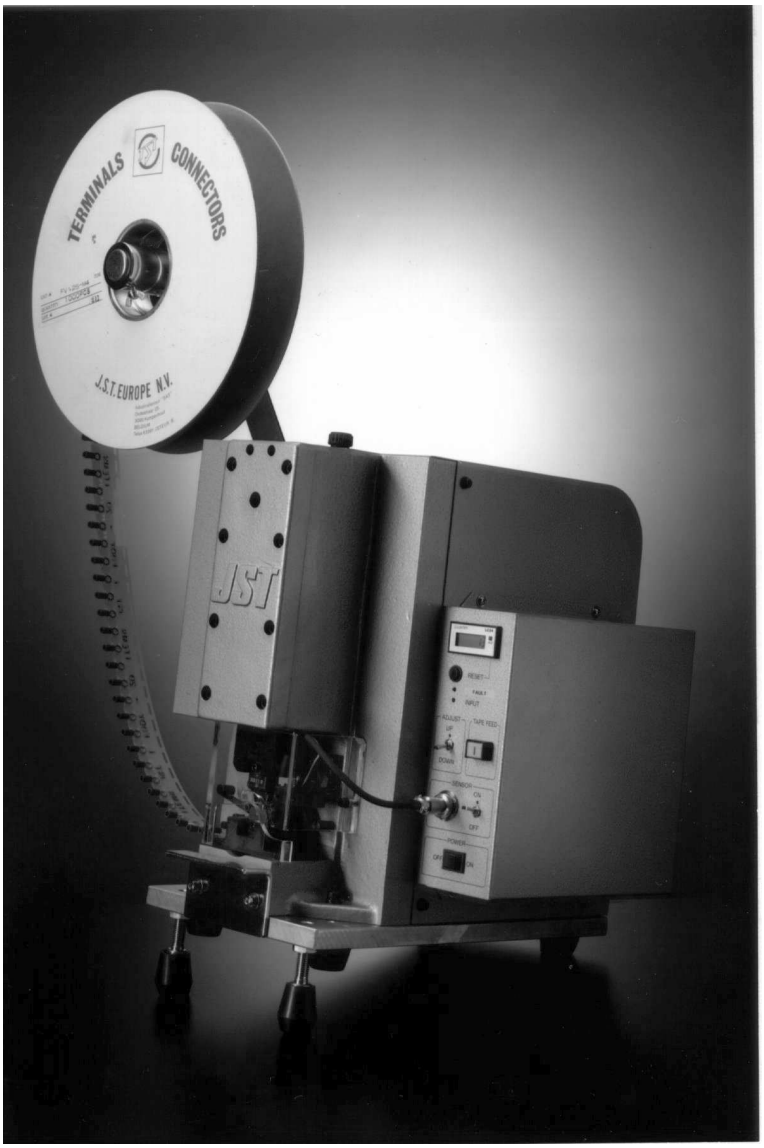
AP-F6

PNEUMATIC TAPE-ON-REEL CRIMPING MACHINE

OPERATION MANUAL



JST

PREFACE

The AP-F6 semi-automatic terminal-on-tape crimping machine is easy to operate, and is suitable for mass production of crimped harnesses with closed-barrel insulated and uninsulated T.O.R (Tape-on Reel) terminals.

Before using the AP-F6, please read this manual to ensure that you are familiar with the features of the machine and the layout of the operating controls.
We recommend that you always keep this manual near the machine to use for reference when required. This manual also contains information on maintenance, faultfinding and adjustment of the crimping machine and its associated tooling.

For safe operation

- ***THIS MACHINE HAS THE POTENTIAL TO CAUSE SERIOUS INJURY AND SHOULD NEVER BE USED WITHOUT THE SAFETY GUARDS FITTED.***

- If you think that something is wrong with the machine, immediately turn OFF the machine, disconnect the lead from the power supply, and the hose from the air supply. Guards must only be removed by an authorised person during setting, adjustment and maintenance.

- The maximum measured sound output generated by the Crimping Press is 81dB.

- Do not modify or adapt the machine without prior consent of JST.

- This crimping machine complies with the CE directive for machinery and has the **CE** mark affixed to indicate its compliance.

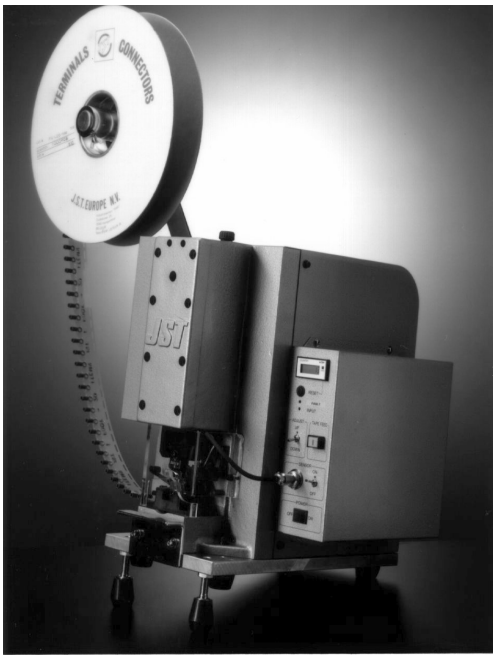
- This crimping machine must not be incorporated into other machinery without the consent of JST (ref. The Supply of Machinery (safety) Regulations 1992, S.I 1992/3073).

Table of Contents

1. SPECIFICATIONS

The crimping machine consists of the crimping press and a die-set.
There are two basic types of die-set, One is designed for use with Pre-insulated terminals, and one for use with non-insulated terminals.

1.1 Crimping Machine Specifications

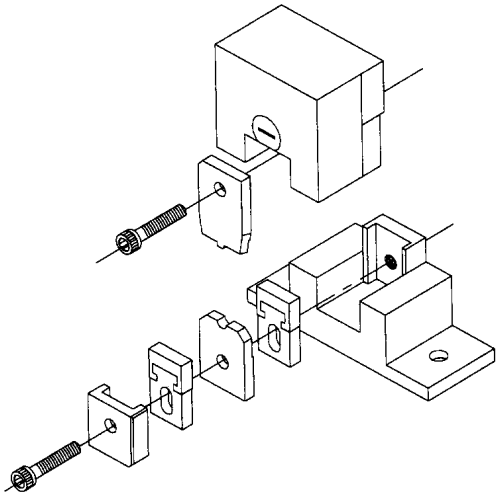


Model no: AP-F6
- External dimensions: 264 wide x 415 long x 385mm high (not including reel hanger).
- Weight: 40 Kg.
- Power supply: 220/240V AC single phase 50/60 Hz.
- Air pressure: 490 - 686 Kpa (5 - 7 Kg/Cm²)
- Air consumption: 490 Kpa Hr. 3NL/cycle
- Applicable terminals: Insulated and non-insulated terminals 0.50 - 5.5 mm².

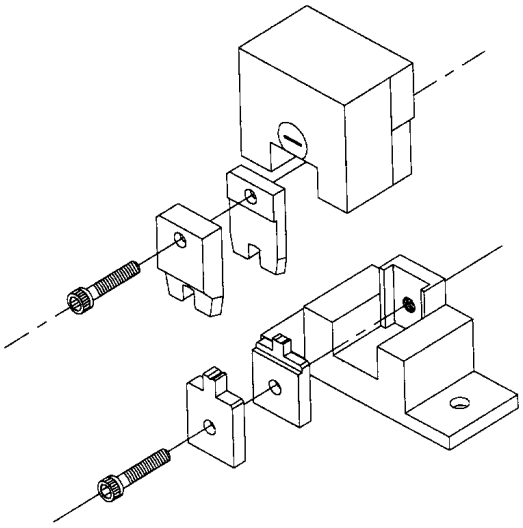
1.2 Crimping Dies

Various types of crimping dies are available. Select according to the type and size of the terminals to be crimped, by referring to the table on page 2.

Dies assembly drawing for non-insulated terminals.



Dies assembly drawing for insulated terminals.



