

TEKNA[®]
PROLITE Professional
Pressure Feed Spraygun

DEVILBISS[®]
A **CARLISLE** BRAND



Gun Repair Kit
PRO-470



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NOTE:

When used with the HVLP cap, this gun can be used anywhere—both in mandated HVLP and unregulated areas.

When used with high efficiency caps and Automotive Refinishing materials, these spray guns have been found to exceed 65% transfer efficiency under recommended conditions.

Consult your local air quality management agency with any questions regarding HVLP or compliance requirements in your area.

Product Description/Object of Declaration: TEKNA ProLite

This Product is designed for use with: Solvent and Water based Materials

Suitable for use in hazardous area: Zone 1 / Zone 2

Protection Level: II 2 G X

Notified body details and role: TRAC Global Ltd (0891)

Lodging of Technical file

**This Declaration of Conformity
/incorporation is issued under the sole
responsibility of the manufacturer:**

Finishing Brands UK Ltd,
Ringwood Road,
Bournemouth, BH11 9LH. UK

EU Declaration of Conformity



The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Machinery Directive 2006/42/EC

ATEX Directive 2014/34/EU

by complying with the following statutory documents and harmonized standards:

EN ISO 12100:2010 Safety of Machinery - General Principles for Design

BS EN 1953:2013 Atomising and spraying equipment for coating materials - Safety requirements

EN 1127-1:2011 Explosive atmospheres - Explosion prevention - Basic concepts

EN 13463-1:2009 Non electrical equipment for use in potentially explosive atmospheres - Basic methods and requirements

Providing all conditions of safe use / installation stated within the product manuals have been complied with and also installed in accordance with any applicable local codes of practice.

Signed for and on behalf of
Finishing Brands UK Ltd:

Dave Smith

11-Jul-16

Director of Sales (EMEA)

Bournemouth, BH11 9LH, UK



Technical Bulletin

TEKNA Pro Lite Pressure Feed Spraygun

IMPORTANT: Read and follow all instructions and Safety Precautions before using this equipment. Keep for future use.

The TEKNA Pro Lite complies to ATEX regulations 94/9/EC, protection level **II 2 G X, Suitable for use in Zones 1 and 2.**

DeVilbiss Automotive Refinishing reserves the right to modify equipment specification without prior notice.

Operational Description

The TEKNA Pro Lite spraygun is a lightweight professional gun designed to handle both water-based and solvent-based coating materials. Both HVLP and high efficiency models are available.

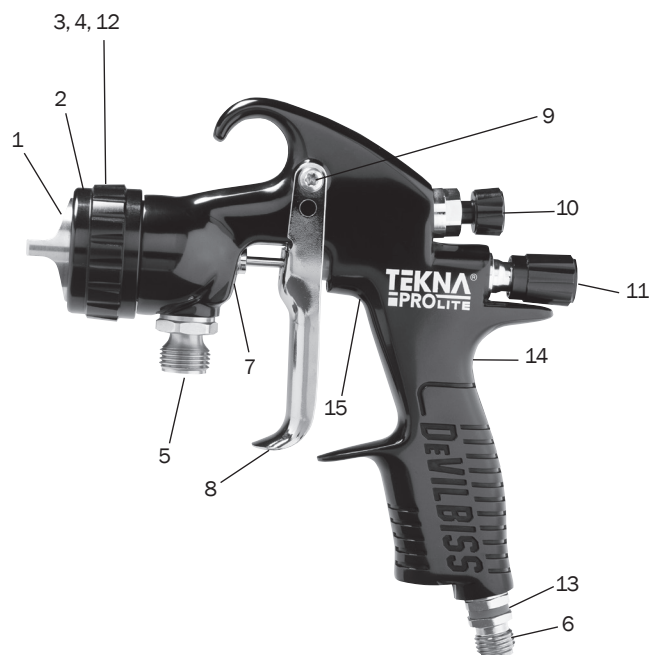
High volume, low pressure (HVLP) models are designed to reduce overspray and provide maximum transfer efficiency by limiting air cap pressure to 0.7 bar (10 psi) (complies with rules issued by SCAQMD and other air quality authorities).

HVLP models will produce approximately 0.7 bar (10 psi) air cap pressure at 1.2 bar (17 psi) gun inlet pressure with the trigger pulled. HVLP air cap #HV40 is designed for optimum basecoat and clear coat applications. An air cap test kit is available (see **Accessories**) which can be utilized to set the exact air cap pressure.

High efficiency models use air cap #TE20 or #TE40. These models are designed to provide optimum atomization of virtually all waterborne or solvent-based common coating materials at increased application rates while maintaining very high transfer efficiency. High efficiency models, when tested under recommended conditions with automotive refinishing materials, have been found to exceed 65% transfer efficiency.

IMPORTANT: These guns are not designed for use with highly corrosive and/or abrasive materials and if used with such materials it must be expected that the need for cleaning and/or replacement of parts will be increased. If there is any doubt regarding the suitability of a specific material, contact your TEKNA Distributor or TEKNA direct.

NOTE: This gun is not to be used with halogenated hydrocarbon solvents or cleaning agents such as 1,1,1-Trichloroethane or methylene chloride. These solvents can react with the aluminium components used in this gun and cup. The reaction can become violent and lead to an equipment explosion.



