

WH34 - Adapting Oil Fill Quantity (Workshop Campaign)

Important: **CRITICAL WARNING** - This campaign includes steps where control unit(s) in the vehicle will be programmed with the PIWIS Tester. The vehicle voltage must be maintained between 13.5 volts and 14.5 volts during this programming. Failure to maintain this voltage could result in damaged control unit(s). Damage caused by inadequate voltage during programming is not a warrantable defect. The technician must verify the actual vehicle voltage in the PIWIS Tester before starting the campaign and also document the actual voltage on the repair order.

Model Year: **As of 2014 up to 2016**

Vehicle Type: **Panamera S E-Hybrid (970)**

Subject: **Engine oil change quantity**

Concern: **On vehicles with a conventional drive system, the fuel that gets into the engine oil is evaporated by the high operating temperatures of the combustion engine. However, this fuel might not evaporate fully due to the comparably low temperatures of the engine in hybrid mode on the affected vehicles.**

If the combustion engine does not reach a higher operating temperature for a long time, e.g. during frequent short trips, this can cause the oil level to increase to such an extent that the oil level measurement will activate the warning message "Oil level above maximum" in the instrument cluster. However, the functional properties of the engine oil are always guaranteed.

Remedial Action:



Information

The oil fill quantity must always be adapted **during a regular engine oil change** (e.g. during an oil change service, intermediate maintenance or during servicing).

For this purpose, only the work carried out over and above the regular oil change (**Scope 1**) can be invoiced based on this campaign. The cost of the actual engine oil change shall be borne by the customer as usual.

The measures included in this campaign must be carried out **before servicing**.

Exception:

The specified warning "Oil level above maximum" is currently displayed on a vehicle.

In this case, the campaign must be carried out **immediately and independently of servicing**. The working time, parts and materials required for carrying out the required engine oil change can then also be invoiced as part of the campaign (**Scope 2**).

In order to document this problem, a **vehicle analysis log (VAL)** must **also** be created before carrying out the measure and this must be attached to the PQIS job.

Please note that the service interval for the engine oil change must also be reset in this case.

Required work:

- Create vehicle analysis log (VAL) using the PIWIS Tester and send it to PCNA – This is only absolutely necessary for vehicles on which the "Oil level above maximum" warning is displayed.
- Re-program the DME control unit using the PIWIS Tester with software version **36.600.010** (or higher) installed.
- Perform adaptations and calibration after you have programmed the DME control unit.
- Affix stickers showing the changed engine oil change quantity in the engine compartment and in the Owner's Manual.
- Change engine oil and oil filter using the changed engine oil change quantity (**6.6 quarts (6.25 liters)**).
- Reset service interval for changing engine oil.

**Information**

It takes **about 8 minutes** to **program** the DME control unit.

After programming the DME control unit, the following steps must also be carried out in the specified sequence:

- Reading out and erasing fault memory
- Adapting the throttle valve
- Calibrating electric machine
- Adapting the decoupler *

* For adapting the decoupler, the **state of charge of the high-voltage battery must be at least 35%**. This corresponds to four bars in the battery state of charge display in the instrument cluster.

Please check the state of charge of the high-voltage battery before carrying out the campaign. Charge the high-voltage battery before carrying out the campaign if necessary to ensure that the state of charge is at least 35% and the decoupler can be adapted.

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle Information). This campaign affects 1,746 vehicles in North America.

Required parts and materials

Parts Info: **Parts required:**

Part No.	Designation	Qty.
... *	⇒ Oil change quantity sticker set* WKD94881212	1 ea. *

* **NOTE:** Parts will NOT be automatically allocated to your dealership. Please order parts when necessary as normal via a PTEC/PAV.

For warranty processing, enter **Part No. WH34000001**, designation "Sticker set" as a **sublet item & additional measure** with cost as per invoice.

Additional parts required if the "Oil level above maximum" warning is displayed on the vehicle:

Part No.	Designation	Qty.
95810722201	⇒ Oil filter element with seal	1 ea.
N 0160276	⇒ Screw plug	1 ea.
N 0138157	⇒ Sealing ring, 14 x 20	1 ea.

