

VIBE/SP-1 GAS INFOSHEET

SMART PARTS



//////////⚠️IMPORTANT

Read and follow the Quick Start Manual included with your Vibe or SP-1 marker.

CO₂ vs COMPRESSED AIR

You have two choices when it comes to powering your Smart Parts Vibe or SP-1 marker. You can use Carbon Dioxide (CO₂) or High Pressure Air (HPA or Compressed Air) which is also commonly called nitrogen because air is made of mostly nitrogen gas. CO₂ is a practical choice for many players because it is inexpensive. HPA systems cost more, but do not have the side-effects associated with CO₂. Whichever you choose, your Smart Parts marker can utilize it effectively – provided it is correctly configured.

CO₂ – CHILLING AND LIQUID

When we shoot very fast, we can end up chilling the CO₂ in our tank faster than it can absorb heat from the air around it. This often results in the tank pressure dropping until it has time to warm back up. For the Vibe and SP-1 this is not a problem – they are able to operate at such low pressures that you are unlikely to chill a tank past usability. Some players use neoprene or cloth tank covers to keep their CO₂ tanks warm. Do not do this, it actually has the opposite effect. The cover acts as an insulator and prevents the tank from absorbing heat, forcing it to stay colder longer.

In your CO₂ tank, a portion of the CO₂ will be in liquid form, and a portion will be gaseous. If liquid CO₂ gets into your marker, the relief valve in the Max-Flo R vertical regulator will protect it from pressure spikes as the liquid evaporates into gas. Although liquid CO₂ will not damage the marker, it may cause it to stop operating momentarily. If this happens during a game, wait a few seconds, then hold your marker level and fire one or two shots in a safe direction to clear the liquid CO₂.

You may have noticed that a mounting wedge located between the bottom-line adapter and grip frame of your marker places the CO₂ tank at a 10 degree angle. This angle allows gravity to keep the liquid CO₂ away from the tank valve and the marker, just like soda in a half-filled bottle would not pour out the top, when held at the same angle. If you find that you are running, jumping and tilting your marker enough that you frequently need to clear liquid CO₂, you may wish to use an anti-siphon, remote CO₂ tank, or upgrade to a compressed air system.

ANTI-SIPHON

For safety reasons, anti-siphons must be professionally installed. Twenty-ounce Smart Valve CO₂ tanks are available from your Authorized Smart Parts dealer with an anti-siphon tube factory installed. The anti-siphon is a small, hooked tube inside the tank that works like a diver's snorkel. When the tank is horizontal and properly aligned, the tube draws gas from the top side of the tank. If you use an anti-siphon tank with your Vibe or SP-1, best performance can be obtained by removing the wedge and mounting the bottom-line adapter directly to the grip frame, so that the CO₂ tank sits in a horizontal position while firing. Use of a replacement hose may be required for a proper fit. Also make sure that the tank is screwed in to a position where the anti-siphon tube is on top (usually marked by a line or "X" scribed into the valve.)

REMOTE

Another CO₂ liquid control option is to use a coiled remote hose. This hose and adapter, available from most paintball dealers, allows the CO₂ tank to be carried separately from the marker, making it lighter and more maneuverable. By carrying the CO₂ tank in a vertical pouch on a paintball pack or tactical vest, it will be aligned with its valve at the top – away from the liquid CO₂. This configuration should be used with standard CO₂ tanks only, not anti-siphon. Vertical alignment will place the end of an anti-siphon tube directly in the liquid CO₂, making problems worse.

HPA

Compressed air systems cost more, but completely eliminate both the chilling and liquid issues associated with CO₂. As an added benefit, a pressure gauge indicates how full their tank is, and can be used to estimate shots remaining before a refill is needed.

DWELL MODES

Your marker's dwell mode determines how long of a power pulse its digital electronics should send to the solenoid valve to fire a shot. Because CO₂ expands differently than HPA, the optimal pulse length is different for each gas. Your Vibe or SP-1 is configured from the factory to use CO₂. If you intend to use HPA, you must change your dwell mode in order to achieve optimal performance. This is easily done by unloading and degassing the marker (see the marker's Quick Start Manual.) Then use an allen wrench to open the left side grip panel. Remove and unplug the 9-volt alkaline battery. Plug the battery back in while holding the marker's power button down. The marker will indicate that it has changed to HPA mode by double-blinking the power button LED and turning off. Reinstall the battery and grip panel, turn the marker on, and you are ready to go. If you switch back to CO₂ as a power source, repeat the procedure, and the CO₂ dwell mode will be signified by a single blink pattern on the LED.