Construction Features

1	Air Cap (nickel plated brass for long durability)
2	Air Cap Retaining Ring (allows easy rotation of air cap)
3	Fluid Nozzle (not visible, ideal for automotive topcoat systems)
4	Fluid Needle (not visible)
5	Fluid Inlet (3/8 BSP thread)
6	Air Inlet (universal thread, accepts G 1/4 & 1/4 NPS)
7	Self Adjusting Needle Packing (packing not visible, for long packing life)
8	Trigger (ergonomic for comfort)
9	Trigger Stud & Screw (easy replacement design)
10	Fan Air Adjustment (stepless regulation for flat to round spray)
11	Fluid Adjustment (stepless regulation of fluid volume)
12	Removable Spray Head (not visible, for long gun service life)
13	Interchangeable Colour ID System (4 coloured rings supplied)
14	Forged gun body (ergonomic, good looking & durable, easy to clean)
15	Air Valve (not visible) (design offers low pull force & low pressure drop)
16	Gun acceptable for waterborne and solvent borne applications

Materials of Construction

Gun Body	Anodized QuickClean®aluminium
Air Cap	Nickel plated brass
Fluid Nozzle, Fluid Needle, Fluid Inlet, Trigger Stud	Stainless steel
Spray Head, Air Cap Retaining Ring, Knobs, Handle Plug	Anodized aluminium
Springs, Clips, Screws	Stainless steel
Seals, Gaskets	Solvent resistant
Trigger	Chrome plated steel
Air Inlet, Body Bushing, Spreader Valve Body, Air Valve Nut	Chrome plated brass
Air Valve Assembly	Aluminum

Specifications & Technical Data

Air Supply Connection	Universal 1/4" BSP and 1/4" NPS
Maximum Static Air Inlet Pressure	P1 = 12 bar (175 psi)
Nominal Gun Air Inlet Pressure for HVLP Models - HV40 cap (with gun triggered)	1.2 bar (17 psi) (for compliance)
Nominal Gun Air Inlet Pressure for High Efficiency Models - TE40 cap (with gun triggered)	2.0 - 3.5 bar (29 - 50 psi)
Air Consumption	See Chart 1 on page 11
Fluid Supply Connection	3/8" BSP
Service Temperature	0 to 40 °C (32 to 100 °F)
Gun Weight (gun only)	500g (17.6 oz.)

Safety Precautions





This bulletin 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.



NOTE

Important safety information – A hazard that may cause serious injury or loss of life.	Important information that tells how to prevent damage to equipment, or how to avoid a situation that may cause minor injury.	Information that you should pay special attention to.
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The following hazards may occur during the normal use of this equipment. Please read the following chart before using this equipment.

HAZARD	CAUSE	SAFEGUARDS
Fire 	Solvent and coatings can be highly flammable or combustible especially when sprayed.	Adequate exhaust must be provided to keep air free of accumulations of flammable vapours. Smoking must never be allowed in the spray area. Fire extinguishing equipment must be present in the spray area.
Solvent Spray 	During use and while cleaning and flushing, solvents can be forcefully expelled from fluid and air passages. Some solvents can cause eye injury.	Wear eye protection.
Inhaling Toxic Substances 	Certain materials may be harmful if inhaled, or if there is contact with the skin.	Follow the requirements of the Safety Data Sheet supplied by your coating material manufacturer. Adequate exhaust must be provided to keep the air free of accumulations of toxic materials. 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.
Explosion Hazard – Incompatible Materials 	Halogenated hydrocarbon solvents – for example; methylene chloride and 1,1,1-Trichloroethane are not chemically compatible with the aluminium that might be used in many system components. The chemical reaction caused by these solvents reacting with aluminium can become violent and lead to an equipment explosion.	Guns with stainless steel internal passageways may be used with these solvents. However, aluminium 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.
General Safety	Improper operation or maintenance of equipment.	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.
Cumulative Trauma disorders (“CTD’s”) CTD’s, or musculoskeletal disorders, involve damage to the hands, wrists, elbow, shoulders, neck and back. Carpal tunnel syndrome and tendonitis (such as tennis elbow or rotator cuff syndrome) are examples of CTD’s.	Use of hand tools may cause cumulative trauma disorders (“CTD’s”). CTD’s, when using hand tools, tend to affect the upper extremities. Factors which may increase the risk of developing a CTD include: <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. CTD’s can also be caused by such activities as sewing, golf, tennis, and bowling, to name a few.	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.

INSTALLATION

For maximum transfer efficiency, **do not use more pressure than is necessary to atomise the material being applied.**

1. Connect the gun to a clean, moisture and oil free air supply using a hose size of at least 8 mm (5/16") I.D. hose. Do not use 6 mm I.D. hose (8 m x 6 mm hose at 510 LPM has a pressure loss of 1.8 bar. 8 m x 8 mm hose at 510 LPM has a pressure loss of 0.6 bar. [Do not use 1/4" I.D. hose (25' x 1/4" hose at 18 CFM has a pressure loss of 25 psi. 25' x 5/16" hose at 18 CFM has a pressure loss of 8 psi).] Depending on hose length, larger I.D. hose may be required.

NOTE

When gun is triggered on, adjust inlet air pressure (for recommended pressures see Chart 1 under Parts Replacement) at the gun inlet. (Pressure gauge shown under Accessories is recommended for this). **Do not use more pressure than is necessary to atomise the material being applied.** Excess pressure will create additional overspray and reduce transfer efficiency.

NOTE

If quick connects are required, use only high flow quick connects approved for HVLP use. Other types will not flow enough air for proper gun operation.

NOTE

If an air adjusting valve is used at the gun inlet, use a DeVilbiss air adjusting valve. Some competitive adjusting valves have significant pressure drop that can adversely affect spray performance. DeVilbiss air adjusting valves have minimal pressure drop.

2. Attach the fluid supply hose to the fluid inlet connector.

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 solvents so that these materials will be removed from fluid passages.

OPERATION

1. Mix coating material to manufacturer's instructions and strain material.
2. Fill the pressure cup with the required amount of material. **DO NOT OVERFILL.**
3. Attach Cup Lid.
4. Turn fluid adjusting knob (28) clockwise to prevent fluid needle movement.
5. Turn spreader valve adjusting knob (16) counter clockwise to fully open.
6. Trigger gun on and adjust inlet air pressure (for recommended figures see Chart 1 under Parts Replacement) at the gun inlet. (Pressure gauge shown under Accessories is recommended for this).
7. Turn fluid adjusting knob (28) counter clockwise until first thread shows and turn on the supply air to the pressure cup.
8. Test spray. If the finish is too dry, reduce airflow by reducing air inlet pressure.

9. If finish is too wet, reduce fluid flow by turning fluid adjusting knob (28) clockwise. If atomisation is too coarse, increase inlet air pressure. If too fine, reduce inlet pressure.
10. The pattern size can be reduced by turning spreader valve adjusting knob (16) clockwise.
11. Hold gun perpendicular to surface being sprayed. Arcing or tilting may result in uneven coating.
12. The recommended spray distance is 150-200 mm (6"-8").
13. Spray edges first. Overlap each stroke a minimum of 75%. Move gun at a constant speed.
14. Always turn off air supply and relieve pressure when gun is not in use.

