



The Max-Flo Micro preset system is the latest addition to the Max-Flo line of air regulation systems from Smart Parts. A combination of increased air-flow rates, decreased weight and lower maintenance makes the Max-Flo Micro an ideal choice.

- Complies with airline travel regulations
- User-friendly, rebuildable, inline on/off
- Preset to 750-800 psi
- Includes Smart Parts S-rail (compatible with any 1/2" dovetail mounting rail)

**NOTICE:** THIS MANUAL IS FOR A 3000PSI OR 4500PSI SYSTEM. PLEASE REFER TO THE STICKER ON THE UNDERSIDE OF THE REGULATOR. A 3000PSI REGULATOR SHOULD ONLY BE USED WITH A 3000PSI RATED TANK, AND A 4500PSI REGULATOR SHOULD ONLY BE USED WITH A 4500PSI RATED TANK.

ALWAYS RELEASE ALL PRESSURE FROM YOUR AIR TANK BY DISCONNECTING THE MACRO LINE HOSE BETWEEN THE REGULATOR AND THE GUN, AND TURNING THE ON/OFF VALVE TO ON TO RELEASE THE PRESSURE BEFORE REMOVING THE CYLINDER.

ALWAYS WEAR CORRECT EYE PROTECTION WHEN WORKING ON ANY HIGH PRESSURE SYSTEM.

THE CYLINDER CAN FLY OFF WITH ENOUGH FORCE TO KILL IF THE CYLINDER IS UNSCREWED WHILE PRESSURIZED. IMPROPER USE, FILING, STORAGE OR DISPOSAL MAY RESULT IN PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH. THE CYLINDER MUST ONLY BE FILLED BY PROPERLY TRAINED PERSONNEL. DO NOT EXPOSE TO TEMPERATURES EXCEEDING 130 DEGREES F (55 DEGREES C), WHEN PRESSURIZED. DO NOT MODIFY THE CYLINDER IN ANY WAY, OR PLACE ANY STICKERS ON THE CYLINDER.

## DEPRESSURING THE SYSTEM

- Turn the on/off valve to the OFF position.
- Shoot any remaining pressure from the paintball marker.
- Remove the macro line hose from the macro line fitting on the front of the regulator.
- Once the hose is removed, turn the on/off valve to the ON position to release any pressure.
- Now your system should be depressurized.
- The cylinder should only be removed if you are changing tanks, or transporting by airplane.

## DISASSEMBLY

### REQUIRED TOOLS:

- 1/16" Allen Wrench
- 3/32" Allen Wrench
- Dow 33 Grease (Shocker or SL33K Lube)
- Lint-free cloth or paper towels
- Blue (#242) Loctite®

If working with the Max-Flo Micro while it is attached to a marker, comply with marker manual warnings.

The Max-Flo Micro is a preset, closed system; it is very difficult for dirt and debris to enter and damage the system. Should dirt enter your air tank, an inline filter prevents dirt from reaching the internals of the regulator. The amount of regular maintenance and cleaning of your Max-Flo Micro system requires will depend on the amount of use and the cleanliness of your air source fillings.

As with any other disassembly, disassemble this regulator on a cloth, on a table, and not at the field.

**WARNING** Please follow the guidelines for depressurizing your system before removing the cylinder from the Max-Flo Micro regulator. Your gauge should read zero (0) and your marker should not pressurize when the on/off valve is turned on. If your marker does pressurize, please repeat the steps for depressurizing your system.

**1** Remove the Max-Flo Micro system from the mounting rail, using a 3/32" Allen wrench. Unscrew the cylinder from the Max-flo regulator.

**2** Remove the two body locking set screws, using a 1/16" Allen Wrench. The body locking set screws are located in front of each of the burst (rupture) discs. The set screws are fastened with blue Loctite®. (see diagram). Set the screws aside.

**3** Unscrew the Max-Flo preset body front from the rear Max-Flo preset body.

**4** With the body separated, locate the Max-Flo preset piston and Belleville Spring Pack (see fig. 2). The Belleville Spring Pack contains 10 washers. If the Spring Pack is exposed, remove it first. Be careful as the Spring Pack may fall into 10 separate pieces. The washers may be wiped off, if necessary. If the Belleville Spring Pack is not exposed, carefully remove the piston and then the Spring Pack. The Max-Flo preset piston may be removed by gently pulling away from the front regulator body.

