AP-K2 CRIMPING MACHINE

OPERATION MANUAL

JST
The Quality Connection

PREFACE

The AP-K2 semi-automatic crimping machine is easy to operate, and is suitable for mass production of crimped harnesses with chain terminals.

Before using the AP-K2 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, fault-finding and adjustment of the crimping machine and its associated tooling.

CONTENTS

1. SPECIFICATIONS

The crimping machine is composed of the crimping press and an applicator.
There are two basic types of applicators
(a total of four models).

Models MK-L and MKF-L for end feeding terminals, and models MKS-L and MKS-LS for side feeding terminals. The crimping machine utilises a quick-change system thus allowing quick changeover times.

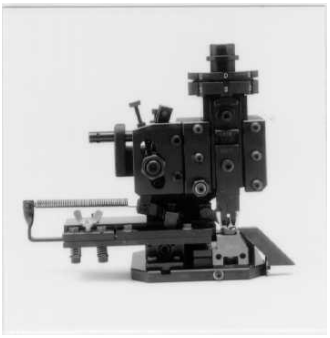
1.1 Crimping Machine Specifications

Model no: AP-K2
- External dimensions: 280mm Wide x 480mm Long x 560mm High
- Weight: 95 Kg
- Power supply: 220/240V AC single phase 50/60 Hz
- Power consumption: 680VA
- Crimping force: 1500 Kg
- Ram stroke: 30mm
- Ram speed: 260 strokes per minute (60 Hz), and 220 strokes per minute (50 Hz)
- Closed height: 160.0 mm ± 0.01 at B.D.C

1.2 Applicator specifications

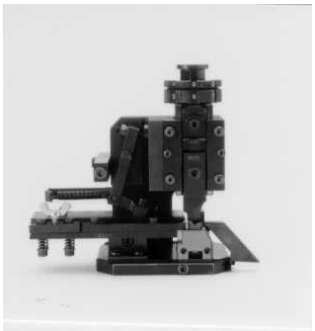
Model no. MK-L (for-end feeding terminals)
- Weight 6.8 Kg
- Feed pitch 30mm max.
- Crimp height adjustment: Dial type

Model no. MKS-L (for side-feeding terminals)
- Weight 6.4 Kg
- Feed pitch 30mm max.
- Crimp height adjustment: Dial type



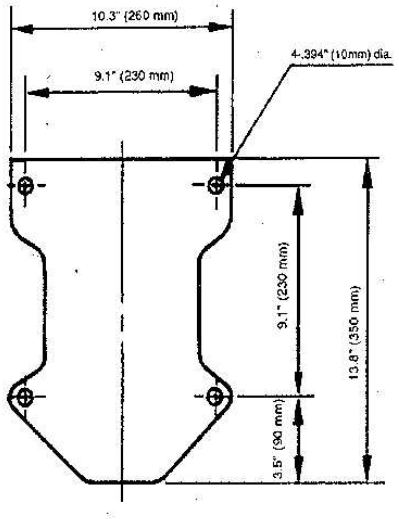
Model no. MKF-L (for-end feeding flag terminals)
- Weight 6.8 Kg
- Feed pitch 30mm max.
- Crimp height adjustment: Dial type

Model no. MKS-LS (for side feeding terminals)
- Weight 4.5 Kg
- Feed pitch 30mm max.
- Crimp height adjustment: Dial type



2. INSTALLING THE MACHINE

2.1 Installation



Mount the crimping machine on a solid foundation, place a rubber mat between the machine and foundation to reduce vibration and stabilise the machine.

The diagram to the left illustrates the footprint dimensions of the machine. Secure the machine to the foundation with four M8 bolts.

The machine should be mounted so that the crimping dies are at the approximate eye level of a seated operator.

CAUTION

Ensure that the belt cover of the crimping machine does not overhang the edge of the mounting surface.

3. MACHINE PREPARATION

3.1 Mounting the Reel hanger

Due to packing considerations, when you receive the machine the Reel hanger is not mounted on the machine. Assemble the Reel hanger then mount it on the machine as illustrated below.

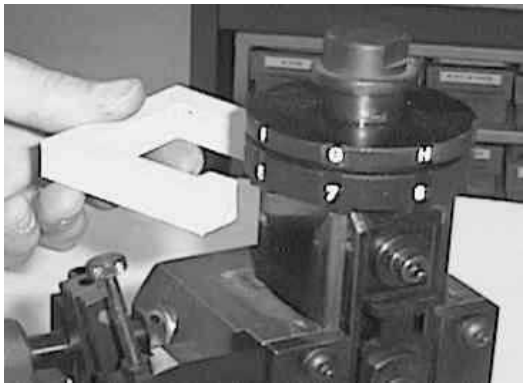
Step 1
Assemble the Reel hanger as shown in the photo below.

Step 2
Mount the Reel hanger on the Crimping machine.

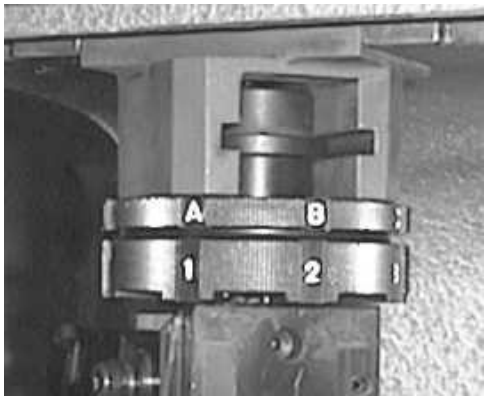
3.2 Mounting the Applicator

Step 1
Loosen bolts A and B with a 5mm hexagon wrench supplied with the tool-kit.

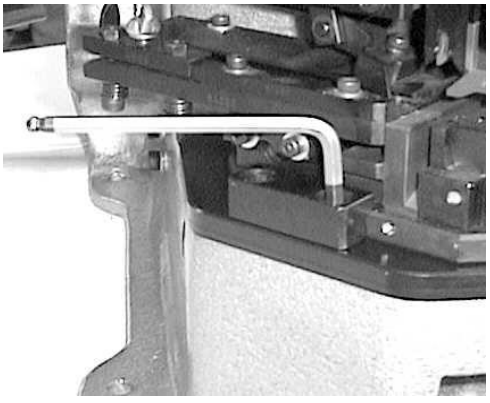
Step 2
Remove the protective rubber collar from under the dials on the applicator ram.



Step 3
CAUTION
Ensure that the shank is correctly located in the ram. There is a danger of major tooling damage if the tooling is not located correctly (as in the photograph below).

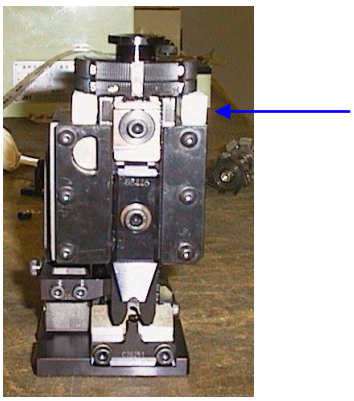


Step 4
Securely fasten the clamps with the 5mm hexagon key, and visually check that the tooling is mounted correctly.



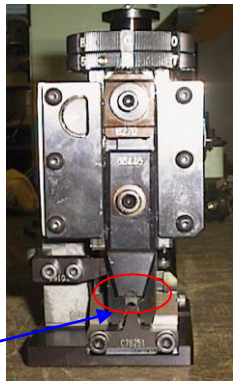
PREVENTION OF TOOLING DAMAGE.

1. Place the rubber collar under the ram head as shown in picture 1.
IMPORTANT.
Repeat this procedure every time you remove an applicator from the press.



Picture 1.

2. DO NOT leave the applicator without the rubber collar attached, as shown in picture 2.



Picture 2

Picture 3.

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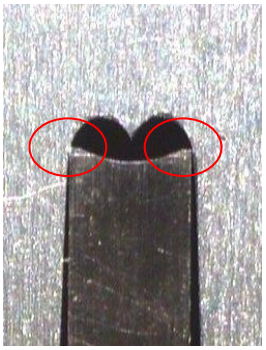
3. Picture 3, is a zoomed in view of the punch and anvil when the rubber collar is left off.
The two circled points are the points of contact where the damage will be caused.



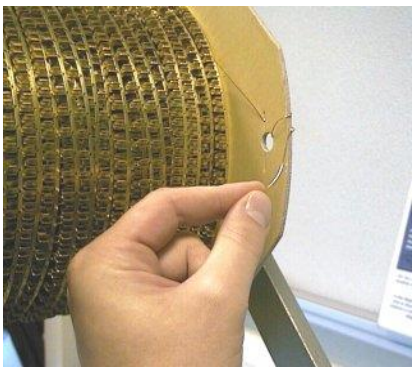
Picture 3.

PREVENTION OF TERMINAL DAMAGE.

1. Mount reel on reel holder attached to the side of the press, as shown.

2. Adjust the collar; ensure that the collar is adjusted so there is a light drag on the reel prior to untying the reel.

3. Terminals are tied with wire, do not untie before collar is fitted as the windings will become loose, always re-tie after each production run.



4. Make sure the reels are stored up on end in the original box, do not lay the terminals on their side as they can drop and get tangled.

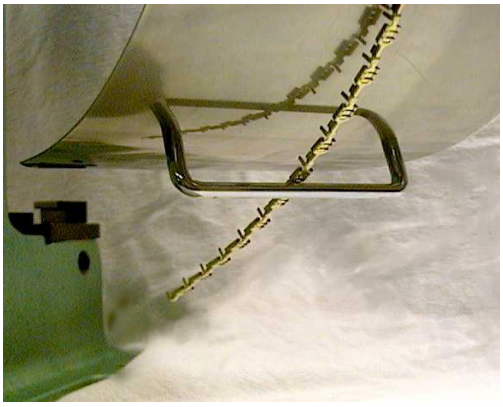
CORRECT.

INCORRECT.

3.3 Mounting the Terminal reel

Step 1

Mount the terminal reel to the reel hanger so that the terminal barrels are facing the reel guide.



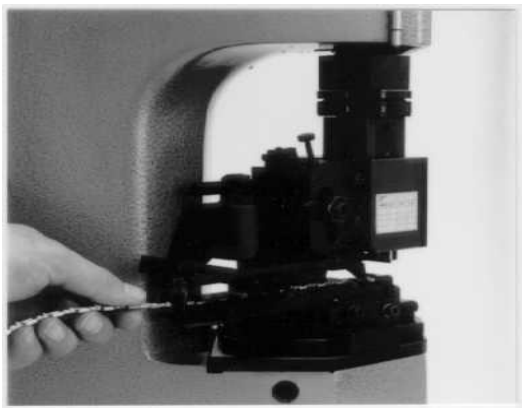
Step 2

Feed the terminals through the terminal guide.

