



SI B11 07 18
Engine

May 2019
Technical Service

ENGINE OIL DRAIN PLUG THREAD REPAIR TOOL

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

This Service Information bulletin supersedes SI B11 07 18 **dated June 2018**

What's New:

- Threaded insert (Time-Sert) repair tool information added.

 **MODEL**

All Models with a 12mm engine oil drain plug and an aluminum engine oil pan

INFORMATION

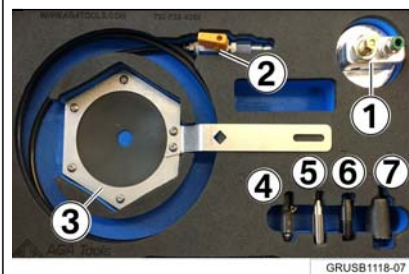
Attached to this Service Information bulletin are repair instructions to fix the damaged 12mm engine oil drain plug threads in an aluminum engine oil pan.

The tool and procedure will modify the engine oil pan to accept a larger 14mm engine oil drain plug and seal ring.

The thread repair procedure requires approximately 20 minutes of labor after the engine oil is drained.

This tool kit will be through the Automatic Tool Shipment Program. Additional tools may be purchased through your Regional Distribution Center (RDC). All prices in this bulletin are introductory prices and are only valid during the Automatic Tool Shipment. Refer to SI [B04 06 18](#) for additional information.

Drain plug thread repair tool P/N 83 30 2 461 309 overview:



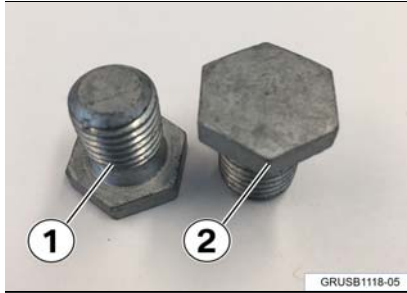

1. Oil cap with regulator
2. Air supply hose with valve
3. Debris shield
4. Boring tool (drill bit)
5. Thread forming tap (14mm)
6. Alignment pin
7. Re-facing tool

 **CAUTION:**

- This tool can only repair the threads in aluminum engine oil pans.
- Do not attempt to use the tool in a steel engine oil pan or any type of steel material or a steel threaded insert.

- Always use these tools in the forward or clockwise drill rotation, never turn the tools in the reverse or counter clockwise rotation. Dulling of the tools cutting edges will occur if not used properly.
- If a Heli-coil thread repair was already installed in the aluminum engine oil pan then the Heli-coil must be removed before starting this procedure.
- If a Time-Sert threaded insert was already installed then this tool (83 30 2 461 309) cannot be used to repair the threads. The Time-Sert or threaded insert outside diameter is too large for this tool. See Time-Sert section for additional details.

Engine oil drain plug overview:

	<p>Original equipment engine oil drain plug.</p> <ul style="list-style-type: none"> • 12mm threads (1) • 17mm hex head (2)
	<p>Replacement engine oil drain plug P/N 07 11 9 904 539.</p> <ul style="list-style-type: none"> • 14mm threads (1) • 13mm hex head (2)

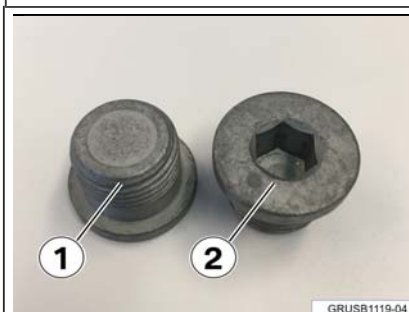
UPDATE ! Repairing the Oil Pan Drain Plug Thread After a Time-Sert Is Already Installed

	<p>Go to the BMW Equipment Program bmwcentersolutions.com and search AGA Tools and Products P/N ODO-14-16-K. This M16 drain plug thread repair tool can be purchased separately to upgrade the existing tool kit on a case by case basis.</p> <p>The tool procedure is identical to the instructions attached to this bulletin with the exception that the 16mm tools will be used instead of the 14mm tools.</p>
---	---



The repair kit AGA-ODP-14-16-K includes three replacement 16mm drain plugs for convenience. The AGA 16mm replacement engine oil drain plug P/N is AGA-ODP-3.

- 16mm threads (1)
- 17mm hex head (2)



Replacement 16mm engine oil drain plugs can also be ordered through BMW using P/N 07 11 9 902 292.

- 16mm threads (1)
- 8mm Allen (2)

UPDATE ! PARTS INFORMATION

Drain plug and seal (14mm) when special tool P/N 83 30 2 461 309 is used.

Part Number	Description	Quantity
07 11 9 904 539	14mm drain plug	1 per repair
07 11 9 963 201	14mm drain plug seal ring	1 per repair

Drain plug and seal (16mm) when AGA tool P/N ODO-14-16-K is used.

Part Number	Description	Quantity
07 11 9 902 292	16mm drain plug	1 per repair
07 11 9 963 252	16mm drain plug seal ring	1 per repair

UPDATE ! WARRANTY INFORMATION

These vehicle repairs are not applicable.

UPDATE ! SPECIAL TOOL WARRANTY AND REPLACEMENT PARTS

The Repair kits (part number 83 30 2 461 309 or AGA-ODP-14-16-K: Engine oil drain plug thread repair tools) **are not covered** by the BMW Special Tool Warranty.

The limited warranty is administered by All German Auto – see the details below


The warranty period is 12 months from the date of purchase.

In the event of a warranty or service replacement part-related issue, please refer to the AGA Contact information below.


