

PRECISION PERFORMANCE PRODUCTS

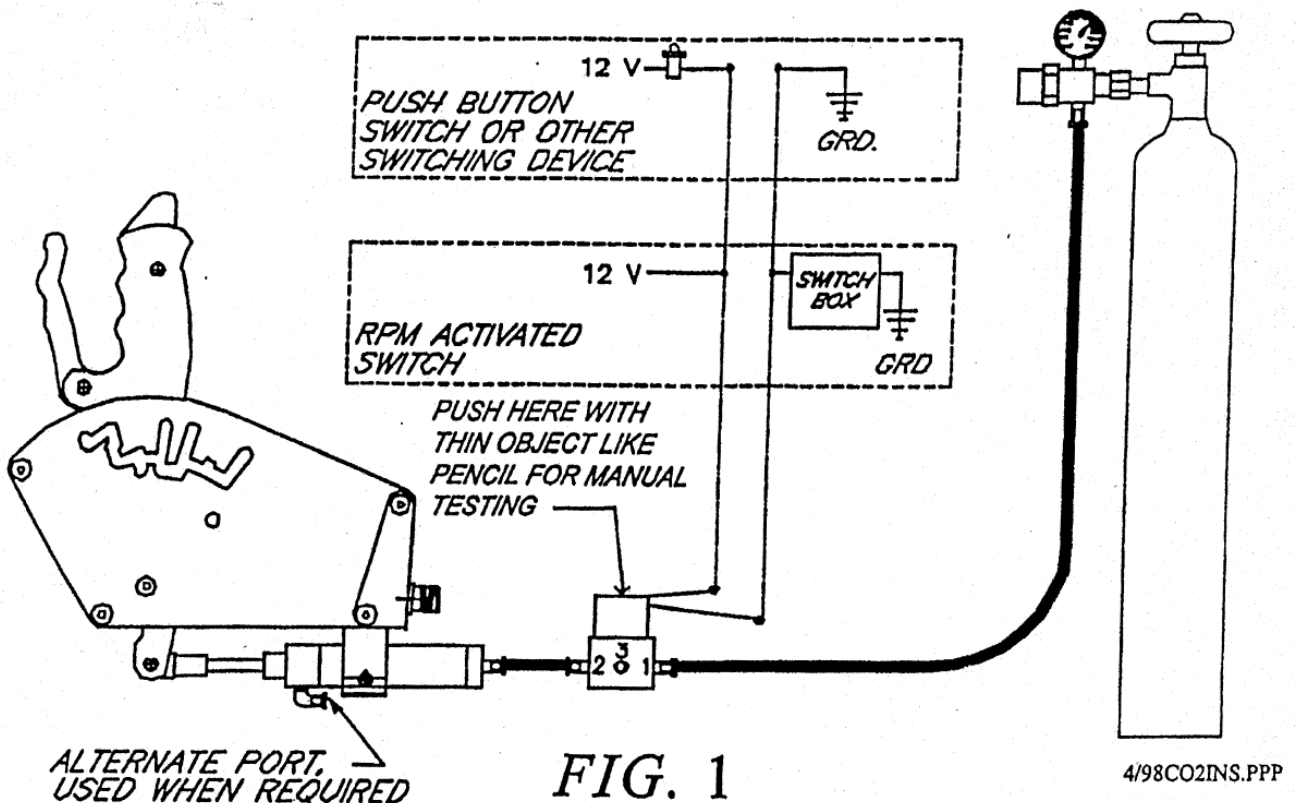
CO₂ Supply and Controls (Air Shifting)

INSTRUCTIONS

Please Note: These instructions have been re-written and edited by **Century Performance Center, Inc.** Most of this document is from the original instruction sheet with some expanded detail to improve clarity for both our own customers and other Kwik-Shift users.

The carbon dioxide (CO₂) supply assembly is used to operate a Kwik-Shift air shifter and or other devices that require CO₂ for operation. **FIGURE 1** below shows how easy it is to connect the CO₂ supply to the Kwik-Shift Power Shift Air shifter.

- The **Kwik-Shift I Power Shifter** is a complete assembly with an integral air cylinder mounted below the shifter case (as shown in FIGURE 1).
- Many of the Kwik-Shift I manual shifters and Kwik-Shift II shifters can be converted to air operation by installing an end-mount air cylinder (optional component available separately).
- Air connection at the shifter is as easy as pressing the 1/4" poly tubing into the fitting on the air cylinder.



INSTALLATION STEPS:

With Kwik-Shift shifter already mounted, it is time to determine the best locations for mounting the remaining components. **Keep the length of poly tubing as short as possible.** Lengths over 14" (36cm) may cause problems with pressure recovery needed for the 2-3 (2nd gear to 3rd gear) shift.

- The tank and valve assembly should be mounted securely in a **VERTICAL**, upright position. This ensures that only gas is discharged from the tank and reduces the chance of fluid (liquid CO₂) entering the line which may disrupt shifter operation.
- When installing the regulator onto the CO₂ tank, ensure that the plastic sealing washer is inside the regulator nut before attaching the regulator to the tank valve.
- Securely mount the 12-volt DC solenoid valve in a safe location
- Connect a length of 1/4" poly tubing between the regulator and **PORT #1 (See Figure 1)** on the solenoid valve, inserting the tubing into each fitting until it bottoms out.
 - *To remove a tubing connection, press the actuating ring on the fitting, then gently pull the tubing out of the fitting.*
- Connect a length of 1/4" poly tubing between **PORT #2 (See Figure 1)** on the solenoid valve and the air cylinder on the shifter.
 - **NOTE:** *There are two air line connections on the Kwik-Shift I shifters. The proper connection is predetermined by the shifter part number to either push or pull the shifter handle. For Kwik-Shift I (manual) or Kwik-Shift II conversions to air actuation, the add-on, end-mount air cylinders have only one air connection because these cylinders are specific to either pull or push motion.*
- **PORT #3 must be kept OPEN.**

TANK PRESSURE:

- The regulator will control the gas pressure to 120 PSI under normal conditions. Other pressure levels are available for special applications.
- The tank pressure will register approximately 800 PSI at normal temperature levels.
- When the tank pressure falls below the normal level, this is an indication that the tank will soon require a refill. *Typical sources for refilling the CO₂ tank include welding and fire extinguisher supply companies.*
- An empty bottle will require a *maximum* of 10 ounces of liquid carbon dioxide.

ELECTRICAL:

- The regulated CO₂ gas is controlled by the 12-volt DC solenoid valve.
- There are various methods used to actuate the solenoid valve electrically. A few popular examples are provided in **FIGURE 1** above.

MANUAL TESTING:

Once the installation is complete it is possible to perform manual testing of the system. With the **ENGINE OFF**, the bottle valve **OPEN**, and the shifter in **FIRST** gear, use a thin object to gently *depress then release* the button on top of the 12-volt DC solenoid (see **FIGURE 1**). This activates the solenoid, sending CO₂ gas to the air cylinder which will perform an up-shift to second gear.