

3. Support & Troubleshooting

3.1. Support

MATRIX has been designed to allow most users to service the system independently, subject to suitable training at the time of installation. Most minor parts can be replaced on-site in a relatively short time. Support is offered under the terms of the MATRIX Limited Warranty Note and any further agreement offered by the local CTMS service agent.

3.2. Important Warnings

! Please read all operating and maintenance (servicing) instructions in the literature accompanying this equipment. If these instructions are not followed exactly, possible bodily injury may occur.

! Make sure that only fuses with the specified rated current and of specified type are used for replacement. The use of repaired fuses and the short-circuiting of fuse holders must be avoided.

! SUITABLE FOR MOUNTING ON CONCRETE OR OTHER NON-COMBUSTIBLE SURFACE ONLY.

! To avoid shock, do not perform any non authorized servicing. Disconnect the product from the power line before removing covers. Any adjustment and maintenance of the opened device should be done only while the device is disconnected from its source of power and back up power and should only be performed by qualified personnel.

3.3. Troubleshooting

MATRIX has been produced to the highest of standards. As with any mechanical or electrical device, a malfunction could happen, so it is wise to be prepared. Different environmental factors, such as dust, oil and dirt, and the level and conditions of use, can affect performance and reliability. In this section we canvass a number of troubleshooting scenarios, to help identify and resolve problems that may arise.

3.3.1. Side Board

- Diagnostics: Side Board malfunction will result in a failure of all drawers and bins to open. By elimination, if not all drawers or bins fail to open, the problem is probably not with the Side Board.
- Solution: replace Side Board.

3.3.2. Controller Board

- Diagnostics: The failure of a specific drawer or bins to open may indicate a possible problem with the Controller Board. If the Sanity Red LED's are off, this probably means either no power or the Board's software failed.

- Solution: replace Controller Board, after eliminating all other possible causes.

3.3.3. Actuator Board

- Diagnostics: The failure of all solenoids in a specific drawer may indicate a malfunction with the Actuator Board. Also, failure of the solenoid in the left hand bay may also indicate Actuator Board failure.
- Solution: Check that the Controller Board is functioning, and that the 14 LED's light up (if not, first try replacing the Controller Board). Activate solenoids one by one using the Maintenance Assist Software. After eliminating other possible causes, replace the Actuator Board.

3.3.4. Sensor Board

The Sensor Board is bolted to the Actuator Bar, which is factory aligned to meet extremely high tolerances. Dismantling the Actuator Bar is not allowed.

- Diagnostics: All Bins fail to open or the wrong row of bins opens may indicate a malfunction with the Sensor Board. Check that both diagnostics LED's flicker whilst opening drawer.
- Solution: After eliminating all other possible causes (like Controller Board), call for service.

3.3.5. Solenoids

- Diagnostics: The failure of an entire column of latches to open may indicate the malfunction of a solenoid on the Actuator Bar.
- Solution: Replace the solenoid, after eliminating all other possible causes.
- Diagnostics: The failure of the drawer to open may indicate the malfunction of the solenoid inside the side bay, under the left side panel.
- Solution: Replace the solenoid, after eliminating all other possible causes.

3.3.6. Hammers

- Diagnostics: The failure of an entire column of latches to open may indicate the malfunction of a hammer.
- Solution: release the hammer or if it is damaged, replace it.

3.3.7. Drawer & Bins

Most problems with the operation of a drawer are likely to relate to the opening and closing of bins. In the sub-sections below, we cover a number of possible problems that may require service.

Given the complexity of the drawer mechanisms, in most cases, the quickest and easiest option will be to replace the drawer (see Section 2) with a spare drawer pending its repair off-site.

A second option is a 'work around', which may prove more convenient. If a Bin fails to open or function, the management software is able to cancel or freeze its use, pending a resolution of the problem. In most cases there will be sufficient spare bins in the Cabinet to which the stored item can be relocated.

3.3.8. Latch failure

- Diagnostics: The failure of a specific bin to open, or the unintended opening of a bin, may indicate latch mechanism failure.
- Solution: Replace the entire lid and latch mechanism, after eliminating all other possible causes.

