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WM 975219 Removing and installing wire harness for engine

Technical values

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Fastening screw securing ground to engine housing		Tightening torque	10 Nm (7.5 ftlb.)		
Fastening screw securing ground to engine housing		Tightening torque	10 Nm (7.5 ftlb.)		

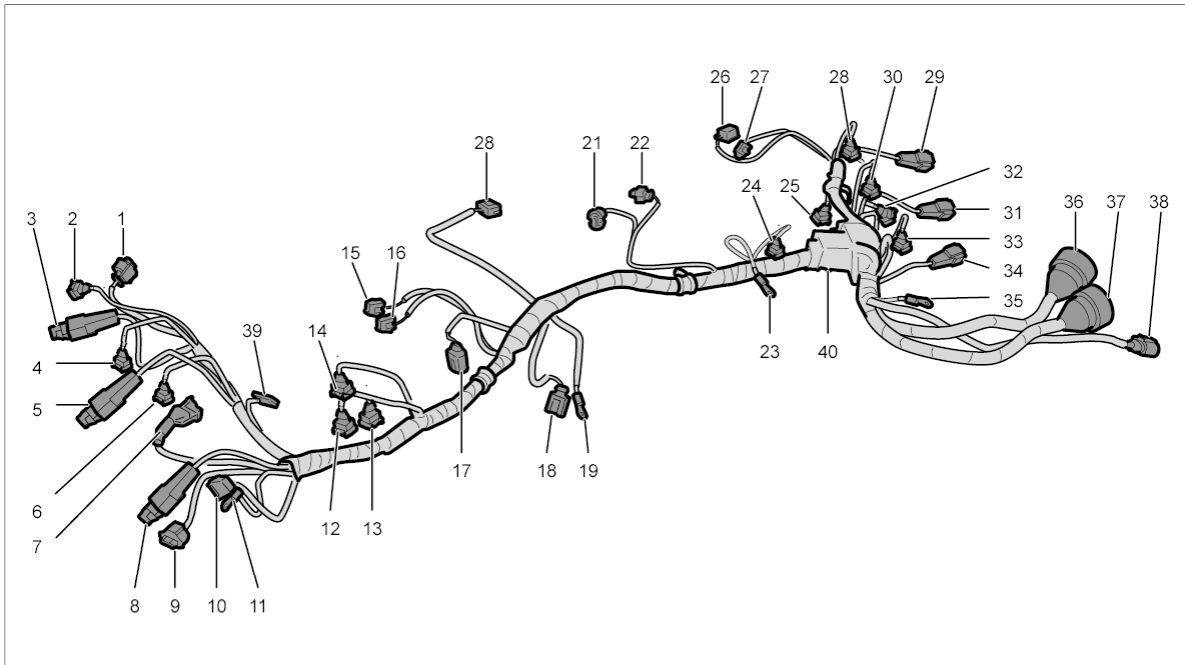
Preliminary work

Preliminary work for wire harness for engine

1. Disconnect the battery. → *271000 Work instructions after disconnecting the battery*
2. Remove engine. → *100119 Removing and installing engine - section on "Removing"*
3. Remove drive belt. → *137819 Removing and installing drive belt - section on "Removing"*
4. Remove intake-air distributor. → *24461900 Removing and installing intake-air distributor - section on "Removing"*
5. Remove generator. → *272219 Removing and installing generator - section on "Removing"*
6. Remove air-conditioning compressor. → *873419 Removing and installing air-conditioning compressor - section on "Removing"*

Removing wire harness for engine

Removing wire harness for engine

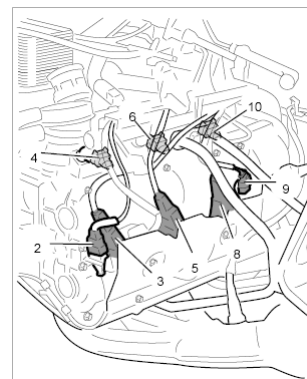


Connector assignment

- 1** - Secondary air pump
- 2** - Speed sender
- 3** - Ignition coil, cylinder 3
- 4** - Fuel injector, cylinder 3
- 5** - Ignition coil, cylinder 2
- 6** - Fuel injector, cylinder 2
- 7** - Tank vent valve
- 8** - Ignition coil, cylinder 1
- 9** - Hall sender 1
- 10** - Fuel injector, cylinder 1
- 11** - Ground point
- 12** - Tuning flap 1
- 13** - Tuning flap 2
- 14** - Camshaft adjuster
- 15** - Knock sensor 1

