SI B12 22 16
Engine Electrical Systems

November 2018
Technical Service

WATER INJECTION SYSTEM WATER LEVEL TOO LOW

New information provided by this revision is preceded by this symbol UPDATE!.

This Service Information bulletin replaces SI B12 22 16 **dated February 2018**

What's New:

• Cause Correction and Procedure updated

• New parts information

• New defect code and labor operations added

MODEL

F82 (M4 GTS Coupe) with S55 engine

SITUATION

Check Control (CC) Message Water level too low, engine performance only available to a limited degree is displayed.

A fault may be stored in the DME control unit:

0x124015 - Water injection system, working area: Pressure too low

0x124013 - Water injection system, reversible flow valve, plausibility: No pressure reduction.

UPDATE! CAUSE

Corrosion in the water injection valve block.

UPDATE! CORRECTION

1. Replace water injection valve block with an improved part
2. Flush the water injection system
3. Replace water injection filter.
4. Program the DME with **ISTA 4 10.1x** or higher

UPDATE! PROCEDURE

For conditions that are similar to the situation described:

1. Perform the attached "M4 Water Injection Valve Block Replacement Procedure".

	Note: The water injection valve block has been redesigned. The part number has not been changed but the optimized part can be identified by the “-02” revision index.

2. Perform a manual flush of the water injection system:

   A. With an ambient temperature above 50°F (10°C) warm engine until coolant temperature is at least 158°F (70°C).

   B. Momentarily increase engine speed above 2000 RPM (press the accelerator once) which should cause the water pump to run, filling the Water Injection (WI) system.

   C. After a minute, shut down the engine. The WI system should draw off.

3. Replace the water injection (fine) filter kit: PN:**13 63 7 857 605**

	4 pieces are included in the Kit: • Fine Filter • Spring • Upper seal • Lower seal
	Refer to REP 00 00 679 “Service fine filter of water injection device”. Installation order shown to the left.  Do not pry the filter out or damage can occur. Hint: Filter screw tightening torque: 18Nm

4. Program the vehicle using ISTA 4.10.2x or newer.

Model	**Target integration level**
F82 (M4 GTS Coupe)	**F020-18-03-520** or higher

Note: Integration level **F020-18-03-520** or higher includes improved diagnostic capability which can detect an empty expansion tank.

Note that ISTA/P will automatically reprogram and code all programmable control modules that do not have the latest software.

Always connect a BMW approved battery charger/power supply (SI B04 23 10).

For information on programming and coding with ISTA/P, refer to Centernet / Aftersales Portal / Service / Workshop Technology / Vehicle Programming.

UPDATE! PARTS INFORMATION

Enter a VIN Specific IDS Ticket if parts are required, please include the SIB number.

Part Number	Description	Quantity
13 63 7 857 605	Filter (GTS)	1
13 53 7 854 143	Water injection valve block	1

UPDATE! WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks.

Defect Code:	**1353291500**	
Labor Operation:	**Labor Allowance:**	**Description:**
00 00 006	Refer to KSD2/AIR	Performing “vehicle test” (with vehicle diagnosis system – checking faults) (Main work)
Or:		
00 00 556	Refer to KSD2/AIR	Performing “vehicle test” (with vehicle diagnosis system – checking faults) (Plus work)
And:		
61 21 528	Refer to KSD2/AIR	Connect an approved battery charger/power supply (indicated in KSD2 as “Charging battery”)
And:		
13 99 000	23 FRU	Work time for replacing the water injection valve block (in the trunk), flushing the water injection system (20 FRU) and checking and replacing the fine filter of the water injection system (3 FRU) without resetting the CBS data (Replacement is not

		Recommended or Due)
Or		
13 99 000	21 FRU	Work time for replacing the water injection valve block (in the trunk), flushing the water injection system (20 FRU) and checking the fine filter of the water injection system only (1 FRU). The fine filter replacement is done in conjunction with an applicable engine oil service task and the CBS data is reset (Note: See the BMW Maintenance Program section below)

And, if the:

Vehicle's Integration level is below F020-18-03-5xx

Labor Operation:	Labor Allowance:	Description:
61 00 730	Refer to KSD2/AIR	Programming/encoding control unit(s)

If you are using a Main labor code for another repair, use the Plus code labor operation 00 00 556 instead of 00 00 006.

Refer to KSD2/AIR for the corresponding flat rate unit (FRU) allowances.

Work time labor operation code 13 99 000 is not considered a Main labor operation. Also, since the "work time" FRU allowance to be claimed is specified, a separate punch time is not required.

However, it still requires an explanation on the repair order and in the claim comments section.

BMW Maintenance Program

The water injection pump (fine) filter is to be replaced with every second engine oil service task (Service counter number 2, 4, 6…).

