|  |
| --- |
| **Information for replacing the functional units** |
| **KDI 1903 M Workshop manual (Rev. 09.6)** |



**Registration of modifications to the document**

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Released by** | **Code** | **Revision** | **Release Date** | **Revision date** | **Edited by** | **Endorsed** |
| Technical Documentation | ED005302-960 | 9.6 | 04/2013 | 03/2023 | M. SILVESTRONE | V. MANINI |

**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 for replacing the functional units

## Injectors and injection pump replacement

|  |  |
| --- | --- |
| 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) . * Replace the high pressure pipes after two disassemblies. * Always replace the gaskets after each disassembly. * Handle the components as described in [**Par. 2.17**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=279&parent=1136&txts=2.18) . * Please referring to [**Par. 2.9.7**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=269&parent=1136) in order to see the operating references during disassemble and assemble procedures. * When repaired, **RSN-A** injectors must be certified by a Stanadyne centre to check their correct operation - check the type of engine mounted injectors on the spare parts list ( **RSN-A** is specified in the description). | Fig._6.1.jpg **Fig 6.1** |
| **6.1.1injection fuel pump disassembly (injection pump/injectors)**   1. Undo the screws **A** and remove plate **B** . 2. Remove the retainers **C** for the hoses **D** . | Fig._6.2.jpg **Fig 6.2** |
| 1. Undo the nuts **F** . 2. Undo the nuts **E.** 3. Remove the tube **D** . | Fig._6.3.jpg **Fig 6.3** |
| **6.1.2 Rocker arms cover disassembly**   1. Loosen clamp **G** and disconnect hose **H** 2. Undo the screws **L** and remove the rocker arm cap **C** . | Fig._6.4.jpg **Fig 6.4** |
| **6.1.3 Fuel return pipes disassembly**   1. Undo the screws **M** and remove hose **N** . | Fig._6.5.jpg **Fig 6.5** |
| **6.1.4 Injectors disassembly**     1. Undo the screw **P** and remove washer **Q** and bracket **R** . 2. Remove the injector **Z** .   **NOTE** : Should you be unable to remove the injector (acting only on point **BC** ), use an open-ended spanner (11 mm), by applying small rotations to unblock the component.   1. Seal all injection component unions as illustrated in [**Par. 2.9.7**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=269&parent=1136) .   **NOTE** : If the washer **S** is not found on the injector **Z** , recover it from inside the sleeve **V** . | Fig._6.6.jpg  **Fig 6.6**  Fig._6.7.jpg **Fig 6.7** |
| **6.1.5 Injection pump disassembly**    Z_importante.jpg **Important**       * Before proceeding with the disassembly, identify the pump code from its identifying name plate (Pos. 12 - [**Tab. 2.12**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=269&parent=1136) ). * Alternatively, you can identify the pump from the online spare parts catalogue ( [**https://partners.lombardini.it/App/SparepartCatalogue/Default/Catalogue.aspx**](https://partners.lombardini.it/App/SparepartCatalogue/Default/Catalogue.aspx) ).  1. Insert the tool [**ST\_30**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) into the injector N°1 and fix it with the fixing brace **R** of the injector, capscrew **P** and washer **Q** .   **NOTE** : Do not tighten the capscrew **P.**   1. Disassemble the starter motor. 2. Mount the tool [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) in the seat of the starter motor **Y** and fit it with the two starter motor fixing screws. 3. Rotate the crankshaft clockwise [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) tool bringing reference **X** upwards. **NOTE:** During the positioning phase of reference **X** , check that cylinder N° 1 is in compression phase (intake and exhaust valves of cylinder N° 1 must be in closing position).   Fig._6.10.jpg  **Fig 6.10**  **Tab. 6.1**   |  |  |  | | --- | --- | --- | | **PUMP CODE** | **PISTON LOWERING (mm)** | **ADVANCE**  **α** | | ED0065900040-S | 1,695 | 13° | | ED0065900060-S | 3,591 | 19° | | ED0065900310-S | 0,815 | 9° | | ED0065905050-S | 1,695 | 13° | | ED0065905110-S | 1,963 | 14° | | ED0065905150-S | 1,695 | 13° | | ED0065905160-S | 1,695 | 13° | | ED0065905170-S | 1,695 | 13° | | ED0065905180-S | 1,695 | 13° | | ED0065905350-S | 1,963 | 14° | | ED0065905380-S | 3,228 | 18° | | ED0065905410-S | 2,558 | 16° | | ED0065905470-S | 1,695 | 13° | | ED0065905500-S | 1,695 | 13° | | ED0065905510-S | 1,695 | 13° | | ED0065905540-S | 1,006 | 10° | | ED0065905640-S | 1,695 | 13° | | ED0065905650-S | 1,695 | 13° | | ED0065905660-S | 1,695 | 13° | | ED0065905670-S | 1,695 | 13° | | ED0065905680-S | 1,695 | 13° | | ED0065905760-S | 1,695 | 13° | | ED0065905790-S | 2,558 | 16° | | ED0065905970-S | 0,815 | 9° | | ED0065905980-S | 1,216 | 11° | | Fig._6.8.jpg  **Fig 6.8**  ST_34.jpg  **Fig 6.9** |
| 5.  With reference **X** pointed upwards, find the TDC through tool  [**ST\_30**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) **,** then bring the dial gauge indicator to 0 **.**  6.  Having identified the value to lower the piston, rotate the crankshaft anti-clockwise by going beyond the value described in **Tab. 6.1** , once again, rotate the crankshaft clockwise, stopping at the correct advance value by using tool [**ST\_30**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136)  7.  Lock the [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) tool through **J** screws and ensure that the crankshaft does not rotate, which would alter the correct advance value. If this happens, repeat the instructions described in points **4, 5, 6, 7 and 8.**  **NOTE:** The value indicated in **Tab. 6.1** must be reached by rotating the shaft with the piston in compression phase. Use the  [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) tool to totate the crankshaft. | Fig._6.11.jpg  **Fig 6.11**  Fig._6.12.jpg  **Fig 6.12** |
