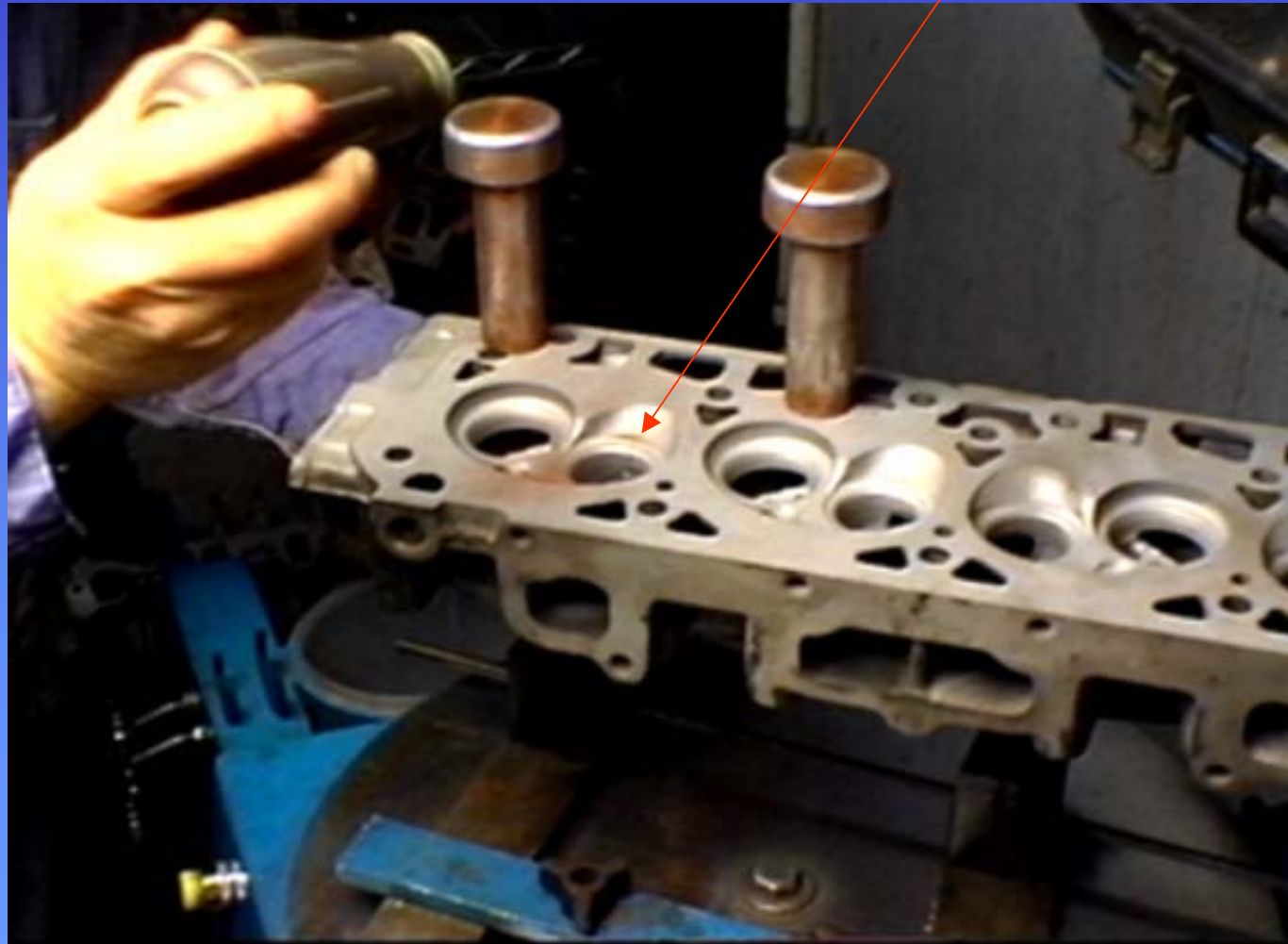


Repairing a crack across the exhaust valve seat on a 2.5L GM cylinder head

This procedure has been approved by General Motors.



