V-Twin Mfg.
Gas Shut-Off Valve Alignment Tool
VT No. 16-0615

This tool should only be used by a knowledgeable and trained motorcycle technician. V-Twin Mfg. accepts no responsibility for improper use.

This procedure is for 1940-1965 tanks that use the "instant reserve" with shut-off rod gas valve and requires the special factory tool. The tool both aligns and spaces (the correct distance from the bottom of the tank to the top at the rod) the tank.

Alignment is needed for the shut-off rod to open and close easily and for the rod to seat squarely on the gas valve seat and effect a good seal. Spacing is needed for the rod to be able to fully seat into the valve and for the rod to lift up far enough for the reserve to function. Even slight misalignment of the rod will make it next to impossible to open and close the valve much less turn on reserve. The valve is also most likely to leak severely. If the tank height is too high, the rod will not fully seat because the rod cap will bottom on the top of the tank before the rod closes the valve. If the tank height is too low, the pin in the rod will hit the top of the tank before the reserve can open.

For proper alignment follow the below listed step by step instructions:

1. To perform alignment, insert the tool' long rod through the gas valve opening at bottom. With the tool's short rod set to "alignment", turn the rod in until it stops.
2. Sight the long rod through the shut-off rod hole at the top. The long rod's center hole should be dead center in the shut-off hole. If not the long rod will need to be pulled or pushed as necessary to align the holes.
3. In some case, if the tank top is too low or if there is an internal lip in the tank around the shut-off rod hole, the long rod will need to be lowered ½ to 1 turn for the rod to align with the top hole.

Note: After alignment, the tank needs to be spaced.

4. With the long rod still in the tank, shift the short rod to space". This will drop the tool's sleeve a little.
5. Insert the upper handle into the long rod and tighten.
6. Turn the long rod in until the sleeve bottoms against the tank. If it stops before the sleeve touches, the tank is compressed and force will be needed to turn the rod until the sleeve bottoms.
7. You may need to strike the T-handle with one or two sharp blows with a brass or dead blow hammer. See illustration “C” below. Do not use a heavy hammer as this will square the top fitting with the lower fitting and also relieve accumulated stress so that the tank fittings will not return to original incorrect locations.
8. If the sleeve is bottomed but the rod is not to the top, the tank is too high and must be compressed. Turn the top handle in until the tank bottoms on the rod top.
9. Temporarily install the gas valve to insure smooth operation. If the rod does not seat, open or close, recheck alignment.