PREVENTIVE MAINTENANCE & CLEANING

To clean air cap and fluid nozzle, brush exterior with a stiff bristle brush. If necessary to clean cap holes, use a broom straw or toothpick if possible. If a wire or hard instrument is used, extreme care must be used to prevent scratching or burring of the holes which will cause a distorted spray pattern.

To clean fluid passages, remove fluid supply hose, then flush with a suitable solvent. Wipe gun exterior with a solvent dampened cloth. Never completely immerse in solvent as this is detrimental to the lubricants and packings.

NOTE

When replacing the fluid nozzle or fluid needle, replace both at the same time. Using worn parts can cause fluid leakage. See page 12, Chart 2. Also, replace the needle packing at this time. Lightly lubricate the threads of the fluid nozzle before reassembling. Torque to 18-20 Nm (13-15 ft-lbs). Do not over tighten the fluid nozzle.

CAUTION

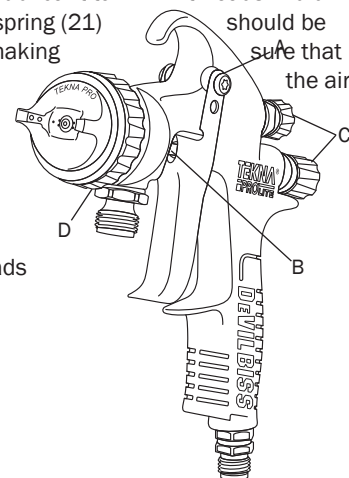
To prevent damage to fluid nozzle (8) or fluid needle (24), be sure to either 1) pull the trigger and hold while tightening or loosening the fluid nozzle, or 2) remove fluid adjusting knob (28) to relieve spring pressure against needle collar.

SPRAY GUN LUBRICATION

Daily, apply a drop of spray gun lubricant at trigger stud (40). The shank of fluid needle (24) where it enters packing nut (36) should also be oiled. Fluid needle packing (34) should be lubricated periodically. Make sure spray head (9) and air cap retaining ring (1) threads are clean and free of foreign matter. Before assembling air cap retaining ring to spray head, clean the threads thoroughly, then add two drops of spray gun lubricant to threads. Fluid needle spring (25) and air valve spring (21) should be coated with a very light grease, making sure that any excess grease will not clog the air passages.

Points of Lubrication

- A. Trigger Points
- B. Packing
- C. Adjusting Knobs
- D. Air Cap Retaining Ring Threads



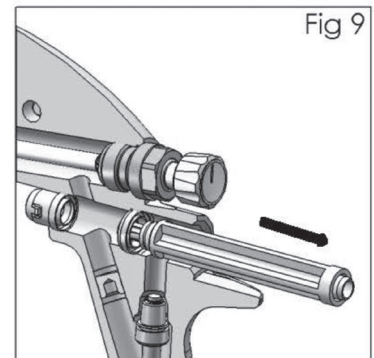
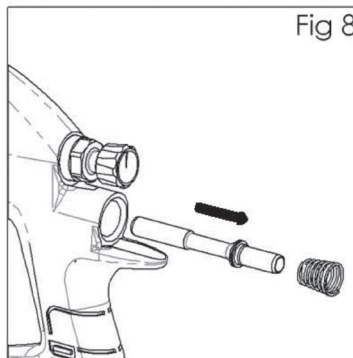
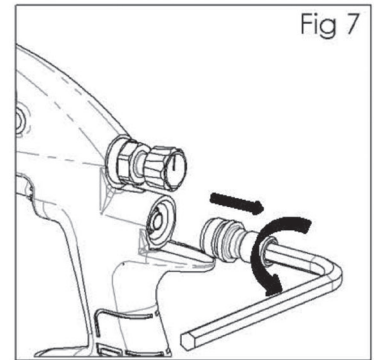
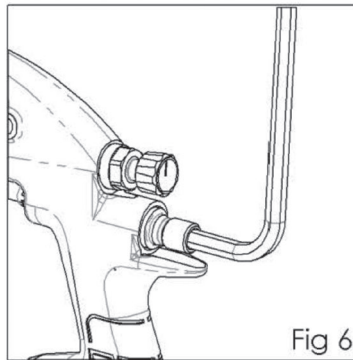
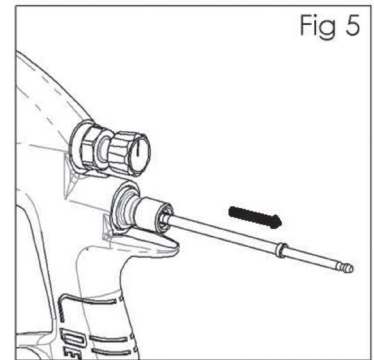
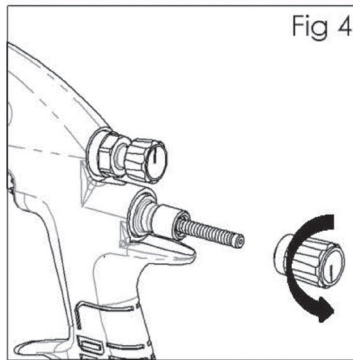
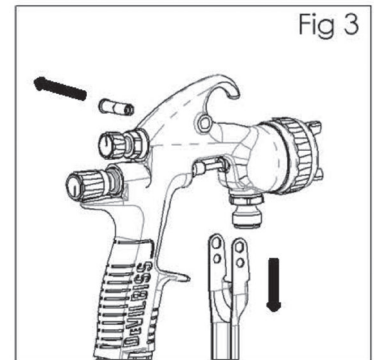
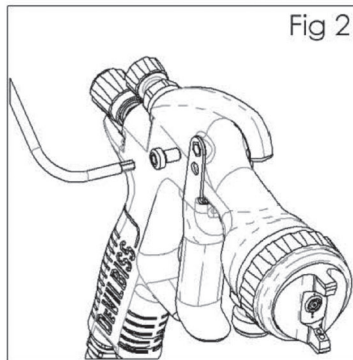
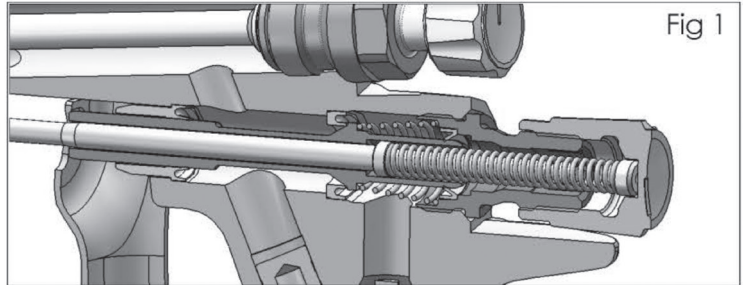
Parts Replacement/ Maintenance