This is a common crack that extends across the induction hardened seat



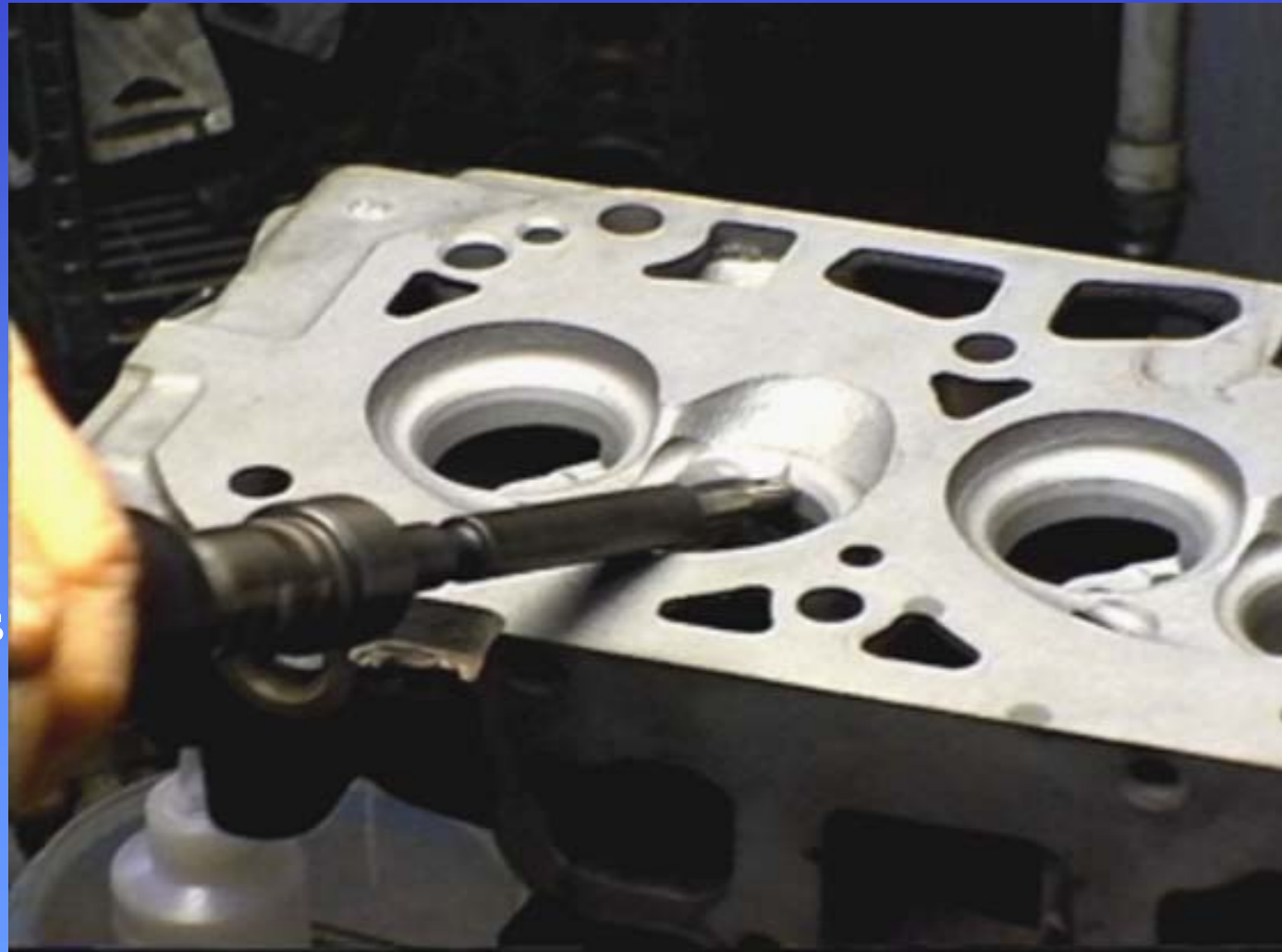
Use the extension drill guide to drill the first hole at the bottom end of the crack

Using the drill guide will assure that you will be able to tap the hole and install the pin at the exact same angle that you drilled the hole.



