

Introduction

System Overview

Welcome to the 3M™ Smart Check™ System!

Please take the time to read through this guide to help you understand how your Smart Check system works. Keep this guide accessible when the system is in use as it will serve as a reference guide should questions arise.

The Smart Check system allows library patrons to check in books on their own. The system emulates the check-in procedures performed by a librarian.

Preparing your Library for the Smart Check System

A number of requirements must be met for the installation and operation of the Smart Check system. These requirements include adequate space and environmental conditions, electrical power connection, connection to the automated circulation system (ACS), and staff training.

Staff Preparation and Training

The introduction of patron self-service will fundamentally change how your library circulates items. Since patrons will be able to process their own routine check-ins, your staff will have more time to respond to patrons with more complicated problems or information requests. Because the new system will affect the nature of their work, the entire library staff should be involved in the preparation for installation. The staff will help to identify the library functions that can be enriched with the added resources and time made available by the Smart Check system.

A key element of introducing any new processes or systems into your library is a successful staff training program. Your Smart Check system will be much more effective with the active cooperation and participation of your entire library staff. We recommend that you use the guides provided with the system as texts for periodic training.

Preparing Library Patrons for the Smart Check System

To prepare library patrons for using the Smart Check system, thoroughly review the Smart Check system documentation. Then, consider scheduling patron orientation sessions to demonstrate the process for checking in items from your library using the Smart Check system.

A librarian may need to monitor the new machine to assist patrons who are unfamiliar with the system for an extended period of time.

Components

Smart Check Components

Receipt Printer

The receipt printer prints patron receipts and extends them through the receipt printer slot.

Touchscreen

The touchscreen acts as the patron interface for the Smart Check system, and also can be used to access the administrative functions.

Cove Light

The cove light illuminates the cove area.

Cove Door

The cove door separates the public accessible cove area from the inside the Smart Check cabinet. The cove door automatically opens when a valid library item is detected and closes once it is secured inside the system.

Front Conveyor System

The front conveyor system transports library items from the cove area to the tunnel belt. It includes the front conveyor belt and LED sensors.

Barcode Scanners

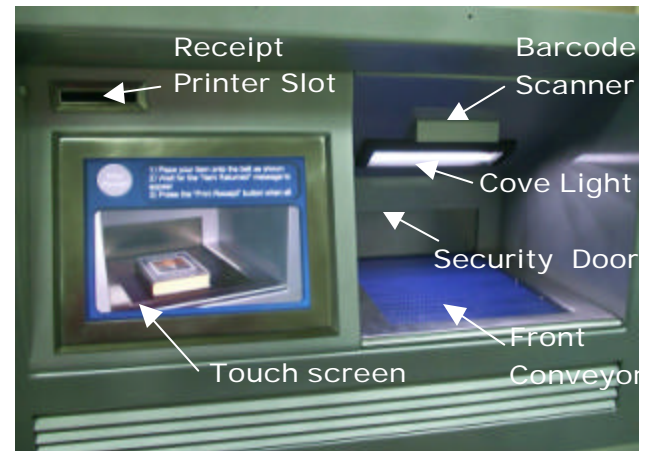
The barcode scanners read barcode labels on library items and communicate the barcode numbers to the Smart Check computer. The Smart Check system's bar code scanners can read up to eight different bar code formats.

There are two barcode scanners in the Smart Check system – one in the cove area and a second near the end of the front conveyor belt.



RFID System

The Smart Check system's RFID system detects RFID tags installed in library items and communicates the tag information to the Smart Check computer.

The RFID system consists of an two RFID antennas, one positioned under the front conveyor belt, one at the front and one at the back (not shown in picture).



Front view

 CAUTION	
	To reduce the risks associated with crushing and/or pinching of hand, which, if not avoided, may result in minor or moderate injury.
	<ul style="list-style-type: none">Keep hands away from the entry cove sliding door.



