JUKI®

Super-high Speed Variable Top
Feed Overlock Machine

MOR-3900Series
MOF-3900Series (Cylinder Bed)
MOJ-3900Series
ENGINEER'S MANUAL

29300209
No.00

PREFACE

This Engineer's Manual is written for the technical personnel who are responsible for the service and maintenance for the sewing machines. Instruction Manual which is intended for the maintenance personnel and sewing machine operators in clothing plants covers the details of functions and operations of this machine. This Engineer's Manual describes "Adjustment Procedures" , "Results of Improper Adjustment" and other functions which are not contained in Instruction Manual.

Note that MOR-3900, MOF-3900 and MOJ-3900 Series of sewing machines are developed based respectively on MO-3900, MOC-3900 and MOG-3700 Series, and provided with top feed mechanism in addition. This Engineer's Manual only describes mechanisms (top feed mechanism) which make the MOR-3900, MOF-3900 and MOJ-3900 Series different from MO-3900, MOC-3900 and MOG-3700 Series.

(For MOJ-3900 Series, refer the top feed components to those of the MOR-3900 Series and other components to those of the MOG-3700 Series.)

When performing maintenance of this machine, refer to Engineer's Manual, Instruction Manual and Parts List for the MO-3900, MOC-3900 and MOG-3700 Series as well as this Engineer's Manual.

	MO-3900	MOC-3900	MOG-3700
Engineer's Manual	29200508	29234200	(29195500) Bound with MO-3900
Instruction Manual	29125309	29131604	29281805
Parts List	29191806	29191905	29281003

CONTENTS

MEMO

1. SPECIFICATIONS

MOR-3900 SERIES

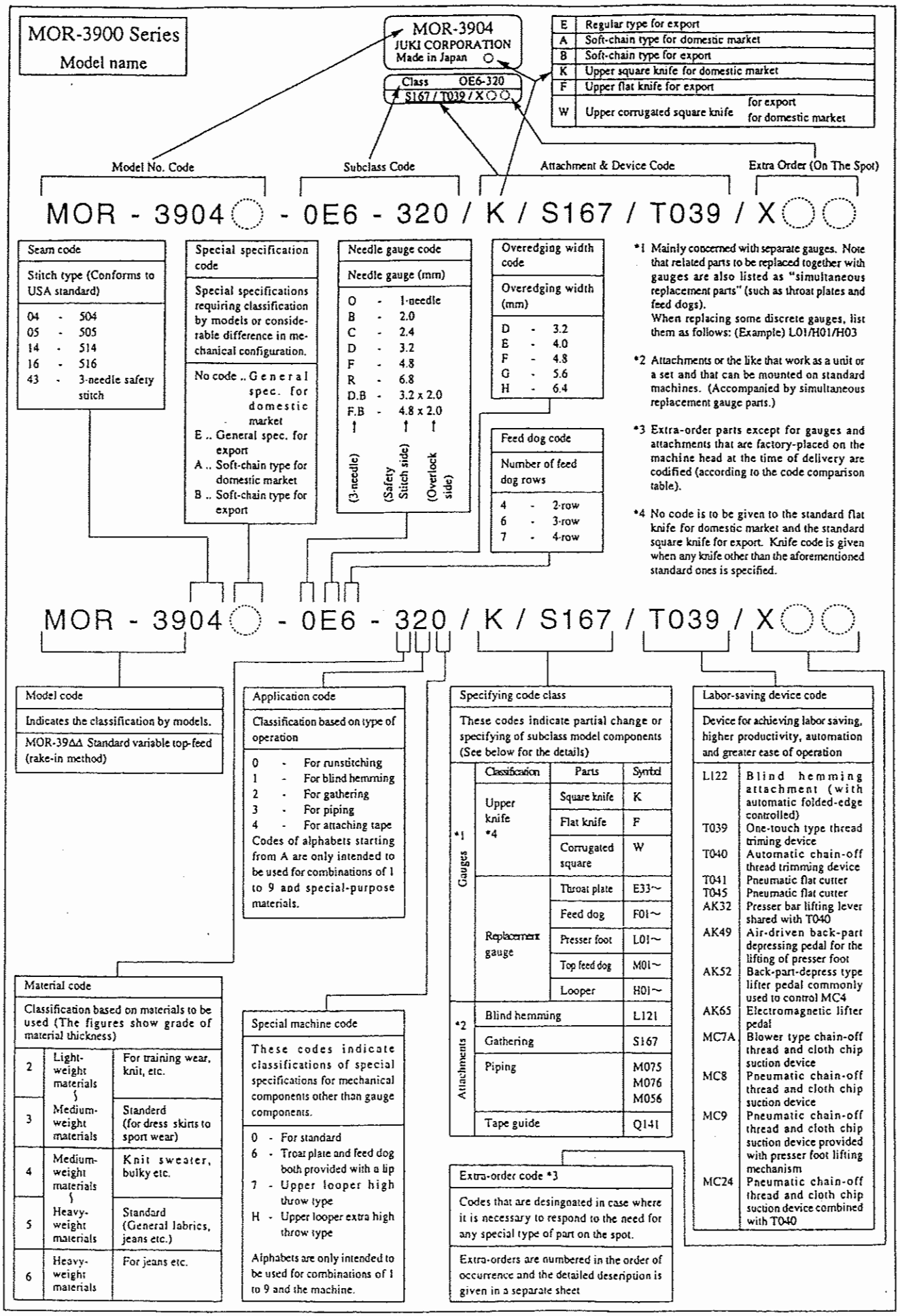
1	Model		MOR-3904	MOR-3914	MOR-3916
2	Feeding method		Variable top-feed (rake-in type)		
3	Max. sewing speed	Longitudinal stroke of top feed mechanism 6 mm or less	Max. 7,000 s.p.m.		
		Longitudinal stroke of top feed mechanism 6 to 8.5 mm or less	Max. 6,000 s.p.m. (excluding a part of subclass models)		
4	Stitch length		0.8 to 4 mm (adjustable up to 5 mm for special specifications)		1.5 to 4 mm (5 mm)
5	Needle gauge		—	2.0, 2.4 mm	2.0, 3.2, 4.8 mm
6	Overedging width		3.2, 4.0, 4.8, 5.6, 6.4 mm	3.2, 4.0, 4.8 mm	3.2, 4.0, 4.8, 6.4 mm
7	Differential feed ratio		For shirring 1:2 (max. 1:4) For stretching 1:0.7 (max. 1:0.6)		
8	Needle		DC x 17 (standard) DC x 1 can also be used.		
9	Lift of the presser foot (excluding a part of subclass models)		7.0 mm	6.5 mm	7.0 mm
10	Vertical stroke of the top feed dog		3.5 to 8.5 mm		
11	Longitudinal stroke of the top feed dog		1 to 8.5 mm (depending on the specifications for machines)		
12	Top feed adjusting method		By lever		
13	Lubricating oil		JUKI New Defrix Oil No. 2		

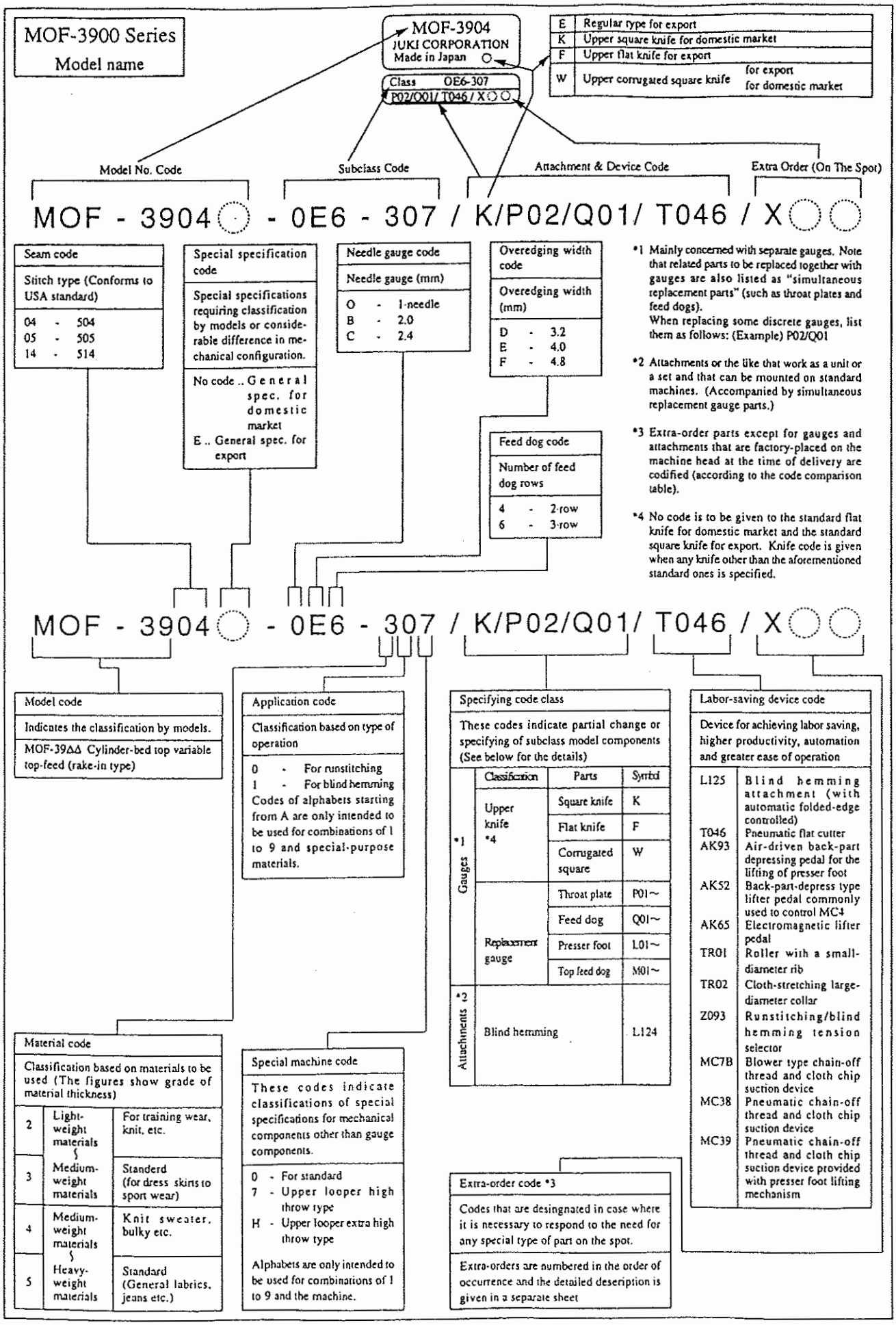
MOF-3900 SERIES

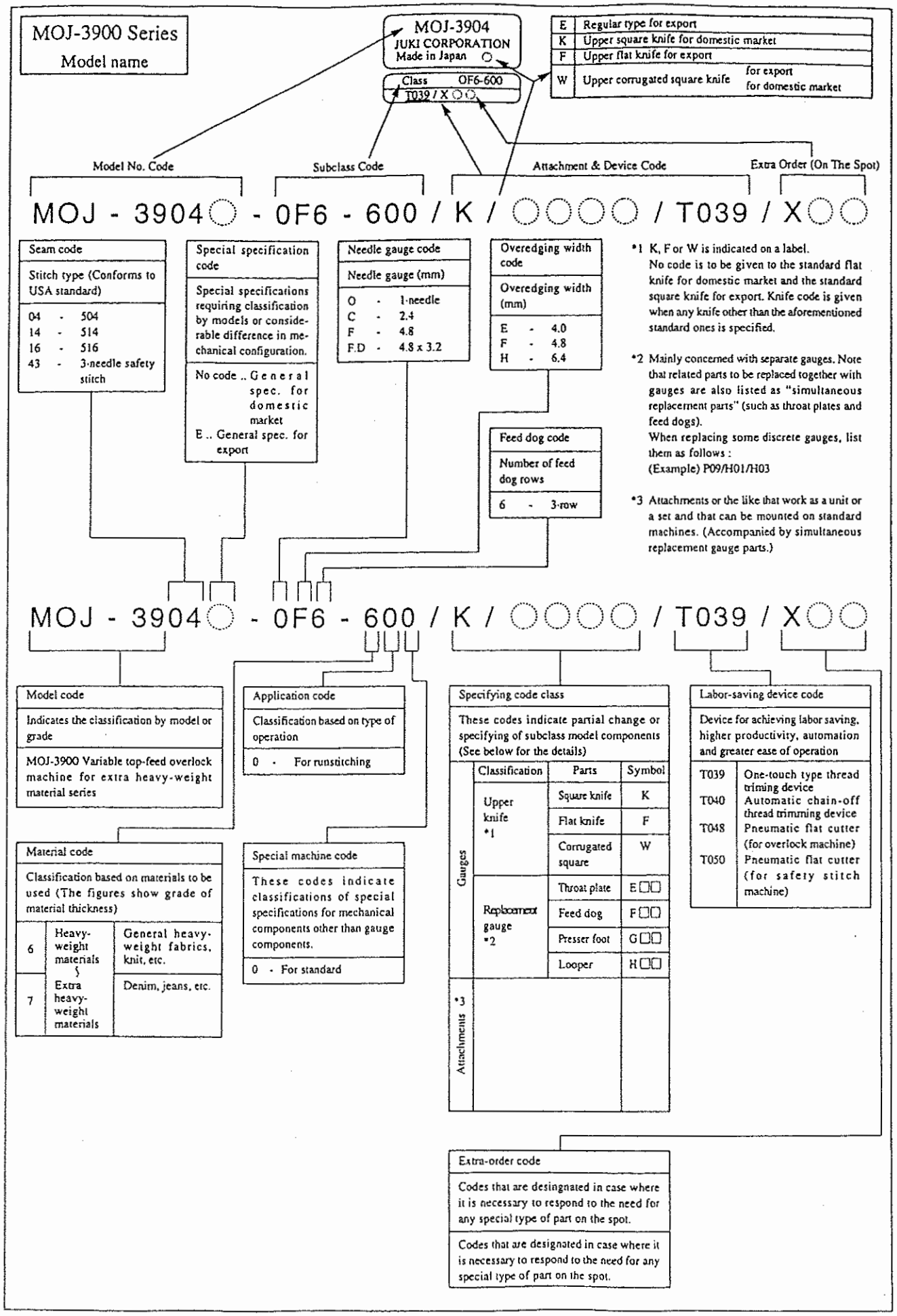
1	Model		MOF-3904	MOF-3914
2	Feeding method		Cylinder bed type variable top-feed (rake-in type)	
3	Max. sewing speed	Longitudinal stroke of top feed mechanism 6 mm or less	Max. 7,000 s.p.m.	
		Longitudinal stroke of top feed mechanism 6 to 8.5 mm or less	Max. 6,000 s.p.m. (excluding a part of subclass models)	
4	Stitch length		0.8 to 3.5 mm (adjustable up to 5 mm for special specifications)	
5	Needle gauge		—	2.0, 2.4 mm
6	Overedging width		3.2, 4.0, 4.8 mm	3.2, 4.0, 4.8 mm
7	Differential feed ratio		For shirring 1:2.3 (max. 1:4.5) For stretching 1:0.8 (max. 1:0.6)	
8	Needle		DC x 17 (standard) DC x 1 can also be used.	
9	Lift of the presser foot (excluding a part of subclass models)		7.0 mm	6.5 mm
10	Vertical stroke of the top feed dog		3.5 to 8.5 mm	
11	Longitudinal stroke of the top feed dog		1 to 8.5 mm (depending on the specifications for machines)	
12	Top feed adjusting method		By lever	
13	Lubricating oil		JUKI New Defrix Oil No. 2	

