



BULK SPRAY CART

Model AES1-BSC

Item #119814

INSTRUCTION MANUAL



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SAFETY INSTRUCTIONS

This manual uses the following words to show different levels of danger:

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

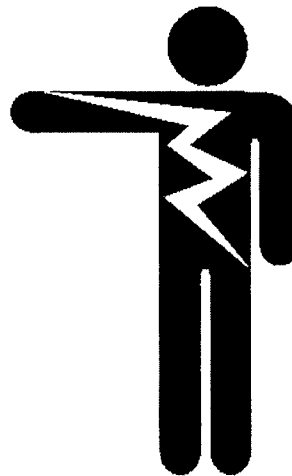
WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or property damage.

The following are general warnings that apply while operating the Spray Controller Cart:

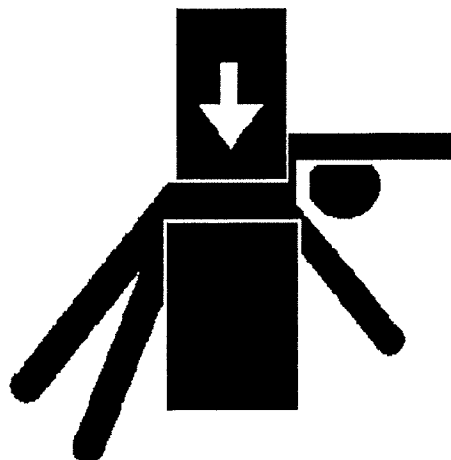
WARNING

**DISCONNECT POWER
BEFORE SERVICING.
ELECTRICAL CONTACT
COULD CAUSE SHOCK.**



WARNING

**MOVING PARTS COULD
CRUSH YOU.
AVOID CONTACT WITH
MOVING PARTS.**



PARTS LIST

Your purchase of the IMS Spray Cart includes the following:

Quantity	Part Number	Description
1	123389	APC Tank Assembly: includes APC tank and all mounted fittings
1	123078	¼" Norgren Regulator with gauge
1	122769	¼" Norgren Lubricator
1	123026	¼" Micro combination unit Filter/Regulator, Lubricator
3	123285	3 Way Solenoid Valve

SPECIFICATIONS

Compressed Air Requirements	80 – 100 psi
Dimensions	46" H X 17-3/4" W X 21-1/2" D
Weight	52 lbs. (Boxed) 41 lbs. (Unboxed)

The IMS Bulk Spray Main Unit was designed for use with IMS Bulk Mold Release. Automatic programmed spraying helps maintain consistent cycle times, eliminates wasteful overspraying, and reduces health and accident claims.

The Spray Unit features an air-charged tank mounted on a lightweight aluminum cart. The cart sits on four lockable swivel casters that facilitate mobility and easy placement close to the press. Single or double gun spray units are available and can be mounted on a mold sweep or a stationary magnetic base. Three spray head options are available to achieve different spray patterns.

The spray controller counts the mold cycles of an injection press and actuates a pneumatic mold sweep upon reaching a user-selectable number of cycles. After a pre-determined number of sweep cycles, air to a spray nozzle causes the application of a mold release product into the mold cavity. The user-selectable sweep delay, spray delay and spray time ensure that the right amount of spray is applied right where and when it is needed.

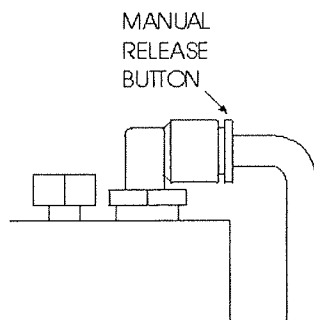
The Bulk Spray Main Unit utilizes a built-in time delay that shuts off the mold release before the air, ensuring a clean, drool-free nozzle and saving maintenance time.