Mounting the MK-L applicator

Step 3

Push down the tension lever and engage the hook with the feed plate so that the pressure pad rises. Feed the terminal strip between the guide rails.



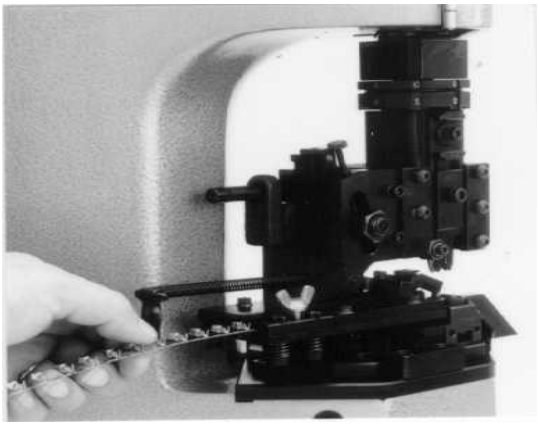
Step 4

Place the first terminal at the correct crimping position. Release the hook from the feed plate to allow the pressure pad to apply pressure on the strip.

Mounting the MKS-L applicator

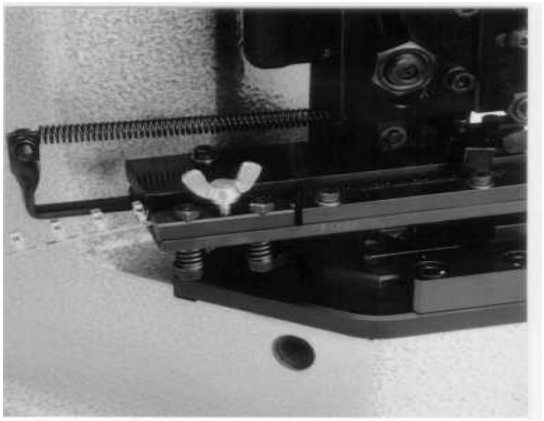
Step 3

Rotate the wing bolt clockwise to raise the pressure plate. Feed the terminal strip between the guide rails.



Step 4

Place the first terminal in position so that the terminal is centralised over the anvil. Rotate the wing bolt counter- clockwise to lower the pressure plate so that pressure is applied to the terminal.

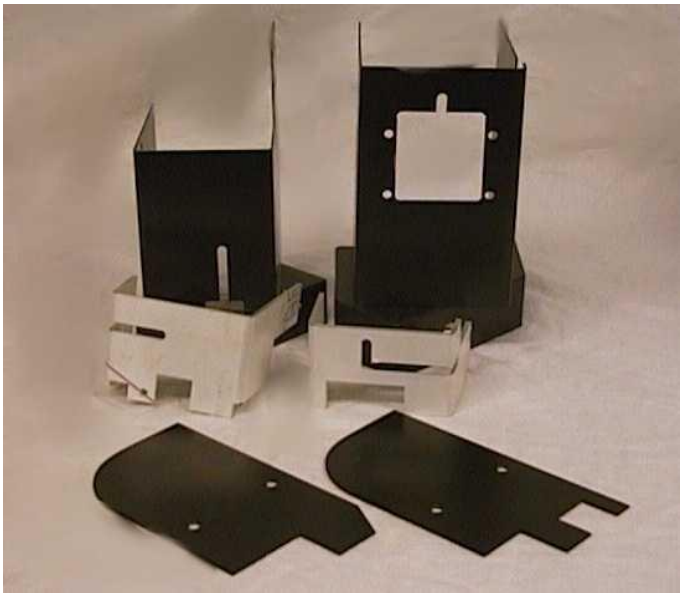


3-4. Setting the counter

The counter (5 digits) helps you to count the number of crimped terminals processed.
Press the reset button to reset the counter to zero.

3-5. Mounting the safety guard

There are many types of safety guards available, please consult JST for details.
A RELEVANT SET OF SAFETY GUARDS IS ALWAYS DESPATCHED WITH THE MACHINE



4. OPERATION

WARNING

Disconnect the press from the power supply before operating by hand. Operations by hand whilst guards are removed must only be performed by authorised competent persons.

4.1 Manual Operation

CAUTION

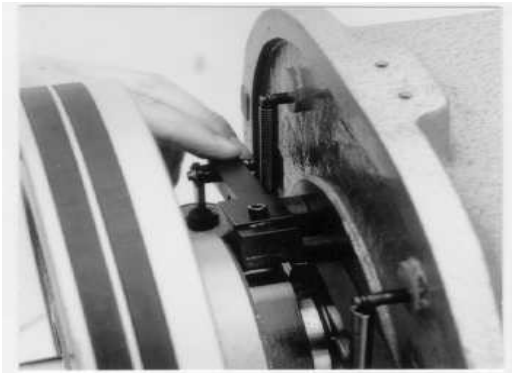
When using an applicator for the first time after fitting it in the press, or whenever a die-part is replaced or the applicator is adjusted, ensure that the press is manually cycled at least one revolution. This is a very important operation to ensure that the terminals are crimped correctly and it also allows a degree of 'feel' through the crank handle which prevents major tooling damage from occurring if the die-parts have been installed incorrectly.

Step 1

Turn off and disconnect the power.

Step 2

Manually operate the solenoid by pushing the clutch lever in a downward direction until the clutch 'clicks'.



Step 3

Place the hand-crank supplied in the press tool-kit on the end of the main shaft and rotate in a counter-clockwise direction to manually cycle the press through one revolution. The ram moves up and down one stroke and crimps the terminal.

Step 4

Remove the hand-crank and close the belt cover.

Step 5

CAUTION: Ensure that hand-crank is rotated through one complete revolution (until it physically stops). If the press is left partway through a cycle it will try to complete the cycle when the motor is turned on and this action could result in damage being caused to the tooling.

4.2 Inspection before operation

IMPORTANT

Ensure that the hand crank has been removed before commencing.

Ensure the correct fitting of the guards.

4-3. Operation under power

Step 1
Connect the power supply cable and the foot-switch cable to the control box using the screw in connectors. Connect the power supply cable to the mains supply and switch on the press.
CAUTION
Ensure that the power supply cable is routed from the press safely and does not become trapped or chafed by any part of the crimping machine.

Step 2
Turn ON the light by the rotary switch as shown below.

Step 3
Turn the power switch ON; you will hear the fly-wheel start to turn.

Step 4
Position a wire over the terminal and press the foot-switch once to activate it. The terminal is crimped and the next terminal is indexed along over the anvils ready for the next operation.

CAUTION If any problems occur during operations, immediately press the Power Off push-button and investigate the reason If the problem requires the removal of safety guards, contact a person authorised to remove the guards. ON NO ACCOUNT REMOVE SAFETY GUARDS IF YOU ARE NOT AUTHORISED TO DO SO.

6. APPLICATOR ADJUSTMENT

5.1 Terminal Feed Position Adjustment.

CAUTION

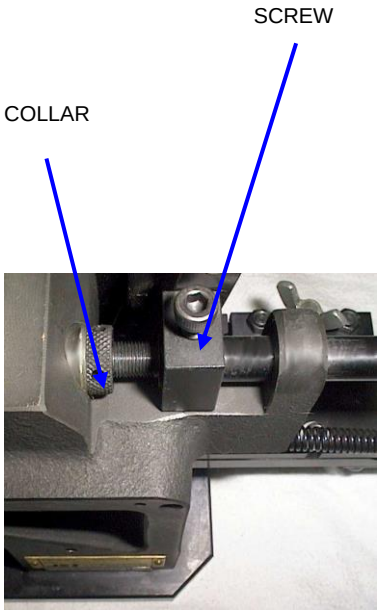
The following adjustments require the removal of the safety guards and must only be carried out by authorised competent persons.

There is a risk of serious crushing injury in tooling exposed by the removal of the safety guards. Ensure that fingers are kept away from the moving parts of the applicator.

When using the MK-L Applicator

Adjust the terminal feed position to adjust the terminal crimping position. Before making this adjustment be sure that the applicator is mounted in the crimping machine correctly and the press ram is at Top Dead Centre.

Loosen the 5mm cap head socket screw and the knurled collar using a small length of silver steel or similar, as indicated on the photograph.
With the aid of the silver steel or a flat-ended screwdriver rotate the adjustment shaft so that the feed-finger places the terminal in the correct position for crimping.
Rotate the shaft counter-clockwise to move the terminal forward, and clock-wise to move it backwards.
When the adjustments are completed, tighten the knurled collar first followed by the cap screw.



Rotate the press through one revolution manually (see page 10), and check the resultant crimped terminal. If the appearance of the terminal is not correct repeat the above adjustment operation and check again.

When a satisfactory result is achieved, replace the guards, connect the crimping machine to the power supply and recommence the crimping operation.

When using the MKS-L Applicator

Adjust the terminal feed position to adjust the terminal crimping position. Before making this adjustment be sure that the applicator is mounted in the crimping machine correctly and the press ram is at Top Dead Centre.

To position a terminal at the centre of the die, follow the procedure below.

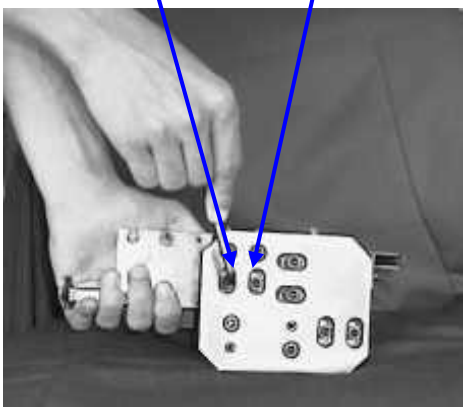
Loosen the 5mm cap head socket screw and the knurled collar using a small length of silver steel or similar, as indicated on the photograph.
With the aid of the silver steel or a flat-ended screwdriver rotate the adjustment shaft so that the feed-finger places the terminal in the correct position for crimping.
Rotate the shaft counter-clockwise to move the terminal to the right (forwards), and clock-wise to move it to the left (backwards).
When the adjustments are completed, tighten the knurled collar first followed by the cap screw.

