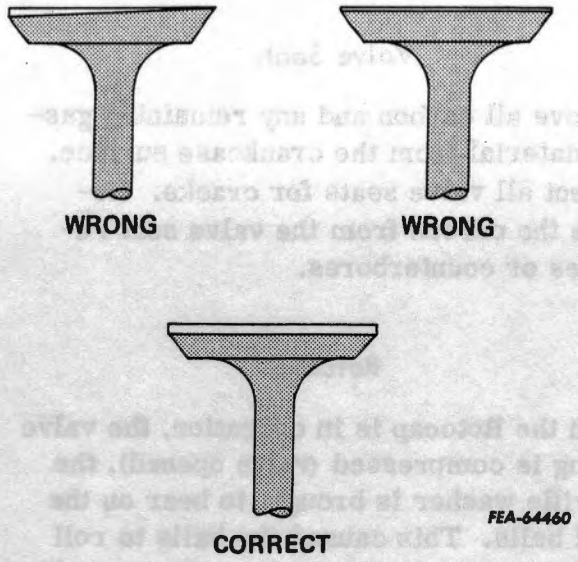
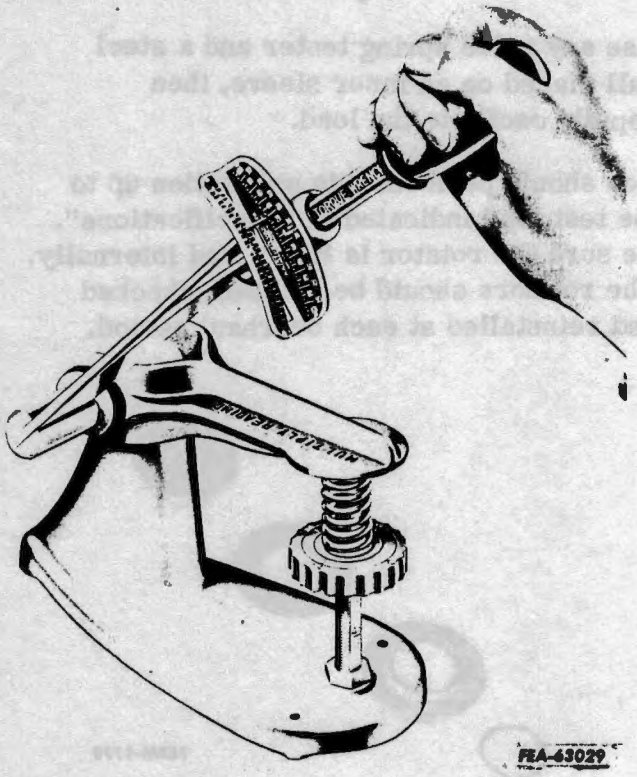
2. Inspect each valve. See that the stem is not worn excessively and that the head is not burned or warped. Check the grooves in the stem to see that they have not lost the shoulders through wear, which prevents the valve seat retainer keys from fitting snugly.



3. All valves having bent, worn, warped or seriously pitted stems should be replaced. Replace any valve that cannot be satisfactorily refaced with a definite margin maintained. The amount of grinding necessary to true the valve face is a definite indication of the valve head warpage from the axis or centerline of its stem. With excessive warpage, a knife edge will be ground on part or all of the valve head due to the considerable amount of metal that must be removed to completely reface. Maximum heaviness in a valve head is required for strength and to provide as large an area as possible for heat dissipation. Knife edge valves lead to breakage and warpage.

4. Clean and examine all valve springs for rust, pitting, broken or set coils. Test each spring against the spring specifications (see "Specifications") using a spring load tester. Replace all springs that do not meet specifications.



5. Clean all valve spring seats with solvent, and examine them for rust, cracks and bending characteristics. Replace parts as necessary.

Valve Seat Retainer Keys

Clean parts thoroughly in solvent. Check the ribs in the inside of the keys to see that none are worn sufficiently to cause looseness. The keys must fit snugly into the valve stem groove. Check the keys for wear on the outside surface which might allow the valve spring retainer to slide over the key.