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Tunnel Belt System

The tunnel belt system transports library items from the front conveyor belt to the Smart Sorter system (if connected) and sensitizes security strips installed in library items. The tunnel belt system includes the tunnel conveyor belt and belt motor, a tunnel sensitizer, and LED sensors (not shown in picture).

Smart Check System Computer

The Smart Check system computer controls the functions of the Smart Check system and communicates library item information to the library's Automated Circulation System (ACS).

Staff Printer

The staff printer prints receipts for items on hold. These receipts are printed when an item is returned that has been put on hold by another patron.

The staff printer also prints exceptions and errors from the Smart Check system.

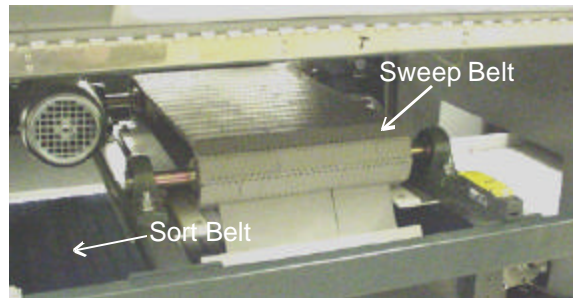


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Smart Sorter Components

Sort Belt

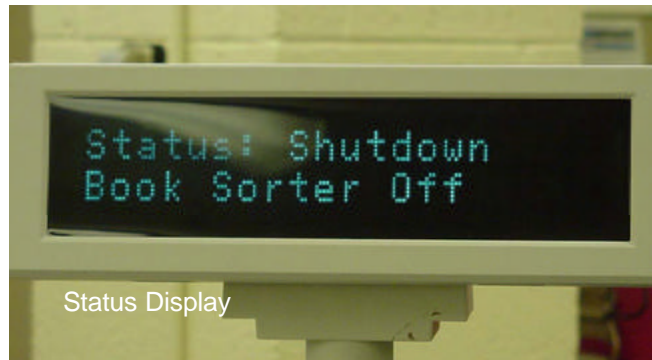
The sort belt transports library items from the tunnel belt on the Smart Check system to the bins on the Smart Sorter system. The length of the sort belt varies with the number of bins on the Smart Sorter system.



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Sweep Belt

The sweep belt pushes library items off the sort belt and into the bins. It is controlled by the Smart Check system computer, which can reverse the direction of the sweep belt to push library items into two different bins. There may be multiple sweep belts depending on the number of bins on the Smart Sorter system.



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Status Display

The status display is an LED display located on top of the Smart Sorter cabinet. It displays messages about the status of the Smart Sorter system.

Emergency Stop Buttons

Pressing an **Emergency Stop** button immediately stops the operation of the entire Smart Sorter system.

The **Emergency Stop** buttons are located on both sides of each Smart Sorter cabinet.

Power Switch and Power Indicator Light

The power switch is located on the back corner of the Smart Sorter. The power indicator light, directly above the power switch, is illuminated when the power switch is **ON**.



SMC_SG_003

Reset Button

The **Reset** button is located on the back corner of the Smart Sorter cabinet. Press the **Reset** button after an **Emergency Stop** button has been pressed and reset. This allows the Smart Sorter system to resume normal operation.



To reduce the risks associated with falling, which, if not avoided, may result in minor or moderate injury.

- Do not lean on the surface of the book bin.

