



Swirl CoatTM Applicator Series

**SC-300 Series
Swirl Coat Applicator**

Owner's Manual

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1 Introduction and Specifications

The SC-300 Series Swirl Coat Applicator (Figure 1-1) is a non-contact coating applicator providing high-speed delivery and exceptional volumetric control for various fluids, especially "100%-solids" formulations. The SC-300 coats in tight spaces and has unequalled versatility for spray pattern flexibility under program control. The tri-mode operation refers to the combination of fluid and air-assist control. With the air-assist off, the SC-300 dispenses fluid in spots or beads. With the air-assist on, it delivers coating stripes as a swirling monofilament or an atomized spray. It is fully compatible with Asymtek Century C-740 and earlier generation systems employing the SC-200 Swirl Coat Applicator. Specifications are listed in Table 1-1 and Figure 1-2.



Figure 1-1 SC-300 Swirl Coat Applicator

Each SC-300 Swirl Coat Applicator is manufactured by Asymtek under strict manufacturing quality control standards to ensure precise and reliable performance. To obtain maximum performance, read instructions carefully. You may contact Asymtek for the suitability of the Swirl Coat Applicator technology for other applications.

Table 1-1 SC-300 Specifications

| SC-300 Specifications | |
|------------------------------------|--|
| Weight including mounting bracket | 0.3 kg (0.8 lbs) - dry |
| Fluid Feed System | Various options and material constructions available-contact Factory for more information Typical: Stainless Steel components, PTFE hose, acetal fittings |
| Fluid Body, Fluid Extension | 300 Series Stainless Steel |
| Nozzle | 300 Series Stainless Steel Proprietary Nickel Plating for low material adhesion |
| Needle Assembly | 300 Series Stainless Steel Needle Aluminum Piston Buna O-Ring |
| Fluid Seal | PTFE, Stainless |
| Air Body | 300 Series Stainless Steel |
| Air Sleeve | Aluminum Proprietary Nickel Plating for low material adhesion |
| Nozzle and Fluid Extension O-Rings | Ethylene-Propylene (EPDM) |
| Maximum Cycle Frequency | 20 Hz. |
| Required Air Pressure | 5.5 bar (80 psi) |
| Solenoid | 24 VDC, 6 watts |

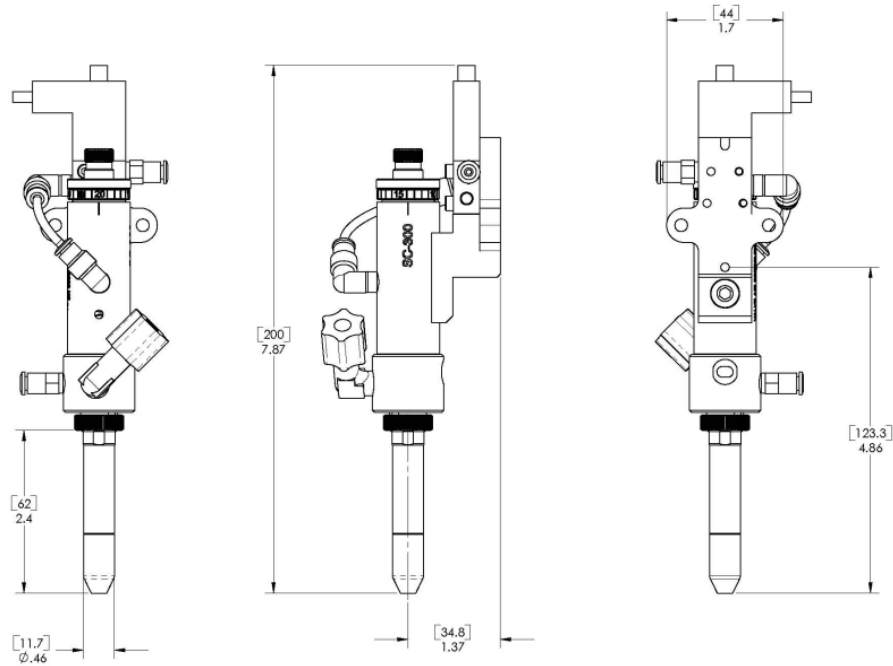


Figure 1-2 SC-300 Dimensions (mm)

2 Safety

Coating system operation involves heat, air pressure, mechanical and pneumatic devices, electrical power, and the use of hazardous materials. Refer to the *Safety* section of your particular coating system manual prior to installing and operating your SC-300 Series Swirl Coat Applicator.

Safety is considered a joint responsibility between the original equipment manufacturer (Asymtek) and the end-user (owner). All safety precautions and practices should be in accordance with local regulations and facility practice.

Safety of Personnel



WARNING!

Unsafe equipment conditions can result in personal injury or property damage. Failure to adhere to safety warnings and precautions could result in serious bodily harm to the user.

- Only trained personnel should be permitted to perform installation, operation, maintenance, and troubleshooting procedures on the SC-300 Series Swirl Coat Applicator.
- Before performing maintenance or service on the Swirl Coat Applicator, position the applicator at the front of the coating chamber. This will provide easy access to components and limit exposure to hazardous areas.
- Immediately push the red Emergency Machine Off (EMO) button on your coating system if personnel are in danger.
- Do not touch moving parts while the coating system is operating.
- Remove the Swirl Coat Applicator completely from the coating system before cleaning or performing maintenance.
- Relieve pneumatic pressure before adjusting or servicing pressurized components.

Preventing Equipment and Workpiece Damage

- Immediately push the EMO button on the coating system if the coating system, Swirl Coat Applicator, or a workpiece is in danger of being damaged.
- Use standard Electrostatic Discharge (ESD) precautions when working near sensitive components. Always wear a grounding strap and connect it to the ESD ground before handling workpieces and equipment.
- Perform all recommended SC-300 maintenance procedures at the suggested intervals.
- Immediately contain and clean up any caustic or conductive fluid spills as recommended in the material manufacturer's MSDS.

