



SIB 11 09 23

2024-10-16

RECALL 23V-707: REPLACE VANOS ADJUSTMENT UNIT SCREWS

This Service Information Bulletin (Revision 5) replaces SI B11 09 23 **dated July 2024**.

What's New:

- Procedure, Parts, and Claim Information sections updated

Please perform the procedure outlined in this Service Information on all affected vehicles before customer delivery. In the event the customer has already taken delivery of the vehicle, please perform the procedure the next time the vehicle is in the shop.

☐	THIS REPAIR IS MOBILE FRIENDLY
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MODEL

E60 (5 Series Sedan)	E70 (X5 Sports Activity Vehicle)	E82 (1 Series Coupe)
E83 (X3 Sports Activity Vehicle)	E84 (X1 Sports Activity Vehicle)	E88 (1 Series Convertible)
E89 (Z4)	E90 (3 Series Sedan)	E91 (3 Series Wagon)
E92 (3 Series Coupe)	E93 (3 Series Convertible)	F10 (5 Series Sedan)
F25 (X3 Sports Activity Vehicle)		

Vehicles equipped with the N51, N52K, N52T and N55 Engines.

AFFECTED VEHICLES

Vehicles which require this campaign to be completed will show it as “Open” when checked either in AIR, AWP, Campaign Summary or Warranty Vehicle Inquiry.

Please make sure you check your dealer inventory as soon as possible. As of October 24, 2023, you can see a list of affected vehicles in Inventory Campaign Details (ICD) under ROSS.

UNAFFECTED VEHICLES

Applicable vehicles which had both VANOS adjustment units (P/N 11 36 7 583 207 and P/N 11 36 7 583 208) replaced, or had a complete new or remanufactured engine assembly (with cylinder head) previously replaced, on or after September 1, 2012: These installed replacement parts already meet the requirements of this Recall Campaign. No further repair is necessary.

SITUATION

BMW AG is conducting a Voluntary Safety Recall (effective October 23, 2023) on a certain number of Model Year 2010 - 2013 BMW vehicles that were produced between September 2, 2009, and July 12, 2012.

Please note: These vehicles had coverage under the BMW Engine Camshaft (VANOS) Adjustment Units Limited Warranty Extension (ELW) 10 Years/Unlimited Mileage (SI B01 10 14).

The VANOS assembly (engine) bolts may, over time, loosen, and eventually break. If this occurred, a reduced engine power “safe mode” may be activated. In some cases, the engine may not be able to be restarted after switching off and, in rare cases, the engine could stall which could increase the risk of a crash.

CORRECTION

Replace the VANOS assembly bolts that are not loose or broken.

If the VANOS assembly bolts are found loose or broken, then that entire VANOS assembly must be replaced.

If only one (1) VANOS assembly has loose or broken bolts, only replace that VANOS assembly- do not replace both VANOS assemblies.

PROCEDURE

Before proceeding, review the Affected Vehicle's Repair History (Claims) section located at the bottom of the Warranty Vehicle Inquiry (WVI).

From the previous claim submission (including ELW SI B01 10 14), or by using other available resources (clear supporting claim or other repair-related documentation)- if it is determined that on or after September 1, 2012, both VANOS units were previously replaced and/or repaired, no VANOS unit repair is necessary.

Engines with no VANOS issues (no VANOS gear replacement is needed)

Vehicles can be repaired using "Parts List A" parts provided in the Parts Information section below in this bulletin.

If the original reason the vehicle arrived at your workshop was for an:

- **Un-related engine oil leak from the cylinder head cover, and**
- **This VANOS Recall campaign shows "Open,"**

Regardless of the vehicle's Recall Remedy Status being a Green "X" or a Red "X," upfit the engine with the "Parts List A" parts at the same time, submit the claim for the Recall-related repair portion, and adjust/reduce the customer pay portion accordingly.

You no longer need to create TSARA Hotline case for the engine oil leak.

Engines with Broken or Missing VANOS Bolts (VANOS gear replacement is needed)

Vehicles can be repaired using "Parts List B" or "Parts List C" parts provided in the Parts Information section below in this bulletin.

If fragments of the bolts are not accounted for then the engine oil pan will need to be removed to retrieve the fragments.

You no longer need to create TSARA Hotline case.

Engines with VANOS gears installed that are not affected or are not an original BMW part

After the cylinder head cover is removed and a VANOS gear is identified without removable bolts, or the VANOS gears do not resemble an original BMW part.

Review the examples below of the affected BMW VANOS gears.



Rear view:

Affected VANOS gear example with removable bolts.

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.

If a VANOS gear is installed that does not resemble these examples, then create a STANDARD TSARA Hotline case with photos of identifying marks, part numbers, etc. and wait for a response.



Top/side view with impulse sending wheel installed:

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.



Front view with impulse sending wheel removed:

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.



Front view with impulse sending wheel installed:

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.

When an Affected Vehicle requires this Recall repair to be performed:

1. Replace the VANOS assembly's gear bolts on the units that **do not** have any loose and/or broken bolts (one side, or both sides as applicable).
2. If the gear bolts on a VANOS assembly are found loose and/or broken, replace the entire VANOS assembly. If the heads of the bolts are broken, the missing pieces must be found and removed from the engine before the engine repairs are completed.

