# **BAGK&DEGKER®** HVLP SMARTSELECT<sup>™</sup> SPRAYER INSTRUCTION MANUAL



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# SAVE THIS INSTRUCTION MANUAL FOR FUTURE REFERENCE.

VEA EL ESPAÑOL EN LA CONTRAPORTADA.

INSTRUCTIVO DE OPERACIÓN, CENTROS DE SERVICIO Y PÓLIZA DE GARANTÍA. ADVERTENCIA: LÉASE ESTE INSTRUCTIVO ANTES DE USAR EL PRODUCTO.

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# **SAFETY GUIDELINES - DEFINITIONS**

It is important for you to read and understand this manual. The information it contains relates to protecting YOUR SAFETY and PREVENTING PROBLEMS. The symbols below are used to help you recognize this information.

ADANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 $\Delta$  **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.

**NOTICE:** Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

#### The following are explanations of important safety hazard pictorials in this manual.



1. Read and understand the instruction manual.





5. Electric shock hazard.



2. Fire hazard.



4. Respiratory hazard.

Explosion hazard.

# IMPORTANT SAFETY INSTRUCTIONS

**SAVE THESE INSTRUCTIONS -** To reduce the risks of fire or explosion, electrical shock and the injury to persons, read and understand all instructions included in this manual. Be familiar with the controls and the proper usage of the equipment.

This product is intended for household use only.



A WARNING: FIRE OR EXPLOSION HAZARD. Solvent and spray material fumes can explode or ignite. Severe injury or property damage can occur.

#### To avoid these risks, take the following preventions:

- Exhaust and fresh air introduction must be provided to keep the air within the spray area free from accumulation of flammable vapors.
- Avoid all ignition sources such as static electricity sparks, open flames, pilot lights, hot objects, lit tobacco products, and sparks from connecting and disconnecting power cords or working light switches.
- · Fire extinguishing equipment must be present and in good working order.
- · Follow the material and solvent manufacturer's safety precautions and warnings.
- Do not spray flammable or combustible materials near an open flame or sources of ignition such as lit tobacco products, motors, and electrical equipment.
- Know the contents of the spray materials and their cleaning solvents. Read all Material Safety Data Sheets (MSDS) and container labels provided with the spray materials and solvents. Follow the spray material and solvent manufacturer's safety instructions.
- Do not use materials with a flashpoint higher than 60°C (140°F). Flashpoint is the temperature that a fluid can produce enough vapors to ignite (see coating supplier).



 $\Delta$  WARNING: EXPLOSION HAZARD DUE TO INCOMPATIBLE MATERIALS. Severe injury or property damage can occur.

#### To avoid these risks, take the following preventions:

- · Do not use bleach.
- Do not use halogenated hydrocarbon solvents such as methylene chloride and 1,1,1 trichloroethane. They are not compatible with aluminum and may cause an explosion. If you are unsure of a material's compatibility with aluminum, contact your coating supplier.



**WARNING:** HAZARDOUS VAPORS. Spray materials, solvents, and other materials can be harmful if inhaled or come in contact with the body. Vapors can cause severe nausea, fainting, or poisoning.

#### To avoid these risks, take the following preventions:

- Use a respirator or mask if vapors can be inhaled. Read all instructions supplied with the mask to be sure it will provide the necessary protection.
- Wear protective eyewear.
- · Wear protective clothing as required by coating manufacturer.



#### A WARNING: ELECTRIC SHOCK HAZARD. May cause severe injury.

#### To avoid these risks, take the following preventions

- Keep electrical cord plug and spray gun trigger free from spray material and other liquids. Never hold cord at plug connections to support cord. Failure to observe may result in an electrical shock.
- Never immerse electrical parts in water or any other liquid. Wipe the exterior of the sprayer with a damp cloth for cleaning. Always make sure the sprayer is unplugged before taking it apart for cleaning.
- · Do not expose unit to rain or wet conditions.
- Do not abuse the cord. Never use the cord to carry the unit or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.

#### **GENERAL SAFETY WARNINGS**

#### A WARNING: GENERAL. Can cause severe injury or property damage.

#### To avoid these risks, take the following preventions:

- Do not aim the gun at, or spray any person, including self, or animal.
- · Do not spray outdoors on windy days.
- · Wear protective clothing to keep spray material off skin and hair.
- Follow all appropriate local, state, and national codes governing ventilation, fire prevention, and operation.
- Always use appropriate gloves, eye protection and a respirator or mask when spraying, thinning, mixing, pouring, or cleaning.
- Do not operate or spray near children. Keep children away from equipment at all times. Keep sprayer out of the reach of children.
- · Do not overreach or stand on an unstable support. Keep effective footing and balance at all times.
- · Stay alert and watch what you are doing.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- · Read all instructions and safety precautions for equipment and spray material before operating any equipment.
- · Hearing protection is recommended for extended use.