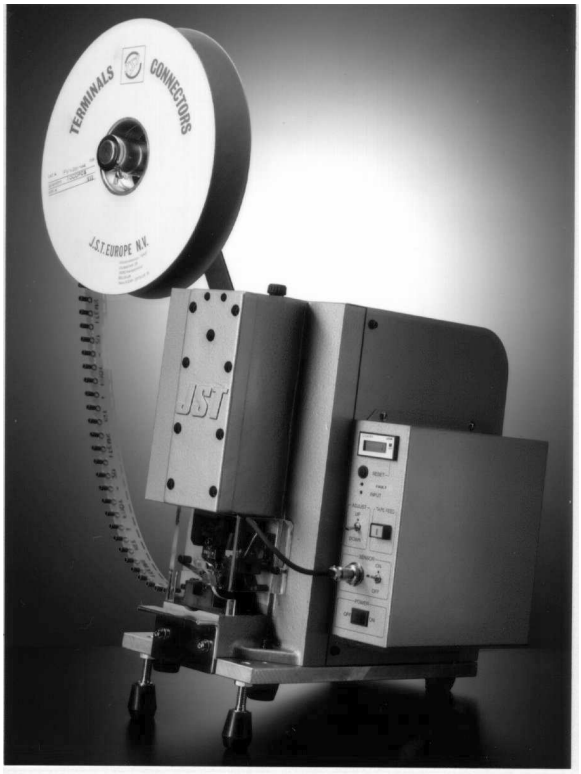
SELECTION TABLE FOR AP-F6 CRIMPING DIES.

Type Of Terminal:	Terminal Part No:	Part Number:	
		Die Part Number	Die Set Number
Non-Insulated Terminal	0.5 - ( )	3101 **L** 3102 **U** 3841 **E x 2** (see note ii) 3941 **EH** (see note ii)	**3H-2622**
	1.25 - ( )	3111 **L** 3112 **U** 3841 **E x 2** (see note ii) 3941 **EH** (see note ii)	**3H-2216**
	2 - ( )	3121 **L** 3122 **U** 3841 **E x 2** (see note ii) 3941 **EH** (see note ii)	**3H-1614**
	5.5 - ( )	3131 **L** 3132 **U** 3841 **E x 2** (see note ii) 3941 **EH** (see note ii)	**3H-1210**
Insulated Terminal	V0.5 - ( ), FV0.5 - ( ) N0.5 - ( ), NV0.5 - ( )	3201N **C, U** 3301N **I, U** 3202N **C, L** 3302N **I, L**	**3V-2622N**
	V1.25 - ( ), FV1.25 - ( ) N1.25 - ( ), FN1.25 - ( )	3211N **C, U** 3311N **I, U** 3212N **C, L** 3312N **I, L**	**3V-2216N**
	V2 - ( ), FV2 - ( ) N2 - ( ), FN2 - ( )	3221N **C, U** 3321N **I, U** 3222N **C, L** 3322N **I, L**	**3V-1614N**
	V5.5 - ( ), FV5.5 - ( ) N5.5 - ( ), FN5.5 - ( )	3231N **C, U** 3331N **I, U** 3232N **C, L** 3332N **I, L**	**3V - 1210N**
Insulated Terminal With Copper Sleeve	VD0.5 - ( ) FVD0.5 - ( )	3201N **C, U** 3301N **I, U** 3202N **C, L** 3302N **I, L**	**3V - 2622N**
	VD1.25 - ( ) FVD1.25 - ( ) VDDF1.25-( ) FVDDF1.25-( )	3211D **C, U** 3311D **I, U** 3212D **C, L** 3312D **I, L**	**3V - 2216D**
	VD2 - ( ) FVD2 - ( ) VDDF2-( ) FVDDF2-( )	3221D **C, U** 3321D **I, U** 3222D **C, L** 3322D **I, L**	**3V - 1614D**
	VD5.5 - ( ) FVD5.5 - ( ) VDDF5.5 – ( ) FVDDF5.5 – ( )	3231N **C, U** 3331N **I, U** 3232N **C, L** 3332N **I, L**	**3V - 1210N**

NOTE: (i) When ordering the dies, the appropriate size should be given between the Brackets.
(ii) Parts for the ejector (part no's 3841 and 3941) are optional.
(iii) If you require a die not listed above, please contact the J.S.T. Technical Services Department.
(iv) The single letter code given after the part no refers to the following:-

I = Insulator, C = Conductor, U = Upper, L = Lower, E = Ejector, EH = Ejector Holder Plate

2. INSTALLING AND TRANSPORTING THE MACHINE



2.1 Installation

The crimping machine should be mounted on a flat, stable surface. There should be a single phase power supply, and a compressed air outlet available.

The rubber feet should be screwed into the holes provided in the base, and adjusted to the desired angle to allow the most comfort-able working position. The lock-nuts must be tightened after the desired position is achieved to ensure that they do not become loosened with use.

2.2 Transporting

The machine must only be lifted by the base, by two persons.
The press weighs 40 kilos, and should not be lifted by one person under any circumstances, because serious back injury could result.

There is a handle attached to the front of the machine to aid lifting.

3. CONTROL BOX CONFIGURATION

3.1 Control Panel and functions

FRONT FACE

1. Main Switch
This rocker switch controls the power supply to the AP-F6. When the machine is turned on the pilot lamp illuminates. Always ensure that the machine is turned off when it is left unattended for any reason.

2. Total Counter
This counter displays the total cycles performed by the AP-F6.

3. Reset Button
This button is depressed to zero the Total Counter display.

4. ' Fault ' Display (red LED)
This LED illuminates when the air pressure falls below a pre-set level, or the Safety Guard is not fitted to the machine.

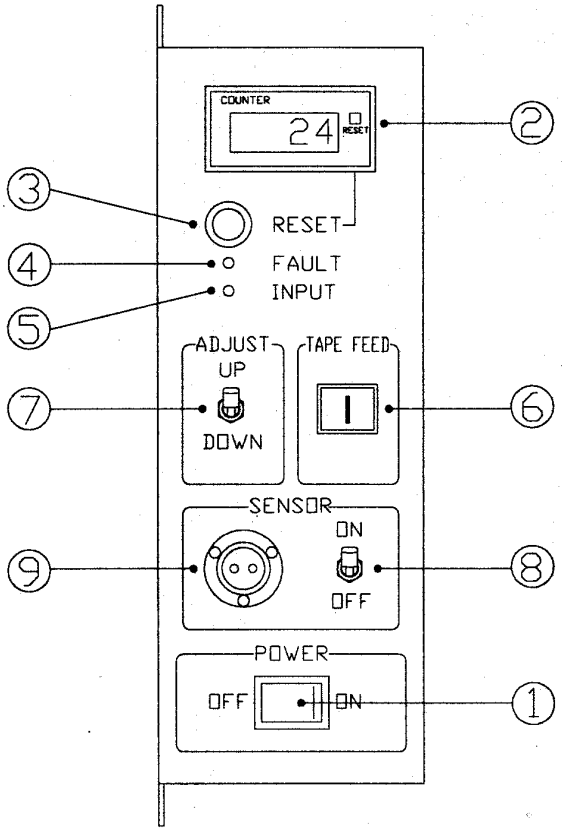
5. Input display (red LED)
This LED illuminates whenever the Touch Sensor or Foot switch are actuated.

6. Tape Feed Switch
The Tape Feed switch illuminates when the main switch pilot lamp is on.
The Tape feed switch can only be operated when the Adjust Switch is in the UP position.
If an operational error occurs, the Tape Feed switch will flash on and off.

7. Adjust Switch
This switch is used to move the ram up or down.

8. Touch Sensor Switch
The Touch Sensor switch should be in the 'ON' position when the Touch Sensor is in use.

9. Touch Sensor Input Socket
This is the socket into which the Touch Sensor plug is connected.



REAR FACE

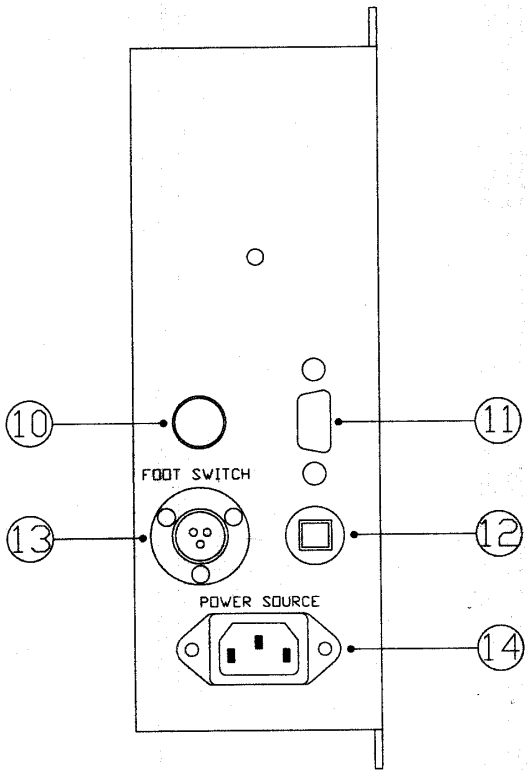
10. Buzzer
If the air pressure drops below a pre-set level, the Safety Guard is not fitted, or there is an operational error, then the buzzer will be operated.