| 8.  Lock the [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) tool through **J** screws and ensure that the crankshaft does not rotate, which would alter the correct advance value. If this happens, repeat the instructions described in points **4, 5, 6, 7 and 8** .  9.  Undo the screws **AC** and remove the oil filling flange **AD** .  10.  Undo and remove the nut **AN** fixing the injection pump control gear **AE** .   11.  Undo the capscrew **K** and shift the slotted plate **AB** in the direction of arrow **AA** .   12.  Tighten screw **K** to block the pump (tightening torque to **12** **Nm** ).    Z_importante.jpg **Important**       * After removing the nut AN, ensure that the correct advance value has remained unchanged on [**ST\_30**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) . * Be careful that the nut AN does not fall into the timing cover.     13. Screw the tool [**ST\_04**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) on the gear AE.    14. Loosen the screws **AF** . | Fig._6.13.jpg  **Fig 6.13**  Fig._6.14.jpg  **Fig 6.14** |
| 15.  Tighten the screw of tool [**ST\_04**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) to disconnect the injection pump **AG** from the high pressure pump control gear **AE** .   16.  Undo the screws **AF** and extract the injection pump **AG** .   17.  Undo and remove the tool [**ST\_04**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) . | Fig._6.15.jpg  **Fig 6.15** |
| **NOTE** : Click on the right to play the procedure. | <https://www.youtube.com/embed/zqY-GFl8lG0?rel=0> |
| **6.1.6 Injection pump assembly**  **Warning**   * Before assembling the new pump **AG** , make sure that plate **AB** can move freely and that fastening capscrews **K** are not loose (the pump sold as a spare part is supplied with the cylinder injection timing blocked  **N°** **1** ). * Ensure that the coupling surfaces on shaft  **AP** and gear  **AE** are free from impurities and lubrication residues. * Remove the guard cap only when the pipes are reconnected. * Do not remove the tool [**ST\_30**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) .    1.  Mount the injection pump **AG** , inserting the shaft **AP** in the gear **AE** .    Z_importante.jpg **Important**       * Always change screws **AF** with new ones or apply **Loctite** **270** to the threads.    2.  Clamp the screws **AF** on the crankcase **AH** (tightening torque at **25 Nm** ).   3.  Ensure that the correct advance value has remained unchanged, tighten nut **AN** on shaft **AP** (as shown in **Fig.** **6.17,** is allowed the aid of a screwdriver to guide the nut **AN** on the shaft **AP** in order to avoid the fall of it into the timing cover **AQ** - tightening torque at **70 Nm** ). | Fig._6.16.jpg  **Fig 6.16**  6.17.png  **Fig. 6.17** |
| 4.  Undo the capscrew **K** and shift the slotted plate **AB** in the direction of arrow **AA** .  5.  Tighten screw **K** (tightening torque to **5.5 Nm** ). The injection pump is unlocked.  6.  Remove the tool [**ST\_30**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) and [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) . | Fig._6.18.jpg  **Fig 6.18** |
| **NOTE** : Always replace the gasket **AJ** after each assembly.   7.  Position the gasket **AJ** in the set on the flange **AD** .  8.  Fix the flange **AD** on the crankcase **AQ** with the screws **AC** (tightening torque at **10** **Nm** ). | Fig._6.19.jpg  **Fig 6.19** |
| **NOTE** : Click on the right to play the procedure. | <https://www.youtube.com/embed/RJLCkTqlczU?rel=0> |
| **6.1.7 Injector assembly**    Z_importante.jpg **Important**     * To prevent damaging the injection system, the protection caps ( [**Par. 2.9.7**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=269&parent=1136) ) must be removed during assembly.  1. Lubricate the gaskets **U, T, S** and fit them on the injector **Z.** | Fig._6.20.jpg  **Fig 6.20** |
| 2. Fit the injector **Z** in the sleeve **V** . | Fig._6.21.jpg  **Fig 6.21** |
| 3.  Assemble the parts **P, Q, R** and fit the parts so assembled on the injector **Z** . | Fig._6.22.jpg  **Fig 6.22** |
| 4. Insert tool [**ST\_51**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) on the injectors junctions **Z** (detail **X1** ).  5. Tighten the screw **P** (tightening torque to **20 Nm** ) | INIETTORI.jpg  **Fig 6.23** |
| **NOTE** : Click on the right to play the procedure. | <https://www.youtube.com/embed/Kcv-_3Edask?rel=0> |
| **6.1.8 Assembly of the injector return pipes**   1. Position the tube **N** on the injectors **Z** , and tighten screws **M** (tightening torque to **14 Nm** ). | Fig._6.24.jpg  **Fig 6.24** |
| **6.1.9 Assembly Rocker arm cover**    Z_importante.jpg **Important**       * The gasket **AM** between the rocker arm cover and the cylinder head must always be replaced every time it is disassembled.  1. Position the two guide pins [**ST\_17**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) before mounting the rocker arm cover. 2. Position the gasket **AM** on the head **AL** respecting the fastening screw holes **L** . 3. Attach the rocker arm cover C on the head AL with the screw L adhering to the tightening sequence shown in **F** **ig. 6.27 (KDI 1903 M) or Fig. 6.28 (KDI 2504 M)** (tightening torque to **10 Nm** ). 4. Connect pipe **H** and tighten the clamp **G** .     Z_importante.jpg **Important**       * Always replace the gaskets **AK** after each disassembly ( [**ST\_36**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) ). | Fig._6.25.jpg  **Fig 6.25**  Fig._6.26.jpg  **Fig 6.26**  Fig._6.27.jpg  **Fig 6.27**  Fig._6.28.jpg  **Fig 6.28** |
| **6.1.10 Installation of the fuel injector pipes (pump injector/injectors)**   1. Position pipes **D** on the injectors and on the injector pump.     Z_importante.jpg **Important**       * Tighten the nuts **E and F** manually, without clamping them.    2.  Tighten the nuts **E** ed **F** (tightening torque at **25 Nm** ).  3.  Reinstall the retainers **C** of the hoses **D** .  4.  Fix the plate **B** by using screws **A** (tightening torque to **10 Nm** ). | Fig._6.29.jpg  **Fig 6.29**  Fig._6.30.jpg  **Fig 6.30** |

