

Cooling System, Drain, Fill and Bleed (Z22 SE, Z20 LET)

Caution

Use only specified anti-freeze (red) and ensure a concentration of 50% water and 50% anti-freeze. The purpose of anti-freeze is not only to protect the entire cooling system against freezing but also to protect all coolant-affected parts against corrosion and lime deposit. For this reason, anti-freeze must be used even in tropical regions.

The water quality also plays an important role in addition to the mix ratio. Water of drinkable quality usually meets these requirements. The quality of purified sea water is inadequate.

Damage may also be caused to the engine if unauthorised anti-freeze agent is used.

If radiator, cylinder head or cylinder head gasket have been replaced the old coolant must not be re-used.

Observe relevant environmental regulations when disposing of used coolant and lubricants.



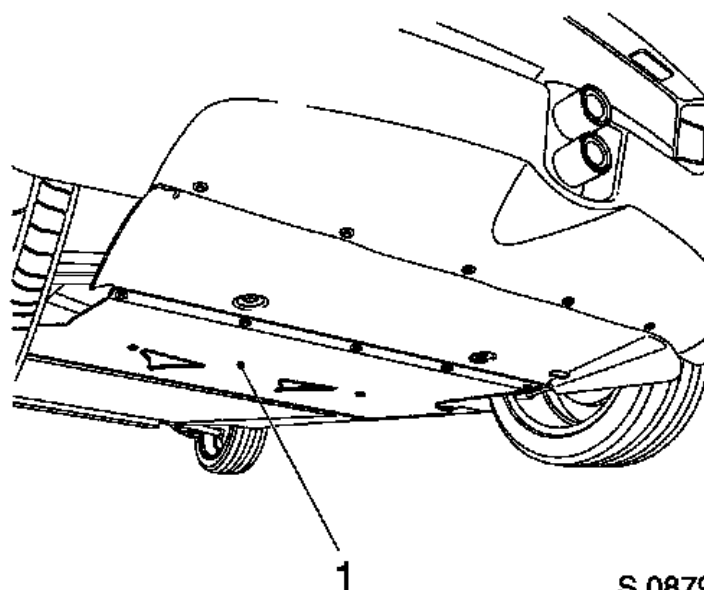
Remove

Warning: Cooling system is under pressure.

1. Remove cap from coolant reservoir

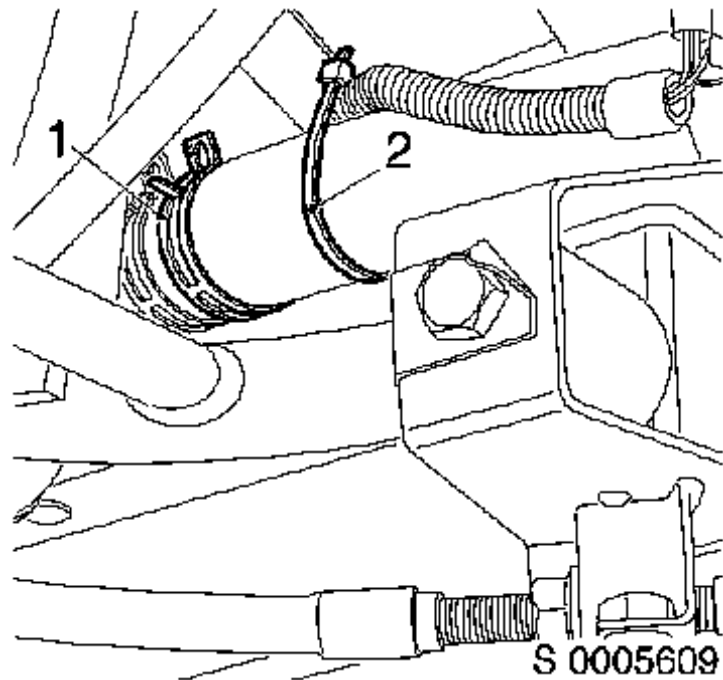
Important: A four-post hoist must be used to raise the vehicle when removing the engine undertray and exhaust pipe undertray. The vehicle can be moved to a two-post hoist for other operations if required.

