Clarke®

air

SPRAY GUN

MODEL NO: PGF14 & PGF18

PART No: 3090090 & 3090092

OPERATION & MAINTENANCE INSTRUCTIONS

CE

0904

NOTES

Clarke INTERNATIONAL

Please read these instructions carefully before operating the tool

Thank you for purchasing this **CLARKE** Pro Gun.
Before using the device, please read this manual thoroughly and carefully. Follow all instructions given. This is for your own safety and that of others around you, and is also to help you achieve long and trouble free service from your new spray gun.

CLARKE GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not affect your statutory rights.

Please be aware that certain parts of this spray gun will wear, requiring replacement and that these parts may not be covered by your guarantee.

The wear on certain parts depends on the abrasiveness of the materials being sprayed. More abrasive materials such as latex paint (emulsions) will cause these parts to wear much faster.

Replacement parts are available from your nearest Clarke International dealer.

PARTS & SERVICE TEL: 020 8988 7400
or e-mail as follows:
PARTS: Parts@clarkeinternational.com
SERVICE: Service@clarkeinternational.com

SPECIFICATIONS

GRAVITY FED PRO SPRAY GUNS

Professional spray guns with external paint mix and 600ml gravity feed cup for cellulose, enamels, polyurethane, acrylics, metallics and all similar viscosity finishes

SPECIFICATIONS

	PGF14	PGF18
Part No :	3090090	3090092
Cup Capacity :	600ml	600 ml
Air Consumption :	11.0 CFM	11.0 CFM
Air Inlet Connector :	¼"BSP	¼"BSP
Nozzle :	1.4mm	1.8mm
Operating Pressure :	20 - 50 PSI	20 - 43.5 PSI
Maximum Air Pressure ..... (at gun when trigger pulled)	3.5 bar	3 bar

CONTENTS

Please note that the details and specifications contained herein are correct at the time of going to print. However CLARKE International reserve the right to change specifications at any time without prior notice.

