

TGHV HVLP SPRAY GUNS

Repair Kit KK-5048

IMPORTANT: Before using this equipment, read all Safety Precautions and Instructions. Keep for future use.

Note

Certain air quality regulations require no more than 10 psi pressure at the spray gun nozzle. Follow instructions in this Service Bulletin to maintain maximum 10 psi at nozzle if such regulations apply to your operation.

Figure 1
TGHV-635 Gravity Feed

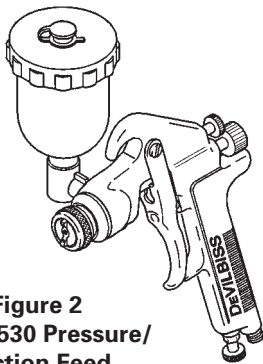
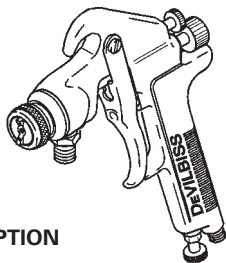


Figure 2
TGHV-530 Pressure/
Suction Feed



DESCRIPTION

Models:

TGHV-635 Gravity Feed Spray Gun with Stainless Steel Cup (stamped TGHV-535 on gun body)

TGHV-530 Pressure or Suction Feed Spray Gun

The TGHV is an HVLP spray gun used for detail, repair, shading, and highlighting operations, and is available in either pressure/suction or gravity feed. Models include the #90HV air cap, and "F" (.041 in./1.0 mm) fluid tip.

Gravity feed model TGHV-635 includes an 8 oz. stainless steel cup.

SPECIFICATIONS

Gun Body:	Forged Aluminum, stainless steel fluid passages
Wetted Parts:	
(TGHV-530)	300 S.S., Acetal, Polyethylene, PTFE
(TGHV-635)	300 S.S., Polyethylene, PTFE
Weight:	TGHV-530 - 19 oz. (530g) TGHV-635 - 24.4 oz. (688g) with 8 oz. cup
Air Cap:	#90 HV
Fluid Tip:	F (.041", 1.0 mm)
Air Inlet:	1/4" NPS(M)
Fluid Inlet:	3/8" NPS(M) - TGHV-530 1/4" BSP(M) - TGHV-635
Air Inlet Press./CFM:	Approx. 35 psi inlet = 10 psi cap pressure, 6.7 CFM
Fluid Pressure:	100 psi maximum - TGHV-530
Pattern:	1/8" to 3-1/2"

INSTALLATION

Connect air hose from a filtered, regulated air supply to spray gun inlet connection on gun handle.

TGHV-530 Pressure/Suction Feed: Attach fluid hose (pressure feed) or suction cup (suction feed) to 3/8" NPS(M) fluid inlet connection. Tighten with a wrench.

TGHV-635 Gravity Feed: Assemble cup (31) to 1/4" BSP(M) side inlet fitting on gun. Tighten wing nut hand tight. Rotate elbow and cup slightly to securely tighten.

OPERATION

Note

This gun may be used with most common coating and finishing materials. It is designed for use with mildly corrosive and non-abrasive materials. If used with highly corrosive or abrasive materials, frequent and thorough cleaning will be required, and parts will need replacing more often.

Note

Protective coating and rust inhibitors have been used to keep the gun in good condition prior to shipment. Before using the gun, flush it with solvent so that these materials will be removed from fluid passages.

Adjust inlet air pressure at the supply regulator. Air pressure can also be controlled at the gun by using the air adjusting valve (27). Adjust pressure to the lowest setting to maintain acceptable atomization and minimize overspray (bounce-back). Approximately 35 psi inlet pressure (measured at gun inlet, flowing) results in 10 psi cap pressure.

Air cap pressure can be verified by using an "air cap test kit" (see *Accessories*, page 5).

Note

The baffle assembly and #90HV air cap supplied with the TGHV are designed to limit air cap pressure to 10 psi, with approximately 35 psi gun inlet pressure. Using other air caps may affect spray results, and result in improper air cap pressures. See Fig. 3.

① Maximum air pressure required to assure compliance of 10 PSI max. cap pressure - this reading must be taken at the spray gun handle inlet fitting.