- If fluid gets into internal portions of the SC-300 (that are not normally wetted), immediately contact Asymtek Technical Support.
- Use only replacement parts that are designed for use with the original equipment. Table 8-1 contains an illustrated parts list.

Material Safety

- Follow MSDS recommendations for the proper handling, cleanup, and disposal of hazardous materials.
- Know the MSDS recommendations for treatment of injury resulting from exposure to hazardous materials.
- When working with multiple fluids, refer to the MSDS to ensure the materials are compatible.



CAUTION!

The SC-300 Series Swirl Coat Applicator is a precision instrument of inherently simple and safe design. The use of any coating fluid and the related choice of solvent for cleaning, as well as all associated safety precautions is the responsibility of the end-user. Consult with your fluid supplier for recommendations on personal protective equipment and safety practices.

3 Installation

The SC-300 Series Swirl Coat Applicator is designed for use on Asymtek Century C-740 Series Coating Systems. This section includes installation instructions for these systems.

Unpacking the Swirl Coat Applicator

Every care has been taken when packaging your Swirl Coat Applicator. However, we recommend that you look for obvious damage and verify contents against the packing slip.

Retain the case for storage of the SC-300 and accessories. Retain shipping cartons for future use. If an item needs to be returned to Asymtek, obtain a Return Material Authorization (RMA) number from Asymtek.

Installing the Swirl Coat Applicator

Tools and Materials Needed:

- 2 ½ mm hex wrench
 - 5 mm hex wrench
1. If not assembled, connect the SC-300 to the valve mounting bracket using the M6 button-head cap screw and connect the black hose from the solenoid to the SC-300 as shown in Figure 3-1.

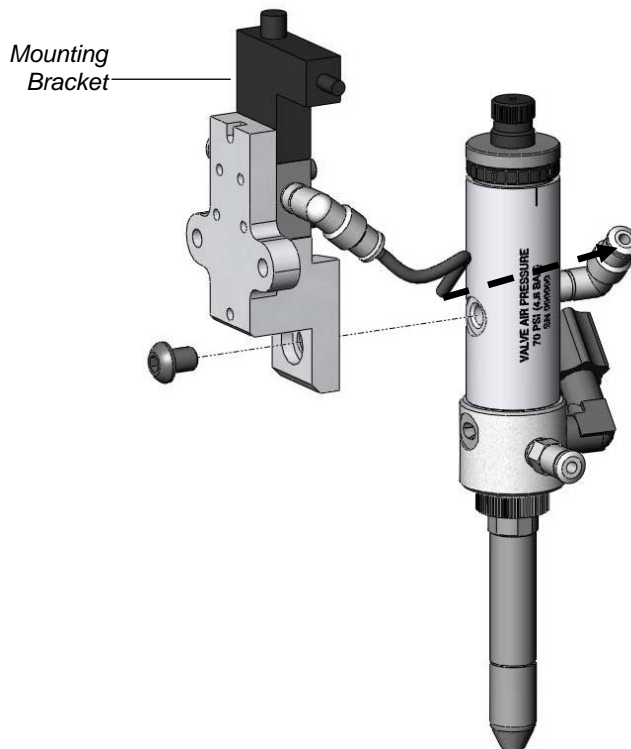


Figure 3-1 Installing the SC-300

2. Install the valve mounting bracket and SC-300 to the Z-axis mounting plate on the coating system using the 8-32 socket head cap screws provided.
 - ▶ Take into account the location of tooling, the purge cups, and other possible obstructions.
 - ▶ The length of the SC-300 is equal to the length of the SC-200 from the tooling pin to the tip. The Easy Coat default tool configuration constants for tool dimensions are appropriate for swirl tools.

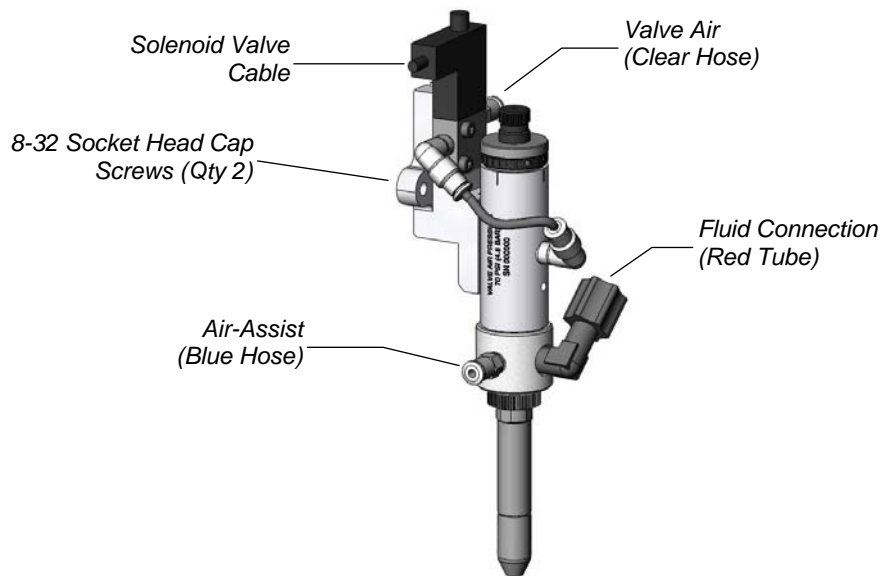


Figure 3-2 Connection Diagram - Century C-740

3. Make the electrical connection to the solenoid and to the cable in the "cat-track" if disconnected.
4. Connect the pneumatic hoses as shown in Figure 3-2.
 - ▶ The clear hose from the cat-track goes to the right hand side of the solenoid.
 - ▶ The blue hose from the air-assist solenoid on the left hand side of the Z-head goes to the lower air fitting on the left hand side of the Swirl Coat Applicator.
 - ▶ Test the operation of the solenoid valve before connecting the fluid to the fluid inlet port.
5. Connect the fluid reservoir to the fluid inlet port.
6. Verify cables and connections are secured adequately to account for the motion of the robot.
7. Verify that the Easy Coat software is configured for the correct tool type. Refer to the *Easy Coat User Guide* if necessary.
8. Adjust the assist air and fluid air pressure settings as appropriate.
9. Test Swirl Coat Applicator operation as necessary.