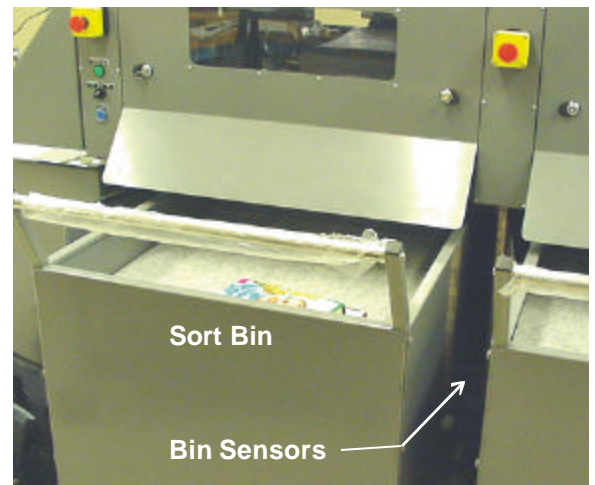
Sort Bins

During the sort operation, sweep belts push library items into the appropriate sort bins. The sort bins include wheels that allow staff members to transport library materials from the Smart Sorter to other parts of the library.

Bin Sensors

Each bin station has a **bin-present** sensor near the bottom of the bin station, and a **bin-full** LED sensor mounted on the side of the Smart Sorter just below the sort belt.

- **Bin-present sensors** detect the presence of sort bins in the bin stations. If no sort bin is present, then the sweep belt will not push library items off the sort belt into that location (unless overridden by the setup of your software).
- **Bin-full LED sensors** detect when a sort bin is full. This prevents the sweep belt from pushing library items off the sort belt into that location.



SMC_SG_005

Figure 1: Each bin has a bin-present and a bin-full sensor.

Communication

This system sends and receives information from the library's automated circulation system (ACS). The information is exchanged in a manner consistent with 3M's Standard Interface Protocol: SIP -2, SIP -2X or NCIP (NISO Circulation Interchange Protocol).

This system also communicates with patrons by leading them through the process of checking in materials via on-screen graphics and text and optional sounds. The Smart Check System displays correction instructions to help the patron solve problems. If this fails, the system instructs the patron to ask for help at the circulation desk.

Barcodes

Bad or Unreadable Barcodes

When the scanner tries to read a bar code that is not configured on the system, or if the bar code is unreadable (damaged or incomplete), an error screen appears and the patron is instructed to seek help at the front desk.

Bar Code Formats

The Smart Check system identifies library materials by reading bar codes on the items. Several bar code formats have been developed. The Smart Check system is pre-programmed to read the following bar code formats:

- Codabar
- Code 39
- Plessey
- Telepin Alphanumeric
- Code 128

If your library uses a bar code format not included with the Smart Check software, you may specify a bar code format to replace one of the bar code formats listed above.

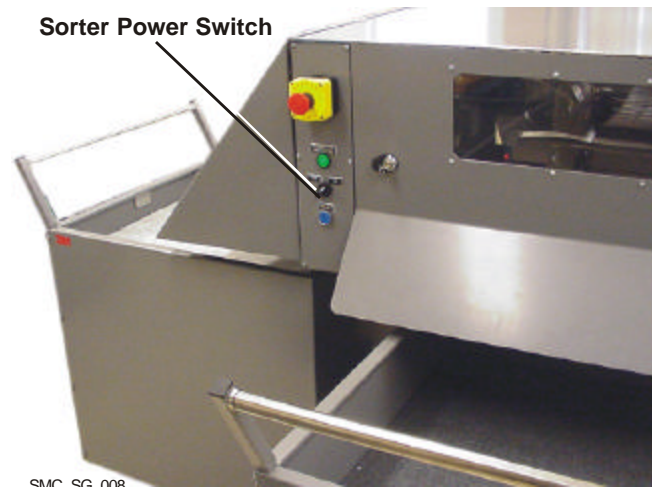
Bar Code Placement

Consistent bar code placement on all of your library material is necessary for easy and consistent patron use.