AGA Tools and Products

1327 Simpson Way

Escondido, CA 92029

Phone: 760-738-4084 

Email: rich@agatools.com

Fax: 760-738-8013 

ATTACHMENTS

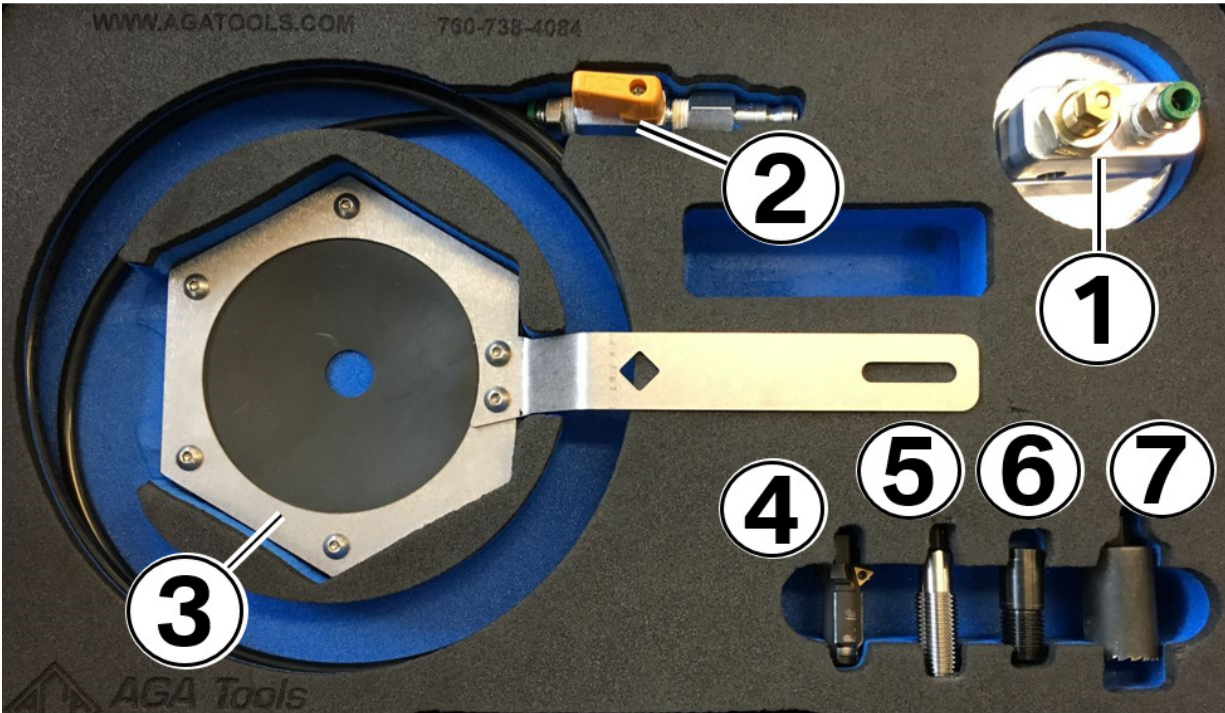
View PDF attachment [B110718 Procedure](#).

[Copyright ©2019 BMW of North America, Inc.]

Drain Plug Thread Repair Instructions

IMPORTANT: This thread repair tool and thread repair procedure should only be used by technicians that are familiar with thread repairs.

Repair Kit Overview:



- | | | | |
|------------------------------|-------------------------------|-------------------|----------------------------|
| 1. Oil Cap with Regulator | 2. Air Supply Hose with Valve | 3. Debris Shield | 4. Boring Tool (Drill Bit) |
| 5. Thread Forming Tap (14mm) | 6. Alignment Pin | 7. Re-Facing Tool | |

Always wear the proper protective clothing as per local and state laws.



Recommendations:

- Face shield
- Nitrile rubber gloves



- Shop coat or equivalent

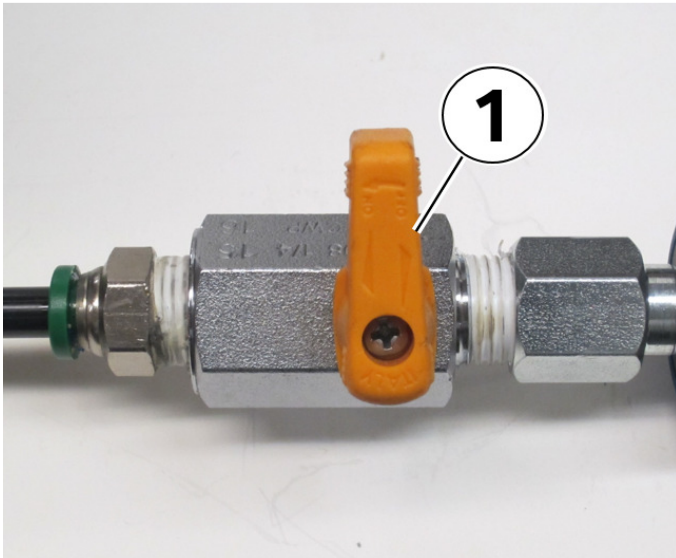
Important:

- Cleanliness of the tools and the surrounding work surfaces are very important.
- The tools are made of high quality materials but they need to be cleaned periodically during this procedure and lubricated at all times.
- The boring tool and the thread forming tap are lubricated by the engine oil exiting the engine while under pressure. Some additional lubricant may be required.
- The re-facing tool requires lubrication, use spray lubricant or equivalent.
- This tool can only repair the threads in aluminum engine oil pans.