11. D-Sub Input Socket
This socket is not required during everyday use, and so it should be kept covered at all times.

12. Circuit Protector
The electronic circuits are protected by an overload device, and should a fault occur, the trip will operate and turn the machine off.

CAUTION !
Be sure to discover the cause of the fault before turning the machine back on.
Help should be sought from an authorised person , and under no circumstances should the Safety Guard or Cover be removed by unauthorised persons.

To re-set the machine, the button should be pushed in after approximately one minute.



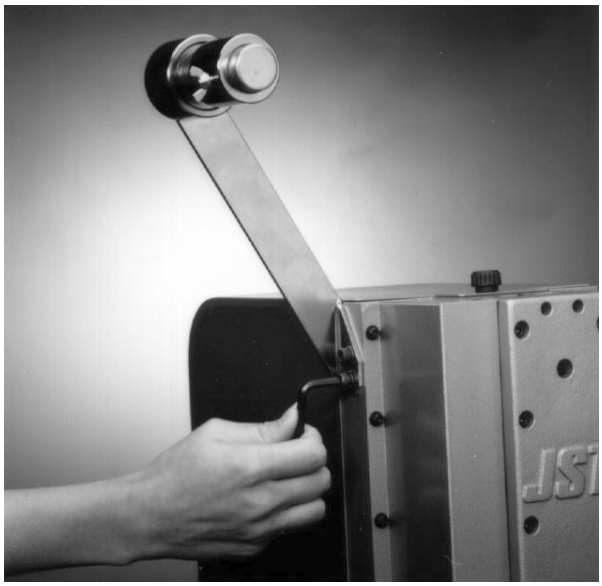
13. Foot Switch Socket
This input socket is used when, for reasons of wire size or terminal type, it is not possible to use the Touch Sensor.

14. Mains Input Socket
This socket is for the Input of the 240V, single phase power supply.

4. PREPARATION FOR OPERATION

4.1 Mounting the Reel Hanger

Assemble the reel hanger, as per the parts list, and mount onto the crimping press with the two cap head screws provided, as illustrated.

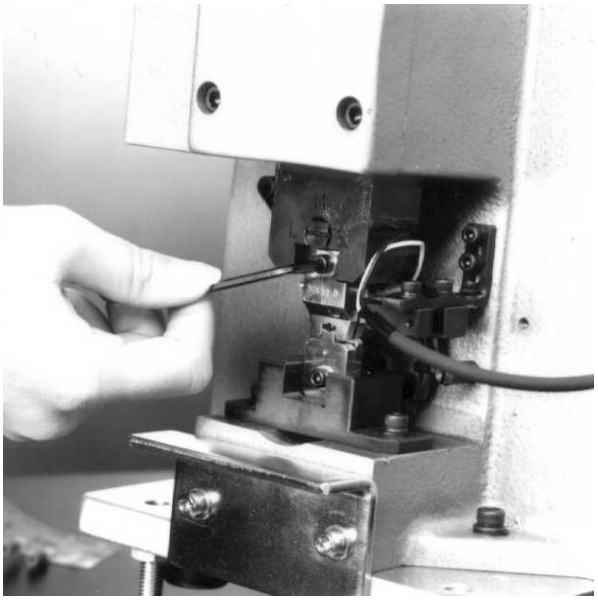


4.2 Mounting the Crimping Dies

CAUTION !
Ensure that the press is disconnected from the electricity and air supplies before mounting the die-set.

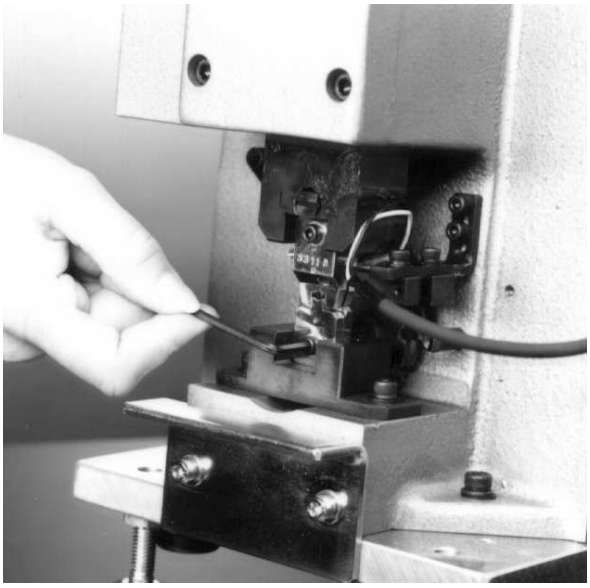
When the machine is shipped, the ram of the crimping press is in the open position. Sometimes the ram falls down under its own weight during transit, and as a result the dies cannot be fitted.

If the above condition is experienced, please consult the instructions in section 4.8 before continuing.



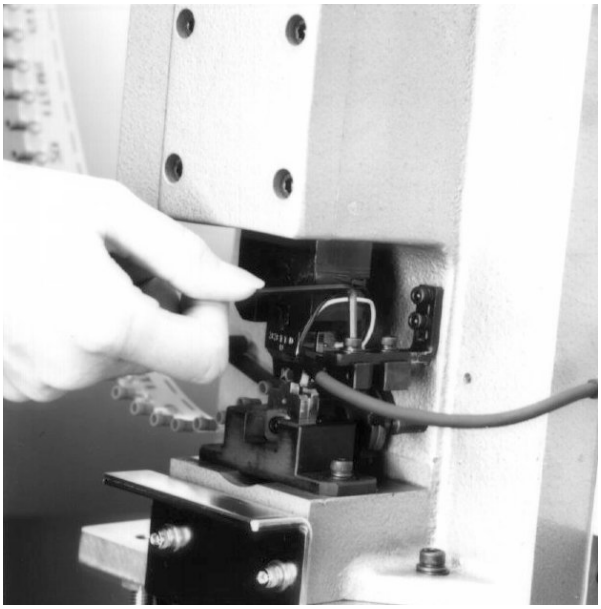
Insulated Terminals
Step 1, Upper crimping die mounting procedure.

Position the conductor punch in the ram
and place insulation punch on top. Secure them both in the ram with the cap head screw supplied, whilst simultaneously pushing the punches in an upward direction, to ensure they are tightly pressed on the ram.



Step 2, Lower crimping die mounting procedure.

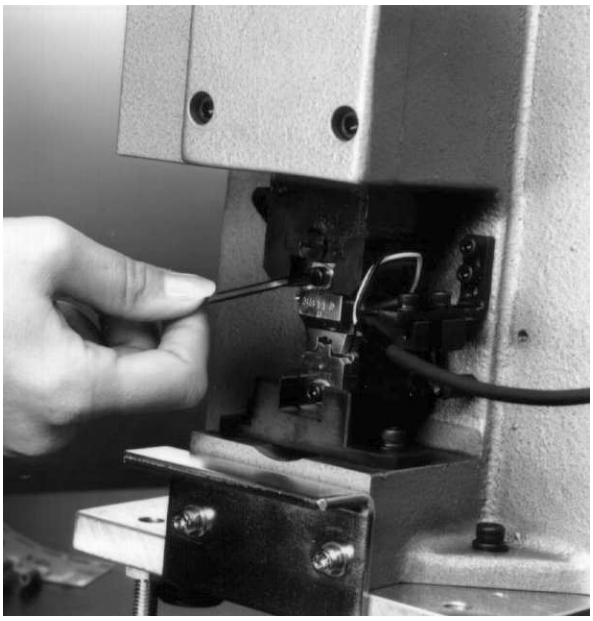
Position the conductor anvil in the lower crimping die holder, mount the insulation anvil in front of conductor anvil, and secure with the cap screw provided, whilst simultaneously pushing down on the anvils to ensure that they are correctly seated in the holder.



Step 3, Stripper mounting

A stripping blade is required to ensure that the terminal is removed from the crimping punches after the completion of the crimping operation. The Stripping blade works by ' wiping ' the terminal from between the blades.

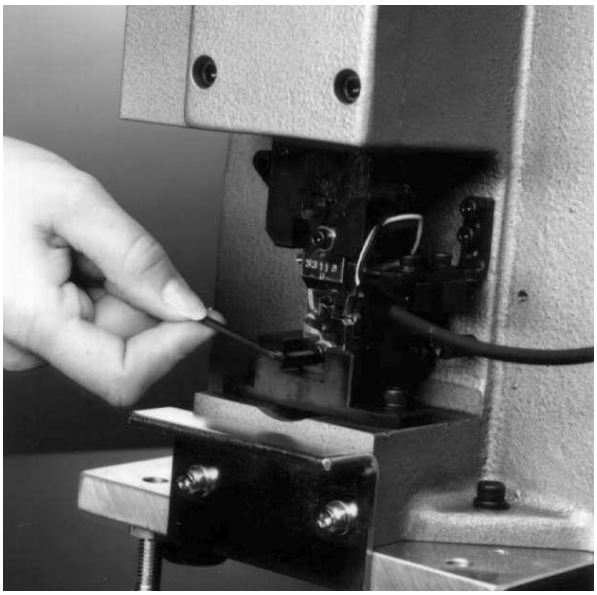
The stripper is mounted on a backing plate, part no F3-4132, which is in turn mounted on a bracket, part no 2108-4117-1, and is positioned equally distant between the conductor and insulation punches, ensuring that it does not touch either of the punches. The stripper, backing plate and bracket are all secured by cap head screws which should be securely fastened upon completion of the adjustment.



