

Tools needed:
 Drill fixture
 Step drill
 Tap
 Driver
 Drill bushing
 Alignment pin
 Bolts (3)
 Inserts (Qty 16)
 Sealer
 Driver oil

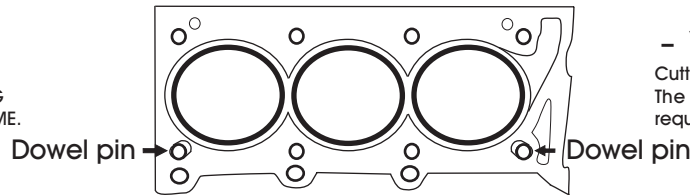
NOTE: Tooling set for blocks that have a starting thread depth of 21mm. Block thread starting depth 21mm + 38mm Drill bushing + 2mm countersink = Fixed drill collar height 61mm from the cutting edge countersink.

NOTE: Tape off water jacket holes to prevent chips from entering the engine block.

TIME-SERT recommends doing all 8 holes for consistent torque across block.

- NOTE -

A GOOD THREAD REPAIR PRACTICE IS TO CHECK EACH HOLES STARTING DEPTH TO ENSURE THEY ARE THE SAME.



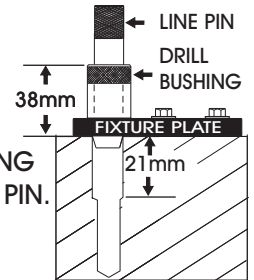
- WARNING -

Cutting tools may shatter if broken. The wearing of safety glasses is required in the vicinity of their use.

INSTRUCTIONS

STEP 1 (Please remove dowel pins in corner holes for fixture plate clearance)

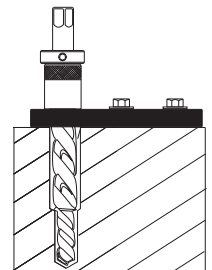
PLACE DRILL FIXTURE BUSHING HOLE (19mm or 3/4") OVER THE HOLE TO BE REPAIRED. PLACE DRILL BUSHING IN FIXTURE, THEN PLACE LINE PIN IN BUSHING TO PICK UP HOLE USING MINIMAL DOWN PRESSURE ON LINE PIN. USE BOLTS AND TIGHTEN TO SECURE FIXTURE IN PLACE, DO NOT OVER TIGHTEN. REMOVE LINE PIN.



STEP 2 (Clean threads before drilling and use a suitable cutting fluid for drilling).

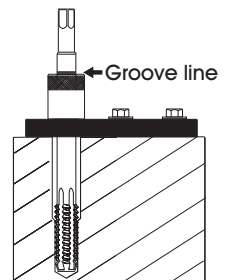
USE A SUITABLE DRILL MOTOR AND STEP DRILL THE HOLE UNTIL THE STOP COLLAR TOUCHES THE TOP OF THE DRILL BUSHING. START THE DRILL ROTATION AFTER THE DRILL IS INSIDE THE BUSHING TO PREVENT DULLING THE CUTTING EDGES. THIS WILL REQUIRE REMOVING DRILL AND BUSHING SEVERAL TIMES TO CLEAR CHIPS. CLEAN OUT ALL CHIPS. DRILL THE HOLE SLOWLY AND CAREFULLY FOR A STRAIGHT HOLE THIS IS VERY IMPORTANT!

NOTE: If drill bushing turns while drilling hole, Remove drill and drill bushing, Clean out all chips using a long air nozzle that must reach the bottom of hole.



STEP 3 (USE a suitable cutting fluid for tapping)

TAP THROUGH THE DRILL BUSHING UNTIL THE GROOVE ON THE TAP LINES UP WITH THE TOP OF THE DRILL BUSHING. THIS WILL REQUIRE REMOVING THE TAP AND BUSHING SEVERAL TIMES TO CLEAR CHIPS. CLEAN ALL CHIPS USING BRAKE OR CONTACT CLEANER THAT WILL NOT LEAVE AN OILY RESIDUE, THE HOLE MUST BE CLEAN AND DRY. USE A FLASHLIGHT TO INSPECT THE HOLE FOR CHIPS AND CLEANLINESS.

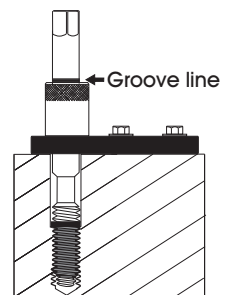


STEP 4 LEAVE DRILL FIXTURE ON FOR THE FINAL STEP 4.

DRIVER CHECK! Before using the driver place tool in the hole to verify that the groove will line up with top of bushing.

USE THE INCLUDED INSERT DRIVER OIL J-42385-110

OIL THE THREADS OF THE DRIVER TOOL. SCREW AN INSERT ONTO THE DRIVER 2 TURNS, APPLY A RING OF SEALER 6020 ON THE BOTTOM OUTSIDE THREADS OF THE INSERT AND SCREW THE INSERT INTO THE PREPARED HOLE. WHEN THE HEAD OF THE INSERT IS SEATED THE DRIVER WILL TIGHTEN UP, USE A LITTLE MORE POWER TO SCREW THE DRIVER THROUGH THE INSERT, UNTIL THE GROOVE OF THE DRIVER LINES UP WITH THE TOP OF THE DRILL BUSHING. REMOVE INSERT DRIVER, REPAIR IS COMPLETE.



Check for the latest torque specifications before assembling the engine. Improper torque of the head can lead to thread failure.