

3m-matic 700rks manual



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Book Descriptions:

3m-matic 700rks manual

If any problems occur when operating this equipment, and you desire a service call, or phone consultation, call, write or Fax the appropriate number listed below. Paul, Minnesota 551441000. Need PARTS or SERVICE. Contact us Dual masts with dual lead screws for extra stability and uniform height adjustments. Includes 3M AccuGlide II Taping Heads for lowimpact application. Choice of case sealers with manual feed and adjustment for a wide variety of case sizes. Need a custom solution. Need Service Dont hesitate to call, email or chat online and we will get back to you right away. We provide service and parts for all equipment. Costefficient for basic case sealing. Automatically adjusts for case height and width. Automatically adjusts for case height and width. Includes 3M AccuGlide II Taping Heads. Automatically adjusts for case height and width. Automatically adjusts for case height and width. Includes AccuGlide II Taping Heads. Handles case lengths of 6 inches and up. Handles case lengths of 6 inches and up. Seals up to 30 cases per minute. Springloaded drive with twin gear motors for heavyduty performance. Selfcentering side belt drive for consistent flow of narrow cases at up to 15 per min. Selfcentering side belt drive for consistent flow of narrow cases at up to 15 per min. Includes 3M AccuGlide II Taping Heads. Automatically adjusts for various case sizes and folds the top minor and major flaps. Upper and lower side belt drives ensure case alignment and accurate tape placement. 3M 800rks Kingsize random case sealer automatically adjusts for case sizes up to 30 inch wide by 48 inch high. Upper and lower side belt drives ensure case alignment and accurate tape placement. Combi Heavy Duty TBS100 The newly redesigned TBS100 case sealer machine is the heavy duty solution for a wide range of case sealing applications. Doing It Best. Best Packaging System Inc. We take pride in our ability to maintain a leading edge in an everchanging industry. <http://www.oecbtb.org/userfiles/comcast-sb5120-manual.xml>

- **3m-matic 700rks manual, 3m-matic 700rks manual, 3m matic 700r manual, 3m matic 700r manual.**

The quality of our equipment is reflective of the suppliers we represent. The pneumatically operated packing station holds empty cases for filling and automatically centers them for sealing. Other features include a gearmotor drive for heavyduty performance; upper mast guards; a frame mounted upper tape roll bracket; friction brake tape roll drums; easytoeach alternate outboard tape roll mount for the lower head; easytoinstall laced replacement belts; and an infeed conveyor. The versatile 3MMatic 700rks is ideal for sealing a variety of case sizes on the same production line, sealing up to 15 cases per minute while automatically adjusting to each case's height and width. A pneumatically operated packing station also holds empty cases for filling and automatically centers them for sealing. Matched upper and lower side belt drives ensure that each box is aligned for accurate tape placement. Other features include framemounted tape drum; adjustable cylinder stop; electrically interlocked punched steel sideguards; pneumatic box stop; stop switches and instructional and safety labeling. Download Tape Application Monitor instructions and parts list. If technical assistance or replacement parts are needed, call or fax the appropriate number listed below. Included with each machine is an Instructions and Parts List manual. If you have a technical question that does not require an immediate response, you may Fax it to 6517367282. Replacement Parts and Additional Manuals Order parts by part number, part description and quantity required. Note Outside the U.S., contact the local 3M subsidiary for parts ordering information. 3M Industrial Adhesives and Tapes 3M Center, Building 2205E06 St. If any problems occur when operating this equipment and you desire a service call or phone consultation, call, write or fax the appropriate

number listed below. Included with each machine is an Instructions and Parts List manual.<http://rafaela-motores.com/userfiles/comcast-remote-users-manual.xml>

