

▲ = Revised July 1999

## 3.0L Engines with Blown Head Gasket

### Models

▲1997 3.0LX Sterndrive Engines: S/N 0K001529-0L000000.

1998 3.0L Sterndrive Engines: S/N 0L000001-0L097000.

**NOTE:** ▲ *The timing change in this bulletin is to be done only on engines listed above that have had a blown cylinder head gasket as described in this bulletin. It does not affect any other 3.0L or 3.0LX engines.*

### Situation

MerCruiser has had several reported cases of cylinder head gasket failures that have blown out toward the exhaust/intake manifold on the port side of the engine.

### Inspection

The most common cause of this type of head gasket failure is detonation. Usually, the head gasket is the only part damaged. This means that the engine can be repaired by using a new head gasket. Also, the repaired engine must have the initial ignition timing retarded to 1° ATDC. Please follow these guidelines during the repair.

1. With the cylinder head off the engine, make sure there is no damage to the cylinder walls, pistons, valves or cylinder head. If there is no internal engine damage, install a new cylinder head gasket.
2. Torque cylinder head bolts to 95 lb. ft. (129 N-m) following the torquing sequence in the engine service manual.
3. Make sure that the correct type of long reach spark plugs (AC-MR43LTS or equivalent) is used in the engine. Be sure the spark plug gap is at .035 in. (0.9 mm).

**NOTE:** *The use of short reach or wrong heat range spark plugs can cause detonation.*

4. Be sure positive and negative battery cables are clean and tight, both on the battery and on the engine.

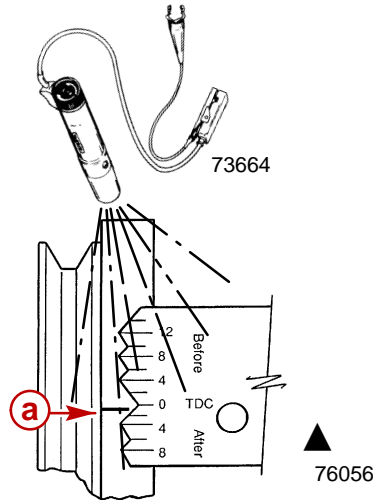
**NOTE:** *Loose or dirty battery cable connections can cause higher than normal alternator voltage output. This higher voltage may cause the engine timing to advance more than normal.*

**NOTE:** *Follow procedures outlined in engine service manual for doing step 5 and 6. BEFORE setting the timing be sure to do the following:*

- *Unplug the shift interrupter switch leads from the engine wiring harness leads.*
- *Plug engine wiring harness leads together.*
- *Install the Timing Jumper Lead.*

*Failure to do the above can cause an incorrect timing to be set on the engine.*

5. Reset repaired engine's initial timing to 1° ATDC.



**a** - Timing Mark At 1° ATDC (After Top Dead Center)

6. Check engine idle rpm. Reset idle mixture and idle rpm back to specifications if required.
7. After the engine is running, again check the alternator's voltage output to the battery. If the reading exceeds 15 volts, check the charging system. Be sure that the battery cable connections are clean and tight.
8. Apply Timing Change Decal, P/N 37-861829, in a visible location on top of the rocker arm cover.
9. Destroy the old timing specification of 1° BTDC that is on the engine specification decal that is on the flame arrestor or cover.
10. If the engine has a Closed Cooling Kit on it, make sure the thermostat that is in the engine is a 140° F (60° C). Change if necessary.

## Order

|               |  |
|---------------|--|
| P/N 27-52364  | Head Gasket  |
| P/N 27-806452 | Gasket, Cast Aluminum Rocker Arm Cover                 |
| OR            |  |
| P/N 27-851040 | Gasket, Stamped Steel Rocker Arm Cover                 |
| P/N 37-861829 | Decal, 1° ATDC   |
| P/N 807252T 1 | Thermostat, 140° F (60° C), Closed Cooling only        |
| P/N 27-33918  | Gasket, Reservoir Closed Cooling, Closed Cooling only. |

## Warranty

Fill out warranty claim and send it to your normal warranty processing center.

Warranty Code and Labor: MM51 3.1 Hours.

Old Part: USA and Canada: Return with warranty claim.

All Others: Retain for disposition by a Marine Power representative.