**5** Remove any excess Belleville washers which may remain in the rear regulator body. To do this, turn the Max-Flo preset rear regulator body upside down and gently tap on a hard surface to remove any excess washers.

**6** Clean the Max-Flo preset piston with a lint free cloth. Inspect both the regulator piston seat, and the 014/70 urethane o-ring for signs of wear or damage. (see fig #1) If necessary, replace worn or damaged seals. Clean and inspect all parts. Should the macro line fitting need to be removed, insert a 3/16" Allen wrench into the fitting, or use a 7/16" deep well socket.

**WARNING** Any further disassembly should be performed by a Smart Parts technician.

## REASSEMBLY

**1** Using Shocker or SL33K lube, grease the 014/70 urethane o-ring on the piston, and apply a small amount of grease onto the shaft of the piston. Stack the Belleville washers onto the piston shaft prior to installing the entire unit. Important: Stack the washers correctly (see fig. 2).

**2** Once the washers are stacked properly, slide the entire piston and spring pack into the shaft in the front regulator body. Remove any excess grease from the white regulator piston seal.

**3** Screw the two halves of the regulator body together. You may use a small amount of blue Loctite® #242 on the threads of the front regulator body. DO NOT use Teflon tape. Use the drop forward to aid assembly of the two regulator halves. This will help to line the two halves correctly (see diagram). Replace the two set screws in front of the two burst (rupture) discs, using blue Loctite® #242.

**WARNING** Do not over tighten screws. Hand torque is sufficient.

The screws must sit flush with the regulator body. The screws will sit flush when the regulator body is aligned. If the screws do not sit flush, then the body halves are not aligned. (see fig. 3)

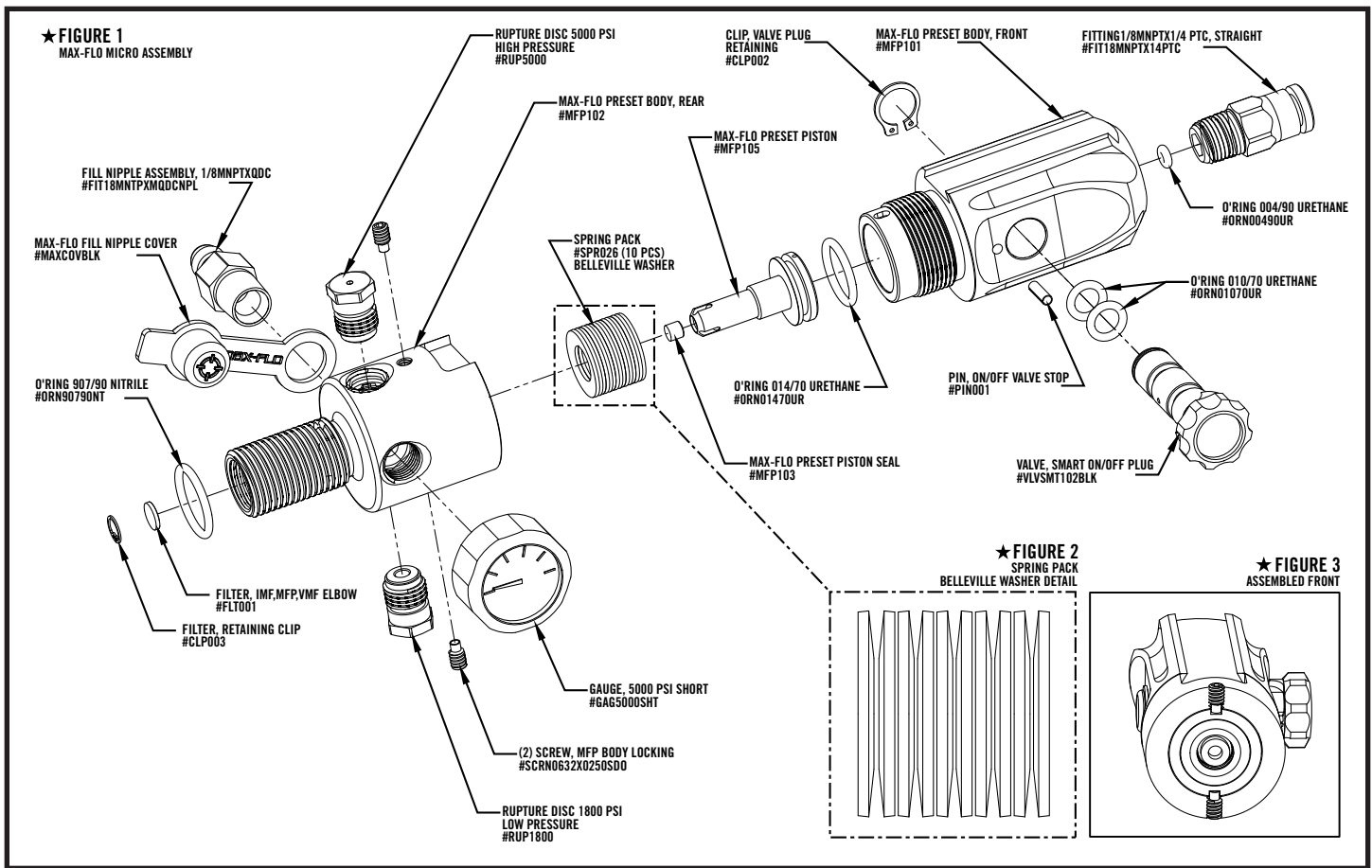
**4** Slide the Max-Flo Micro onto your drop forward. Screw the cylinder back onto the Max-Flo Micro regulator. Ensure the cylinder screws freely onto the regulator body.