The VANOS assembly bolt removal and installation video can be viewed via the TIS Website:

1. Select "Videos" from the top menu bar.
2. In the search enter "23V-707" and enter from your keyboard
3. Select "11 03 14 Recall 23V- 707: replace VANOS adjustment screw connection"

Do not automatically replace both VANOS assemblies if only one unit has a loose and/or broken bolt(s).

Refer to the attachment for special tool requirements, tool operation and repair procedures.

It is necessary that the procedure described in the attachment be performed with the vehicle at room temperature. Performing the torque sequence described in this bulletin with a hot engine will result in an inaccurate torque value.

PARTS INFORMATION

Refer to the Parts Matrix for the most up to date ordering information.

Vehicles equipped with the N51, N52K and N52T engines.

Note*: For the VANOS bolt part number listed below, an order quantity of one (1), will now round up to and ship as a quantity of ten (10) with the remaining bolt quantity (6 or 2) being applied to your parts inventory.

Parts List A

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The parts list below is only for vehicles that receive replacement VANOS adjustment unit bolts for the intake and exhaust.

Part Number	Description	Quantity
11 36 5 B44 E13	VANOS Bolt (ISA screw M7x21) (Forced round up to 10)	8*
11 12 7 582 245	Profile Seal	1
11 12 7 559 699	Gasket (VVT Sensor)	1
11 12 7 552 280	Gasket (VVT Motor)	1

Parts List B:

The parts list below is only for vehicles that receive **one** replacement VANOS adjustment unit and VANOS adjustment bolts on the intake or exhaust VANOS adjustment unit.

Part Number	Description	Quantity
11 36 5 B44 E13	VANOS Bolt (ISA screw M7x21) (Forced round up to 10)	4*
11 12 7 582 245	Profile Seal	1
11 36 7 524 954	Collar Screw	1
11 31 7 534 251	Chain Tensioner Seal Ring	1
11 36 7 578 877	Impulse Sending Wheel	1
11 36 7 583 207	Intake VANOS Adjustment Unit	1
OR		
11 36 7 583 208	Exhaust VANOS Adjustment Unit	1
11 12 7 559 699	Gasket (VVT Sensor)	1
11 12 7 552 280	Gasket (VVT Motor)	1
07 11 9 902 900	Flange nut (battery cable)	Up to 1 (if needed)

Parts List C:

The parts list below is only for vehicles that receive both intake and exhaust replacement VANOS adjustment units.

Part Number	Description	Quantity
11 12 7 582 245	Profile Seal	1
11 36 7 524 954	Collar Screw	2
11 31 7 534 251	Chain Tensioner Seal Ring	1
11 36 7 578 877	Impulse Sending Wheel	2
11 36 7 583 207	Intake VANOS Adjustment Unit	1
11 36 7 583 208	Exhaust VANOS Adjustment Unit	1
11 12 7 559 699	Gasket (VVT Sensor)	1
11 12 7 552 280	Gasket (VVT Motor)	1
07 11 9 902 900	Flange nut (battery cable)	Up to 1 (if required)

Vehicles equipped with the N55 Engine.

Parts List A:

The parts list below is only for vehicles that receive replacement VANOS adjustment unit bolts for the intake and exhaust.

Part Number	Description	Quantity
11 36 5 B44 E13	VANOS Bolt (ISA screw M7x21) (Forced round up to 10)	8*

11 12 7 587 804	Profile Seal	1
11 37 7 502 022	Gasket (VVT motor/sensor)	1

Parts List B:

The parts list below is only for vehicles that receive one replacement VANOS adjustment unit and VANOS adjustment bolts on the intake or exhaust VANOS adjustment unit.

Part Number	Description	Quantity
11 36 5 B44 E13	VANOS Bolt (ISA screw M7x21) (Forced round up to 10)	4*
11 36 7 524 954	Collar Screw	1
11 12 7 587 804	Profile Seal	1
11 37 7 502 022	Gasket (VVT motor/sensor)	1
11 31 7 534 251	Chain Tensioner Seal Ring	1
11 36 7 578 877	Impulse Sending Wheel	1
11 36 7 583 207	Intake VANOS Adjustment Unit	1
or		
11 36 7 583 208	Exhaust VANOS Adjustment Unit	1
07 11 9 902 900	Flange nut (battery cable)	Up to 1 (if needed)

Parts List C:

The parts list below is only for vehicles that receive both intake and exhaust replacement VANOS adjustment units.

Part Number	Description	Quantity
11 12 7 587 804	Profile Seal	1
11 36 7 524 954	Collar Screw	2
11 37 7 502 022	Gasket (VVT motor/sensor)	1
11 31 7 534 251	Chain Tensioner Seal Ring	1
11 36 7 578 877	Impulse Sending Wheel	2
11 36 7 583 207	Intake VANOS Adjustment Unit	1
11 36 7 583 208	Exhaust VANOS Adjustment Unit	1
07 11 9 902 900	Flange nut (battery cable)	Up to 1 (if needed)

Additionally, other materials and small parts that are not specified above, such as fluids, lubricants, one-time use screws, nuts, and seals, which must be replaced or installed according to the ISTA repair instructions/ETK, must be selected from the Electronic Parts Catalog, or other approved BMW resources, according to the respective vehicle type. Invoiced these items separately under the Repair Code listed in this bulletin.

Additional Work: Removing and Installing the Engine Oil Pan when necessary.