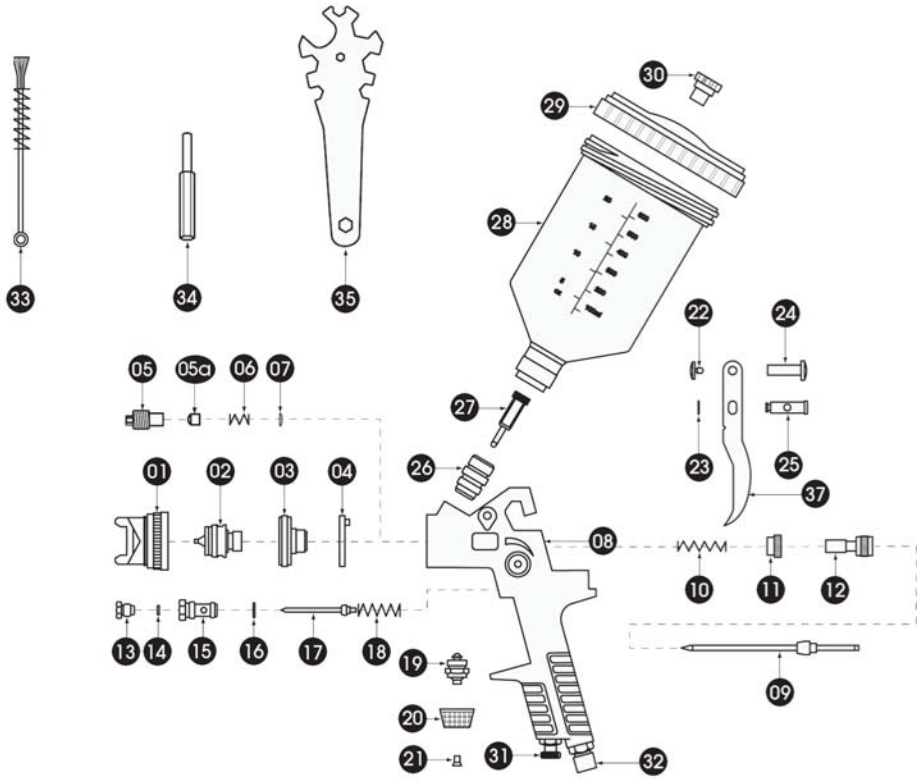
PARTS LIST

No	DESCRIPTION	PGF14	PGF18	Qty
01	Air Cap Set	NSPGF1401	NSPGF1801	1
02	Fluid Nozzle	NSPGF1402	NSPGF1802	1
03	Air Diversion Ring	NSPGF1403	NSPGF1803	1
04	Piston Pad	NSPGF1404	NSPGF1804	1
05	Compression Screw	NSPGF1405	NSPGF1805	1
05a	Valve	NSPGF1405a	NSPGF1805a	1
06	Compression Spring For Needle Seal	NSPGF1406	NSPGF1806	1
07	Seal For Air Piston	NSPGF1407	NSPGF1807	1
08	Gun Body	NSPGF1408	NSPGF1808	1
09	Fluid Needle	NSPGF1409	NSPGF1809	1
10	Spring For Air Piston	NSPGF1410	NSPGF1810	1
11	Locking Ring	NSPGF1411	NSPGF1811	1
12	Fluid Control Knob	NSPGF1412	NSPGF1812	1
13	Stuffing Box For Air Piston	NSPGF1413	NSPGF1813	1
14	Packing For Air Piston	NSPGF1414	NSPGF1814	1
15	Air Piston	NSPGF1415	NSPGF1815	1
16	Piston Ring	NSPGF1416	NSPGF1816	1
17	Air Piston Needle	NSPGF1417	NSPGF1817	1
18	Spring For Piston	NSPGF1418	NSPGF1818	1
19	Fluid valve Assy	NSPGF1419	NSPGF1819	1
20	Fluid Control Knob	NSPGF1420	NSPGF1820	1
21	Countersunk Screw	NSPGF1421	NSPGF1821	1
22	Trigger Bolt	NSPGF1422	NSPGF1822	1
23	'C' Clip	NSPGF1423	NSPGF1823	1
24	Bolt	NSPGF1424	NSPGF1824	1
25	Fluid Needle Pin	NSPGF1425	NSPGF1825	1
26	Paint Connection	NSPGF1426	NSPGF1826	1
27	Filter	NSPGF1427	NSPGF1827	1
28	Plastic Paint Cup	NSPGF1428	NSPGF1828	1
29	Cover	NSPGF1429	NSPGF1829	1
30	Non-Drip Device	NSPGF1430	NSPGF1830	1
31	Air Adjustment Valve Assy	NSPGF1431	NSPGF1831	1
32	Air Connection	NSPGF1432	NSPGF1832	1
33	Cleaning Brush	NSPGF1433	NSPGF1833	1
34	Socket Spanner	NSPGF1434	NSPGF1834	1
35	Wrench	NSPGF1435	NSPGF1835	1
37	Trigger	NSPGF1437	NSPGF1837	1
#	Filter Net (Not Shown)	NSPGF1438	NSPGF1438	1
#	Air Hose Joint Set (Not Shown)	NSPGF1439	NSPGF1439	1

IMPORTANT:

The use of parts other than CLARKE replacement parts may result in safety hazards, decreased tool performance and may invalidate your warranty.

PARTS DIAGRAM



PARTS & SERVICE TEL: 020 8988 7400

or e-mail as follows:

PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

SAFETY PRECAUTIONS

⚠ WARNING ⚠

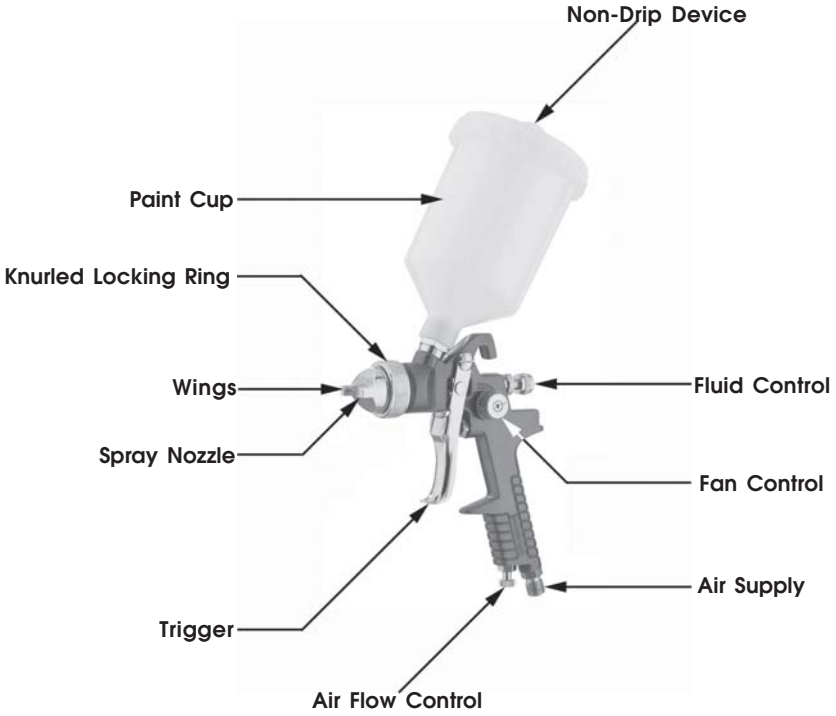
Compressed air can be dangerous. Ensure that you are thoroughly familiar with all precautions relating to the use of compressors and compressed air supply.

For your personal safety and that of others around you. Follow these safety instructions carefully.

NOTE : products used in this spray gun may be covered by COSHH Regulations.

- **ALWAYS** check the manufacturer's data sheets on the products being sprayed for any particular hazards, and follow the manufacturer's instructions. Take particular care if spraying isocyanate paints.
- **ALWAYS** wear a suitable approved breathing mask when spraying, to protect against inhalation of paint spray or fumes. An air feed mask may be required when spraying some types of paint. If in doubt, check with the paint manufacturer.
- **ALWAYS** make sure there is adequate ventilation. Do not spray in confined or enclosed areas.
- **ALWAYS** disconnect the spray gun from the air supply when it is not in use, and before any disassembly.
- **ALWAYS** keep the spray nozzle in place when spraying.
- **ALWAYS** thoroughly clean the spray gun after use. See 'Maintenance'
- **NEVER** spray paint towards people or animals. In the case of injury, seek expert medical advice immediately.
- **NEVER** smoke while spraying or preparing paints, or spray near a naked flame, heat source and electric sparks. Many paints are flammable.
- **NEVER** allow children to use or play with this appliance.
- **NEVER** spray products containing halogenated hydrocarbons (such as trichloroethane or methylene chloride) with this gun as they can react chemically with aluminium or zinc to produce an explosion hazard.
- **NEVER** exceed the maximum input air pressure of (50 psi PGF14) & (.43.5 psi PGF18).

GENERAL ARRANGEMENT



AIR SUPPLY

Pro-Gun spray guns are available with two nozzle sizes, 1.4mm, and 1.8mm. The larger the nozzle, the more compressed air is needed. Make sure your spray gun is matched to the capacity of your compressor.

Model	Nozzle size	Compressor required
PGF-14	1.4 mm	2 hp and above
PGF-18	1.8 mm	3 hp and above

For best results, the air supply to the spray gun must be clean and dry, with no oil or water contamination. Follow the air compressor manufacturer's guidelines on installation and operation to ensure that your air supply is as clean as possible. The compressed air supply line to the spray gun must be fitted with an oil and water extractor and a suitable pressure regulator.

Connect the air supply to the spray gun using a suitable 1/4" BSP fitting.

PAINT SPRAYING HINTS Cont

To obtain best results, it is vital that the surface to be sprayed is well prepared. It must be clean, free from dust, dirt and grease. Mask any area that is not to be sprayed.