Tap the hole using the tap extension and Sioux power tapping tool

The tap extension is the same diameter as the drill guide. Wherever you drill with the drill guide you can tap using the tap extension at the exact same angle. This assures that you will have a perfectly threaded hole.



Use the LHC724 thread sealant on the stitching pins

LHC724 is a special sealant developed for stitching in the combustion chamber of cylinder heads. It has a very low viscosity so that it can penetrate into very small gaps. When installing seat inserts over a repair you should use the sealant in the seat bore and on the seat to prevent leaks.



Use L6AS stitching pins for this repair



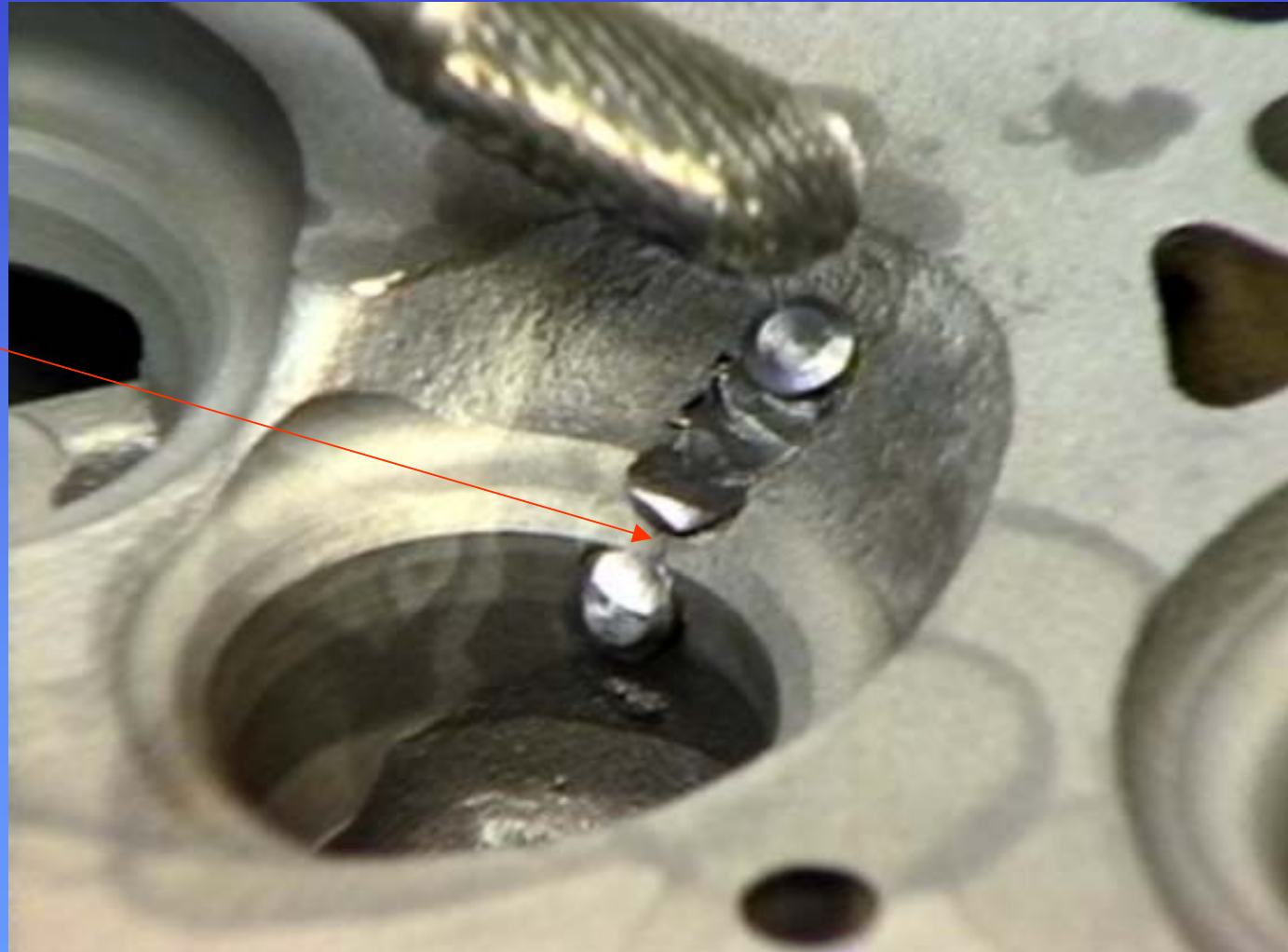
Simply tighten the pin until the head twists off