SERVICE, REPLACEMENT PARTS AND ADDITIONAL MANUALS AVAILABLE DIRECT FROM Order parts by part number, part description and quantity required. The Tape Application Monitoring Kit is a self-contained control apparatus that identifies a tape related malfunction in box sealing operations. In addition, the control system will turn on an indicator light that is located on the control panel and can also be programmed to stop the case sealer when a low tape condition occurs. If any part is defective within this warranty period, your exclusive remedy and 3M's and seller's sole obligation shall be, at 3M's option, to repair or replace the part. 3M must receive written notice of any alleged defect within a reasonable time after it is discovered, but in no event shall 3M have any obligation under this warranty unless it receives such notice within five (5) business days after the expiration of the warranty period. To be entitled to repair or replacement as provided under this warranty, the part must be returned as directed by 3M to its factory or other authorized service station designated by 3M. If 3M is unable to repair or replace the part within a reasonable time after receipt thereof, 3M, at its option, will replace the equipment or refund the purchase price. 3M shall have no obligation to provide or pay for the labor required to install the repaired or replacement part or equipment. 3M shall have no obligation to repair or replace those parts failing due to normal wear, inadequate or improper maintenance, inadequate cleaning, improper operating environment, improper utilities, operator error, operator misuse, alteration, lack of reasonable care, or due to any accidental cause.

Limitation of Liability Except where prohibited by law, 3M and seller will not be liable for any loss or damage arising from this 3M equipment, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including breach of warranty, breach of contract, negligence, or strict liability. The foregoing Equipment Warranty and Limited Remedy and Limitation of Liability may be changed only by a written agreement signed by authorized representatives of 3M and seller. Paul, Minnesota 551441000 2 Important Safeguards This safety alert symbol identifies important messages in this manual. He is not allowed to work on live electrical components. He is allowed to work on live electrical panels, connector blocks, control equipment, etc. Operator Skill Level Descriptions Skill 1 Machine Operator This operator is trained to use the machine with the machine controls, to feed cases into the machine, make adjustments for different case sizes, to change the tape and to start, stop and restart production. Skill 3 Specialist From the Manufacturer Skilled operator sent by the manufacturer or its agent to perform complex repairs or modifications, when agreed with the customer. Operators Skill Levels Required to Perform the Main Operations on Machine Operation State of the Machine Operators Skill Number of Operators 2 and 2a 2 Installation and set up of the machine. Running with safety protections disabled. Tape replacement. Stopped by pressing the STOP button. 1 1 Ordinary maintenance. Electric power disconnected. 2 1 Extraordinary maintenance mechanical. Running with safety protections disabled. 3 1 Extraordinary maintenance electrical. Additional information is required for 800rks and 800rf applications. Additional components are required for outboard tape supply roll applications. A conversion kit optional is available.

<http://www.drupalitalia.org/node/68435>

The beacon light allows operators and maintenance personnel to observe fault conditions from a distance away from the case sealer. Note The Electrical Control box is equipped with the connection for the Remote Warning Beacon Light, no additional wiring is required. Electrical Control Box Remote Warning Beacon Light A din rail is used in the electrical control box to mount the primary components. Figure 12 Strain relief cord grips are used to pass both control and power into and out of the electrical control box. If damage is evident, file a damage claim immediately with the transportation company and also notify your 3M Representative. Read the installation instructions

completely before beginning installation. For future reference, record the Tape Application Monitoring Kit serial number on the front cover of this instruction manual in the space provided for future reference. Machine SetUp WARNING Control Box Assembly The control box is mounted directly to the case sealer using the control box mounting bracket. Note Because holes do not already exist in the electrical box of the 800rks and 800rf you must first position the control box mounting bracket then carefully mark and drill clearance holes .343" dia. for the 2 M8 mounting fasteners. Refer to figure 28. Mounting holes must be drilled in the lower drive frame on all case sealer models except for the 700aks and 700rks models. Note This kit contains components to monitor both an upper and lower taping head on a single case sealer. Figure 29 Lower Dancer Arm Mounting The taping head tape drum bracket angle must be determined to properly position the Lower Dancer Arm assembly. Refer to figures 29 and 210 to determine which example represents the current machine configuration. 1 Remove the lower taping head supply roll 2 Properly position the taping head inside the case sealer cavity. Figure 210 3 Position the Lower Dancer Arm spring post in the appropriate location.

