



INSTRUCTION MANUAL

AUTOMATIC AIRSPRAY GUN

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AUTOMATIC AIRSPRAY GUN

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The specifications of the gun - features and maintenance - are available in a documentation enclosed to the manual.

Dear Customer,

We thank you very much for purchasing our gun.

To make sure your investment will provide full satisfaction, special care has been taken by KREMLIN during all designing and manufacturing processes.

To obtain the best result, safe and efficient operation of your equipment, we advice you to read and make yourself familiar with this instruction and service manual. Indeed, the non-compliance with instructions and precautions stated in this manual could reduce the equipment working-life, result in operating trouble and create unsafe conditions.

1. EC DECLARATION OF CONFORMITY

The manufacturer : **KREMLIN REXSON** with assets of 6 720 000 Euros

Head office : 150, avenue de Stalingrad 93 245 - STAINS CEDEX - FRANCE

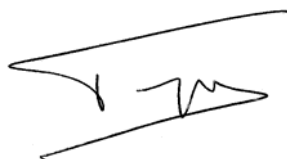
Tel. 33 (0)1 49 40 25 25 - Fax : 33 (0)1 48 26 07 16

Herewith declares that : Gun, is in conformity with the provisions of :

EC - Machinery Directive (Directive 98/37/EEC) and with national implementing legislation.

Ex - ATEX Directive (Directive 94/9/EEC) :  II 2 G (group II, class 2, gas)

Established in Stains, on March 1 st 2003,



Daniel TRAGUS
President

2. WARRANTY

We reserve the right to make changes; these changes may be carried out after the receipt of our order. No claim will be accepted as a consequence of any change carried out in the instruction manuals or in the selection guides.

Our equipment is checked and tested prior to shipment. In the case of a problem arising with the equipment, this must be in writing, within ten days from the delivery date.

KREMLIN REXSON warrants all equipment manufactured bearing its name, to be free from defect in material or workmanship for a period of 12 months (one shift per day or 1800 hours - 1 term reached) from the date of delivery. Work life is based on single shift working - 8 hours per day. Warranty claims for defective items will only be accepted in writing and will be verified and confirmed by us.

The warranty does not cover fair wear tear, damage or wear caused by misuse, improper maintenance or non-observance of our recommendations.

KREMLIN REXSON will repair or replace parts (carriage paid to our plant and accepted as defective by us). We shall not be liable for any losses, resulting from a production breakdown. Upon request, we can carry out service work at your premises; all expenses (travelling and accommodation) for KREMLIN REXSON technicians will be chargeable.

In the event that it is found that equipment has been tampered with, this will invalidate the warranty. Equipment that is bought in will be subject to the supplier's warranty.

3. SAFETY INSTRUCTIONS

GENERAL SAFETY INSTRUCTIONS



CAUTION : The equipment can be dangerous if you do not use it according to the rules mentioned in this instruction manual. Read carefully all the instructions hereafter before operating your equipment.

Only trained operators can use the equipment. (To acquire an essential training, please contact the "KREMLIN REXSON University" training center - Stains).

The foreman must ensure that the operator has perfectly taken in the safety instructions of this equipment as well as the instructions in the manuals of the different parts and accessories.

Read carefully all instruction manuals, label markings before operating the equipment.

Incorrect use may result in injury. This equipment is for professional use only. It must be used only for what it has been designed for. Never modify the equipment. The parts and accessories supplied must be regularly inspected. Defective or worn parts must be replaced.

Never exceed the equipment components' maximum working pressure.

Comply with regulations concerning safety, fire risks, electricity in force in the country of final destination of the material. Use only products or solvent compatible with the parts in contact with the material (refer to data sheet of the material manufacturer).

