



MODEL AUTOJIG

84-72MS

PARTS AND SERVICE MANUAL

MACHINE SERIAL No:

PART NUMBER 97.8472.0.000



MODEL AUTOJIG

84-72MS

PARTS AND SERVICE MANUAL

MACHINE SERIAL No:

PART NUMBER 97.8472.0.000



AJ 84-72MS

97.8472.0.000
PARTS AND SERVICE MANUAL



AJ 84-72MS

97.8472.0.000
PARTS AND SERVICE MANUAL



AJ 84-72MS

97.8472.0.000
PARTS AND SERVICE MANUAL



AJ 84-72MS

97.8472.0.000
PARTS AND SERVICE MANUAL



AJ 84-72MS

97.8472.0.000
PARTS AND SERVICE MANUAL



AJ 84-72MS

97.8472.0.000
PARTS AND SERVICE MANUAL



LIMITED WARRANTY ON NEW AMF REECE EQUIPMENT

Warranty provisions:

A ninety (90) day limited service labor warranty to correct defects in installation, workmanship, or material without charge for labor. This portion of the warranty applies to machines sold as "installed" only.

A one (1) year limited material warranty on major component parts to replace materials with defects. Any new part believed defective must be returned freight prepaid to AMF Reece, Inc. for inspection. If, upon inspection, the part or material is determined to be defective, AMF Reece, Inc. will replace it without charge to the customer for parts or material.

Service labor warranty period shall begin on the completed installation date. Material warranty shall begin on the date the equipment is shipped from AMF Reece, Inc.

Exclusions:

Excluded from both service labor warranty and material warranty are: (1) Consumable parts which would be normally considered replaceable in day-to-day operations. These include parts such as needles, knives, loopers and spreaders. (2) Normal adjustment and routine maintenance. This is the sole responsibility of the customer. (3) Cleaning and lubrication of equipment. (4) Parts found to be altered, broken or damaged due to neglect or improper installation or application. (5) Damage caused by the use of non-Genuine AMF Reece parts. (6) Shipping or delivery charges.

There is no service labor warranty for machines sold as "uninstalled".

Equipment installed without the assistance of a certified technician (either an AMF Reece Employee, a Certified Contractor, or that of an Authorized Distributor) will have the limited material warranty only. Only the defective material will be covered. Any charges associated with the use of an AMF Reece Technician or that of a Distributor to replace the defective part will be the customer's responsibility.

NO OTHER WARRANTY, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, and FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER IS GIVEN BY SELLER OR SELLER'S AGENT IN CONNECTION HERewith. UNDER NO CIRCUMSTANCES SHALL SELLER OR SELLER'S AGENT BE LIABLE FOR LOSS OF PROFITS OR ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES OR DAMAGES ARISING OUT OF DEFECTS IN OR FAILURE OF THE EQUIPMENT OR ANY PART THEREOF.

WHAT TO DO IF THERE IS A QUESTION REGARDING WARRANTY

If a machine is purchased through an authorized AMF Reece, Inc. distributor, warranty questions should be first directed to that distributor. However, the satisfaction and goodwill of our customers are of primary concern to AMF Reece, Inc. In the event that a warranty matter is not handled to your satisfaction, please contact AMF Reece office:

Prostejov, Czech Republic
Phone: (+420) 582-309-275
Fax: (+420) 582-360-608
e-mail: service@amfreece.cz



Warranty Registration Card

(Please Fax or Mail immediately after installation)

Note: All Warranty Claims Void, unless Registration Card on file at AMF Reece HQ

Machine model number:

(S101, S100, S104, S105, S311, Decostitch, S4000, EBS Mark II, etc)

Manufacturer's serial or production number:

Installation Site Information:

Customer's Name:

Customer's Mailing Address:

Customer's Telephone Number:

Supervising Mechanic's or Technician's Name:

Signature of Supervising Technician:

AMF Reece Technician's Name:

AMF Reece Technician's Signature:

Type of garment produced at this location?

Average Daily Production Expected from this machine?

(number of buttonholes, jackets sewn, pants produced, buttons sewn, etc)

Any special requirements required at this location?

What other AMF Reece Machines are at this location?

How can we serve you better?

Service Manual

Contents

1. Introduction
2. Using Jigs
3. Operating Instructions
4. Setting Procedures
5. Controller, Program Description and Electrical Circuit Diagram
6. Pneumatics
7. Head Setting Procedures
8. Synchronizer

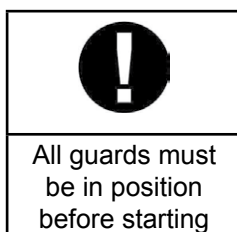
1 - INTRODUCTION

SAFETY FIRST

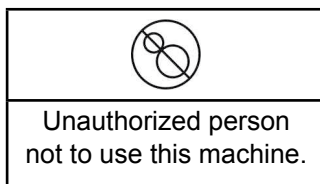
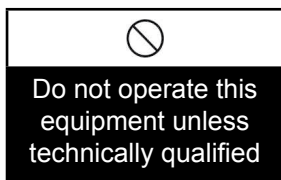
A CAREFUL WORKER
IS THE BEST
SAFETY DEVICE

SAFETY INSTRUCTIONS

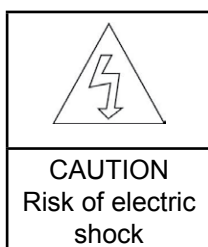
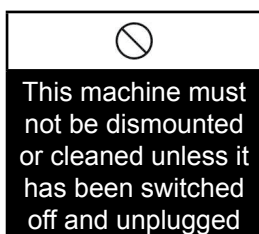
- The machine must only be used for the purpose it was designed for. In case of conversion into another version all valid safety instructions have to be considered.
- Do not operate this machine without the safety devices it is equipped with.



- The machine must only be switched on and operated by persons who have been instructed accordingly.



- When exchanging parts end when doing maintenance work the machine must be disconnected either by actuating the master switch or by removing the mains plug.



- When threading machine Emergency Stop must be engaged or the machine switched off.

1 - INTRODUCTION

**SAFETY
FIRST**

A CEREFUL WORKER
IS THE BEST
SAFETY DEVICE

SAFETY INSTRUCTIONS

- When carrying out maintenance or repair work on pneumatic devices the machine must be disconnected from the pneumatic supply source.



CAUTION
Compressed air

- Work on electrical equipment on this machine must only be carried out by electricians or other persons who have been instructed accordingly.



Do not maintain this equipment
unless technically qualified

- The actual 'A' weighted sound pressure level taken on an identical machine is 75.5 DB (A)
- Take appropriate measures for protection of hearing if sound pressure of 85 DB (A) is exceeded.



- Ensure lifting rail is used when lifting with fork lift truck.

1 - INTRODUCTION

IMPORTANT NOTES

To avoid trouble or damage it is absolutely necessary to observe the following instructions:

- Before you put the machine into operation for the first time clean it thoroughly, remove all dust which has accumulated on it.
- Oil all necessary parts ensuring drive wheel section is free from any type of lubricant.
- Check to make sure line voltage agrees with the voltage indicated on the machine label. If it does not, be sure not to plug in the machine.
- The balance wheel should always rotate towards you (when standing at the front of the machine). If it does not, alter the direction of the motor. Refer to Efka manual section, motor direction setup.
- Check you have the correct pneumatic line pressure.
- Always make sure the correct program is selected on the AMF Reece controller related to the type of jig being used.

1 - INTRODUCTION

QUICK REFERENCE SPECIFICATION SHEET

ELECTRICAL REQ:	220V @60Hz, single phase, 600W 240V @50Hz, single phase, 600W
AIR SUPPLY:	Pressure - 80 p.si (5.5 Bar) Consumption - 0.40 c.f.m (12 L/Min)
NOISE LEVEL:	75.5 DB (A)
SEWING HEAD:	Lockstitch with underbed trimmer
SEWING HEAD MOTOR:	AB221A
SEWING HEAD SPEED:	2600 SPM (at max)
STITCH SIZE:	0.5 mm - 3.5 mm (max varies with material)
LUBRICATION SYSTEM:	Sump Reservoir, Wick and Pump Distribution System. Jig Track - Silicon Spray
NEEDLE TYPE:	DBx1
RECOMMENDED THREAD:	Core spun polyester/cotton
SEWING AREA:	175 x 175 mm
TABLE HEIGHT:	930 mm (36.5")
OPERATOR POSITION:	Standing

2 - USING JIGS

2.1 Loading of Material into the Jig (e.g. Collar)

- Open jig and position lower ply of cloth to the jig location marks.
- If the jig has a fulling bar (i.e. middle section) close this on to the lower ply of cloth.
- Position the upper ply of cloth to jig location marks.
- Close the top plate of the jig.
- Jig is now ready to insert into machine.

2.2 Loading Jig to the Machine

- Slide the loaded jig with the right hand on the top plate, towards the needle, lining up the start position approximately 1/2" (13 mm) behind the needle.

NOTE: When the jig is loaded, do not lift up from the table.

- Push the jig to the right and over the raised flap in front of the needle plate.
- As the jig is pushed to the right, the jig flap will drop to its normal position.
- If the jig is located correctly, the raised 'D' shape of the needle plate will locate in the track of the jig.
- Pull jig back to closed track. (Double jig should be pulled back so jig contacts presser foot).
- When the jig is loaded correctly to the machine, press the green start button located on the table top; and the automatic cycle will begin.
- At the end of the cycle the jig will be ejected (or in the case of a double jig, wait to be pulled forward to its start position).

NOTE:

The machine has an A.M.F. Reece controller that is programmed to perform different functions, depending on the type of jig being used.

2.3 Program Selection

The different programs are achieved by selecting programs 1 - 6 on the machine control panel.

- Single pocket Flap - select program 1



- Double Pocket Flap - select program 2



- Collar Jig - requiring needle down both corners - select program 3



- Collar Jig - slow sew round collar - select program 4



- Single Breasted Jacket - select program 5



- Double Breasted Jacket - select program 6



3 - OPERATING INSTRUCTIONS

3.1 To Start up the Machine

- a. Turn the green switch on the right hand front panel of the machine, to switch on the air supply to the machine.
- b. Press black button on starter box.

NOTE: The presser foot of the machine is always in the raised position when the machine is in the 'Stop' mode with the air and power switched on.



Carry out the following steps of procedure after the power switch has been turned OFF.

3.2 Installation of Needle

Insert the needle to the needle bar to the full with its longer groove to the left, and firmly fasten by using the needle clamp screw (Figure 3.1).

Applicable needle: 134

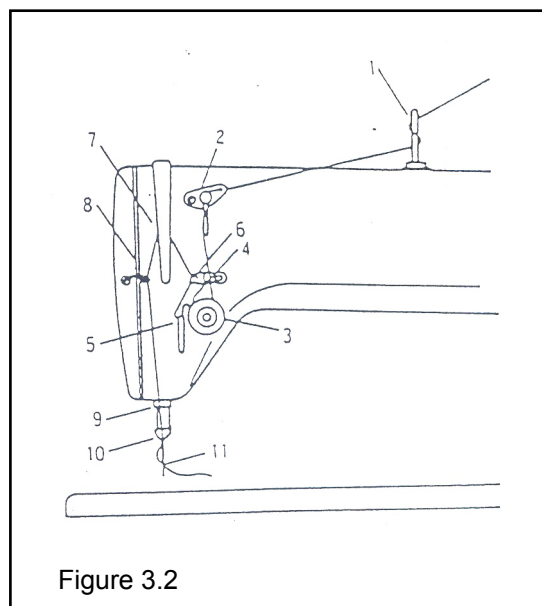
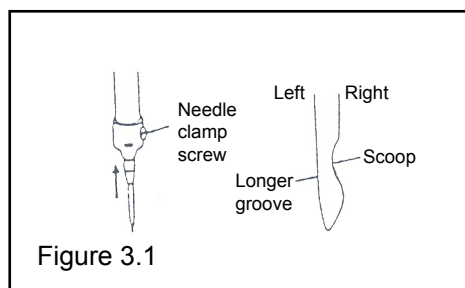
NOTE:

Needle size and needle point are dependent on the type of material being used. (Refer to needle and thread section 3.13).

- a. Using a screwdriver, loosen the needle set screw on the left hand side of the needle bar.
- b. Insert the needle and push it up as far as it will go (make sure the long groove faces towards the left).
- c. Tighten needle set screw securely.

3.3 Threading of Upper Thread

Turn the handwheel toward you to make the thread take-up reach the highest position, and run a thread from the spool pin to the needle through each part in such an order as numbered in Figure 3.2. At the needle, run the thread from left to right and leave the thread end for approx. 5 cm.



3 - OPERATING INSTRUCTIONS

3.4 Bobbin Winding

- Set the bobbin with the bobbin winder spindle and wind the thread on the bobbin for a few turns by hand.
- Push fully the bobbin winder setting lever to make the winder pulley contact with the V-belt.
- Set winding capacity at 80% using the bobbin winding capacity regulating screw.
- If bobbin winding is uneven, adjust the position of the bobbin winder complete so that winding becomes even.
- When winding finishes, the bobbin winder setting lever flips up and the bobbin winding pulley stops.

