

# 400 detail touch-up gun

The BADGER Model 400 Detail/Touch-Up Gun was designed for intricate spraying situations where delicate control is necessary. Its compact, lightweight construction provides greater accessibility to recessed areas.

The Model 400 with overhead trigger is the only spray gun of its type that can be simply adjusted for use by a left or right handed sprayer. It may be used for circular or fan spraying.

For light production and touch-up spraying, the Model 400 is ideal. It also provides maximum flexibility for custom painting since it can be used for larger areas and also for precise detail work.

#### PLEASE NOTE

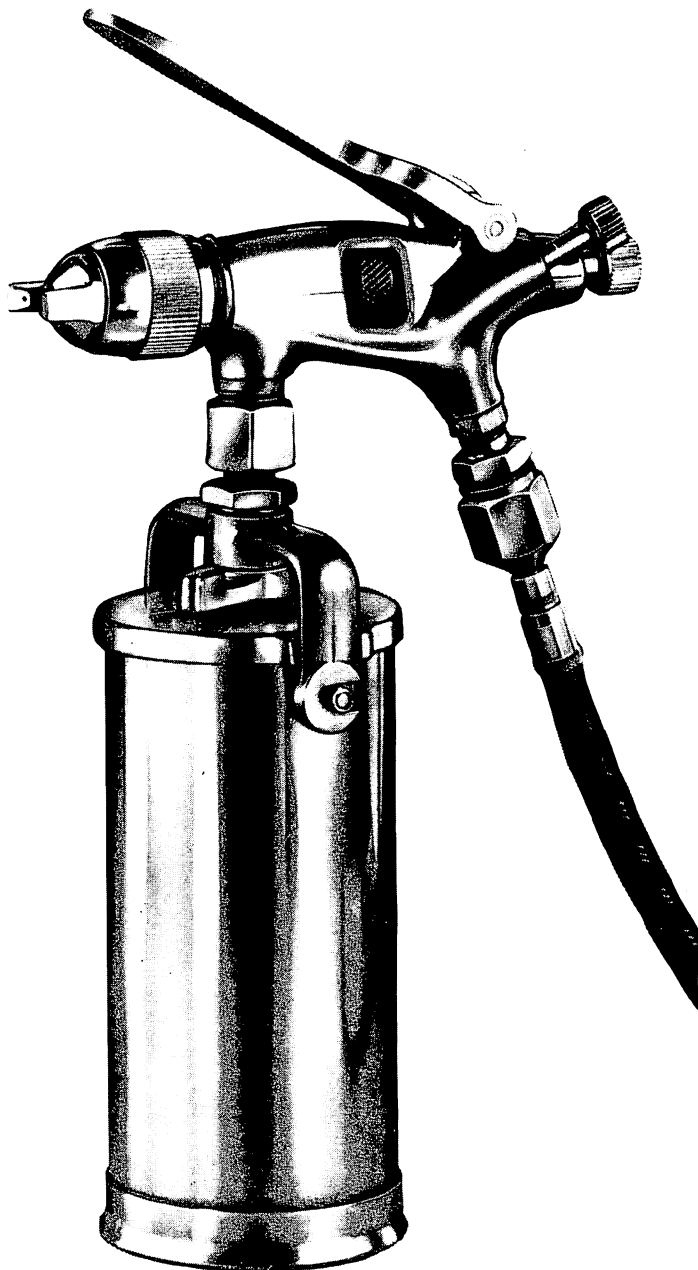
The Model 400 may be used with most common coating and finishing materials. If used with corrosive, rust-inducing, or highly abrasive materials, frequent and thorough cleaning will be required and/or may increase the need for replacement parts.

#### CONTROLLING THE FAN SPRAY

The fan spray for an external mix nozzle set up is easily controlled by means of the Fan Control Needle. By turning to the right (clockwise) until it is closed will give a round spray; turning it to the left (counterclockwise) will widen the spray into a fan shape of any width desired. The direction of the fan spray (horizontal or vertical) is obtained by turning the air nozzle to the desired position, then tightening the air nozzle nut.

