

**2002-07 GENINFO**

**Maintenance - Overview - MINI**

**SERVICE**

**Model: All**

**Production: All**

**MINI Service**

**SERVICE MAINTENANCE**

The following are typical service maintenance tasks:

**Oil Service**

Change oil and filter

Replace Microfilter

Check Brake Pad Thickness Front and Rear

Check Parking Brake Operation.

Reset service indicator

**Change Oil and Filter**

Engine should be brought to operating temperature. Loosen oil filter housing with a socket. Slowly unscrew housing, allowing for activation of oil drain back feature. Remove filter housing and pull filter from housing. Install new filter and o-rings. Coat o-rings with oil. Remove engine oil drain plug and allow oil to drain into a suitable container. Install new sealing ring on drain plug and reinstall plug. Fill with specified oil and start engine. Allow engine to idle until oil warning LED goes out, shut off engine and wait five minutes. Remove dipstick and check oil level, top off as required.

Oil capacity is 4.8 liters with filter.

**Microfilter**

The Microfilter is located on the passenger side of the car under the dash.

Remove four screws and lower the filter cover. Slide the filter to remove. Install the new filter and cover.

Be careful to install the proper filter, IHKS and IHKA use different filters.

**Fig. 1: Microfilter**

Courtesy of BMW OF NORTH AMERICA, INC.

### **Brakes**

Check brake pads for overall thickness.

### **Reset Service Indicator**

Oil service and inspection reset will be possible only after 20% of the expected fuel usage has been consumed following the previous reset. The SIA function may be reset through operation of the ignition switch and trip reset button (or the DISplus).

The following procedure will be used for reset (assuming that resets are due):

- Turn the ignition to position 0.
- Press and hold the trip reset button then turn the ignition switch to position 1. 5 seconds after ignition 1, the display will show the current SIA status (oil or inspection service). The trip reset button can now be released.
- Press and hold the trip reset button for 5 seconds to change to reset mode. The display will flash the reset text 'rst'. If the trip reset button is pressed again within these flashes then the current service requirement is reset and the display will show the new status for 5 seconds.

The oil/inspection data has now been reset.

### **Inspection I**

#### Oil Service

Check Transmission for Leaks

Visually Check Fuel System

Check EHPS System

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Check Engine cooling system

Check Battery

Check Safety Belts

Check Remote operation

Check Air Conditioner System

Visually examine Airbag system

Service Transmission (ECVT Only)

Check Axles

Check Exhaust

Check Suspension

Check Brake Fluid

Check Interior/Exterior Lighting

Check Central Locking System

Check Door and Tailgate Latch operation

Check Mirrors

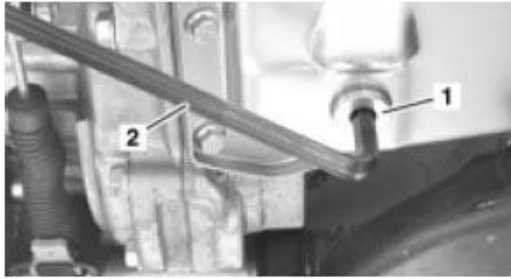
Road test

**Service Transmission (ECVT Only)**

The ECVT gearbox contains three plugs, one is used for draining, one is used for fill/level and the other for fill only. On the MINI it is recommended that the oil fill takes place from the underside of the gearbox through the fill/level plug. There is another oil fill plug on the top of the gearbox that is used in other applications but is not suitable for MINI due to lack of access.

The ECVT oil change is carried out at every "Inspection" service.

***Use only ESSO CVT EZL 799 Fluid for transmission refill or top-off.***



**Drain Plug**

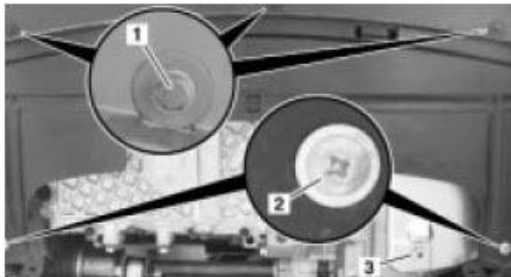
- 1. Oil Drain Plug
- 2. 8 mm Allen Key

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With the vehicle on a hoist, remove the drain plug from the sump pan using an 8 mm Allen key. Caution is required when the gearbox oil is hot to prevent scalding.

