GAP LAZZ DPT 20/30

DUAL POWER TRAC ASSIST
LABEL ATTACHING LONG ARM
ZIG-ZAG SEWING MACHINE

SET UP AND OPERATING INSTRUCTIONS

GALKIN AUTOMNATED PRODUCTS
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GALKIN CUSTOMER SERVICE

IF YOU HAVE ANY QUESTIONS CONCERNING THE MACHINE, OR THE MANUAL, PLEAE FEEL FREE TO CONTACT THE GALKIN CORPORATION, EITHER BY TELEPHONE, OR BY FAX.

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SET UP

THE FOLLOWING IS A LIST OF CONDITIONS, WHEN SATISFIED, WILL INSURE SUCCESSFUL OPERATION OF YOUR LAZZ DPT 20/30. IT IS ADVISED THAT YOU PROCEED THROUGH IN NUMBERED ORDER, AS THOUGH MOVING THROUGHA CHECKLIST.

1. BEFORE MAKING ANY POWER OF COMPRESSED AIR CONNECTIONS, REVIEW AIR LINE AND WIRING DIAGRAM INCLUDED IN THE INSTRUCTION MANUAL (DIAGRAM NO. 1). INSURE THAT THE NUMBERS AT END OF TUBING MATCH NUMBERS AT VALVE/REGULATOR PORTS. CHECK ALL CONNECTIONS AND FITTINGS TO INSURE TIGHT SOLID CONTACT. LOOSE FITTINGS AND/OR CONNECTIONS MAY INHIBIT PERFORMANCE OF YOUR GAP LAZZ DPT20/30. ONCE CHECKED, PROVIDE A SUITABLE ELECTRIC POWER CONNECTION AS INDICATED ON THE SPECIFICTION PLATE ON THE MMOTOR. TO ENSURE SAFETY, BE CERTAIN TO ALWAYS CONNECT THE GREEN WIRE TO GROUND.

LUBRICATION

1A. TO INSURE PROPER OPERATION OF YOUR MACHINE, THE SEWING MACHINE MUST BE LUBRICATED A MINIMUM OF ONCE DAILY. ONE TO TWO DROPS OF LIGHT MACHINE OIL MUST BE DEPOSITED AT EACH OF THE HOLES ON THE MACHINE AND MACHINE BED INDICATED WITH A RED CIRCLE AROUND EACH HOLE..

2. MOTOR ROTATION

THE MACHINE HANDWHEEL MUST TURN COUNTER-CLOCKWISE WHEN VIEWED FROM THE HANDWHEEL END. TURN ON THE MOTOR AND USE THE FOOT PEDAL TO TURN THE MACHINE SLOWLY, WHILE CHECKINE ROTATION DIRECTION. DO NOT RUN THE MACHINE THE MAACHINE FOR AN EXTENDED PERIOD. IF THE HANDWHEEL TURNS IN THE WRONG DIRECTION, STOP IMMEDIATELY. TURN OFF THE MOTOR AND UNPLUG POWER. REVERSE DIRECTION BY REWIRING CONNECTIONS AS APPROPRIATE. FOR SINGLE PHASE MOTORS, A DIAGRAM MAY BE FOUND EITHER ON THE SPECFICATION PLATE OF THE MOTOR ORINSIDE THE MOTOR WIRING COVER. FOR 3 PHASE MOTORS, EXCHANGE CONNECTIONS OF ANY TWO OF THE THREE POSATIVE LEADS AT THE PLUG END OF THE POWER CORD.

3. FILTER REGULATORS

ONCE ALL FITTINGS/CONNECTIONS HAVE BEN SECURED, COMPRESSED AIR MY BE SUPPLIED TO THE PRIMARY FILTER REGULATOR LOCATED BENEATH TABLE.

CHECK TO SEE THAT THE FOLLOWING PRESSURES ARE OBSERVED:

PRIMARY FILTER REGULATOR: 75-80 PSI
(REGULATES PRESSURE TO FOOT PEDAL VALVE)

SECONDARY FILTER REGULATOR: 400 KPA
(REGULATES PRESSRE TO AIR ON/OFF SWITCH)

PRESSER FOOT REGULATOR: 60 PSI
(REGULATES PRESSER FOOT DOWNWARD PRESSSURE)

4 .4 PIN CONNECTOR

CHECK CONNECTION OF THE 4 PIN CONNECTOR USED BETWEEEN THE 24VAC VALVE AND THE MOTOR. REFER TO CONECION DIAGRAM TO INSURE THAT +24V (RE LEAD WITH 1 AMP FUSE) LINE GOES TO PIN 3 AND GROUND GOES TO PIN NO.4

5 .TOP AND BOTTOM FEED TIMING

THE TOP FEED BELTS WERE TIMED TO THE BOTTOM FEED AT THE FACTORY BEFORE SHIPPING. TO SEE IF THE TIMING NEEDS ADJUSTMENT, TURN THE HANDWHEEL COUNTER-CLOCKWISE(TOWARDS YOURSELF) UNTIL EITHER THE BOTTOM FEED DOG, OR THE UPPER POWER TRAC BELTS BEGIN TO MOVE. IF PROPERLY TIMED, BOTH THE UPPER BELTS AND THE LOWER FEED DOG SHOULD MOVE FORWARD AT PRECISELY THE SAME TIME.

PLEASE REFER TO DIAGRAM NO. 2 AT THIS TIME

TO ADJUST, LOOSEN THE THREE SET SCREWS HOLDING THE HANDWHEEL TOO THE BELT DRIVE ECCENTRIC. MOVE THE HANDWHEEL TO THE RIGHT TO ALLOW ACCESS TO THE ECCENTRIC PINCH SCREW. LOOSEN THE ECCENTRIC PINCH SCREW TO ALLOW THE ECCENTRIC BODY TO MOVE ON THE MACHINE SHAFT. IF THE FEED DOG IS STARTING TO MOVE BEFORE THE BELT, TURN THE ECCENTRIC BODY SLIGHTLY TOWARD THE REAR OF THE MACHINE. IF THE BELTS MOVE FORWARD FIRST, TURN SCREW SLIGHTLY TOWARDS THE FRONT. IT IS IMPORTANT TO MAKE VERY SMALL INCREMENTAL CHANGES IN ORDER TO PREVENT "HUNTING" FOR THE RIGHT SETTING. TIGHTEN THE PINCH SCREW, RESET THE HANDWHEEL, AND TEST THE TIMING. REPEAT AS NECCESSARY.

6.POWER TRAC BELTS

ONCE THE TIMING HAS BEEN OPTIMIZED, LOOK TO SEE THAT THE TWO POWER TRAC BELTS ARE PROPERLY SEATED IN BOTH THE TIMING BELT PULLEYS AND IDLER PULLEYS. LIFT THE PRESSER FOOT, AND CHECK TO SEE THAT THE BELTS REST IN THEIR RESPECTIVE CHANNELS ON THE FOOTS BOTTOM SURFACE. MISALIGNED BELTS, OR BELTS OUTSIDE THE CHANNEL OF THE FOOT GROOVE OR RUBBING ON/RIDING OUTSIDE OF THE PULLEY FLANGE WILL AFFECT FABRIC FEED CONSIDERABLY.

SHOULD THE NEED ARISE TO CHANGE EITHER OF THE POWER TRAC BELTS YOU MUST DO THE FOLLOWING:
REFER TO DIAGRAM NO. 3

BE SURE THAT THE NEEDLE IS IN THE UP POSITION.
THE BELT CLOSEST TO THE OPEN END OF THE MACHINE IS THE EASIER OF THE TWO. SIMPLY DEPRESS THE SPRING TENSION LEVER, REMOVE BELT OFF ALL PULLEY SURFACES, AND SLIDE OUT TOWARDS THE OPEN END. THIS HOLDS TRUE FOR THE SECOND BELT, WITH THE EXCLUSION OF ONE STEP. FIRST LOOSEN THE UNIVERSAL SET SCREW CLOSEST TO THE PULLEY ASSEMBLY. THEN LOOSEN BOTH LOWER PULLEY SET SCREWS. THE HORIZONTAL PULLEY SHAFT MUST NOW BE PULLED TOWARDS THE OPEN END OF THE LONG ARM, CREATING ENOUGH OF A SPACE BETWEEN THE PULLEY BRACKET AND THE SHAFT TO FREE THE BELT. TO INSTALL, REPLACE BELT ACCORDING TO TIMING BELT DIAGRAM. SLIDE PULLEY SHAFT BACK TOWARDS UNIVERSAL JOINT. ALIGN SET SCREWS WITH THIER CORRESPONDING FLATS AND RETIGHTEN. BE SURE TO ALIGN PULLEYS SO THEIR RESPECTIVE CENTERS ARE DIRECTLY ABOVE AND BELOW EACH OTHER, OR BELT MISALIGNMENT WILL RESULT.

TREADLE CONNECTING ROD ASSEMBLY

ADJUST TREADLE CONNECTIONG ROD ASSEMBLY SO AS TO PERMIT BOTH FORWARD AND BACKWARD ROCKING OF THE PEDAL. CONNECTING ROD SHOULD BE SET SO AS TO ALLOW FOR A MINIMUM OF 5/8 ths OF AN INCH OF BACKWARD ROCKING TRAVEL SEE DIAGRAM NO. 4

MACHINE THREADING
FOLLOW THREADING GUIDELINES ACCORDING TO SECONDARY OPERATING INSTRUCTION BOOKLET.

OPERATION INSTRUCTIONS

CAUTION: DO NOT PROCEED UNLESS ALL CONNECTIONS AND SETTINGS HAVE BEEN PROPERLY MADE AS PER THE INSTRUCTIONS DETAILED IN SECTION (A) OF THIS MANUAL.

DEPRESS 'ON' BUTTON OF GAP LAZZ POWER SWITCH BOX

2. TURN ON AIR VALVE SO AS TO PRESSURIZE SYSTEM. ASSUMING THE MACHINE HAS BEEN PROPERLY THREADED, THE GAP LAZZ DPT 20 IS NOW FULLY OPERATIONAL, AND READY TO SEW.

PLEASE READ BEFORE OPERATING MACHINE

YOUR GALKIN LAZZ DPT 20/30 IS A DUAL POWER TRAC MATERIAL FEEDER. **THE OPERATOR AT NO TIME SHOULD BE FEEDING THE MATERIAL FORWARDS OR BACKWARDS**. THE OPERATOR MUST ONLY GUIDE THE MATERIAL, **NEVER PULLING OR PUSHING THE WORK THROUGH.** FAILURE TO DO SO WILL DIRECTLY RESULT IN THE MALFUNTIONING OF YOUR LAZZ DPT 20/30.

3. AT THIS POINT , THE OPERATOR HAS THE OPTION TO CONTROL ANY ONE OF FOLLOWING FUNCTIONS:

3a. OPERATOR MAY 'HEEL BACK' TREADLE PEDAL, PRESSING BOTTOM OF PEDAL TOWARDS THE FLOOR. WHEN HEELED BACK *SLOWLY*, THIS ACTION WILL CAUSE THE PRESSER FOOT TO LIFT UPWARDS WITH THE NEEDLE REMAINING DOWN, ALLOWING THE OPERATOR TO TURN MATERIAL BENEATH NEEDLE. WHEN HEELED BACK *QUICKLY*, BOTH THE PRESSER FOOT *AND* THE NEEDLE WILL LIFT, ALLOWING THE OPERATOR TO MOVE MATERIAL AWAY FROM MACHINE