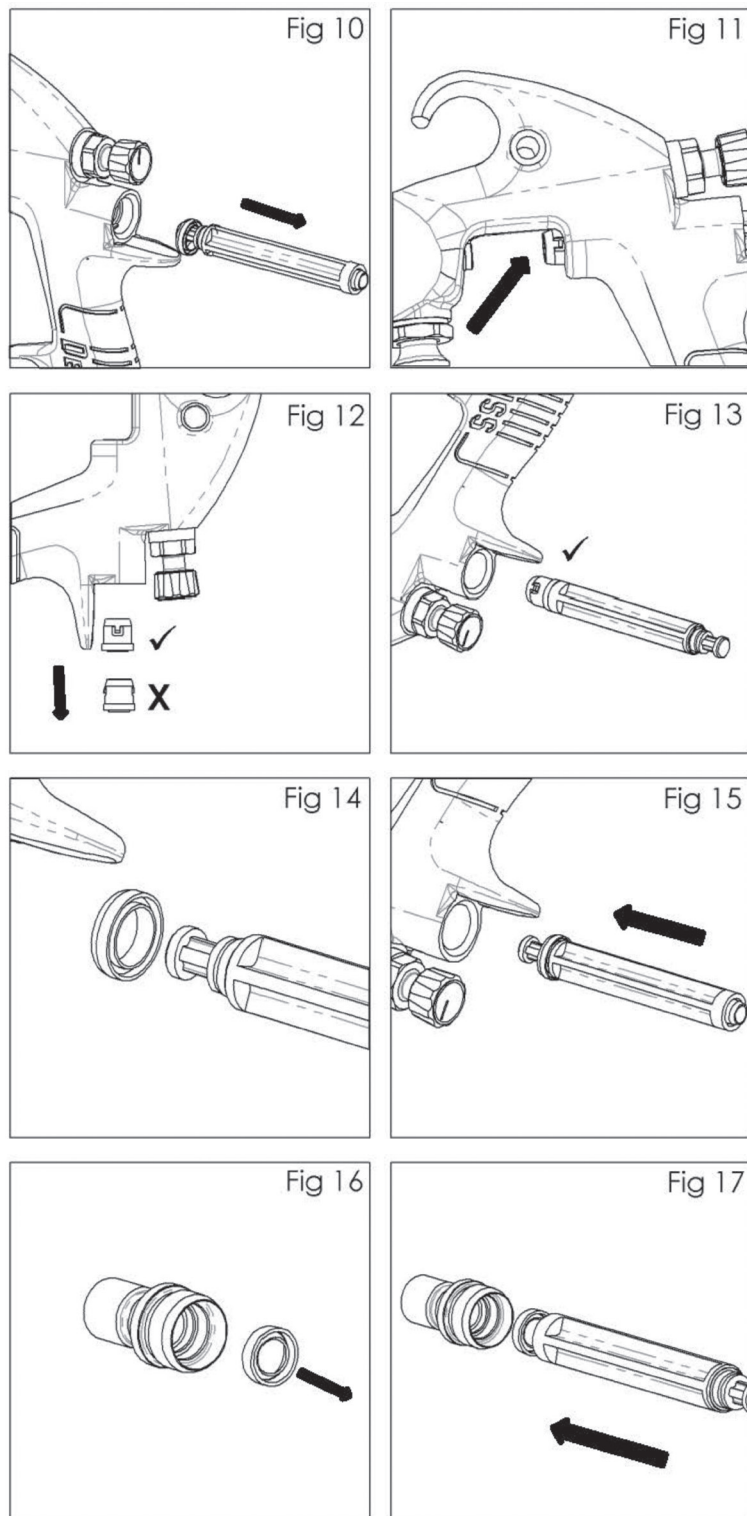
AIR VALVE INSTRUCTIONS

Servicing Air Valve

Reasons to service air valve:

- A) Air valve not functioning properly (may need cleaning).
 - B) Routine maintenance.
 - C) Air leaks.
1. Remove trigger screw (38) with Star T20 tool. (See fig 2).
 2. Remove trigger stud (40) and remove trigger (39) (See fig 3).
 3. Remove fluid adjusting knob (28) and spring (29). (See fig 4).
 4. Remove fluid needle (24) (See fig 5).
 5. Using a 6mm hex key, remove valve housing (27). (See Figs 6 and 7).
 6. Remove spring (21) and valve spindle (20). (See Fig 8).
 7. Using service tool (44), engage groove behind the valve seat (19) (See Fig 9).





Servicing Air Valve

(continued)

8. Withdraw the valve seat (19) from the gun body. (See fig 10).
9. Push out the front air valve seal (18) with a finger. (See fig 11).
10. Turn the gun upside down and let the seal fall out. (See fig 12).
11. Fit new front seal (18) to service tool (44). Fit into gunbody and press firmly to ensure seal is engaged. (See fig 13).
12. Fit a new valve seat (19) to service tool (44). Groove must face outwards. (See fig 14).
13. Fit valve seat (19) to gunbody. (See fig 15)
14. Remove rear air valve seal (22) from housing (27) with a hooked instrument.(See fig 16).
15. Fit new seal(22) to service tool (44). Groove must face outwards. Press seal (22) to housing (27). (See fig 17)
16. Reassemble remaining parts in reverse order – valve (20), spring (21), housing (27) and tighten with 6mm hex key, needle (24) spring (29) and knob (28). Replace trigger (39), fitting trigger stud (40), screw in the trigger screw (38) with Star T20 tool.
17. Trigger gun fully and screw in fluid adjusting knob (28) until it stops. Back it off 1/2 turn and gun will have full needle travel.
18. Trigger gun several times to verify correct operation.