- Do not attempt to use the tool in a steel engine oil pan or any type of steel material or a steel threaded insert.
- Always use these tools in the forward or clockwise drill rotation, never turn the tools in the reverse or counter clockwise rotation. Dulling of the tools cutting edges will occur if not used properly.
- If a Heli-coil thread repair was already installed in the aluminum engine oil pan then the Heli-coil must be removed before starting this procedure.
- If a Time-Sert was already installed then this tool cannot be used to repair the threads. The Time-sert outside diameter is too large for this tool.

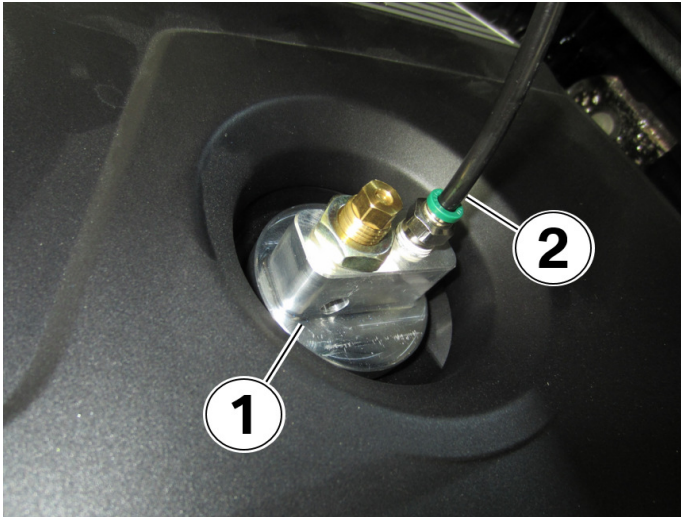


1. Drain the engine oil (1).



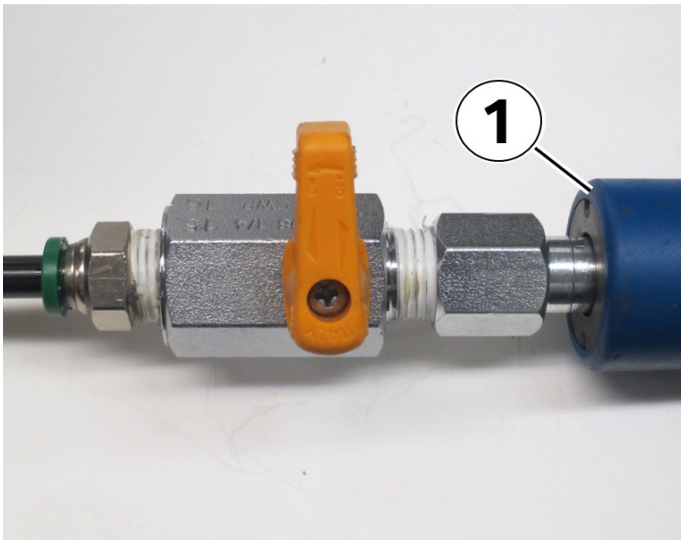
2. Turn the air supply valve off (1).

Do not connect the shop air supply yet.

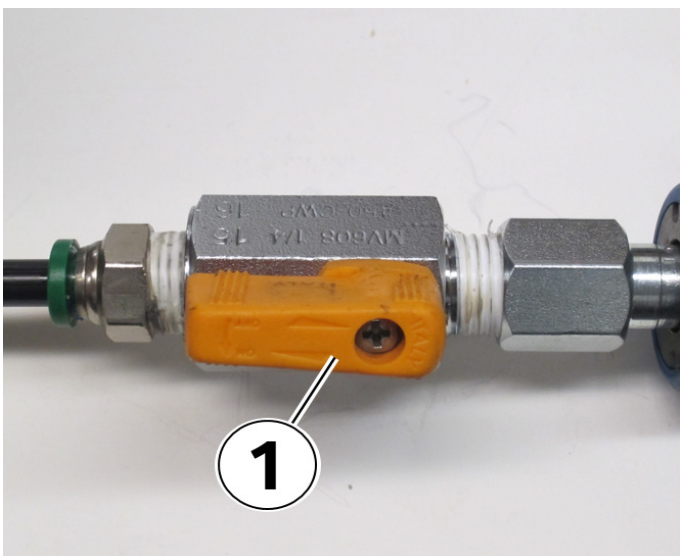


3. Remove the engine oil cap and install the oil cap with regulator (1).

Install the black air supply hose (2).



4. Connect the shop air supply hose (1).



5. Turn the air supply valve on (1).

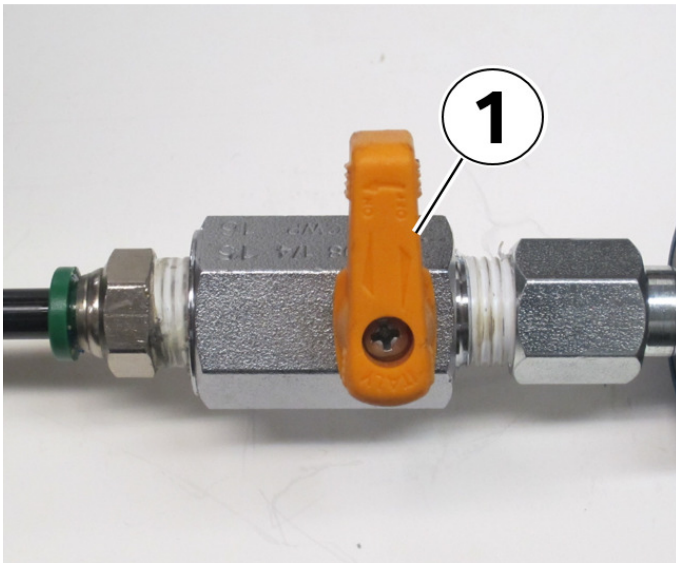
Note: The air supply will be greatly reduced entering the engine using the special oil cap with regulator.