Uninsulated Terminals

Step 1, Upper crimping die mounting procedure.

Position the conductor punch in the ram and secure with the cap head screw provided, whilst simultaneously pushing the punch upwards to ensure that it is seated correctly in the ram.



Step 2, Lower crimping die mounting procedure.

Position the ejector in the lower die holder, followed by the conductor anvil, the second ejector and finally the keep plate.
Secure the assembly with the cap screw supplied, whilst simultaneously pushing down upon the anvil to ensure that it is seated correctly.

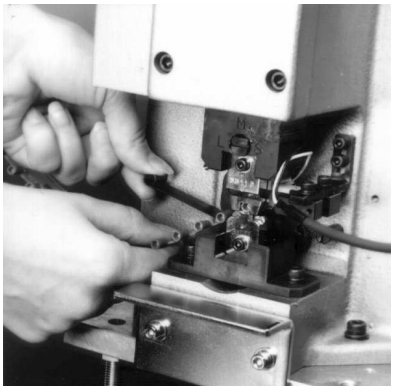
4.3 Mounting the Terminal Reel

Step 1, Terminal reel set-up

Mount the terminal reel on the reel-hanger and tighten the securing screw so that the reel does not rotate under its own weight.

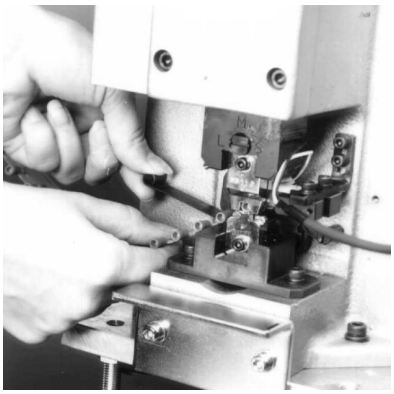
Step 2, Feeding tape capstan set-up

Raise the tape holder by pressing in the button, part no F3-4128.

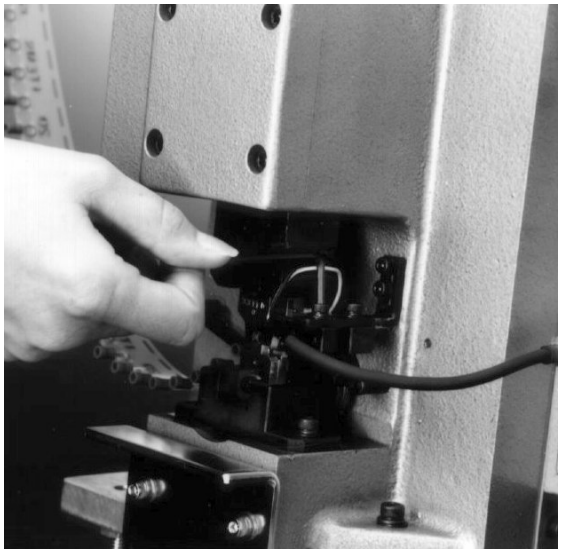


Step 3, Engaging the feeding tape on the teeth of the feeding capstan

Hook the slot of the feeding tape onto the teeth of the feeding capstan, push down the tape holder, part no 2108-4134, until the pusher button ' pops out ' and retains the lever.



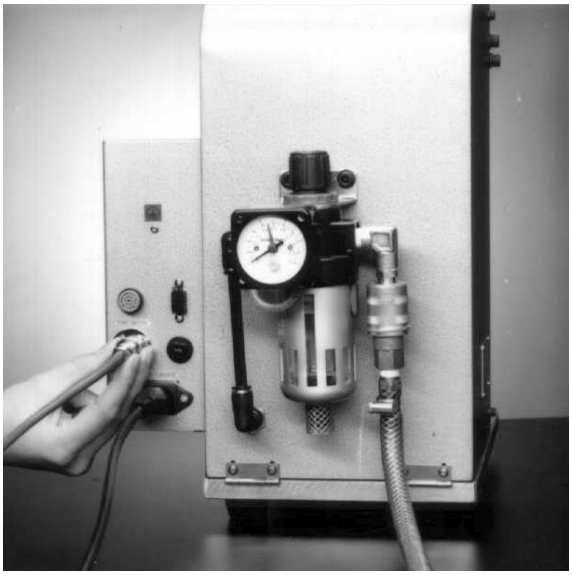
4.4 Touch Sensor Adjustment



The touch sensor is fitted to the press to allow semi-automatic operation when using suitable types of wire.
It is always preferable to use the touch sensor, if possible, because the action of touching the sensor to operate the press ensures that conductors of the wire protrude sufficiently through the crimp terminal to produce a correctly terminated wire.
Note
The touch sensor cannot be used with wires of 26 AWG or less, and certain types of terminal. If you cannot achieve satisfactory results using the sensor, it will be necessary to use the foot-switch to operate the crimping press.

The touch sensor is mounted on the same bracket as the stripper (see section 3.2), and should be adjusted so that it is placed approximately 1mm behind the conductor crimp barrel. The position is secured by tightening the cap head screw onto the mounting bracket.

4.5 Foot Switch Operation



When it is not possible to use the touch sensor, due to incompatible wire or terminals, it is necessary to use the foot switch supplied with the AP-F6.

The foot switch plugs into the rear of the control box (see section 4).

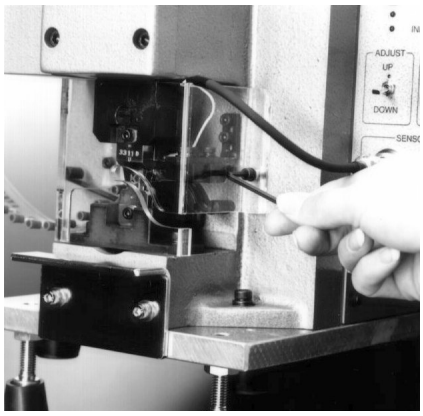
CAUTION !
Do not plug the Foot Switch into the AP-F6 whilst the machine is connected to the power supply, because the machine may be operated by accident.

4.6 Mounting the Safety Guard

There is a safety guard supplied with the AP-F6, and because it is fitted with an opto-electronic switch, the press will not operate without the guard fitted.

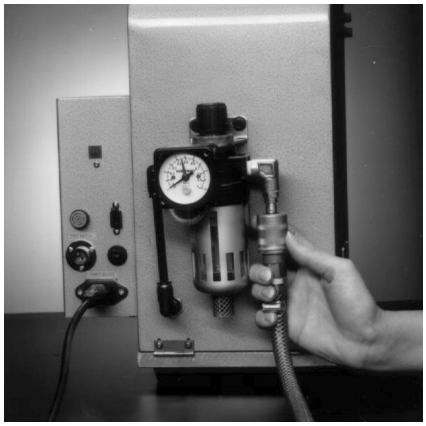
The safety guard is secured to the press with two cap head screws mounted either side of the guard.

WARNING !
Do not attempt to operate the AP-F6 without the Safety Guard fitted, because major injury could result if a finger or hand is caught between the dies.

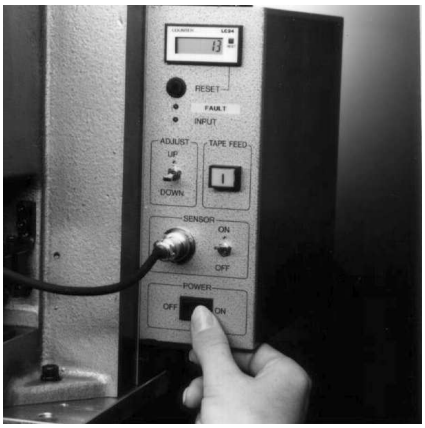


4.7 Air supply connection

CAUTION !
Ensure that the power switch is turned off before connecting the air hose.



