



Mandatory Service Bulletin
No. MSB-E4-004/1

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MANDATORY SERVICE BULLETIN

No. MSB-E4-004/1

1. BASIC INFORMATION

1.1. SUBJECT

Long term conservation of E4 Engine.

1.2. ENGINES AFFECTED

Type: E4 series

Serial numbers: all

1.3. REASON

If the E4 engine needs to be stored for a longer period, special preservation procedures are required.

For initial preservation of your engine ex works refer to the engine log (typically 36 months).

1.4. TIME OF COMPLIANCE

This MSB must be accomplished if the storage time of an uninstalled E4 engine exceeds the limits of the initial ex works preservation or if an installed engine cannot be operated according to the time limits as defined in the applicable Operation Manual.

1.5. CONCURRENT DOCUMENTS / REFERENCES

E4 Operation Manual - Doc. No.: E4.01.01, latest effective issue.

E4P Operation Manual - Doc. No.: E4.01.02, latest effective issue

Maintenance Manual - Doc. No.: E4.08.04, latest effective issue.

1.6. OTHER PUBLICATIONS AFFECTED

None.

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2. TECHNICAL DETAILS

2.1. ACCOMPLISHMENT / INSTRUCTIONS



Only use the latest revisions of the related documents listed in chapter 1.5 for complying with the following instructions.

2.1.1. STORAGE OF AN UNINSTALLED ENGINE

For an uninstalled engine the following storage conditions apply:

- Maintain the engine in its wooden shipping box.
- The temperature during storage shall not decrease below -30°C (-22°F).
- The engine shall be stored in a dry environment. Relative humidity shall not exceed 70%.
- The engine shall be protected from excessive moisture, splash water or rain.

The duration for storage after initial preservation of the engine ex works is stated in the engine log. In case this period is exceeded, contact Austro Engine GmbH for further instructions.

2.1.2. STORAGE OF AN ALREADY INSTALLED ENGINE

The following steps have to be conducted prior storage of an already installed engine up to 6 months is intended:



For standstill periods up to 2-4 weeks refer to section 4 of the referring Operation Manual.

I. Engine oil:

- Exchange engine oil and oil filter in accordance with the E4 Maintenance Manual E4.08.04
- Add a volatile corrosion inhibitor (VCI) lubricating liquid as a concentrate (e.g. FUCHS ANTICORIT VCI UNI O 40) to the new engine oil.



Refer to the product data sheet for the determination of the appropriate quantity. The volume, which needs to be protected, is 10 liters or 0.01 cubic meters.

II. Coolant:

- Check and if necessary correct the coolant level – refer to Aircraft Flight Manual.
- Verify that freezing point of the coolant is at or below -30°C .

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III. Engine ground run:

- Warm up the engine according E4 Operation Manual E4.01.01 or E4P Operation Manual E4.01.02
- 100% load until 100 °C (212 °F) oil temperature.
- 1 minute 100% load.
- 1 minute idle power.
- Shut down.

IV. Combustion Chamber conservation:

- Remove the injectors or the glow plugs according to E4 Maintenance Manual E4.08.04.
- Fill a volatile corrosion inhibitor (VCI) lubricating liquid as a concentrate (e.g. FUCHS ANTICORIT VCI UNI O 40) into each cylinder.



Refer to the product data sheet for the determination of the appropriate quantity. The volume per cylinder, which needs to be protected, is 0.5 liters or 0.0005 cubic meters.

- Disconnect the EECU to avoid failure entries at the starting procedure.
- Install the injectors or the glow plugs according to E4 Maintenance Manual E4.08.04.

V. Relieve V-belt tension:

- Refer to Maintenance Manual E4.08.04 to perform steps 1 and 2 of chapter "Removal of the V-Ribbed Belt".

VI. Close all engine openings airproof.

The engine can thereafter be stored either installed or uninstalled.



For de-preservation of the engine refer to E4 Operation Manual E4.01.01 or E4P Operation Manual E4.01.02.



In case the storage period of 6 months is exceeded, contact Austro Engine GmbH for further instructions.

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2.2. ILLUSTRATIONS

None.

2.3. MASS (WEIGHT)

Not affected.

2.4. APPROVAL STATEMENT

The technical content of this document has been approved under the authority of DOA No. EASA.21J.399.

3. PLANNING INFORMATION

3.1. MATERIAL & AVAILABILITY

- For approved engine oils refer to latest effective issue of E4 Operation Manual E4.01.01 or E4P Operation Manual E4.01.02, qty. as required.
- Additive for engine preservation:
 - Volatile corrosion inhibitor (VCI) lubricating liquid as a concentrate, qty. as required
- Material for oil filter change:
 - 1 engine oil filter E4A-52-100-802
 - 1 sealing ring E4A-52-100-804
 - 1 sealing ring E4A-52-100-805
- For approved engine coolant refer to latest effective issue of E4 Operation Manual E4.01.01 or E4P Operation Manual E4.01.02, qty. as required.
- Material for injector exchange:
 - 4 injector sealing rings E4A-03-000-801
 - 4 anti-fatigue screws E4A-03-00-802
 - Injector grease A 001 989 42 51 10, qty. as required

3.2. SPECIAL TOOLS

- Slip puller No. AE300T020 for the injectors, if necessary.
- Injector seat brush No. AE300T026, if necessary.

3.3. LABOR EFFORT

Approximately 2 hours.

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4. REMARKS

NOTE:

- All measures must be carried out by a certified engine station and certified engine mechanics.
- The accomplishment of the instructions shown under chapter 2.1 must be confirmed in the respective engine log book.
- The accomplishment of the instructions must be carried out within the time of compliance according chapter 1.4.
- In case of doubt please contact the Austro Engine GmbH – After Sales Support (e-mail: service@austroengine.at; Tel: +43 2622 23000 2525).
- For credit information contact Austro Engine GmbH – After Sales Support (e-mail: service@austroengine.at; Tel: +43 2622 23000 2525)

5. EXPLANATORY NOTES

5.1. SYMBOL EXPLANATION



WARNING: Disregarding these safety rules can cause personal injury or even death



CAUTION: Disregarding these special instructions and safety measures can cause damage to the engine or other components.



NOTE: Additional note or instruction for better understanding of an instruction

6. APPENDIX

None.

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