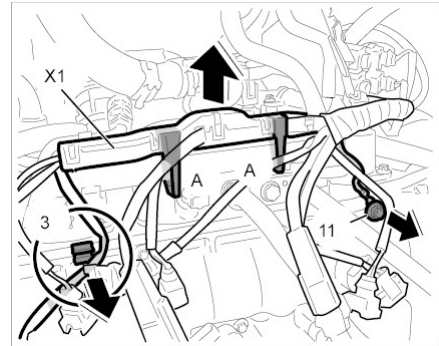
- 16** - Starter terminal 50
- 17** - Engine temperature NTC
- 18** - Generator D+
- 19** - Generator B+
- 20** - Throttle valve control
- 21** - Knock sensor 2
- 22** - Oil pressure and temperature
- 23** - Air-conditioning compressor
- 24** - Camshaft adjuster 2
- 25** - Exhaust flap
- 26** - Oil-level sender
- 27** - Engine temperature NTC
- 28** - Fuel injector, cylinder 6
- 29** - Ignition coil, cylinder 6
- 30** - Fuel injector, cylinder 5
- 31** - Ignition coil, cylinder 5
- 32** - Fuel injector, cylinder 4
- 33** - Hall sender 2
- 34** - Ignition coil, cylinder 4
- 35** - Ground point
- 36** - Engine/rear end connection point
- 37** - Engine/rear end connection point
- 38** - Engine/rear end connection point
- 39** - Condenser
- 40** - Condenser

1. Release connectors on left side of engine wire harness and pull them off.



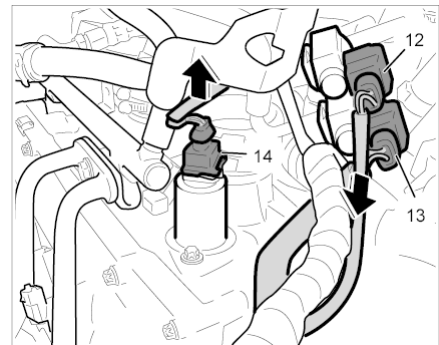
*Releasing and unplugging
connectors for engine wire harness*

- 1.1. Release and unplug connectors **-2, 3, 4, 5, 6, 8, 9,10-** one after the other.
2. Remove line, connectors, ground strap for cylinder 1-3 and the cable duct.



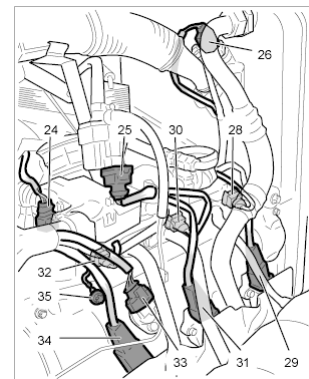
Removing connectors, ground and cable duct

- 2.1. Disengage line for ignition coil on cylinder 3 at the cylinder head.
- 2.2. Unscrew fastening screw **-11-** for the ground connection.
- 2.3. Unclip cable duct **-X1-** from fuel gallery 1 – 3.
3. Release and unplug connectors for plug connections **-12, 13, 14-** .



Releasing connectors

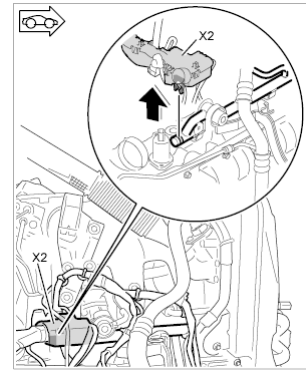
4. Unscrew ground strap for cylinder 4 - 6 and release and pull off connectors on right side of engine wire harness.