PICTOGRAMS

NIP HAZARD	WARNING MOVING ELEVATOR	WARNING MOVING PARTS	WARNING MOVING SHOVEL	DO NOT EXCEED THIS PRESSURE	HIGH PRESSURE HAZARD
RELIEF OR DRAIN VALVE	WARNING HOSE UNDER PRESSURE	WEAR GLASSES OBLIGATORY	WEAR OF GLOVE IS OBLIGATORY	PRODUCT VAPOR HAZARDS	WARNING HOT PARTS OR AREAS
ELECTRICAL HAZARD	WARNING FIRE HAZARDS	EXPLOSION HAZARDS	GROUNDING	WARNING (USER)	WARNING SERIOUS INJURIES

PRESSURE HAZARDS



Current legislation requires that an **air relief** shut off valve is mounted on the supply circuit of the pump motor to let air off when closing the supply circuit. Without this precaution, the motor residual air of the motor may let the pump beat and cause a serious injury.

Please ensure that, a **material drain valve** is mounted on the material circuit to drain it (after shutting down air to the motor and the pressure relief) before any servicing on the equipment. These valves must be closed for air and opened for product when processing.

HIGH PRESSURE INJECTION HAZARDS

When working with high pressure equipment, special care is required. Fluid leaks can occur. Then there are injection risks in exposed parts of body that may cause severe injuries or amputations :



- Medical care must be handled immediately if product is injected under the skin or in other parts of the body (eyes, fingers).
- Never point the spray gun at any one. Never try to stop the spray with your hands or fingers nor with rags or similars.
- **Follow the shut down procedure and always depressurize air and fluid circuits** before carrying out any servicing on the gun (cleaning, checking, maintenance of the material or cleaning of the gun nozzles).
- For the guns equipped with a safety device, always lock the trigger when you do not start the gun.

FIRE - EXPLOSION - SPARKS - STATIC ELECTRICITY HAZARDS

A poor earth connection, inadequate ventilation, sparks or static electricity can cause an explosion or fire. to avoid these risks when using or servicing KREMLIN REXSON equipment, the following safety procedures must be followed :



- ensure a good earth connection and ground the parts to be handled i.e. solvents, materials, components and equipment,
- ensure adequate ventilation,
- keep working area clean and free from waste solvents, chemicals, or solid waste i.e. rags, paper and empty chemicals drums,
- never use electrical switches / power if in an atmosphere of volatile solvent vapour,
- stop working immediately in case of electrical arcs,
- never store chemicals and solvents in the working area.
- use paint whose flash point is the highest possible to prevent from any formation of gas and inflammable vapours (refer to materials' safety instructions),
- install a cover on the drums to reduce the diffusion of gas and vapours in the spraybooth.

TOXIC PRODUCT HAZARDS

Toxic products or vapours can cause severe injury not only though contact with the body, but also if the products are ingested or inhaled. It is imperative :



- to know the material products and their risks,
- notified or hazardous materials must be stored in accordance with the regulations,
- the material must be stored in an appropriate container, never place materials in a container where there is a risk o spillage or leakage,
- a procedure must be applied for the safe disposal of waste material. It must comply with all prevailing regulations and legislations of the country where the equipment is to be used,
- protective clothing should always be worn in compliance with the material manufacturers' recommendations,
- depending on the application and chemical safety instructions, safety glasses, gloves, foot wear, protective masks and possible breathing equipment should be worn to comply with the regulations

(Refer to chapter "Safety equipment of KREMLIN selection guide).



CAUTION!

It is forbidden using any solvent or with halogenated hydrocarbon base and also products with these solvents facing **aluminium** or **zinc**. The non-compliance with the instructions may cause explosion hazards causing serious or fatal injuries.



EQUIPMENT REQUIREMENTS

PUMP

Before carrying out any work, it is imperative to get used with the compatibilities of motors with pumps before coupling. The operator shall understand the equipment and the safety instructions. These instructions are available in the manuals of the pumps.



The air motor is designed to be mounted with a pump. Never modify any components or couplings. Where operating, please keep hands away from moving parts. Before starting up the equipment, please read the PRESSURE RELIEF instructions. Please ensure that any relief or drain valves fitted are in good working order.



