# Atma Autotech Engineers Pvt. Ltd.

Plot No.270,Sector-8 IMT Manesar, Gurgaon Haryana
Telefax.0124-4297100
E-mail: - kky@autotechindia.com
**Our ARN No.-AA061216002363S**
**GST Provisional ID:-06AAFCA4948R1Z1**


## Backend Assembly Line _MQBA0

### 1.Stn.05

**Sequence Of Operation:-**

1.Take the Display from ESD plastic Tray, place on fixture cavity
2.Check the display presence, hold the display, check the presence of protective foils & read datamatrix from flat cable.
3.Check the protective foil removal, move the fixture to machine
4.Take the BI-Adhesive strip by vacuum gripper.
5.Move the Robot to Camera-1 control and check the position of taken Bi-adhesive strip from down side.
6.Checking gluing pick up and move to gluing position on edge-1
7.Vertical movement (pressing) with real time control force measuring,Top camera-2 will check the position of glued Bi-Adhesive stripes.
8.Move the Robot to take another Tape.
9.Take the Bi-Adhesive strip by vacuum gripper
10.Move the Robot to Camera-1 control and check the position of taken Bi-adhesive strip-from down side.
11.Checking gluing pick up and move to gluing position on edge-2
12.Vertical movement (pressing) with real time control force measuring,Top camera-2 will check the position of glued Bi-Adhesive stripes.
13.Return the fixture back to initial position.
14.Take the display subassy & move it to WIP.

### 2.Stn.10

**Sequence Of Operation:-**

1.Vacuum Cleaning Stn.(For LB -Cleaning device is to be equiped with Ionized air blow stn. + Extraction system.)
2.Take Lightbox from ESD cleaning device and place new lightbox into ESD cleaning device-Manualy.
3.Lightbox loading inside the fixture ,presence and the correct version of LB check by Mechanical Poka Yoke.
4.Locking of the Fixture.
5.Pre-Insertion of photoprism into the lightbo.,Presence check by sensor,
6.Pressing of Photoprism by special tool with poka yoke.
7.Insertion of Diffuser on the lightbox.Presence & positon check by Laser Sensor.
8.Take display subassy & remove Bi-Adhesive protection layer -Manualy
9.After getting confirmation from sensor for correct position of Diffuser-2D code (part no.) on Diffuser & on LCD -read by scanner.
10.Place Display SubAssy on Fixture/Flapper with Vacuum gripper at proper position.
11.Press start button , Fixture will slide backward.
12.Read 2D code from display's flat cable by Hand held scanner & check if correct display is loaded & interlock checking.
13.Pick "display" & place it on defined location of Diffuser ,press hold Display subassy fordefined time with soft material(PU/Silicon Pad).
14.At same time check correct position of PhotoPrism.
15.Check correct position of Display with camera.
16.Return the fixture back to initial position,Remove protective foil from Display manually.
17.Check the protective foil removal,Unlock ST10 Subassy from main fixture, & remove the ST10 subassy.

### 3.Stn.20

**Sequence Of Operation:-**

1.Insertion of the ST-10 Subassy into the fixture.
2.Check the subassy presence inside the fixture,lock the sub assy.
3.Display's flat cable clipping with Lightbox
4.Insertion of keypad into the lightbox.
5.Check the keypad presence by sensor inside the fixture & correct position inside the light box direcly after insertion.
6.Insertion of the PCB into the LB & flat cable connection.
7.Check the correct clipping of the PCB,measure the position of the clips.
8.Move the fixture with subasssy to automatic controls.
9.Display 2D code reading,ST10 subassy interlocking,flat cable clipping & flat cable connection control, PCB MIC code reading,PCB interlocking
10.Return the fixture with subassy to initial position.
11.Take the rear cover & insert it on the subassy.
12.Unlock ST20 subassy, from the main fixture & remove the ST20 subassy.

### 4.Stn.30

**Sequence Of Operation:-**

1.Operator take STn20 subassy & place it on fixture-press start cycle,2D Code(MIC code) scan by fixed type scanner,check previous stn pass status.
2.Check the Rear Cover correct clipping position check by sensor.
3.Connector comes up in auto and connect with LCD. And fixture slide moves to camera position.
4.PCBA power on & check the LCD segment.
5.Camera-1 check each segment to be sure that LCD working correctly.
6.Fixture slide moves to home position, Read the 2D Code from dial .
7.Operator will take the Dial & place it manually on the LB after removing the Protective film.
8.Fixture slide moves inside the machine with subasssy to gluing with soft material (Silicon Pad).
9.Pneumatic Cylinder will apply pressure on dial for defined time interval.(35N +/- 10N settable with pneumatic pressure guage & verifing with load cell)
10.Fixture slide moves forward stop in mid where,correct position of dial inside the fixture check-by Camera-2
11.Return the fixture with subassy to initial position.
12.Unlock ST30 subassy, from the main fixture & remove the ST30 subassy.

**5.Stn.60**

**Sequence Of Operation:-**

1.Operator pickup Frontmask (ST50) from Gravity chute ,Ioinised the frontmask. and place it on fixture.
2.Operator place PCB on angled fixture,Interlocking of fixtures.
3.Move the Fixture to testing area to check correct front mask using camera.
4.2D MIC Code scanning from PCB by fixed type scanner.
5.Fixture moves outsisde ,if Frontmask model is OK,operator take frontmask , assemble it to PCB.
6.IL sensors(04 Nos.) check the correct clips of Frontmask.
7.Manually Assemble Actuators and Check proper insertion through sensors.
8.Unlock ST60 subassembly from the fixture.
9.Remove ST60 subassembly from the fixture.

**6.Stn.70**

**Sequence Of Operation:-**

1.Insertion of ST60 subassy into the fixture
2.Check the subassy presence inside the fixture, lock the subassy and check 2D MIC code from PCB + interlocking
3.Bring flap down for screwing,Manual screw tightening by DC Nut runner with screw Auto feeding and control of the torque – 4 screws
4.Check screwing sequence & tightening torque
5.Flap up after screwing
6.Move the fixture to check height of the screws
7.Screws height check with LVDT
8.Return the fixture with subassembly to initial position
9.Unlock ST60 subassembly from the fixture
10.Remove ST60 subassembly from the fixture

## 7. Rework Station

Fixturing for Two Model-Global & Medium
Linear Station with 4 Fixtures.

**Fixture-1**

For shield disassembly from PCB

**Fixture-2**

For big and small pointers disassembly from ST30 subassembly

**Fixture-3**

For fronfmask disassembly from ST50 subassembly

**Fixture-4**

For fronfmask unscrewing