

# ***DeVilbiss Air Power Company***

## **GENERAL MANUAL FOR**

# **Spray Guns**

### **WARRANTY**

This product is covered by the DeVilbiss one year limited warranty. The Warranty can be found in this manual.

### **ATTACH SALES RECEIPT HERE**

Retain original Sales Receipt as proof of purchase.

***If you have any questions call:***  
**Customer Service Hotline**  
**(Toll Free) 1-800-888-2468 Ext. 2**  
**Monday thru Friday • 8:00 a.m. to 4:30 p.m. (CST)**

*DeVilbiss Air Power Company • 213 Industrial Drive • Jackson, Tennessee 38301-9615*

# SAFETY GUIDELINES - DEFINITIONS

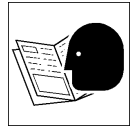
<p>This manual contains information that is important for you to know and understand. This information relates to protecting <b>YOUR SAFETY</b> and <b>PREVENTING EQUIPMENT PROBLEMS</b>. To help you recognize this information, we use symbols to the right. Please read the manual and pay attention to these sections.</p>	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;"><b>⚠ DANGER</b></div> <p>URGENT SAFETY INFORMATION - A HAZARD THAT WILL CAUSE SERIOUS INJURY OR LOSS OF LIFE.</p>	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;"><b>⚠ CAUTION</b></div> <p>Information for preventing damage to equipment.</p>
	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;"><b>⚠ WARNING</b></div> <p>IMPORTANT SAFETY INFORMATION - A HAZARD THAT <i>MIGHT</i> CAUSE SERIOUS INJURY OR LOSS OF LIFE.</p>	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;"><b>NOTE</b></div> <p>Information that you should pay special attention to.</p>

## IMPORTANT SAFETY INSTRUCTIONS

### • SAVE THESE INSTRUCTIONS •



**IMPROPER OPERATION OR MAINTENANCE OF THIS PRODUCT COULD RESULT IN SERIOUS INJURY AND PROPERTY DAMAGE. READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT.**



WHAT TO LOOK FOR	WHAT COULD HAPPEN	HOW TO PREVENT IT
Flammable Spray Materials	When paints or materials are sprayed, they are broken into very small particles and mixed with air. This will cause certain paints and materials to become extremely flammable.	<p>Never spray near open flames or pilot lights in stoves or heaters.</p> <p>Never smoke while spraying.</p> <p>Provide ample ventilation when spraying indoors.</p>
Toxic Vapors	Some paints and coatings may be harmful if inhaled or allowed to come into contact with skin or eyes.	Use a mask or respirator if there is a chance of inhaling toxic sprayed materials. Masks and respirators have limits and will only provide protection against some kinds and limited amounts of toxic material. Read mask and respirator instructions carefully. Consult with a safety expert or industrial hygienist if you are not sure about the use of a certain mask or respirator.
Compressed Air	Compressed air may propel dirt, metal shavings, etc. and possibly cause an injury.	<p>Never point any nozzle or sprayer toward a person or part of the body.</p> <p>Always wear ANSI Z87 safety goggles or glasses when spraying.</p>
Pressurized Parts	Certain parts are under pressure whenever the gun is connected to a pressurized air line. These parts may be propelled if the gun is disassembled.	Disconnect the gun from the air line, or completely depressurize the air line whenever the gun is to be disassembled.
Explosion Hazard - Incompatible Materials	The solvents 1,1,1-Trichloroethane and Methylene Chloride can chemically react with the aluminum used in most spray equipment, and this gun and cup, to produce an explosion hazard.	<p>Read the label or data sheet for the material you intend to spray.</p> <ol style="list-style-type: none"> <li>1. Do not use any type of spray coating material containing these solvents.</li> <li>2. Do not use these solvents for equipment cleaning or flushing.</li> <li>3. If in doubt as to whether a material is compatible, contact your material supplier.</li> </ol>

# GENERAL INFORMATION

## AIR CAPS

**External Mix** - The air and material are mixed outside the air cap. This type of cap is best suited for quick drying paints, such as latex, lacquers, etc.

