



SI B11 16 14 Engine

February 2016
Technical Service

This Service Information bulletin and attachment supersedes SI B11 16 14 **dated May 2015**.

NEW designates changes to this revision

SUBJECT

N63 Engine: Check the Timing Chain

MODEL

F01 and F02 (7 Series Sedan) produced from 9/2008 to 6/2012

F04 (ActiveHybrid 7) produced from 4/2010 to 6/2012

F07 (Gran Turismo) produced from 9/2009 to 6/2012

F10 (5 Series Sedan) produced from 3/2010 to 7/2013

F12 (6 Series Convertible) produced from 3/2011 to 7/2012

F13 (6 Series Coupe) produced from 7/2011 to 7/2012

E70 (X5) produced from 3/2010 to 6/2013

E71 (X6) produced from 7/2008 to 6/2014

E72 (ActiveHybrid X6) produced from 9/2009 to 9/2011

INFORMATION

This bulletin outlines the procedure for checking the engine timing chains for wear, and **should be completed in conjunction with [SI B11 06 14](#)**, “N63 Customer Care Package.”

The N63CCP and N63 Engine Check the Timing Chain are NOT mandatory Technical Campaigns or Recalls.

They should be completed only based on **parts availability, workshop capacity, and the customer's schedule**.

Performing the test plans identified in the procedure below will detect wear at an early stage and, if necessary, provide a repair solution. To avoid future valvetrain wear, the vehicle must be reprogrammed and a shorter oil service interval must be retrofitted via ISTA/P.

Finally, drain and replace the engine's oil and filter.

After completing all necessary repairs included in the N63 Customer Care Package and the Timing Chain Check, the vehicle must be test driven for up to 30 minutes to ensure that the

repairs were performed to the highest standard.

AFFECTED VEHICLES

This Service Action applies to E70, E71, E72, F01, F02, F04, F07, F10, F12, and F13 vehicles with the N63 engines corresponding to the production dates listed above.

PROCEDURE

1. Perform a vehicle test. If the vehicle already has faults stored for the VANOS or camshaft position, perform the recommended test plans for the faults stored before checking the timing chain. A defective component (VANOS actuator or solenoid) can affect the outcome of the timing chain check.
2. Perform the applicable test plan to measure the timing chain's elongation, using ISTA/D 3.47 or higher.

F01, F02, F04, F07, F10, F12, and F13 Timing Chains Test Plan path:

1. Select "Troubleshooting"
2. Select "Function structure"
3. Select "Drive"
4. Select "Engine electronics, quality control valve (MSV)"
5. Select "Valve gear"
6. Select "Start Search"
7. From the list of available test plans, select "VANOS solenoid valve, exhaust"
8. Select "Continue"
9. Select "Timing chain test" and follow the steps to complete the test plans.
10. Test plan will conclude with the statement "Timing chain is OK" or "Timing chain is not OK".
11. If the test plan results indicate the timing chains are stretched ("not OK"), replace both timing chains per Repair Instruction 11 31 052 "Replacing both timing chains \ PREMIUM" after completing the remaining portion of the vehicle evaluation procedure from [SI B11 06 14](#).

IMPORTANT - Before starting the engine for the first time, and after replacing the timing chains:

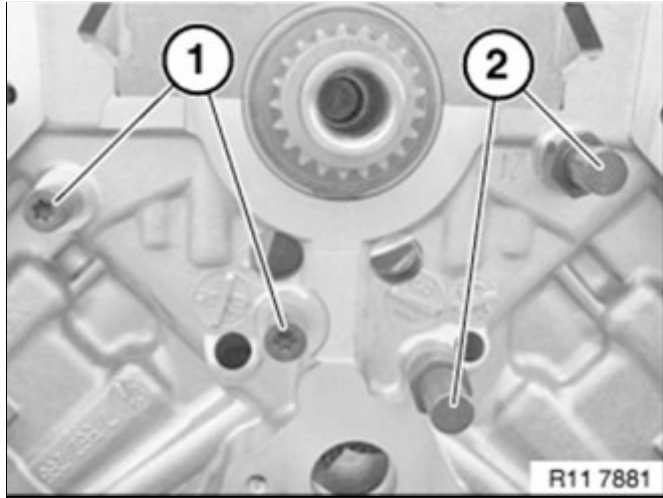
1. Fill the engine with the specified amount of engine oil.
2. Connect a battery charger to the vehicle.
3. Remove the electric fuel pump fuse. Refer to the applicable wiring diagram using the VIN of the vehicle in ISTA/D.