Using the Smart Check System

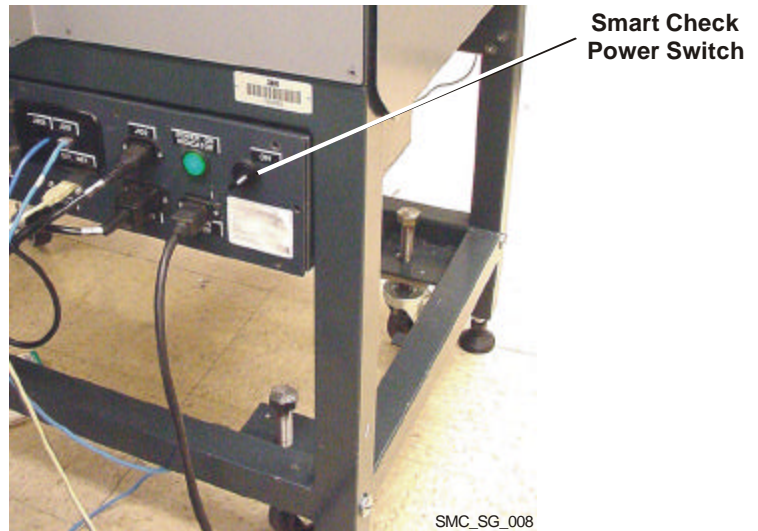
Starting the Smart Check System

Turn ON the power switch on the Smart Sorter (if attached).



Turn ON the power switch on the back panel of the Smart Check system.

- The computer should start and Smart Check software will load.



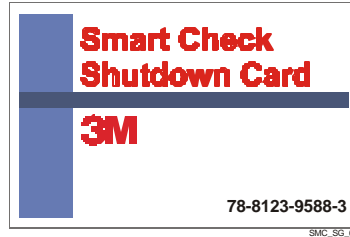
The touch screen should be **ON**, the Smart Check program should be running, and the Smart Check startup screen should be displayed.

- **Note:** your startup screen may look different than the one shown here.



Shutting down the Smart Check system

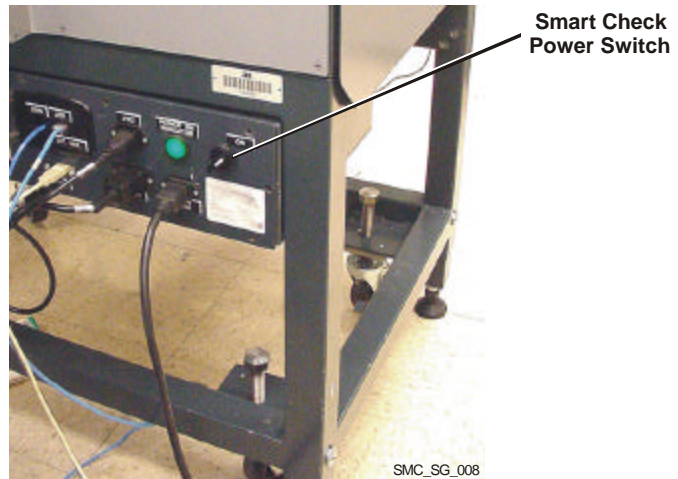
- 1 Hold the **Smart Check Shutdown Card** on the front conveyor belt of the Smart Check system so that one of the sensors is blocked.



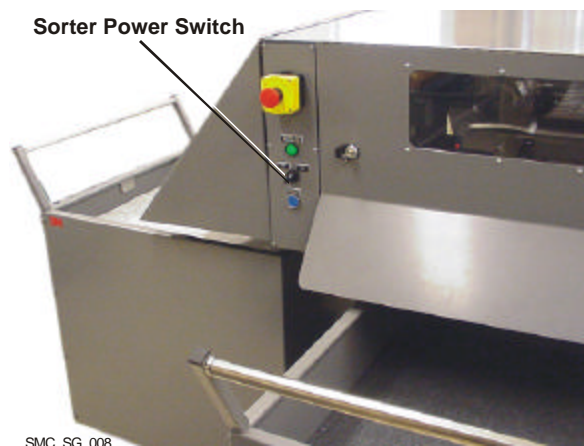
- 2 The **System is shutting down** message appears on the touch screen.
 - Smart Check software and Microsoft Windows™ will shut down.