Rotate the press through one revolution manually (see page 10), and check the resultant crimped terminal. If the appearance of the terminal is not correct repeat the above adjustment operation and check again.

When a satisfactory result is achieved, replace the guards, connect the crimping machine to the power supply and recommence the crimping operation.

5.2 Bell Mouth Adjustment

Slot-head adjustment screws



When using the MK-L Applicator
Adjust the terminal feed position with reference to the bell-mouth position. Refer to section 6.1

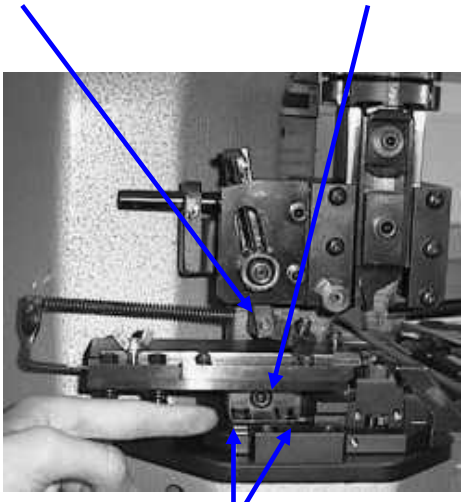
When using the MKS-L Applicator (old type)
Move the entire feed-plate to obtain the desired bell-mouth crimp. First, loosen the feed-finger retaining screw in the feed-finger holder. Next, loosen the two cap head socket screws in the slots on the base of the applicator (see photograph).

With the aid of a flat ended screwdriver, rotate the adjusting screw in the front of the adjustment carriage, turn the screw clockwise to increase the bell-mouth (move the guide rails towards the front of the press), and counter-clockwise to decrease the bell-mouth (move the guide rails towards the back of the press).

Re-tighten the adjustment screws on the base of the applicator, centralise the feed-finger in the slot in the guide rail and tighten the screw.

Check the bell-mouth on the resultant crimp and re-adjust if necessary.

Feed-finger screw Adjustment screw

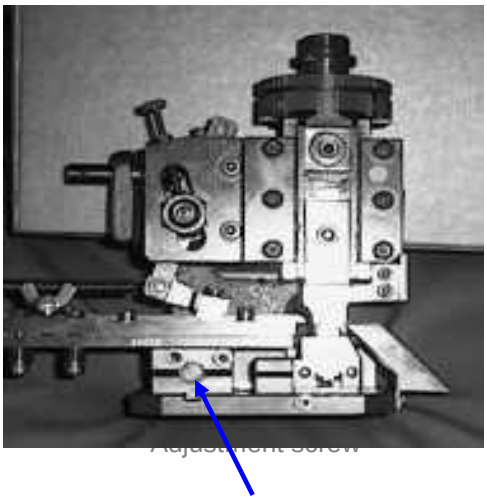


Hexagon nuts

When using the MKS-L Applicator (new type)
Move the entire feed-plate to obtain the desired bell-mouth crimp. First, loosen the feed-finger retaining screw in the feed-finger holder. Next, loosen the two hexagon-headed bolts situated on the front of the adjustment carriage just above the top surface of the applicator base-plate.
With the aid of a 5mm hexagon key, rotate the screw in the front of the adjustment carriage, turn the screw clock-wise to decrease the bell-mouth (move the guide rails towards the back of the press), and counter-clockwise to increase the bell-mouth (move the guide rails towards the front of the press).

Re-tighten the adjustment bolts, centralise the feed-finger in the slot in the guide rail and tighten the screw.

Check the resultant crimp and re-adjust if necessary.



There is a crimping manual available from the JST Technical Department detailing the points to inspect on a crimped terminal to achieve results as per our specifications.
A copy is issued with every AP-K2N Crimping machine supplied to a customer but please contact JST if you require further copies.

5.3 Feed-finger travel adjustment

Applicators are assembled and adjusted prior to despatch from JST and will not require adjustment by customers. Please contact JST Technical Services Department if you consider there is a problem with the Pitch setting adjustment.

5.4 Crimp Height adjustment

The applicator has two dials to adjust the insulation and wire crimp-height. The upper dial, marked with letters
A - H, is for the wire (conductor), crimp-height.
The lower dial, marked with numbers 1 - 8, is for the insulation crimp height.

JST do not advise pad settings for wire sizes, as is the practice of some manufacturers.
We believe that the best method to adopt is to specify crimp-heights and adjust the dials until the desired crimp-height is achieved.

- **Wire crimp-height (conductor) adjustment.**
  Setting the upper dial to graduation A produces the tightest crimp-height (lowest), and graduation H the least tight (highest). The crimp height alters by approximately 0.05mm per graduation, so a total range of adjustment of 0.40mm is attainable.

- **Insulation crimp-height adjustment.**
  Setting the lower dial to graduation 1 produces the

  tightest crimp-height (lowest), and graduation 8 the least tight (highest). The crimp-height alters by approximately 0.10mm per graduation, so a total range of 0.80mm is attainable.
  We do not state insulation crimp-heights due to the large variation of insulation types available. The insulation should be set as per instructed in the JST Crimping Manual supplied with the AP-K2N crimping machine. If you require further copies, please contact the JST Technical Services Department.

TOP DIAL- Conductor height
BOTTOM DIAL- Insulation height

CAUTION

When initially installing the applicator in the press, ensure that the dials are set at H - 8 to avoid the possibility of tooling damage.

Always check the crimp-height of the terminal by use of a Crimp-height Micrometer because they are designed specifically for the purpose and indicate the true crimp-height. If you require details for the supply of a crimp-height micrometer please contact JST Technical Services Department.
If the applicator is not capable of achieving the desired crimp-height by adjusting the dials, please contact the JST Technical Services Department, because there is a range of blocks available to alter the range of crimp heights available. If you specify the blocks currently installed in your applicator (see 'Exploded view' supplied with applicator), we can advise you of the part no of the replacement blocks necessary to achieve the desired crimp-height.

Do not adjust the crimp-height by altering the shut-height of the AP-K2N press, because it is factory set and should only require occasional adjustment when serviced by the JST Service Engineer.

5-5. Die Part Replacement

The crimping dies are consumable parts. When a die part becomes worn and requires replacement, check the part number engraved on the die part, or consult the 'exploded view' drawing supplied with every applicator and order a new part from JST technical Services Department.

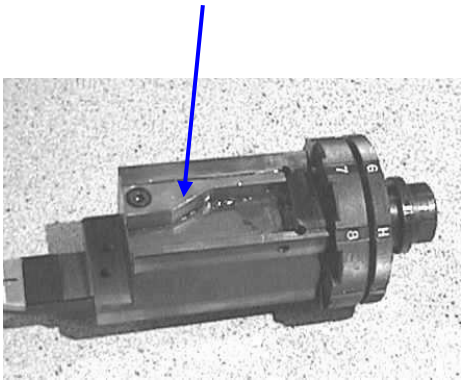
If you consider that the replacement process is too difficult, or the tooling has sustained damage, please contact JST to either send back the tooling for repair or alternatively a JST Service Engineer can visit your company to repair the tool on site.

5-6. Lubrication of Applicator

Periodically lubricate the surfaces indicated on the photographs with grease. A general purpose grease obtainable from Garages or car accessory shops is suitable.

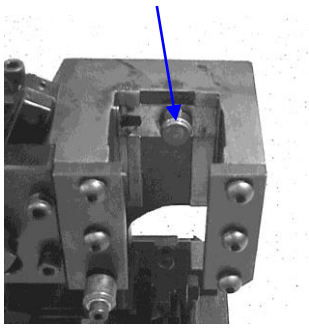
Remove the ram from the applicator body and apply the grease to the cam surface.

CAM



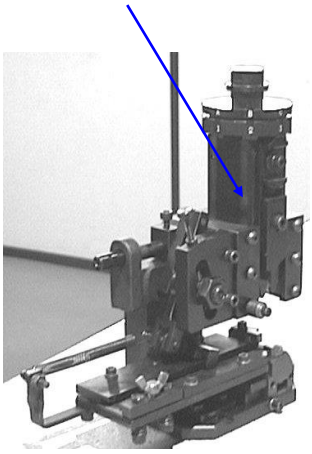
Apply grease to the surface of the cam-roller.

CAM-ROLLER



Apply grease to the four faces of the applicator ram.

APPLY GREASE HERE



<u>CAUTION</u>
Apply grease sparingly because excess grease attracts dirt and scrap insulation etc.

6. CRIMPING MACHINE MAINTENANCE

CAUTION

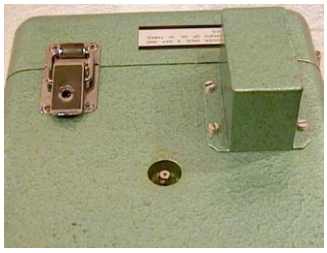
Disconnect the Power Cable from the mains supply before carrying out any maintenance operations on the Crimping Press.

6-1. Lubrication

MAIN SHAFT BEARING

Lightly grease the main-shaft bearing once a year using a general purpose grease, eg Castrol LM.

MAIN SHAFT BEARING GREASING LOCATION



RAM SECTION

Remove the cap head socket screws from the ram cover and add a few drops of machine oil to the felt pads in the three oiling holes once a week.

RAM SECTION OILING LOCATIONS

CLUTCH SECTION

Remove the cap head socket screws from the belt-cover catch and open the cover.
Add a few drops of oil to the oiling points indicated on the photograph.

CLUTCH SECTION OILING LOCATIONS

NOTE: The frequency of lubrication is dependent on the use of the machine. Do not apply excessive lubrication because the oil may drip through onto the applicator
and contaminate the terminals.

ROLLER CLUTCH

Step 1

Slowly rotate the fly-wheel whilst pulling the V-belts to the side to remove them.

