

NEPTUNE

Operation Manual



Read and follow all instructions and SAFETY PRECAUTIONS before using this equipment.

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MODELS

NEPTUNE – Air Cap No. – Fluid Tip Size – Type of Feed CG : Center Gravity

(Ex.) : NEPTUNE-110B-1.3-CG ← (110B Air Cap - Size1.3mm – Center Gravity)

SPECIFICATIONS

Maximum Working Air Pressure: 0.69MPa, Maximum Working Fluid Pressure: 0.69MPa

Weight: 379g (excl. cup)

Fluid inlet : G3/8 Air inlet :G1/4

Chart. 1

Air Cap No. Part Number	Type of Feed	Air consumption Gun inlet pressure	Pattern width (mm)
110B NEP-3-110B	CG	192l/min 0.15MPa	300

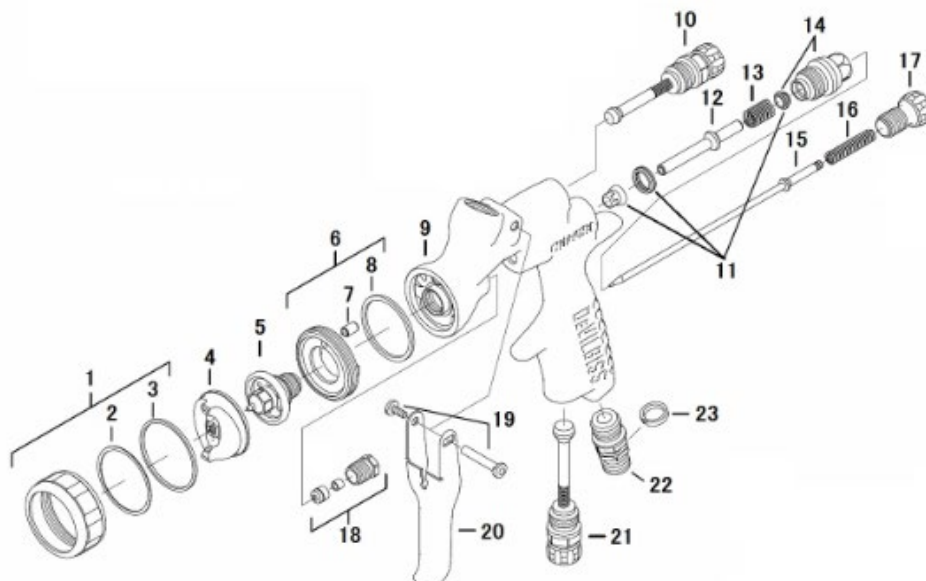
Chart. 2

Fluid Tip Part Number	Needle Part Number	Tip size (mm)	Application
NEP-4-1.2	NEP-41-1.2	1.2	Automotive Refinishing
NEP-4-1.3	NEP-41-1.3	1.3	Automotive Refinishing
NEP-4-1.4	NEP-41-1.4	1.4	Automotive Refinishing

PARTS LIST

Chart 3

Ref No.	Part No.	Description	QTY	Ref No.	Part No.	Description	QTY
1	NEP-6	Retaining Ring	1	13	NEP-25-K5	Valve Spring Kit of 5	1
2	NEP-50-K5	Cap Seat Kit of 5	-	14	NEP-12	Air Valve Bushing	1
3	NEP-55-K5	Ring Gasket Kit of 5	-	15	See Chart.2	Needle	1
4	NEP-3-110B	Air Cap	1	16	NEP-14-K5	Needle Spring Kit of 5	1
5	See Chart.2	Fluid Tip	1	17	NEP-13	Needle Adjustment Knob	1
6	NEP-7	Baffle	1	18	NEP-463	Needle Packing Kit	1
7	NEP-100	Baffle Tube	-	19	NEP-45-K5	Bearing Stud Kit	1
8	NEP-8-K5	Baffle Gasket Kit of 5	-	20	NEP-108	Trigger	1
9	N/A	Gun Body	1	21	NEP-42	Cheater Valve	1
10	NEP-44	Pattern Valve	1	22	NEP-30	Air Connector	1
11	NEP-443-3P	Air Seal Kit	1	23	SN-26-K4	Color ID Ring Kit (4 Colors)	1
12	NEP-43	Air Valve	1				



SAFETY PRECAUTIONS

This manual contains information that is important for you to know and understand. This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS. Read and follow SAFETY PRECAUTIONS before using this equipment.

