



SIM 11 02 20

2020-09-10

ENGINE REPLACEMENT AND REPAIRS - OIL PUMP AND SUPPLY CIRCUIT PRIMING PROCEDURE

This Service Information Bulletin (Revision 1) **replaces** SI M11 02 20 **dated March 2020**.

What's New (Specific text highlighted):

- Warranty labor operation change

MODEL

All

INFORMATION

New and remanufactured replacement engine assemblies are **NOT pre-filled** with engine oil.

After replacing an engine with a new or remanufactured engine assembly, the engine oil level must be verified as outlined in the procedure below first, before starting the engine for the first time.

If the new or remanufactured replacement engine is started to determine electronically if the engine is filled with the appropriate amount of engine oil, damage to the replacement engine can occur immediately.

The engine may have some residual engine oil from assembly, but this is **not enough** engine oil to properly lubricate the engine to measure the engine oil level electronically when it is started for the first time.

Furthermore, the electronic engine oil measurement is only operational when the engine is running at its full operating temperature. Checking the engine oil without the engine running at operating temperature will lead to an incorrect or incomplete measurement.

After replacing the engine or making engine repairs that require the replacement or removal of the following components, you must perform a short oil pump and oil supply circuit priming procedure. Refer to the appropriate section below.

- Engine bearings
- VANOS gears
- Camshafts
- Bed plate resealing
- Engine oil pump
- Engine oil filter housing
- Cylinder head
- Engine oil cooler
- Anything that interrupts the engine oil supply circuit of the engine

PROCEDURE

Engine Replacement:

The following procedure applies to all engines equipped with an electronic engine oil level sensor, with or without an engine oil dipstick.

This procedure is used when the high-pressure fuel system pressure is already depleted from complete engine replacement.

1. After installation of the replacement engine and before starting the engine for the first time, remove the engine oil drain plug. Drain any residual engine oil from the crankcase.

2. Reinstall and torque the engine oil drain plug (with a new seal ring) per the applicable repair instruction.
3. Remove the oil filter housing cover and verify the oil filter is present. Reinstall the oil filter housing cover and torque it to the proper specification noted in the applicable repair instruction.
4. Fill the engine with the proper type and amount of engine oil, as specified in the applicable repair instruction.
5. Manually rotate the engine 2 revolutions in the **clockwise** direction with the appropriate wrench or a ratchet with socket. **Never rotate the engine counterclockwise.**
6. Connect a battery charger to the vehicle.
7. Remove the electric fuel pump fuse. Refer to the applicable wiring diagram using the VIN of the vehicle in ISTA.
8. Crank the engine for 10 seconds.
9. After 10 seconds have elapsed, stop the starter, and allow the starter to cool for 20 seconds.
10. Repeat steps 8 and 9 two additional times.
11. Reinstall the electric fuel pump fuse and start the engine. Verify proper engine operation.
12. After the engine has reached operating temperature, check the engine oil electronically or with the dipstick, and top up the engine oil as needed.

Cylinder Head Replacement or Valvetrain Repairs:

This procedure is used when the cylinder head is removed and installed, or replaced. This also applies to valvetrain repairs where the valvetrain is disassembled from the cylinder head. This would include-

- Camshafts
- Eccentric shafts
- Intermediate levers
- Roller drag levers
- Valve springs
- Valves

The following procedure applies to all engines equipped with an electronic engine oil level sensor, with or without an engine oil dipstick.

This procedure is used when the high-pressure fuel system pressure is already depleted from complete engine replacement.

1. If the engine oil was drained, torque the engine oil drain plug (with new seal ring per the applicable repair instruction), ensure the proper type and amount of engine oil is used when refilling the engine.
2. If you are unsure, remove the oil filter housing cover and verify the oil filter is present. Reinstall the oil filter housing cover and torque it to the proper specification noted in the applicable repair instruction.
3. Manually rotate the engine 2 revolutions in the **clockwise** direction with the appropriate wrench or a ratchet with socket. **Never rotate the engine counterclockwise.**
4. Connect a battery charger to the vehicle.

