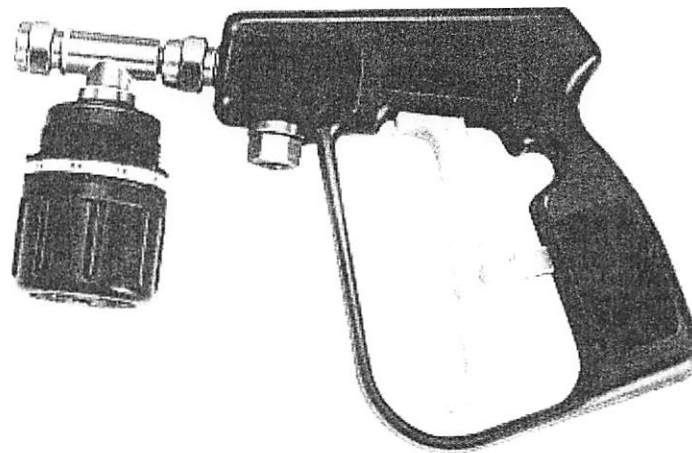




Spraying Systems Co.®
Experts in Spray Technology

23624-30L **MeterJet® Spray Gun**



Owner's Manual
MI-23624-30L



Spray
Nozzles



Spray
Control



Spray
Analysis



Spray
Fabrication

INTRODUCTION

The MeterJet® Spray Gun is designed to deliver a precisely metered volume of spray for low pressure spot applications of various types of chemicals.

The adjustable metering sub-assembly allows the applicator to discharge precise volumes from 1 to 16 milliliters with a single pull of the MeterJet trigger. Release of the trigger automatically recharges the unit for the next dosage.

The MeterJet Spray Gun will accept most Spraying Systems Co. spray tips for many types of applications.

Features of the MeterJet Spray Gun:

- Vertical and adjustable Vernier scales to accurately set volumes to nearest 0.1 milliliter
- Charge indicator (located on bottom of metering sub-assembly) provides positive verification of full pressure in chamber.
- Maximum operating pressure of 75 PSI (5.2 BAR).
- Minimum pressure of 25 PSI (1.7 bar) to charge unit.
Optional spring to reduce charging pressure for low volume applications available.
- Trigger locks in off position.
- Inlet connections available in 1/4" NPT(F) or 1/4" BSPT(F).
- Wetted parts are Nylon, Teflon, Viton, brass and stainless steel.

WARNINGS & SAFETY PRECAUTIONS

IMPORTANT: READ ALL INSTRUCTIONS BEFORE USING SPRAY GUN

IT IS IMPORTANT TO RECOGNIZE THE PROPER SAFETY PRECAUTIONS WHEN USING A SPRAY GUN. WHILE THE METERJET® IS A RELATIVELY LOW PRESSURE SPRAY GUN, DO NOT AIM, IT AT ANY PERSON OR PART OF THE BODY. FLUIDS UNDER PRESSURE CAN PENETRATE HUMAN SKIN AND CAUSE SEVERE INJURY. CHEMICALS CAN ALSO CAUSE SEVERE BURNS OR INJURY.



CAREFULLY INSPECT THE METERJET SPRAY GUN TO MAKE SURE THREADED CONNECTIONS ARE SECURE AND NOT LEAKING. ALSO INSPECT THE TRIGGER LOCK TO MAKE SURE IT HOLDS THE TRIGGER FORWARD WHEN ENGAGED (REFER TO TRIGGER ADJUSTMENT PROCEDURE FOR MORE INFORMATION). THOROUGHLY CLEAN THE METERJET SPRAY GUN AFTER EACH USE.

SPRAYING SYSTEMS CO. STRONGLY RECOMMENDS THE USE OF APPROPRIATE SAFETY EQUIPMENT WHEN WORKING WITH POTENTIALLY HAZARDOUS CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, A PROTECTIVE HAT, SAFETY GLASSES OR FACE SHIELD, CHEMICAL RESISTANT GLOVES, LONG-SLEEVED SHIRT, LONG PANTS, AND A CHEMICAL RESISTANT APRON. REMEMBER TO READ THE CHEMICAL MANUFACTURER'S LABEL AND FOLLOW ALL DIRECTIONS.

HEED ALL THESE WARNINGS or serious and permanent injury may result.