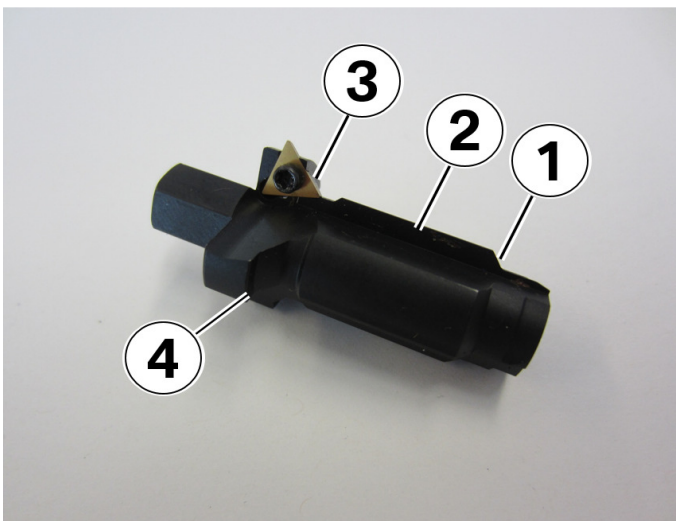
6. Engine oil will begin to exit the oil pan again (1) with the air supply valve in the on position.

The oil drippings will be greatly reduced after approximately 90 seconds.

Wait approximately 90 seconds before proceeding to the next step.



7. Turn air supply valve off (1).



Boring tool overview:

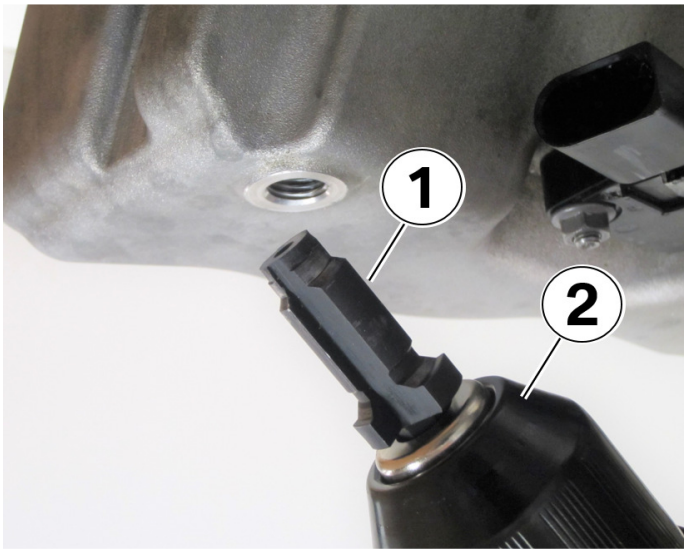
Self-centering taper (1)

Bore cutting surface (2)

Chamfer cutter (3)

Shoulder stop (4)

Caution: The cutting edges of this tool are very sharp.

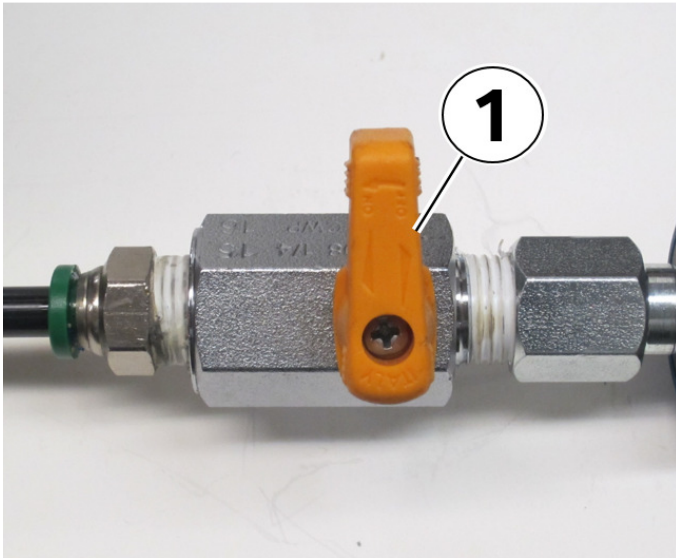


8. Install the boring tool (1) into a suitable cordless drill (2).

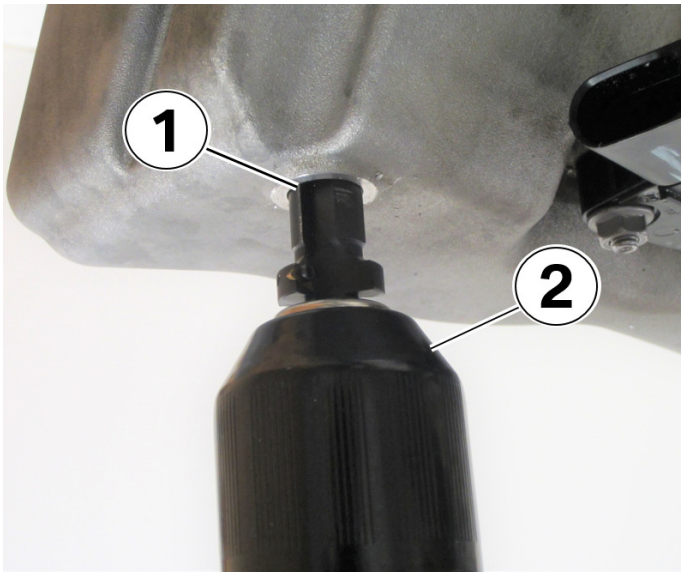
Recommended cordless drill setting:

- Low speed or speed 1
- Lock the clutch
- Clockwise rotation

Caution: The cutting edges of this tool are very sharp.



