MERCURY MARINER

Service Bulletin

Bulletin No. 2007-02
OEM No. 2007-02

Circulate to: ☐ Sales Manager ☐ Accounting ☑ Service Manager ☑ Technician ☑ Parts Manager

OptiMax Air Compressor Hub Runout

Models Affected:

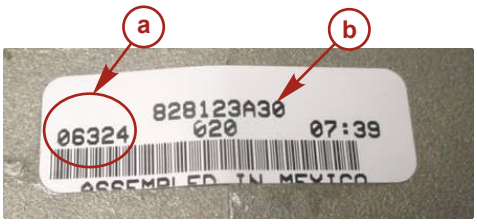
Models Covered	Serial Number
75 – 115 HP; 1.5 Liter OptiMax	SN 1B445150 through 1B446575
135 – 200 HP; 2.5 Liter OptiMax	SN 1B445150 through 1B447802
200 – 250 HP; 3.0 Liter and Pro-XS OptiMax	SN 1B445150 through 1B447437

Situation:

The pulley mounting hub on a small number of OptiMax compressors within the serial number range listed above may not have the press fit bore machined perpendicular to the pulley mounting surface. This condition may allow the pulley to exhibit excessive runout at the belt drive surface, and may limit the service life of the drive belt and compressor components.

Inspection:

On the OptiMax engines, if excessive belt wear is present before the recommended service interval for the belt, inspect the air compressor for the Julian date code range of 06305 - 06341. This is the manufacturing date of the suspect compressors. On 2.5L and 3.0L engines this date code is easily seen without removal of the compressor. If the Julian date is not within this date code range, the compressor is not affected by this service bulletin.



27057

Julian date range of 06305 through 06341 is considered suspect

a - Julian date code **b -** Part number

On 1.5L engines, the date code is below the compressor and is not readable without the removal of the compressor. On these engines, the inspection procedure using the dial indicator method should be followed for all engines in the serial number range.

If the compressor is within the Julian date code range, refer to the following inspection method.

Inspection Method: A dial indicator will be used to measure the amount of pulley deflection that occurs as the pulley is rotated one full revolution clockwise using a socket wrench on the flywheel nut.

Accept/reject criteria: Maximum total indicator reading (TIR) allowed is 0.5 mm (0.020 in.), measured at a point approximately 9.5 mm (3/8 inch) from the outer edge of the compressor pulley.

If the engine is still in the shipping container: If the serial number mat has a blue dot as shown, this indicates the engine has been inspected at Mercury Marine and no further action is required.

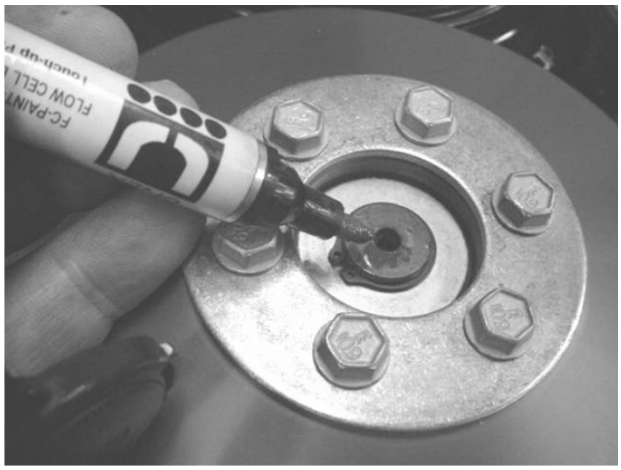
27067

a - Blue dot

1. Remove the top cowl and set aside on a clean padded table.

IMPORTANT: Use extreme care not to scratch the top cowl.

2. Remove the flywheel cover and inspect the compressor for a blue dot as shown. It must be a blue dot.
   - If a blue dot is present, no further action is required.
   - If a blue dot is **not** present, continue with Step 3.



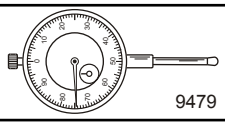
27068

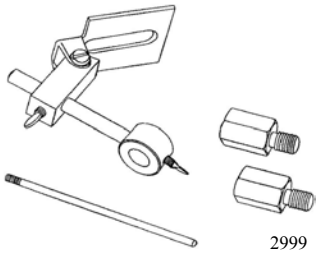
3. Remove the yellow cap over the flywheel nut.

27069

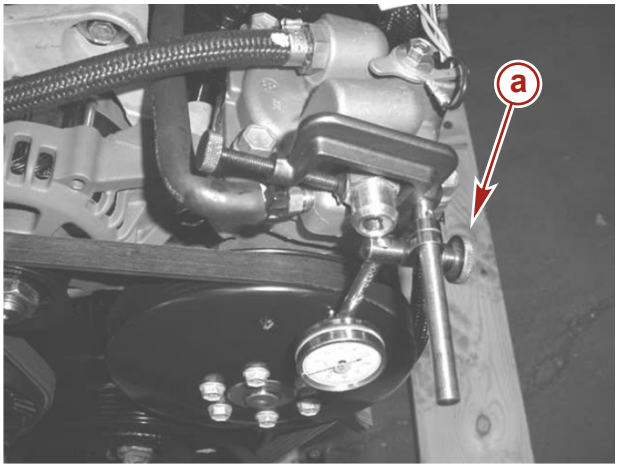
4. Attach the dial indicator clamp to the flywheel cover mounting fitting, air inlet, or other solid surface as shown.

