FOREWORD

This booklet contains a complete reprint of the sound slidefilm, Corvair Valve Servicing. Each man should have one of these booklets for on-the-job reference, and at least one copy should be placed in the file of Technical Information.

Many Service Technicians prefer to remove the engine and power train rather than lowering the rear of the engine a few inches. In either case, a heavy-duty hydraulic jack, such as J-8394, and adapter J-7894 are necessary.

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Remove all components which would interfere with service work and necessary sheet metal shrouding around the engine. Remove rocker covers, exhaust manifolds and rocker arms.

Remove push rods, rocker arm studs, push rod guides and discard the "O" ring seals.
Loosen aluminum push rod drain tubes. Then, with heads pulled part way off the studs, discard inner "O" ring seals and remove drain tubes. Discard outer seals and remove heads.

Now make a set of 12 cylinder holding tubes from ½" O.D. stock. Cut six tubes to 4⅛", and the other six to 3⅜". Install and clean piston heads.

Discard copper head gaskets; then remove valves using a spring compressor such as J-8062. Remove valve spring shims.

Wire-brush clean all valves. Carefully examine valves, valve guides and bores. Inspect for fractures, especially near valve seats.

Valve guides are available for all Corvair engines except Turbocharged models. Standard replacement guides are .002" oversize, with .010" and .020" oversizes available. These guides use standard diameter valve stems. To remove a damaged guide —

— use Remover J-21280 and a heavy hammer to drive it out from the spring side. If the guide bore is free of internal damage, install the standard guide without reaming. If there is deep gouging —

— select the .010” oversize reamer J-21282. Use cutting oil and ream from the combustion chamber side. If this operation does not clean up guide bore, re-ream with the .020” oversize reamer . . . J-21283.

Drive the selected guide into the bore from the combustion chamber side — small diameter end first. Use Installer J-21281. The installed height is correct when the tool groove aligns with the top surface of the valve seat.

—select one of the reamers, J-5830-1, J-5830-4 or J-5830-5, which are .003”, .010” or .020” oversize. Ream from combustion chamber side. Select corresponding oversize valve.

Use the standard size reamer from the combustion chamber side to remove slight guide bore distortion or peening.

If valve guides do not need replacement, you should check valve stem to guide clearance. Hold the valve off the seat about 1/4” and locate the dial indicator button against the stem just above the guide. Move stem crosswise to the head. If clearances are excessive —
All intake valves have the single groove lock. However, when the original exhaust valves need replacement, you should use the four bead lock design on all except the Corvair 95 engines.

Corvair 95 engines for 1963 and '64 are equipped with single lock design stellite exhaust valves and rotators which are now available for installation in earlier Corvair 95 vehicles. Now let's look at recommended grinding angles.

The reseating angle for intake and exhaust valve seats in all engines is 45 degrees, while all exhaust valves are refaced 44 degrees. Intake valves are refaced either 45 or 44 degrees, depending on the engine and model year.

Check valve springs with a spring tester such as J-8056 and an accurate torque wrench. Correct specifications are shown. Replace weak springs.

Install only the valve, spring shim, spring cap and valve keys. Pull valve tight against the seat. Measure between spring shim and spring cap. Never add shims that will bring the installed height of the spring below specifications.

Assemble all valves. Position new head gaskets in the combustion chambers and install cylinder heads. Insert drain tubes with new "O" ring seals and at each rocker stud recess. Oil seals, then tap drain tubes into position.
Insert rocker studs through push rod guides from the stamped "U" side and onto head studs. Install cylinder head nuts and torque 32 to 38 foot-pounds as shown.

Insert push rods with side oil hole to rocker arm. Loosely install all rocker arms. Set pulley timing mark at ZERO on timing pad with distributor rotor at number ONE cylinder in the distributor cap. Lash only the valves shown.

Check for distortion of rocker cover. Straighten if necessary, then install with a new gasket. Install oil cooler with new seals and exhaust manifolds with new packings. Torque to limits shown.

When the engine is reinstalled, it may be necessary to readjust valve lash with the engine running. Follow procedures in the 1964 Shop Manual, page 6A-5 and 6A-6. This completes Corvair valve servicing.