



## Fill-n-Spray™ MODEL 11 FS

OWNER'S MANUAL



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## Introduction

Thank you for choosing the Diamond Vogel Paint's, Fill-n-Spray aerosol filling systems. Diamond Vogel Paint has prided itself on 50 years of service in aerosol, industrial and wood coatings, and continues to pursue innovation and set new standards in quality for paint manufacturing.



Figure 1

## IMPORTANT!

Read this entire manual before operating this unit. Keep it in a handy place for future reference and trouble-shooting.

## Assembly

Attach handle to the back of the base, using the bolt and lock nut (Fig 1-A).

## General Safety

Any misuse of the Fill-n-Spray filling equipment or accessories, such as over pressurizing, modifying parts, using incompatible chemicals and fluids, removing door, or using worn or damaged parts, can cause rupture, splashing in the eyes and skin or other serious bodily injury, fire, explosion or property damage.

Never alter or modify any part of this equipment; doing so could cause equipment malfunction and/or injury. Check all equipment regularly and repair or replace worn or damaged parts immediately. Read and follow the paint manufacturer's literature and MSDS sheet regarding the use of product, protective clothing, and equipment.

## Safety Warning

Always wear safety glasses when filling! Use of protective clothing recommended. Use with adequate ventilation. Flammable. Keep from heat, sparks and flame. Refer to Fill-n-Spray Solvent Blend MSDS sheet for complete safety information.

## Paint Preparation

Most solvent-based enamels, lacquers, vinyl's and acrylics are suitable for use in the Fill-n-Spray Pump. Paint must be thoroughly mixed and strained before pouring into the reservoir. Even the freshest paint

may contain bits of "skin", undispersed pigment or other foreign matter. Particles may block the valve in the open position, allowing can pressure to blow back through the reservoir.

Note: Some exotic, solvent-based paints may be suitable for filling, but it is recommended that the material be tested before setting up to fill the entire batch. Coarse-grind and water-based (latex) paints cannot be packaged. They will not work!

## Filling Process

Place the Fill-n-Spray can in position on the can shelf inside the frame cavity (Fig 1-B). When using the 6 oz can, re-adjust the shelf to a higher position. Place the filler body bowl (Fig 1-C) on top of the base assembly, aligning the bottom of the filler body through the slot. Once the bottom of the filler body is through the slot, continue to align with the top of the aerosol can. When both the filler body and aerosol are properly aligned, press down on the filler body bowl and give a quarter turn to the right (clockwise) to lock filler body into position on frame assembly.

Carefully pour the un-thinned, strained paint into the filler body bowl. Insert the plunger into the filler body cap. Place the combined assembly into the filler body. Thread the cap clockwise to lock cover in place. Cover need only be threaded a few turns to lock in place. It is not necessary to tighten cover completely. Place the handle in the piston slot. Align the holes and secure, using the hitch pin (Fig 1-D).

You are now ready to fill a can. Pump the paint using firm strokes. Start with the handle as high as it will go, continuing until the piston hits bottom. Pause between strokes when the handle in the up position to allow paint to fill the piston cavity.

	Gross weight of can before paint	Amount of paint required	Gross weight filled	Number of strokes	Label weight
ALV 6 oz	145 Grams 5.11 oz	35 Grams 1.23 oz	180 Grams 6.35 oz	7	120 Grams 4.25 oz
ALV 16 oz	292 Grams 10.3 oz	122 Grams 4.3 oz	414 Grams 14.6 oz	15	312 Grams 11.0 oz

Note: Gross weights are listed without over caps

## Filling

The number of strokes to fill a can varies, depending on the weight, viscosity, opacity, and type of paint. The following chart provides the amount of paint required per can and suggested starting stroke count.

## Filling By Weight

When filling the first can, start by weighing the unfilled can, add the suggested number of strokes of your paint and re-weigh the can. The difference is the amount of paint filled. If the weight is short, add one or two strokes and re-check. If the weight is over, try a new can and reduce the stroke count.

Along with checking the weight of a fill, check the can for spray properties. When filling the first can, select an average number of strokes for a starting point. Clear the can (see instructions on "clearing the valve") and make a test spray-out. Check for spray properties and adequate "hide". If spray does not develop good "hide properties" or appears thin and transparent, add one or two strokes to improve. If hide and transparency is not a problem, pump a second can starting with less strokes. The goal is to achieve the "best possible spray properties" with the least number of strokes and yet hit the minimum net weight stated on the label.

**WARNING:** DO NOT OVER-FILL CANS. DO NOT EXCEED THE MAXIMUM NUMBER OF STROKES PER CAN. OVER-FILLING MAY CAUSE BURSTING.