**WARNING** Ensure that no space exists between the cylinder and Max-Flo regulator body. The cylinder must fit tightly to the regulator.

Please return your regulator to Smart Parts for repair if any noticeable wear exists on the threads.

**WARNING** OBSERVE THESE WARNINGS AND ALL OTHERS THAT APPEAR THROUGHOUT ANY MANUAL PROVIDED BY SMART PARTS, INC.:

- The Max-Flo Micro is not a toy. Careless or improper use, including failure to follow instructions in the operator's manual, could cause death or serious injury.
- Read Operators Manual before use and comply with all safety instructions.
- Paintball industry standard head/face/throat/eye protection designed for paintball games must be worn by user and any person within 200 yards (183 meters) when used in conjunction with a paintball marker.
- A purchase age of at least 18 (eighteen) years is recommended for paintball equipment.
- Persons under 18 years of age must have adult supervision when using or handling the Max-Flo Micro.
- Observe all local laws, regulations, and guidelines concerning use.
- Use only on professional paintball fields where codes of safety are strictly enforced.
- Use compressed AIR or NITROGEN only. DO NOT USE CO<sub>2</sub>.
- Use to power 0.68 caliber paintball markers only.
- Do not expose cylinder or Max-Flo Micro to ambient temperatures above 110 degrees (F) or 43 degrees (C).
- Never purge or fill the Max-Flo Micro in confined spaces or near open flames. Air under pressure will aid in combustion. Nitrogen in high concentrations will cause asphyxiation; therefore, adequate ventilation is required.
- Vented gases at high pressure can emit high sound levels, which may damage your hearing. Precautions must be taken to protect your and others hearing.
- Never use damaged hoses or fittings. Split, torn, crushed hoses may fail in a violent manner. Inspect all hoses and fittings at regular intervals.
- Never over-tighten any threads or fittings as excessive torque can damage the threads.
- Do not transport pressurized gas cylinders.
- Never use inappropriate oils or greases on the Max-Flo Micro. The only suitable lubricant is Dow 33 grease (SL33K or Shocker lube). The use of inappropriate lubricants may result in spontaneous ignition, explosion or oxidation.
- Never put pressurized gas directly against skin or use the Max-Flo Micro to blow debris around, as serious injury can result to yourself and others.
- Never pressurize the cylinder/system beyond its safe working pressure.
- Never use incorrect safety rupture devices. The 3000psi Max-Flo Micro has a 5000psi burst disc; the 4500psi Max-Flo Micro has a 7500psi burst disc. The one-piece burst disc/nut assembly used on the Max-Flo Micro incorporates a captive burst disc in its burst nut. The one-piece burst disc/nut assembly supplied is only for use with the Max-Flo Micro and no other applications. In the event of rupture of the captive burst disc, the burst disc should only be replaced by a trained, certified technician. The one piece burst disc/nut assembly should only be replaced with another one-piece burst disc/nut assembly, and not with a separate copper burst disc. The fitting of a separate burst disc with the one-piece burst disc/nut assembly can result in the pressure relief safety device on the regulator failing to operate correctly. This could lead to the cylinder exploding which may result in serious injury or death.