9. The air supply valve (1) is still off.



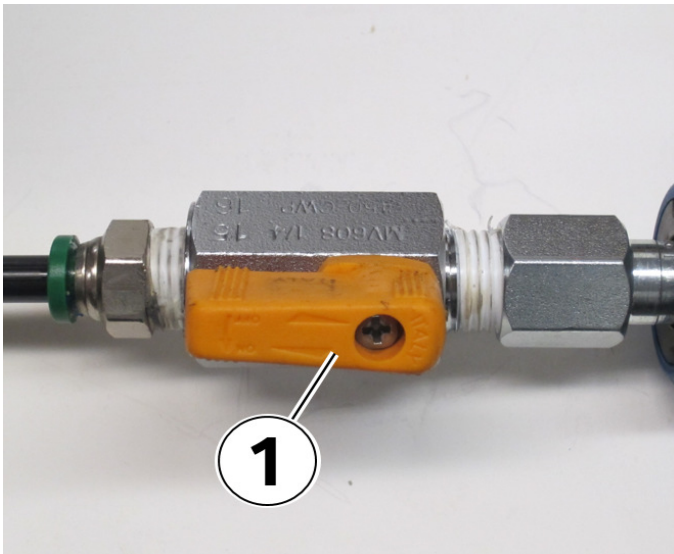
10. Start the boring procedure. Rotate the drill (2) slowly and apply a little pressure upward into the oil pan drain plug hole.

Insert the boring bit and begin boring to approximately 3-4 mm deep (1). Stop when 3-4 mm has been reached.

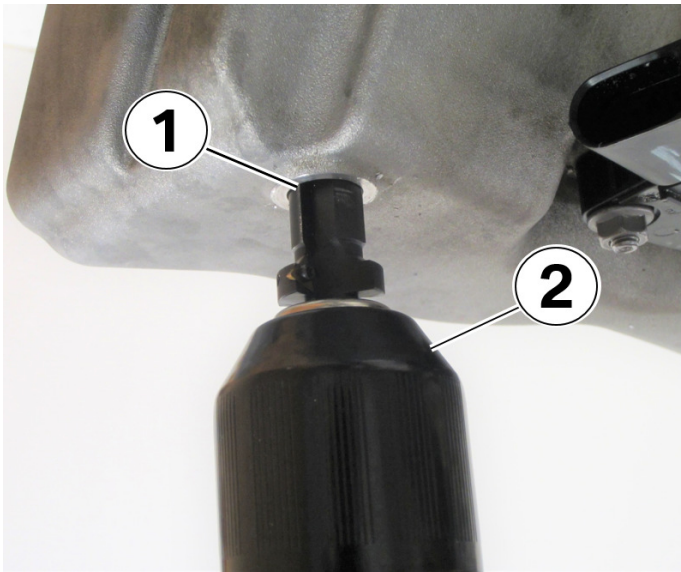
Remove the boring tool from the hole.

Note: Starting the boring process without the air supply turned on is less distracting and will allow you to get the hole centered and squared to the engine oil pan.

No metal will enter the oil sump if you stop at approximately 3-4 mm.



11. Turn the air supply on (1).



12. When you resume boring the engine oil and metal chips will exit with the air pressure.

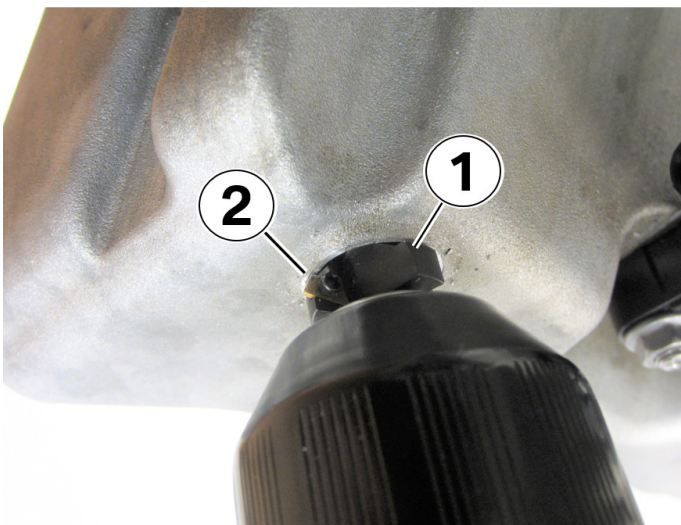
Always wear the recommended safety equipment.



Optional debris shield in use.

Place the debris shield over the boring bit to shield any debris away from the drill operator.

A 2nd person may be used for this function so that the drill operator can continue using two hands on the drill.