Materials:

Required materials (usually already available in the Porsche dealership)

– **Only required** if the "Oil level above maximum" warning is displayed on the vehicle:

Part No.	Designation	Qty.
00004330520	⇒ MOBIL 1 ESP Formula 5W-30 engine oil, 20-liter container	6.25 liter

Required tools

Tools:

- **Battery Charger/Power Supply** - Suitable for AGM Type batteries, recommended current rating of 90A fixed voltage 13.5V to 14.5V.
- **9900 - PIWIS Tester 3** with PIWIS Tester software version **36.600.010** (or higher) installed
- **T40178 - Oil gauge tester**
- Torque wrench, 2 – 10 Nm (1.5 – 7.5 ftlb.), e.g. **V.A.G 1783 - Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)**
- Torque wrench, 6 – 50 Nm (4.5 - 37 ftlb.), e.g. **V.A.G 1331 - Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
- Suitable used oil collection container, e.g. **VAS 6622A - Used oil collection and extraction unit**

Preparatory work

NOTICE

Fault entry in the fault memory and control unit programming and coding aborted due to low-voltage.

- **Increased current draw during diagnosis or control unit programming and coding can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of diagnostics.**

⇒ Before starting diagnostics, connect battery charger/power supply - Suitable for AGM Type batteries, recommended current rating of 90A fixed voltage 13.5V to 14.5V.

NOTICE

Control unit programming or coding will be aborted if the WiFi connection is unstable.

- An unstable WiFi connection can interrupt communication between the PIWIS Tester and the vehicle communication module (VCI). As a result, control unit programming or coding may be aborted.
- ⇒ During control unit programming or coding, always connect the PIWIS Tester to the vehicle communication module (VCI) via the USB cable.

NOTICE

Control unit programming or coding will be aborted if the driver's key is not recognized

- If the driver's key is not recognized in vehicles with Porsche Entry & Drive, programming or coding cannot be started or will be interrupted.
- ⇒ Switch on the ignition using the original driver's key. To do this, replace the control unit in the ignition lock with the original driver's key if necessary.

Work

Procedure:

**Information**

For vehicles on which the "Oil level above maximum" warning is displayed, a **VAL must be created**.

- 1 Carry out general preliminary work for control unit programming as described in ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Preliminary work"*.

Re-programming DME control unit

Work

Procedure:

**Information**

The procedure described here is based on the PIWIS Tester 3 software version **36.600.010**.

The PIWIS Tester instructions take precedence and in the event of a discrepancy, these are the instructions that must be followed.

A discrepancy may arise with later software versions for example.

- 1 **Re-program DME control unit.**

The basic procedure for programming a control unit is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Programming"*.

For specific information on control unit programming during this campaign, see table below.

NOTICE

Use of a PIWIS Tester software version that is older than the prescribed version

- Measure is ineffective
- ⇒ Always use the prescribed version or a higher version of the PIWIS Tester software for control unit programming.

Required PIWIS Tester software version:	36.600.010 (or higher)
Type of control unit programming:	Control unit programming using the ' Automatic programming ' function for the DME control unit. DME control unit – 'Programming' menu – 'Automatic programming' function.
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. During the programming sequence, the DME control unit is re-programmed and then re-coded automatically . Do not interrupt programming and coding. Once the control units have been programmed and coded, the PIWIS Tester will prompt you to switch the ignition off and then back on again after a waiting time of approx. 10 seconds .
Programming time (approx):	8 minutes
Porsche Part No. of the new DME data record:	970.618.51x.10 Following control unit programming, the Porsche part number can be read out of the 'DME' control unit in the ' Extended identification ' menu using the PIWIS Tester.
Procedure in the event of error messages appearing during the programming sequence:	⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i> .
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by restarting programming.

- 2 Connect electric plug connection for the fan blower again.

Reading out and erasing fault memory

Work Procedure: 1 Press •F7" in the control unit selection screen ('Overview' menu) to call up the Additional menu.

- 2 Select the function "Read all fault memories and erase if required" and press •F12" ('Next') to confirm your selection ⇒ *Erasing fault memories*.

