Fully Automatic Jacquard Card Punching Machine User Guide
120/240 Hooks Handloom Pitch 5mm

MAKE IN INDIA

Product Specification

Prepared by

KP TECHNOLOGIES

Software Development & Training, Electronic Jacquard for Handloom, Complete Textile Solutions

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SESSION I

For checking the electrical and electronics parts the Multimeter is used. This can be used to measure both AC and DC Voltage.

The following sections belongs to **AC Parts**:

Input Section **(Supply coming from the Out side)**

1) PCB Supply (> 200 Volts)
2) Main Supply (> 200 Volts)

Output Section **(Supply goes to the Motor/Auto Feed Unit from the PCB Kit)**

3) Motor Supply (> 200 Volts)
4) Auto Feed Supply (> 200 Volts)

The following sections belongs to **DC Parts**:

Big Coil (Peg Hole) (> 12 Volts)
Small Coil   (> 12 Volts)

The **Small Coil Setting** (Punch Coil) is assembled in the PCB mount.
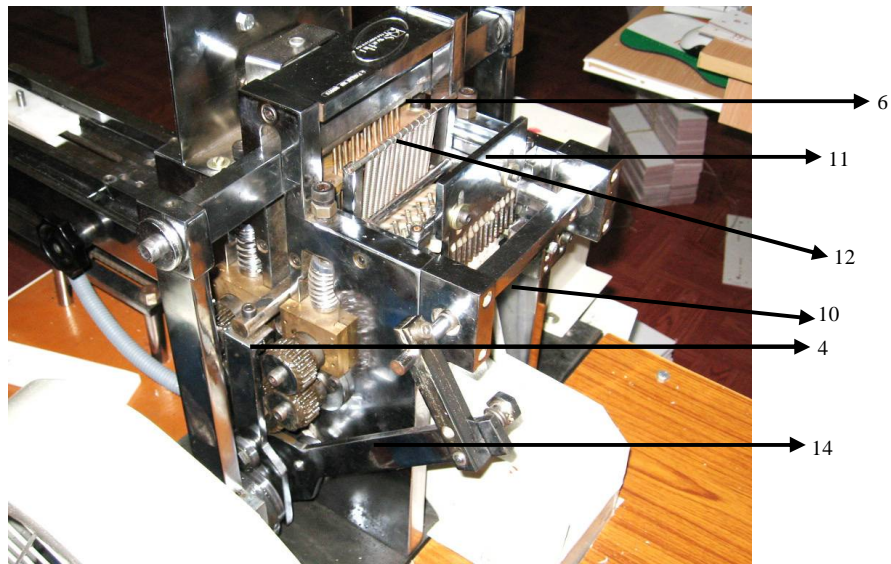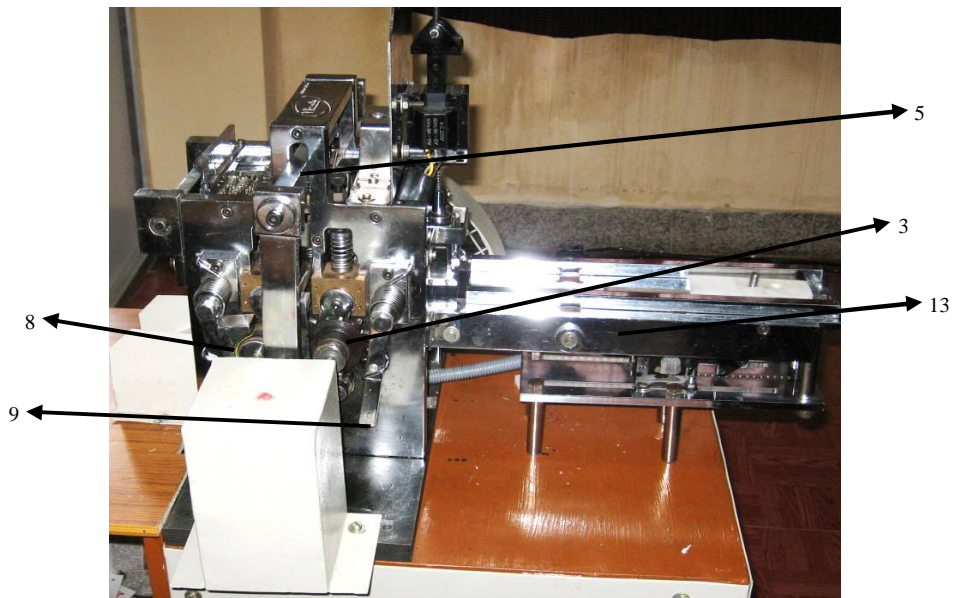
Coil Checking Procedure

