

# SWAN-MATIC

Bottle Capping Machines & Equipment



## C900 Air Drive Continuous Thread Capper Manual

**Automation Devices, Inc.**  
**SWAN-MATIC**  
Bottle Capping Machines & Equipment

**The Fork Rhino**

**Vibratory Feeding Systems**

7050 West Ridge Road - Fairview, PA 16415 814-474-5561 [www.swanmatic.com](http://www.swanmatic.com)

Need help with your Swan-Matic Capper? Call 814-474-5561 or visit [www.swanmatic.com](http://www.swanmatic.com)

# C-900 Continuous Thread Capper

*Thank You for purchasing the C-900 Swan-Matic Capper. The C900 is proudly built in the USA by Swan-Matic, a division of Automation Devices in Fairview, PA. For any technique assistance please feel free to call 814-474-5561.*

**WARNING**  
Always wear safety glasses when operating any Swan-Matic machine. Keep hands clear from capping head while in operation  
For Assistance, Call 814-474-5561

**WARNING**  
  
**Crush hazard.**  
Do Not Place Hand Between Capping Head and Cap  
**Lock-out / tagout before servicing.**

**WARNING**  
  
Rotating shaft can cause severe injury.  
Keep hair and loose clothing away.

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## Set-up and Operation Instruction

Carefully unpack the machine and any other associated equipment which may be in the container and check for damage. Set the machine on a level surface. Please observe all a safety regulations in your facility.

**Do not place fingers between driver shell and cap being installed.  
Always tie back hair and loose clothing.**

1. Add oil to air supply oiler on the side of the machine. Use any type of light weight air tool oil. Food grade air tools oils are also permissible. The oiler is located **after** the high pressure air regulator (HPR). The fill cap is the small Philips screw on top of the oiler. Fill to the top of the glass bowl. Put cap back on.

**Disconnect the Air Supply Before doing the next step**



2. Locate your drive shell, insert, C532 hex drive adaptor. Put them together as seen in picture to the right. Slide into quick connect on the bottom of the driver.

3. **Before connecting your air supply line, take note that the driver head will move to the up position when air supply line is connected.**

4. Connect to clean air supply. Recommended line in pressure is 120psi.

5. Use **CAUTION** when loosening head lock handles, the head assembly may feel heavy to certain individuals. Loosen head lock handles on each side of the capping head and slide head to upmost position. Slightly tighten lock handles to temporarily hold head in place.



6. Adjust the high pressure regulator (HPR) to 80 psi by lifting (unlocking) and rotating the knob counter clockwise to decrease and clockwise to increase regulated pressure. **Note:** There are arrows printed in the top of the HPR knob indicating pressure change directions.

7. If your capper is equipped with the optional C929 Low Pressure Regulator (LPR), set it to 30 PSI. An LPR is a nice option to have because it allows the operator to adjust the down force of the ram cylinder independently from the driver head main regulator. This is particularly useful on more sensitive applications such as fine thread bottles, serrated driver applications and 4 lug steel caps.



8. Place bottle directly under driver shell.

9. V-BLOCK SET UP

Adjust the bottle locator blocks up to the back side of the bottle in a “V” formation. Each locator block can be adjusted left and right in addition to the angle of each can be changed. Tighten down locator bolts.

#### BOTTLE HOLDER SET UP

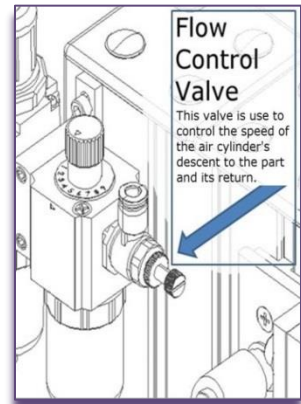
If your machine came with the optional bottle holder bracket (C985) and a custom made bottle holder, screw the bottle holder to the bracket. Adjust the bracket forward or back to align the bottle directly under the driver shell. Tighten knobs.

