INSTRUCTION MANUAL

ASI 24 AND ASI 40 AIRLESS GUN STAINLESS STEEL MODEL

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TRANSLATION FROM THE ORIGINAL MANUAL

IMPORTANT : Before assembly and start-up, please read and clearly understand all the documents relating to this equipment (professional use only).

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INSTRUCTION MANUAL

AIRLESS AUTOMATIC GUN
MODEL ASI 24 - ASI 40

Dear Customer,

We thank you very much for purchasing our **Airless** spray gun. You are the owner of one of the most reliable spray gun available on the market.

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

To get the best result, safe and efficient operation of your spray gun, we advice you to read and make yourself familiar with this instruction and service manual. 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. SAFETY INSTRUCTIONS

■ GENERAL SAFETY INSTRUCTIONS

WARNING : Any misuse of the equipment or accessories can damage them, result in serious body injury, fire or explosion hazard and reduce the equipment working life. Read, understand and comply with the safety instructions hereafter.

The personnel involved in operating and servicing the equipment must be aware of all the safety requirements stated in this manual. The workshop supervisor must be certain that the personnel has perfectly understood the safety instructions and complies with them.

Read all instruction manuals as well as the tags of the equipments before operating the equipment.

Refer to local safety instructions and comply with them.

☞ **Refer to 'Installation and safety instructions' document (doc. 578.001.130)**

Before cleaning or removing components of the equipment, it is compulsory :
- to stop the pump by shutting off its compressed air feed,
- to open the flushing valve on the pump,
- to de-pressurise the material hoses by opening the gun fluid passage.

2. AIRLESS SPRAYING

The AIRLESS spraying, at high pressure without air, ensures :
- high viscosity material applications,
- very precise fan width according to the selected tip angle,
- thick film thickness (50 to 100 µ),

and allows a gun displacement at low speed (0.4 m/s maxi).

3. TECHNICAL CHARACTERISTICS

The ASI 24 (or ASI 40) spray gun is designed for applying paints, primers and adhesives in automatic installations. The models ASI 40 GT and ASI 40 GT V are designed for applying water-based and UV paints. The gun can be fitted on fixed supports, automatic machines or on robots.

It is possible to fit it with 1 material outlet in order to make easier the flushing, color changing and also to ensure a material circulation.

Operation pressure and output :	**ASI 24**	**ASI 40**
Command air pressure (minimum)	4 bar / 58 psi	5,5 bar / 80 psi
Material pressure (maximum)	240 bar / 3480 psi	400 bar / 5800 psi
Material output	Dependent upon type of Airless tip in use	
Operating temperature (maximum)	50°C / 117°F	
Weight	700 g / 25 oz	
Weighted sound pressure (LAeq)	78.9 dBa*	88.4 dBa*

* Testing conditions : Fluid pressure = 240 bar / 3480 psi (ASI 24) - 400 bar / 5800 psi (ASI 40)
Material used : water Nozzle : 14.17

Fittings :	**Gun**	**Fitting ASI 24 - ASI 40 - ASI 40 GT**	**Fitting ASI 40 GT V**
Material (1)	Female 1/4 NPS	Elbow, corrosion resistant steel - Male 1/2 JIC	Straight fitting, corrosion resistant - Male 1/2 JIC
Material (2)	Female 1/4 NPS	Plug, corrosion resistant steel	Straight fitting, corrosion resistant - Male 1/2 JIC
Command air	Female 1/8 G	Elbow - Hose 4 x 6	Helbow - Hose 4 x 6