② Air cap number located on face of cap - cap number must correspond with baffle number to assure 10 PSI cap pressure. (Operation continued on page 5)

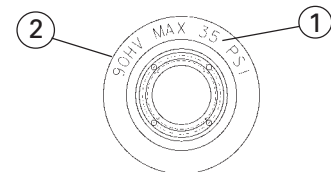


Figure 3 Baffle

SAFETY PRECAUTIONS

This manual contains information that is important for you to know and understand. This information relates to **USER SAFETY** and **PREVENTING EQUIPMENT PROBLEMS**. To help you recognize this information, we use the following symbols. Please pay particular attention to these sections.



Important safety information - A hazard that may cause injury or loss of life.







Important information that tells how to prevent damage to equipment.

Note

Information that you should pay special attention to.



The following hazards may occur during the normal use of this equipment. Please read the following chart before using this equipment.

HAZARD	CAUSE	SAFEGUARD
<p>Fire</p> 	<p>Solvent and coatings can be highly flammable or combustible, especially when sprayed.</p>	<p>Adequate exhaust must be provided to keep air free of accumulations of flammable vapors.</p> <p>Smoking must never be allowed in the spray area.</p> <p>Fire extinguishing equipment must be present in the spray area.</p>
<p>Solvent Spray</p> 	<p>During use and cleaning and flushing, solvents can be forcefully expelled from fluid and air passages. Some solvents can cause eye injury.</p>	<p>Wear eye protection.</p>
<p>Inhaling Toxic Substances</p> 	<p>Certain materials may be harmful if inhaled, or if there is contact with the skin.</p>	<p>Follow the requirements of the Material Safety Data Sheet supplied by your coating material manufacturer.</p> <p>Adequate exhaust must be provided to keep the air free of accumulations of toxic materials.</p> <p>Use a mask or respirator whenever there is a chance of inhaling sprayed materials. The mask must be compatible with the material being sprayed and its concentration. Equipment must be as prescribed by an industrial hygienist or safety expert, and be NIOSH approved.</p>
<p>Explosion Hazard - Incompatible Materials</p> 	<p>Halogenated hydrocarbon solvents - for example; methylene chloride and 1, 1, 1 - Trichloroethane can chemically react with aluminum. The chemical reaction caused by these solvents reacting with aluminum can become violent and lead to an equipment explosion.</p>	<p>The TGHV gun with stainless steel internal passages may be used with these solvents. However, aluminum is widely used in other spray application equipment - such as material pumps, regulators, valves and cups. Check all equipment items before use and make sure they can also be used safely with these solvents. Read the label or data sheet for the material you intend to spray. If in doubt as to whether or not a coating or cleaning material is compatible, contact your material supplier.</p>
<p>General Safety</p>	<p>Improper operation or maintenance of equipment.</p>	<p>Operators should be given adequate training in the safe use and maintenance of the equipment (in accordance with the requirements of NFPA-33, Chapter 15). Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation, maintenance and housekeeping. These are OSHA Sections 1910.94 and 1910.107 and NFPA-33,</p>

SAFETY PRECAUTIONS (cont'd)

HAZARD	CAUSE	SAFEGUARD
<p>Cumulative Trauma Disorders "CTD's"</p> <p>CTD's, or musculo-skeletal disorders, involve damage to the hands, wrists, elbows, shoulders, neck and back. Carpal tunnel syndrome and tendinitis (such as tennis elbow or rotator cuff syndrome) are examples of CTD's.</p>	<p>Use of hand tools may cause cumulative trauma disorders "CTD's".</p> <p>CTD's, when using hand tools, tend to affect the upper extremities. Factors which may increase the risk of developing a CTD include:</p> <ol style="list-style-type: none"> 1. High frequency of the activity. 2. Excessive force, such as gripping, pinching or pressing with the hands and fingers. 3. Extreme or awkward finger, wrist, or arm positions. 4. Excessive duration of the activity. 5. Tool vibration. 6. Repeated pressure on a body part. 7. Working in cold temperatures. <p>CTD's can also be caused by such activities as sewing, golf, tennis and bowling to name a few.</p>	<p>Pain, tingling, or numbness in the shoulder forearm, wrist, hands or fingers, especially during the night, may be early symptoms of a CTD. Do not ignore them. Should you experience any such symptoms, see a physician immediately. Other early symptoms may include vague discomfort in the hand, loss of manual dexterity, and nonspecific pain in the arm. Ignoring early symptoms and continued repetitive use of the arm, wrist and hand can lead to serious disability. Risk is reduced by avoiding or lessening factors 1-7.</p>