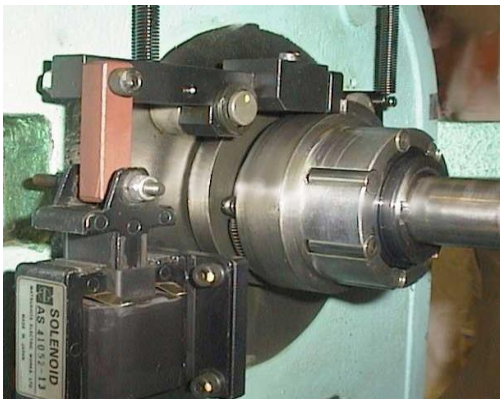
CAUTION

ENSURE THAT FINGERS DO NOT BECOME TRAPPED BETWEEN THE V-BELT AND THE FLY-WHEEL

Step 2

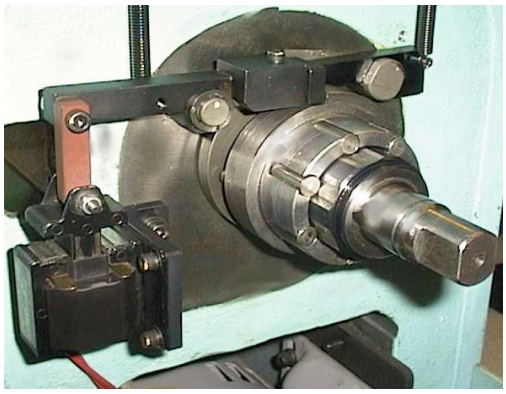
With the aid of a pair of internal circlip pliers, remove the circlip retaining the fly-wheel.

Step 3
Firmly grip the fly-wheel on both sides and pull off the end of the shaft. There are seven 'stick rollers' inside the clutch and they may fall out when the fly-wheel is pulled off the shaft, so take care not to lose any.



Step 4
Remove any traces of old grease from all components of the clutch mechanism and sparingly lubricate all the clutch components with fresh grease.

Specified Grease: Multemp PS no.1 manufactured by Kyodo Yushi Co Ltd.
Do not use general purpose grease because the clutch will not function correctly.
Contact JST Technical Services Department for details of grease stockists.



Step 5
Assemble the clutch ensuring that the clutch lever is engaged correctly with the clutch cam, as in photo A.

PHOTO A

If the clutch is assembled as in photo B, it will not be possible to re-mount the flywheel onto the shaft.

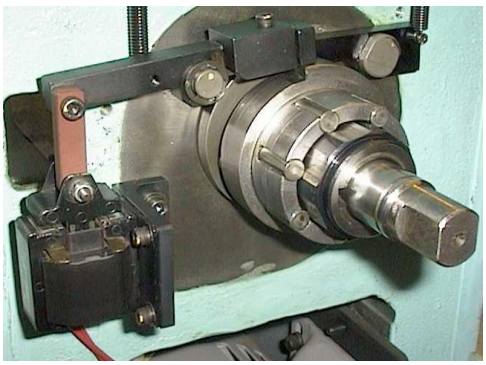
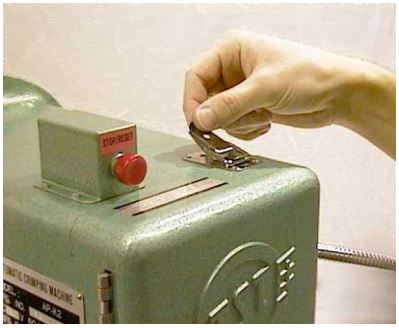


PHOTO B

6-2. Inspection and Repair

RAM STABILITY

Approximately every six months physically check that the ram is not loose.
To check the ram, remove the screws from the catch and open the cover.
Grip the ram firmly and try to move the ram from side to side. It is also possible to detect whether the ram is loose by the noise it makes when crimping, and also the measured crimp height of the terminal may become unstable.



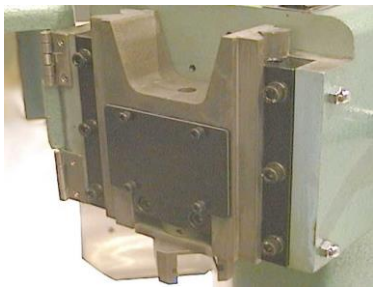
º Adjustment Procedure

Step 1

Remove the two dome-nuts from the side wall of the ram.

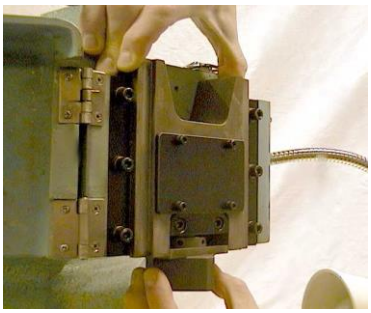
Step 2

Loosen the three cap head screws on the right hand side of the adjustable ram guide.



Step 3

Fasten the grub screws on the ram guide finger-tight so that you can manually move the ram up and down by hand, but it does not drop under its own weight.
Next, check that the ram does not wobble and that it moves smoothly.

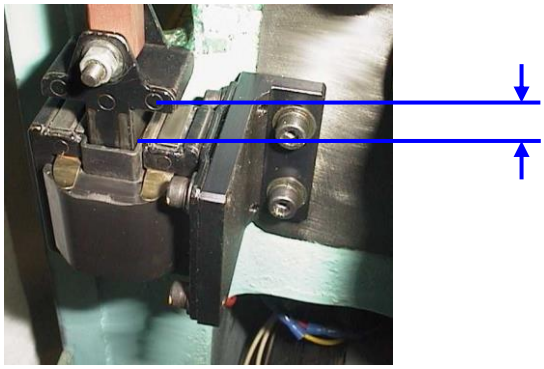


Step 4

Make a final check that the ram is stable and the screws are secure. Replace cap head screws in ram cover.

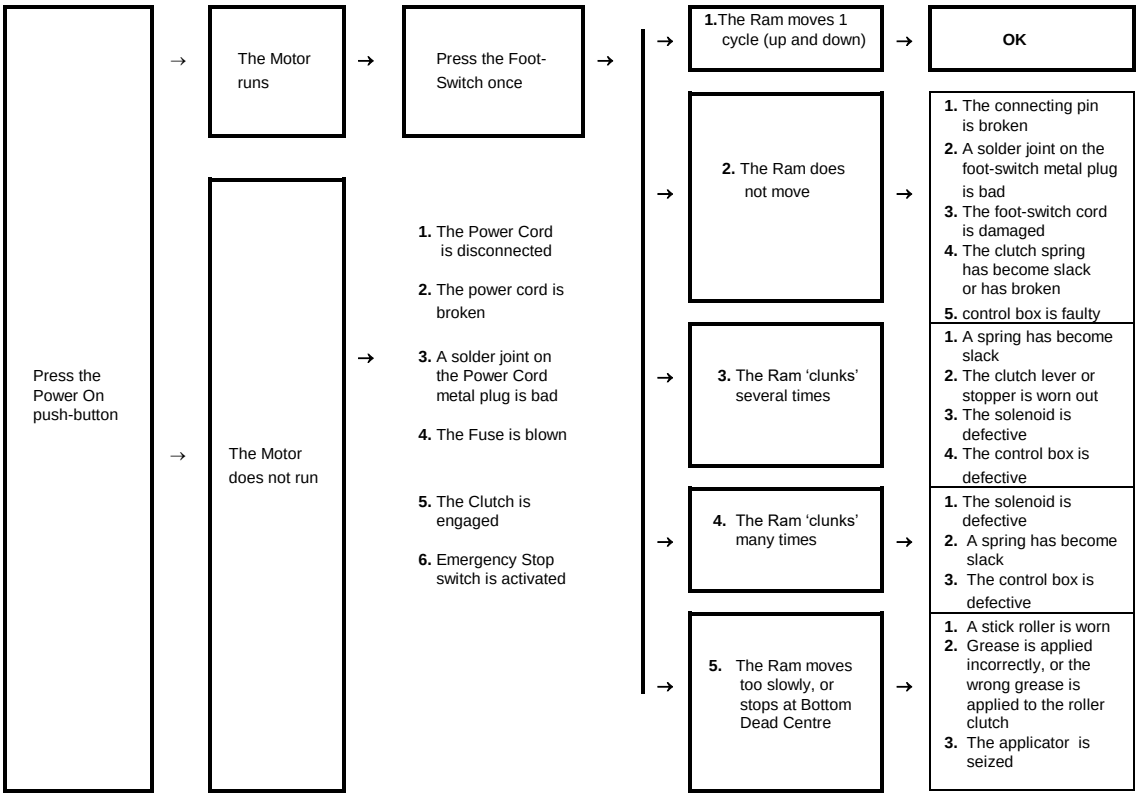
6.3 Positioning of the Solenoid Bracket

Once a year remove the cap head screw from the catch on the belt cover and open the cover.
Check that the clearance is correct as shown on the photograph.
The clearance should be 10-11mm, if it varies from this dimension adjust the bracket in the following manner:-
Loosen the two cap head screws holding the bracket to the press casting and move the solenoid up or down until the correct clearance is obtained.
Tighten the cap head screws on the retaining bracket, close the belt cover and replace the socket screws in the bracket.



Clearance 10 - 11mm

7. FAULT-FINDING



1. The Motor does not run

(1) The Power cord is disconnected

Reconnect the power cord.

(2) The Power cord is damaged

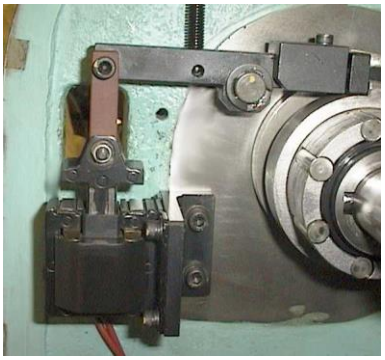
Replace the power cord

(3) A solder joint on the Power Cord metal plug is bad

Resolder the joint

(4) The Fuse Blows
Unscrew the fuse holder on the front of the control box, and replace with the correct fuse.
6.3 A “Anti-surge” fuse.
WARNING:DISCONNECT FROM THE MAINS BEFORE UNSCREWING!

(5) Stop/Reset is pressed
The machine will not operate, press the stop/reset button again to reset the press.



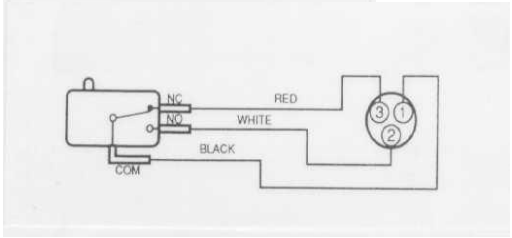
(6) The Belt Cover is open
Close the belt cover and re-secure the catch with the cap head socket screws.

2. The Ram does not move

(1) The Connecting Pin is broken

Replace the connecting pin with a new one.

(2) A solder joint on the Foot-Switch metal plug is bad
Resolder the joint



(3) The Foot-Switch cord is damaged
Replace the Foot-Switch cord with a new one.
Connect the micro-switch to the plug as per the illustration.