Part Number	Description	Quantity
Refer to EPC	Set Oil-Filter Element	1

Bulk Materials -Sublet

Billing Part Numbers	Description	Quantity
83 21 5 A42 D33	Engine oil (0W-30 – 209-liter drum) (DN = 1/10 Liter)	Applicable qty in sublet
Or:		

83 21 5 A42 D39	Engine oil (0W-30 – Tank Delivery (DN = 1/10 Liter)	Applicable qty in sublet
Or:		
83 21 5 A2A F86	Engine oil (5W-30 – 209-liter drum) (DN 1= Liter)	Applicable qty in sublet
83 21 5 A2A F99	Engine oil (0W-30 - 6 x 1 Liter bottle, case) (DN 1 = Liter)	Applicable qty in sublet
Or:		
83 21 5 A2A F83	Engine oil (5W-30 - 6 x 1 Liter bottle, case) (DN 1 = Liter)	Applicable qty in sublet

CLAIM INFORMATION

Reimbursement for this Action will be via normal claim entry utilizing the applicable work package information below, and the additional work when required, together with the part numbers listed above that apply.

Pluspostion (+) work	Completion when the vehicle is already in the workshop, identified by the “ Plusposition work ” reference below.
Main work	The vehicle arrives for this Recall, no other Main work will be performed/claimed during this workshop visit, identified by the “ Main work ” reference below.

Only one Main work flat rate labor operation code can be claimed per workshop visit.

Repair Code:	0011520700	Ex Fx N51 N52 N55 Replace VANOS adjuster bolting
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Below are the special flat rate labor operation code choices for this action.

VANOS Repair is not Necessary

Work Pkg	Labor Operation	Description	Labor Allowance
# 1	00 75 662 (Plusposition work)	On or after September 1, 2012, the vehicle's installed engine VANOS units were already taken care of through a: • Technical Campaign, or • Another repair (including an installed used engine beyond the scope of this Recall or a “prior repaired” used engine.	1 FRU
Or:			
# 2	00 75 134 (Main work)	On or after September 1, 2012, the vehicle's installed engine VANOS units were already taken care of through a: • Technical Campaign, or • Another repair (including an installed used engine beyond the scope of this Recall or a “prior repaired” used engine.	1 FRU
Or:			
# 9 (New 7/2024)	00 76 870 (Plusposition work)	Removing/installing cylinder head cover, the vehicle's installed engine VANOS units are not affected after check. (This was determined only after removal of the cylinder head cover; no prior engine repair information was available to pre-determine that a repair was not necessary)	As applicable

# 10 (New 7/2024)	00 76 243 (Main work)	Removing/installing cylinder head cover, the vehicle's installed engine VANOS units are not affected after check. (This was determined only after removal of the cylinder head cover; no prior engine repair information was available to pre-determine that a repair was not necessary)	As applicable
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Note: If it is determined that an applicable recall remedy VANOS repair is required during the performance of the WP # 9 or the WP # 10 work procedures, then these two WPs no longer apply- Please refer to WP # 3 through WP # 8 work procedures below instead.

Or a:

Applicable VANOS Repair is Necessary

Note: If while doing this repair it was determined the VANOS bolts are of the new design, and there is no clear supporting claim, or other repair-related documentation available about that prior repair to review, then you must replace the bolts again (See the above and the related statement in the Procedure).

Work Pkg	Labor Operation	Description	Labor Allowance
# 3	00 75 615 (Plusposition work)	Replace the attachment bolts for the VANOS adjusters	As applicable
Or:			
# 4	00 75 091 (Main work)	Replace the attachment bolts for the VANOS adjusters	As applicable
Or:			
# 5	00 75 616 (Plusposition work)	Replace a VANOS adjustment unit (one side) and a VANOS adjustment unit screw connection (other side)	As applicable
Or:			
# 6	00 75 092 (Main work)	Replace a VANOS adjustment unit (one side) and a VANOS adjustment unit screw connection (other side)	As applicable
Or:			
# 7	00 75 617 (Plusposition work)	Replace both VANOS adjusters	As applicable
Or:			
# 8	00 75 093 (Main work)	Replace both VANOS adjusters	As applicable

When applicable:

Additional Work for "WP # 3 to WP # 8"

Expanded WP ID	Labor Operation	Description	Labor Allowance
A	00 75 663	Additional work for when emission warning light (MIL) is on	4 FRU

And, If also necessary, when

The VANOS Bolt Fragments cannot be found.

Expanded WP ID	Labor Operation	Description	Labor Allowance
B	00 75 701	With the replacement of one or both VANOS adjustment units: Additional work/removing and installing engine oil pan to remove fragments	As applicable

And, for:

Applicable xDrive (AWD) Vehicles: Additional Work - Wheel Alignment (with 00 75 701)

Expanded WP ID	Labor Operation	Description	Labor Allowance
C	00 75 724	Additional work/chassis measurement including adjusting the toe-in/if required according to the repair instructions (AWD)	As applicable
	And, if necessary:		
D	00 75 725	Additional work for 00 75 724/set rear axle	As applicable

Claim Repair Comments

Only reference the SIB number and the work package (Pkg) number performed in the RO technician notes and the claim comments (For example: B11 07 23 WP 5 with A, B), unless otherwise required by State law.