4 Basic Operation

The SC-300 Series Swirl Coat Applicator is a normally closed, air-actuated, spring-return mechanism, which uses a needle and seat to control precise volumes of material. Air, pressurized to 5.5 bars (80 psi), is regulated by a high-speed solenoid to retract the needle assembly from the seat. Fluid is fed into the fluid body and flows through the seat at the tip of the nozzle. When the air is exhausted, the needle travels rapidly to the closed position. While the fluid inlet is open, regulated air is optionally used to create a spray pattern ranging from a monofilament swirl (low air flow) to an atomized spray (high air flow).

Control Components

The following features affect performance of the SC-300 and are typically adjusted to fit your application. Contact Asymtek for additional information.

Fluid Pressure

Fluid Pressure should be set so that the fluid flowrate leads to the appropriate coating thickness at the chosen robot speed. In general, higher fluid pressure results in a larger volume of material dispensed.

Stroke Adjustment

The Stroke Adjustment controls the travel distance of the needle assembly. Turn counterclockwise to increase needle assembly travel, turn clockwise to decrease travel. An increase of travel distance will often result in a larger volume of material dispensed and will have an effect on the turn-on and turn-off characteristics of the dispense pattern.

Assist Air Pressure

The Air-Assist Air Pressure should be set for a given fluid flowrate. Increasing the air flow leads to increased kinetic energy to the fluid and consequently wider distribution of the spray pattern. In general, higher air-assist air pressure results in more atomization.

Solenoid Valve

The Solenoid Valve controls the Swirl Coat Applicator operation. When energized, it allows air in the air body to compress a spring and thereby raise the needle assembly. When de-energized, the air is released and the spring forces the piston down so that the needle tip contacts the seat.

Nozzle

Nozzle diameter is typically the main factor controlling flowrate and coating thickness. Nozzle size is determined based on the application and fluid properties. Other parameters are adjusted in accordance with nozzle choices. Available nozzle sizes are listed in Table 7-1.

Fluid Extensions

Several Fluid Extension air guide angle configurations are available. The SC-300 is capable of wide-angle and narrow-spray patterns depending on the fluid extension chosen.

Easy Coat Parameters

In addition to the Swirl Coat Applicator hardware configuration and settings, parameters are established within the Easy Coat software program to control the size and quality of coating stripes and spots dispensed. For information on dispense parameters, refer to the *Easy Coat User Guide* or Easy Coat Online Help.

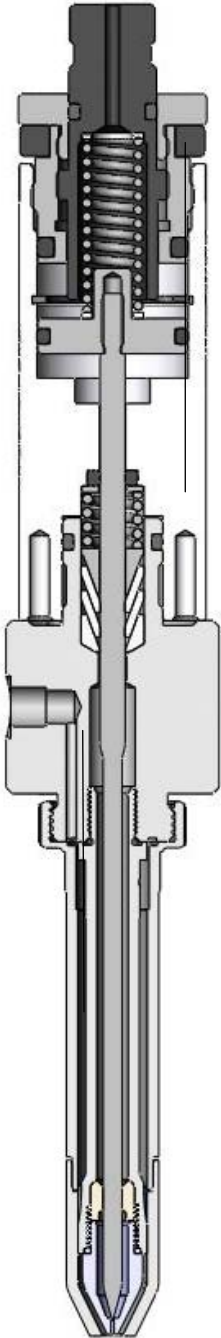


Figure 4-1 SC-300 Section View

Swirl Coat Applicator Setup



NOTE Refer to the *Easy Coat User Guide* or Easy Coat Online Help for detailed instructions on software configuration.

1. Make sure the SC-300 is completely assembled. See [Section 5 - Maintenance and Service](#) for complete instructions.
2. Install the SC-300 as detailed in [Section 3 - Installation](#).
3. Connect the fluid reservoir to the SC-300 using the appropriate tubing and fittings.
4. As soon as pressure is applied to the fluid reservoir and the SC-300 is opened, fluid should flow to the applicator tip.
5. Allow sufficient time for thicker coating fluids and prepare for the fluid flow by purging into an appropriate container.
6. Click on **Output (1) Fluid** in the Easy Coat Robot I/O tools to manually turn the Swirl Coat Applicator on and adjust the pressure until the bubbles are completely eliminated from the fluid lines.
7. Verify the fluid pressure is set correctly for your particular application. Adjust the fluid pressure to 0-4 bar (0-60 psi), depending on the fluid viscosity and application requirements.



WARNING!



CAUTION!

Caution should be used if tool calibration is uncertain as the "Configure Tool" process causes automatic motion of the Swirl Coat Applicator Nozzle to pre-determined locations. A "Configure Tool" test card routine should be performed after a Swirl Coat Applicator change and after a hardware change or location adjustment

8. Verify the Easy Coat software is configured for the swirl type tools.
 - ▶ Verify the calibration of SC-300 timing for the chosen program settings by completing the tool configuration. The characterization routine automatically determines the valve air on and off times relative to SC-300 speed and fluid properties.
9. Verify the characterization parameters against the predetermined range established by the process engineer.
10. Perform the appropriate Easy Coat setup routine as specified by the process engineer. The setup process typically loads the appropriate program information and verifies applicator operation.

Calibration Feature


The stroke control reference ring of each SC-300 valve is factory calibrated to zero position. Setting the stroke reference at zero (0) closes the stroke and will keep the applicator from opening. Each increment above zero is equal to .001-in. (.0254 mm) of needle movement. One full rotation of the stroke control knob is .025-in. (.635 mm).

Slight internal variations in the nozzles may require the stroke control to be re-calibrated when nozzles are changed. Follow the simple steps below to re-calibrate the stroke control.

To calibrate the Stroke Adjustment Knob:

1. Make a note of the current stroke setting number so you can return to it after the calibration is complete.
2. Before installing a new nozzle, turn the calibration knob counterclockwise one full turn.
3. Install the new nozzle. Ensure retaining nut is fully tightened.
4. Turn the stroke adjustment knob clockwise until it stops at the zero position.
5. Turn the calibration knob clockwise until it stops.