Continue installing pins until the crack is gone

Skip the space where the seat is, saving it for last.

Grind the excess pin material down flush but save the final blending for a grinding stone.



Drill the hole for the seat pin

After drilling, countersink the hole slightly using the L6CS tool so that the shoulder can sink deeper into the hard seat. This will allow the new seat to be cut on the pin within the shoulder material rather than into the threaded section of the pin.



Install the last pin and finish-grind the repair

Be very careful not to slip and hit the seat surface during the entire repair process.

Leave the area next to the seat angle for the seat cutter.



Peen the repair and surrounding area to texture and hide the repair

Use a needle scaler to peen the rough-cast areas of the repair.

Use a ballpeen hammer to peen the pin on the seat angle to assure a flawless finish.

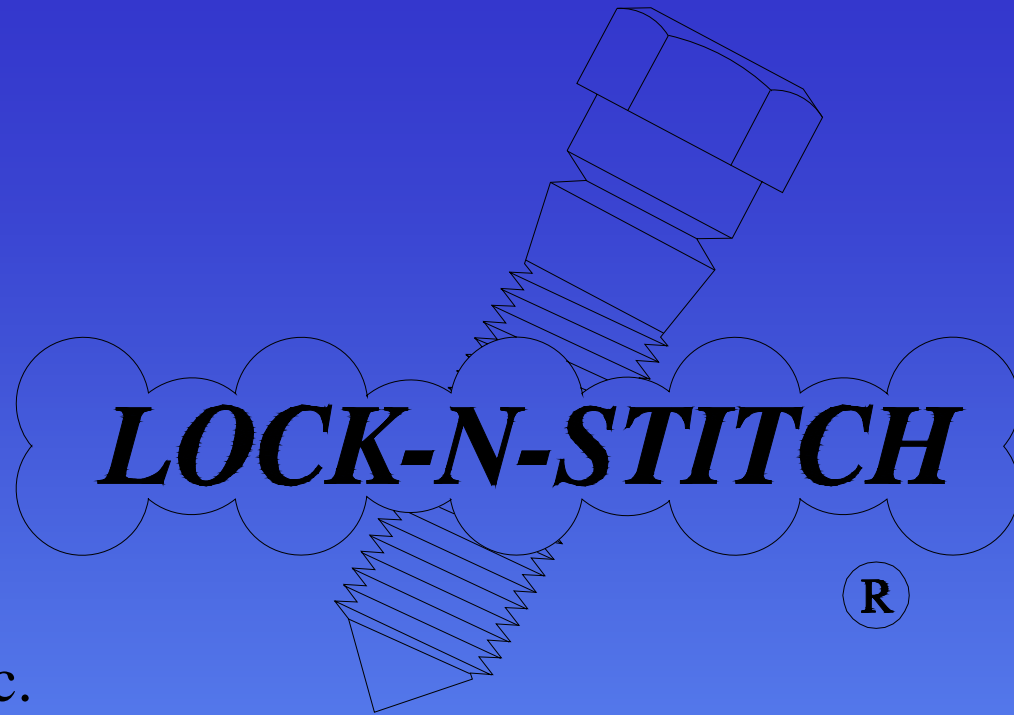


Cut or grind the seat the same as all the others

The repaired head should be pressure tested to 40 psi.

It is not necessary to install a hard seat insert even on the exhaust seat. A better repair can be made if you do not install a seat insert over the repair.





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