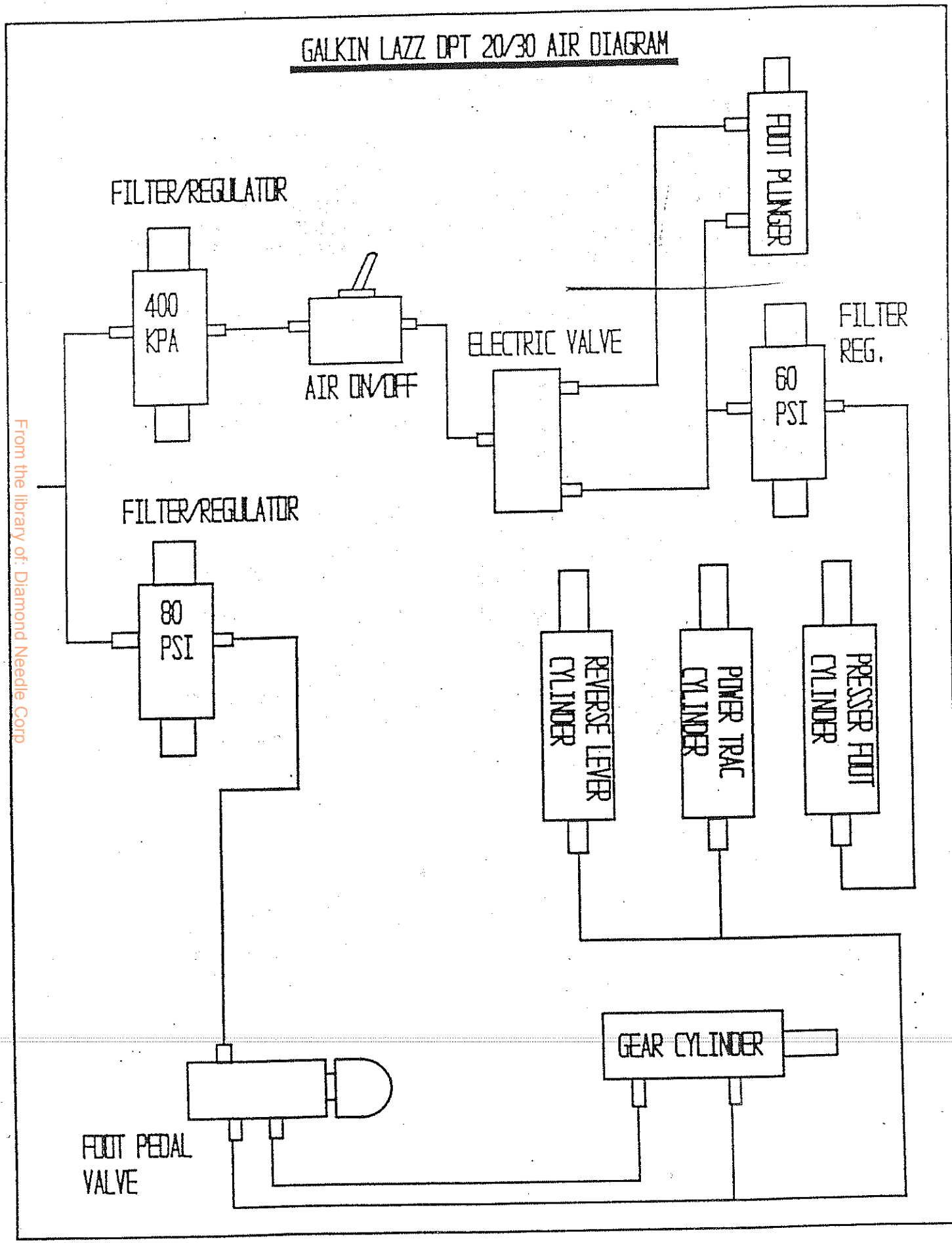
3b. OPERATOR MAY THEN PRESS TREDLE PEDAL FOWARD UNTIL THE PRESSER FOOT RETURNS TO ITS LOWER POSITION, COMPRESSING WHATEVER MATERIAL HAD BEED PLACED BENEATH THE NEEDLE IN PREVIOUS STEP. PRESSING THE TREADLE PEDAL ANY FARTHER THAN AS TO ACTIVATE THE PRESSER FOOT WILL CAUSE THE MACHINE TO SEW AS WELL. SHOULD YOU ONLY WANT THE PRESSER FOOT DOWN WITH NO FORWARD SEWING, DO NOT PRESS PEDAL ANY FARTHER THAN AS TO ACTIVATE THE PRESSER FOOT.

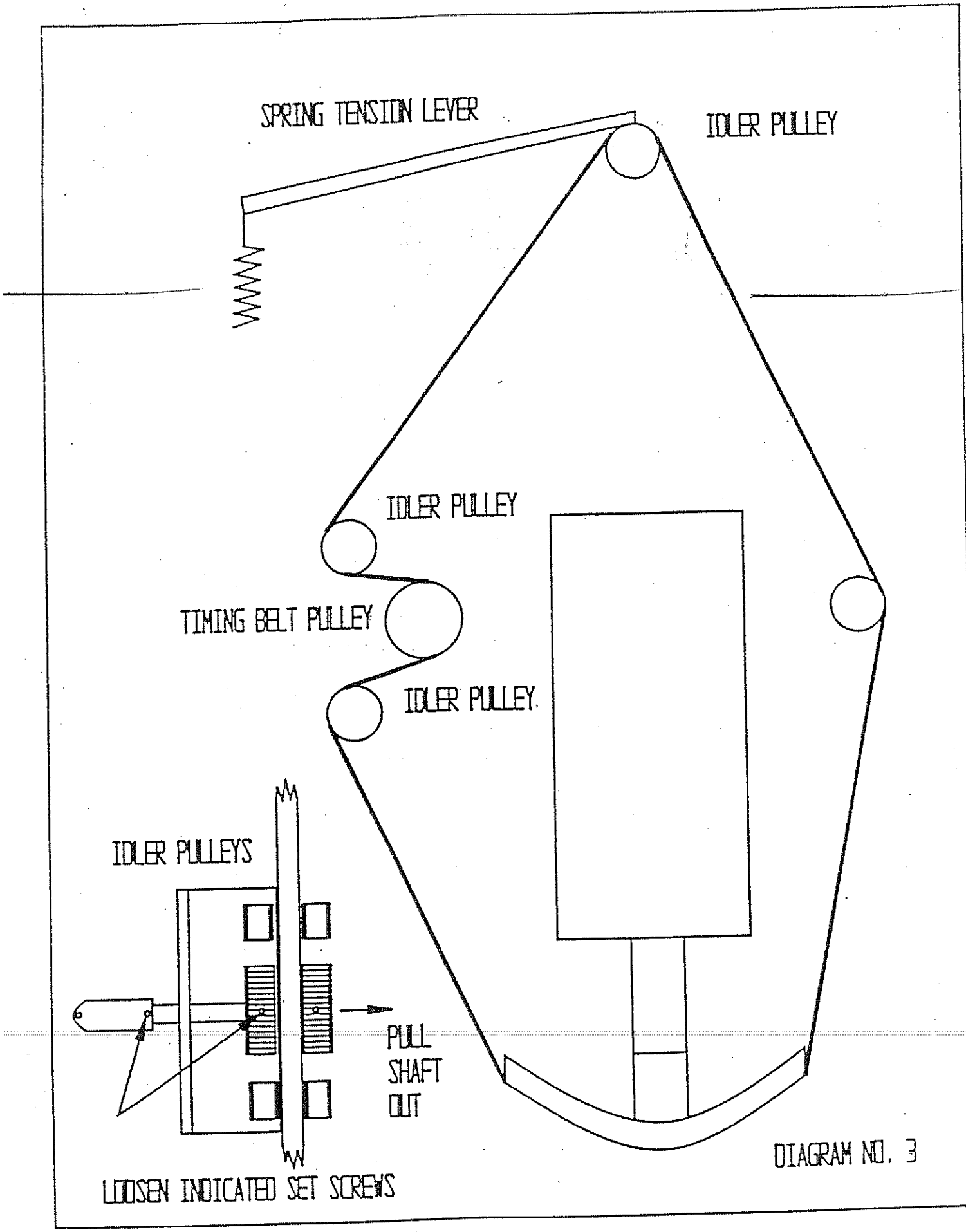
3c. CONTINUING TO PRESS THE TREDLE PEDAL FARTHER FORWARD WILL ENGAGE THE GAP LAZZ DPT 20 MOTOR AND THE FOWARD SEWING OF THE MATERIAL. THE FARTHER THE PEDAL IS PRESSED, THE LARGER AN INCREASE IN MACHINE SPEED.(RECOMMENDED SPEED-2000 RPM MAX)

3d. AT ANY POINT, THE OPERATOR HAS THE OPTION TO RELEASE THE PEDAL AND DISENGAGE FORWARD SEWING. SHOULD THE OPERATOR WISH TO REVERSE THE SEWING DIRECTION OF THE MATERIAL, IT IS ONLY NECCESSARY TO DEPRESS REVERSE BUTTON LOCATED ON UPPER CORNER OF TREADLE PEDAL WHILE PRESSING UPPER TREADLE FORWARDS. TO LOCATE REVERSE FOOT SWITCH, SEE DIAGRAM NO. 4.
SHOULD OPERATOR WISH TO ROTATE MATERIAL BEFORE CHANGING SEWING DIRECTION, SIMPLY ' HEEL BACK' *SLOWLY* ON TREADLE PEDAL AS MENTIONED IN 3a TO RAISE PRESSER FOOT AND TURN MATERIAL.

IF AT ANY POINT THE MACHINE MISFUNCTIONS OR DOES NOT OPERATE TO EXPECTED STANDARDS, REFER TO SET UP SECTION OF THIS MANUAL AND CHECK EACH SECTION FOR POSSIBLE MALFUNCTION CAUSES AND EFFECTS. IF UNABLE TO TRACE SOURCE OF PROBLEM OR FIND A SOLUTION PLEASE DO NOT HESITATE TO CONTACT THE GALKIN CORPORATION AT THE ABOVE LISTED NUMBERS.

DIAGRAM NO. 1





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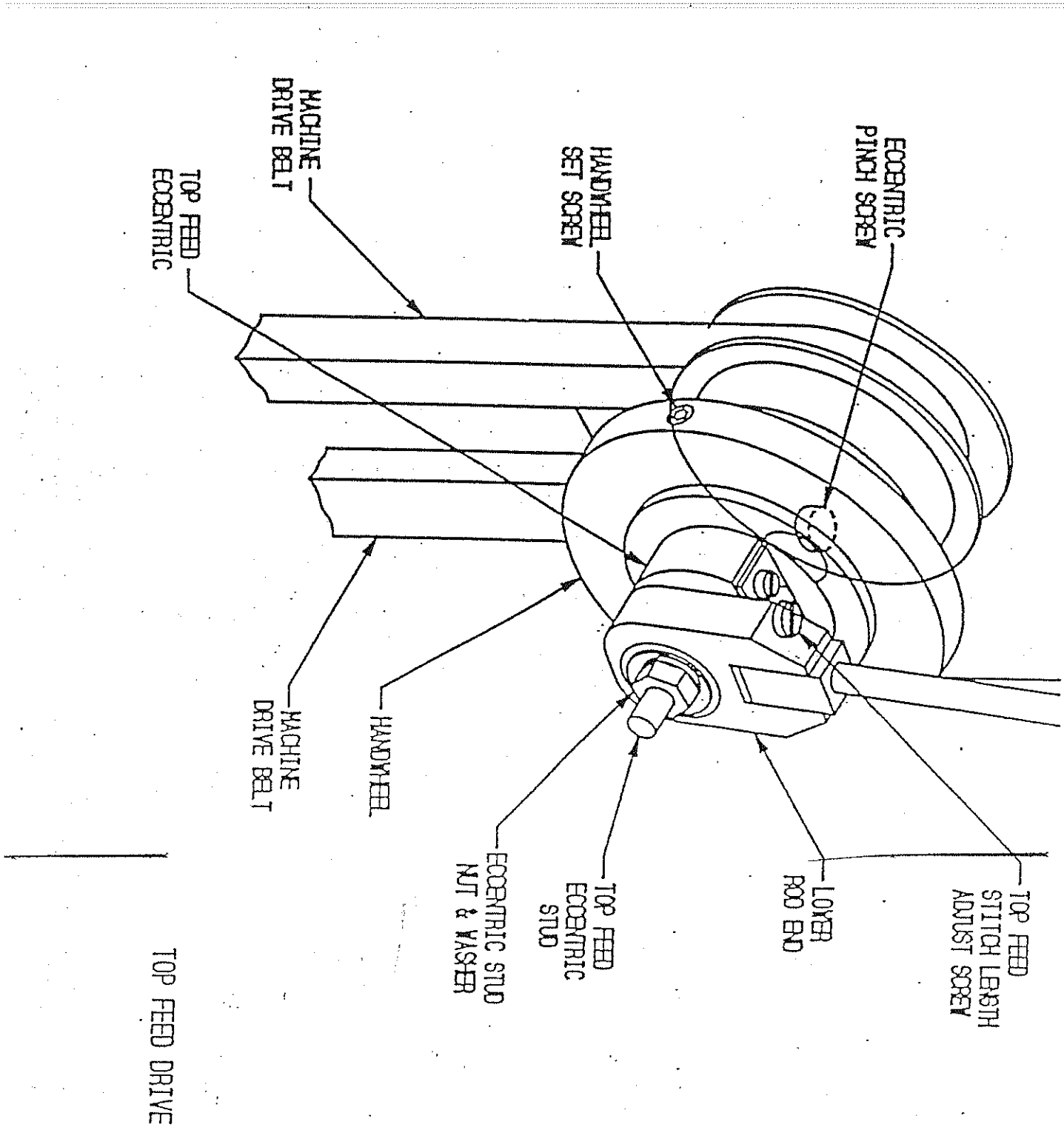
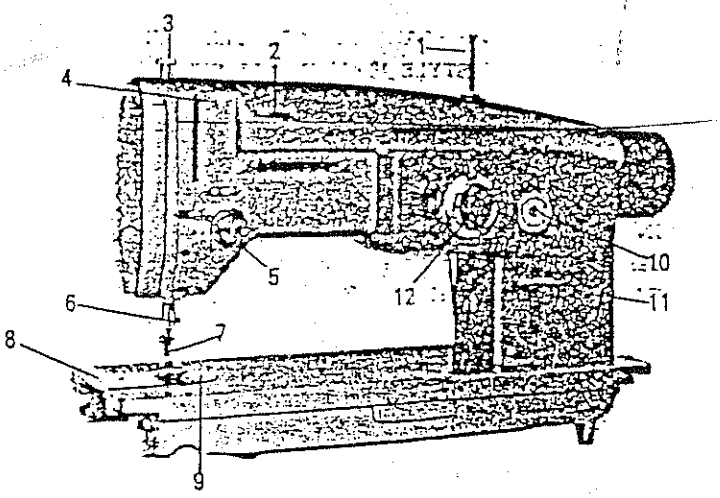


