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| **Information on adjustments** |
| **KDI 1903TCR / KDI 1903TCRE5 Workshop manual (Rev. 17.8)** |



**Registration of modifications to the document**

Any modifications to this document must be registered by the drafting body, by completing the following table.

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|  | manoff |  |  |  |  |  |

**Translated from the original manual in Italian language**

Data reported in this issue can be modified at any time by KOHLER.

Sommario

[1. TITOLO 1 2](#_Toc495648770)

[1.1. Asdfsdfsdf 2](#_Toc495648771)

[1.2. Asdfsdfsdfggg 2](#_Toc495648772)

# Information on adjustments

## 'Waste Gate' opening valve regulation

Z_importante.jpg **Important**

* Before proceeding with operation, read [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=814&parent=1545) .
* Regulation must not be carried out with the engine running.
* During the procedure in **point 5** , pay special attention not to bend rod **H** .

1. Disconnect the hose **A** from the turbocharger, and connect a pressure gauge **B** (scale from 0 to 5 bar).
2. Connect the gauge **B** to the network of compressed air, interposing a pressure reducer **C** .
3. Position dial gauge **D** in such a way that feeler **F** rests onthe Waste Gate rod control valve extremity **H** (point **E** ).
4. By using gradually the reduction gear C send the air to the Waste Gate actuator control L in order to move rod H forward by 1 mm (value M to check on dial gauge D). Pressure read on gauge B must be: 1350 mbar for engine model KDI 2504 TCR and 1250 mbar for engine model KDI 1903 TCR.
5. If pressure is less or more than the indicated value, proceed as follows: - Undo lock nut G from rod H.

- Remove the retainer cotter pin (point **E** ) and disconnect rod **H** from the Waste Gate control lever.  
- Tighten (to increase) / or loosen (to decrease) pressure of the ring nut of rod **H** until reaching the corrected calibration.  
- Redo lock nut **G** .  
- Reconnect rod **H** and assemble the cotter pin point **E** .

 **Fig 12.1**

## Air filter check

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| Z_importante.jpg  **Important**       * Before proceeding with operation, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=283&parent=1136) . * When the cartridge **G** is dirty, do not clean it but replace cartridges **B and G** . |  |
| 1. All manifolds connected to the turbo must be fully clean and not damaged. 2. Clean the inside components **A and D** with a damp cloth. 3. **Do not use compressed air** , repeatedly tap the front side **E** on a flat surface. | 12.2.png **Fig 12.2** |

## Oil steam separator check

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| Z_importante.jpg  **Important**       * Before proceeding with operation, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/man/jsp/Template2/manuale.jsp?id=198&parent=1000uale.jsp?id=283&parent=1136) . |  |
| 1. Loosen clamp **B** and remove hose **C** from hose **D** . 2. Start the engine at idle speed or without a load; check if air comes out of hose **C** .     **NOTE:** If what is described in **Point 2** does not occur, proceed with cleaning or replacing oil separator **A** and accurately clean support flange **F** , all connecting hoses, and repeat the operation from P **oint 2.** | 12.3.png **Fig 12.3** |

## Rubber hoses and manifolds check

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| Z_importante.jpg  **Important**       * Before proceeding with operation, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=198&parent=1000) . |  |
| The check is carried out by applying slight deflection or bending along the tube/hose and next to the hose clamps.   Components must be replaced if they have clear signs of cracks, tears, cuts, leaks, or do not retain a certain degree of elasticity.   1. Check the condition of all rubber hoses **A** . 2. Check whether there are any leakages of air, refrigerant, oil or fuel next to their connections. | 12.4.png **Fig 12.4**12.5.png **Fig 12.5** |

## Oil leak check

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| Z_importante.jpg  **Important**       * Before proceeding with operation, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=198&parent=1000) . |  |
| Check that there are no leakages next to area **A** .   1. Start the engine at idle speed or without a load and check whether there are any leakages next to area  **A.** 2. It is anyhow necessary to also check the seals of all main components and their surface contact, such as: - crankcase and gasket (side 1 a PTO) - oil sump and exhaust caps     - cylinder head and its assembled components    - rocker arm cover    - Timing system carter and gasket (side 2 a PTO) - oil dipstick housing or rod support tube.      **NOTE:** Perform the checks described in **Points 1 and 2** periodically and during maintenance procedures. It is also necessary to check for leakages on the components that are not listed.  If necessary, disassemble the components that have a leakage and investigate the possible cause.    The components must be replaced otherwise they do notguarantee their sealing. | 12.6.png **Fig 12.6**12.7.png **Fig 12.7** |

## Oil pressure check

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| Z_importante.jpg  **Important**       * Before proceeding with operation, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=198&parent=1000) . | |
| 1. Insert a thermocouple instead of the oil dipstick **A** .      1. Unscrew and remove the oil pressure switch and screw on a 10 bar pressure gauge in its seat **(Fig. 12.10)** .      1. Start the engine at idle speed and without a load, check the oil pressure value according to the oil temperature **(Fig. 12.9** ).   **NOTE** : The graph in **Fig. 12.9** illustrates the pressure line with speed of 1000 Rpm.   1. If the pressure values are below the values indicated in **Fig. 12.9** , check to identify the cause of the problem.   12.9.png  **Fig. 12.9** | 12.8.png  **Fig. 12.8**  12.10.png  **Fig. 12.10** |

