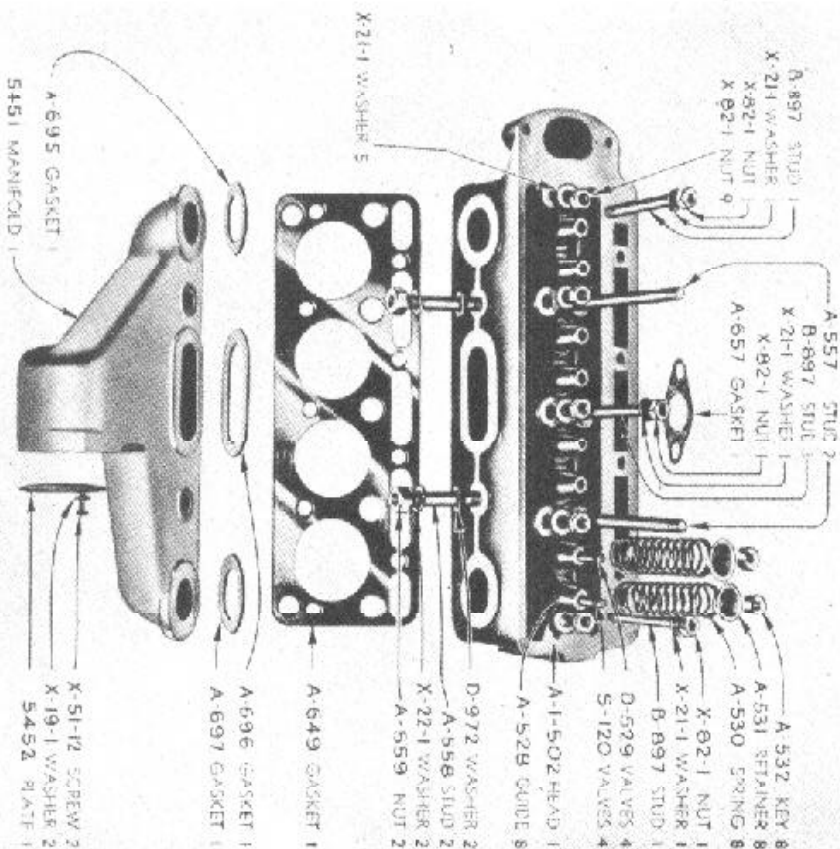


6. To replace cylinder head and cover, reverse the above procedure. Be sure to clean the cylinder head and engine surfaces. Coat the cylinder head and cover gaskets with grease for watertight and airtight connections. When replacing the cylinder head nuts, tighten them down evenly to prevent wrinkling the gasket.



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Figure 22. Cylinder head and exhaust manifold.

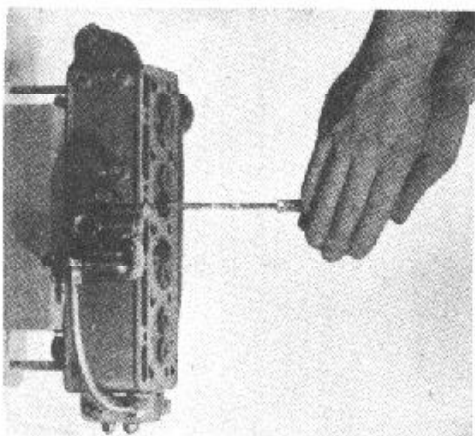
21. GRINDING VALVES.

a. General. To grind valves, remove the cylinder head as explained in Paragraph 20 *a* and set it upside down on wooden blocks. Remove the valves by depressing the valve springs and removing the keepers from the slots on the end of each valve stem. Wash the valves and valve seats with gasoline and see whether they are pitted.

NOTE: Be sure to replace valves in original position in cylinder head. Note marks on both valve and head for proper replacement.

b. Grinding. Grind each of the valves in the engine as follows:

- (1) Apply the valve grinding compound around the entire valve seat.
- (2) Lubricate the valve stem, slip a light coil spring over the end of the stem, and drop the valve back into its place in the cylinder head. The spring should hold the valve just barely off the seat.
- (3) Place a valve grinding tool in the valve head and press the valve down with a screwdriver or handbrake until it is seated.
- (4) Rotate the valve on the seat $\frac{1}{4}$ turn, first in one direction and then in the other (fig. 23). Do this three or four times, then release the pressure on the valve and allow the coil spring to lift the valve from its seat.



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Figure 23. Grinding valves.