1	Model	MOJ-3904	MOJ-3914	MOJ-3916
2	Feeding method	Variable top-feed (rake-in type)		
3	Max. sewing speed	Max. 6,000 s.p.m.		
4	Stitch length	2.0 to 5.0 mm	2.4 to 4.0 mm	2.0 to 5.0 mm
5	Needle gauge	—	2.6 mm	4.8 mm
6	Overedging width	4.8 mm	6.4 mm	6.4 mm
7	Differential feed ratio	For shirring 1:1.75 (max. 1:3.8) For stretching 1:0.6	For shirring 1:2.0(max. 1:3.8) For stretching 1:0.7(max. 1:0.6)	For shirring 1:1.75 (max. 1:3.8) For stretching 1:0.6
8	Needle	142 x 5# 130 (GROTZ) DO x 5# 21 can also be used.	142 x 5# 110 DO x 5# 18 can also be used.	142 x # 130 DO x # 21 can also be used.
9	Lift of the presser foot (excluding a part of subclass models)	8.0 mm		
10	Vertical stroke of the top feed dog	3.5 to 8.5 mm		
11	Longitudinal stroke of the top feed dog	1 to 8.5 mm (depending on the specifications for machines)		
12	Top feed adjusting method	By lever		
13	Lubricating oil	JUKI New Defrix Oil No. 2		

2. MODEL NUMBERING SYSTEM




MOF-3900 Series
Model name
MOF-3904
JUKI CORPORATION
Made in Japan
Class 0E6-307
P02/Q01/T046/X○○
E Regular type for export
K Upper square knife for domestic market
F Upper flat knife for export
W Upper corrugated square knife for export / for domestic market
Model No. Code
Subclass Code
Attachment & Device Code
Extra Order (On The Spot)
MOF - 3904○ - 0E6 - 307 / K/P02/Q01/ T046 / X○○
Seam code
Stitch type (Conforms to USA standard)
04 - 504
05 - 505
14 - 514
Special specification code
Special specifications requiring classification by models or considerable difference in mechanical configuration.
No code .. General spec. for domestic market
E .. General spec. for export
Needle gauge code
Needle gauge (mm)
O - 1-needle
B - 2.0
C - 2.4
Overedging width code
Overedging width (mm)
D - 3.2
E - 4.0
F - 4.8
Feed dog code
Number of feed dog rows
4 - 2-row
6 - 3-row
*1 Mainly concerned with separate gauges. Note that related parts to be replaced together with gauges are also listed as "simultaneous replacement parts" (such as throat plates and feed dogs).
When replacing some discrete gauges, list them as follows: (Example) P02/Q01
*2 Attachments or the like that work as a unit or a set and that can be mounted on standard machines. (Accompanied by simultaneous replacement gauge parts.)
*3 Extra-order parts except for gauges and attachments that are factory-placed on the machine head at the time of delivery are codified (according to the code comparison table).
*4 No code is to be given to the standard flat knife for domestic market and the standard square knife for export. Knife code is given when any knife other than the aforementioned standard ones is specified.
MOF - 3904○ - 0E6 - 307 / K/P02/Q01/ T046 / X○○
Model code
Indicates the classification by models.
MOF-39ΔΔ Cylinder-bed top variable top-feed (rake-in type)
Application code
Classification based on type of operation
0 - For runstitching
1 - For blind hemming
Codes of alphabets starting from A are only intended to be used for combinations of 1 to 9 and special-purpose materials.
Specifying code class
These codes indicate partial change or specifying of subclass model components (See below for the details)
Classification
Parts
Symbol
*1 Gauges
Upper knife *4
Square knife K
Flat knife F
Corrugated square W
Replacement gauge
Throat plate P01~
Feed dog Q01~
Presser foot L01~
Top feed dog M01~
*2 Attachments
Blind hemming L124
Labor-saving device code
Device for achieving labor saving, higher productivity, automation and greater ease of operation
L125 Blind hemming attachment (with automatic folded-edge controlled)
T046 Pneumatic flat cutter
AK93 Air-driven back-part depressing pedal for the lifting of presser foot
AK52 Back-part-depress type lifter pedal commonly used to control MC4
AK65 Electromagnetic lifter pedal
TR01 Roller with a small-diameter rib
TR02 Cloth-stretching large-diameter collar
Z093 Runstitching/blind hemming tension selector
MC7B Blower type chain-off thread and cloth chip suction device
MC38 Pneumatic chain-off thread and cloth chip suction device
MC39 Pneumatic chain-off thread and cloth chip suction device provided with presser foot lifting mechanism
Material code
Classification based on materials to be used (The figures show grade of material thickness)
2 Light-weight materials ~ Medium-weight materials 3 For training wear, knit, etc.
3 Standerd (for dress skirts to sport wear)
4 Medium-weight materials ~ Heavy-weight materials 5 Knit sweater, bulky etc.
5 Standard (General labrics, jeans etc.)
Special machine code
These codes indicate classifications of special specifications for mechanical components other than gauge components.
0 - For standard
7 - Upper looper high throw type
H - Upper looper extra high throw type
Alphabets are only intended to be used for combinations of 1 to 9 and the machine.
Extra-order code *3
Codes that are desingnated in case where it is necessary to respond to the need for any special type of part on the spot.
Extra-orders are numbered in the order of occurrence and the detailed deseription is given in a separate sheet


MOJ-3900 Series
Model name
MOJ-3904
JUKI CORPORATION
Made in Japan ○
Class OF6-600
T039 / X○○
E Regular type for export
K Upper square knife for domestic market
F Upper flat knife for export
W Upper corrugated square knife for export / for domestic market
Model No. Code
Subclass Code
Attachment & Device Code
Extra Order (On The Spot)
MOJ - 3904○ - 0F6 - 600 / K / ○○○○ / T039 / X○○
Seam code
Stitch type (Conforms to USA standard)
04 - 504
14 - 514
16 - 516
43 - 3-needle safety stitch
Special specification code
Special specifications requiring classification by models or considerable difference in mechanical configuration.
No code .. General spec. for domestic market
E .. General spec. for export
Needle gauge code
Needle gauge (mm)
O - 1-needle
C - 2.4
F - 4.8
F.D - 4.8 x 3.2
Overedging width code
Overedging width (mm)
E - 4.0
F - 4.8
H - 6.4
Feed dog code
Number of feed dog rows
6 - 3-row
*1 K, F or W is indicated on a label. No code is to be given to the standard flat knife for domestic market and the standard square knife for export. Knife code is given when any knife other than the aforementioned standard ones is specified.
*2 Mainly concerned with separate gauges. Note that related parts to be replaced together with gauges are also listed as "simultaneous replacement parts" (such as throat plates and feed dogs). When replacing some discrete gauges, list them as follows : (Example) P09/H01/H03
*3 Attachments or the like that work as a unit or a set and that can be mounted on standard machines. (Accompanied by simultaneous replacement gauge parts.)
MOJ - 3904○ - 0F6 - 600 / K / ○○○○ / T039 / X○○
Model code
Indicates the classification by model or grade
MOJ-3900 Variable top-feed overlock machine for extra heavy-weight material series
Application code
Classification based on type of operation
0 - For runstitching
Material code
Classification based on materials to be used (The figures show grade of material thickness)
6 Heavy-weight materials: General heavy-weight fabrics, knit, etc.
7 Extra heavy-weight materials: Denim, jeans, etc.
Special machine code
These codes indicate classifications of special specifications for mechanical components other than gauge components.
0 - For standard
Specifying code class
These codes indicate partial change or specifying of subclass model components (See below for the details)
Gauges
Upper knife *1: Square knife K; Flat knife F; Corrugated square W
Replacement gauge *2: Throat plate E□□; Feed dog F□□; Presser foot G□□; Looper H□□
Attachments *3
Labor-saving device code
Device for achieving labor saving, higher productivity, automation and greater ease of operation
T039 One-touch type thread trimming device
T040 Automatic chain-off thread trimming device
T048 Pneumatic flat cutter (for overlock machine)
T050 Pneumatic flat cutter (for safety stitch machine)
Extra-order code
Codes that are desingnated in case where it is necessary to respond to the need for any special type of part on the spot.
Codes that are designated in case where it is necessary to respond to the need for any special type of part on the spot.

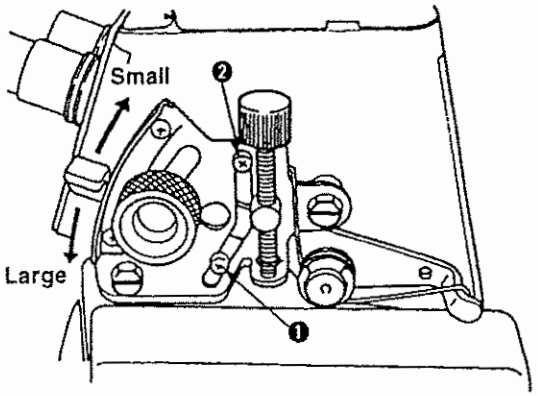
Standard Adjustment

(1) Longitudinal stroke of the top feed dog

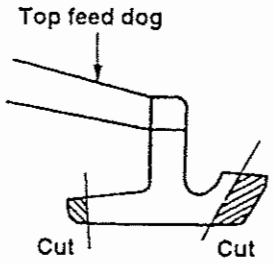
The longitudinal stroke of the feed dog can be adjusted up to 8.5 mm.

Longitudinal stroke

	Max.	Min.
Standard	7.5 mm	1 mm
MOR-3916-FΔ6-ΔΔH	7 mm	2.5 mm
MOJ-3900	8.5 mm	1 mm



(Caution) Since the top feed motion is not interlocked with the bottom feed motion, the longitudinal stroke of the top feed mechanism is only determined by the position of the top feed lever.

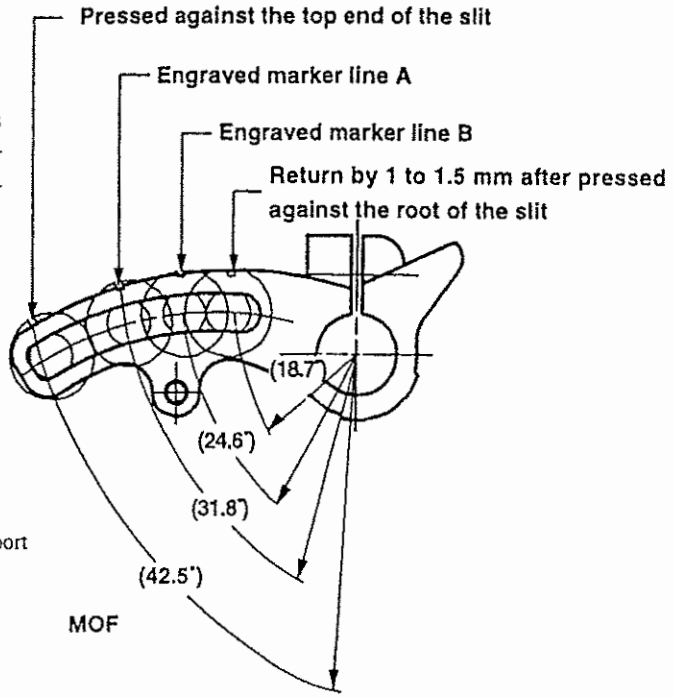
Adjustment Procedures	Results of Improper Adjustment
o Changing the max. stroke Loosen screw ❶ in the differential feed adjusting stopper. Lower the stopper to increase the max. stroke or raise the stopper to decrease it. After the adjustment, securely tighten the screw. o Changing the min. stroke Loosen screw ❷ in the differential feed adjusting stopper. Lower the stopper to increase the min. stroke or raise the stopper to decrease it. After the adjustment, securely tighten the screw. **(Caution) Confirmation to be made after the adjustment** **Make sure that a clearance of 0.5 mm or more is provided between the front and rear ends of the top feed dog and the slit on the presser foot when the top feed dog is in the max. stroke end. If they come in contact with each other, replace the top feed dog with another one that matches the specifications or appropriately cut out both ends of the top feed dog.**  	o If the max. stroke is increased (up to 8.5 mm), a clearance provided between the top feed dog and the slit on the presser foot will be decreased, causing them to come in contact with each other while the top feed dog is traveling. o If the max. stroke is increased (up to 8.5 mm), the top feed dog may come in contact with the presser foot hinge, needle clamp, flat knife support or other related components while the machine is in operation. o If the min. stroke is decreased to 1 mm or less, the components mounted inside the machine head may come in contact among one another. It is therefore necessary to set the min. stroke to 1 mm or more. o If the min. stroke is decreased to 2.5 mm or less for safety stitch machines of 50H or 60H type, the top feed dog may come in contact with the upper looper position bracket. It is therefore necessary to set the min. stroke to 2.5 mm or more for the aforementioned types of machines.