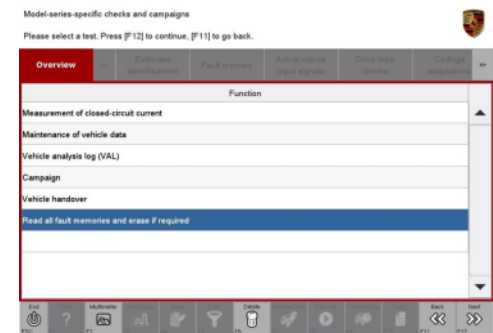
The fault memories of the control units are read out.

- 3 Once you have read out the fault memories, check the fault memory entries.



Information

If control units are found to have faults that are **not** caused by control unit programming, these faults must first be **found** and **corrected**. This work **cannot** be invoiced under the workshop campaign number.



Erasing fault memories

- 4 Press •F8" to delete fault memory entries.

- 5 Confirm the query as to whether you really want to delete all fault memory entries and press •F12" ('Yes') to confirm.

The faults stored in the fault memories of the various control units are then deleted.



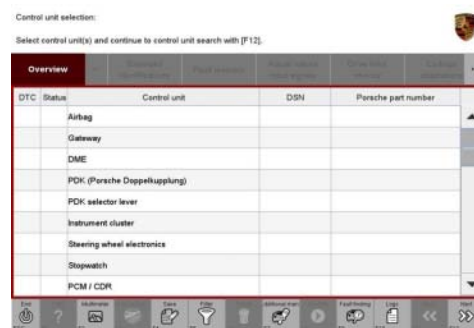
Information

If the fault memories of individual control units cannot be erased, proceed as follows:

- Switch off the ignition.
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver's key.
- Wait approx. 1 minute before unlocking the vehicle again.
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.
- Read out the fault memories of these control units again and erase the fault memories separately.

If control units are found to have faults that cannot be erased and are not caused by control unit programming, these faults must be found and corrected. This work **cannot** be invoiced under the workshop campaign number.

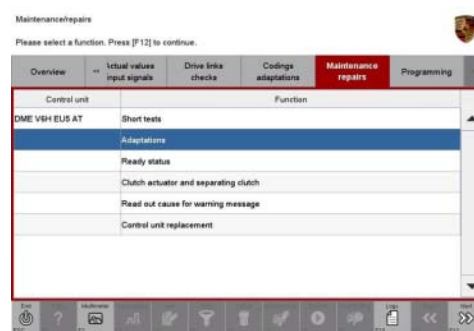
- Once you have erased the fault memories, select the **'Overview'** menu to return to the control unit selection screen ⇒ *Control unit selection*.



Control unit selection

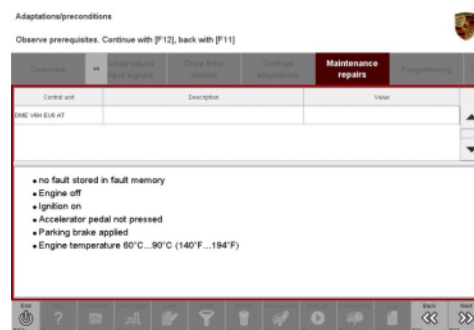
Perform throttle valve adaptation

- Work Procedure: 1 Select the **'DME'** control unit in the control unit selection screen ('Overview' menu) and press •F12" ('Next') to confirm your selection.
- Once the DME control unit has been found and is displayed in the overview, select the **'Maintenance/repairs'** menu.
 - Select menu item **'Adaptations'** and confirm your selection by pressing •F12" ('Next') ⇒ *DME - Adaptations*.



DME - Adaptations

- Comply with the displayed preconditions and press •F12" ('Next') to confirm ⇒ *Adaptation preconditions*.



Adaptation preconditions

- 5 Select the '**Throttle valve adaptation**' function so that the corresponding text line turns blue and press •F8" to start throttle valve adaptation ⇒ *Throttle valve adaptation*.
- 6 Follow the instructions on the PIWIS Tester while throttle valve adaptation is being performed. Once throttle valve adaptation is complete, a tick will appear in the "Value" field on the PIWIS Tester display.

If throttle valve adaptation is **not** completed successfully, the adaptation must be **repeated**.
- 7 Press •F8" ('Stop') to end throttle valve adaptation.
- 8 Press •F11" ('Back') to return to the start page of the '**Maintenance/repairs**' menu.
- 9 Select the '**Overview**' menu and press •F11" ('Back') to return to the control unit selection screen.