**Internal Mix** - The air and material are mixed inside the air cap. This type of cap is normally used for thick paint where fast application is desired and where quality of finish is less important. Internal mix must be used with pressure feed set-up.

**Fluid/Fan Adjustment**- To increase volume of material, turn fluid needle adjusting screw counterclockwise. To decrease, turn clockwise. Increasing volume of material will also increase fan pattern size when using a fan pattern air cap.

To change air caps, turn the retaining ring counterclockwise and remove from gun.

Remove air cap and replace with different cap. Reassemble in reverse order.

### NOTE

**Matched air cap and fluid tip combinations are recommended for optimum performance. The fluid tip is removed with a 1/2" socket. When assembling, be sure the plastic baffle is in place and the tip is not cross threaded or over tightened (160-220 in.-lbs. Torque).**

## PREPARATION FOR SPRAYING

This spray gun is shipped completely assembled, and set-up spraying. Installation is accomplished by connecting an air line to the air inlet adapter.

This spray gun should be flushed with solvent prior to spraying with paint.

The fluid needle packing in this gun may be loose when received. Tighten the packing retainer until it grabs and holds the fluid needle, then back off the packing retainer (approx. 1/4 turn) until the fluid needle is free to travel into the fluid tip.

Be sure the surface to be sprayed is dry and free of all dirt, grease, oil and loose paint. Mix and prepare the paint according to the manufacturer's instructions. The use of a viscosimeter can be very helpful. Strain the material to be sprayed through a 60 to 90 mesh screen or equivalent.

To use a quick disconnect, remove the air hose adapter and install a 1/4" NPT quick disconnect adapter into the handle of the gun body. Set air pressure at 40 psi as a starting point and follow the safety precautions before you begin.

## OPERATION

1. Shut off fluid flow through gun by turning fluid needle adjusting screw clockwise as far as it will go. Do not force.
2. Keep the air pressure as low as possible. Set pressure to 40 psi as a starting point.
3. Open (turn counterclockwise) air valve assembly until the first thread is flush with the back of gun. This is the full open position.
4. Hold the trigger back and gradually open the fluid needle adjusting screw until a desired pattern is obtained.
5. Trigger the gun quickly, one second on-off. Spray a small test pattern.
6. If the gun sprays too fast (runs or sags), lower the air and fluid pressure. If too slow, increase pressure. Adjust to balance pressure.

### **⚠ WARNING**

**RISK OF INJURY OR EQUIPMENT DAMAGE.  
DO NOT EXCEED 50 PSIG AT ANY TIME**

When using internal mix air cap, begin with the same air and fluid pressure.

## MAINTENANCE

Thoroughly clean the spray gun after each use.

1. Turn off air supply, and remove cup from lid.
2. Empty the material from cup and rinse with a clean solvent (thinner).
3. Fill cup with solvent and attach to the lid.

### NOTE

**Always clean with reduced air pressure. An air pressure no greater than 15 to 20 PSI will allow quick and thorough cleaning of the cup and gun.**

4. Turn on the air supply and spray solvent through the spray gun. While spraying, shake the gun up and down to remove all excess material from the lid. Repeat Steps 1-4 above with a clean solvent until all traces of material are removed.
5. Turn off air supply to gun.
6. To clean the vent orifice and interior of shroud the lid assembly must be disassembled and wiped with solvent. This is easily accomplished by unscrewing the shroud retaining sleeve. When reassembling, orient the fluid pick-up tube bend away from the handle, then tighten the shroud retaining sleeve hand tight.

7. Wipe the outside of the spray gun and cup with a solvent soaked cloth. **DO NOT IMMERSE THE GUN IN SOLVENT -- THIS WILL WASH OUT THE LUBRICANTS AND DRY OUT PACKINGS.**

8. To clean the air cap and fluid tip, remove them, soak in suitable solvent and wipe clean with a clean cloth. If the holes are plugged, use a wooden toothpick to remove any material particles. NEVER use a needle or any other metal object as this may damage the holes and result in imperfect spray patterns. When reassembling the fluid tip, take care not to overtighten (160-200 in.lbs. torque is recommended) or cross thread the fluid tip into the gun body.