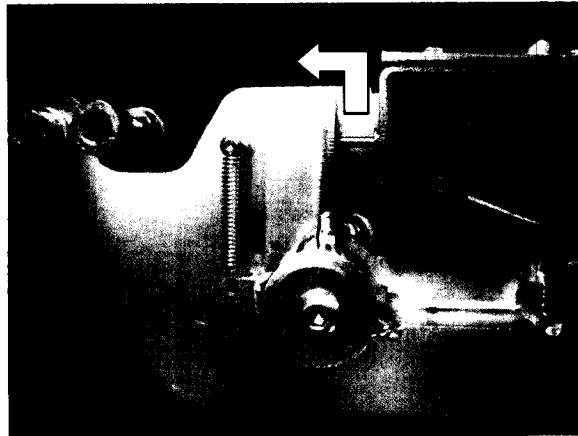
3.3.9. Locking Bar failure

- Diagnostics: The failure of an entire row of latches to open may indicate the malfunction of a locking bar.
- Solution: Manually override the drawer, and mechanically operate the locking bar several times. This may release dirt or particles trapped inside its mechanism. The use of WD-40 or similar lubricants may also help free up the mechanism. If this fails to solve the problem, either a workaround solution (freezing that row of bins) or replacing the drawer is required.

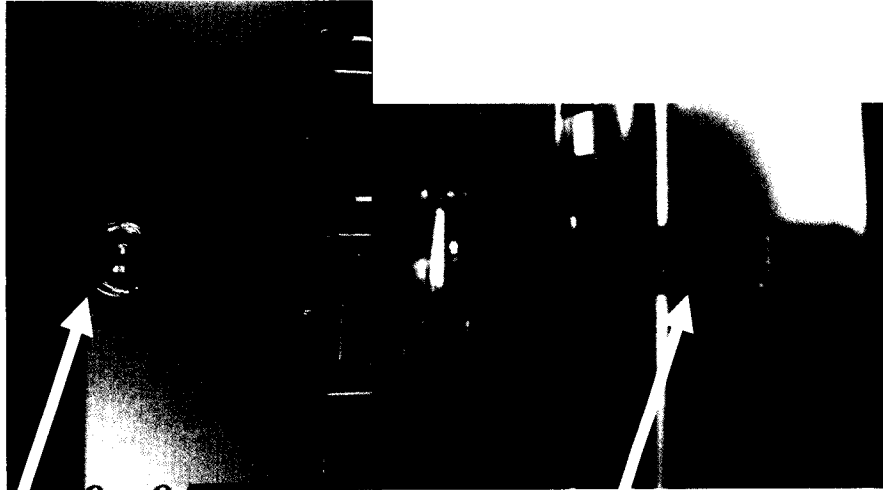
3.3.10. Power Failure – Manual Override

In the event of a power failure, the UPS will continue to provide temporary power to the machine pending a controlled power shutdown. When this occurs, it may be necessary, pending the resumption of power supply, to access items stored in the machine.

Each drawer has a manual override mechanism, to ensure continued access to stored items, even in the event of a power failure. The mechanical override is activated in 4 steps: firstly, by unlocking and removing the left Side Panel; secondly, by releasing the drawer locking mechanism – this is done by pulling the plate at the rear of the mechanism in the direction of the arrow (see Photo below), and whilst retracted, pulling open the drawer; thirdly, by unlocking the locking bar cover – the lock is located in the front right hand corner of each drawer; and finally, by pressing on the locking bar with a lateral left movement, for each row of bins you wish to open manually. Pressing on the locking bar can be done with the assistance of a screw driver or similar device.



Drawer Locking Mechanism



Drawer Lock for manual override

Exposed Locking Bar

We recommend keeping the key/s for the Side Panels and the Drawers in a safe place, known to the shift supervisor.

After the bins have been manually opened, they can be shut in the normal manner, by closing the drawer. Don't forget to re-lock the locking bar cover before closing the drawer.

Items removed during manual override should be recorded in the management system, once power resumes, preventing stock discrepancies.