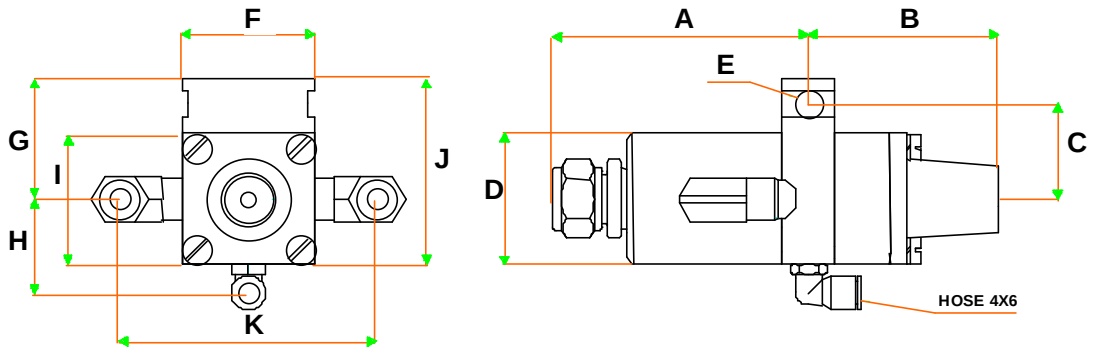
On the gun, you can fit : - either 1 material fitting and a plug ,
- or 2 material fittings ➔ material circulation

Materials in contact with the product :

- Stainless - treated stainless steel - corrosion resistant steel.
- Charged PTFE (material tightness).

Dimensions :

Gun		Ind.	A	B	C	D	E	F	G	H	I	J	K
ASI	24 - 40 - 40 GT	mm	78	57,5	29	Ø 40	Ø 8	40	37	29	40	57	77,5
		inches	3.07	2.26	1.14	Ø 1.57	Ø 5/16	1.57	1.46	1.14	1.57	2.24	3.05
	40 GT V	mm	78	57,5	29	Ø 40	Ø 8	40	-	29	40	57	87
		inches	3.07	2.26	1.14	Ø 1.57	Ø 5/16	1.57	-	1.14	1.57	2.24	3.42



Gun fixing : rod Ø 16 mm / 5/8", length 100 mm / 4".

4. INSTALLATION

■ DESCRIPTION OF THE LABEL MARKING

Marking in accordance with the ATEX Directive

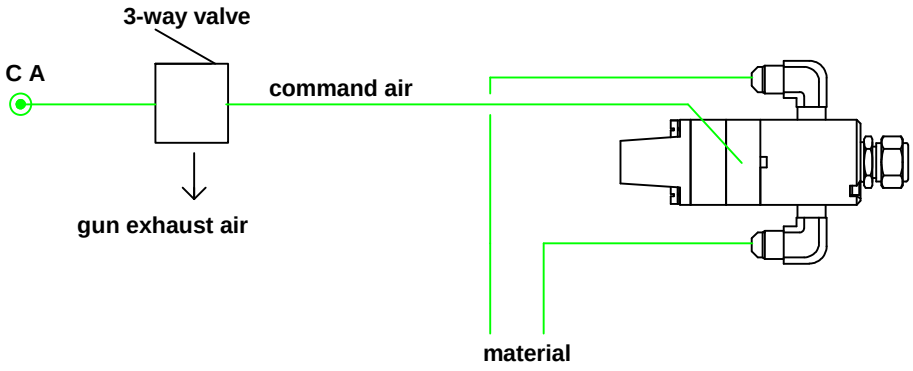
Example : ASI 40 gun

KREMLIN REXSON STAINS FRANCE	Name and address of the manufacturer
ASI 40 (or 24)	Gun model
CE	European conformity
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
IIB T3	**IIB** : Gas group for the equipment category **T3** : Maximum surface temperature : 200°C / 392°F
P prod. 400 b (or 240 b)	Maximum fluid pressure
P air 6 b	Air supply maximum pressure (command air)
REF / SERIE	Number given by KREMLIN REXSON. The two first numbers indicate the manufacturing year.

■ INSTALLATION INSTRUCTIONS

Fix the gun onto the support.

Connect the AIRLESS fluid hoses (**conductor hoses**) and the air hoses.



The ASI 24 (or ASI 40) spray gun works by pneumatic command. To make it work, it simply requires either an electronic valve or a three-way pneumatic valve. This command device mut be located as close as possible to the gun.

5. OPERATION

Unscrew the tip coupling nut at the front of the gun.

