes.

5. TO CHANGE NUMBER OF STITCHES

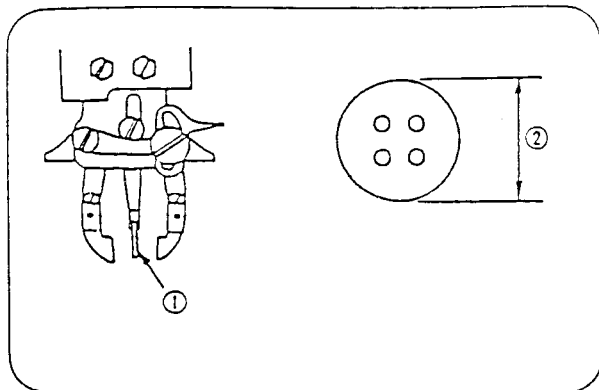


On 569U1105-22 machine, the number of stitches can be changed from 22 to 11 stitches and on 569U1117-16 machine, from 16 to 8 stitches.

To make this change, remove two Knife Bar Operating Cam Releasing Lever Blocking Plate Screws ③ and Blocking Plate ② from Feed Cam ①. Align Position Pin ⑤ on Stop Sensor Detecting Plate ④ to hole in Stop Sensor Detecting Blade ⑥ and fasten Stop Sensor Detecting Blade ⑥ to Stop Sensor Detecting Plate ④ with Screw ⑦ and Washer ⑧.

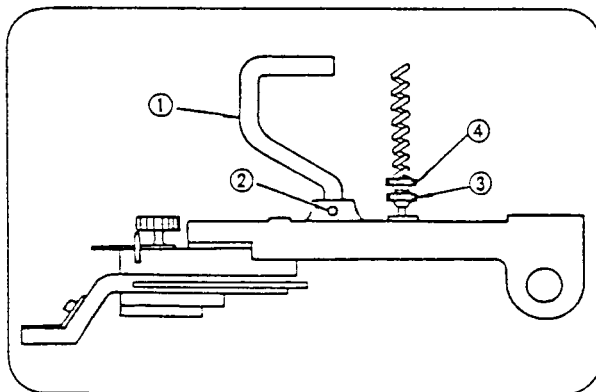
To change the number of stitches from 11 to 22 and 8 to 16, make adjustments in the same manner as above except in reverse order.

8. COMBINATION OF BUTTON CLAMP AND BUTTON CLAMP SPREADER WIRE IN RELATION TO SIZE OF BUTTON



Size of Button ② mm	Button Clamp Spreader Wire ① P/N	Button Clamp (assembled) P/N	Button Clamp (complete) P/N
8~13	372866-001 (standard)	418923-001	418925-001
13~20	372866-002 (optional)	418923-002	418925-002
20~32	372866-003 (optional)	418923-003	418925-003

9. ADJUSTMENT OF BUTTON CLAMP



1. Adjustment of Button Clamp Height

Loosen Screw ② and move Button Clamp Arm Hook ① up or down, as required, and firmly tighten Screw ②.

Note: Maximum Button Clamp Lift above Throat Plate surface should be 13 mm.

2. Adjustment of Button Clamp Spring Pressure

Loosen Button Clamp Arm Spring Adjusting Nut Lock Nut ③ and move Adjusting Nut ④ upward or downward, as required, and firmly tighten Lock Nut ③.

THREAD LOCK APPLYING POINTS

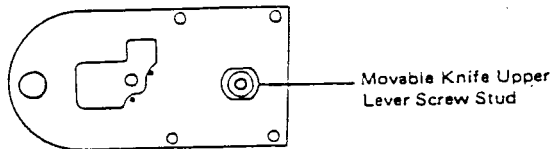
As this machine is a cycle machine constantly starting and stopping, there are parts where screws are apt to become loose and so thread lock has been applied to fix the screws.

When these parts are disassembled, always clean the bonded part with thinner and after completely drying, apply thread lock and assemble.

When it is difficult to remove screws with thread lock applied, apply a little heat and it can be easily removed.

For applying thread lock, use THREE BOND 1321B or LOCTITE 242. Points where thread lock is applied are as follows.

Movable Knife Upper Lever Screw Stud



Note: When thread lock sticks to stud part of screw stud, it can harm functions and so be careful.

GREASE LUBRICATING POINTS

1. Greasing Time

Grease once every year and also when the greasing point is disassembled.