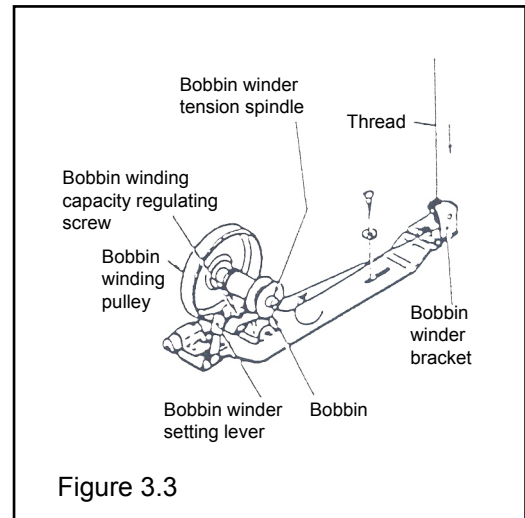


Figure 3.3

3.5 Bobbin Setting into Bobbin Casa

- Set the bobbin in the bobbin case in such a way that the bobbin will rotate in the direction as shown by arrow in Figure 3.4 when thread is pulled out.
- Run a thread through the thread guide of the bobbin case and draw the thread, and the thread will come out from the thread feeder through the tension spring.

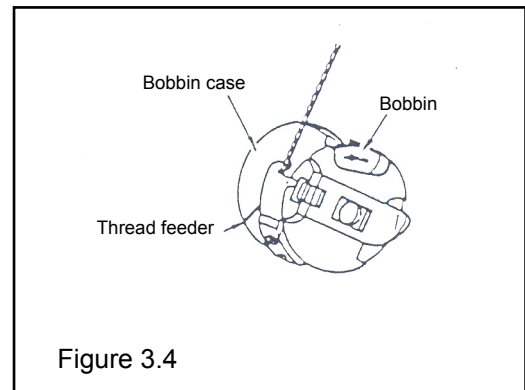


Figure 3.4

3 - OPERATING INSTRUCTIONS

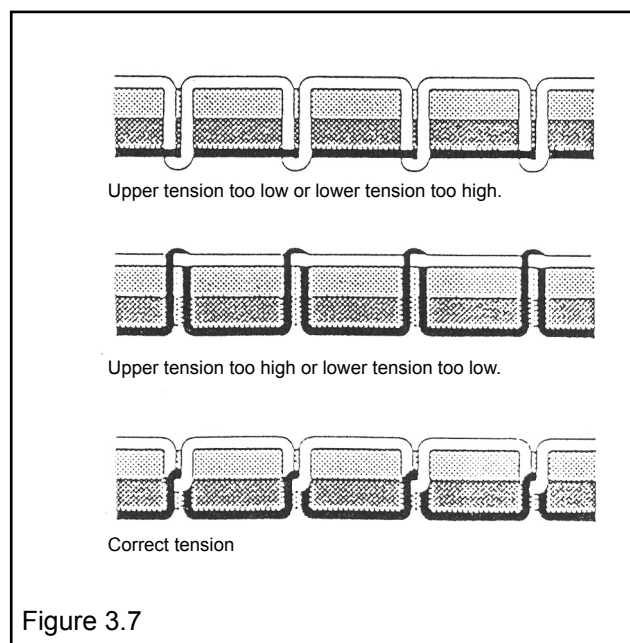
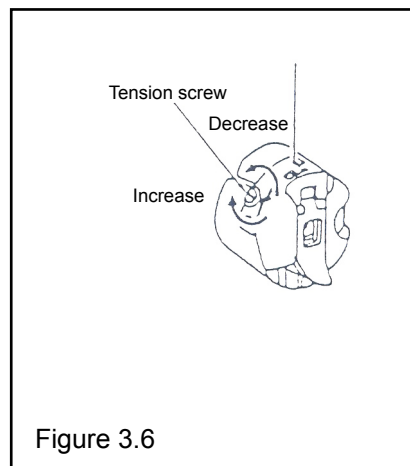
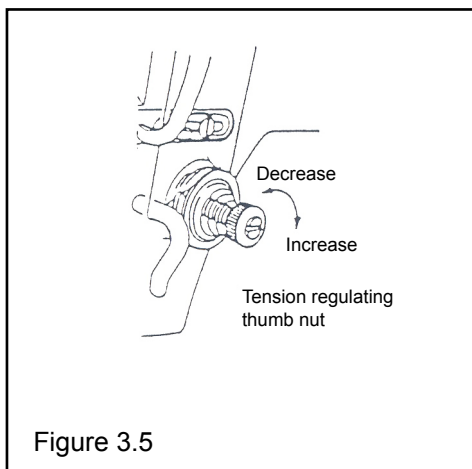
MACHINE ADJUSTMENTS

3.6 Upper Thread Tension (Figure 3.5)

Use the tension regulating thumb nut. Clockwise turns increase tension, and counterclockwise turns decrease tension.

3.7 Lower Thread Tension (Figure 3.6)

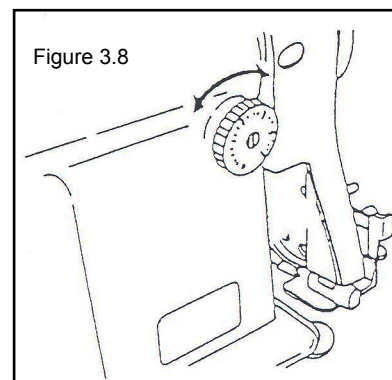
Turn the tension screw clockwise to increase, and counterclockwise to decrease.



3 - OPERATING INSTRUCTIONS

3.8 Adjustment of Stitch Length

To adjust the stitch length, turn the feed regulating dial (Figure 3.8).

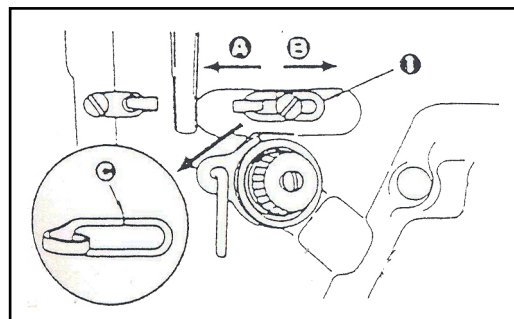


3.9 Adjusting the Thread Take-up Stroke



Carry out the following steps of procedure after the power switch has been turned OFF.

- 1) When sewing heavy-weight materials, move thread guide **1** to the left (in direction **A**) to increase the length of thread pulled out by the thread take-up.
- 2) When sewing light-weight materials, move thread guide **1** to the right (in direction **B**) to decrease the length of thread pulled out by the thread take-up.
- 3) Normally, thread guide **1** is positioned in a way that marker line **C** is aligned with the center of the screw.



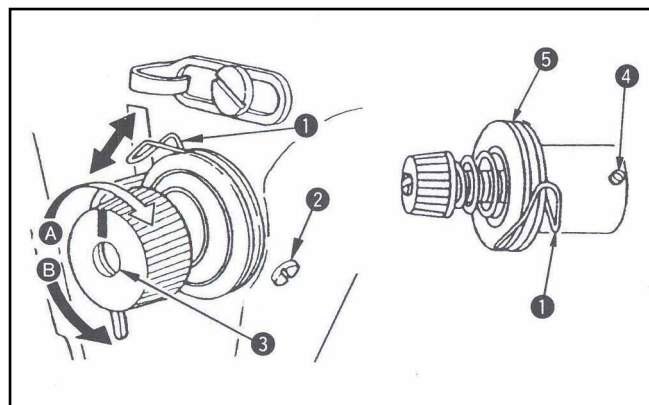
3.10 Thread Take-up Spring

1. Changing the stroke of thread take-up spring **1**

- 1) Loosen setscrew **2**
- 2) As you turn tension post **3** clockwise (in direction **A**), the stroke of the thread take-up spring will be increased.
- 3) As you turn the knob counterclockwise (in direction **B**), the stroke will be decreased.

4. Changing the pressure of thread take-up spring **1**

- 1) Loosen setscrew **2**, and remove thread tension (asm.) **5**
- 2) Loosen setscrew **4**.
- 3) As you turn tension post **3** clockwise (in direction **A**), the pressure will be increased.
- 4) As you turn the post counterclockwise (in direction **B**), the pressure will be decreased.



Cleaning

Clean the hook and base area once every day, removing any lint or thread which may have accumulated. For this purpose, the jig plate can be removed from the machine. Switch off the machine, unscrew the needle plate and remove the lint with a soft brush.

Remove the jig drive guard and clean away any dust or lint which may have accumulated.

NOTE:

Never oil the jig drive wheel.

3 - OPERATING INSTRUCTIONS

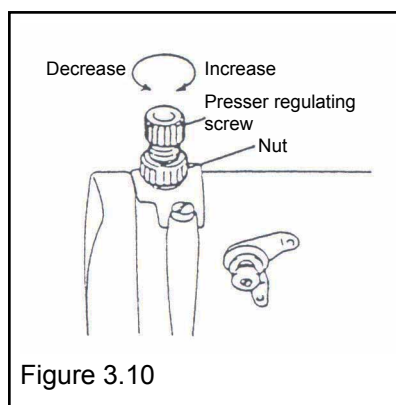
3.11 Regulating Foot Pressure on Jig

Adjustment of Presser Pressure

Turn the presser regulating screw clockwise to increase, and counterclockwise to decrease the pressure. Be sure to tighten the nut after adjustment. A foot pressure of approximately 1.5 to 2 kg will give best results on all materials.

3.12 Emergency Stop

This is achieved by pressing the red Stop button. This will activate Emergency Stop sequence. Machine will not restart until Stop button is reset.



3 - OPERATING INSTRUCTIONS

3.13 Needle and Thread

Selection of the proper needle depends on the material and thread used.

For selection of the proper needle and thread sizes refer to the table below:

THREAD SIZE						
	NEEDLE SIZE (NM)"	COTTON	SILK	SYNTHETIC	LINEN	NEEDLE SYSTEM
A	60	100 - 80	140	200 - 150		DBx1
	70	70 - 60	120	180 - 120		
B	80	60 - 50	100	120 - 100		DBx1
	90	50 - 40	80	100 - 80	70	
	100	40 - 30	70	80 - 60	60	
C	110	30 - 24	60	60 - 50	50	DBx1
	120	20	50	50 - 40	40	
	130	12	40	40 - 30	35	
	140	10	30	30 - 20	30	

A = LIGHT WEIGHT MATERIALS

B = MEDIUM WEIGHT MATERIALS

C = HEAVY WEIGHT MATERIALS

NM" = NEEDLE SIZE IN HUNDRETHS OF MM

4 - SETTING PROCEDURES

4.1 Jig Feed Mechanism

1. Feed Motion Timing

Time the feed motion to be completed when the descending needle is approximately 6 mm above the material.

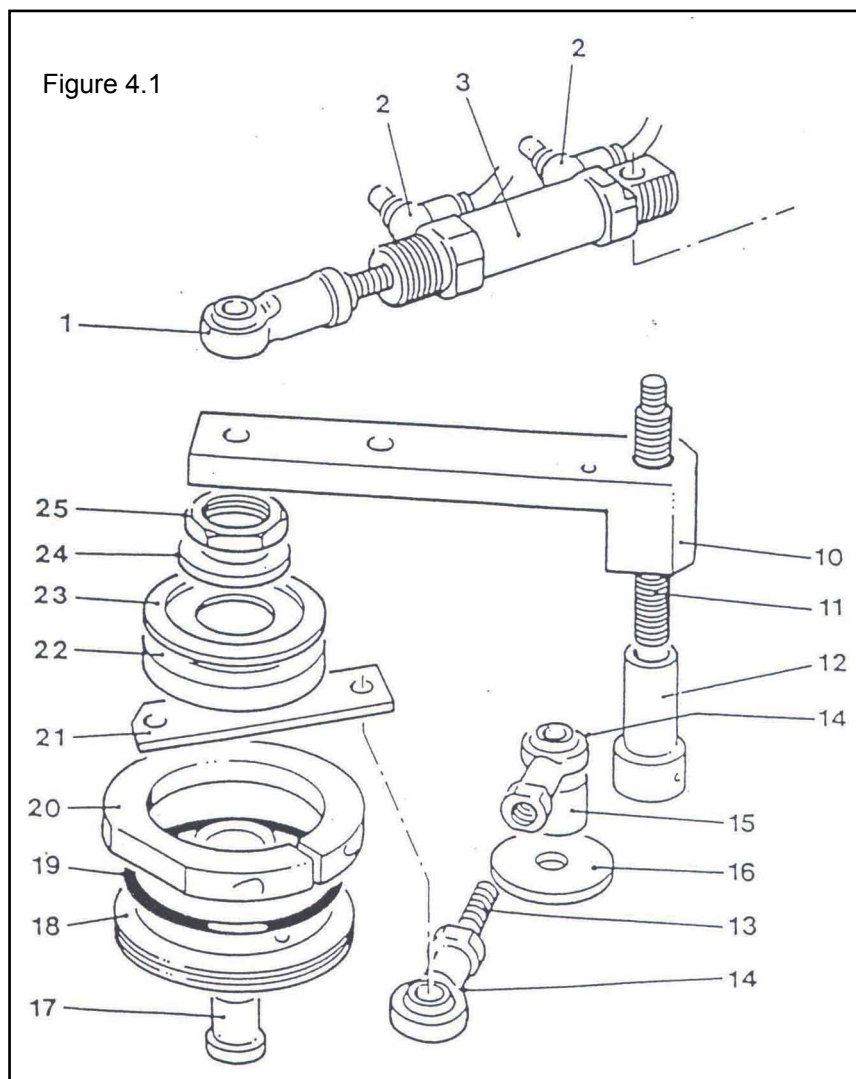
Alterations to the stitch length are made in the usual manner using the stitch regulator.