#### **GROUNDING INSTRUCTIONS**

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.



**WARNING:** ELECTRIC SHOCK HAZARD. Improper installation of the grounding plug is able to result in a risk of electric shock. When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade terminal. The wire with insulation having an outer surface that is green with or without yellow stripes is the grounding wire.

This product is for use on a nominal 120-V circuit and has a grounding plug similar to the plug illustrated in sketch A. Only connect the product to an outlet having the same configuration as the plug. Do not use an adapter with this product.

Check with a qualified electrician or serviceman when the grounding instructions are not completely understood, or when in doubt as to whether the product is properly grounded. Do not modify the plug provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.



#### **EXTENSION CORDS**

Use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that will accept the plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. If an extension cord is to be used outdoors, it must be marked with the suffix W-A after the cord type designation. For example, a designation of SJTW-A would indicate that the cord would be appropriate for outdoor use. For proper size cords see chart below.

		Minimum Gauge for Cord Sets						
	Volt	olts Total Length of Cord in Feet						
	120	V		0-25	26-50	51-100	101-150	
				(0-7,6m)	(7,6-15,2m	n) (15,2-30,4	4m) (30,4-45,7m)	
	240	V		0-50	51-100	101-200	201-300	
				(0-15,2m)	(15,2-30,4)	m) (30,4-60,9	9m) (60,9-	
	9	1,4m)	)	, i ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ( .	
	Am	pere	Ratin	g				
	Mor	e	Not n	nore	American	Wire Gaug	ge	
	Tha	n	Than			-		
,	0	-	6	18	16	16	14	
	6	-	10	18	16	14	12	
	10	-	12	16	16	14	12	
	12	-	16	14	12	Not Re	ecommended	

A **WARNING:** Some spray materials contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. To reduce your exposure wear appropriate safety equipment such as face masks, gloves, and other appropriate protective equipment. Please review and follow the safety precautions on the paint container.

# COMPONENTS



- 1.) Motor housing
- 2.) Flow control indicator
- 3.) Release button
- 4.) Filter
- 5.) Filter cover
- 6.) Trigger

# FUNCTIONAL DESCRIPTION

- 7.) Material adjustment knob
- 8.) O-ring
- 9.) Pickup tube
- 10.) Check valve
- 11.) Tip collar
- 12.) Spray nozzle

- 13.) Spray tip
- 14.) Side fill canister
- 15.) Lid
- 16.) 2-3/4 quart mixing bucket
- 17.) Viscosity cup
- 18.) Cleaning brush

A **WARNING:** Be sure to use appropriate protective gear and unplug unit.

A **WARNING:** Make sure area is well ventilated and free of flammable vapors.

#### ALIGNING THE PICKUP TUBE -(FIGURES B AND B1)

The pickup tube can be aligned in the direction that you will be doing the most spraying to help minimize the amount of times that you will have to refill the canister.

• If you are spraying at an upward angle or straight on, position the pickup tube

 $(\ensuremath{\textit{figure B}})$  toward the back of the canister.

• If you are spraying at a downward angle, position the pickup tube (**figure B1**) toward the front of the canister.

This will ensure you spray as much material as possible before you need to refill.

# LIQUID MATERIAL PREPARATION - (FIGURES C, C1 AND C2)

TIP: Make sure the type of material you use can be cleaned with either mineral spirits or paint thinner (for oil-based paints) or a warm water and soap solution (for water soluble paints like latex). Use drop cloths during pouring, mixing, and viscosity testing of materials to be sprayed to protect your floors and anything else in the spraying area that you wish to remain untouched.

The liquid being sprayed may need to be thinned (diluted) before starting. When thinning, use the proper liquid thinner recommended on the container by the material manufacturer.

A 2- <sup>3</sup>/<sub>4</sub> quart mixing bucket is provided to use when transferring spray material from the original container into the bucket for thinning and measuring

purposes (**figure C**). A viscosity test cup is provided to

determine the "runout time" of the material being used.

• Before measuring for the proper viscosity, stir the material thoroughly.

• Dip the viscosity cup into the material being sprayed and fill the cup completely.

