

Manual

GARUDAN®

GARUDAN FT-7000 serie



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前言 PREFACE

FT系列機型是一種高速平床式的縫機，充份的表現出優越的效率，穩定的品質，和耐久的壽命。為了使愛用者能夠完全掌握本機器的特性，說明書裡特別列舉出安裝、保養、調整、使用的方法及注意事項，請多加參考。

FT SERIES IS HIGH SPEED FLAT BED INTERLOCK MACHINE AND CAN ACHIVE EXCELLENT EFFICIENCY, STABLE QUALITY AND DURABLE MACHINE LIFE.

安全注意事項 SAFETY NOTICE

1. 皮帶護蓋一定要裝上。
BELT COVER MUST BE INSTALLED.
2. 馬達電源接線一定要確認。
MAKE SURE THE MOTOR WIRING IS INSTALLED PROPERLY.
3. 作業開始前的檢查，作業結束後的清掃，及作業中須要穿線換針等作業時，一定要切斷電源，等馬達完全停止後再做後續工作。
MAKE SURE TO CUT OFF THE ELECTRICITY AND WAIT TILL MOTOR STOPS COMPLETELY BEFORE CONDUCT PRE-OPERATION INSPECTION, CLEANING, THREADING AND CHANGING THE NEEDLES.
4. 新機器在開始使用的第一個月，請以 4500RPM 以下的轉速使用。
FOR NEW MACHINES, PLEASE DO NOT RUN EXCEED 4,500 RPM DURING THE FIRST MONTH USAGE.
5. 添加潤滑油的時候請注意油面計的高度，切勿超過上限。
DO NOT OVER-ADDING THE LUBRICATION OIL.
6. 使用前請用油壺在針棒上稍微加一點油。
PLEASE DRIP ONE DROP OF OIL ON THE NEEDLE BAR BEFORE OPERATION.
7. 使用前請注意縫針有沒有彎曲，針尖有沒有折斷，針桿有沒有受損，針窩的方向是否正確。
PLEASE MAKE SURE THE NEEDLES ARE INSTALLED PROPERLY.
8. 穿線是否正確。
PLEASE MAKE SURE THE THREADING IS CORRECT.
9. 作業結束後，縫紉機一定要清掃，套上防塵套，關上電源。
PLEASE MAKE SURE TO CLEAN THE MACHINE AND SHUT OFF THE ELECTRICITY POWER AFTER DAILY OPERATIO.

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1. 基本規範 BASIC SPECIFICATION

1-1 標準機型 SPECIFICATION:

型式 MODEL ----- FT7000

線跡型式 STITCH TYPE ----- ISO 406 407 602 605

適用範圍 APPLICATION:

薄類 中厚類 GENERAL SEAMING OF KNITTED MATERIAL

最大縫製速度 SEWING SPEED:

6000RPM (無上飾線) 6000 RPM FOR BOTTOM COVERSTITCH ONLY

5500RPM (附上飾線) 5500 RPM FOR TOP AND BOTTOM COVERSTITCH

5000RPM (FT6760) 5000 RPM FOR FT6760

縫針型號 NEEDLE TO BE USED:

UY118GAS #65~#90 SCHMETZ OR ORGAN UY 118 GAS #65~90

UY118GKS #70~#75 (FT6760) UY 118 GKS #70~75 FOR FT6760

針距 NEEDLE DISTANCE:

FT7000 4.0 4.8 5.6 6.4 mm

進給可調範圍 STITCH LENGTH ----- 1.4-3.6 mm

相當於 7-18 針/每英寸 STITCH NUMBER: 7~18 STITCH/INCH

8-21 針/每 30mm 8~21 STITCH/30mm

進給調整方式 FEED REGULATION ----- 壓扣式 BY PUSH-BUTTON

差動可調範圍 DIFFERENTIAL RATION:

最大縮縫比 1:2.0 MAX. NORMAL DIFFERENTIAL RATIO 1:2.0

最大伸縫比 1:0.7 MAX. REVERSE DIFFERENTIAL RATIO 1:0.7

差動調整方式 DIFFERENTIAL FEED REGULATION:

外部調整附粗調扳手 ADJUSTMENT DURING OPERATION IS POSSIBLE BY MOVING LEVER UP AND DOWN FROM OUTSIDE

壓腳提昇量 PRESSER FOOT LIFT:

最大 7.0mm (有裝飾縫機械最大 5.0mm)

MAX. 7.0mm (5.0mm FOR MACHINE WITH TOP COVER THREAD)

潤滑油 LUBRICATION OIL:

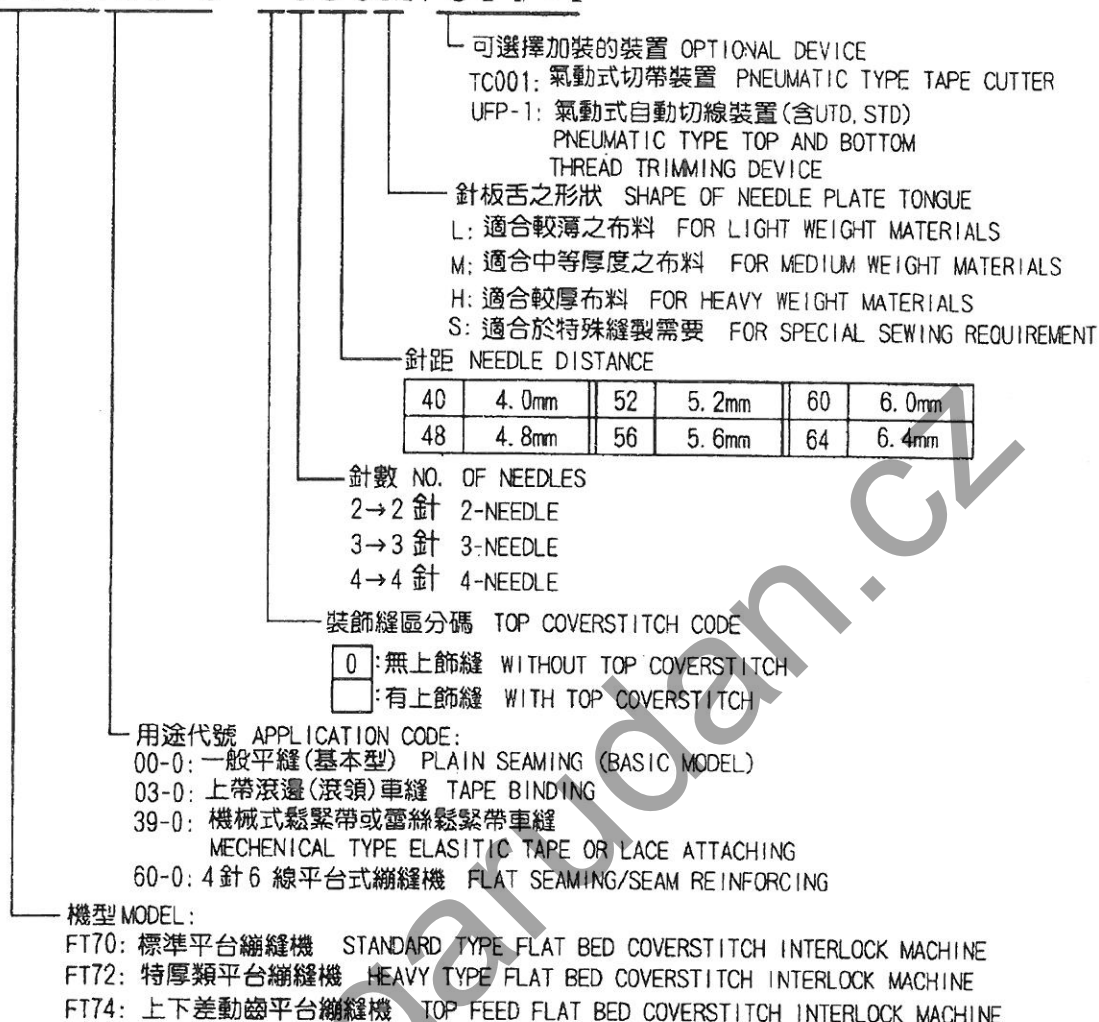
MOBIL #10 或同等級的產品 MOBIL #10 OR EQUIVALENT

潤滑方式 LUBRICATION:

強制潤滑 AUTOMATIC LUBRICATION BY OIL PUMP

1-2 FT7000 機型編號說明 MODEL NUMBERING

FT7000-0- 356M/UFP-1

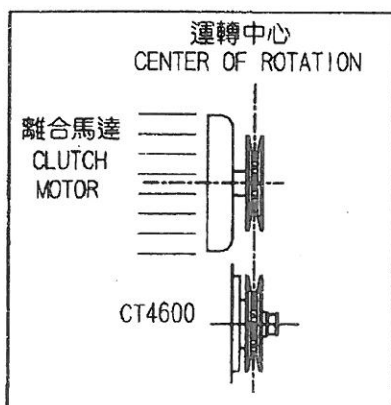


2. 安裝說明 INSTALLATION

2-1 馬達，皮帶輪與皮帶護蓋 MOTOR, BELT AND BELT COVER

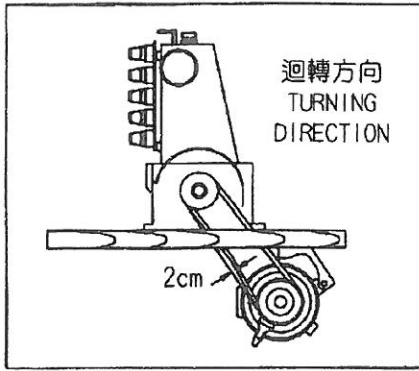
本機最高轉速可達 6000 針/每分鐘，一般多以 5000 針/每分鐘來使用，在最初 200 小時(約 1 個月)請以 80% 的速度來使用，以確保機器的使用壽命。

THE MAXIMUM SEWING SPEED OF THIS MACHINE IS 6000 S.P.M. AND ORDINARY SPEED IS 5000 S.P.M. DURING THE FIRST 200 HOURS (OR FIRST MONTH) OF USING THE MACHINE, PLEASE DO NOT EXCEED 80% OF THE ORDINARY SPEED.