Select the desired tip best suited for the job at hand. Refer to the tip table and select a tip that will meet both the desired material output and fan pattern requirements.

Install the tip onto the diaphram size 60 (supplied with the gun) and then screw the coupling nut.

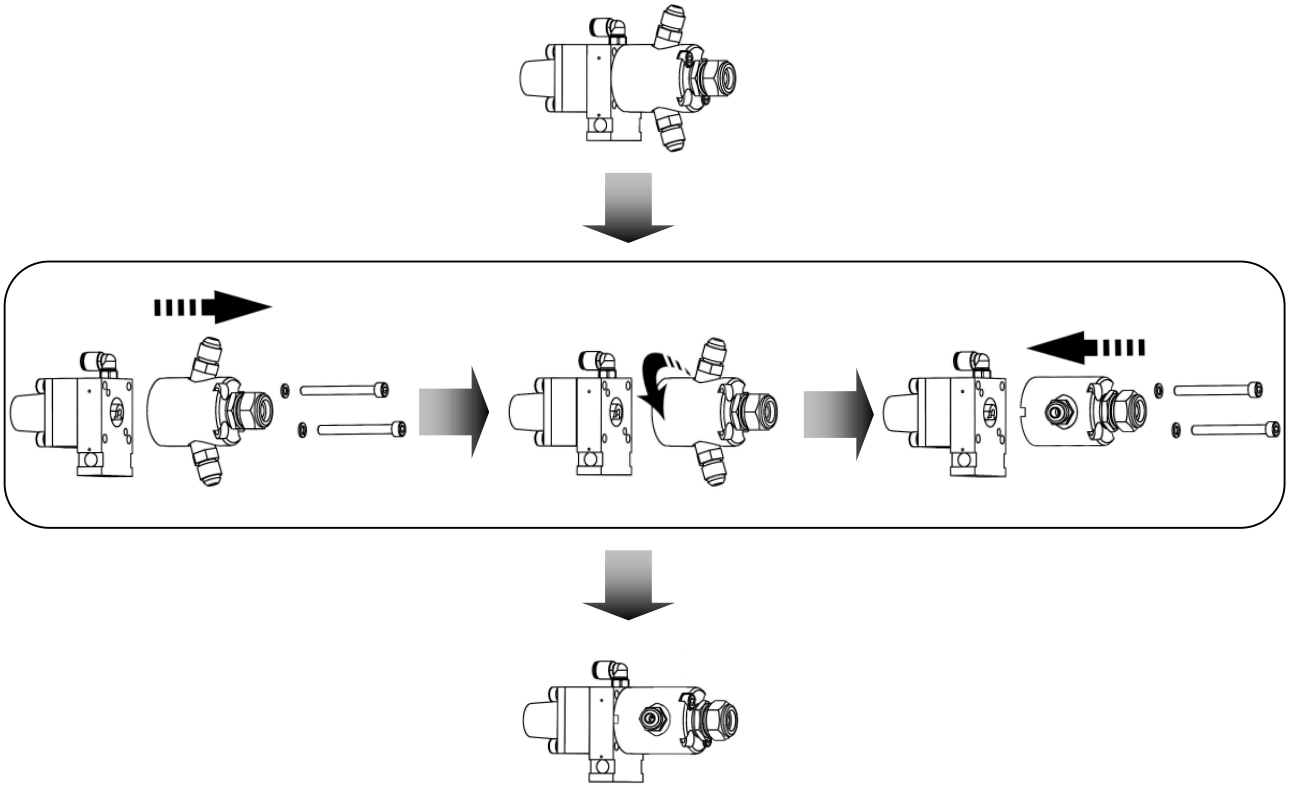
➲ **To improve the fineness of spraying, install a suitable diaphragm for the tip being used after removing the diaphragm size 60 (refer to spray tip chart).**

Before finally tightening up the coupling nut, position the tip for the required spray position (vertical or horizontal fan).

Spray onto a sheet of paper and progressively increase pump air pressure to assure full and even fan pattern.

