

Dear Sirs

After introduction of the 2008 version for the L16/24 engine we experienced unforeseen valve damage. After thorough investigation of the parts, the root cause was detected to be faulty adjustment of the valve clearance. Similar incidents have been seen on L21/31 and L27/38. The incorrect valve adjustment effects high stress on the valve bridge guides and, in the worst case, incidents with breakdown of the engine.

In 2009 an "Updated Valve Adjustment Procedure" was released in Service Letter SL09-517. The procedure was complex, time consuming and not operational for the crew. This complexity has in some cases led to incorrect adjustment of the valve clearance.

Countermeasure:

With this Service letter we now introduce a new, simplified procedure based on operational experience. The procedure is introduced in our Instruction Books, Working Card 508-01.10 (edition 14) and enclosed to this Service Letter. The valve clearance tolerances are to be found in the Instruction Book, Section 500.35, for each specific engine type.

The simplified valve adjustment procedure replaces all former processes released for the engine types stated in this Service Letter. Please remove the previous edition in your Instruction Book and replace it with the new version enclosed to this Service Letter.

If you have any questions regarding this Service Letter, please feel free to contact us via our e-mail addresses:

GenSet engines: Primeserv-technic-Hol@mandieselturbo.com

Propulsion engines: PrimeServ-frh@mandieselturbo.com

Yours faithfully

  
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Operation

Action code: IMMEDIATELY

**Valve Adjustment Procedure**

SL12-559/MIKA  
March 2012

**Concerns**

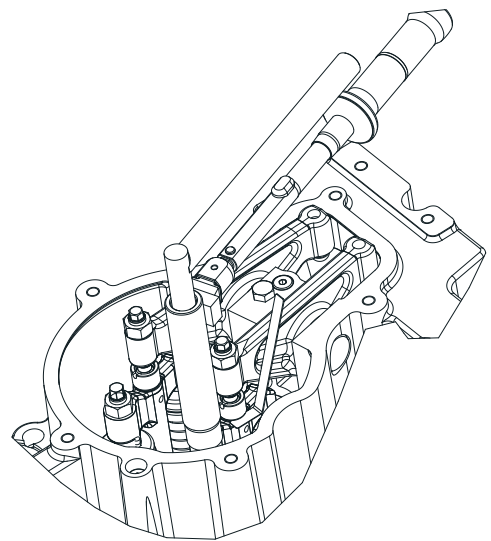
Owners and operators of MAN Diesel & Turbo four-stroke diesel engines.

Type:

GenSet L16/24, L21/31, L27/38

Propulsion L21/31, L27/38

Enclosure:  
Working Card 508-01.10 (14)



**L16/24, L21/31,  
L27/38**

**Safety precautions:**

- Stopped engine
- Shut-off starting air
- Shut-off cooling water
- Shut-off fuel oil
- Stopped lub. oil circul.
- Press Blocking - reset

**Description:**

Control and/or adjustment of inlet and exhaust valve clearance.

**Starting position:**

Cover for valve camshaft is removed.  
Cover for cylinder top is removed.

**Related procedure:**

**Manpower:**

Working time : 1½ hours  
Capacity : 1 man

**Data:**

Data for pressure and tolerance (Page 500.35)  
Data for tightening torque (Page 500.40)  
Declaration of weight (Page 500.45)

**Special tools:**

Plate no	Item no	Note
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**Hand tools:**

Socket wrench  
Feeler gauge  
Torque spanner

**Replacement and wearing parts:**

Plate no	Item no	Qty/
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See also plate 50502

**L16/24, L21/31,  
L27/38**

1. Shut-off starting air and fuel oil.
2. Stop the lubricating oil circulation.
3. Dismantle the cylinder top cover.
4. Dismantle the clamp for non-turning bridge, if mounted (L16/24).
5. Turn the crankshaft until the cylinder is in ignition TDC (both valves closed).
6. Check that the surfaces are clean.
7. Loosen the counter nut, pos. 1, and the adjusting screw, pos. 2, on the valve bridge.

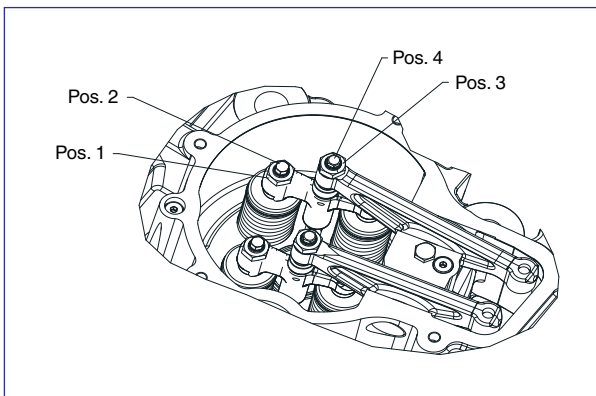


Fig. 1

8. Loosen the counter nut, pos. 3, and the adjusting screw, pos. 4, on the rocker arm and insert the feeler gauge between valve bridge and rocker arm, pos. 5.
9. Adjust the screw, pos. 4, on the rocker arm until the feeler gauge makes only slight resistance.
10. Tighten the counter nut, pos. 3, on the rocker arm with torque. Re-check that the feeler gauge clearance has not changed.