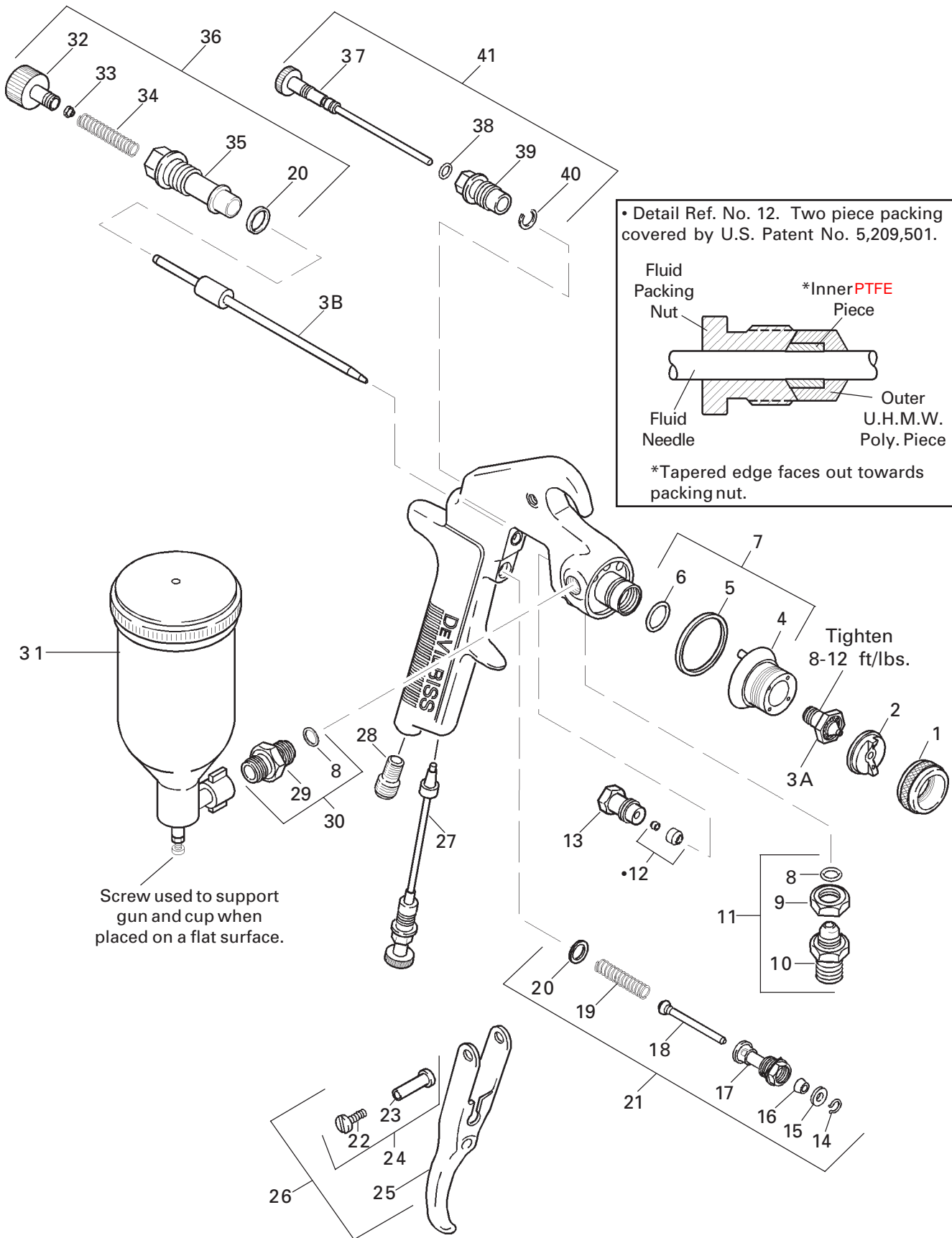
PARTS LIST

Ref. No.	Part No.	Description	Ind. Parts Req.	Ref. No.	Part No.	Description	Ind. Parts Req.
1	TGA-31	Air Cap Retaining Ring	1	24	JGS-478	Stud & Screw Kit (Kit includes 3 studs and 5 screws)	1
2	CV-39-90HV	Air Cap	1	25	---	Trigger	1
3	TGHV-4000-F	Fluid Tip & Needle Set Stainless Steel (lapped), supplied with TGHV-635	1	26	JGS-477-1	Trigger, Stud, Screw Kit (Kit includes 1 of each)	1
	TGHV-4001-F	Fluid Tip & Needle Set S.S. Tip, acetal needle supplied with TGHV-530	1	27	TGHV-406	Air Adjusting Valve	1
3A	---	FluidTip, .041" (Included in Item 3)	1	28	MSA-3	Air Inlet Fitting	1
3B	---	Fluid Needle (Included in Item 3)	1	29+	---	Fluid Inlet Fitting	1
4	---	Baffle Adapter Assembly	1	30+	TGHV-409	Fluid Inlet & Gasket Kit	1
5•	JGD-14-K10	Seal Kit (Kit of 10)	1	31+	TGHV-415	8 oz. S.S. Cup Assembly	1
6•	SSG-8206-K5	O-ring kit (Kit of 5)	1	32	TGHV-15	Adjusting Screw	1
7	TGHV-408	Baffle Adapter Assy. Kit	1	33•	---	Spring Pad (included in Item 34)	1
8•	MSV-3-K10	Fluid Inlet Gasket Kit (Kit of 10)	1	34•	MBD-19-K10	Spring Kit (Kit of 10)	1
9#	---	Locknut	1	35	---	Gun Body Bushing	1
10#	---	Fluid Inlet Fitting	1	36	TGHV-412	Bushing, Spring & Knob Kit	1
11#	JGA-4044	Fluid Inlet & Nut Kit	1	37	---	Valve Assembly - Horn	1
12•	JGV-463-K3	Needle Packing Kit (Kit of 3)	1	38•	---	O-ring, PTFE	1
13	34411-122-K10	Fluid Packing Nut (Kit of 10)	1	39	---	Valve Body	1
14•	JGA-14-K25	Snap Ring (Kit of 25)	1	40•	---	Retaining Ring	1
15•	JGA-15-K25	Washer (Kit of 25)	1	41	TGHV-401	Air Valve Assy. - Horn	1
16•	JGS-26-K25	U-Cup (Kit of 25)	1				
17	---	Air Valve Body	1				
18•	JGS-431-K25	Air Valve (Kit of 25)	1				
19•	MBD-12-K25	Spring (Kit of 25)	1				
20•	JGS-72-K10	Gasket, PTFE (Kit of 10)	2				
21	JGS-449-1	Air Valve Assembly	1				
22•	---	Screw	1				
23	---	Trigger Bearing Stud	1				

- Items included in Gun Repair Kit KK-5048.
- # Items included with TGHV-530 Model.
- + Items included with TGHV-635 Model.

Recommended Spare Parts: Repair Kit KK-5048, plus one each of Items 2, 3, 5, 6, 12, 20, 21, 24, and 32.