INSTALLATION

Follow directions one through seven if you are setting up the IMS Bulk Spray Main Unit with the IMS Spray Sweep and Spray Controller. Connections between the IMS Spray Cart and IMS Mold Sweep will require 1/4" OD air line polyurethane tubing, also available from IMS Company. For additional information, contact an IMS Customer Service Representative (800-537-5375). See figure 1 for connection instructions:

FIGURE 1

CONNECTING TUBING TO PUSH/PULL FITTINGS

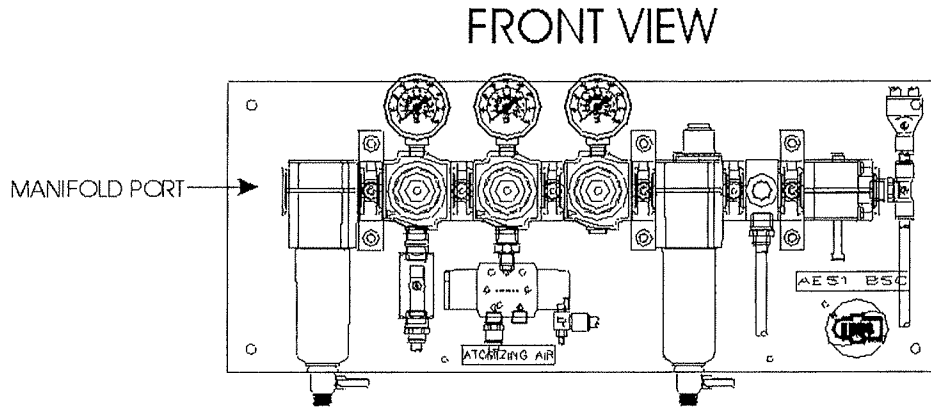


To connect: Push tubing into push/pull fitting until it will go no further. This will secure and seal the tube.

To disconnect: Depress the manual release button and pull the tubing out of the fitting.

1. Connect shop air to manifold port (see figure 2). Compressed air requirements are 80 – 100 psi.

FIGURE 2



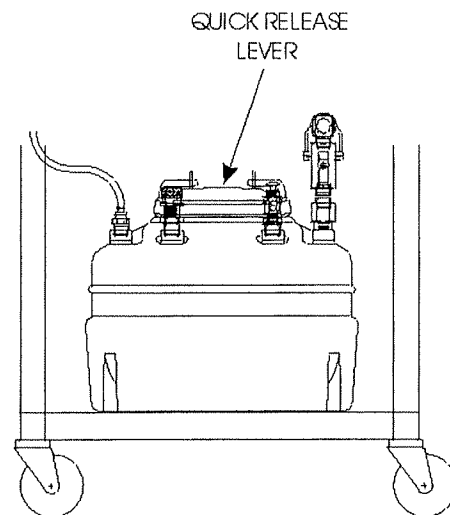
2. Remove tank lid by lifting quick release lever and fill tank with bulk mold release (see figure 3). IMS stocks all types of bulk mold release. Call a customer service representative to find out which product is best for your application (800-537-5375).

FIGURE 3

3. Connect tubing between the Spray Solenoid (S-3) and the “CYL” port on the bulkhead of the mold sweep (see figure 4 on page 5).
4. Connect tubing between the Sweep Solenoid (S-2) and port #12 on the directional valve of the mold sweep (see figure 4 on page 5).