Every Coil should have continuity. While Continuity checking the Multimeter should be placed in 20K. The Common and Volt (Red and Black) Probes are placed in two ends of the Coil. If the result is 1 then we conclude that the coil is not functioning. If the result is about 0.25 then the coil is functioning correctly.
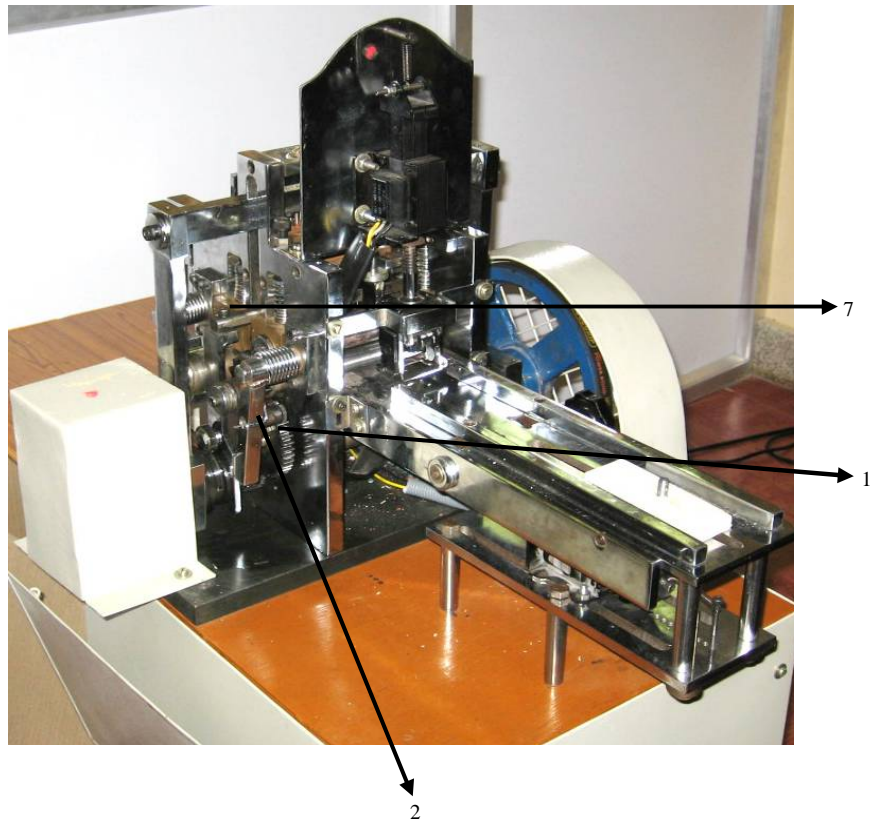
SESSION II

Mechanical Parts:

1) Pitch Gear

2) SS Thread

3) Pitch Sprocket

4) Hammering Lever

5) Hammering Top Piece

6) Hammering Top Plate

7) Die Set Top

8) Brake Shoe

9) Pitch Sprocket Lock

10) Small Coil Bar

11) Comb Unit

12) Small Spring Hang Unit

13) Feeder Unit

14) Timing Spring

Pitch Gear and SS Stud :-

This Component is playing a vital role in holes punching with interleaving spaces between punching rows. There will be 2 SS-Stud which produces punching pitches. If any damage occurs in this part there will be a variation in pitches.

Pitch Sprocket :-

This component is having 16 teeth. None of the teeth should be damaged. This sprocket also plays a vital role in producing proper pitches.