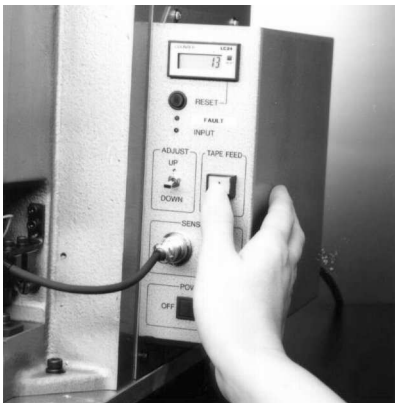
The air connection consists of a female socket to be fitted to the end of a suitable length of air hose. The socket is a push fit onto a male tailpiece fitted onto the air pressure regulator mounted on the rear face of the press.
To disconnect the hose, the ring on the female socket must be pushed away from the press, which then allows the connection to be broken.



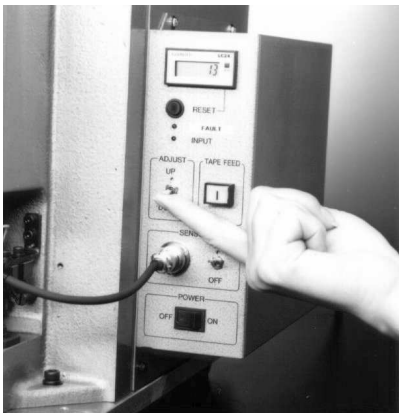
4.8 Preparing the machine for operation

<u>Step 1.</u>
Connect the air and electricity supplies and press the power ON switch.

Step 2.
Set the Adjust Switch to the UP position.



Step 3.
Press the Tape-Feed button to advance the tape until the first terminal on the tape is located at the crimping position.



Step 4, Temporary holding of terminal.
Set the adjust switch to the DOWN position.
The ram moves down and rests on top of the terminal, and holds it firmly in position.
The terminal is now ready for crimping.

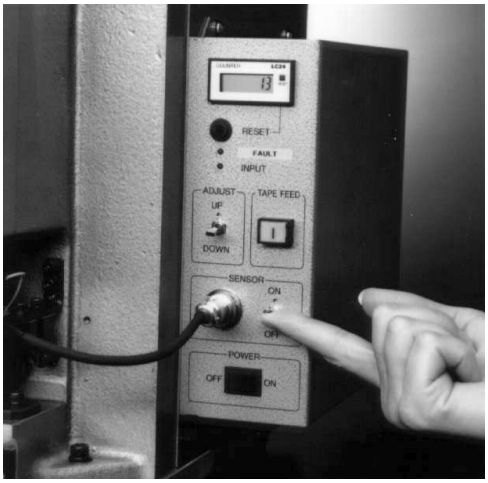
5. OPERATION

5.1 Touch Sensor operation.

Step 1.
Turn the Touch Sensor ON.

Step 2.
Insert a stripped wire into the terminal barrel, ensuring that the strip length is as per specification.
(If the strip length is too short, the conductor will not protrude sufficiently to operate the sensor.)

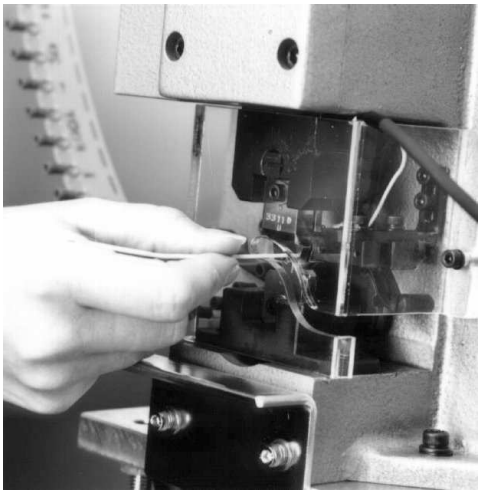
Step 3.
The press will now perform one crimping cycle, and feed the next terminal over the anvils ready for the next operation.
Remove the crimped wire from the tape by pulling firmly and withdrawing through the Safety Guard.



5.2 Foot Switch operation

Step 1.
Turn the Touch Sensor switch OFF.

Step 2.
Insert a stripped wire into the terminal barrel, ensuring that the strip length is as per specification.



Step 3.
Step on the Foot switch, the press will now perform one crimping cycle, and feed the next terminal over the anvils ready for the next operation.
Remove the crimped wire from the tape by pulling firmly and withdrawing through the Safety Guard.

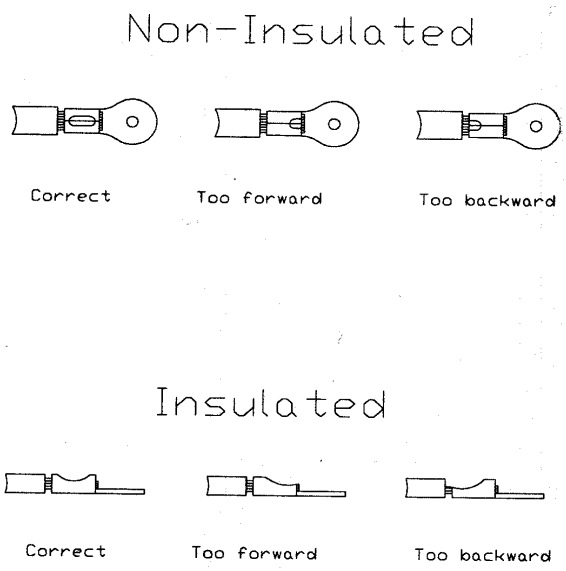
6. INSPECTION OF CRIMPED WIRE

6.1 Checking and adjustment of crimp position

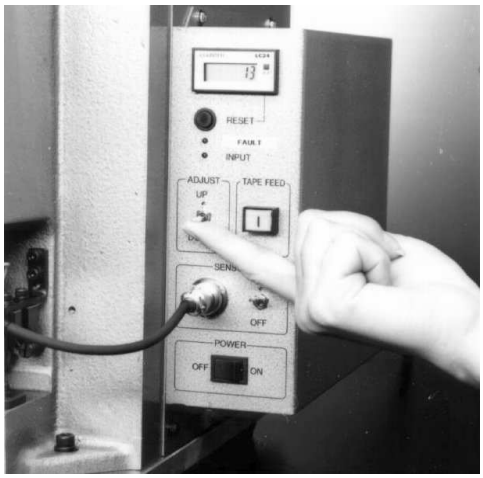
CAUTION !
Before opening the fabricated cover to adjust the crimp position, ensure that the air and electricity supplies are disconnected.

If the crimp position is not centred correctly, adjustments are required to be made to the index wheel position (part no. 2108-4115-1).
In the case of an insulated terminal, the insulation should be removed from the terminal with the aid of a pair of cutters, to enable the indentation to be assessed.

The drawings opposite illustrate the visual appearance of both correctly and incorrectly crimped terminals.

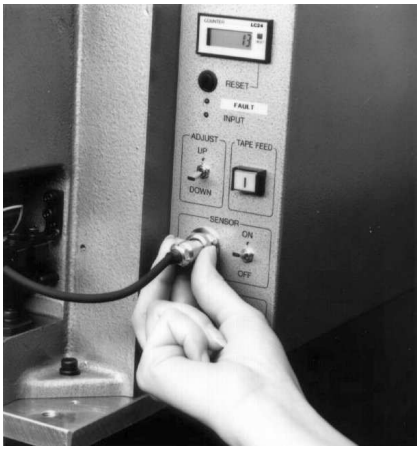


The adjustment procedure is as follows:-
Step 1.
Set the Adjust switch to the UP position.
The ram rises to Top Dead Centre, and the terminal is free to move relative to the anvil.

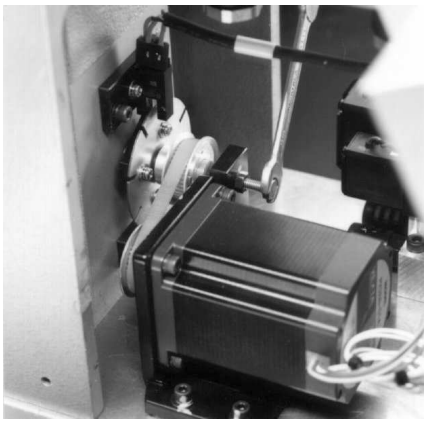


Step 2.
Disconnect both the air and electricity supplies.

Step 3.
Remove the M4 screw securing the door on the left hand side of the main Body Cover fabrication, and swing the cover open against the hinges.