Parts Replacement/ Maintenance

NEEDLE PACKING REPLACEMENT INSTRUCTIONS

1. Remove trigger, fluid needle, and air valve following steps 1 to 6 on P7, servicing air valve.
2. Loosen and remove packing nut using a straight blade screwdriver. (See figs 18 & 19)
3. Discard old packing (34) and packing spring (35) if replacing. Clean packing if reusing. Also clean packing spring and nut (36). (See fig 20).
4. Re-assemble the packing, assemble into gunbody by hand and then tighten. (See fig 21)
5. Complete re-assembly following steps 16 to 18 on P8.

SPREADER VALVE ASSEMBLY REPLACEMENT/MAINTENANCE

The spreader valve assembly can be replaced if damaged. Remove using a 14 mm wrench (See figs 22 & 23). The internal seal can be replaced and is included in the gun rebuild kit (See fig 24).

FLUID INLET SEAL REPLACEMENT INSTRUCTIONS

1. Loosen Locknut (46) with 18mm wrench (See Fig. 25).
2. Unscrew Fluid Inlet Adaptor (47) with 8mm hex key (See Fig. 26).
3. Remove fluid inlet adaptor (See Fig. 27).
4. Remove seal (45) and replace with new seal (See Fig. 28).
5. Replace fluid inlet adaptor (See Fig. 27).
6. Tighten with 8mm hex key to 26-28Nm (20 ft.-lbs.) (See Fig. 26).
7. Tighten lock nut (46) with 18mm wrench (See Fig. 25).