NOTE: *Pro-XS, 3.0 Liter OptiMax, and 1.5 Liter OptiMax models have slightly different clamp mounting configurations. A dial indicator, dial indicator adapter, and dial indicator holding tool along with a 3/8 inch stud can be configured to adapt to a solid engine surface.*

Dial Indicator	91-58222A1
 9479	Used to obtain a variety of measurements including gear backlash, pinion gear location, and TDC.

Dial Indicator Adapter	91-83155
 2999	Dial indicator holding fixture.

Dial Indicator Holding Tool	91-89897
 ob01631	Secures the dial indicator to gear housing when checking backlash.

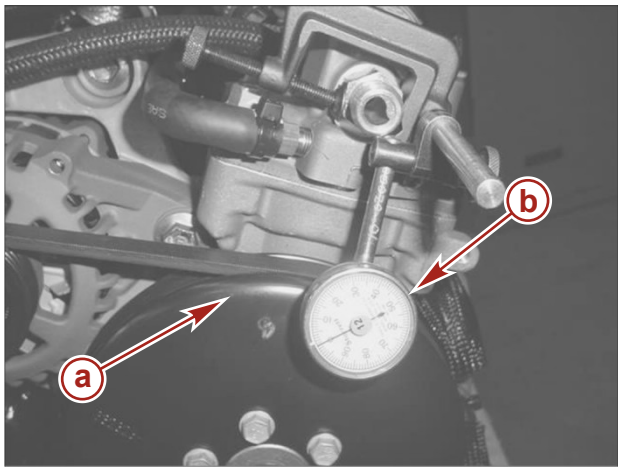


27070

a - Clamp

IMPORTANT: The clamp must be tight and secure on the mounting fitting.

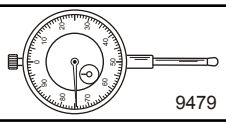
5. Adjust the dial indicator on the secondary clamp arm. The indicator tip must be in contact with the pulley at a point approximately 9.5 mm (3/8 inch) from the outer rim of the pulley, where the radius turns down toward the belt.



27071

a - Outer rim of pulley

b - Dial indicator

Dial Indicator	91-58222A1
 9479	Used to obtain a variety of measurements including gear backlash, pinion gear location, and TDC.

IMPORTANT: The indicator tip must be in contact with pulley and not bottomed out. You must see the needle go around at least one revolution when the indicator is clamped in place. Move the tip up and down and the needle must go back and forth on the dial.

6. Turn the outer rim of the dial so that the needle is on zero (0), then turn the flywheel clockwise with a ratchet wrench while watching the dial indicator. Record the amount of travel that the needle moves.

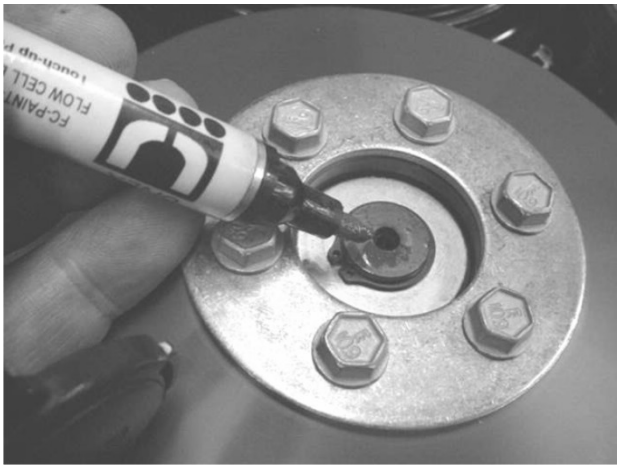
27072

a - Needle travel

IMPORTANT: Total indicator reading (TIR) allowed is 0.020 in. when pulley is rotated one full revolution

- **If Passed:** (TIR less than 0.020 in.) Go to Step 7.
- **If Rejected:** If the above runout condition is above specification, the compressor unit complete will require replacement. Ensure the replacement compressor is not within the affected Julian date code range. Then, continue with Step 7.

7. Mark the inspected and passed engine with a blue paint mark on the compressor pulley shaft.



27068

8. Replace the yellow cap seal over the flywheel nut.

27069

9. Replace the flywheel cover.

IMPORTANT: Make certain the flywheel cover is seated on the fittings properly.

10. Remove the dial indicator and clamp.
11. Replace the top cowl.

Dealer/OEM Parts Inventory

If a compressor which is in the Dealer's or OEM's inventory is within the suspect Julian date code:

USA CUSTOMERS

Return any suspect air compressors in your inventory due to this hub issue using the Mercury Precision Parts UNDER 30 DAYS RETURN PROGRAM. You may use the form on the back of any parts and accessories packing list. Please note on the form that the return is part of Service Bulletin 2007-02. All returns must be sent freight prepaid to:
Mercury Marine
Attn: Return Goods - Service Bulletin 2007-02
W6250-22A Pioneer Road
Fond du Lac, WI 54936

NON-USA CUSTOMERS

Return any suspect air compressors in your inventory due to this hub issue to the appropriate distribution center for credit. Follow the normal return parts procedure. Please make reference to Service Bulletin 2007-02.

Warranty

Mercury marine will credit the dealer for the cost of the parts and labor.

Complete the warranty claim listing:

- Outboard engine serial number
- Qty. 1 compressor as required
- 0.5 hours labor for inspection
- 0.5 hours labor for compressor replacement as required
- Warranty Flat Rate Code = SB05 for inspection only **or**

- Warranty Flat Rate Code = SB10 for inspection and compressor replacement.
- Part Code = 761
- Failure Code = 00

US AND CANADA

Complete/process the claim via MercNET or return a warranty claim form.

INTERNATIONAL

Follow instructions issued by Marine Power International Office or by an authorized Marine Power Distributor.