4. Crank the engine for 10 seconds.
5. After 10 seconds have elapsed, stop the starter, and allow the starter to cool for 20 seconds.
6. Repeat steps 4 and 5 two additional times.
7. Reinstall the electric fuel pump fuse and start the engine. Verify proper engine operation.

Important: Repair Instruction 11 31 052 for “Replacing both timing chains \ PREMIUM” describes the “replacement” of the engine oil pan gasket (seal). Failure to replace this gasket (seal) as outlined in the repair instruction can result in an engine oil leak and an unnecessary return visit to your workshop. Also, using liquid sealer to substitute the required replacement of this gasket (seal) on the engine is “not a proper” repair.

A repair to correct engine oil leakage that results from not replacing the engine oil pan gasket (seal) as required during a previous repair is not a Warranty issue.

Do not discard the replaced parts. These parts will be requested by the Warranty Parts Return Center (WPRC). When the defective timing chains are removed from the engine label them with cylinder head bank (1 or 2) they were removed from.

	Important Note: The current ISTA repair manual RA11 31 052 “Replacing both timing chains \ PREMIUM” instructs to release tension on four bearing bolts (indicated as #1 for cylinders 5 to 8; and #2 for cylinders 1 to 4) on the engine block. IT IS NOT NECESSARY TO DO THIS. DO NOT release these bolts, because the bearing bolts are micro-encapsulated and they would have to be replaced if loosened up. The repair instructions will be updated soon.
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8. Terminate the diagnostic session so that FASTA data will be transmitted.
9. Program the vehicle using ISTA/P 3.55.1 or a more recent version and retrofit the new engine oil service interval. The engine oil service interval of the vehicle must be retrofitted to a shorter service interval of 12 months or 10,000 miles. ISTA/P will automatically reprogram and code all programmable control modules that do not have the latest software. Perform the programming, coding and engine oil service retrofit during the same ISTA/P session.

Important note: For F01, F02, F04, and F07 vehicles, check the operation of the trunk release with the remote. If the trunk does not open with the remote, refer to the special procedure in SI B66 04 15. Leave the ICOM connected to the vehicle.

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

Engine Oil Service Interval Retrofit Procedure (F01, F02, F04, F07, F10, F12, and F13):

1. From the ISTA/P start screen select “Start a new session”
2. Select “ISTA/P Server Automatically”
3. Select “Connect”
4. Select “Vehicle”
5. Select “Conversion, oil service 12months/15,000km/10,000 miles” from the retrofit list.
6. Select “Determine Measure Plan”
7. Select “Accept Measure Plan”
8. Select “Continue
9. Select “OK”
10. Select “End Session”

The retrofit of the engine oil service is complete.

Important note: For F01, F02, F04, and F07 vehicles, check the operation of the trunk release with the remote. If the trunk does not open with the remote, refer to the special procedure in SI B66 04 15. Leave the ICOM connected to the vehicle.

E70, E71 and E72 Timing Chain Test Plan Path:

1. Select “Troubleshooting”
2. Select “Function structure”
3. Select “Drive”
4. Select “Engine electronics, quality control valve (MSV)”
5. Select “Valve gear”
6. Select “Start Search”
7. From the list of available test plans select “Exhaust camshaft”, and then follow with the “Display” and then “Continue” buttons
8. Select “Bank 1” and Continue
9. Select “Timing chain test” and follow the steps to complete the test plans

If the test plan results indicate the timing chains are stretched (“Timing chain is not OK”), replace both timing chains per Repair Instruction 11 31 052 “Replacing both timing chains \ PREMIUM” after completing the remaining portion of the vehicle evaluation procedure outlined in [SI B11 06](#)

14.

