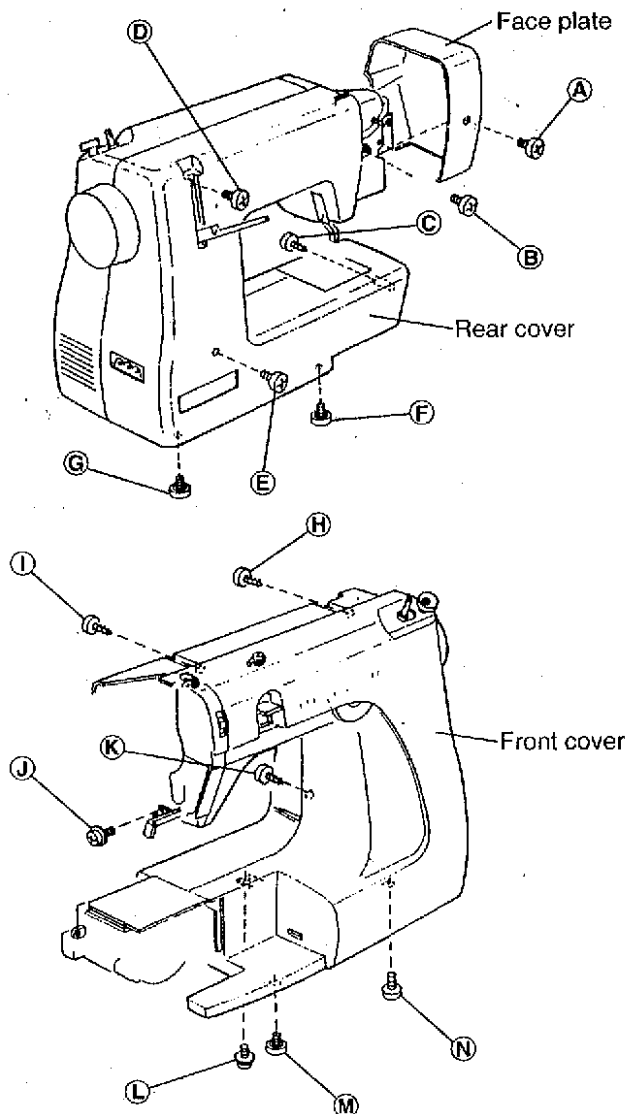


## TO CHANGE FACE PLATE, FRONT & REAR COVER



### [ FACE PLATE ]

1. Remove or tighten set screw (A).

### [ REAR COVER ]

1. Remove face plate.
2. Remove set screws (B), (C), (D), (E), (F) and (G).  
(Set screw (F) and (G) has rubber cushion.)

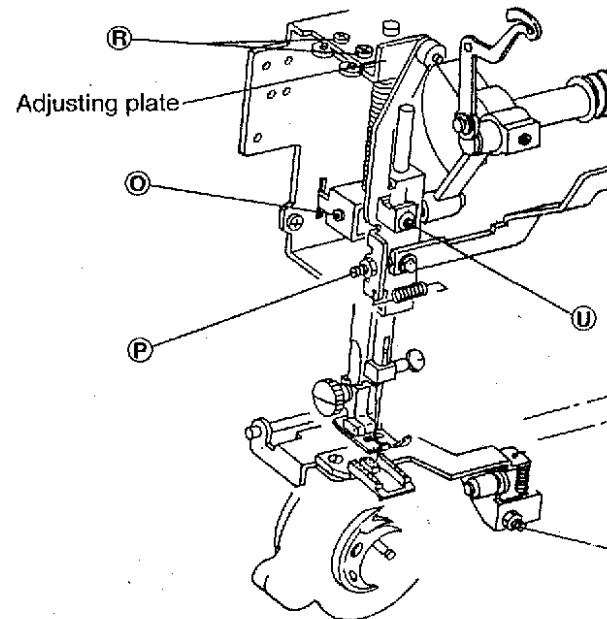
### [ FRONT COVER ]

1. Remove face plate and rear cover.
2. Remove set screws (H), (I), (K), (M) and (N).  
Loosen set screws (J) and (L).  
(Set screw (M) has rubber cushion.)

\* Remove face plate for adjustments O, P, R and U.

\* Remove front cover for adjustments Q, T and W.

MECH



### O. ADJUSTMENT OF PRESSER BAR HEIGHT AND ANGLE

- ★ When presser foot lifter is raised, open space between the needle plate and presser foot should be 6.0 mm for standard adjustment.
  - ★ The angle of presser foot should be parallel with the feed dog.
1. Raise the presser foot lifter.
  2. Loosen set screw (O) and move the presser bar up and down for adjustment of the presser bar height.