TOP FEED DRIVE

OPERATING INSTRUCTIONS FOR LONG ARM SEWING MACHINE (INDEPENDENT OF ATTATCHMENTS)



NAMES OF MAIN PARTS:

1. SPOOL PIN
2. THREAD GUIDE
3. PRESSURE REGULATOR
4. TAKE UP LEVER
5. TENSION REGULATOR
6. NEEDLE BAR
7. PRESSER FOOT
8. COVER OR SIDE PLATE
9. NEEDLE PLATE
10. STITCH LENGTH REGULATOR
11. FEED DIRECTION LEVER
12. ZIG ZAG WIDTH REGULATOR

DESCRIPTION: MODEL 199RBL IS A UNIVERSAL ZIGZAG AND STRAIGHT STITCH SEWING MACHINE WITH A ROTARY HOOK PRODUCING A LOCKSTITCH.

NEEDLES

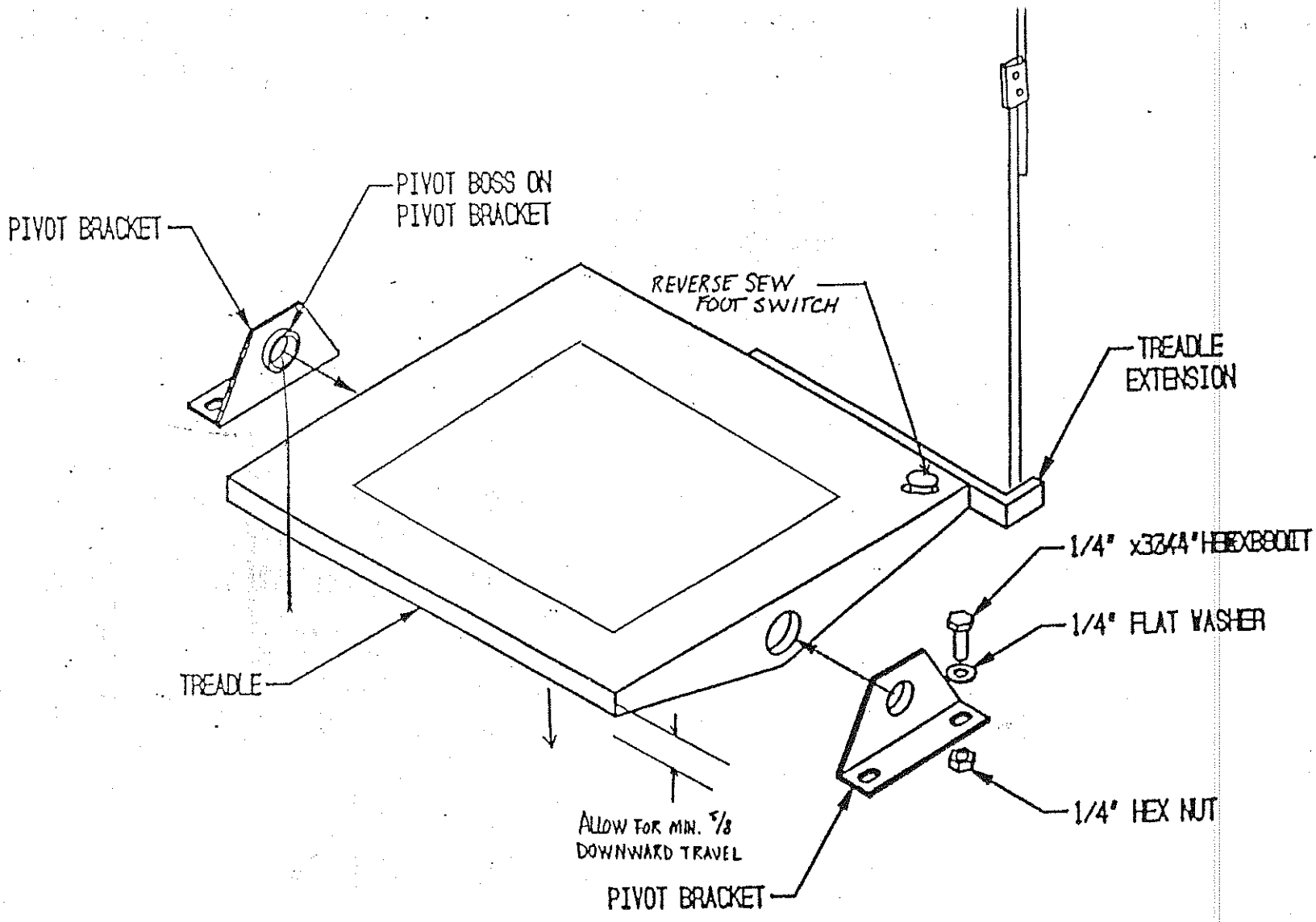
USE 135 X 7 # 20 NEEDLES

THREAD

LEFT TWIST THREAD SHOULD BE USED IN THE NEEDLE. EITHER LEFT OR RIGHT TWIST THREAD CAN BE USED IN THE BOBBIN

HOW TO DETERMINE THE TWIST OF THE THREAD

DIAGRAM NO. 4



3-PIECE TREADLE

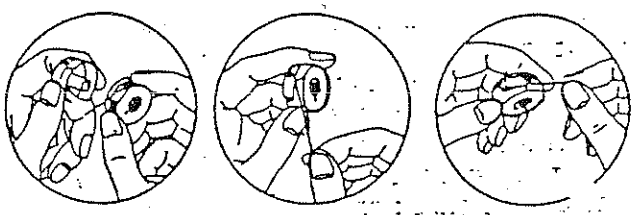


Fig. 5-A Fig. 5-B Fig. 5-C.

THREADING THE BOBBIN CASE

1. HOLD THE BOBBIN CASE BETWEEN THE LEFT THUMB AND FORE-FINGER AS SHOWN ABOVE. WITH ABOUT 2 INCHES OF THREAD TRAILING, HOLD THE BOBBIN BETWEEN THE THUMB AND FIRST TWO FINGERS OF THE RIGHT HAND AS SHOWN IN FIG. 5A.

2. INSERT THE BOBBIN INTO BOBBIN CASE AND PULL THE TRAILING THREAD INTO THE SLOT, DOWN AND TO THE LEFT, UNTIL IT ENTERS THE GROOVED EYE UNDER THE TENSION SPRING FIG 5B, 5C.

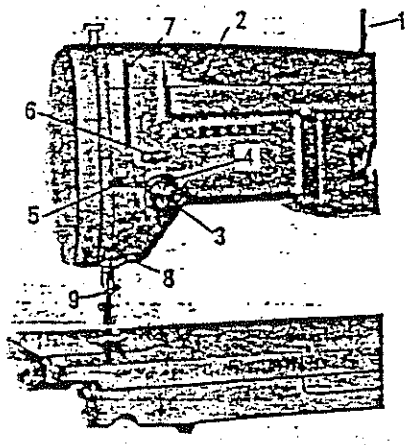
3. LEAD THREAD END THROUGH GUIDE HOLD LOCATED AT FRONT OF BOBBIN CASE ABOVE HINGED LATCH

INSERTING BOBBIN CASE

1. RAISE THE NEEDLE BAR TO ITS HIGHEST POINT BY TURNING THE HANDWHEEL TOWARD YOU BY HAND

2. AFTER SLIDING OUT THE SLIDE PLATE HOLD THE BOBBIN CASE LATCH WITH LEFT THUMB AND FORE FINGER TO PREVENT THE BOBBIN FROM FALLING OUT.

3. PRESS THE BOBBIN CASE ONTO POST UNTIL THE PROTRUDING FINGER ENTERS THE NOTCH OF HOOK. CLOSE THE LATCH



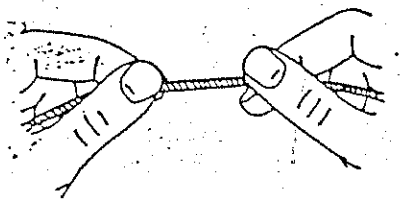
THREADING THE MACHINE

1. RAISE THE THREAD TAKE UP LEVER (7) TO ITS HIGHEST POSITION BY TURNING THE HANDWHEEL TOWARD YOU BY HAND

2. LEAD THE THREAD THROUGH THE HOLE (1) OF THE SPOOL. PIN AND THE THREE HOLE THREAD GUIDE (2)

3. RUN THE THREAD BENEATH AND AROUND THE TENSION DISCS (3) FROM THE RIGHT TO LEFT.

HOLD THE THREAD AS SHOWN BELOW. TWIST IT BETWEEN THE THUMB AND FORE-FINGER OF YOUR HANDS. IF LEFT TWIST, THE STRANDS WILL WIND TIGHTER. IF LEFT TWIST, THE STRANDS WILL UNWIND.



REMOVING THE BOBBIN CASE

1. RAISE THE NEEDLE BAR TO ITS HIGHER POINT BY TURNING THE HAND WHEEL TOWARD YOU BY HAND
2. OPEN THE SLIDE PLATE BY SLIDING IT TO THE LEFT.
3. WITH LEFT THUMB AND FOREFINGER PLACED UNDER THE BED, OPEN THE HINGED LATCH AT THE FRONT OF THE BOBBIN CASE AND BY MEANS OF THIS LATCH REMOVE THE BOBBIN CASE FROM THE SEWING HOOK.
4. THE BOBBIN FALLS OUT OF THE BOBBIN CASE INTO YOUR HAND, WHEN YOU CLOSE THE BOBBIN CASE LATCH.

WINDING THE BOBBIN

1. PLACE THE BOBBIN ON THE SPINDLE WINDER
2. PASS THE THREAD THROUGH THE HOLE OF THE BOBBIN WINDER THREAD GUIDE AND THROUGH THE TENSION DISCS FROM THE REAR.
3. PULL THE END OF THE THREAD AND WIND IT AROUND THE EMPTY BOBBBIN SEVEN OR EIGHT TIMES FROM THE BOTTOM UP
4. PUSH THE BOBBIN WINDER LEVER DOWN UNTIL THE BOBBIN WINDER WHEEL PRESSES AGAINST THE DRIVE BELT.
5. START THE MACHINE AND THE THREAD WILL BE WOUND UP ON THE BOBBIN. WHEN THE BOBBIN IS FULL, IT WIL RELEASE AUTOMATICALLY AND STOP TURNING
6. CUT OFF THE THREAD AND REMOVE THE BOBBIN FROM THE SPINDLE
7. YOU CAN EASILY ADJUST THE MAXIMUM QUANTITY OF THREAD TO BE WOUND UP ON THE BOBBIN BY ADJUSTING THE SCREW WHICH CONROLS LATCH
8. IF THE THREAD DOES NOT WIND EVENLY ON THE BOBBIN, ADJUST THE POSITION OF THE BOBBIN WINDER THREAD GUIDE BY MOVING IT TO THE RIGHT OR LEFT AFTER LOOSENING THE SCREW.
9 LOOSEN THE TENSION FOR FINE THREAD BY TURNING THE NUT IN THE COUNTER-CLOCKWISE DIRECTION.