1. **DO NOT** aim gun at any person or any part of the body. Fluids under high pressure can penetrate the human skin and can cause severe injury, possibly resulting in amputation or death. Hot liquids and chemicals can also cause burns or injury. If any part of the body comes in contact with the spray stream, immediately consult a physician.
2. **DO NOT** at any time place hand or any other part of the body in front of a spray nozzle or tip.
3. **DO NOT** alter equipment in any manner; if repairs are necessary, use only genuine factory repair parts supplied by Spraying Systems Co.®
4. **DO NOT** exceed maximum operating pressure of the lowest rated accessory item within the spray system, even though some of the accessories have a higher maximum pressure rating.
5. **DO NOT** leave equipment under pressure unattended at any time. If a pump is used, relieve line pressure by shutting off power to pump, turning off the liquid supply to the pump, and actuating the trigger until all fluid ceases to flow. If gun assembly is equipped with trigger lock ring; then position trigger lock to the "locked" position.
6. **DO NOT** use damaged, perforated, or weakened fluid hose.



7. **DO NOT** operate a spray gun if there are any leaks from the packing's, fittings, hoses, etc. Fluids which are under high pressure can penetrate skin, cloth, etc. and cause serious injury.
8. **DO NOT** touch any metal parts of the gun or accessories when spraying hot liquids or severe injury can occur.
9. **DO NOT** handle a spray gun without a tip or nozzle any differently than one with a tip or nozzle. Even with the tip or nozzle removed, the spray gun can discharge a large volume of liquid at a high velocity.

SAFETY SHOULD ALWAYS BE OBSERVED:

1. **DO** use a "two-handed" control of 23624-30L MeterJet® at all times. Grasp spray gun firmly with both hands. If an extension is used, grasp the extension. (Insulated extension if spraying hot liquids).
2. **DO** adopt a secure body stance prior to and during spray operation to safely control the high reactionary force of this unit.
3. **DO** impress on other people in the spraying area the importance of obeying strict safety precautions for everyone's safety.
4. **DO** develop a habit of shutting off the power to the pump, relieving fluid pressure from gun and hose by actuating trigger until all fluid ceases to flow, and setting the trigger lock in the locked position, before attempting to remove the tip, nozzle, gun or any part of the gun...or when gun is not in use.
5. **DO** carefully check and tighten threaded connections regularly. Make them secure and leak proof.
6. **DO** flush gun after each spray period, using the same safety precautions as used during spraying operations. Always use the lowest possible pressure of flushing.
7. **DO** keep gun clean and dry to allow for positive grip.
8. **DO** use spray gun in a well ventilated area and make sure spray gun is grounded properly when used in a possibly explosive or inflammable environment. A grounded type hose should be used.

IMPORTANT: *In case of the slightest appearance of skin penetration from spray, CONSULT A PHYSICIAN IMMEDIATELY!!*



OPERATION

Adjust Metering Cylinder:

The metering device of the MeterJet Spray Gun consists of a cylinder (7), metering ring (14), and cylinder cap (15). A vertical scale from 1 to 16 milliliters (ml) in 2 ml increments is molded into the cylinder (7). A Vernier scale from 0 to 2 ml in 0.1 ml increments is located on the metering ring (14). One complete revolution of the metering ring will adjust the metering cylinder by an increment of 2 milliliters. Manipulation of the metering ring will allow the applicator to set the metering cylinder to deliver a precise dosage.

To adjust the metering cylinder to a desired volume (1 - 16 ml) rotate the metering sub assembly cap (15) to a position below 16 ml on the cylinder (vertical) scale. Next, thread the metering ring to a position above 0 ml on the cylinder (vertical) scale.

Rotate the metering ring down until the closest even milliliter value (on the vertical scale), less than the desired volume, appears above the top edge of the metering ring. Next rotate the metering ring to a position where the sum of the value on the Vernier scale plus the last visible value on the vertical scale equals the volume desired. Please note that specific increments on the Vernier scale are correctly read when aligned with the axis on the vertical scale. Refer to figure 1.