ASI 40 GT V :

In order to make its use easier, the ASI 40 GT V model allows you to change the orientation of the fittings.



6. ADVICE FOR USING THE SPRAY GUN

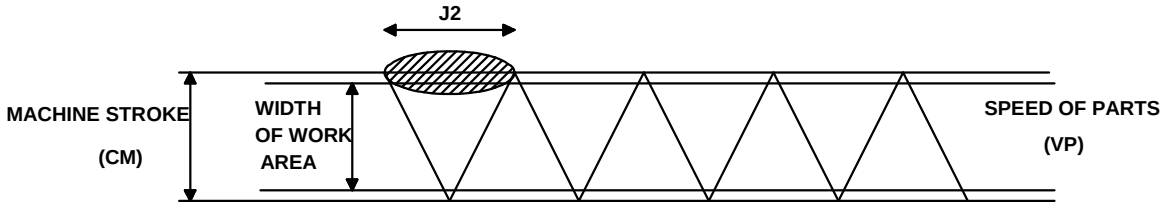
While fitting the tip to the spray gun, be sure to hold it vertically in order to ensure correct positioning, before tightening the coupling nut.

Always position the spray gun perpendicularly to the surface you intend to paint.

Don't forget that repeating the pass of the gun will not make up for irregularities on the surface.

Spraying with the gun stationary will lead to a build-up of material.

Try to get a suitable and regular coat with each pass of the gun (gun moving vertically, part moving horizontally).



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

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

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).

7. CLEANING THE GUN

This spray gun is a precision tool. Its correct functioning requires regular maintenance, carried out with care. When it is carried out directly after use, the cleaning of the gun is faster and easier.

Never use metallic brushes, files or pliers when dismantling the gun.

■ STOPPING FOR A SHORT TIME (LESS THAN THREE HOURS)

Leave the equipment as it is. In any case, if the tip becomes a little clogged with material, it is best to clean it with a brush and some solvent.

■ STOPPING WORK FOR A LONG TIME

Depressurise the material circuits.

Unscrew the tip from the gun, put it in solvent to soak and then brush it clean.

Flush the installation and leave it full of solvent.

➲ **Never soak the gun itself in solvent.**

8. TROUBLESHOOTING

The spraying quality depends directly on the shape of the tip. It is recommended to replace it regularly to get a constant fan pattern.

A prematury wearing makes the tip opening oval, thus resulting in two troubles :

- fan pattern reduced and charged at the center,
- higher output.

TROUBLE	CAUSE	SOLUTION
Material is no longer coming out of the gun	Blocked tip	Check material supply circuit. Cut the pressure on the pump. Remove and clean the tip. Depressurise the hoses.
	Insufficient command air pressure to open the gun	Check command air pressure and increase it if necessary (P > 4 bar / 58 psi)
Spray fan is not uniform : horn formation	Not enough pressure at the gun	Use a smaller tip size or install an appropriate diaphragm.
	Pump filter is blocked	Increase pump air supply pressure.
	Material viscosity is too high	Clean it.
	Unappropriate tip	Dilute the material.
Spray fan is not uniform : fan broader in centre	Worn tip	Replace it.
	Fluid cannot be sprayed	Use another kind of spray gun.
Spray fan is not uniform : division into several fans	Tip partly blocked or damaged	Clean or replace it.
Spray fan is not uniform : overload of stripes	Material cannot be atomized	Increase pump air supply pressure and use an appropriate diaphragm.
Fluid leak in front of the gun	Bad tightness between the needle ball and its seat	Clean seat or replace needle and seat.
Fluid leak around the needle	Worn fluid packing	Clean or replace it.

9. DISMANTLING

■ CHANGING THE SPRAY GUN

Shut off the air and material feeds to the gun.
Depressurise the circuits.
Unscrew the fittings of the fluid hoses and dismount the command air hose.
Take out the gun.
Fit the replacement gun.
Tighten up the fittings before the gun is in operation.