### NOTE

**If water is used as a solvent to clean the gun, spray paint thinner or mineral spirits through the gun after cleaning to remove any excess moisture and protect parts.**

After cleaning the spray gun, apply a few drops of light household oil to the fluid needle next to the packing retainer, on the threads of the air valve assembly and that part of the valve stem which protrudes from the gun body. All springs should be given a coating of light grease periodically.

## HINTS FOR GOOD SPRAYING RESULTS






- Hold the gun perpendicular to the surface, 6" to 8" distance.
- Follow contour.
- Overlap each stroke 50%.
- Ends are feathered by triggering. That is, begin stroke before pulling trigger and releasing just before ending the stroke.
- Spray edges and corners first. This will reduce over-spray while providing good coverage on corners.
- Don't arc strokes, move the gun parallel to work.

Your pattern should normally be shaped like this.



If not, see Troubleshooting guide.

## TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION
Heavy top or bottom pattern. 	Material build-up on air cap or fluid tip. Partially plugged horn holes, center holes or fluid tip hole.	Determine where material build-up is by inverting cap and test spraying. If pattern shape stays in same position, the condition is caused by material build-up on fluid tip. If pattern changes with cap movement, the condition is in the air cap.
Heavy right or left side pattern. 		Soak cap or tip in suitable solvent and wipe clean. To clean orifices use a broom straw or toothpick. Never use a wire or hard instrument. This damages holes and distorts its spray pattern.
Heavy center pattern. 	Too much material.  Material too thick.	Reduce fluid flow or increase air pressure.  Thin material.
Split spray pattern. 	Not enough material.	Reduce air pressure or increase fluid flow.
Jerky or fluttering spray. 	Insufficient material.  Gun with cup tipped at excessive angle.  Obstructed fluid passage or hose.  Loose fluid tip or damaged tip seat. (Most common cause.)  Loose or cracked fluid tube in cup or pressure tank.  Too heavy fluid for suction feed.  Dry or worn packing or loose packing nut.	Fill material container.  Do not tip excessively or rotate fluid tube.  Clean.  Tighten or replace.  Tighten or replace.  Thin material or change to pressure feed.  Lubricate or replace. Tighten.
Improper spray pattern.	Gun improperly adjusted.  Dirty air cap.  Fluid tip obstructed.  Sluggish needle.	Readjust gun following instructions carefully.  Clean air cap.  Clean.  Lubricate.
Unable to get round spray.	Fan adjustment stem not seating properly.	Clean or replace.
Will not spray.	No air pressure at gun.  Internal mix air cap used with suction feed.	Check air lines.  Change to pressure feed.