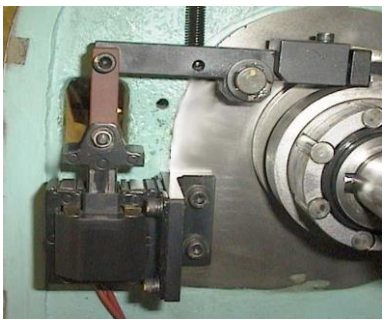
(4) The Clutch Spring has become slack or has broken
Replace the spring with a new one.

(5) The Control Box is faulty
The Control Box requires repair.
Contact the JST Technical Services Department for assistance.

3. The Ram 'clunks' several times

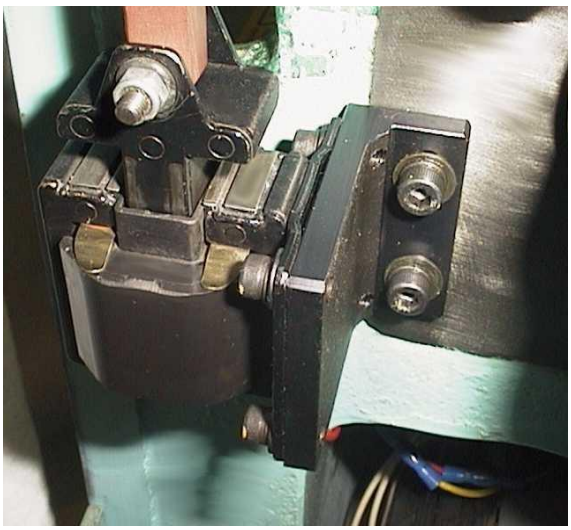
(1) A Spring has become slack
Replace the spring with a new one.

(2) The Clutch Lever or Stopper is worn out
Replace parts with new ones.



(3) The Solenoid is defective

Adjust the relationship between the solenoid piston and cylinder by moving the solenoid cylinder back or forth on the solenoid bracket.



(4) The Control Box is defective

The control box requires repair. Contact the JST Technical Services Department for assistance.

4. The Ram 'clunks' many times

(1) The Solenoid is defective

Refer to 3-(3) above.

(2) A Spring has become slack

Replace the spring with a new one, see 3-(1).

(3) The Control Box is defective

The control requires repair. Contact JST Technical Services Department for assistance.

5. The Ram moves too slowly, or stops at Bottom Dead Centre

(1) A Stick Roller is worn out

Replace the stick rollers with new ones. Always replace the rollers as a set of seven.

Oversize rollers are available from JST to extend the service life of the clutch. Please contact the Technical Services Department for details.

(2) Grease is applied incorrectly, or the wrong grade of grease has been used

Clean the clutch and reapply the correct grade of grease. See section 7 for details of grease specification.

(3) The Applicator is seized

Contact the JST Technical Services Department for assistance.

(4) Part of the Clutch assembly is missing

Check that all the Stick Rollers are assembled.

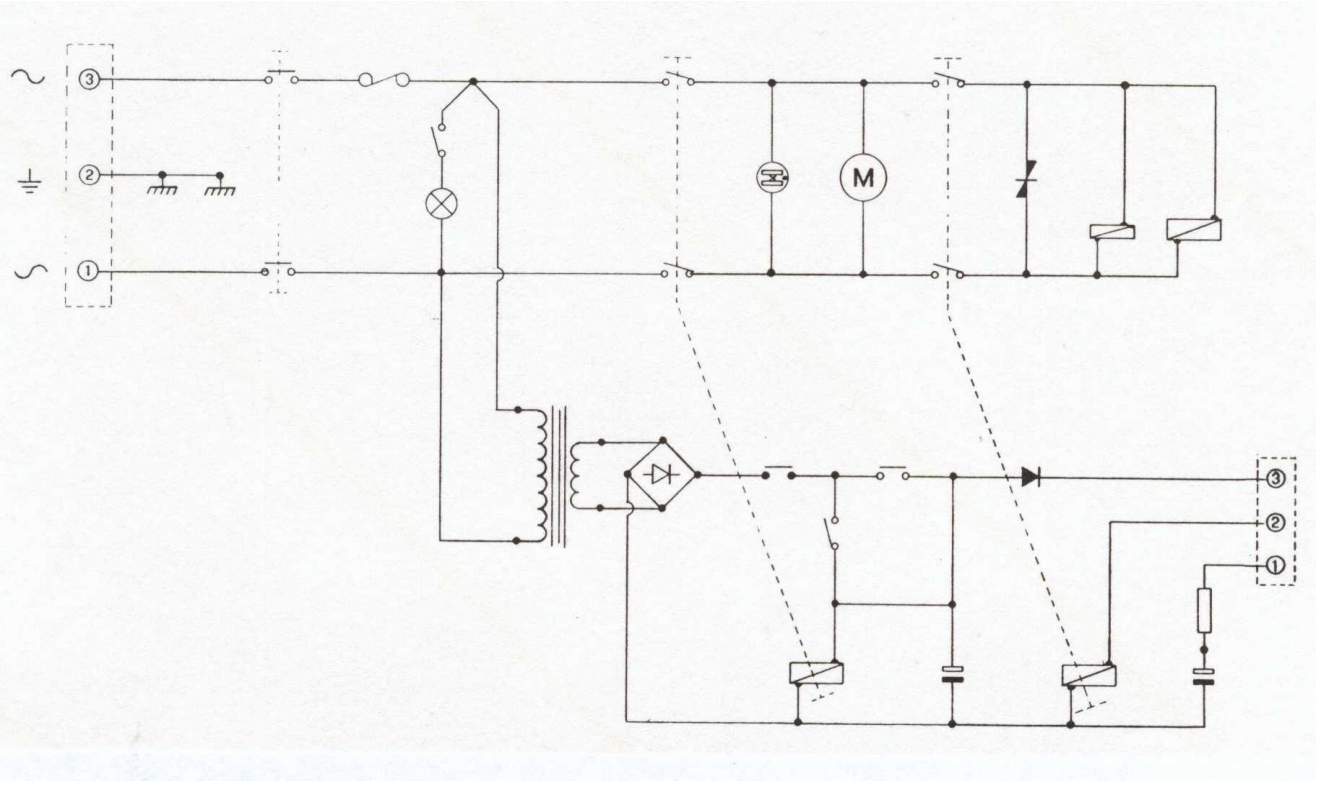
SUGGESTION FOR SMOOTH OPERATION

Suggestion 1: Be sure to do a safety inspection of the machine before operation.

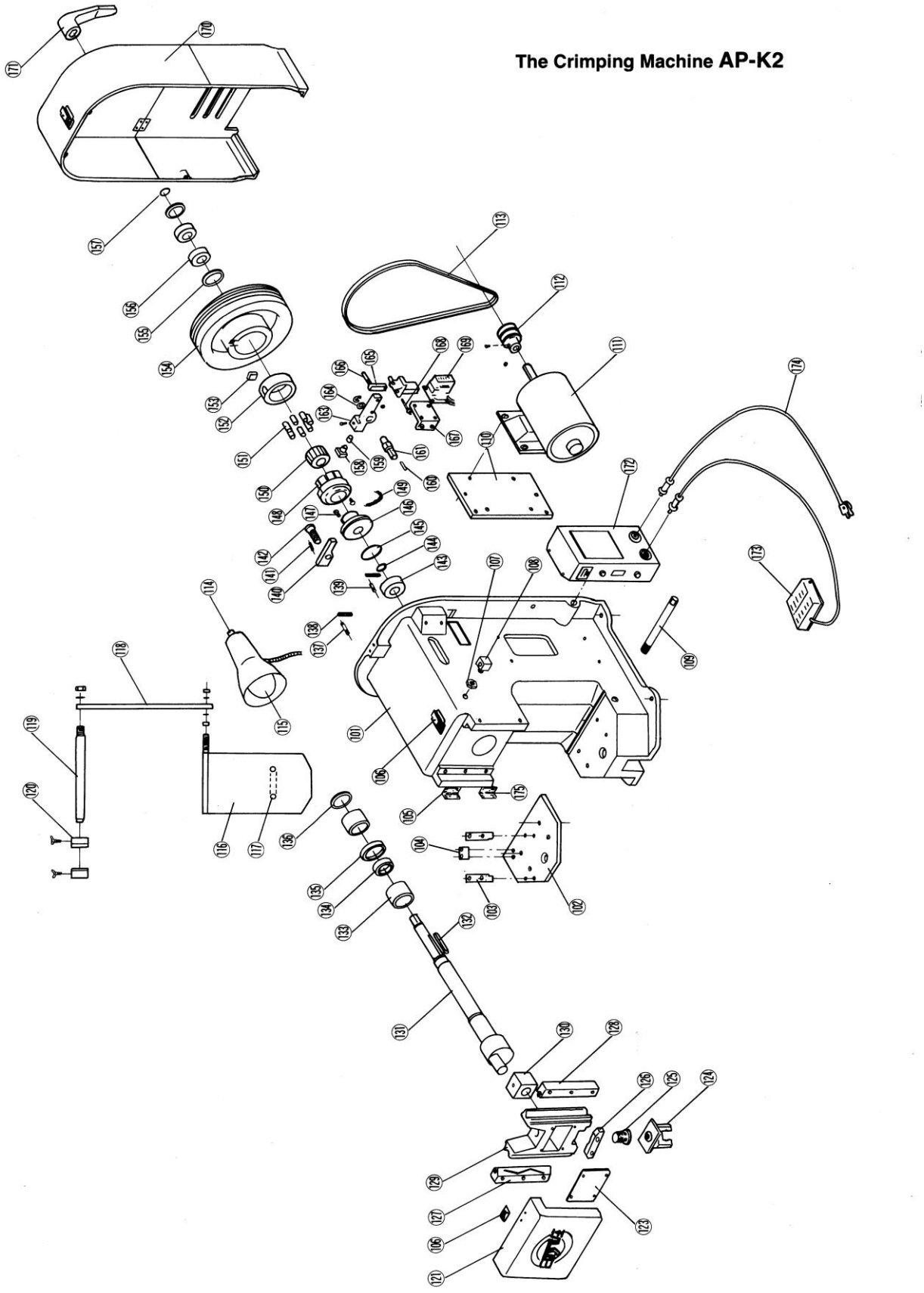
Suggestion 2: Operate the machine in clean surroundings
Especially the crimping dies must always be kept clean without terminal scraps, as these foreign parts will damage the dies.
Clean by air pressure when necessary

Suggestion 3: If any trouble occurs, turn off the motor switch quickly and check the machine. When examination of moving parts of the machine is required, the plug must be pulled out from the electric outlet for safety.