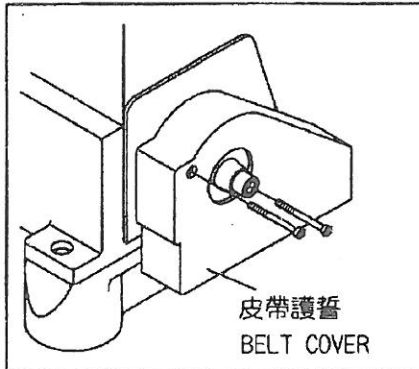
傳動皮帶為V形M系列三角皮帶，掛上皮帶後請先確認皮帶的鬆緊度。

INSTALL BELT AS SHOWN IN THE ILLUSTRATION AND PLEASE MAKE SURE THE BELT TENSION AFTER INSTALLED



由皮帶的中間輕壓約有 2CM 的彈性，再確認皮帶的迴轉方向是
否正確，最後裝上皮帶護蓋。

BELT: M TYPE V BELT AND BE SURE THE MOTOR RUNNING
DIRECTION IS CLOCKWISE AND THE MOTOR BELT TENSION
CAN BE PRESSED INWARD ABOUT 2 CM

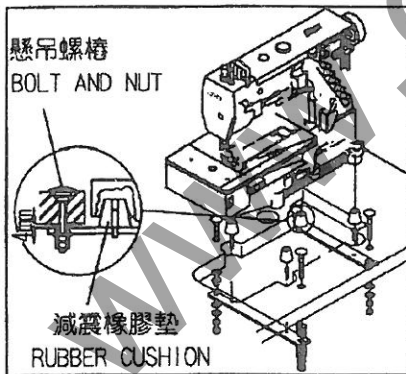


本機型適用馬達為 3 相 2 極 400W (1/2 馬力) 離合馬達，踏板
踩下啟動馬達時皮帶輪會向左移動，請將馬達安裝在皮帶輪與
機器皮帶輪同一中心線的位置上

MOTOR: USE A CLUTCH MOTOR OF 3-PHASE 2-POLE, 400W (1/2HP)
FIX THE POSITION OF MOTOR SO THAT THE CENTERS OF
MOTOR PULLEY AND MACHINE PULLEY ALIGN WHEN
MOTOR PULLEY SHIFT TO THE LEFT BY PUSHING PEDAL.

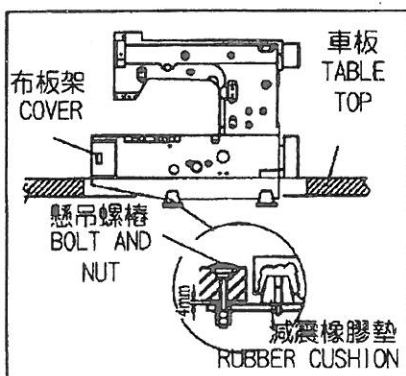
CYCLE	皮帶輪直徑 DIA. OF PULLY (MM)				
	85	90	100	110	120
50HZ			4600	5000	5500
60HZ	4600	4900	5500	6000	

2-2 下沉式安裝 TABLE TOP INSTALLATION



如圖所示，先確定懸吊螺樁已經鎖緊後，再將車頭正確的安置在
減震橡膠墊上。

INSTALL THE MACHINE CORRECTLY REFERRING TO THE
ILLUSTRATION. SET BOLTS AND NUTS TO MACHINE TABLE AND PUT
PUBBER CUSHIONS ON BOLTS AND REST THE MACHINE ON THEM
SECURELY.



利用墊圈調整縫機的高度，必須確認縫機與針板沒有干涉，同時
布板可以順利的開關

IF USING RUBBER CUSHION TO ADJUST THE HEIGHT OF MACHINE
THEN, MUST MAKE SURE THERE IS NO INTERFERENCE BETWEEN
MACHINE AND TABLE TOP, SO CAN OPEN UP THE OIL FILTER
SIDE COVER WITHOUT ANY PROBLEM.

3. 潤滑油及冷卻油 LUBRICATION OIL AND COOLING OIL

3-1 選用潤滑油及冷卻油 LUBRICATION OIL AND COOLING OIL

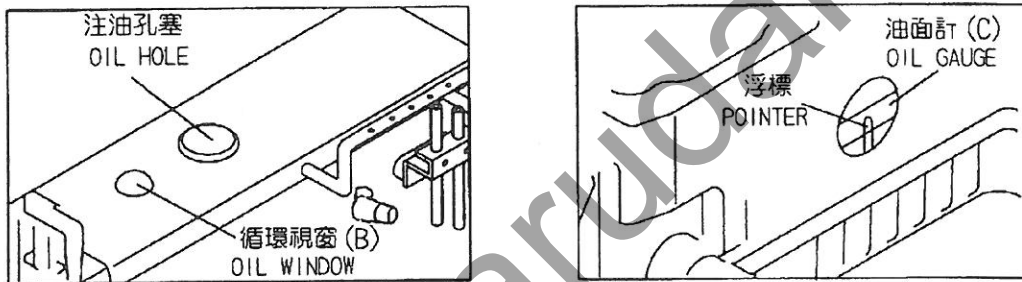
潤滑油在機器的使用壽命上佔很重要的地位，而冷卻油對縫製的效果有很大的影響。千萬不可疏忽潤滑油，請使用 MOBIL #10 或同等級的產品，冷卻油請使用矽油 (SILICON OIL)。

PLEASE USE MOBIL #10 OR EQUIVALENT OIL FOR LUBRICATION OIL AND USE SILICONE OIL FOR COOLING OIL.

3-2 添加潤滑油 FEEDING OIL

本機器在出廠時已把潤滑油全部排除，在新機器使用前或長期使用後油量不足時，請打除油孔塞加入新潤滑油，添加潤滑油的同時注意油面計浮標上的紅點切不可超過上限，機運轉時請注意循環視窗必須確認潤滑油是否噴。

THE LUBRICATION OIL HAS BEEN DRAINED OFF COMPLETELY BEFORE DELIVERY, ADDING OIL TO THE UPPER LINE OF OIL GAUGE (C) BY REMOVING SEAL PLUG (A). ALSO, PLEASE MAKE SURE THE OIL FLOWS OUT OF NOZZLE (B) AT THE START OF OPERATION.



當新機器剛開始使用時，或機器已有一段時間未曾使用而再度要使用時，須在使用前滴幾滴機油在針棒上先潤滑針棒。

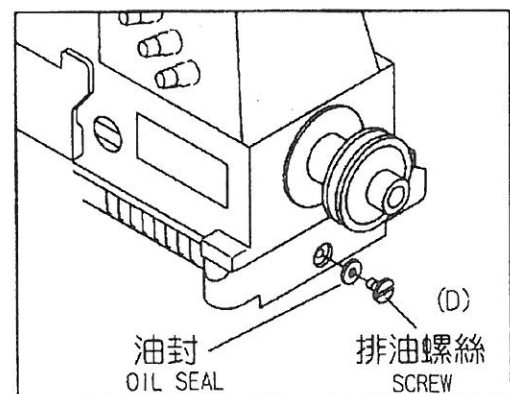
BEFORE STARTING A BRAND NEW MACHINE OR A MACHINE WHICH HAS NOT BEEN USED FOR MORE THAN A COUPLE OF WEEKS, LUBRICATE THE NEEDLE BAR FIRST.

3-3 換油 CHANGING OIL

新機器在 250 個使用小時或是長時間使用後潤滑油必須更新，排放舊油時打開皮帶護蓋取下 V 形皮帶，將縫機移出承座放鬆排油螺絲，放掉舊油注意廢油不可污染到 V 形皮帶，完成後依反向順序裝回零件，確實鎖緊排油螺絲。添加新油時參照上節說明。

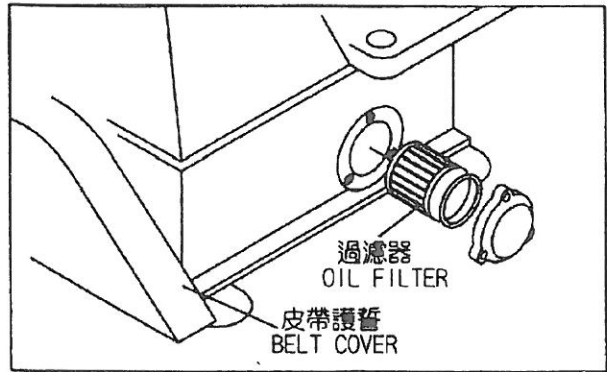
FOR THE LONGER LIFE OF MACHINE, CHANGE LUBRICATION OIL COMPLETELY AFTER 250 HOURS (OR 4 WEEKS) OF INITIAL OPERATION.