Hammering Lever

The die-set floating plate movement is controlled by this component.

Hammering Top Piece:

The main purpose of this part is to generate pressure upon the punch needles through Teflon Needle for punching. This Bar is connected by connecting ROD in both sides. This bar should not be tilted.

Hammering Top Plate:-

This is a Hardened metal piece. This plate should be fixed at the bottom of the Hammering Top Piece by two small screws.

Die Set Top:-

This part will guide the proper seating of the punch needle. Both end of the Die Set Top piece should be attached properly with the Hammering Lever.

Brake Shoe :-

This will control the card ejecting roller. In order generate grip a rough surface piece of belt is pasted on the half-circle part. The brake shoe part should not be applied with oil or lubricant.

Pitch Sprocket Lock :-

This will maintain the movement speed of the pitch-sprocket. If there is a variation in the punching this lock may be released.

Small Coil Bar :-

This bar is made up of Aluminium in order to isolate the electro magnetic induction. The selection of the Teflon needle for punching is controlled by the 12V relay coil. The coils have been fixed at both sides of the bar. The odd numbered coils are placed at one side and even numbered coils are placed at another side.

Comb Unit :-

The movement of the Teflon needle is controlled by this component. This unit should be fixed properly according to the Teflon needles arrangement. If there is a misalignment in this unit the punching of holes will be improper.

Small Spring Hang Unit :-

The Teflon needle vertical movement is released by a small spring which is attached with Teflon needle and the spring is hanging by a small metal stem.

Feeder Unit :-

The Card Insertion is controlled by this unit.

Timing Spring :-

The Teflon needle bottom piece and coil top contact is established through this component. The broken of this spring will not control any Teflon needle.

Electronics Parts:

1) Small Coil

2) Big Coil

3) Top Sensor/ Feeder Sensor

4) Motor Supply

5) Auto Feed Supply

6) PCB Supply

7) Main Supply

8) PC Interface

9) Power On/Off Unit

SESSION III

Punching Conversion Software (Used for Converting any BMP/GIF/JPEG Files)

INSTALLATION:

      a) Click Setup.exe from Punching Conversion Folder
      b) Choose the required folder at the Destination place
      c) Choose the Program Group
      d) Installation Setup will do the rest of the work
      e) Installation is Over

Requirement

1) Hardware Lock must be installed properly

2) Display Adapter must be configured properly (Example: 16 Bit Color, 1024* 768 Resolution)
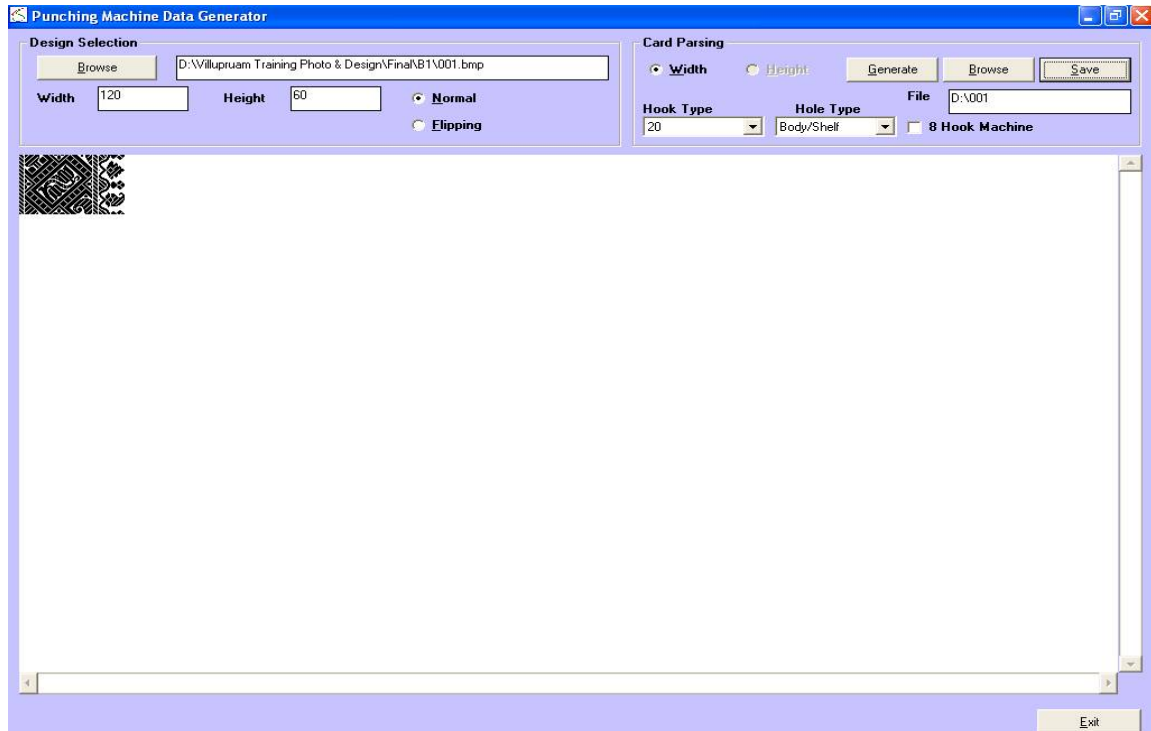
Steps for Converting Designs