2. Grease Used

Lithium Grease, Consistency No. 2

Firm	Brand
Idemitsu	Daphne Coronex EP2
Eso	Lithtan No. 2, Beacon No. 2
Shell	Albania No. 2

3. Greasing Method

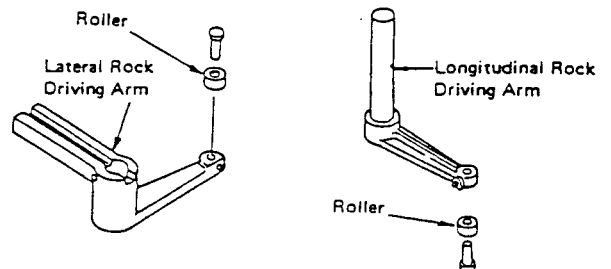
Use grease gun for greasing. When there is no grease gun, use of a plastic oiler or a syringe without the needle may be handy for greasing.

4. Greasing Points

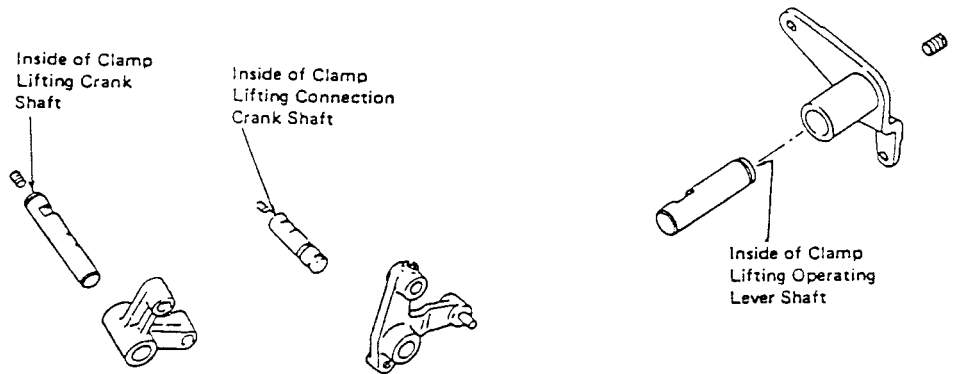
1) Vertical Drive Gear and Cam Gear



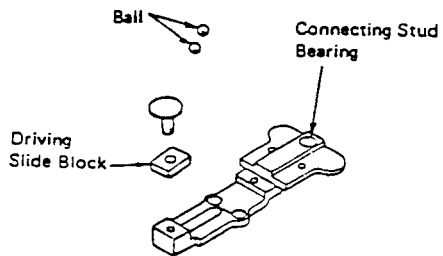
2) Lateral and Longitudinal Rock Driving Arm Roller



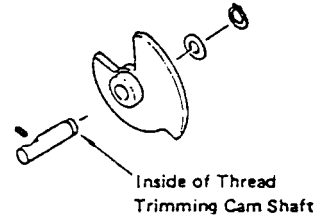
3) Arch Clamp Foot Lifter



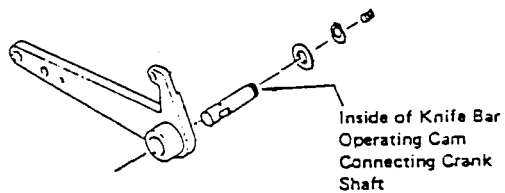
4) Feed Plate Carrier Bar



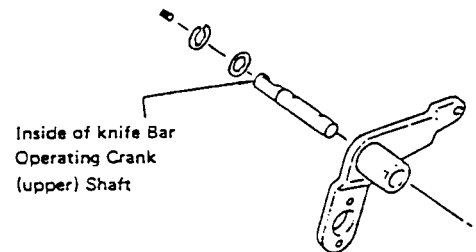
5) Thread Trimming Cam Shaft



6) Knife Bar Operating Cam Connecting Crank Shaft




7) Knife Bar Operating Crank (upper) Shaft



TROUBLE SHOOTING GUIDE

Trouble	Cause	Correction
1. Skipped stitches	1. Improper timing of needle and shuttle body.	Adjust timing and clearance. (see page 4)
	2. Hook or burr on needle point or needle bent.	Replace needle.
	3. Improperly set needle.	Insert needle into needle bar as far as it will go with long groove to the front.
	4. Improper feed timing.	Adjust timing of feed cam. (see page 5)
	5. Improper clearance between needle and shuttle driver.	Readjust clearance between needle and shuttle driver.
2. Needle breakage	1. Needle interferes with shuttle body.	Adjust clearance between needle and shuttle body. (see page 4)
	2. Needle bent.	Replace needle.
	3. Needle size too small.	Replace with needle suited for size of thread used and material being sewn.
	4. Needle interferes with shuttle driver.	Adjust setting of shuttle driver.
	5. Needle interferes with clamp foot.	Adjust setting of clamp foot. (see page 5)
	6. Wiper interferes with needle.	Adjust height of wiper. (see page 7)
	7. Needle interferes with movable knife.	Adjust position and timing of movable knife. (see page 8)
	8. Stop position out of position.	
	8-(1) Improper stop sensor timing.	Adjust setting of stop sensor bracket and timing of stop sensor detecting plate. (see page 10)
8-(2) Improper setting of synchronizer.	Adjust setting of synchronizer. (see page 10)	
3. Thread breakage	1. Shuttle body and shuttle driver marred.	Remove mar with oil stone and polish with polishing compound or replace with new part.
	2. Insufficient clearance between shuttle driver and shuttle body.	Adjust clearance. (see page 4)
	3. Throat plate needle hole bushing marred.	Remove and buff or replace.
	4. Needle interfering with clamp foot.	Adjust setting of clamp foot. (see page 5)
	5. Needle thread tension too tight.	Adjust needle thread tension.
	6. Thread take-up spring tension too strong.	Adjust spring tension.
	7. Thread take-up spring stroke excessive.	Adjust amount of stroke.