**FIGURE 5
EXPLODED VIEW**



Pressure Feed: Adjust fluid pressure to deliver the desired paint volume, based upon the spray pattern required and application speed. Adjust the fan air knob (37) to change pattern size. Regulate the fluid volume at the source, rather than by closing off the fluid adjusting screw (32). Restricting needle travel will cause accelerated wear to the fluid tip and needle in pressure feed guns.

Suction Feed: Fill suction cup (not provided with gun) with material and attach to lid. Adjust air pressure at source or adjusting valve (27). The amount of fluid delivery can be controlled with the adjusting screw (32). In suction feed, the amount of air pressure and material viscosity have an effect on the amount of fluid output.

Gravity Feed: Fill cup with material and close lid. Adjust air pressure at source or air adjusting valve (27). The amount of fluid output can be controlled by the adjusting screw (32) on the gun.

CLEANING - PREVENTIVE MAINTENANCE

To clean air cap and fluid tip, brush exterior with a stiff bristle brush. If necessary to clean cap holes, use a broom straw or toothpick. **Never use a wire or hard instrument.** This may scratch or burr holes causing a distorted spray pattern.

Pressure Feed: Material in the fluid hose can be backflushed to the pressure tank. (1) relieve tank pressure, (2) open the lid and tip to the side, (3) loosen air cap 2 or 3 turns, then place a cloth over cap, and pull trigger.

Flush fluid hose and gun fluid passages with appropriate cleaning solvent. Wipe exterior of spray gun with a wet solvent cloth.

Suction Feed: Empty excess material from cup. Clean fluid tube exterior and cup. Fill cup with appropriate cleaning solvent. Attach cup to lid and spray solvent through gun to clean passages. Wipe exterior of spray gun with a wet solvent cloth.

Gravity Feed: Empty excess material from cup. Fill cup with appropriate cleaning solvent. Shake cup to wash down inside surfaces of cup. Spray solvent to flush out passages. Pour out solvent, adding more clean solvent. Shake cup and spray again.