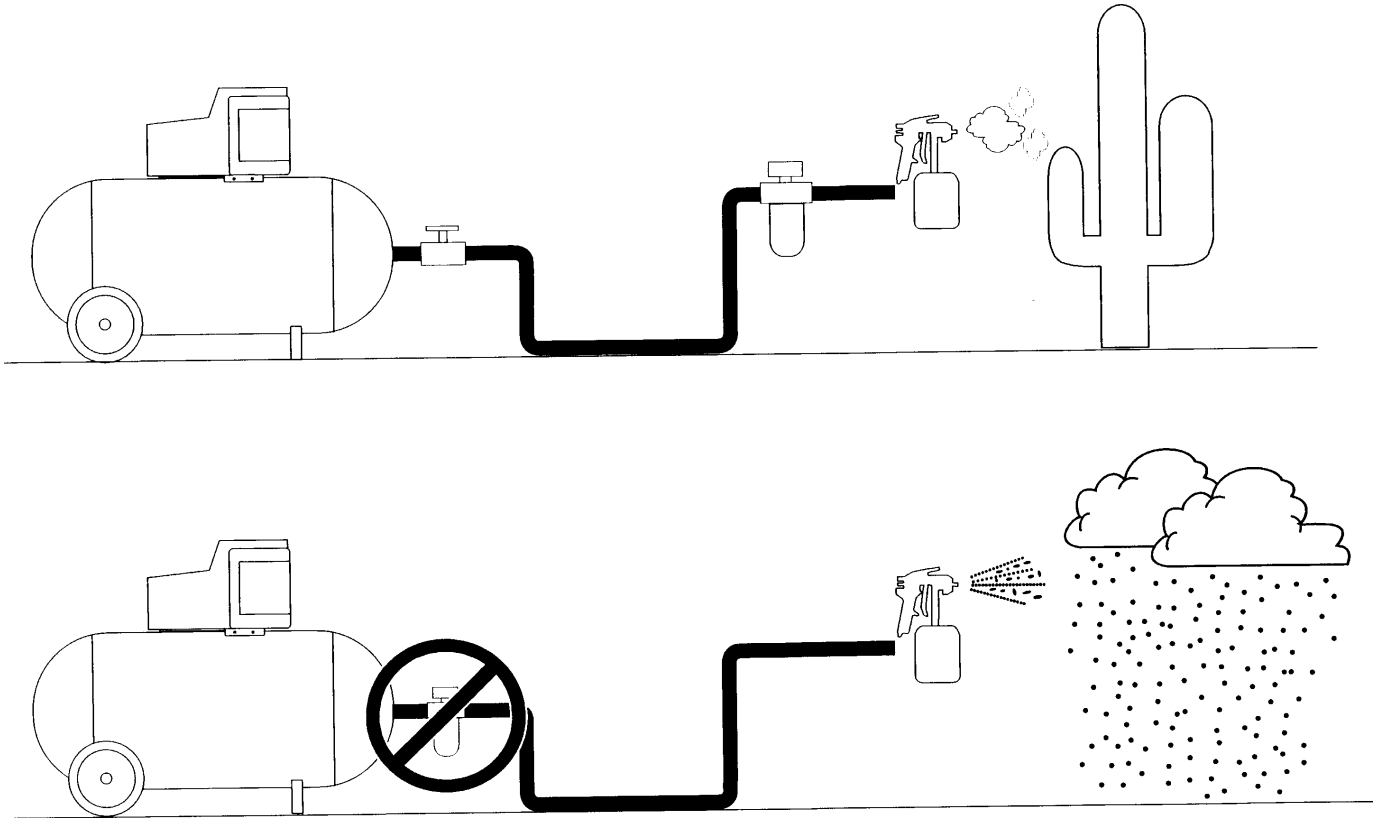
# TROUBLESHOOTING GUIDE (Cont'd)

PROBLEM	CAUSE	CORRECTION
Will not spray. (cont'd)	Fluid pressure too low with internal mix cap and pressure tank.	Increase fluid pressure at tank.
	Screw not open enough.	Open fluid adjusting screw.
	Fluid too heavy for suction feed.	Change to pressure feed.
Fluid leakage from packing retainer nut.	Packing nut loose.	Tighten, but not so tight as to grip needle.
	Packing worn or dry.	Replace packing or lubricate. See "Maintenance".
Dripping from fluid tip.	Dry packing.	Lubricate.
	Sluggish needle.	Lubricate.
	Tight packing nut.	Adjust.
Runs and sags.	Too much material for spray pace.	Reduce pressure and readjust.
	Material too thin.	Remix or spray light coats.
	Gun tilted on an angle.	Hold gun at right angle to work.
Excessive overspray.	Too much atomization air pressure.	Reduce.  Check distance. See "Hints for Good Spraying Results".
	Gun too far from surface.	
	Improper stroking; i.e., arcing, moving too fast.	Move at moderate pace, parallel to work surface. See "Hints for Good Spraying Results".
Excessive fog.	Too much or quick drying thinner.	Remix.
	Too much atomization air pressure.	Reduce.
Thin, sandy coarse finish drying before it flows out.	Gun too far from surface	Move gun closer to surface. See "Hints for Good Spraying Results".
	Too much air pressure.	Reduce pressure.
	Improper thinner	Follow paint manufacturer's instructions.
Thick dimpled finish "orange peel." Too much material coarsely atomized.	Gun too close to surface	Move gun away from the surface. See "Hints for Good Spraying Results".
	Air pressure too low.	Increase air pressure or reduce fluid pressure.
	Improper thinner.	Follow paint manufacturer's instructions.
	Material not thoroughly mixed.	Mix thoroughly.
	Surface rough, oily, dirty.	Properly clean and prepare surface.