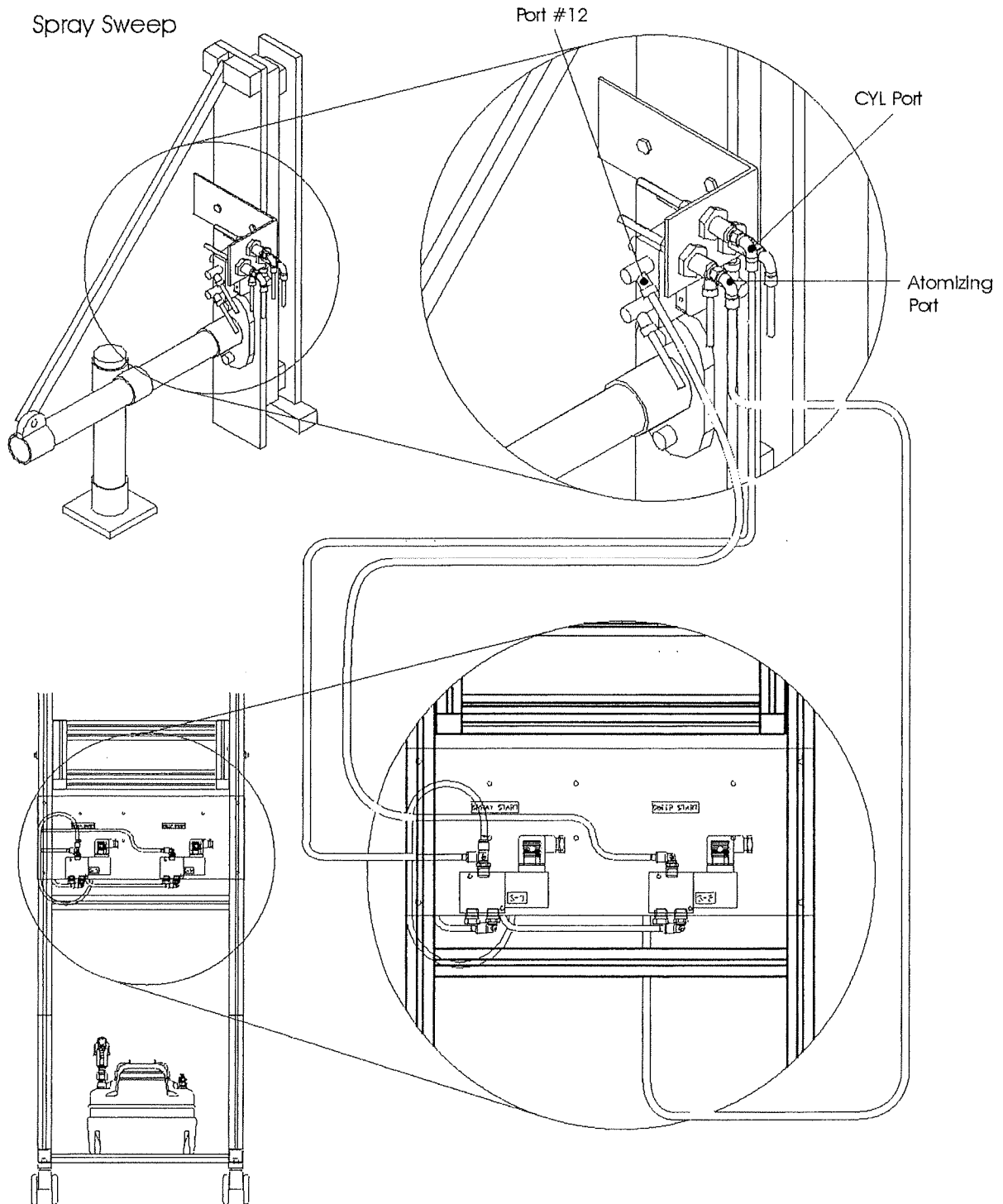
NOTE: When using the spray cart in conjunction with the IMS Mold Sweep, do not use the cycle start valve provided with the sweep. The cycle start function is programmed in the PLC controller.

