

Congratulations

You have just purchased the result of several years of intense product development. Before a single pencil line appeared on the paper, our engineers and marketing team met with airbrush artists representing a cross-section of the airbrush industry. We wanted to know what features the experts most wanted in an airbrush. We then set out to build that airbrush. You hold the culmination of our dedication to research and development in your hand - the **SOTAR 20/20®**.

The **SOTAR® 20/20** is the airbrush you've been waiting for. Not only does our airbrush share some of the cutting-edge technology found on today's airbrushes, the **SOTAR® 20/20** launches the airbrush into the 21st. Century. We've packed the **SOTAR® 20/20** with many new patented features demanded by discriminating airbrush artists., like you.

BEFORE USING YOUR AIRBRUSH

Your **SOTAR®** airbrush is shipped with the needle retracted for protection. Loosen the chuck (20-119*) and gently push the needle forward until it seats into the paint tip (20-106*) then tighten the chuck. Since every **SOTAR®** airbrush is pretested, a small amount of pigment residue may be present. We suggest running

a small cleaning solution through your airbrush before spraying a color. NOTE: All parts are to be hand tightened only. The only exception is the air valve assembly which may be lightly tightened with a wrench.

*see other side for part reference.

Your **SOTAR®** warranty is valid only when purchase is recorded by filling out and mailing warranty registration card, or registering your purchase at Badgerairbrush.com

MAINTENANCE AND TROUBLESHOOTING

Your **SOTAR® 20/20®** is engineered to provide years of trouble-free airbrushing (regular attention to simple maintenance will ensure this).

CAUTION: The **SOTAR®** needle and paint tip are very delicate. A slight bend of the needle tip, or a split paint tip, can adversely affect the spray pattern. Most often, needle tip damage occurs when the needle passes through the trigger mechanism and the PTFE seal while installing a needle.

If the needle stops abruptly, retract the needle and check the trigger for proper assembly, then re-insert the needle. We suggest you develop the habit of retracting, rotating and reseating the needle before beginning each session. This will ensure even needle and paint tip wear and extend part life.

Before reassembling the **SOTAR®** tip and nozzle, it is important both components are clean of material to ensure proper seating.

If you ever experience spray pattern pulsation, or bubbling in the color cup, it is possible the nozzle or hold down ring are loose, or the tip is not properly seated or cleaned of build-up on its tapered sides. Another reason you may experience pulsation is if the airbrush's inner seal is worn down. If this occurs the airbrush's inner seal (R-0023) should be replaced.

Warranty

Your **SOTAR®** airbrush is warranted against all manufacturing defects of material and workmanship for a period of one year from the date of purchase, Your **SOTAR®** carries a lifetime warranty on labor, though parts will be extra after the first year, Negligence, accidents, or units which have been altered will void this warranty.

The **SOTAR®** airbrush you have purchased will provide you years of trouble free, enjoyable airbrushing. You have my assurance.

Ken Schaefer

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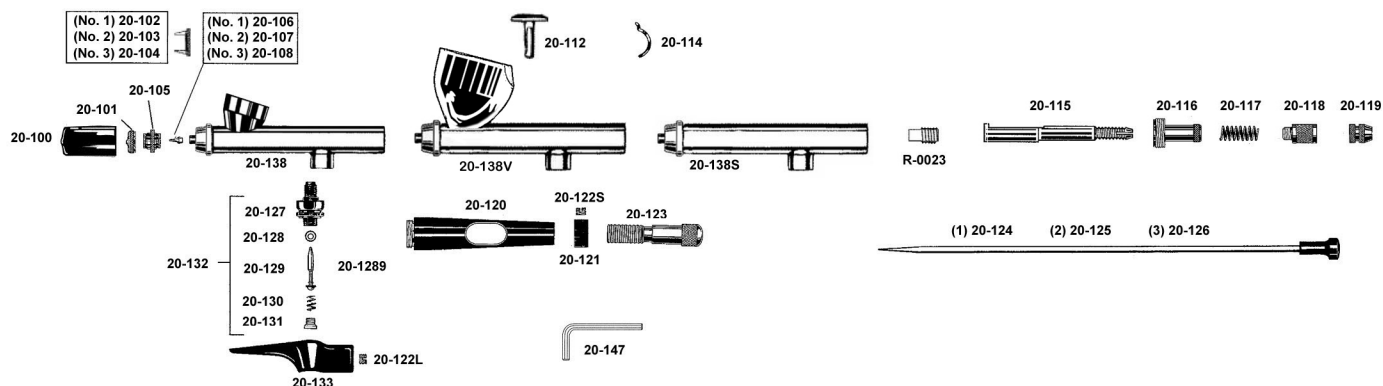
SOTAR® 20/20®



INSTRUCTION BOOKLET

Patent No. 5,421,518
Patent No. 5,687,913
Patent No. 5,779,157
Patent No. 5,927,602R

SOTAR® PARTS LIST



No. DESCRIPTION

20-100 Protective Cap (Rubber)
 20-101 Spray Regulator, Fine (No. 1)
 20-102 Spray Regulator, Fine (No. 1), w/Protective Arms
 20-103 Spray Regulator, Med (No. 2), w/Protective Arms
 20-104 Spray Regulator, Large (No. 3), w/Protective Arms
 20-105 Paint Tip Hold-Down Ring
 20-106 Paint Tip, Fine (No. 1)
 20-107 Paint Tip, Medium (No. 2)
 20-108 Paint Tip, Large (No. 3)
 R-0023 Adjustable inner seal
 20-112 Trigger
 20-114 Back Lever
 20-115 Needle Collet
 20-116 Tube Housing