Throttle valve adaptation

Calibrating electric machine



Information

The electric machine must generally be calibrated after the fault memories of the OBD-relevant control units or the fault memories of all control units have been erased.

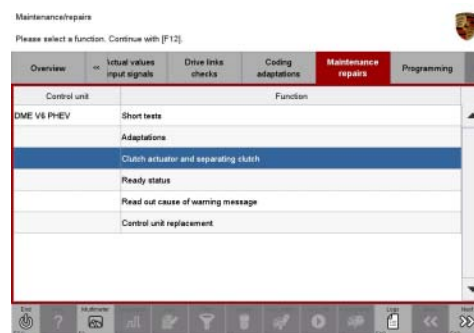
The rotor position (phase angle) and rotor temperature are stored during calibration of the electric machine.

- Work Procedure: 1 Press the brake pedal and keep it pressed.
- 2 Turn the ignition key in the ignition lock to position 2 (terminal 50 – engine start) and hold it at this position for about 2 to 3 seconds.
Calibration of the electric machine is clearly audible. Calibration is complete once the calibration noise can no longer be heard.
 - 3 Release the ignition key and move it to position 0 (ignition off).

Adapting the decoupler

- Work Procedure: 1 Leave the ignition switched off for at least 3 seconds and then switch it on again. Then, restore communication between the PIWIS Tester and the vehicle by pressing •F12" ('Next').
- 2 Select the '**DME**' control unit in the control unit selection screen ('Overview' menu) and press •F12" ('Next') to confirm your selection.

- 3 Once the DME control unit has been found and is displayed in the overview, select the '**Maintenance/repairs**' menu.
- 4 Select the menu item '**Clutch actuator and decoupler**' and press •F12" ('Next') to confirm your selection ⇒ *Clutch actuator and decoupler*.
- 5 Read and comply with the preconditions for the state of charge of the high-voltage battery and confirm by pressing •F12" ('Next').



Clutch actuator and decoupler

- 6 Select the '**Clutch adaptation**' function and press •F12" ('Next') to confirm your selection ⇒ *Adapting the decoupler*.
- 7 Read and follow the instructions for starting the electric motor and performing adaptation. Press the brake pedal and then press •F12" ('Next') to start the adaptation.

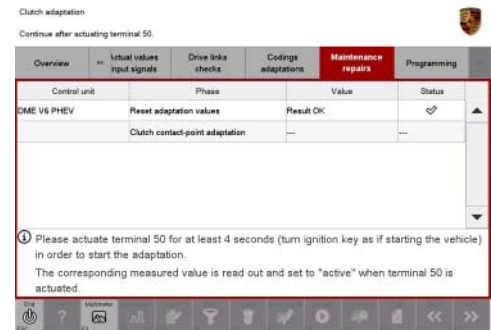
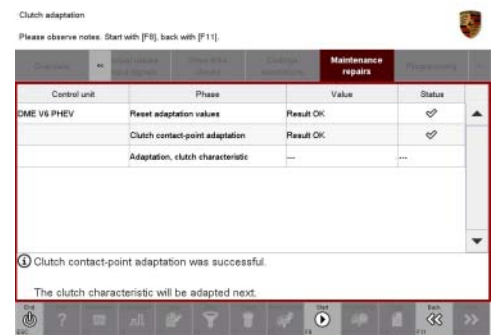


Adapting the decoupler

- 8 During adaptation, the adaptation values will first be deleted ⇒ *Resetting adaptation values*. The clutch contact point and the clutch characteristic will then be adapted ⇒ *Adapting contact point* and ⇒ *Adapting characteristic*. Start each step by pressing •F8" ('Start') and follow the instructions on the PIWIS Tester.