10. Adjust the head assembly down to a position that will place the end of the driver shell approximately .75 inch (2cm) above the cap.

11. Tighten handles **firmly**.

12. **Remove** the bottle from the locator blocks.

13. With the HPR still set at 80psi, cycle the capper. The capper should cycle down when the peddle is depressed, then return when the peddle is released. If the cycle is abrupt or too fast for the operator, adjust the flow control valve; located on either the oiler or the LPR (if equipped) in a clockwise direction. This will slow down cycle time.



**Disconnect the Air Supply Before doing the next step**

14. The driver has a clutch built into it. This clutch is adjustable. The clutch will determine the torque that is placed on your caps. The clutch is adjustable through the hole under the cover. Rotate the Driver Shell until you see the indent (see Picture lower right) in the gear thru the adjustment window. Use the adjustment tool provided to rotate the adjustment wheel.

**NOTE:** The capper will not engage until a bottle is actually placed in the capper and the driver shell comes in contact with the cap. When the drive shell comes in contact with cap it will triggers the driver to rotate.

15. Place the cap on the bottle, place the bottle in the V block or bottle holder you previously set up. Check the alignment of the bottle one more time.

16. With safety glasses on, cycle the machine.

17. It is very likely the cap did not go on perfect the first time. That's OK. If the cap went on correctly and met your torque spec, you rock! Happy capping from here on out.

18. If the bottle "wobbled" when the capper engaged the cap then you do not have the bottle centered under the capping head.

19. If the cap is not tight enough and the clutch disengaged (stopped rotating) then increase the clutch tension. This is done by rotating the clutch adjustment dial counter clockwise.

20. If the cap is not tight enough and the clutch did not disengage then your down force pressure is to low **and/or** you have selected the wrong insert for your cap. If you have the optional LPR, increase your down pressure with this regulator. If you only have the HPR, rotate the HPR knob to the right (clockwise). If the problem persists call Swan-Matic at 814-474-5561 for further instructions.



# Maintenance

**Disconnect the Air Supply Before Doing Maintenance**

There is only one required maintenance item. Add oil to air supply oiler on the side of the machine when low. Use any type of light weight air tool oil. Food grade air tools oils are also permissible. **Disconnect the air supply before adding oil.** The oiler is located after the high pressure regulator. The fill cap is the small Philips screw on top of the oiler. Fill to the top of the glass bowl. Put cap back on.

The oil flow adjustment has a range of 0-10. Swan-Matic machines are designed to run at <1 on the dial. Just below the adjustment knob there is a sight glass. In that sight glass is a drip nipple. There should be a drop of oil on the end of that nipple after cycling the machine several times. After running the machine for an hour or so, you should see or feel a light amount of oil in your airline to the cylinder. You should never see oil dripping from any air cylinders or driving tools.



# Swan-Matic C900 Series Options

## Functionality of Anti-Tie Down Bar C965

This start bar is an OSHA compliant, ergonomic two-hand start.

## Low Press Regulator Kit (LPR) C929

An LPR is a nice option to have because it allows the operator to adjust the down force of the ram cylinder independently from the driver head main regulator. This is particularly useful on more sensitive applications such as fine thread bottles, serrated driver applications and 4 lug steel caps.



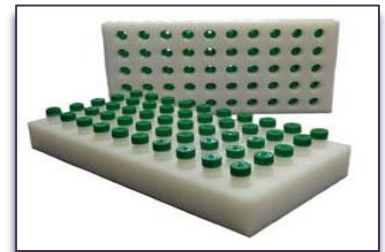
## Adjustable Flow Control Valves C919

Adjustable Flow Control Valves are a nice option to have because it allows the operator to adjust both the driver head approach speed and retreat speed from the cap. This is particularly useful on more sensitive applications such as fine thread bottles, serrated driver applications and 4 lug steel caps. This also allows the operator to fine tune machine cycle times.



