

THE TRUTH ABOUT THE POWER VALVE

The power valve is a key component of the power enrichment system of Holley performance carburetors. The power enrichment system supplies additional fuel to the main system during heavy load or full power situations. Holley utilizes a vacuum operated power enrichment system and a selection of power valves is available to "time" this system's operation to your specific requirements.

Each Holley power valve is stamped with a number to indicate its vacuum opening point. For example, the number "65" indicates that the power valve will open when the engine vacuum drops to 6.5" Hg, or below.

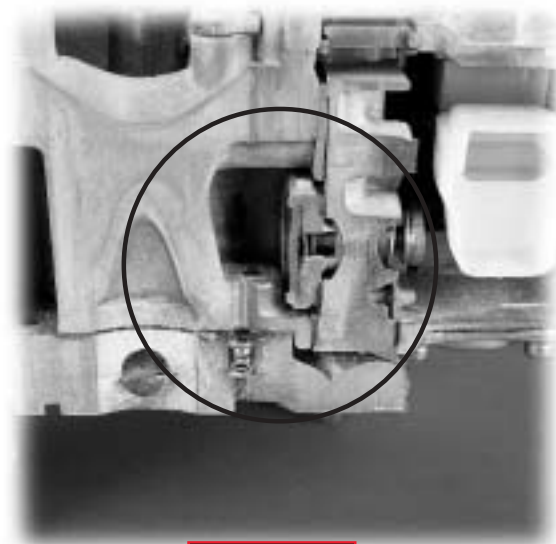
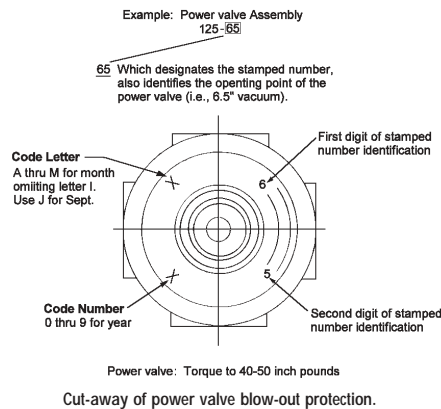
An accurate vacuum gauge, such as Holley P/N 26-501, should be used when determining the correct power valve to use.

A competition or race engine which has installed a long duration, high overlap cam will have low manifold vacuum at idle speeds. If the vehicle has a manual transmission, take the vacuum reading with the engine thoroughly warmed up and at idle. If the vehicle is equipped with an automatic transmission, take the vacuum reading with the engine thoroughly warmed up and idling in gear. In either case, the power valve selected should have a vacuum opening point about 2" Hg below the intake manifold vacuum reading taken.

A stock engine, or one that is only mildly built for street use, will have high manifold vacuum (17" to 21" Hg) at idle speeds. To determine the correct power valve, the vehicle should be driven at various steady speeds and vacuum readings taken. The power valve selected should have an opening point about 2" Hg below the lowest steady speed engine vacuum observed. Holley has a 6.5" Hg power valve, P/N 125-65, which usually works out well for most driving situations.

Since 1992, many of the new Holley performance carburetors built today now incorporate "power valve blow-out protection". With this provision, the power valve diaphragm is protected from damage due to engine backfire, by a check valve that is located in the throttle body. This check valve is designed to be normally open but quickly seals to close off the internal vacuum passage if a backfire occurs. Once closed, the check valve interrupts the pressure wave generated by the backfire, thus protecting the power valve diaphragm.

POWER VALVE IDENTIFICATION



TECH TIP

Power Valves and Carburetors for Superchargers

Holley carburetors that are intended for use with superchargers, have a unique capability that allows their power valves to reference the intake manifold vacuum below the supercharger. This allows the power valve to operate as it should, based off intake manifold vacuum. A power valve provides further enrichment to the main metering system under load (low vacuum) conditions. Without this external referencing, the power valve would be "reading" the supercharger boost pressure, which has no bearing on the engine load.