Releasing and unplugging connectors for engine wire harness

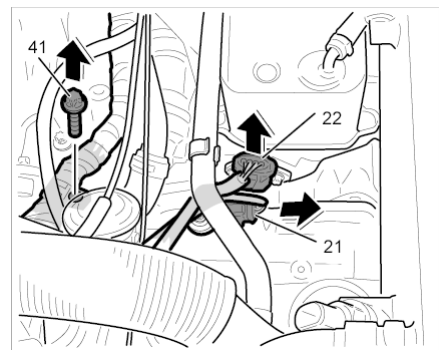
- 4.1. Unscrew ground strap **-35-** for cylinder 4 – 6.

- 4.2. Release and unplug connectors **-34, 33, 31, 29, 32, 30, 28, 24, 25, 26-** one after the other.
- 5. Unclip cable duct **-X2-** from the fuel gallery.



Unclipping cable duct

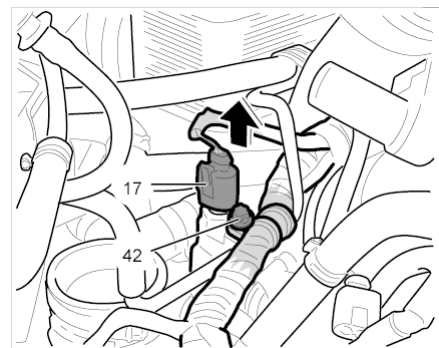
- 6. Unscrew fastening screw for wire harness and release and unplug connectors for engine wire harness in the centre right area.



Removing wire harness for engine at the centre right

- 6.1. Unscrew fastening screw **-41-** for wire harness.
- 6.2. Release and unplug connectors for engine wire harness **-21, 22-** .

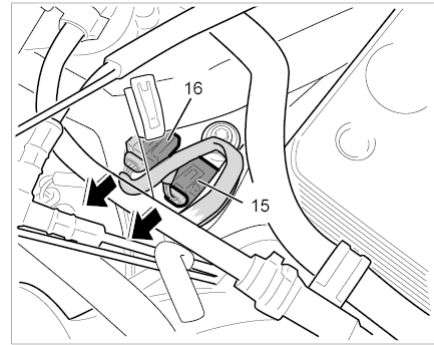
- 7. Unscrew fastening screw for wire harness and release and unplug connector for engine wire harness in the centre left area.



Removing wire harness for engine at the centre left

- 7.1. Unscrew fastening screw **-42-** for wire harness.
- 7.2. Release and unplug connector for engine wire harness **-17-** .

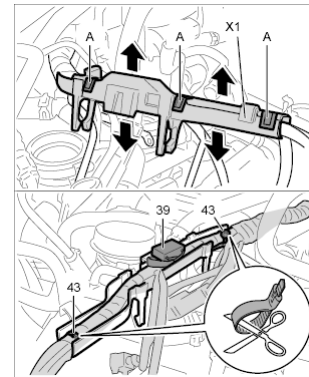
8. Release and unplug connectors for engine wire harness in the centre left area.



Removing wire harness for engine at the centre left

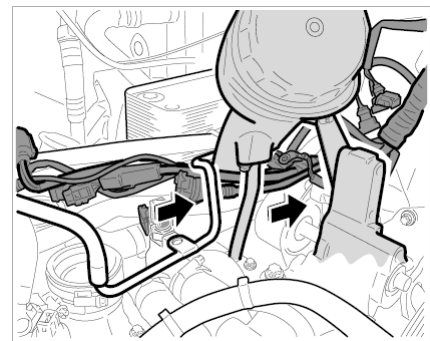
- 8.1. Release and unplug connectors for engine wire harness -15, 16- .