PRESSURIZED TANK



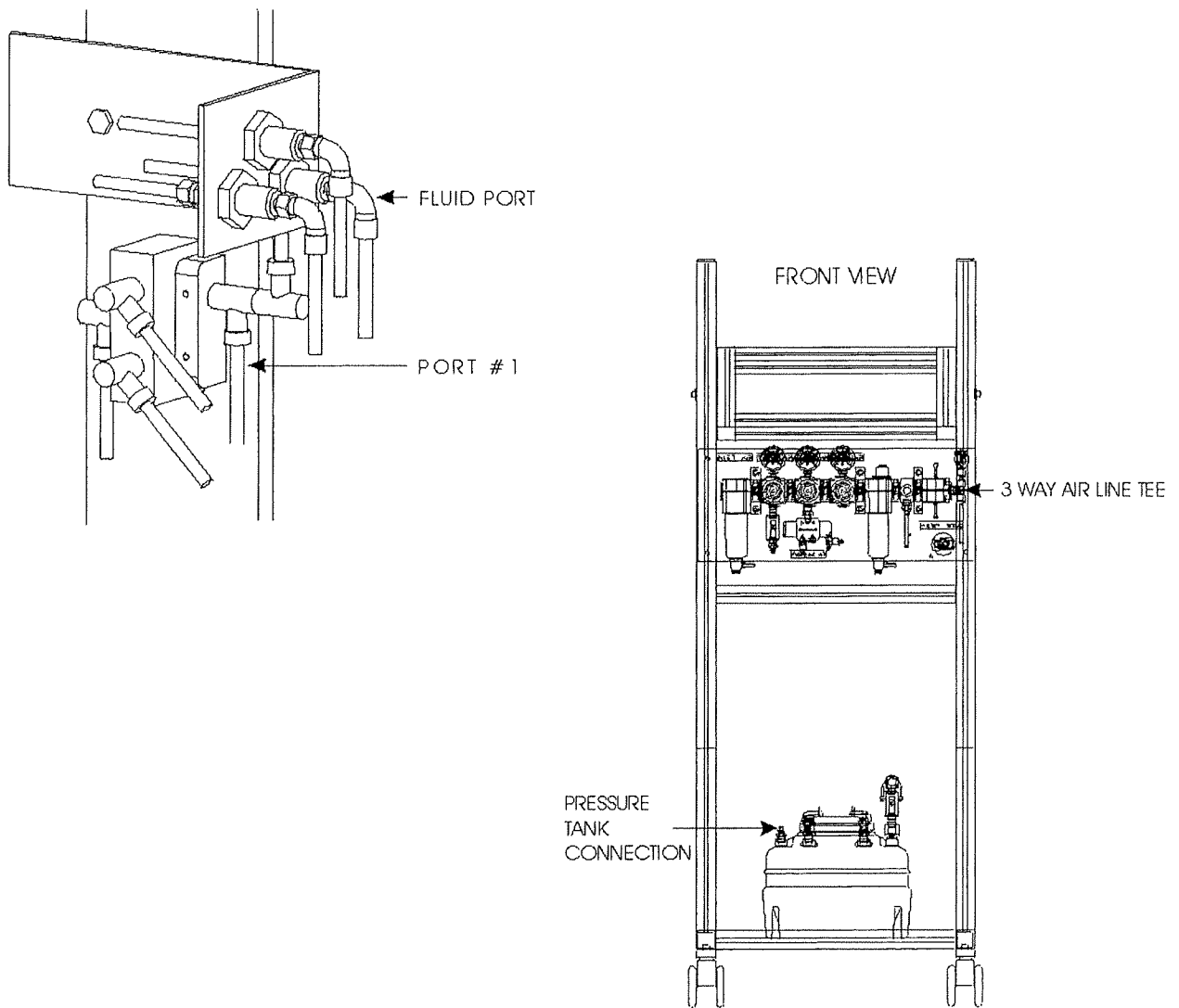
5. Connect tubing between the Atomizing Air Solenoid (S-1) and the “Atomizing” port on the bulkhead of the mold sweep (see figure 4 on page 5).

FIGURE 4



6. Connect tubing between 3 way air line tee and port #1 on the directional valve of the mold sweep (see figure 5).
7. Connect tubing between pressure tank and “Fluid” port on the bulkhead of the mold sweep (see figure 5).

FIGURE 5



GAUGE SETTINGS

Gauges should be checked for accuracy before each start-up. Set gauges according to figure 6. See figure 7 for gauge adjustment instructions.

FIGURE 6

GAUGE SETTINGS

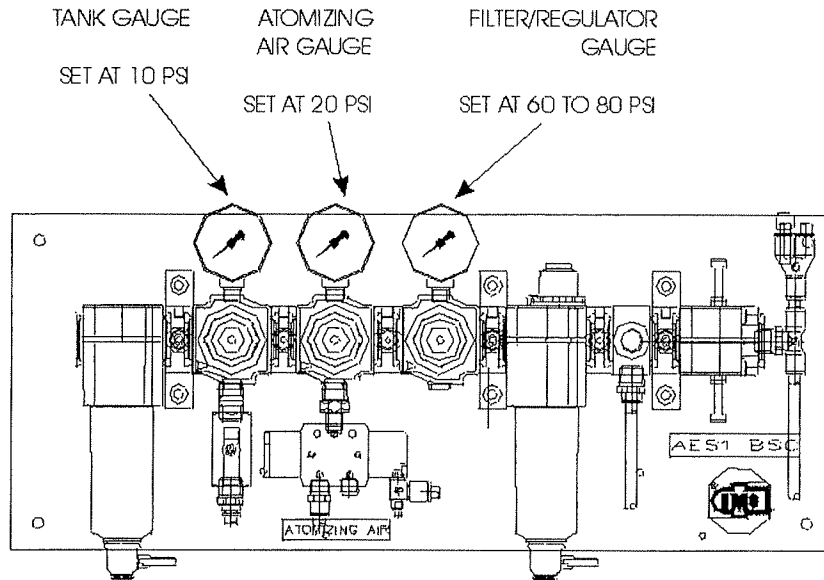
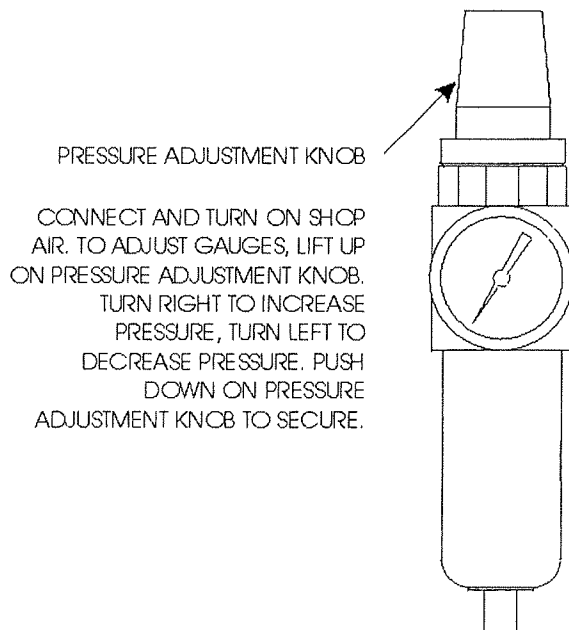


