

SYDOW TOOL ENGINEERING, INC.

EXHAUST PORT RESURFACING TOOL

INSTRUCTIONS

Clean entire area, remove exhaust pipes, mounting studs, and valve covers. Plug engine openings with cloth, clean port surfaces.

Attach bracket "A" to valve cover boss using the provided cap screws and thick tooling washers, finger tight only. Attach bracket "B" with cutterhead assembly installed and adjustment nut fully back, to edge of bracket "A", just finger tight.

Hold cutterhead against port, centering cutterbit ends between stud holes.

While holding cutterhead in position, snug cap screws first to valve cover boss, then through bracket "B" to bracket "A".

Using only hand pressure and a short ratchet, apply a push and turn motion to check resulting cutting action on the port face.

When you are satisfied with flush position and concentricity of cutterhead, tighten all cap screws firmly.

Clean debris from cutterbits every couple of turns. Use "tap magic" or chalk to prevent clogging of the cutter teeth. Check for burrs on the port surface often.

Advance cutterhead using adjustment nut on shaft, finger tight or slightly more, turning until roughness is felt, no more.

The combustion residue will clog bits and gouge the new port surface you are trying to create. It will be necessary to repeatedly remove bracket "B" and the cutterhead assembly to clean the foreign matter that interferes with the operation. Each time this is done be sure to back off the feed nut and reset it when cutting is resumed. Time spent cleaning teeth will assure a smooth surface.

Before you have arrived at a sufficient depth, it is recommended that you clean out the stud holes gently with a tap and insert new studs to serve as pilots for the Ear Island Removal Tool that removes the flange material from the area outside the sweep or reach of the cutterhead. Here also, use only hand power and check after each turn.

CAUTION is advised to avoid removing extra material during this step. Going too deep will necessitate doing the original operation a second time to create a new surface to intersect.

Both islands around each stud must be flush with the port surfaces when the machining operations are complete.

Make sure the exhaust pipe flanges are flat--file them if necessary and check all slip joints in the system for proper freedom.

The use of proper hardware at assembly will go a long way to assure the integrity of the joint at the exhaust port.