## Bottle and Vial Holders

Swan-Matic Bottle Capping Machines and Equipment designs and manufactures bottle holders for any style and size bottle. Whether it's 1 or 100, we can make bottle holders for every application. To receive an accurate quote, send in 12 caps and 2 empty bottles to: Swan-Matic Test Lab, 7050 West Ridge Road, Fairview, PA 16415.



# Insert Sizing Chart and Cap Torque Spec Guide

**Our inserts are** in stock and ready to ship

Measure the diameter of the cap or closure and select an insert or driver shell that has a range that includes that diameter.

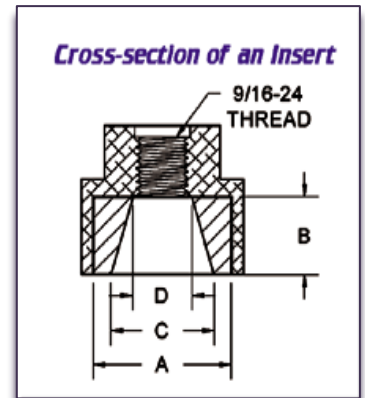
**FOR BETTER RESULTS:** When the diameter of your cap/closure is close to the Insert's Upper Cap Range, choose the next larger size insert and shell.

**FOR BEST RESULTS:** Send 12 sample caps and 2 bottles and our engineers will make a recommendation.

## PRODUCTION NOTES

Although they may last longer, harder inserts are not always better. Harder inserts do not grip as well as lower durometer (softer) inserts. The friction caused by the harder material can damage; even burn, the edges of plastic caps.

Insert Number	Cap Range (Millimeters)	Insert Dimensions (Inches)				
		Insert Dimensions	A	B	C	D
2	6-12					
3.5	8-14					
5	10-14					
10	8-17					
20	12-24					
25	18-28					
30	22-33					
40	25-41					
50	32-50					
60	40-56					
70	50-68					
75	60-84					
80	70-88					
90	78-100					
95	85-110					
100	104-130					
110	120-145					
		2	0.625	0.460	0.562	0.320
		3.5	0.729	0.875	0.578	0.000
		5	0.729	0.656	0.656	0.125
		10	0.945	0.688	0.875	0.000
		20	1.285	0.750	1.094	0.138
		25	1.490	0.875	1.297	0.182
		30	1.676	1.000	1.484	0.442
		40	1.995	0.938	1.797	0.358
		50	2.350	0.938	2.172	0.598
		60	2.685	1.000	2.438	1.161
		70	3.115	1.250	2.844	1.251
		75	3.780	1.250	3.531	1.780
		80	3.810	1.125	3.688	2.389
		90	4.295	1.125	4.109	2.809
		95	5.565	1.250	4.625	3.049
		100	5.565	1.250	5.313	3.562
		110	6.160	1.250	5.906	4.155



Cap Size (mm)	Phenolic / Urea Cap on Glass		Phenolic / Urea Cap on Plastic		PP / PE Cap on Glass		PP / PE Cap on Plastic	
	Application Torque	Removal Torque	Application Torque	Removal Torque	Application Torque	Removal Torque	Application Torque	Removal Torque
15	8	4	6	3	12	7	8	4
18	9	5	7	4	13	8	9	5
20	10	5	8	4	15	9	10	5
22	11	6	9	5	17	10	11	6
24	12	6	10	5	18	11	12	6
28	14	7	12	6	21	12	14	7
33	18	9	15	7	24	14	17	8
38	20	10	17	7	29	17	19	9
43	22	11	18	9	33	20	22	11
48	24	14	20	10	36	22	24	12
58	26	14	24	12	44	26	29	14
70	35	18	28	14	52	32	35	17
89	45	22	36	18	65	38	45	22
100	50	25	40	20	75	40	50	25

**CONTACT INFO**  
Automation Devices  
7050 West Ridge Rd  
Fairview, PA. 16415



# Driver shells

Aluminum driver shells thread onto all Cap-Master Capping Machines and accept replaceable urethane, vinyl, and rubber inserts. A complete range of driver shells and renewable driver inserts are kept IN-STOCK. From 6mm to 145mm size caps, Swan-Matic will have what you need in stock.