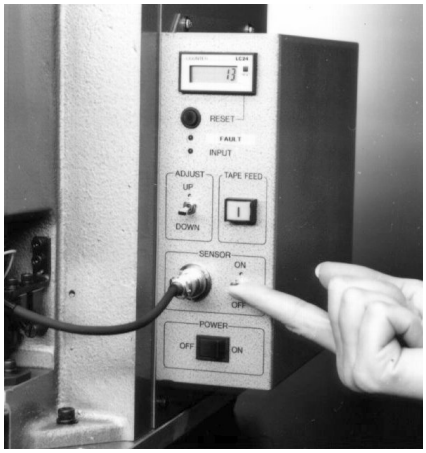
Step 4.
Loosen the lock-nut on the rear of the belt pulley, and turn the bolt with the aid of a spanner, either clock-wise or counter-clockwise depending on which direction the terminal needs to be adjusted.
Repeat this adjustment until the correct condition is obtained.
Note
Each complete revolution of the adjuster moves the terminal approximately 0.8mm in either direction. Adjusting the bolt in a clock-wise direction moves the terminal towards the front of the press.



Step 5.
Close the access door, replace the cap head screw, and reconnect the air and electricity supplies.

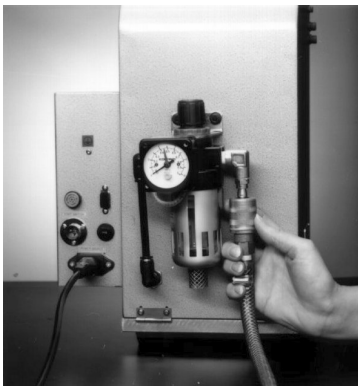
6.2 Adjustment of the insulation support

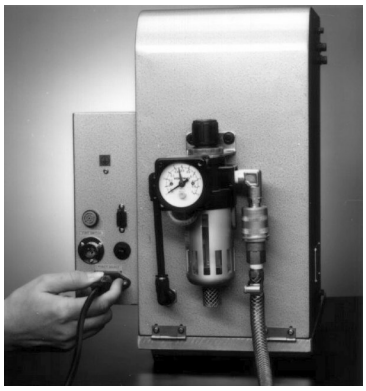
CAUTION !
Before removing the Safety Guard to adjust the insulation support, ensure that the air and electricity supplies are disconnected.



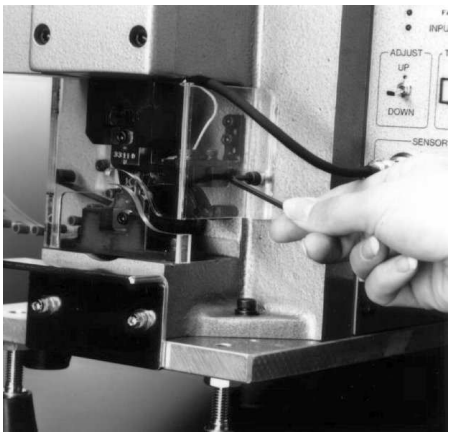
Step1.
Set the Adjust Switch to the UP position.
The ram rises to Top Dead Centre, and the terminal is free to move relative to the anvil.

Step 2.
Disconnect both the air and electricity supplies.

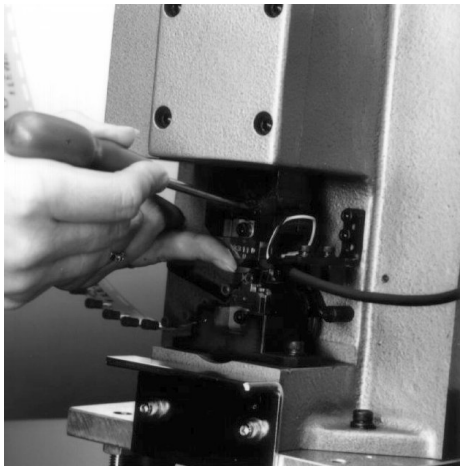




Step 3.
Remove the safety Guard by undoing the two cap head screws. Remove the terminal tape from the capstan wheel.



Step 4.
Insulation crimp adjustment.
Release the crimping punches in the ram, by loosening the cap head retaining screw.
The insulation crimp height can be adjusted to three different positions, by turning the adjusting cam (part no.2108-4109).
The position is dependant on the wire insulation outside diameter. The settings are marked as follows:- S = Small insulation diameter, M = Medium insulation diameter, L = Large insulation diameter.
Select the appropriate setting for the wire insulation size, and tighten the retaining cap screw, whilst simultaneously pushing the crimping punches in an upward direction to ensure that they are correctly seated in the ram.



Step 5.
Replace the terminals in the Index wheel, re-connect the air and electricity supplies, and refit the Safety Guard.

7. CRIMPING MACHINE MAINTENANCE

7.1 Lubrication

Ensure that the ram is regularly lubricated with a general purpose machine oil (approximately once every week).

7.2 Cleaning

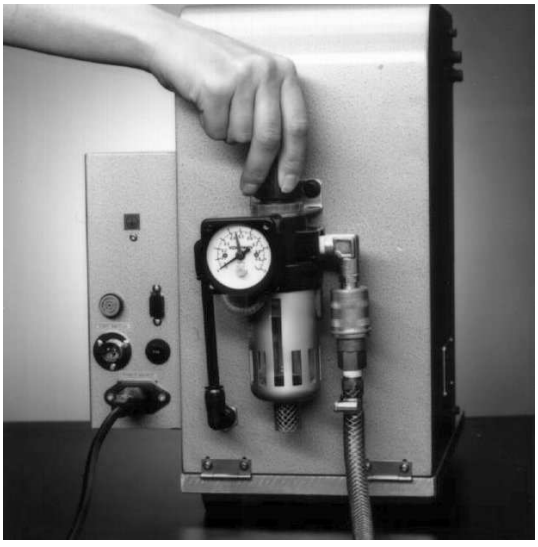
The crimping dies are chrome plated, and as a result they require polishing at regular intervals with a good quality metal polish to ensure that the terminals do not become stuck in the punches due to a build-up of deposits. If the deposits are not removed, the terminals may become bent during the stripping operation.

7.3 Shut Height Adjustment

The shut height of the press is factory set so that when the ram is at Bottom Dead Centre, the conductor crimp dies are closely touching to ensure that the correct crimp height is achieved.
If the linkage becomes worn it is possible that the shut height will not be correct and the crimp height will fluctuate.
If this problem occurs, contact the J.S.T. Technical Services Department, because the setting of the crimp height requires special tooling.