(2) Vertical stroke of the top feed dog

Relation between the position of the vertical stroke adjusting pin and the vertical stroke.

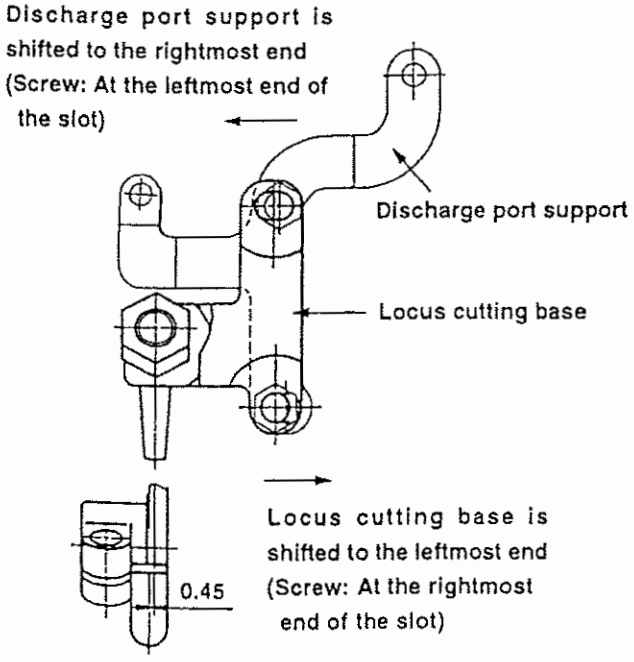
Adjusted position	Vertical stroke	Application
Pressed against the top end of the slit	3.5 mm	Light-weight materials
Engraved marker line A	5.0 mm	Light- to medium-weight materials
Engraved marker line B	6.5 mm	Medium- to heavy-weight materials
Return by 1 to 1.5 mm after pressed against the root of the slit	8.5 mm	Extra heavy-weight materials

* In case the position of the vertical stroke adjusting pin is adjusted, securely tighten the vertical stroke adjusting pin after confirming that the pin does not come in contact with the upper knife support, needle clamp, etc.

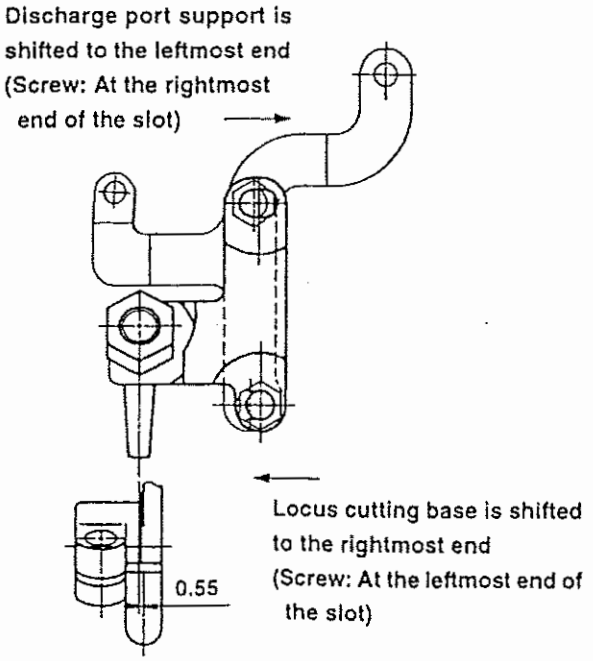


Installing position of locus cutting base and discharge port support

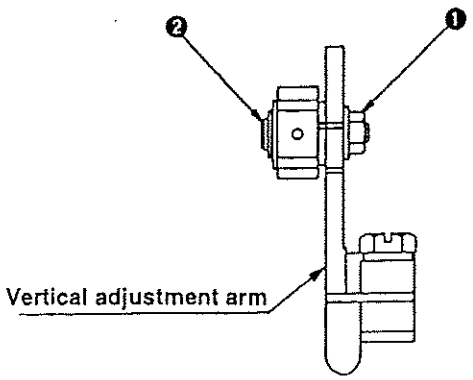
MOR
MOJ



MOF



Ascertain that the screw in the locus cutting base meets the point on the vertical adjustment arm support unit indicated by the dimension given in the sketch shown above (about the center).

Adjustment Procedures	Results of Improper Adjustment
 1. Remove the top cover, the locus cutting base and the discharge port support. 2. Loosen vertical adjustment nut ❶ and move vertical adjustment pin ❷ to an adequate position. 3. After the adjustment, fix the locus cutting base and the discharge port support at the locations indicated in the figure given on the left.	o If the position of the vertical adjustment pin is changed, the vertical stroke of the top feed dog will change. o Move the vertical adjustment pin toward the top end of the vertical adjustment arm to decrease the vertical stroke of the top feed dog, or toward the root of the vertical adjustment arm to increase it. o If the vertical stroke of the top feed dog is increased, the presser foot may jump and produce abnormal noise when the machine runs at a high speed. In this case, tighten the presser spring regulator until the abnormal noise stops.

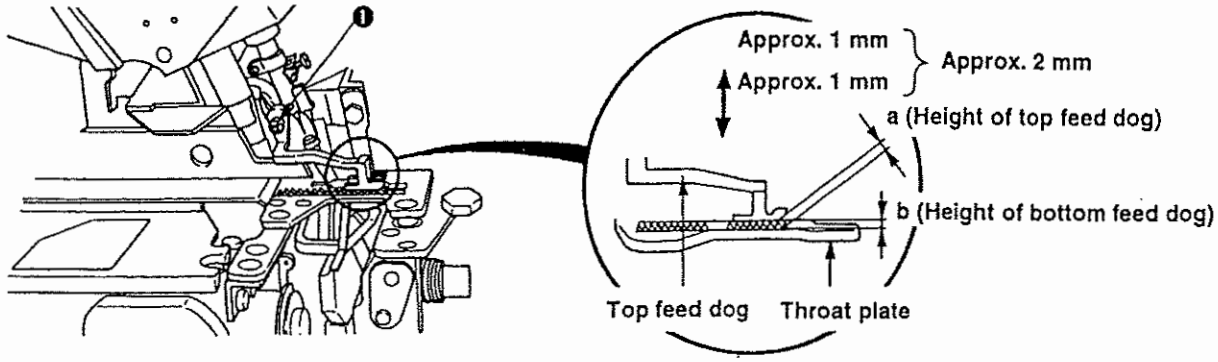
(3) Height of the top feed dog

1. Adjusting the lowest position of the top feed dog

When the top feed dog rests at the lowest point of its stroke, it is positioned 1.0 mm (0.8 mm for safety stitch machines) as standard above the top face of the throat plate.

The lowest point of the top feed dog can be adjusted up and down by approximately 1 mm from th standard position.

(Reference) The standard height of the bottom feed dog (main feed dog and differential feed dog) is 0.8 mm, in its highest position,



from the top surface of the throat plate when it is leveled.

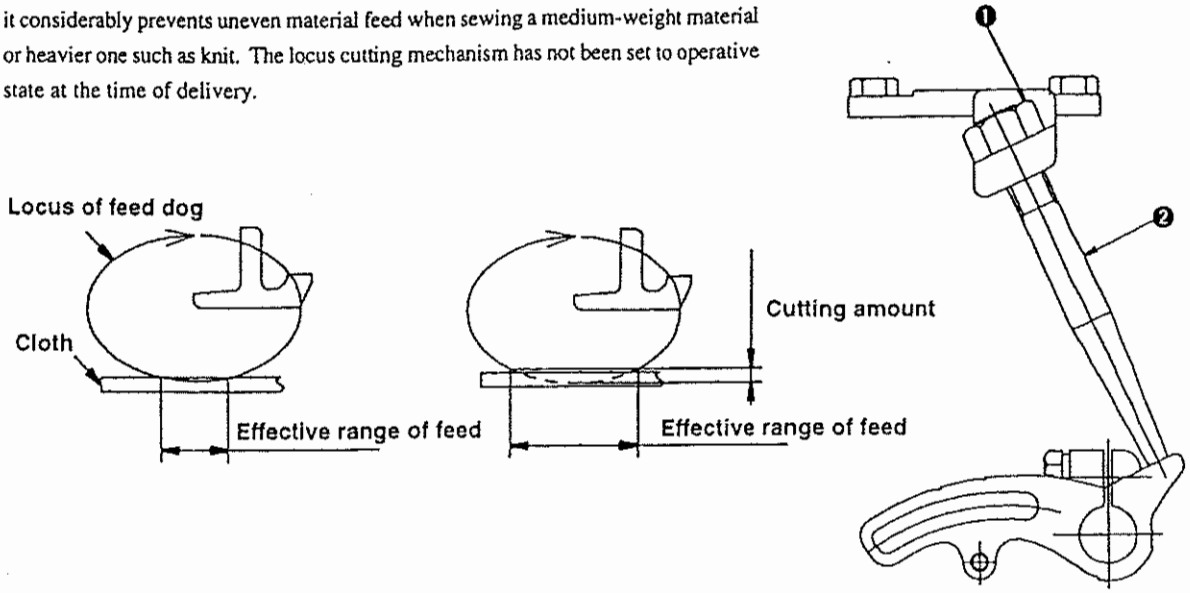
○ Adjustment of top and bottom feed dogs of subclass models

Model		Height of top feed dog a	Height of bottom feed dog b
MOR-3904	0ΔΔ - 30Δ 500	1.0 mm	0.8 mm
	50M	1.0 mm	1.0 mm
	0E6 - 320	0.8 mm	0.8 mm
MOR-3905	0Δ4 - 210	0.8 mm	0.8 mm
MOR-3914	ΔΔΔ - Δ0Δ Δ4Δ 337	1.0 mm	0.8 mm
	ΔΔΔ - 327	0.8 mm	0.8 mm
MOR-3916	ΔΔΔ - 30Δ 320	0.8 mm	0.8 mm
	ΔΔΔ - 330 ΔΔΔ - 50H	1.0 mm	0.8 mm
	ΔΔΔ - 60H	1.5 mm	1.3 mm
MOR-3943	ΔBΔ6 - 307	0.8 mm	0.8 mm
MOF-3904	0ΔΔ - Δ0Δ	1.0 mm	0.8 mm
MOF-3905	0Δ4 - 210	1.0 mm	0.8 mm
MOF-3914	ΔΔ6 - Δ0Δ	0.8 mm	0.8 mm
MOJ-3904 -3916	All models	1.5 mm	1.3 mm
MOJ-3914	CH6 - 600	1.5 mm	1.2 mm

Adjustment Procedures	Results of Improper Adjustment
Loosen screw ❶ in the top feed dog, and adjust the top feed dog up and down. **(Caution) The aforementioned adjustment has to be carried out with the standard pressure applied to the top feed dog.**	○ When the top feed dog is positioned higher than the standard position Heavy-weight materials can be sewn. Note that a clearance is provided between the top and bottom feed dogs, which reduces shirring performance and efficiency of feed when sewing a light-weight material. ○ When the top feed dog is positioned lower than the standard position Shirring performance and efficiency of feed are improved. Note that, however, excessively increased overlapping amount between the top and bottom feed dogs will result in tooth marks on some kinds of materials and give a larger operating noise. ○ For sewing heavy-weight materials Heavy-weight materials can be sewn even when the vertical stroke of the top feed dog is increased. (Refer to "(2) Vertical stroke of top feed dog" on page 8.)

(4) Cutting the locus of the top feed dog

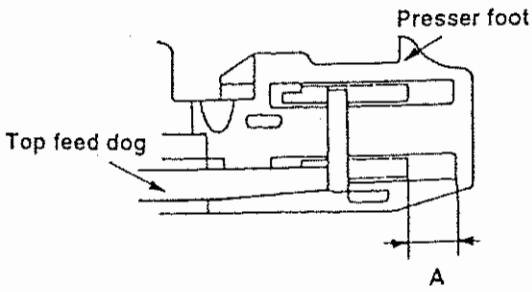
The locus cutting mechanism extends the section during which the feed dog actually feed the material by flattening the lower portion of the locus of the top feed dog. This function is not very effective when sewing a light-weight material. However, it considerably prevents uneven material feed when sewing a medium-weight material or heavier one such as knit. The locus cutting mechanism has not been set to operative state at the time of delivery.



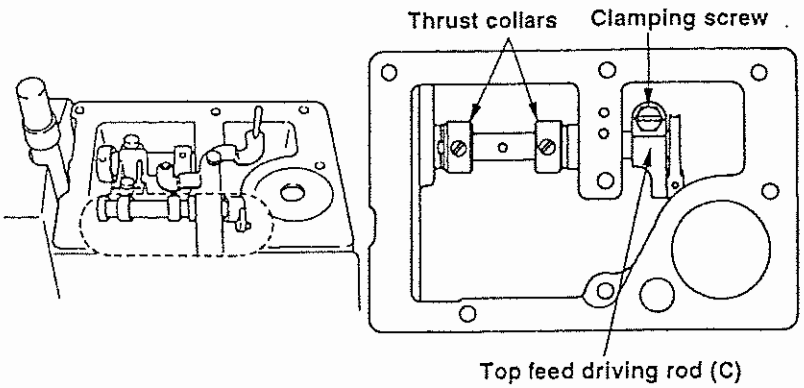
For reference, set the cutting amount to approximately 0.5 mm.