2. Drive Wheel Assembly (Figure 4.1)

To replace a worn drive wheel detach the drive arm (10) from the machine bed, unfasten the spherical rod end bearings (14) from the arm and the drive wheel housing. Next remove the bearing (22), free-wheel housing (20) and drive wheel (18) complete from the arm. Using the two M5 holes in the drive wheel with two screws as an anchor, loosen nut (25) and remove drive wheel from bearing. When re-assembling care should be taken that all surfaces are clean and free from lint etc. The pivot spindle (17) should at this stage be lubricated with graphited grease before replacement into the drive wheel.

CAUTION:

ORDINARY GREASE OR LUBRICATING OIL IS NOT SATISFACTORY IN THE DRIVE WHEEL STUD HOUSING. USE A GREASE CONTAINING GRAPHITE OR MOLYBDENUM DISULPHIDE.



4 - SETTING PROCEDURES

The clutch is lubricated with oil and has an 'O'-ring on the bottom to prevent oil leakage. It is also covered with a 'Nilos' sealing ring to exclude dust and fibrous waste. The clutch should be lubricated lightly every 100 running hours with light machine oil (non-staining).

Ensure drive wheel does not foul on base of machine, when unit is tightened down.

3. Drive Wheel Cylinder (Figure 4.1)

The rod end bearing (1) should be set so that when the cylinder is fully extended the drive wheel is taken 3mm past its contact position.

CAUTION:

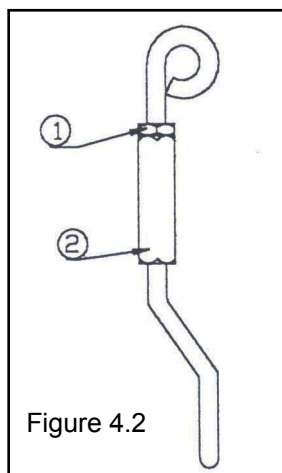
CHECK THIS SETTING BECAUSE, IF THE DRIVE WHEEL TRAVELS TOO FAR, IT WILL CONTACT AND DAMAGE THE PHOTOCELL IF THE MACHINE IS RUN WITHOUT A JIG.

4. Drive Wheel Surface

The driving surfaces of the wheel must not be contaminated with any lubricant or silicone aerosols etc., as this will affect the feeding. Clean the tapered groove with solvent if contamination is suspected.

4.2 Dense Stitch Size

The size of the dense stitches themselves may be altered using the adjustment nut 2 on the dense stitch adjuster located underneath the machine bed. By loosening nut 1 and rotating nut 2 clockwise the size of the dense stitches will increase. When the correct size is achieved use nut 1 to lock nut 2 in position. See Fig 4.2.



4.3 Number of Dense Stitches

The A.M.F. Reece controller is set to give a timed sequence of dense stitches at the start and end of stitching. These two conditions can be altered by tenths of a second to give longer or shorter length of dense stitch.

The speed of the dense stitch may be altered to faster or slower (see Section 5).

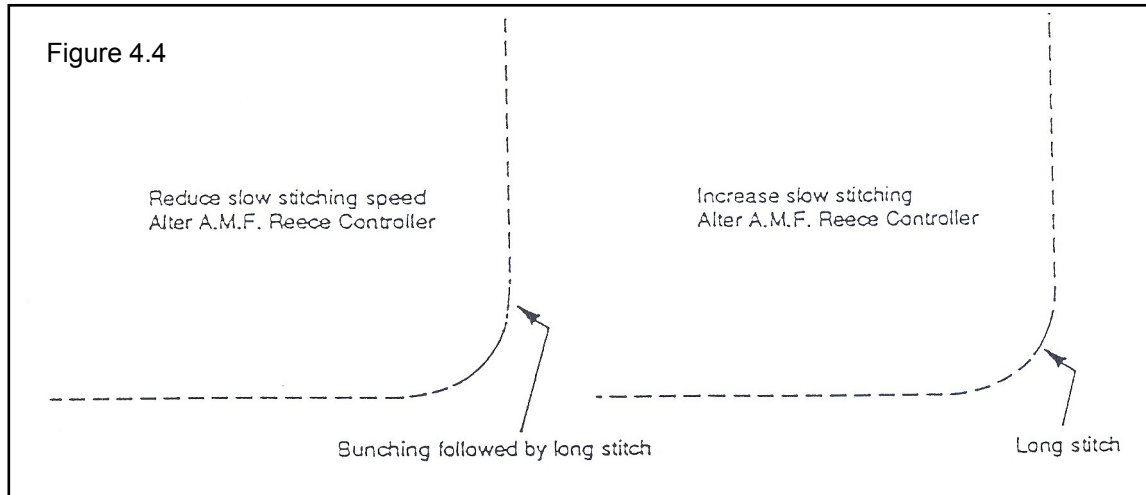
4.4 Needle Reverse

The Efka motor may be programmed to take the needle to its highest position, when thick cloth is being used. This allows the presser foot to be set higher without needle protruding, (see Efka Manual).

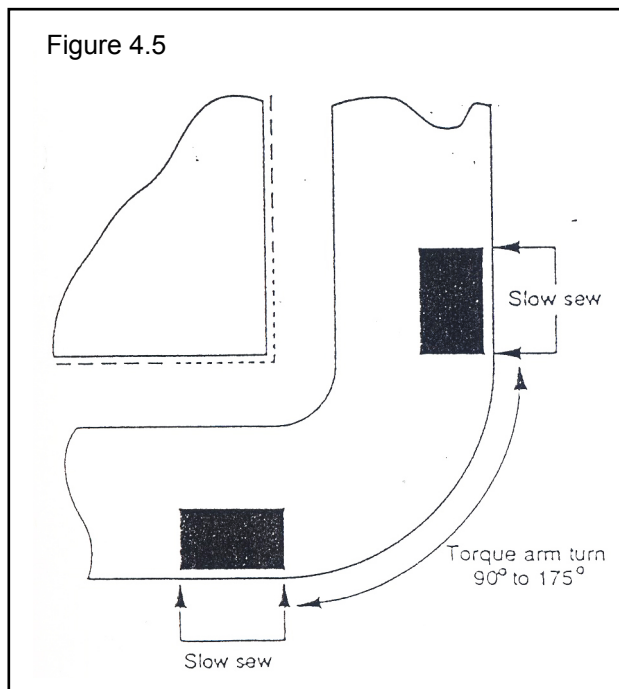
4 - SETTING PROCEDURES

4.5 Turn Arm / Variable Speed Setting Instructions

1. To obtain uniform stitching on radiussed corners it is necessary to find the machine speed that is matched to the speed of the torque arm. This is done by altering slow sew speed in A.M.F. Reece controller (see Section 5). Small stitches at the corner indicate too fast a machine speed, so this would require the speed to be lowered. Large stitches at the corner indicate too slow a machine speed. Correct this by increasing speed in A.M.F. Reece controller.



2. Actuation of the torque arm is caused by the photocell being energised after it has cleared the first piece of tape on the corner of the jig, it is returned when it is de-energised by the second piece of tape which is placed after the corner. It is possible to turn approx. 175° (see Figure 4.5).



3. The turn arm has a 20 mm cylinder fitted. This is in return position when torque arm is at rest, this is to allow jigs with internal radii to pass underneath. Also fitted to the torque unit are two flow controls: these restrict the exhausted air to ensure that the jig turns smoothly.

TAPE POSITION AT CORNERS (Guide only)

4 - SETTING PROCEDURES

4.6 Photo-Electric Switch

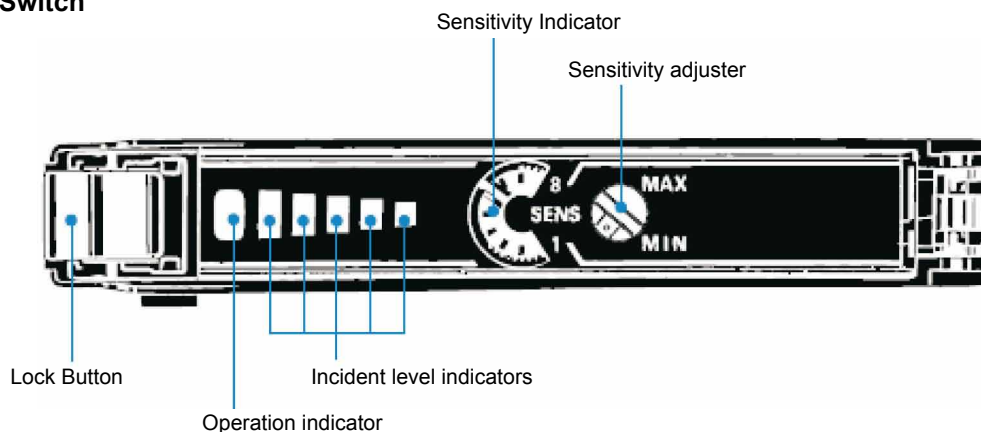


Figure 4.6

1. Hints on Correct use

Do not use the sensor in explosive or ignition gas.
Never disassemble, repair nor taper with the sensor.
Do not apply excess voltage and current over rating.
Do not wire improperly such as reversing polarity.
Do not short-circuit load.
Do not remove protective cover from the sensor.

2. Indication

In addition to the operation (orange), sensor has indicators that denotes the level (4 green and 1 red indicators). Use them for optical axis adjustment and maintenance.

3. Sensitivity Adjustment

For correct adjustment follow these steps:

- Put the jig with black tape under the sensor. When the black tape is under the sensor, operation indicator must not lit and one or two incident level indicators have to lit (green), see Figure 4.7 a, 4.7 b.
- Move the jig to the position without black tape. Here operation indicator has to lit and three or more incident indicators have to lit, see Figure 4.7 d, 4.7 e.

If the sensor doesn't work according to the points mentioned above change the position of sensitivity adjuster. Standard position for sensitivity adjuster is shown in Figure 4.8.