HOSES

- Keep hoses out of circulation areas, moving parts or hot surfaces,
- Never expose product hoses to temperature higher than + 60°C / 140° F or lower than 0°C / 32° F,
- Never pull or use the hoses to move the equipment,
- Tighten all fittings as well as the hoses before operating the equipment,
- Check the hoses regularly; change them if they are damaged,
- Never exceed the working pressure (WP) indicated on the hose.

USED PRODUCTS

Considering the variety of products that may be used by the users and the impossibility to check off all chemical data, of possible reactions of chemicals to each other and their long term evolution, KREMLIN REXSON can not be considered as liable for :

- the bad compatibility of wetted parts,
- risks for staff and surroundings,
- for worn or out of order parts, for wrong working of equipments or units, as well as for the qualities of final product.

The user must know and prevent the possible risks as toxic vapours, fires or explosions due to used products. He shall determine the risks of immediate reactions or pursuant to repeated exposures of the staff,

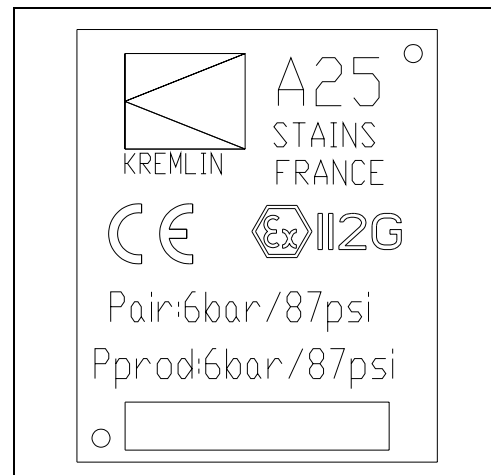
KREMLIN REXSON shall not be liable for psychic injuries, direct or indirect material damages further to the use of chemicals.