The calibration procedure is complete. Reset your stroke to the required position noted in Step 1.

 **NOTE** Do not turn the small knob again without repeating the complete calibration procedure.

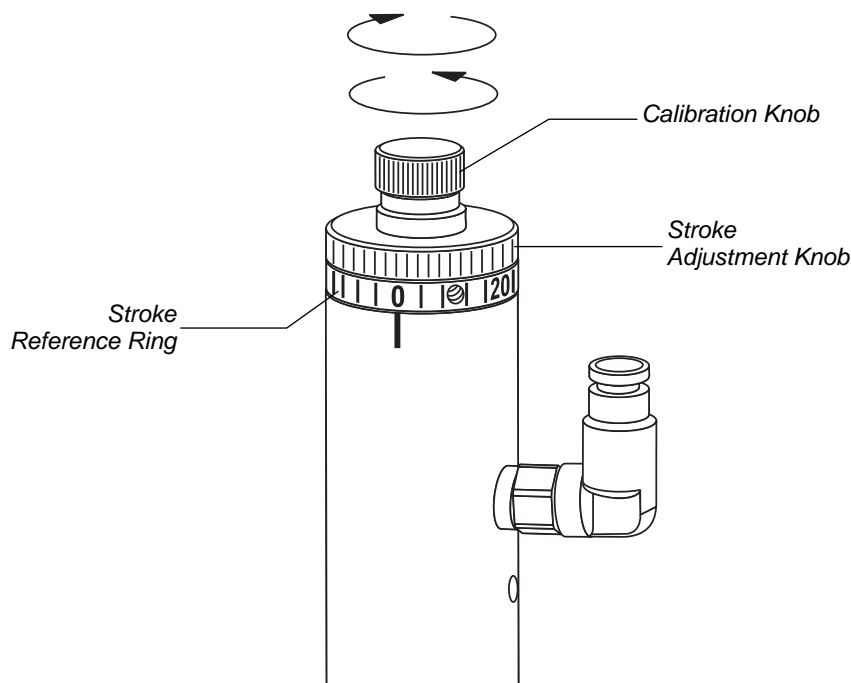


Figure 4-2 Calibration Features

To reposition the Stroke Reference Ring:

Follow the procedure below in the event that the stroke reference ring needs to be repositioned or reset to the zero mark.

1. Remove the nozzle if installed.
2. Turn the small knob counterclockwise one full turn.
3. Turn the large knob clockwise until it stops.
 - ▶ If the zero on the reference ring does not line up with the index mark on the cylinder, proceed to Step 4.
4. Loosen the small setscrew located on the reference ring.
5. Rotate reference ring until it aligns with the reference line on the cylinder body.
6. Tighten the small setscrew to lock the reference ring into position.
7. Install a nozzle and follow calibration procedure Steps 3-5.



NOTE For zero cavity nozzles [.41 mm (P/N 200360) and .76 mm (P/N 200361)], washer (P/N 7202896) should be placed on top of piston to find the zero position.

Parameter Settings

See Table 4-1 and Table 4-2 for a list of settings that affect Swirl Coat Applicator performance. Values are application dependent. Refer to the *Easy Coat User Guide* or Easy Coat Online Help for detailed software instructions. Values are saved in the Easy Coat configuration and program files. A column is provided for you to record your current settings.

Table 4-1 Hardware Settings

| Location | Category | Unit | Current Settings |
|------------------------------|-------------------------|---|-------------------------|
| On Valve | Stroke Adjustment | Graduated marks 1 full turn = 25 ticks | |
| Rear of System | Input Air Pressure | Bar (psi) | |
| Machine Front Panel | Fluid Pressure | Bar (psi) | |
| Machine Front Panel | Valve Pressure | Bar (psi) | |
| Tri-Mode Swirl Control Panel | Fluid Pressure Low | Bar (psi) | |
| | Fluid Pressure High | Bar (psi) | |
| | Air-Assist Monofilament | Bar (psi) | |
| | Air-Assist Swirl | Bar (psi) | |

Table 4-2 Tool Configuration Settings

| Category | Parameter | Units | Current Settings |
|----------------------------|---------------------|--------------|------------------|
| Bead Tool Settings | X | mm (in.) | 0 (0.000) |
| | Y | mm (in.) | -35 (-1.378) |
| | Z | mm (in.) | -124 (-4.882) |
| | Fluid On Time | sec | |
| | Fluid Off Time | sec | |
| | Velocity | mm/s (in./s) | |
| | Width | mm (in.) | |
| | Height | mm (in.) | |
| Monofilament Tool Settings | X | mm (in.) | 0 (0.000) |
| | Y | mm (in.) | -35 (-1.378) |
| | Z | mm (in.) | -124 (-4.882) |
| | Fluid On Time | sec | |
| | Fluid Off Time | sec | |
| | Assist On time | sec | |
| | Assist Off Time | sec | |
| | Velocity | mm/s (in./s) | |
| | Width | mm (in.) | |
| | Height | mm (in.) | |
| | Swirl Tool Settings | X | mm (in.) |
| Y | | mm (in.) | -35 (-1.378) |
| Z | | mm (in.) | -124 (-4.882) |
| Fluid On Time | | sec | |
| Fluid Off Time | | sec | |
| Assist On time | | sec | |
| Assist Off Time | | sec | |
| Velocity | | mm/s (in./s) | |
| Width | | mm (in.) | |
| Height | | mm (in.) | |

5 Maintenance and Service

Performing the recommended maintenance and service procedures at suggested intervals increases the life of your SC-300 Series Swirl Coat Applicator and ensures high quality coating performance for every production run.

Cleaning the Nozzle



NOTES Refer to Figure 5-1 for part identification.

Refer to the *Easy Coat User Guide* for software instructions.

Cleaning the nozzle can be accomplished without removing the Swirl Coat Applicator from the platform.



WARNING!



CAUTION!