FIGURE 7

GAUGE ADJUSTMENT



PRESSURE ADJUSTMENT KNOB

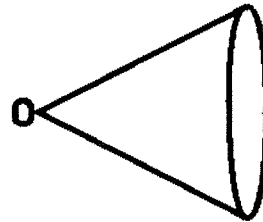
CONNECT AND TURN ON SHOP AIR. TO ADJUST GAUGES, LIFT UP ON PRESSURE ADJUSTMENT KNOB. TURN RIGHT TO INCREASE PRESSURE, TURN LEFT TO DECREASE PRESSURE. PUSH DOWN ON PRESSURE ADJUSTMENT KNOB TO SECURE.

SPRAY NOZZLE SELECTIONS, DIMENSIONS AND PATTERNS

IMS Company offers three spray head options to achieve different spray patterns. Measure your mold cavity and then refer to dimension tables for proper sizing and spacing. Select a spray nozzle that best covers the entire mold cavity with release application. More than one nozzle may be necessary for your application(s). Avoid using a nozzle that will overspray the necessary boundaries, leading to increased release usage. For questions concerning spray nozzle selection, contact an IMS Customer Service Representative (800-537-5375).

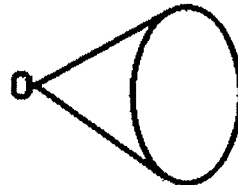
STANDARD FAN DIMENSIONS

Air PSI	Spray Width @ 6"	Spray Width @ 9"	Spray Width @ 15"	Turbulent Spray Distance
3	3.5"	6"	9"	3'
15	3.5"	6"	9"	4'
20	4"	6"	9"	4'
20	4.5"	7"	10"	5'
25	4.5"	6"	9.5"	5'
40	5"	7"	11"	6'
70	6"	7"	9.5"	8'



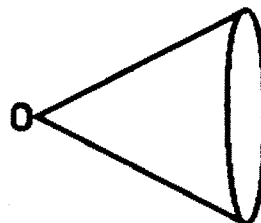
LOW VOLUME ROUND DIMENSIONS

Air PSI	Distance Maintaining 18° Spray Angle	Spray Width @ 18°	Turbulent Spray Distance
10	11"	3.5"	6'
20	11"	3.5"	6.5'
40	12"	3.8"	7.5'
60	14"	4.4"	8.5'



HIGH VOLUME FAN DIMENSIONS

Air PSI	Spray Width @ 6"	Spray Width @ 9"	Spray Width @ 15"	Turbulent Spray Distance
3	3.5"	6"	9"	3'
15	3.5"	6"	9"	4'
20	4"	6"	9"	4'
20	4.5"	7"	10"	5'
25	4.5"	6"	9.5"	5'
40	5"	7"	11"	6'
70	6"	7"	9.5"	8'



MAGNETIC SPRAY GUN HOLDER

1. Mount magnetic base to platen (see figure 9).
2. Attach spray gun to opening of swivel bracket. The bracket can be loosened and tightened by using an Allen wrench.
3. Connect shop air to manifold port (see figure 2, page 4). Compressed air requirements are 80 – 100 psi.
4. Remove tank lid by lifting quick release lever and fill tank with bulk mold release (see figure 3, page 4).
5. Connect tubing between the Atomizing Air Solenoid and the “Atomizing” port as labeled on the spray gun (see figure 8).
6. Connect tubing between the Spray Shut-Off Solenoid and the “Cylinder” port as labeled on the spray gun (see figure 8).
7. Connect tubing between pressure tank and “Fluid” port as labeled on the spray gun (see figure 8).
8. Aim spray gun appropriately towards mold by positioning mounting rods with wing nut.

