

## Model 579 Curtain Machine Manual.

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### General Information

The Model 579 curtain machine is designed for use with most light duty commercial and residential drapery tracks. The 579 curtain machine is designed to operate a 75 pound curtain on an ADC Model 113 Specificine track system. If a curtain track manufactured by another vendor is used with the 579 curtain machine, the operable curtain weight will vary according to the friction of the track system. It is not suggested that the 579 machine be used with curved track systems, or with curtains in excess of 75 pounds.

The 579 curtain machine is equipped with an external speed dial which allows the user to adjust the operating speed of the curtain to any desired level. The machine is also equipped with track mountable limit switches which are designed to be compatible with most curtain tracks (mounting brackets must be fabricated). The Model 579 is also designed for use with hard wired remote control station(s). A wireless remote control system (Model WRC-1) may also be purchased to operate the 579 machine.

***Important Safety Procedures:*** During all portions of the installation procedure, as well as during servicing, unplug the 579 from its power source and do not re-energize the machine until it is completely reassembled, including all safety guards, and the area surrounding the machine and curtain track has been verified to be free of personnel.

### Unpacking:

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Open the container the 579 was shipped in and verify that the following components have been included:

1. A 579 machine. This is a black (may be custom color) square box with a dial knob on the bottom surface, two (2) factory wired limit switch assemblies, and a 120 VAC three (3) pronged electrical plug extending from the bottom of it.

**NOTICE: To reduce the risk of electric shock, this equipment has a grounding type plug, that has a third (grounding) pin. This plug will only fit into a grounding type outlet. If the plug does not fit into the outlet, contact a qualified electrician to install the proper outlet. Do not alter the plug in any way.**

2. A ceiling/floor/wall mounting bracket. This is a black (may be custom color) U-shaped bracket with slots on two (2) of its sides and two (2) mounting holes on the third side.

3. A remote control station. Depending on how the machine was ordered, the machine may be equipped with either a three button hardwired remote control, or a wireless remote control. If a wireless remote was ordered you should find a small hand held transmitter including in the packing.

4. Two black (2) knurled thumb screws. These are used to secure the machine to the U-shaped mounting bracket.

5. Self-adhesive wire guides. These are used to hold the limit switch wires to the side of the curtain track. The wire guides are 1" x 1" self-adhesive black squares with a molded loop on their top surface to secure the limit switch wires.

If any of the above items are missing from the container, please call your ADC dealer with a list of the missing items. Be sure to have your packing slip and shipping receipt handy so that the factory can verify the shipping weights.

## **Installation:**

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1. Remove the drive wheel safety guard protecting the drive and idler wheel assemblies by removing the two (2) flat head bolts securing the cover to the machine. Be sure to store the guard and screws in a safe location.
2. Place the U-shaped mounting bracket for the machine onto the machine in the configuration required for the type of mounting being used. The type of mounting could be either ceiling (mounting holes above the machine), wall (mounting holes along side of machine), or floor (mounting holes under machine). Loosely secure the bracket with the two (2) black knurled bolts included with the machine by inserting the threaded portion of the bolts through the slot of the bracket and thread them into the threaded holes provided on the side of the machine. Note that dimples have been provided on the sides of the machine to insure proper alignment of the mounting brackets. Be sure that at least two (2) dimples per side are seated in the slot of the mounting bracket.
3. Hold the machine with the mounting bracket attached in the location it is to be mounted. Check that the cable from the curtain track is aligned with the idler and drive wheels of the machine and that no twisting or abrading of the cord is induced by the location or mounting of the curtain machine. Mark the mounting hole location on the mounting surface. Remove the machine and drill the appropriate size hole for the mounting hardware being used to secure the machine to the structure.
4. Remove the mounting bracket from the machine by removing the two (2) black knurled bolts.
5. Secure the mounting bracket to the supporting structure using appropriate mounting hardware.
6. Release one side of the operating cable loop from one of the curtain track's master carriers, or make sure that enough slack exists at the machine to allow the cable to be routed through the idler wheels and around the drive wheel when the machine is installed.
7. Secure the 579 machine to the mounting bracket using the two (2) black knurled bolts supplied. **BE SURE TO SECURE THE MACHINE WITH THE BOLTS LOCATED AT THE TOP OF THE SLOT SO THAT THE MACHINE CAN BE PULLED DOWN TO INCREASE THE TENSION OF THE SYSTEM AFTER THE OPERATING CABLE IS ATTACHED.**