## Coolant pump replacement

|  |  |
| --- | --- |
| **6.2.1 Disassembly**   1. Perform the operations described in [**Par. 5.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=289&parent=1136) .     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) . * The pump **G** isn't repairable.    2.  Loosen the screws **A and B.**  3.  Push the alternator **C** in the direction of the arrow **D** and remove the belt **E** .  4.  Loosen the screws **F** and remove the pump **G** and relative gasket **H** . | Fig._6.31.jpg **Fig 6.31**Fig._6.32.jpg **Fig 6.32** |
| **6.2.2 Assembly**    Z_importante.jpg **Important**         * Always replace the gaskets **H** , after each disassembly. * Always replace the belt **E** after each assembly.  1. Fit the coolant pump **G** with the screws **F**  interposing the new gasket **H** (tightening torque at **25 Nm** ). | Fig._6.33_M.jpg **Fig 6.33** |
| 1. Insert the belt **E** on the pulleys **L** . 2. Push the alternator **C** in the direction of the arrow **D** . 3. While tensioning the alternator **C** , first clamp screw **A** (tightening torque at **25 Nm** ) and then screw **B** (tightening torque at **69 Nm [thread M10] - 40 Nm** **[thread M8]** ). 4. Check the tension of the belt **E** with the instrument ( **DENSO BTG-2** ), positioning it in point **p** (the tension must be between **200 and 230 N** ) 5. If the tension values do not correspond, tighten screws **A** **and B** , then repeat operations **3, 4 and 5** . | Fig._6.34.jpg  **Fig 6.34** |