## Clearing The Valve

Wipe any excess paint off the top of the aerosol can. Place the spray actuator (button) on top of the can. Insert button into hole with a slight downward pressure and twisting motion. Shake the can vigorously to thoroughly mix the paint and propellant. Prepare the can for storage by holding the can upside down and spraying it into a waste receptacle until only clear propellant comes out (Fig2). This will clear the valve and dip tube of the small amount of paint left in them and must be done to keep the valve from clogging. Wipe clean any excess paint from the valve.



Figure 2



## Valve Clearing Tool

(Part # FAS-0100) To assist in the valve clearing process a special valve clearing device is available. This accessory speeds up and simplifies the “clearing” process. To use the valve-clearing tool, place and secure the cover to an empty 5-gallon pail. Invert the can and insert the valve stem into the opening of the device. Press the can down quickly and firmly for 1-3 seconds (Fig.3). Wipe the top of the can clean and insert the spray actuator (button).



**Figure 3**

## Clean Up

When filling is complete or when changing color, detach pump handle from piston. Remove filler body assembly from base and pour out any remaining paint. Rinse filler body and plunger in solvent.

**IMPORTANT** Reassemble filler body and piston. Fill bowl with clean solvent and pump into empty aerosol can provided. Be sure to pump sufficient solvent through filler assembly to thoroughly clean injector.

If machine is to be unused for a period of time, pump a very slow evaporating solvent or lightweight oil through assembly.

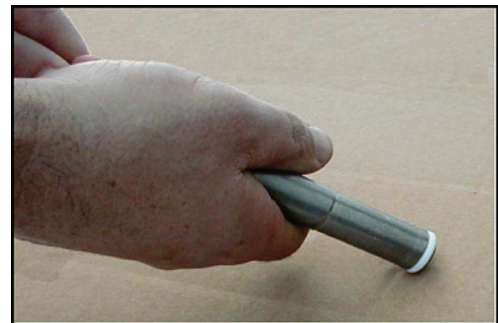
Cleaning the filler assembly is extremely important to the success of your Fill-n-Spray pump. Within the filler assembly (Part # 11-15-FS) is an injector point (Part # FNS-0011, Fig 4), which contains a checkball, spring and seat. This checking mechanism prevents the propellant from escaping from the can and bubbling up through the container of paint. Improper cleaning

leaves a dry film of paint, that will prevent the ball from creating a proper “check seat” and create a propellant leak the next time you try to fill cans.

## Replacement Parts

### Piston “O-ring”

The bottom end of the piston (Part # 11-12) has a Teflon o-ring (part # FNS-0081), which assures equal amounts of paint pumped with each stroke. A noticeable drop in the weight of cans after filling or an unusually larger number of strokes to fill a can will indicate the piston o-ring has worn and should be replaced. Cut off o-ring with a sharp knife or razor blade. Clean piston groove of old dried paint. Place the new o-ring on end of piston. Force o-ring into groove by pushing piston downward on hard surface and roll piston on its edge (Fig 4). O-ring should snap into groove. Before filling cans with new piston o-ring, stroke piston one time through dry main body assembly to form and size the o-ring. Slivers of Teflon may result which must be removed from the opening.



**Figure 4**

### Filler Assembly

(Parts page 10) If it becomes necessary to disassemble filler assembly, located at the bottom of the bowl, start by removing filler nut (FAS-0030). Push out injector point assembly (FAS-0011), injector o-ring (FAS-0023), and screen (FAS-0024).

**WARNING:** Do not pull injector point with a pliers, but instead push out from top end with pencil or blunt instrument. Pulling with a pliers will damage steel point. Inspect for damage and replace if necessary. Be sure to place parts in their exact order as shown in parts diagram. Be sure to keep main body nut (FAS-0030) snug (do not over-tight) to prevent paint from leaking around injector o-ring (FAS-0023), and injector point assembly (FAS-0011).

## Repairing Injector Point

(FAS-0011, Fig 6 ) The injector point assembly is a typical “check valve”, consisting of a ball, spring and seat. Use the special tool (FNS-0500, Fig 7) to separate the plastic retainer (FAS-0025) from the stainless steel injector point (FAS-0016). Spread tool open and place assembly in the rounded-out cradle of the tool (pliers), with the knife-edge lined up with the seam between plastic retainer and stainless steel point. Gently squeeze tool closed so knife-edge splits the plastic cap from the point. Replace parts as shown in parts diagram (Fig 5). Replace spring and ball. Squeeze injector retainer (FNS-0025) together with injector point (FNS- 0016) by using end of special tool (FNS-0500) similar to a typical pliers.

