Model 702 Bottom Applicator Service Manual

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INTRODUCTION

This publication is provided solely as a guide for individuals who have received Technical Training in servicing the METTLER TOLEDO product.

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PRECAUTIONS

READ this manual BEFORE operating or servicing this equipment.

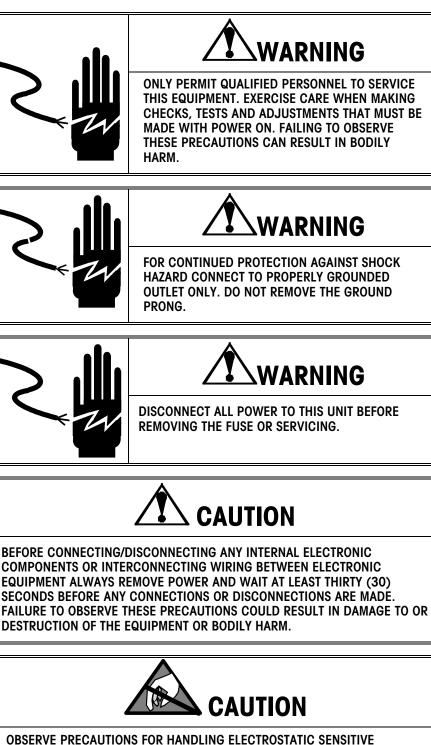
FOLLOW these instructions carefully.

SAVE this manual for future reference.

DO NOT allow untrained personnel to operate, clean, inspect, maintain, service, or tamper with this equipment.

ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL METTLER TOLEDO for parts, information, and service.



OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTA DEVICES.

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General Description

Introduction

The METTLER TOLEDO[®] Model 702 Bottom Applicator is designed for use with METTLER TOLEDO[®] automatic labelers to apply a variety of merchandising, information, and security labels to the bottom surface of a film-wrapped tray.

Figure 1-3 shows the Model 702 installed on a Model 706 automatic labeling system.

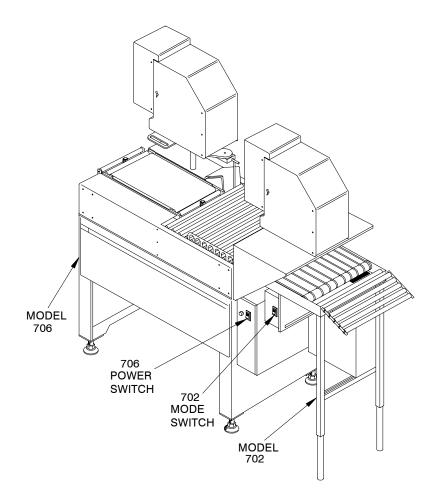


Figure 1-1: Model 702 shown with Model 706

Overview

The Model 705, 706, or 606 AutoLabeler® controls the Model 702 Bottom Applicator and supplies 115 VAC and 24 VDC to the Model 702.

The mode switch selects the operation of the Model 702 to "**APPLY**" or "**CONVEY**". When the mode switch is set to **CONVEY**, no bottom label will be applied. This overrides the PLU record instructions. When the mode switch is set to **APPLY**, a label is applied if no other overrides are enabled.

When an "apply label" command is received, the Model 702 will feed one label to the pickup position. When the package is conveyed over the label, it will adhere to the film as the package moves over the label.

The Model 702 automatically indexes die cut labels through the use of a gap sensor to detect the gaps between labels.

Specifications

Factory Numbers

The Factory order number for the Model 702 Bottom Label Applicator is as follows: 702-0001-000 A mounting kit is required to install the Model 702 on the following labelers: 0925-0410-000 - Model 702 to Model 705 Installation Kit 0925-0411-000 - Model 702 to Model 706 Installation Kit 0925-0409-000 - Model 702 to Model 606 Installation Kit

Agency Approvals

ETL Approved.

Environmental Requirements	The labels must be dry for proper operation in the Model 702. The labels must be stored in a cool and dry location away from high humidity and condensation.
	The Model 702 is designed to operate in ambient temperatures between 40° F and 104° F (4° C to 40° C) with a relative humidity between 10% and 95%, non-condensing.
	The shipping and storage temperature range is 0° to $+66^{\circ}C$ (+32° to $+150^{\circ}F$) at 10 to 95% relative humidity, non-condensing.
	The Model 702 is designed for use in prepackaging backroom environments. This unit is not intended for wash-down operation, nor for operation in environments of extreme dust, heat, cold, or humidity. The integral control box is designed to prevent moisture from dripping onto the controls. No NEMA rating applies.

Product Specifications

Model 702 Dimensions with Model 706

The dimensions of the Model 702 installed on the Model 706 are shown below.

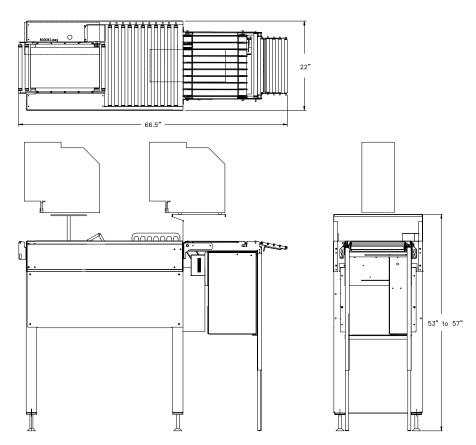


Figure 2-1: Dimensional Views Model 702 with Model 706

Model 702 Dimensions with Model 705

The dimensions of the Model 702 installed on the Model 705 are shown below.

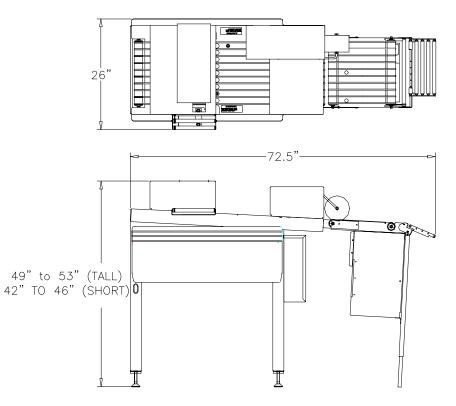
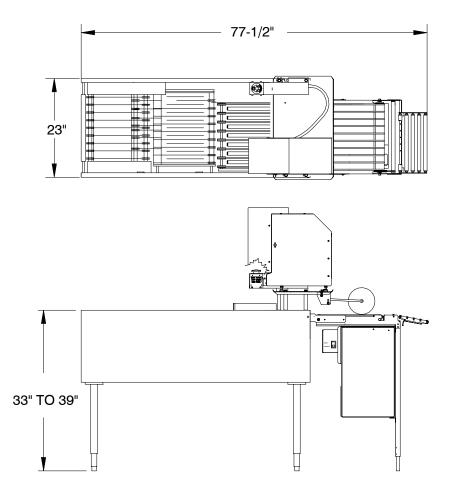


Figure 2-2: Dimensional View Model 702 with Model 705

Model 702 Dimensions with Model 606



The dimensions of the Model 702 installed on the Model 606 are shown below.

Figure 2-3: Dimensional View Model 702 with Model 606

Motors	The Model 702 uses a 115 VAC motor to drive the conveyor belts and a 24 VDC motor to advance the labels to the application position and for liner takeup.
Packs/Minute	The maximum package rate is 26 packs per minute.
Maximum Tray Size	The maximum tray size is 15-3/4 in. Lg. x 10-5/8 in. W. x 5-1/2 in. H.
Minimum Tray Size	The minimum tray size is 4-3/4 in. Lg. x 4 in. W. x 3/8 in. H.
Power Requirements	The Model 702 power is supplied through the Model 705/706/606 labeler it is installed on.
Physical Construction	The Model 702 covers are made of brushed stainless steel that is highly resistant to corrosion.
Labels	 The Model 702 will operate with die cut labels from 1.5" to 1.75" wide and 1.7" to 2.25" long. The portion of the label that passes through the gap sensor must be opaque for proper operation. Note: Labels less than 2" long require a Stripper Bar Extension Kit P/N 83116600A. The Model 702 can be used to apply the following types of labels. Nutrition Facts Labels. Other Merchandising labels. Checkpoint 1610 Meat Security Labels.

Major Component Map

Figure 1-2 shows major components on the Model 702 Bottom Applicator.

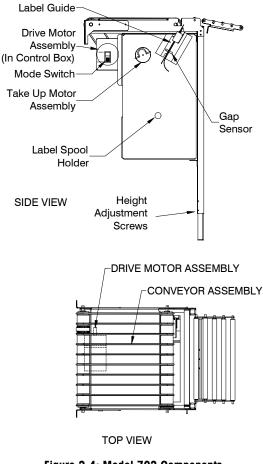


Figure 2-4: Model 702 Components

Reliability

The MTBF is 1,000,000 cycles, which equates to 2 years continuous operation at 10,000 cycles per week.

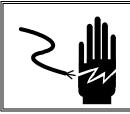
3

Setup and Operation

Unpacking

Remove the Model 702 from the shipping crate and carefully inspect for any damage. Report any shipping damage to your carrier immediately.