(5) Longitudinal position of the top feed dog

When the top feed dog is in its stroke end, a clearance provided between the top feed dog and the slit on the presser foot is as shown in the table below. Clearance between the top feed dog and the slit on the presser foot when the top feed dog is in its forward travel end = Dimension A

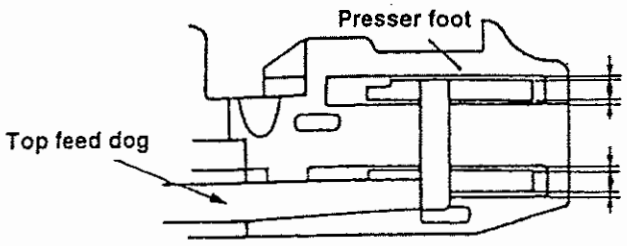


Model	Dimension A
MOR - 3904 OE6 320 - 3914 BΔ6 327	3.5
MOR - 3916 DΔ4 320 FF6 320	2.0
MOR - 3916 DΔ6 320	1.5
MOR - 3916 RH6 30H	1.0
MOR - 3916 FΔ6 50H FΔ6 60H	0.8
MOR - 3943 ΔBD6 307	1.0
All of MOR, MOF and MOJ models excluding the aforementioned ones	0.5

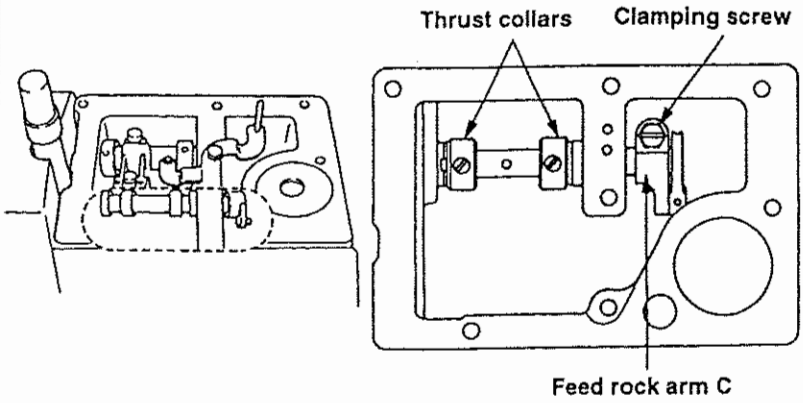
Adjustment Procedures	Results of Improper Adjustment
1. Remove the top cover. 2. Turn the pulley until the top feed dog descends to the lowest point of its stroke. 3. Loosen nut ❶ of the locus cutting screw and tighten locus cutting screw ❷, and the top feed dog will be raised. 4. Once an appropriate cutting amount is obtained, securely tighten nut ❶ to prevent locus cutting screw ❷ from turning out of the adjusted position. 5. Loosen the screw in the top feed dog and lower the top feed dog to an extent that it bites the material. (Caution) **1. To operate the machine with the locus cut, the sewing speed has to be decreased to 5,500 s.p.m. or less.** **2. If the cutting amount exceeds 1 mm, an extra load will be applied to the related mechanism. It is therefore necessary to set the cutting amount to 1 mm or less.**	○ The lifting amount of the top feed dog as from the lowest point, in step 3, will be a locus cutting amount. In this state, the clearance between the top and bottom feed dog teeth will be increased by the cutting amount, thereby reducing efficiency of feed. It is therefore necessary to lower the top feed dog, in step 5, to adjust the material bite depth of the top feed dog.
Remove the top cover. Loosen the clamping screw in the top feed driving rod (C) and adjust the longitudinal position of the top feed dog.  After the adjustment, tighten the clamping screw in the top feed driving rod (C) with a torque of 80 kgf.cm. (Caution) **Do not fully tighten the clamping screw in the top driving rod (C).** **If the top feed driving rod (C) shifts to the right or left after loosening the clamping screw, totally loosen the screw and turn the pulley until it naturally stops. Then, tighten the clamping screw.**	○ If dimension A is not adjusted to the correct value, the top feed dog may come in contact with the presser foot, producing abnormal noise. If dimension A is extremely different from the correct value, the top feed dog may come in contact with the components inside the frame. It is therefore necessary to carefully adjust the longitudinal position of the top feed dog.

(6) Adjusting the lateral position of the top feed dog

A 0.2 mm clearance has to be provided between the top feed dog and the presser foot.



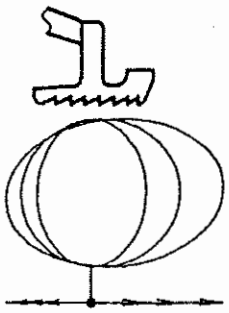
(Caution) The above-stated adjustment has to be only carried out in case where practical troubles arise such as the presser foot comes in contact with the top feed dog causing abnormal noise or extreme difference between the right and left clearances resulting in failures.
The top feed mechanism has been precisely assembled in terms of space. If the adjustment value is not correct, interference between the related components will result or durability of the sewing machine will be adversely affected.
It is therefore necessary to adjust the lateral position of the top feed dog.

Adjustment Procedures	Results of Improper Adjustment
1. Loosen the screw in the feed bar guide (B). (Refer to "3. Standard Adjustment (8) Adjusting the feed bar guides A and B.") 2. Remove the top cover and loosen the clamping screw in feed rock arm C. (Refer to "3. Standard Adjustment (5) Longitudinal position of the top feed dog.")  	
3. Loosen the screws in the thrust collars locating on both sides of the feed rock arm. Move the complete set of the feed rock shaft, variable top feed bar and top feed dog to the predetermined position. Then, fix the two thrust collars at that position. (Reference) **When loosening the screws in the thrust collars, do not loosen them simultaneously. Loosen first the thrust collar locating in the traveling direction and fix it in the predetermined position. Now, check the lateral position of the thrust collar and also check that the thrust collar does not come in contact with the top feed mechanism. Then, move the remaining thrust collar and fix it in the predetermined position. This will adjust the thrust collars properly.**	4. Tighten the screws analogously in the reverse order and carry out the adjustment works. If the thrust collar on the cloth plate side and that on the pulley side are excessively moved, the variable top feed bar will come in contact with the top feed mechanism components. (During adjustment, carefully check for a change in torque, hindrance to smooth operation or abnormal noise.)

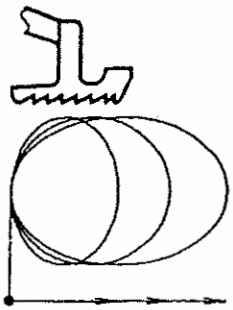
(7) Moving position of the top feed dog

Adjusting the moving position of the top feed dog

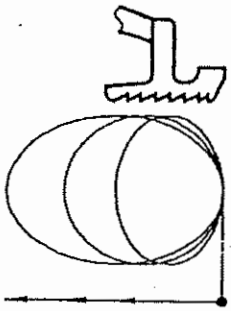
Loosen the screw in the feed rock arm A and move the position of the feed rock arm A. This adjusts the moving position of the top feed dog.



Intermediate position is fixed (standard)



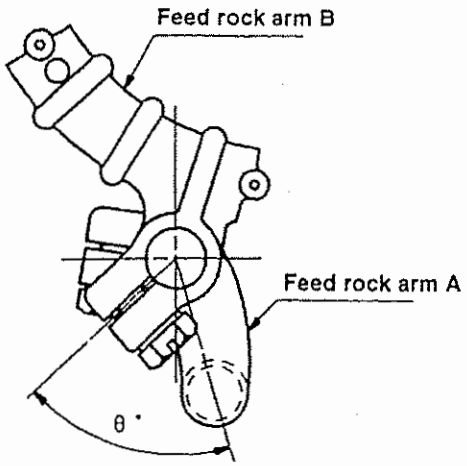
Backward travel end is fixed



Forward travel end is fixed

- Intermediate position is fixed.
  If the pitch of the top feed dog is increased, the locus of the top feed dog expand forward and backward.
- Backward travel end is fixed.
  If the pitch of the top feed dog is increased, the locus of the top feed dog will expand forward with the backward travel end fixed.
- Forward travel end is fixed.
  If the pitch of the top feed dog is increased, the locus of the top feed dog will expand backward with the forward travel end fixed.

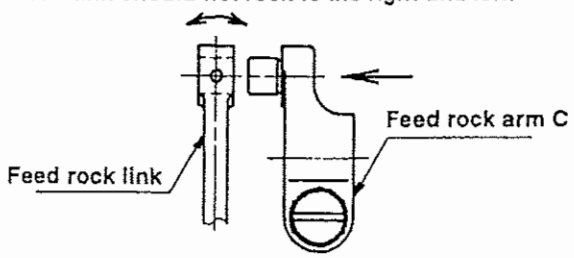
The moving position of the top feed dog is changed by changing the installing angle θ° of the feed rock arms A and B. (See the illustration given on the right.)



- To allow the machine to provide a locus of the top feed dog that matches best to applications desired, the moving position of the top feed dog has been factory-set to the "forward travel end is fixed" state for the 50H and 60H type models or to the "intermediate position is fixed" state for the other models at the time of delivery.
- The fixed intermediate position at the time of delivery
  For the machines except for 50H and 60H type models, the moving position of the top feed dog is adjusted to a location where the top feed dog will not move by operating the top feed lever when the phase advances by 19° from the lowest dead point of the needle.

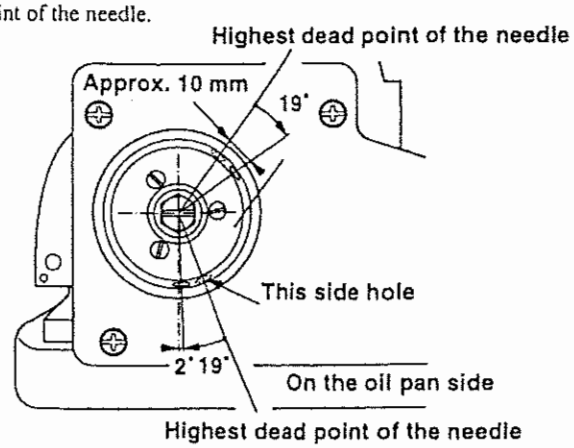
Adjustment Procedures	Results of Improper Adjustment
* Intermediate position is fixed (standard) * ① Temporarily fix the feed rock arm A and turn the handwheel to bring the top feed dog to a desired fixed position. ② At the position described in above step 1, fix the feed rock arm A at a position where the top feed dog will not move even by operating the top feed lever. ③ Loosen the feed rock arm C and adjust the position of the feed rock arm so that the top feed dog does not come in contact with the front and rear ends of the slit on the presser foot if the pitch of the top feed dog is maximized. * Backward travel end is fixed * ① Temporarily fix the feed rock arm A and turn the handwheel to bring the top feed dog to the backward travel end of its stroke. ② At the position described in above step 1, fix the feed rock arm A at a position where the top feed dog will not move even by operating the top feed lever. ③ Loosen the feed rock arm C and adjust the position of the feed rock arm so that the top feed dog does not come in contact with the front and rear ends of the slit on the presser foot if the pitch of the top feed dog is maximized. * Forward travel end is fixed * ① Temporarily fix the feed rock arm A and turn the handwheel to bring the top feed dog to the forward travel end of its stroke. ② At the position described in above step 1, fix the feed rock arm A at a position where the top feed dog will not move even by operating the top feed lever. ③ Loosen the feed rock arm C and adjust the position of the feed rock arm so that the top feed dog does not come in contact with the front and rear ends of the slit on the presser foot if the pitch of the top feed dog is maximized. **(Caution)** **1. Never loosen the feed rock arm B since it thrusts through the feed rock driving shaft.** **2. Place the feed rock arm C at a position where the feed rock link smoothly moves with no play.** **3. A clearance of 0.5 mm or more has to be obtained between the top feed dog and the slit on the presser foot when the pitch of the feed dog is maximized.**	o When the backward travel end of the top feed dog is fixed, the lowest point of the top feed dog is likely to be raised by increasing the stroke of the top feed mechanism (increasing the clearance provided between the top feed dog and the bottom feed dog). In this case, the feed dogs will fail to be effective to shirring. So, operate the machine with the forward end or backward end of the locus of the top feed dog fixed. o If the forward end of the locus of the top feed dog is fixed, the feed dog will smoothly catch the material at the start of sewing. However, stitches will be likely to gather at overlapped portions of heavy-weight knit. If there is an excessive play between the feed rock arm C and the feed rock link, the top feed adjusting lever will fail to smoothly return to the home position. In this case, an extra load will be applied to the related components.

The link should not rock to the right and left.



Position for reference when the phase advances by 19° from the highest dead point of the needle

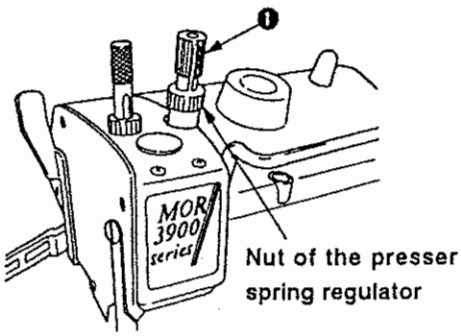
At the position where the hole (see the illustration given below) in the periphery of the handwheel is straight down, the phase advances by approximately 21° from the highest dead point of the needle.

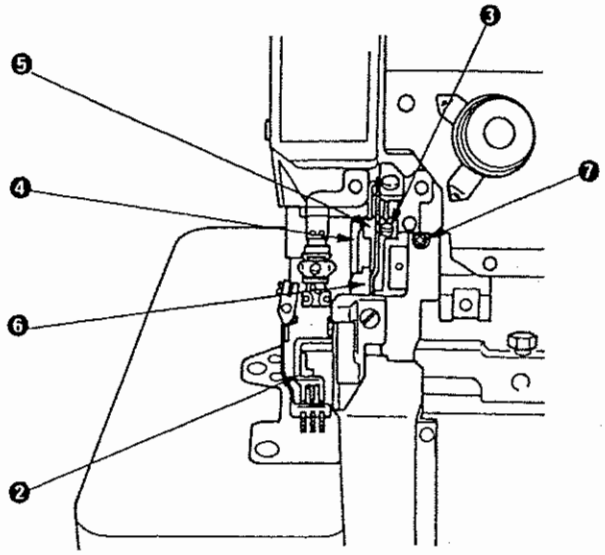


(8) Adjusting the feed bar guides A and B

If the lateral play in the top feed dog excessively increases

The play can be eliminated by appropriately adjusting the feed bar guides A and B.