Electric circuit diagram.



SECTION 8.EXPLODED VIEWS AND PARTS LISTS

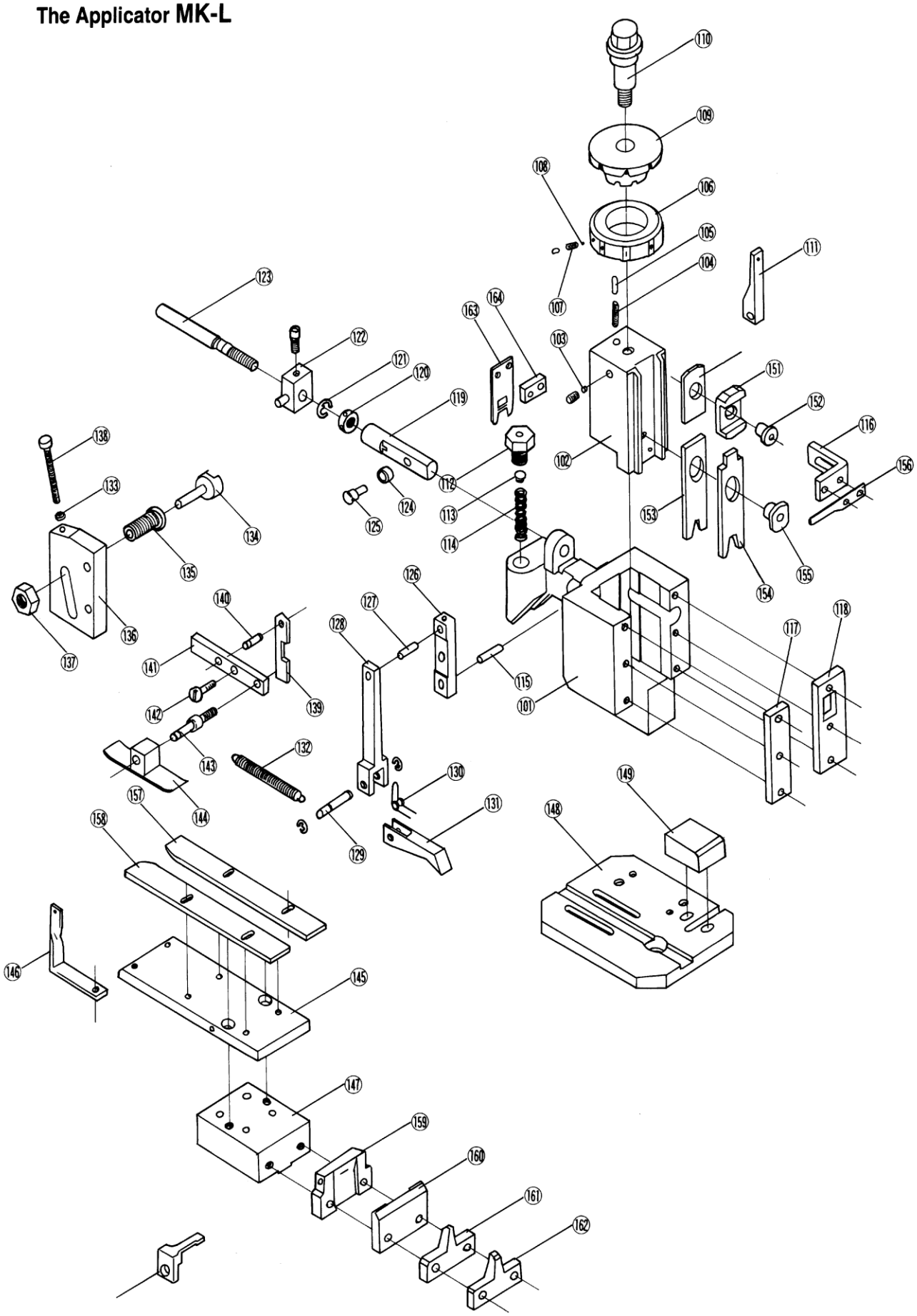


Parts list for AP-K2 type crimping machine

No.	Part Name	Part No.
101	Body	K2-1101
102	Applicator base	K2-4196
103	Applicator guide	K2-4193
104	Positioning block	K2-4192
105	Hinge (With spring)	K2-B167A
106	Hook key	K2-B146
107	Nut	K2-4187
108	Elbow	K2-4186
109	Grip bar	K2-4182
110	Motor plate	K2-4105
111	Motor 200W (recon.)	K2-0190
112	V-pulley	K2-4107
113	V-belt	K2-B109
114	Lamp shade	K2-0198A
115	Electric bulb 60W	K2-B198B
116	Reel guide	K2-4175
117	Grip	K2-B180
118	Reel hanger	K2-3173
119	Reel rod	K2-4185
120	Reel collar	K2-4183
121	Ram cover	K2-3132
123	Pressure plate	K2-4135
124	Ram head	K2-3138
125	Adjustment screw	K2-4137
126	Split nut	K2-4136
127	Fix ram guide	K2-3148
128	Adj. Ram guide	K2-3145
129	Ram	K2-3147
130	Bush	K2-4131
131	Main shaft	K2-3130
132	Key (8x7x59)	K2-B116
133	Needle bearing	K2-P129
134	Spacer	K2-4163
135	Spacer	K2-4114
136	Ret. Ring (C-40)	K2-B128
137	Spring post	K2-4179
138	Spring	K2-4155
139	Spring post	K2-4177

No.	Part Name	Part No.
140	Back stop lever	K2-4153
141	Spring post	K2-4112
142	Fulcrum pin	K2-4152
143	Ball bearing	K2-B127
144	Ret. ring (C-30)	K2-B126
145	Ret. ring (C-62)	K2-B125
146	Back stop cam	K2-3111
147	Spring post	K2-4154
148	Clutch cam	K2- 3113
149	Spring	K2-4178
150	Inside clutch cam	K2-4124
151	Stick roller	K2-4121
152	Outside clutch ring	K2-4120
153	Plate	K2-4122
154	Flywheel	K2-3110
155	Ret. ring (C-52)	K2-B118
156	Ball bearing	K2-B115
157	Ret. ring (C-25)	K2-B117
158	Stopper	K2-4156
159	Pad	K2-4157
160	Spring post	K2-4112
161	Pin	K2-4160
163	Clutch lever	K2-4159
164	Collar	K2-4161
165	Connecting plate	K2-4165
166	Connecting pin	K2-4164
167	Solenoid bracket	K2-4166
168	Solenoid pin	K2-4171
169	Solenoid	K2SOL-AS41052..
170	Belt cover	K2-2106
171	Hand crank	K2-3181
172	Control box	K2-2300
173a	Foot switch	K2-B315A
173b	Lead & plug for footswitch	K2-0315
174	Mains power lead	K2-B317A
175	Hinge (without spring)	K2-B167B
176	Stop/Reset switch	K2-EOA