FIGURE 8

SPRAY NOZZLE FRONT VIEW

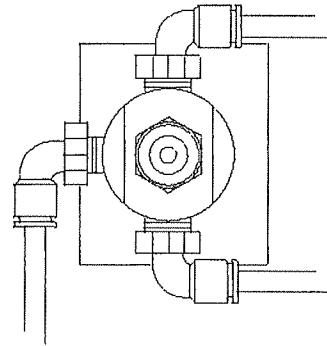
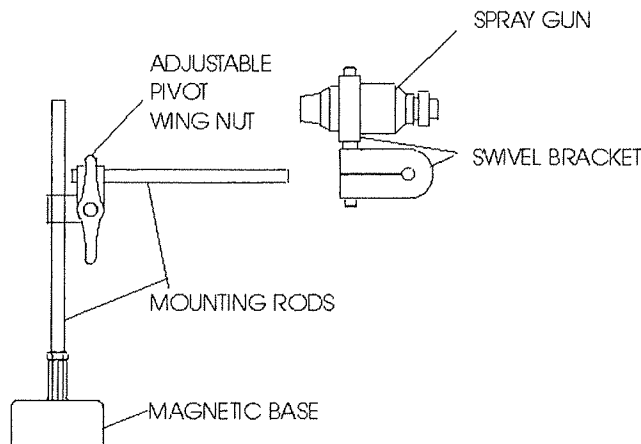


FIGURE 9

MAGNETIC BASE



MAINTENANCE

CLEANING THE PRESSURIZED TANK

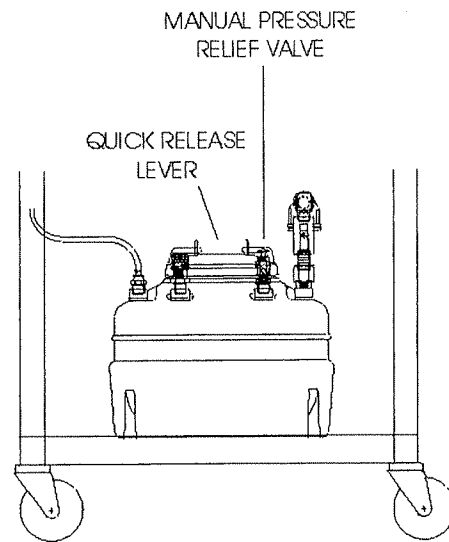
1. Depressurize tank by pressing manual pressure relief valve (see figure 10).
2. Remove tank lid by lifting quick release lever.
3. Wipe out tank with soft, clean rag or blow out with compressed air.

CLEANING THE SPRAY NOZZLE

1. Using a 7/8 open-end wrench, remove the retaining nut.
2. Slide off air cap.
3. Using a 13/16 open-end wrench, remove the fluid cap.
4. Blow out area with compressed air.

FIGURE 10

PRESSURIZED TANK



TROUBLESHOOTING

Symptom: No release is applied to the mold.

Possible cause(s):

1. Bulk tank is empty
2. Atomizing air is not delivered
3. The compressed air is not connected properly. Check the compressor and all fittings. Adjust the air pressure if necessary (refer to page 7 for proper settings).
4. Fluid air is not delivered
5. Ensure that SWEEP/CYCLE is non-zero in the controller. Refer to spray controller manual for instructions.
6. SPRAY TIME must be non-zero
7. SPRAY DELAY must be shorter than sweep duration.
8. Check for plugged nozzle(s).
9. Check for plugged tubing.
10. Check connections from solenoids to the controller.

Symptom: The sweep does not actuate.

Possible cause(s):

1. The compressed air is not connected properly. Check the compressor and all fittings. Adjust the air pressure if necessary (refer to page 7 for proper settings).
2. Ensure that SWEEP/CYCLE is non-zero in the controller. Refer to spray controller manual for instructions.

Symptom: System sprays before it sweeps.

Possible cause(s):

1. Bulkhead connections on the sweep are reversed. Check all fittings.

Symptom: Spray is heavy or light.