## Replace the crankshaft pulley

|  |  |
| --- | --- |
| **6.3.1 Disassembly**    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) .   **NOTE:** Perform the operations described in [**Par. 6.1.5 steps 2 and 3**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=291&parent=1136) .   1. Position the crankshaft with the 1st cylinder in TDC, reference **A** . 2. Remove the alternator belt following steps **2 and 3 (** [**Par. 6.2.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=292&parent=1136) **)** . | Fig._6.35.jpg **Fig 6.35** |
| 1. Undo the screw **P** (clockwise) and remove the pulley **Q** . | Fig._6.36.jpg **Fig 6.36** |
| **6.3.2 Assembly**   1. Check that the pin **U** is mounted properly on the crankshaft  **V** . 2. Insert the pulley **Q** on crankshaft  **V** respecting the reference of the pin **U** . 3. Apply **Molyslip** grease on the screw thread **P** . 4. Fit the pulley **Q** with the screw **P** (tightening torque **360 Nm** ) and remove the tool [**ST\_34**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) . | Fig._6.37.jpg **Fig 6.37** |

## Oil pump replacement

|  |  |
| --- | --- |
| Z_importante.jpg  **Important**       * Before proceeding with operations, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=283&parent=1136) . * The oil pump is not repairable. |  |
| **6.4.1 Coolant pump disassembly**   1. Perform the operations described in [**Par 6.2.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=292&parent=1136) . |  |
| **6.4.2 Engine pulley disassembly**   1. Perform the operations described in [**Par 6.3.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=337&parent=1136) . |  |
| **6.4.3 Timing system crankcase disassembly**    Z_importante.jpg **Important**       * Perform the operations described in [**Par. 5.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=290&parent=1136) **.**  1. Make sure that the reference pin **A** is facing upwards. 2. Undo the screws **B** and remove the timing system crankcase **C** . | Fig._6.38.jpg **Fig 6.38** |
| **6.4.4 Oil pump disassembly**   1. Undo the screws **D** and remove the group pump **E** from the timing system crankcase **C** . 2. Remove the rotors **F and G** from the oil pump crankcase **E** . | Fig._6.39.jpg **Fig 6.39**  Fig._6.40.jpg  **Fig 6.40** |
| **6.4.5 Oil pump assembly**    Z_importante.jpg **Important**       * Carry out the checks described in [**Par. 8.7**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=317&parent=1136) prior to assembly.  1. Check that all surfaces in contact between **F, G, H, E and C** are free from impurities - scratches - dents. 2. When assembling, do not use any type of gasket between **E and C.** 3. Thoroughly lubricate the seat of the rotors **H** on the oil pump crankcase E and the two rotors **F and G.** 4. Within housing **H** insert the 2 rotors (in sequence) **G and F** , observing the references **BP** as described in figure (or refer to [**Par. 2.10.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=271&parent=1136) ). 5. Check that the 2 pins **L** are inserted properly in the timing system crankcase **C** . 6. Position the oil pump carter **E** using the reference pins **L.** 7. Clamp the oil pump carter **E** with the screws **D** (tightening torque **10 Nm** - [**ST\_06**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) ). | Fig._6.41_M.jpg   **Fig 6.41**Fig._6.42.jpg **Fig 6.42** |
| **6.4.6 Timing system crankcase assembly**    Z_importante.jpg **Important**       * Always replace the oil seal **J** after each assembly. * Always replace the gasket **P** after each assembly. * To prepare the surface of the **K** plane for the new application of the sealant, it must be cleaned through the use of: - initially **Loctite SF 7200** - subsequently **Loctite SF 7063** Avoid any contact with the **K** plane and be careful not to compromise the cleaning performed.      1. Lubricate the lip of the oil seal **J** . 2. Distribute a bead of **Loctite 5188** , about 1mm thick, on the surfaces **K** of the crankcase **C** . 3. Make sure that the key **M (Fig. 6.44)** is inserted properly on the crankshaft and that it is facing upwards. 4. Check that the 2 pins **N** are inserted properly in the timing system crankcase **C** . | Fig._6.43.jpg **Fig 6.43** |
| 1. Lubricate and insert the gasket **P** in the seat of the oil pump **Q** . 2. Tighten the tool [**ST\_10**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=339&parent=1136) on the crankshaft. 3. Position the crankcase **C** on the base, using the reference pins **M** , inserting the oil pump **Q** on the crankshaft. | Fig._6.44_M.jpg   **Fig 6.44** |
| 1. Fit the timing system crankcase **C** with the screws **R** observing the indicated clamping sequence (tightening torque at **25 Nm** ). | Fig._6.45.jpg **Fig 6.45** |
| **6.4.7** **Crankshaft pulley assembly**   1. Perform the operations described in [**Par 6.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=337&parent=1136) . |  |
| **6.4.8 Coolant pump assembly**   1. Perform the operations described in [**Par 6.2.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=292&parent=1136) . |  |