<http://dzkgjy.com/images/canon-lv-7290-user-manual.pdf>

Use proper personal protective equipment when drilling mounting holes 8 Remove the lower taping head from the case sealer and drill a 0.25 inch 6.5mm hole at the marks made in step 7. Figure 213 Note Carefully remove any burrs on the case sealer frame before fastening the dancer arm assembly. 9 Fasten the dancer arm assembly to the case sealer frame using 2 M6 screws, washers and the nut plate as illustrated in figure 214. 10 Reinstall taping head without the tape supply roll. 11 Verify that the dancer arm roller is in contact with the empty tape drum. Lower Dancer Arm Mounting 1 Remove the lower taping head supply roll Figure 214 2 Properly position the taping head inside the case sealer cavity. 3 Place and hold the lower king bracket against the bottom right hand machine frame, aligning the bracket holes with the threaded inserts in the machine frame Figure 215 Note Right hand is defined by viewing the machine from the entrance end. 4 Fasten the lower king bracket to the case sealer right hand lower drive frame using 4 M6 screws and washers Note The lower king bracket is positioned over the Guide Link on the 700aks machines. If an interference is observed it may be necessary to move the Link from the top of the Guide arm Fig. 215 to the bottom to remove the interference. Figure 215 11 Installation and SetUp Continued 5 Position the Lower Dancer Arm spring post in the appropriate location. The factory spring post setting Fig. 211 corresponds to the bracket angle shown in Figure 29. The spring post must be moved Figure 212 as the bracket angle changes to keep the dancer arm roller in contact with the tape drum Figure 210 IMPORTANT The spring post must be in the appropriate location to determine the correct mounting location. Figure 216 6 Attach the lower dancer arm assembly to the Lower king bracket using 2 M6 screws, washers and the nut plate. 7 Reinstall taping head without the tape supply roll.

<http://www.e-lysis.com/images/canon-lv-5100-manual.pdf>

8 Verify that the dancer arm roller is in contact with the empty tape drum. Upper Dancer Arm Assembly The upper dancer arm assembly is mounted directly to the case sealer's inner column crossmember using one of the three supplied brackets. 1 Fasten the upper dancer arm assembly to the appropriate bracket See Fig. 216, 217, 218 using the M6 screws and washers. The upper dancer arm assembly is attached to the 120af models using the existing 2 M8 screws that secure the kicker arm support to the inner column assembly. Refer to Figure 218 If the dancer arm roller does not align with the tape drum complete steps 5 and 6 Figure 218 120af Applications 12 Installation and SetUp Continued 5 Remove the ering, roller, shaft, sensor and bracket to position on correct side as illustrated in figure 219. 6 Thread the sensor into bracket until the end of the sensor is approx. 1mm .039" from end of the roller. Check to insure all seven targets are sensed as the roller turns. Box Present Sensing Assembly The box present sensing assembly consists of two identical brackets. One

is used to mount the sensor and the other is for mounting the reflector. They are also slotted to allow for additional adjustment of sensor and reflector along the bracket length. Turn electrical supply off and disconnect before performing any adjustments, maintenance or servicing 3 Connect the box present sensor into the box present control cable and turn power on. 1 Verify that the control box is properly mounted to the case sealer. 4 Attach the sensor and reflector to the brackets. This will reduce the chance of faults caused by contacting and possibly altering the sensor alignment. 2 Determine the appropriate mounting location for your application. The box present sensor can be mounted at various locations from a point ahead of the applying roller to the end of the cutoff bracket. For applications with top taping only the position should be chosen using the upper taping head cutoff bracket.