- AFTER TAKING OFF BELT COVER, REMOVE V-BELT FROM MOTOR PULLEY, AND REMOVE MACHINE HEAD FROM MACHINE TABLE.
- LOOSEN SCREW (D) AND DRAIN OFF ALL THE OIL FROM THE MACHINE.
- AFTER DRAINING, TIGHTEN SCREW (D) BACK.
- WHEN REPLENISHING OIL PLEASE REFER TO PARAGRAPH 3-2 "FEEDING OIL" ABOVE.



3-4 潤滑油過濾器 OIL FILTER

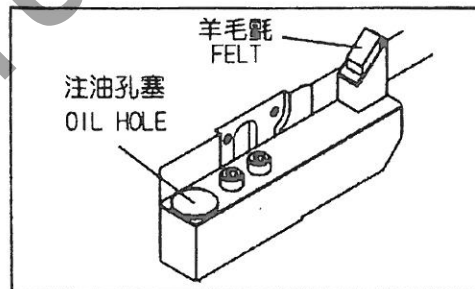
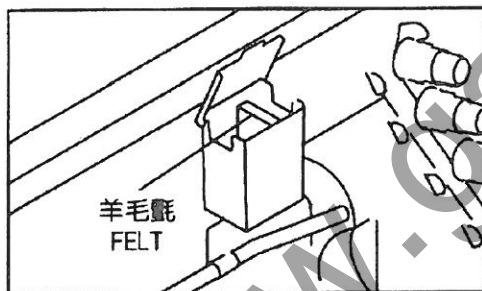
本機器採用強制過濾潤滑系統，長期使用後，雖然油面計指標正常，而循環視窗油油量減少或是不出油請立即檢視過濾器，清掃乾淨或更新。
ALTHOUGH THE MACHINE IS USING OIL PUMP LUBRICATION AND SPLASHING LUBRICATION SYSTEMS, PLEASE CHECK AND CLEAN OIL FILTER EVERY MONTH, AND WHEN NO OIL OR VERY LITTLE OIL COMES OUT OF NOZZLE EVEN INDICATOR SHOWS NORMAL, PLEASE CHECK OIL FILTER AND REPLACE IT IF NECESSARY.



3-5 添加冷卻油 ADDING COOLING OIL

高速縫製時，磨擦發熱使得作業上產生許多困擾，例如斷針跳線熔解等問題。因此本機器上裝設有針尖冷卻裝置及針線冷卻裝置。冷卻油以矽油的效果最好，在某些情況下不必使用冷卻油或不能使用冷卻油時可將羊毛氈取出。

AVOID NEEDLE BREAKING, STITCH JUMPING OR THREAD MELTING PROBLEMS ETC. PLEASE FILL COOLING OIL TANK AND FELT WITH SILICONE OIL UNDER SOME SPECIAL CIRCUMSTANCES. CAN NOT USE SILICONE OIL OR NO NEED TO USE SILICONE OIL THEN, YOU CAN TAKE FELT OFF FROM RESERVOIR.



4. 針 NEEDLE

4-1 針號選擇 NEEDLE SELECTION

本機型全系列使用針號為UY128GAS，FT6760 使用 UY118GKS 依照裁片的厚度縫線的粗細等選用適當的針號。

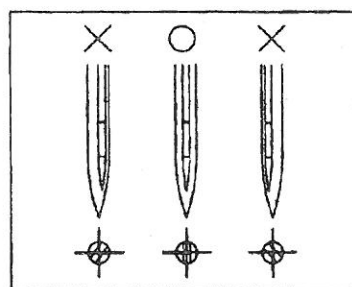
NEEDLE UY128GAS OF SCHMETZ OR ORGAN IS TO BE USED. THERE ARE MANY SIZES OF NEEDLE, AND THE MOST SUITED NEEDLE, EXCEPT MODEL FT-6760 WHICH IS USING UY118GKS, ACCORDING TO THE THICKNESS AND KIND OF FABRICS USED, THE MOST SUITED NEEDLE SHOULD BE SELECTED.

日本編號	JAPANESE SIZE	9	10	11	12	13	14
西德編號	METRIC SIZE	65	70	75	80	85	90

4-2 正確的安裝針 HOW TO REPLACE THE NEEDLES

針在安裝的時候，必須朝向正確的方向，也就是針窩必須朝向正後方。

REPLACING NEEDLE SHOULD BE MADE CORRECTLY WITH THE SCARF FACING RIGHTLY BACKWARD AS SHOWN IN THE ILLUSTRATION.

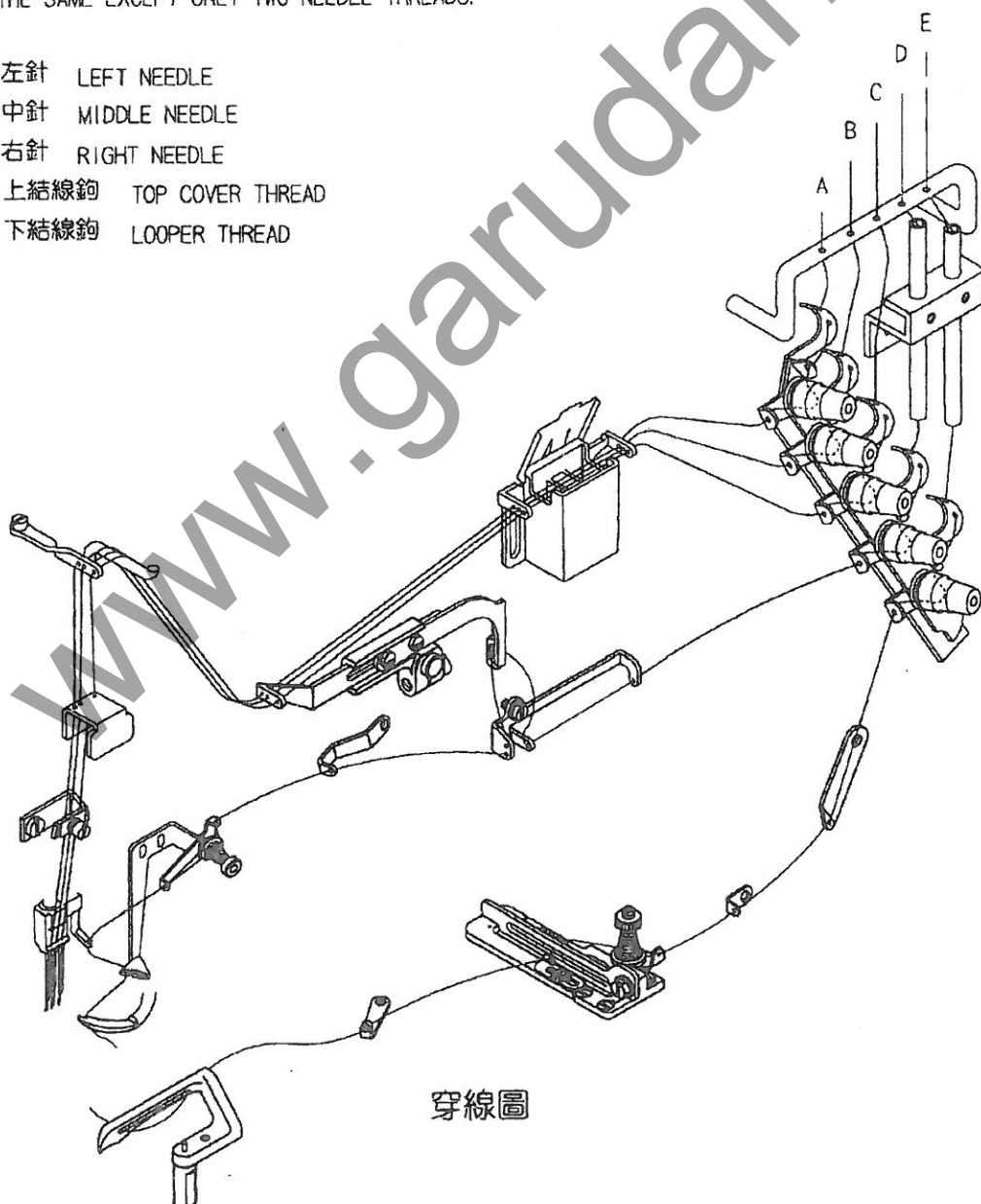


4-3 穿線 THREADING

請參閱穿線圖來正確穿線，因為不正確之穿線會造成跳針、斷線、線跡不穩定等現象，錯誤的穿線是其中一個原因。三針機器之穿線，請參閱下圖；至於二針機器之穿線，如同三針機器之圖示，但只需穿二根針線即可。

THREADING SHOULD BE MADE CORRECTLY REFERRING TO THE ILLUSTRATION. IMPROPER THREADING MIGHT CAUSE SKIP STITCH, THREAD BREAKAGE AND UNEVEN SEAM ETC. THE THREADING FOR THREE NEEDLE MACHINE IS SHOWN IN THE ILLUSTRATION BELOW. FOR TWO NEEDLE MACHINE, THREADING IS THE SAME EXCEPT ONLY TWO NEEDLE THREADS.