The Applicator MK-L



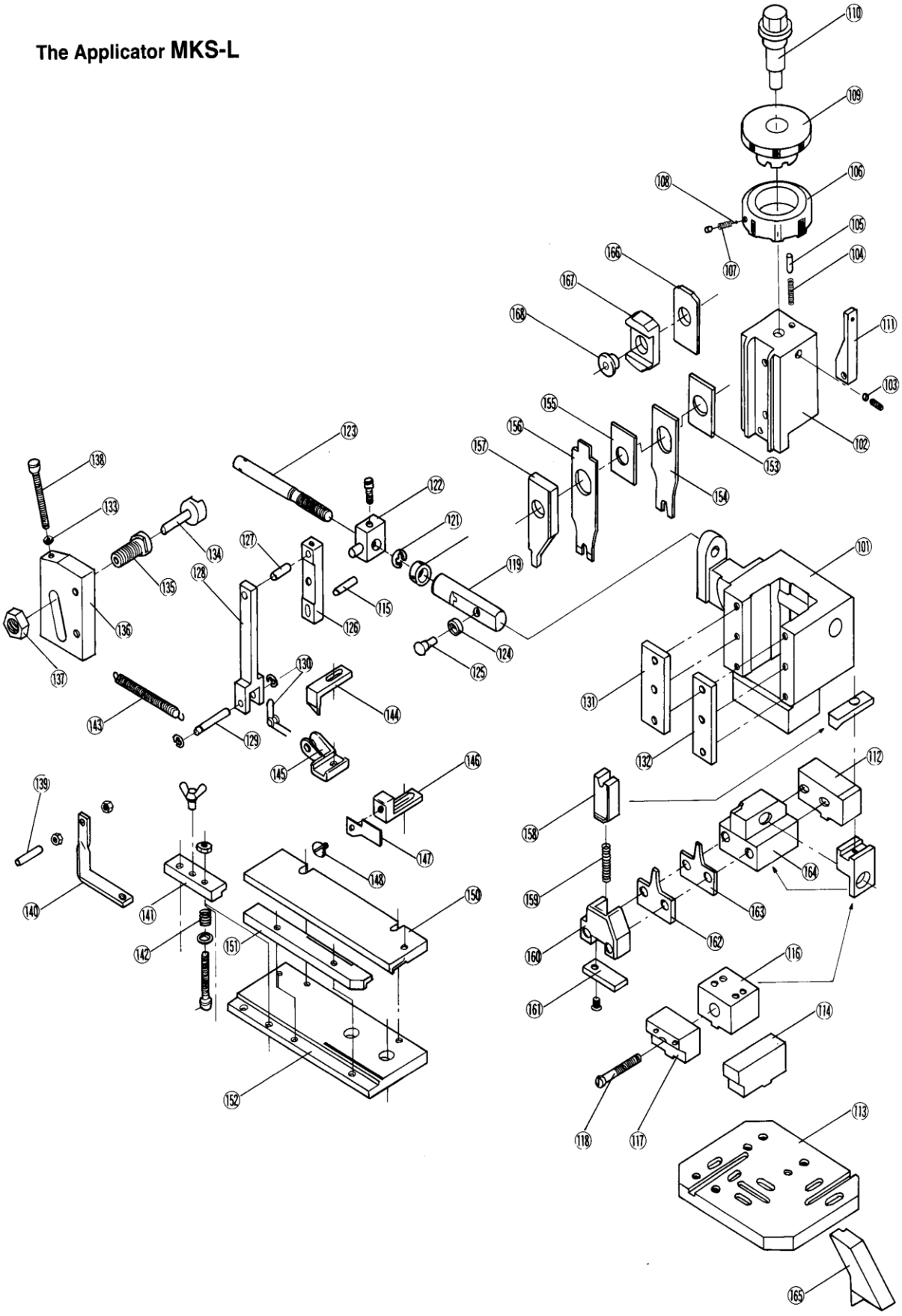
Parts list for the applicator MK-L

No.	Part Name	Part No.
101	Body	MA02-101
102	Slider	MA02-210
103	Copper bar (3.8¬x2mm)	
104	Positioning spring	MA01-214
105	Positioning pin	MA01-213
106	Insulation disk	MA01-215
107	Spring	MA01-216
108	Steel ball	
109	Wire disk	MA01-211
110	Shank	MA01-217
111	Cam	MA02-335
112	Spring cap	MA01-477
113	Spring block	MA01-479
114	Spring	MA01-480
115	Support pin	MA01-343
116	Stripper hanger	MA02-481
117	Plate (L)	MA02-102
118	Plate (R)	MA02-103
119	Feed shaft	MA01-338
120	Ring nut	MA01-341
121	E-shaped ret. ring (6¬)	
122	Lever block	MA01-340
123	Adj. Bolt	MA01-339
124	Cam roller	MA01-308A
125	Cam roller shaft	MA01-337A
126	Feed lever (A)	MA01-342
127	Feed lever pin	MA01-344
128	Feed lever (B)	MA01-345
129	Feed finger pin	MA01-347
130	Feed finger spring	MA01-348
131	Feed finger	
132	Returning spring	MA01-349

No.	Part Name	Part No.
133	Hex. Nut M4 type-1	
134	Stroke adj. Shaft	MA01-331
135	Stroke adj. Bearing	MA01-332
136	Stroke adj. Plate	MA02-330
137	Hex. Nut	MA01-333
138	Stroke adj. Screw	MA01-334
139	Hook	MA01-475
140	Hook pin	MA01-476
141	Release lever	MA01-473
142	Release lever pin	MA01-474
143	Pressure pad pin	MA01-472
144	Pressure pad	MA01-470
145	Feed plate	
146	Spring anchor	MA01-350
147	Die block	MA01-105
148	Die plate	MA02-104
149	Side block	MA02-107
150	Wire block	
151	Insulation block	
152	Block ring	MA01-225
153	Crimper (A)	
154	Crimper (B)	
155	Die holder ring	
156	Stripper	
157	Guide plate (R)	
158	Guide plate (L)	
159	Shear blade anvil (A)	
160	Shear blade anvil (B)	
161	Crimper anvil (A)	
162	Crimper anvil (B)	
163	Shear blade	
164	Spacer	

Note: ¬: mm dia.

The Applicator MKS-L



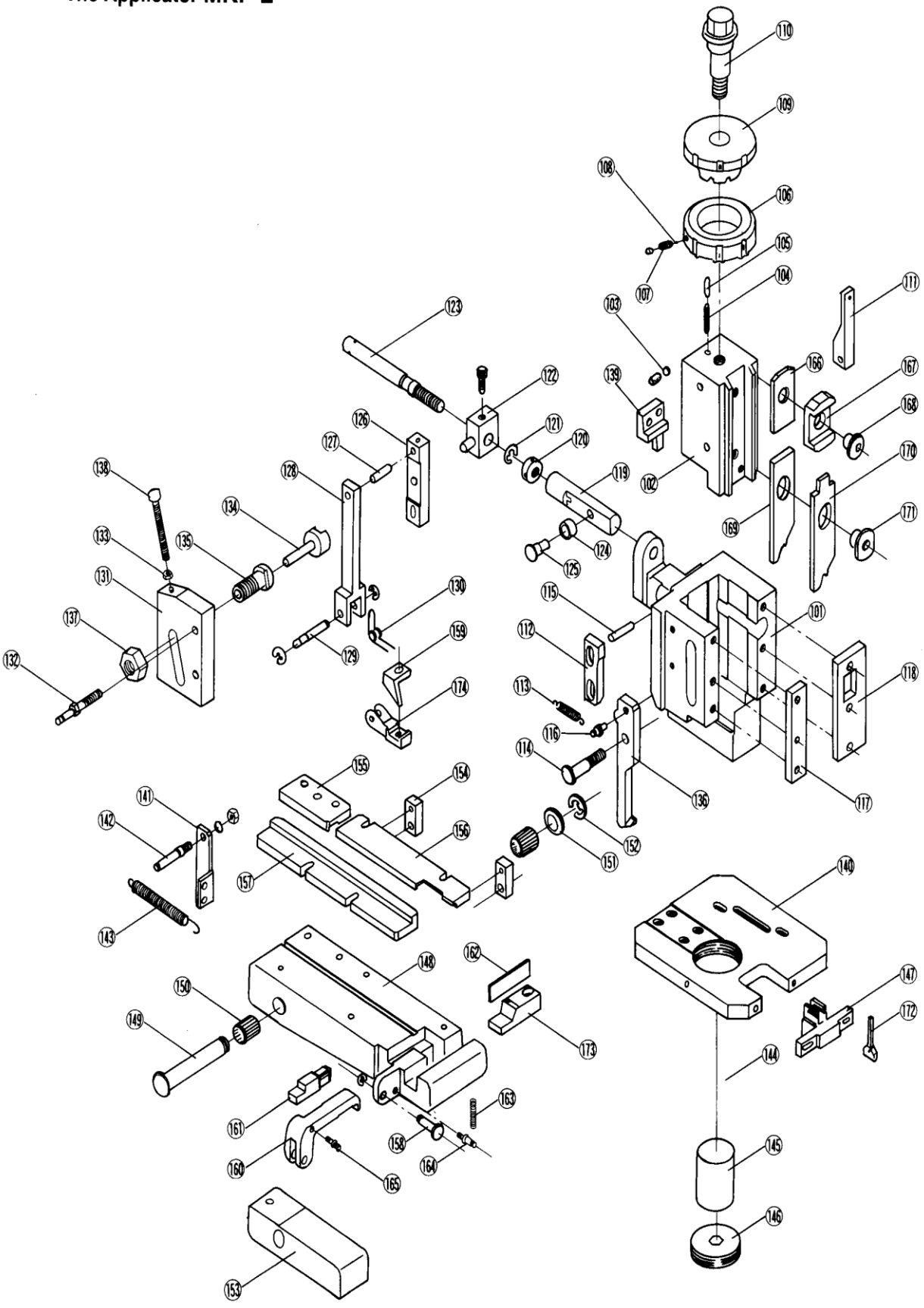
Parts list for the applicator MKS-L

No.	Part Name	Part No.
101	Body	MA03-101
102	Slider	MA03-210
103	Copper bar (3.8¬x2mm)	
104	Positioning spring	MA01-214
105	Positioning pin	MA01-213
106	Insulation disk	MA01-215
107	Spring	MA01-216
108	Steel ball (3¬)	
109	Wire disk	MA01-211
110	Shank	MA01-217
111	Cam	MA03-335
112	Die block	MA03-105
113	Die plate	MA03-104
114	Side block	MA03-107
115	Support pin	MA01-343
116	Feed plate base	MA03-106
117	Adj. Plate	MA03-108
118	Adj. Screw	MA03-109
119	Feed shaft	MA01-338
120	Ring nut	MA01-341
121	E-shaped ret ring (6¬)	
122	Lever block	MA01-340
123	Adj. Screw	MA03-339
124	Cam roller	MA01-308A
125	Cam roller shaft	MA01-337A
126	Feed lever (A)	MA01-342
127	Feed lever pin	MA01-344
128	Feed lever (B)	MA01-345
129	Feed finger pin	MA01-347
130	Feed finger spring	MA01-348
131	Plate (L)	MA03-102
132	Plate (R)	MA03-103
133	Hex. Nut (M4, type-1)	
134	Stroke adj. shaft	MA01-331

No.	Part Name	Part No.
135	Stroke adj. Bearing	MA01-332
136	Stroke adj. Plate	MA03-330
137	Hex. Nut	MA01-333
138	Stroke adj. Screw	MA01-334
139	Spring anchor pin	MA03-352
140	Spring anchor	MA03-350
141	Pressure plate	
142	Pressure spring	
143	Returning spring	MA03-349
144	Feed finger	
145	Feed finger holder	
146	Stripper bracket	
147	Stripper	
148	Stripper screw	
150	Guide plate (R)	
151	Guide plate (L)	
152	Feed plate	
153	Spacer	
154	Crimper (A)	
155	Spacer	
156	Crimper (B)	
157	Punch	
158	Shear blade	
159	Shear blade spring	
160	Shear blade supporter	
161	Shear blade base	
162	Crimper anvil (B)	
163	Crimper anvil (A)	
164	Spacer	
165	Scrap cover	
166	Wire block	
167	Insulation block	
168	Block ring	MA01-225

Note: ¬: mm dia.