2. Remove engine undertray (1)
 - Raise vehicle
 - Remove 13x bolt, 13x washer

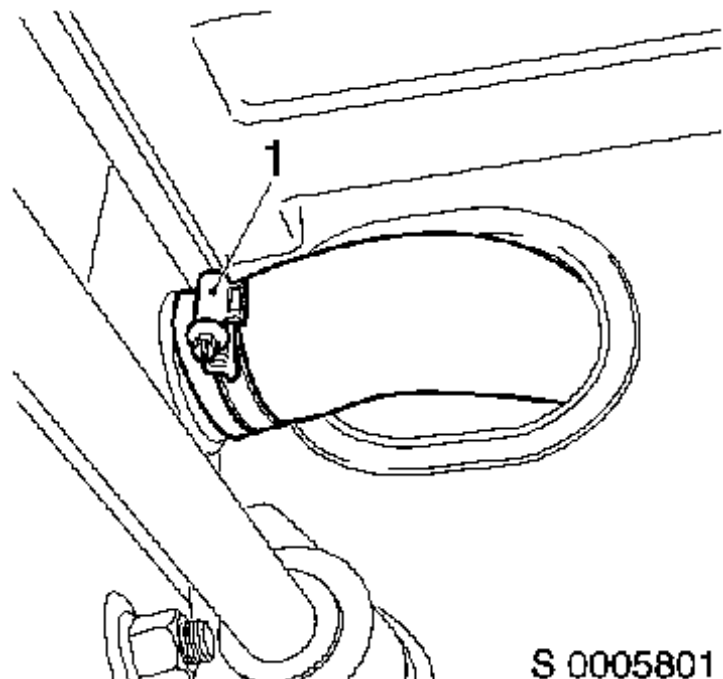


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3. Drain cooling system at engine
 - Position collecting container
 - Disconnect engine lower hose
 - Release clip (1)
 - Remove, then discard cable tie (2)
 - Remove collecting container when drained



4. Remove front undertray
 - Remove 9x bolt, 9x washer
 - Remove 3x bolt
5. Drain cooling system at radiator
 - Position collecting container
 - Disconnect radiator hose from radiator feed pipe
 - Release clip (1)
 - Remove collecting container when drained



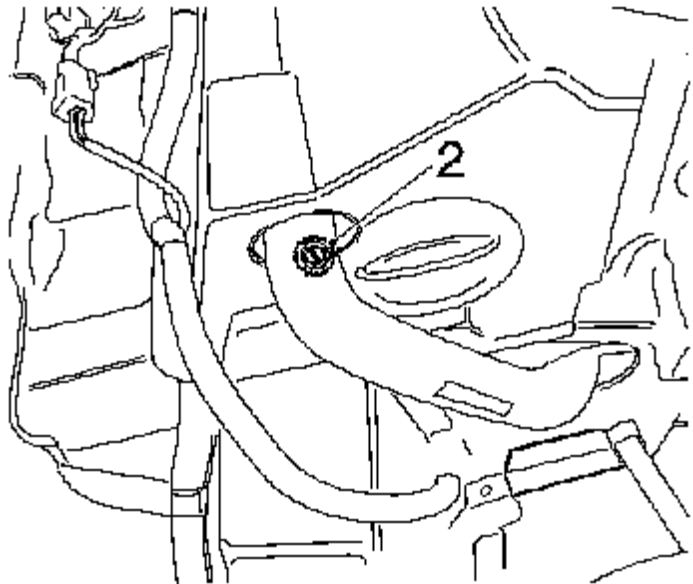
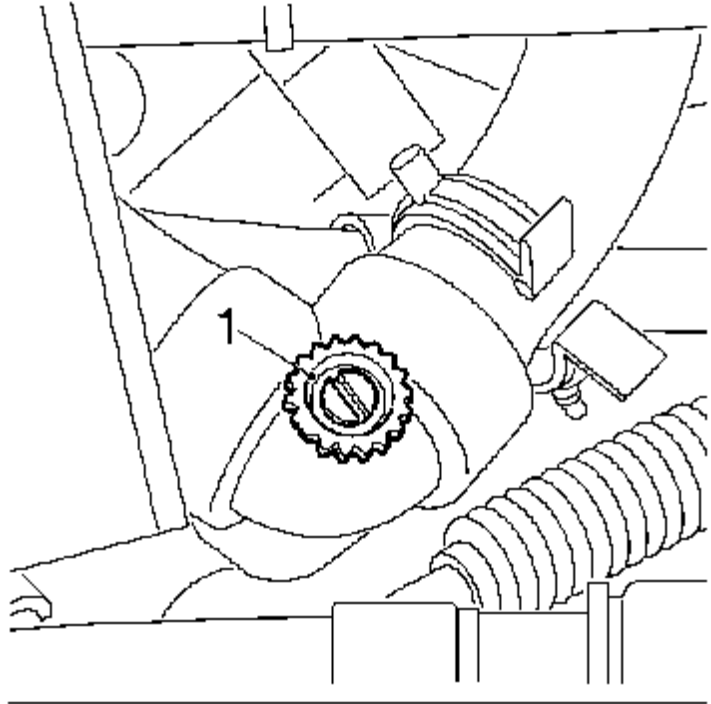
Install

6. Connect radiator coolant hose
 - Secure clip
7. Connect engine lower hose
 - Secure clip

- Secure harness to coolant hose
 - Install new cable tie
- 8. Lower vehicle
- 9. Fill cooling system to neck of reservoir
- 10. Apply pressure to cooling system **1.0 bar to 1.5 bar**
 - Use commercially available tool with adaptor **KM-471**
- 11. Bleed cooling system

Note: Open bleed valves until the emerging coolant is bubble-free.

- Open engine bleed valve(s) (1)
- Open radiator bleed valve (2), left side of radiator



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- 12. Close bleed valves
- 13. Remove commercially available tool and adaptor **KM-471**
- 14. Check coolant level
 - Top-up if necessary
- 15. Install coolant expansion tank cap

16. Allow engine to achieve normal operating temperature
17. Allow engine to cool, then check coolant level
 - Top-up if necessary
18. Raise vehicle
19. Install engine undertray
 - Install 13x bolt, 13x washer
20. Install front undertray
 - Install 9x bolt, 9x washer
 - Install 3x bolt