AG-SB-2016-01-B-EN – Replacement Expansion Tank MTOsport Category B

EFFECTIVE DATE

16.02.2016

SUPERSEDES/REPLACES

N/A (initial issue)

APPLICABILITY

MTOsport serial numbers from M01152 up to including M01335.

MTOsports, which are retrofitted with the water tank II (see figure 3 in chapter ***Compliance Procedure***).

COMPLIANCE

To be performed with the next maintenance or at latest within the next 10 operating hours.

BACKGROUND

In few cases fatigues in composite expansion tanks occurred by high thermal load. These fatigues may result in loss of engine coolant.
Furthermore, relocation of coolant system bleeder port for higher reliability.

RISK OF NEGLECT

Failure to comply with this instruction/information will result in:

- Possible damage to the aircraft
- Loss of related warranty.

SCOPE OF WORK

- Replacement of the composite expansion tank with the aluminium tank
- Relocation of the coolant system bleeder port (only for the configuration state with one radiator at the rear of the engine).

AFFECTED AREAS

N/A

SPECIAL TOOLS & CONSUMABLE MATERIALS

88-00-00-S-30488 (L1) Loctite 542 Thread Sealant
88-00-00-S-31195 (L0) Coolant Protect Plus 1.5 ltr

PARTS

71-70-00-M-38988 (L1) Conversion Kit Overflow bottle III rear radiator
71-70-00-M-39034 (L1) Conversion Kit Overflow bottle III radiator Airscoops

LABOR AND REQUIREMENTS

To accomplish 1 h

Task may only be performed by an organization or individual trained and entitled to do 'Line Maintenance'!

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SUPPORT POLICY

Parts are free of charge. Dispose the used parts in an environmentally friendly way.

REFERENCES

Manufacturer Maintenance Manual (MMM) in latest revision.

ROTAX Maintenance Manual (Heavy Maintenance) for ROTAX Engine Type 912 and 914 Series

DOCUMENTATION

The accomplishment of this Service Bulletin, or the decision of its rejection, must be properly documented, if such procedure is required by the relevant authority.

Warnings Caution and Notes

This instruction uses **WARNING**s, **CAUTION**s and **NOTE**s in bold italic letters to indicate especially critical and important instructions. The call-outs appear at the top of the Maintenance Job Card if of general nature or applicable for the complete task, or will directly precede the individual Work Step.

The meaning of each call-out is defined below:

WARNING: A warning means that the neglect of the appropriate procedure or condition could result in personal injury or fatal accidents.

CAUTION: A caution means that the neglect of the appropriate procedure or condition could result in damage to or destruction of equipment.

NOTE: A note stresses the attention for a special circumstance, which is essential to emphasize.

Category Codes

A Safety critical - failure to comply may result in a significant reduction of flight safety, injury or death

B Important - failure to comply may result in reduced safety margin, injury and/or equipment damage

C Beneficial - improves operating behaviour, reliability and/or maintainability

COMPLIANCE PROCEDURE

GENERAL, REFERENCES AND REQUIREMENTS

Task may only be performed by an organization or individual entitled and trained to do line maintenance.

Secure gyroplane against unauthorized or unintended operation.

Engine coolant must be drained sufficiently.

Execute procedure only in cold engine condition.

Battery must be disconnected, see 24-30-00 4-1, steps 1-2.

SPECIAL TOOLS, CONSUMABLE MATERIALS AND PARTS

SP	IMPORTANT NOTE: Procedure involves spare parts. Check parts list below for ordering details of affected components!
88-00-00-S-30488 (L1)	Loctite 542 Thread Sealant
88-00-00-S-31195 (L0)	Coolant Protect Plus 1.5 ltr

PRECAUTIONS AND SAFETY MEASURES

WARNING: Risk of severe burns and scalds! Hot engine parts! Always allow engine to cool down to ambient temperature before start any work.

WARNING: Risk of severe burns and scalds. Never open the cap of the expansion tank when the cooling system is hot. For safety sake, cover cap with a rag and open slowly. Sudden opening of the cap could provoke the escape of boiling coolant and result in scalding

IMPORTANT NOTE: Procedure involves handling and disposal of special materials. For your health and environmental aspects respect all applicable regulations!

