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Kaiser Bill's

Tech Tip - Stuck Valves

Many a old car that has been sitting a time has stuck valves. The engine will miss, jump and run erratically. This situation is sometime mistaken for other problems such as ignition, fuel, etc. Stuck valves can usually be determined by taking a compression check as the valve will be stuck "open." A cylinder with almost no compression is usually a sign of a stuck valve, although an extremely badly burnt valve could also be the cause. A cylinder with a burnt valve, however, will usually have some compression but very low.

In order to properly analyze a rough-running engine, first start with the basics: (1) check the compression, (2) check the ignition system, (3) use an external fuel source such as a small fuel tank connected directly to the carburetor through a filter, (4) block up the car to be sure the clutch, if so equipped, is fully disengaged. If everything but the compression checks OK then: (1) change the oil to a high-detergent type, ***(Note: you may have heard stories of changing an old engine to the new high-detergent type oil will damage your engine by breaking loose old deposits of sludge. This author is not aware of any evidence that this actually occurs and I have changed many old engines over to the newer oils with no problems whatsoever.)****, (2) pour a few squirts of "Marvel oil" into each cylinder through the spark plug hole and (3) turn the engine over several times with the starter. Replace the old spark plugs and let the engine sit for a few days. Then remove the plugs and turn the engine over several more times until no oil is being blown out of the spark plug holes. Pour about 10% per volume of Marvel Oil into your external small fuel container and mix well. Install new spark plugs and start the engine. Run the engine for at least 30 minutes at 1,200 to 1,500 rpm keeping watch for overheating. Be sure to do this in a fresh-air environment to avoid asphyxiation. Auto exhaust is dangerous.*

If the stuck valve(s) will not release, pour a small stream of concentrated mixture of 50% Marvel oil and gasoline directly down the carburetor being careful not to stall the engine. If this first treatment fails to break the valve loose repeat the "Marvel" oil treatment several times before giving up. Usually they will finally break loose. If not, the only recourse is to manually free them by disassembly.

I have personally never had a Kaiser-Frazer engine that I could not break the valves loose by this method. If all else fails you may just have a badly burnt valve or a broken ring - what bad luck!

- Kaiser Bill