



## Air System

The F2 system is designed to operate with input pressure between 45 and 145 PSI using either HPA (High Pressure Air) or Nitrogen. A suitable air system will be required. This includes a compressed air tank, regulator(s), remote line and fittings.

## Installation

The best results are usually obtained when the replica body and gearbox are the same brand and model.

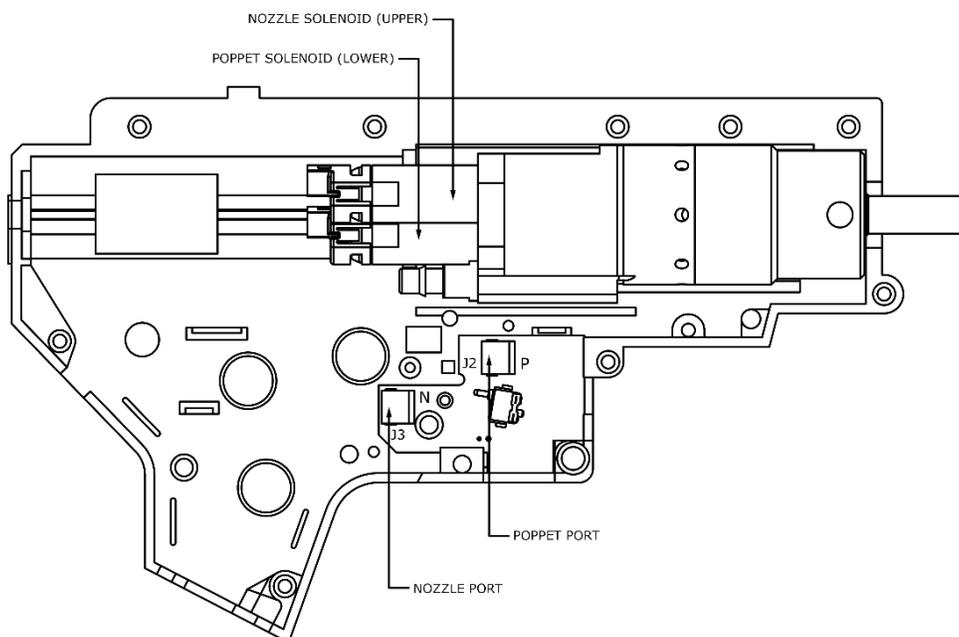
## Preparation

Before installing the F2, the unused components must be removed from the gearbox and the remaining grease should be cleaned out. In most cases, the only remaining parts will be the trigger, safety mechanism, selector plate, spring guide (if applicable) and cutoff lever (if applicable). Keep the mounting screw from the AEG trigger contacts as this will be used to mount the PolarStar switchboard in the same location.

## Switchboard and Cylinder

Once the gearbox has been prepared, install the switchboard into the gearbox shell and secure it using the screw saved from disassembly. For V2 installations, ensure proper clearance between the selector plate and the microswitch by sliding the plate back over the microswitch manually. If the plate catches on the microswitch housing, use a gear shim to space the board away from the gearbox shell to give the plate proper clearance over the housing while still engaging the switch.

Place F2 in the cylinder window of the gearbox and plug the solenoid wires into the switchboard ports. The ports on rifle specific switchboards are labeled P = Poppet, N = Nozzle and T = Trigger (when applicable). For kits with a Universal Plugboard the ports are labeled CON1 = Nozzle, CON2 = Poppet, CON3 = Selector, CON4 = Trigger.



If the spring guide is needed to secure the buffer tube, reinstall it in the gearbox, otherwise it can be omitted. The spring guide can be manipulated more easily during reassembly if the bolt from the stock/buffer tube is threaded into the rear. Make sure that end of the spring guide does not reach past the end of the solenoid end caps. Without proper clearance between those parts, the spring guide will cause damage to the solenoids when the gearbox is reassembled.

Reinstall the trigger and trigger spring. Route the airline and wire harness out of the gearbox and carefully replace the other half of the gearbox shell making sure that no wires are pinched between the halves. Once the gearbox is reassembled it can be installed into the replica body.

## Alignment

Once the gearbox has been installed in the replica body, verify that the nozzle is aligned with the hopup and inner/outer barrels. This can be done by looking down the barrel with a flashlight. If the nozzle is not centered within the barrel some shimming of the gearbox may be required.

**MAKE SURE THE RIFLE IS UNLOADED AND DISCONNECTED FROM ANY AIR SOURCE WHEN CHECKING ALIGNMENT**

## Velocity and Dwell Adjustment

Set the dwell (dP setting) to the maximum value, then adjust the air rig output pressure until the desired velocity is reached. Once the velocity is set, reduce the dwell until velocity begins to drop. This is the point at which any additional dwell is unnecessary because the air is not being used to accelerate the round.

Velocity and cyclic rate are independently adjustable; however, due to the nature of pneumatic systems the maximum potential cyclic rate is related to input pressure. As input pressure is increased, the maximum potential cyclic rate will also increase.

## Disassembly and Maintenance

F2 units can be disassembled for maintenance by unscrewing the front cylinder and removing the internal components.