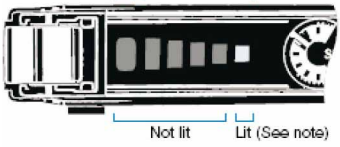
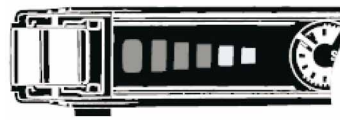
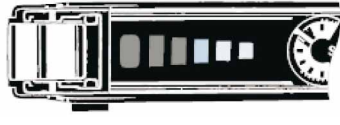
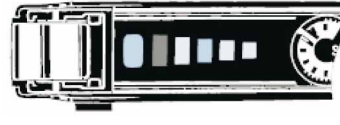
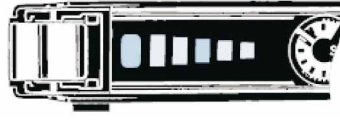
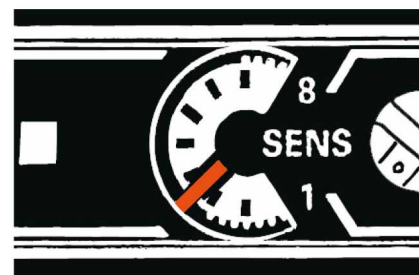
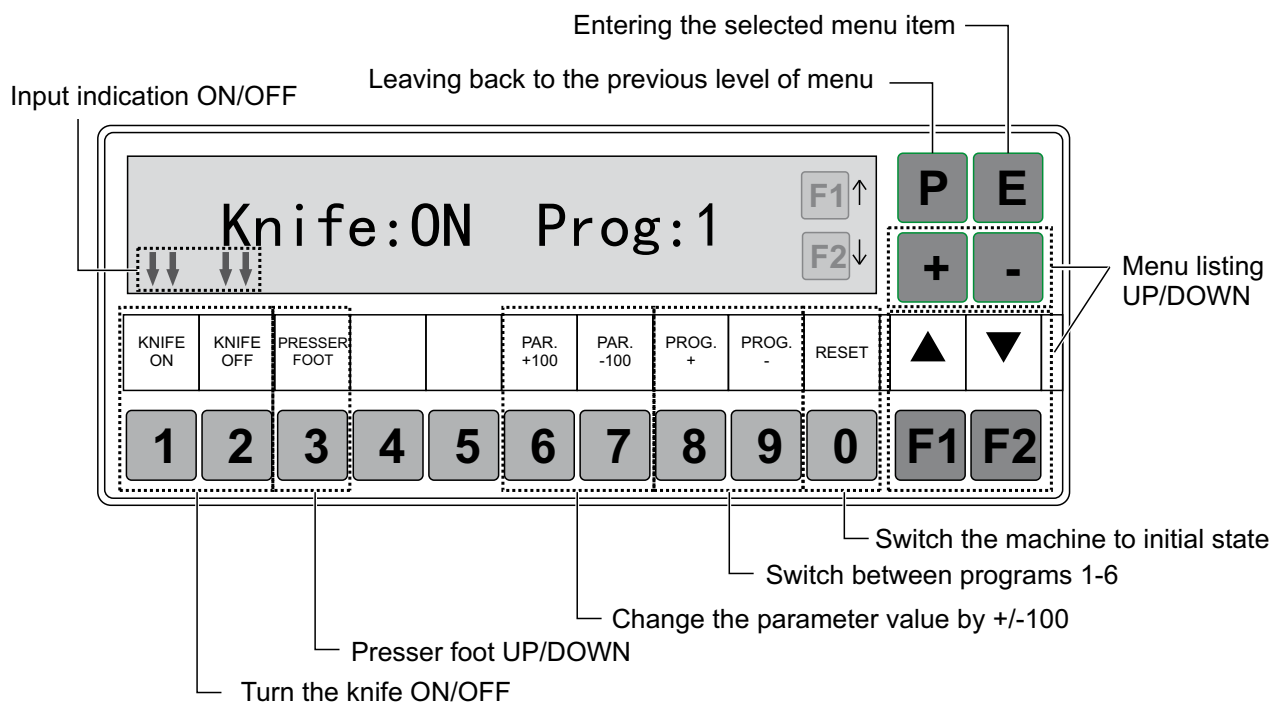
Indicator status (L/ON)	Operation indicator (L/ON)	Incident level
a) 	Not lit	Approx. 80% to 90% of operating level
b) 	Not lit	Approx. 80% to 90% of operating level
c) 	Not lit or lit	Approx. 90% to 110% of operating level
d) 	Lit	Approx. 110% to 120% of operating level
e) 	Lit	Approx. 120% min. of operating level

Figure 4.8



5 - CONTROLLER, PROGRAM DESCRIPTION AND ELECTRICAL CIRCUIT DIAGRAM

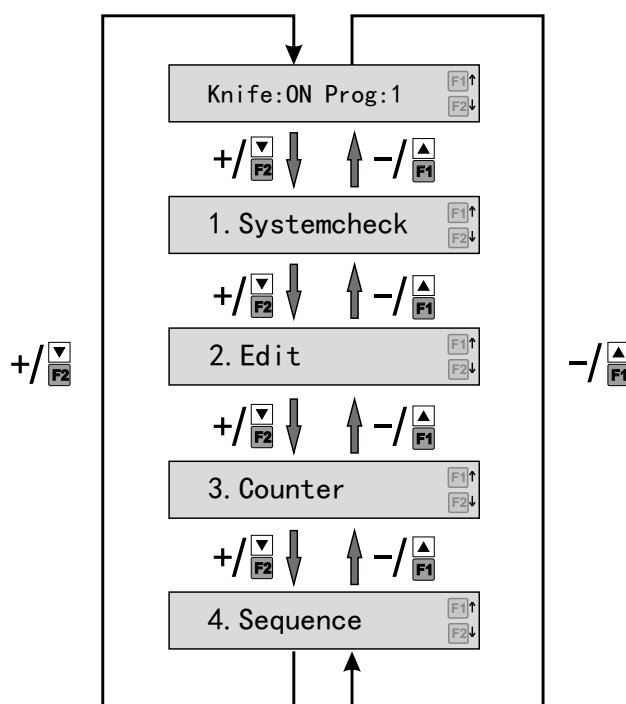
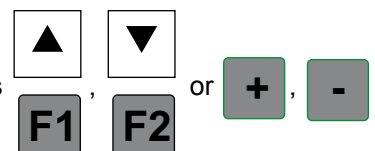
Control Panel



The following screen is displayed after turning the machine on:



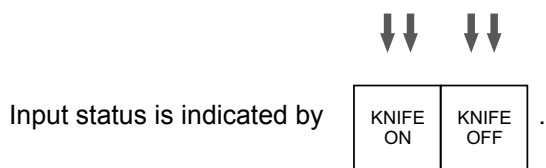
To get into the main machine menu and to list in this menu, use the cursor arrows





5 - CONTROLLER, PROGRAM DESCRIPTION AND ELECTRICAL CIRCUIT DIAGRAM

1. Systemcheck


1.1. Input Test





1. Start Button  


2. Photocell  



1.2. Output Test

Output can be tested by pressing  button



1. Knife  

2. Jig Flap  

3. Dense Stitch  

4. Jig Drive  

5. Jig Turn  

6. Jig Eject  

5 - CONTROLLER, PROGRAM DESCRIPTION AND ELECTRICAL CIRCUIT DIAGRAM

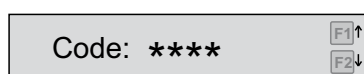
1.3. Position Test

Sewing motor function can be tested:

- by 1st press of **E** button the needle goes to the bottom position
- by 2nd press of **E** button the needle goes to the top position

2. Edit

1. For the first time after turning the machine on, the following screen will appear:



Enter the code 131

- 2.

Select the program for editing by pressing **1** - **6** .

3. Adjust the parameter value by **6** and **7** .

5 - CONTROLLER, PROGRAM DESCRIPTION AND ELECTRICAL CIRCUIT DIAGRAM

2.1. Program Parameters

Nr.	Parameter	Values	Description
1	Double Jig	OFF / ON	sewing of double-jig off / on
2	1Jig Corner	NeDN / SiSp / END?	1st jig corner: needle stay down / sewing at slow speed / end of cycle
2a	1 C.Slow Sp	400 – 2600 [spm]	1st jig corner: speed of the slow sewing
3	2Jig Corner	NeDN / SiSp / END?	2nd jig corner: needle stay down / sewing at slow speed / end of cycle
3a	2 C.Slow Sp	400 – 2600 [spm]	2nd jig corner: speed of the slow sewing
4	3Jig Corner	NeDN / SiSp / END?	3rd jig corner: needle stay down / sewing at slow speed / end of cycle
4a	3 C.Slow Sp	400 – 2600 [spm]	3rd jig corner: speed of the slow sewing
5	4Jig Corner	NeDN / SiSp / END?	4th jig corner: needle stay down / sewing at slow speed / end of cycle
5a	4 C.Slow Sp	400 – 2600 [spm]	4th jig corner: speed of the slow sewing
6	K.DelayStart	OFF / ON	delayed activation of the cutting knife off / on
6a	Time ON/Tape	OFF / ON	delay of the cutting knife activation determined by time (ON) / black-tape (OFF)
6b	K.DelayTime	0 – 9999 [ms]	time of the cutting knife activation delay (when activation by time selected)
7	K.DelayEnd	OFF / ON	delay of the cutting knife deactivation from the final black-tape
8	Dense into C	OFF / ON	dense-stitches sewing in the corners off / on
9	Sta Den.Tim	0 – 9999 [ms]	time of dense-stitches sewing from the sewing start
10	End Den.Tim	0 – 9999 [ms]	time of dense-stitches sewing from the final black-tape
11	Set Den. Sp	400 – 2600 [spm]	setting of the dense-stitches sewing speed
12	Slow Sew Sp	400 – 2600 [spm]	setting of the speed when “sewing at slow speed” is selected in a corner
13	Needle DnSp	400 – 2600 [spm]	setting of the speed when “needle-stay down” is selected in a corner
14	Max Sew Sp	400 – 2600 [spm]	setting of the maximum sewing speed
15	J.Flaping Act.	OFF / ON	jig flapping off / on
16	Sp to Corne	400 – 2600 [spm]	setting of the speed before reaching the first corner

3. Counter

Day-Cnt: ...

F1↑

F2↓

KNIFE OFF

2

- daily production counter delete by pressing

Main-Cnt: ...

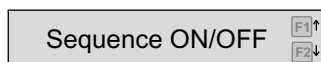
F1↑

F2↓

- total machine production counter

5 - CONTROLLER, PROGRAM DESCRIPTION AND ELECTRICAL CIRCUIT DIAGRAM

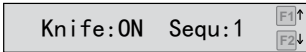
4. Sequence



a) By pressing **1** you activate the sequence-mode:

- **S: 0-0-0-0-0-0-** select the individual desired programs for the sequence by successive pressing

buttons **1** - **6**.

- This will be indicated by  on the main screen.

b) By pressing **2** you deactivate the sequence-mode.

6 - PNEUMATICS

The pneumatics are switched by a bank of solenoid valves located inside the cabinet door. Air is normally on the 'B' lines. When a solenoid valve is energised, the air is transferred to line 'A'.

6.1 Jig Flap.

When solenoid is energised this allows air through line A1 causing jig flap to lift.

6.2 Jig Turn

When solenoid is energised this allows air through line A2 causing turn arm to function and turn jig. When solenoid is de-energised this allows turn arm to return to rest position, air through line B2.

6.3 Jig Eject

When solenoid is energised this allows air through line A3 causing jig eject cylinder to operate. When de-energised this allows air to line B3 causing jig eject cylinder to return.

6.4 Jig Drive

When solenoid is energised this allows air through line A4 causing jig drive cylinder to operate and grip jig. When solenoid is de-energised this allows air through B4 causing jig drive to return.

6.5 Knife

When solenoid is energised this allows air through line A5 causing knife to engage and allowing air to foot and rear blower. When solenoid is de-energised this allows air through B5 causing knife to return to up position, and removes air from waste blowers.

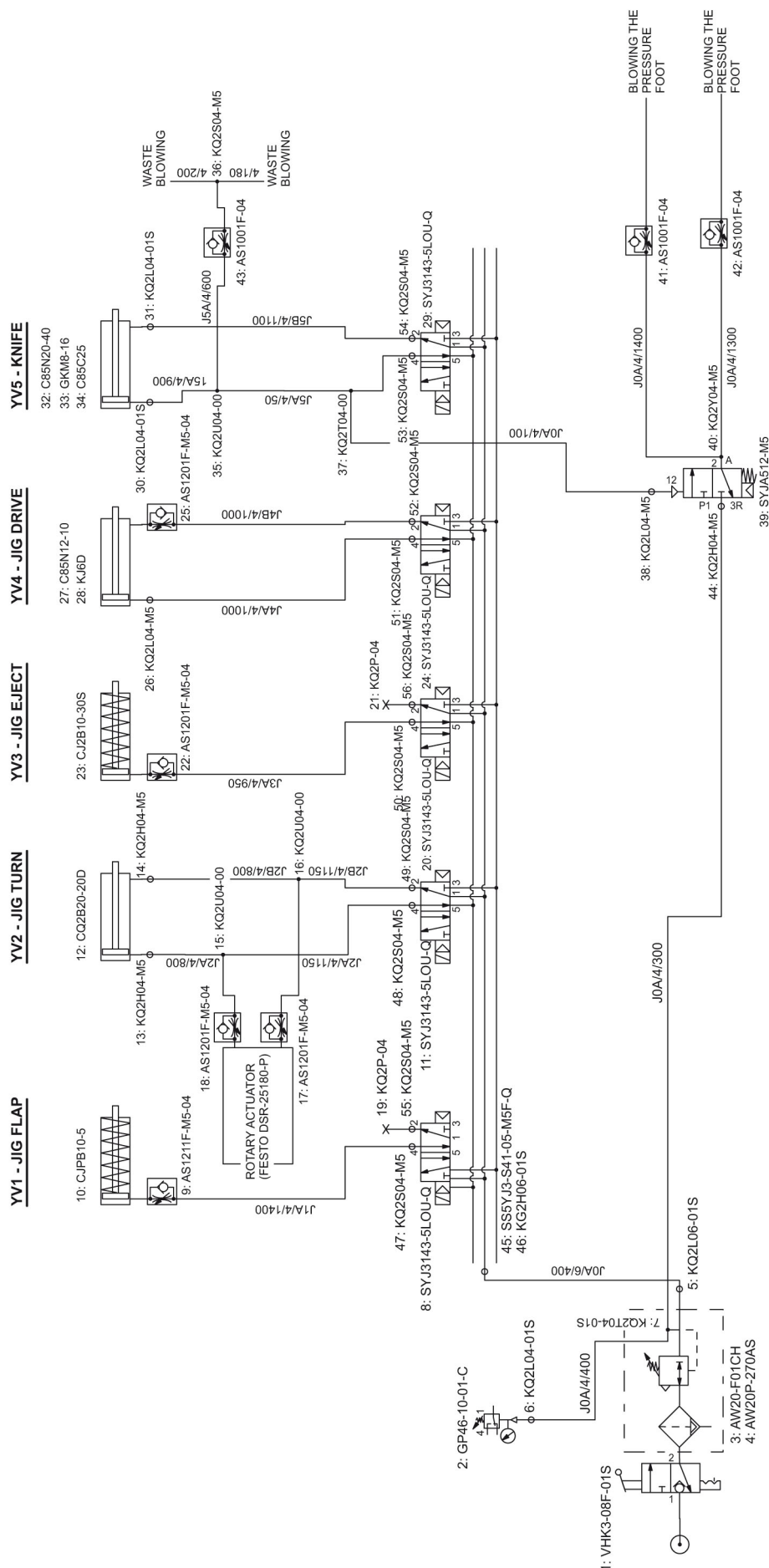
6.6 Air Blowers

There are three blowers fitted to the machine: one to the throat plate, one to the foot and one to the rear of the machine. All blowers should be set so they dispose of trimmed material to the rear of the machine.