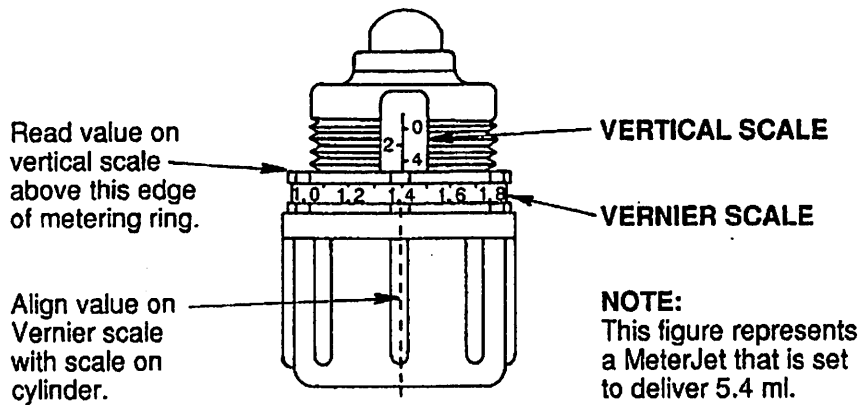


FIGURE 1.



Application:

The MeterJet® Spray Gun will discharge a precise volume of spray solution with a single pull of the trigger. The MeterJet automatically recharges itself when the trigger is released. The applicator will know the MeterJet has recharged when the yellow charging indicator is visible at the bottom of the metering sub-assembly.

The applicator may wish to calibrate the MeterJet Spray Gun with a laboratory quality graduated cylinder when very precise applications are required. The accuracy of the MeterJet measuring device is plus or minus 2%. The precision or repeatability of delivering a desired volume is excellent once the MeterJet is set.

The piston in the MeterJet device employs a self lubricating O-ring seal. A small amount of fluid may collect in the cylinder cap after numerous operations. Therefore, the cylinder cap should be removed and entire metering sub-assembly thoroughly flushed with clean water after each use.

Failure to clean the MeterJet after each use may cause the piston to stick and render the device inoperable.

MAINTENANCE

With proper care, your 23624-30L MeterJet® will give you reliable service. To maintain this performance, parts should be inspected regularly and replaced when necessary with genuine **Spraying Systems Co.®** parts.

CAUTION: BEFORE PERFORMING ANY MAINTENANCE, MAKE SURE ANY AIR, ELECTRICAL AND LIQUID LINES TO THE PUMP ARE SHUT OFF.

DISASSEMBLY PROCEDURE:

Refer to Parts List PL23624-30L:

1. Release all the pressure and liquid from the hose to the MeterJet by repeatedly operating the trigger until fluid ceases to flow.
2. Set trigger lock in **locked** position.
3. Remove the MeterJet Spray Gun from the fluid supply hose.
4. Remove cap (3) and valve seat (4).
5. Remove seven screws (1).
6. Remove right housing (2), trigger lock (32), and lock spring ring (33).



7. Remove metering assembly (5-15), inlet body (16), and trigger (25) as a sub-assembly (5 through 26) from left housing (2).
8. Remove spring sub-assembly (27 through 31).
9. While holding trigger assembly, loosen stem nut (20). Grip stem sub-assembly (5) with small pliers close to threads and gently remove from trigger guide (26).
10. Remove stem nut (20), trigger stop spring (21), and the #6 burr (22) from stem (5).
11. Using the hex on the body (16) as a backup wrenching surface, loosen the packing screw (19)
12. While holding the body (16), unscrew packing screw (19) from body.
13. Slide packing screw (19) up to threads on stem sub-assembly (5).
14. To prevent damage to packing cup (17), "unscrew" packing screw (19) from threaded end of stem sub-assembly (5).
15. Remove gasket (18) and stem (5).
16. If required, trigger guide (26) may be removed from trigger (25) by driving out roll pin (23).
17. If required, roll pin (24) may be removed from trigger (25) by driving out.
18. Remove metering sub-assembly cap (15).
19. Remove main spring (12) from metering sub-assembly.
20. Remove snap ring (13) from metering sub-assembly.
21. Remove metering piston (11) from metering sub-assembly.
(CAUTION: THIS STEP REQUIRES EXTRA CARE AS SOME FLUID WILL REMAIN IN THE PISTON.)
22. Remove Viton O-ring (10) from metering piston (11).

ASSEMBLY PROCEDURE:

Refer to Parts List PL23624-30L:

1. Lubricate Viton O-ring (10) with grease and replace on metering piston (11).
2. Replace metering piston (11) in metering cylinder (7).
3. Replace snap ring (13) to hold piston in place.
4. Insert main spring (12) into metering sub assembly and replace the cylinder cap (15).