The sensor must also be positioned to detect the lowest height box without being blocked by taping head movement. The beam should only be broken by the box as it passes through the machine. Do not remove the final position mark. 2 Identify and route the control cables to the appropriate locations defined by bracket mounting. The cables are marked to indicate the appropriate sensor connection i.e. UD Upper Dispensing sensor, US Upper low tape Supply sensor, LD Lower Dispensing sensor, LS Lower low tape Supply sensor Note It is very important that this area is clean and dry to insure proper adhesion to surface. Completing the Electrical Systems Connections Note It is very important that this area is clean and dry to insure proper adhesion to surface. The remaining sensors must be connected. Each dancer arm assembly has 2 proximity sensors, a tape dispense and a low tape supply sensor. 4 Connect the appropriate control cable connectors to each proximity sensor. The standard configuration will not connect directly to these machines. Contact a 3M sales representative for additional information. Turn electrical supply off and disconnect before performing any adjustments, maintenance or servicing Figure 222 15 Installation and SetUp Continued Adjusting the Low Tape Supply Sensor The dancer arm position is used to define the low tape condition. The arm rotates as tape is dispensed. The low tape sensor “turns on” when the arm rotation matches the low tape level setting. The sensor position is adjustable and is determined by your process requirements. There are two adjustment that will affect the proper operation of the low tape sensor. Note The Tape Application Monitor can be used to signal a low tape condition by turning on the panel indicator and optional beacon light. The system can be set to stop the case sealer when either the upper or lower low tape supply sensors detect a low tape condition.

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Refer the Theory of Operation and Adjustments sections of this manual for further information on this feature. Figure 223 The sensor should be positioned to allow the operator ample time to replace the tape roll before adversely affecting your production process when the system is set to indicate a low tape condition. Setting the PLC Application Parameters The PLC controller is equipped with a display used for changing and monitoring data. There are three modes of operation which include Device, Digital Trimmer and System Mode. The Device modes are used for changing timers and registers for the your specific application. The PLC also has a Locking feature that is factory set to “Loc” to prevent inadvertent changes to the initial program parameters. To adjust the sensor 1 Check the distance between the sensor and target. The gap must be less than 0.079 inches 2 mm and must not touch the target or interfere with the motion of the dancer arm. Note For application specific data register and timer values refer to the Theory of Operation section of this manual. For general information on setting the data memory registers and timers refer to “Access Window” section of the Keyence Visual KV Series Installation Manual. 2 If necessary, loosen the M8 sensor jam nuts and reposition the sensor. 3 Rotate and hold the dancer arm in a position that represents your low tape condition. This can be accomplished by placing a spacer or a tape roll with the amount of tape that represents the low tape condition. Slots are supplied to allow adjustment. If the

operational configuration is not displayed on the PLC while in the Device mode refer to the trouble shooting section of this manual. Figure 226 17 Installation and SetUp Continued Changing operational configuration or key In the Device mode press either the until the number 75 is displayed in the upper right hand corner. data memory register 75.

Note The screen will display "User 50" after changing the taping head configuration value of register DM0075 to indicate a new configuration has been selected. The Indicator light on the control box and the beacon light optional will flash. The system must be reset for the changes to take effect. They are set at the factory for standard sensor installation. Refer to the adjustment section for more information. For a more complete description refer to Operation and adjustment Sections of this manual. The PLC controller contains programs to interpret the information received from these sensors. This system has a setup menu for selecting the system configuration and operating parameters for the application. Operational Explanation The operation is based on information received from the sensors supplied with this system. They sense the presence of electrical current supplied to the case sealer, the presence of a box as it passes through the machine, the dispensing of tape from the supply roll and a low level of tape on the supply roll. The spring loaded dancer arm assembly is mounted adjacent to each taping head to be monitored. The dancer arm roller is placed in contact with the tape supply roll to monitor tape movement and supply level. Seven targets spaced equally around the circumference of the dancer arm roller, pass the tape dispensing sensor to indicate when tape is dispensed. The information obtained from the tape dispensing sensor is used to calculate the tape apply V1 i.e. supply roll tape velocity while taped is being applied and tape cut V2 i.e. supply roll tape velocity after tape has been cut. The calculations occur at two different points with information obtained from the box presence sensor. The first calculation for V1 begins when the leading edge of the box reaches the tape cutoff bracket and ends when the trailing edge reaches the cutoff bracket.