■ FIRE OR EXPLOSION HAZARD

1. When spraying, adequate exhaust must be provided to keep air free of accumulations of flammable vapors which may cause fire or explosion.
2. Smoking must never be allowed in the spray area.
3. Static electricity is generated and a static spark could be produced in the spray area. To prevent the risk of fire or explosion, ground without fail all conductive objects in the spray area.
4. Make it sure to use and ground hoses with static wire for spray gun operation. If improperly grounded, a static spark possibly produced may cause fire or explosion.
5. Fire extinguishing equipment must be provided in the spray area.
6. Solvents used for cleaning must have a flash point equal to or higher than that of the coating. Those for general cleaning must have flash points above 37.8°C (100°F) to prevent the risk of fire.

■ INHALING TOXIC SUBSTANCES

1. Toxic vapors and liquids are harmful to health. When spraying, adequate exhaust must be provided to keep the air free of accumulations of toxic materials and the use at all times of respiratory protective equipment must be set compulsory.
2. Always wear eye protection when spraying or cleaning the equipment.
3. Certain materials may be harmful if there is contact with the skin. Read carefully all the labels and safety performance data of the materials and solvents to be used. Appropriate clothes and gloves must be worn for spraying or cleaning the equipment.

■ MISUSE

1. Operators should be given adequate and appropriate training in the safe use and maintenance of this equipment.
2. Pressured liquids may injure eyes. Do not point the spray gun to any person.
3. Gravity or suction feed gun must not be used for pressure feed gun.
4. Parts with compressed air may damage the human body. Connect air hoses tightly by using a spanner so that air never leaks. If tightened loosely, hoses can be removed which may result in damaging the human body, objects to be coated and other equipment used together.
5. Parts with compressed air or under spring pressure may injure the human body. When replacing such parts, clean the spray gun by discharging the materials, discharge the air, remove air hose and fluid cup and then replace such parts by placing the gun flat. Eye protection must be worn when repairing the spray gun.
6. Do not use the gun at no more than maximum working pressure (0.69MPa).

INSTALLATION

1. The air supplied to spray gun must be cleaned air which any water, oil and solid material removed. To set up the Mist Separator and Air Transformer near the gun is recommended. The use of air not cleaned may cause coating troubles.
2. Connect fluid cup and air hoses tightly. If tightened loosely, hoses can be removed which may result in damaging the human body, objects to be coated and other equipment used together.

OPERATION

1. The recommended pressure of air supplied to gun inlet is in a range of 0.15MPa-0.25MPa. Do not supply to gun the air pressure in excess of the gun's maximum working pressure (0.69MPa).
2. Try with the pressure starting from 0.15MPa – 0.25MPa or around as the spraying pressure varies depending upon the inner diameter of gun, triggering distance, materials etc.
3. The recommended spray distance is 150-200mm. If the spray distance is too far, good result does not appear.
4. In order to get uniform finishing, the spray gun should be hold vertically toward the painting surface.

PREVENTIVE MAINTENANCE

1. Daily lubrication and cleaning is necessary to maintain the best condition of the gun.
2. To clean the gun body, wipe exterior with solvent dampened cloth. Do not submerge the gun body in solvent as any solids may get into the air passage and cause troubles.
3. Do not leave the gun with solvent in fluid cup. Clean the spray gun after used with clean solvent and empty the cup. To clean the fluid cup, after removing extra paint, through the appropriate solvent and flush down the residual paint.
4. The Air Cap can be immersed in solvent and brushed down for cleaning. If orifices are clogged, use a toothpick to remove obstruction. Never use a steel wire or hard instrument. This will damage air cap and result in a distorted spray pattern.
5. Do not immerse any plastic parts in solvent for long time.
6. Certain portions of gun should be lubricated. Do not lubricate to any portion where not instructed. For lubrication, SSL-10 Gun Lube* is recommended (*sold separately, vegetable not repelling materials).
7. The following portions should be lubricated regularly; Bearing Stud (19), Pattern Valve (10), threads of cheater Valve (21) and Needle Adjusting Knob (17), Air Valve (12) stem, portion of Packing Gland (18) here Needle (15) comes in and out.
8. When installing Air Cap (4), make sure no foreign materials adhered on Retaining Ring (1) and thread of body and then oil one drop of Gun Lube SSL-10.
9. Apply non-silicone grease lightly on Needle Spring (16) and Air Valve Spring (13). Do not apply too much grease as it may clog the air passage.

REPLACEMENT OF PARTS

Before replacing gun parts, remove materials from the gun for cleaning. Then release the air pressure in the gun and disconnect air hoses. All repairs should be made on a clean flat surface. Use only appropriate tools indicated for replacement of parts.

Fluid Tip (5) and Needle (15)

1. It is recommended to replace Fluid Tip (5) and Needle (15) as a set.
2. Loosen completely Pattern Valve (10) by turning the knob counterclockwise.
3. Remove Needle Adjusting Knob (17) and Needle Spring (16) and then withdraw Needle (15) from the gun body.
4. Remove Retaining Ring (1) and Air Cap (4).
5. Remove Fluid Tip (5) by using socket wrench or offset wrench.
6. Recommended torque of Fluid tip is 8N·m when you re-assemble.