- For Additional Work - A through D: Explain the additional work that was needed to be performed
- For WP #1, #2, #9, and #10: Please explain reason why no repair was required to be performed on the vehicle's installed engine

Sublet – Bulk Materials (RO and Claim Comments Required)

Sublet Code 4	Reimbursement for the repair-related bulk materials, primarily in conjunction with performing labor operation 00 75 701 (Do not use the BMW part numbers for the claim submission)	Up to \$115.00
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Sublet reimbursement calculation for claiming the applicable repair-related bulk materials (BMW part numbers) is at the dealer net price amount for the full and/or proportional quantities used plus your center's handling.

Enter this material cost in sublet and itemize the amount claimed on the repair order and in claim comment section.

BMW Group's AIR Application Resource for Flat Rate Labor Operation Codes

To obtain the corresponding flat rate unit (FRU) allowance information from the BMW Group AIR application resource, start by entering the the Chassis Number (last seven (7) characters of the VIN), and click on the "Search" icon. If the "Vehicle Selection" window displays two or more model possible vehicle choices, select the applicable Model, or enter the full VIN (17 characters) instead to proceed. Click on the "Flat Rate Units" button and enter a flat rate labor operation code number "without spaces" in the field to the right, click on the "Search" icon to display the corresponding listing of "Flat rate unit group details" that are available and their corresponding FRU allowances.

Consequential Repair (RO and Claim Comments Required)

When additional or other work and/or parts (cylinder head or the engine assembly) are required as a direct result of addressing the issue outlined in this Service Information bulletin, claim these items under the Repair Code in this bulletin together with the corresponding labor operation codes and their flat rate unit (FRU) allowance(s), including the diagnosis that applies **(SI B01 01 20 or B01 07 20)**.

Please explain the reason for this consequential repair work (the why and the what) on the repair order and in the claim comments section.

Alternative Mobility Solution (AMS) for Vehicle Owners (RO and Claim Comments Required)

This Recall qualifies for Alternative Mobility Solution (AMS) expense reimbursement, claim this item under the Repair Code in this bulletin as follows:

- Sublet Code 2 - Itemize the claimed AMS sublet amount on the repair order and in the claim comment section.

Please refer to SI B01 29 16 for additional information.

Reimbursements of Eligible Prior Customer-Pay Repairs (TREAD Act)

BMW of North America, LLC (BMW NA) will reimbursement certain costs for qualifying customer-pay recall remedy comparable repairs that were performed on an eligible vehicle prior to the release of this Recall.

A qualifying customer pay repair must primarily address the described issue with the vehicle's engine VANOS units (intake/exhaust camshaft adjusters) as noted and applicable below.

Issue / Condition that Required Repair	Recall Remedy Comparable VANOS Repair
Intake VANOS unit bolts (1) loose/broken	Replace Intake VANOS unit (1) and the Exhaust VANOS unit's Bolts
Exhaust VANOS unit (1) bolts loose/broken	Replace exhaust VANOS unit (1) and the intake VANOS unit's Bolts
Intake and exhaust (Both) VANOS units bolts loose/broken	Replace Intake and exhaust (Both) VANOS units

The repair facility 's procedures must have been performed correctly, adequately, and completely as required by the applicable BMW Group approved repair standards and instructions (Procedure), including the required replacement part usage (Parts Information), for it to be considered and approved for reimbursement. Labor, parts, and/or sublet that are beyond the scope the recall remedy VANOS repair procedures are not eligible for reimbursement.

The customer arrives at your workshop with an Affected Vehicle, and a customer-pay RO/invoice for a prior repair.

Open a RO, create a repair order (RO) line Item for the applicable open Recall work package that was performed.

After review and in conjunction with the Recall line item, when it is determined that the prior customer pay repair RO/invoice qualifies and the correct applicable/available repair was performed, create an additional RO line item for the reimbursement and claim it as described below.

Submit for both the completed Recall work package and for the customer-pay prior repair reimbursement.

Or:

The customer only presents your center with a customer-pay invoice for a prior repair

After review, if the vehicle VIN and the prior customer pay repair RO/invoice both qualify

When it is determined that the prior customer pay repair RO/invoice qualifies and the correct applicable/available repair was performed, open a RO, and create a RO line item for the reimbursement and claim it as described below.

Prior Customer-pay Invoice Review and Reimbursement Submission Procedure

Review and verify that the prior customer-pay RO/invoice (BMW center or by an independent repair shop) contains a repair that was performed to address the issue described in this Recall Service Information Bulletin.

When the prior repair qualifies, reimburse the customer (labor and parts).

Submit for their prior customer-pay repair expense under Repair Code **85 99 00 12 NA** as follows:

- Sublet Code 3
- Dollar amount (with no markup)
- Comment: RECALL 23V-707: REPLACE VANOS ADJUSTMENT UNIT SCREWS - Reimbursement for allowable expenses that relate to performing the prior qualifying customer-pay repair (Labor, parts, taxes, hazardous waste disposal)
- Explain the condition and the repair was that was performed
- Explain and itemize the claimed sublet amount on the RO and in the claim comment section

Retain the original customer pay RO/invoice (Full/complete/paid) in your files; this documentation may be requested by BMW during the claim review process.

Repairs that do not Qualify for Reimbursement

The diagnosis and repair of issues beyond the scope of the Recall (other unrelated vehicle issues). This exclusion also applies to repairs that were performed using (including those repairs that result from using) non-genuine BMW parts, and/or used BMW passenger car or light truck parts.

When the TREAD Act repair reimbursement claim is submitted as described above, it **will not close** the Open Safety Recall on the vehicle.

