

MSV-512 LVMP SPRAY GUN OPERATION MANUAL

IMPORTANT: Read and follow all instructions and **SAFETY PRECAUTIONS** before using this equipment. Retain for future reference.

SAFETY PRECAUTIONS

This manual contains important information that ALL users should know and understand **BEFORE** using the equipment. This information relates to **USER SAFETY** and **PREVENTING EQUIPMENT PROBLEMS**. To help you recognize this information, we use the following terms to draw your attention to certain equipment labels and portions of this manual. Pay special attention to any label or information that is highlighted by one of these terms.:

| | |
|----------------|---|
| WARNING | Important information to alert you to a situation that might cause serious injury or loss of life if instructions are not followed. |
| CAUTION | Important information that tells how to prevent damage to equipment. |
| NOTE | Information that you should pay special attention to. |

SAFETY WARNING

FIRE AND EXPLOSION

Solvents and coating materials can be highly flammable or combustible, especially when sprayed.

- Work stations must be provided with adequate ventilation/exhaust to prevent the build-up of flammable vapours.
- Smoking and naked flames must not be allowed in the spraying or mixing areas.
- Fire extinguishing equipment must be provided in the spraying and mixing areas.

Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation maintenance and housekeeping of work stations.

HALOGENATED HYDROCARBON SOLVENTS – for example 1,1,1-Trichloroethane and Methylene Chloride can chemically react with aluminum and galvanised or zinc coated parts and cause an explosion hazard. Read the label and data sheet of the material you intend to spray.

This equipment, as supplied, is suitable for use with Halogenated Hydrocarbons and the user must ensure that all other equipment in the system is also suitable for use with these materials. **DO NOT SPRAY MATERIALS CONTAINING THESE SOLVENTS EXCEPT WITH EQUIPMENT SPECIFICALLY DESIGNATED BY THE MANUFACTURER AS BEING SUITABLE FOR SUCH USE.**

STATIC ELECTRICITY – is generated by fluid moving through pipes and hoses. A static spark, capable of igniting certain solvents and coating materials, could be produced by high fluid flow rates. To prevent the risk of fire or explosion, earth continuity to the spray equipment and object being sprayed should be maintained.

PERSONAL PROTECTIVE EQUIPMENT

TOXIC VAPOURS – When sprayed, certain materials may be poisonous, create irritation or otherwise be harmful to health. Always read carefully all labels and safety/performance data for the material being sprayed and follow any recommendations. **IF IN DOUBT, CONSULT THE MATERIAL SUPPLIER.**

- The use of respiratory protective equipment is recommended at all times when spraying. The type of respiratory protective equipment used must be compatible with the material being sprayed and the level of concentration.
- Always wear eye protection when spraying or cleaning the equipment.
- Gloves must be worn for spraying or cleaning the equipment when certain coating materials and solvents are used.

TRAINING

Personnel should be given adequate training in the safe use and maintenance of this equipment. Training courses on all aspects of the equipment are available. For details contact your local representative. The instructions and safety precautions contained in this literature and the literature supplied with the coating material should be read and understood before the equipment is used.

MISUSE

- All spray guns project particles at high velocity and must never be aimed at any part of the body.
- Never exceed the recommended safe working pressures for any of the equipment used.
- The fitting of non-recommended or non-original accessories or spare parts may create hazardous conditions.
- Before dismantling the equipment for cleaning or maintenance, all pressures, air and material, must be isolated and released.

The disposal of non-metallic materials must be carried out in an approved manner. Burning may generate toxic fumes. The removal of waste solvents and coating materials must be carried by an authorized local waste disposal service.

The materials used in the construction of this equipment are (bearing in mind the warning on Halogenated Hydrocarbon) solvent resistant enabling the equipment to be cleaned using gun cleaning machines. However, this equipment must not be left inside the gun cleaning machine for prolonged period of time after the automatic cleaning cycle has been completed

The solvents used in the gun cleaning machine should be regularly checked to insure that the equipment is not flushed through with contaminated material. Follow the recommendations of the machine manufacturer.

NOISE LEVELS

The continuous A-weighted sound pressure level of this spray gun may exceed 85 dB(A) depending on the air cap/nozzle set-up being used. Sound levels are measured using an impulse sound level meter and analyser, when the gun is being used in a normal spraying application. Details of actual noise levels produced by the various air cap/nozzle set-ups are available on request.