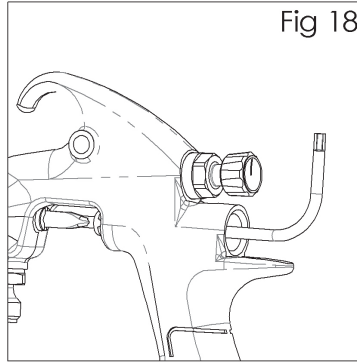


Fig 18

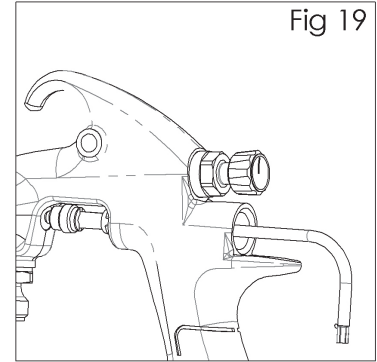


Fig 19

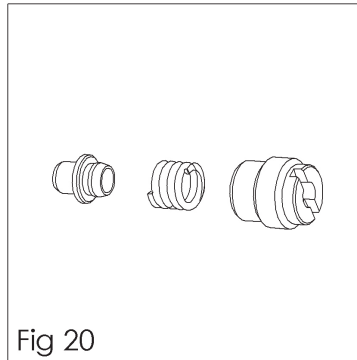


Fig 20

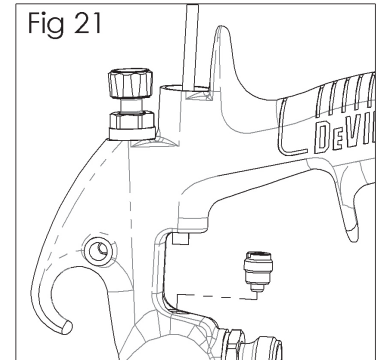


Fig 21

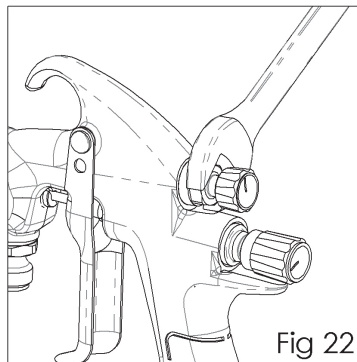


Fig 22

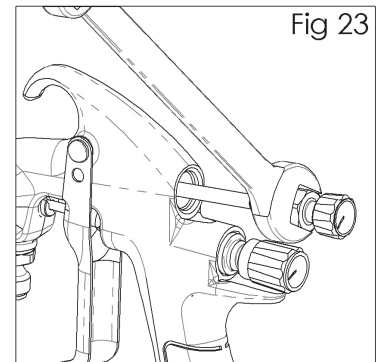


Fig 23

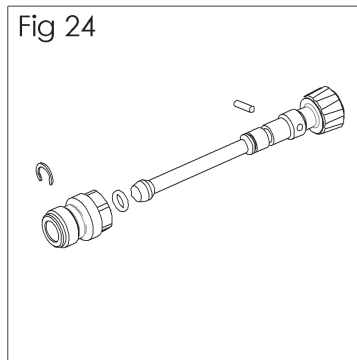


Fig 24

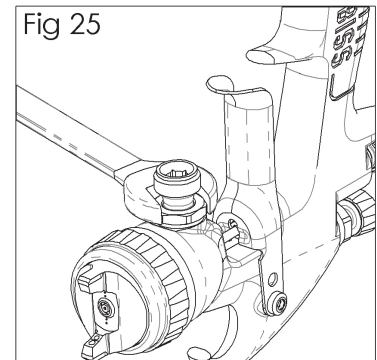
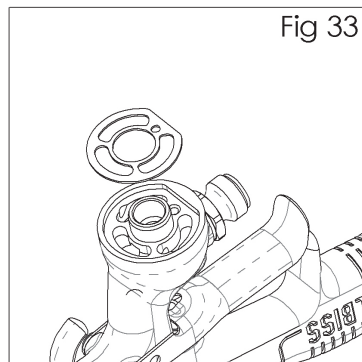
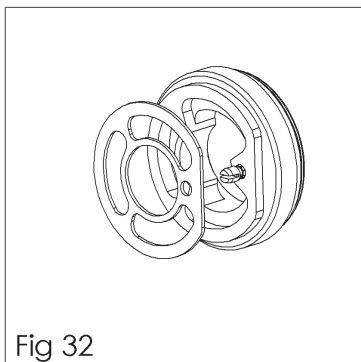
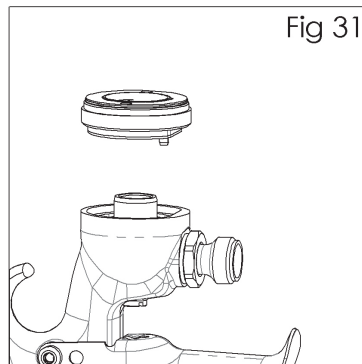
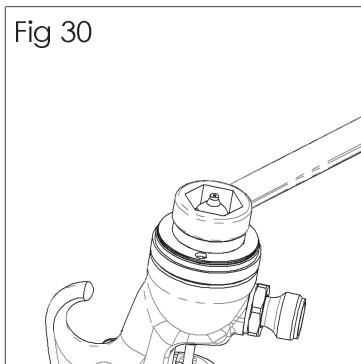
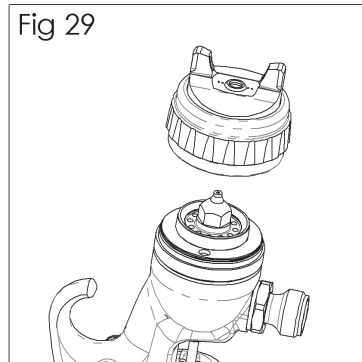
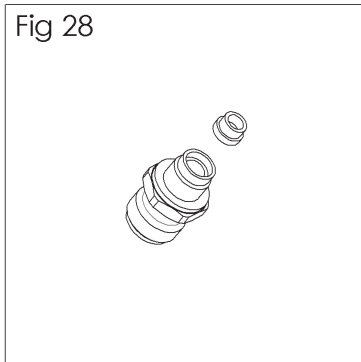
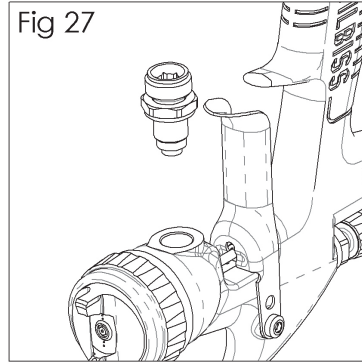
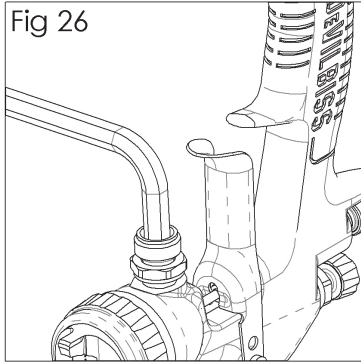


Fig 25



Parts Replacement/ Maintenance

SPRAY HEAD SEAL REPLACEMENT

1. Remove air cap and retaining ring (6). (See fig 29).
2. Remove fluid adjusting knob (28), spring (25), and spring pad (26). (See fig 4, p7).
3. Remove fluid needle (24) from gun body. (See fig 5, p7).
4. Remove fluid nozzle using a 10mm wrench. (See fig 30).
5. Remove spray head (9) and seal (10) (See fig 31).
6. Remove seal (10) from spray head. (See fig 32).
7. Clean front of gun if required, using a soft brush, as well as the fluid nozzle, air cap, and retaining ring.
8. Place a new seal (10) into the front of the gun, making sure the flat of the seal is aligned to the flat in the gun. (See fig 33).
9. Fit the spray head (9), making sure the pin is engaged into the hole in the gunbody. (See fig 31).
10. Fit fluid nozzle (8), air cap and retaining Ring (6). Torque the fluid nozzle to 18–20 Nm (13–15 ft-lbs). Do not over torque the fluid nozzle. (See figs 30, and 29)
11. Reassemble remaining parts in reverse order – fluid needle (24), needle spring and pad (29), and fluid adjusting knob (28).
12. Trigger gun fully and screw in fluid adjusting knob (28) until it stops. Back it off 1/2 turn and gun will have full needle travel.
13. Trigger gun several times to verify correct operation.

Parts Replacement/Maintenance

Chart 1 – Air Caps

ORDER NO. FOR AIR CAP	TECHNOLOGY	MARKING ON AIR CAP	NOMINAL OPERATING GUN INLET PRESSURE BAR/PSI	AIR FLOW LPM/SCFM
PRO-103-HV40	HVLP	HV40	(1.2) / 17 (for compliance)	(298) / 10.5
PRO-103-TE20	High Efficiency	TE20	(1.8 – 3.5) / 26 – 50	(340 – 550) / 12 – 19.4
PRO-103-TE40	High Efficiency	TE40	(2.0 – 3.5) / 29 – 50	(368 – 550) / 13 – 19.4

NOTE 1: Guns with HVLP caps must not exceed 0.7 bar (10 psi) air cap pressure with gun fully triggered. (Approximately 17 psi gun inlet pressure.) (See accessories for air cap test kit which is available to set the exact cap pressure.)