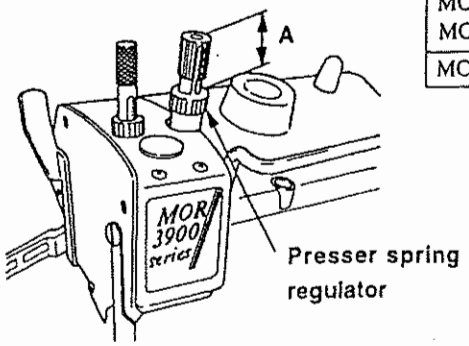


Adjustment Procedures	Results of Improper Adjustment
1. Remove the top cover, locus cutting base, discharge port support and adjustment arm spring. 2. Loosen presser foot regulator ❶ to release the pressure of the presser foot and check the lateral play in top feed dog ❷. 3. Remove the needle thread tank and loosen screw ❸ in the feed bar guide B. Place variable top feed bar ❻ between feed bar guides B ❹ and A ❺ and temporarily fix the feed bar guide B. 4. Move the top feed dog up and down to adjust so that the top feed dog comes down by its dead load and so that the lateral play in the top feed dog is minimized. 5. If the top feed dog is pushed against the related parts and fails to come down by its dead load even after the adjustment of the feed bar guide B, loosen screw ❼ in the feed bar guide A and adjust the feed bar guide A simultaneously with the variable top feed bar guide B. At this time adjust the lateral position of the feed bar by moving the top feed dog up and down several times so that the top feed dog freely falls. 6. Securely tighten the screws and check the top feed dog whether there is a play in the top feed dog and whether it is pushed against any related component. 7. Respectively attach the adjustment arm spring, the discharge port support, the locus cutting base and the top cover to the previous position. (Refer to "3. Standard Adjustment (2) Vertical stroke of the top feed dog.") **(Caution) If the top feed bar guide is pushed against the variable top feed bar, the top feed dog may jump. It is therefore necessary to adjust so that the top feed dog comes down by its dead load.**	o If a lateral play exists in the top feed dog, the top feed dog may come in contact with the presser foot, producing abnormal noise or leaving tooth marks on the material. o If smooth operation is hindered between the feed bar guides A and B and the variable top feed bar, jumping of the top feed dog may be caused.

(9) Adjusting the pressure of the top feed dog

< Standard height of the presser spring regulator >

	Dimension A	Vertical stroke of the top feed dog	Max. sewing speed
MOR	24 to 25 mm	6.5 mm or less	7,000 s.p.m.
MOF	20.5 to 21.5 mm	6.5 to 8.5 mm	7,000 s.p.m.
MOJ	20.5 to 21.5 mm	8.5 mm	6,000 s.p.m.



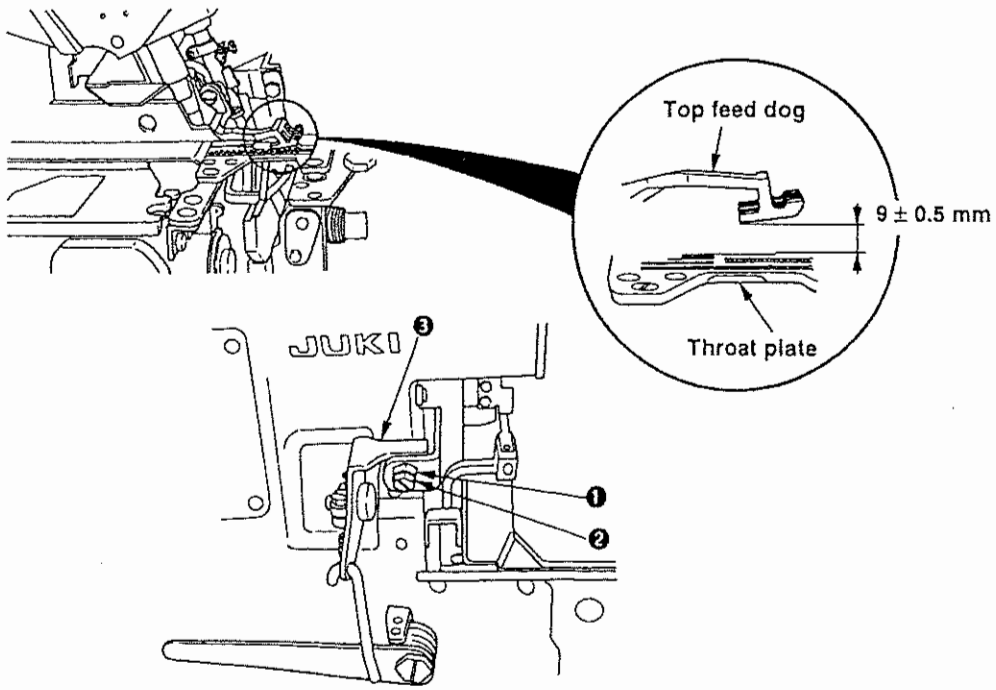
As reference of the pressure of the top feed dog, gradually tighten the presser spring regulator from the position to provide a low pressure until the top feed dog does not jump and further tighten it until the machine operates quietly and the top feed dog provides a uniform pressure on the material.

To use the machine with the top feed dog pressure decreased, reduce the vertical stroke of the top feed dog or reduce the sewing speed.

The dimensions given in the table above make the top feed dog to provide slightly higher pressure on the material. They can ensure the normal operation of the top feed dog even with the most severe combination of the vertical stroke of the top feed dog and the sewing speed given in the table. Consequently, employ a value larger than dimension A in the table (to provide a lower pressure of the top feed dog) in the case where the sewing machine is used with the vertical stroke of the top feed dog decreased or the sewing speed reduced.

(10) Lift of the top feed dog (when the foot pedal is used)

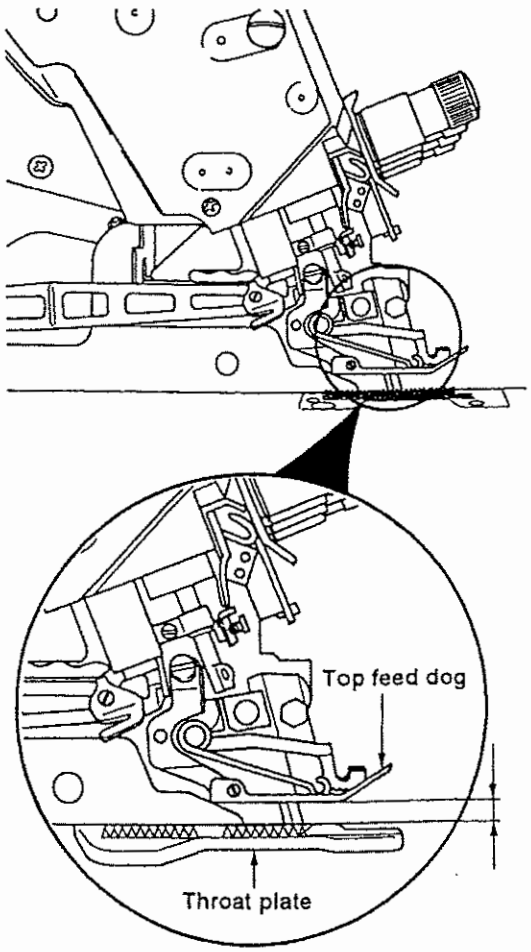
The highest position reached by the top feed dog by depressing the foot pedal when the needle bar is in the lowest point of its stroke is 9 ±0.5 mm above the top surface of the throat plate. In case of MOJ Series, it is 10.5±0.5 mm.



Adjustment Procedures	Results of Improper Adjustment
Loosen the nut of the presser spring regulator and tighten the presser spring regulator to increase the pressure of the top feed dog and enhance efficiency of feed. **(Caution) If the top feed dog jumps during sewing, producing large noise, tighten the presser spring regulator until the operating noise is sufficiently reduced. If the machine is used for a long period of time in the state where the top feed dog produces abnormally large noise, the other components will be adversely affected. It is therefore necessary to reduce the operating noise.**	○ If the pressure of the top feed dog is lower than the standard value, the top feed dog may jump and produce larger noise. In addition, efficiency of feed will be reduced. ○ If the pressure of the top feed dog is higher than the specified value, the top feed dog may leave tooth marks on some kinds of materials. An extra load will be applied to the machine, which will adversely affect the machine. Noise level will become higher.
1. Loosen nut ❶ of the lifter B stopper. Adjust the lift of the top feed dog by turning screw ❷ of the lifter B stopper. 2. After the adjustment, tighten nut ❶ of the lifter B stopper. **< Confirmation to be made after the adjustment > Make sure that an approximately 0.5 to 1 mm clearance is provided between the top end of screw ❷ of the lifter B stopper and presser bar lifting arm ❸ when the top feed dog is in the lowest point of its stroke (the needle bar is in the highest point of its stroke). (When the lifter B is drawn with fingers, the top end of the screw has to move away from the presser bar lifting arm by approximately 0.5 to 1 mm.)**	○ If the lifting amount of the top feed dog is larger than the specified value, the lifter B will come in contact with the feed driving shaft, making abnormal noise when the machine is in operation. ○ If the lifting amount of the top feed dog is smaller than the specified value, the top feed dog may hinder smooth placement of a heavy-weight material at the start of sewing.

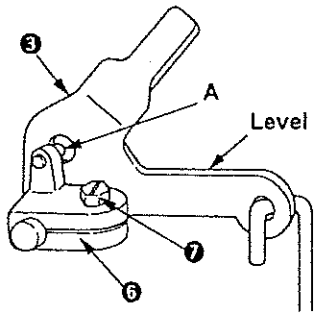
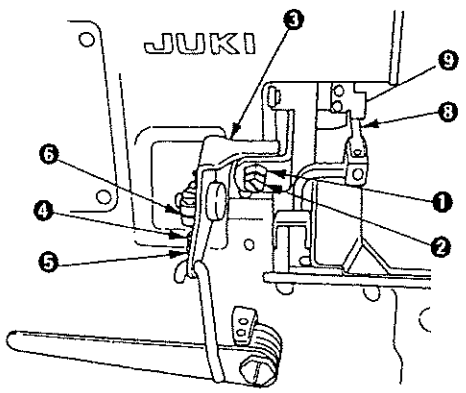
(11) Lift of the presser foot (when the foot pedal is used)

When the presser foot is in the highest position of its stroke, it has to be positioned, as given in the table on the right, above the top surface of the throat plate.



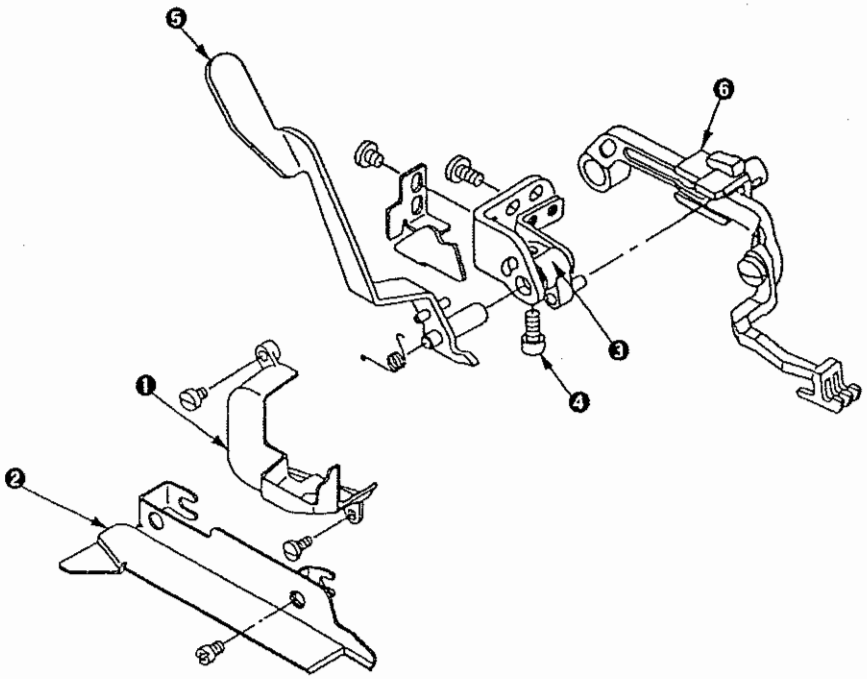
Model	Lift of the presser foot (max.)
MOR - 3904 - 0Δ4 - 300	7 $^{0}_{-1}$ mm
0Δ6 - 300	7 $^{0}_{-1}$ mm
0Δ6 - 500	7 $^{0}_{-1}$ mm
MOR - 3914 - BΔ4 - 307	6.5 $^{0}_{-1}$ mm
BΔ6 - 307	6.5 $^{0}_{-1}$ mm
ΔΔ6 - 40H	6.5 $^{0}_{-1}$ mm
MOR - 3916 - BE4 - 300	7 $^{0}_{-1}$ mm
DΔ4 - 300	5.5 ± 0.2 mm
DΔ6 - 300	5.5 ± 0.2 mm
DF6 - 300	7 $^{0}_{-1}$ mm
FF6 - 300	5.5 ± 0.2 mm
RH6 - 30H	7 $^{0}_{-1}$ mm
DΔ6 - 50H	5 ± 0.2 mm
DΔ6 - 60H	5 ± 0.2 mm
MOR - 3943 - ΔBD6- 307	7 $^{0}_{-1}$ mm
MOR - 3905 - 0Δ4 - 210	7 $^{0}_{-1}$ mm
MOR - 39ΔΔ - ΔΔΔ - 320	7 $^{0}_{-1}$ mm
MOR - 3914 - BΔ6 - 337	6.5 $^{0}_{-1}$ mm
MOR - 3914 - BΔ6 - 347	6.5 $^{0}_{-1}$ mm
ΔΔΔ - 44H	6.5 $^{0}_{-1}$ mm
MOR - 3916 - ΔΔΔ - 330	7 $^{0}_{-1}$ mm
MOR - 3904 - 0E4 - 300	7 $^{0}_{-1}$ mm
0ΔΔ - 307	7 $^{0}_{-1}$ mm
0F6 - 40H	6.5 $^{0}_{-1}$ mm
MOR - 3914 - BΔ6 - 307	6.5 $^{0}_{-1}$ mm
ΔΔ6 - 40H	6.5 $^{0}_{-1}$ mm
MOR - 3905 - 0Δ4 - 210	7 $^{0}_{-1}$ mm
All of MOJ models	8 $^{0}_{-1}$ mm

(Caution) If the lift of the presser foot, when the foot pedal is used, is adjusted, the adjusted lift of the top feed dog may change accordingly. It is therefore necessary to check the lift of the top feed dog referring to "(10) Lift of the top feed dog (when the foot pedal is used)," and adjust it if necessary after the adjustment of the lift of the presser foot.

