



LHD/RHD TURBO KIT
MR 2
1ZZ-FTE

ATTENTION

Read this installation instruction manual carefully, before you start the installation.

Installing this turbo kit requires a skilled "TOYOTA Pro Technician" or similar.

When opening packages, first check the contents and the quantity using a check sheet. After installation operation is started, request for the missing parts may not be accepted.

**INSTALLATION
INSTRUCTION MANUAL**

ISS	REVISION RECORD	DATE	REVR.
0	<i>NEW</i>	Oct. 05	1.0
1	<i>Revision</i>	Oct. 05	1.1

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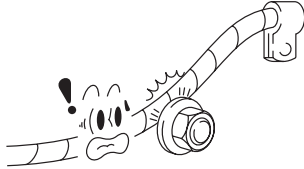
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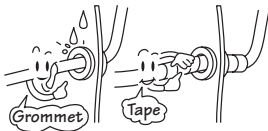
PRECAUTIONS

PLEASE READ THOROUGHLY THESE PRECAUTIONS BEFORE INSTALLING THE CHARGER KIT

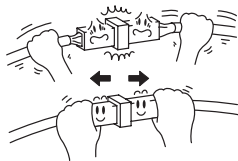
Do not pinch the rear wiring or harness in the tightened part.



When passing the wires through the dashboard or other panels, use a grommet to ensure waterproofing. Protect the wiring with tape when it is passed through a hole.



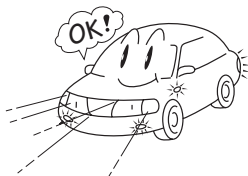
When disconnecting a connector, be sure to grip the connector body. Do not tug on the wiring.



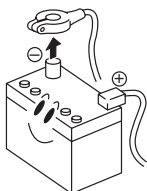
Do not forcibly pull any car wiring harness. Rough tugging may result in opened connectors, or a broken wire harness.



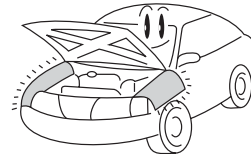
After installation, check that all the functions of the car are normal.



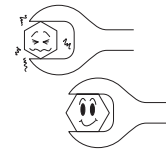
Be sure to disconnect the negative (-) lead from the battery terminals.



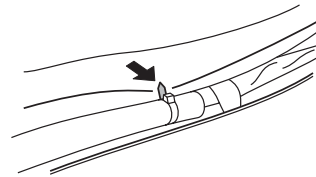
Protect the car with fender covers and so on.



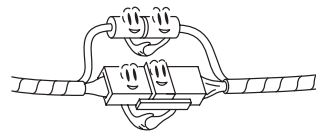
Use the correct tool when tightening bolts and nuts.



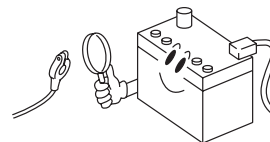
After fastening band clamps, cut away all the excess of the clamps.



Be sure to firmly tighten connectors and terminals.



Before connecting the power wiring to the battery, check the wiring connectors, harness, etc. to see that they are properly secured.



Check body and trim near area of installation to be certain no dirt or scratches resulted from the installation.

During any operation on fuel system, keep away from fire.

PREPARATION

1. SST (Special Service Tools)

1	09032-00100	Oil pan remover	
2	09228-06501	Oil filter wrench	
3	09816-30010	Oil pressure switch wrench	
4	AM 300-38300	Jack nut tool	

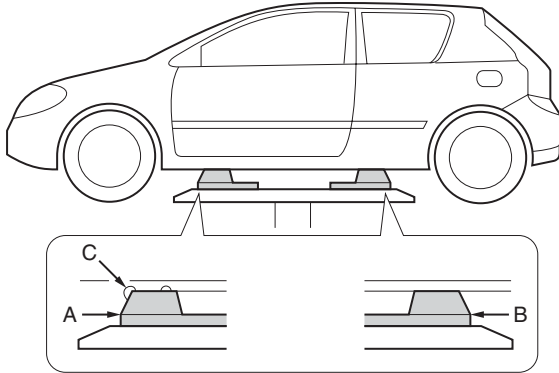
2. Lubricants / Liquids

Engine Coolant	Ethylene-glycol base	
Engine oil	API grade SH energy-conserving II or SJ energy-conserving or ILSAC multigrade engine oil. Refer to the owners manual for the viscosity to recommend. (0W - 40)	

