

Valve Lifters: Wonderful little inventions that usually work so well they are never touched for the life of the engine, assuming you change the oil regularly. If you don't or someone else didn't, you will probably become familiar with them.

Corvair lifters are hydraulic, meaning they fill with oil under pressure and keep the valves adjusted "automatically". They will make a noise for two reasons (assuming your cam is good): lifter tapping will occur if the lifter is low on oil or if it is so far out of adjustment that the range for automatic adjustment is exceeded. If you listen carefully you can hear a small extra "clink" along with the tap when the lifter is actually out of adjustment. **Remember that a lifter that is noisy cold but becomes quiet when hot is not out of adjustment. A lifter that is quiet cold and noisy hot may be out of adjustment (unless you have very poor oil pressure).**

The cold startup noise that disappears hot is a lifter that has lost its oil because the valve spring pressure exerted on it overnight has pushed the oil out through a leaking check valve system. This is aggravated with repeated cold shut downs.

Lifters can lose their ability to retain oil usually for two reasons: the lifter is worn internally making it impossible for the check valve system to hold the oil, or there may be dirt in the check valve system causing it not to seal. Two oil changes close together combined with some highway driving might cure the latter. It is possible to replace one lifter that has a rapid leak down if you can isolate the problem. More than likely you will have others lifters do the same thing.

A lifter that is adjusted too tight will cause the engine to miss when cold but smooth out when warm. This will eventually cause loss of compression due to material build up on the valve seat or a burned area. Check compression cold if you suspect this.

Lifters are easier to remove if the engine is warm; work fast and have a strong round magnet to fit the bore. If there is varnish on the exposed portion of the lifter in the crankcase you need to be patient and wiggle a lot – in worse cases, you may have to apply carburetor cleaner to the end of the lifter exposed on the inside of the case where the varnish has built up. Be sure you use the correct lifter for replacement and coat the bottom with a break in lube or STP. Check the bore for noticeable wear and be sure the lifter slides in the bore freely.

Once you finish your work in the valve train area, use the second style valve cover with the wider area at the bolt holes to accept the spring reinforcements, install all four reinforcements and ¾ inch grade 8 bolts. You can use 1 inch bolts but chase the threads first. A rubber valve cover gasket with no sealer works best if you tighten the bolts just until the spring reinforcement bends in and touches the cover.

One final note: Valve lifters that are full of varnish or have been sitting for a very long time in dirty oil will not only be very difficult to adjust but they may not let oil flow into the pushrods and out onto the rocker arms and valve stems. The wrong lifter can also cause this. A dry valve cover area, worn out valve guides and worn rocker arm balls would certainly indicate the need for a check of pushrod holes, oil pressure and probably new lifters.

Next month: valve adjustment.