DESCRIPTION

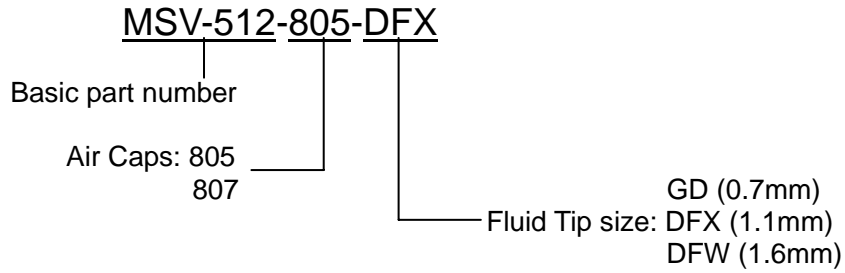
MSV-512 has been developed aiming at high transfer efficiency. The most merit of this gun is that fine atomization and high transfer efficiency can be obtained with less air consumption comparing with the existing guns. LVMP stands for Low Volume Medium Pressure; Low Volume means low air consumption and Medium Pressure means medium atomization air pressure.

CAUTION:

MSV-512 LVMP gun is suitable for almost all of general paint except for high corrosive and high abrasive paint. If these paint may be used, thorough cleaning must be done frequently. Also, the replacement of the parts will be more frequent. Please ask the supplier for advice if you have any doubt of the paint.

MODEL

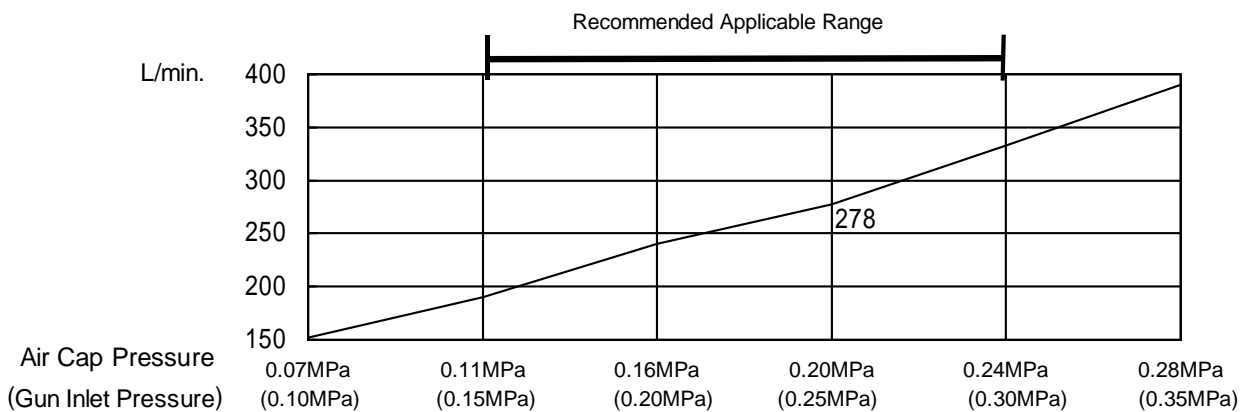
Example:



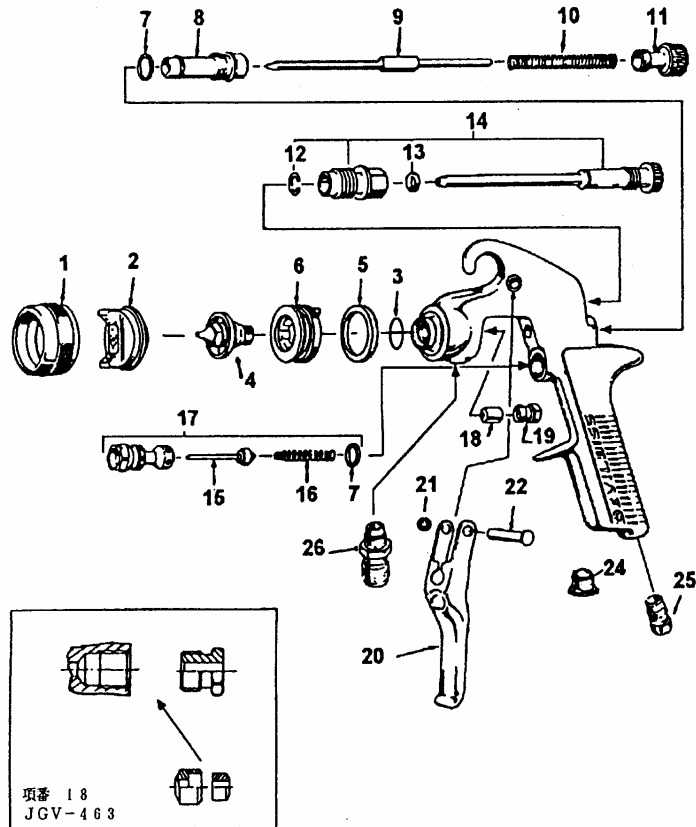
SPECIFICATION

Maximum Air Pressure: 0.9Mpa (9 bar)
 Maximum Fluid Pressure: 1.4Mpa (14 bar)
 Weight: 470g
 Air Inlet Thread: G1/4
 Fluid Inlet Thread: G3/8 (standard), G1/4 (optional)
 Fluid Supply: Pressure Feed
 Air Consumption: 278L/min. (Air Cap Pressure 0.20Mpa)

805,807 Air Cap Pressure & Air Consumption L/min.