## Polyurethane

Exhibits excellent wear properties and leaves little to no residue or particulates ensuring an unmarked closure. Thru special order, durometers up to 80-85 are available on request.

**Durometer 45-55**



## Vinyl Insert

Offers grip on caps where polyurethane may slip. Generally suggested for caps that feature smooth contact surfaces. These may be delivered in light or dark green.

**Durometer 45-55**



## White Rubber

Often matched to applications with white closures or caps to avoid marking. Suggested for smooth contact surfaces or minor serrations.

**Durometer 50-60**



## Black Rubber

A slightly higher durometer helps extend life while offering the same level of grip as white. The color makes it ideal for dark colored caps.

**Durometer 60-70**



## Tan Rubber

This is the hardest of the rubber inserts and is suggested for metal caps with serrations or very abrasive applications.

**Durometer 70-80**

## Serrated Driver Shells.



Serrated driver shells are a long-term replacement for inserts and driver shells. They give you a positive grip on your caps which results in very consistent torques throughout your production runs. Custom designed for each different cap, they can be made from aluminum, steel or stainless steel.

## Custom Bored Rubber and Vinyl Inserts



Custom bored inserts can be made in one day to fit your application without going through the expense of mold charges. These inserts are typically used on dropper caps and pump sprayer bottles.

## Pump Sprayer Production Insert



Available in 6 Sizes

	ID
PS01	.840"
PS02	.840"
PS03	.880"
PS04	.940"
PS05	.970"
PS06	.500"

## Frequently Asked Questions

### Who do I call for technical support?

Call during normal hours. 814-474-5561. Monday thru Friday 8am to 4pm.

### Where can I get my benchtop capper rebuilt?

Make sure the oil is drained from the capper. Capper must be shipped upright on a skid by Freight only. Include contact information and return shipping address.

Send capper to: **Swan-Matic (rebuild)**  
**7050 West Ridge Rd**  
**Fairview, PA 16415**

### How fast can a benchtop capper cap?

A benchtop capper can do 50 bottles a minute. The actual rate is determined by the operator.

### What is the life expectancy of an insert?

The life of an insert is determined by several factors. Torque specs, work conditions, cap texture, insert material and clutch settings. The number one killer of inserts is improper clutch settings. The general rule is the insert should never slip on the cap. The clutch should disengage before the insert slips on the cap. To help get the maximum life out of your inserts, send 12 caps and 2 containers to Swan-Matic testing labs for a free evaluation of your application.

Send caps to: **Swan-Matic Test Lab**  
**7050 West Ridge Rd**  
**Fairview, PA 16415**

### How do I measure cap torque?

Swan-Matic offers a variety of torque testers. Contact Swan-Matic to find the one best for you.

### Does Swan-Matic have cappers that remove caps?

Yes. Several cappers in the Swan-Matic line up have a reversing (de-capping) feature.

### Does Swan-Matic have corrosion resistant cappers?

Yes. Any Swan-Matic benchtop capper can be Nickel Coated to make it resistant to chemical wash downs.

### Does Swan-Matic have explosion proof cappers?

Yes. The C900, C500 and C400 series capper have multiple hazardous ratings.

**How do I set the height of my capper correctly to the bottle?**

The driver shell should be about 1 inch above the cap before it is screwed down.

**How can I pay for my capper and supplies?**

Swan-Matic accepts All major credit cards and wire transfers.

**What is your warranty on cappers?**

Refer to last page of this manual.