5. Remove the electric fuel pump fuse. Refer to the applicable wiring diagram using the VIN of the vehicle in ISTA.
6. Crank the engine for 10 seconds.
7. After 10 seconds have elapsed, stop the starter, and allow the starter to cool for 20 seconds.
8. Repeat steps 6 and 7 two additional times.
9. Reinstall the electric fuel pump fuse and start the engine. Verify proper engine operation.
10. After the engine has reached operating temperature, check the engine oil electronically or with the dipstick, and top up the engine oil as needed.

Engine Repairs:

This procedure is used when the engine oil supply circuit is interrupted during a repair. This applies to-

- VANOS gears
- Timing chain tensioner
- Bed plate resealing
- Engine oil pump
- Engine oil filter housing
- Engine oil cooler
- Any engine repair that interrupts the engine oil supply circuit of the engine

This procedure is used when the high-pressure fuel system pressure may not be depleted after minor engine repairs. The fuel injection system needs to be disabled by removing the fuel injector electrical connectors.

1. If the engine oil was drained, torque the engine oil drain plug (with new seal ring per the applicable repair instruction), ensure the proper type and amount of engine oil is used when refilling the engine.
2. If you are unsure, remove the oil filter housing cover and verify the oil filter is present. Reinstall the oil filter housing cover and torque it to the proper specification noted in the applicable repair instruction.
3. Connect a battery charger to the vehicle.
4. Remove all fuel injector electrical connectors to disable fuel injection.
5. Crank the engine for 10 seconds.
6. After 10 seconds have elapsed, stop the starter, and allow the starter to cool for 20 seconds.
7. Repeat steps 5 and 6 two additional times.
8. Reinstall the fuel injector electrical connectors, reassemble the vehicle and verify proper engine operation.
9. After the engine has reached operating temperature, check the engine oil electronically or with the dipstick, and top up the engine oil as needed.

WARRANTY INFORMATION

Claimable in conjunction with an applicable repair that is covered under the terms of a MINI Limited Warranty or MINI program coverage that applies and is active.

Defect Code:	Refer to AIR	Claim with the defect code that applies to the engine replacement or component repair that required this necessary work procedure to be performed
Labor Operation	Description (Associated work)	Labor Allowance
11 00 896	Engine oil priming procedure (Performing any of the repair procedures listed above that includes the engine oil pump and oil supply circuit priming procedure after engine replacement, cylinder head replacement or other applicable engine repairs)	Refer to AIR
Or:		
11 99 000	Work time for the engine oil priming procedure (See below) (Performing any of the repair procedures listed above that includes the engine oil pump and oil supply circuit priming procedure after engine replacement, cylinder head replacement or other applicable engine repairs)	5 FRU

Refer to AIR for the corresponding flat rate unit (FRU) allowance (See below).

Work Time Labor Operation 11 99 000

At the AIR start screen, use the Search for vehicle with vehicle identification number option (enter a minimum of the last 7 digits of the VIN).

In the AIR application, select Flat Rate Units from the top menu bar, enter **flat rate labor operation code 1100896 (without spaces)** in the search field, hit enter or the search icon to confirm that labor operation 11 00 896 applies and is available and then obtain the corresponding FRU allowance information.

If flat rate labor operation **11 00 896 is not found**, submit and claim for job/repair work time labor operation 11 99 000 for the FRU allowance as described above instead.

If other required work was also performed under labor operation 11 99 000, claim labor operation 11 99 000 one time only for all the job/repair WT FRU that was needed and itemize the total FRU amount claimed on the repair order and in claim comment section.

As applicable to your dealer, please refer to **SI M01 01 20** or **M01 04 20** for claiming your diagnosis work time, job/repair work time (WT), WT and the repair-related explanation procedures.

QUESTIONS REGARDING THIS BULLETIN

Technical inquiries	Submit feedback at the top of this bulletin
Warranty inquiries	Submit an IDS ticket to the Warranty Department
Parts inquiries	Submit an IDS ticket to the Parts Department