Installation with the Model 705



🗥 WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

To install the Model 702 on the Model 705 perform the following steps:

For Model 705 Autolabelers built on or before 12/31/98 (date code ZZ or earlier), drill three 7/8" holes in the Model 705 control box assembly in the locations shown in Figure 3-1. *Note: This step will not be required on 705 Labelers shipped after 1\1\99, (date code AA or later).*

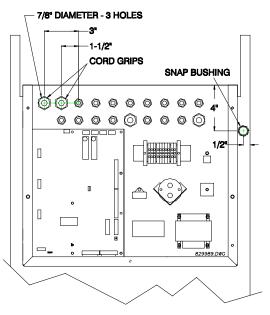


Figure 3-1: Control Box Hole Locations

Install the two cord grips supplied in the KOP in the two holes drilled inside the control box.

Install the snap bushing in the hole drilled outside the control box.

Install the DC relay (P.N. 13636800A) supplied in the KOP in the K4 position on the 705-control board (Figure 3-2).

Route all the cables supplied through the snap bushing.

Route the black cord through one of the cord grips.

Terminate the wires from the black cord as follows (Figure 3-2):

- Black wire to J14 pin 2.
- White wire to terminal strip L2.
- Green wire to the ground stud inside the control box.

Route the two gray cables through the other cord grip.

Terminate the wires from the two-conductor cable as follows (Figure 3-2):

- Black wire to J16 pin 2.
- Red wire to J10 pin 7.
- <u>Do not</u> terminate the shield ground.

Terminate the wires from the four-conductor cable as follows (Figure 3-2):

- Black wire to J10 pin 12.
- White wire to J10 pin 11.
- Red wire to J10 pin 10.
- Green wire to J10 pin 8.
- Shield ground to the ground stud inside the control box.

Install the white jumper wire provided in the KOP between J16 pin 1 and J10 pin 9 (Figure 3-2).

X 1 X 212 2 BL BL WHT WHT (211) (211) (211 (114) (115) (116) 1211 n A AC OUTPUT MÓDULES 6 2 V (BLACK) J10 DC OUTPUT MODULE SHIELD (RED) K4 J7

Figure 3-2: Wire Termination

Note: When routing wires inside the Control Box, keep cables separated to prevent induced electrical interference. When attaching the 702 to the 705, assemble using the following steps:

- Remove the 5-roller discharge conveyor from the 705.
- To install the 702 rear attaching bracket on the 705, grasp the right end of the 705 head pulley and pull it out far enough to slip the 702 attaching bracket over the end of the head pulley shaft inside the 705 slotted mount (Refer to Figure 3-3). Note: The conveyor belts do not have to be removed to perform this step.
- On units with attaching bracket P/N 82962800A, bend the 705 attachment end inward slightly (Refer to Figure 3-3). On units with attaching bracket P/N 83021000A, install as shown in Figure 3-3.
- Slip the front bracket over the end of the head pulley shaft and screw the brackets to the 702.

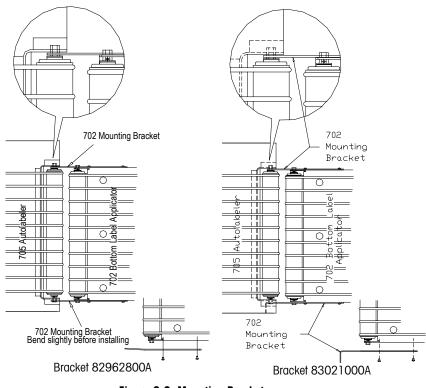


Figure 3-3: Mounting Brackets

Adjust the height of the 702 support legs by loosening the two setscrews in each leg and extending the pipe feet. The package table should be in line with the 705-conveyor bed.

Loosen the four applicator carriage mounting-screws and position the label chute in line with the price label applicator. Retighten the screws. (Figure 3-4 & 3-5).

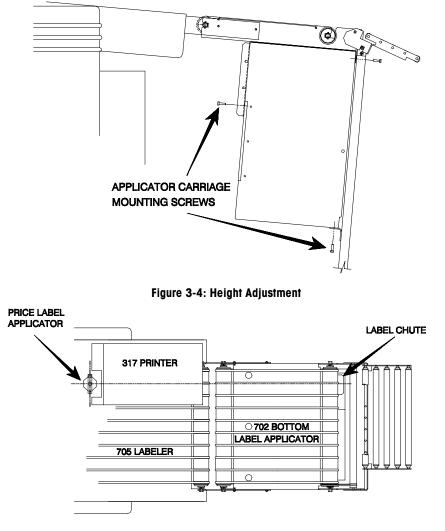


Figure 3-5: Label Alignment

Position the 5-roller discharge conveyor as shown in Figure 3-6.

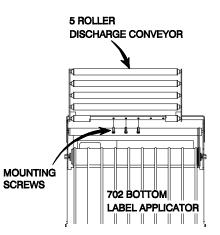


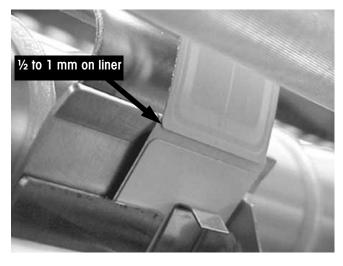
Figure 3-6: Discharge Roller Attachment

Plug the 12-pin cable connector into the terminal on the backside of the applicator carriage.

Install the EPROM (J82818600A) into U14 of the 705 Labeler control board.

Enter soft-switch setting F_20. Changing the value to 001 will enable bottom label application to all packages when the 702 rocker switch is in the apply position. Changing the value to 002 will enable bottom label application determined by the Security Label Setup in the 8361 Controller when the 702 mode switch is in the apply position. (Refer to Model 705/706 Softswitches at the end of this chapter for instructions.)

Adjust the gap sensor so the labels stage with $\frac{1}{2}$ to 1 mm of label remaining on the liner. This will typically be at the top of the slot for Model 705 applications.



Enter soft-switch setting F_21. This soft-switch varies the delay time for the label feed. The higher the number the further from the leading edge of the package the label application will occur.

Installation with the Model 706



To install the Model 702 on the Model 706, perform the following steps:

Install the two cord grips supplied in the KOP in the two holes located inside the control box (Figure 3-7).

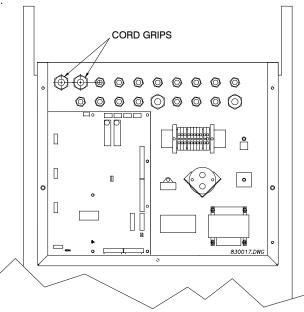


Figure 3-7: Cord Grip Installation

Install the DC relay (PN 13636800A) supplied in the KOP in the K4 position on the 706-control board (Figure 3-8).

Route all the cables supplied through the oval hole to the right of the control box.

Route the black cord through one of the cord grips.

Terminate the wires from the black cord as follows (Figure 3-8):

- Black wire to J14 pin 2.
- White wire to terminal strip L2.
- Green wire to the ground stud inside the control box.

Route the two gray cables through the other cord grip.

Terminate the wires from the two-conductor cable as follows (Figure 3-8):

- Black wire to J16 pin 2.
- Red wire to J10 pin 7.
- <u>Do not</u> terminate the shield ground.

Terminate the wires from the four-conductor cable as follows (Figure 3-8):

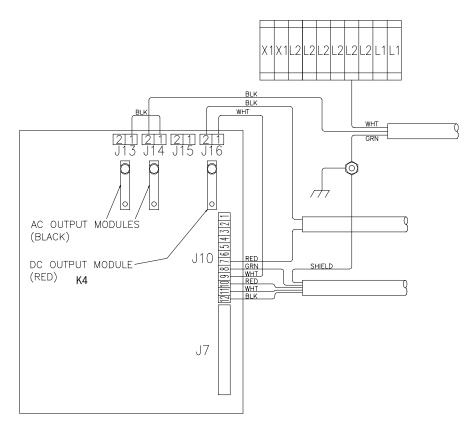
- Black wire to J10 pin 12.
- White wire to J10 pin 11.
 - Red wire to J10 pin 10.
- Green wire to J10 pin 8.

•

• Shield ground to the ground stud inside the control box.

Install the white jumper wire provided in the KOP between J16 pin 1 and J10 pin 9 (Figure 3-8).

Install the black jumper wire provided in the KOP between J13 pin 1 and J14 pin 1 (Figure 3-8).



Note: When routing wires inside the Control Box, keep cables separated to prevent induced electrical interference.

Figure 3-8: Wire Termination

Attach the mounting brackets to each side of the 702 Bottom Label Applicator using the M4x6 pan head screws provided in the KOP (Figure 3-9).

Attach the 702 Bottom Label Applicator to the 706 Labeler using the 4 Mx12 washer head screws provided in the KOP (Figure 3-9).

