PigTail®
Patent Number 5,465,693

Materials Required For PigTail® Installation

Items Supplied:

PigTails® (2)
instructions

Supplies Needed:

Loctite® 242 (blue)
masking tape (wide, 2 small pieces)
kerosene or WD-40 (small amount for tap lube)
3/8" x 16 tpi tap for aluminum
3/16" hex wrench (long)

PigTail® Installation Instructions

Note: PigTail® is for stock type cylinders only. **It will not fit big bore cylinders.**

Satisfactory operation of your PigTail® depends upon its proper installation. Read and follow these instructions carefully.

1. Remove cylinders from engine per manufacturer's service instructions.

2. Identify which oil passages in the cylinders are to receive the PigTail®. Each cylinder receives ONE PigTail® each. When the cylinders are oriented as mounted on the engine, the front cylinder should have its PigTail® installed in its front-most oil passage, while the rear cylinder should have its PigTail® installed in its rear-most oil passage (see Figure 1).

3. Attach a piece of wide masking tape to the outside of the cylinder extension near the correct oil passage (see Figure 2). Insert a long 5/16" diameter bolt or dowel into the oil passage. Using a soft lead pencil, scribe two lines on the tape to show the angle that the bolt (or dowel) makes to the surface of the cylinder.

   NOTE: The oil passage hole is NOT at a right angle to the cylinder surface. The hole axis is also inclined toward the center line of the cylinder.

   NOTE: While not required, PigTail® installation can be made easier by making and using a simple holding jig (see Figure 3). Clamp the cylinder between the two pieces of wood, then clamp the jig in a bench vise.

4. Orienting the tap in line with the axis of the oil passage hole, carefully start the tap in the oil passage hole, using the provided 3/8" x 16 tpi tap. The scribe marks on the masking tape should be used to assist in orienting the tap. (see Figure 4)

   NOTE: The required tap is specially made for use with aluminum. Do NOT use a tap made for steel.

5. Lubricate the tap and oil passage with a small amount of kerosene or WD-40. Carefully tap the oil passage to the full depth of the tap threads (approximately 1" deep). Remove the masking tape from the cylinder extension. Thoroughly clean and dry the tapped hole and the rest of the oil passage.

6. Test the fit of the PigTail® in the *crankcase drain hole,* by inserting at least 1" of the PigTail's® drain tube end into that hole (see Figure 5). If the drain tube cannot be inserted at least 1" into the crankcase drain hole without undue force, sand the outer diameter of the tube end until the PigTail® can be inserted freely.

   CAUTION: The PigTail® should fit freely in the crankcase hole; do not force fit.

   NOTE: The crankcase drain hole may be reamed slightly to attain the proper fit, but this is NOT recommended unless the crankcase is disassembled.

7. Put 2 drops of Loctite® 242 (blue) on the two innermost threads of the tapped hole. Orient the PigTail® so that the drain tube end extends from the cylinder, then screw the PigTail® into the tapped threads (see Figure 6). Insert the hex wrench through the other end of the oil passage and screw the PigTail® into the tapped hole until it bottoms out at the end of the threads. Apply sufficient torque to fully seat the PigTail®.

8. Perform a trial fit of the cylinder to the crankcase, without gasket at this time. If the PigTail® does not line up correctly with the crankcase drain hole, carefully adjust the orientation of the tube end of the PigTail® until it can be inserted to its full depth without undue force.

9. Remove the cylinder from the crankcase, being careful to not bend the PigTail®.

10. Repeat Steps 3 - 9 for the other cylinder, taking care to assure that the correct oil passage has been selected.

11. Reassemble engine, per manufacturer's service instructions.

    CAUTION: When mounting cylinder to crankcase, be careful to assure that the cylinder base gasket is not damaged or cut as the PigTail® is inserted into the crankcase drain hole.