**Fig. 2: Drain Plug**

Courtesy of BMW OF NORTH AMERICA, INC.



**Undercar Panel**

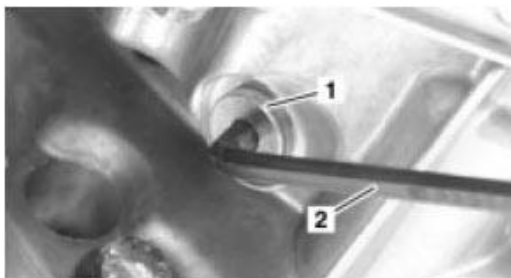
- 1. Undercar Panel Bolts
- 2. Undercar Panel Screws
- 3. ECVT Oil Drain Plug

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While the oil is draining, to gain access to the fill/level plug remove the small undercar panel, loosen the 3 bolts on lower valance and unlock the 2 screws on the cross frame.

**Fig. 3: Undercar Panel**

Courtesy of BMW OF NORTH AMERICA, INC.



**Refill/Level Plug**

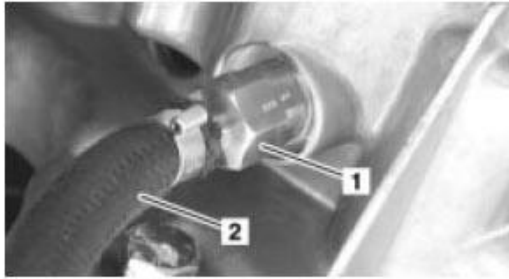
- 1. Oil Filler/Level Plug
- 2. 6 mm Allen Key

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Remove the fill/level plug, (6 mm Allen key) this will drain off excess fluid retained in the level tube. Reinstall Drain Plug.

**Fig. 4: Refill/Level Plug**

Courtesy of BMW OF NORTH AMERICA, INC.



Using Special Tool No 24 8 100 connect to the fill/level plug and pump 4.5 liters of oil into the gearbox. It is the responsibility of the Technician to ensure the correct volume of fluid is added to the gearbox.

Adapter in Filler Plug

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1. Adapter in Oil Filler/Level Hole
2. Filler Hose

**Fig. 5: Adapter In Filler Plug**

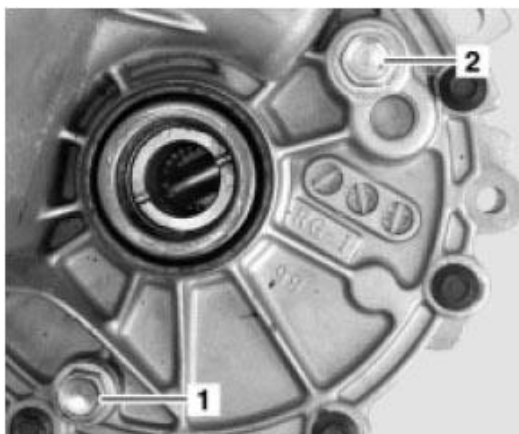
Courtesy of BMW OF NORTH AMERICA, INC.

Shut the valve of the hydraulic equipment, to ensure no oil flow takes place in either direction. Lower the vehicle sufficiently, (Note: ensure road wheels are approximately 15 cm off the ground, as it is necessary to operate the vehicle in drive mode.) Ensure the parking and foot brake are applied firmly, start the engine and allow 10 seconds of engine running time before moving the gear lever from P (park). Shift the gear lever into each position and allow the gear lever to rest in each of its positions for 5 seconds before progressing to the next position. The final part of this process will require the gear lever to be moved into the Drive position and the foot brake released. A light throttle application will be sufficient to shift the gearbox through the various ratios, this should be carried out 2 times, after completion apply the foot brake and return the gear lever to the park position. Keep the engine running and raise the vehicle.

With the oil temperature between 20°C and 60°C remove the hydraulic equipment and special tool, (Note: care must be taken to prevent scalding). Should the filler tube run dry very quickly, the gearbox is likely to be under filled. Refit the Special Tool and pump an additional amount of oil into the gearbox. Remove the Special Tool and wait until the oil flow begins to slow and then refit the fill/level plug.

**Check Transmission for Leaks**

Visually perform check of transmission for leaks and ensure that transmission is filled to proper level.