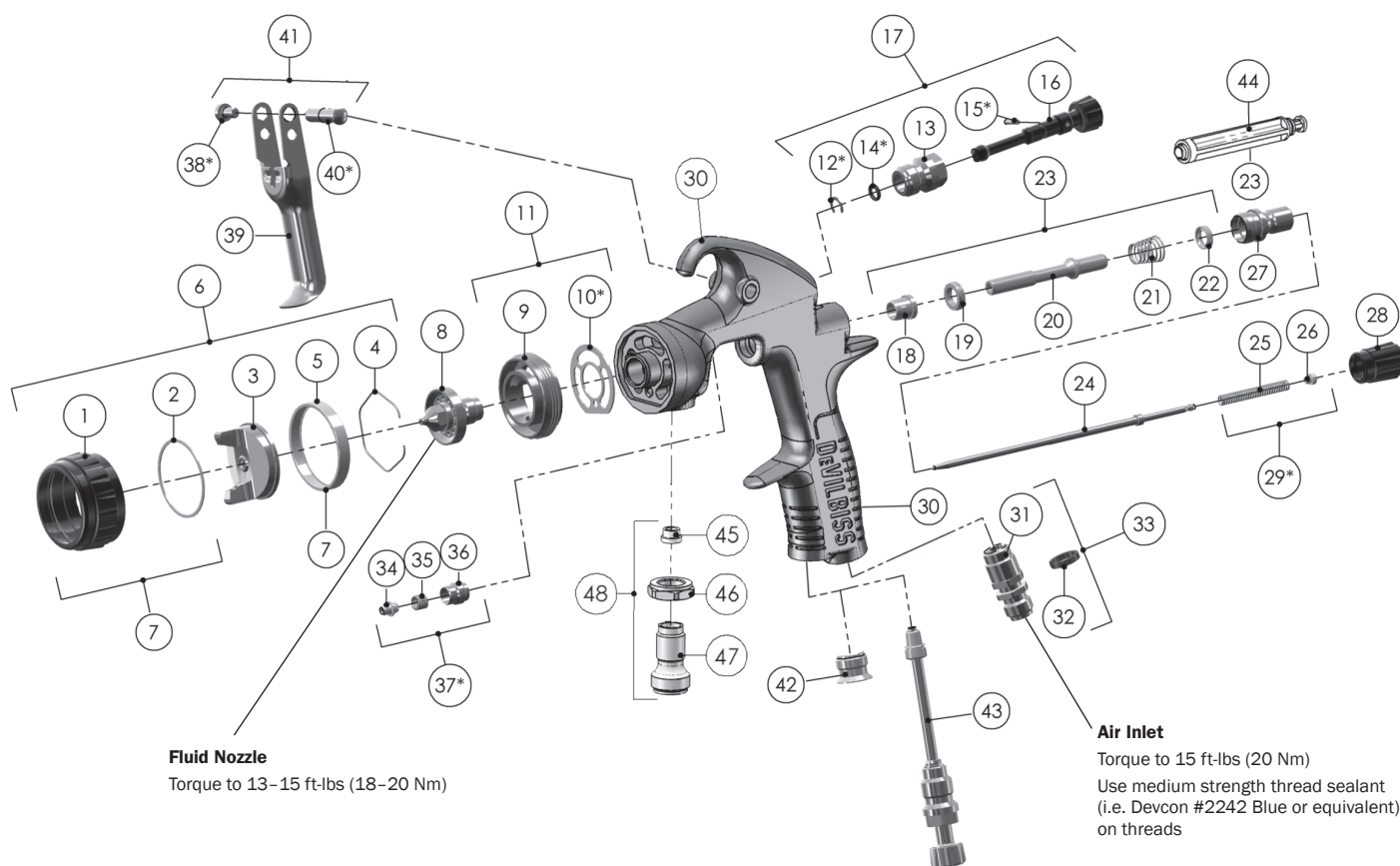
When used with high efficiency caps and Automotive Refinishing materials, these spray guns have been found to exceed 65% transfer efficiency under recommended conditions.

NOTE 2: When removing air cap from retaining ring, don't remove slip ring (2) or retaining ring seal (5) from retaining ring. Damage to the parts may occur. Slip ring and retaining ring seal are not available as replacements. Simply wipe parts clean and reassemble with new or clean air cap.

Chart 2 – Fluid Nozzles & Fluid Needles

PART NO. ON FLUID NOZZLE	PART NO. ON FLUID NEEDLE
PRO-205-10-K	PRO-320-085-10K
PRO-205-12-K	PRO-320-12-14-K
PRO-205-14-K	

NOTE: When replacing the fluid nozzle or fluid needle, replace both at the same time. Lightly lubricate the threads of the fluid nozzle before reassembling. Torque to 18–20 Nm (13–15 ft-lbs). Don't over tighten the fluid nozzle. Use 10 mm wrench supplied with gun.








Fluid Nozzle
Torque to 13-15 ft-lbs (18-20 Nm)

Air Inlet
Torque to 15 ft-lbs (20 Nm)
Use medium strength thread sealant
(i.e. Devcon #2242 Blue or equivalent)
on threads

1	Air Cap Retaining Ring		1
2	Slip Ring		1
3	Air Cap		1
4	Air Cap Retaining Clip	JGA-156-K10	1
5	Retaining Ring Seal		1
6	Aircap & Ring	See chart 1 p11	1
7	Air Cap Retaining Ring & Seals	702725	1
8	Fluid Nozzle	See chart 2 p11	1
9	Spray head		1
*10	Spray head Seal	702726	1
11	Spray head kit	SN-69-K	1
*12	Circlip		1
13	Valve Body		1
*14	O Ring		1
*15	Spreader Valve Pin		1
16	Spreader Valve Adjusting Knob		1
17	Spreader Valve Assembly	PRO-408-BL-K	1
18	Front Valve Seal		1
19	Valve Seat		1
20	Spindle		1
21	Air Valve Spring		1
22	Rear Valve Seal		1
23	Air Valve Kit	703530	1
24	Fluid Needle	See chart 2 p11	1
25	Needle Spring		1
26	Spring Pad		1
27	Housing & Seal Kit	SN-66-K	1
28	Fluid Adjusting Knob	SN-67-BK-K	1
*29	Needle Spring Kit	PRO-472-K3	1
30	Gunbody		1
31	Air Inlet		1
32	Colour ID Ring Kit (4 Colours)	702735	1

REF. NO.	DESCRIPTION	PART NO.	QTY
33	Air Inlet Kit	702734	1
34	Needle Packing		1
35	Packing Spring		1
36	Packing Nut		1
*37	Packing, Spring and Packing Nut Kit	702731	1
*38	Trigger Screw		1
39	Trigger		1
*40	Trigger Stud		1
41	Trigger, Stud & Screw Kit	SP-617-CR-K	1
42	Plug		1
43	Cheater Valve (optional)	702737	1
44	Air Valve Service Tool (only included in the Air Valve Kit 23)		
45	Seal		1
46	Lock Nut		1
47	Fluid Inlet		1
48	Fluid Inlet Kit	ADV-7-K	1
SERVICE PARTS			
Spray Gun repair kit (includes items marked *)		PRO-470	
Seal and Pin Kit, kit of 5 (items 12, 14 and 15)		GTI-428-K5	