Possible cause(s):

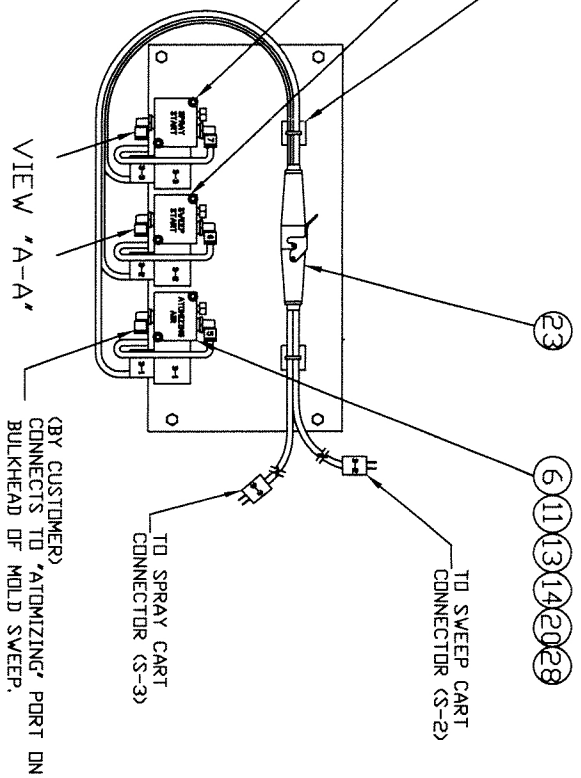
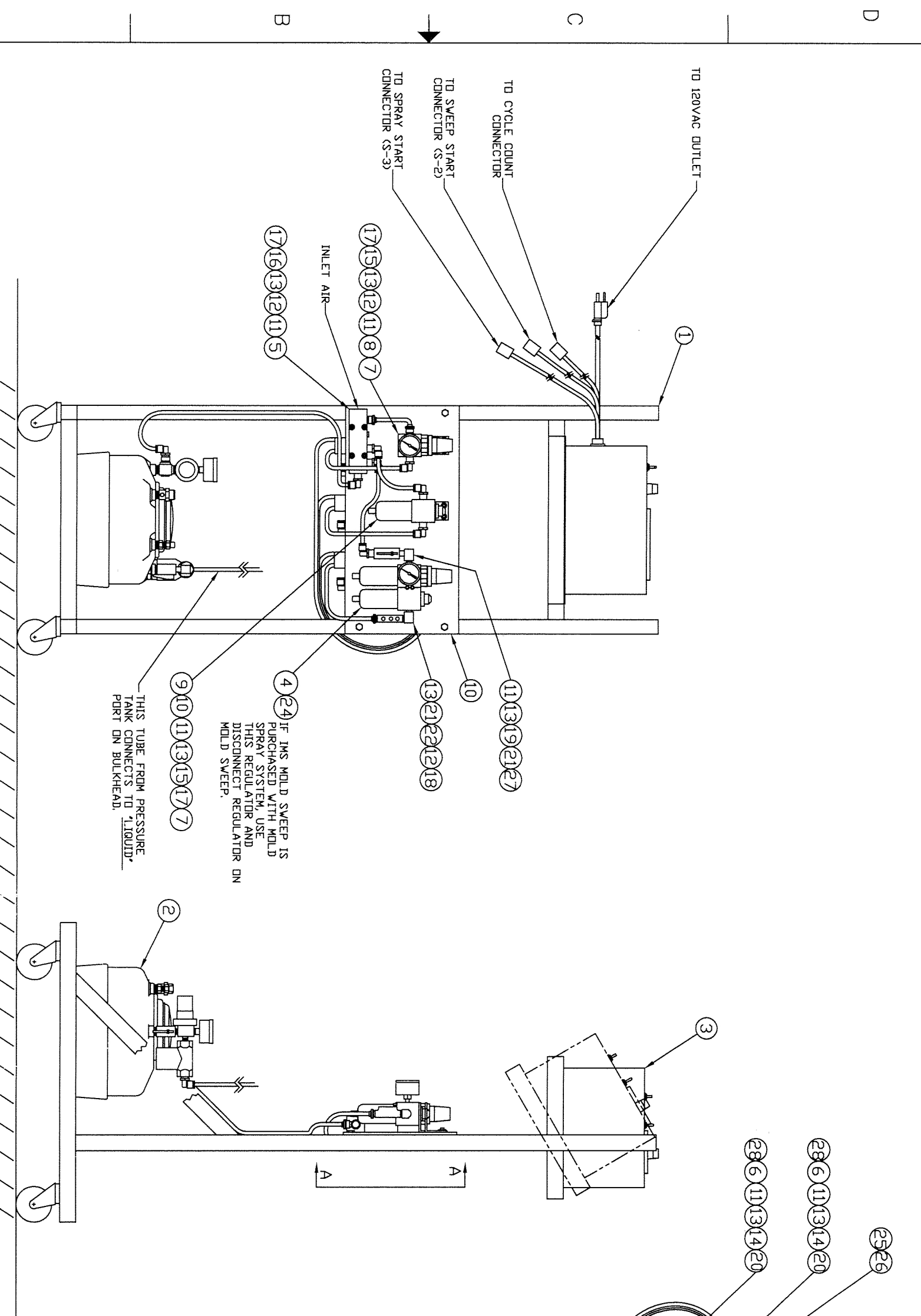
1. Check atomizing gauge and refer to proper settings (page 7).
2. Try a different spray nozzle.