Air Connector (22)

Air Connector (22) is fixed together by sealing material. Do not disassemble these connectors if it is not necessary. It may become a cause of problem.

Pattern Valve (10) and Cheater Valve (21)

When disassembling and reassembling Pattern Valve (10) and Cheater Valve (21), turn the knobs completely counterclockwise and then disassemble or reassemble them.

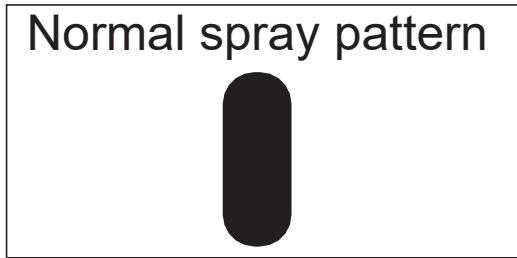
Air Seal Kit (11), Air Valve(12), Valve Spring(13), Air Valve Bushing(14)

1. Remove Needle Adjusting Knob (17) and Needle Spring (16) then withdraw Needle (15) from the Gun Body (9).
2. Remove Air Valve Bushing (14), Valve Spring (13), Air Valve (12).
3. From the back of the Trigger (20), push the front part of the Air Seal Kit toward the back of the gun to remove it, and remove the seal in the center.
4. Hook the rear part of the Air Seal in the Air Valve Bushing (14) using a thin wire to remove it.
5. Do not reuse the removed Air Seal because usually it has been damaged.
6. Attach the new Air Seal and insert it into the body with insert tool and Bushing. See the exploded view and be careful of the installation direction when attaching.

Needle Packing Kit (18)

1. Remove Bearing Stud kit (19) and Trigger (20) using flat-blade screwdriver.
2. Remove Fluid Adjusting Knob (17) and Needle Spring (16) from gun, and then remove Needle(15).
3. Loosen and remove the Needle Packing Kit (18) using wrench.
4. Re-assembling the Needle Packing Kit (18). Assemble into gun body by hand and then tighten using the wrench.
5. Insert Needle (15), Needle Spring (16), and Needle Adjusting Knob (17).
6. Re-assembling Bearing Stud kit (19) and Trigger (20) using flat-blade screwdriver.
7. Trigger the gun several times to verify correct operation and adjust the packing by using the wrench.

SERVICE CHECKS



problem	Cause	Correction
Will not spray	No pressure to gun. Needle Adjusting Knob (17) not properly adjusted.	Check air and material lines. Adjust.
Improper spray pattern	A,B : Material build up on the Air Cap or Fluid Tip. C,D : Incorrect fluid delivery or viscosity.	A,B : Clean the Air Cap or Fluid Tip. C,D : Adjust.
Jerky or fluttering spray	Insufficient material in the cup or Loose connector. Gun material passage plugged. Worn Needle Packing (18). Loose or damaged Fluid Tip (5).	Fill cup or tighten the Connector. Clean. Replace. Tighten or replace.
Fluid leaking from needle packing(18)	Loose of Needle Packing (18) Worn or damaged Needle Packing (18).	Tighten Needle Packing (18). Tighten or replace.
Dripping from fluid tip(5)	Worn or damaged Fluid Tip (5) or Needle (15). Stuck Needle Packing (18) or Needle (15). Incorrect adjustment of Needle Packing (18)	Replace. Lubricate. Hold the end of the Needle (15) with your hand to adjust. Fix it but leave some space so that it can still move a little bit.
	Loose Needle Adjusting Knob (17)	Adjust.

ACCESSORIES

Part No.	Description
GFC-501	568ml(1 pint) acetal gravity cup assembly
GFC-402	Lid assembly for GFC-501
GFC-440-K	400ml Anodized Aluminum Gravity cup assembly with Multi-Lid
GFC-400	Multi Lid (Lid assembly for GFC-440, KGL-400-FA-ST, KGL-400-FA-JT, KGL-400-FA-JPRO, KG-400C-FA, KGL-400, KG-400, KG-400T
KGP-509-1	284ml(1/2 Pint) Nylon gravity cup
KGP-401	Lid assembly for KGP-509-1 Gravity cup
KGP-5-K5	Gravity cup filters (kit of 5) for GFC-501 / KGP-509-1
KGP-5-440-K5	Gravity cup filters (kit of 5) for GFC-440
SN-26-K4	Color ID Ring Kit (4 colors)
KGP-13-K5	Cup Gasket kit (Kit of 5)

DEVILBISS
CFT**CFT Ransburg Japan KK**

15-5, Fukuura 1-chome, Kanazawa-ku, Yokohama, Kanagawa Japan 〒236-0004

TEL : +81-45-785-6434 / FAX : +81-45-785-6517

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