**Why won't my caps tight anymore?**

There are several reasons why a capper will not torque correctly all the time.

**1. The insert material is not matched to the cap.**

Swan-Matic offers 5 different types of material that inserts are made from. Refer to the Inserts and Driver Shells page for an explanation of each type of insert. To get the best match, send in 12 caps, 2 containers and your contact information to:

**Swan-Matic Test Lab  
7050 West Ridge Rd  
Fairview, PA 16415**

**2. The insert has worn down.**

As the insert wears, the pressure on the cap is reduced because the distance from the insert to the cap increases. To correct it, just move the head of the capper down slightly or install a new insert.

**3. Capper head is set to low.**

If the capper is pressing too hard on the container being capped, it can cause the threads of the container to bind with the cap threads.

**4. The insert is slipping inside the driver shell.**

Clean the driver shell out and replace the insert.

Machine Specifications  
C900 Continuous Thread Capper  
By Swan-Matic

**Cycles per Minute**

**Variable Speed 50 cpm max**

**Down Force**

**90 @ 100PSI.**

**Stroke**

**2" inches**

**Weight**

**29 lbs**

**Shipping weight**

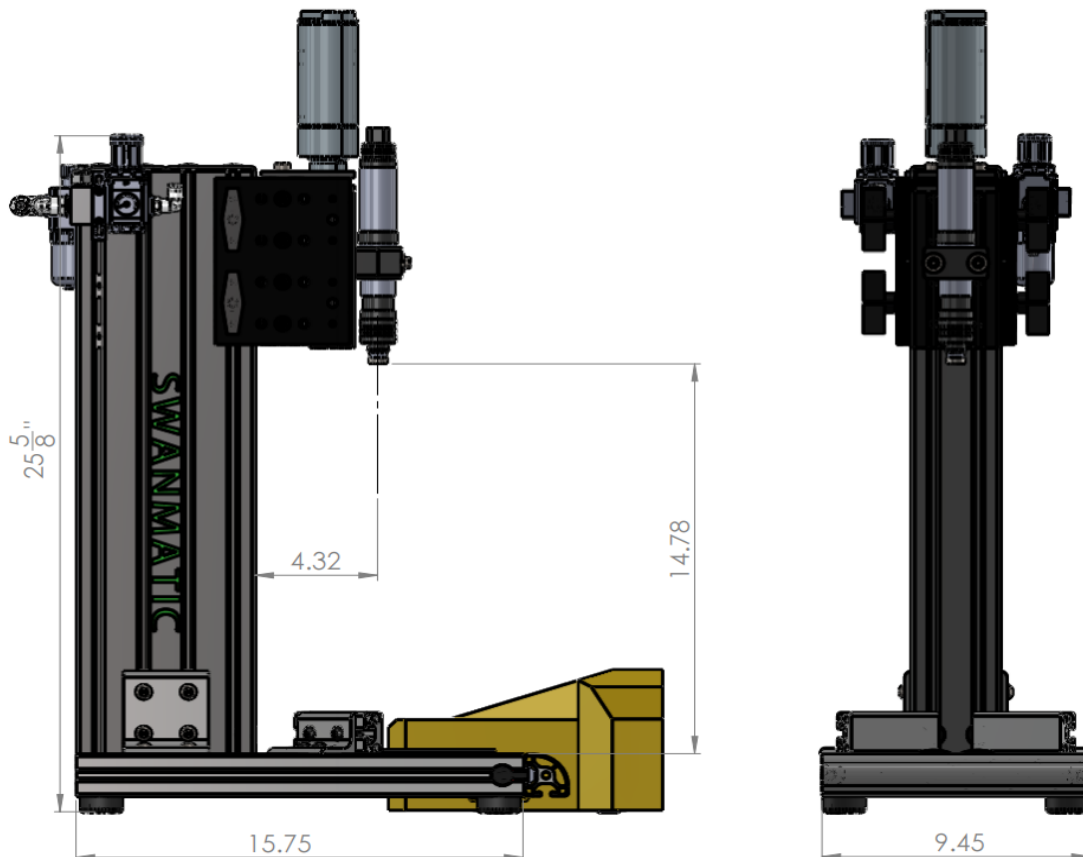
**55 lbs**

**Finish**

**Hard Anodize Black**

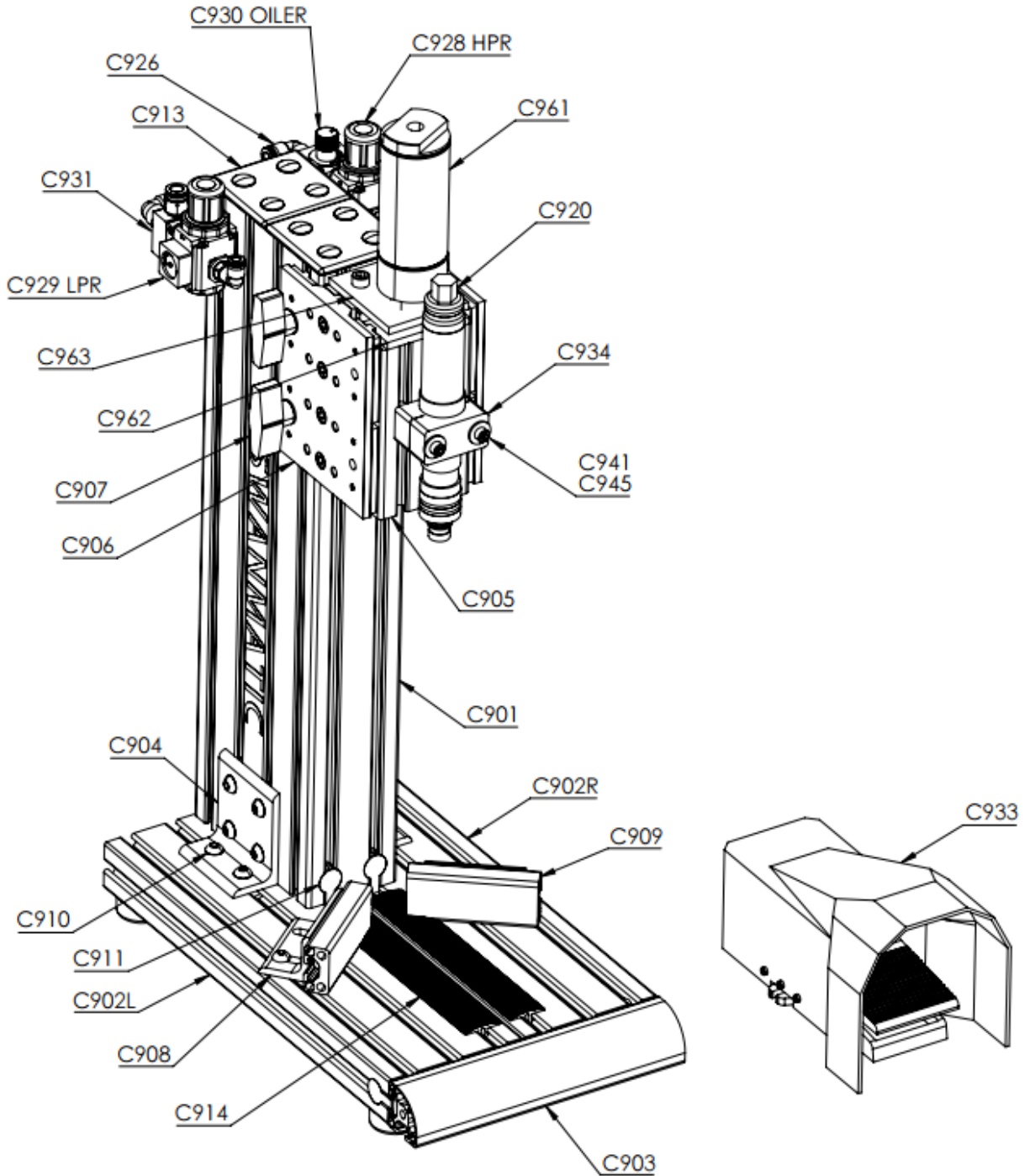
**Air Supply**

**Clean 120psi max**



**Taller Columns and Driver Spacer Blocks can  
be Ordered for Larger Bottles**