PARTS LIST



| No. | CODE NO. | PART NUMBER | DESCRIPTION | Q'TY |
|-----|----------|------------------|---------------------------------|------|
| 1 | 804277 | MSG-368 | Retaining Ring | 1 |
| 2 | | Refer to Chart 2 | Air Cap | 1 |
| 3 | 805118 | SSG-8182-K5 | O-Ring | 1 |
| 4 | | Refer to Chart 2 | Fluid Tip | 1 |
| 5 | 803791 | JGD-14-K5 | Seal Kit of (5) | 1 |
| 6 | 803833 | JGHV-450-46-50 | Baffle | 1 |
| 7 | 803932 | JGS-72-K10 | Gasket Kit of (10) | 2 |
| 8 | 803561 | JGA-17 | Gun Body Bushing | 1 |
| 9 | | Refer to Chart 2 | Needle | 1 |
| 10 | 804342 | MBD-19-K5 | Spring Kit of (5) | 1 |
| 11 | 804270 | MSG-16 | Adjusting Screw | 1 |
| 12 | 805277 | SST-8453-K5 | Circlip Kit of (5) | 1 |
| 13 | | SSG-8190-K5 | O-Ring Kit of (5) | 1 |
| 14 | 804274 | MSG-498 | Pattern Valve Assy | 1 |
| 15 | 803929 | JGS-431 | Air Valve Stem | 1 |
| 16 | 803936 | JGV-262-K5 | Spring Kit of (5) | 1 |
| 17 | 803910 | JGK-449 | Air Valve Assy | 1 |
| 18 | 803855 | JGV-463 | Needle Packing (2 pcs.) | 1 |
| 19 | 806286 | 34411-122-K3 | Needle Packing Nut Kit of (3) | 1 |
| 20 | 803916 | JGS-108-1 | Trigger | 1 |
| 21 | 805281 | JGX-46-K10 | Circlip Kit of (10) | 1 |
| 22 | 803567 | JGX-45-K5 | Trigger Bearing Stud Kit of (5) | 1 |
| 24 | | JGA-132 | Plug | 1 |
| 25 | | MSG-21 | Air Connector | 1 |
| 26 | | MSG-11 | Fluid Nipple G 3/8 | 1 |
| | 804456 | MSG-11-1/4 | Fluid Nipple G 1/4 (Optional) | 1 |

Chart 2 Air Cap, Fluid Tip and Needle Combination

| Air Cap | | Lapped Set (Tip & Needle) | | Material Supply |
|-------------|----------|---------------------------|-----------|-----------------|
| Part Number | Code No. | Part Number | Size (mm) | |
| AV-1239-805 | 802447 | JGA-4046-DFX | 1.1 | Pressure |
| | | JGA-4046-DFW | 1.6 | |
| | | JGA-4046-GD | 0.7 | |
| AV-1239-807 | 802449 | JGA-4046-DFX | 1.1 | Pressure |
| | | JGA-4046-DFW | 1.6 | |
| | | JGA-4046-GD | 0.7 | |

INSTALLATION/OPERATION

NOTE: 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. As LVMP gun consumes less air, it is not necessary to use thicker hose compare to HVLP gun.

CAUTION: Adjust Needle Packing (18) before start using new gun. Tighten the Packing Nut (19) gradually and then to adjust the needle moving smoothly, untighten a little where the Needle (9) is not well pulled back

The Air Cap Pressure is set at 0.2MPa when Gun Inlet Pressure is 0.25MPa. It is recommended to check the Air Cap Pressure just in case with the Air Cap Test Kit which is available separately. The recommended spray distance is 150 ~ 200mm. If the spray distance is too far, good result does not appear. Also, in order to get uniform finishing, the spray gun should be hold vertically toward the painting surface.

To adjust the fluid delivery, keep the needle full open, not tightening the Adjusting Screw, so that the delivery can be adjusted at the material supply line. It leaves the abrasion of the Fluid Tip (4) and the Needle (9) the minimum.

The paint should be filtered through 60 ~ 90 mesh filter before use.

MAINTENANCE

Daily lubrication and cleaning is necessary to maintain the best condition of the gun.