If the vehicle has an "active" maintenance program and the "Engine oil" Service task (Service counter number 2, 4, 6…) shows:

- "Recommended or Due" in the Service status field or it "qualifies" to be performed based on the "60-day Bundling" procedure (See SI B01 06 13), then In conjunction with
- Performing this "Engine oil" Service task (Labor op 00 00 610), perform the Servicing the fine filter of the water injection system task (Labor op 00 00 679);
- After these and any other required tasks are completed, reset the CBS data.

Claim the water injection fine filter service task under the BMW Maintenance Program.

Vehicle Programming and Encoding

During the same workshop visit, if a vehicle also requires another Technical Campaign or repair that also includes programming and encoding the control units, the programming procedure may only be invoiced one time.

A. The programming procedure automatically reprograms and encodes all vehicle control modules which do not

have the latest software i-level. If one or more control module failures occur “during” this programming procedure:

• Please claim this “consequential” control module-related repair work under the defect code listed in this bulletin with the applicable KSD2/AIR labor operations.

B. For control module failures that occurred “prior” to performing this programming procedure:

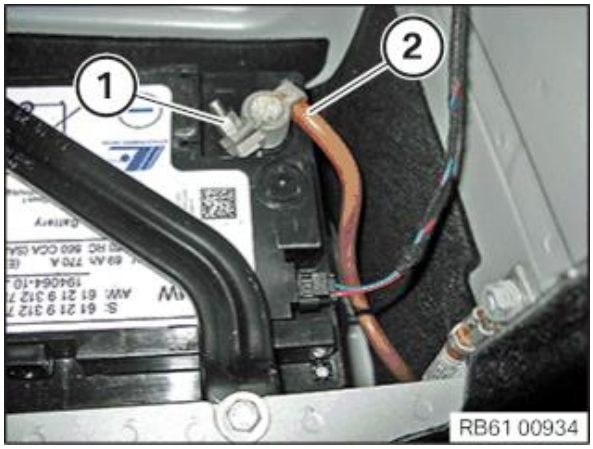
• When “covered” under an applicable limited warranty, claim this control module-related repair work using the applicable defect code and labor operations in KSD2/AIR.

Posted: Tuesday, November 20, 2018

ATTACHMENTS

View PDF attachment **M4 Water Injection Valve Block Replacement Procedure**.

M4 WATER INJECTION VALVE BLOCK REPLACEMENT PROCEDURE



1. Remove luggage compartment trim on side panel on right

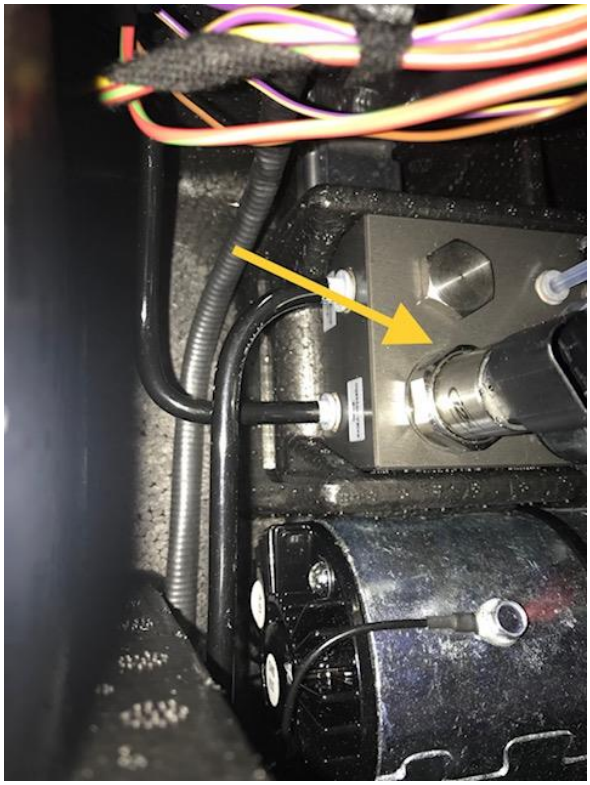
   Disconnect 12v battery by loosening nut (1).

   (Tightening torque: 5NM)