6.7 Air Flow Regulators

Most air cylinders are fitted with flow control valves, to adjust the speed of operation of the air piston. For example, drive wheel cylinder (Fig 4.1, item 2) must be adjusted so that the drive wheel is brought smoothly into contact with the edge of the jig, otherwise damage may be caused to the jig.

6 - PNEUMATICS



7 - HEAD SETTING PROCEDURES

7.1 Needle Insertion

Hold the lower punch mark of the needle '1' to face the left. Then make the end of the needle butt up to the upper side of the stopper hole '2'. Then secure the needle with the fixing screw '3'. (Refer to Fig. 7.1)

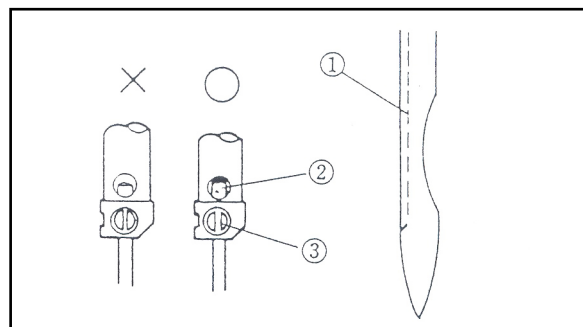


Figure 7.1

7.2 Adjusting the Needle Bar

As shown in Fig. 7.2, remove the rubber plug '4' from the front cover. Rotate the pulley to move the needle to its lowest position. Then release the needle fixing screw '5'. Align the upper punch mark '7' on the needle bar with the bottom end of the needle bar lower bushing '6' and then tighten the screw '5' and fit the rubber plug '4'.

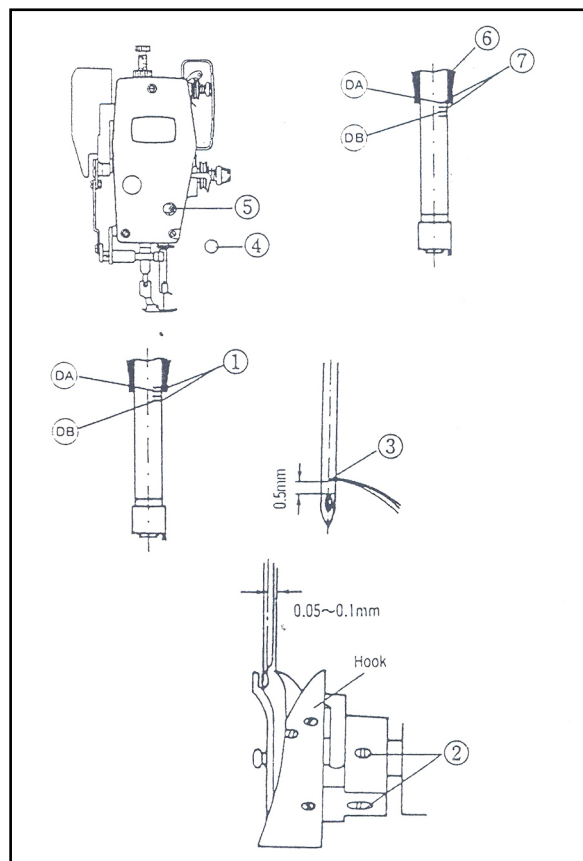


Figure 7.2

7.3 Adjusting the Timing of the Needle Hook

As shown in Fig. 7.2, align the lower punch mark of the needle bar '1' with the end of the lower needle bar bushing '6' and release the three fixing screws '2'. With the point of the hook '3' set to the centre of the needle, adjust the point of the hook to give 0.05-0.1 mm gap. Tighten the three screws '2'.

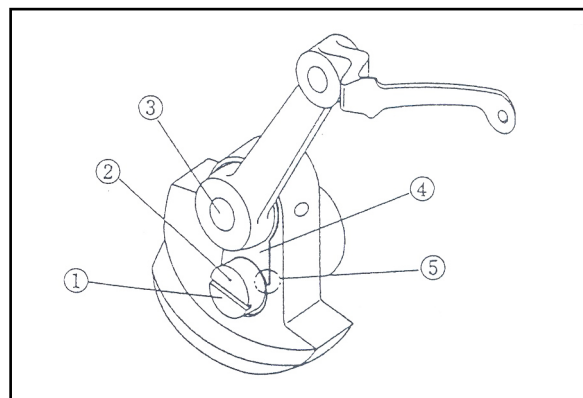


Figure 7.3

7.4 Adjusting the Lubrication of the Thread Take-up Lever

As shown in Fig. 7.3, when the dot '2' marked on the head of the oil adjusting pin '1' aligns with the centre of the thread-take up crank shaft hole '3', the maximum amount of oil is released. If the adjusting pin is turned towards the marks '5', the amount of oil released will be reduced. If the dot '2' passes marks '5', no oil will be released.

7 - HEAD SETTING PROCEDURES

7.5 Regulation of Amount of Oil Supply to Hook

A. Measuring amount of oil supplied

1. Run the sewing machine on full speed for 3 minutes. Place a piece of paper in position as shown in Fig. 7.4, and run machine for a further 5 seconds. The amount of oil being supplied can now be seen.
2. Repeat this process a further 3 times making sure the oil being supplied is within the limits shown in Fig 7.4. Too much oil could stain the material being sewn. Too little can cause the hook to seize.

B. Oil Supply Adjustment

Turning the adjusting screw clockwise, as shown in Fig. 7.4, will Increase the oil flow, turning the screw counter clockwise will Decrease the oil flow.

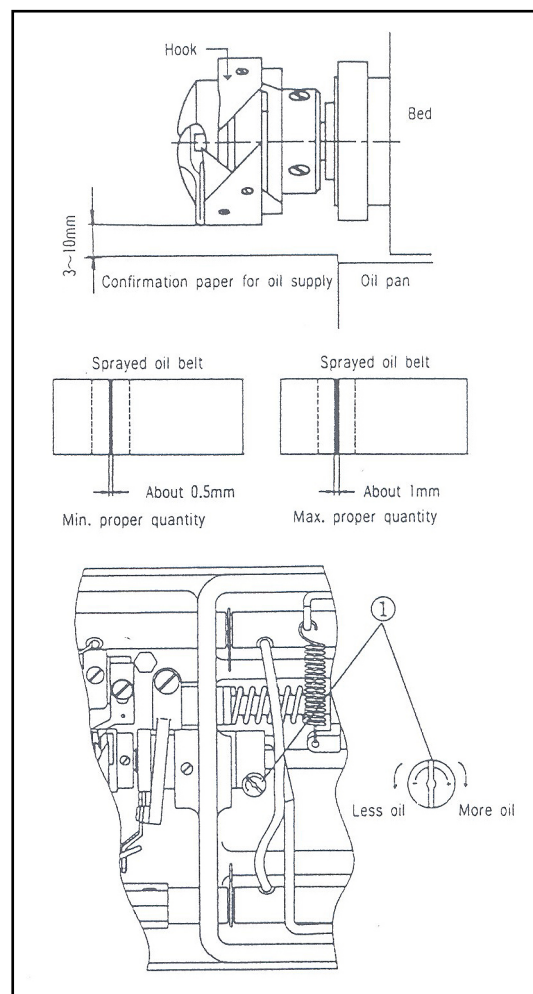


Figure 7.4

7.6 Lower Thread Take Up and Tension Adjustment

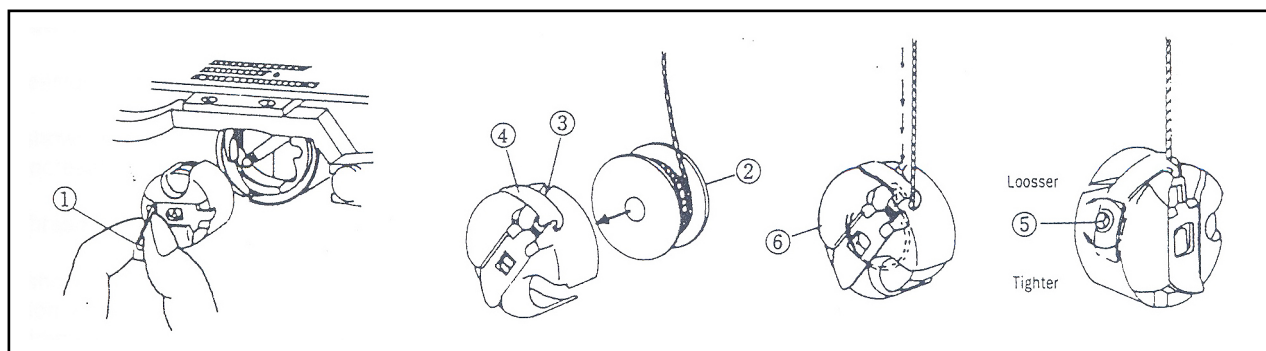


Figure 7.5

A. Spool Fitting and Tension Adjustment

Refer to Fig 7.5. Fit the spool '2' into the spool case '6.' Insert the thread spool in the groove '3.' Then hook the thread under the thread tension adjusting spring '4.' Rotating the tension adjusting screw '5' clockwise increases the thread tension, rotating the tension adjusting screw '5' anti-clockwise decreases the thread tension. Adjust the thread tension so that the spool case will gradually drop under its own weight.

B. Insertion and Removal of Spool Case

Refer to Fig 7.5. Hold the spool case lever '1' and push the case into the hook. When removing, hold the spool case lever and pull it out of the hook.

7 - HEAD SETTING PROCEDURES

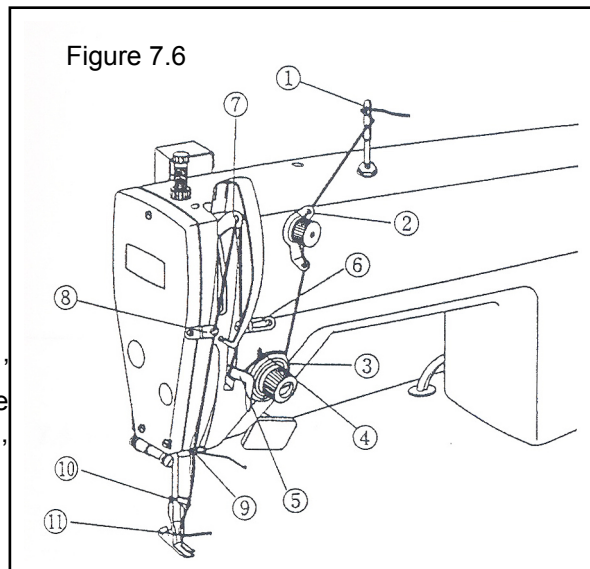
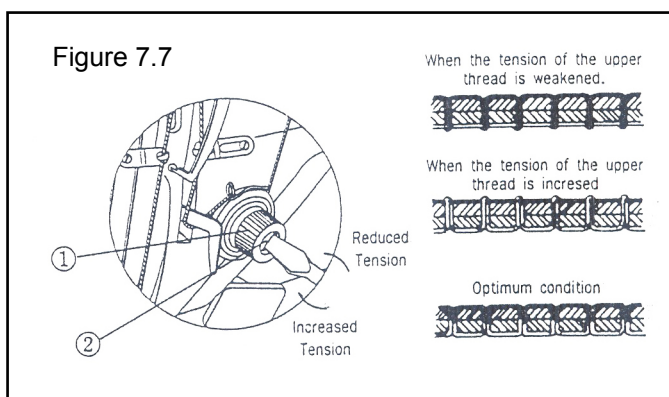
7.7 Upper Thread Path

Place the thread at the optimum position, then insert the upper thread according to the sequential numbers in Fig. 7.6.

7.8 Upper Thread Adjustment

A. Main Thread Tension Adjusting

As shown in Fig. 7.7, turning the tension adjusting screw '1' clockwise increases the upper thread tension. Adjust the tension of the thread according to the material being sewn, the thread and the number of stitches.