Adjustment Procedures	Results of Improper Adjustment
Loosen nut ❺ of the presser lifter rotation stopper and adjust screw ❹ of the presser lifter rotation stopper so that the lift of the presser foot given in table on the left is provided when operating the lifter pedal with the presser foot pressure applied. At this time, make sure that the presser foot does not come in contact with the upper looper, the needle clamp, the top feed dog and other related components. (Caution) **Adjust the height of the presser foot so that a small clearance is provided between presser arm ❽ and presser arm stopper ❾ when depressing the foot pedal to cause presser bar lifting arm ❸ to come in contact with screw ❹ of the presser lifter rotation stopper and rest there.** * If presser thrust arm ❻ has been also removed, perform the adjustment following the steps of procedure described below. 1. Temporarily tighten clamping screw ❼ in the thrust arm while removing a thrust play in the presser shaft. Lower the presser foot, using presser arm ❽, by approximately 1 to 3 mm from the throat plate. 2. Then, keeping the state mentioned in above step 1, fix presser lifter arm ❸ with clamping screw ❼ of the thrust arm so that the presser lifter arm is leveled and so that there is no clearance in portion A. 3. Adjust the lift of the top feed dog using aforementioned screw ❷ and nut ❶ of the lifter B stopper and adjust the height of the presser foot to the value given in the table using screw ❹ and nut ❺ of the presser lifter rotation stopper.   	○ If the lift of the presser foot is excessively lower than the standard value, the material may not be smoothly placed/removed under/ from the presser foot. ○ If the lift of the presser foot is excessively higher than the standard value, the presser foot may come in contact with the upper looper, the needle clamp and other related components.

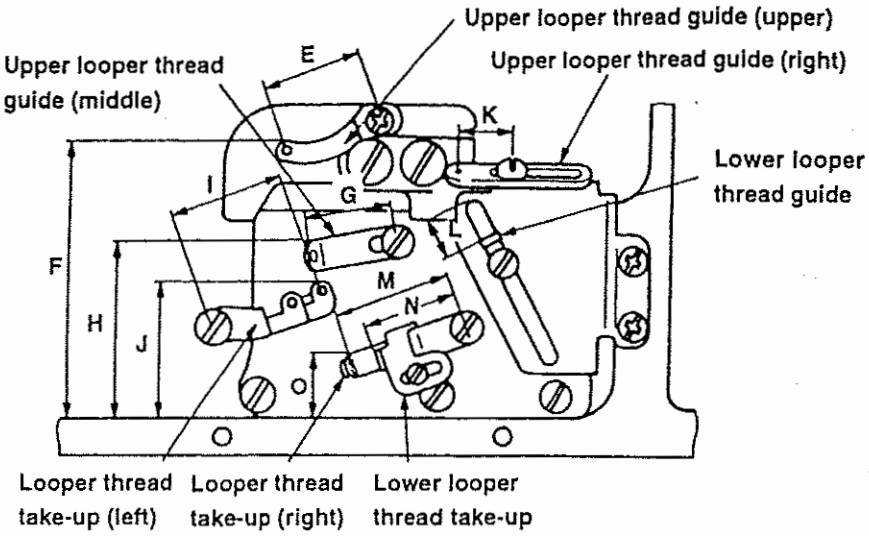
(12) Lift of the top feed dog (when the presser bar lifting lever is used)

The standard highest position reached by the top feed dog by pressing the presser bar lifting lever when the needle bar is in the lowest point of its stroke is 9 ±0.5 mm above the top surface of the throat plate.



Adjustment Procedures	Results of Improper Adjustment
1. Remove cloth plate side cover ❷ and top feed cover ❶. 2. Move the needle bar to the lowest point of its stroke and keep the top feed dog at a 9 mm height above the top surface of the throat plate. (Place a spacer between the throat plate and the top feed dog.) 3. Loosen clamping screw ❹ in the lifter A ❸. 4. Press and turn the presser bar lifting lever ❺ until it will go no further. Now, turn lifter A ❸ to make its pin to be pressed against the hood of top feed block ❻. Then, tighten clamping screw ❹ in the lifter A. **(Caution) Ascertain that a clearance is provided between the pin of lifter A ❸ and the hood of top feed block ❻ with presser bar lifting lever ❺ returned to its home position.** 5. Respectively attach top feed cover ❶ and cloth plate side cover ❷ in position.	○ If the lift of the top feed dog is excessively higher than the specified value, it may come in contact with the top feed block and the pin of the lifter A during operation, resulting in a failure. ○ If the lift of the top feed dog is excessively lower than the specified value, the material and the presser foot may not be smoothly removed at the heavier sections of the material including the overlapped sections.

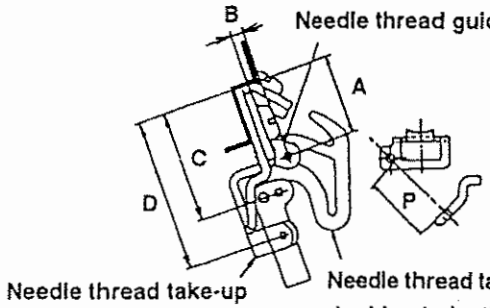
(13) Position of the thread guides and the looper thread take-ups



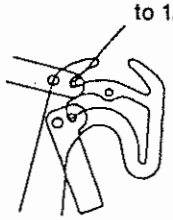
Adjustment values when the upper looper is in the backward travel end

Symbol	MOR-3916 50H60H
	General thread
A	15.8
B	2.6
C	23
D	24.5
E	22
F	65
G	17.5
H	43.5
I	26.5
J	34
K	12
L	6.5
M	27.5
N	19
O	11
P	12.8

o For the models other than those given above, adjustment value same as those for the MO-3900 or MOC-3900 will apply.



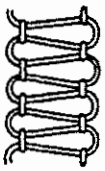
Shift the hook of the thread take-up lever from the thread hole in the needle thread guide by the distance equivalent to 1/3 of the diameter of the hole.



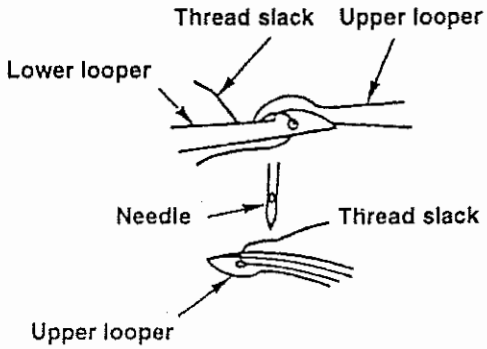
When the needle thread take-up lever is in its lowest dead point, shift the hook of the thread take-up lever from the thread hole in the needle thread guide by the distance equivalent to 1/3 of the diameter of the hole.

MOR-3916

Adjustment Procedures	Results of Improper Adjustment
○ Set distance I a little smaller when using synthetic thread or the like which tends to form stitches swelling out of the cloth edge. A smaller I is effective for preventing stitch skipping. ○ Distance J is related to the vertical knotting point of the upper and lower looper threads. Set this distance larger for wooly thread, and set is smaller for thin thread whitch is likely to cause stitch skipping. ○ It is desirable to set distance K larger for stretchy threads such as wooly thread. ○ Set distance O larger if stitch skipping occurs due to looper thread slack. Set it smaller for better appearance and touch of produced stitches when wooly thread is used.	○ Distance E, F and H exert least influence on stitch formation, however, improper setting of these distance will cause contact between the moving parts. ○ Distance J When set larger, the amount of the upper looper thread will be increased. When set smaller, the amount of the upper looper thread will be decreased. ○ Distance K When set larger, the amount of the upper looper thread will be increased. When set smaller, the amount of the upper looper thread will be decreased. ○ Distance L When set larger, the amount of the lower looper thread will be decreased. When set smaller, the amount of the lower looper thread will be increased. ○ Distance N When set larger, the amount of the lower looper thread will be increased. When set smaller, the amount of the lower looper thread will be decreased. ○ Distance I When set larger, the amount of the upper and lower looper threads will be increased. When set smaller, the amount of the upper and lower looper threads will be decreased. ○ Distance O When set larger, the amount of the upper and lower looper threads will be decreased. When set smaller, the amount of the upper and lower looper threads will be increased.

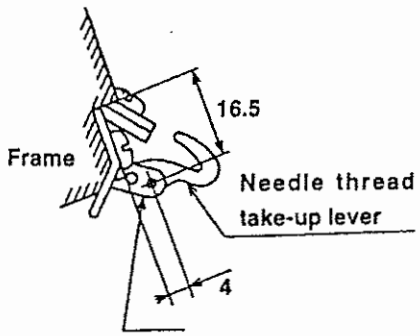


Swell out



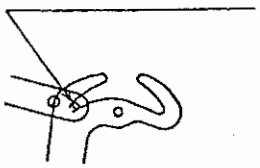
(14) List of installing position of the needle thread guide and the needle thread take-up lever

MOJ-3904



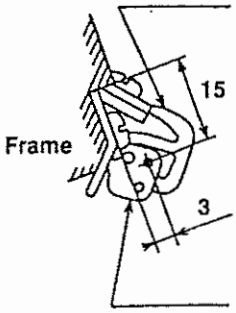
Needle thread guide

The relation between the thread hole in the needle thread guide and the hooked portion of the needle thread take-up lever shall be adjusted so that a half of the hole or the entire hole is shielded by the hooked portion.



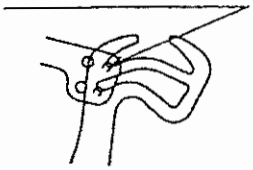
MOJ-3914

Needle thread take-up lever of 2-needle machine



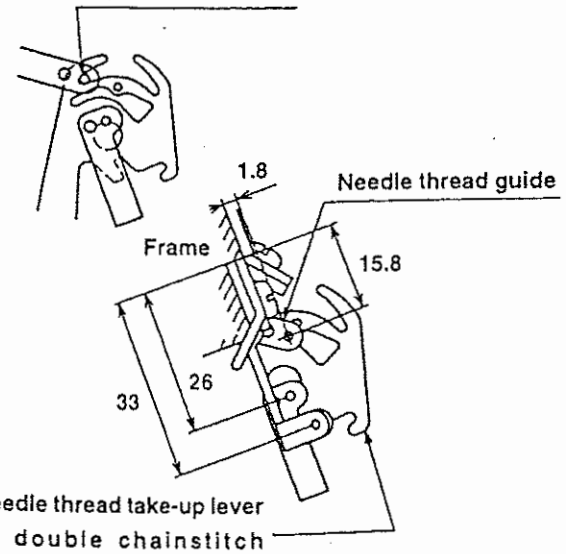
Needle thread guide of 2-needle machine

The relation between the thread hole in the needle thread guide and the hooked portion of the needle thread take-up lever shall be adjusted so that a half of the hole or the entire hole is shielded by the hooked portion.



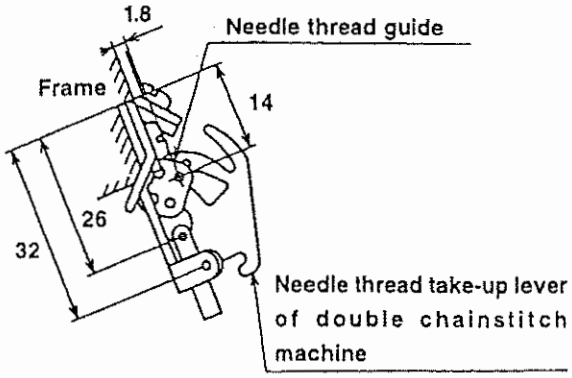
MOJ-3916

The relation between the thread hole in the needle thread guide and the hooked portion of the needle thread take-up lever shall be adjusted so that a half or one third of the hole is placed on this side of the hooked portion.



Needle thread take-up lever of double chainstitch machine

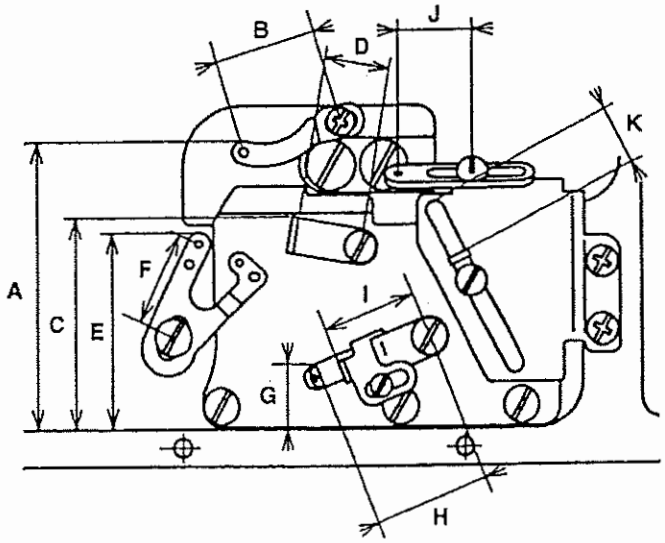
MOJ-3943



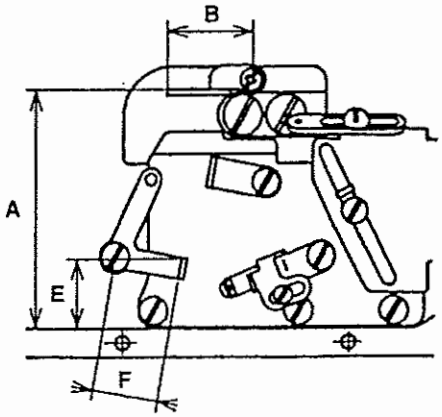
The relation between the thread hole in the needle thread guide and the hooked portion of the needle thread take-up lever shall be adjusted so that a half or one third of the hole is shielded by the hooked portion.

The adjustment values of the upper looper thread take-up lever (right) and the looper thread take-up (left) are when the upper looper is in the rightmost dead end.