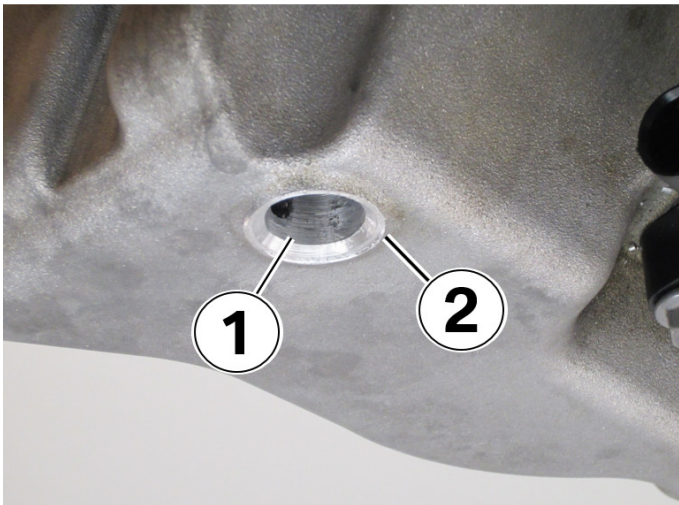


13. Continue boring the hole (1) until the shoulder of the tool makes contact with the oil pan.

Once the tool stops developing cutting shavings the modified bore and the chamfer (2) are complete.



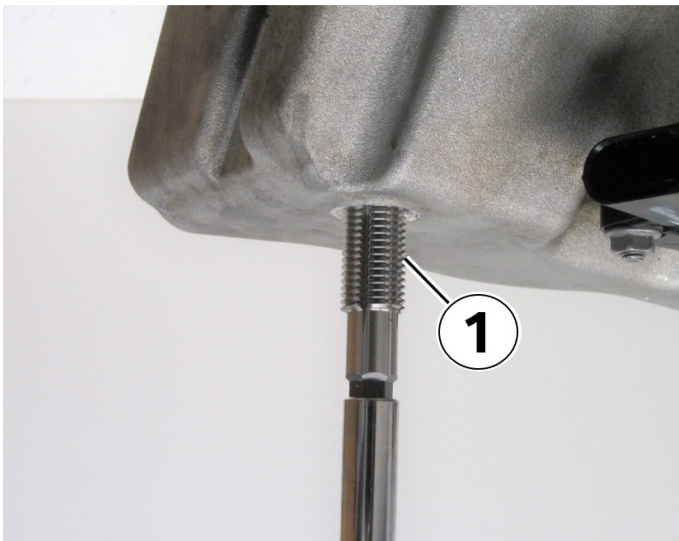
14. Remove the boring tool from the hole.



15. Inspect the bore (1) and the chamfer (2).

Wipe away any loose debris with a shop towel.

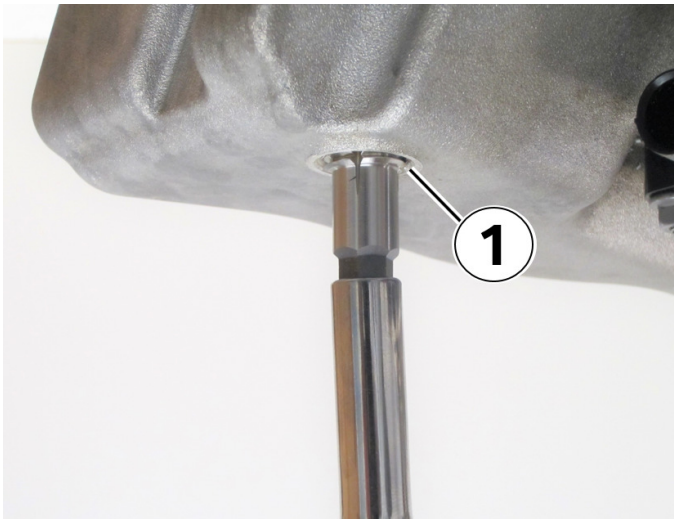
Note: The chamfer will help start the thread forming tap.



16. Use an 8mm socket with a ratchet.

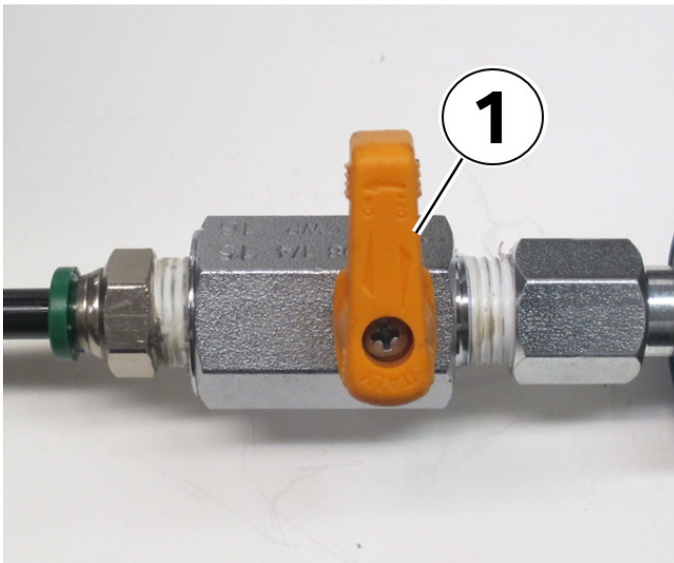
Insert the thread forming tap (1) into the hole.

Turn the tap slowly clockwise while applying slight upward pressure.