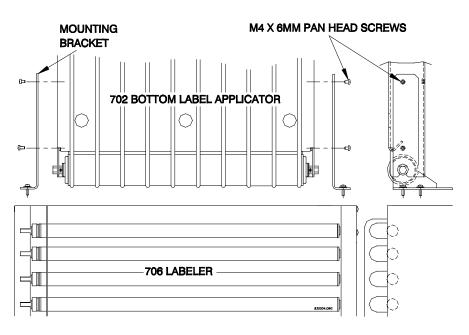


Figure 3-9: Mounting Brackets

Adjust the height of the 702 support legs by loosening the two setscrews in each leg and extending the pipe feet. The package table should be level.

Loosen the four-applicator carriage mounting screws and position the label chute in line with the price label applicator. Retighten the screws. (Figure 3-10 & 3-11)

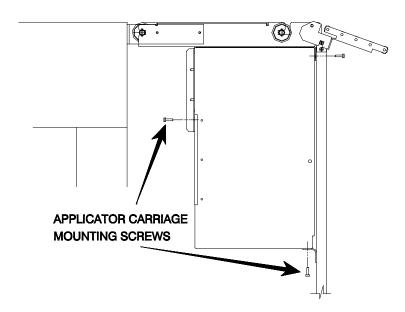


Figure 3-10: Label Chute Adjustment

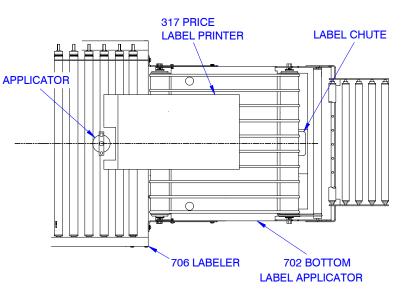


Figure 3-11: Label Chute Alignment

Position the 5-roller discharge conveyor as shown in Figure 3-12.

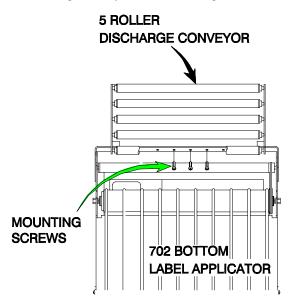
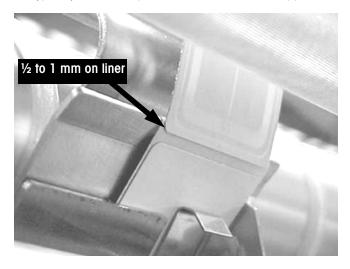


Figure 3-12: Mounting Discharge Rollers

Plug the 12-pin cable connector into the terminal on the backside of the applicator carriage.

Enter soft-switch setting F_20. Changing the value to 001 will enable bottom label application to all packages when the 702 rocker switch is in the apply position. Changing the value to 002 will enable bottom label application determined by the Security Label Setup in the Prepack Controller when the 702 rocker switch is in the apply position. (Refer to Model 705/706 Softswitches at the end of this chapter for instructions.)

ition 706 | Adjust the gap sensor so the labels stage with $\frac{1}{2}$ to 1 mm of label remaining on the liner. This will typically be at the top of the slot for Model 706 applications.



Adjustment for Model 702 Gap Sensor

Enter soft-switch setting F_21. This soft-switch varies the delay time for the label feed. The higher the number the further from the leading edge of the package the label application will occur. Position the security label as close to directly below the price label as possible.

Installation with the Model 606



To install the Model 702 on the Model 606, perform the following steps:

Drill a 1/2'' hole in the Model 606 Control Box assembly in the location shown in Figure 3-13.

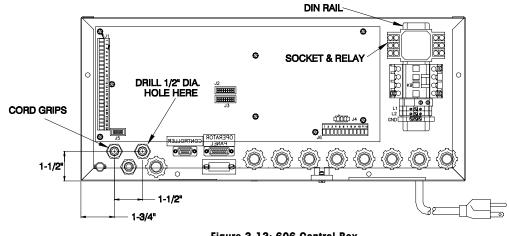


Figure 3-13: 606 Control Box

Install the two cord grips supplied in the KOP in the two holes as shown in Figure 3-13.

Install the timer relay (P.N.83009200A) and socket (P.N.82306600A), supplied in the KOP, on the din rail above the K9 relay. (Figure 3-13).

Route the black cord along the machine frame with the cord used to supply power to the switched outlet box.

Plug the cord into the switched outlet box.

Route the two gray cables through the other cord grip installed previously.

Terminate the wires from the two-conductor cable as follows (Figure 3-14):

- Black wire to J1 pin 9.
- Red wire to relay socket pin 6.
- <u>Do not</u> terminate the shield ground.

Terminate the wires from the four-conductor cable as follows (Figure 3-14):

- Black wire to J1 pin 13.
- White wire to J1 pin 14.
- Red wire to J1 pin 12.
- Green wire to J1 pin 11.
- Shield ground to the ground stud inside the control box.

Install the white jumper wire provided in the KOP between J1 pin 12 and relay socket pin 9 (Figure 3-14).

Install the red jumper wire provided in the KOP between J6 pin 1 and relay socket pin A (Figure 3-14).

Install the black jumper wire provided in the KOP between J6 pin 2 and relay socket pin B (Figure 3-14).

Install the resistor (P.N.83009800A) provided in the KOP between pins A and B on the relay socket (Figure 3-14).

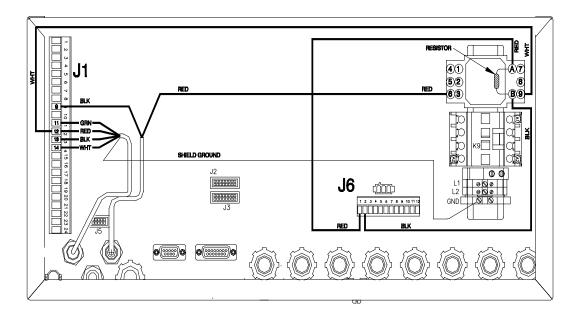


Figure 3-14: Model 606 Control Box Wiring

Remove the discharge conveyor from the Model 606 Labeler.

Loosen the set collar from the right end of the shaft and remove the roller assembly. Assemble the mounting brackets on the roller assembly as shown in Figure 3-15. Attach the mounting brackets to each side of the Model 702 Bottom Label Applicator using the M4x6 pan head screws provided (Figure 3-15).

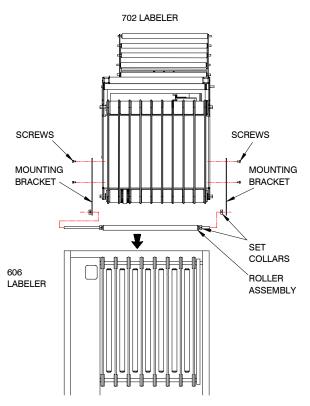


Figure 3-15: 606 Mounting Brackets for Model 702

Adjust the height of the Model 702 support legs by loosening the two setscrews in each leg and extending the pipe feet. The package table should be in line with the Model 606 conveyor bed.

Loosen the four applicator carriage mounting screws and position the label chute in line with the price label applicator. Retighten the screws. (Figure 3-16 and 3-17).

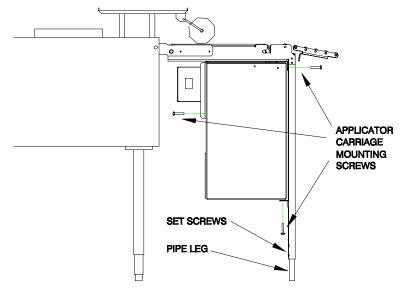
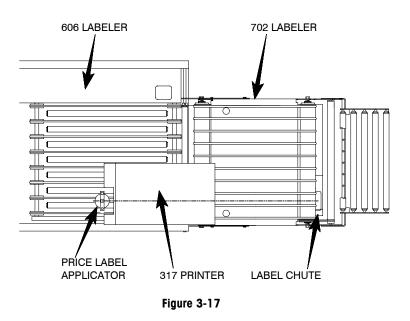


Figure 3-16



Position the 5-roller discharge conveyor as shown in Figure 3-18.

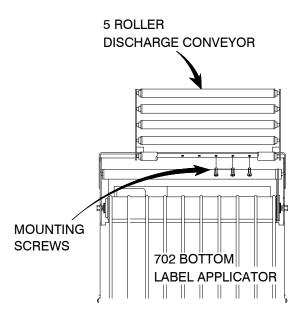
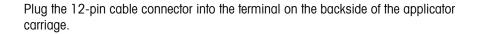
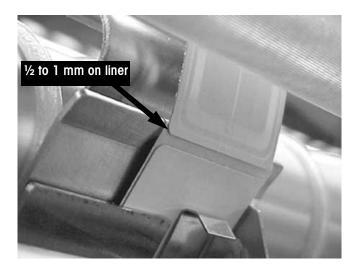


Figure 3-18



Install the EPROM (D82773100A) into A6 of the Model 606 Labeler Control Board.

Adjust the gap sensor so the labels stage with $\frac{1}{2}$ to 1 mm of label remaining on the liner. This will typically be about $\frac{1}{4}$ of the way on Model 606 and standalone applications.