4. INSTALLATION

■ DESCRIPTION OF THE MARKING LABEL

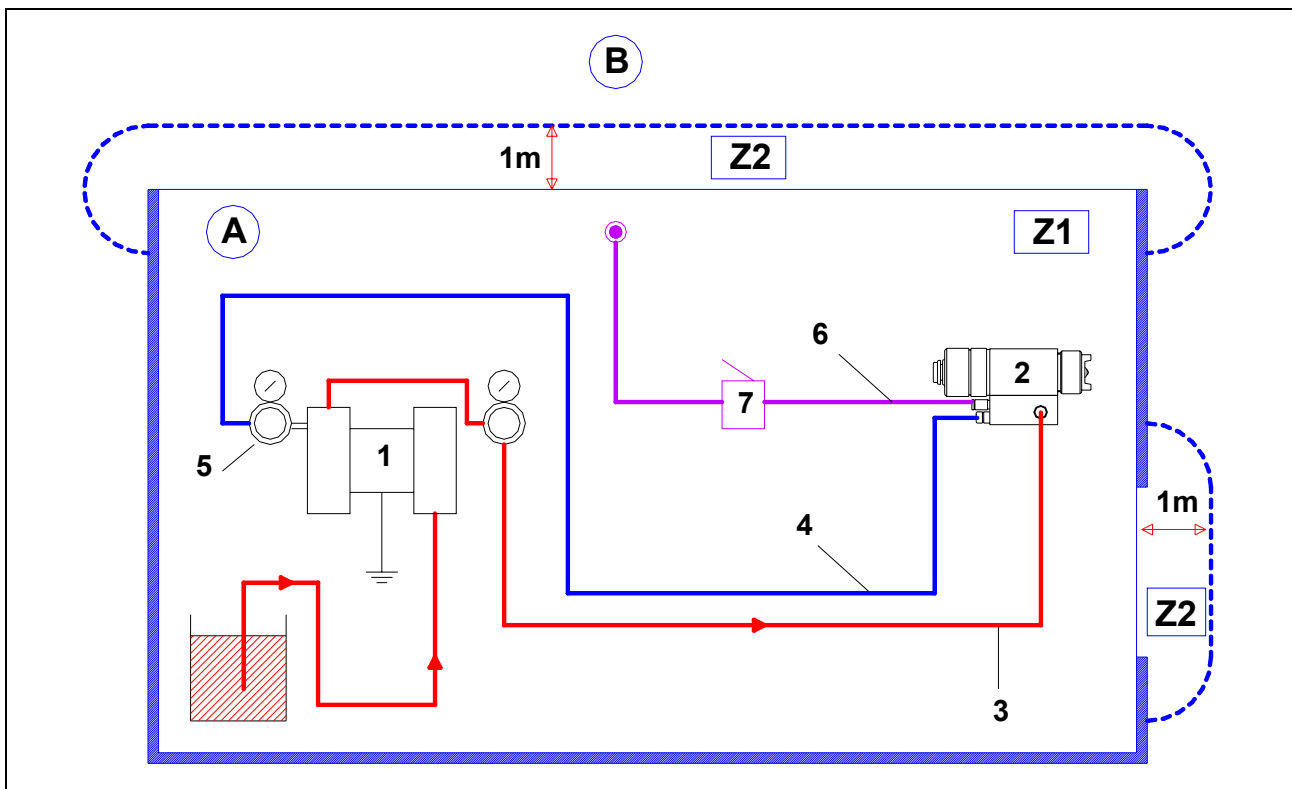
Marking defined by the ATEX directive

(example : label of the gun, model A 25)



KREMLIN STAINS FRANCE	Name and address of the manufacturer
A 25	Gun model
CE Ex II 2 G	II : group II 2 : class 2 Surface equipment meant to area where explosive atmospheres due to gas, vapours, mists are liable to appear from time to time in usual operating. G : gas
P air : 6 bar / 87 psi	Gun air supply maximum pressure
P prod : 6 bar / 87 psi	Maximum fluid pressure at the gun inlet

■ INSTALLATION DIAGRAM



Captions :

A	Explosive area area 1 (Z1) or area 2 (Z2) : spray booth	3	Fluid hose
B	Non explosive area	4	Conductive air hose (spraying air)
		5	Air regulator
1	Pump	6	Air hose (control air)
2	Pneumatic automatic gun	7	3 way-valve or electrovalve

- 1 - By means of a fluid hose (3), connect the gun fluid fitting to the pump. Tighten firmly the fittings.
- 2 - By means of a **conductive** air hose (4), connect the gun 'Spraying air' fitting (2) to an air regulator (5) that can supply at least 3 bar / 43.5 psi (→ spraying air).
- 3 - By means of an air hose (6), connect the gun 'Control air' fitting to the valve or the electrovalve (7) that will control the opening and the closing of the gun.

A minimum pressure of 3 or 4 bar / 43.5 or 8 psi is necessary to control the gun (→ control air).



Nota : If the fluid hose (3) is not conductive, the air hose (4) **must be** conductive.

One of the 2 gun hoses (spraying air or fluid) must be conductive.

5. OPERATING

Unscrew the needle adjustment knob at the back of the gun.

Unscrew the air adjuster (s) located on the base or on the gun.

Select the desired projector (aircap + nozzle + needle) best suited for the job at hand.

Screw on the nozzle, then the aircap to the gun.

Before tightening up firmly the aircap ring, position the aircap for the best spray. The fan is vertical when the 2 ears of the aircap are horizontal.

☞ **We advice you to put the gun in the "OPEN" position to prevent any damage to the needle while fitting the nozzle.**

6. CONTROL

This professional spray gun features 3 controls :

■ THE AIR PRESSURE

Supply the air of the network (clean air - maximum pressure : 6 bar / 87 psi) to the gun.

Control the gun opening (air pressure > 3 bar / 43.5 psi).

Adjust the air pressure upstream of the gun to obtain a correct spraying.

■ THE FAN WIDTH

Can be adjusted by using the knurled knob. It controls the air going to the horns on the aircap. In this way, the air is controlled through the fanned air outlets and allows the fan to change from flat (wide open) to round (closed).