Paint Thinning

Thinning is particularly important when paint spraying. Most paints are supplied ready for brush application and need to be sufficiently diluted for spraying purposes. Always follow the paint manufacturers instructions. If in doubt, always consult the paint manufacturer.

A Viscous Cup (not supplied), will assist in determining the correct thickness of the paint. Ensure the paint is free from lumps or other matter, if necessary strain it through a coarse filter.

The ideal viscosity for most paints is given in the chart opposite.

Dip the cup into the paint and fill to the brim. Time how long it takes for the cup to empty.

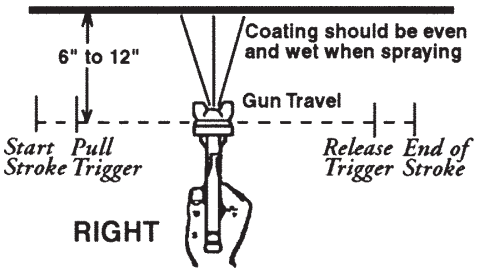
Thin as required until times are achieved

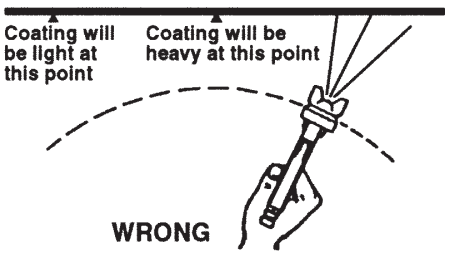
Water based paints	35 - 45 secs
Oil based paints	15 - 25 secs
Enamel paints	15 - 25 secs
Primers	20 - 30 secs
Varnishes	20 - 25 secs
Aluminium paints	15 - 25 secs
Wood preservatives	Do Not Dilute
Wood Stains	Do Not Dilute
Smooth Masonry paint	dilute by 5 - 10%

Alternatively if a viscous cup is not available, the following information can be used as a rough guide.

Water based paints (emulsions) 10-20% water.
Oil based paints (gloss) up to 10% thinners.
Cellulose paints up to 50 % cellulose thinners.

IF IN ANY DOUBT, CONTACT THE PAINT MANUFACTURER





PAINT SPRAYING HINTS

WARNING

NEVER attempt to spray unless you are wearing suitable, approved respiratory and eye protection.
REMEMBER that some modern paints require specialist respiratory protection...always consult the paint manufacturers instructions.

1. General Preparation

a. Ensure that the area in which you will be spraying is clean and dust free.

b. Connect spray gun to compressor via suitable flexible hose.

c. With no paint in spray gun, test system for air leaks.

d. Cover adjacent pieces of equipment to protect from overspray. Mask areas of the article not to be sprayed.

e. Ensure surface to be painted is clean, dry and free from oil and dust. Check paint manufacturer's instructions for any special surface preparation required.

REMEMBER - TIME SPENT PREPARING SAVES TIME SPENT FINISHING

2. Paint Preparation

a. Achieve the correct paint viscosity. This should be done according to paint manufacturer's instructions, and will vary according to type of paint, (see paint thinning on page 9).

b. Having mixed the paint thoroughly in a separate container, pour into the spray gun paint container through a fine filter.

DO NOT OVERFILL SPRAY GUN PAINT CONTAINER - three quarters full is maximum

c. It is usually best to experiment with a couple of practice spray coats on a piece of material with the same type of surface as the article you wish to spray, eg. metal for a car body panel, wood for a piece of furniture etc.

d. Some common problems:

PROBLEM	CAUSE	CORRECTION
Paint does not atomise. (comes out in blobs).	Paint is too thick. Air pressure is too low.	Add thinners. Increase air pressure.
Paint dries before hitting surface, leaving it dry with a rough texture.	Paint is too thin. Air pressure is too high.	Add more paint. Reduce air pressure.
Finish is pitted like orange peel.	Air pressure too high or spray too close to work.	Reduce air pressure. increase distance between gun and work.

