Operation Number: 15 **Description:** Case Sub Assembly	**Prepared By:** Quality **Approved by:** Manufacturing
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Title: Case Sub-Assembly

CASE SUB-ASSEMBLY

1. ☑🗁 Visually inspect case halves for debris, oil, dirt, and check the finish for scratches, voids, machining errors, dents and dings. Make certain that the case halves have the same number and that they are in alignment. There should be no more than .080 over-hang at the front motor mount and no more than .080 all the way around. Inspect for any excess stock.
2. Apply red threadlock to 8 cylinder studs (PN 01-003). Install studs into case using tool # I-11, 15 foot-pounds. **NOTE: threadlock MUST cure for 6 hours prior to installation of cylinders. Indicate stud installation time/ date on traveler.**
3. Record the case serial number on the Assembly Traveler. Check all posted Quality Alerts, including Customer Correspondence formats. (E-Mails, notes dated and initialed, etc.) Ensure that the Sub-Supplier has performed leak test, noted by the "P" near the Serial Stamp on the engine mounting surface. If there is no stamp verifying leak test, set the case aside and contact your immediate supervisor or Quality authority.

Case half serial numbers MUST match!

FIGURE 1.1 shows Case Identification Number and Location.

4. Using a lifter block (PN01-925/01-926) (**8-LIFTER BLOCK)**, check the lifter block pads for fit and bolt pattern alignment. If the lifter block does not fit, or the bolt pattern does not align, the case is not fit for use. Tag appropriately and isolate. Although ***only one is shown in illustration 1.2***, both need to be checked.

5. Check Breather Gear (PN01-073) (**1-BREATHER GEAR)** fit and rotation. (If the Breather does not fit, or does not rotate freely, the case is not fit for use, tag appropriately and isolate.) Remove.

6. Check the Pinion Shaft Race and Bearing for fit with mating part (**5-PINION SHAFT**). Use the larger of the two bearings first, if the large bearing does not spin freely on the shaft, try using the smaller bearing. If the bearing/pinion shaft still does not spin freely, reject the case as it is not fit for use. Tag appropriately and isolate.

7. Check the Oil Pump Fit using gage # 9712-GP-19 (not shown).

8. Thread the oil filter onto an adaptor and check the filter for clearance (**3&4-FILTER & BUNG**). (If the oil filter does not have proper clearance, the case is not fit for use. Tag appropriately and isolate.) Remove.

9. Install the 90° fitting onto the case to check for clearance. (PN29-101) (**7-90 Degree Fitting**). (If the fitting does not have proper clearance, the case is not fit for use. Tag appropriately and isolate.) Remove.

10. ☑ Apply a thin coating of Teflon thread dope and install the Oil Drain Plug (PN01-017) (**6-OIL DRAIN PLUG**). Torque the drain plug using tool # I-05) to 18-foot pounds. If the plug goes beyond the inner surface of the case, (protruding into the inside of the case) the case is not fit for use. Tag appropriately and isolate.

11. Apply a thin coating of case sealant to the tapered end of the brass case plug (PN01-054) and tap into the small diameter hole below the machined oil filter-pad surface. Make certain that the case plug does not protrude into the interior cavity of the case.

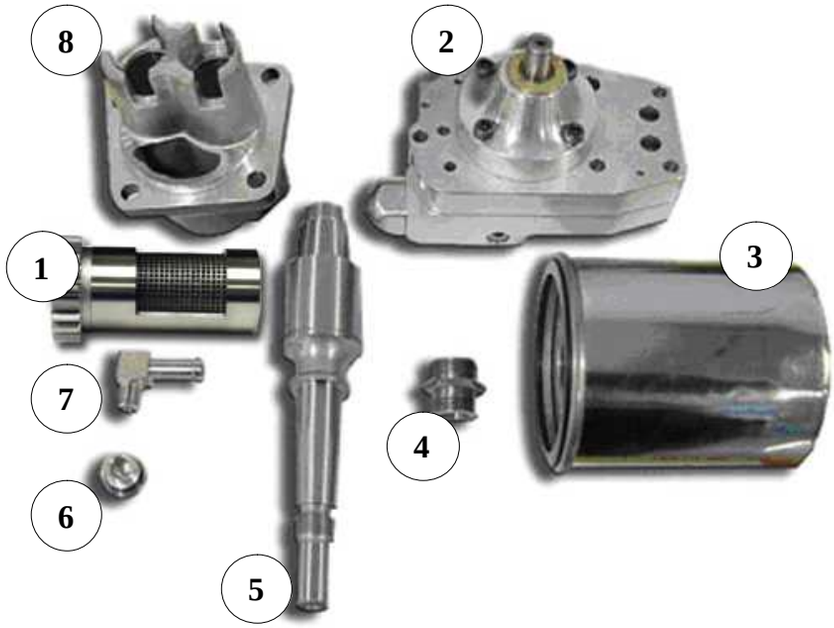

FIGURE 1.2 shows Mating Part Checking Aids.