- A: 左針 LEFT NEEDLE
- B: 中針 MIDDLE NEEDLE
- C: 右針 RIGHT NEEDLE
- D: 上結線鉤 TOP COVER THREAD
- E: 下結線鉤 LOOPER THREAD



穿線圖

5. 與縫製有關的各項調整 PROPER OPERATION ADJUSTMENT

裁片的厚度，不同質料的縫線，粗細不同的縫線，線跡寬窄的要求，進給率大小的變化都會對縫製的效果影響，因此必須經過試車調整後，才能找出最佳的縫製效果。

DUE TO THE THICKNESS OF FABRICS, DIFFERENT MATERIALS DIFFERENT KINDS OF THREAD, DIFFERENT STITCH REQUIREMENTS THE CHANGES OF DIFFERENTIAL RATIO, ALL IS AFFECTING THE SWING PERFORMANCE. THUS, MUST CONDUCT THE PROPER OPERATION ADJUSTMENT IN ORDER TO GET BEST SEWING EFFECTS.

5-1 壓腳壓力(圖 A) PRESSURE OF PRESSER FOOT

壓腳對裁片的壓力，影響到裁片的進給率正確與否，放鬆固定螺帽旋轉調整螺桿，向右轉加大壓力，向左轉減小壓力，在不影響縫製效果下，盡可能減小壓腳壓力調整後確實鎖緊固定螺帽

TO INCREASE THE PRESSURE OF PRESSER FOOT, TURN ADJUSTING SCREW (B) CLOCKWISE AFTER LOOSENING LOCK NUT (A) AND TO DECREASE, TURN IT COUNTERCLOCKWISE. PRESSURE OF PRESSER FOOT SHOULD BE AS WEAK AS POSSIBLE SO LONG AS PRESSER FOOT CAN OPERATE PROPERLY.

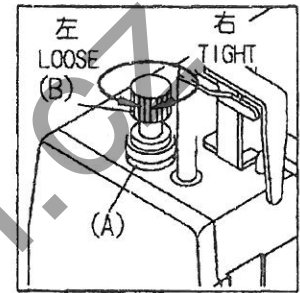


圖 A

5-2 縫線張力(圖 B) THREAD TENSION

不同的縫線須要不同的張力，而相同的縫線穿在不同的位置，也對張力有不同的需求，每條縫線都可透過張力調整組分別調整。

向右轉張力加大，向左轉張力減小。

在不影響縫製效果下，盡可能減小縫線的張力。

DIFFERENT THREADS HAVE DIFFERENT TENSIONS AND EVEN SAME THREADS WILL HAVE DIFFERENT TENSIONS WHEN GO THROUGH DIFFERENT THREADING HOLES. EACH THREAD TENSION CAN BE ADJUSTED BY INDIVIDUAL TENSION NUT TO INCREASE THREAD TENSION, TURN TENSION NUT CLOCKWISE, TO DECREASE THREAD TENSION, TURN TENSION NUT COUNTERCLOCKWISE. PLEASE USE LEAST THREAD TENSION AS LONG AS IT WILL NOT AFFECT THE SEWING EFFECTS.

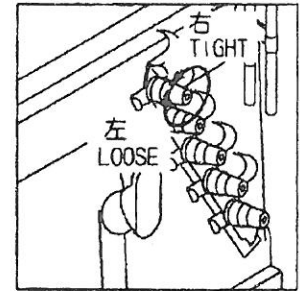


圖 B

5-3 進給率調整(參考下表) ADJUSTING STITCH LENGTH

本縫機進給率可調範圍從 1.4mm 每針到 3.6mm 每針，採用無段式變速。

ADJUSTMENT OF STITCH LENGTH CAN BE MADE STEPLESSLY FROM 1.4MM/PER STITCH TO 3.6MM/PER STITCH.

下表列出進給率的參考值 THE TABLE BELOW SHOWS THE STITCH LENGTH

縫目 STITCH LENGTH	每英寸相當的針數 STITCH NUMBER	每 30MM 相當的針數 STITCH NUMBER
3.6mm	7 針 PER/英寸 INCH	8 針 PER/30MM
2.4mm	10.5 針 PER/英寸 INCH	12.5 針 PER/30MM
1.4mm	18 針 PER/英寸 INCH	21 針 PER/30MM

(圖 C)左手輕輕壓下押扣按鈕，一面用右手慢慢的旋轉手輪在某一個位置上，可以感覺到押扣按鈕落入鍵槽內時。

(圖 D)左手用力壓著按鈕同時看著手輪上的刻線，旋轉手輪使所須要的刻線對正定位點，再放鬆左手。
PRESS PUSH BUTTON (C) WITH LEFT HAND LIGHTLY UNTL ITS TIP CONTACT TO A PART INSIDE. KEEP PRESSING, TURN HANDWHEEL WITH RIGHT HAND UNTIL THE PUSH BUTTON GETS IN. AT THIS THIS POINT, PRESS IN PUSH BUTTON STRONGLY AND TURN HANDWHEEL. ONE GRADUATION ON THE CIRCUMFERENCE OF HANDWHEEL INDICATES A STITCH LENGTH(M.M). WHICH SHOULD BE ALIGNED WITH THE MARK (D). THEN RELEASE HAND.

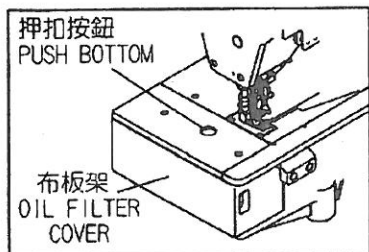


圖 C

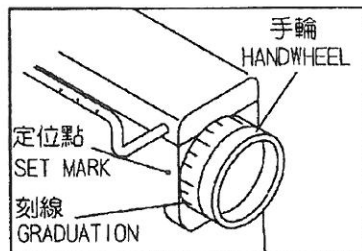


圖 D

5-4 差動比例調整(圖 E, F) ADJUSTING DIFFERENTIAL FEED

1. 當調整正規差動比時(縮縫)時，鬆開螺帽(A)上下移動差變換桿，當達到所需之位置鎖緊帽(A)，差動刻記板之刻線代表主狗齒和差動狗齒之間的差動比短刻線，從上往下到長刻線記號時代表差動比為 1:1.25, 1:1.5, 1:1.75, 1:2。

NORMAL DIFFERENTIAL FEED (SHRINK SEWING) LOOSEN NUT (A) MOVING LEVER (B) UP AND DOWN AND SET IT AT THE DESIRED POSITION BY TIGHTENING NUT (A). WHEN LEVER IS SET AT GRADUATION (LONG) (C), THE RATIO OF MAIN FEED TO DIFFERENTIAL FEED GRADUATION OF UPPER PART REPRESENT 1:1.25, 1:1.5, 1:1.75, 1:2 IN ORDER FROM THE BOTTOM.

2. 逆差動比(伸縫)之調整，為從長刻線往下調整時即為逆差動比，當差動變換桿移到S記號時，代表主狗齒和差動狗齒之逆差動比為 1:0.7

REVERSE DIFFERENTIAL FEED (STRETCH SEWING) WHEN THE LEVER IS LOWERED BELOW GRADUATION (LONG) (C), THE FEED BECOMES REVERSE DIFFERENTIAL FEED. WHEN IT IS SET AT "S", THE RATION OF MAIN FEED TO DIFFERENTIAL FEED IS 1:0.7

3. 當在操作中調整所需之差動比時，先將上下止動銷位置固定在所需之上下差動比範圍內後，再上下移動差動變換桿以取得所需之差動比。

ADJUSTMENT OF DIFFERENTIAL FEED DURING OPERATION: FIXING LOWER AND UPPER STOPPERS (D) AT DESIRED POSITIONS AND TO SET UP THE LOWER AND UPPER DIFFERENTIAL LIMITS THEN MOVE THE LEVEL UP AND DOWN IN ORDER TO OBTAIN THE DESIRED DIFFERENTIAL RATIO.

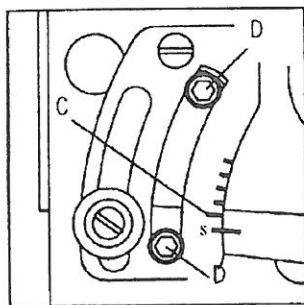


圖 E

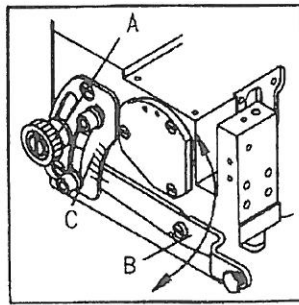


圖 F

- A: 固定螺絲 SET SCREW
B: 板手 LEVEL
C: 刻線 GRADUATION
D: 止動銷 STOPPER

下表列出進給率與差動比的相互關係

THE RANGE OF DIFFERENTIAL RATION VARIES ACCORDING TO THE STITCH LENGTH.