NOTE: Clean the spray gun after used with clean solvent and empty the inside of the hose. To clean the fluid passage, after removing extra paint, through the appropriate solvent and flush down the residual paint. When blowing the paint inside the hose and the gun back to pressure tank by pressuring, follow the following procedure:

Release the pressure in the tank and loosen the lid a little, then make one rotation to loosen the Retaining Ring (1), which presses the gun cap. Press the point of the gun with cloth and pull the Trigger (20). The atomizing air then flows back to the fluid hose and the paint in the hose is flushed back to the tank.

CAUTION: 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.

CAUTION: The air cap can be immersed in solvent for cleaning. If orifices are clogged, use a broom straw or toothpick to remove obstruction. Never use a steel wire or hard instrument. This will damage air cap and result in a distorted spray pattern.

NOTE: Do not immerse any plastic parts in solvent for long time.

CAUTION: Lubrication

Do not lubricate to any portions where not instructed

Lubricate one drop of Gun Lube SSL-10 daily to the following portions.

Lubricate regularly, Trigger Bearing Stud (22), Air Valve Stem (15) where it enters the valve body and the

Needle (9) where it enters the Packing Nut (19).

When installing Air Cap (2), make sure no foreign materials adhered on Retaining Ring (1) and thread of

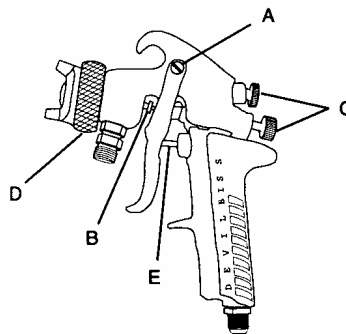
Baffle (6) and then oil one drop of Gun Lube SSL-10.

Apply non-silicone grease lightly on Needle Spring (10) and Air Valve Spring (16).

Do not apply to much grease as it may clog the air passage.

Lubricate daily to the following portions. For lubrication, SSL-10 Gun Lube is recommended.

- A) Trigger Bearing Stud
- B) Needle Packing
- C) Thread of Pattern Valve
Thread of Adjusting Screw
- D) Retaining Ring
- E) Air Valve Stem



REPLACEMENT OF PARTS

CAUTION: Be careful not to touch the point of Needle (9) as it is sharp.

When removing Fluid Tip (4), Adjust Screw (11) and Needle Spring (10) should also be removed and

Needle (9) should be withdrew or retreated. Turn the Pattern Valve (14) fully counter-clockwise

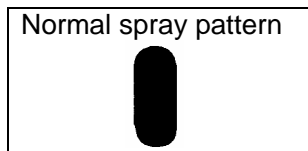
Tools should be 1/2" offset wrench, box wrench or DeVilbiss wrench WR-103, do NOT use open wrench or adjustable wrench.



Recommended torque of fluid tip is 24~27N.m.

To replace Fluid Inlet Nipple and Air Inlet Nipple (25), apply LOCKTIGHT 242 and tighten.

Recommended torque 20N·m.

SERVICE CHECK



| PROBLEM | CAUSE | CORRECTION |
|--|---|---|
| Will not spray. | No pressure to gun. Screw (11) 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. Wrong material or material too thick. | A, B. Clean the air cap or fluid tip. C, D. Adjust material pressure or thin material. |
| Jerky or fluttering spray  | Insufficient material in the tank or an obstruction in the line. Gun material passage plugged. Worn needle packing (18). Loose or damaged fluid tip. | Fill tank or clean obstruction. Clean. Replace. Tighten or replace. |
| Fluid leaking from needle packing nut (19). | Loose needle packing nut (19). Worn or stuck needle packing (18). | Tighten. Replace or lubricate. |
| Dripping from fluid tip. | Worn or damaged fluid tip or needle. Stuck needle packing (18) or needle (9). Tight packing nut (19). Loose adjust screw (11). | Replace. Lubricate. Adjust. Tighten. |

ACCESSORIES

| PART NUMBER | CODE NO. | DESCRIPTION |
|--------------|----------|--------------------------------|
| KB-555 | 800223 | Pressure Cup (2 Quart) |
| AD-404-J | 800029 | Adapter (1/4 NPS M, 3/8 NPS F) |
| WR-103 | 800314 | Wrench |
| SSL-10 | 805153 | Gun Lube |
| 42884-214-K5 | 806472 | Cleaning Brush Kit of 5 |
| KK-5033-805 | | Air Cap Test Kit |
| KK-5033-807 | | Air Cap Test Kit |

The figures and specifications of these products are subject to change without any notice.
*Delrin and Teflon are both registered marks of E.I.Du Pont de Nemours and Company.

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