The Applicator MKF-L



Parts list for the applicator MKF-L

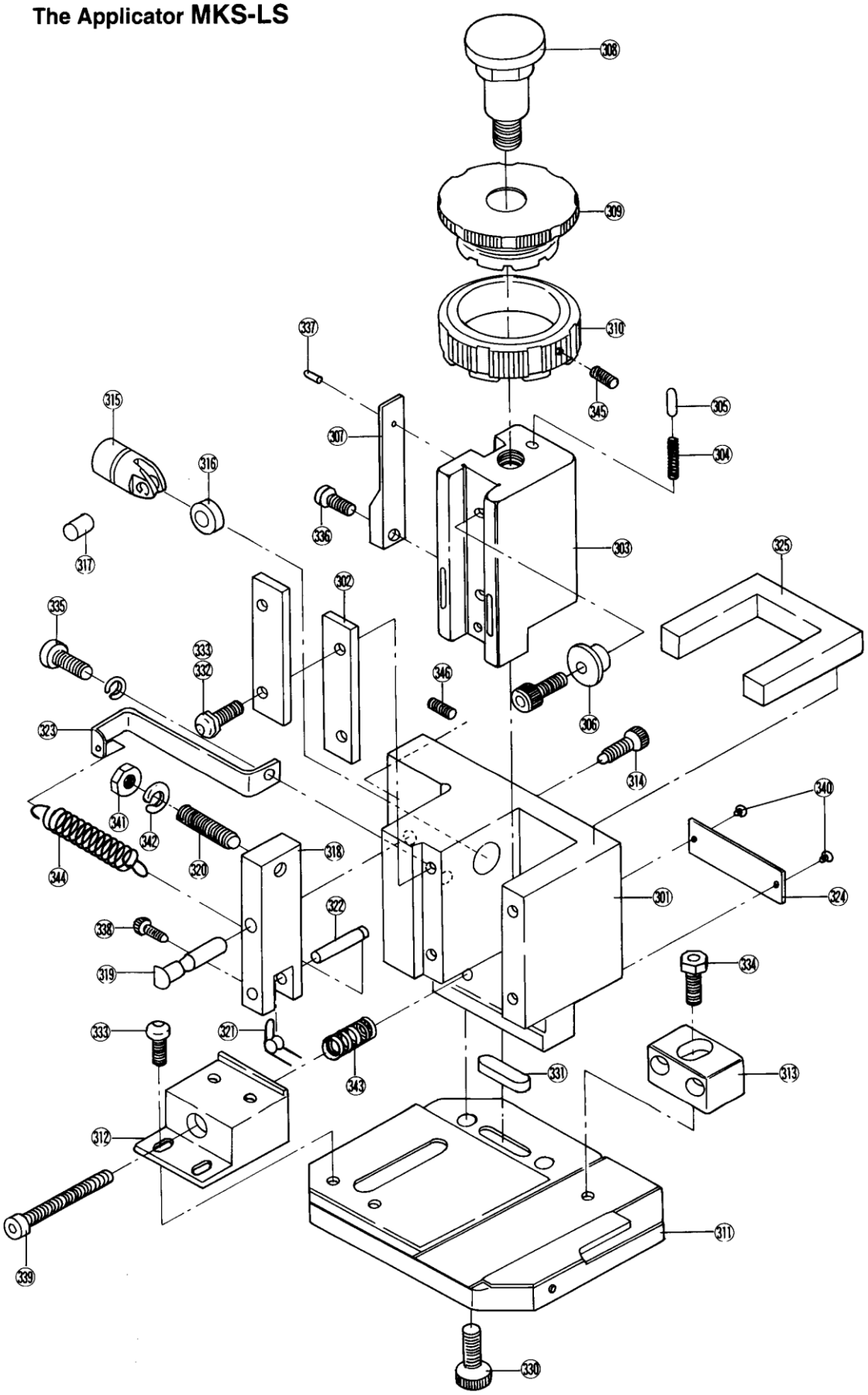
No.	Part Name	Part No.
101	Body	NF-2101
102	Slider	NF-3118
103	Copper bar (3.8¬x2mm)	
104	Positioning spring	MA01-214
105	Positioning pin	MA01-213
106	Insulation disk	NF-4121
107	Spring	MA01-216
108	Steel ball (3¬)	
109	Wire disk	MA01-211
110	Shank	MA01-217
111	Cam	NF-4168
112	Guide shoe	NF-4140
113	Tension spring	NF-4117
114	Fulcrum bolt	NF-4115
115	Support pin	MA01-343
116	Spring post	NF-4116
117	Plate (L)	NF-4114
118	Plate (R)	MA02-103
119	Feed shaft	MA01-338
120	Ring nut	MA01-341
121	E-shaped ret.ring (6¬)	
122	Lever block	MA01-340
123	Adj. Bolt	MA01-339
124	Cam roller	MA01-308A
125	Cam roller shaft	MA01-337A
126	Feed lever (A)	MA01-342
127	Feed lever pin	MA01-344
128	Feed lever (B)	NF-4138
129	Feed finger pin	MA01-347
130	Feed finger spring	MA01-348
131	Feed adj. Plate	NF-4137
132	Spring post	NF-4139
133	Hex. Nut (m4,type-1)	
134	Stroke adj. Shaft	MA01-331
135	Stroke adj. Bearing	MA01-332
136	Hook	NF-4113
137	Hex. Nut	MA01-333

No.	Part Name	Part No.
138	Stroke adj. Screw	MA01-334
139	Punch	NF-4122
140	Die plate	NF-3149
141	Bracket	NF-4133
142	Spring post	NF-4159
143	Returning spring	MA03-349
144	Spring	NF-4126N
146	Keep plate	NF-4125
147	Crimper anvil base	NF-4105
148	Feed plate	NF-2129*
149	Support pin	NF-4163
150	Needle bearing K12x15x13	NF-B164
151	Collar	NF-4154
152	E-shaped ret.ring (9¬)	
153	Guide block	NF-4165
154	Holder block	NF-4147
155	Pressure plate	
156	Guide plate (R)	
157	Guide plate (L)	
158	Pin	NF-4109
159	Feed finger	
160	Shear blade	
161	Shear blade anvil (A)	
162	Shear blade anvil (B)	
163	Tension spring	NF-4110
164	Spring post	NF-4108
165	Spring post	NF-4111
166	Wire block	
167	Insulation block	
168	Block ring	MA01-225
169	Crimper (A)	
170	Crimper (B)	
171	Die holder ring	
172	Crimper anvil (A)	
173	Crimper anvil (B)	
174	Finger holder	

Note: * will vary (A,B,…..) depending on the terminal

Note : ¬: mm dia.

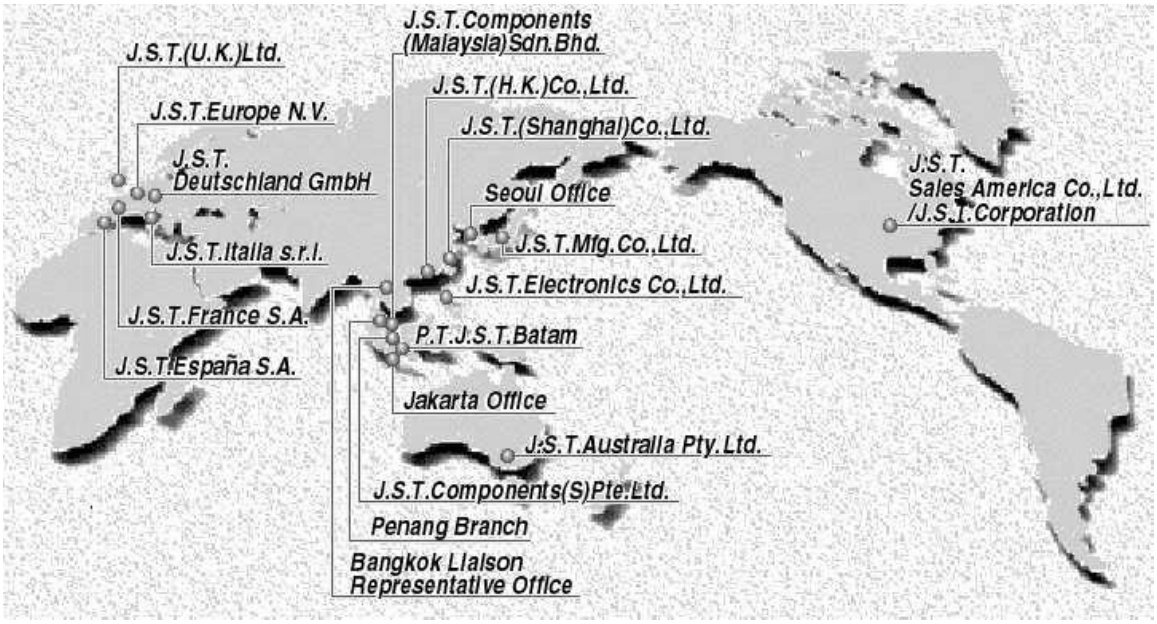
The Applicator MKS-LS



Parts list for the applicator MKS-LS

No.	Part Name	**Part No.**
301	Body	LS-2301
302	Plate	LS-4302
303	Slider	LS-3303
304	Positioning spring	MA01-214
305	Positioning pin	MA01-213
306	Block ring	MA01-223
307	Cam	LS-4307
308	Shank	LS-4308
309	Wire disk	LS-4309
310	Insulation disk	LS-4310
311	Die plate	LS-3311
312	Feed plate base	LS-4312
313	Die block	LS-4313
314	Retaining bolt	LS-4314
315	Feed shaft	LS-4315
316	Cam roller	LS-4316
317	Pin	LS-4317
318	Feed lever	LS-4318
319	Feed lever pin	LS-4319
320	Adj. Screw	112-223
321	Feed finger spring	MA01-348
322	Feed finger pin	LS-4322
323	Hook	LS-4323
324	Name plate	LS-4324
325	Protection rubber	LS-4325
330	Hex. Socket head bolt (M6x18)	
331	Key (6x6x25 round ends)	LS-B331
332	Spring washer (5)	
333	Button head screw (M5x12)	
334	Hex. Socket head bolt (M5x18)	
335	Hex. Socket head bolt (M5x10)	
336	Hex. Socket head bolt (M4x8)	
337	Pin (2x4)	
338	Hex. Socket head bolt (M3x6)	
339	Hex. Socket head bolt (M5x50)	
340	Rivet (1.5¬x5)	
341	Hex. Nut (M6, type-1)	
342	Spring washer (6)	
343	Compressed coil spring	LS-B343
344	Tension spring	LS-B344
345	Ball plunger	LS-B345
346	Hex. Socket head screw (M4x10)	

Offices World-Wide



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	Fax:	33 \ 3 \ 2672 1088		Fax:	49 \ 0 \ 7181 4007 21
Italy	Tel:	39 \ 02 \ 9390 0418	**Spain**	Tel:	34 \ 93 \ 564 2120
	Fax:	39 \ 02 \ 9390 0421		Fax:	34 \ 93 \ 564 8266
Singapore	Tel:	65 \ 743 0405	**Thailand**	Tel:	66 \ 2 \ 693 2905
	Fax:	65 \ 746 1787 [G4]		Fax:	66 \ 2 \ 693 2906
Malaysia #1	Tel:	60 \ 0 \ 3 755 4620	**Indonesia** #1	Tel:	62 \ 0 \ 7 7061 1685
	Fax:	60 \ 0 \ 3 758 3802		Fax:	62 \ 0 \ 7 7061 1684
Malaysia #2	Tel:	60 \ 0 \ 4 226 7258	**Indonesia** #2	Tel:	62 \ 0 \ 21 575 0816
	Fax:	60 \ 0 \ 4 226 7269		Fax:	62 \ 0 \ 21 575 0803
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In line with a policy of continual development JST reserves the right to change the specifications of the goods described in this manual at any time and without prior notice.