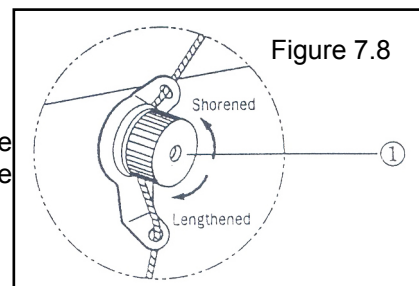


B. Tension Adjustment of Check Spring

As shown in Fig. 7.7, rotating screw '2' will increase the check spring tension.

C. Thread Pre-Tension Adjustment

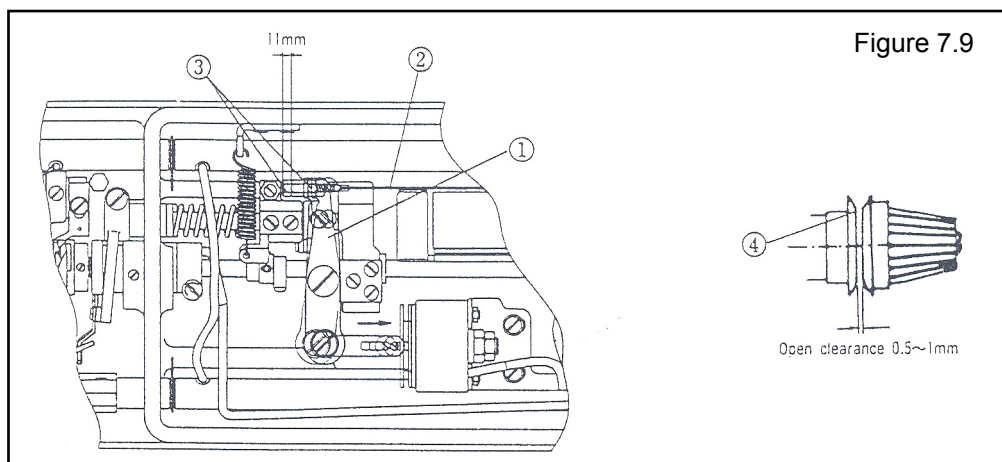
As shown in Fig. 7.8, rotating the pre-tension screw '1' clockwise, the length of trimmed thread will be reduced. The optimum length of the remaining thread after trimming is 30 - 40 mm.



D. Adjusting Thread Release Unit

The thread release unit is operated by the movement of the thread trimming solenoid. As shown in Fig. 7.9 the thread release gap can be adjusted by moving the thread release cable wire '2' which is attached to the thread release operation lever '1.' Release the two fixing nuts '3.' Then move the cable wire '2' to the left and tighten the nuts '3.' The thread release gap will have increased. If the cable '2' is moved to the right the gap will be decreased. Adjust the cable to give a gap of 0.5 - 1 mm between the discs '4' when the thread release is operated.

Ensure the discs are closed when the lever is released. The stroke of the thread release lever '1' is 5 mm. Adjust the lever so that the discs '4' do not open during the first 2 mm of lever travel and that they are open when the lever is pulled 2-5 mm. Refer to Fig. 7.9.



7 - HEAD SETTING PROCEDURES

7.9 Presser Foot Height and Pressure Adjustment

- A. As shown in Fig. 7.10, remove the rubber plug '2' from the cover plate '1.' With the needle in the 'up' position and the presser foot '3' also in the 'up' position make sure the needle point is not showing below the presser foot. If the needle point is visible then release the presser bar holder screw '4' and adjust the holder until the foot covers the needle. Once the adjustment has been carried out check the presser foot will both clamp the jig in the 'down' position and also allow the jig to be loaded in the 'up' position.
- B. Adjustment of the presser foot pressure. As shown in Fig. 7.10 rotating the adjusting screw '6' clockwise increases the foot pressure. After adjustment use nut '7' to lock adjusting screw '6' in position.

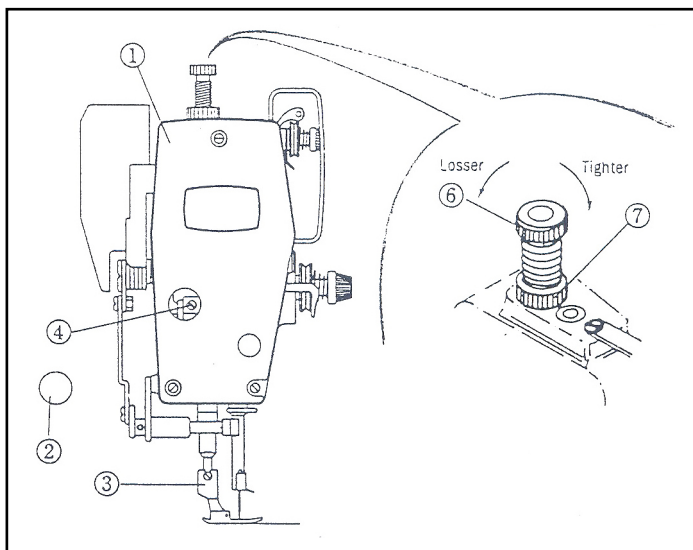


Figure 7.10

7.10 Presser Foot Solenoid Adjustment

Presser foot travel can be adjusted on the presser foot solenoid crank '3.' Referring to Fig. 7.11 Release the screws '5' securing the solenoid cover '4'. Release screw '2' for the solenoid crank pivot. Rotating the pivot '1' clockwise will increase the foot travel, anticlockwise will reduce the presser foot travel.

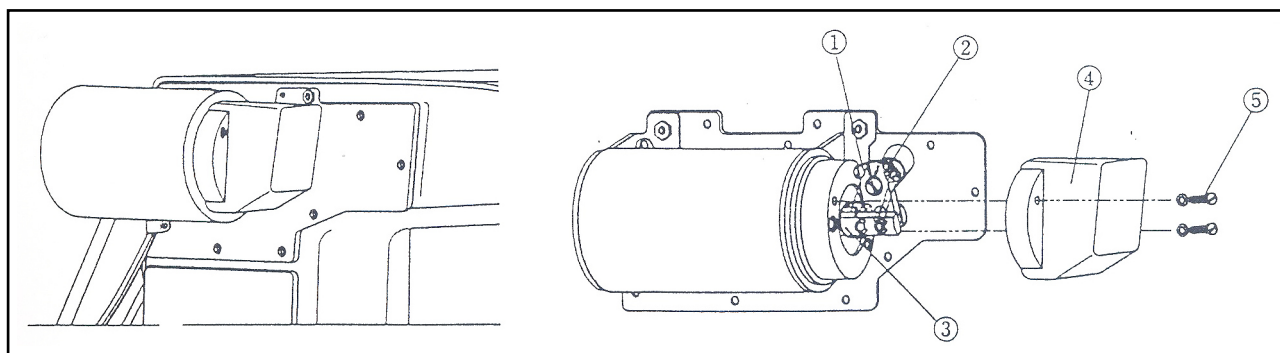


Figure 7.11

7.11 Stitch Length Adjustment

As shown in Fig. 7.12 the dial '1' increases stitch size when turned anti-clockwise and reduces the stitch size when turned clockwise.

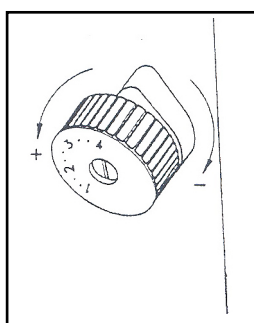


Figure 7.12

7 - HEAD SETTING PROCEDURES

7.12 Feed Cam Adjustment

When the feed timing is correct the jig should be moved just after the needle has left the material. To obtain this timing remove the plate holding the presser foot lift solenoid and locate the feed cam '1' as shown in Fig. 7.13. After releasing screw '2,' rotate the cam clockwise to advance the feed, or rotate the cam counter clockwise to retard the feed. Tighten screw '2' when finished.

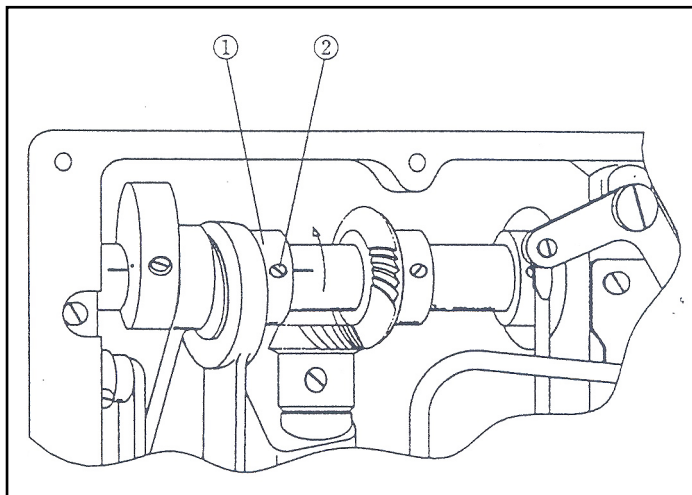


Figure 7.13

7.13 Thread Trimming Timing Adjustment

- A. Referring to Fig. 7.14 line up mark '2' on hand wheel with punch mark '3' on head.
- B. Remove spring '4' as shown in Fig. 7.14.

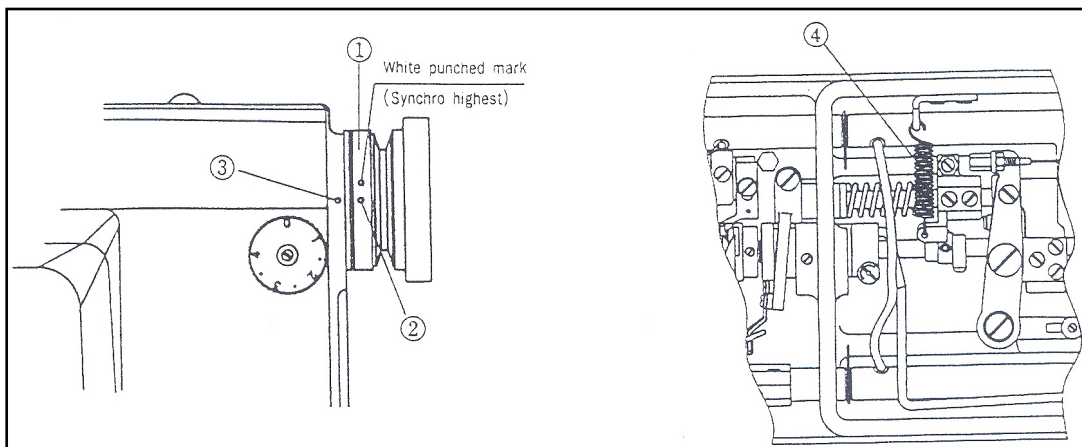


Figure 7.14

7 - HEAD SETTING PROCEDURES

- C. Referring to Fig. 7.15, push trimming blade '6' up until fixed knife '8' is 1-1.5 mm onto mound '7.'
- D. Referring to Fig. 7.15, push thread trimming solenoid '10' in with screw '9' of the thread trimming cam slackened. The distance between trimming cam '11' and roller screw '12' is 0.5 mm.

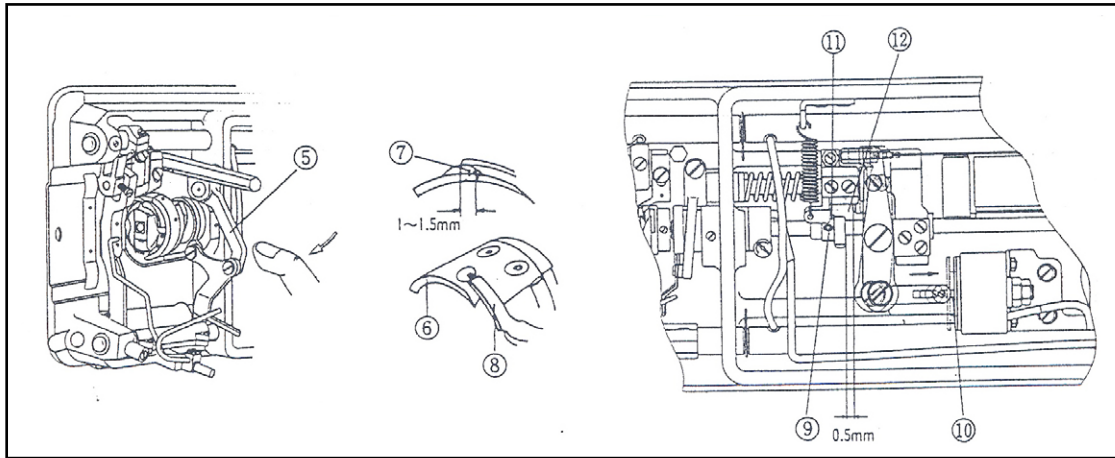


Figure 7.15

- E. Tighten up screw '9' for the thread trimming cam after adjustment. Check the roller of cam '11' with roller '14' by rotating thread trimming cam '11' by hand. Refer to Fig. 7.16.
- F. Connect return spring '4.'

