



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 TOOLS PROVIDED.
- 4) REMOVE ENGINE OIL AND OIL DRAIN PLUG.
- 5) INSTALL SHOP AIR REGULATOR TOOL AT OIL DRAIN HOLE.
- 6) REMOVE CAM CHAIN TENSIONER FROM BANK 1-3.
- 7) REMOVE TENSIONER BETWEEN IMS AND CRANKSHAFT AT LOWER REAR SIDE OF ENGINE, MAKE SURE TO MARK TENSIONERS, THEY ARE DIFFERENT.
- 8) REMOVE IMS CENTER NUT AND 3 COVER BOLTS.
- 9) PRY OUT THE IMS COVER USING 2 LARGE FLAT SCREWDRIVERS OR PRY BARS.
- 10) REMOVE BEARING RETAINING CLIP, PUSH/HAMMER BACK BEARING BOLT IN TO IMS SHAFT.
- 11) PLACE ALUMINUM CYLINDER ALIGNMENT TOOL IN BACK OF THE IMS HOLE.
- 12) PLACE BOARING BRACKET OVER ALIGNMENT CYLINDER AND BOLT IT TO BACK OF ENGINE.
- 13) REMOVE ALUMINUM ALIGNMENT TOOL.
- 14) PREPARE THE BORING BAR WITH THE FIRST CUT (60MM) END MILL.
- 15) OPEN AIR REGULATOR TOOL AT THE OIL DRAIN HOLE TO 15 PSI, AN OUTWARD FLOW OF AIR WILL BE NOTED AT IMS HOLE.
- 16) INSERT BORING BAR ON TO THE ALIGNMENT TOOL.
- 17) YOU ARE NOW READY TO BORE THE IMS HOLE OPENING TO 60MM, MAINTAIN A SLOW BORING SPEED, ONCE HOLE HAS BEEN BORE, REMOVE BORING BAR.
- 18) CHANGE END MILL ON BORING BAR TO THE 62.5 MM END MILL.
- 19) CUT HOLE OPENING USING THE BORING BAR WITH THE 62.5MM END MILL, RETRIEVE IMS BOLT FROM THE IMS TUBE WITH A MAGNET AND 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 THRU THE 62.5MM HOLE.
- 22) THE NEW HOLE WILL HAVE VERY SHARP EDGES, DE-BURING OF THE HOLE EDGE IS NECESSARY, USE A SHARP 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 ON INSERTION TOOL, INSERT THE BEARING IN TO THE IMS SHAFT BY HAMMERING THE INSERTION TOOL, THE BEARING WILL BE STICKING OUT ABOUT 5MM, THIS IS OK.
- 26) PLACE NEW IMS BEARING COVER WITH THE 3 BOLTS PROVIDED.
- 27) RE-INSTALL CAM CHAIN TENSIONERS; MAKE SURE YOU ARE INSTALLING THE TENSIONERS ON THE PROPPER POSITION, THEY ARE DIFFERENT.
- 28) REMOVE CAM AND ENGINE HOLDING TOOLS.
- 29) TURN ENGINE BY HAND ABOUT 4 TURNS, ENGINE MUST TURN FREE.
- 30) REPLACE CAM COVER PLUGS PROVIDED.
- 31) REAPLACE FLYWHEEL, CLUTCH AND TRANSMISSION.
- 32) REFILL OIL.
- 33) DONE.