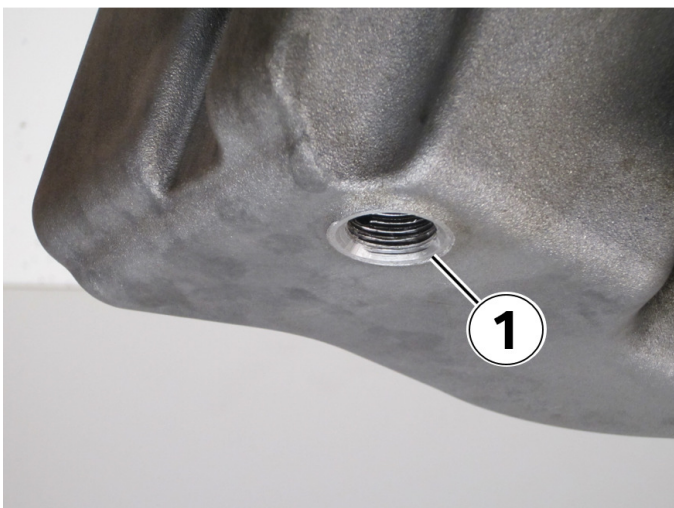
17. Continue turning the tap until the last thread is flush with the outer pan surface (1).

Rotate the tap counter clockwise to remove it.



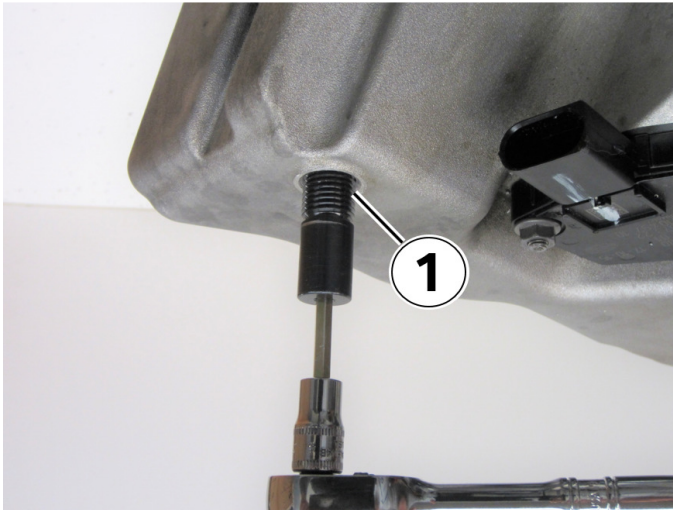
18. After the tap is removed.

Turn the air supply valve off (1). Disconnect the shop air supply from the valve, the shop air supply is no longer needed.

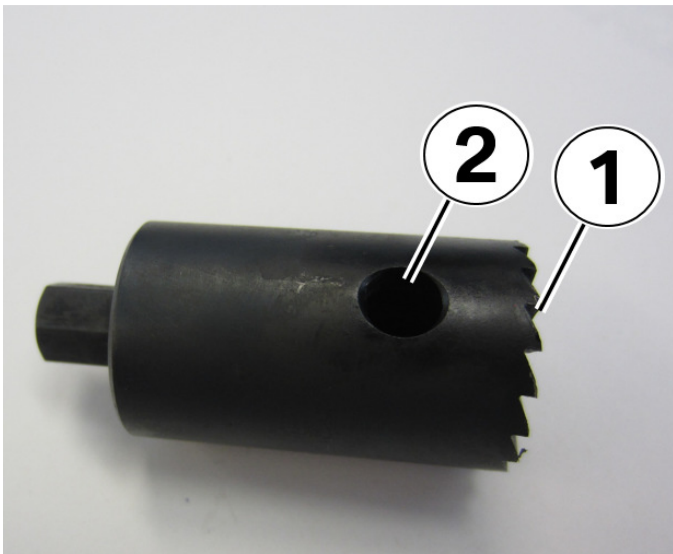


19. Wipe away any debris with a shop towel.

Inspect the chamfer and the thread (1).



20. Insert the alignment pin (1) with 5mm Allen socket until it is flush with the oil pan surface.

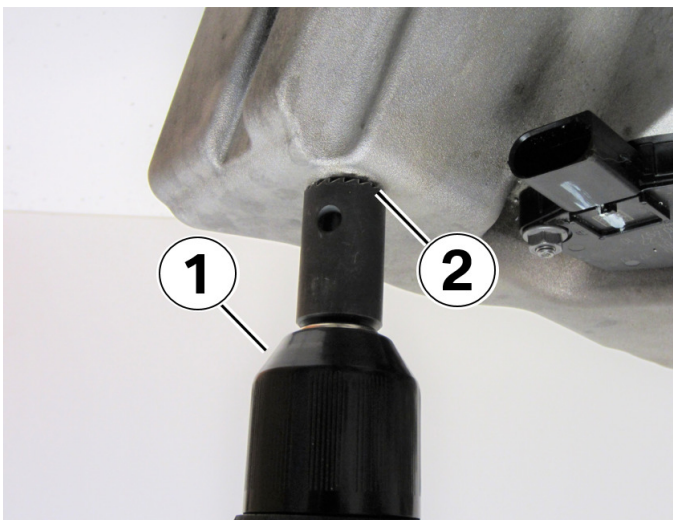


Re-facing tool overview:

Cutting teeth (1)

Hint: Clean the cutting teeth with a pick and shop towel to avoid build up. Tool cleanliness with lubrication will provide the best results.