Symptom: Spray is not covering entire mold cavity.

1. Check nozzle alignment.
2. Check controller programming.
3. Try different nozzles (spray pattern or volume).
4. Check for plugged spray nozzle.
5. Check for plugged tubing.

If additional instruction would prove useful, please contact IMS Customer Service at (800) 537-5373. We will be pleased to assist you.

ZONE	REV	DESCRIPTION	DATE	APPROVED
A		REVISION TO REFLECT MISC. REVISIONS	7/77/99	



(BY CUSTOMER) CONNECTS TO UPPER PORT #12 ON DIRECTIONAL VALVE OF MOLD SWEEP.

(BY CUSTOMER) CONNECTS TO 'CYL.' PORT ON BULKHEAD OF MOLD SWEEP.

(BY CUSTOMER) CONNECTS TO 'ATOMIZING' PORT ON BULKHEAD OF MOLD SWEEP.

Item	Description	Part No.	Vendor	Qty
1	CART FRAME	SB09570S	URSEM	1
2	PRESSURE VESSEL ASSY	AZZ-SP09573	IMS COMPANY	1
3	PLC SPRAY CONTROLLER	AES1-ASC01	IMS COMPANY	1
4	AIR FILTER/REG/LUB ASSY	AZZ-A1A	IMS COMPANY	1
5	AIR MANIFOLD	1000-9	URSEM	1
6	HUMPHREY 3-WAY VALVE	AZZ-KV32002S	IMS COMPANY	3
7	MTG BRKT W/ NUT - REG/LUB	18-025-003	NORGREN	2
8	REGULATOR W/ GAUGE	AZZ-NGKA	IMS COMPANY	1
9	LUBRICATOR	AZZ-MPAA	IMS COMPANY	1
10	MOUNTING PANEL	SPB8012S	URSEM	1
11	1/4" NPT ELBOW	3109-56-14	LEGIS	14
12	1/4" NPT MALE FITTING	3175-56-14	LEGIS	3
13	TUBING 1/4"	WLH3-ATP-14	IMS COMPANY	1
14	SHCS 8-32 X 1 1/4 LG		URSEM	6
15	SHCS 10-32 X 3/8 LG.		URSEM	4
16	SHCS 10-32 X 1 1/2 LG.		URSEM	4
17	#10 FLAT WASHER		URSEM	8
18	1/4" PLUG	3126-56-00	LEGIS	3
19	BALL VALVE	4982-58-14	LEGIS	1
20	#8 FLAT WASHER		URSEM	6
21	1/4" BRASS ELBOW	116AB	URSEM	2
22	AIR MANIFOLD 3-WAY	3304-56-54	LEGIS	1
23	TIME DELAY ASSY	SB09575	URSEM	1
24	SHCS 8-32 X 1 3/4 LG.		URSEM	2
25	TIE PLATE		URSEM	5
26	CABLE TIE	SP12000S	URSEM	8
27	1/4" NIPPLE	3121-56-14	LEGIS	1
28	EXHAUST MUFFLER	QU00480S	URSEM	3

IMS
Engineering & Manufacturing Services

10373 STATE ROAD 44023
CHASSEN, FL 34625

UNLESS OTHERWISE SPECIFIED
TOLERANCES:
XXX DECIMALS ±.005
XX DECIMALS ±.010
FRACTIONS ±1/64
ANGLES ±1/2

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PART NO. AES1-BS-PLC1-K
CUSTOMER

DRAWN BY BINDER
DATE 7/21/97
CHECKED BY
SCALE 1/4

D-387

BULK SPRAY SYSTEM CONTROL STATION

8 7 6 5 4 3 2 1