# C900 Parts Call Out



<b>C920</b>	Air Driver Capper
<b>C901</b>	Main Column
<b>C902L</b>	Base Plate, Left
<b>C902R</b>	Base Plate, Right
<b>C903</b>	Base Plate, Front Rail
<b>C904</b>	Column Support Bracket 6 Hole
<b>C905</b>	Slide Block
<b>C906</b>	Unibearing Assembly
<b>C907</b>	T Handle Locks
<b>C908</b>	V Block Mount Bracket
<b>C909</b>	V Block Back Stop
<b>C910</b>	Bolt Assembly: M8 x 16.00mm Black
<b>C911</b>	Anchor Fastener, Column
<b>C912</b>	Fasteners Push-in Plastic
<b>C913</b>	End Cap Plastic
<b>C914</b>	Tread Strip 10"
<b>C917</b>	Pneumatic Tubing, Polyurethane, Black, 1/4" OD,per foot
<b>C919</b>	Fitting Elbow 1/4" tube to 1/4" NPT Flow Control
<b>C920</b>	Air Driver Push to Start
<b>C924</b>	Fitting Straight 1/4" tube to 1/4" NPT
<b>C925</b>	Fitting Elbow 1/4" tube to 1/4" NPT
<b>C927</b>	Air Cylinder 1 1/16" 3" Stock Dbl Action
<b>C928</b>	Regulator 20-130psi
<b>C930</b>	Pneumatic Lubricator
<b>C932</b>	T-Bracket Modular
<b>C933</b>	Pneumatic Foot Pedal 4 Way 5 Port
<b>C934</b>	Driver Clamp 2 Halves
<b>C963</b>	Mounting Plate Air Cylinder to Unibearing
<b>C963</b>	Mounting Plate Air Cylinder to Slide
<b>C941</b>	6m-100 60mm SHCS
<b>C942</b>	M8-1.50 x 25mm SHCS
<b>C943</b>	M10-1.50 x 20mm FHHS
<b>C945</b>	5/16 Black-Oxide 18-8 Stainless Steel Washer
<b>C946</b>	Street Elbow 1/4" NPT
<b>C947</b>	Quick Disconnect 1/4 M NPT
<b>HC002</b>	Hand Capper Stud

## SWAN-MATIC WARRANTY

Automation Devices, Inc. warrants the materials and goods supplied under the subject customer's purchase order to be as specified and of good quality. No specific time life shall be stated, since the results of good workmanship are of timeless age, and good quality, properly used, shall be self-evident.

This warranty does **not** cover damage resulting from accident, transportation, normal wear of parts, negligent use or misuse of the product, incorrect electrical voltage or current, usage contrary to operating instructions, alterations or repairs by other than Automation Devices, Inc., factory personnel. In the case of transportation damage, please pursue recovery for damage through your freight carrier.

If the product should become defective, we will repair or replace it, at our option, free of charge. This service is available by returning the product to our factory, freight prepaid, and we will return your product to you, freight collect.

This warranty does **not** include cost of inconvenience, damage due to product failure, transportation damage, or the like. This warranty applies only to the physical repair or replacement of the defective goods and specifically excludes any incidental or consequential damages or additional liability thereof. Some states do not allow exclusion or limitation of incidental or consequential damages. This warranty also gives specific legal rights, although you may have other rights, which vary from state to state.