Adjustment for Model 702 Gap Sensor

Adjust the timer relay. This timer varies the delay time for the label feed. The higher the number the further from the leading edge of the package the label application will occur. Position the bottom label directly below the price label.

Power Switches

With all the peripherals properly installed and connected, turn all power switches to the off position, then plug the AC power cord from the Model 606/705/706 Labeler into a 115 VAC wall outlet. Power up the labeler, printer(s) and the controller by turning on the power switch for each individual unit.

The Model 705/706 labeler is powered up by pressing the power switch to the on position as shown in Figure 3-19. When power is turned on at the Model 705/706, power is also supplied to the Model 702.

The Model 606 Power Switch is shown in Figure 3-20.

NOTE: To turn on the other peripherals used in the system, refer to the appropriate technical manual.

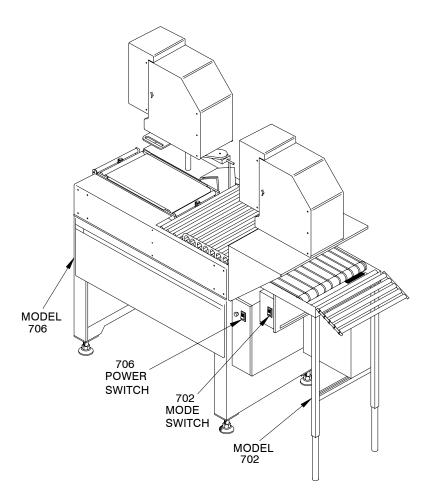


Figure 3-19: Power Switch Locations 705/706

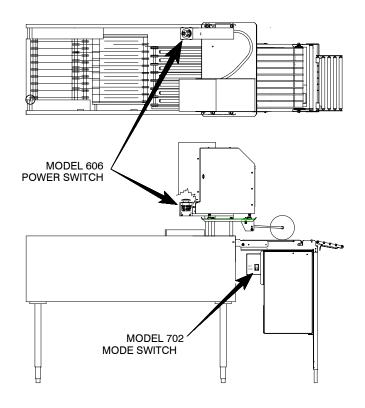


Figure 3-30: Power Switch Location 606

Loading Labels

The labels must be dry for proper operation in the Model 702. The labels must be stored in a cool and dry location away from high humidity and condensation.

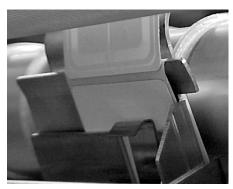
The Model 702 is designed to operate in ambient temperatures between 40° F and 104° F (4°C to 40° C) with a relative humidity between 10% and 95%, non-condensing.

Refer to the Label Threading Diagram below (also located on the door) to load labels in the Model 702.

- Insert the label roll on the Supply Spool so the labels are pulled off counterclockwise.
- Insert the labels into the Label Guide.
- Peel off about 12 inches of labels and route the liner under the Guide Pin.
- Remove the Clip Retainer from the Take Up Spool, wind the liner on the spool clockwise, and then secure the liner with the Retainer Clip.

Refer to the notes at the left for proper storage and operation of the labels in the Model 702.





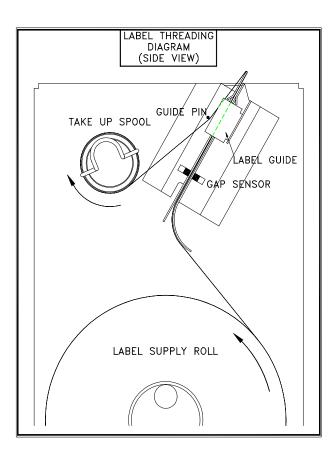


Figure 3-21: Label Threading Diagram

General Operation

The position of the label as it is ready to be picked up on the Model 702 is shown in Figure 3-22.

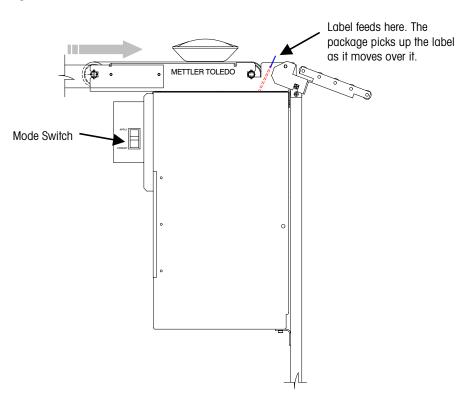


Figure 3-22: Label Application

The Model 702 Bottom Label Applicator has two modes of operation. A mode switch located on the operator side of the unit is used to select the mode of operation (see Figure 3-22).

When the switch is placed in "Convey Mode", the label feed assembly is disabled, no labels are dispensed and no label application errors will be displayed.

When the switch is placed in "Apply Mode" there are two types of operation, **Continuous** and **Selective**.

- On Model 705/706 applications, these are controlled by softswitch settings in the Autolabeler.
- On Model 606 applications, these are controlled by settings in the Prepack Controller (except 8360).

In **Continuous** operation, the Model 702 applicator will apply labels on every package. There are no selective overrides.

- To select Continuous operation on a Model 705/706 application, set softswitch F20 in the Autolabeler to 001.
- To select Continuous operation on a Model 606 application, enter the Unit Setup on the Model 8361. Select "Security Setpoints" and set the values for both the "Price/Unit" and the "Total Package Price" to 0.00.

In **Selective** operation, the Model 702 applicator will only apply labels when the Autolabeler receives an "Apply Label" command from the Model 8361.

 To select selective operation on a Model 705/706 application, set softswitch F20 in the Autolabeler to 002.

To select selective operation on a Model 606 application, enter the Unit Setup on the 8361. Select "Security Setpoints" and set at least one of the values to something other than 0.00.

In selective operation, when a package is conveyed onto the scale and weighed, the Model 8361 will signal the Autolabeler whether or not to apply a label to the package based on any one of three conditions.

- 1. If the "Apply Bottom Label" in the PLU record is set to "Yes".
- 2. If the "Unit Price" exceeds the "Price/Unit" value in the "Security Setpoints" field of the Unit Setup. (Note: Setting this field to 0.00 turns off this feature.)
- If the "Total Price" exceeds the "Total Package Price" value in the "Security Setpoints" field of the Unit Setup. (Note: Setting this field to 0.00 turns off this feature.)

Model 8360 Controllers <u>do not</u> have the "Security Setpoint" and "Apply Bottom Label" features. Continuous operation must be selected when using a Model 8360 Controller.

In either type of operation, the AutoLabeler will drive the Model 702 to dispense a label as the package is conveyed. The label will advance far enough out to stick to the package. The package will then pull the rest of the label out as the conveyor belts move it. This sequence will be repeated for each package. If an out of stock condition occurs, the Autolabeler will send an error message to be displayed on the Model 8361. In the case of the Model 606, an audible alarm will sound and the "Conveyor Only" LED will flash on the Model 606 control panel.

Model 705/706 Softswitches

The Model 705/706 must be configured for Selective or Continuous application modes. The 3-digit LED display and switches on the Control PCB are used to program the softswitches.

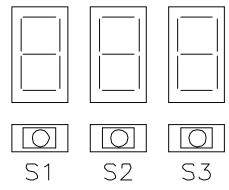
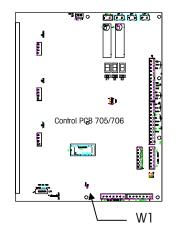


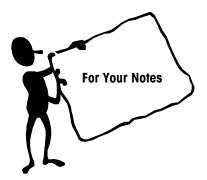
Figure 3-23: Three-Digit LED Display and Switches S1-S3

To enter the setup mode, when "_OP" is displayed:

- Install Jumper W1 on the Control PCB to short both pins. The display will change from "_OP" for normal operation to "_SU" for setup.
- Press and release S3 on the Control PCB.
- The display will show "F_1" for function 1.
- Press S1 until F20 is displayed. F20 = 001 Continuous Operation. F20 = 002 Selective Operation.
- To change the setting, press the button directly below the digit to be changed. Press S3 to toggle between 1 and 2.
- Press switches 1 and 3 simultaneously to advance to softswitch F_21.
- Softswitch F_21 varies the delay time for the label feed. The higher the number the further from the leading edge of the package the label application will occur. The default setting is 50. Press switches 1 and 3 simultaneously to save the value.
- When the switch settings are complete, press switches 1 and 3 to save changes. The display will show "SAV" when saving these changes.

Remove the W1 jumper to get out of setup. The Applicator Control PCB for both printers will reset to reinitialize the applicators. The labeler will reinitialize the hardware and test the ROM, RAM, NOVRAM, and battery backed RAM before returning back to "_**OP**."





General Maintenance, Cleaning, and Lubrication

Disconnecting Power

Before cleaning or servicing the Model 702, set the Power Switch to OFF then unplug the AC line cord from the outlet. Failure to observe these precautions could result in bodily harm as the machine may operate unexpectedly.



\land WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.