SPRAY GUN LUBRICATION

Daily, apply a drop of *SSL-10 spray gun lube at trigger bearing stud (A) and the stem of the air valve (E) where it enters the air valve assembly. The shank of the fluid needle where it enters the packing nut (B) should also be lubricated. The fluid needle packing should be lubricated periodically. Make sure the baffle and retaining ring (D) threads are clean and free of foreign matter. Before assembling retaining ring to baffle, add two drops of spray gun lube to threads. The fluid needle spring (34) and air valve spring (19) should be coated with a very light grease, making sure that any excess grease will not clog the air passages. For best results, lubricate the points indicated, daily.

* A "Material Safety Data Sheet" for SSL-10 gun lube is available from Devilbiss upon request.

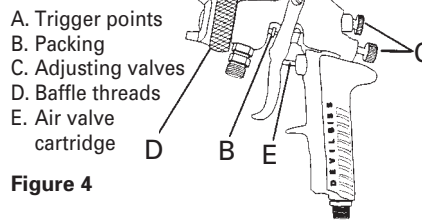


Figure 4

PARTS REPLACEMENT

Note

When replacing the fluid tip (3A) or fluid needle (3B), replace both at the same time with a lapped set. Using worn parts can cause fluid leakage.






CAUTION

To prevent damage to the fluid tip (3A) or fluid needle (3B), remove the knob (32) to relieve spring pressure when removing or assembling the fluid tip. Failure to relieve spring pressure can damage the seating surfaces. Pulling the trigger is an alternate to removing the knob.

Fluid Inlet Gasket (8) Replacement:


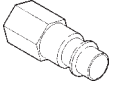

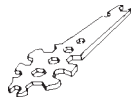
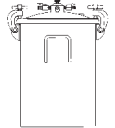

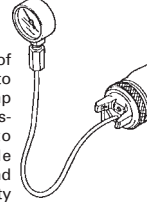


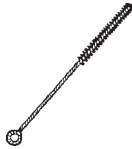
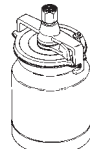
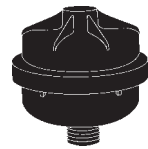

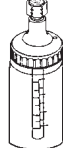
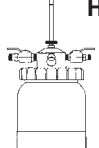

1. Remove fluid inlet adapter with appropriate wrench.
2. Clean Loctite from gun body inlet threads and inlet fitting.
3. Place gasket (8) squarely on the fluid inlet fitting (10) or (29) and push down until flat against boss.
4. Place couple drops of medium strength blue No. 242 Loctite on threads before installing fluid inlet adapter.
5. Torque fluid inlet adapter to 25-30 ft. lbs.
6. Tighten locknut (model TGHV-535).

TROUBLESHOOTING

CONDITION	CAUSE	CORRECTION
Heavy top or bottom pattern 	Horn holes plugged. Obstruction on top or bottom of fluid tip. Cap and/or tip seat dirty.	Clean. Ream with non-metallic point. Clean. Clean.
Heavy right or left side pattern 	Left or right side horn holes plugged. Dirt on left or right side of fluid tip. Remedies for top-heavy, bottom-heavy, right-heavy and left-heavy patterns: 1) Determine if obstruction is on cap or fluid tip. Do this by making a test pattern. Then, rotate cap one-half turn and spray another pattern. If defect is inverted, obstruction is on air cap. Clean air cap as previously instructed. 2) If defect is not inverted, it is on fluid tip. Check for a fine burr on edge of fluid tip. Remove with #600 wet or dry sand paper. 3) Check for dried material just inside opening. Remove by washing with solvent.	Clean. Ream with non-metallic point. Clean.
Heavy center pattern 	Material flow exceeds air cap's capacity. Fluid pressure too high for atomization air (pressure feed). Atomizing pressure too low. Spreader adjustment valve set too low. Material too thick.	Thin or lower fluid flow. Balance air and fluid pressure. Increase spray pattern width with spreader adjustment valve. Increase pressure. Adjust. Thin to proper consistency.
Split spray pattern 	Atomization air pressure too high. Fluid pressure too low (pressure feed only). Spreader adjusting valve set too high.	Reduce at transformer or gun. Increase fluid pressure (increases gun handling speed). Adjust.
Jerky or fluttering spray 	*Loose or damaged fluid tip/seat. Material level too low. Container tipped too far. Dry or loose fluid needle packing nut. Obstruction in fluid passage. Loose or broken fluid tube or fluid inlet nipple.	Tighten or replace. Refill. Hold more upright. Lubricate or tighten. Backflush with solvent. Tighten or replace.
Will not spray	No air pressure at gun. Fluid needle adjusting screw not open enough. Fluid pressure too low at pressure tank. Fluid too heavy for suction feed.	Check air supply and air lines. Open fluid needle adjusting screw. Increase fluid pressure. Thin material or change to pressure feed.
Excessive overspray	Too much atomization air pressure. Gun too far from work surface. Improper stroking (arching, gun motion too fast)	Reduce pressure. Adjust to proper distance. Move at moderate pace, parallel to work surface.
Fluid leaking from packing nut	Packing nut loose. Packing worn or dry.	Tighten, but do not bind needle. Replace or lubricate.
Fluid leaking or dripping from front of pressure feed gun	*Foreign matter in tip. Packing nut too tight. Dry packing. Fluid tip or needle worn or damaged. Fluid needle spring deformed or broken. Wrong size needle or tip.	Clean. Adjust. Lubricate. Replace tip & needle with lapped set. Replace. Replace.