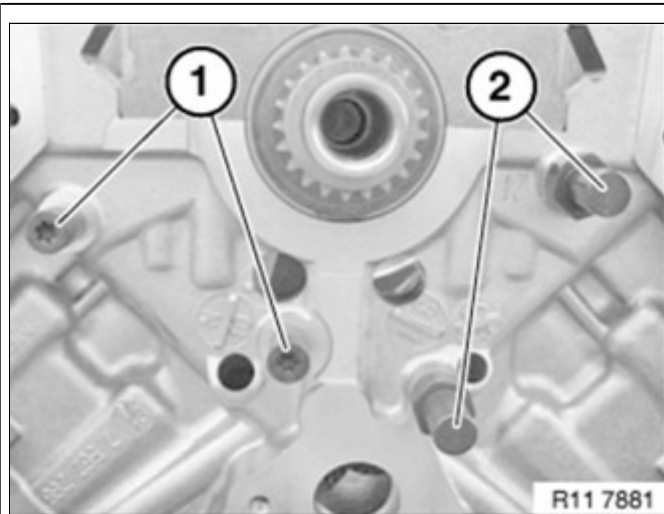
IMPORTANT - Before starting the engine for the first time and after replacing the timing chains:

1. Fill the engine with the specified amount of engine oil.
2. Connect a battery charger to the vehicle.
3. Remove the electric fuel pump fuse. Refer to the applicable wiring diagram using the vin number of the vehicle in ISTA/D.
4. Crank the engine for 10 seconds.
5. After 10 seconds have elapsed, stop the starter, and allow the starter to cool for 20 seconds.
6. Repeat steps 4 and 5 two additional times.
7. Reinstall the electric fuel pump fuse and start the engine. Verify proper engine operation.

Important: Repair Instruction 11 31 052 for “Replacing both timing chains \ PREMIUM” describes the “replacement” of the engine oil pan gasket (seal). Failure to replace this gasket (seal) as outlined in the repair instruction can result in an engine oil leak and an unnecessary return visit to your workshop. Also, using liquid sealer to substitute the required replacement of this gasket (seal) on the engine is “not a proper” repair.

A repair to correct engine oil leakage that results from not replacing the engine oil pan gasket (seal) as required during a previous repair is not a Warranty issue.

Do not discard the replaced parts. These parts will be requested by the Warranty Parts Return Center (WPRC). When the defective timing chains are removed from the engine label them with cylinder head bank (1 or 2) they were removed from.



Important Note:

The current ISTA repair manual RA11 31 052 “Replacing both timing chains \ PREMIUM” instructs to release tension on four bearing bolts (indicated as #1 for cylinders 5 to 8; and #2 for cylinders 1 to 4) on the engine block. **IT IS NOT NECESSARY TO DO THIS.**

DO NOT release these bolts, because the bearing bolts are micro-encapsulated and they would have to be replaced if loosened up. The repair instructions will be updated soon.

8. Terminate the diagnostic session so that FASTA data will be transmitted.
9. Program the vehicle using ISTA/P 3.55.1 or a more recent version, and retrofit the new engine oil service interval. The engine oil service interval of the vehicle must be retrofitted to a shorter service interval of 12 months or 10,000 miles. ISTA/P will automatically reprogram and code all programmable control modules that do not have the latest software. Perform the programming, coding and engine oil service retrofit during the same ISTA/P session.
10. For information on programming and coding with ISTA/P, refer to Centernet / Aftersales Portal / Service / Workshop Technology / Vehicle Programming.

Engine Oil Service Interval Retrofit Procedure (E70, E71 and E72):

1. From the ISTA/P start screen select “Start a new session”
2. Select “ISTA/P Server Automatically”
3. Select “Connect”
4. Select “Vehicle”
5. Select “Conversion, oil service 12months/15,000km/10,000 miles” from the retrofit list.
6. Select “Determine Measure Plan”
7. Select “Accept Measure Plan”
8. Select “Continue
9. Select “OK”
10. Select “End Session”

The retrofit of the engine oil service is complete.

NEW PARTS INFORMATION

The part numbers in the parts table below are no longer blocked. Do not send emails requesting the release of the parts identified in this document.

Only order the necessary parts, in the quantities needed, for customers' vehicles that have confirmed failures or that failed the customer care package inspection.

Also, refer to ETK and the repair instructions for one-time use fasteners and component information regarding additional and/or replacement screws, gaskets, and seals that need to be installed and claimed.