4. BRING THE THREAD OVER THE LOOP OF THE CHECK SPRING (4) AND DOWN AGAIN UNDER THE RETAINING HOOK (5) FROM RIGHT TO LEFT

5. NOW RUN THE THREAD DOWN THROUGH THE THREAD GUIDES (6) & (8)

7. LEAD THE THREAD THROUGH THE NEEDLE BAR THREAD GUIDE(9)

8. NOW RUN THE END OF THE THREAD THROUGH THE EYE OF THE NEEDLE FROM FRONT TO BACK, DRAWING IT OUT ABOUT 2 INCHES.

PREPARATION FOR SEWING

1. THREAD THE MACHINE

2. HOLDNG THE LOOSE END OF THE NEEDLE THREAD IN YOUR LEFT HAND, TURN THE HANDWHEEL TOWARDS YOU WITH YOUR RIGHT HAND UNTIL THE NEEDLE MOVES DOWN AND UP AGAIN TO ITS HIGHEST POINT.

3. PULL THE NEEDLE THREAD GENTLY AND THE BOBBIN THREAD WILL COME UP WITH IT THROUGH THE HOLE IN THE THROAT PLATE.

4. PLACE BOTH ENDS OF THREAD BENEATH AND IN BACK OF THE PRESSER FOOT

5. WITH THE NEEDLE RAISED, PLACE THE MATERIAL TO BE SEWN BENEATH THE PRESSER FOOT AND LOWER THE PRESSER FOOT LEVER AS FAR AS IT WILL GO

6. START SEWING


Fig. 9-A


Fig. 9-B


Fig. 9-C

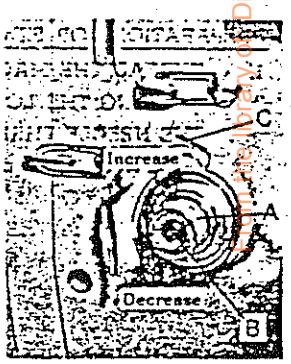


Fig 9D

TENSION

FOR PERFECT STITCHING, THE TENSION OF THE UPPER AND LOWER THREADS SHOULD BE BALANCED AND JUST SUFFFICIENTLY TIGHT TO LOCK BOTH THREADS N THE CENTER OF THE MATERIAL. (FIG 9A)
IF THE TENSION OF THE NEEDLE THREAD IS TOO TIGHT, OR IF THAT OF THE BOBBIN THREAD IS TOO LOOSE, THE NEEDLE THREAD WILL LIE STRAIGHT ALONG THE UPPER SURFACE OF THE MATERIAL, MAKING AN IMPERFECT STITCH (FIG. 9B)
IF THE TENSION OF THE BOBBIN THREAD IS TOO TIGHT, OR IF THAT ON THE NEEDLE THREAD IS TOO LOOSE, THE BOBBIN THREAD WILL LIE STRAIGHT ALONGTHE UNDERSIDE OF THE MATERIAL, ALSO MAKING AN IMPERFECT STITCH (FIG. 9C)

REGULATING THE TENSION

NEEDLE THREAD TENSION(FIG 9D)

A. THE TENSION IS INCREASED AS THE TENSION NUT (A) IS TURNED CLOCKWISE AND IS DECREASED AS THE NUT IS TURNED COUNTER-CLOCKWISE

B. THE CHECK SPRING (C) GETS MORE TIGHT AS THE TENSION STUD (B) IS TURNED CLOCKWISE WITH A SCREW DRIVER, AND THE CHECK SPRING GETS MORE LOOSE AS THE TENSION STUD IS TURNED COUNTER-CLOCKWISE

C. THE MACHINE IS CORRECTLY ADJUSTED BEFORE LEAVING THE FACTORY TO MAKE A PERFECT STITCH

NOTE: ALL TENSION ADJUSTMENTS MUST BE MADE WHILE THE PRESSER FOOT IS DOWN

BOBBIN THREAD TENSION:

A. ORDINARILY A PERFECT STITCH CAN BE OBTAINED BY VARYING THE TENSION OF THE NEEDLE THREAD ONLY. HOWEVER, IT SOMETIMES BECOMES NECESSARY TO ADJUST THE BOBBIN THREAD TENSION

B. THIS TENSION MAY BE INCREASED BY TURNING THE TENSION SCREW ON THE BOBBIN CASE TOTHE RIGHT AND DECREASED BY TURNING THE SCREW TO THE LEFT.

STITCH REGULATOR AND REVERSE SEWING OR TACKING

1. WHEN THE NUMBER 0 ON THE DIAL(A) IS SET UPPERMOST ON A VERTICAL LINE, THE FEEDER DOES NOT MOVE THE MATERIAL.

2. WHEN THE DIAL (A) IS TURNED COUNTER-CLOCKWISE AND LEVER (B) IS RAISED AS FAR AS IT WILL GO, THE MACHINE MAKES FORWARD STITCHES, INCREASING IN SIZE AS THE DIAL KNOB IS TURNED TOWARDS THE LARGER NUMBERS.

3. FOR REVERSE SEWING, LOWER LEVER B AS FAR AS IT WILL GO

4. BY MOVING THE LEVER UP AND DOWN (OR BY USING FOOT VALVE WITH POWER TRAC ATTATCHMENTS), YOU CAN MAKE USE OF THIS FEATURE FOR LOCKING THE THREAD AT THE START OR END OF SEAMS.

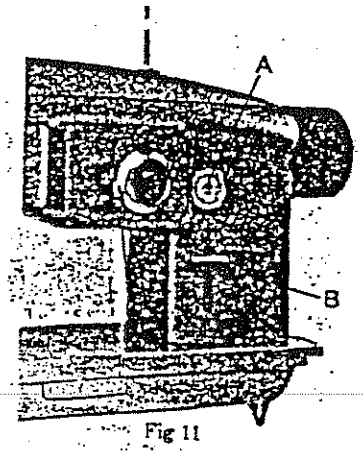


Fig 11

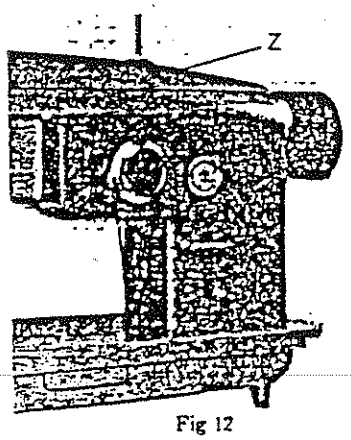


Fig 12

STRAIGHT AND ZIG ZAG SEWING

TURNING THE ZIG ZAG REGULATING KNOB Z (FIG 12) TO THE LEFT AS FAR AS IT WILL GO, WILL CAUSE THE MACHINE TO SEW WITH A STRAIGHT STITCH.

TURNING THE KNOB TO THE RIGHT WILL PRODUCE A ZIGZAG STITCH WHICH WILL BECOME WIDER THE MORE THIS KNOB IS TURNED TO THE RIGHT. THE WIDEST ZIGZAG STITCH IS BEING SEWN WHEN THE KNOB Z CANNOT BE TURNED ANY FARTHER TO THE RIGHT.

NOTE: THE ZIGZAG REGULATING KNOB CAN BE MOVED INTO ANY DESIRED POSITION WHILE THE MACHINE IS OPERATION. DO NOT TURN ZIG ZAG REGULATING KNOB WHEN MACHINE IS AT REST AND NEEDLE IS IN MATERIAL. DISREGARDING THIS ADVICE MAY HAVE BROKEN OR BENT NEEDLES AS A CONSEQUENCE.
TURN HANDWHEEL TOWARD YOU TO RAISE NEEDLE OUT OF MATERIAL BEFORE OPERATING KNOB.

CENTERING THE NEEDLE IN THE THROAT (NEEDLE) PLATE

IF IT IS INDICATED,THAT THE NEEDLE NEEDS CENTERING WITHIN THHE NEEDLE SLOT IN THE THROAT PLATE-SET MACHINE FOR STRAIGHT SEWING AND TURN HANDWHEEL TOWARD YOU UNTIL THE NEEDLE BAR REACHES THE LOWEST POINT OF ITS DOWNWARD STROKE. LOOSEN SET SCREW "C" AND TURN THE ECCENTRIC STUD "A" UNTIL THE NEEDLE IS CENTERED CORRRECTLY. RETIGHTEN SET SCREW C. SET ZIG ZAG KNOB TO ITS WIDEST SETTING AND TURN THE HANDWHEEL TOWARD YOU AND OBSERVE THE PASSAGE OF THE NEEDLE THROUGH THE THROAT PLATE. IT SHOULD PASS AT ABOUT AN EQUAL DISTANCE FFROM EITHER END OF THE NEEDLE SLOT WHEN MAKING THE LEFT AND RIGHT ZIG ZAG STITCH. IF NECESSARY, READJUST ECCENTRIC STUD AS DESCRIBED BEFORE.

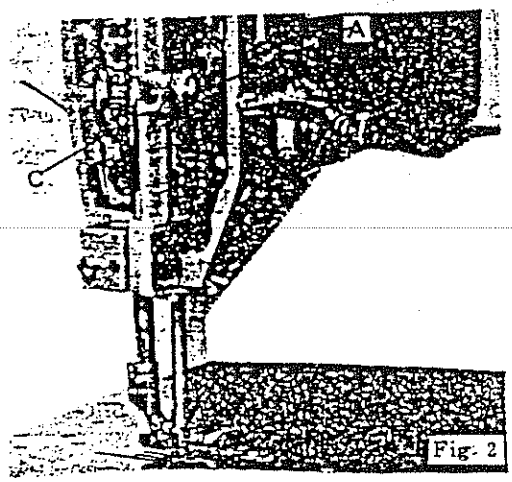


Fig. 2

SETTING THE NEEDLE BAR AT THE CORRECT HEIGHT

MAKE SURE THAT THE NEEDLE IS PUSHED UP INTO THE NEEDLE BAR AS FAR AS IT WILL GO. REMOVE FACE PLATE FROM MACHINE.

SET ZIG ZAG CONTROL KNOB FOR STRAIGHT STITCHING SEWING AND TURN HANDWHEEL UNTIL THE NEEDLE REACHES THE LOWEST POINT OF ITS DOWNWARD STROKE. SEE THAT THE NEEDLE ENTERS THE NEEDLE ~~SLOT IN THE THROAT~~ PLATE AT THE VERY CENTER. IF IT DOES NOT, ADJUST THE NEEDLE BAR FRAME PITMAN ECCENTRIC STUD "A" AS DESCRIBED ABOVE.

AFTER MAKING THE NEEDED ADJUSTMENTS IN THE NEEDLE POSITION, PROCEED IN THE FOLOWING MANNER:

REMOVE SLIDE PLATE, NEEDLE PLATE, AND FEED DOG.
CONTINUE TURNING HANDWHEEL TOWARDS YOU UNTIL THE NEEDLE BAR HAS RISEN 3/32" ABOVE ITS LOWEST POSITION. THE POINT OF THE SEWING HOOK SHOULD NOW BE AT THE CENTER OF THE NEEDLE AT A DISTANCE APPROXIMATELY 3/32" ABOVE THE EYE.

IF ADJUSTMENT SHOULD BE REQUIRED, LOOSEN THE SET SCREW IN THE NEEDLE BAR CONNECTING STUD TO RAISE OR LOWER THE NEEEDLE BAR AS MAY BE NECESSARY. BE SURE TO TIGHTEN THE SET SCREW AFTER MAKING THE ADJUSTMENT.

TIMING THE SEWING HOOK

REMOVE PRESSER FOOT, SLIDE PLATE, THROAT PLATE, AND BOBBIN CASE. ALSO REMOVE FEED DOG.