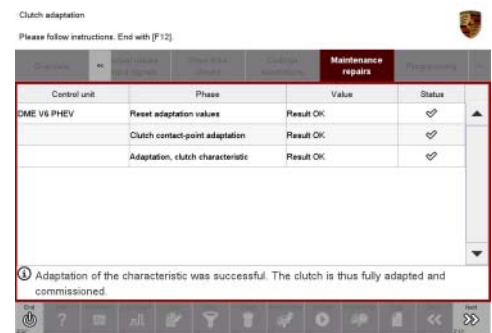
Resetting adaptation values

*Adapting contact point**Adapting characteristic*

- 9 Once the decoupler adaptation is complete, a tick will appear in the "Status" field in the PIWIS Tester display ⇒ *Adaptation successful*. Press •F12" ('Next') to continue.

If the decoupler adaptation is not completed successfully, the process must be repeated.

- 10 Press •F11" ('Back') to return to the start page of the **'Maintenance/repairs'** menu.
- 11 Select the **'Overview'** menu and press •F11" ('Back') to return to the control unit selection screen.
- 12 Switch off the ignition.
- 13 Disconnect the PIWIS Tester from the vehicle.
- 14 Switch off and disconnect the battery charger.

*Adaptation successful*

Affixing stickers showing the changed engine oil change quantity



Information

After carrying out this measure, the **changed engine oil change quantity of 6.25 litres** must be observed and added.

Relevant stickers must therefore be affixed in the engine compartment and in the Driver's Manual as a reminder of the adapted change quantity.

Work Procedure: 1 Affix sticker ⇒ *Engine oil change quantity sticker set -1-* in the **Additional Owner's Manual for Hybrid vehicles**.

To do this, the previous **Engine oil change quantity with oil filter** specification under **"Filling capacities" in the "Technical Data" chapter** must be covered over by affixing the relevant sticker ⇒ *Engine oil change quantity sticker set -1-* showing the **changed engine oil change quantity of 6.25 liters** from the sticker set.

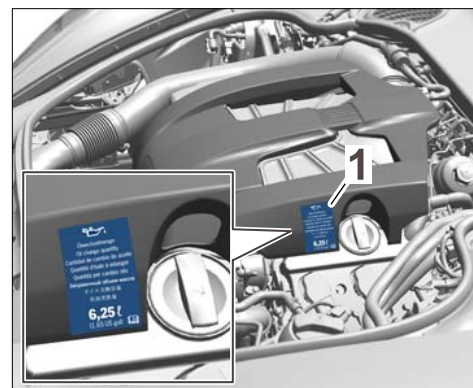
2 Affix sticker ⇒ *Engine oil change quantity sticker set -2-* on the engine cover.

2.1 Clean the area on the engine cover close to the engine oil filler neck on which you want to affix the sticker using a suitable cleaning agent to remove any dust and grease.

2.2 Affix the sticker ⇒ *Sticker on engine cover -1-* showing the changed engine oil change quantity at an equal distance to the lower edge of the engine cover ⇒ *Sticker on engine cover -inset-* in the engine oil filler neck area and press it on firmly.



Engine oil change quantity sticker set



Sticker on engine cover

Changing engine oil and oil filter



Information

The engine oil and oil filter **must** always be changed during a **regular service** requested by the customer (e.g. during an oil change service, intermediate maintenance or during servicing). Only if the customer contacts the workshop **complaining that the "Oil level above maximum" warning is displayed** should the engine oil and oil filter be changed **outside of a regular service**.

Work Procedure: 1 **Service the vehicle as requested by the customer** or, if the "Oil level above maximum" warning is displayed, only **change the engine oil and oil filter**.

Add the adapted **engine oil change quantity of 6.25 liters**.

For instructions, see ⇒ *Workshop Manual '170117 Changing engine oil and oil filter'*.

Overview of oil fill quantities:

	Oil filling quantity with change of filter
MIN	5.75 liter
MAX	6.25 liters
MIN – MAX difference	0.5 liter

2 Measure the engine-oil level using **T40178 - oil gauge tester** and correct the engine-oil level if necessary.

To do this, use the relevant updated values from the table below for the adapted engine oil change quantity.

For instructions, see ⇒ *Workshop Manual '170101 Checking engine-oil level'*.

Engine	Adjustment value at upper adjusting ring	Oil level minimum value on lower scale	Oil level maximum value on lower scale
3.0 hybrid engine	112 mm	18 mm	25 mm

3 Reset service interval display in accordance with the servicing work carried out (oil change service, intermediate maintenance or servicing).