Part Number	Description	Quantity
11 31 8 655 427	Timing chain with tensioner rail	2
11 36 8 655 424	VANOS adjustment unit, inlet camshaft	2

11 36 8 655 423	VANOS adjustment unit, outlet camshaft	2
11 31 7 574 397	Guide rail	2
11 31 7 565 242	Slide rail	2
11 21 8 655 426	Sprocket gear	1
11 31 8 655 425	Timing chain tensioner	2
11 35 7 564 346	VANOS collar screw	4
11 31 7 550 461	Seal	2
11 42 7 583 220	Oil filter	1
Refer to EPC	Cylinder Head Gasket (Set)	1

Sublet – Materials

83 21 2 365 946	5W30 BMW Engine Oil 1 liters	Up to 9.5
		(E72, F04 8.5)

All parts from these repairs are subject to 100% return and inspection at the WPRC to ensure appropriate usage of parts. Returned parts which do not meet the correct replacement criteria, as described in the procedure, will be debited.

Any damage that occurs to the vehicle and/or towing charges as a result of an improper repair will be the responsibility of the dealer.

WARRANTY INFORMATION

Reimbursement for this repair will be via normal claim entry utilizing the following information:

Defect Code:	00 13 48 02 00
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No Timing Chain Replacement is Necessary

In conjunction with labor operations 00 62 111 to 00 62 118 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 913	Refer to KSD2	Performed with labor operations 00 62 111 to 00 62 118: Check the timing chain (no replacement necessary), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair (all)

Or:		
00 62 914	Refer to KSD2	Performed with labor operations 00 62 111 to 00 62 118: Check the timing chain (no replacement necessary), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 915	Refer to KSD2	Performed with labor operations 00 62 111 to 00 62 118: Check the timing chain (no replacement necessary), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)

Timing Chain Replacement is Necessary

In conjunction with Labor Operation 00 62 111 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 916	Refer to KSD2	Performed with labor operation 00 62 111: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Or;		
00 62 917	Refer to KSD2	Performed with labor operation 00 62 111: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 918	Refer to KSD2	Performed with labor operation 00 62 111: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval

		(programming/encoding, E7x with CAS only)
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In conjunction with Labor Operation 00 62 112 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 954	Refer to KSD2	Performed with labor operation 00 62 112: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Or:		
00 62 961	Refer to KSD2	Performed with labor operation 00 62 112: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 968	Refer to KSD2	Performed with labor operation 00 62 112: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)

In conjunction with Labor Operation 00 62 113 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 955	Refer to KSD2	Performed with labor operation 00 62 113: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)

Or:		
00 62 962	Refer to KSD2	Performed with labor operation 00 62 113: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 969	Refer to KSD2	Performed with labor operation 00 62 113: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)

In conjunction with Labor Operation 00 62 114 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 956	Refer to KSD2	Performed with labor operation 00 62 114: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Or:		
00 62 963	Refer to KSD2	Performed with labor operation 00 62 114: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 970	Refer to KSD2	Performed with labor operation 00 62 114: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval

		(programming/encoding, E7x with CAS only)
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In conjunction with Labor Operation 00 62 115 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 957	Refer to KSD2	Performed with labor operation 00 62 115: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Labor Operation:	Labor Allowance:	Description:
00 62 964	Refer to KSD2	Performed with labor operation 00 62 115: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Labor Operation:	Labor Allowance:	Description:
00 62 971	Refer to KSD2	Performed with labor operation 00 62 115: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)

In conjunction with Labor Operation 00 62 116 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 958	Refer to KSD2	Performed with labor operation 00 62 116: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval

		programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Or:		
00 62 965	Refer to KSD2	Performed with labor operation 00 62 116: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 972	Refer to KSD2	Performed with labor operation 00 62 116: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)

In conjunction with Labor Operation 00 62 117 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 959	Refer to KSD2	Performed with labor operation 00 62 117: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Or:		
00 62 966	Refer to KSD2	Performed with labor operation 00 62 117: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
		Performed with labor operation 00 62

00 62 973	Refer to KSD2	117: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)
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In conjunction with Labor Operation 00 62 118 (SI B11 06 14)

Labor Operation:	Labor Allowance:	Description:
00 62 960	Refer to KSD2	Performed with labor operation 00 62 118: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter. Modifying the oil service interval programming/encoding is reimbursed via a different Technical Campaign or repair during the same workshop visit (all)
Or:		
00 62 967	Refer to KSD2	Performed with labor operation 00 62 118: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, all and E7x without CAS)
Or:		
00 62 974	Refer to KSD2	Performed with labor operation 00 62 118: Check and replace the timing chain (includes removing and installing cylinder head), change engine oil and filter and modify the oil service interval (programming/encoding, E7x with CAS only)

And:

When other additional work and/or parts are required as a direct result of this issue, including the applicable labor operations listed in KSD2, claim these items under the defect code listed above.