8. Route the loop of cable extending from the live end pulley of the curtain track through the idler wheels and around the drive wheel making sure that the cable is seated in the groove of the drive wheel.
9. Remove any excess slack from the track system by pulling it out at the master carrier which has been loosened for this purpose (see step #6). Be sure that the cable is tight along the length of the track, as well as at the dead end and machine end of the track system. Secure the cable at the master carrier.
10. While pulling down on the machine, loosen the knurled bolts on the sides of the 579 and add additional pressure on the machine to increase the amount of tension on the system. When sufficient tension exists in the system re-tighten the knurled bolts of the machine to secure the machine to the mounting bracket.
11. Replace the drive wheel guard for the system using the bolts provided with the system.
12. Untie the coils of limit switch wires and stretch out the cables. One cable should be longer than the other. The longer of the two wires is for the CLOSED position and is mounted near the center of the curtain track. The shorter wire is for the OPEN position and is located near the live end of the curtain track. Do not attach these devices at this time.
13. Secure the limit switch magnet to the master carrier of the curtain track system which is located in the half of the track closest to the machine. This may take the addition of a special mounting bracket for the particular track being used. If the machine was purchased for use with an ADC curtain track this bracket can be furnished with the system. If the machine is being used with another vendor's curtain track this bracket may need to be fabricated by the installer.
14. Operating the track manually, pull the curtain track to the CLOSED position. The 579 is equipped with a parallel gearmotor in order that curtain track may be operated by hand should a power outage occur.
15. Mount the CLOSED limit switch (the one with the longer wire) to the track making sure that the switch is aligned with the master carrier magnet, and that a maximum 1/8" gap exists between the master magnet and the limit switch. Secure the wire from the limit to the side of the curtain track along its length using the self-adhesive wire guides provided with the 579.

16. Operating the track manually, pull the curtain track to the OPEN position. The 579 is equipped with a parallel gearmotor so that curtain track may be operated by hand should a power outage occur.

17. Mount the OPEN limit switch (the one with the shorter wire) to the track making sure that the switch is aligned with the master carrier magnet, and that a maximum 1/8" gap exists between the master magnet and the limit switch. Secure the wire from the limit to the side of the curtain track along its length using the self-adhesive cable guides provided with the 579.

18. Coil the excess limit switch wire and tie the coils with the ties provided with the system. If you prefer to shorten the limit switch wires rather than coil them please refer to ADC Form 399 for this procedure. A copy of this form follows these instructions.

19. The machine is now ready for operation.

### **Testing the system:**

It is strongly recommended that the system be tested at least 20 times to assure proper working of the limit switches and to assure that excessive cable slippage does not occur. The items to look for while testing the system are as follows:

- a) Mechanical binding of the curtain track system along its travel.
- b) Slippage of the operating cable. Some slippage is allowable on start-up but the cable should not operate and then start to slip during its travel.
- c) Failure of a limit switch. Keep a close watch on the curtain as it nears its limit positions. Make sure that the machine shuts off electrically prior to the curtain reaching the end of its mechanical travel. If the limit does not shut the machine off when the master carrier's attached magnet reaches the switch location, check to make sure that the direction of the machine is not reversed. You may want to try switching the single wires of the OPEN & CLOSE pushbutton to reverse the directions of the machine. Also be sure to check the gap and alignment of the limit switches and their magnets.
- d) Excessive loading of the system. If the machine is asked to operate a load which is outside its design characteristics, the machine will not

operate at full speed and will produce a loud whining noise. If the machine cannot produce sufficient torque to operate the curtain track system along its travel, the machine will stall and appear to have stopped.

e) Excessive slack in the system. If the operating cable is not tight enough the cable will slip or come off of the drive wheel. Watch the cords carefully at the entrance to the machine and verify that the cable remains taut throughout the curtain's travel.

1. Check area around the curtain machine and track system and verify that no personnel are in the immediate area.
2. Verify that the remote control pushbuttons are free and operational and that no unauthorized personnel are operating the buttons during the testing procedure.
3. Plug the 579 machine into its 120 VAC power source and verify that the machine does not start automatically when plugged in.
4. Operate the machine from the remote control station. Be ready to operate the STOP button should the curtain track bind along its travel or should the machine fail to shut off when it reaches its limit position.
5. Operate the machine at least 20 times watching closely for the problems listed in **a** through **e** above. If any of the problems exist, stop and unplug the machine from its power source and correct the problem. After the corrections are complete, retest the system as if it were newly installed.
6. If the machine does not exhibit any of the problems listed in **a** through **e** above it is ready for use.

## **Maintenance:**

The 579 utilizes a sealed gearmotor as well as electronic drive components which do not require maintenance. It is suggested that the following components be checked once a month:

1. Operating cable. Check the tension of the cable and verify that no slack exists

in the system. Also check the cable coating and make sure that it is intact and has not been stripped from any section of the cable. If any of the coating has been stripped, replace the cable. If cable slack exists, it can be removed by loosening the two (2) knurled bolts on the side of the 579 machine, pulling down on the machine to increase the tension in the system, and re-tightening the knurled bolts. Note that this feature is only available if the machine has travel left in its connection to the mounting bracket. If the machine is at the bottom of the adjustment slot of the mounting bracket, the slack in the system will have to be taken out at the master carrier.