VEHICLE LIFT LOCATIONS

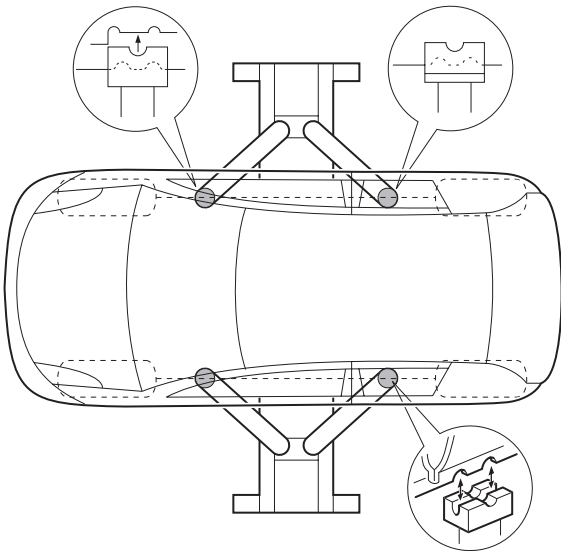
In this manual, a plate type or swing arm lift is recommended. See the description below for details of the supporting and attachment positions.

Plate type lift:



- (a) Place the vehicle over the centre of the lift.
- (b) Align the cushion gum ends of the plate with the attachment lower ends (A,B).
- (c) Align the attachment upper end with the rocker flange front notch.

Swing arm type lift:

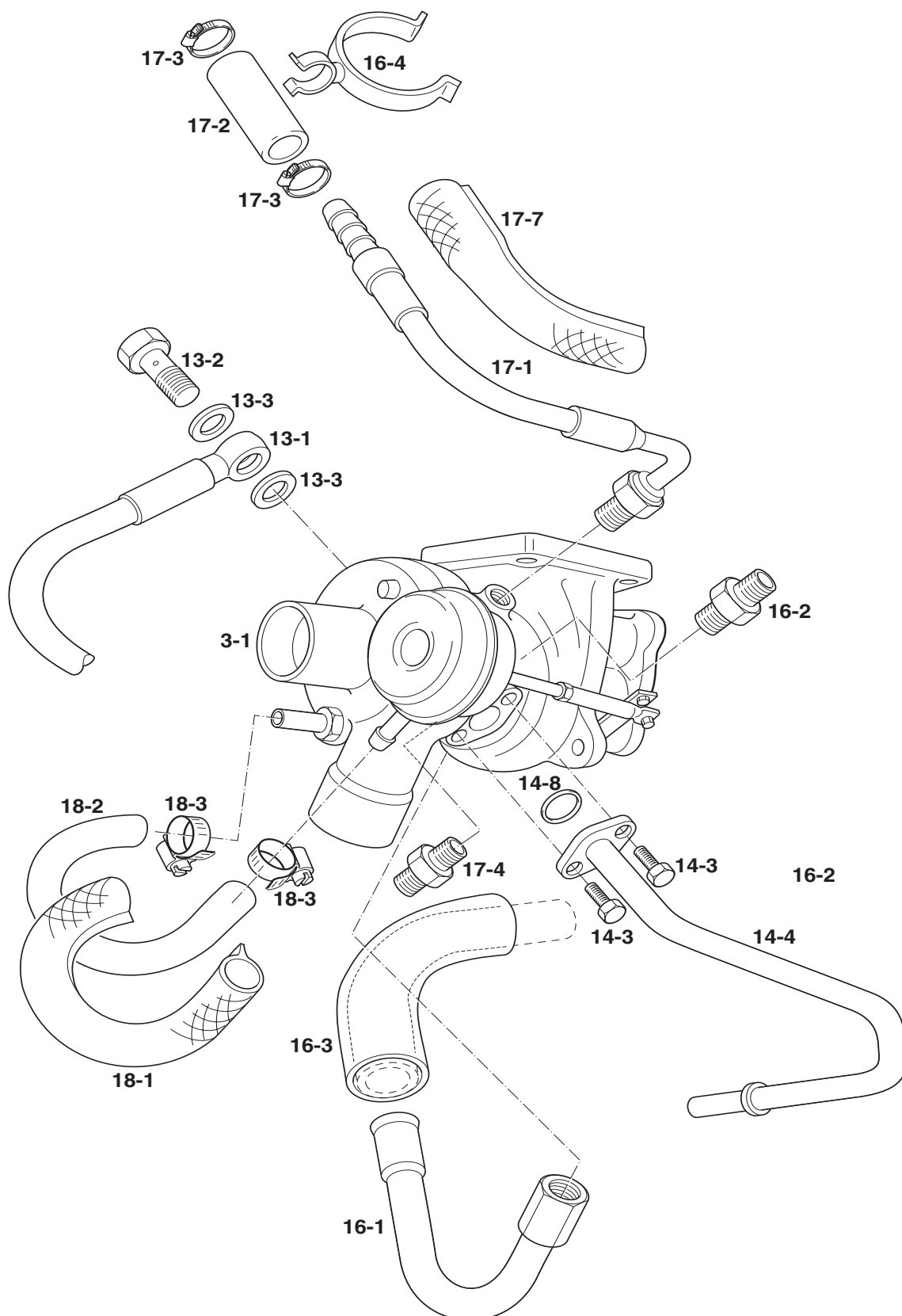


PARTS

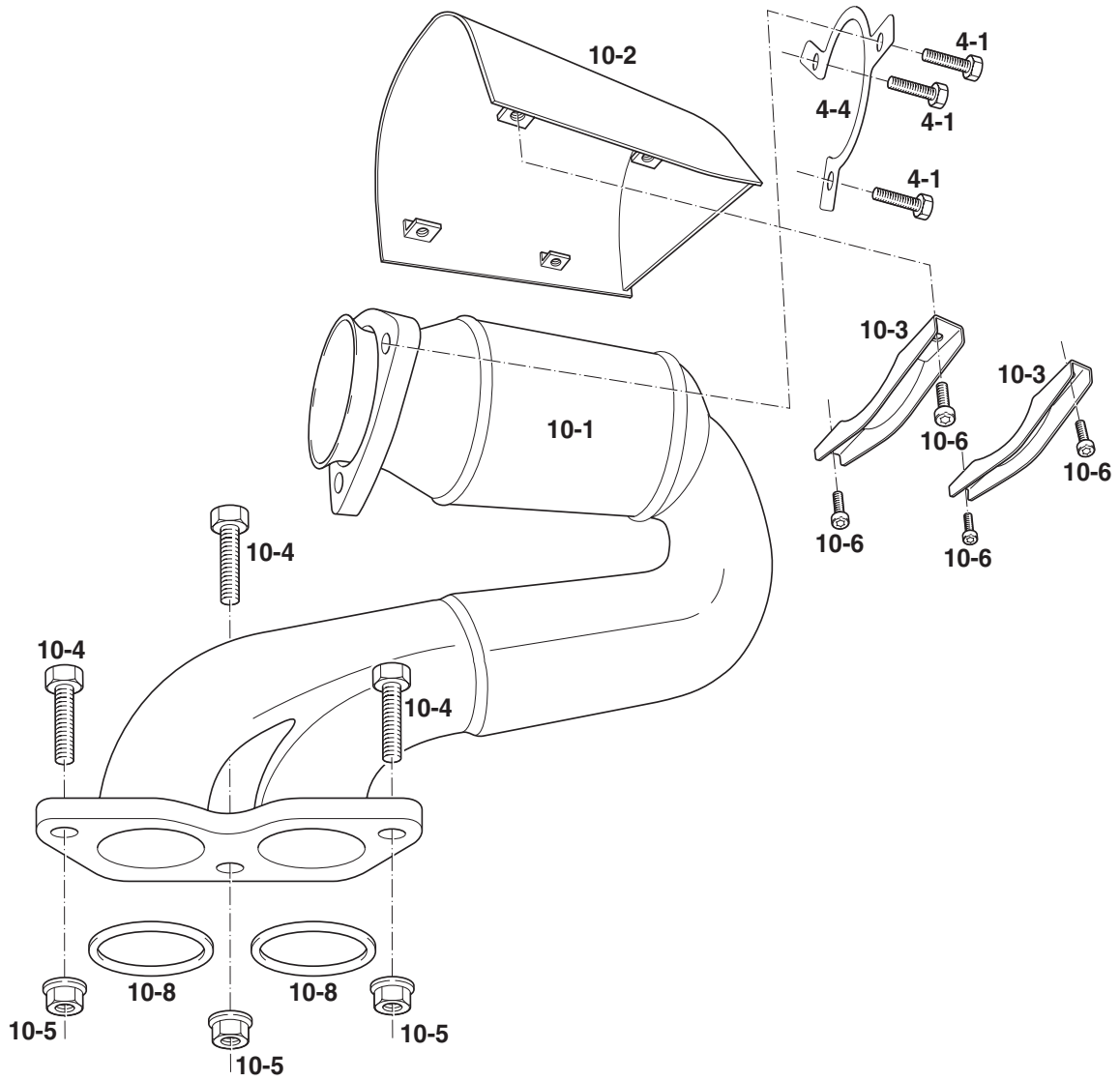
1. Location

Numbers with a character (Ex. 14-1) in "PARTS LOCATION" correspondent to numbers in the text and the illustration in "INSTALLATION PROCEDURES" as well as "No." in "PARTS LIST".