3.1 Connect a battery charger to the jump-start terminals in the engine compartment and switch it on and connect the PIWIS Tester to the vehicle and switch it on.

3.2 On the PIWIS Tester start screen, call up the ⇒ **'Diagnostics'** menu.

3.3 Once the diagnostic application has started and the control unit selection screen is populated, call up the **'Instrument cluster'** control unit.

3.4 Select the **Maintenance/repairs** menu.

3.5 Select the ⇒ **'Reset service interval'** function and confirm with •F12" ('Next').

- 3.6 Follow the instructions on the Tester and press •F12" ('Next') to continue.
 - 3.7 Select the servicing work that was carried out and press •F8" ('Execute') to perform the reset.
 - 3.8 Press •F11" ('Back') to return to the start page of the '**Maintenance/repairs**' menu.
 - 3.9 Select the '**Overview**' menu and press •F11" ('Back') to return to the control unit selection screen.
- 4 Switch off the ignition.
 - 5 Disconnect the PIWIS Tester from the vehicle.
 - 6 On vehicles with Porsche Entry & Drive, replace the original vehicle key in the ignition lock with the control panel again.
 - 7 Switch off and disconnect the battery charger.
 - 8 Enter the campaign in the Warranty and Maintenance booklet.

During vehicle handover, please inform the customer about the changed engine oil change quantity and the related stickers in the engine compartment and Additional Owner's Manual.

Warranty processing

Information:



Information

This campaign **must** always be carried out during a **regular engine oil change** (e.g. during an oil change service, intermediate maintenance or during servicing).

Only if the customer contacts the workshop **complaining that the "Oil level above maximum" warning is displayed** should the engine oil be changed **outside of a regular service**. In this case, **Scope 2** must be invoiced. This scope **also** includes all parts and work required for changing the engine oil and oil filter.



Information

The working times specified below were determined specifically for carrying out this campaign and may differ from the working times published in the Labor Operation List in PIWIS.

Scope 1: **Adapting oil fill quantity** - Performed during a **regular engine oil change**.

Working time:

Adapting oil fill quantity

Labor time: **62 TU**

Includes: Disconnecting and connecting electric plug connection for fan blower
 Connecting and disconnecting battery charger
 Connecting and disconnecting PIWIS Tester
 Re-programming DME control unit
 Reading out and erasing fault memory
 Performing throttle valve adaptation
 Calibrating electric machine
 Adapting the decoupler
 Affixing stickers showing changed engine oil change quantity

Without: Creating vehicle analysis log (VAL)
 Changing engine oil and oil filter
 Checking engine-oil level
 Resetting service interval display

Parts required:

WH340000001*	Oil change quantity sticker set	1 ea. (for warranty invoicing only)*
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* For warranty processing, enter Part No. WH340000001, designation "Sticker set" as a sublet item & additional measure with cost as per invoice.

⇒ **Damage Code WH34 066 000 1**

Scope 2: **Adapting oil fill quantity** - Performed **outside of** a regular service.

Working time:

Adapting oil fill quantity

Labor time: **155 TU**

Includes: Disconnecting and connecting electric plug connection for fan blower
 Connecting and disconnecting battery charger (several times)
 Connecting and disconnecting PIWIS Tester (several times)
 Creating vehicle analysis log (VAL)
 Re-programming DME control unit
 Reading out and erasing fault memory
 Performing throttle valve adaptation

- Calibrating electric machine
- Adapting the decoupler
- Affixing stickers showing changed engine oil change quantity
- Changing engine oil and oil filter
- Checking engine-oil level
- Resetting service interval display

Parts required:

WH340000001*	Oil change quantity sticker set	1 ea. (for warranty invoicing only)*
95810722201	Oil filter element	1 ea.
N 0138157	Sealing ring, 14 x 20	1 ea.
N 0160276	Screw plug	1 ea.

Materials required:

00004330520	MOBIL 1 ESP Formula 5W-30 engine oil (20-liter container)	0.32 ea. (= approx. 6.25 liters)
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* For warranty processing, enter Part No. WH340000001, designation "Sticker set" as a sublet item & additional measure with cost as per invoice.

⇒ **Damage Code WH34 066 000 1**

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