REFER TO THE TABLE BELOW

進給率 STITCH LENGTH	最大伸縫比 MAX. NORMAL DIFF	最大縮縫比 MAX. REVERSE DIFF
3.6MM	1 : 1.2	1 : 0.7
2.5MM	1 : 1.6	1 : 0.7
2.0MM	1 : 1.8	1 : 0.7
1.4MM	1 : 2.0	1 : 0.7

5-5 針線收放量調整 ADJUSTING THE NEEDLE THREAD TAKE-UP

縫線種類不同各有不一樣的伸縮性，很容易造成跳針、斷線、線跡不穩定等問題，本縫機有針線揚線臂、前導線桿、後導線桿輔助張力控制板等，用來控制縫線的收放量以及穩定縫線的伸縮性。DIFFERENT THREADS HAVE DIFFERENT STRECTCH TENSION AND CAUSE SKIP STITCHING THREAD BREAKING AND UNSTABLE STITCHING EASILY. THIS MACHINE EQUIPPED WITH THREAD TAKE-UP, FRONT NEEDLE THREAD GUIDE, REAR THREAD GUIDE AND AUXILIARY THREAD TENSION CONTROL GUIDE IN ORDER TO GIVE LETTER CONTROL OF THE LOOPER THREAD TAKE-UP AND STABLIZE THE STRETCHING OF LOOPER THREAD.

G, H 針線揚線臂，後導線桿在出廠時安裝在標準位置如附圖所示，必要時可依箭頭方向調整(圖 G, H)

G, H THE THREAD TAKE-UP AND REAR THREAD GUIDE WERE SET AT STANDARD POSITION BEFORE SHIPMENT. AS SHOWN ON FIGURE G/H. AND ALSO CAN BE ADJUSTED AS ARROW DIRECTIONS IF NECESSARY.

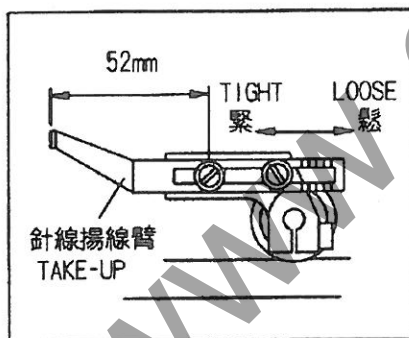


圖 G

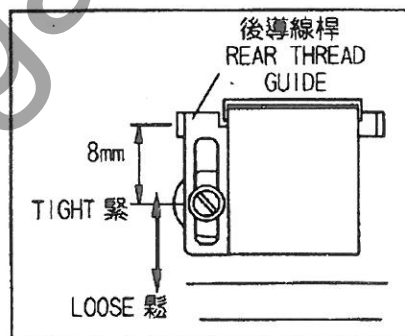


圖 H

某些種類的線在針窩上不容易造出線環，結線鉤在挑線時容易造成失誤，這時候可以把針線通過輔助張力控制板來穩定縫線。(圖 I)

SOME TIMES, IT IS NOT SO EASY TO MAKE LOOP FOR SOME KINDS OF THREAD AND ALSO MAKE IT DIFFICULT FOR LOOPER TO CATCH THE NEEDLE THREAD, CAUSING SKIP STITCH. IN SUCH CASE, CAN USE AUXILIARY THREAD TENSION CONTROL GUIDE TO STABLIZE THE THREADS.

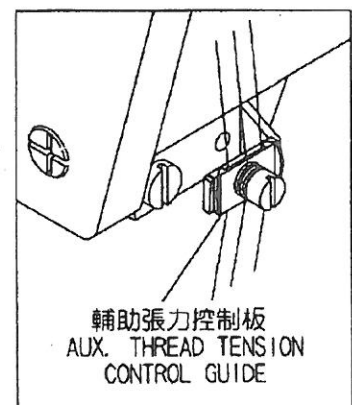


圖 I

對大伸縮性的縫線，線環極不穩定，容易跳針，這時候可以調整前導線桿的高度來克服，特別是當結線鉤從右向左移動時，如果用合織線時左針會跳針，使用混紡線右針容易勾到線，可以將前導線桿的上緣在針桿降到最下點時對正導線孔的中心並與導線孔平行。

IN CASE THE FORMATION OF NEEDLE THREAD LOOP IS UNSTABLE WHEN USING STRETCHABLE THREAD, YOU CAN SOLVE THIS BY ADJUSTING THE HEIGHT OF FRONT NEEDLE THREAD GUIDE, ESPECIALLY WHEN LOOPER MOVE FROM RIGHT TO THE LEFT. IF THE LEFT NEEDLE SKIP THE STITCH WHEN USING SYNTHETIC THREAD OR RIGHT NEEDLE INTERFERE WITH THE FORMATION OF THREAD LOOP WHEN USING BLENDED THREAD, YOU CAN USE FRONT NEEDLE THREAD GUIDE. WITH NEEDLE BAR AT THE LOWEST POSITION, THE CENTER OF THREAD HOLE OF REAR THREAD GUIDE EYELET SHOULD BE EVEN WITH THE SURFACE OF FRONT NEEDLE THREAD GUIDE AND FRONT NEEDLE THREAD GUIDE AND REAR THREAD GUIDE SHOULD BE PARALLEL WITH EACH OTHER.

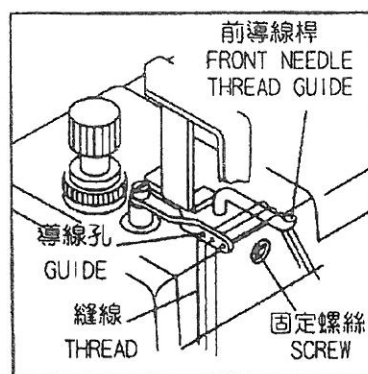


圖 J

5-6 下結線鉤縫線收放量調整 ADJUSTING THE LOOPER THREAD TAKE-UP

K, L 針由上死點向下運動，當左針尖到結線鉤寬度的一半位置時，縫線正好由揚線凸輪的最高點脫離。調整凸輪的時序，可放鬆固定螺絲，旋轉凸輪到適當的角度再鎖緊固定螺絲。設定好揚線凸輪的時序後再做試縫。(圖 K, L)

WHEN LEFT NEEDLE COMES DOWN TO THE HALF POINT, THE THREAD MUST GET OFF FROM THE HIGHEST POSITION OF LOOPER THREAD TAKE-UP. THE ADJUSTMENT IS MADE BY LOOSENING SCREW, TURN THE LOOPER THREAD TAKE-UP TO THE PROPER POSITION AND TIGHTEN THE SCREW.

M 希望縫線拉緊一點時，將左右導線板向定位刻線方向移動。希望縫線放鬆一點時將左右導線板向定位刻線反方向移動。

TO DECREASE THE AMOUNT OF LOOPER THREAD IN THE SEAM MOVE THREAD GUIDE EYELET TO ALIGNING MARK TO INCREASE, MOVE IT BACKWARD.

N 使用大伸縮性的縫線時，除了將左右導線板移向定位刻線外，並且將縫線拿出穩線壓板。FOR STRETCHABLE THREADS, MOVE RIGHT AND LEFT THREAD GUIDES TO ALIGNING MARK AND ALSO DO NOT PASS THE THREAD BETWEEN THREAD GUIDE.

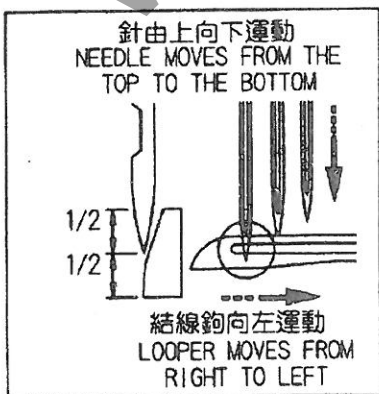


圖 K

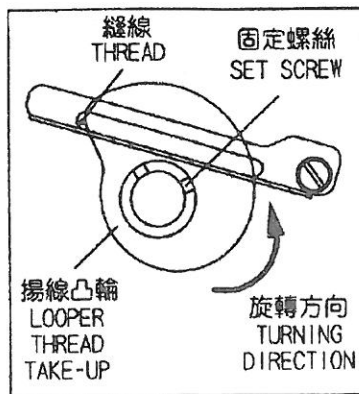
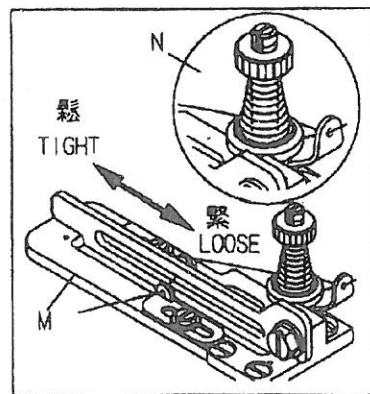


圖 L

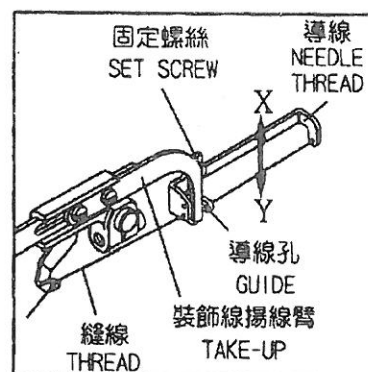


圖M/N

5-7 上裝飾線收放量調整 ADJUSTING SPREADER THREAD TAKE-UP

上裝飾線收放量由裝飾線揚線臂來調整，導線的標準設定位置為將固定螺絲放鬆，導線推向 X 方向到頂後鎖緊固定螺絲即可。對於伸縮性較大的縫線，導線可向 Y 方向移動，同時縫線穿過導線上下方的導線孔。

THE THREAD AMOUNT OF TOP COVER THREAD IS ADJUSTED BY SPREADER THREAD TAKE-UP. FOR STANDARD POSITION, LOOSENING SET SCREW, PUSH THREAD GUIDE UPWARD TO ITS HIGHEST POSITION AS X DIRECTION SHOW. THEN TIGHTEN THE SET SCREW. FOR STRETCHABLE THREAD, PUSH THE THREAD GUIDE DOWNWARD AS Y DIRECTION AND THREAD MUST PASS THROUGH THE EYELET OF THREAD GUIDE.