The nozzle is the fluid shut-off mechanism on the SC-300 and cannot be removed from the applicator until the fluid pressure has been shutoff completely.

1. Position the SC-300 at the purge cup or brush box and run the appropriate macro or move the applicator to the front of the machine and clean it manually using a tissue or appropriate cleaner.
2. Completely turn off the fluid pressure to the SC-300 if removing the nozzle for inspection, cleaning, or replacement.
3. Actuate valve open by:
 - ▶ Clicking on the **Output (1) Fluid** in the Easy Coat Robot I/O Tools, or
 - ▶ Turning the stroke adjustment completely counterclockwise to reduce the force of the needle on the nozzle.
4. Remove the air sleeve using an adjustable wrench.
5. Remove the nozzle from the fluid extension using the supplied 7 mm wrench, making sure not to turn the fluid extension.



NOTE A spare nozzle should be installed immediately to seal off the fluid in the Swirl Coat Applicator. This is important if the fluid will react with the environment, as with moisture cure coatings, to prevent the material in the applicator from curing.

6. Clean the nozzle with the appropriate solvent and inspect thoroughly.



WARNING!



CAUTION!

Follow the Material Safety Data Sheet (MSDS) recommendations for all fluids used with the dispensing system. The MSDS provides material usage instructions, disposal instructions, and safety precautions.

7. Re-install the nozzle by reversing the above steps.
8. Set up the applicator as specified in [Section 4 – Basic Operation](#).
9. Resume Swirl Coat Applicator operation.

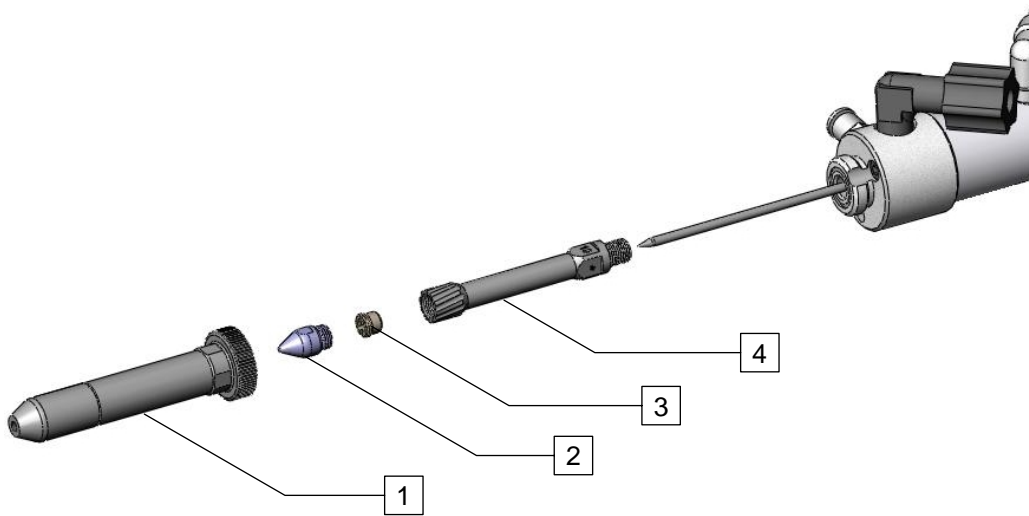


Figure 5-1 Cleaning the Nozzle (O-Rings not shown)

| Item | Description |
|------|-----------------|
| 1 | Air Sleeve |
| 2 | Nozzle |
| 3 | Needle Guide |
| 4 | Fluid Extension |

Disassembling and Cleaning the Swirl Coat Applicator



NOTE Refer to Figure 5-2 for part identification.



CAUTION!

Do not use metal objects when cleaning the wetted parts. Damage to these parts may result. Soft cleaning tools such as cotton swabs and brushes supplied in the service kit should suffice.

1. Flush the fluid system or applicator with an appropriate solvent.
 - ▶ If a solvent is used to flush the system, make sure the fluid lines are clean and dry before resuming operations.
2. Turn the fluid pressure off.
3. Lay towels under the SC-300 to collect fluid spills.
4. Move the SC-300 to the front position.
5. Turn off the system to shut off the air pressure to the solenoid valve.
6. Disconnect the electrical connection to the solenoid.



CAUTION!

Protect the solenoid valve and other non-wetted parts from contact with fluid. Do not immerse in solvent.

7. Reverse the installation steps by disconnecting the fluid lines and pneumatic lines.



NOTE

If only the SC-300 is to be removed, seal the fluid system immediately using the appropriate cap or plug. Plugging the fluid lines prevents fluid curing due to air exposure.