The calculation for V2 begins at a point after the trailing edge has passed the cutoff bracket and ends after the time expires on TH053. A tape apply velocity less than or tape cut velocity greater than these preset values will generate a fault code and stop the case sealer. This system consists of a current sensor, a box presence sensor and 2 dancer arm assemblies for monitoring tape activity of both an upper and lower taping head. Each sensor is independently adjustable for your specific application. The dancer arm assemblies are spring loaded mechanisms designed to remain in contact with the tape supply rolls on your case sealer. A second sensor at the opposite end of the arm senses the angular position of the dancer arm. As the supply roll gets smaller the arm moves closer to the sensor and the point you have selected to replace the roll. The current sensor is located in the main control box It is placed inline with the case sealer's power cord wiring and is used to detect current flow and determine whether or not the case sealer is running. This sensor allows the system to reset automatically after a fault condition is corrected by simply restarting the case sealer. Note The following explanation is for both upper and lower taping head monitoring. It includes additional detail on program timers used to delay the start of the velocity calculations for the upper head due to the physical offset of the upper and lower taping heads upper taping head is approximately 5 " behind the lower taping head position. The box present sensor assembly consists of a reflector and a sensor mounted on opposite sides of the case sealer. The sensor and reflector 19 Theory of Operation Continued Upper and Lower Tape Head Monitoring Detailed description The typical installation and taping head orientation is shown in Figure 31. The box enters the case sealer from right to left in the illustrations.

The leading edge of the box is detected by the box present sensor Figure 32 starting timer TH051. Timer TH051 is adjustable and represents the time required for the box to travel from the sensor to the taping head cutoff bracket. The pulses are accumulated from the lower tape dispense sensor as the tape supply roll rotates. These pulses are counted until the trailing edge of the box passes the

taping head cutoff bracket Figure 33. The tape, at this point, has not been cut and the tape apply velocity $V1$ is calculated. The first filter is a general calculation that compares the calculated velocity $V1$ to a preset $V1_{min}$. If $V1$ is less than or equal to $V1_{min}$ the system will generate a NO APPLY fault and stop the case sealer. Figure 32 Note $V1_{min}$ is set at half the expected belt speed. The second filter is used to ensure tape was dispensed continuously as the box passed through the case sealer. The Elapsed Time and pulse count are divided into smaller segments. If at least one pulse was measured during the last segment of the apply cycle i.e. just before the tape is cut then tape was successfully applied to the box. If the pulses measured during the last segment of time equals zero a NO APPLY fault is generated. The last filter used is to determine if the tape was successfully cut. As the trailing edge of the box passes the taping head cutoff bracket Figure 33 timer TH052 starts. This timer is similar to TH051 and represents the amount of dwell time after the apply cycle has completed and the cut cycle begins. The fault will also be indicated by the control panel indicator light and the beacon light Optional. During normal operation the tape supply roll will slow and stop after the tape is cut and velocity $V2$ will be significantly less than $V1$. The system compares $V2$ to $V1$ and if that value is greater than 60% of $V1$ a TAPE DID NOT CUT fault will be generated and the system will stop the case sealer.

The system is automatically reset after a fault conditions by restarting the case sealer. Read, understand and follow all safety and operating instructions for both the Tape Application Monitor and the associated case sealer before operating or servicing. Turn electrical supply off and disconnect before performing any adjustments, maintenance or servicing Loading Tape Supply Roll The tape application monitoring system is independent of the taping head. This allows you to remove the taping head without having to disconnect any electrical or pneumatic lines. 3 Follow the standard threading procedure when replacing the supply roll of the taping head. Note The Dancer arm roller is not part of the tape path. To remove or add a tape supply roll to the upper or lower outboard tape drum 4 Verify that the supply roll is contact the dancer arm roller for proper operation. 1 Pull the spring loaded dancer arm away from the tape roll until it contacts the holding magnet Figure 41. The magnet will hold the dancer arm away from the tape drum allowing you to easily remove and install tape rolls. Note It is possible to insert the supply roll behind the dancer arm assembly roller Figure 43. This will prevent proper operation and a no apply tape fault will occur. 2 Rotate the dancer arm away from the holding magnet and allow it to rest on the new tape roll. Simply lift from the case sealer to replace the supply roll. Place the taping head back into the machine with the new tape roll. Figure 42 Figure 43 System Checkout The system is now ready to use. The following steps will be used to determine proper operation of the Tape Application Monitor. 1 Run a box through your case sealer. 2 Watch the PLC and note the values that appear on the display after the box goes through the machine. The panel indicator light briefly turns on and then goes off, the PLC will also display the operational condition i.e. User 31, 32, 33. 2 Turn ON the case sealer.