6. 與內部機構及時序有關的各項調整 ADJUSTMENT OF MACHINE

本機器在出廠前各個機構都設定在標準位置上，通常不需要再調整。在某些狀況下，例如更換不同的針號、更換結線鉤、或是特殊質料的裁片，縫線等有需要做內部調整時，請依照下述要領來進行。

THIS MACHINE WAS SENT TO THE STANDARD POSITION BEFORE DELIVERY AND IT'S UNNECESSARY TO RE-ADJUST UNLESS UNDER SOME SITUATION AS CHANGING THE NEEDLE, LOOPER, DIFFERENT KIND OF FABRIC OR DIFFERENT SEWING THREADS. PLEASE ADJUST ACCORDING TO FOLLOWING ITEMS:

6-1 更換壓腳及設定提昇高度

ADJUSTING PRESSER FOOT AND SETTING THE HEIGHT OF PRESSER FOOT

某些調整的工作，取下壓腳會比較容易進行。取出壓腳的方法如下(圖 A, B)

IT WILL BE EASIER TO CONDUCT SOME ADJUSTMENTS BY TAKING OFF THE PRESSER FOOT AS FOLLOWS:

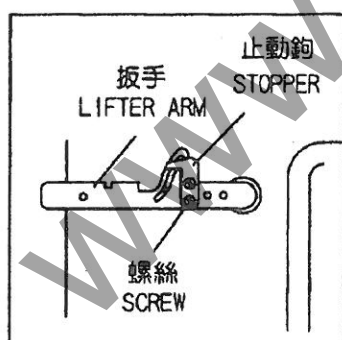


圖 A

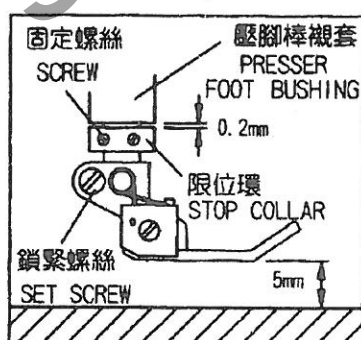


圖 B

A/B 放鬆止動鉤，放鬆壓腳鎖緊螺絲，放鬆定位環固定螺絲，壓下扳手，昇高壓腳棒後可拿出壓腳。完成後依反向順序裝回。

A/B LOOSED THE LIFTER ARM AND LOOSEN THE SCREW FROM PRESSER FOOT AND STOPPER, LIFTING UP THE PRESSER BAR, YOU CAN TAKE PRESSER FOOT VERY EASILY. AFTER CHANGING, REMEMBER PUT IT BACK IN REVERSE SEQUENCE.

6-2 針棒高度及針落點(圖 C, D, E)

ADJUSTING THE HEIGHT OF NEEDLE BAR AND NEEDLE DROP POINT

- C. 當結線鉤與左針交會時，鉤尖在針孔上方約 0.5-1mm 為針棒高度設定標準位置。

WHEN THE TIP OF LOOPER COMES TO THE CENTER OF LEFT NEEDLE, THE LOOPER SHOULD POSITION ABOVE THE UPPER END OF NEEDLE EYE BY 0.5-1.0 mm AS THIS IS THE STANDARD POSITION FOR NEEDLE BAR.

- D. 調整時取下針棒覆蓋上的孔塞，放鬆結合銷鎖緊螺絲上下移動針棒到適當位置。

LOOSEN THE SCREW OF NEEDLE BAR CLAMP AND ADJUST THE NEEDLE BAR TO GET PROPER HEIGHT.

- E. 再鎖緊螺絲，調整針棒高度後必須確認針尖對正針板孔的中心。

AFTER ADJUSTMENTS, TIGHTEN THE SCREW OF NEEDLE BAR CLAMP AND MAKE SURE THE NEEDLES ARE IN THE CENTER OF NEEDLE DROP HOLE OF NEEDLE PLATE.

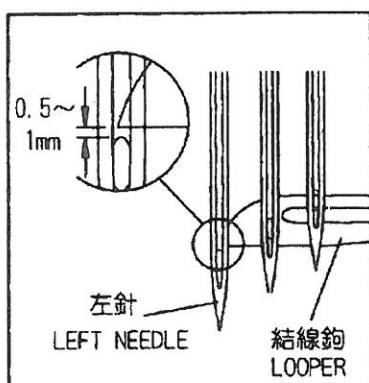


圖 C

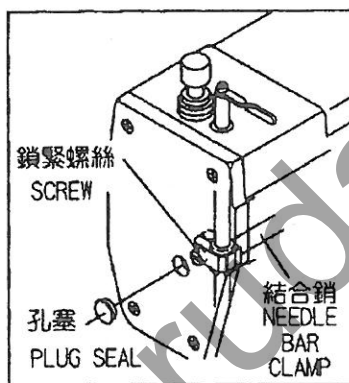


圖 D

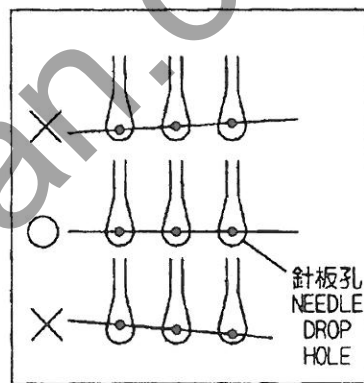


圖 E

6-3 安裝下結線鉤

INSTALLING LOOPER

- F. 將結線鉤插入承座的孔內，柄部的螺絲槽對正鎖緊螺絲，確實將結線鉤貼緊承座後鎖緊螺絲。

INSERTING LOOPER ALL THE WAY INTO LOOPER HOLDER AND PLEASE MAKE SURE LOOPER IS FULLY FITTED INTO PROPER POSITION, THEN TIGHTENED SCREW (A).

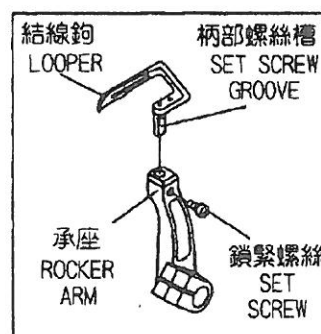


圖 F

6-4 下結線鉤定位 SETTING LOOPER

- G. 針棒運行到下死點時，結線鉤位於運動路徑的最右端，此時結線鉤尖與右針中心的標準距離如附表。其調整法為放鬆鎖緊螺絲，左右移動承座的位置。注意不可使承座前後擺動，再確實鎖緊螺絲。

THE LOOPER IS LOCATED AT THE EXTREME RIGHT WHEN NEEDLE BAR DECEMD TO IT'S LOWEST POINT. AND THE DISTANCE BETWEEN THE TIP OF LOOPER AND THE CENTER OF RIGHT NEEDLE IS VARIOUS ACCORDING TO THE NEEDLE DISTANCE. PLEASE REFER TO THE TABLE BELOW FOR ADJUSTMENT AND THE ADJUSTMENT IS MADE BY LOOSENING THE SCREW (B) OF LOOPER HOLDER.

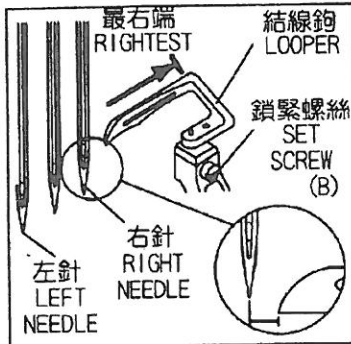


圖 G

結線鉤尖與右針中心的標準距離 STANDARD DISTANCE BETWEEN THE TIP OF LOOPER AND THE CENTER OF RIGHT NEEDLE

針距 NEEDLE DISTANCE (MM)	標準距離 LOOPER MOVEMENT TO THE RIGHT (MM)
4.0	4.0 MM
4.8	3.6 MM
5.6	3.2 MM
6.4	2.8 MM

6-5 下結線鉤與針的間隙 THE CLEARANCE BETWEEN LOOPER AND NEEDLE

- H. FT4700 FT6500 (3 針 NEEDLE)

結線鉤尖與左針中心交會時其間隙為 0.2-0.3mm 與中針中心交會時其間隙盡可能的小，而與右針中心交會時，後導針器必須將針朝前推約 0.2-0.3mm 使鉤尖與針的間隙為 0-0.05mm 其調整法為放鬆鎖緊螺絲，前後擺動承座到適當的位置再鎖緊螺絲。

WHEN THE TIP OF LOOPER MEETS THE CENTER OF LEFT NEEDLE. THE CLEARANCE BETWEEN THEM SHOULD BE 0.2-0.3mm. WHEN THE TIP OF LOOPER MEETS THE CENTER OF MIDDLE NEEDLE. THE CLEARANCE BETWEEN THEM SHOULD BE MINIMAL. WHEN THE TIP OF LOOPER MEETS THE CENTER OF RIGHT NEEDLE. GIVING THE CLEARANCE OF 0-0.05 mm BETWEEN THE TIP OF LOOPER AND NEEDLE BY PUSHING REAR NEEDLE GUARD 0.2-0.3 mm AGAINST THE NEEDLE. THE ADJUSTMENT IS MADE BY LOOSENING SCREW OF LOOPER HOLDER.