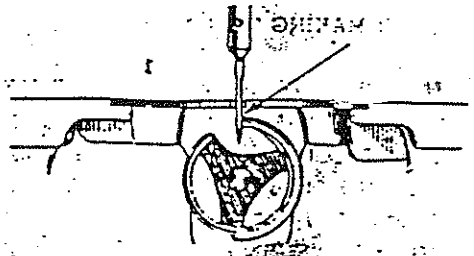
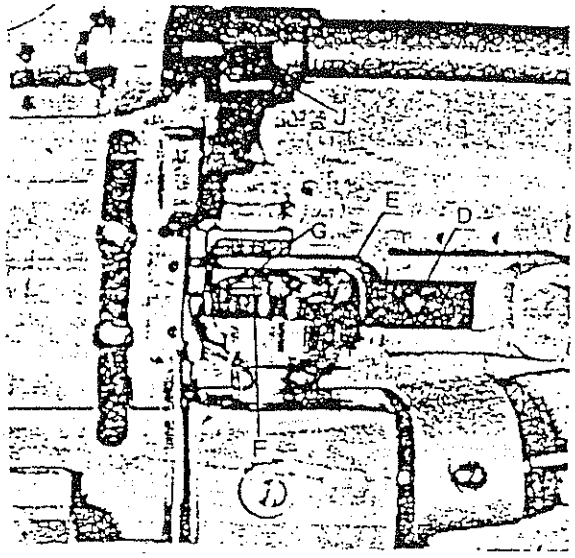


Fig 3

PLACE A NEW NEEDLE IN THE MACHINE AND TURN THE HANDWHEEL TOWARD YOU UNTIL THE NEEDLE BAR REACHES ITS LOWEST POINT. CONTINUE TURNING AND ALLOW THE NEEDLE BAR TO RISE ABOUT 3/32" WHILE ON ITS UPWARD STROKE. WITH NEEDLE BAR IN THIS POSITION, THE POINT OF THE SEWING HOOK SHOULD BE AT THE CENTER OF THE NEEDLE (FIG 3). IF THE SEWING HOOK SHOULD NOT BE TIMED CORRECTLY LOOSEN THE THREE SET SCREWS IN ITS HUB. TURN THE HOOK ON ITS SHAFT TO ALIGN THE POINT WITH THE CENTER OF THE NEEDLE AS SHOWN IN FIGURE 3. TIGHTEN THE THREE SET SCREWS.



TO REMOVE AND REPLACE THE SEWING HOOK:

REMOVE THE NEEDLE, SLIDE PLATE, AND BOBBIN CASE. TAKE OUT SCREW "D"(FIG4) AND REMOVE HOOK RETAINER "E". LOOSEN THE THREE SET SCREWS IN THE HUB. TURN THE HANDWHEEL UNTIL THE THREAD GUARD (WIDEST PART) OF THE HOOK IS AT THE BOTTOM. THEN REMOVE THE SEWING HOOK FROM ITS SHAFT

WHEN INSTALLING A NEW SEWING HOOK, HAVE THE THREAD GUARD AT THE BOTTOM. NOW TURN THE BOBBIN CASE HOLDER UNTIL THE NOTCH "F" IS AT THE TOP. REPLACE HOOK RETAINER "E" WATCHING THAT THE PROJECTION "G" NEAR IS END ENTERS NOTCH "F" IN THE BOBBIN CASE HOLDER, FASTEN HOOK RETAINER TO THE UNDERSIDE OF THE BED BY MEANS OF ITS SCREW. REPLACE THE NEEDLE AND TIME THE SEWING HOOK AS DESCRIBED IN THE PRECEEDING PARAGRAPH. RE-INSTALL BOBBIN CASE, THROAT PLATE AND SLIDE PLATE.

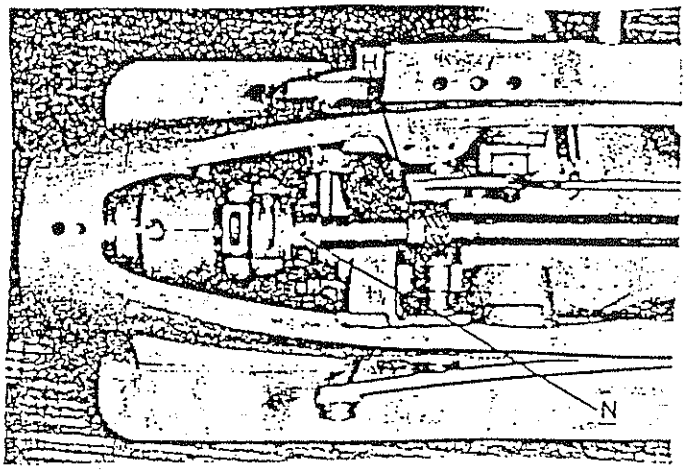
TIMING THE FEEDING MECHANISM

THE FEEDING MECHANISM IS TMED AT THE FACTORY FOR AVERAGE STITCHING PERFORMANCE. NORMAL TIMING IS SUCH THAT THE FED DOG TEETH, RISING FROM THEIR LOWEST POSITION , SHOULD BE JUST FLUSH WITH THE SURFACE OF THE THROAT PLATE AFTER THE NEEDLE POINT HAS TRAVELLED ABOUT 5/16" ABOVE THE PLATE WHILE ON ITS UPSTROKE.

TO ALTER THE TIMING OF THE FEEDING MECHANISM PROCEED AS FOLLOWS:

REMOVE THE TOP COVER FROM MACHINE. TURN HANDWHEEL TOWARD YOU UNTIL HTE TWO SET SCREWS, LOCKING THE FEED ECCENRIC INTO THE MAIN SHAFT,COME INTO VIEW (FIG 5). LOOSEN BOTH SET SCREWS. LIGHTLY TAP THE FEED ECCENTRIC TOWARD YOU TO ADVANCE FEEDTIMING. TO RETARD FEED TMING, TAP ECCENTRIC TO ROTATE TOWARDS REAR OF MACHINE

NOTE: DO NOT MOVE ECCENTRIC MORE THAN ABOUT 1/16" ROTATION AT A TIME. THEN TIGHTEN SET SCREWS AND CHECK FOR RESULTS.



TIMING THE MOVEMENT OF THE NEEDLE BAR FRAME

SET ZIG ZAG KNOB FOR STRAIGHT STITCH , TURN HANDWHEEL AND OBSERVE TRAVEL. OF THE NEEDLE INTO AND OUT OF THE NEEDLE SLOT IN THE THROAT PLATE. IF THE NEEDLE SHOULD NOT BE CENTERED IN THE SLOT, MAKE ADJUSTMENTS SUGGESTED IN SECTION DESCRIBING CENTERING NEEDLE.

NOW ADJUST THE NEEDLE TO PRODUCE WIDEST ZIG ZAG STITCH. TURNING THE HANDWHEEL TOWARD YOU, OBSERVE VIBRATION (SIDEWISE MOVEMENT OF THE NEEDLE BAR). THE NEEDLE BAR ON ITS UPWARD MOVEMENT SHOULD BEGIN TO VIBRATE WHEN THE POINT OF THE NEEDLE IS NO LESS THAT ABOUT 3/32" ABOVE THE THROAT PLATE AND SHOULD END TO VIBRATE WHEN THE NEEDLE HAS REACHED APPROXIMATELY THE SAME POSITION ON ITS DOWNWARD MOTION. TO ADJUST VIBRATION OF THE NEEDLE BAR, LOOSEN SET SCREW "H" (FIG 5.) IN VIBRATOR CAM AND SLIGHTLY TURN THIS CAM ON ITS SHAFT. TIGHTEN SET SCREWS AND CHECK FOR RESULTS. REPEAT AS NECESSARY.

TO RAISE OR LOWER THE FEED DOG

USUALLY WHEN AT ITS HIGHEST POSITION, THE FEED DOG SHOULD RISE ABOVE THE THROAT PLATE THE FULL DEPTH OF THE TEETH.

TO ADJUST THE POSITION OF THE FEED DOG, LOOSEN SCREW "J" (FIG 4) AND RAISE OR LOWER THE FEED DOG AS DESIRED, THE RE-TIGHTEN THE SCREW. WHEN RAISING OR LOWERING THE FEED DOG BE CAREFUL THAT ITS UNDERSIDE DOES NOT DROP SO LOW THAT IT STRIKES THE HOOK.

ADJUSTMENT OF THE THREAD TAKE UP SPRING

THE THREAD TAKE UP SPRING "K" (FIG 6) SHOULD BE SET SO THAT WHEN THE EYE OF THE NEEDLE REACHES THE GOODS ON THE DOWNWARD STROKE OF THE NEEDLE BAR. THE SPRING WILL HAVE COMPLETED ITS ACTION AND WILL REST AGAINST THE STOP ON THE THREAD TAKE UP SPRING REGULATOR.

IF THE THREAD TAKE UP SPRING IS NOT SET AS OUTLINED ABOVE, LOOSEN SET SCREW "L" AND TURN TENSION STUD "M" TO THE LEFT FOR REDUCED MOVEMENT OF THE SPRING OR TO THE RIGHT FOR MORE MOVEMENT. AFTER THE TAKE UP SPRING IS SET CORRECTLY, TIGHTEN SET SCREW "L"

REGULATION OF THE TENSION OF THE THREAD TAKE UP SPRING "K" IS DONE BY TURNING THE TENSION STUD "M" TO THE RIGHT TO INCREASE TENSION OR TO THE LEFT TO DECREASE IT. TENSION OF THE SPRING SHOULD JUST BE ENOUGH TO TAKE UP THE SLACK OF THE NEEDLE THREAD UNTIL THE EYE OF THE NEEDLE REACHES THE MATERIAL ON ITS DOWNWARD MOVEMENT.

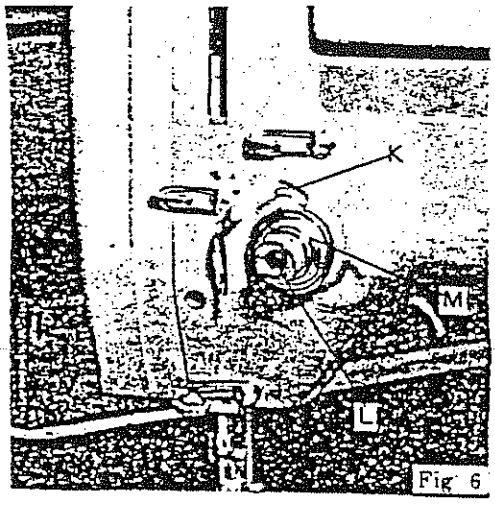
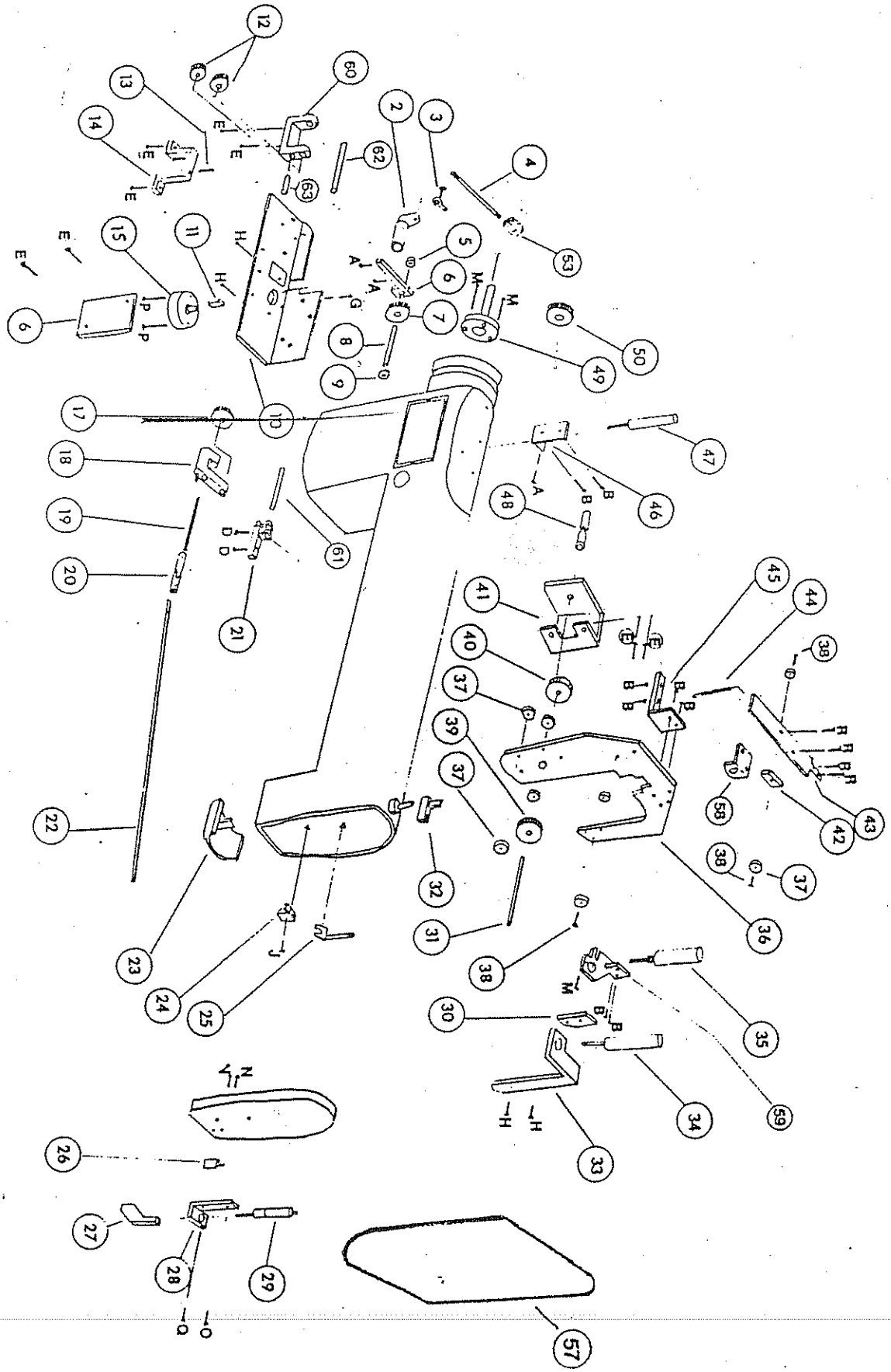
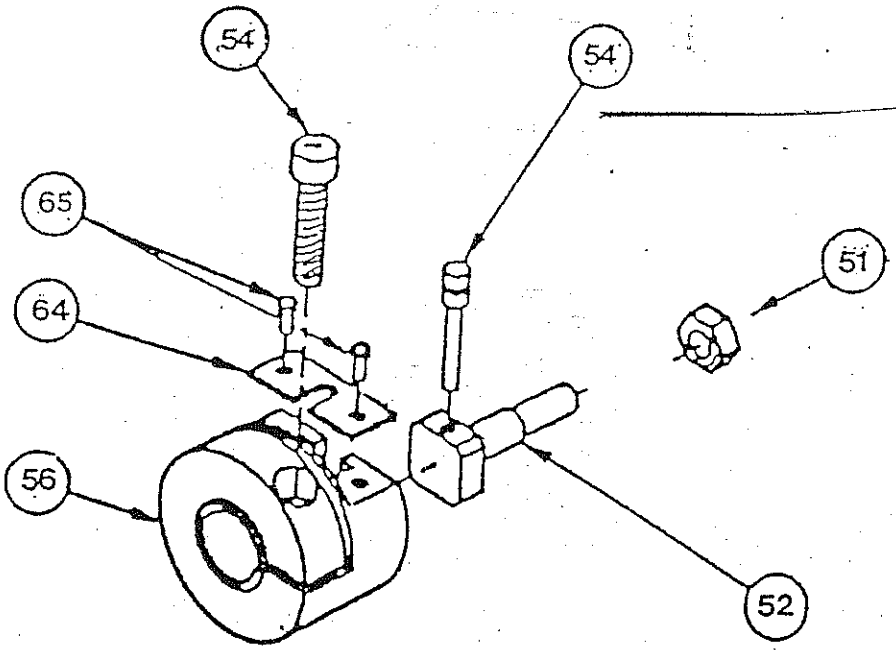
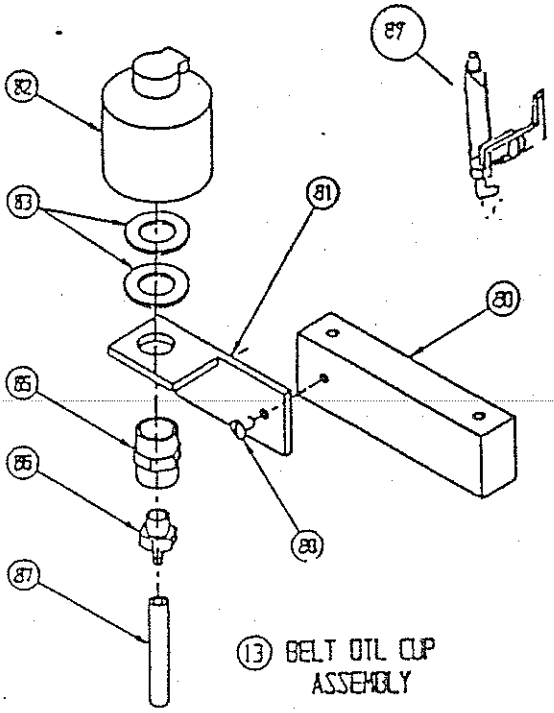