No. DESCRIPTION

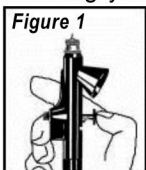
20-117 Trigger Tension Spring
 20-118 Retaining Spring Screw
 20-119 Chuck
 20-120 Handle
 20-121 Collar
 20-122L Finger Rest Set Screw Long
 20-122S Collar Set Screw Short
 20-123 Paint Adjusting Screw
 20-124 (No. 1) Needle, (Fine-Black)
 20-125 (No. 2) Needle, (Medium -White)
 20-126 (No. 3) Needle, (Large-Clear)
 20-127 Air Valve Casing
 20-128 Valve Plunger O-Ring
 20-1289 Valve Plunger (Only)

No. DESCRIPTION

20-129 Valve Plunger w/O-Ring
 20-130 Plunger Spring
 20-131 Air Valve Screw
 20-132 Air Valve Assembly, Complete
 20-133 Finger/Thumb Rest (Plastic)
 20-138 Body (2020-2 Color Cup)
 20-138S Body(2020-S no Color Cup)
 20-138V Body(2020-V Large Color Cup)
 20-143 Fine Needle/Nozzle Conversion Kit
 (consists of 20-101, 20-106, 20-124)
 20-144 Medium Needle/Nozzle Conversion Kit
 (consists of 20-103, 20-107, 20-125)
 20-145 Large Needle/Nozzle Conversion Kit
 (consists of 20-104, 20-108, 20-126)
 20-147 Allen Wrench For Set Screw

THE UNIQUE FEATURES OF THE SOTAR® 20/20®

20-101 SPRAY REGULATOR - The SOTAR® design makes removal of dried materials from needle tip and regulator both easy and safe. **20-102, 20-103 & 20-104 SOTAR'S SPRAY REGULATOR (Nos. 1, 2 & 3)**, have protective arms to safeguard the needle tip. **20-105 PAINT TIP HOLD DOWN RING (patented)** - This SOTAR® innovation precisely centers and locks the paint tip in place while permitting easy assembly and disassembly. **20-106, 20-107 & 20-108 MICRO-PRECISE PAINT TIPS**-SOTAR'S paint tips feature both a self-centering and non-seal design. Bee's wax or other sealing materials are no longer required. The tapered sides assure fast assembly and disassembly (see Maintenance & Troubleshooting). Note: When disassembling your SOTAR® 20/20's head assembly, for any reason, we advise the airbrush be held in an upright position (Fig. 1). This will assure that the paint tip does not fall out or become lost. Unscrew both the spray regulator and paint tip hold-down ring to remove the paint tip. (Retract the needle slightly to protect the needle and paint tip.) To replace tip, reverse the procedure. **20-109 NOZZLE HEAD**-The 20/20's nozzle head also features a recessed, tapered design to allow quick and easy removal and installation of the paint tip. **20-111 BODY**-The SOTAR® 20/20's body has a cast paint reservoir, milled low and wide for a better line of sight, free of obstruction. The elongated body maintains an efficient distance between trigger and paint reservoir. The trigger and back lever assemble easily, thanks to our unique design. The shell of the 20/20 includes a PTFE needle seal which is impervious to most solvents and paints and prevents material back-up. **20-112 TRIGGER** - One piece for easy assembly and efficient,



smooth rolling action.

20-117 TRIGGER TENSION SPRING- Adjusts from medium to light. **20-118, RETAINING SPRING SCREW** - Allows you to custom adjust trigger tension from medium to light. **20-120 HANDLE** - SOTAR'S unique, open ended cutaway design lets you remove the needle without taking off the handle. A micrometer calibration mark is indicated on the handle for use in conjunction with the paint adjusting screw, see **20-123, 20-121 COLLAR** Line set ring with micrometer readings. Each increment represents one-one thousandth of an inch (.0254mm). **20-123 PAINT ADJUSTING SCREW** - Patent pending) - May be adjusted for minimum or maximum trigger/needle movement and paint flow. To adjust minimum paint flow, move the paint adjusting screw **20-123** all the way forward, this will prevent any trigger movement. Then, using the screw driver, loosen the collar set screw **20-122** and reposition zero on the collar to the calibration mark on the handle **20-120**. To adjust for maximum paint flow, unscrew the paint adjusting screw **20-123** until it just touches the molded knob on the needle **20-124, 20-125 & 20-126**. Then, using the screw driver, loosen the collar set screw **20-122** and reposition zero on the collar to the calibration mark on the handle. **20-124, 20-125 & 20-126 NEEDLES** - Fabricated from flexible, spring-tempered stainless steel, SOTAR® needles feature an elongated taper-to-tip point for fine line control. Molded knob at needle end makes needle removal without disassembly a breeze. **20-133 FINGER/THUMB REST**- Ergonomically correct with a concave shape for greater comfort/less fatigue. The finger rest may be removed is desired. Loosen the set screw at the rear of the finger rest. Unscrew the air valve assembly from underneath the finger rest. Remove the finger rest; replace the air valve assembly.