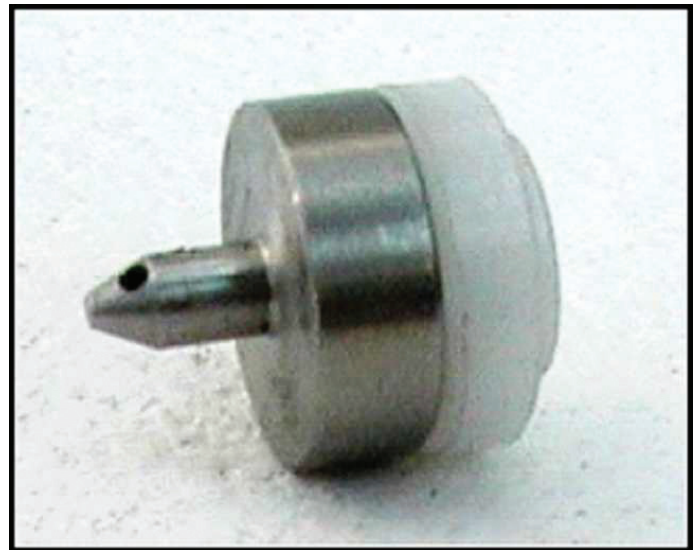


Figure 6

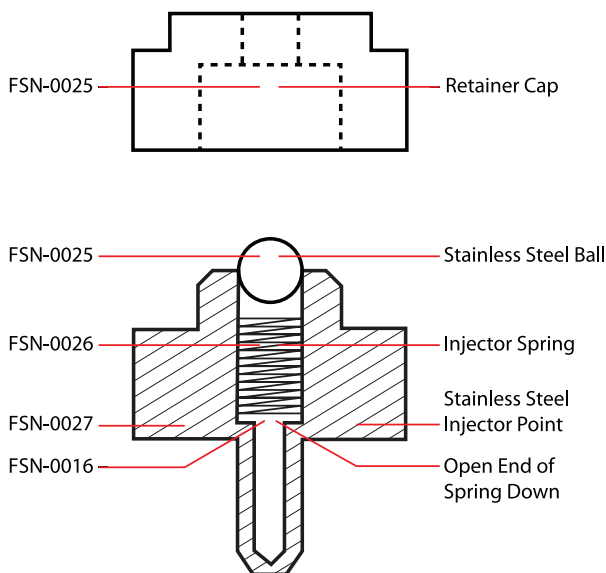


Figure 5



Figure 7

## Problems and Solutions

### **1. 1. Propellant escapes out of can and bubbles up through the reservoir when can is in the filling position.**

The check valve within the injector point assembly (FAS-0011) is not creating a seal. Dried paint due to improper cleaning is preventing the ball from creating a seat. Pump 1-2 quarts of lacquer thinner, acetone, or MEK through the injector into the empty cleaning can to flush out dried paint. If after repeated cleaning cycles the valve continues to leak (propellant bubbles up through reservoir) it is possible the injector point assembly is damaged or worn and requires replacing.

### **2. Excessive wet paint fills the cup at the top of the can during the filling process.**

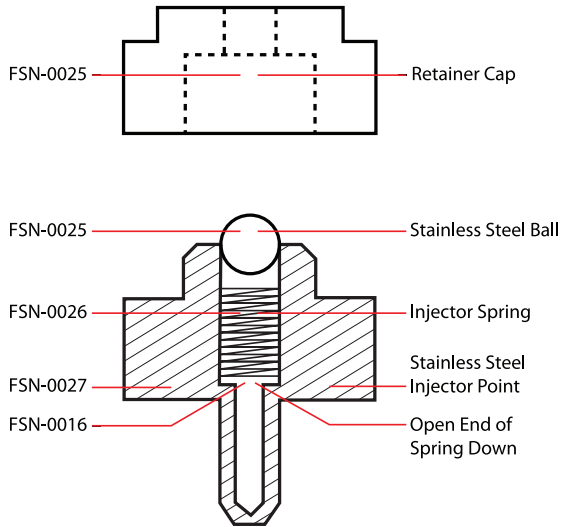
a) The exterior surface of the injector point assembly (FAS-0011) has accumulated excess, dry paint. Clean injector point with solvent and soft bristle brush.

b) Filler Assembly is not assembled correctly. Check injector screen (FNS-0024) and injector o-ring (FAS-0023) to be sure parts are not twisted, damaged or properly assembled. Check parts drawing for correct assembly.

c) Main body nut (FAS-0030) is not tight. Disassemble Filler Assembly, inspect and clean all parts and reassemble in correct order. Keep main body nut (FAS-0030) "snug".