\land WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

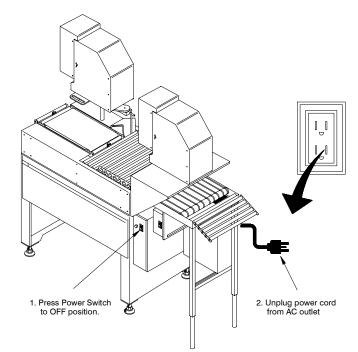
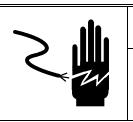


Figure 4-1: Power Switch Location for Model 705/706

Changing Conveyor Belts



🗥 WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Remove power to the Model 702 by turning the power switch to OFF and disconnecting the power cord from the outlet.

The conveyor belts use a slice connector. A damaged belt at the butt splice can be repaired by cutting the damaged end off. A butt splice can be used to repair a belt by ordering Butt Splice P/N 82114200A.

To remove or replace a belt, separate the belt at the splice by pulling on each end. Insert the new belt and push both ends of the belt on the connector.

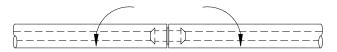


Figure 4-2: Conveyor Belt Joint

Conveyor Motor and Belt Replacement



\land warning

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Disconnect AC power to the Model 606/705/706 by turning the power switch off, then disconnecting the AC power cord from the outlet (Figure 4-1).

Motor Drive Belt Replacement



A WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

First, the conveyor belts must be removed. Separate each belt at the splice.

Remove the electrical box rear cover.

Loosen the four mounting-bracket screws and slide the bracket toward the conveyor to reduce the tension on the drive belt.

Remove the drive belt from the pulley and slide the conveyor roller out. Slide the belt off the conveyor roller. Install the new belt on the conveyor roller and on the motor pulley.

Install the conveyor belts.

Apply hand tight tension to the drive belt by moving the motor bracket away from the conveyor, then tighten the capscrews on the bracket.

Motor Drive Belt Tension



Refer to the previous sections describing how to remove the Model 702 from the labeler on the Model 706.

Remove power to the Model 702 by disconnecting AC power to the Model 606/705/706.

Remove the electrical box rear cover (refer to Figure 4-10).

Loosen the four motor mount bracket screws and slide the bracket toward the conveyor to reduce the tension on the drive belt, or away from the conveyor to increase tension. The tension should be hand tight only.

Tighten the capscrews when the correct tension is set.

Motor Replacement



A WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Refer to the previous sections describing how to remove the Model 702 from the labeler on the Model 706.

Remove power to the Model 702 by disconnecting AC power to the Model 606/705/706.

Remove the electrical box rear cover.

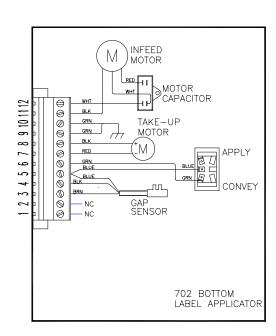
Disconnect the Red wire and White wire to the capacitor.

Disconnect the Black wire from the motor at Terminal 11 on the connector terminal strip.

Loosen the four mounting-bracket screws and slide the bracket to reduce the tension on the drive belt.

Loosen the setscrew on the motor pulley using a 2.5mm Hex Wrench.

Remove the four capscrews securing the motor to the bracket.



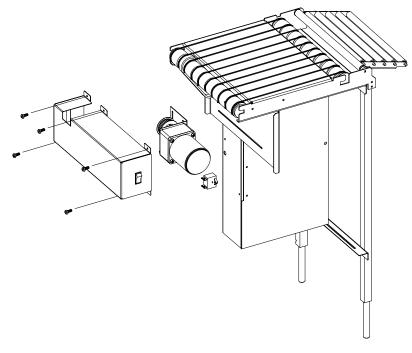
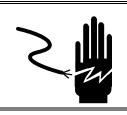


Figure 4-10: Drive Motor Replacement

Gap Sensor Replacement



WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Remove power to the Model 702 by disconnecting AC power to the Model 606/705/706.

Remove the electrical box rear cover and remove the wiring cover.

Disconnect the black cable from the Gap Sensor at the Terminal Strip on terminals 3-4-5 (Figure 13).

Remove the label guide assembly.

Remove the Gap Sensor by removing the two Phillips-head screws.

Install the new sensor on the label guide assembly.

Route the new cable the same as the old cable; through the wiring cover, the cord grips and to the terminal strip.

Connect the wires as follows:

Brown Wire to Terminal 3 Black Wire to Terminal 4 Blue Wire to Terminal 5

Adjust the gap sensor so the labels stage with $\frac{1}{2}$ to 1 mm of label remaining on the liner. This will typically be at the top of the slot for Model 705 and Model 706 applications and down about $\frac{1}{4}$ of the way on Model 606 and standalone applications. See Figure 4-14.

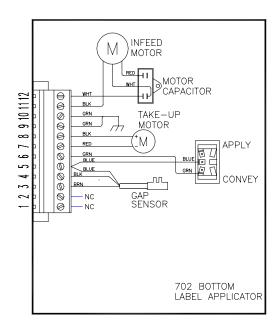


Figure 4-13: Wiring Diagram

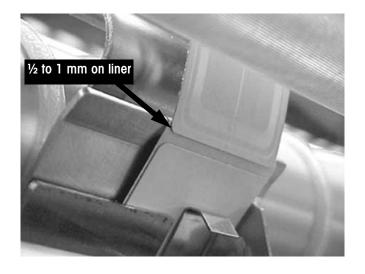
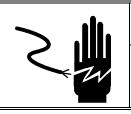


Figure 4-14: Gap Sensor Adjustment

Cleaning



🗥 WARNING

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Before cleaning or servicing this unit, set the Model 606/705/706 Power Switch to OFF (Figure 4-13) and unplug the AC line cord from the outlet. Failure to observe these precautions could result in bodily harm as the machine may operate unexpectedly. Unplugging the AC line cord for the 606/705/706 Labeler will remove power to the printer(s), the prepack controller, and the Model 702.

Use a soft clean cloth dampened with a mild detergent and water to wipe the exterior surfaces. Do not spray liquids directly on the unit. A mild spray cleaner can be used by spraying the cleaning cloth. Do not use solvents or commercial cleaners on the unit. Use a soft clean cloth to wipe the dirt and grime off the conveyor rollers and belts.

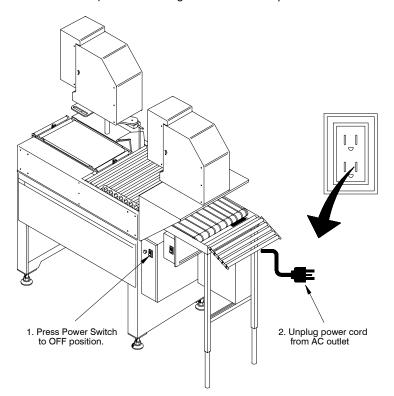


Figure 4-13: Disconnect Power Before Servicing

Lubrication

The machine should be lubricated at least once a year by a factory-trained technician only.

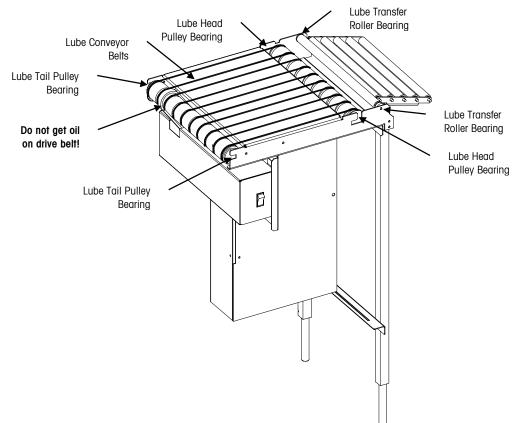


The Model 702 should be lubricated by a factory-trained technician only. Use a light oil (FMO 350) on the following parts:

- Head and tail pulley bearings
- Transfer roller bearings (2)
- Conveyor belts

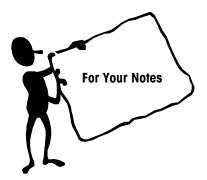
Individual lubrication points are shown on the replacement parts breakdown.

Spray FMO 350 on the conveyor belts and wipe off the excess oil. Lubricate enough to fill the pores of the belts. This will eliminate friction with the slider bed when running heavier packages.



Note: Too much oil may cause the belts to slip

Note: Avoid getting lubricant on the conveyor <u>drive</u> belts.



Troubleshooting

Conveyor Motor



ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

Model 705/706 Applications

In Model 705/706 applications, the conveyor motor receives power from the K2 AC Output Module on the Model 705/706 Control board. When the infeed photoeye of the Model 705/ 706 is activated, this module is energized and the red LED on the module will be illuminated. To test the conveyor motor circuit, enter Test 2 in the Model 705 or Model 706 Control board. Select R2. With the LED on the module illuminated, place the positive lead of a voltmeter on J14 pin 2 and the negative lead on L2 of the terminal strip. If voltage is not present (115VAC), check the fuse on the AC output module. If voltage is present, (115VAC) there is a bad connection or broken wire in the cable, a faulty wire connection inside the Model 702, a faulty motor capacitor, or a faulty conveyor motor. Refer to Figure 5-1.