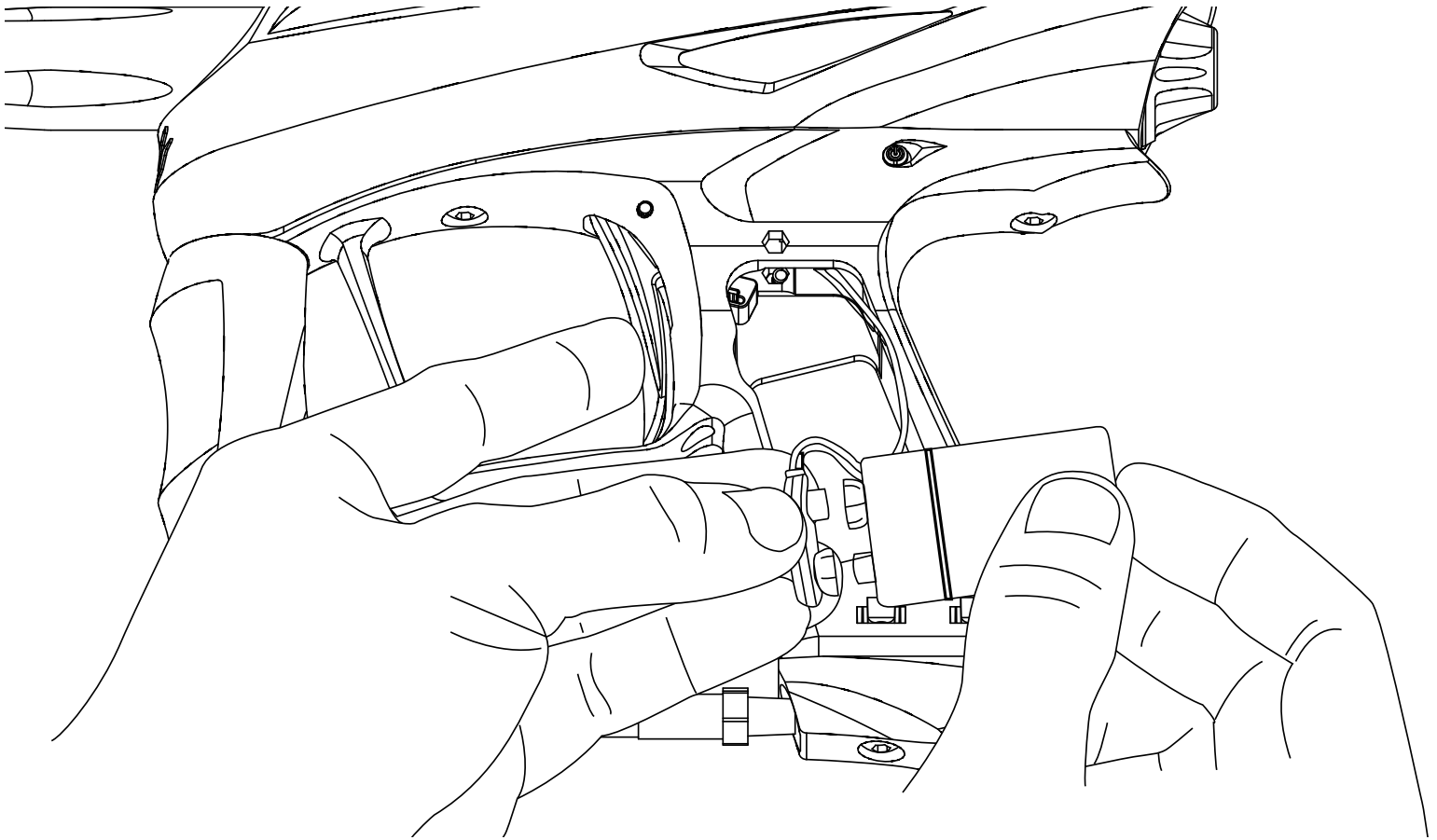
//////////⚠️WARNING

Whether you use CO₂ or compressed air, read and follow the tank, valve and or regulator manufacturer's instructions. CO₂ valves should only be installed or removed from their tanks by trained professionals, as improper installation may result in severe injury or death. CO₂ tanks must be observed when removed from a marker to ensure that the valve is unscrewing from the marker, instead of the tank unscrewing from the valve. Oil or other hydrocarbons should never be used in or on paintball compressed air systems, use only manufacturer recommended lubricants.

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Due to shipping restrictions, CO₂ and HPA tanks are sold empty. They must be filled before they can be used. Most paintball shops and fields are equipped to fill HPA tanks. Paintball shops, fields, many hardware stores and sporting goods stores will have the equipment and trained personnel to fill paintball CO₂ tanks.

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VIBE/SP-1 FIRING MODES

The Vibe and SP-1 markers are capable of firing in traditional semi-automatic (one shot per trigger pull,) 3-round burst (3 shots per trigger pull,) or full-automatic (firing repeatedly while trigger is held down.)

LOCKED SEMI OR SELECT-FIRE

Your marker may be set into locked semi-automatic mode for tournament legal operation. For use at fields where full-automatic and burst modes are legal, the Vibe or SP-1 may be set to select-fire mode, allowing you to change firing modes on the go.

When the marker is set for select-fire operation, it will turn on in semi-automatic mode with the power LED glowing continually. Pressing the power button quickly will result in the power LED flashing slowly and switching the marker into 3-round burst mode. Another button press will switch into full-automatic, signified by rapid flashing of the power LED. Pressing the power button quickly again will return the marker to semi-automatic operation.

LOCKING/UNLOCKING

Changing between locked semi-auto and select fire modes is simple. Use a 5/64-inch allen wrench to open the left side grip panel. Remove and unplug the battery, taking care to pull the battery clip away from the battery, rather than pulling on the battery wires. Hold down the trigger while re-attaching the battery, and the marker's microprocessor will switch to a new mode, indicating the change by blinking the power LED. A single blink indicates locked semi-automatic, while a double-blink indicates select-fire.

Replace the battery in the grip frame, carefully tucking in the wires, and re-secure the left side grip with a 5/64-inch allen wrench.

NOTE: Early Vibe and SP-1 markers released between October 2007 and February 2008 do not feature multi-mode capability. These markers can be upgraded free of charge for customers in countries where multi-mode markers are legal. Simply obtain an RMA number from the support section of SmartParts.com, and ship the marker only (do not include barrel or CO₂/HPA tanks) to Smart Parts. You will be responsible for the cost of return shipping. When the upgrade is complete, a technician will contact you by phone to discuss shipping options and arrange payment. Alternatively, shipping costs may be avoided by having the upgrade performed at any of the larger paintball tournaments or trade shows where Smart Parts offers on-site factory technical support.