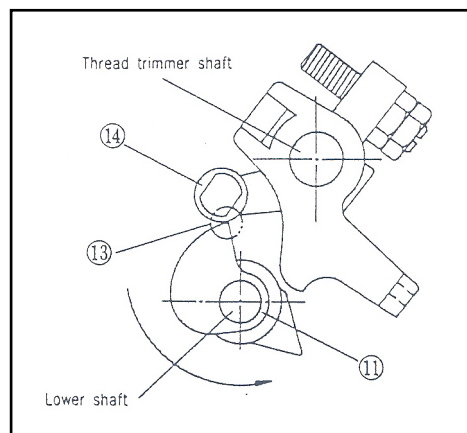


Figure 7.16

7.14 Fixed Knife Tension Adjustment

Release the tension adjusting nut '1' with a box spanner and release the tension adjusting screw '2.' As shown in Fig. 7.17 push the moving knife towards the fixed knife until its blade point meets the fixed knife point. Tighten the fixed knife tension adjusting screw '2' until the two blades touch without force. Tighten the tension adjusting nut '1.'

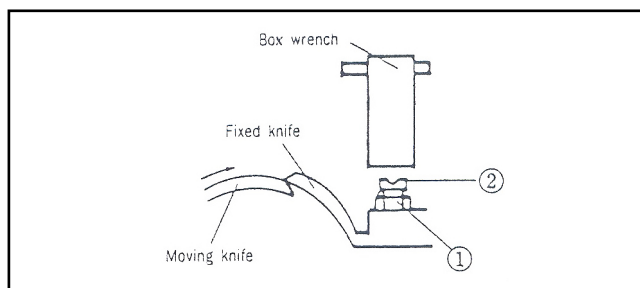


Figure 7.17

7.15 Replacing the Moving Knife

Ensure the needle is in the 'up' position and remove the throat plate. Referring to Fig. 7.18 undo the two screws '2' and remove the moving knife '1.' Fit the new knife and tighten all screws.

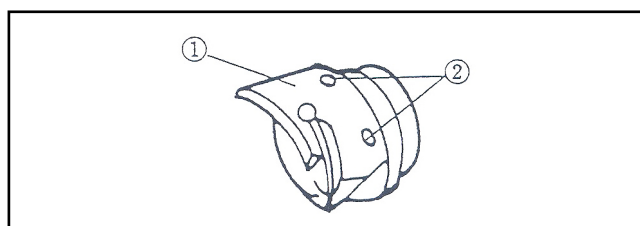


Figure 7.18

7 - HEAD SETTING PROCEDURES

7.16 Replacing the Fixed Knife

- A. To replace the fixed knife '1' release the spool case positioning finger fixing screw '2' as shown in Fig. 7.19 and remove washer '3' and finger '4.' Remove the fixed knife screw '5' and then remove the fixed knife.

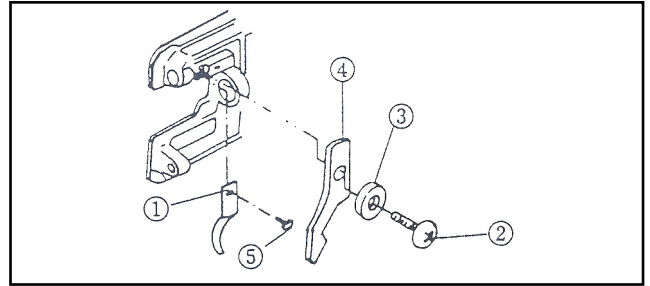


Figure 7.19

- B. If the point of the blade is dull sharpen using an oil stone. Refer to Fig 7.20.

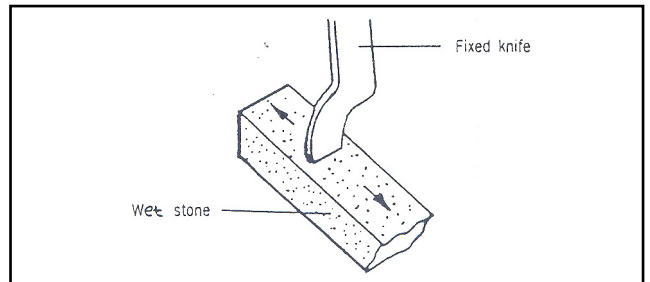


Figure 7.20

7.17 Bobbin Catcher Adjustment

As shown in Fig. 7.21 with the spool catcher lever '3' relaxed, release the fixing screws '6' and adjust the lever '3' until it is touching the bottom of the connector link '2' as shown by 'a.'

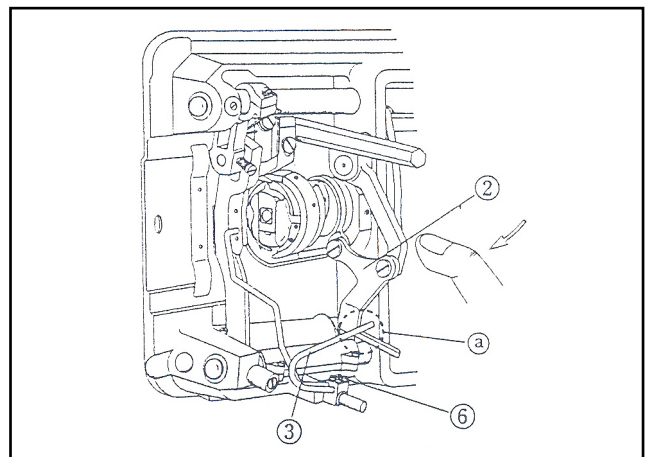


Figure 7.21

7.18 Side Knife Replacement and Adjustment

When the knife is engaged it should cut cloth cleanly without having excessive pressure on the throat plate.

Referring to Fig. 7.22 loosen screws '1' and remove knife '2.' Insert new knife and, with the knife in its lowest position, adjust knife holder '4' by releasing screw '3' and pushing knife up to throat plate. Tighten all screws.

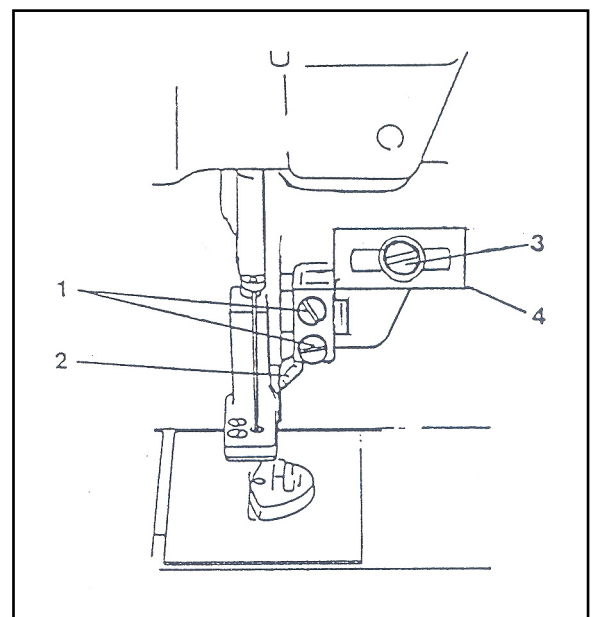


Figure 7.22

7 - HEAD SETTING PROCEDURES

7.19 Sewing Head Trouble Shooting

No	Problem	Check	Cause	Maintenance
1	The needle is broken.	Needle facing.	The needle is inserted incorrectly	Replace the needle correctly
		Needle	The needle is bent	Replace the needle
			Improper feed dog timing	Adjust the operating time
		Raised height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Clearance between the needle and the hook	Improper needle and rotary hook timing	Adjust the operating time
2	The thread is cut.	Threading	Threading is incorrect	Re-thread it
		Needle	The needle is bent or damaged	Replace the needle
		Needle facing and height	The needle is incorrectly inserted	Reinstall the needle correctly
		Upper thread tension	The tension is too tight	Adjust the tension adequately
		Lower thread tension	The tension is too tight	Adjust the tension adequately
		Stroke of the thread take up spring	The upper thread is loose	Adjust the thread take-up spring
3	The stitching is passed over	Needle facing and height	The needle is inserted incorrectly	Reinstall the needle correctly
		Needle	Needle is bent or damaged	Replace the needle
		Threading	Threading is incorrect	Re-thread the needle
		Raised height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Clearance between the needle and the hook	Improper needle and rotary hook timing	Adjust the operating time
			Remains of the upper thread is too short	Adjust it with the thread tension adjusting unit.
		Bobbin case spring for preventing additional rotation	During the thread trimming, the bobbin rotates additionally. So, the bobbin thread coming from the bobbin case is too short to be raised up.	Change the spring for preventing the rotation.
		Thread take-up spring	The tension of the thread take-up spring is too loose to raise up the bobbin thread.	Adjust the stroke of the thread take-up spring

8 - SYNCHRONISER

8.1 Synchroniser (Figure 8.1)

When sewing is interrupted with trim signal the machine should first stop with the needle bar positioned about 4 mm past bottom dead centre, then proceed to trim and stop in take up lever up position.

1. Remove the protecting cap of the synchroniser.
2. Run one sewing cycle.
3. Holding the stopping disk by right hand, turn the hand wheel anti clockwise, until the needle reaches the highest position. Then, turn the hand wheel slightly, so that the thread take up lever is in its top position - hand-wheel is aligned with the green-mark.
4. Put the protecting cap back.

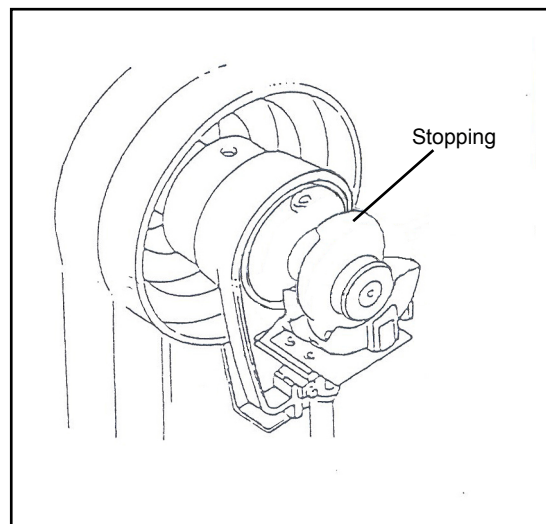


Figure 8.1

Parameter list for machines AJ 84-72MS


EFKA MOTOR DRIVER: AB221A

Parameter	Setting
290	00
272	1000 +/-1
401	1

Store the changed parameter values

110	180
111	2600
153	03
161	1
180	005
181	010
182	1
202	200
204	020
207	8
208	8
213	40
219	5
220	5
225	8
240	16
270	3
780	150
781	500
782	500
783	1000
784	1000
401	1

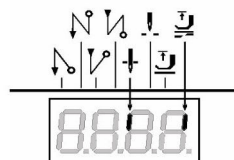
Store the changed parameter values

171	1. Sr2 Appears: Press  2. P1E Appears: Move the needle to the lowest position by hand-wheel and write down P1E value; Press E 3. P2E Appears: Move the needle to the topmost position by hand-wheel and write down P2E value; Press E 4. P1A Appears: Calculate the position $P1A = P1E + 60$ and move the machine to this position by hand-wheel; Press E 5. P2A Appears: Calculate the position $P2A = P2E + 60$ and move the machine to this position by hand-wheel; Press E
401	1

Store the changed parameter values

Setting Display:

Entering the Code Number:

Hold the **P** key and turn power on.Technician code: **3112** Supplier code: 5913Press the **P** key to exit programming mode**Important!**

To store the changed parameter values: Set parameter 401 to value 1. Press E or P.

All data are stored.

Use manual EFKA for more information!