■ THE FLUID OUTPUT

Having selected the proper fluid nozzle / needle assembly and the fluid pressure, it is possible to further control the output by changing the travel of the needle (needle stop knob) in case of fluid supply.

Optimal set-up is usually obtained when the product needle is completely open. When this needle is nearly closed, a regular flow of product can not be guaranteed.

7. GUN HANDLING

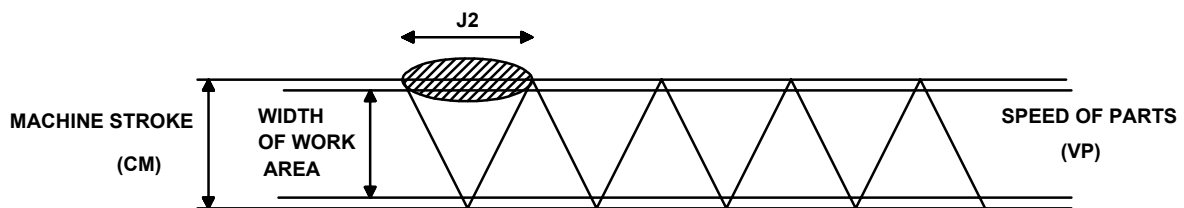
When mounting the aircap on the gun, hold it vertically in order to correctly adjust the aircap before screwing the aircap ring.

Keep the gun perpendicular to the surface to be painted. Avoid working with the wrist.

Do not forget that crossed sweeps cannot correct irregularities.

Spraying from a stationary gun will not give even coverage.

Make sure that overlapping from the passes is even (gun moving vertically, part moving horizontally).



This width J2 for 2 regular coats of paint corresponds exactly to the following formula :

$$J2 (m) = VP (m/s) \times 2 \frac{CM (m)}{VM (m/s)}$$

Where :

VP = speed of travel of the parts to be painted.

CM = total stroke of the machine (and therefore of the spray guns).

VM = speed of the machine (and therefore of the spray guns).

2 = 2 regular coats of paint (or 4 if you want to double the number of coats).

8. GUN CLEANING

The gun is a precision instrument and it relies on good and frequent maintenance for its correct operation. If stopped for a long time, lubricate all movable parts, axes and springs with grease.

Never use metal brushes files, points or clips for dismantling.

■ SHORT DURATION SHUTDOWN (LESS THAN 3 HOURS)

Remove the paint on the air cap, with a brush and solvent. Otherwise, leave the equipment as it is. Removing the paint will prevent the drying and clogging of the holes.

■ LONG DURATION SHUTDOWN

Shut off the gun fluid and air supply.

Depressurize the hoses by triggering the gun or by controlling the gun opening.

Unscrew the air cap. Remove the needle and then remove the fluid nozzle with the wrench provided. Soak the needle, aircap, fluid nozzle in solvent and brush them carefully, as they are precision parts.

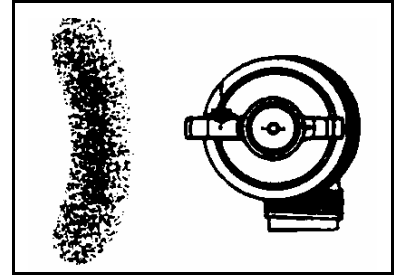
With a brush soaked in solvent, clean the internal parts of the gun. Wash carefully brush the threaded parts.

Do not soak the gun in solvent

9. TROUBLESHOOTING CHART

■ DISTORTED SPRAY

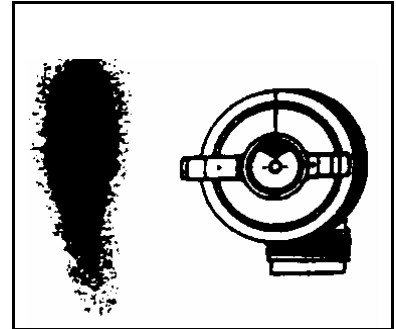
Slightly unscrew the aircap retaining ring and rotate the aircap by one half turn. If the defect is reversed, one of the lateral air holes is plugged up or deformed. Clean the gun aircap with solvent and unclog the air holes with a compressed air. If the defect is not reversed, it means that the fluid nozzle is damaged.