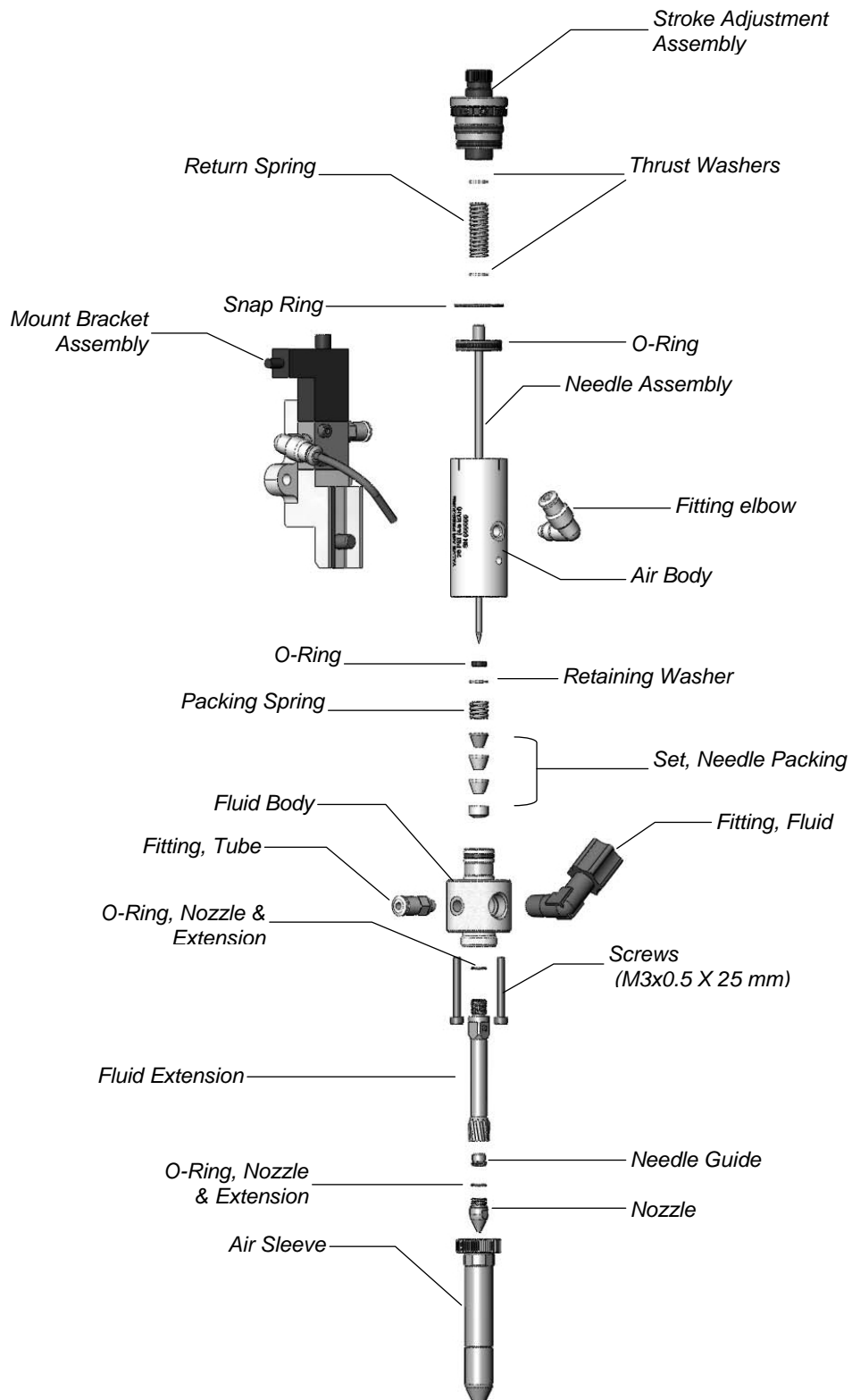


Figure 5-2 SC-300 Exploded View

8. Loosen the socket head cap screws that hold the SC-300 to the mounting bracket and remove the applicator from the platform area.
9. Back the stroke adjustment all the way out to reduce the force of the needle on the nozzle.
10. Remove air sleeve, nozzle, and fluid extension and soak in appropriate solvent.
11. Remove the socket head cap screws that hold the fluid body to the air body and separate the fluid body from the air body.
12. Wipe the needle and carefully set the applicator aside so that it does not come into contact with any fluid.
 - ▶ Some of the packing seals may stay with the applicator. These should be cleaned with the rest of the wetted parts.



NOTE If fluid is detected in the applicator above the packing set, a leak has occurred. Refer to [Section 6 - Troubleshooting](#).

13. Loosen the fluid and pneumatic fittings from the fluid body and clean as appropriate.
 - ▶ Make sure the air body does not come into contact with fluid. It should be replaced or cleaned if it does.
14. Using the supplied seal extraction tool, push the remaining packing seals from the fluid body. Clean and set aside for reassembly.
15. Clean remaining wetted parts and inspect thoroughly for wear or damage.

Removing and Replacing the Needle Assembly

1. Remove the SC-300 from the platform as described in "[Disassembling and Cleaning the Swirl Coat Applicator](#)."
2. Remove the stroke adjustment assembly.
3. Use snap ring removal pliers to remove the snap ring above the needle assembly.
4. Pull out the needle assembly.
 - ▶ Do not push on the nozzle with any appreciable force. The needle assembly should slide easily from the air body.
5. Replace the o-rings or any worn items as necessary and reassemble.

Removing and Replacing the Solenoid Valve

1. Remove the SC-300 from the platform as described in "[Disassembling and Cleaning the Swirl Coat Applicator](#)."
2. Disconnect the tubing connected to the solenoid.
3. Remove socket head cap screws holding the solenoid to the bracket.
4. Replace and reassemble.

6 Troubleshooting

To quickly identify problems, look for obvious signs such as burnt, missing, damaged, or loose parts, as well as obstructions and spills. Recurring problems indicate there may be other root causes. Tables 6-1 through 6-3 identify troubleshooting symptoms, recovery procedures, hierarchy, and setup variables.


 **NOTE** Refer to the *Easy Coat User Guide* for recovery procedures pertaining to Easy Coat.

Table 6-1 SC-300 Troubleshooting

| Symptom | Possible Cause | Recovery |
|-------------------------|--|---|
| No Fluid Dispensed | Fluid-related problems | Replace fluid |
| | Clogged nozzle | Clean wetted components |
| | Air in fluid path | Purge for a continuous period |
| | Damaged nozzle | Replace |
| | Solenoid stuck or frozen | Replace solenoid, if defective |
| | Electrical connection | Reseat the connections and inspect the pins |
| | Pneumatic connection | Verify pneumatic hoses are properly connected. Verify that both facility and valve air pressure is adequate. |
| Poor Quality Dispensing | Any of the causes above | As above |
| | Changed software settings | Check program parameters and valve configuration values |
| | Worn or damaged nozzle | Replace nozzle |
| | Damaged needle assembly | Check for wear or damage upon disassembly and replace as indicated |
| | Damaged air sleeve | Should not affect dispensing unless a gross collision has occurred |
| Leakage of Air | Worn or damaged solenoid | Replace solenoid |
| | Improper assembly | Reassemble |
| Leakage of Fluid | Fluid at the weep hole on the air body | Replace the packing seal and or needle assembly |
| | Fluid in the air body | Disassemble and clean completely and reassemble using known good seals and parts |
| | Fluid dripping from nozzle tip | Reduce pressure. Clean and inspect the needle and seat using a microscope. A new nozzle may leak a small amount of fluid until broken in. |
| Irregular Sound | Pneumatic connection | Verify pneumatic hoses are properly connected. Verify that both facility and valve air pressure is adequate. |
| | Improper assembly | Reassemble |

