

Cold Setting the Valves on a 1953 Dodge M37 Power Wagon (T137 engine)

Valve Order

The valve order from back of engine to front with valve galley covers removed and looking into the valve galley is:

Rear	Cylinder	6	5	4	3	2	1	Front
	Valve	E I I E	E I I E	E I I E	E I I E			

Firing Order

The firing order is:

1 – 5 – 3 – 6 – 2 – 4

Tools Needed

The valve adjustment tools needed are:

Feeler gauge set (0.008" to 0.014")

½" tappet wrench

7/16" tappet wrench

Procedure

You will need a mark on your pulley every 120 degrees from the DC (Dead Center) mark. You can also verify the piston position with an offset probe (I used a piece of copper 12ga wire out of a piece of Romex). Blow out any debris from around the spark plugs and remove them. It also helps to pull the distributor cap for quick reference of which cylinder is at TDC. Be sure your truck is blocked and in neutral. Then you can rotate the engine using the fan pretty easily (just as described in the TM). Be sure to rotate the engine clockwise (you can observe the distributor rotor to be sure)...for clocking through the firing order as you adjust the valves.

If everything has been renewed & properly lapped into their seats with the tappet screws faced flat, .010" intake & .013" exhaust is a good COLD set up. The actual hot setting you need is .009" intake - .011" exhaust, the cold settings will tighten to the proper hot setting as the engine warms to normal temp due to heat

expansion. These cold settings are also good for use in engines that have been run many miles & simply need a valve clearance adjustment when performing normal maintenance.

If the tappet screws have not been faced flat, you will need to set up COLD at least .001" tighter on both intake & exhaust. The reason for this is it is normal for the face of the tappet screws to indent slightly, this is normal wear. When this occurs, a ridge around the outer edge of the screw face where the valve stem never hits becomes very evident. When adjustments are measured with a feeler gauge, it is on top of that ridge instead of where the valve stem actually contacts the screw face, thus the adjustment will be wider than the feeler gauge says because of the indent. In engines with a LOT of wear or indent in the screw surface, it may be necessary to bring the COLD adjustment as tight as .008" intake - .011" exhaust, but in most cases only .001" tighter will take care of it & produce a good running non-ticking set up.

Remember these guidelines are for engines that are in good condition as far as the valve train is concerned. Ticking can also come from worn tappet bores in the block which allow the tappets to be pushed sideways slightly instead of straight up by the cam lobes. This condition will also produce a ticking noise that can be mistaken for loose valve clearance adjustment. If an engine has excessive wear in the tappet bores, the ticking noise will continue no matter what the adjustment.

Also remember that a too tight adjustment can cause leaking valves & eventually burned valves. When your engine is started after adjustments are completed, it should be warmed up to normal operating temp. If all looks & sounds OK you should be set, go ahead with closing everything up. If you feel further fine adjustment is needed, let the engine COOL DOWN THOROUGHLY before readjusting, always remember you are working with COLD settings.