Fig 6

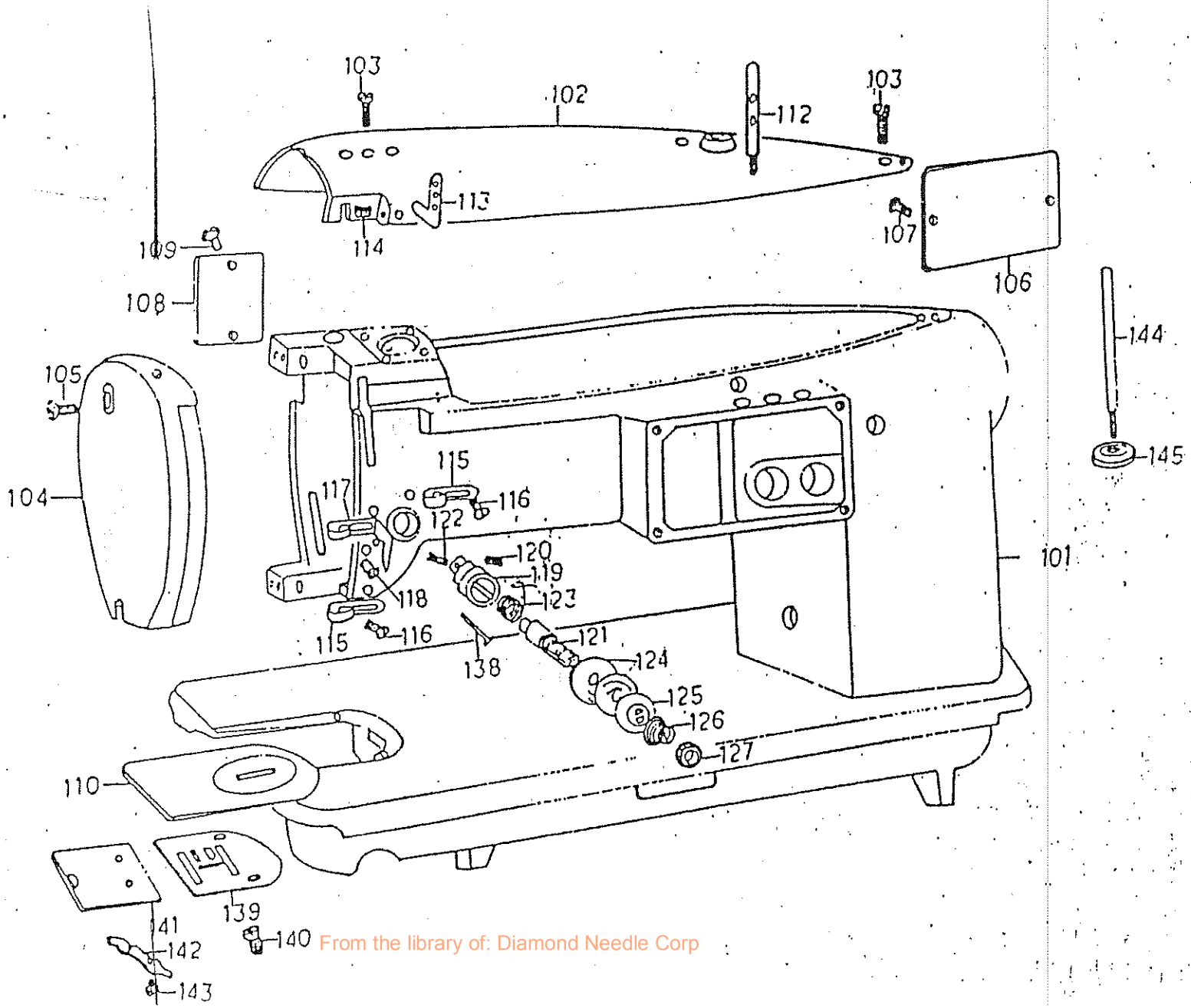


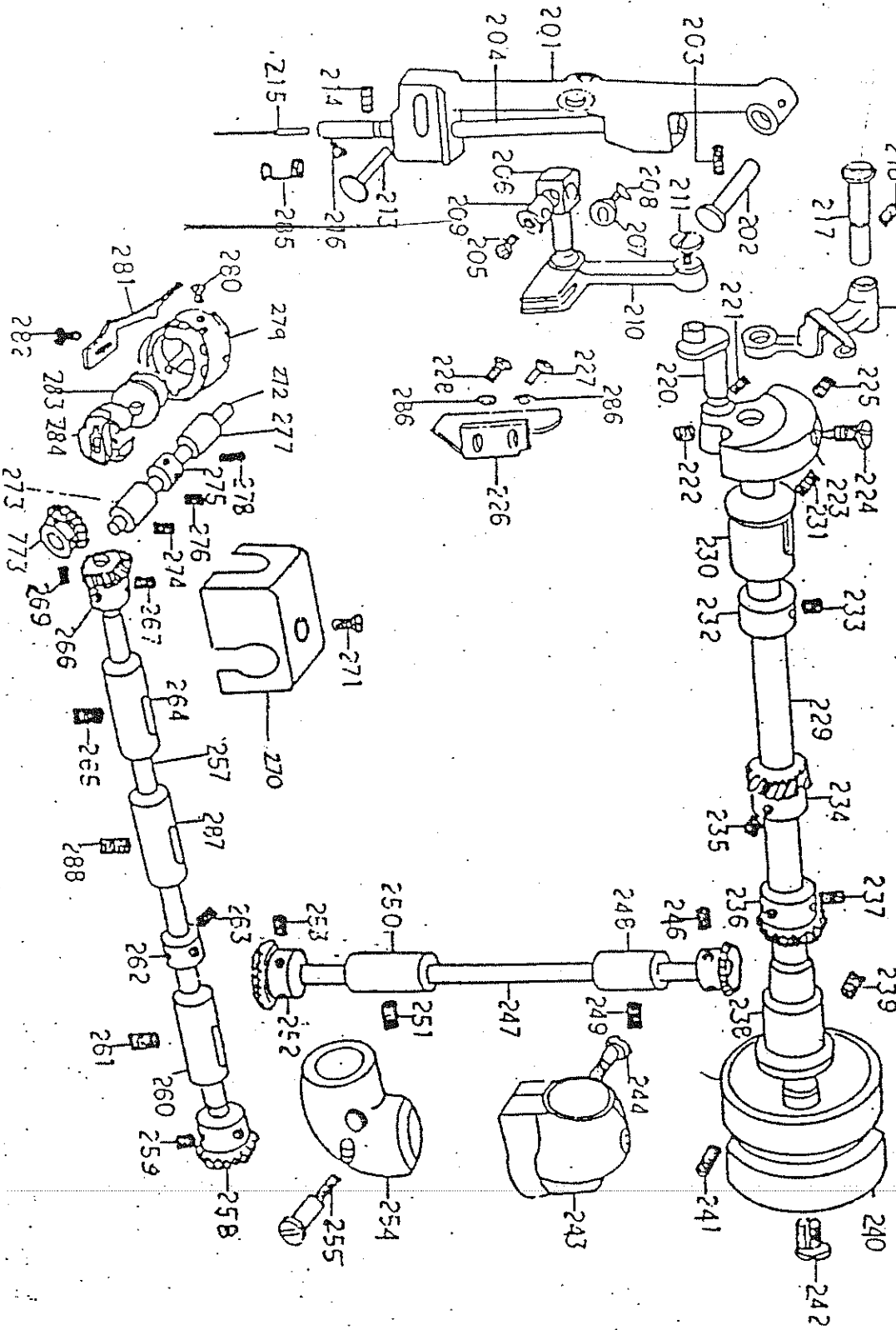


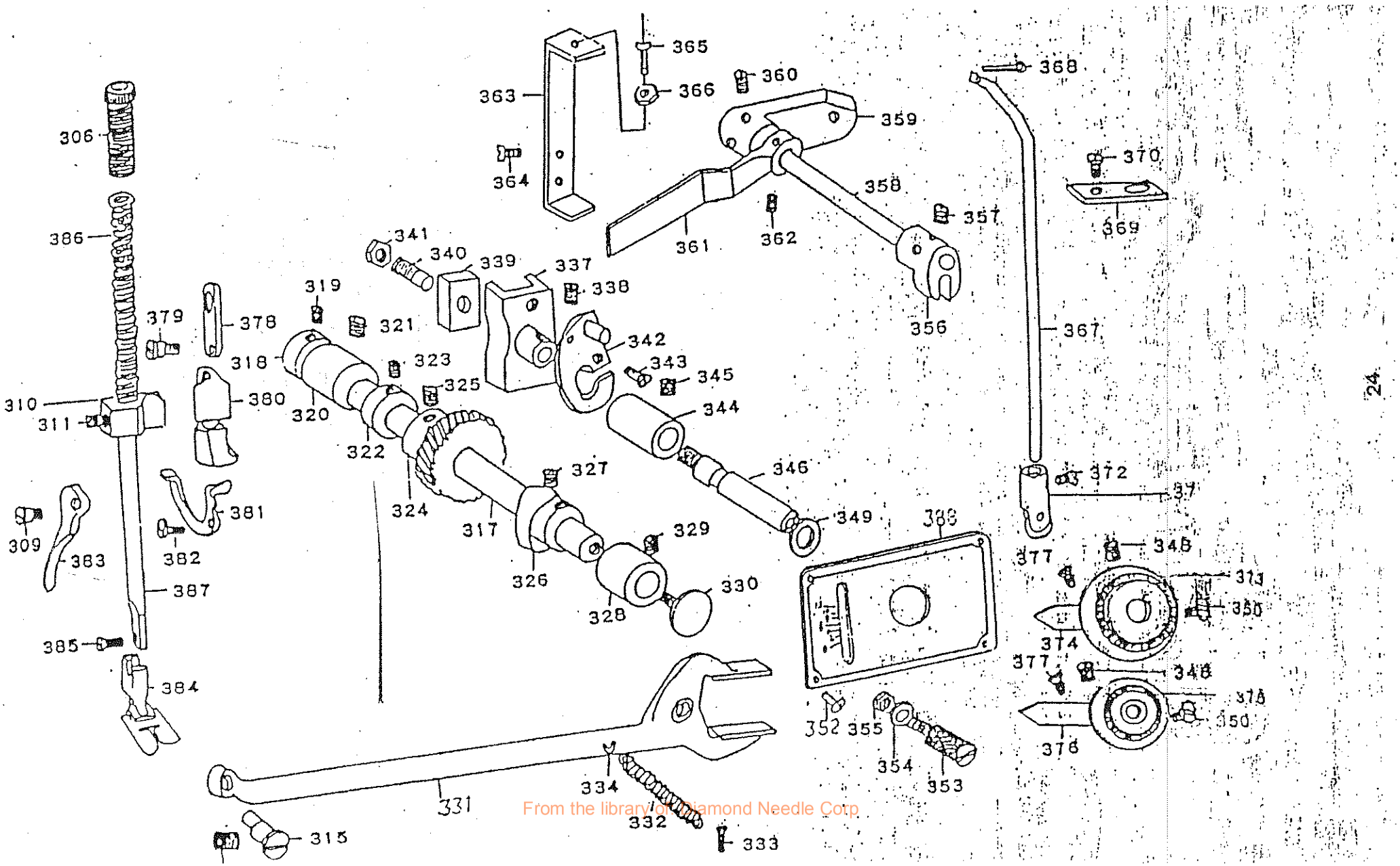
ECCENTRIC
ASSEMBLY

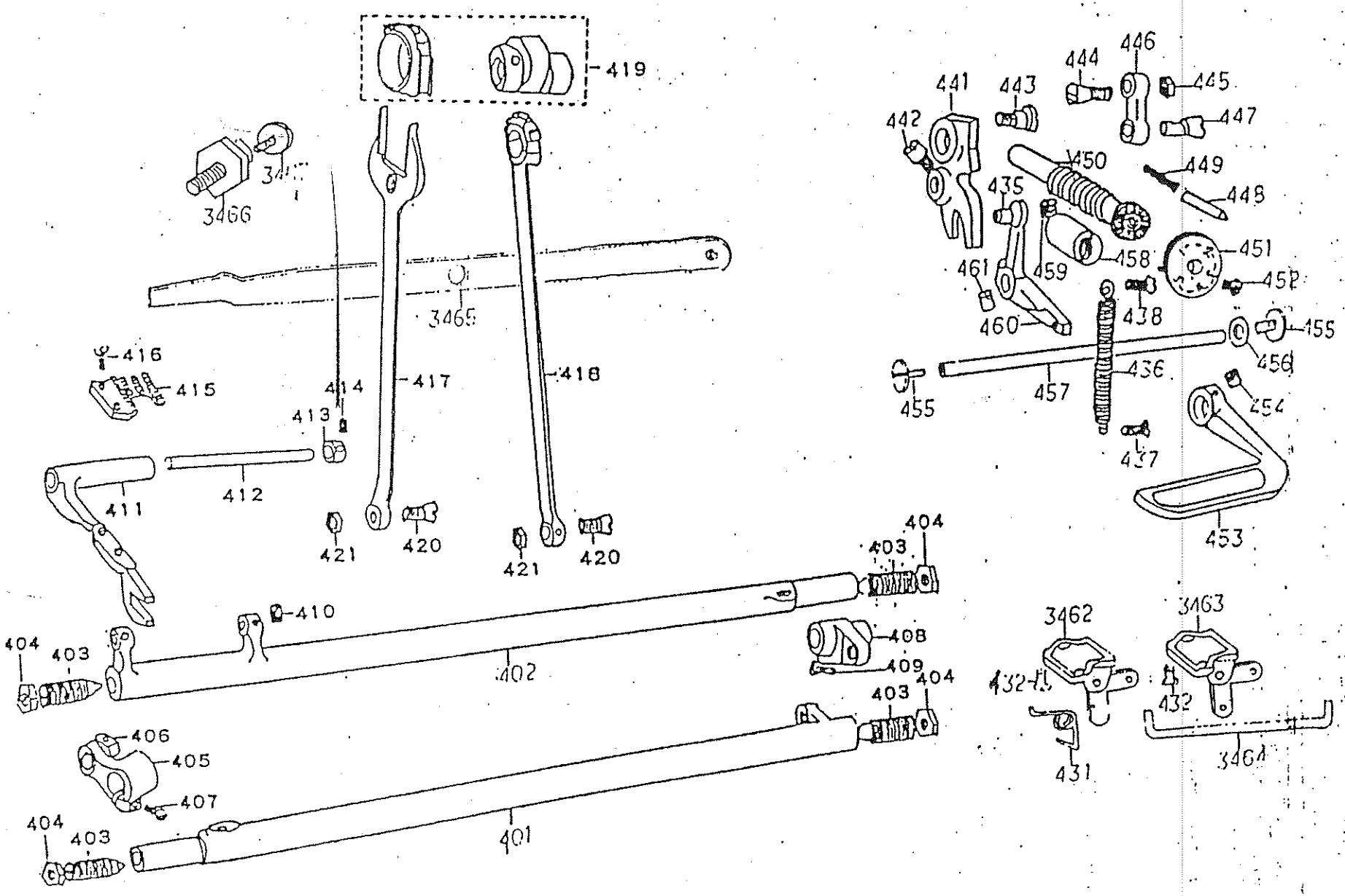


(13) BELT OIL CUP
ASSEMBLY









G.A.P. LAZZ D.P.T. 20/30 PARTS LIST

CALLOUT NUMBER	PART NO	PART DESCRIPTION
1	ALAZZ-015	Clutch housing bracket w/ clutches
2	CPT524S	Clutch housing
3	C11508	Ball Joint
4	C398-2.5	Connecting Rod
5	C37STC	Collar
6	ALAZZ-013	Jackshaft mounting bracket
7	CB315	Jackshaft drive pulley
8	CLAZZ-038	Jackshaft
9	C37STC	Collar
10	CLAZZ-016	Main mounting angle
11	CLAZZ-073	Gear cylinder transmission rod
	CLAZZ-074	Gear cylinder pivot link
12	CLAZZ-037	Transmission drive gears
13	C061624SCS	Gear pivot adjustment screw w/lock nut
14	CLAZZ-066	Gear pivot limit bracket
15	CB681	Gear change cylinder
16	CLAZZ-004	Secondary regulator mount
17	CLAZZ-037	Transmission drive gears
18	CLAZZ-017	Moving gear bracket
19	CLAZZ-036	Moving gear bracket shaft
20	A261A016.375.375	Universal Joint
21	CLAZZ-014	Moving gear pivot bracket
22	CLAZZ-033	20 Inch main drive shaft (LAZZDPT20)
22	CLAZZ-034	30 Inch main drive shaft (LAZZDPT30)
23	CLAZZ-021	Presser foot
24	CLAZZ-027	Tension releaser
25	CLAZZ-029	Presser foot tension
26	CLAZZ-030	Plunger guide angle
27	CLAZZ-022	Presser foot plunger
28	CLAZZ-010	Plunger cylinder mounting angle
29	CB570	Plunger cylinder
30	CLAZZ-019	Power trac assist cylinder angle spacer
31	CLAZZ-031	Drive pulley shaft
32	CLAZZ-028	Foot presser bracket
33	CLAZZ-020	Power trac assist cylinder mount
34	CB588	Power trac assist cylinder
35	CB588	Presser foot cylinder
36	CLAZZ-012	Face plate
37	CPT57907	Power trac guide pulley
38	C2512.3/16SHS	Pulley mounting screws
39	CB305	Power trac drive gears
40	CB305	Power trac drive gears