5. Insert stem assembly (5) through inlet and metering bodies (6 & 16).
6. Install gasket (18) on packing screw (19).
7. If packing cup (17) was not previously removed from packing screw (19) apply a drop of light oil on packing cup and carefully thread packing screw over threads of stem sub-assembly (5).
8. If packing cup (17) was previously removed from packing screw (19), apply a thin coat of light oil on packing cup and insert into packing screw with flat side facing hex on packing screw. Note, packing cup must be installed in correct direction. Carefully screw packing screw with packing cup over threads of stem sub-assembly (5).
9. Thread flat side of hex stem nut (20) onto threaded end of stem subassembly (5) until approximately 3/16" of threaded stem projects from recessed surface of stem nut (20).
10. Assemble trigger (25), trigger guide (26), and roll pins (23 and 24) if previously disassembled. Roll pin (23) slot should face toward threaded end of trigger guide (26). Lubricate area where roll pin (23) contacts trigger guide (26) with grease.
11. Install #6 burr (22), spring (21), and end of stem sub-assembly (5) which has hex stem nut (20) onto trigger guide. Do not allow hex stem nut (20) to drift from position on stem sub-assembly (5).
12. Tighten hex stem nut (20) to trigger guide (26) using a backup wrench on the flats of trigger guide (26).
13. Tighten packing screw (19) securely by wrenching on the hex of the inlet body (16) and the hex of packing screw (19).
14. Place body-trigger assembly (5 through 26) in left housing (2) making sure roll pin (24) is engaged in hole in left housing.
15. Install lock spring ring (33) in left housing (2).
16. Place trigger lock' (32) in left housing (2).
17. Install spring sub-assembly (27 through 31) in left housing (2) behind trigger guide (26).
18. Install right hand housing (2) and seven screws (1). Be careful not to over tighten screws.
19. Install valve seat (4) and cap (3), and tighten securely.
20. Lock trigger before attaching to pump.



TRIGGER ADJUSTMENT PROCEDURE:

When correctly adjusted there should be no stem (5) travel when trigger lock (32) is engaged and trigger operation is attempted. A visual check can be made by detecting no stem nut (20) movement. Adjust main stem (5) to engage trigger guide (26) approximately 3/16" which should result in 7/64" to 5/32" of stem travel when mounted in plastic housing (refer to Assembly Procedures 9-12).

RETROFIT INSTRUCTIONS FOR 30L GUNJET®

DISASSEMBLY OF 30L GUNJET (REFER TO PARTS LISTS PL 30L):

1. Make sure all air, electrical and liquid lines are turned off to the pump.
2. Release all the pressure and liquid from the hose to GunJet by operating trigger until fluid ceases to flow.
3. Set trigger lock in **locked** position and remove gun from supply hose.
4. Remove cap (3) and valve seat (4).
5. Remove seven screws (1).
6. Remove right housing (2), trigger lock (22), and lock spring (23).
7. Remove inlet body (5) and trigger (15) as a sub assembly (items 5 through 16) from left housing (2).
8. Remove spring sub-assembly (items 17 through 21).
9. While holding trigger assembly, loosen stem nut (10). Grip stem subassembly (6) with small pliers close to threads and gently remove from trigger guide (16).
10. Remove stem nut (10), trigger stop spring (11), and #6 burr (12) from trigger guide (16).
11. Loosen packing screw (9) by using the hex on the body (5) as a backup wrenching surface.
12. While holding the body (5), unscrew packing screw (9) from body.
13. Slide packing screw (9) up to threads on stem sub-assembly (6).
14. To prevent damage to packing cup (7), "unscrew" packing screw (9) from threaded end of sub-assembly (6).
15. Remove gasket (8) and stem sub-assembly (6).