■ DISPLACED SPRAY

This comes from a defect in the central fan. Clean the aircap and the fluid nozzle. Make sure that :

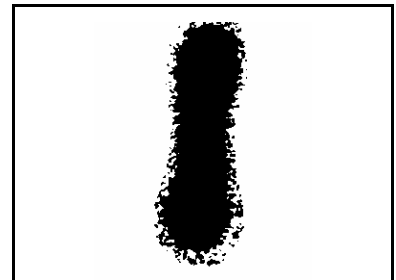
- the aircap is correctly centered on the nozzle,
- the nozzle is not too big for the needle,
- when work is done with a large needle opening and the needle almost closed, the spray pattern is not even in all directions.



■ FRAGMENTED PATTERN

The fan air pressure is too big at the holes in the air cap horns :

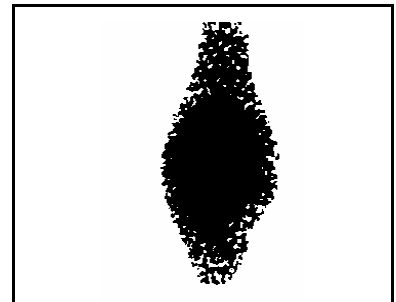
- turn the fan air control clockwise to reduce the fan air pressure.
- increase the paint output.



■ FAN TOO THICK IN THE CENTER

This is the reverse of the above defect :

- the paint output is too high for the selected air pressure : increase the spraying air pressure and reduce the paint output.
- if the paint is too thick, dilute it.



■ INTERMITTANT SPRAY PATTERN

An air inlet in the paint circuit creates an intermittant pattern when :

- the paint cup is nearly empty,
- when the nozzle is not tightened on its seat : clamp it.

If the problem persists, remove the nozzle and clean it. Check that the seat and the cone are not damaged, remount the nozzle and clamp it.

When using a cup, air can get into the paint circuit :

through the passage seal of the needle into the gun body ⇒ tighten it.

through various fittings between the gun and the cup if these are not correctly tightened.

Check that : the cup cover air hole is not blocked and the paint is homogeneous and fluid enough (use the viscosity cup).

PROBLEM	CAUSE	SOLUTION
No fluid out of the gun.	Tip is blocked	Relieve pressure on pump. Carefully remove spray tip and filter. Take care with residual pressure in the hoses.
Pattern width narrows during reversing phase of pump.	Air trapped in the fluid circuit.	Check connections and suction hose quality.
	Viscosity too high.	Reduce viscosity.
Aircap becomes dirty frequently.	Too much air.	Reduce air pressure.
	Leak from fluid packing (or cartridge).	Replace packing or cartridge.
Fluid seeping from the air holes of the aircap.	Defective tip seal.	Replace it.
	Tip loose.	Tighten it.
Fluid leak.	Impurities in the paint	Trigger the gun 3 or 4 times.
	Needle worn.	Remove the needle and the nozzle.
	Cartridge or packing worn.	Replace.

10. DISASSEMBLY - REASSEMBLY

Before removing a component of the gun, some precautions have to be taken :

- Empty out the paint inside the cup or the receiver.
- Fill the cup or the receiver with cleaning solvent.
- Spray the solvent until it runs clear.
- Shut off the supply air pressure of the gun.
- Trigger the gun to depressurize the circuit.
- Remove the part to be cleaned or changed.

Before reassembling the different components, some precautions must be taken :

- **Clean all the parts with the appropriate cleaning solvent and a brush.**
- **Install new seals if it is necessary after having lubricated them with PTFE grease.**
- **Install new parts if it is necessary.**