■ FLUID PACKING (22 ON ASI 24 & 40 OR 19 & 25 ON ASI 40 GT & 40 GT V) AND BALL NEEDLE (37 ON ASI 24 & 40 OR 20 ON ASI 40 GT & 40 GT V).

Unscrew diaphragm (9) and seat-holder assembly (17 on ASI 24 & 40 or 18 on ASI 40 GT & 40 GT V).

Remove the two screws (13).

Remove gun front body (1 on ASI 24, 40 & 40 GT or 21 on ASI 40 GT V) by separating :
- needle-holder (23 on ASI 24 & 40)
- needle (20 on ASI 40 GT & 40 GT V) from rod (6).

Remove clip (26) holding fluid packing (22 on ASI 24 & 40 or 19 & 25 on ASI 40 GT & 40 GT V).

Remove fluid packing (22 on ASI 24 & 40 or 19 & 25 on ASI 40 GT & 40 GT V) by pulling frontwards the needle.

Unscrew ball needle (37 on ASI 24 & 40) from needle-holder (23 on ASI 24 & 40) (only for ASI 24 & 40).

Replace fluid packing and its seal (24 & 25 on ASI 24 & 40 or 19 & 25 on ASI 40 GT & 40 GT V).

Clean the front of the gun.

When reinstalling, drive fluid packing (22 on ASI 24 & 40 or 19 & 25 on ASI 40 GT & 40 GT V) by pushing it from the front to the back of the body (1 on ASI 224, 40 & 40 GT or 21 on ASI 40 GT V) until the packing shoulder comes to lean against the shoulder located inside the gun.

Then, secure the fluid packing by means of the clip (26).

Reinstall : ball needle (37 on ASI 24 & 40), screws (13), seat-holder assembly (17 on ASI 24 & 40 or 18 on ASI 40 GT & 40 GT V), diaphram (9), tip and coupling nut (8).

■ PISTON ASSEMBLY (27)

Remove the four screws (ind. 11).

Remove spring guide (3) and cylinder (2).

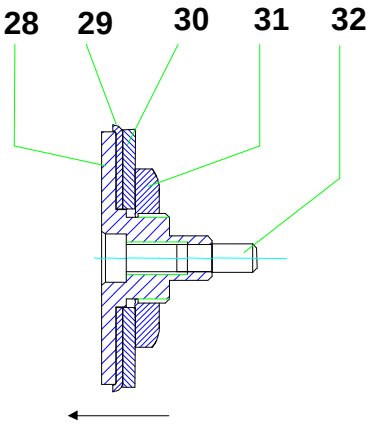
Remove spring (7 on ASI 24 or 4 on ASI 40, 40 GT & 40 GT V) and spring support (33).

Unscrew nut (31).

Remove washer (30) and piston packing (29).

Clean the parts and replace them if necessary.

Before inserting piston assembly (27) into cylinder (2), the packing lip (29) must be shaped by hand as shown opposite.



■ AIR PACKING (34)

Dismount the back of the gun and remove the piston as explained before.

Remove air packing (34).

Replace packing seal (36) or air packing assembly.

Before reassembling the different components :

