

PORSCHE M97 IMS BORING TOOL INSTRUCTIONS

- 1) Remove transmission, clutch and flywheel.
- 2) Set engine at TDC.
- 3) Lock engine and cams at bank 1 with the tools provided.
- 4) Remove engine oil and oil drain plug.
- 5) Install shop air regulator tool at oil drain hole.
- 6) Remove the cam chain tensioner from bank 1-3.
- 7) Remove the tensioner between the IMS and crankshaft at the lower rear side of the engine. Make sure to mark the tensioners as they are different.
- 8) Remove the IMS center nut and 3 cover bolts.
- 9) Pry out the IMS cover using 2 large flat screwdrivers or pry bars.
- 10) Remove the bearing retaining clip and push/hammer back bearing bolt into the IMS shaft.
- 11) Place the aluminum cylinder alignment tool in back of the IMS hole.
- 12) Place the boring bracket over alignment cylinder and bolt it to the back of the engine.
- 13) Remove the aluminum alignment tool.
- 14) Prepare the boring bar with the first cut (60mm) end mill.
- 15) Open the air regulator tool at the oil drain hole and set to 15 psi, an outward flow of air will be noted at the IMS hole.
- 16) Insert boring bar on to the alignment tool.
- 17) You are now ready to bore the IMS hole opening to 60mm. You want to maintain a slow and constant boring speed. Once the hole has been bored, remove boring bar.
- 18) Change end mill on the boring bar to the 62.5 mm end mill.

- 19) Widen the hole opening using the boring bar with the 62.5mm end mill and then retrieve the IMS bolt from the IMS tube with a magnet. Screw the extracting shaft to the IMS bolt to pull bearing.
- 20) Once the IMS hole has been bored to 62.5mm you are ready to extract the factory IMS bearing with the extraction tool provided with the kit.
- 21) Extract the original 62mm IMS bearing through the 62.5mm hole.
- 22) The new hole will have very sharp edges, deburring of the holes edge is necessary. Use a sharp utility knife and sand paper only on the sharp entry edge.
- 23) Clean the area.
- 24) Find your new EPS cylindrical IMS bearing and the aluminum insertion tool.
- 25) Place the new IMS bearing onto the insertion tool and insert the bearing into the IMS shaft by hammering the insertion tool. The bearing will stick out about 5mm, this is OK.
- 26) Install the new IMS bearing cover with the 3 bolts provided.
- 27) Reinstall the cam chain tensioners making sure you are installing the tensioners in the proper position as they are different.
- 28) Remove the cam and engine holding tools.
- 29) Turn engine by hand about 4 turns, engine must turn free.
- 30) Replace the cam cover plugs (provided).
- 31) Replace flywheel, clutch and transmission.
- 32) Refill oil.
- 33) Job Completed.