2. Drive wheel. If the operating cable coating has been stripped from the cable, it is necessary to check the drive and idler wheels of the machine for wear or cuts. Since only wire center cable is to be used with the 579, the loss of the cable coating will expose the steel cable to the drive and idler wheels which may cut into the surface of these devices. If the cable has been stripped of its coating, remove the safety guard covering the drive and idler wheel assemblies by removing the two (2) screws securing it to the machine frame. Check the bottom of the guard and the area around the drive wheel for shavings from the drive or idler wheel assemblies and the drive and idler wheels for signs of wear or cuts. If any excessive wear or cuts are found, the wheels will have to be replaced in order to provide required system friction.

## **Additional Information for Model 579**

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## **For units with hard wired remotes:**

If the machine is to be hardwired using the RCS-1 remote provided, remove the cover of the machine by removing the 4 Phillips head screws securing the cover to the machine frame. Route the wire being used for the remote control connections through the bushed hole of the 579's frame that is provided for this purpose. With the cover removed, locate terminals T2, T4, T5, & T6 on the B153 circuit board. Connect the wire that is common to one side of all of the remote pushbuttons to terminal T4 using the push-on connector supplied. Connect the other side of the STOP button to terminal T2 using the connector supplied. Connect the other side of the OPEN button to terminal T5 using the connector provided. Connect the other side of the CLOSED button to terminal T6 using the connector provided. Replace and secure the cover of the machine using the Phillips head bolts provided.

## Troubleshooting:

<u>Symptom</u>	<u>Remedy</u>
1. Machine will not start from remote.	Check incoming power source for correct voltage. Check remote control wire connections. (power removed) Check main fuse for fault. Check speed dial and verify that it is not on zero (or minimum setting). Check limit switches for operation and alignment. Check stop button of remote control. It must be normally closed and momentary operation. (power removed)
2. Machine stalls out along its travel.	Curtain weight or track resistance (friction) is too high. Curtain must be lightened or track must be changed to lower resistance.
3. Machine will not achieve full speed.	Machine is operating near its maximum allowable load rating. Check weight of curtain and resistance of track system. Maximum speed potentiometer of DC drive board is set too low. Remove machine cover (power removed) and rotate MAX speed pot in a clockwise direction.
4. Machine will does not slow down when dial adjusted.	Minimum speed potentiometer is out of adjustment. Open machine case (power removed) and turn MIN speed potentiometer in the counter-clockwise direction.
5. Machine will not shut off at limits.	Check operation of the magnetic limit switches (power removed) with a VOM and verify their operation.

**Symptom**

**Remedy**

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|  | Check wiring and connections for the limit switch wires (power removed).<br>Check strength of master carrier magnets.   |
| 6. Operating cable slips during operation.               | Remove slack from system (see section covering this procedure in manual).<br>Curtain is too heavy and must be lightened.  |
| 7. Operating cable continually stretches. Verify         | that wire center and not synthetic center cable is being used in the track system.<br>If wire center cable is being used, the curtain weight exceeds the design characteristics of the curtain track. Change the curtain track. |
| 8. Machine blows fuses when plugged in.                  | Short circuit exists in the machine.<br>Remove machine from service and return to factory for inspection and repair.  |
| 9. Machine stops at limit but then continues to operate. | Check gap of limit switch and master carrier magnet. Adjust gap to 1/8" and plumb alignment.  |

**Wireless systems:**

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1. Machine does not operate from transmitter. Check battery strength of transmitter. Check code in transmitter and receiver and verify that they are the same. Transmitter is out of range of receiver. Move transmitter closer to receiver. Antenna of receiver is obstructed. Antenna must be extended in open air and preferably in line of sight of transmitter. Check voltage to receiver and verify that power source is active.

## Specifications for 579 Tom Thumb

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## General Information

Name of appliance and category: Drapery Motor  
Type: Model 579  
Manufacturer: Automatic Devices Company  
2121 South 12th Street  
Allentown, PA 18103  
Country of origin: United States of America

## Technical Information

Voltage: 120 VAC (+/- 10%)  
Current: 0.6 Amperes FLC  
Power Coefficient: N.A.  
Rated operation: Intermittent duty operation only  
Mass (weight): 3.85 kg (8 lbs, 8 ounces)  
Frequency: 60 Hertz  
Power: 0.24 Watt (motor only)  
Dimensions: 2.16 cmD x 1.77 cmW x 2.76 cmH  
(5.5"D x 4.5"W x 7"H)  
UL File Number (standard unit): Listed 717E  
ETL File Number (standard unit): N.A.  
Field Connection Method: Power: Grounded plug.  
Remote(s): Screw type barrier strip  
Fuse Type: MDX (0.6A, 250 VAC)  
Relay Board: Model B153 (24 Vdc)  
Limit Switch: Model Mag-1  
Machine Cover: 16 gauge powder coated sheet steel.