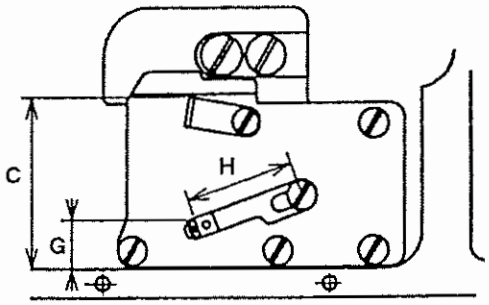
04, 14, 16 and 43 models



05 model



03 model



Portion	04-0M6-600	14-CH6-600	16-FH6-700	43-FDE6-600	05-0M6-700	03-0N6-3D1
A	70	←	←	←	65	—
B	22	←	←	←	20	—
C	48	←	←	←	46	52
D	18	←	←	←	←	←
E	43	←	←	←	22	—
F	22	←	←	←	18	—
G	11	←	←	←	16	13
H	27	←	←	←	26	31
I	23	←	←	←	20	—
J	18	←	←	←	10	—
K	22	←	←	←	17	—

MEMO

5. TROUBLES AND CORRECTIVE MEASURES

Troubles	Cause (1)	Cause (2)	Checking sequence and adjusting procedure
1. Tooth marks by the top feed dog	Top feed dog		Use a top feed dog for light-weight materials (on which urethane is baked).
	Pressure of the top feed dog	The pressure of the top feed dog is excessive.	Loosen the presser spring regulator and decrease the pressure of the top feed dog. Note that however efficiency of feed will drop and the operating noise will become larger if the pressure of the top feed dog is excessively reduced. Refer to "3-(9) Adjusting the pressure of the top feed dog."
	Depth of engagement of the top feed dog	Engagement depth of the top feed dog is excessive and the top feed dog extremely bites the material.	Adjust the height of the top feed dog to position the top feed dog at a higher position where efficiency of feed is not extremely reduced. Refer to "3-(3) Height of the top feed dog."
2. The material is not fed smoothly at overlapped sections.	Vertical stroke of the top feed dog	The vertical stroke of the top feed dog is small relative to the thickness of overlapped section of material or the material itself.	Adjust the position of the top feed adjusting pin to increase the vertical stroke of the top feed dog. Refer to "3-(2) Vertical stroke of the top feed dog."
	Vertical position of the top feed dog	The vertical position of the top feed dog is insufficient relative to the thickness of material or that of overlapped section of the material.	Attach the top feed dog to a higher position.
3. The presser foot does not open/close easily.	Height of the top feed dog	The height of the top feed dog is insufficient. As a result, the top feed dog interferes with the presser foot when opening/closing the presser foot.	Adjust the lifter A and adjust the lift of the top feed dog when operating the presser bar lifting lever. Refer to "3-(12) Lift of the top feed dog (when the presser bar lifting lever is used)."

Troubles	Cause (1)	Cause (2)	Checking sequence and adjusting procedure
4. Abnormal noise is produced. Noise level is high.	Top feed dog, presser foot	Front or rear end of the top feed dog comes in contact with the presser foot when the top feed dog is in its stroke end.	Replace the top feed dog with a different spec. one. Or, cut the front or rear end of the top feed dog. Refer to "3-(1) Longitudinal stroke of the top feed dog."
			Check whether the longitudinal stroke of the top feed dog exceeds the specified value. If it exceeds the specified value, decrease it appropriately. Refer to "3-(1) Longitudinal stroke of the top feed dog."
			Check the longitudinal position of the top feed dog and adjust it if necessary. Refer to "3-(5) Longitudinal position of the top feed dog."
		Side face of the top feed dog comes in contact with the side face of the slit on the presser foot.	Adjust the position of the presser foot as long as the needle entry in the presser foot does not significantly change.
			Adjust the lateral position of the top feed dog. Refer to "3-(6) Adjusting the lateral position of the top feed dog."
		Engagement depth of the top feed dog is excessive and the top feed dog extremely bites the material.	Attach the top feed dog to slightly higher position.
	Pressure of the top feed dog (Presser foot pressure)	The presser foot pressure is lower than the specified value causing the top feed dog to jump, or nearly jump.	Tighten the presser spring regulator to increase the presser foot pressure.
			Decrease the vertical stroke of the top feed dog. Refer to "3-(2) Vertical stroke of the top feed dog."
			Raise the top feed dog as long as efficiency of feed does not drop so as to reduce the engagement depth (depth of bite on the material). Refer to "3-(3) Height of the top feed dog."

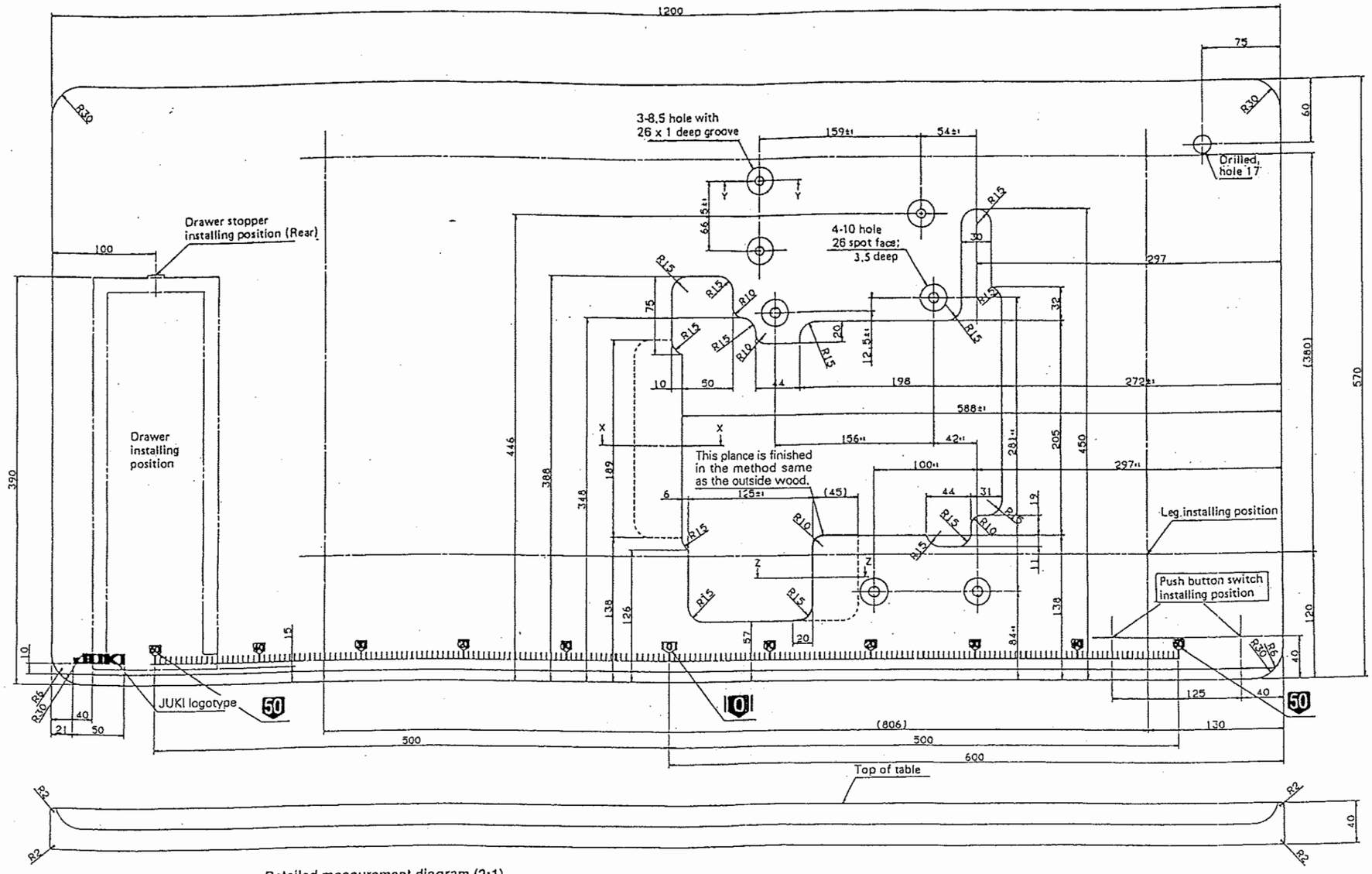
Troubles	Cause (1)	Cause (2)	Checking sequence and adjusting procedure
5. Uneven material feed	Presser foot pressure	If the presser foot pressure is excessively high, uneven material feed may arise in general.	Reduce the presser foot pressure.
	Presser foot	The presser foot is firmly fixed and fails to move.	Softly fix the presser foot as long as there is not a play in the presser foot.
		The sole of the presser foot provides a resistance because of scratches and poor-finish.	The lower material is fed too far and the upper material remains not-fed. To prevent this, improve the finished state of the sole of the presser foot (by buffing or the like).
	Inclination of the feed dog	If the feed dog is placed with its front raised, uneven material feed may arise.	Attach the feed dog with its front lowered. Note that however the main feed dog and the differential feed dog have to be flush with each other.
	Height of the feed dog	There is a difference in height between the main feed dog and the differential feed dog.	Adjust to eliminate the difference in height.
	Adjustment of differential feed mechanism	Poorly adjusted differential feed results in uneven material feed.	Adjust the differential feed mechanism in accordance with the type of material used.
	Adjustment of the top feed amount	Poorly adjusted top feed amount results in uneven material feed.	Adjust the top feed amount in accordance with sewing conditions including the type of material used.

MEMO

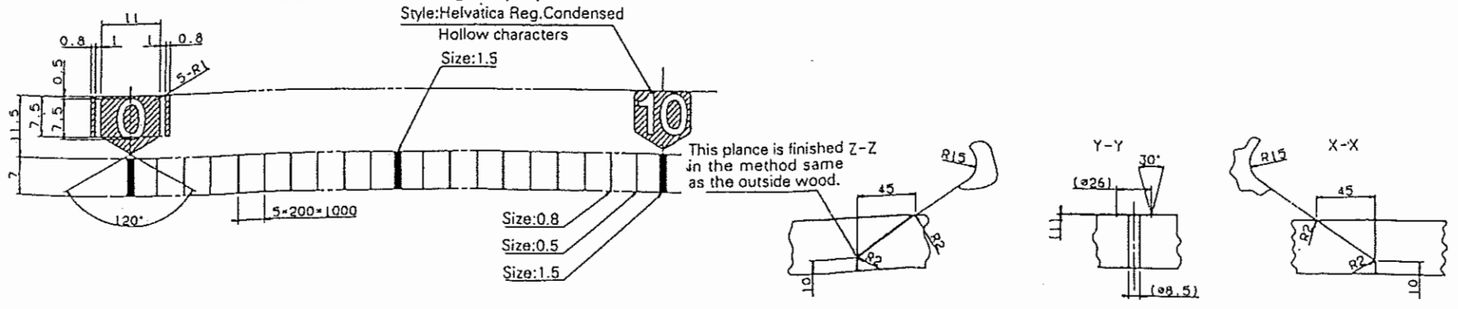
(3) For cylinder

For MOF

Applicable models
MOC-3000 Series
MOF-3000 Series



Detailed measurement diagram (2:1)



(Note) 1. For the final copy for printing of measurements, use a final copy supplied with the machine.
2. Printed brand logotype and measurement indications have to finished with melamine.
3. All corners must be R1.
4. Protective sheet on the top surface of the table must not be removed.
5. Color for printing shall be urban-gray.
6. Printed characters must not be blotted, blurred or dislocated.

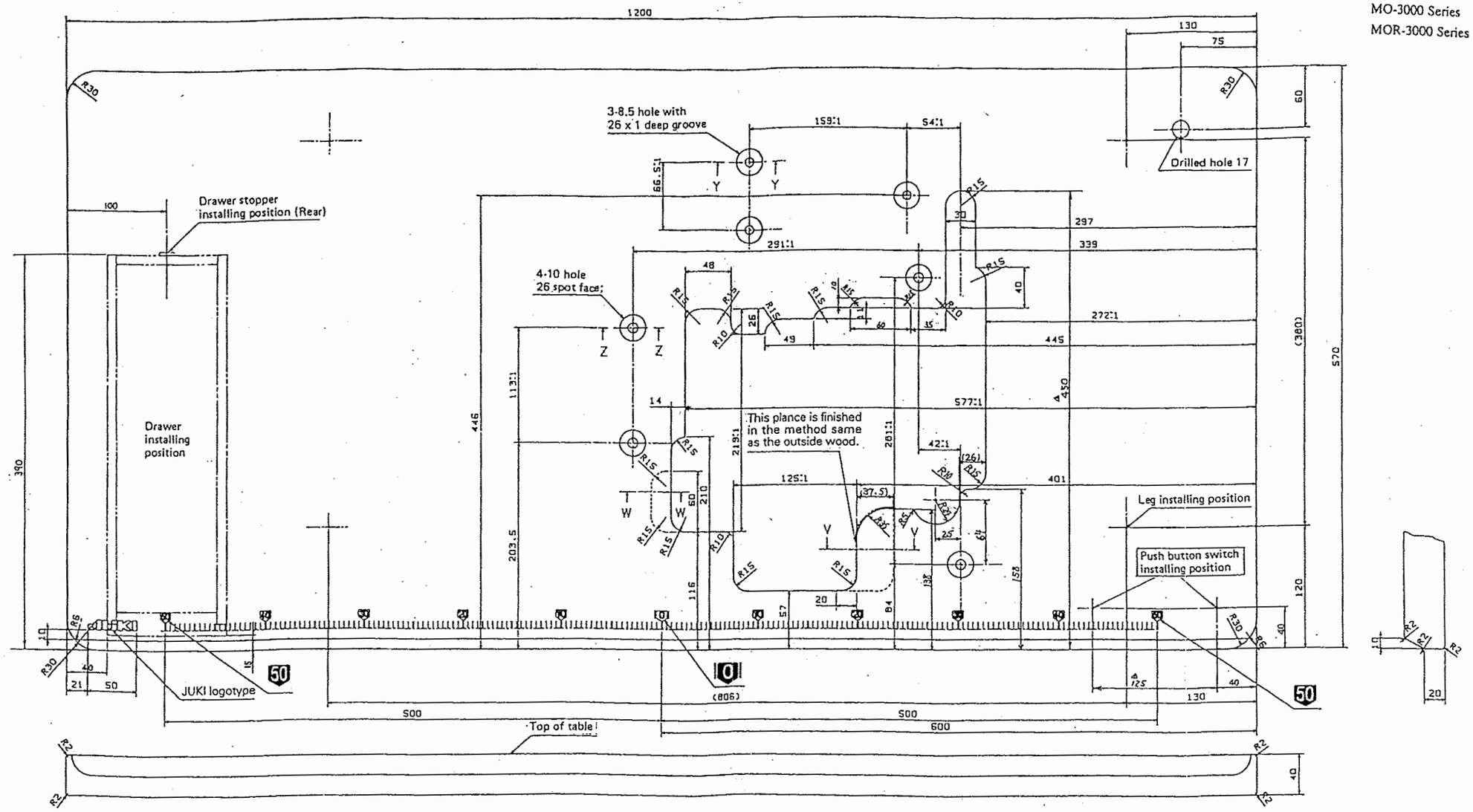
Part No. of table 12221602

(Note) All dimensions are in millimeter.