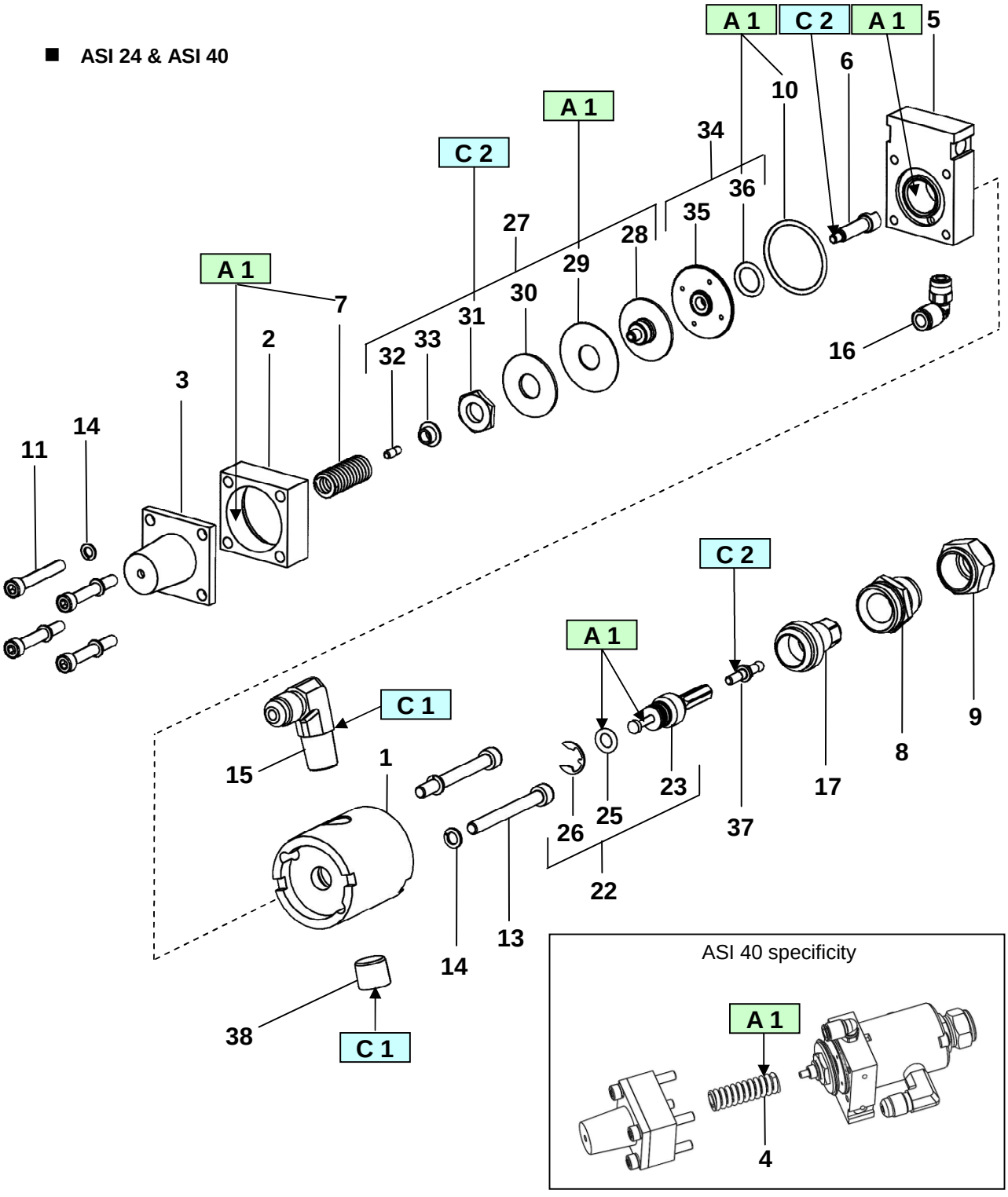
- Clean the parts with the appropriate cleaning solvent with a brush.

- Install new seals after having lubricated them with PTFE grease.

- Install new parts if necessary.