9. Unclip cable duct cover and remove cable duct from the wire harness.



Opening cable duct and removing it from the wire harness

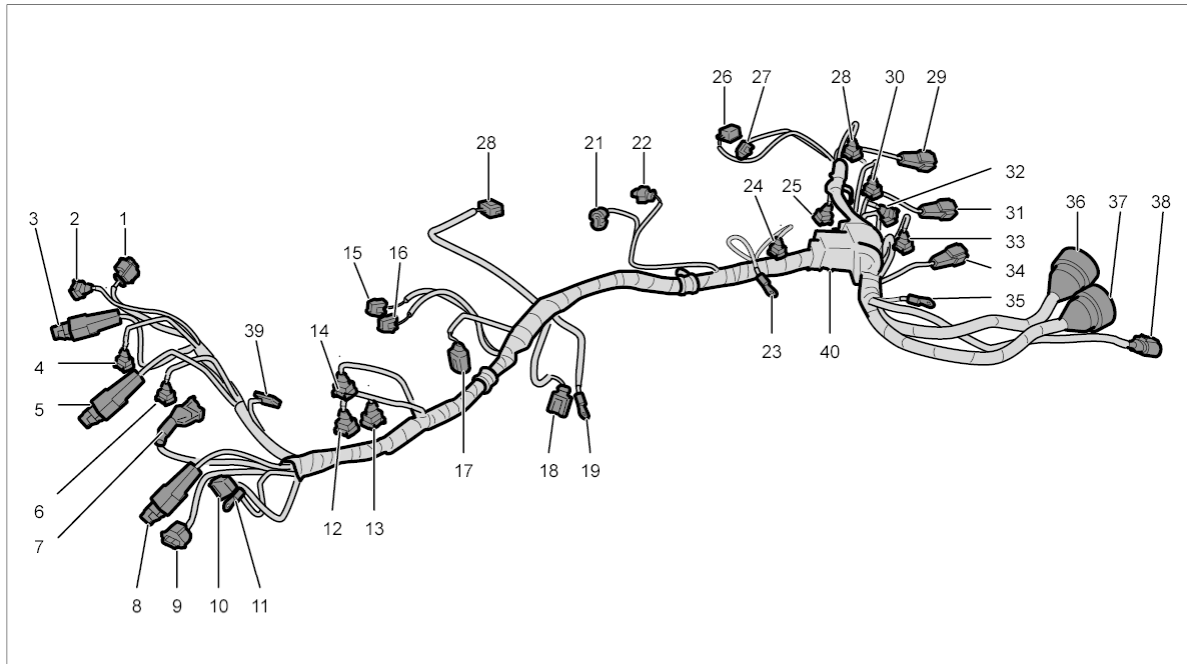
- 9.1. Carefully unclip cable duct cover -A- .
- 9.2. Cut the two tie-wraps -43- .
- 9.3. Remove cable duct from the wire harness.
10. Lift the wire harness, pull it to the right under the oil-filter housing and remove it from the engine.



Removing wire harness from engine

Installing wire harness for engine

Installing wire harness for engine

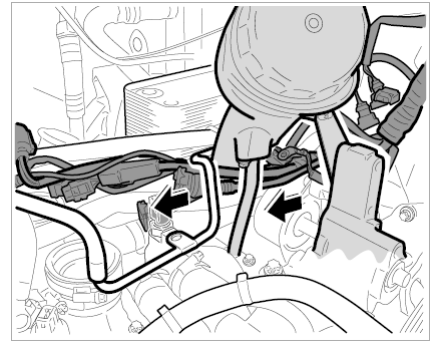


Connector assignment

- 1** - Secondary air pump
- 2** - Speed sender
- 3** - Ignition coil, cylinder 3
- 4** - Fuel injector, cylinder 3
- 5** - Ignition coil, cylinder 2
- 6** - Fuel injector, cylinder 2
- 7** - Tank vent valve
- 8** - Ignition coil, cylinder 1
- 9** - Hall sender 1
- 10** - Fuel injector, cylinder 1
- 11** - Ground point
- 12** - Tuning flap 1
- 13** - Tuning flap 2