FEEDBACK REGARDING THIS BULLETIN

Technical Feedback	To submit feedback for the technical topic of this bulletin: Submit your feedback in the rating box at the top of this bulletin
Warranty Feedback	To submit feedback for the CLAIMS section of this bulletin: Submit an IDS ticket to the Warranty Department, or use the chat available in the Warranty Documentation Portal
Parts Feedback	To submit feedback for the PARTS section of this bulletin: Submit an IDS ticket to the Parts Department

Supporting Materials

[picture_as_pdf B110923_Repair_Procedure.pdf](#)

[picture_as_pdf B110923 Attachment 23V-707-VANOS-FAQ-\(23Oct2023\).pdf](#)

[picture_as_pdf B110923 Attachment Recall Notice.pdf](#)

SAFETY RECALL NOTICE

To: All Center Operators, Sales Managers, Service Managers, Parts Managers and Warranty Processors

RE: Recall 23V-707: Replace VANOS Adjustment Unit Screw Connection – B11 09 23

BMW AG is conducting a Voluntary Safety Recall (effective October 23, 2023) on a certain number of Model Year 2010 - 2013 BMW vehicles that were produced between September 2, 2009, and July 12, 2012.

Please be reminded that it is a violation of federal law (The Safety Act) for you to sell, lease or deliver any new motor vehicle covered by this notification until the recall repair has been performed. This means that Centers may not legally deliver new motor vehicles to consumers until they are fixed or use/sell replacement equipment/parts subject to this recall. Note also that substantial civil penalties apply to violations of the Safety Act.

Also, you should not sell, lease or deliver any Certified Pre-Owned or used vehicles subject to a safety recall until the repair is completed.

Please follow any special instructions that we provide to you for the return or disposition of recall parts.

We appreciate all your assistance with this Recall.

PROCEDURE

Follow the repair procedure outlined below; it contains modified instructions that optimize the repair procedure. This modified procedure is reflected in the labor operation time allowances.

Required special tools:

Socket for Torque Wrench

P/N 83 30 2 333 891

Distributed via Automatic Tool Shipment.
Refer to SI B04 08 14.

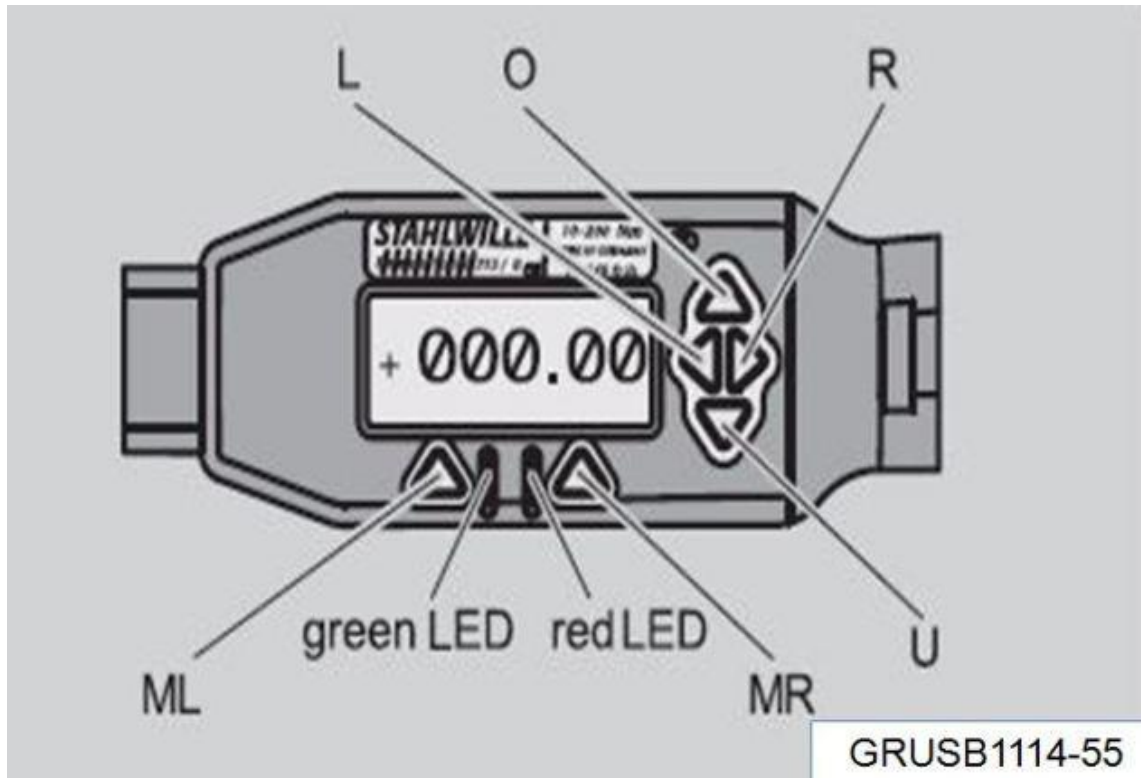


Torque Wrench

P/N 81 64 0 418 185

Distributed via Automatic Tool Shipment.
Refer to SI B04 08 14.

Torque Wrench Set Up:



Initial set up of torque wrench must be completed when using the tool for the first time.

Push any of the green buttons to turn on.

Press the “ML” button to select language, scroll up and down with the “O” and “U” buttons to select the English language.

Press the “MR” button to select.

Press the “ML” button to enter the menu, select “OK” and scroll using the “O” and “U” buttons to select “presets”. Select the “MR” button to select “modify”.