#### CONTROLLING THE FLUID

If a fluid pressure tank is used, the amount of fluid can be controlled by regulating the pressure on the tank (see page 3). The amount of fluid can also be controlled by means of the Fluid Needle Adjusting Screw. By turning it clockwise (to the right), the amount of fluid is reduced. Turning it counterclockwise (to the left) increases the amount of fluid.

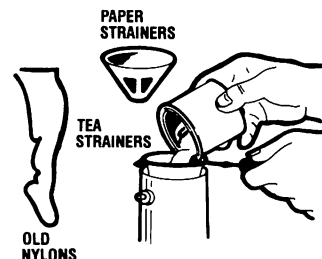


#### INSTALLATION

Mix and prepare material to be sprayed according to manufacturer's instruction. Strain material through a 60-90 mesh screen or equivalent.

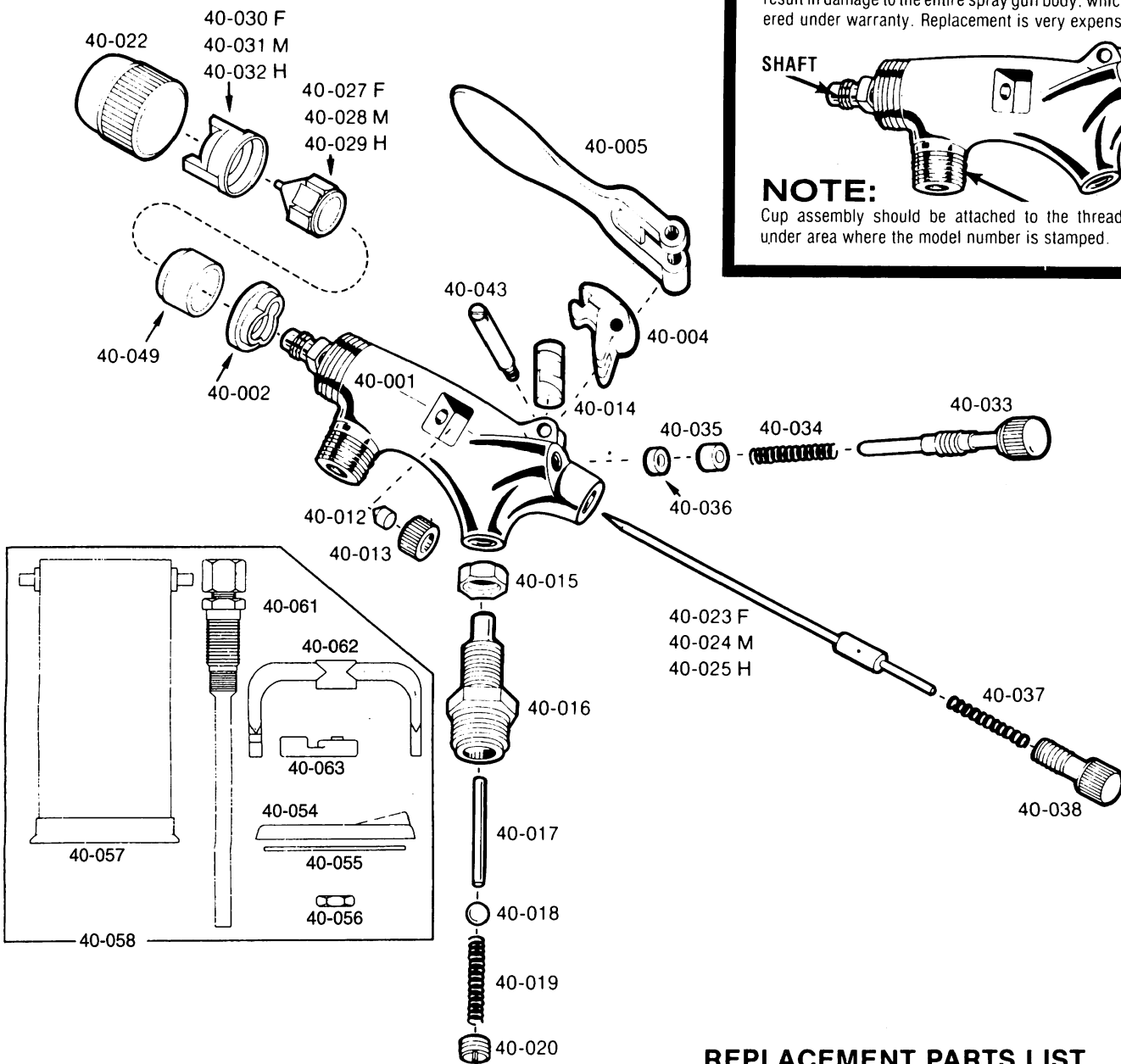
For suction and pressure feed installation, follow the hook-up instructions.