*Most common cause.

ACCESSORIES

<p>MSA-4-K10 Fluid Needle Spring (replaces MBD-19)</p>  <p>Provides reduced spring force (4 lbs. versus 6 lbs.) for easier trigger pull.</p>	<p>HC-4419 Quick Disconnect Stem (Air)</p>  <p>1/4" NPS(F)</p> <p>HC-4699 Quick Disconnect (Air)</p>  <p>1/4" NPT(M)</p>	<p>WR-103 Wrench</p>  <p>Contains all necessary tip, hose and nut sizes used on or with gun.</p>	<p>QMGZ-5200 SolventSaver™ Hose/Gun Cleaner</p>  <p>2 Gallon galvanized tank used to clean the inside of hose and material passages of the gun.</p>	<p>Millennium 3000 Premium Paint Spray Respirator</p>  <p>Protection against organic vapors, fumes, dusts, and mists.</p>	<p>Air Cap Test Kit KK-5033-90HV</p>  <p>The purpose of this test kit is to measure air cap atomizing pressure. Used to confirm code compliance and as a daily quality control.</p>
<p>KB-555 Alum.& KB-545-SS S.S. 2 Qt. Pressure Feed Cups</p>  <p>Includes a 0-30 psi gauge.</p>	<p>Spray Gun Lube SSL-10 (2 oz. bottle)</p>  <p>Compatible with all paint materials: contains no silicone or petroleum distillates to contaminate paint. MSDS available from DeVilbiss upon request.</p>	<p>42884-214-K5 (3/8") 42884-215-K10 (5/8") Cleaning Brushes</p>  <p>These brushes are helpful in cleaning threads and recesses of gun body.</p>	<p>TGC-545 - 1 qt. (Aluminum) TLC-555 - 1 qt. (PTFE lined) TSC-595 - 1 qt. S/S TGC-536 - 1 pt. (Aluminum) Drip-Free Suction Cups</p>  <p>Cup has a unique, two position valve which permits selection of either a drip-free or conventional open vent mode.</p>	<p>HAF-507 Whirlwind In-Line Air Filter</p>  <p>Removes water, oil, and debris from the air line.</p>	<p>VS-531 Low Pressure Fluid Strainer 100 Mesh Screen</p>  <p>This strainer provides a final filter for trapping foreign particles in the paint supply.</p>
<p>TGS-503 8 oz. Suction Feed Cup</p>  <p>Polyethylene. Requires AD-404 to adapt to 3/8" NPS fluid inlet of spray gun.</p>	<p>HD-503 Solvent Saver</p>  <p>2 Quart Hose Cleaner used to clean the inside of hose and material passages of gun. Other sizes available.</p>	<p>29-3100 Scrubs® Hand Cleaner Towels</p>  <p>Scrubs® are a pre-moistened hand cleaner towel for painters. No water is needed.</p>			

WARRANTY

This product is covered by DeVilbiss' 1 Year Limited Warranty.

DeVilbiss Worldwide Sales and Service Listing: www.devilbiss.com

Industrial Finishing

DeVilbiss has authorized distributors throughout the world. For technical assistance or the distributor nearest you, see listing below.

U.S./Canada Technical Service Office:

195 Internationale Blvd., Glendale Heights, IL 60139
Toll-Free Telephone: 1-888-992-4657 (U.S.A. and Canada only)
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