Troubleshooting Possible Problems in Operation

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.	Clean. Ream with non-metallic point. Clean.
	Remedies for the top-heavy, bottom-heavy, right-heavy, and left-heavy patterns: 1. Determine if the obstruction is on the air cap or the fluid tip. Do this by making a test spray pattern. Then, rotate the cap one-half turn and spray another pattern. If the defect is inverted, obstruction is on the air cap. Clean the air cap as previously instructed. 2. If the defect is not inverted, it is on the fluid tip. Check for a fine burr on the edge of the fluid tip. Remove with #600 wet or dry sand paper. 3. Check for dried paint just inside the opening; remove by washing with solvent.	
Heavy center pattern 	Fluid flow too high for atomization air. Material flow exceeds air cap's capacity. Spreader adjustment valve set too low. Atomizing pressure too low. Material too thick.	Balance air pressure and fluid flow. Increase spray pattern width with spreader adjustment valve. Thin or lower fluid flow. Adjust. Increase pressure. Thin to proper consistency.
Split spray pattern 	Atomization air pressure too high. Fluid flow too low. Spreader adjusting valve set too high.	Reduce at transformer or gun. Increase fluid flow (increases gun handling speed). Adjust.
Jerky or fluttering spray 	*Loose or damaged fluid tip/seat. Baffle seal not installed correctly. Material level too low. Container tipped too far. Obstruction in fluid passage. Dry or loose fluid needle packing nut.	Tighten or replace. Install per directions. Refill. Hold more upright. Backflush with solvent. Lubricate or tighten.
Unable to get round spray	Spreader adjustment screw not seating properly. Air cap retaining ring loose.	Clean or replace. Tighten.
Will not spray	No air pressure at gun. Fluid needle adjusting screw not open enough. Fluid too heavy for suction feed. Fluid pressure too low.	Check air supply and air lines, blow out gun air passages. Open fluid needle adjusting screw. Thin material and/or change to larger tip size, or pressure feed. Increase fluid pressure at tank.
Starved spray pattern	Inadequate material flow. Low atomization air pressure.	Back fluid adjusting screw out to first thread, or change to larger tip size, or increase fluid pressure at tank. Increase air pressure and rebalance gun.
Excessive overspray	Too much atomization air pressure. Gun too far from work surface. Improper stroking (arcing, gun motion too fast).	Reduce pressure. Adjust to proper distance. Move at moderate pace, parallel to work surface.
Excessive fog	Too much or too fast-drying thinner. Too much atomization air pressure.	Remix properly. Reduce pressure
Dry spray	Air pressure too high. Gun tip too far from work surface. Gun motion too fast. Gun out of adjustment.	Reduce air pressure. Adjust to proper distance. Slow down. Adjust.
Fluid leaking from packing nut	Packing nut loose. Packing worn or dry.	Tighten, do not bind needle. Replace or lubricate.
Fluid leaking or dripping from front of gun	Packing nut too tight. Dry packing. Fluid tip or needle worn or damaged. Foreign matter in tip. Fluid needle spring broken. Wrong size needle or tip.	Adjust. Lubricate. Replace tip and needle. Clean. Replace. Replace.


*Most common problem.

Troubleshooting Possible Problems in Operation (cont'd)

CONDITION	CAUSE	CORRECTION
Runs and sags	Too much material flow. Material too thin. Gun tilted on an angle, or gun motion too slow.	Adjust gun or reduce fluid flow. Mix properly or apply light coats. Hold gun at right angle to work and adapt to proper gun technique.
Thin, sandy coarse finish drying before it flows out	Gun too far from surface. Too much air pressure. Improper thinner being used.	Check distance. Normally approximately 6–8". Reduce air pressure and check spray pattern. Follow paint manufacturer's mixing instructions.
Thick, dimpled finish "orange peel"	Gun too close to surface. Too much material coarsely atomized. Air pressure too low. Improper thinner being used. Material not properly mixed. Surface rough, oily, dirty.	Check distance. Normally approximately 6–8". Follow paint manufacturer's mixing instructions. Increase air pressure or reduce fluid flow. Follow paint manufacturer's mixing instructions. Follow paint manufacturer's mixing instructions. Properly clean and prepare.

Accessories

HAV-500 OR HAV-511 Adjusting Valve (HAV-511 SHOWN)



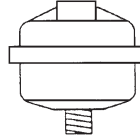
HAV-500 does not have pressure gauge. Use to control air usage at gun.

Champion™ Disposable Respirator 803611 (Medium) 803612 (Large)



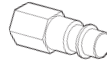
NIOSH-Certified for respiratory protection.

HAF-507 Whirlwind™ In-Line Air Filter

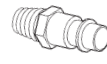


Removes water, oil, and debris from the air line.

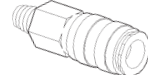
Industrial Quick Connects For HVLP Guns (Air)



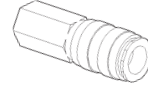
HC-4419 Stem 1/4" NPT(F)



HC-1166 Stem 1/4" NPT(M)

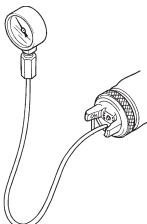


HC-4719 Coupler 1/4" NPT(M)/NPS(M)




HC-4720 Coupler 1/4" NPT(F)

703625 HV40 Air Cap Test Kit



The purpose of this test kit is to measure air cap atomizing air pressure at the center air port of the air cap. Used to confirm code compliance and as a daily quality control measure.

702740 TEKNA Wrench



14 mm 10 mm

For maintenance use.

WARRANTY POLICY

This product is covered by Carlisle Fluid Technologies' materials and workmanship limited warranty. The use of any parts or accessories, from a source other than Carlisle Fluid Technologies, will void all warranties. Failure to reasonably follow any maintenance guidance provided may invalidate any warranty.

For specific warranty information please contact Carlisle Fluid Technologies.

For technical assistance or to locate an authorized distributor, contact one of our international sales and customer support locations.

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China	Tel: +8621-3373 0108 Fax: +8621-3373 0308	
Japan	Tel: +81 45 785 6421 Fax: +81 45 785 6517	
Australia	Tel: +61 (0) 2 8525 7555 Fax: +61 (0) 2 8525 7575	

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