#### STRAINERS



#### SUCTION FEED

Attach an air hose to valve housing on gun body and attach other end to air outlet nipple of air regulator, separator or air compressor. Attach paint cup to gun body. Tighten all connections just enough to prevent leakage. Do not overtighten. **CAUTION**—Maximum air pressure 100 P.S.I.



**IMPORTANT**

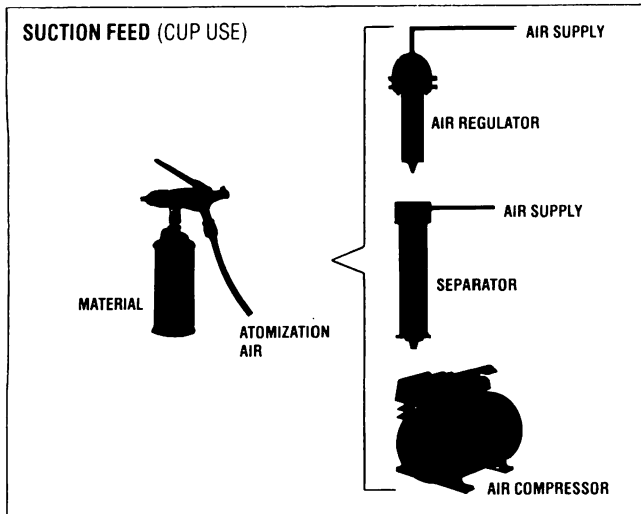
The shaft of the spray gun body (as indicated in the drawing below) is press fitted into place and should not be moved or altered in any way. Failure to comply with this instruction will result in damage to the entire spray gun body, which is not covered under warranty. Replacement is very expensive.

**NOTE:**  
Cup assembly should be attached to the threaded section under area where the model number is stamped.

**REPLACEMENT PARTS LIST**

40-001	Body	40-022	Air Nozzle Nut	40-036	Fan Control Packing
40-002	Air Deflector	40-023F	Needle	40-037	Needle Spring
40-004	Trigger Cam	40-024M	Needle	40-038	Needle Adj. Screw
40-005	Trigger	40-025H	Needle	40-043	Trigger Pin
40-012	Fluid Needle Packing	40-027F	Paint Tip	40-049	Paint Tip Sleeve
40-013	Packing Nut	40-028M	Paint Tip	40-058	Paint Cup Assembly
40-014	Air Valve Plunger	40-029H	Paint Tip	40-054	Cup Lid
40-015	Valve Housing Nut	40-030F	Air Nozzle	40-055	Cup Seal
40-016	Valve Housing	40-031M	Air Nozzle	40-056	Paint Tube Nut
40-017	Valve Pin	40-032H	Air Nozzle	40-057	Paint Cup
40-018	Valve Ball	40-033	Fan Control Needle	40-061	Paint Tube Assembly
40-019	Valve Spring	40-034	Fan Control Spring	40-062	Yoke
40-020	Valve Screw	40-035	Fan Control Washer	40-063	Cam Lever