Trouble	Cause	Correction
4. Needle thread jams in the shuttle race	1. Shuttle race cap improperly positioned.	Adjust setting of shuttle race (see page 4)
	2. (A) portion of shuttle body rounded. 	Replace with new part.
	3. Lints adhering to raceway of shuttle race body.	Remove shuttle race body and clean out raceway.
	4. Improper timing of needle and shuttle body.	Adjust timing. (see page 4)
5. Thread breaks when trimming	1. Thread trimming takes place before needle tension is released.	Adjust timing of tension release. (see page 7)
	2. Mar on movable knife.	Remove mar with oil stone taking care not to damage cutting edge and polish with polishing compound.
	3. Mar on shuttle race cap.	Remove mar or replace with new part.
	4. Improper height of stationary knife.	Adjust height of stationary and movable knives. (see page 8)
	5. Thread handling area of throat plate needle hole bushing marred.	Polish with polishing agent or replace with new part.
	6. Improper timing of movable knife.	Adjust timing. (see page 7 and 8)
6. Malfunction of thread trimmer (Needle thread or bobbin thread cannot be trimmed when clamp foot is in its up position at end of cycle. Also trimmed thread ends are either extremely long or short)	1. Knife dull.	
	1-(1) Worn stationary and movable knives.	Replace with new knives.
	1-(2) Improper engagement of movable and stationary knives.	Adjust height of movable and stationary knives. (see page 8)
	1-(3) Excessive vertical play of movable knife.	Replace movable knife or hinge screw.
	1-(4) Improperly set height of cutting edge of stationary knife.	Adjust height of cutting edge of stationary knife. (see page 8)
	2. Movable knife does not spread the needle thread.	
	2-(1) Improperly set movable knife.	Adjust position of movable knife. (see page 8)
	2-(2) Shuttle race cap improperly positioned.	Adjust setting of shuttle race cap. (see page 4)
	3. Skip stitches at last stitch.	Adjust timing of needle and shuttle body and also clearance between needle and shuttle body. (see page 4)

Trouble	Cause	Correction
7. Poor stitch tightness	1. Improper feed timing.	Adjust feed timing. (see page 4)
	2. Needle thread tension too loose.	Increase needle thread tension.
8. Poor sewing performance with synthetic thread	1. Sewing speed fast.	Adjust sewing speed. (see page 5 of operator's guide)
	2. Needle size too large.	Replace with smaller size needle or needle for synthetic thread.
	3. Tusing of thread caused by heating.	Use silicon oil.
	4. Frayed thread.	Polish all thread handling areas with polishing compound.
9. Thread end pulls out of needle eye (Thread end pulls out of needle eyes before any stitch is formed)	1. Skip stitches at first stitch.	
	1-(1) Improper timing of needle and shuttle body.	Adjust timing of needle and shuttle body and also clearance between needle and shuttle body. (see page 4)
	1-(2) Improper feed timing.	Adjust feed timing. (see page 5)
	2. Needle thread end too short.	
	2-(1) Improperly adjusted pre-tension.	Adjust pre-tension.
	2-(2) Improper timing of tension release.	Adjust timing of tension release. (see page 7)
	2-(3) Thread take-up spring stroke excessive.	Adjust amount of take-up spring stroke.
	2-(4) Improper height of movable and stationary knives.	Adjust height of knives. (see page 8)
	3. Bobbin thread end too short.	
	3-(1) Improperly set height of movable knife. Improperly set height and position of stationary knife.	Adjust height and position of knives. (see page 8)
	3-(2) Shuttle race cap marred.	Remove mar or replace with new part.
	3-(3) Bobbin thread tension too tight.	Adjust bobbin thread tension.
	4. Thread spillage due to racing of bobbin.	Use bobbin and bobbin case made for 469U machine.
10. Clamp foot fails to rise	1. Improperly set clamp foot height.	Adjust clamp foot height. (see page 7)
	2. Wiper interferes with clamp foot.	Adjust height of wiper. (see page 7)