41	CLAZZ-007	Main drive shaft bearing bracket
42	CLAZZ-005	Idler pulley block
43	CLAZZ-018	Pivot arm
44	CB463	Tension arm spring
45	CLAZZ-001	Main plate mounting angle
46	CLAZZ-023	Cylinder mount angle
47	CB683	Reverse lever cylinder

48	A261A016-375-375	Universal joint
49	CLAZZ-002	Modified handwheel coupler
50	CB315-1/2	Jackshaft pulley
51	CB405	Eccentric stud nut
52	C11502	Eccentric stud
53	C11507	Lower rod end
54	CB404	Eccentric adjust screw
55	C252016SCS	Eccentric pinch screw
56	A7500005-1/2	Eccentric
57	CB 330	Power trac belts
58	CLAZZ-006	Pivot Block
59	CLAZZ-026	Presser Cylinder Mounting Angle
60	CLAZZ-015	Gear Bearing Block
61	CLAZZ-045	Pivot Block shaft
62	CLAZZ-035	Clutch shaft
63	CLAZZ-039	Fixed lower gear shaft
64	C11509	Eccentric Cap Plate
65	C87U	Cap Plate Screw
81	CPT251610	Belt oil cup bracket
82	C231D032	Belt oil cup
83	CB457	Washer, spacer
85	CB619	Brass coupling
86	CB569	1/8 Barb fitting
87	CB532	1/8th I.D. tubing with oil wick
88	C064004PHS	Pan Head screw
89	CPT251611	Belt oiler bracket

NOT SHOWN

PART NUMBER:	DESCRIPTION:
CLAZZ-003	GEAR BOX COVER
C1032 NCN	POWER TRAC ASSIST PLUNGER CUSHION
C0308 DWP	SPRING PIN
CB354	SYNCHRONIZER JACKSHAFT DRIVE BELT
CB 623	VALVE BASE
CB569	AIR LINE TEE SPLITS
AB 589	AIR FILTER REGULATOR ASSEMBLY
CB 1052	FUSE
CB637	ELECTRIC VALVE
CB1067	RED WIRE
CB1067	BLACK WIRE
CB562	REVERSE SEW FOOT PEDAL VALVE
CB569	1/8 NPT TO 1/8 BARB PLASTIC FITTING
CB533	1/8 BRASS BARB ELBOW
CB517-1	AIR ON/OF SWITCH
CLAZZ-072	GEAR BOX COVER MOUNTING BRACKET

CALLOUT LETTER	SCREW
A	C102412SCS
B	C103212SCS
C	C103206SSS
D	C103216SCS
E	C252012SCS

F	C063208SCS
G	C063204PHS
H	C102416SCS
I	C202004SCS
J	C083208SCS
K	C252014SCS
L	C103204SSS
M	C102412SCS
N	C0440006SCS
O	C102406SCS
P	C103224SCS
Q	C103216SCS
R	C063208FHS