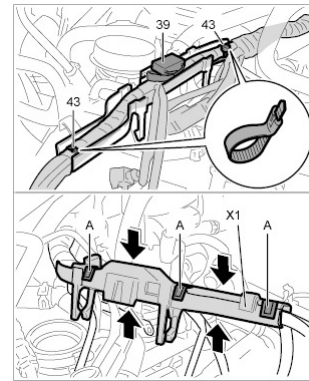
- 14** - Camshaft adjuster
- 15** - Knock sensor 1
- 16** - Starter terminal 50
- 17** - Engine temperature NTC
- 18** - Generator D+
- 19** - Generator B+
- 20** - Throttle valve control
- 21** - Knock sensor 2
- 22** - Oil pressure and temperature
- 23** - Air-conditioning compressor
- 24** - Camshaft adjuster 2
- 25** - Exhaust flap
- 26** - Oil-level sender
- 27** - Engine temperature NTC
- 28** - Fuel injector, cylinder 6
- 29** - Ignition coil, cylinder 6
- 30** - Fuel injector, cylinder 5
- 31** - Ignition coil, cylinder 5
- 32** - Fuel injector, cylinder 4
- 33** - Hall sender 2
- 34** - Ignition coil, cylinder 4
- 35** - Ground point
- 36** - Engine/rear end connection point
- 37** - Engine/rear end connection point
- 38** - Engine/rear end connection point
- 39** - Condenser
- 40** - Condenser

1. Place wire harness for engine onto the engine from the right, position it and slide it through under the oil-filter housing.



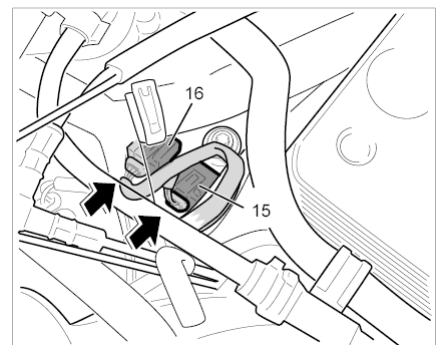
Positioning wire harness on engine

2. Insert wire harness at the left into the cable duct and secure it with tie-wraps.



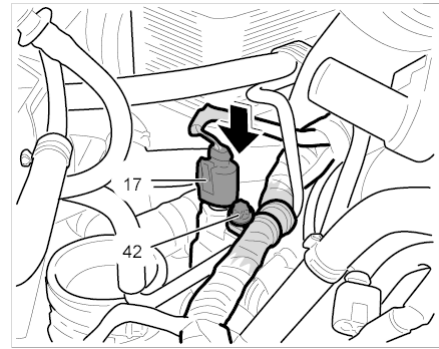
Routing wire harness into cable duct

- 2.1. Place wire harness into the cable duct.
- 2.2. Secure wire harness to the cable duct using two tie-wraps **-43-**.
- 2.3. Position cable duct cover and clip it on.
3. Connect connectors for engine wire harness in the centre area.



Connecting connectors for engine wire harness in the centre area

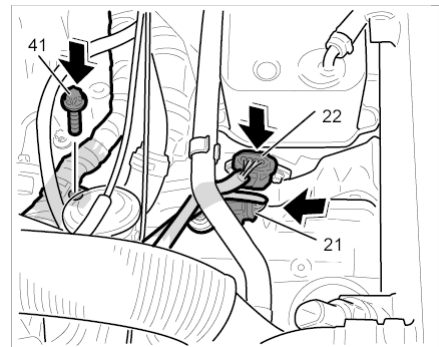
- 3.1. Plug in connectors for engine wire harness **-15, 16-** until they engage securely.
4. Secure wire harness on engine housing and connect connector for engine wire harness in the centre left area.



Securing and connecting engine wire harness

- 4.1. Secure wire harness on engine housing with the fastening screw **-42-** .
- 4.2. Plug in connector for engine wire harness **-17-** until it engages securely.

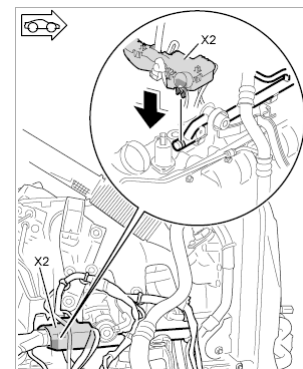
- 5. Secure wire harness on engine housing and connect connectors for engine wire harness in the centre left area.