FIGURE 1: IDENTIFYING THE CORRECT OIL PASSAGES

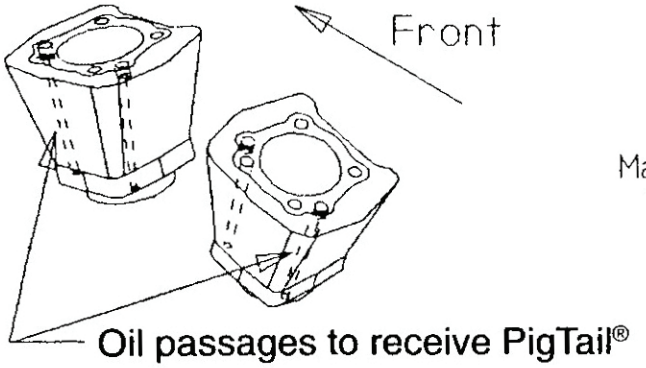


FIGURE 2: MARKING OIL PASSAGE ANGLE

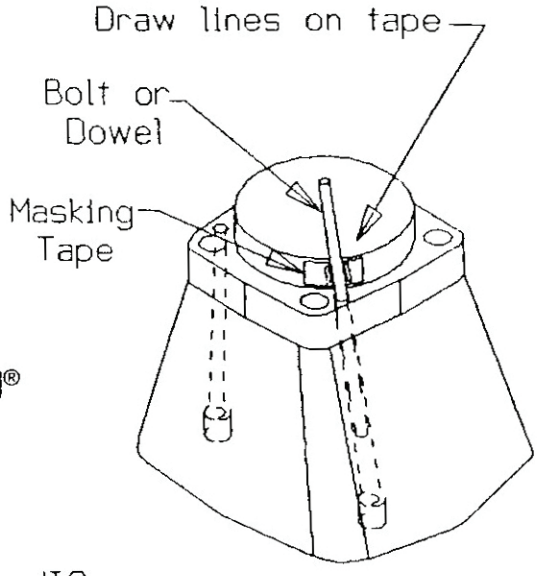
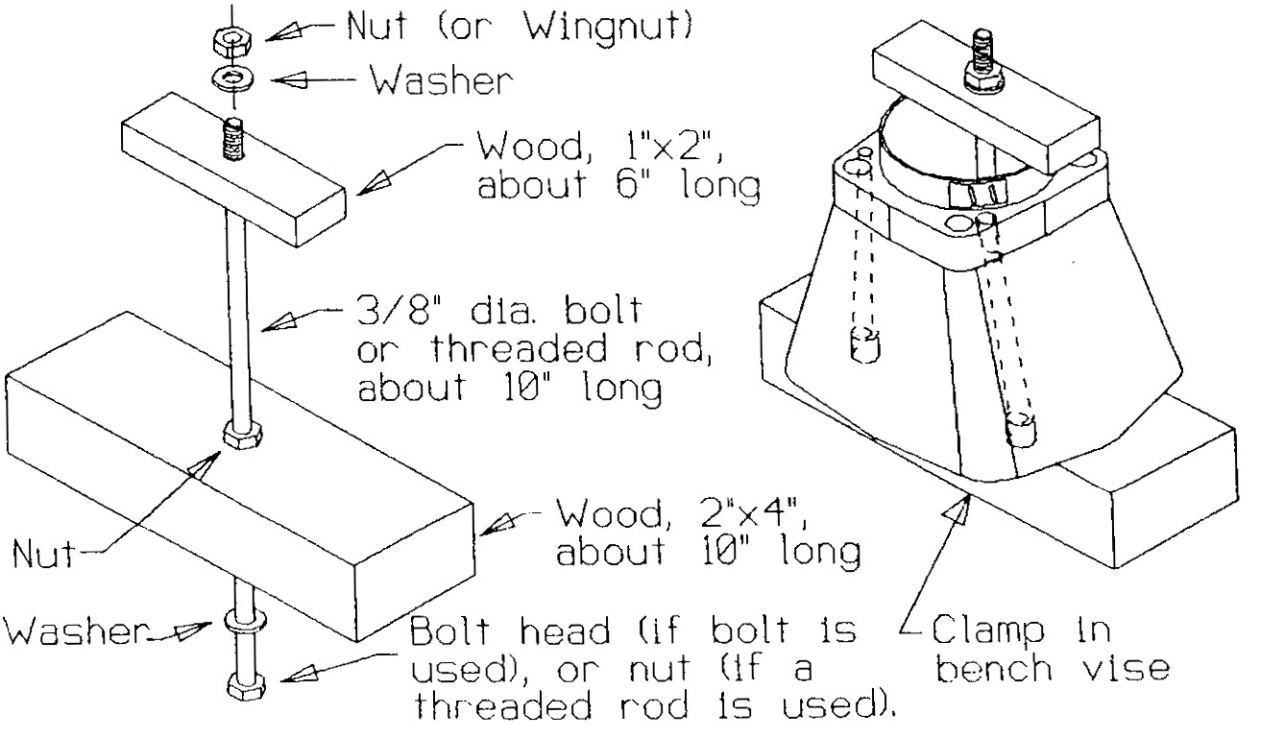


FIGURE 3: CYLINDER HOLDING JIG



HOLDING JIG PARTS / ASSEMBLY ASSEMBLED VIEW,WITH CYLINDER

FIGURE 4: TAPPING HOLE

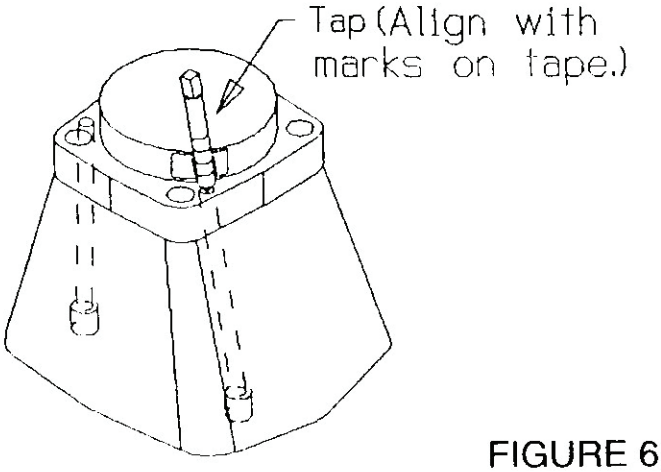


FIGURE 5: TEST FITTING PigTail®

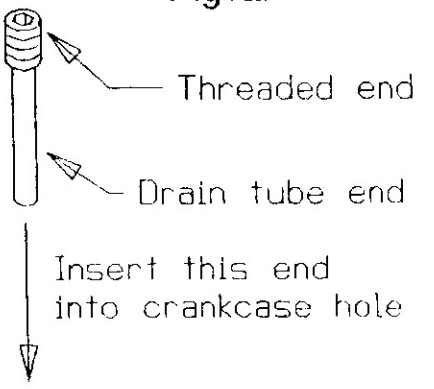


FIGURE 6: INSERTING PigTail®