Model 606 Applications

In Model 606 applications, the conveyor motor receives power from the switched power outlets located on the infeed end of the Model 606. These outlets are energized by the K9 relay in the Model 606 Control Box. The switched power outlets have power anytime the Model 606 conveyors are running. To test the conveyor motor circuit, with the K9 relay energized first check for voltage at the switched power outlets. If voltage (115VAC) is not present, the problem is in the Model 606. If voltage is present, (115VAC) there is a bad connection or broken wire in the cable, a faulty wire connection inside the Model 702, a faulty motor capacitor, or a faulty conveyor motor. Refer to Figure 5-2.

Take-Up Motor

Note: Before diagnosing an inoperative take-up motor, is the mode switch in the "Apply" position?



ᡗ WARNING

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The take-up motor is a 24VDC gearmotor.

Model 705/706 Applications

In Model 705/706 applications, the K4 DC output module on the Model 705 or Model 706 Control Board controls it. To test the take-up motor circuit, enter Test 2 on the Model 705 or Model 706 Control Board. Select R4. Place the negative lead of the voltmeter on J10 pin7. Place the positive lead on J16 pin2. If voltage is not present (24VDC), check the fuse on the module. If voltage is present, power down the Model 705/706 and unplug the cable from the Model 702. Power up the Model 705/706 and re-enter the test. Place the positive lead of the voltmeter on pin 8 of the harness connector and the negative lead on pin 7 of the harness connector. If voltage is present, there is a bad connection or broken wire in the cable. If voltage is present, the problem is a bad connection inside the Model 702 applicator cover, or a faulty take-up motor. Refer to figure 5-1.

Model 606 Applications

In Model 606 applications, the take up motor is controlled by the output marked label turn (pins 1&2 on J6) and the delay timer relay that was installed above the K9 relay in the Model 606 control box. To test the take up motor circuit, with the Model 606 in test mode press the turn label key on the Model 606 operator panel. The K4 LED on the Model 606 Control Board should light. Check for voltage (115VAC) between pins 1 & 2 on J6 of the Model 606 control board. If voltage is not present, check fuse F4 on the Model 606 control board. If voltage is present, check for voltage (115VAC) between pins A &B of the delay timer relay socket. If voltage is not present, there is a faulty connection between J6 and the relay socket. If voltage is present, check for voltage (24VDC) between pins 9 & 12 on J1 of the 606 Control Board. If voltage is not present, the problem is in the Model 606 Control Board. If voltage is present, check for voltage (24VDC) between pin 9 of J1 on the Model 606 Control Board and pin 6 of the delay timer relay socket. If voltage is not present there is a faulty connection between J1 and the relay or a faulty relay. If voltage is present, power down the Model 606 and unplug the cable from the Model 702. Power up the Model 606 and re-enter the test. Place the positive lead of the voltmeter on pin 8 of the harness connector and the negative lead on pin 7 of the harness connector. If voltage (24VDC) is not present, there may be a bad connection or broken wire in the cable. If voltage is present, the problem is a bad connection inside the Model 702 cover or a faulty take-up motor. Refer to Figure 5-2.

Gap Sensor



🖄 WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

Model 705/706 Applications

On Model 705/706 applications, to test the operation of the label Gap Sensor, enter Test1 on the Model 705 or Model 706 Control Board. Move the label stock in and out of the sensor. The display on the control board should toggle between S4H and S4L. If this does not occur, there is a bad connection between the control board and the gap sensor or a faulty gap sensor. Refer to Figure 5-1

Model 606 Applications

On 606 applications, to test the operation of the Gap Sensor, watch LED I11 on the Model 606 Control Board while moving label stock in and out of the sensor. The LED should respond to the gap sensor. If this does not occur, there is a bad connection between the Control Board and the Gap Sensor or a faulty Gap Sensor. Refer to Figure 5-2.

Mode Switch



🏝 WARNING

ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TESTS AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.

Model 705/706 Applications

On Model 705/706 applications, to test the operation of the mode switch, enter Test1 on the Model 705 or Model 706 Control Board. Toggle the mode switch on and off. The display on the Control Board should toggle between S3H and S3L. If this does not occur, there is a bad connection between the control board and the switch or a faulty switch. Refer to figure 5-1.

Model 705/706 Applications

On Model 606 applications, to test the operation of the mode switch, watch LED 110 on the Model 606 Control Board while toggling the mode switch on and off. The LED should respond to the mode switch. If this does not occur, there is a bad connection between the control board and the switch or a faulty switch. Refer to figure 5-2.

Interconnecting Diagrams

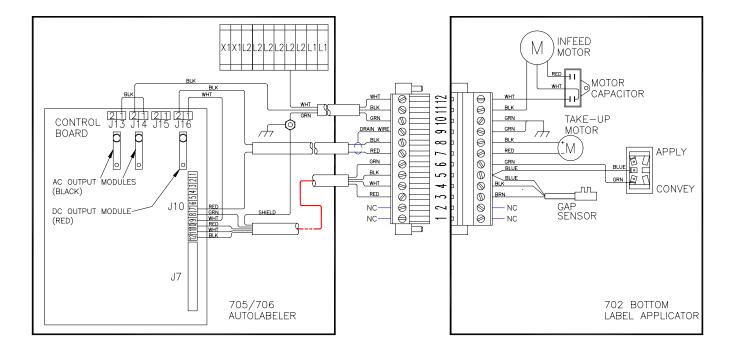


Figure 5-1: Model 702 to Model 705/706 Wiring Diagram

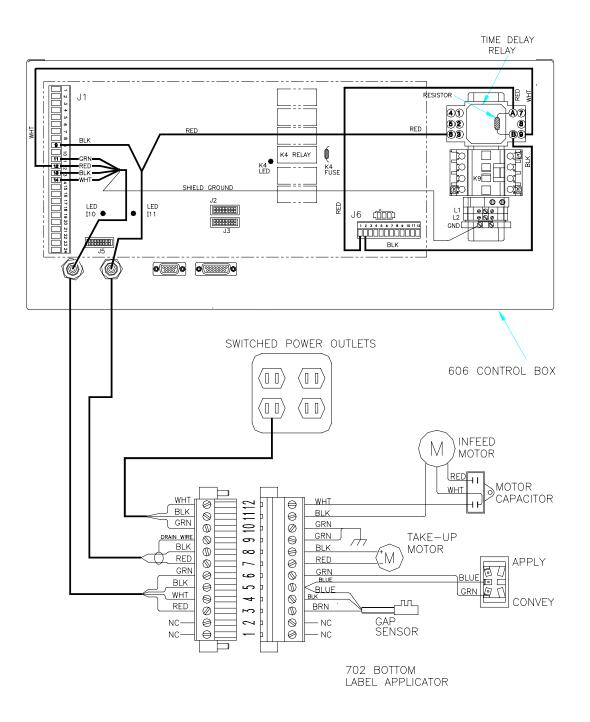


Figure 5-2: Model 702 to Model 606 Wiring Diagram

Replacement Parts

This chapter lists replacement parts available from METTLER TOLEDO® Aftermarket.

The Aftermarket Operation at METTLER TOLEDO[®] is dedicated to satisfying every customer every time. The ISO registered facility provides quick, efficient and quality service. Aftermarket services include everything from daily parts shipments and product repairs to load cells and overhaul kits compatible with most scale manufacturers.

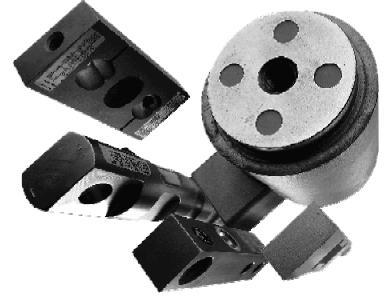
Aftermarket Services:

- Same day replacement parts shipment
- Full service repair center
- Printed circuit board repair and exchange program
- Load cell weighing solutions
- Load cell exchange program
- Mechanical scale overhaul kits
- Rental scales

Mettler-Toledo, Inc. Aftermarket 60 Collegeview Road Westerville, Ohio 43081 Tel: (800) 848-3992 (614) 430-2555 Fax: (800) 405-6312 (614) 438-4921