Securing and connecting engine wire harness

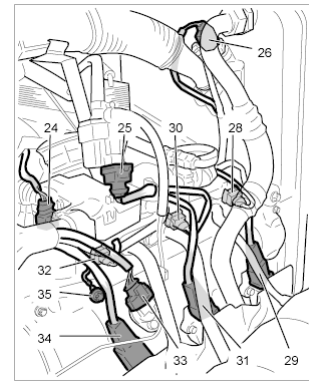
- 5.1. Secure wire harness on engine housing with the fastening screw **-41-** .
- 5.2. Plug in connectors for engine wire harness **-21, 22-** until they engage securely.

- 6. Clip in cable duct **-X2-** on the fuel gallery.



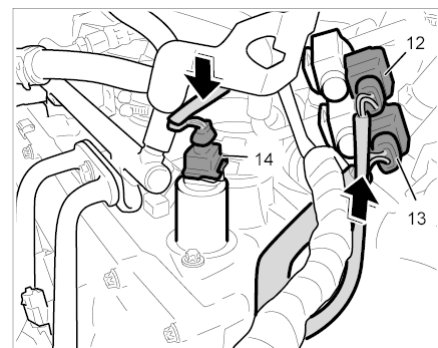
Clipping in cable duct

- 7. Secure ground strap for cylinder 4 – 6 and connect connectors for engine wire harness.



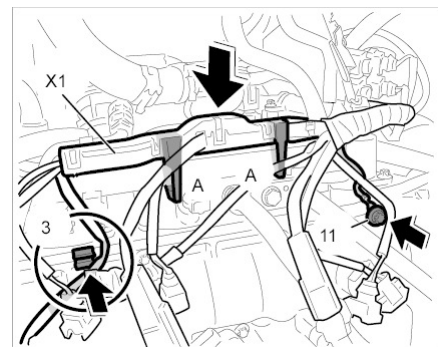
Connecting plug connection for engine wire harness and securing ground strap

- 7.1. Position ground strap on cylinder head cover and secure with the fastening screw **-35-** for cylinder 4 – 6.
→ **Tightening torque: 10 Nm (7.5 ftlb.)**
- 7.2. Plug in connectors **-26, 25, 24, 28, 30, 32, 29, 31, 33, 34-** until they engage securely.
8. Push on connectors for the plug connections **-12, 13, 14-** until they engage securely.



Connecting connectors

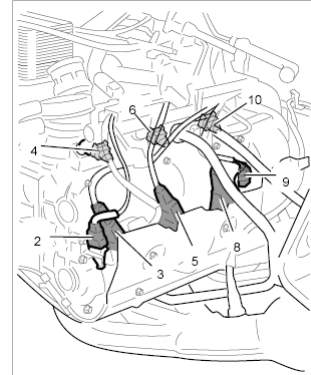
9. Connect cable duct to the fuel gallery for cylinder 1 – 3 and route it, then secure ground connection.



Connecting cable duct and securing ground connection

- 9.1. Connect cable duct **-X1-** to fuel gallery 1 – 3.

- 9.2. Engage line for ignition coil on cylinder 3 at the cylinder head.
- 9.3. Fit fastening screw **-11-** for the ground connection on the cylinder head cover and screw it in securely.
→ **Tightening torque: 10 Nm (7.5 ftlb.)**
10. Connect connectors for engine wire harness.



Connecting connectors for engine wire harness

- 10.1. Plug in connectors **-10, 9, 8, 6, 5, 4, 3, 2 -** until they engage securely.

Subsequent work

Subsequent work for wire harness for engine

1. Install intake-air distributor. → *24461900 Removing and installing intake-air distributor - section on "Installing"*
2. Install air-conditioning compressor. → *873419 Removing and installing air-conditioning compressor - section on "Installing"*
3. Install generator. → *272219 Removing and installing generator - section on "Installing"*
4. Install drive belt. → *137819 Removing and installing drive belt - section on "Installing"*
5. Install engine. → *100119 Removing and installing engine - section on "Installing"*
6. Connect the battery and carry out work instructions after disconnecting the battery. → *271000 Work instructions after disconnecting the battery*

997810, 997811, 997850, 997851

Model year as of 2007

C00, C02, C05, C07, C08, C09, C10, C11, C12, C13, C14, C15, C16, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C32, C33, C34, C35, C36, C37, C38, C39, C45, C46, C98, C99