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| **Storage information** |
| **KDI 1903 M Workshop manual (Rev\_09.6)** |



Sommario

[1. TITOLO 1 2](#_Toc495648770)

[1.1. Asdfsdfsdf 2](#_Toc495648771)

[1.2. Asdfsdfsdfggg 2](#_Toc495648772)

# 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=262&parent=1136) .
* 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/Template2/manuale.jsp?id=263&parent=1136) .
* 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.**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=262&parent=1136)

1. Pour protective oil in the carter up to the **MAX** level.
2. Refuel with fuel additives for long storage.
3. With expansion tank:
make sure that the coolant is up to the **maximum** level.
4. 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 forr 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 x10W-40 on the exhaust and intake manifolds.
6. Seal the exhaust and intake ducts to prevent foreign bodies from entering.
7. Thoroughly clean all external parts of the engine. 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. 7.2.3 point 1 and 2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=298&parent=1136)

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. 9.14.2 from points 7 to 10**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=331&parent=1136) ) 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 it is important to consider whether they need replacing, also based on the criteria described in [**Tab. 2.7 - 2.8**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=270&parent=1136) .

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=290&parent=1136) .
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=333&parent=1136) .
7. Perform the operations described in  [**Par. 5.1**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=289&parent=1136) and [**Par. 10.2**](https://iservice.lombardini.it/jsp/Template2/manuale.jsp?id=334&parent=1136) .