• With the cup held over the material container, measure the amount of time it takes for the stream of material flowing out to "break" or stop being a constant stream out of the bottom of the cup (2 minutes or less) (**figure C1**). This is the "runout time" Refer to the thinning table for information on the thinning required for different materials.

• If material needs thinning, add the appropriate liquid thinning material recommended by the manufacturer (**figure C2**).

• It is possible to spray latex paint with this unit, however, the required thinning may exceed material manufacturer's recommendation. Thin latex paint so that it runs through viscosity cup in under 2 minutes. The operator should consider the type of application and final location of the project when spraying a material that requires more than 2 minutes to run through the viscosity cup,







THINNING TABLE				
SPRAY MATERIAL	RUNOUT TIME			
Clear and semi-transparent stains and sealers	No thinning required			
Oil based primers, varnishes and polyurethane	(Less than 2 minute runout)			
Solid color water based stains	May require thinning			
Water based or latex paints	(More than 2 minute runout)			
Note: Not recommended for textured paint				

#### **PREPARATION TIPS**

• Always stir and strain the material thoroughly before use.

• With any spraying job you should always ensure that you have properly prepared the surface to get the best finish. That is, all surfaces are free from dust, dirt, rust and grease. Lightly pressure wash decks or exterior surfaces and ensure that they are dry before spraying.

Even though HVLP sprayers have very little overspray, it is recommended that you mask all edges and other areas and use drop cloths to protect your floors and anything else in the spraying area that you wish to remain untouched.
Skin that forms on the top of paint can clog the sprayer. Remove skin before mixing. Strain with a funnel with a filter

attached or through hosiery to remove any impurities that could clog system. • Before starting have gloves, paper towels, rags etc. available for unexpected spills.

#### FILLING THE CANISTER - (FIGURE D)

Check to make sure that the canister is completely screwed onto the sprayer.

• Lay the sprayer on its side with the canister side lid facing up.

· Unscrew the lid on the side of the canister.

• Pour the properly thinned and strained material to be sprayed into the side fill canister (figure D). *TIP: Use the mixing bucket provided to pour material from the original material container into the side fill canister.* 

Clean any residual liquid from the threads or sides of the canister and sprayer.

• Starting the threads evenly, screw the lid completely onto the side fill canister. Check the lid to make sure it is threaded on squarely and completely before picking up the sprayer.



#### OPERATION

#### MATERIAL FLOW ADJUSTMENT

Set the material volume by turning the material adjustment knob on the trigger of the sprayer.

• For maximum material flow, thread knob all the way in as shown in **figure E**.

• For minimum material flow, thread knob all the way out as shown in **figure E1**.

The flow indicator on the side of the sprayer moves forward (minimal liquid flow) and backward (maximum liquid flow) as the trigger is depressed.





TIP: Always test the spray pattern on scrap cardboard or similar material first. Begin with the material adjustment knob on the highest flow setting (threaded all the way in). If less flow is desired, dial the material adjustment knob out. Heavier, thicker materials should be sprayed with the knob dialed farther in. Thinner materials should be sprayed with the knob dialed farther out.

#### SMART SELECT NOZZLE SELECTION - (FIGURE F)

There are three spray patterns to choose from. They are marked as 1, 2 and 3 on the Smart Select label located on the top of the sprayer (**figure F**). To select pattern number 1, turn the spray nozzle and align the green indicator on the spray nozzle with the number 1 on the label (**figure F1**).

NOTE: Spray nozzle can only be assembled in one direction. Refer to figure S for proper assembly.



 Pattern number 1
 Horizontal Flat
 Jet - Apply up and down a surface.



 Pattern number 2
 Circular Jet - for corners, edges and narrow surfaces.





TIP: Position number 2 has a detent that you can feel when you turn the spray nozzle. Make sure it locates in the detent.

• Pattern number 3 - Vertical Flat Jet. Apply side to side.

A **WARNING:** Risk of injury. Never point the sprayer at any part of the body. Never pull the trigger while adjusting the spray setting.

# **DEVELOPING THE PROPER SPRAYING TECHNIQUE**

• Practice spraying on a piece of scrap material such as cardboard to test your spray pattern and become familiar with the flow control feature of the sprayer.

- · Ensure surface to be sprayed is free of dust, dirt, and grease.
- Ensure spray area is clean and free of dust that could be blown onto newly sprayed surfaces.
- · Cover any areas not intended to be sprayed.

• Always spray from a minimum of 1 inch (25mm) to a maximum of 14 inches (355mm) (figure G).