- 3 Turn **OFF** the power switch on the back panel of the Smart Check system.



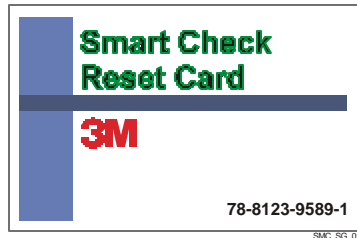
- 4 Turn **OFF** the power switch on the Smart Sorter (if attached).



Resetting the Smart Check System

The Smart Check system can only be reset when an error code screen is displayed. The reset command resets the Smart Check software

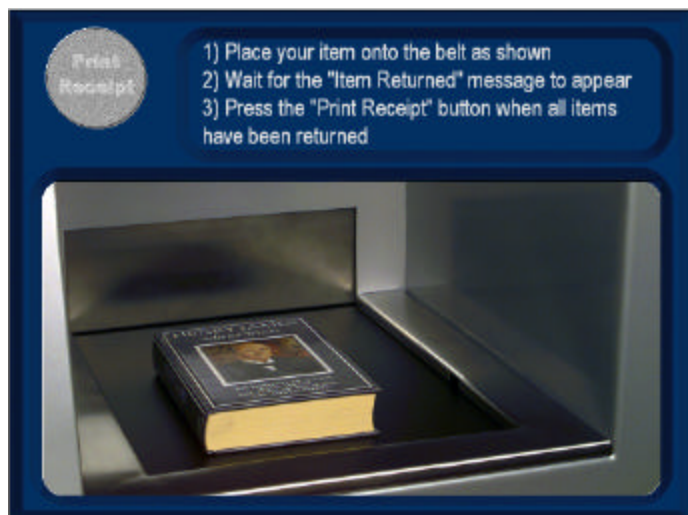
- 1 Hold the **Smart Check Reset Card** on the front conveyor belt of the Smart Check system so that one of the sensors is blocked.



- 2 The Smart Check program is reset.
 - The **System is resetting** message appears while the software is resetting.



After a successful reset, the main patron screen should appear on the touch screen and the system should be ready to use.



Emergency stop recovery procedures

Pressing an **Emergency Stop** button immediately stops all the belts in the Smart Sorter system.

Warning: In the event of an emergency, press an Emergency Stop button immediately.

To stop the operation of the Smart Sorter system

Press one of the **Emergency Stop** buttons on any of the Smart Sorter modules.

- The Sorter Status display shows a “stopped” message and indicates which Emergency stop button was pressed.
- The touch screen displays Error 10.

To reset the system after an Emergency Stop

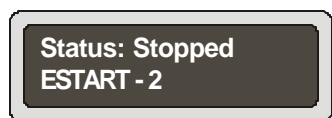
- 1 Use the number on the status display to determine what Emergency Stop pushbutton was pressed.
 - Number one (1) is the Sorter Module closest to the Smart Check system, number two (2) is the next module, etc.
- 2 Turn the **Emergency Stop** button clockwise to reset the button.
 - Note that this will not reset the system.

Press and hold the **Reset** button for five seconds.

- The Reset button is located on the back of the Smart Sorter system.

The system resets and returns to normal operation.

- 1 Use the number on the Status Display to determine which Emergency Stop pushbutton was pressed.



- 2 Turn the Emergency Stop Button clockwise to reset the button.



Press and hold the Reset button for five seconds to rest the Smart Check system.

SMC_SG_015

- 4 The system resets and returns to “Normal” status.

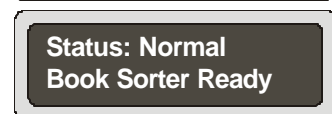
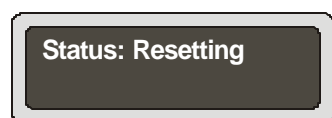


Figure 2: Once you have reset the Emergency Stop button, press and hold the reset button for five seconds to reset the Smart Check system.