### P. ADJUSTMENT OF NEEDLE DROP POSITION

- ★ When Machine is set the maximum zigzag width, the clearance between needle and needle plate hole should be more than 0.2 mm. Also, when machine is set at straight stitch sewing, the needle should drop at center needle position.
1. Adjust the needle drop position with set screw (P).

### Q. ADJUSTMENT OF LATERAL NEEDLE SWING

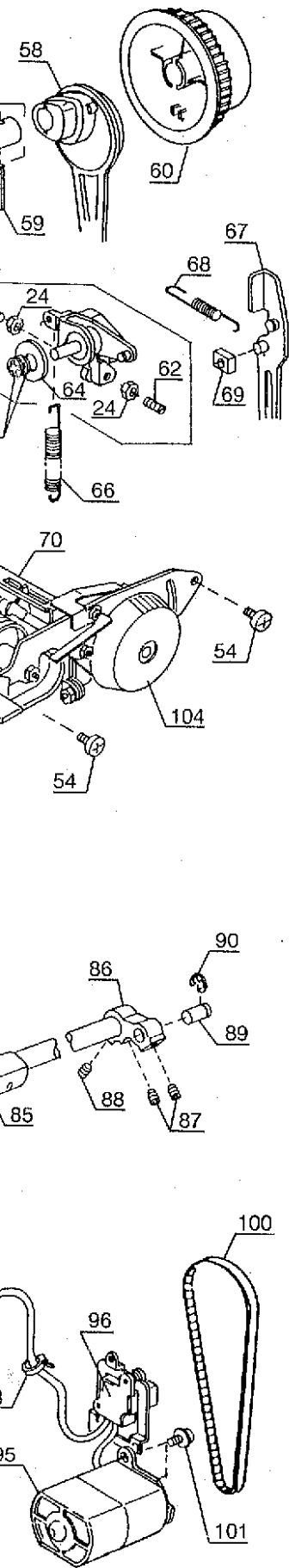
- ★ When needle bar is raised from the right needle position for zigzag stitching, the starting point of the lateral swing should be in range of 2.0 ~ 3.0 mm above the surface of needle plate.
1. Set the maximum zigzag width.
  2. Loosen two screws (Q) on upper shaft worm gear. (Hold one of screws with screw driver in order to prevent upper shaft worm gear from turning and turn the balance wheel toward you to adjust.)

### R. THE CLEARANCE BETWEEN NEEDLE AND THE TIP OF SHUTTLE HOOK

- ★ The clearance between the needle and the tip of shuttle hook should be - 0.05 to + 0.10 mm.
1. Set the maximum zigzag width and the needle drop position at left position.
  2. Loosen two set screws (R) and move the adjusting plate in front and rear for adjustment of clearance.

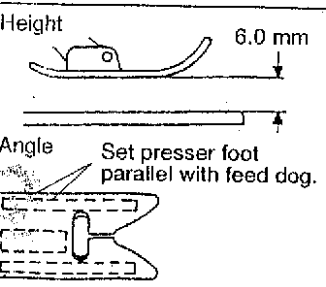
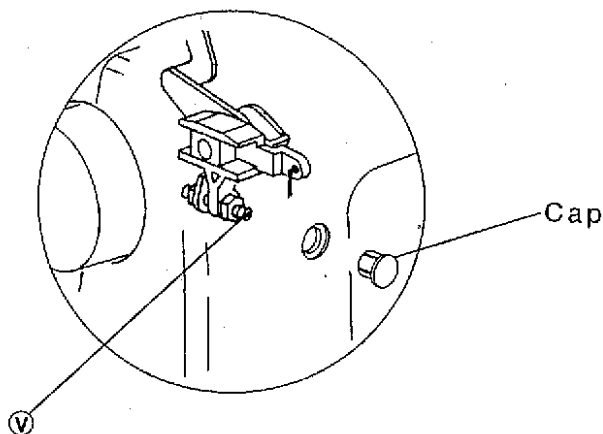
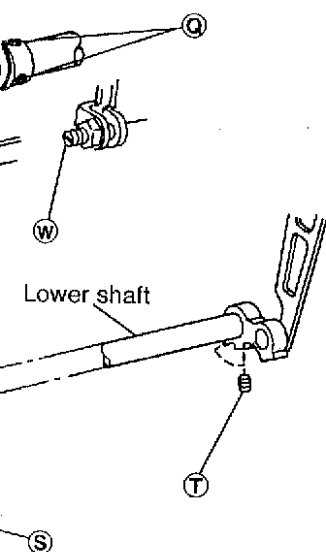
### S. ADJUSTMENT OF FEED DOG HEIGHT

- ★ The highest position of the feed dog should be 0.75 ~ 0.90 mm above the needle plate when the presser foot is lowered with its maximum presser.
1. Open bed cover.
  2. Insert or loosen the set screw (S) for adjustment.