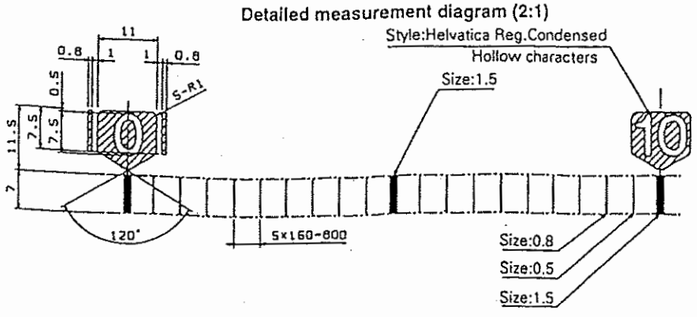
5. DIMENSIONS OF TABLE (SEMI-SUNKEN TYPE)

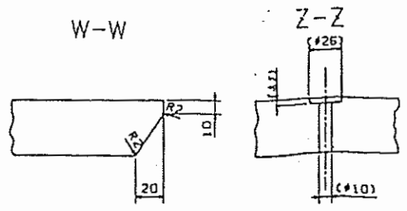
(1) Semi-sunken type

Applicable models
- MO-2000N Series
- MOG-2000N Series
- MO-3000 Series
- MOR-3000 Series



Detailed measurement diagram (2:1)





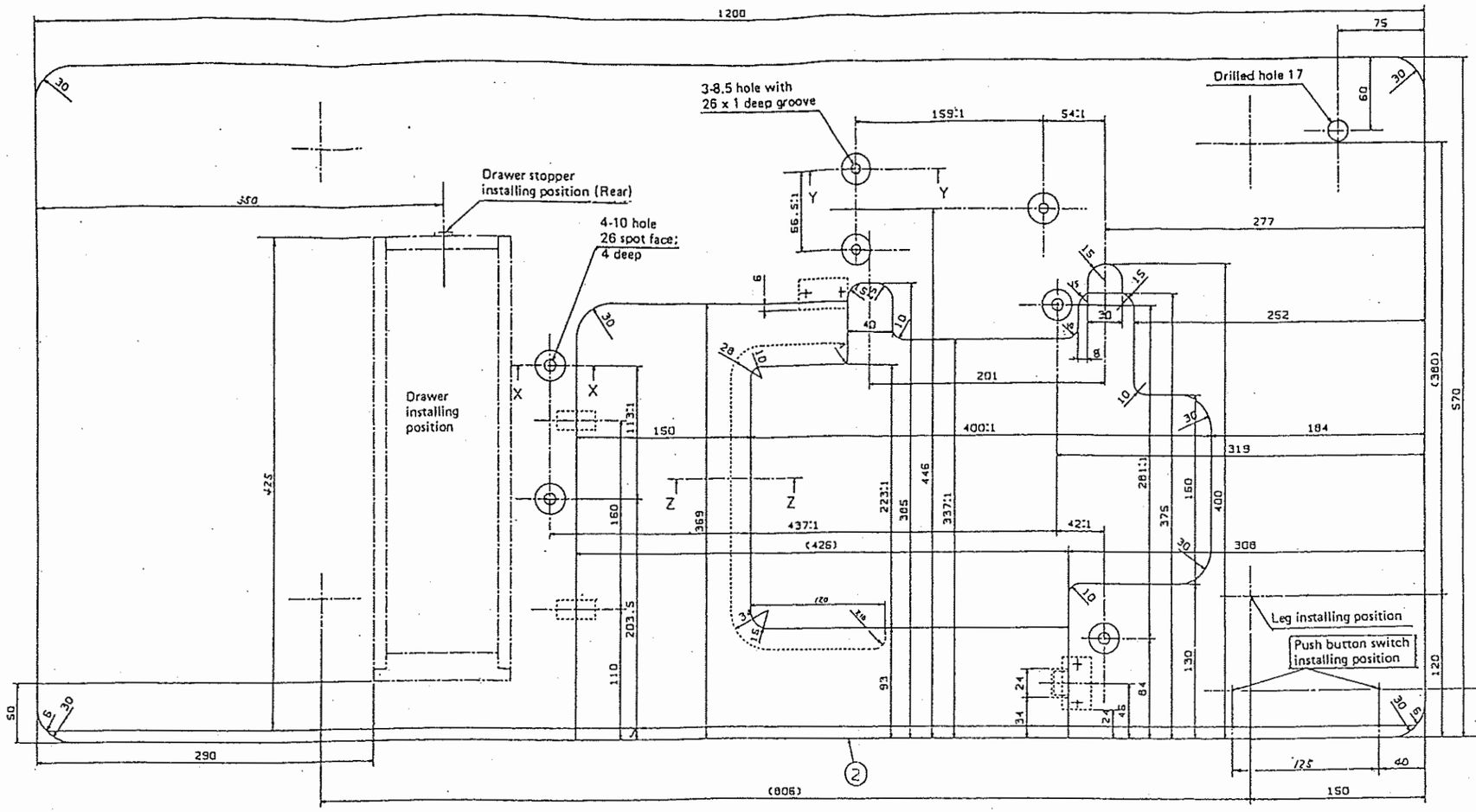
(Note) 1. For the final copy for printing of measurements, use a final copy supplied with the machine.
2. Printed brand logotype and measurement indications have to finished with melamine.
3. Protective sheet on the top surface of the table must not be removed.
4. Color for printing shall be urban-gray.
5. Printed characters must not be blotted, blurred or dislocated.
6. All corners must be R1.

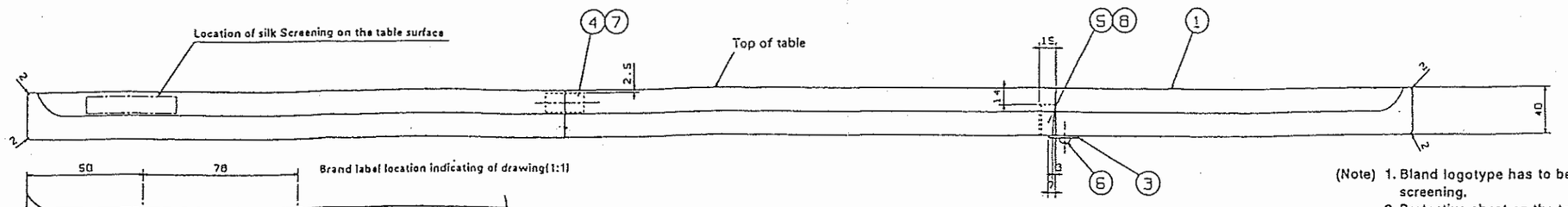
Part No. of table 11959400

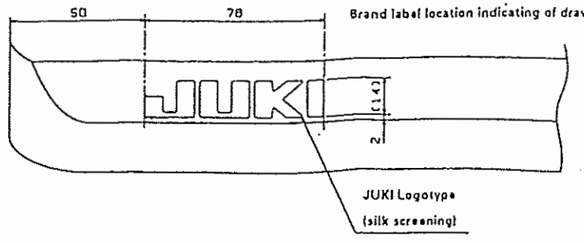
(Note) All dimensions are in millimeter.

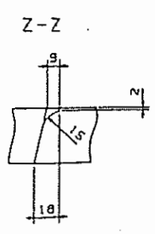
(2) Fully-sunken type

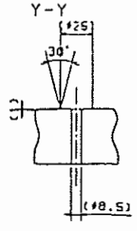
Applicable models
- MO-2000N Series
- MOG-2000N Series
- MO-3000 Series
- MOR-3000 Series

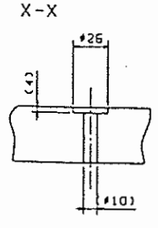












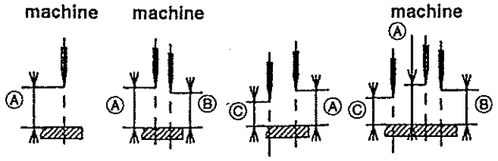
(Note) 1. Bland logotype has to be printed by silk screening.
2. Protective sheet on the top surface of the table must not be removed.
3. Color for printing shall be urban-gray.
4. Printed characters must not be blotted, blurred or dislocated.
5. All corners must be R1.
6. A difference in height between 11959509 and 11959608 has to be 0.5 or less.
7. Clearance in cutting has to be 2 or less. The max. dislocation after drilling has to be 3 or less.

Part No. of table 11959558

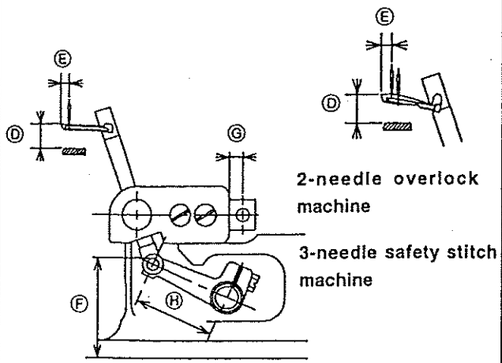
(Note) All dimensions are in millimeter.

4. ADJUSTMENT VALUES OF THE NEEDLE HEIGHT AND THE LOOPER TIMING (MOJ-3900 SERIES)

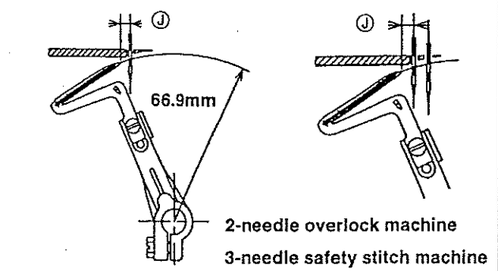
Needle height



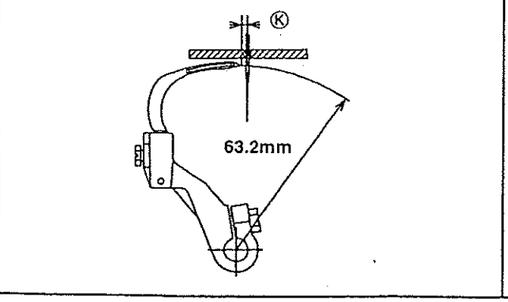
Upper looper components



Lower looper components



Double chainstitch looper components



Classification	Item / Subclass	Needle height: Left needle of 2-needle machine Ⓐ	Needle height: Right needle of 2-needle machine (Reference) Ⓑ	Needle height: Safety stitch machine (Reference) Ⓒ	Upper looper components: Needle No. (Manufacturer)	Upper looper components: Height of the upper looper Ⓓ	Upper looper components: Protruding amount of the upper looper Ⓔ	Upper looper components: Height of the looper holder pin (Reference) Ⓕ	Upper looper components: Inscription on the guide support gauge	Upper looper components: Position of the guide support Ⓖ	Upper looper components: Guide support lid	Upper looper components: Center-to-center distance of the looper holder Ⓗ	Upper looper components: Center-to-center distance of the upper looper holder	Upper looper components: Inscription on the upper looper	Lower looper components: Feed amount of the lower looper Ⓙ	Double chainstitch components: Feed amount of the double chainstitch looper Ⓚ
1-needle overlock machine	MOJ-3904-0F6-600	14.4±0.1	—	—	142X5 #130 (GROTZ)	13.7±0.3	5.1±0.3	(48.8)	11544400	4.2	12004206	37.5	67	#123835 (12383501)	3.7 $^{+0.3}_{-0.7}$	—
2-needle overlock machine	MOJ-3Δ14-CH6-600	13.5±0.1	(12.0)	—	142X5 #110 (GROTZ)	13.2±0.3	6.2±0.3	(49.3)	11544400	4.2	12004206	37.5	67	#123836 (12383600)	3.7 $^{+0.3}_{-0.7}$	—
Safety stitch machine	MOJ-3Δ16-$^{FF6}_{FH6}$-700	14.4±0.1	—	(13.4)	142X5 #130 (GROTZ)	13.7±0.3	5.1±0.3	(48.8)	11544400	4.2	12004206	37.5	67	#123835 (12383501)	3.7 $^{+0.3}_{-0.7}$	1.7±0.2
	MOJ-3943-FDE6-600	14.4±0.1	(12.4)	(13.4)	142X5 #130 (GROTZ)	13.2±0.3	6.2±0.3	(49.3)	11544400	4.2	12004206	37.5	67	#123836 (12383600)	3.5 $^{+0.3}_{-0.7}$	1.7±0.2

Upper looper guide support gauge	11545100	12375606
	4.2	4

Looper holder	11582012	12375507
	37.5	39

Upper looper holder	11544301	11582103
	63.6	67

JUKI®

JUKI CORPORATION
FOREIGN TRADE BUSINESS DIVISION
8-2-1, KOKURYO-CHO,
CHOFU-SHI, TOKYO 182, JAPAN
PHONE : 03 (3430) 4001 ~ 5
FAX : 03 (3430) 4903 • 4909 • 4914
TELEX : J22967

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