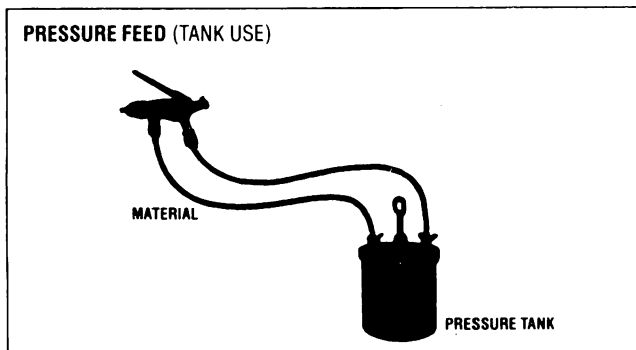
\* NOT SHOWN ACTUAL SIZE



### PRESSURE FEED

Attach an air hose to valve screw on gun body. The other end attaches to the air outlet on the tank lid.

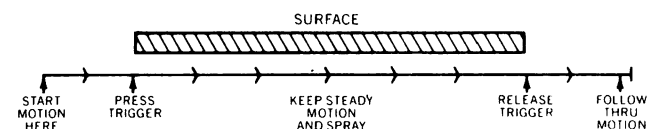
A fluid hose can then be affixed to material inlet on the gun body, and the other end to the material outlet on the tank. An air supply hose from an air regulator, separator, or air compressor can then be attached to the air inlet on the tank lid. Tighten all connections sufficiently to prevent leakage.



**CAUTION: NEVER point spray gun at oneself or any other person. Accidental discharge may result in serious injury.**

### OPERATION OF YOUR MODEL 400

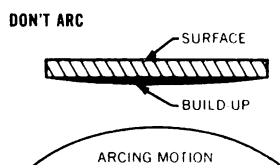
At all times hold the gun perpendicular to the surface being sprayed. A spraying distance of 3-4 inches is recommended. This distance can be varied depending on the item being sprayed, the material or the air pressure used. Release the trigger at the end of each lateral stroke while the gun is still travelling. Start the gun moving at the beginning of the next



stroke so gun is in motion when the trigger is pressed. This action should be practiced until a smooth, steady, rhythmic stroke becomes natural.

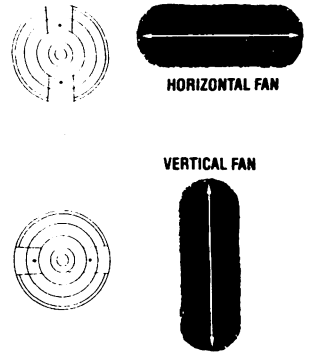
Overlap each stroke 50%. This is done by aiming the gun at the edge of the last stroke.

A short practice period will be necessary to achieve an even



stroke. Avoid arcing the gun as this will leave an uneven coat of paint.

When the gun is adjusted for fan spray, the air nozzle position determines the direction of the pattern width. This part may be rotated as needed. Loosen the air nozzle. Tighten only finger tight. Do not use pliers or a wrench to tighten or loosen nut.



- A. Adjust air pressure to approximately 30 PSI. The use of an air regulator assures clean, dry air.
- B. Turn needle adjustment screw out until first thread shows. This places the tip and needle in a full open position which gives maximum tip and needle life. **Never turn all the way in, as trigger cam will break.**
- C. Turn fan control needle out until first thread shows.
- D. For suction feed: Press trigger and adjust needle adjusting screw for desired material flow.  
For pressure feed: Press trigger and adjust material pressure at the source of supply for desired material flow. If regulation is impractical at this point, material pressure may be adjusted by turning needle adjusting screw.
- E. Press trigger and observe atomization of fluid. If it is too great, decrease air pressure at regulator. If it is not enough, increase air pressure at regulator.
- F. Press trigger and adjust fan control needle until desired pattern is obtained. A perfect pattern is a full, even coat from end to end. Each time needle adjusting screw is adjusted Step E should be repeated.