12. Apply pipe thread sealant to straight breather fitting (PN 29-100). Thread into breather hole in case and torque 8-12 ft.-lbs.

13. Separate case halves. (PN01-001)

    a) Remove the bolt holding the case halves together and retain in designated box, for shipment back to the supplier.

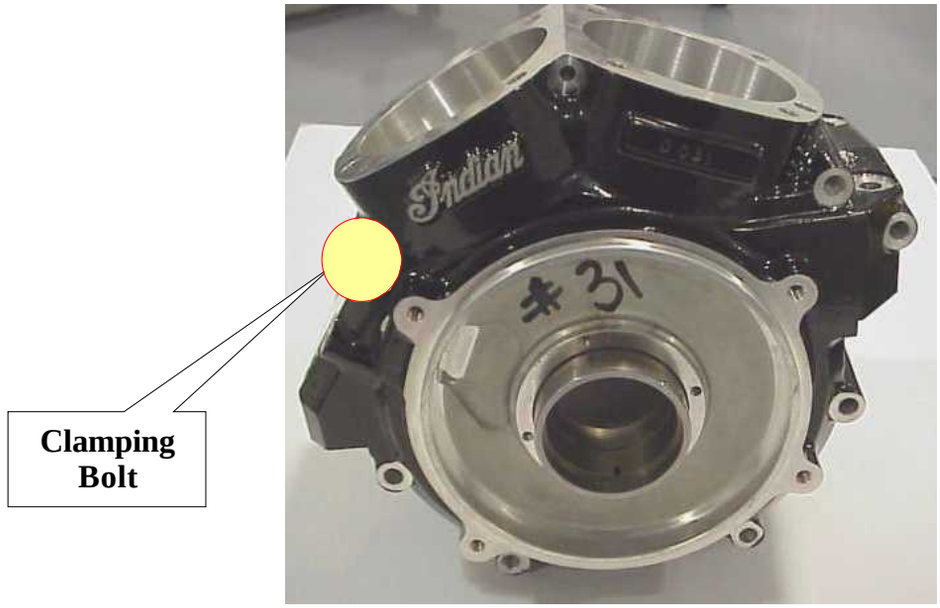

FIGURE 1.3 shows clamping bolt used to hold the cases together during shipment.

b) (This step may *not* be needed. It depends on how tight the case dowels are.) Hold the case firmly in one hand strike the case mounting boss with a dead-blow hammer.

c) Rub the parting edges with a soft, clean cloth to remove any chips, flash or paint.

d) Visually inspect the parting edges to make certain that there was no damage done to the paint.

e) Verify that there is no damage to the sealing surfaces of the case halves. There can be no scratches, chips, gouges, nicks or dents, which would compromise the sealing surface.

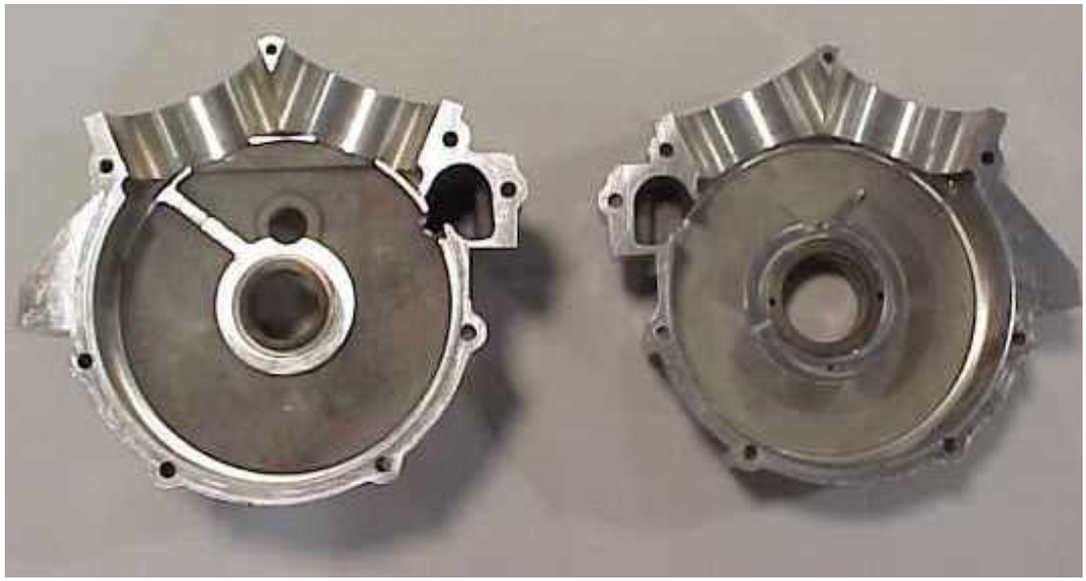

FIGURE 1.4

f) Set the two case halves aside.

12. Check Assembly Traveler to ensure completeness.