## Oil pressure valve replacement

|  |  |
| --- | --- |
| **6.5.1 Disassembly**    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) .  1. Undo the cap **A** . 2. From the crankcase **D** , remove the spring **B.** 3. Remove the valve piston **C** using a magnet. | Fig._6.46.jpg **Fig 6.46** |
| **6.5.2 Assembly**    Z_importante.jpg  **Important**       * Carry out the checks described in [**Par. 8.7.3**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=317&parent=1136) prior to assembly. * Always replace the gasket **F** after each assembly.  1. Lubricate the piston **C** and fully insert it in the seat **E** . 2. Insert the spring **B** in the piston. 3. Mount the gasket **F** on cap **A.** 4. Clamp the cap **A** on the crankcase **D** (tightening torque at **50 Nm** ). | Fig._6.47.jpg **Fig 6.47** |

## Oil filter replacement

|  |  |
| --- | --- |
| **6.6.1 Disassembly**  **Important**   * Before proceeding with operation, read  [**Par. 3.3.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=283&parent=1136) . * Perform the operations described in [**Par. 5.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=290&parent=1136) .  1. Unscrew the cartridge **A.** | Fig._6.48.jpg **Fig 6.48** |
| **6.6.2 Assembly**  **Important** • In the event of mounting the fitting **U** on the crankcase **S** (tightening torque at **1** **5 Nm + Loctite 2701** ).   1. Check that the surface **Q** on crankcase **S** are free from impurities. 2. Screw the cartridge **A** on the fitting **U** (tightening torque at **15 Nm** ). | Fig._6.49.jpg **Fig 6.49** |

## Fuel filter replacement

|  |  |
| --- | --- |
| 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)     Z_Avvertenza.jpg    **Warning**       * In case of low use replace il 12 months.  1. Procure a suitable container to collect the fuel. 2. Rotate the filter **A** to take it to the unlocked position and remove it. 3. Lubricate the gasket **C** . Assemble the filter **A** on the support **B** and rotate it until reaches the lock position.     Z_importante.jpg **Important**     * Do not fill the new cartridge **A** with fuel.  1. Turn the key on the control panel to the **ON** position. The electric pump **D** sends fuel to the filter and then the injection pump **E** . 2. Loosen the air bleeding screw **F** on fuel filter bracket **B** . The air inside the circuit and the filter will begin to escape from the screw **G** . 3. Tighten the bleeding screw **F** (tightening torque of **1.5 Nm** ) when the fuel begins to flow. | 6.8.jpg **Fig 6.50**6.9.jpg **Fig 6.51** |
| Z_Avvertenza.jpg **Warning**       * Check that the fuel supply pump filter is present, and replace if necessary.  1. Release the clamp **D** . 2. Demount the hose **E** . 3. Unscrew the filter **G** from the pump **Q** . | CAP_6_Prefiltro_FACET_01.png |
| 1. Screw the new filter **G** onto the pump **Q** (tightening torque **20 Nm** ). 2. Connect the hose **E** to the filter **G** and fasten with the clamp **D** . | CAP_6_Prefiltro_FACET_02.png |
| **NOTE:** Click on the icon to play the procedure. | <https://www.youtube.com/embed/meko2s8_-U0?rel=0> |