USING THE SPRAYGUN

PGF spray guns are gravity fed with paint from the paint cup. The air flow through the air cap draws paint into the nozzle assembly, where it is atomised and sprayed forward.

Attach the paint cup to the gun, ensure any seals etc are sound first, mix the paint to the correct viscosity for spraying according to the manufacturers instructions, and strain it into the paint cup through a fine mesh filter. When mixing the paint, make sure that you have enough thinners left to clean the spray gun after use, do not fill the paint cup to more than 3/4 full. Make sure that the top edge of the cup and the cup sealing gasket are clean and free from damage before screwing the cap on, it is also very important to keep the cup vent clear.

Set the spray pattern and fluid flow using the adjustment screws on the spray gun. The spray pattern is variable between round and fan by adjusting the air flow through the air cap. Turn the fan control anticlockwise to increase flow and give a fan shaped spray pattern, turning clockwise to close off the air flow will give a circular pattern. The fan can be adjusted vertically or horizontally to suit your requirements by loosening the knurled locking ring and turning the wings to the desired position. Set the fluid flow according to the paint in use and the spray pattern by using the fluid control screw; anticlockwise to increase, and clockwise to reduce flow. As the width of the spray is increased, fluid flow will also need to be increased.

The air pressure needed will vary according to the paint in use, with thicker paints needing greater pressure. For most paints, a pressure of between 22 psi and 43 psi is adequate, to increase the air pressure, turn the air control anticlockwise to increase, and clockwise to decrease the air pressure.

NOTE:
To reduce overspray and obtain maximum transfer efficiency, always use the lowest possible air inlet atomising pressure that produces an acceptable spray pattern.

The first requirement for a good resultant finish is the proper handling of the gun. The gun should be perpendicular to the surface being covered and moved parallel with it. The stroke should be started before the trigger is pulled and likewise released before the stroke is ended. This gives accurate control of the gun and material.

The distance between the gun and the surface to be covered should be 6 to 12 inches depending on the material and atomising pressure. The material deposited should always be even and wet. Lap each stroke over the preceding stroke to obtain a uniform finish.

Damage to the fluid needle or nozzle, or any of the air ports, will result in a faulty spray pattern. Take care when cleaning or assembling these components.

When spraying, the gun should be held square to the surface being painted, at a distance of 6 to 12 inches depending on the paint and atomising pressure. Keep the gun parallel to the surface being sprayed, starting the stroke before pulling the trigger, and releasing the trigger before ending the stroke. Overlap each stroke over the preceding stroke to obtain an even finish. The paint cover should be even and wet when spraying.

If the gun is too far from the surface, or the paint is too thin, the paint will dry before hitting the work, resulting in a rough, sandy finish. Allowing overspray to fall on a finished area will also result in a rough finish. Too much paint feed or holding the gun too close to the work will lead to runs and sagging.

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MAINTENANCE Item Nos in brackets refer to parts list on page 12.

WARNING

Relieve any pressure in the gun and hose, and disconnect the spray gun from the air supply, before any disassembly.

It is essential that the spray gun is kept clean. Dried paint in the nozzle assembly or airways will stop the gun from working. For the gun to perform at its best it must be cleaned and lubricated after every use.

After use, empty any remaining paint from the paint cup, wipe the cup clean with a dry, lint free rag, and fill with thinners. Spray the thinners through the spray gun until it is clean.

1. Immerse only the front end of the gun until solvent just covers the fluid connection. NOTE : do not submerge the entire spray gun in solvent because :
   a, the lubricant in the seals/packings will dissolve and the packings will dry out.
   b, the lubricant at wear surfaces will dissolve resulting in harder operation and premature wear.
   c, residue from dirty solvent may clog the narrow air passages in the gun.
2. Use a small bristle brush and solvent to wash off accumulated paint.
3. Wipe down the outside of the gun with solvent dampened cloth.
4. Lubricate the gun daily, using a light machine oil on :
   a, fluid needle packing
   b, air valve packing
   c, spray width adjuster
   d, trigger pivot point

Coat the fluid control spring with grease.