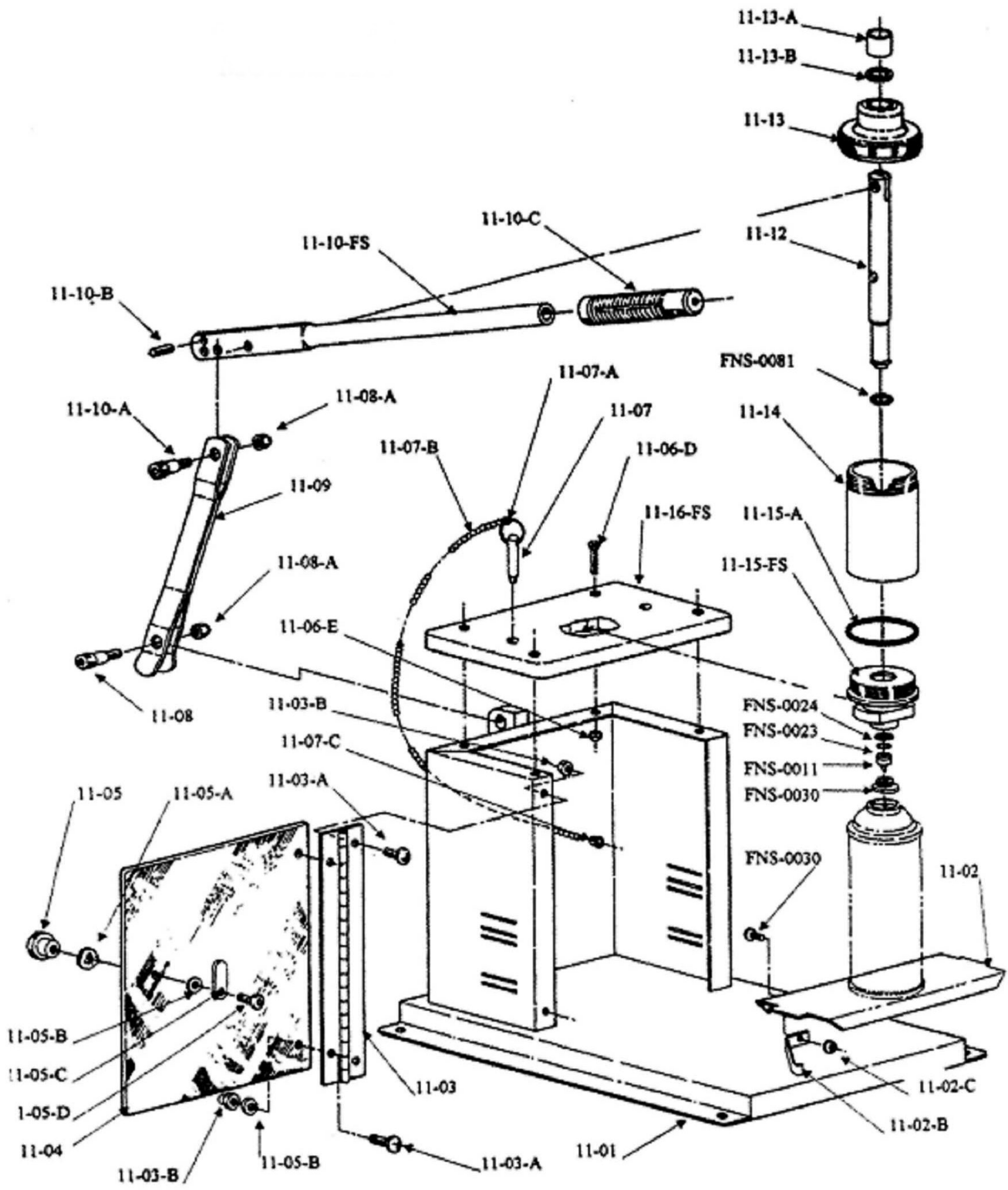


# Replacement Parts



## Model 11FS Parts List

11-01	Cabinet and Base	11-07B	Ball Chain
11-02	Can Platform	11-07C	Sleeve
11-02A	Screw Leaf	11-08	Shoulder Screw
11-02B	Spring, Can Platform	11-08A	Lock Nut
11-02C	Nut, Retaining	11-09	Link Handle
11-03	Hinge	11-10FS	Handle
11-03A	Screw	11-10A	Shoulder Screw
11-03B	Cap Nut	11-10B	Roll Pin
11-04	Door	11-10C	Handle Grip
11-05	Knob	11-12	Piston
11-05A	Spring Washer	11-13	Top Cap
11-05B	Spacer Washer	11-13A	Bushing
11-05C	Latch	11-13B	Wiping Ring
11-05D	Screw	11-14	Cylinder Barrel
11-06FS	Top Plate	11-15FS	Cylinder Bottom
11-06D	Screw Top Plate	11-15A	O-Ring
11-06E	Nut Top Plate	FNS-0024	Injector Screen
11-07	Pin w/Ring	FNS-0023	Injector O-Ring
11-07A	Coupling	FNS-0011	Injector Point Assembly







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