- Only use suitable fill stations that are fitted with industry standard connectors. Inspect all connectors prior to filling for signs of wear, abuse and suitability. Filling is only to be carried out by competent, trained personnel.
- Fast filling of cylinders results in heating of the gas and cylinder. If filled too fast, this heat can become excessive which may cause damage to the cylinder. Such damage can lead to failure of the cylinder, causing potential property damage and personal injury. Care must be taken to fill the cylinder at a rate so the cylinder temperature does not exceed 130 degrees F (55 degrees C). Prior to each filling, the cylinder should also be examined for signs of damage, including heat/flame exposure. If any damage is observed, do not fill the cylinder. Take the suspect cylinder to a DOT or HSE authorized hydrostatic tester for inspection and pressure testing.
- The cylinder can fly off with enough force to kill if the cylinder is unscrewed while pressurized. Improper use, filing, storage or disposal may result in property damage, serious injury, or death. The cylinder must only be filled by properly trained personnel. Do not expose to temperatures exceeding 130 degrees F (55 degrees C), when pressurized. Do not modify the cylinder in any way, or place any stickers on the cylinder.
- IN ACCORDANCE WITH THE UNITED STATES TRANSPORTATION SECURITY AGENCY, THE REGULATOR MUST BE REMOVED PRIOR TO TRANSPORTING THIS PRODUCT ONBOARD COMMERCIAL AIRCRAFT.
- THIS PRECAUTIONS LIST AND OPERATORS MANUAL MUST ALWAYS ACCOMPANY THE PRODUCT IN THE EVENT OF RESALE OR NEW OWNERSHIP.
- SHOULD YOU BE UNSURE AT ANY STAGE, YOU MUST SEEK EXPERT ADVICE.



## TROUBLESHOOTING

PROBLEM	SOLUTIONS
Air leaks from the fill nipple	Fill nipple o-ring is damaged. De-gas and replace.  Debris is in fill nipple. De-gas system, clean out fill nipple. Use fill nipple cover to prevent from recurring.
Regulator is under/over pressurizing	System reassembled with Belleville Spring pack in wrong configuration. Reassemble properly (refer to diagram).  Debris has clogged the filter, clean or replace it.
Regulator is spiking or creeping in pressure	Clean or replace regulator piston o-ring.  Clean or replace piston.
On/Off valve is leaking or will not shut off	Replace On/Off o-ring.
High Pressure Burst Disk Ruptures	Have it replaced by a trained, certified technician.
Low Pressure Burst Disk Ruptures	The system should be returned to Smart Parts, Inc. for repair.

**⚠️WARNING DO NOT ATTEMPT TO REPLACE BURST DISCS YOURSELF.** Never use incorrect safety rupture devices. The 3000psi Max-Flo Micro has a 5000psi burst disc; the 4500psi Max-Flo Micro has a 7500psi burst disc. The one-piece burst disc/nut assembly used on the Max-Flo Micro incorporates a captive burst disc in its burst nut. The one-piece burst disc/nut assembly supplied is only for use with the Max-Flo Micro and no other applications. In the event of rupture of the captive burst disc, the burst disc should only be replaced by a trained, certified technician. The one piece burst disc/nut assembly should only be replaced with another one-piece burst disc/nut assembly, and not with a separate copper burst disc. The fitting of a separate burst disc with the one-piece burst disc/nut assembly can result in the pressure relief safety device on the regulator failing to operate correctly. This could lead to the cylinder exploding which may result in serious injury or death.