1. Drain plug
2. Filler / level plug

Oil type MTF 94 (fill for life) capacity (service fill) 2 liters  
 Drain plug torque 32-40 Nm  
 Filler plug torque 20-30 Nm  
 Gearbox housing to clutch housing Loctite 5900 sealer  
 Clutch housing to intermediate plate Loctite 549 sealer

R65 Drain and Fill Plugs

44-03-110

**Fig. 6: R65 Drain And Fill Plugs**

Courtesy of BMW OF NORTH AMERICA, INC.

Getrag 285  
1. Drain Plug  
2. Filler/Level Plug

Oil type - MTF 94 (fill for life)  
Oil capacity (dry fill) - 1.71 liters  
Oil capacity (drain and fill) - 1.51 liters



Getrag 285 Drain and Fill Plugs

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**Fig. 7: Getrag 285 Drain And Fill Plugs**

Courtesy of BMW OF NORTH AMERICA, INC.

**Axles**

Inspect for leaks at flexible boots.

**Fuel System**

Visually inspect fuel tank, fuel lines and connections for leaks.

**Exhaust**

Check condition, position and mounting of exhaust system. Examine for leaks.

**EHPS**

Check EHPS reservoir for correct fluid level, add fluid if necessary.

**Suspension**

Visually inspect suspension for wear or defective components.

**Engine Coolant System**

Check engine cooling system, heater hoses and hose connections for leaks. Check coolant level and antifreeze protection.

**Brake Fluid**

Check level of brake reservoir. Add fluid if necessary.

**Battery**

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All batteries used in the MINI are sealed for life and are maintenance free. A battery condition indicator which shows three battery states is located on top of the battery. The battery condition states are:

- Green - Battery is in good state of charge
- Dark (Turning to Black) - Battery requires charging
- Clear (Light Yellow) - Battery must be replaced

### Lighting

Check operation of all lights both exterior and interior. Ensure that turn signals, high beams and foglights are operational. Confirm that high beam indicator is functioning. Check headlight adjustments. Monitor operation of interior lights to ensure correct automatic and manual operation. Check instrument cluster illumination dimming.

### Safety Belts

Check condition and function of safety belts.

### Central Locking

Check operation of central locking system. Ensure that all doors, fuel filler flap and tailgate lock and unlock properly. Tap or shake inertia switch to confirm its operation. Doors should unlock when inertia switch is activated. Reset inertia switch.

Check lock operation from remotes. Perform key initialization. See page **14** for initialization instructions.

### Remote

Check remote operation.

### Door, Hood and Tailgate

Check proper operation of all latches and door brakes and/or gas struts.

### Air Conditioner

Check Air Conditioner and Heater for proper operation. Check blower. Check operation of engine cooling fan.

### Mirrors

Check all rear view Mirrors. Check electrical operation of left and right mirror.

### Airbag System

Visually examine the SRS airbag units for torn covers, obvious damage or attachment of decals, decorations or accessories.

### Road Test

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### Reset SIA

#### Inspection II

All items in Inspection I

Replace Air Cleaner Element

Replace Spark Plugs (Interval Pending)

Replace Auxiliary Drive Belt

Check Clutch for wear

#### Air Cleaner

Replace Air Cleaner Element, check clamps and hoses of air cleaner housing.

#### Spark Plugs

Replace Spark Plugs. (Interval Pending)

#### Auxiliary Drive Belt

Replace Auxiliary Drive Belt.

#### Clutch

Check Clutch proper operation and free play.

#### Additional Service Items

##### Brake System Flush

Performed every 2 years.

Follow General instructions in **TIS Repair Instructions 34 00**.

Follow Brake Bleeding Instructions **TIS Repair Instructions 34 00 048**.

**NOTE:** For functions other than normal bleeding and flushing of brake system, follow instructions in **DIS/plus, Service Functions, Chassis, Traction Control Systems, Ventilation**.

##### Coolant System Drain and Refill

Performed every 4 years.



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1. Remove pressure cap.
2. Remove lower hose from radiator, and heater hoses at bulkhead. Use caution when coolant is hot.
3. Reinstall hoses after coolant has drained.
4. Open the coolant bleed screws in the upper hose and the heater return hose (Protect generator).
5. Fill engine with coolant (50/50 Mix) through thermostat housing (Expansion tank in COOPER S).
6. Close bleed screws when air free coolant flows.
7. Continue to fill through thermostat housing (or Expansion Tank).
8. Fill expansion tank to "MAX".
9. Start engine and run at idle. Top up coolant as necessary.
10. Turn off engine and install pressure cap.