10.ASSEMBLY INSTRUCTIONS

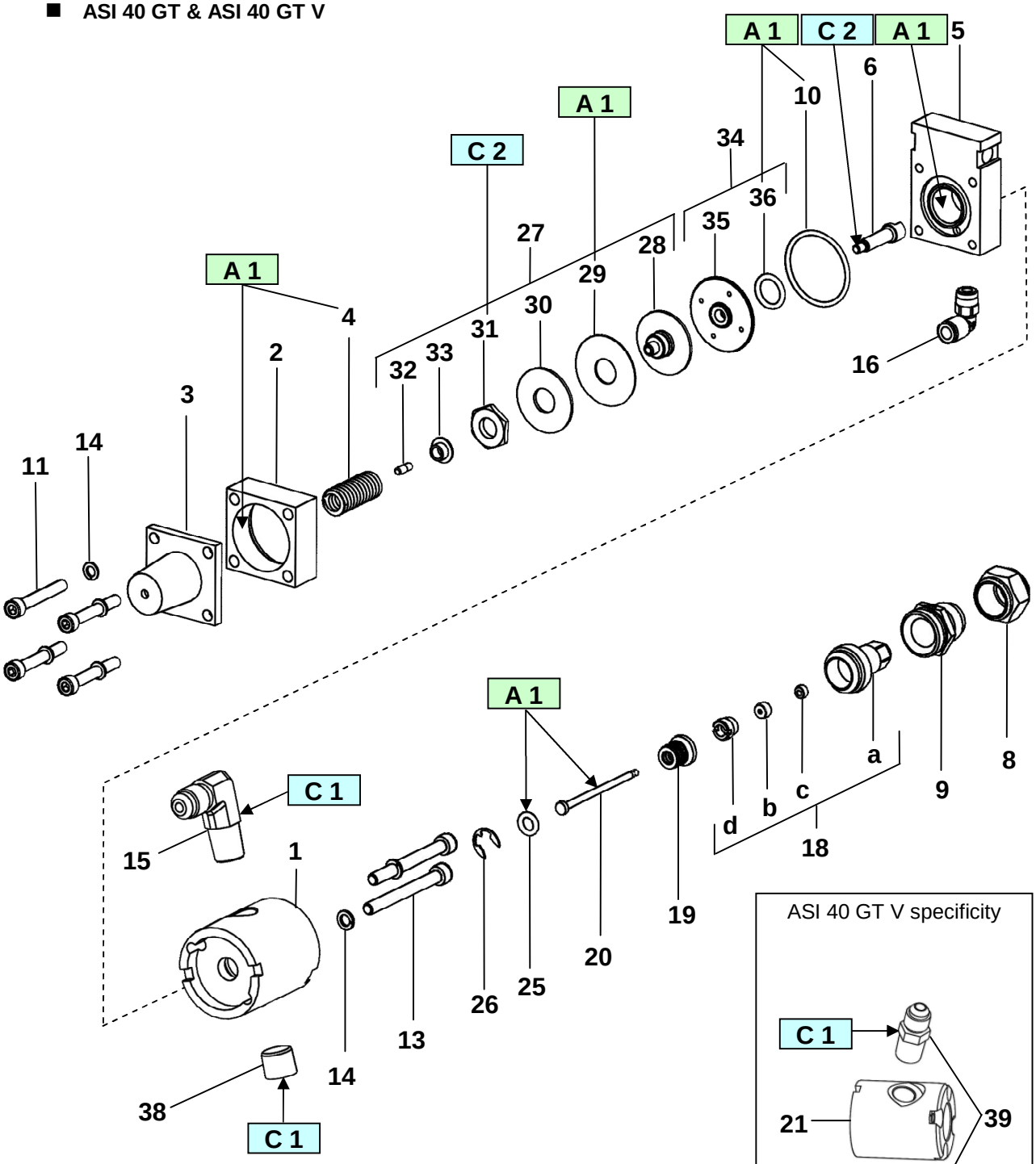
■ **ASI 24 & ASI 40**



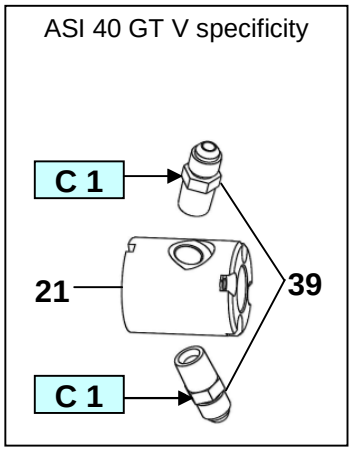
ASI 40 specificity

Index	Instructions	Description	Part number
A 1	PTFE grease	"TECHNILUB" grease (10 ml)	560.440.101
C 1	Medium strength Anaerobic Pipe sealant	Loctite 577	-
C 2	Low strength - Aneorobic Adhesive	Loctite 222	-

■ **ASI 40 GT & ASI 40 GT V**



ASI 40 GT V specificity



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