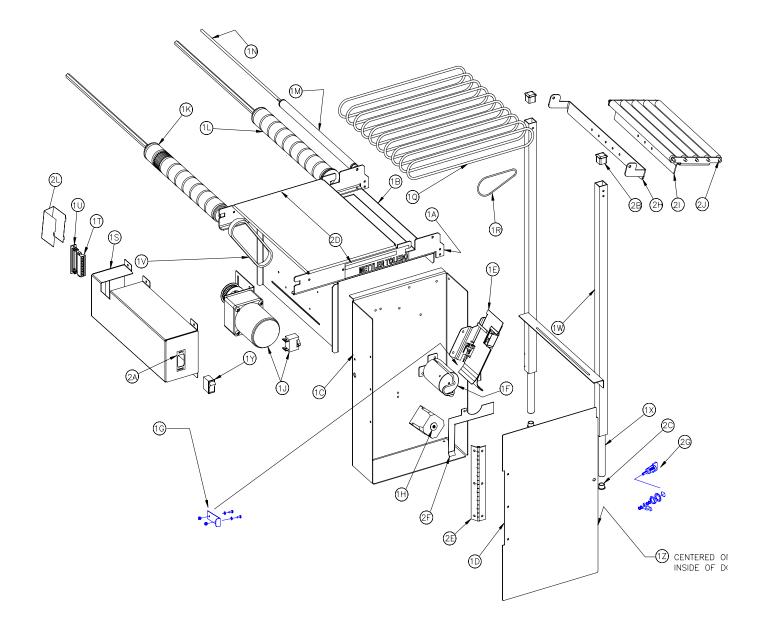
Rental Tel: (800) 428-4310 Fax: (614) 841-5185 E-mail: rental@mt.com







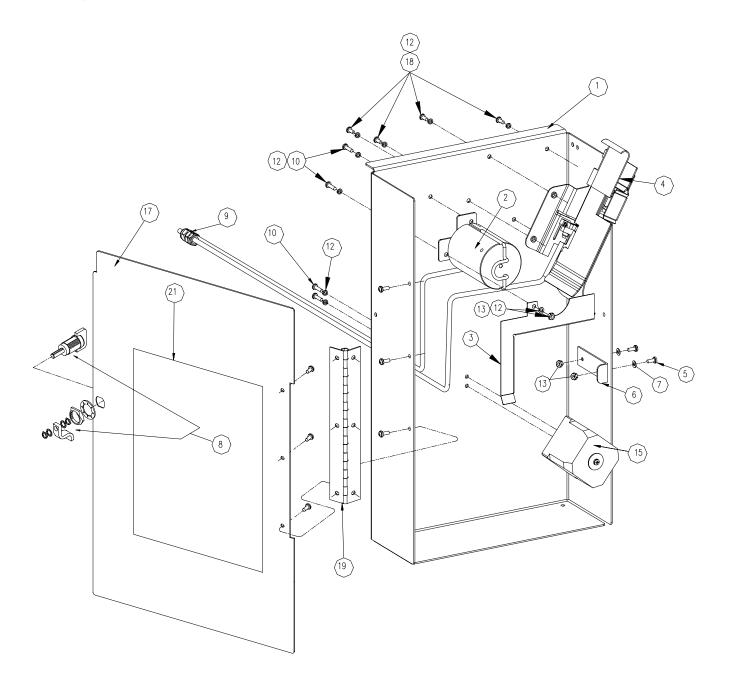
Model 702



Model 702 Parts List

CONSISTS OF				
SYM	QTY	PART NUMBER	DESCRIPTION	
1A	1	82962300A	FRAME, CONVEYOR TOP	
1B	1	82962500A	FRAME CONVEYOR BOTTOM	
1 C	1	82962600A	FRAME, LABEL FEED ASSEMBLY	
1 D	1	83028500A	DOOR	
1E	1	A83003500A	LABEL GUIDE ASSEMBLY	
1F	1	83003400A	TAKE-UP MOTOR ASSEMBLY	
1 G	1	83028700A	BRACKET, LATCH	
1H	1	83010000A	SUPPLY SPOOL ASSEMBLY	
1J	1	82994100A	MOTOR ASS'Y, CONVEYOR DRIVE	
1K	1	82803000A	DRIVE PULLEY ASSEMBLY	
1L	1	82987300A	IDLER PULLEY ASS'Y	
1 M	1	82987000A	ROLLER TUBE ASSEMBLY	
1 N		82986800A	SHAFT – ROLLER, DISCH. END	
1 Q	10	82986700A	BELTING, 1/4 X 32.75"	
1R	1	82654000A	BELTING, 1/8" X 10"	
1S	1	82989000A	MOTOR COVER	
1 T	1	82992800A	CONNECTOR SOCKET	
10	1	82992700A	ASSEMBLY FRAME FOR SOCKET	
1V	1	82993700A	TIMING BELT, CONVEYOR DRIVE	
1W	1	82990300A	LEG ASSEMBLY	
1 X	2	82407400A	LOWER LEG, 3/4" X 18.5"	
1Y	1	82993900A	CARLINGSWITCH, NO LAMP	
1Z	1	83001100A	THREADING DIAGRAM DECAL	
2A	1	83004500A	APPLY – CONVEY DECAL	
2B	2	81733500A	END CAPS, 1" SQUARE	
2C	2	82603200A	END CAPS, 5/16" ROUND	
2D	2	83012800A	METTLER TOLEDO DECAL	
2E	1	82666300A	HINGE ASSEMBLY FOR DOOR	
2F	1	82990700A	CABLE CONDUIT	
2G	1	83021200A	DOOR LATCH	
2H	1	82990200A	CONNECTING BRACKET	
21	1	82990100A	FRAME – 702 DISCHARGE CONVEYOR	
2J	5	82172500A	ROLLER 13.25 LONG	
2L	1	83011300A	PLUG GUARD ATTACHMENT	

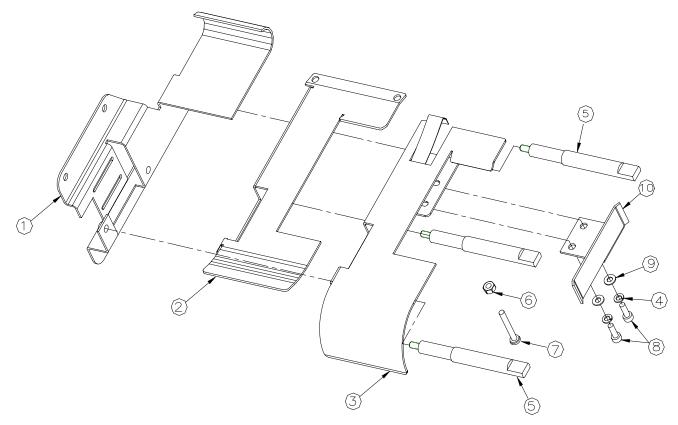
Carriage Hardware



Carriage Hardware

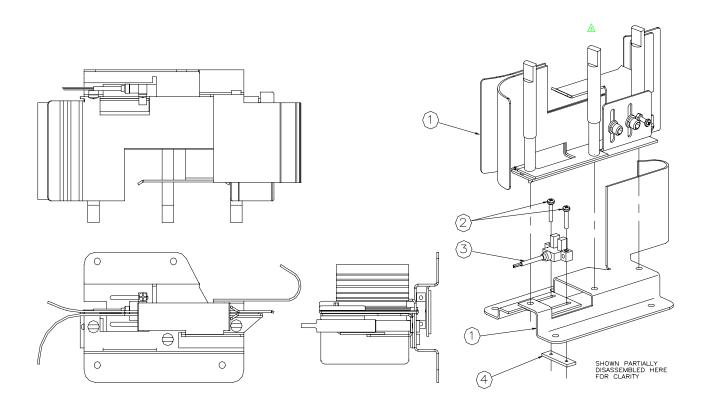
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	82962600A	FRAME, LABEL FEED ASSEMBLY
2	1	83003400A	TAKE UP MOTOR ASSEMBLY
3	1	82990700A	CABLE CONDUIT, INTERNAL COMPONENT WIRING
4	1	A83003500A	LABEL GUIDE ASSEMBLY
5	2	82715100A	PHILLIPS TRUSS HEAD SCREW, SS, M4 X 6MM LONG
6	1	83028700A	BRACKET, LATCH
7	2	83023000A	TOOTHED LOCK WASHER SS, DIN 6797 TYPE A M4
8	1	83021200A	DOOR LATCH PRINTER
9	1	81976100A	CORD GRIP – 1/2" LIQUID TIGHT
10	4	82715400A	M4 X 12 CRHCS
11	2	82709000A	HEX LOCK NUT, SS, DIN 985 M4 THREAD
12	8	82710800A	M4 LOCK WASHER DIN 127B SS
13	1	82708400A	M4 HEX NUT, SS
15	1	83010000A	SUPPLY SPOOL ASSEMBLY
16	2	82715500A	M4 X 16 CRHCS
17	1	83028500A	COVER
18	4	82715900A	CRHCS M4X8MM
19	1	82666300A	HINGE ASSEMBLY
21	1	83001100A	THREADING DIAGRAM DECAL, ON INSIDE OF DOOR