CAUTION : never use silicon based lubricants as this may cause paint finish defects.

DO NOT poke any of the holes in the air cap or nozzle with metal instruments. These holes are precision drilled, and can be damaged by probing with anything harder than a wooden toothpick.

Make sure that the air inlet vent to the paint cup is kept clean. Blockages in this vent will prevent an even material flow to the gun.

Occasionally it may be necessary to strip the gun down for more in depth cleaning and or replacement of parts etc, to do this proceed as follows.

NOTE: Ensure all parts are carefully laid out in the order that they are removed.

1. Remove the air cap set (**item 01**) by unscrewing the knurled locking ring in an anticlockwise direction.
2. Unscrew and remove the fluid control knob (**item 12**) along with the knurled locknut (**item 11**), hold the gun with the nozzle facing downwards to ensure the spring doesn't fall out.
3. Tip gun upwards to remove the spring (**item 10**).
4. Carefully withdraw the fluid needle (**item 09**), it may help to squeeze the trigger (**item 37**) whilst pulling the needle, DO NOT use pliers etc, as this may damage the needle.
5. Remove the fluid nozzle assy (**items 02, 03 & 04**). Locate the wrench (**item 35**) supplied, on the fluid nozzle (**item 02**) and turn clockwise (left handed thread).
6. Separate the fluid nozzle and air diversion ring, secure the socket spanner supplied

(**34**) in a vice with the hexagonal section facing upwards, *NOTE: grip the spanner across flats not on the round section*, place the nozzle assy onto the spanner, using the wrench, loosen and unscrew the nozzle, anticlockwise. When reassembling, ensure the nozzle is locked firmly onto the air diversion ring.

7. Locate the socket spanner on to the Compression screw (**05**) and unscrew by turning anticlockwise with the handle end of the wrench on the hexagonal section of the spanner. Remove parts, compression screw (**05**), valve (**05a**), compression spring (**06**) and seal (**07),** it may be necessary to push the seal out using the fluid needle.

No further disassembly should be necessary for normal maintenance activities,

Reassemble in gun in reverse order, to fit parts **05, 05a, 06** and **07,** this must be carried out as follows.

- Fully Insert the fluid needle ensuring it passes through the hole in the fluid needle pin (**item 25**), hold in position by placing index finger on blunt end of the needle. With the needle facing upwards, fit the parts in the order listed above, ensuring the correct orientation as removed, if necessary refer to the parts diagram.
- Locate the box spanner over the needle pin and push down until the spanner engages fully on the compression screw, carefully tighten by hand at this stage only. It should now be possible to move the fluid needle in and out by hand without using excessive force, if needle moves smoothly, remove it completely and tighten the compression screw with box spanner. Refit the needle and again ensure it moves smoothly without forcing.

  Push the fluid needle fully home, fit spring followed by the fluid control knob and locknut.
- Place the piston pad (**04**) onto the gun body ensuring the locator is in the top hole of the body.
- Screw the nozzle assy, anticlockwise into the gun body and tighten securely using the wrench, DO NOT overtighten.

  Re-fit the air cap set with the wings horizontal, tighten the knurled locking ring, hand tight only.

never mix components from spray guns, even those of the same type. Do not overtighten components, and be careful not to cross thread any parts on assembly.

Air Piston Assembly

If it is found necessary to remove items **13,14,15,16,17 & 18,** proceed as follows:

- Using two flat bladed screwdrivers, loosen and remove the trigger bolt (**items 22 &24**).
- loosen the air piston using a 13mm ring spanner preferably. The complete assy can now be removed.

Fluid Control

- To remove the control valve, unscrew and remove the countersunk screw (**21**).
- Using a 14mm ring spanner, loosen and remove the valve assembly.

Air Adjustment Valve

- Using a 12mm ring spanner, unscrew and remove valve assembly (**31**).

Reassemble all removed parts in reverse order.

Check the air supply hose regularly for any signs of damage, and replace it if necessary. Do not use damaged or leaking hoses.