1. Select the Design for Conversion by clicking the Browse under the Design Selection Section. After the selection <u>Width</u> and <u>Height</u> will be displayed.

2. Select Type of Card Arrangement

      Normal   =====> Banaras Type
      Flipping   =====> Flipping Model of Banaras Type

3. Select Dot Selection either Width or Height under Card Parsing

4. Select Hook Type

      240 Card =====> 30 or 8
      120 Card =====> 20 or 6

5. Select Hole Type

      For Border Designs   =====> No Hole
      For Body and Shelf Designs   =====> Hole

6. Select the Folder and File Name thru <u>Browse</u> under Card Parsing Section (For File Name No extension should be given)

7. Click <u>Generate</u> Button (For any Changes in Hook Type/Hole Type and other Changes this button should be Clicked)

8. Click <u>Save</u> Button Saving the Punch Files. This Saving Option creates two Files. For Example Design Name is 107.bmp The punch files will be created like this

      107.swi
      107.swa

9. Punching Conversion is Over.

<u>**SESSION IV**</u>

Card Punching Software (Making Punched Cards) is available on the **Pen Drive**

<u>**Requirement**</u>
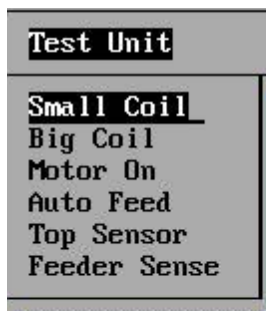
    1) Power Management should be configured as follows

        a) Select Control Panel

            a.1) Select Power Management

        b) Set Screen Saver to None

Test Unit	240 Card	120 Card	170 Card	Setting	Exit
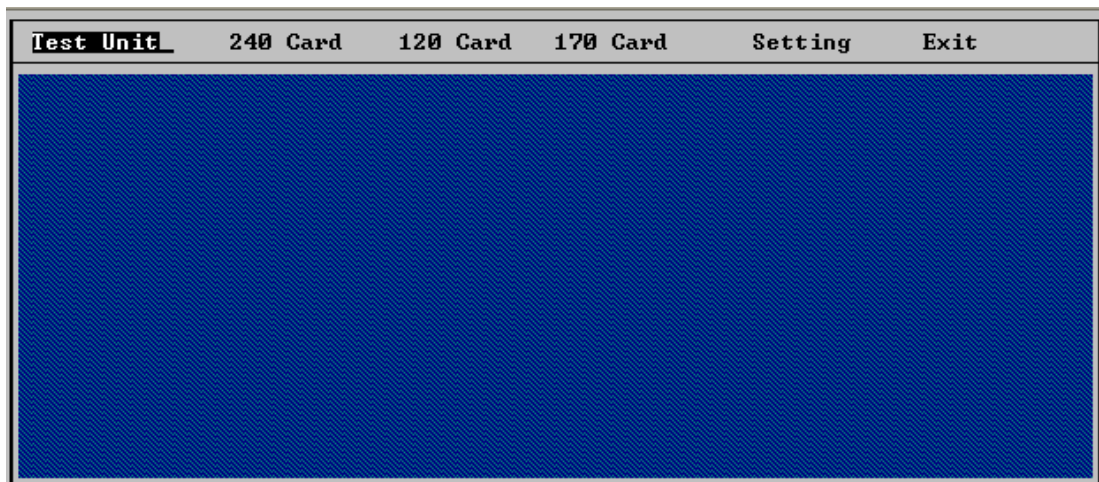
Punching Software Screen shot