Scroll down using the “U” button to “shutdown time”. Select the “MR” button to select “modify”. Increase the time by using the “O” button, press repeatedly until “9” is displayed. Select the “MR” button to “save” the setting. This setting will now automatically turn off the tool after 9 minutes of inactivity and it will be saved for the next usage.

Select “return” twice with the “ML” button to go back to the main screen.
Select “menu” with the “ML” button

Select “OK” with the “MR” button

Scroll with the “O” and “U” buttons to “presets” and select “modify” with the “MR” button

Scroll with the “O” and “U” buttons to “unit” and select “modify” with the “MR” button

Scroll with the “O” and “U” buttons to “Nm” and select “OK” with the “MR” button

Scroll with the “O” and “U” buttons to “adaptor length” and select “modify” with the “MR” button

Scroll with the “O” and “U” buttons and the “L and R” buttons to enter the digits. Enter 17.50 mm and select “OK” with the “MR” button. This setting identifies the length of the tool, i.e. ratchet head or crows foot wrench end.

Select “return” twice with the “ML” button to go back to the main screen.

If the batteries are replaced the initial set up will need to be performed again.

Selecting and Entering Rotation Angle Mode:

Press the “L” and “R” buttons at the same time. The “preload” screen should now be displayed. Preload is the initial torque setting.

Scroll with the “O” and “U” buttons and the “L and R” buttons to enter the digits. Enter 6.00 (6 Nm initial torque) and select “OK” with the “MR” button. The angle torque screen will be displayed automatically when this is complete.

Scroll with the “O” and “U” buttons and the “L and R” buttons to enter the digits. Enter 60.00 (60-degree angle torque) and select “OK” with the “MR” button. The screen will now state it is the “direct” mode.

Press the “tare” to zero the measurement. The torque wrench is now ready for use.

These values will stay stored as long as the tool is powered up, if the tool turns off after 9 minutes of inactivity, then the initial torque and angle torque will be erased and will not be available for the next usage. The values will need to be reentered if the torque wrench turns off.

Preliminary Work:

1. Remove the cylinder head cover as per Repair Instruction 11 12 000 “Removing and installing or sealing cylinder head cover”.
2. Remove the fan and fan cowl as per Repair Instruction 17 11 035 “Removing and installing/replacing fan cowl with electric fan”.

IMPORTANT: Aluminum bolts must not be reused. If the aluminum bolts are removed, then they must be replaced with new bolts.

IMPORTANT: Never loosen more than one VANOS assembly bolt (1-4) at a time.

Engines with VANOS gears installed that are not affected or are not an original BMW part

After the cylinder head cover is removed and a VANOS gear is identified without removable bolts or the VANOS gears do not resemble an original BMW part.

Review the examples below of the affected BMW VANOS gears.



Rear view:

Affected VANOS gear example with removable bolts.

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.

If a VANOS gear is installed that does not resemble these examples, then create a TSARA Hotline case with photos of identifying marks, part numbers, etc. and wait for a response.



Top/side view with impulse sending wheel installed:

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.



Front view with impulse sending wheel removed:

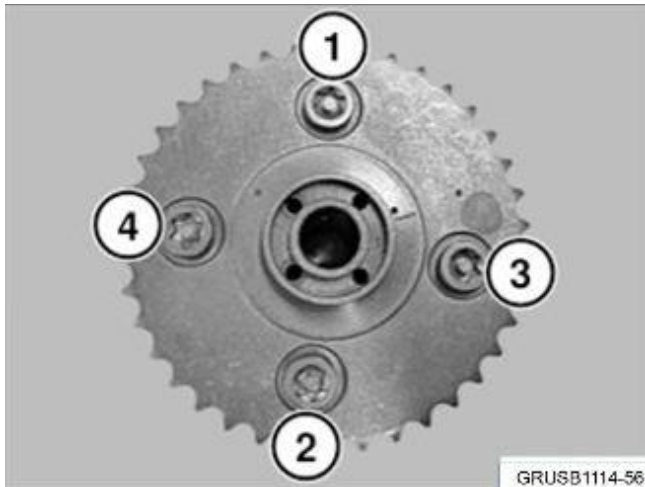
The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.



Front view with impulse sending wheel installed:

The exterior of the intake and exhaust VANOS gears are essentially identical in construction except for a part number difference.

Intake VANOS Adjustment Unit:



3. Replace and torque the aluminum bolts (1-4) one at a time.

Note: 1-4 is not a sequence they can be replaced in any sequence.



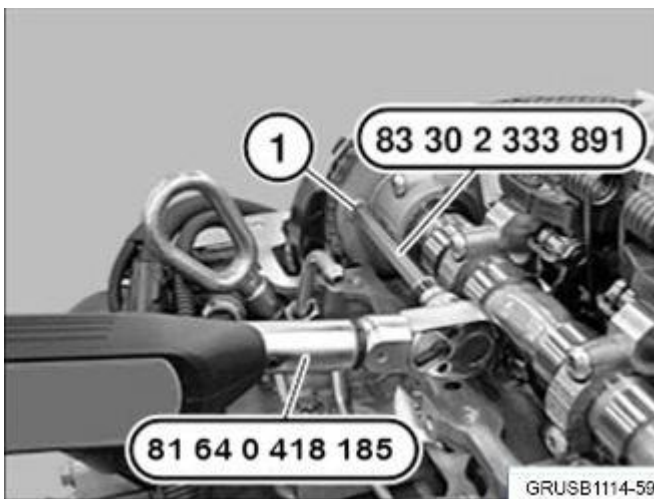
4. Turn the engine by hand using a suitable tool on the crankshaft central bolt to align one of the bolts (1) as shown in the illustration.