No.	PART NO.	PART NAME	No.	PART NO.	PART NAME
1	639 614 001	Face plate (unit)	53	639 515 001	Thread tension (unit)
2	639 008 006	Face plate	54	810 220 003	Set screw
3	366 076 000	Face plate sticker	55	639 604 008	Tension mounting plate (unit)
4	000 070 012	Set screw 4 x 14	56	639 026 000	Spring
5	639 601 005	Rear cover (unit)	57	639 605 009	Upper shaft (unit)
6	639 002 103	Rear cover	58	639 623 003	Crank rod (unit)
7	639 003 001	Spool pin	59	000 023 803	S.P. 4 x 40
8	639 004 002	Thread guide	60	639 034 001	Balance wheel
9	738 015 006	Thread guide	61	639 607 001	Feed regulator (unit)
10	639 111 003	Spool pin sticker	62	000 114 008	Set screw
11	000 069 616	Set screw 4 x 8	63	648 010 009	Set screw
12	000 081 005	Set screw 4 x 8	64	735 073 003	Washer
13	000 160 607	Set screw 3 x 16	65	000 013 800	Snap ring CS-6
14	639 613 000	Rubber base (unit)	66	639 105 004	Spring
15	639 005 003	Rubber base	67	639 040 000	Feed regulating rod
16	000 115 607	Set screw 4 x 8	68	639 041 001	Feed regulating rod spring
17	653 006 101	Cap	69	639 042 002	Feed piece
18	733 003 202	Cap	70	639 601 007	Zigzag mechanism (unit)
19	639 624 004	Bed cover (unit)	71	739 008 009	Needle plate
20	639 112 004	Bed cover sticker	72	681 009 101	Set screw
21	639 611 008	Front cover (unit)	73	639 608 002	Feed rock shaft (unit)
22	639 074 106	Front cover	74	639 050 003	Feed dog
23	730 501 022	Thread guide plate (unit)	75	735 082 005	Set screw
24	000 160 102	Nut 4	76	000 002 806	Snap ring E-6
25	639 075 004	Thread guide	77	739 100 002	Washer
26	639 612 009	Bobbin winder arm (unit)	78	000 116 309	Washer
27	639 078 007	Bobbin winder ring	79	639 052 005	Feed rock shaft supporter
28	000 014 409	Snap ring CS-8	80	639 048 008	Feed lifting spring
29	000 121 905	Set screw 4 x 12	81	639 609 003	Feed lifting arm (unit)
30	000 070 506	Washer	82	000 101 703	Set screw 4 x 12
31	639 079 008	Bobbin winder arm spring	83	639 035 002	Lower shaft
32	000 013 903	Snap ring CS-5	84	735 950 003	Lower shaft gear (unit)
33	652 016 101	Bobbin winder stopper	85	735 061 008	Feed lifting cam
34	000 169 503	Set screw 4 x 16	86	639 036 003	Lower shaft arm
35	000 061 205	Nut	87	000 111 304	Hexagon socket screw 5 x 5
36	000 201 003	TP screw 4 x 20	88	000 110 107	Hexagon socket screw
37	000 115 205	TP screw 4 x 6	89	639 037 004	Pin
38	000 161 309	Set screw 3 x 12	90	000 002 507	Snap ring E-4
39	000 101 404	Set screw 4 x 6	91	735 610 101	Shuttle race (unit)
40	639 007 005	Extension table	92	647 515 006	Bobbin case
41	639 602 006	Presser bar base plate (unit)	93	102 261 000	Bobbin
42	639 110 002	Supporter spring (2)	94	639 503 006	Thread take-up lever (unit)
43	639 016 007	Needle bar crank rod	95	M2091	Motor (unit)
44	639 622 002	Needle bar crank pin (unit)	96	730 507 109	Machine socket (unit)
45	731 511 006	Thread take-up lever pin (unit)	97	654 515 019	Lamp socket (unit)
46	639 072 001	Zigzag rod	98	000 053 008	Cord tie band
47	639 098 003	Zigzag rod plate	99	000 009 102	Lamp 240V
48	000 002 105	Snap ring E-3	100	639 083 005	Timing belt
49	639 017 008	Supporter spring	101	000 115 504	TP screw 5 x 10
50	102 408 089	Needle HA1-14	102	639 013 004	Needle bar supporter (unit)
51	735 503 018	Presser foot (unit)	103	639 603 007	Needle bar (unit)
52	647 112 009	Thumb screw	104	639 068 015	Pattern selector dial