Table 6-2 SC-300 Troubleshooting Hierarchy

| Inputs to Valve | Outputs | Notes |
|-------------------------|-------------------------------------|--|
| Fluid | Dispense flowrate and spray pattern | If this is a new process, contact Asymtek for assistance in process development. If this is a qualified process, fluid properties may have changed. The fluid may have been mishandled or set up incorrectly, or could be beyond the normal storage life. In addition, air bubbles are a common problem with fluids that are handled, for example, poured from one container to another. Improper handling can introduce air to the fluid supply, which results in intermittent shots. |
| Fluid Pressure | | Verify that the fluid supply has been set up correctly and that fluid is free to flow through to the SC-300. Verify the pressure settings are correct. Insufficient fluid pressure results in small shot volumes or overly atomized sprays. Too much fluid pressure leads to larger shot volumes and poor atomization or swirling. |
| Valve Pressure | Consistent On/Off times | To get a consistent response time for the valve On and Off function, the valve air pressure should be 80 to 90 psi (5.5 to 6.2 bar). |
| Assist Air Pressure | | Air-assisted sprays depend on the correct combination of fluid and air flow rates. |
| Solenoid Control Signal | Audible valve actuation | A worn solenoid will move slowly or not at all, which leads to poor quality or no dispensed volume. The solenoid is a 2-wire device. Failure modes include "open" and "short". If wiring to the solenoid is open, it will not fire. If there is a short, drive circuitry will shutdown. |

Table 6-3 SC-300 Troubleshooting Setup Variables

| Component | Quality | Troubleshooting Questions |
|------------------------|--------------------------|--|
| Fluid Extension | Angle orientation | Is it the correct fluid extension installed? Is it clean? Is the needle alignment guide installed? |
| Nozzle | Size and cleanliness | Is it the correct size? Was the old nozzle replaced? Was it cleaned completely? Does a new nozzle have the same behavior? |
| Stroke Adjustment | Adjustment position | Was the stroke adjustment assembly removed? Was the zero point set correctly? Is the needle assembly worn or damaged, and is it free to travel to the nozzle tip position? |
| Air Sleeve Torque | Torque setting | Was a repeatable process used to reassemble the Swirl Coat Applicator? Check to make sure the fluid extension, nozzle, and air sleeve are properly tightened. |
| Fluid Body Packing Set | Location and orientation | Was the packing set damaged during cleaning? Was it replaced? Does a new set have the same behavior? |
| Connections | Location and orientation | If the SC-300 was removed from the system and disassembled, was it reassembled in a correct and repeatable way? Was it installed correctly? |

7 Additional Information

Recommended Facility Items

In addition to the supplied accessories and tools, it is recommended that the following items be available at your facility:

- Personal Protective Equipment recommended in applicable MSDS
- Bench Lamp and Magnifier Set
- Ultrasonic Cleaning System
- Air-gun and compressed, dry air
- Appropriate fluid collection and disposal container
- Solvent appropriate for the fluid used
- O-Ring type lubricant
- Disposable towels, cleaning swabs and brushes

Fluid Extension and Nozzle Configuration

The SC-300 Series Swirl Coat Applicator is configured at the Asymtek factory for your application. Configuration includes selecting the appropriate nozzle and fluid extension and identifying the fluid system of the machine on which the Swirl Coat Applicator will be installed. The optimal nozzle and fluid extension is determined based on your application needs. Table 7-1 shows available options and part numbers. Contact Asymtek for additional information.

Table 7-1 Available Nozzles and Extensions

| Part No. | Description |
|----------|---|
| 7200055 | Fluid Extension, Straight Flute |
| 7200056 | Fluid Extension, 3 Deg Flute |
| 7200057 | Fluid Extension, 10 Deg Flute |
| 200359 | Nozzle, 0.26 mm (.010-in.), Zero Cavity |
| 200360 | Nozzle, 0.41 mm (.016-in.), Zero Cavity |
| 200361 | Nozzle, 0.76 mm (.030-in.), Zero Cavity |
| 7202541 | Nozzle, 0.41 mm (.016-in.), Low Cavity |
| 7202542 | Nozzle, 0.76 mm (.030-in.), Low Cavity |
| 7202894 | Nozzle, 0.61 mm (.024-in.), Low Cavity |

Spares and Accessories

Table 7-2 lists available spares and accessories kits. Refer to Table 8-1 for individual parts that may be ordered separately.

Table 7-2 Spares and Accessories

| Part Number | Part Description | Description |
|-------------|-----------------------|--|
| 7201124 | KIT, SEALS, SC-300 | O-rings and fluid seal. Complete kit, individual parts not available. |
| 7201125 | KIT, REBUILD, SC-300 | Seals kit plus essential parts such as washers, springs, and the piston/needle assembly. Complete kit, individual parts not available. |
| 7201126 | KIT, START-UP, SC-300 | Refer to Table 7-3 for a complete list of the items included. |

Startup Kit

Table 7-3 Startup Kit Parts List

| Part No. | Description |
|----------|---|
| 196627 | Brush, ¼-inch by 6-inch |
| 790010 | Gage wet film 0.5-20 mils |
| 7201124 | Kit, Seals, SC-300 |
| 200357 | Needle Guide |
| 200358 | O-Rings, 0.189 x 0.032 (nozzle and extension) |
| 7200699 | Screwdriver, 3/16 |
| 7201116 | Set, Needle Packing (PFTE) |
| 58-0036 | Swab, 6-inch wood 100/pkg |
| 58-0038 | Swab, Mini, Cot, Wd, Hndl 100/pkg |
| 117678 | Test Cards |
| 7201119 | Wrench, Open-End 7, 8 mm, |
| 42-0012 | Brush, Tube, 0.02" |
| 7202896 | Washer, .203ID, .562OD, .040 THK |
| 7207783 | Tool, Seal Extraction |

8 Illustrated Parts List

Table 8-1 identifies SC-300 components and corresponding part numbers for items shown in Figure 8-1.