Remove the bolt (1) using the required special tool (2).



5. Clean the threads on the VANOS assembly using compressed air to remove the excessive oil.

Always wear safety glasses.



6. **IMPORTANT: The bolts require initial torque and angle torque. Observe the procedures in this step and the next step very carefully!**

Install one new P/N 11 36 8 602 263 aluminum VANOS bolt and apply the initial torque using the required special tools to the specification below.

Initial torque: 6 Nm

Turn the torque wrench very slowly and do not over torque the bolt. The handle of the torque wrench will vibrate, and the green led will briefly blink when the 6 Nm has been reached.

Angle torque: 60°

The torque wrench will automatically switch to angle torque and show zero degrees. Begin turning the torque wrench. The red and green LED's will blink on the tool warning the technician that the desired value is approaching. When 60 degrees has been reached the handle will vibrate and the green LED will illuminate. The screen may or may not record the angle torque. Do not be alarmed, if the screen freezes and captures a value that is a few degrees lower than the desired value.

Do not rotate the torque wrench any further after the handle vibrates and both of the LED's illuminate.



7. While performing the angle torque the digital screen on the torque wrench will display the current Nm meter value. This value should be between **8 Nm – 14 Nm**.

If the displayed value is not within the specification, then the bolt will need to be removed and replaced with a new bolt again. Repeat as necessary.

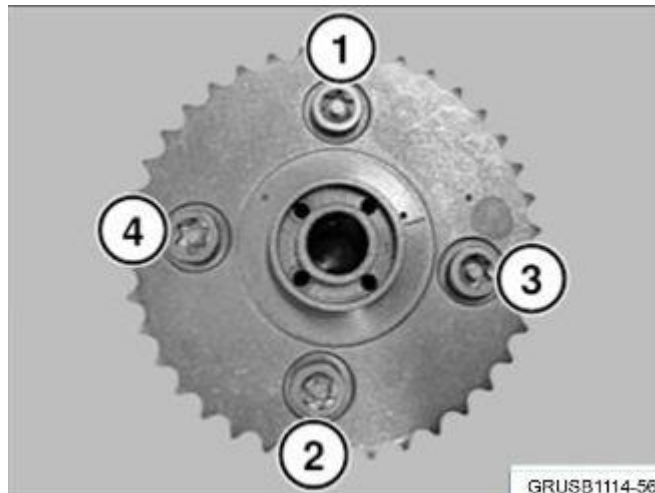
To reset torque wrench and clear screen to Nm again just press the “MR” button to continue replacing additional bolts.

8. If any of the bolts were loose or broken during this procedure, then the VANOS assembly will need to be replaced. Refer to step 14.

If no bolts were found loose, then repeat steps 4-6 for the remaining 3 bolts on the VANOS gear assembly. It is good practice to mark each bolt head as it is replaced with a felt marker so that one is not mistaken and removed again.

When all of the intake VANOS assembly bolts have been replaced successfully then proceed to step 9.

Exhaust VANOS Adjustment Unit:



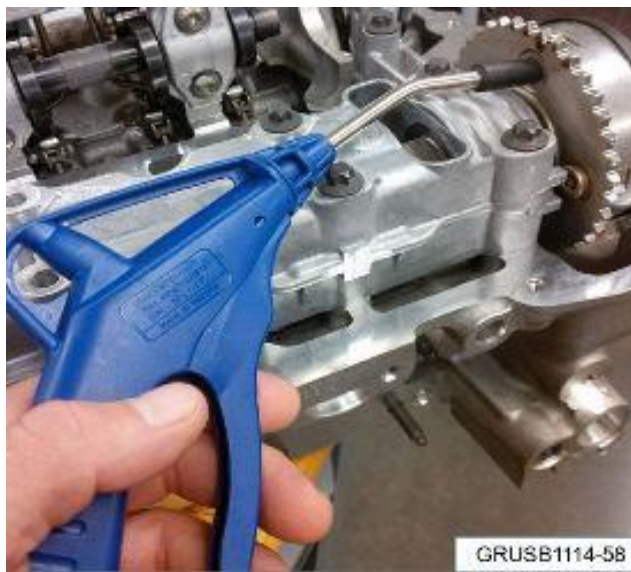
9. Replace and torque aluminum bolts (1 - 4) one at a time.



10. Turn the engine by hand using a suitable wrench on the crankshaft central bolt to align the bolt (1) with as shown in the illustration.

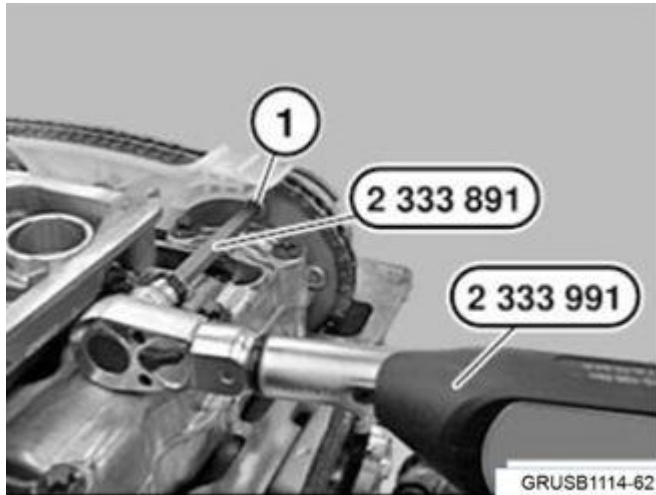
Remove the bolt (1) using the required special tool.