PROCEDURES

1 Undo the screw of the rear seat and push the seat forward.

2 Remove the fastenings restraining the fuselage fairing right to get access to the expansion tank.

3 Disconnect coolant outlet on cylinder 2, open expansion tank and drain coolant. Collect the coolant in a suitable container.

4 When no further coolant comes out, reconnect the coolant outlet to cylinder 2.

Effectivity: Cooling system with two radiators in side scoops

5 Disconnect the hose between expansion tank and water thermostat.

6 Install a dummy plug to the vent. Use Loctite 542 (Fig.1).

7 Remove the radiator hose and install the T-connection to the highest point of the cooling system (Fig.2).

Effectivity – End

Effectivity: Cooling system with one radiator at the rear of the engine

8 Remove the hose between expansion tank and water thermostat. The water thermostat is the highest point (Abb.7).

Effectivity – End

9 Remove the hose coming from the expansion tank to the water distribution pipe.

10 Unscrew and remove the nuts and washers of expansion tank (Fig.3).

11 Unscrew and remove the screws and expansion tank (Fig.3).

12 Install the nipple with the copper washer and the crimp to the new expansion tank. Avoid any abrasions (Fig 4).

13 Install the new expansion tank with new screws, washers and nuts (Fig. 5 and 6).

14 Install the new hose to the expansion tank and the highest point. Fix the hose with crimp. Avoid any abrasions. Use cable ties and spacers. Fig. 2 shows the configuration state with two radiators in side scoops and Fig. 7 with one radiator at the rear of the engine.

15 Connect the 90 degree bow coming from the expansion tank to the water distribution pipe. Fix the hose with crimp. Avoid any abrasions. Use cable ties and spacers (Fig. 8, 9 and 10).

16 Do a visual inspection of the installed parts.

17 For coolant mixtures refer to chapter 12-40-00.

18 Fill the coolant up to the mark (tolerance +/- 1cm). If necessary, use a flashlight and/or mirror (Fig.11).

19 Install the fuselage fairing right.

20 Install the rear seat.

21 Test the engine functions according to engine manufacturers manual.

PARTS LIST

Fig.	Pos.	Description	PC	PIT	Remark
		Conversion Kit Overflow bottle III rear radiator	L1	71-70-00-M-38988	
		Conversion Kit Overflow bottle III radiator Airscoops	L1	71-70-00-M-39034	