- FT4600 FT6200 (2 針 NEEDLE)

結線鉤尖與左針中心交會時，其間隙為 0.2-0.3mm 而與右針中心交會時，後導針器必須將針朝前推約 0.2-0.3mm 使鉤尖與針的間隙為 0-0.05mm。

WHEN THE TIP OF LOOPER MEETS THE CENTER OF LEFT NEEDLE. THE CLEARANCE BETWEEN THEM SHOULD BE 0.2-0.3 mm.
WHEN THE TIP OF LOOPER MEETS THE CENTER OF RIGHT NEEDLE. THE REAR NEEDLE GUARD SHOULD PUSH NEEDLE 0.2-0.3 mm IN ORDER TO GET THE CLEARANCE OF 0-0.05 mm BETWEEN THE TIP OF LOOPER AND NEEDLE.

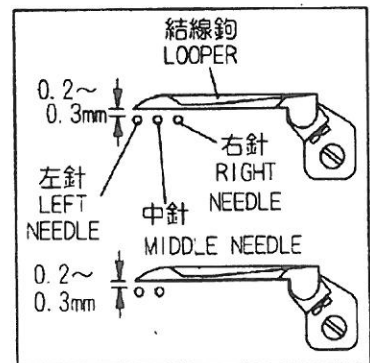


圖 H

6-6 針與後導針器 THE RELATION BETWEEN NEEDLE AND REAR NEEDLE GUARD

I. 設定後導針器高度 SETTING THE HEIGHT OF REAR NEEDLE GUARD

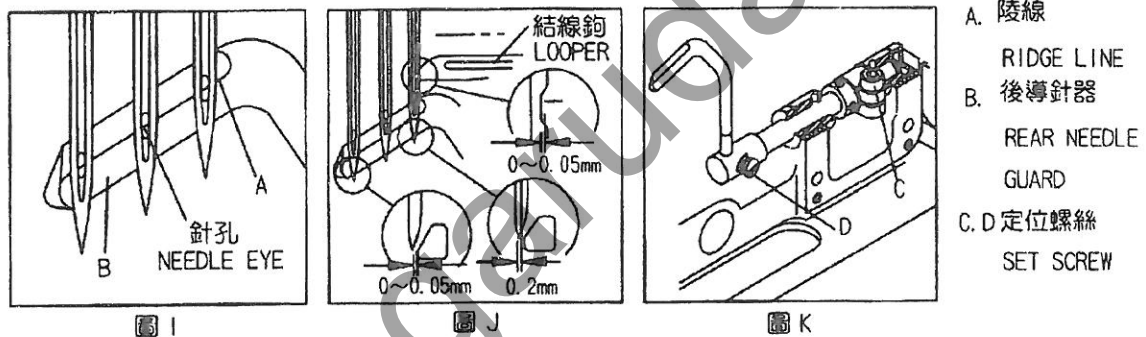
針棒在行進路徑的下死點，後導針器的稜線正好對正針孔的中心線。

WHEN NEEDLES DESCEND TO THE LOWEST POSITION, THE RIDGE LINE (A) OF REAR NEEDLE GUARD (B) ALIGN WITH THE CENTER OF THE EYE OF EACH NEEDLE. THE ADJUSTMENT OF THE HEIGHT OF REAR NEEDLE GUARD IS MADE BY LOOSENING THE SCREW.

J/K 設定後導針器角度及時序 SETTING THE ANGLE AND TIMING OF REAR NEEDLE GUARD

配合前節所述，結線鉤與右針中心交會時，後導針器必須將針朝前推約0.2-0.3mm，使鉤尖與針的間隙為0-0.05mm，與中針輕輕接觸與左針間隙 0-0.05mm 為其調整法為放鬆鎖緊螺絲與曲柄螺絲，設定後導針器到適當位置再鎖緊螺絲C, D。

WHEN THE TIP OF LOOPER PASSES THE CENTER OF RIGHT NEEDLE, THE REAR NEEDLE GUARD WILL SLIGHTLY PUSH THE RIGHT NEEDLE FORWARD ABOUT 0.2-0.3 mm. AND AT THIS TIME, THE CLEARANCE BETWEEN LOOPER AND RIGHT NEEDLE IS 0-0.05 mm AND LOOPER WILL TOUCH MIDDLE NEEDLE SLIGHTLY. AND THE CLEARANCE BETWEEN LOOPER AND LEFT NEEDLE IS 0-0.05 mm. THESE ADJUSTMENTS ARE MADE BY LOOSENING THE SET SCREWS (C) AND (D).



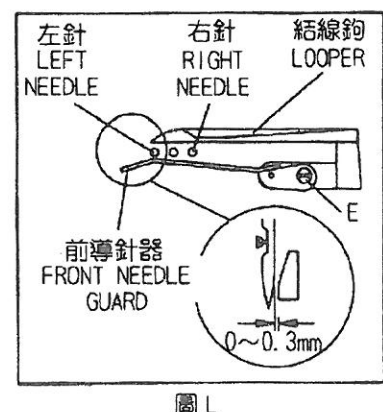
6-7 針與前導針器

THE RELATION BETWEEN NEEDLE AND FRONT NEEDLE GUARD

設定前導針器角度及時序 SETTING THE ANGLE AND TIMING OF FRONT NEEDLE GUARD

當結線鉤與左右針中心交會時，前導針器與針之間間隙為 0-0.3mm，調整時放鬆固定螺絲 E，移動前導針器到適當位置後鎖緊螺絲。

WHEN THE TIP OF LOOPER COMES TO THE CENTER OF LEFT NEEDLE AND RIGHT NEEDLE, ADJUST THE CLEARANCES BETWEEN THOSE NEEDLES AND FRONT NEEDLE GUARD SHOULD BE 0 - 0.3 mm. THE ADJUSTMENTS ARE MADE BY LOOSENING SET SCREW (E) AND MOVE FRONT NEEDLE GUARD TO ITS PROPER POSITION. THEN, TIGHTEN THE SET SCREW (E).



6-8 設定送布齒高度 SETTING THE HEIGHT OF FEED DOG

- M. 送布齒在行進路徑的最高點時，前後兩送布齒必須同一高度並且平行針板，同時浮出針板面 1.0-1.2mm。

WHEN FEED DOGS RISE TO THE UPPER MOST, THEIR HEIGHT OF FEED DOGS IS 1 - 1.2 mm ABOVE THE SURFACE OF NEEDLE PLATE AND DIFFERENTIAL AND MAIN FEED DOG ARE PARALLEL TO THE SURFACE OF NEEDLE PLATE.

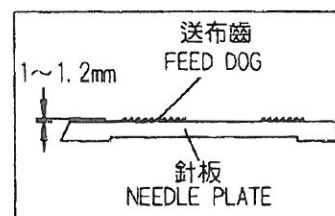


圖 M

7. 裝飾縫 TOP COVERSTITCH

7-1 上裝飾縫結線鉤安裝及定位

INSTALLING AND SETTING THE SPREADER

- A. 結線鉤安裝高度為距針板面 9-11mm。

THE HEIGHT OF SPREADER IS 9-11 mm ABOVE THE SURFACE OF NEEDLE PLATE.

- B. 結線鉤安裝的角度為當結線鉤向左擺動掛線鉤與左針交會時，與左針間隙為 0.5-0.8mm，再繼續向左擺動到行程的最左端時掛線鉤距左針中心為 4.5-5.5mm。

WHEN SPREADER MOVE TO THE LEFT AND PASSES BEHIND THE LEFT NEEDLE, THE CLEARANCE IS 0.5 - 0.8 mm. AND WHEN SPREADER REACHES THE EXTREME LEFT, THE DISTANCE BETWEEN TIP OF HOOKING PART AND THE CENTER OF LEFT NEEDLE IS 4.5-5.5 mm.

- C. 調整時，可放鬆結線鉤鎖緊螺絲及擺動臂固定螺絲，來調整結線鉤的上下及擺動位置。

THE ADJUSTMENTS ARE MADE BY LOOSENING SCREW (A) FOR THE HEIGHT OF LOOPER AND LOOSENING SCREW (B) FOR MOVING POSITION OF LOOPER.