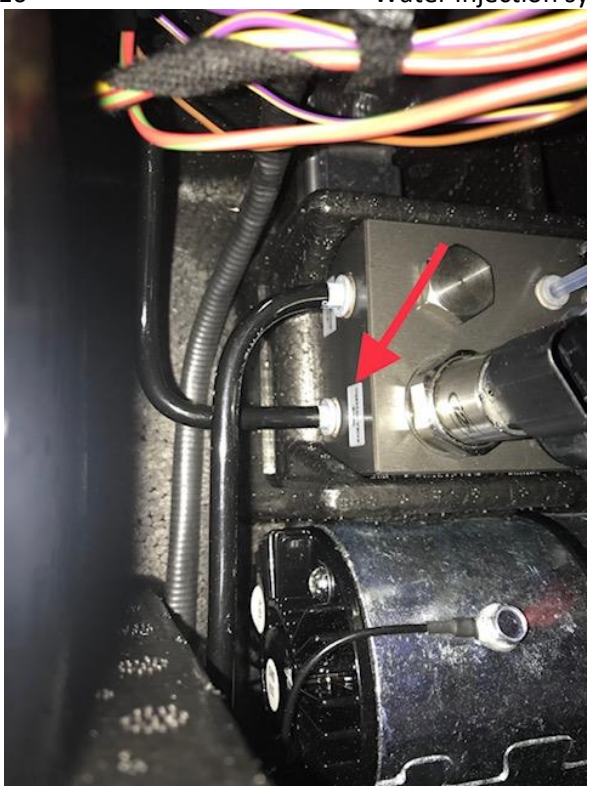
   Refer to 61 20 900 “Disconnecting and connecting battery earth lead” as needed

2. Remove the trunk floor panel

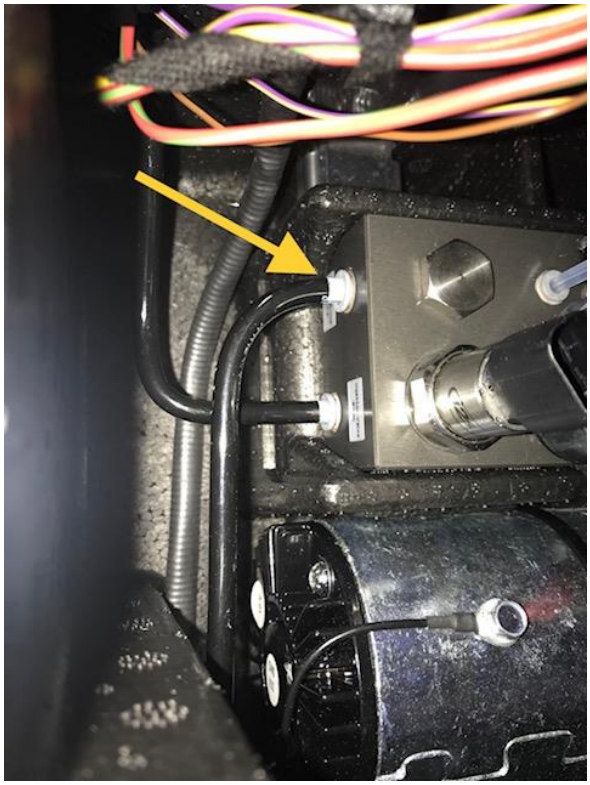
5. Disconnect the valve block harness and detach from foam housing



6. Disconnect pressure sensor on the valve block



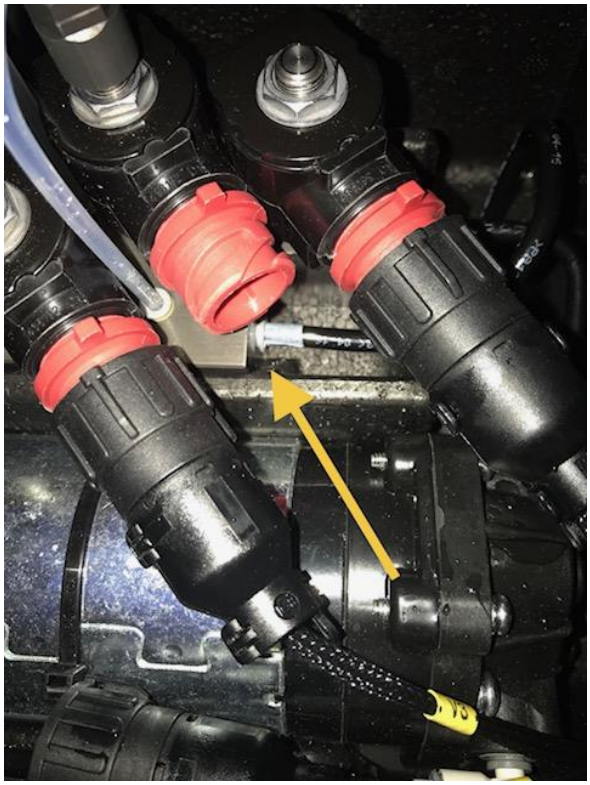
7. Disconnect the injector supply line from the valve block



8. Disconnect the water pump inlet line from the valve block

9. Disconnect level sensor, temperature sensor, and the supply line from the tank (make sure to have a towel ready to catch excess water when disconnected)

10. Remove the tank



11. Disconnect the Valve 2 connector to gain access to the water pump outlet line on the valve block, disconnect the line

12. Lift the foam housing up to gain access to the securing bolt for the valve block and remove the bolt

13. Reinstall foam housing and remove the valve block

14. Reinstall in reverse order