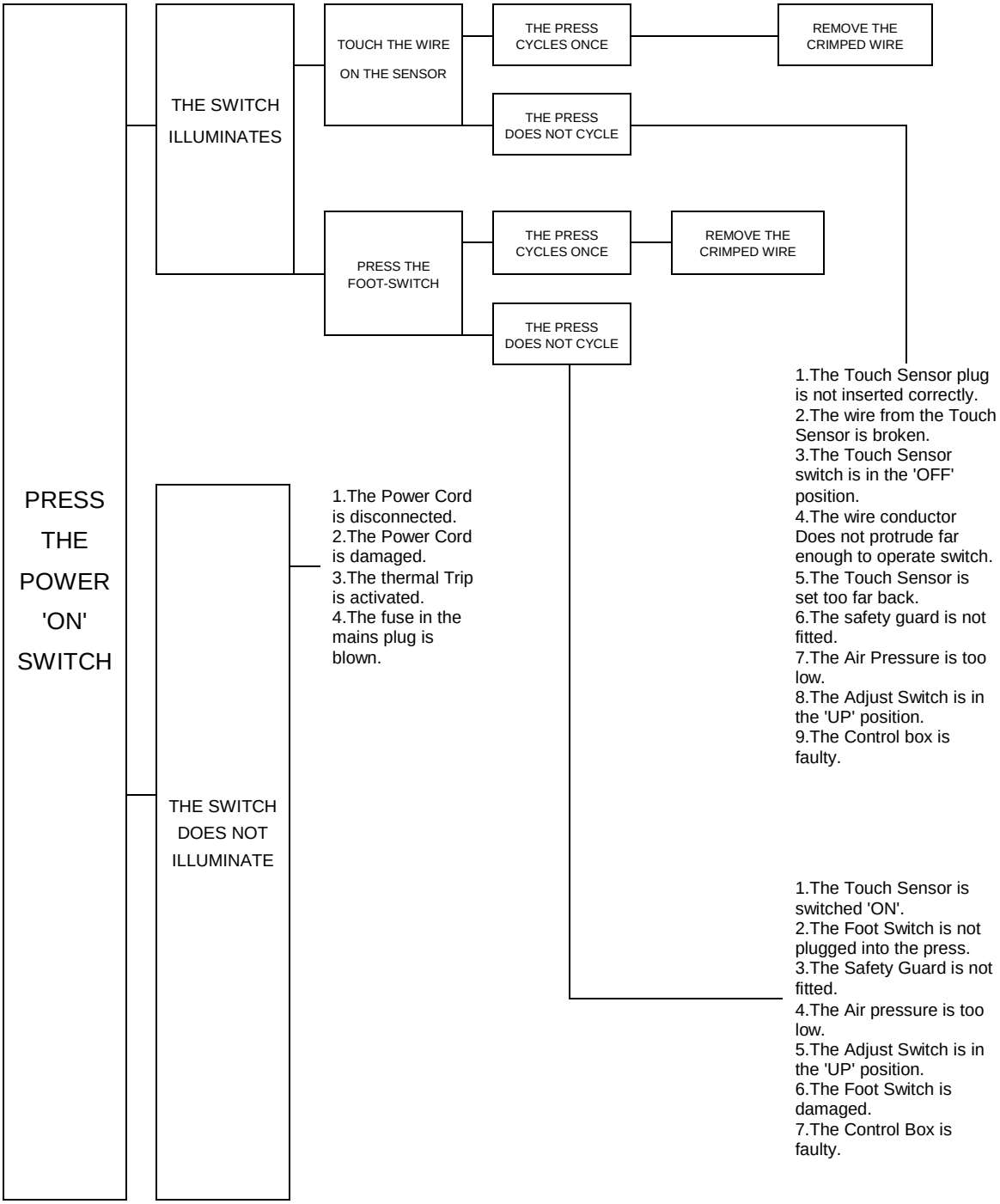
7.4 Filter Regulator adjustment

The air pressure on the Filter Regulator is factory set to 0.6 MPa before despatch.
If the pressure is not set to this figure, the regulator will require adjustment using the following method:-
Pull the knob on top of the regulator in an upward direction and rotate in either a clockwise or counter-clockwise direction until the gauge reads the correct pressure.
Push the knob down to lock it in position once the correct pressure is achieved.



8. FAULT FINDING

8.1 Diagramatic flow chart.



8.1 Flow chart definitions

1. The Power On switch does not illuminate

(1) The Power Cord is disconnected.
Connect the Power Cord.

(2) The Power Cord is damaged.
Replace the Power Cord.

(3) The Thermal Trip is activated.
Press in the Thermal Trip button. If the Trip operates again, seek help from a qualified electrician.

(4) The Fuse in the mains plug is blown.
Check and replace the fuse, if necessary.

2. The Press does not cycle (Touch Sensor Operation)

(1) The Touch Sensor plug is not inserted correctly.
Ensure that the plug is securely pushed into the socket, and that the knurled ring is screwed tight.

(2) The wire from the touch sensor is broken.
Repair the wire or replace the entire Touch Sensor assembly.

(3) The Touch sensor switch is in the 'OFF' position.
Move the switch into the 'ON' position.

(4) The wire conductor does not protrude sufficiently through the terminal to operate the Touch Sensor.
Ensure that the stripped length of the conductor is to JST's recommended specifications.

(5) The Touch Sensor is moved too far back from the terminal.
Adjust the Touch Sensor, as per instructions in section 4.4 (page10).

(6) The Safety Guard is not fitted.
Fit the Safety Guard. The press has an opto-electronic switch incorporated into the Safety guard, and this prevents the press from operating if it is not fitted.

(7) The air pressure is too low.
Ensure that the Air Regulator is set to the specified pressure, as detailed in section 7.4 (page 17).

(8) The Adjust Switch is in the 'UP' position.
Move the switch to the 'DOWN' position.

(9) The Control Box is Faulty.
Contact the JST Technical Services department.

(Foot-Switch Operation)

(1) The Touch Sensor is switched 'ON'.
Move the switch to the 'OFF' position.

(2) The Foot-Switch is not plugged into the Press.
Plug the Foot-Switch into the socket on the rear of the control box.

(3) The Safety Guard is not fitted.
Fit the Safety Guard. The press has an opto-electronic switch incorporated into the Safety guard, and this prevents the press from operating if it is not fitted.

(4) The air pressure is too low.
Ensure that the Air Regulator is set to the specified pressure, as detailed in section 7.4 (page 17).

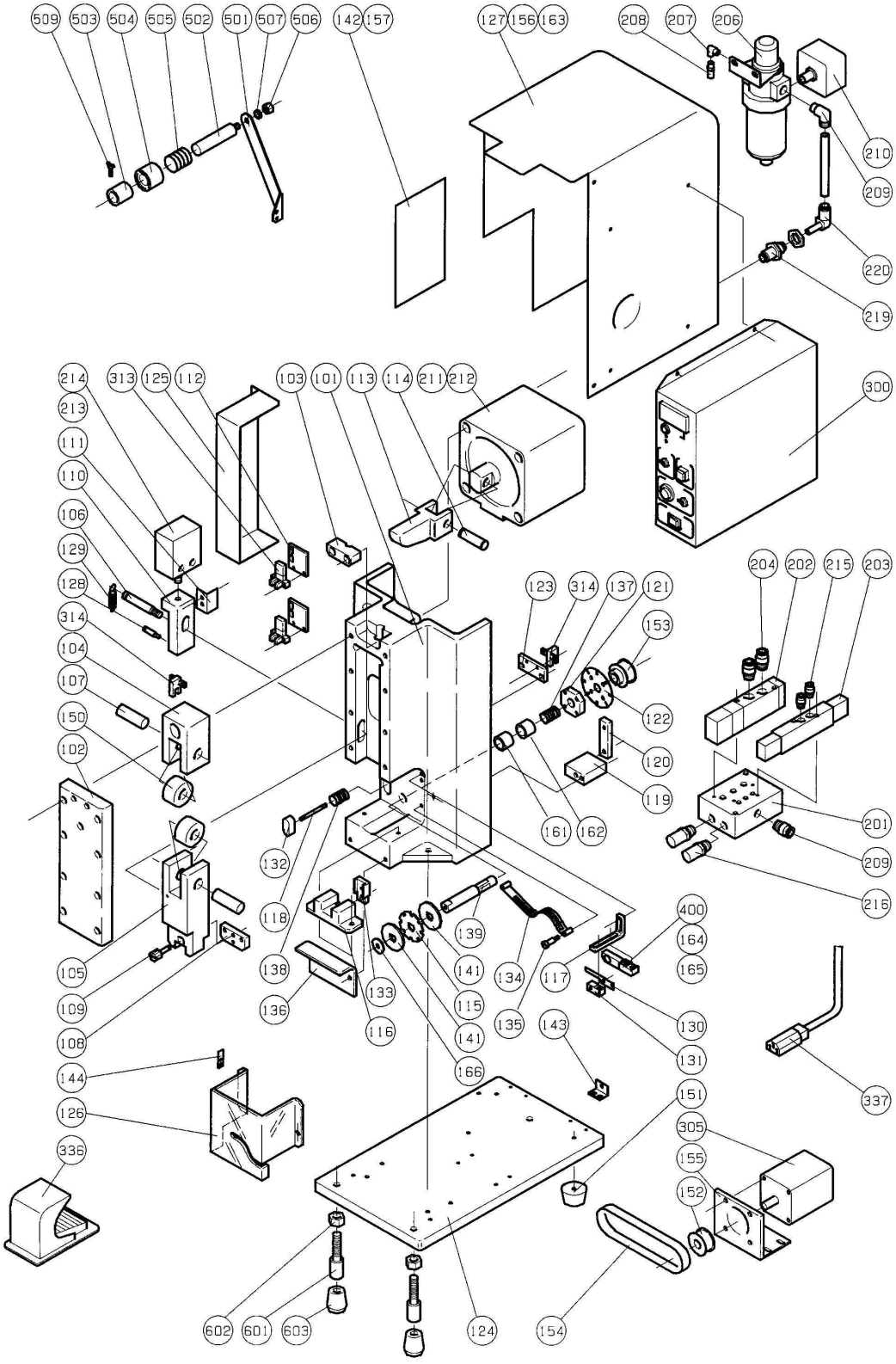
(5) The Adjust Switch is in the 'UP' position.
Move the switch to the 'DOWN' position.

(6) The Foot-Switch is damaged.
Contact the JST Technical Services Department for repair or replacement of the damaged Foot-switch.

(7) The Control Box is Faulty.
Contact the JST Technical Services Department.