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ILLUSTRATIONS

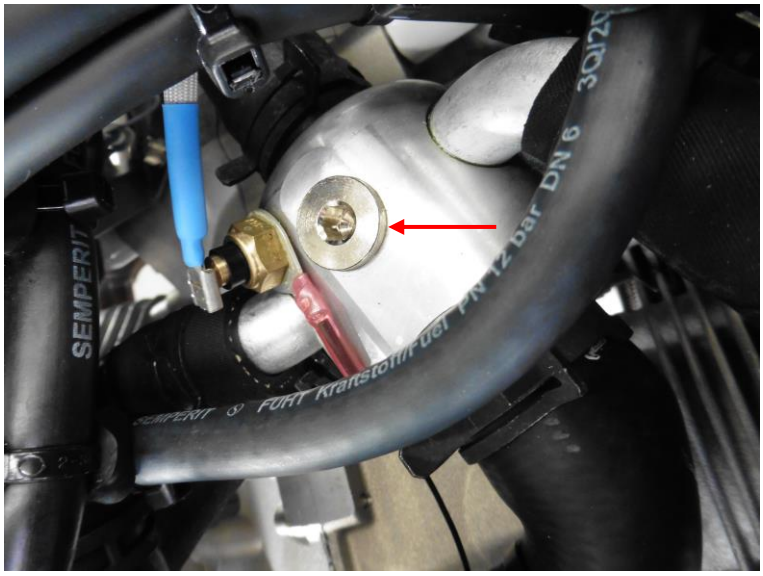

Fig.1: Dummy plug

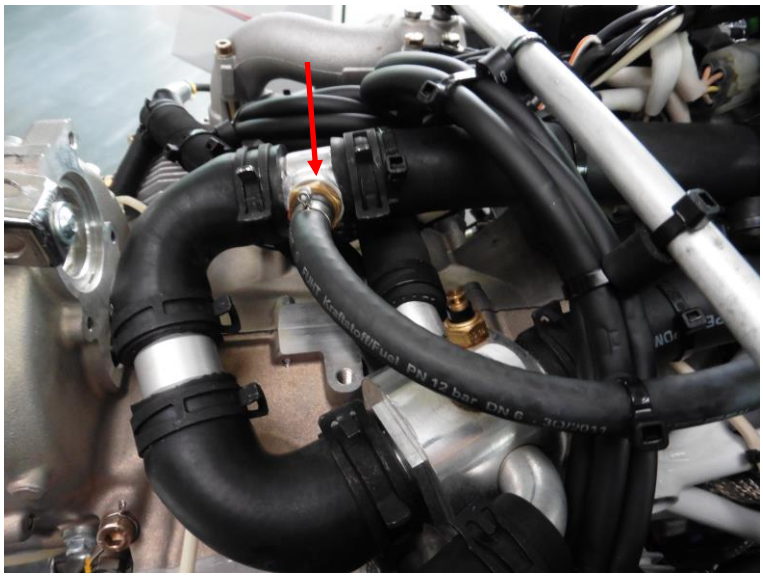

Fig.2: Connection between expansion tank and highest point at T-connection

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Fig.3: Composite expansion tank II

Fig.4: Nipple with copper washer and crimp

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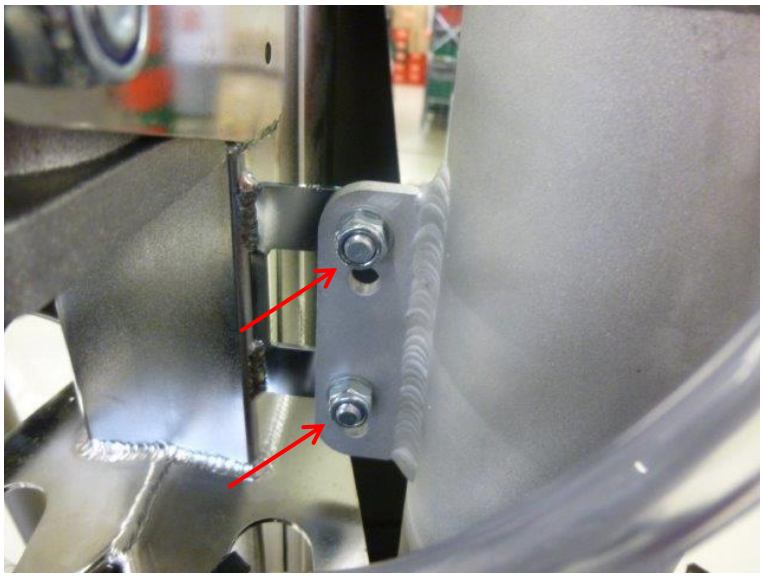