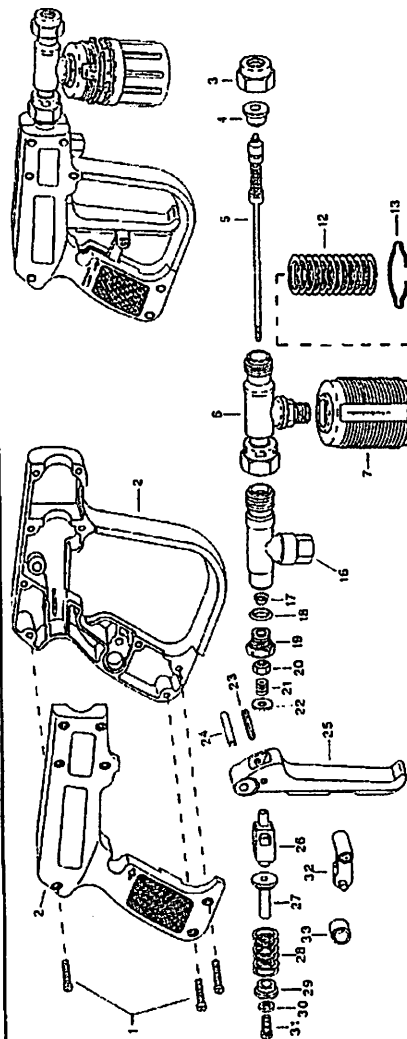


INSTALLATION OF 23600-2 METERING SUB-ASSEMBLY (REFER TO PARTS LISTS PL23624-30L):

1. Insert stem portion of metering sub-assembly (items 3 through 15) through inlet body (16) and tighten hex of body (6) to inlet body (16). When tightened, the metering sub-assembly (3 - 15) and inlet on inlet body (16) should be parallel.
2. Install gasket (18) on packing screw (19).
3. If packing cup (17) was not previously removed from packing screw (19) apply a drop of light oil on packing cup and carefully thread packing screw over threads of stem (5).
4. If packing cup (17) was previously removed from packing screw (19), apply a thin coat of light oil on packing cup and insert into packing screw with flat side facing hex on packing screw. **Note, the packing cup must be installed in correct direction.** Carefully thread packing screw with packing cup (17 & 19) over threads of stem (5).
5. Thread flat side of hex stem nut (20) onto threaded end of stem sub assembly (5) until approximately 3/16" of threaded stem projects from recessed surface of stem nut (20).
6. Install #6 burr (22), spring (21), and end of stem sub-assembly (5) which has hex stem nut (20) onto trigger guide (26). Do not allow hex stem nut to drift from position on stem sub-assembly.
7. Tighten hex stem nut (20) to trigger guide (26) using a wrench on the flat surface of trigger guide.
8. Tighten packing screw (19) securely by wrenching on the hex of the inlet body (16) and the hex of the packing screw.
9. Place body trigger assembly (5 through 26) in left housing (2) making sure roll pin (24) is engaged in hole in left housing.
10. Install lock spring ring (33) in left housing (2).
11. Place trigger lock (32) in left housing (2).
12. Install spring sub-assembly (27 through 31) in left housing (2) behind trigger guide (26).
13. Install right housing (2) and seven screws (1). Be careful not to over tighten screws.
14. Lock trigger before attaching to pump.



PARTS LIST

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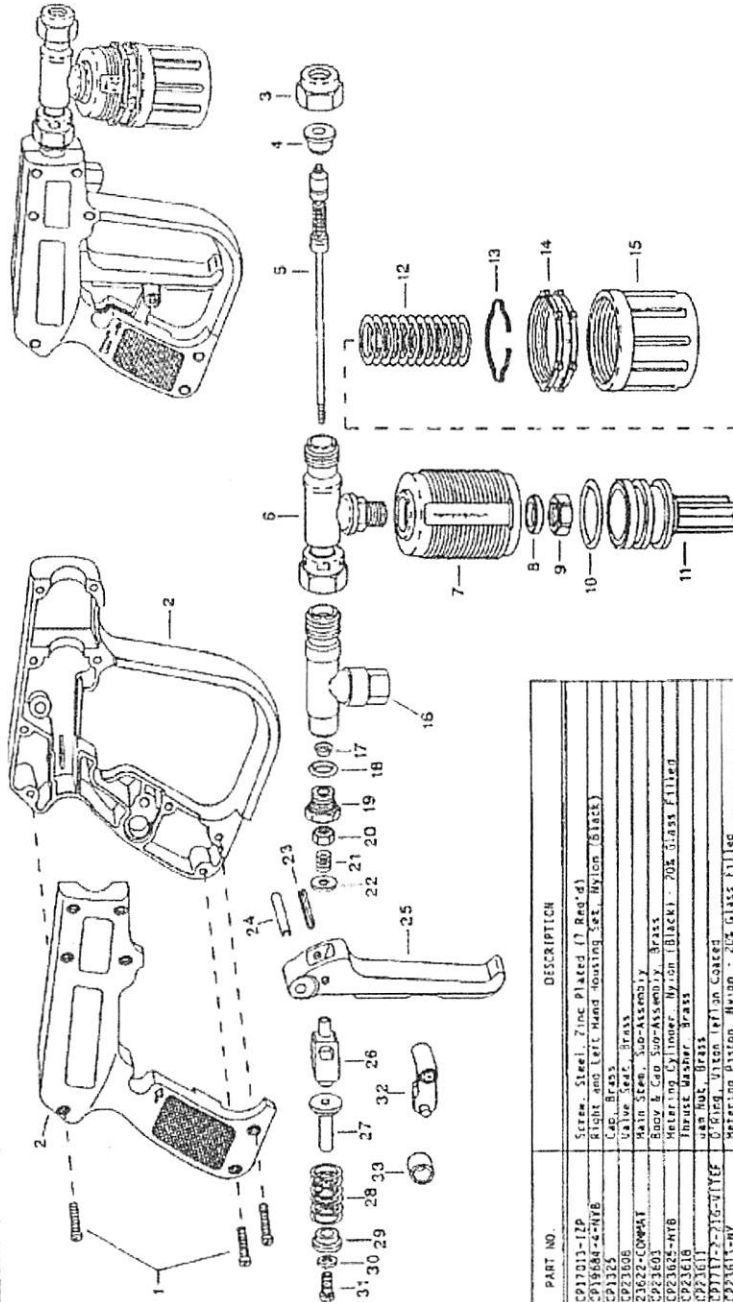
Spraying Systems Co.
Spray Nozzles and Accessories
North Avenue and Schmale Road, Waukegan, IL 60085