• A commonly used method for spraying a large surface is the "crisscross" pattern. This is done by spraying in horizontal strips and then crossing over these strips with vertical strips.

• To get an even spray distribution, always keep your arm at the same distance (**figure G**) from the surface you are spraying and avoid moving your wrist (**figure H**).

• Maintain smooth and consistent speed which will help avoid inconsistencies. Begin spraying after the pass has begun and release trigger before stopping the pass.

• Avoid spraying too heavily in any one area. Several lighter coats are better than one heavy coat which can lead to running and dripping. Remember that the flow control knob regulates the amount of liquid that can be sprayed. Turning the flow knob clockwise increases the flow of liquid. Turning the knob counterclockwise decreases the flow of liquid. If runs or drips do occur, have a dry paint brush on hand to smooth them out.

• Turn the power unit off when not spraying for any length of time.





# CLEANING

#### A WARNING: Be sure to use appropriate protective gear.

# • Use drop cloths during pouring, mixing, and viscosity testing of materials to be sprayed to protect your floors and anything else in the spraying area that you wish to remain untouched.

• Do not use materials with a flashpoint higher than 60°C (140°F). Flashpoint is the temperature that a fluid can produce enough vapors to ignite (see coating supplier).

- Make sure clean up area is well ventilated and free of flammable vapors.
- Always spray outdoors when spraying cleaning solution through sprayer.
- Do not submerse power unit.

#### To begin cleaning:

Unplug the cord from the power source.

• Unscrew the lid from the side of the canister and pour any remainingliquid back into the original container (**figure I**).

• Pour a small amount of the appropriate cleaning solution into the canister (figure J).

- Warm soapy water for water based
- materials
- Manufacturers recommended cleaning solution for oil based materials

• Replace the lid on the canister securely and vigorously shake the sprayer.

• Unscrew the lid from the side of the canister and properly dispose of cleaning solution.

• **Refill** the canister with a small amount of new cleaning solution (**figure J**). Screw lid securely on canister.

• Plug in the power cord.

• Spray the cleaning solution through the sprayer onto scrap material for 2 to 3 seconds (figure K).

 $\boldsymbol{\cdot}$  Unplug the cord from the power source.

• Remove the canister and unscrew the side lid. Remove the check valve, pickup tube and o-ring from the sprayer (**figure L**). Clean the parts with the cleaning brush in the appropriate cleaning solution.

• Unscrew the tip collar and remove the spray nozzle and spray tip (**figure M**). Clean all parts with the cleaning brush in the appropriate cleaning solution.









• Separate the nozzle section from the sprayer motor by pressing the release button on the motor housing as shown in **figure N**.

• Grasp the nozzle section and twist until it is 90 degrees to the housing, then pull straight out (figure O).

• If using water based material, clean the nozzle section by running water through pickup tube inlet as shown in **figure P**. If using oil based materials, clean pickup tube inlet with the appropriate cleaning solution. Repeat until sprayer is completely clean.

- · Dry all parts thoroughly.
- Properly dispose of cleaning solution.



• Place a drop of household oil onto the metal ball in the check valve

(figure Q). IMPORTANT: Lubricating the ball in check valve, after cleanup, will help to prevent it from sticking which can clog the valve and prevent adequate flow of spray material.

**NOTE:** When reassembling, place metal ball end of check valve into sprayer.

• Reassemble sprayer (figure R). NOTE: The spray tip can only go in one way. The notch on the spray tip, shown in figure S must align with the recess in the threads of the sprayer.







• Align the nozzle section 90 degrees to the motor housing and press it fully into the motor housing as shown in **figure T**.

• Grasp the nozzle section and twist it downward until the pointer on the nozzle section aligns with the lock symbol on the motor housing (**figure U**).

When properly connected, the two pieces will "snap" into place.





# MAINTENANCE AND STORAGE

Use only mild soap and damp cloth to clean the power unit. Never let any liquid get inside the power unit; never immerse any part of the power unit into a liquid. **IMPORTANT:** To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment (other than those listed in this manual) should be performed by authorized service centers or other qualified service organizations, always using identical replacement parts.

The sprayer contains a washable/reuseable filter (**figure V**). Check the filter before and after each use. If dirty, wash with warm water and allow to air dry before re-installing or replace if necessary.

• To check the filter, remove the filter cover by loosening the two screws in the cover and pulling the cover off the sprayer. Remove the filter as shown in **figure V** and inspect. Replace filter and filter cover. Snugly tighten screws. Never operate the sprayer without the filter in place. Debris could be sucked in and interfere with the function of the sprayer.