PHOTO NUMBER	PART#	DESCRIPTION:
101	CLAZZ-3101	ARM BED
102	CLAZZ-3102	TOP COVER
103	CLAZZ-103	SCREW
104	CLAZZ-104	FACE PLATE
105	CLAZZ-105	SCREW
106	CLAZZ-106	ARM SIDE COVER
107	CLAZZ-107	SCREW
108	CLAZZ-108	ARM SIDE COVER (SMALL)
109	CLAZZ-109	SCREW
110	CLAZZ-110	NEEDLE PLATE
112	CLAZZ-112	NEEDLE THREAD GUIDE WITH PIN
113	CLAZZ-113	THREE HOLE THREAD EYELET
114	CLAZZ-114	SCREW
115	CLAZZ-115	ARM THREAD GUIDE
116	CLAZZ-116	SCREW
117	CLAZZ-117	TENSION POST THREAD GUIDE
118	CLAZZ-118	SCREW
119	CLAZZ-119	TENSION POST ROCKET
120	CLAZZ-120	SCREW
121	CLAZZ-121	TENSION POST
122	CLAZZ-122	SCREW
123	CLAZZ-123	TAKE UP SPRING
124	CLAZZ-124	TENSION DISK
125	CLAZZ-125	TENSION RELEASE WASHER
126	CLAZZ-126	TENSION SPRING
127	CLAZZ-127	TENSION NUT
138	CLAZZ-138	TENSION RELEASING PIN
139	CLAZZ-139FH	NEEDLE PLATE
140	CLAZZ-140	SCREW
141	CLAZZ-141	BED SLIDE
142	CLAZZ-142	BED SLIDE SPRING
143	CLAZZ-143	SCREW
144	CLAZZ-144	ARM SPOOL PIN
145	CLAZZ-145	ARM SPOOL PIN HOLDER BASE
201	CLAZZ-201	NEEDLE BAR FRAME
202	CLAZZ-202	...HINGE PIN
203	CLAZZ-203	...SCREW

204	CLAZZ-204	NEEDLE BAR
205/206	CLAZZ-205/206	NEEDLE BAR CONNECTING STUD/BUSHING
207	CLAZZ-207	...WASHER
208	CLAZZ-208	...SCREW
209	CLAZZ-209	NEEDLE BAR SET SCREW
210	CLAZZ-210	NEEEDLE BAR CONNECTING LINK
211	CLAZZ-211	...SCREW
212	CLAZZ-212	...ADJUSTING SCREW
213	CLAZZ-213	...NEEDLE BAR FRAME GUIDE PIN
214	CLAZZ-214	...SCREW
215	C135X17#20	NEEDLE
216	CLAZZ-216	NEEDLE SCREW
217	CLAZZ-217	TAKE UP LEVER LINK HINGE PIN
218	CLAZZ-218	...SCR
219	CLAZZ-706	TAKE UP LEVER (219)
220	CLAZZ-220	NEEDLE BAR CRANK
221	CLAZZ-221	...SCREW(LARGE)
222	CLAZZ-222	...SCREW(SMALL)
223	CLAZZ-223	COUNTERWEIGHT (223)
224	CLAZZ-224	...SCREW (LARGE)
225	CLAZZ-225	...SCREW (SMALL)
226	CLAZZ-226	NEEDLE BAR CONNECTING LINK GUIDE PLATE
227	CLAZZ-227	SCREW (UPPER)
228	CLAZZ-228	...SCREW(LOWER)
229	CLAZZ-3229	ARM SHAFT
230	CLAZZ-230	...BUSHING (FRONT)
231	CLAZZ-231	...SCREW
232	CLAZZ-232	...COLLAR
233	CLAZZ-233	...SCREW
234	CLAZZ-234	NEEDLE VIBRATION PINION (SPIRAL)
235	CLAZZ-235	...SCREW (5)
236	CLAZZ-236	ARM SHAFT (HORIZONTAL) LEVER GEAR
237	CLAZZ-237	...SCREW (4)
238	CLAZZ-238	ARM SHAFT BUSHING (REAR)
239	CLAZZ-239	...SCREW
240	CLAZZ-3240	HANDWHEEL
241	CLAZZ-241	...SCREW
242	CLAZZ-242	...POSITIONING SCREW
243	CLAZZ-243	CASE, GEAR AND PINION
244	CLAZZ-244	...SCREW
245	CLAZZ-245	PINION
246	CLAZZ-246	...SCREW
247	CLAZZ-247	UPRIGHT SHAFT
248	CLAZZ-248	...BUSHING (UPPER)
249	CLAZZ-249	...SCREW
250	CLAZZ-250	...BUSHING (LOWER)
251	CLAZZ-251	...SCREW
252	CLAZZ-252	...MITER GEAR
253	CLAZZ-253	UPRIGHT SHAFT SCREW
254	CLAZZ-254	MITER GEAR CASE
255	CLAZZ-255	...SCREW
256	CLAZZ-256	...OIL PLUG SCREW
257	CLAZZ-3257	HOOK DRIVE SHAFT

258	CLAZZ-258	...MITER GEAR (RING)
259	CLAZZ-259	...SCREW
260	CLAZZ-260	...BUSHING (RIGHT)
261	CLAZZ-261	...SCREW
262	CLAZZ-262	...THRUST COLLAR
263	CLAZZ-263	...SCREW
264	CLAZZ-264	...BUSHING (LEFT)
265	CLAZZ-265	...SCREW
266	CLAZZ-266	...HELICAL GEAR RIGHT
267	CLAZZ-267	...SCREW
268	CLAZZ-268	HELICAL GEAR (LEFT)
269	CLAZZ-269	...SCREW
270	CLAZZ-715	HELICAL GEAR COVER
271	CLAZZ-271	...SCREW
272	CLAZZ-771	HOOK SHAFT
273	CLAZZ-273	...BUSHING (FRONT)
274	CLAZZ-274	...SCREW
275	CLAZZ-275	...THRUST COLLAR
276	CLAZZ-276	...SCREW
277	CLAZZ-277	...BUSHING (REAR)
278	CLAZZ-278	...SCREW
279	CLAZZ-712	HOOK
280	CLAZZ-280	...SCREW
281	CLAZZ-281	BOBBIN CASE POSITION BRACKET
282	CLAZZ-282	...SCREW
283	CLAZZ-713	BOBBIN
284	CLAZZ-714	BOBBIN CASE
285	CLAZZ-285	NEEDLE BAR THREAD GUARD
286	CLAZZ-286	WASHER, N/B CONN. LINK GUIDE PLATE SCREW
287	CLAZZ-3287	HOOK DRIVE SHAFT BUSHING
288	CLAZZ-3288	...SCREW
306	CLAZZ-306	PRESSER BAR LIFTER SCREW
309	CLAZZ-309	...SCREW
310	CLAZZ-310	PRESSER BAR GUIDE BRACKET
311	CLAZZ-311	...SCREW
315	CLAZZ-315	ECCENTRIC STUD
316	CLAZZ-316	...SCREW
317	CLAZZ-317	NEEDLE VIBRATING CAM SHAFT
318	CLAZZ-318	...COLLAR (REAR)
319	CLAZZ-319	...SCREW
320	CLAZZ-320	...BUSHING REAR
321	CLAZZ-321	...SCREW
322	CLAZZ-322	...COLLAR (FRONT)
323	CLAZZ-323	...SCREW
324	CLAZZ-324	...BEVEL GEAR (LARGE)
325	CLAZZ-325	...SCREW
326	CLAZZ-326	NEEDLE VIBRATING CAM
327	CLAZZ-327	...SCREW
328	CLAZZ-328	CAM SHAFT BUSHING (FRONT)
329	CLAZZ-329	...SCREW
330	CLAZZ-330	...END SCREW
331	CLAZZ-3331	NEEDLE BAR FRAME PIT MAN
332	CLAZZ-332	SPRING (SMALL)

333	CLAZZ-333	...SCREW
334	CLAZZ-334	...SPRING HOOK
335	CLAZZ-335	LIFTING SPRING
336	CLAZZ-336	...CATCHER SCREW
337	CLAZZ-337	ZIG ZAG REGULATOR
338	CLAZZ-338	...SCREW
339	CLAZZ-339	...SLIDE BLOCK
340	CLAZZ-340	...STUD
341	CLAZZ-341	...NUT
342	CLAZZ-342	...HOLDER
343	CLAZZ-343	...SCREW
344	CLAZZ-344	ZIG ZAG REGULATOR BUSHING
345	CLAZZ-345	...SCREW
346	CLAZZ-346	ZIG ZAG REGULATOR
348	CLAZZ-348	...SCREW
349	CLAZZ-349	...WASHER
350	CLAZZ-350	...END SCREW
388	CLAZZ-388	ZIG ZAG INDICATOR PLATE
352	CLAZZ-352	...SCREW
353	CLAZZ-353	...STOPPER
354	CLAZZ-354	...WASHER
355	CLAZZ-355	...NUT
356	CLAZZ-356	ZIG ZAG CONNECTOR
357	CLAZZ-357	...SCREW
358	CLAZZ-358	LIFTING CRANK SHAFT
359	CLAZZ-359	LIFTING CRANK
360	CLAZZ-360	...SCREW
361	CLAZZ-361	INDICATOR STOP LEVER
362	CLAZZ-362	...SCREW
363	CLAZZ-363	INDICATOR STOP BRACKET
364	CLAZZ-364	...SCREW
365	CLAZZ-365	...ADJUSTING SCREW
366	CLAZZ-366	...NUT
367	CLAZZ-367	LIFTING ROD
368	CLAZZ-368	...COTTER PIN
369	CLAZZ-369	...STABILIZE PLATE
370	CLAZZ-370	...SCREW
371	CLAZZ-371	LIFTING ROD ROLLER
372	CLAZZ-372	...SCREW
373	CLAZZ-373	DIAL
374	CLAZZ-374	NEEDLE VIBRATOR STOP INDEX FINGER
375	CLAZZ-375	DIAL
376	CLAZZ-376	NEEDLE VIBRATOR STOP INDEX FINGER
377	CLAZZ-377	...SCREW
378	CLAZZ-378	LIFTING LEVER LINK
379	CLAZZ-379	...SCREW
380	CLAZZ-380	PRESSER BAR LIFTING AND RELEASING LEVER BRACKET
381	CLAZZ-381	TENSION RELEASING LEVER
382	CLAZZ-382	...SCREW
383	CLAZZ-383	PRESSER BAR LIFTER
384	CLAZZ-384	PRESSER FOOT
385	CLAZZ-385	...SCREW
386	CLAZZ-386	...SPRING

387	CLAZZ-387	PRESSER BAR
401	CLAZZ-3401	FEED LIFTING ROCK SHAFT
402	CLAZZ-3402	FEED ROCK SHAFT
403	CLAZZ-403	...SCREW CENTER
404	CLAZZ-404	...SCREW CENTER NUT
405	CLAZZ-405	FEED LIFTING ROCK SHAFT CRANK
406	CLAZZ-406	FEED LIFTING ROCK SHAFT ROLLER
407	CLAZZ-407	FEED LIFTING ROCK SHAFT CRANK CLAMP SCREW
408	CLAZZ-408	FEED ROCK SHAFT CRANK
409	CLAZZ-409	FEED ROCK SHAFT CRANK CLAMPING SCREW
410	CLAZZ-410	FEED BAR SHAFT SET SCREW
411	CLAZZ-411	FEED BAR
412	CLAZZ-412	FEED BAR SHAFT
413	CLAZZ-413	FEED BAR SHAFT COLLAR
414	CLAZZ-414	...SCREW, COLLAR
415	CLAZZ-415FH	FEED DOG (REG, 2 1/2)
416	CLAZZ-416	...SCREW
417	CLAZZ-417	FEED FORKED CONNECTION
418	CLAZZ-418	FEED LIFTING ROCK SHAFT CONNECTION ROD
419	CLAZZ-419	FEED CAM
420	CLAZZ-420	FEED LIFTING ROCK SHAFT CONNECTING ROD
421	CLAZZ-421	...HINGE SCREW NUT
422	CLAZZ-422	KNEE LIFTER LIFTING LEVER
423	CLAZZ-423	...SCREW
424	CLAZZ-424	KNEE LIFTER LIFTING LEVER PIN
425	CLAZZ-425	...SCREW
431	CLAZZ-431	...SPRING
432	CLAZZ-432	...SCREW
433	CLAZZ-433	FEED REVERSE LEVER
434	CLAZZ-434	...SCREW
435	CLAZZ-435	...ROLLER
436	CLAZZ-436	...SPRING
437	CLAZZ-437	...SCREW (LOWER)
438	CLAZZ-438	...SCREW (UPPER)
439	CLAZZ-439	FEED REVERESE LEVER HINGE SCREW
440	CLAZZ-440	...WASHER
441	CLAZZ-441	FEED REGULATOR
442	CLAZZ-442	...SCREW
443	CLAZZ-443	...SCREW
444	CLAZZ-444	FEED CONNECTING LOWER HINGE SCREW
445	CLAZZ-445	...SCREW NUT
446	CLAZZ-446	FEED CONNECTING LINK
447	CLAZZ-447	FEED CONNECTING LINK HINGE STUD
448	CLAZZ-448	FEED REGULATING STUD LOCK PIN
449	CLAZZ-449	...SPRING
450	CLAZZ-450	FEED REGULATING STUD
451	CLAZZ-451	FEED REGULATING STUD HEAD
452	CLAZZ-452	...SCREW