Debris vents (2)



21. Install the re-facing tool into a drill (1).

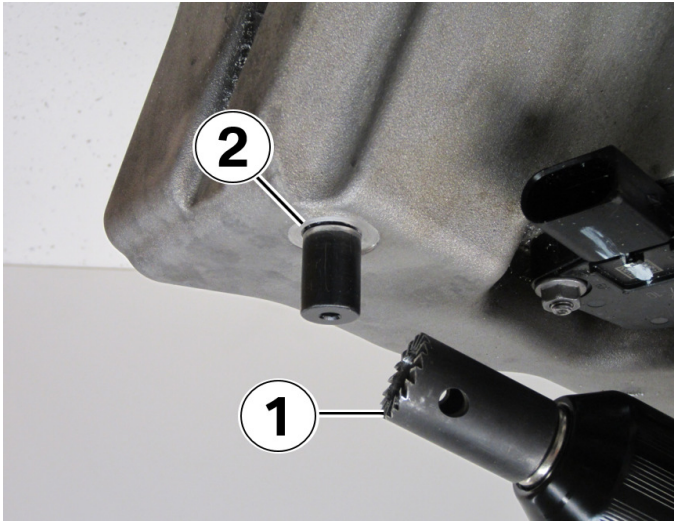
Recommended drill setting:

- Low speed or speed 1
- Lock the clutch
- Clockwise rotation.

Place the re-facing tool over the alignment tool (1) and begin re-facing the seal surface (2).

Apply medium pressure to begin resurfacing the seal surface.

The re-facing tool will make the sealing surface perpendicular to the newly threaded hole.



22. Remove the re-facing tool (1) from the alignment pin.

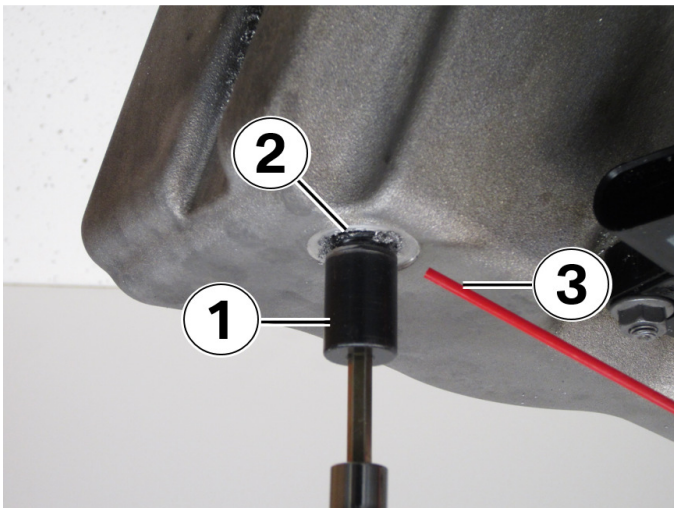
Inspect the sealing surface.

The sealing surface should be smooth and clean to ensure an oil leak will not occur.

Repeat as necessary to achieve smooth results.

Clean and lubricating the cutting teeth on the re-facing tool periodically using a pick and shop towel will achieve the best quality.

Hint: After the first cut, rotating the tool slowly with light pressure will polish the sealing surface while removing minimal material to achieve a superior sealing surface.

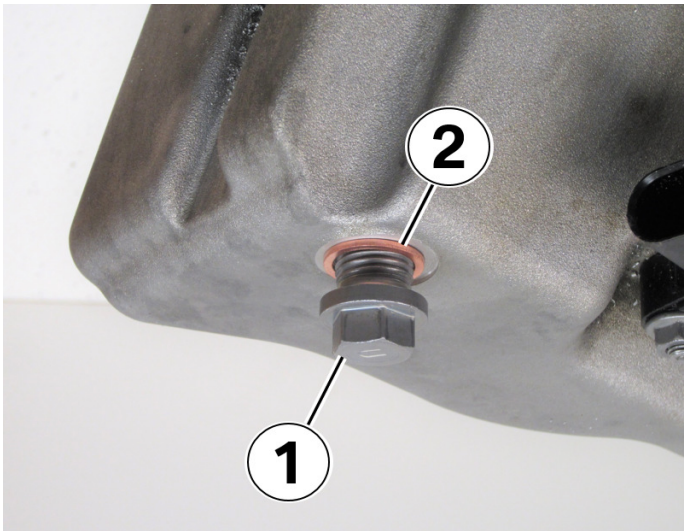


23. Turn the alignment pin two turns counter clockwise. Do not remove it yet.

Use solvent and a shop towel to clean the threads of the alignment pin before removing it entirely.



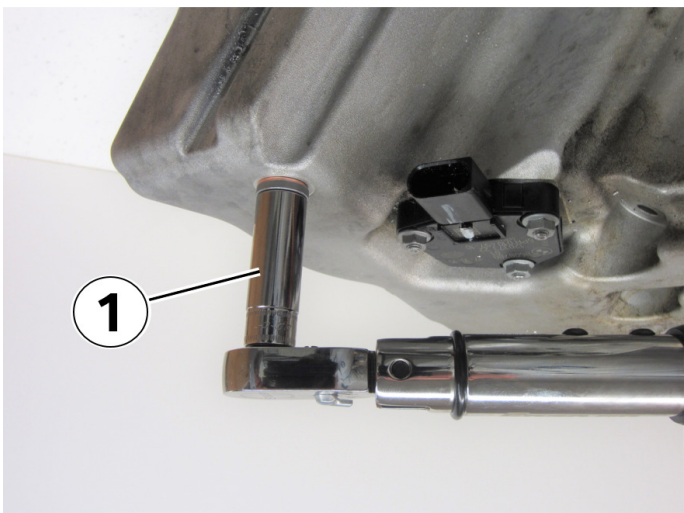
24. Clean the area (1) with a shop towel.



25. Install the new drain plug P/N 07 11 9 904 539 (1) and seal ring P/N 07 11 9 963 201 (2).



26. Set the torque wrench to 28 Nm (1).



27. Torque the drain plug (1).

Remove the oil cap with regulator.

Fill the engine with the proper engine oil and quantity.