# HOOK-UP INSTRUCTIONS

It is recommended that a moisture separator/regulator should be installed in the main distribution line if there is a possibility of moisture related damage of the surface to be painted. When installing the moisture separator/regulator, it should be placed as close to the tool as possible. Liquid water occurs naturally in air lines as a result of compression. Moisture exiting near the compressor is warm and still in a vapor state which allows it to pass through the moisture separator. The vapor must travel a minimum of 5 to 10 feet to cool down to a liquid to be removed by the moisture separator.

(See Illustration below)



# LIMITED WARRANTY

## ONE YEAR FROM DATE OF PURCHASE

All merchandise manufactured by DeVilbiss Air Power Company is warranted to be free of defects in workmanship and material which occur during the first year from the date of purchase by the original purchaser (initial user). Products covered under this warranty include: air compressors, \*air tools, accessories, service parts, pressure washers, and generators used in consumer applications (i.e., personal residential household usage only).

Air compressors, \*air tools, accessories, service parts, pressure washers, and generators used in commercial applications (income producing) are covered by a 90 day warranty.

DeVilbiss Air Power will repair or replace, at DeVilbiss's option, products or components which have failed within the warranty period. Repair or replacement, and service calls on 60 and 80 gallon air compressors, will be handled by Authorized Warranty Service Centers and will be scheduled and serviced according to the normal work flow and business hours at the service center location, and depending on the availability of replacement parts.

All decisions of DeVilbiss Air Power Company with regard to this policy shall be final.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### RESPONSIBILITY OF ORIGINAL PURCHASER (Initial User):

- Retain original cash register sales receipt as proof of purchase for warranty work.
- Use reasonable care in the operation and maintenance of the product as described in the Owners Manual(s).
- Deliver or ship the product to the nearest DeVilbiss Air Power Authorized Warranty Service Center. Freight costs, if any, must be paid by the purchaser.
- Air compressors with 60 and 80 gallon tanks only will be inspected at the site of installation. Contact the nearest Authorized Warranty Service Center, that provides on-site service calls, for service call arrangement.
- If the purchaser does not receive satisfactory results from the Authorized Warranty Service Center, the purchaser should contact DeVilbiss Air Power Company.

### THIS WARRANTY DOES NOT COVER:

- Merchandise sold as reconditioned, floor models and/or display models. Any damaged or incomplete equipment sold "as is".
- Merchandise used as "rental" equipment.
- Merchandise that has become inoperative because of ordinary wear, misuse, freeze damage, use of improper chemicals, negligence, accident, improper and/or unauthorized repair or alterations including failure to operate the product in accordance with the instructions provided in the Owners Manual (s) supplied with the product. \*Air Tools: O-Rings and driver blades are considered ordinary wear parts, therefore, they are warranted for a period of 45 days from the date of purchase.
- An air compressor that pumps air more than 50% during a one hour period is considered misuse because the air compressor is undersized for the required air demand. Maximum compressor pumping time per hour is 30 minutes.
- Merchandise sold by DeVilbiss Air Power which has been manufactured by and identified as the product of another company. The product manufacturer's warranty will apply.
- Repair and transportation costs of merchandise determined not to be defective.
- Cost associated with assembly, required oil, adjustments or other installation and start-up cost.
- ANY INCIDENTAL, INDIRECT OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE OR MALFUNCTION OF THE PRODUCT.** Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE.** Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

**DeVilbiss Air Power Company**

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