Make sure unit is clean and dry before storing. Store unit indoors in a dry location. To prevent damage, wrap the electrical cord so that it is not crimped during storage.

# ACCESSORIES



 ${}^{ extsf{L}}$  WARNING: The use of any accessory not recommended for use with this product could be hazardous.

# SERVICE INFORMATION

All Black & Decker Service Centers are staffed with trained personnel to provide customers with efficient and reliable power tool service. Whether you need technical advice, repair, or genuine factory replacement parts, contact the Black & Decker location nearest you. To find your local service location, refer to the yellow page directory under "Tools— Electric" or call: **1-800-544-6986 or visit www.blackanddecker.com** 

A WARNING:: Tool service must be performed only by qualified repair personnel.

A WARNING: When servicing a tool, use only identical replacement parts.

# WARRANTY

# Full Two-Year Home Use Warranty

Black & Decker (U.S.) Inc. warrants this product for two years against any defects in material or workmanship. The defective product will be replaced or repaired at no charge in either of two ways.

The first, which will result in exchanges only, is to return the product to the retailer from whom it was purchased (provided that the store is a participating retailer). Returns should be made within the time period of the retailer's policy for exchanges (usually 30 to 90 days after the sale). Proof of purchase may be required. Please check with the retailer for their specific return policy regarding returns that are beyond the time set for exchanges.

The second option is to take or send the product (prepaid) to a Black & Decker owned or authorized Service Center for repair or replacement at our option. Proof of purchase may be required.Black & Decker owned and authorized Service Centers are listed under "Tools-Electric" in the yellow pages of the phone directory.



This warranty does not apply to accessories. This warranty gives you specific legal rights and you may have other rights which vary from state to state or province to province. Should you have any questions, contact the manager of your nearest Black & Decker Service Center. This product is not intended for commercial use.

LATIN AMERICA: This warranty does not apply to products sold in Latin America. For products sold in Latin America, check country specific warranty information contained in the packaging, call the local company or see the website for warranty information.

**FREE WARNING LABEL REPLACEMENT:** If your warning labels become illegible or are missing, call **1-800-544-6986** for a free replacement.

	TROUBLESHOOTING	
<ul> <li>Problem</li> <li>Material runs or drips.</li> </ul>	<ul> <li>Possible Cause</li> <li>Spraying too much material.</li> <li>Spraying too slowly.</li> <li>Spraying too close.</li> <li>Viscosity too thin.</li> </ul>	<ul> <li>Possible Solution</li> <li>Reduce air flow by turning material adjustment knob.</li> <li>Increase speed of application.</li> <li>Increase distance from surface.</li> <li>Check dilution recommendation.</li> </ul>
• Too much over spray.	<ul> <li>Sprayer too far from surface.</li> <li>Too much material being sprayed.</li> </ul>	<ul> <li>Reduce distance to surface.</li> <li>Reduce air flow by turning material adjustment knob.</li> </ul>
<ul> <li>Little or no material being released.</li> </ul>	<ul> <li>Check valve ball stuck.</li> <li>Spray nozzle/tip clogged.</li> <li>Pickup tube loose or clogged.</li> <li>Material adjustment knob setting too low.</li> <li>Air inlet blocked.</li> <li>Material too thick.</li> </ul>	<ul> <li>Remove check valve. Depress ball to loosen.</li> <li>Add lubricant. See figure Q.</li> <li>Clean nozzles.</li> <li>Check tube.</li> <li>Increase setting.</li> <li>Clean or change air filter.</li> <li>Check viscosity recommendation.</li> </ul>
Material being sprayed is splattering.	Viscosity of material is too high.	Thin material per manufacturer recommendation.
Sprayer pulsates.	<ul> <li>Air filter clogged.</li> <li>Material in canister almost empty.</li> </ul>	<ul><li>Clean or change filter.</li><li>Refill canister.</li></ul>
Liquid comes out side of canister.	<ul> <li>Lid not on square or tight enough.</li> </ul>	<ul> <li>Remove lid and reattach squarely and evenly, then tighten lid securely.</li> </ul>
	Paint on threads of canister and lid.	<ul> <li>Clean threads on top and sides of canister and lid.</li> </ul>

For assistance with your product, visit our website **www.blackanddecker.com** for the location of the service center nearest you or call the BLACK & DECKER help line at 1-800-544-6986.