And:

Sublet – Materials

Sublet Code 4	See sublet reimbursement calculation below	Reimbursement for used quantities of required operating fluids, including engine oil (applicable BMW part numbers. Do not use these part numbers for claim submission)
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Sublet calculation:

Reimbursement for used quantities of required operating fluids, including engine oil (applicable BMW part numbers) at dealer net plus handling.

Enter the material cost in sublet and itemize the amount in the claim comment section.

Vehicle Programming/Encoding

Programming and encoding includes performing a “Vehicle test” (with vehicle diagnosis system – checking faults) and connecting an approved battery charger/power supply to the vehicle.

If a vehicle control module or component was working properly and/or had no related faults stored prior to vehicle programming and it fails to program correctly and/or requires initialization, this additional work must be claimed with separate labor operations under the defect code listed above; refer to KSD2.

Repairs to address control modules and/or components with pre-existing conditions are not eligible to be claimed under the defect code listed in this bulletin.

After the Engine Oil Service Retrofit is Completed, a CBS Data Reset and if applicable a CBS Correction Must Be Performed

The engine oil service interval calculation will now be based on 12 months or approximately 10,000 miles; one of the following steps should be performed:

- If the engine oil service task shows Recommended, Due or **qualifies** to be performed based on the “60-day Bundling” procedure (see SI B01 06 13), **reset the engine oil service CBS data to 100%.**

Or

- If the engine oil service task **does not show** Recommended, Due or does not qualify to be performed based on the “60-day Bundling” procedure, **reset the engine oil service CBS data to 100% and perform a CBS correction, in order to reduce the engine oil service counter by 1.**

Combined and Other Required Maintenance Service Tasks

Please be sure to perform the service tasks that are “combined with engine oil” when applicable, as well as any “stand alone” maintenance tasks that qualify.

If eligible, claim these other items under the BMW Maintenance Program or, after reviewing with the customer with his or her approval, invoice these items separately as customer-pay.

Overlapping Labor with Other Repairs

If invoicing additional KSD2 flat rate labor operation codes for the other repair work results in overlapping labor being claimed, invoice work time labor operation 00 50 000 instead for the additional time (FRU) minus the overlap.

On the repair order and in the claim comment section, please identify the labor operations that labor operation code 00 50 000 replaces and itemize the claimed FRU amount.

Even though work time labor operation code 00 50 000 ends in “000,” it is not considered a Main labor operation. When work time labor operation 00 50 000 is being used for work that will be claimed under different defect codes, separate punch time(s) are required.

Previous Customer-pay Repairs

BMW of North America, LLC will provide reimbursement for “qualifying customer-pay” timing chain repairs” that were performed on an eligible vehicle prior to the release of the N63 Engine Timing Chain Inspection Measure.

Customer-pay repairs, when they were performed, are subject to the applicable New Vehicle/SAV Limited Warranty’s exclusions and limitations, in addition to the vehicle and coverage eligibility requirements.

Repairs performed on ineligible vehicles or the diagnosis and repair of other unrelated issues do not qualify for reimbursement.

To request reimbursement for a “qualifying customer-pay repair,” performed either by an authorized BMW center or independent repair shop, please have your customer submit a reimbursement request online at www.BMW-RP.com.

Reimbursement Procedure

To initiate the online process, the customer will be asked to attach PDF files of the required documentation; this is outlined in the attachment below.

Alternatively, he or she may mail or fax his or her request and documentation directly to the BMW Customer Reimbursement Center.

For more information, please refer to the PDF attachment: “B110614_Customer_CP_Reimbursement Procedure” that is included in SI B11 06 14. A copy of this attachment can be provided to the customer.

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