Note: The tool will be on a slight angle when loosening.



11. Clean the threads on the VANOS assembly using compressed air to remove the excessive oil.

Always wear safety glasses.



12. IMPORTANT: The bolts require initial torque and angle torque. Observe the procedures in this step and the next step very carefully!

Install one new P/N 11 36 8 602 263 aluminum VANOS bolt and apply the initial torque using the required special tools to the specification below.

Initial torque: 6 Nm

Turn the torque wrench very slowly and do not over torque the bolt. The handle of the torque wrench will vibrate, and the green led will briefly blink when the 6 Nm has been reached.

Angle torque: 60°

The torque wrench will automatically switch to angle torque and show zero degrees. Begin turning the torque wrench. The red and green LED's will blink on the tool warning the technician that the desired value is approaching. When 60 degrees has been reached the handle will vibrate and the green LED will illuminate. The screen may or may not record the angle torque. Do not be alarmed, if the screen freezes and captures a value that is a few degrees lower than the desired value.

Do not rotate the torque wrench any further after the handle vibrates and both of the LED's illuminate.

Note: The tool will be on a slight angle when Tightening.



13. While performing the angle torque the digital screen on the torque wrench will display the current Nm meter value. This value should be between 8 Nm – 14 Nm.

If the displayed value is not within the specification, then the bolt will need to be removed and replaced with a new bolt again. Repeat as necessary.

To reset torque wrench and clear screen to Nm again just press the "MR" button to continue replacing additional bolts.

14. If any of the bolts were loose or broken during this procedure, then the VANOS assembly will need to be replaced. Refer to step 15.

If no bolts were found loose, then repeat steps 4 - 6 for the remaining 3 bolts on the VANOS gear assembly. It is good practice to mark each bolt head as it is replaced with a felt marker so that one is not mistaken and removed again. Refer to step 16.

15. If any of the VANOS bolts were found loose or broken, then that VANOS unit will need to be replaced. Refer to Repair Instruction 11 36 046 "Removing and installing or replacing intake and exhaust camshaft adjusters"
16. Reassemble vehicle as per the applicable repair instructions.

Safety Recall
23V-707
VANOS
Model Year 2010-2013
BMW 1 Series, 3 Series, 5 Series
BMW X1, X3, X5, Z4
(Models with inline 6-cylinder engine)
Issue Date: 10/23/2023

Q1. Which BMW Group models in the US are potentially affected by this Safety Recall?

Certain Model Year 2010-2013 BMW 1 Series, 3 Series, 5 Series, X1 SAV, X3 SAV, X5 SAV, and Z4 models in the US are potentially affected. Please note that these vehicles have been previously covered by a BMW Extended Warranty program.

Q2. What is the specific issue?

The VANOS assembly (engine) bolts may, over time, loosen, and eventually break. If this occurred, a reduced engine power “safe mode” may be activated. In some cases, the engine may not be able to be restarted after switching off and, in rare cases, the engine could stall which could increase the risk of a crash.

If your vehicle stalls, or if you notice a rough running engine, or unusual engine noise, which may include illumination of the Check Engine (or Service Engine Soon) warning lamp and/or a warning message in the instrument cluster, your vehicle may be experiencing this issue. If this occurs, you should carefully move away from traffic and pull over to a safe location as soon as possible. Do not continue to drive your vehicle. You should immediately contact the nearest authorized BMW center to arrange for pickup and transportation of your vehicle to the BMW center. If you are not the only driver of this vehicle, please advise all other drivers and passengers of this important information.

Q3. Why are other models / vehicles not included in this Safety Recall?

Other models have a VANOS system with a different specification.

Q4. Can I continue to drive my vehicle?

Yes. However, when you are notified by BMW of this Safety Recall, please contact an authorized BMW center to schedule an appointment as soon as possible. For the latest updates to this Safety Recall, please visit bmwusa.com/recall. **If you are not the only driver of this vehicle, please advise all other drivers of this important information.**

Q5. How did BMW Group become aware of the issue?

BMW Group became aware of the issue through its quality control procedures.

Q6. How will I be informed of this Safety Recall?

Owners of potentially affected vehicles will be notified via First Class mail and requested to schedule an appointment with an authorized BMW center to have the remedy performed. Owners can locate their nearest authorized BMW center at bmwusa.com/dealer.

To ensure BMW has the most up-to-date contact and vehicle information, owners should register their vehicle at bmwusa.com/myBMW. Registration is free and will give them access to other information specific for their BMW vehicle. Alternatively, owners can visit bmwusa.com/recall and click on “**Manage recall notices and contact information**”.

Q7. How will my vehicle be remedied?

Potentially affected vehicles will have the VANOS attachment bolts replaced for free which should take about four hours.

Q8. Do I have to wait for BMW to contact me to have the remedy performed?

Yes. We are in the process of implementing this Safety Recall to ensure that the necessary parts, tools, and procedures are available. For the latest updates to this recall, please visit bmwusa.com/recall.