9. EXPLODED VIEWS AND PARTS LIST

9.1 Exploded view



9.2 Parts list

ITEM	DESCRIPTION	PART NO.	QTY
101	Main Body Frame	**F6-2108- 2101-1**	**1**
102	Ram Cover	**F6-2108- 3102-1**	**1**
103	Split Nut	**F6-2108- 4103**	**1**
104	Adjustment Block	**F6-2108- 4104**	**1**
105	Ram	**F6-2108- 3105-1**	**1**
106	Lifting Knuckle Pin	**F6-2108- 4106**	**1**
107	Roller Pin	**F6-2108- 4107**	**2**
108	Upper Die-Set Plate	**F6-2108- 4108**	**1**
109	Adjustment Cam	**F6-2108- 4109**	**1**
110	Lifting Knuckle	**F6-2108- 4110-1**	**1**
111	Sensor Plate	**F6-2108- 4111**	**1**
112	Sensor Mounting Plate(a)	**F6-2108- 4112**	**2**
113	Crimp Cam	**F6-2108- 4113**	**1**
114	Crimp Cam Pin	**F6-2108- 4114**	**1**
115	Index Wheel (a)	**F6-2108- 4115-1**	**1**
116	Lower Die-Set Holder	**F6-2108- 4116**	**1**
117	Stripper Bracket	**F6-2108- 4117-1**	**1**
118	Pusher Screw	**F6-2108- 4118**	**1**
119	Base	**F6-2108- 4119-1**	**1**
120	Pressure Base	**F6-2108- 4120-1**	**1**
121	Douser base	**F6-2108- 4121-1**	**1**
122	Douser	**F6-2108- 4122**	**1**
123	Sensor Mounting Plate (b)	**F6-2108- 4123-1**	**1**
124	Main Base Plate	**F6-2108- 3124-1**	**1**
125	Cylinder Cover	**F6-2108- 4125**	**1**
126	Safety Guard	**JST UK-218**	**1**
127	Cover	**F6-2108- 2127-1**	**1**
128	Spring Post	**F6-2101- 4134**	**1**
129	Tension Spring	**AP-F4/F6AP 4129-2**	**1**
130	Stripper	**F3 - 4133**	**1**
131	Stripper Hanger	**F3 - 4132**	**1**
132	Pusher	**F3 - 4128**	**1**
133	Lower Die-Set Base Holder	**F3 - 4114**	**1**
134	Tape Holder	**F6-2108- 4134**	**1**
135	Tape Holder Guide Screw	**F3 - 4124**	**1**
136	Handle	**F6-2108- 4136-1**	**1**
137	Index Spring	**F3 - 4120**	**1**
138	Pusher spring	**F3 - 4130**	**1**
139	Index Pin	**F6-2108- 4139**	**1**
140	Name Plate	**JST UK-205 (F6-4140)**	**1**
141	Index Wheel (b)	**F6-2108- 4141**	**2**
142	Main Body Cover (b)	**F6-2108- 4142**	**1**
143	Stay	**F6-2108- 4143**	**3**
144	Douser	**F6-P164**	**1**
150	Bearing	**<THK> NART15UUVR**	**2**
151	Rubber Foot	**<F6-P151 (TAKIGEN)C-30-RK3220**	**4**
152	Timing Pulley	**F6-2108- 4152**	**1**
153	Timing Pulley	**F6-2108- 4153**	**1**
154	Timing Belt	**F6-P158 85MXL6.4 <Mitsuboshi>**	**1**
155	Motor Mounting Fixture	**F6-2108- 4155**	**1**
156	Grommet	**<Takigen> C-30-NG-79-A-1**	**1**
157	Hinge	**<Takigen> B-1027-3**	**3**
158	Knurling Knob	**<Takigen> A-176-22**	**1**
159	Knurling Knob	**<Takigen> A-176-21**	**1**

ITEM	DESCRIPTION	PART NO.	QTY
161	Needle Bearing	F6-NTN K14x20x12	1
162	Needle Bearing	F6-NTN K14x20x17	1
166	Washer	<MISUMI> WSF16	1
200	Manifold gasket	AP-F6P GASKET	1
201	Manifold	F6-2108- 3201-1	1
202	Solenoid Valve	F6-P202 <KOGANEI>280- 4E1-DC24	1
203	Solenoid Valve	F6-P203 <KOGANEI>183- 4E2-DC24	1
204	Pneumatic Joint	F6-P204 <KOGANEI>TS8- 02	2
205	Female Air Fitting	ACZCF02	1
206	Filter Regulator	F6-FR300- 02BG<KOGANEI>	1
207	Elbow	ELBOW CON R1/4xG1/4 M/F	1
208	Coupler	ACA2593	1
209	Pneumatic joint	<KOGANEI> TL8- 02	2
210	Pressure Switch	F6-P210 SMC GP46-10-02L5	1
211	Pneumatic Joint	F6-P211 SL8- 03<KOGANEI>	2
212	Cylinder	F6-P212 <KOGANEI>CDAS100x45-268W-CS9H	1
213	Cylinder	F6-P213 <SMC> CU25- 20D	1
214	Pneumatic Joint	F6-P214 <KOGANEI>TL4- M5M	2
215	Speed Controller	F6-P215 <KOGANEI>SS4- 01B	2
216	Silencer	F6-P216 <KOGANEI>KM- 22	2
217	Urethane tube	<KOGANEI> U8- B	1
218	Urethane tube	<KOGANEI> U4- B	1
219	Diaphragm Union	F6-P219 <KOGANEI>UK- 8	1
220	Socket Elbow	F6-P220 <KOGANEI>ULA8	1
300	Control Box	F6-2301 (VOLTAGE 230V)	1 set
305	Stepping Motor	F6-P305 <ORIENTAL>PK268- 01A	1
313	Photomicrosensor	<OMRON> EE- SX671	2
314	Photomicrosensor	<OMRON> EE- SX672	1
400	Touch Sensor Assembly	F6-2108- 3400- 1	1 set
401	Touch Sensor Holder	F6-2108-4401 Touch Sensor Holder	1
403	Touch Sensor Plate Holder	F6-2108-4403-1 Plate Holder	1
404A	Touch Sensor Circlip	F6-2108-4404-1 Circlip	1
404B	Touch Sensor Plate	F6-2108-4404-1 Sensor Plate	1
405	Touch Sensor Block	F6-2108-4405 Sensor Block	1
406	Touch Sensor Spring	F6-2108-4406 Sensor Spring	1
407	Touch Sensor Fixed Sensor	F6-2108-4407 Fixed Sensor	1
408	Touch Sensor Holder Spring	F6-2108-4408-1 Holder Spring	1
501	Reel Hanger	F3-4601 Reel Hanger	1
502	Reel Rod	F3-4604	1
503	Reel Collar	F3-4605	1
504	Spring Collar	F3-4603	1
505	Pressure Spring	F3- 4602	1
506	Hex. Nut	M12 type-1	1
507	Spring Washer	Nominal-12 No.2	1
509	Wing Screw	M4 x 10 Type-1	1
510	Foot-Switch	K2-B315A	1
511	Power Cord	F6-P511	1
601	Adjustment Bolt	F3-4901	2
602	Hex. Nut	M10 type- 3	2

603	Rubber Foot	**C- 31- 4**	**2**

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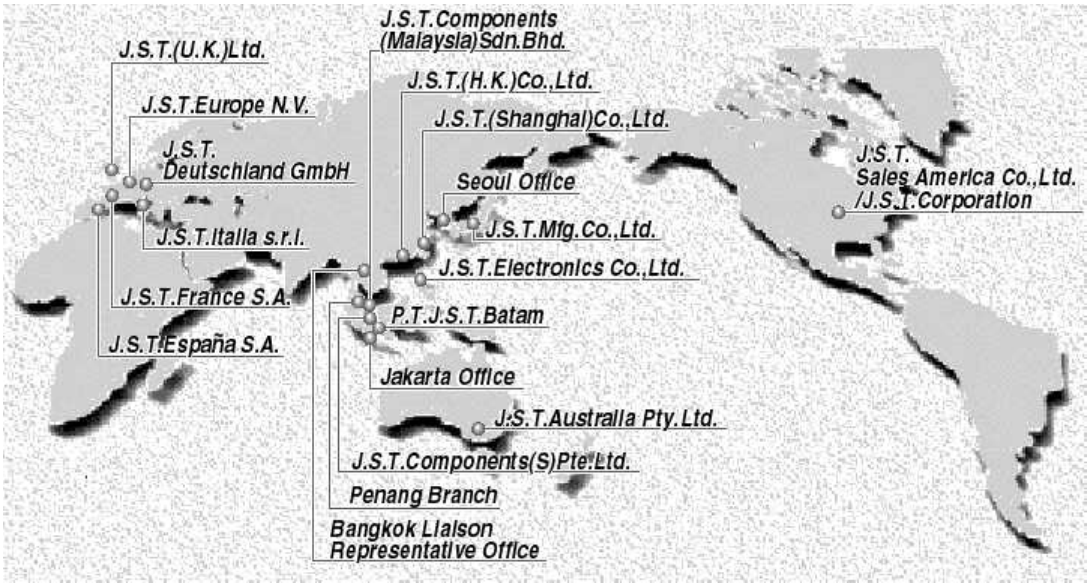

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