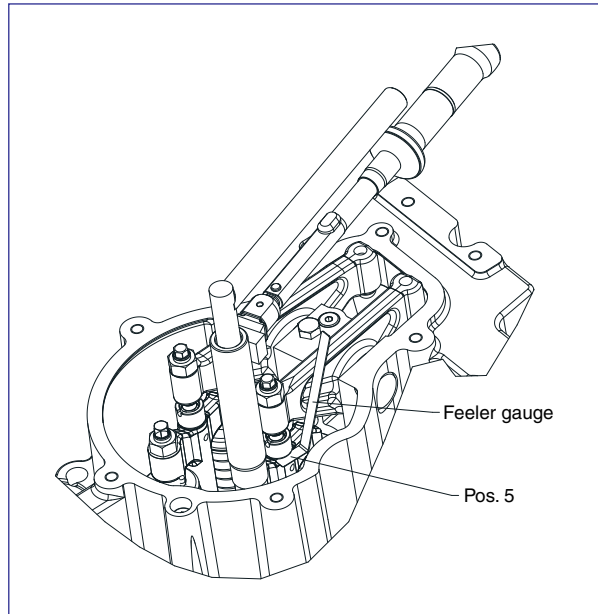


Fig. 2

11. Adjust the screw, pos. 2, on the valve bridge until the feeler gauge makes slightly more resistance, but it must still be possible to move the feeler gauge.
12. Tighten the counter nut, pos. 1, on the valve bridge with torque. Re-check that the feeler gauge clearance has not changed.

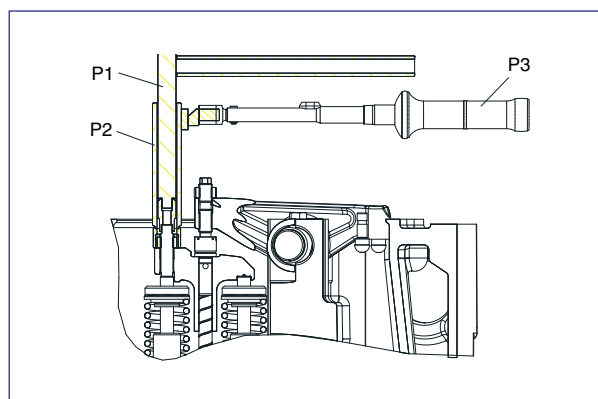


Fig. 3

**L16/24, L21/31,  
L27/38**

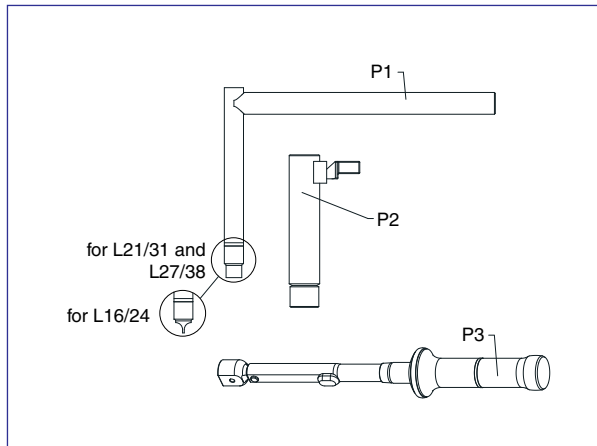


Fig. 4

13. The adjustment is completed.
14. Install the clamp for the non-turning bridge, if mounted (L16/24).
15. Install the cylinder head cover.

**Please note:**

- The engine must be cold or cooled down for at least 30 minutes.
- Ensure to have a firm stand before working on the engine.
- It is not allowed to turn during the adjustment process.
- The torque spanner must be positioned completely on the coupling.

- Attach the socket wrench straight on the hexagon nut before screwing.
- Adjust the torque correctly, see values for tightening in description 500.40.
- Tools consisting of several part, can fall into pieces.
- All bolted joints to be re-established.

**Caution:**

- Engine parts can be hot; watch out for burns.
- Slipping can cause injuries.
- Injuries such as crushing of fingers, hands or similar.
- Slipping of torque spanner or similar tools can cause injuries.
- Falling down from working position and/or hitting engine parts can cause injuries.
- Damaging of socket wrench, hexagon nut or screw can cause injuries.
- Sharp-edged feeler gauge can cause injuries.
- Be careful not to put fingers between adjusting screw and valve.
- Wrong torque can cause injuries.
- Damaged parts must not be reused.