### PREVENTIVE MAINTENANCE

Preventive maintenance should head off some problems commonly encountered. Remember your detail touch-up gun is precision engineered and proper maintenance can help you get the fine quality results you desire.

**To clean gun:** Spray a small amount of clean solvent through the gun. Never immerse the gun in solvents as this removes lubricants and dries out the packings. A caustic solution should not be used to clean gun, as this will destroy the aluminum alloy. Remove air cap and wash it in solvent. If necessary to clean air cap holes, use a broom straw or toothpick. Never use a steel wire or hard instrument as this will result in distortion of spray pattern. Wipe exterior of gun with solvent soaked cloth. **Never soak gun in liquid detergent.**

**To lubricate gun:** After each day's use place a drop of oil at trigger stud, fan control packing, air valve plunger and fluid needle packing. Occasionally remove needle spring and recoat with a light grease or Vaseline.

### C. F. M. AIR CONSUMPTION AT 30 PSI

	Round	Fan
Fine Tip	1	2.0
Medium Tip	1.5	2.5
Heavy Tip	2.0	3.0






### MAINTENANCE

Proper adjustment of your BADGER 400 Detail Touch-Up Gun will give you a normal spray pattern of this shape:



If not, consult service check chart on next page.

## SERVICE CHECK LIST

PROBLEM	CAUSE	SOLUTION
Top heavy or bottom heavy pattern:   Heavy right or left side pattern: 	Material buildup on air cap, partially plugged horn holes, center hole or jets. Material buildup on fluid tip or partially plugged fluid tip.	Soak cap or tip in suitable solvent and wipe clean. To clean orifices use a broom straw or toothpick. Never use a wire or hard instrument.
<b>Determining the source of material buildup:</b> Invert cap and test spray. Material build up is on fluid tip if the pattern stays in the same position. If pattern changes when cap is moved, the problem is in the air cap.		
Heavy center pattern. 	Too much material.  Material too thick.	Reduce material flow by turning needle adjusting screw clockwise on suction guns. Reduce material pressure on pressure feed guns.  Thin.
Split spray pattern. 	Not enough material.	Reduce air pressure or increase material flow by turning needle adjusting screw counter-clockwise on suction feed, increase material pressure on pressure feed guns.
Jerky or fluttering spray. 	Insufficient material in cup or pressure tank. Gun (with cup) tipped at excessive angle. Obstructed material passage or hose. Loose or cracked tube in cup or tank. Loose tip or damaged tip seat. Material too heavy for suction feed. Dry or worn packing or loose packing nut.	Fill cup or tank. Do not tip excessively or rotate tube in cup. Clean. Tighten or replace. Tighten or repair. Change to pressure feed. Lubricate or replace. Tighten.
Improper spray pattern.	Gun improperly adjusted. Fluid tip obstructed. Sluggish needle.	Readjust gun. Follow instructions carefully. Clean. Lubricate.
Will not spray.	No air pressure at gun. Needle adjusting screw not open enough. Material too heavy for suction cup.	Check air lines. Open needle adjusting screw. Change to pressure feed.
Fluid leakage from packing nut.	Packing nut loose. Packing worn or dry.	Tighten, but not so tight as to cause needle binding. Replace packing or lubricate.
Dripping from fluid tip.	Dry packing. Sluggish needle. Tight packing nut. Worn fluid tip or needle.	Lubricate. Lubricate. Adjust. Replace.
Air will not shut off.	Valve plunger in backwards.	Adjust.
Will not syphon.	Air deflector on backwards. Paint tip sleeve on backwards. Cup attached to air fitting.	Adjust. Adjust. Attach cup to vertical fitting under front of brush.
Air leak at trigger.	Valve loose.	Loosen valve housing nut, tighten valve all the way.

For more information contact your distributor or write to:



**BADGER AIR-BRUSH CO.** 9128 W. BELMONT AVE. FRANKLIN PARK, IL 60131