Fig.5: Installed expansion tank III

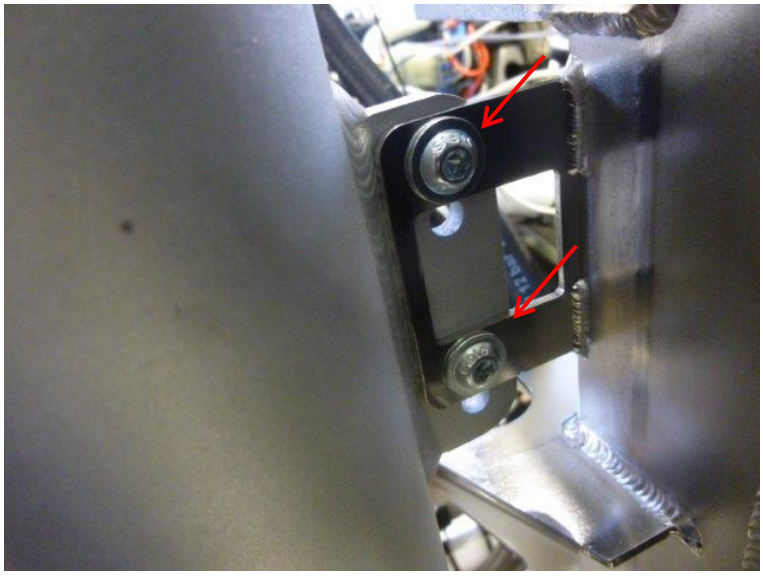

Fig.6: Installed expansion tank III

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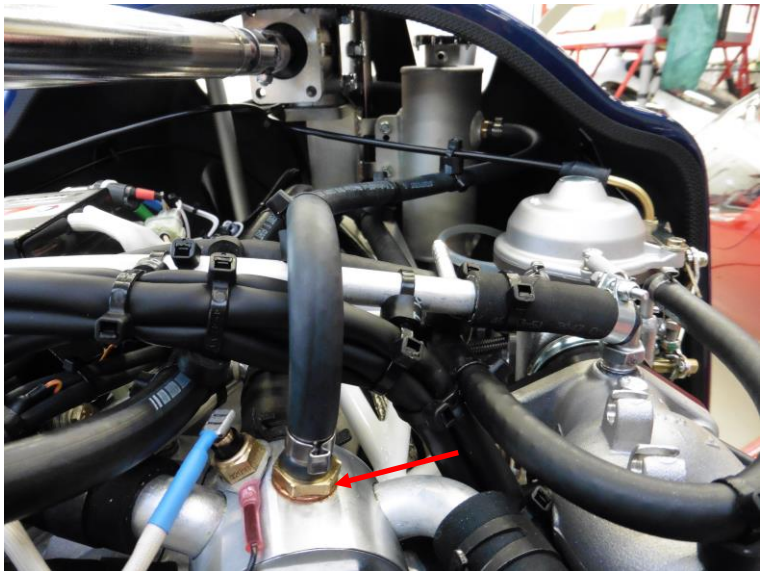

Fig.7: Connection between expansion tank and highest point

Fig.8: Connection between expansion tank and water distribution pipe with one radiator at the rear of the engine

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Fig.9: Connection between expansion tank and water distribution pipe with one radiator at the rear of the engine

Fig.10: Connection between expansion tank and water distribution pipe with two radiators in side scoops

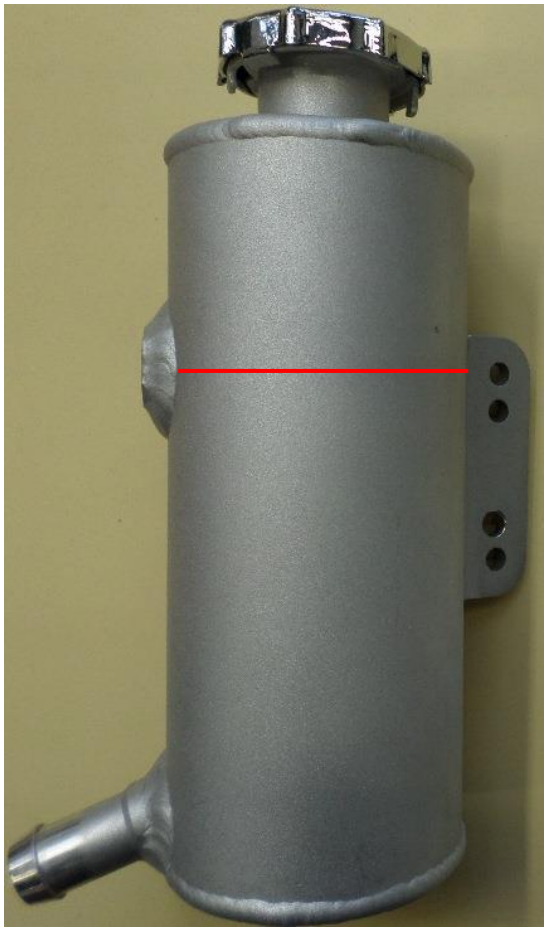

Fig.11: Filling quantity of coolant

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