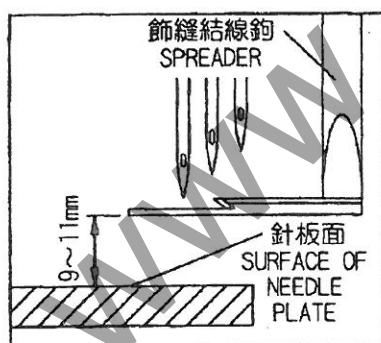


圖 A

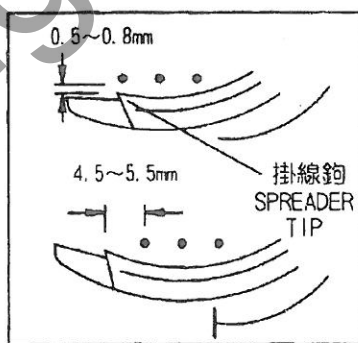


圖 B

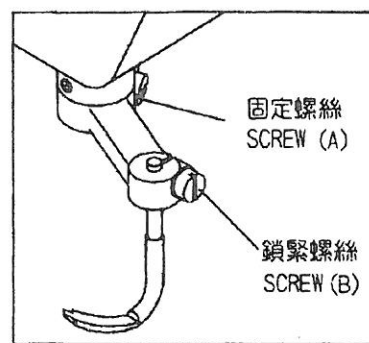


圖 C

7-2 安裝裝飾線導線板 SETTING THE TOP COVER THREAD GUIDE

- D. 裝飾線導線板的下端位於結線鉤上方 0.5mm，結線鉤擺動到最右端時飾線必須輕輕掛在導線板上。

THESE MUST BE A CLEARANCE OF 0.5 mm BETWEEN THE BOTTOM OF THE TOP COVER THREAD GUIDE AND SPREADER AND WHEN SPREADER COMES TO THE EXTREME RIGHT, AND AT THIS POSITION, THE THREAD IS CAUGHT BY THREAD HOOKING PART PROPERLY, AND HANGING LOOSELY ON THE TOP COVER THREAD GUIDE.

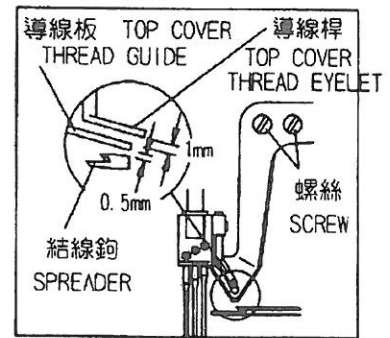


圖 D

- E. 針棒行進到下死點時，導線板與導線桿之間間隙約為 1.0mm，導線板與導線桿中心約略重合，調整時可放鬆螺絲來調整。
- WHEN NEEDLE BAR AT THE LOWEST POSITION, THE CLEARANCE BETWEEN THE SURFACE OF TOP COVER THREAD GUIDE (A) AND THE UNDERSURFACE OF TOP COVER THREAD EYELET (B) IS 1.0 mm. SET THE THREAD HOLE OF TOP COVER THREAD EYELET ON THE CENTER LINE OF THE SLOT OF TOP COVER THREAD GUIDE, THEN TIGHTEN SCREW.

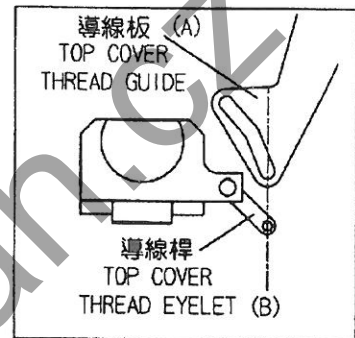
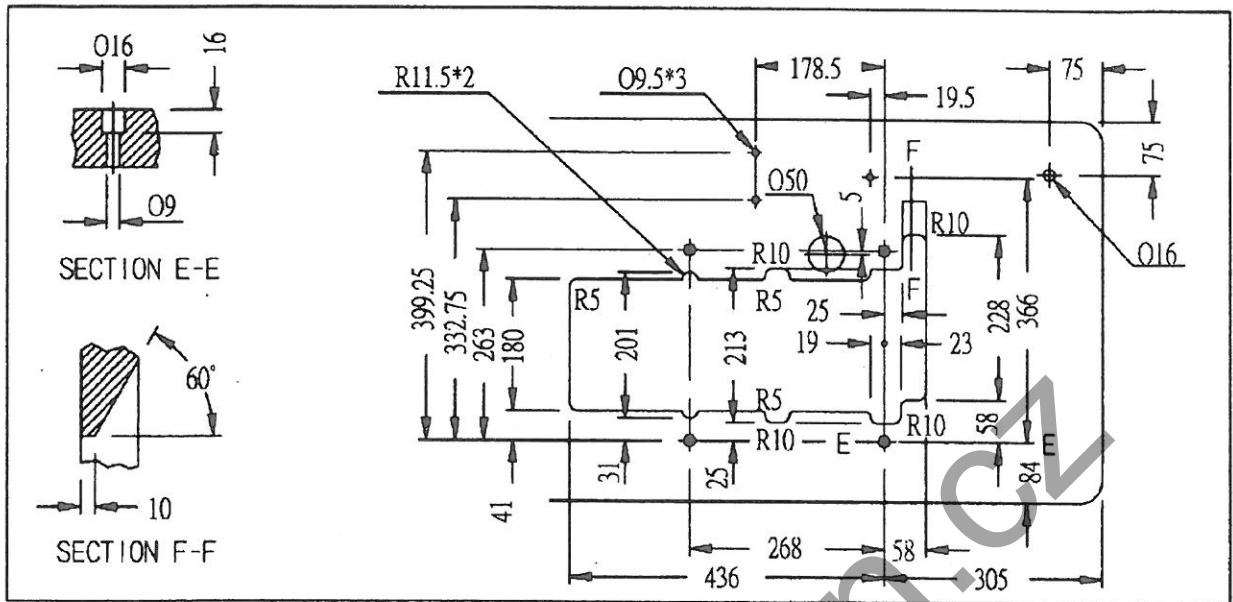


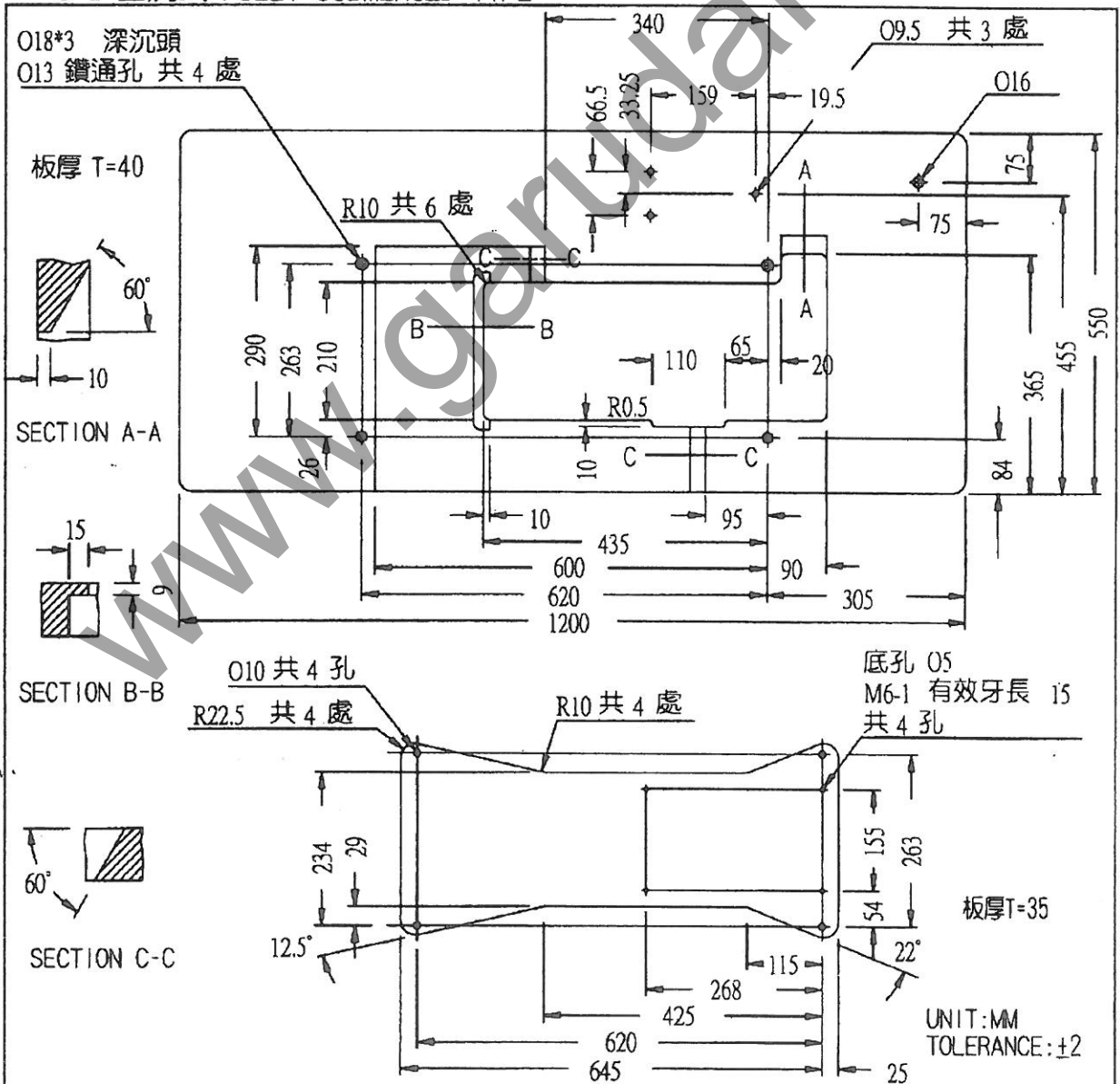
圖 E

8. FT車板圖 TABLE CUT-OUT FOR FT TYPE

8-1 半沉式 SEMI SUBMERGED TYPE



8-2 全沉式 FULLY SUBMERGED TYPE



8-3 TABLE TOP CUT-OUT FOR FT6509/6539