The second number is the average velocity $V1$ measured during the taping process. This range was selected to represent the tape dispense speed with allowance for minor machine speed variation. Note For units with the optional remote beacon light, this light will also cycle on to off. 3 Run a box through your case sealer. The PLC will display a sequence of velocities during normal operation or a fault code if a fault condition exists. The third number is the average velocity $V2$ after the tape has been cut. This range was selected to represent the tape dispense speed with allowance for minor tape drum rotation Over coasting. Fault codes are listed in the table below. The fault description includes the most common causes for each condition. When two taping heads are being monitored values for the lower taping head will be displayed first followed immediately by values for the upper taping head. Fault Code 5 Return to step 2 and repeat until the system is operating normally. Description "User 101" LOWER or LOWER OUTBOARD Taping Head Tape did not apply to the box. Check tape supply roll. Tape is broken or supply roll is empty. "User 102" LOWER or LOWER

OUTBOARD Taping Head Tape has not cut. Check case sealer adjustment or the taping head blade "User 201" UPPER Taping Head Tape did not apply to the box. Check tape supply roll. Tape is broken or supply roll is empty. "User 202" UPPER Taping Head Tape has not cut. Check case sealer adjustment or taping head blade "User 81" LOWER or LOWER OUTBOARD Taping Head Low tape condition, Case Sealer stopped. Replace supply roll. Changing PLC data memory register DM0085 to a value of 0 will allow the case sealer to continue to operate during a low tape condition. UPPER Taping Head Low tape condition. Replace supply roll. Changing PLC data memory register DM0085 to a value of 0 will allow the case sealer to continue to operate during a low tape condition. LOWER or LOWER OUTBOARD Taping Head Internal overflow error.

Refer to the trouble shooting section of this manual. UPPER Taping Head Internal overflow error. Read, understand and follow all safety and operating instructions for both the Tape Application Monitor and the associated case sealer before operating or servicing. Turn electrical supply off and disconnect before performing any adjustments, maintenance or servicing 2 Press the key until the upper right hand corner of the display depicts the data memory register you wish to view i.e. 75, 80, 85 or 90. The value for that register is shown below the register number. Data Memory Registers There are four data memory registers. DM0075 Taping Head monitoring 31 Lower Head Only 32 Upper Head Only 33 Upper and Lower Head DM0080 Bypass mode 1 Disable Tape Application Monitoring Value other than 1 Enable Monitoring DM0085 Case Sealer Control Low Tape 1 Stop case sealer for Low Tape condition Value other than 1 Indication only Panel Indicator or Beacon Optional 3 Hold down the key until the register value begins to flash i.e. left most digit. DM0090 Tape Velocity display V1, V2 1 Enable Velocity Display Value other than 1 Disable Velocity Display Note Register DM0090 allows service personnel to view a specific data register or timer value while the case sealer is operating, preventing the display area from being overwritten with velocity information. This register is automatically reset to 1 on PLC powerup to display the velocity information. 4 Press the key to select the correct digit placeholder i.e. 10,000, 1,000, 100, 10 or 1 as indicated by the flashing digit. Read, understand and follow all safety and operating instructions for both the Tape Application Monitor and the associated case sealer before operating or servicing. Turn electrical supply off and disconnect before performing any adjustments, maintenance or servicing Settable Timers There are three timers used to configure this system for your application.

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