MASTER RESET:

Password: 5913, parameter: 459 - set to: 3112

Programs Manufacturer Setting
Program 1


Nr.	Parameter	Values
1	Double Jig	OFF
6	K.DelayStart	ON
6a	Time ON/Tape	ON
6b	K.DelayTime	200
7	K.DelayEnd	ON
8	Dense into C	OFF
9	Sta Den.Tim	600
10	End Den.Tim	1000
11	Set Den. Sp	400
12	Slow Sew Sp	400
13	Needle DnSp	600
14	Max Sew Sp	2600
15	J.Flapp Act.	ON
16	Sp to Corne	2600

Program 2


Nr.	Parameter	Values
1	Double Jig	ON
6	K.DelayStart	ON
6a	Time ON/Tape	ON
6b	K.DelayTime	200
7	K.DelayEnd	ON
8	Dense into C	OFF
9	Sta Den.Tim	600
10	End Den.Tim	1000
11	Set Den. Sp	400
12	Slow Sew Sp	400
13	Needle DnSp	600
14	Max Sew Sp	2600
15	J.Flapp Act.	ON
16	Sp to Corne	2600

Program 3


Nr.	Parameter	Values
1	Double Jig	OFF
2	1Jig Corner	NeDN
3	2Jig Corner	NeDN
4	3Jig Corner	END?
5	4Jig Corner	END?
6	K.DelayStart	ON
6a	Time ON/Tape	ON
6b	K.DelayTime	200
7	K.DelayEnd	ON
8	Dense into C	OFF
9	Sta Den.Tim	600
10	End Den.Tim	1000
11	Set Den. Sp	400
12	Slow Sew Sp	400
13	Needle DnSp	600
14	Max Sew Sp	2600
15	J.Flapp Act.	ON
16	Sp to Corne	2600

Program 4


Nr.	Parameter	Values
1	Double Jig	OFF
2	1Jig Corner	SISp
2a	1 C.Slow Sp	400
3	2Jig Corner	SISp
3a	2 C.Slow Sp	400
4	3Jig Corner	END?
5	4Jig Corner	END?
6	K.DelayStart	ON
6a	Time ON/Tape	ON
6b	K.DelayTime	200
7	K.DelayEnd	ON
8	Dense into C	OFF
9	Sta Den.Tim	600
10	End Den.Tim	1000
11	Set Den. Sp	400
12	Slow Sew Sp	400
13	Needle DnSp	600
14	Max Sew Sp	2600
15	J.Flapp Act.	ON
16	Sp to Corne	2600

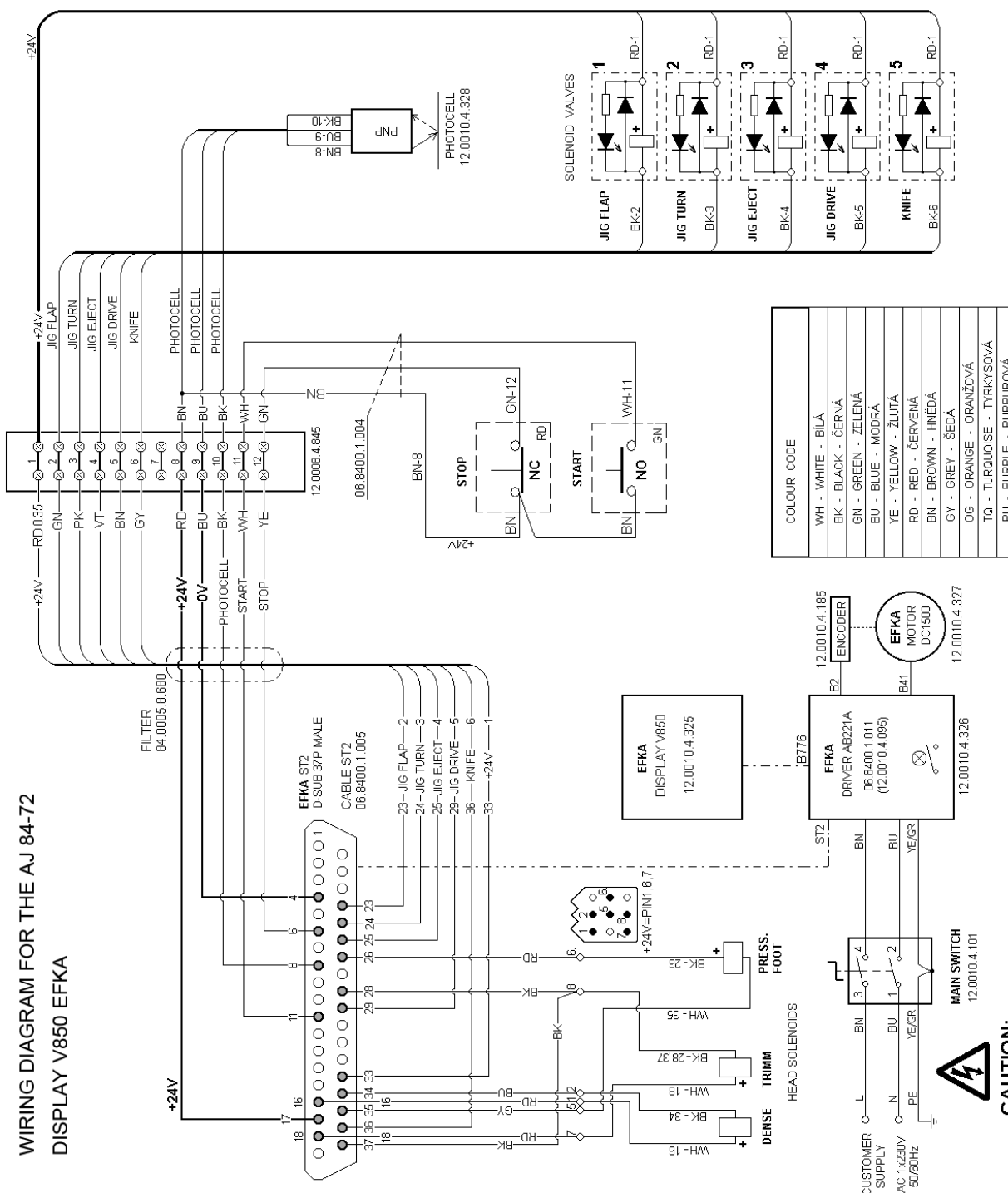
Program 5

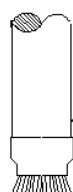

Nr.	Parameter	Values
1	Double Jig	OFF
2	1Jig Corner	NeDN
3	2Jig Corner	END?
4	3Jig Corner	END?
5	4Jig Corner	END?
6	K.DelayStart	ON
6a	Time ON/Tape	ON
6b	K.DelayTime	200
7	K.DelayEnd	ON
8	Dense into C	OFF
9	Sta Den.Tim	600
10	End Den.Tim	1000
11	Set Den. Sp	400
12	Slow Sew Sp	400
13	Needle DnSp	600
14	Max Sew Sp	2600
15	J.Flapp Act.	ON
16	Sp to Corne	2600

Program 6


Nr.	Parameter	Values
1	Double Jig	OFF
2	1Jig Corner	SISp
2a	1 C.Slow Sp	400
3	2Jig Corner	END?
4	3Jig Corner	END?
5	4Jig Corner	END?
6	K.DelayStart	ON
6a	Time ON/Tape	ON
6b	K.DelayTime	200
7	K.DelayEnd	ON
8	Dense into C	OFF
9	Sta Den.Tim	600
10	End Den.Tim	1000
11	Set Den. Sp	400
12	Slow Sew Sp	400
13	Needle DnSp	600
14	Max Sew Sp	2600
15	J.Flapp Act.	ON
16	Sp to Corne	2600

ST2 CABLE EXTERNAL CONNECTOR D-SUB 37P MALE 06.8400.0.0			
PIN D-SUB CONNECTOR NUMBER	SCREW CONNECTOR NUMBER	WIRE COLOUR	
1	--	--	
2	--	--	
3	--	--	
4	9	BU	
5	--	--	
6	12	YE	
7	--	--	
8	10	BK	
9	--	--	
10	--	--	
11	11	WH	
12	--	--	
13	--	--	
14	--	--	
15	--	--	
16	→1	RD	
17	8	RD	
18	→7	RD	
19	--	--	
20	--	--	
21	--	--	
22	--	--	
23	2	GN	
24	3	PK	
25	4	VT	
26	→6	RD	
27	--	--	
28	→8	BK	
29	5	BN	
30	--	--	
31	--	--	
32	--	--	
33	1	RD035	
34	→2	BU	
35	→5	GY	
36	6	GY	
37	→8	BK	





EXTERNAL D CONNECTOR HARNESS
AMF CODE - **06.8400.1.005**

From EFKA ST2 connector

FROM EFKA 'D' CONN. PIN 33	— RED 0.35	○ 1 ○	24 V RED FROM SOLENOID'S	
FROM EFKA 'D' CONN. PIN 24	— GREEN	○ 2 ○	BLACK FROM JIG FLAP SOLENOID	No.1
FROM EFKA 'D' CONN. PIN 25	— PINK	○ 3 ○	BLACK FROM JIG TURN SOLENOID	No.2
FROM EFKA 'D' CONN. PIN 23	— VIOLET	○ 4 ○	BLACK FROM JIG EJECT SOLENOID	No.3
FROM EFKA 'D' CONN. PIN 29	— BROWN	○ 5 ○	BLACK FROM JIG DRIVE SOLENOID	No.4
FROM EFKA 'D' CONN. PIN 36	— GREY	○ 6 ○	BLACK FROM KNIFE SOLENOID	No.5
		○ 7 ○		
FROM EFKA 'D' CONN. PIN 17	— RED	○ 8 ○	24V FROM PHOTOCELL BROWN+START/STOP SWITCHES	
FROM EFKA 'D' CONN. PIN 4	— BLUE	○ 9 ○	0 V FROM PHOTOCELL BLUE	
FROM EFKA 'D' CONN. PIN 8	— BLACK	○ 10 ○	BLACK FROM PHOTO CELL	
FROM EFKA 'D' CONN. PIN 11	— WHITE	○ 11 ○	WHITE FROM START BUTTON	
FROM EFKA 'D' CONN. PIN 6	— YELLOW	○ 12 ○	GREEN FROM EMERGENCY STOP	

TERMINAL STRIP
AMF CODE - **12.008.4.845**

TROUBLESHOOTING

1.1 Stitching

FAULT	CAUSE	CORRECTION
Random thread breakage	Problem with thread path (including the throat plate and presser foot).	Remove burrs from thread path.
	Problem with the sewing hook.	Remove burrs, clean & polish. Check the hook point. Check the clearance between the hook and the bobbin case opener lever. Check lubrication.
	Thread is caught somewhere in the thread path.	Correct threading.
	Tension is wrong.	Adjust tension.
	Thread take-up spring misadjusted.	Adjust the take-up.
	Problem with needle.	Check or replace.
	Spool spin.	Fit friction washer.
	Material wrongly positioned in jig.	Ensure all stitching is in material.
	Jig damage.	Repair jig.
Skip stitching	Problem with the needle.	Check for needle damage and for correct needle orientation. Check that the needle size is correct for the thread being used.
	Problem with the sewing hook.	Check to see if the hook point is blunt or worn. Check the hook timing.
	Needle thread tension is too high.	Decrease the tension.
	Sewing head speed is too high.	Reduce the motor speed.
	Thread take-up spring misadjusted.	Adjust the take-up.
	Material flagging.	Check jig is clamping material. Check presser foot.
Short end on top or needle unthreads	Tension release mechanism.	Check that tension release is functioning properly.
	Under-bed moving knife or counter knife out of setting.	Reset trimming, section 7.

TROUBLESHOOTING

FAULT	CAUSE	CORRECTION
Thread not trimmed	Thread catcher moved.	Reset synchroniser and trimming.
	Loose plug on solenoid lead.	Re-connect
	Loose plug on synchroniser.	Re-connect
	Synchroniser loose on handwheel.	Reset synchroniser, section 8.
	Sewing hook slipping last stitch.	Check to see if hook point is blunt or worn. Check hook timing.
	Blunt or misadjusted thread trimming knives.	Check knives.
Thread not picked up	Short end on spool thread due to "Spool Spin".	Increase the pressure of the bobbin case holder positioning finger. Increase the bobbin thread tension.
	The pressure of the bobbin case holder positioning finger is too high.	Decrease pressure of the finger, but check for "spool spin" - see above.
Spool thread picked up late after first few stitches	Short end on needle thread.	Correct as section 7.8.
	Short end on spool thread.	Correct as section 7.6.
First few stitches looped underneath	Foot lift cylinder sluggish on return.	Remove, clean and lubricate.

TROUBLESHOOTING

1.2 Machine Controls

FAULT	CAUSE	CORRECTION
Machine fails to start	Jig in wrong position	Reset and return jig to machine correctly
	Excessive cloth thickness jig	
	Drop in air pressure	Check 80 PSI (5.5 Bars) on gauge
	Motor plug loose	Re-connect
	Synchroniser plug out	Re-connect
	Wire off start button	Re-solder
Machine fails to stop	No tape at end	Add tape
	Photo-cell missing tape	Re-position tape
	Photo-cell not clearing tape at end of jig	Re-position tape
Machine fails to position	Wrongly programmed Efka device	See Section 8
Machine runs slow	Photocell missed a signal from tape	Check position of tape

TROUBLESHOOTING

1.3 Feed

FAULT	CAUSE	CORRECTION
Small stitches	Worn drive wheel	Replace
	Damaged jig	Repair
	Excessive foot pressure	Reset to 1.5 - 2.0 kg
Large stitches	Presser foot not in contact with jig	Re-set presser bar, Section 7.9
	Pressure foot pressure almost zero	Re-set to 1.5 - 2.0 kg
Dense stitch fails to operate	Feed lever adjustment bracket screw loose	Re-set and tighten
Large stitches on corner	Corner speed too slow	Adjust speed by altering corner speed in A.M.F. Reece controller, Section 5
	Turn cylinder movement too fast	Slow down through flow control
Small stitches on corner	Corner speed too fast	Adjust speed by altering corner speed in A.M.F. Reece controller, Section 5
	Turn cylinder movement too slow	Speed up through flow control
Irregular profile at corner	Needle down switch selection for round corner	Switch to slow run position
Jig fails to stitch slow at corners	No signal, check tape position	Reset tape position, check photo-cell receiving signal
Jig fails to stitch a sharp corner	Photo-cell faulty	Replace
	Sensitivity	Re-set to sense black tape on jig
	Wrong program selected	Select correct program