Punching Software has five Menus. They are as follows

1) **Test Unit**

Test Unit

Small Coil
Big Coil
Motor On
Auto Feed
Top Sensor
Feeder Sense

    Small Coil is used for testing the Punching Coils

    Big Coil is used for testing the Peg Hole Punch Coil

    Motor On is used for testing the Motor Driving

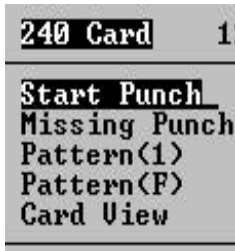   **Auto Feed** is used for testing the Card Feeding Coil Unit

    Top Sensor is used for testing the working condition of Top

        (which is used for performing Counting)

Feeder Sensor is used to feed the card for punching

2) **240 Card**

Only when the Design is selection is selected the first two and last option will be executed.

Start Punch

It is used for punching range of cards

Missing Punch

It is used for punching random cards

Card View

It is used for viewing the Card Punching holes prior to punching as well after punching.

Pattern(1)

It is for punching Zig Zag Pattern, which is used for Testing Patterns

Pattern(2)

It is for Punching Full Holes Pattern, which is also used for Testing Patterns.

3) **120 Card**

Only when the Design is selection is selected the first two and last option will be executed.

Start Punch

It is used for punching range of cards

Missing Punch

It is used for punching random cards

Card View

It is used for viewing the Card Punching holes prior to punching as well after punching.

Pattern(1)

It is for punching Zig Zag Pattern, which is used for Testing Patterns

Pattern(2)

It is for Punching Full Holes Pattern, which is also used for Testing Patterns.

Setting

This Menu should be involved before punching any of the Designs.

File Name

It is used for specifying the File Name

Punching Range

It is used for specifying the Starting Range and Ending Range of the   Punch. Starting Range always less than the Ending Range.

Missing Cards

It is used for specifying the card numbers to be punched in any order. When specifying the Card numbers every number should be separated by   ",". Always more than 15 Card Numbers should not be specified.

Wait Time

Always Wait Time denotes Unit as Seconds. After punching a card this specifies the interval for striking another card thru Auto Feed Unit.

120 Offset

This denotes the No. of Empty Pitch at the Front of 120 Card

The General Setting :

For Sensor Model : 2

For Without Sensor Model : 6

240 Offset

This denotes the No. of Empty Pitch at the Front of 240 Card

The General Setting:

For Sensor Model : 3

For Without Sensor Model : 7

Design Detail

Once the Punch file is selected for punching, its complete information regarding the punching will be displayed.

5) Exit

This option ends the application from the punching.

SESSION V

General Maintenance

1. Interface Cable between Computer and the Controlling PCB Kit should be connected properly.

2. Power Supply for the PCB Kit should be properly given.
   Phase - Neutral ===> 220V
   Phase - Earth   ===> 220V
   Earth - Neutral   ===> 0-3 V

3. Put the required quantity Lubricant (Coconut Oil) to the Gears, Cam, Bearing and Spring Parts of the Punching Machine.
4. Lubricant should not be applied to the Brake Shoe Part of the Machine.
5. Regularly check the Conditions of the Springs, Teflon Needle Cap and SS Thread at the Pitch Gear.
6. Bold and Nut condition of the Feeding Unit as well as the entire machine part should be checked.