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| **Storage information** |
| **KDI 1903TCR / KDI 1903TCRE5 Workshop manual (Rev. 17.7)** |



Sommario

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# Storage information

## Product preservation

   **Important**

* If the engines are not to be used for 6 months, they must be protected by carrying out the operations described in Engine storage (up to 6 months) [**(Par. 4.2)**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=117&parent=1000) .
* If the engine is still not in use after the first 6 months, it is necessary to carry out a further procedure to extend the protection period (more than 6 months) [**(Par. 4.3)**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=118&parent=1000) .
* If the engine is not to be used for an extended period, the protective treatment procedure must be repeated within 24 months of the previous one.

## Engine storage (up to 6 months)

**Before storing the engine check that:**

* The environments are not humid or exposed to bad weather. Cover the engine with a proper protective sheet against dampness and atmospheric contaminants.
* The place is not near electric panel.
* Avoid storing the engine in direct contact with the ground.

## Engine storage (over 6 months)

**Follow the steps described in Par. 4.2.**

1. Pour protective oil in the carter up to the MAX level.
2. Refuel with fuel additives for long storage.The following additives are recommended: DEFA Fluid Plus (Pakelo Lubricants),

Diesel Treatment (Green Star),

Top Diesel (Bardhal),

STP® Diesel Fuel Injector Treatment.

1. With expansion tank:
make sure that the coolant is up to the **maximum** level.
2. Without expansion tank: Top liquid up until the pipes inside the radiator are covered by about 5 mm.

Do not overfill the radiator, but leave room for the fuel to expand.

1. Start the engine and run it at idle speed for around 2 minutes.
2. Bring the engine to 75% of **maximum** rated speed for 5 to 10 minutes.
3. Turn off the engine.
4. Empty out completely the fuel tank.
5. Spray SAE 10W-40 on the exhaust and intake manifolds.
6. Seal the exhaust and intake ducts to prevent foreign bodies from entering.
7. When cleaning the engine, if using a pressure washer or steam cleaning device, avoid directing the nozzle on electrical components, cable connections and sealed rings (oil seals etc).
If cleaning engine with a pressure washer or steam cleaner, it is important to maintain a minimum distance of at least 200mm between the surface to be washed and the nozzle - avoiding absolutely electrical components such as alternators, starter motors and engine control units (ECU).
8. Treat non-painted parts with protective products.
9. Loosen the alternator belt  [**Par. 7.3 point 1 and 2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=136&parent=1000)

**NOTA:** For Poly-V belt [**Par. 11.3 from points 1 to 3**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=178&parent=1000) .

If the engine protection is performed according to the suggestions indicated no corrosion damage will be found.

## Engine starting after storage

1. Remove the protective sheet.
2. Use a cloth soaked in degreasing product to remove the protective treatment from the external parts.
3. Inject lubricating oil (no more than 2 cm3) into the intake ducts.
4. Adjust the alternator belt tension ( [**Par. 9.15.2 from points 7 to 10**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=171&parent=1000) ) - for a Poly-V belt ( [**Par. 11.3 from point 5 to 8**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=178&parent=1000) )or replace if there are signs of deterioration.
5. Refill the tank with fresh fuel.

 **Warning**

* Over time, lubricants and filters lose their properties, so itis important to consider whether they need replacing, also based on the criteria described in [**Tab. 2.9**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=102&parent=1000) .

1. Make sure that the oil and the coolant are up to the **maximum** level.
2. Start the engine and run it at idle speed for around 2 minutes.
3. Bring the engine to 75% of **maximum** rated speed for 5 to 10 minutes.
4. Stop the engine and while the oil still hot, perform the operation in [**Par. 5.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=121&parent=1000) .
5. Replace the filters (air, oil, fuel) with original spare parts.
6. Perform the operations described in [**Par. 10.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=174&parent=1000) .
7. Perform the operations described in  [**Par. 5.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=120&parent=1000) and [**Par. 10.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=175&parent=1000) .