PARTS LIST

Collection Range 5-1982



PARTS LIST



ITEM	PART NO.	DESCRIPTION
1	CP17013-12P	Screw, Steel, Zinc Plated (7 Req'd)
2	CP18684-4-NYB	Right and Left Hand Housing Set, Nylon (Black)
3	CP1325	CAD, Brass
4	CP23008	Valve Seal, Brass
5	CP23008	Main Stem, Sub-Assembly, Brass
6	CP23008	Body & Cap Sub-Assembly, Brass
7	CP23008	Wearing Cylinder, Nylon (Black) - FOR GLASS FILLING
8	CP23008	Wearing Ring, Nylon (Black)
9	CP23008	Wearing Ring, Nylon (Black)
10	CP17117-2-116-11VEE	O-Ring, Viton, 1/16" Dia.
11	CP23015-NV	Wearing Piston, Nylon - 20% Glass Filling
12	CP23016-10255	Main Spring, Type 102 Stainless Steel
13	CP23017-10255	Wearing Ring, Type 102 Stainless Steel
14	CP23014-NYB	Wearing Ring, Nylon (Black)
15	CP23015-NYB	CAD, Nylon (Black)
16	CP23015-NV	Wearing Sub-Assembly (Includes Items 15, 16)
17	CP23016-10255	Wearing Ring, Type 102 Stainless Steel
18	CP23017-10255	Wearing Ring, Type 102 Stainless Steel
19	CP23014-NYB	Wearing Ring, Nylon (Black)
20	CP23015-NV	Wearing Piston, Nylon - 20% Glass Filling
21	CP23016-10255	Main Spring, Type 102 Stainless Steel
22	CP23017-10255	Wearing Ring, Type 102 Stainless Steel
23	CP23014-NYB	Wearing Ring, Nylon (Black)
24	CP23015-NV	Wearing Piston, Nylon - 20% Glass Filling
25	CP23016-10255	Main Spring, Type 102 Stainless Steel
26	CP23017-10255	Wearing Ring, Type 102 Stainless Steel
27	CP23014-NYB	Wearing Ring, Nylon (Black)
28	CP23015-NV	Wearing Piston, Nylon - 20% Glass Filling
29	CP23016-10255	Main Spring, Type 102 Stainless Steel

ITEM	PART NO.	DESCRIPTION
30	CP19019-SS	Washer, Type 18-8 Stainless Steel
31	CP19019-SS	Screw, Steel, Zinc Plated
32	CP19019-SS	Trigger Lock, Fiberglass Reinforced Polyester
33	CP19019-SS	Lock Spring Ring, Carbon

Parts List

NO. 23624-30L-1/4 AND
NO. 823624-30L-1/4
METERJET GUN ASSEMBLY

Spraying Systems Co.
Spray Nozzles and Accessories
North Avenue and Schmale Road, Wheeling, Illinois 60188

DATE 5/4/89 NO. P. 23624-30L