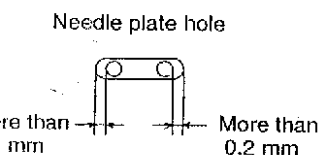
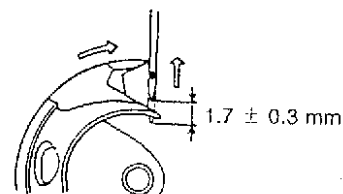
# Mechanical Adjustment for Model 639



## T. ADJUSTMENT OF HOOK TIMING

★ The height of needle from its lowest point of travel should be in range of  $1.7 \pm 0.3$  mm when the tip of shuttle hook meets exactly the left side of needle at the left needle position with maximum zigzag width.

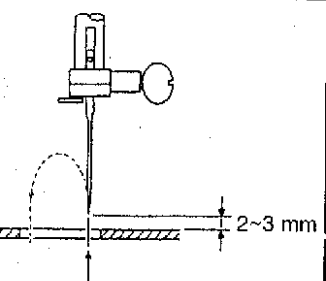
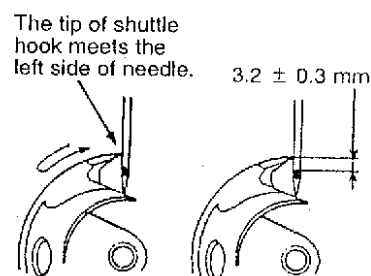
1. Set the pattern selector dial at maximum zigzag width and needle drop position is at "LEFT".
2. Loosen two set screws T and raise the needle bar 1.7 mm from its lowest point.
3. Turn the handwheel toward you to meet the tip of shuttle hook at left side of needle. Tighten two set screws T after setting.



## U. ADJUSTMENT OF NEEDLE BAR HEIGHT

★ When the tip of shuttle hook meets exactly the left side of needle at the left needle position with maximum zigzag width, the distance between the upper edge of needle eye and top surface of hook should be in the range of  $3.2 \pm 0.3$  mm.

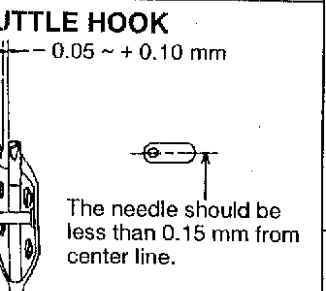
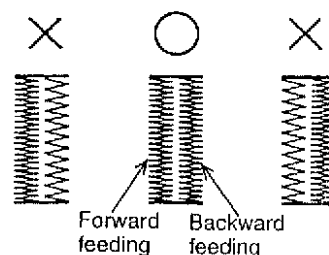
1. Set the pattern selector dial at maximum zigzag width and left needle position.
2. Loosen set screw U and move the needle bar up and down for adjustment.



## V. ADJUSTMENT OF BUTTONHOLE FEED BALANCE

★ When sewing buttonhole, there should not be much feeding difference between the right and left side rows. The standard is 9 ~ 12 stitches in the right side row against 10 stitches in the left row.

1. Remove the cap on rear cover.
2. Adjust the feed balance with set screw V.
  - If the left side row is coarser than the right side row, turn set screw V to right.
  - If the right side row is coarser, turn set screw V to left.

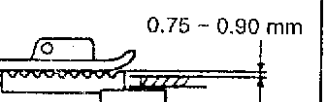
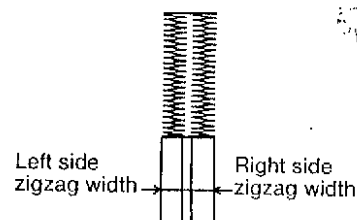


## W. ADJUSTMENT OF RIGHT SIDE ROW BUTTONHOLE ZIGZAG WIDTH (TO ADJUST CUTTING WIDTH)

★ When buttonhole stitch is sewn, left and right side rows zigzag width should be same size.

1. If both left and right rows are uneven zigzag width, adjust set screw W.

NOTE: Make sure the cutting space is enough with seam ripper.



# PARTS LIST FOR MODEL 639 (240V)