This section contains parts ordering information for SC-300. Table 8-1 and Figure 8-1 show available replacement parts and their part numbers. Part number information is also available on Asymtek's Find-A-Part web page: http://webstore.asymtek.com/awweblive/apps/findapart_index.asp

Table 8-1 Illustrated Parts List

| Item No. | Part No. | Description | Startup Kit P/N 7201126 | Seals Kit P/N 7201124 | Rebuild Kit P/N 7201125 |
|----------|---------------|---|----------------------------|--------------------------|----------------------------|
| 1 | 7211563 | Assy, Microadjust, SC-300 | | | |
| 2 | 7204049 | Piston, Return Spring | | | X |
| 3 | 7204045 | Thrust Washer | | | X |
| 4 | 7200063 | Assy, Mount Bracket, SC-300 | | | |
| 5 | 7204046 | Snap Ring | | | X |
| 6 | 42-0464 | O-Ring | X | X | X |
| 7 | 7200061 | Assembly, Piston & Needle | | | X |
| 8 | 7201117 | Fitting, Elbow, 1/8 QC X 10-32 | | | |
| 9 | 42-0518 | O-Ring | X | X | X |
| 10 | 7204047 | Retaining Washer | | | X |
| 11 | 7204048 | Packing Spring | | | X |
| 12 | 7201116 | Set, Needle Packing PTFE | X | X | X |
| 13 | 7200053 | Fluid, Body, SC-300 | | | |
| 14 | 42-0171 | O-Ring | | | |
| 15 | 7201118 | Fitting, 1/8 QC X 10-32 | | | |
| 16 | 194385 | Elbow, ¼ Tube X 1/8 NPTM | | | |
| 17 | 49-3325 | Screw, M3X0.5X 25 mm | | | X |
| 18 | 200358 | O-Rings, 0.189 x 0.032 | X | X | X |
| 19 | See Table 7-1 | Fluid Extension | | | |
| 20 | 200357 | Needle Guide | X | | X |
| 21 | See Table 7-1 | Nozzle | | | |
| 22 | 7204950 | Air Sleeve | | | |
| 23 | 7200701 | Cable, Assembly, Solenoid (not shown) | | | |
| 24 | 7219985 | Grease, packing, seal, SC-300 (not shown) | | | |

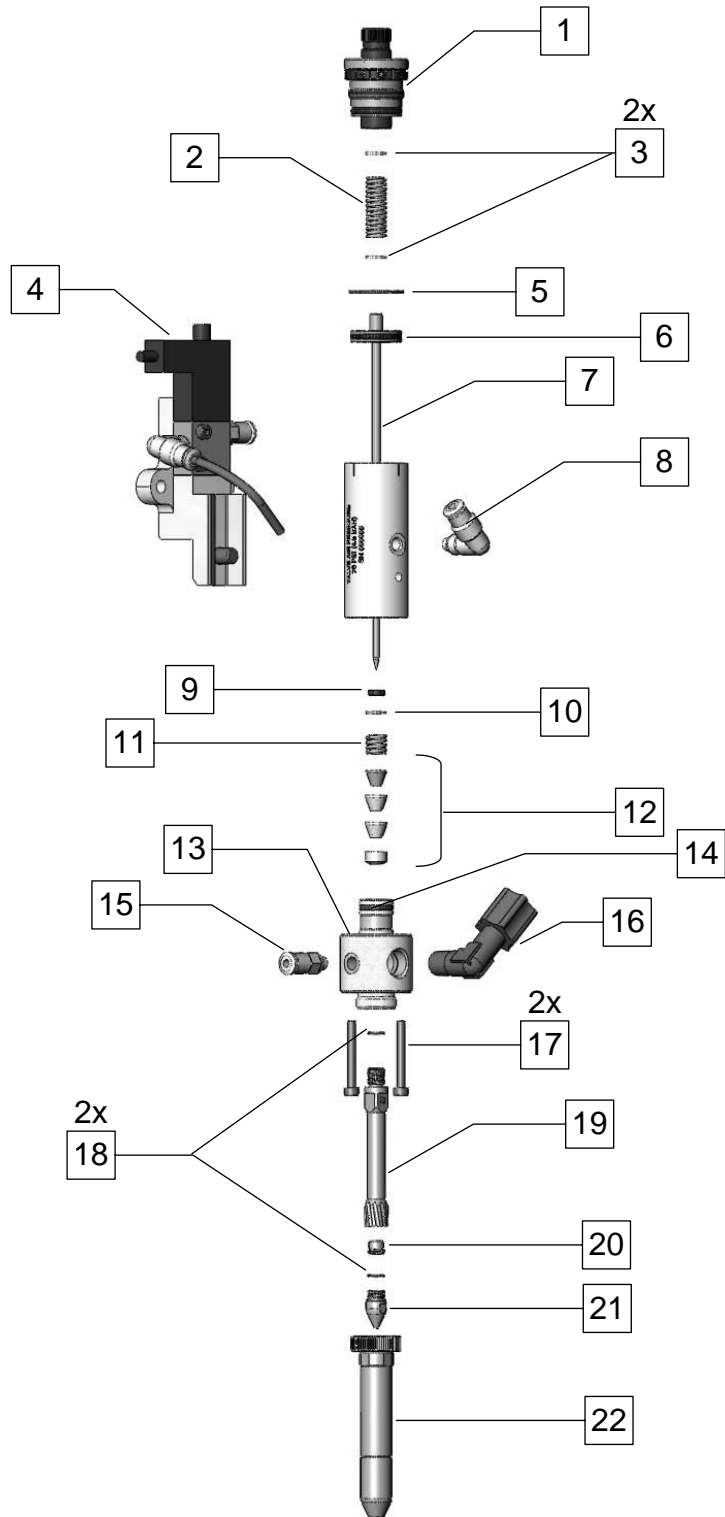


Figure 8-1 Parts Diagram



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