Label Guide



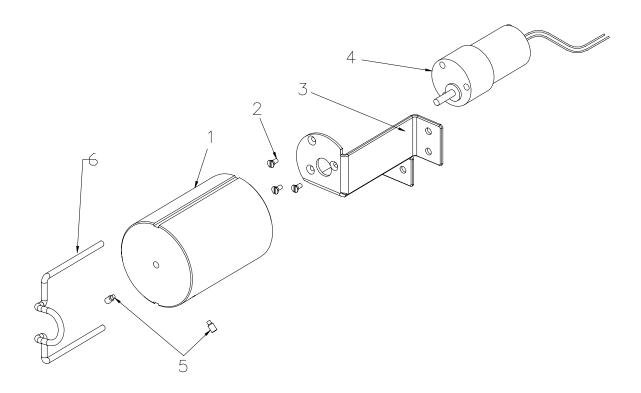
ITEM	QUAN.	DESCRIPTION	QUAN.
1	1	BRACKET-TRACK MOUNT	A83071100A
2	1	TRACK-UPPER-STRIPPER BAR EXTENSION FEATURE	A83070900A
3	1	TRACK-LOWER	A83071000A
4	2	LOCK WASHER M3 STAINLESS STEEL 8271080	
5	3	THUMBSCREW, 78MM SHOULDER 831446	
6	1	HEX NUT M4 STAINLESS STEEL 82708500	
7	1	CROSS RECESS HD. CAP SCREW M4 X 30MM	82715800A
8	2	SOCKET HEAD CAP SCREW M4 X 12MM	82713300A
9	2	FLAT WASHER M4 STAINLESS STEEL	82709500A
10	1	BRACKET-TRACK MOUNTING	83071200A

Label Guide Assembly



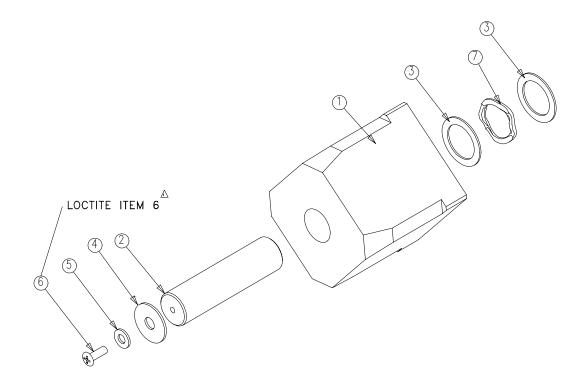
ITEM	QUAN.	DESCRIPTION	PART NUMBER
1	1	LABEL GUIDE	A83071300A
2	2	CROSS RECESS HEAD CAP SCREW M3 X 12MM	82719100A
3	1	GAP SENSOR	82993800A
4	1	PLATE-SENSOR MOUNT	82962200A

Take Up Motor Assembly



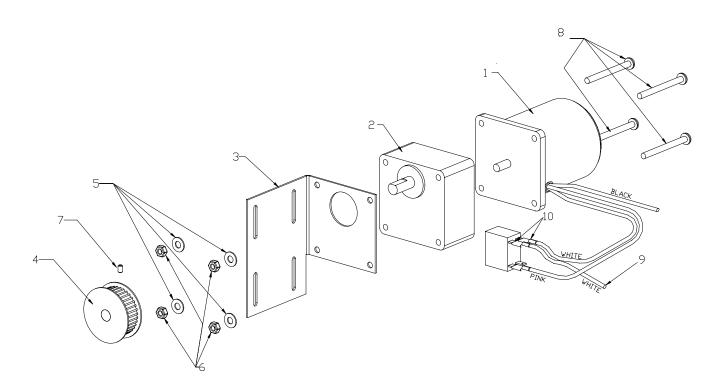
ITEM	QTY.	DESCRIPTION	PART NUMBER
1	1	TAKE UP SPOOL 2.5 DIA.	82997900A
2	3	SCREW, FLT SOC HD, SLOTTED 4-40X1/4"	R0277800A
3	1	TAKE UP SPOOL INTERNAL MOTOR MOUNT	82989100A
4	1	TAKE UP SPOOL DC MOTOR-GLOBE	83004600A
5	2	DOG TIP SET SCREW, SS, DIN 915 M4X8MM	82718500A
6	1	ROD – 702 TAKE UP CLIP	82987200A

Supply Spool Assembly



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	83009600A	SUPPLY SPOOL BOBBIN
2	1	83009500A	SUPPLY SPOOL SHAFT
3	2	82711600A	M20 FLAT WASHER
4	1	81360500S	FENDER WASHER, ID .280, OD .887
5	1	82710500A	FENDER WASHER, SS, DIN 9021B-M4
6	1	82823100A	M4 X 10MM PHIL TRUSS HEAD SCREW
7	1	83010100A	.780 ID, .120 TALL WAVE WASHER

Conveyor Motor Assembly



ITEM	QTY	DESCRIPTION	PART ND.
1	1	ORIENTAL WORLD MOTOR	82996400A
2	1	DRIENTAL GEAR BOX, RATIO = 9	82996500A
3	1	BRACKET - MOTOR MOUNT	82962700A
4	1	TIMING PULLEY, 5mm PITCH, 36 GROOVES	82996100A
5	4	1/4" FLAT WASHERS (INCLUDED W/ GEARBOX)	82996500A
6	1	1/4-20 NUTS (INCLUDED W/ GEARBOX)	82996500A
7	1	FLAT TIP SET SCREW M5X8mm	82718100A
8	4	1/4X20X3 3/4" PH HEAD SCREW (INC. W/GEARBOX)	82996500A
9	17″	WIRE, 18 AWG MTW WHITE	433118999
10	3	SLIP ON TERMINAL	82028500A

Installation Kits

Following are available installation kits for mounting the Model 702 on the Model 606, 705, and 706 labelers.

0925-0410-000 Model 702 to 705 Installation Kit

QTY. 2 1 1 1 1 1	PART NUMBER 82474700A A80077800A 82784000A 13636800A 82806000A 82999900A	DESCRIPTION CORD GRIP CORD GRIP NUT SNAP BUSHING DC RELAY 2pt TERMINAL JUMPER WIRE (WHITE 18ga.)
1	83000100A	702 INTERCONNECT HARNESS
1	82962800A	702/705 ATTACHING BRACKET (REAR)
4	82715100A	M4X6 PAN HEAD SCREWS
1	J82818600A	EPROM
1	82021000A	702/705 ATTACHING BRACKET (FRONT)

0925-0411-000 Model 702 to 706 Installation Kit

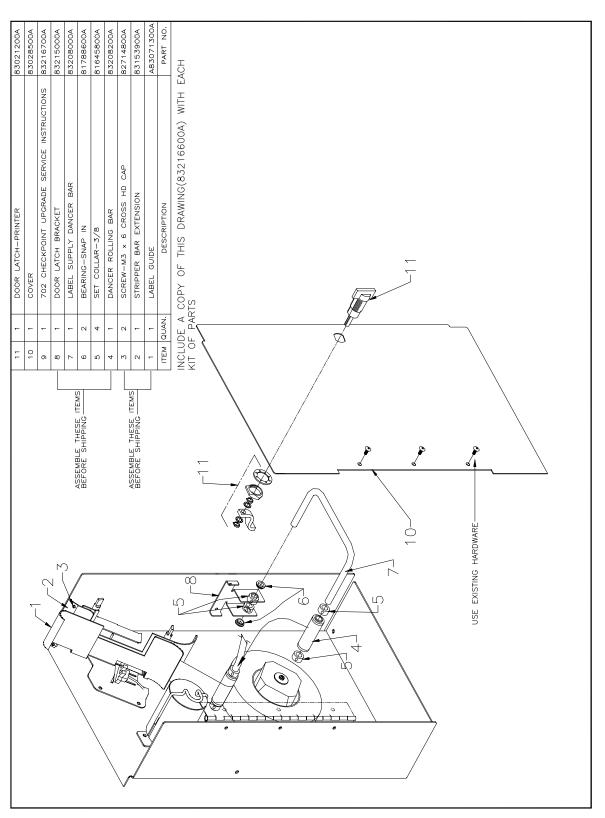
QTY. 2 1 2 1 1 1 1 1	PART NUMBER 82474700A A80077800A 13636800A 82806000A 82999900A 83000000A 83000100A 82986900A 82987100A 82987100A 82715100A	DESCRIPTION CORD GRIP CORD GRIP NUT DC RELAY 2pt TERMINAL JUMPER WIRE (18ga. BLACK) 702 INTERCONNECT HARNESS MOUNTING BRACKET LEFT SIDE MOUNTING BRACKET RIGHT SIDE MAXAG PAN HEAD SCREW
4	82714600A	M4X0 PAN HEAD SCREW M4X10 WASHER HEAD SCREW

0925-0409-000 Model 702 to 606 Installation Kit

QTY	PART NUMBER	DESCRIPTION
1	83008700A	702 INTERCONNECT HARNESS
1	83008600A	JUMPER WIRE (WHITE 18 GA.)
1	83008500A	JUMPER WIRE (BLACK 18 GÁ.)
1	83008400A	JUMPER WIRE (RED 18 GA.)
1	D82773100A	606 EPROM
1	83009200A	TIMER RELAY
1	82306600A	TIMER RELAY SOCKET
2	81976100A	CORD GRIPS
4	82715800A	M4 X 6MM LONG PAN HEAD SCREWS
2	83005100A	702/606 ATTACHING BRACKETS
1	83009800A	REŚISTOR

Checkpoint® Conversion Kit

This kit, 0925-0428, is required to convert the Model 702 so it can be used with 1.7'' to 2.0'' Checkpoint® labels.



METTLER TOLEDO

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