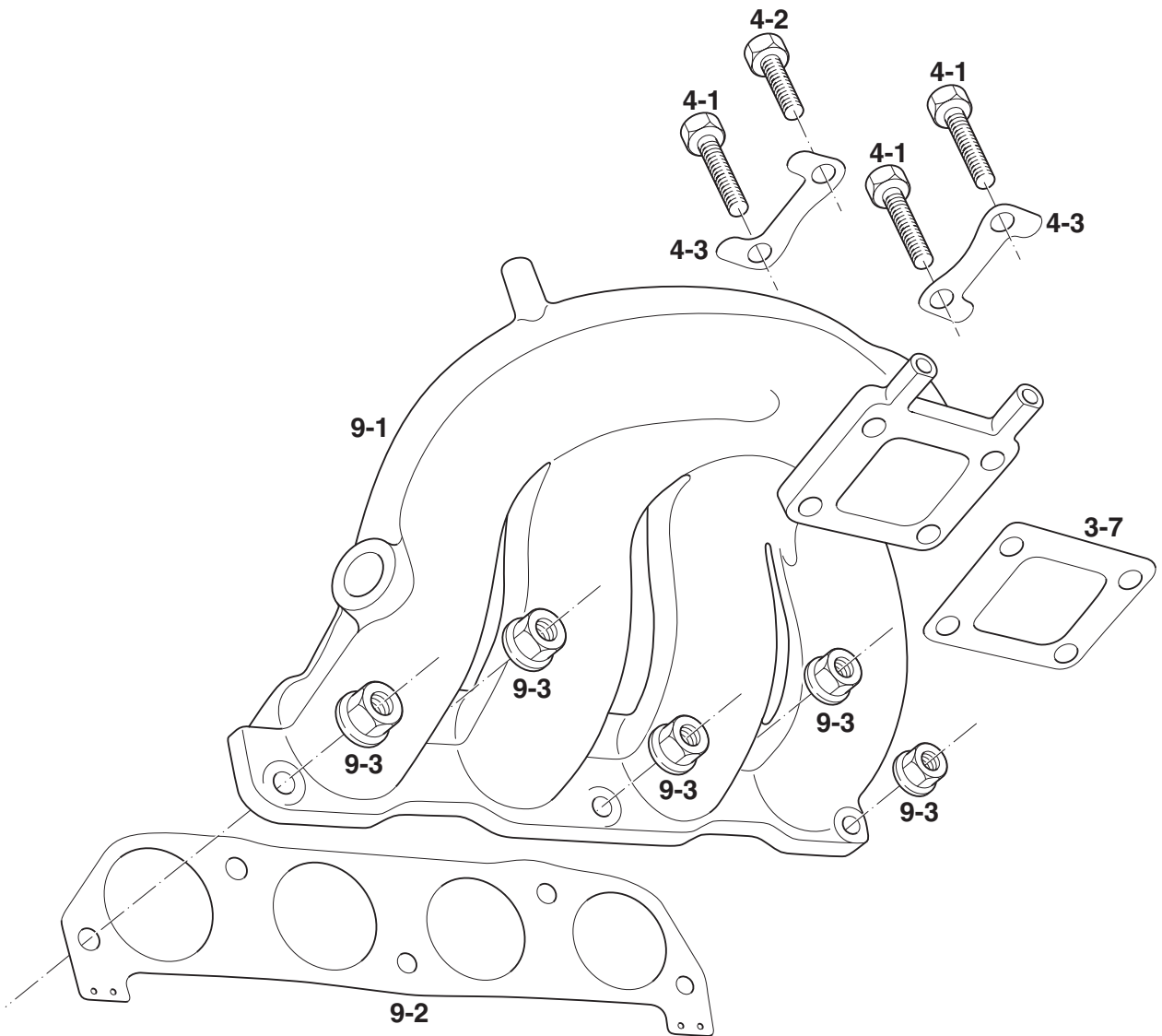
1.1. TURBO CHARGER



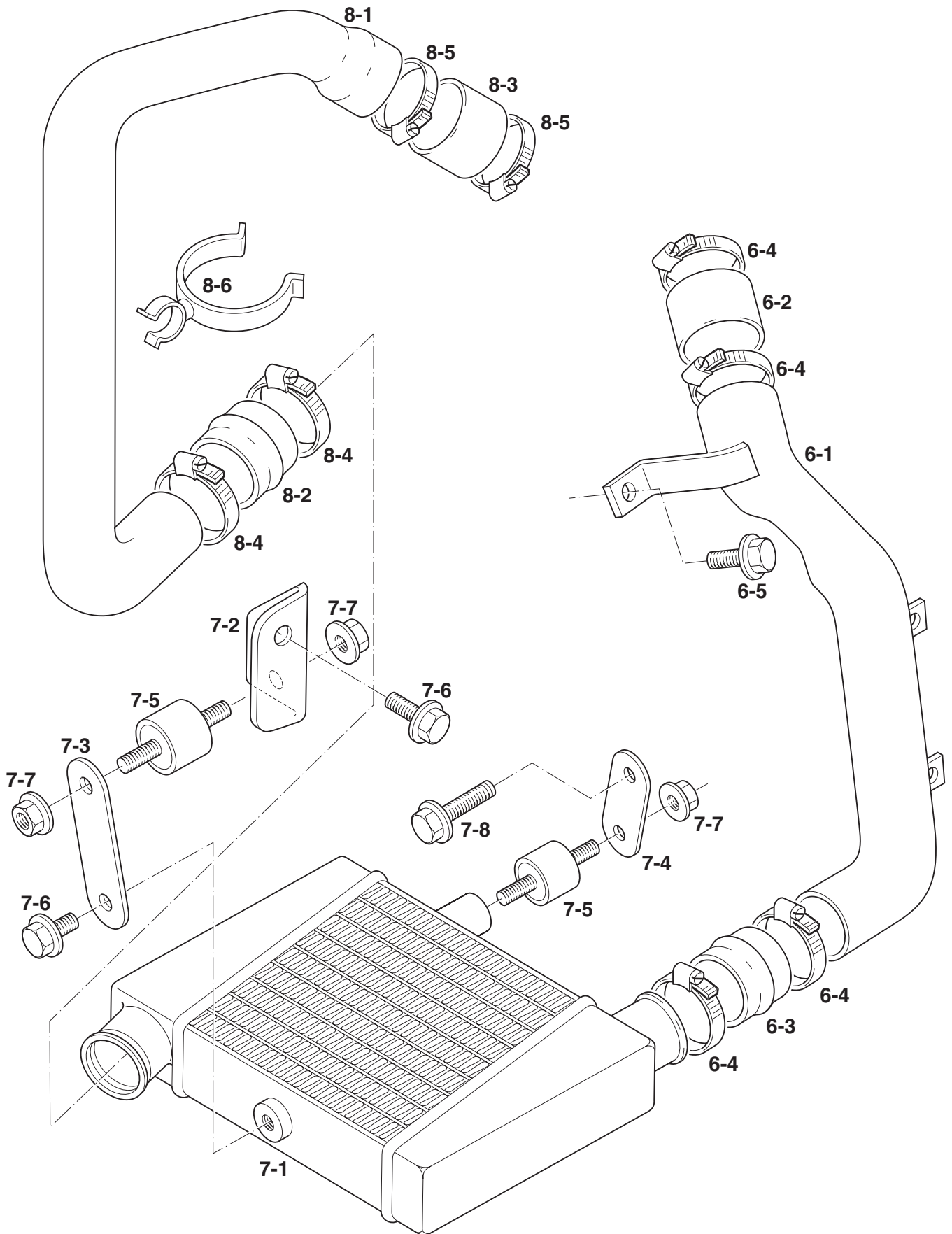
1.2. HEAT SHIELD



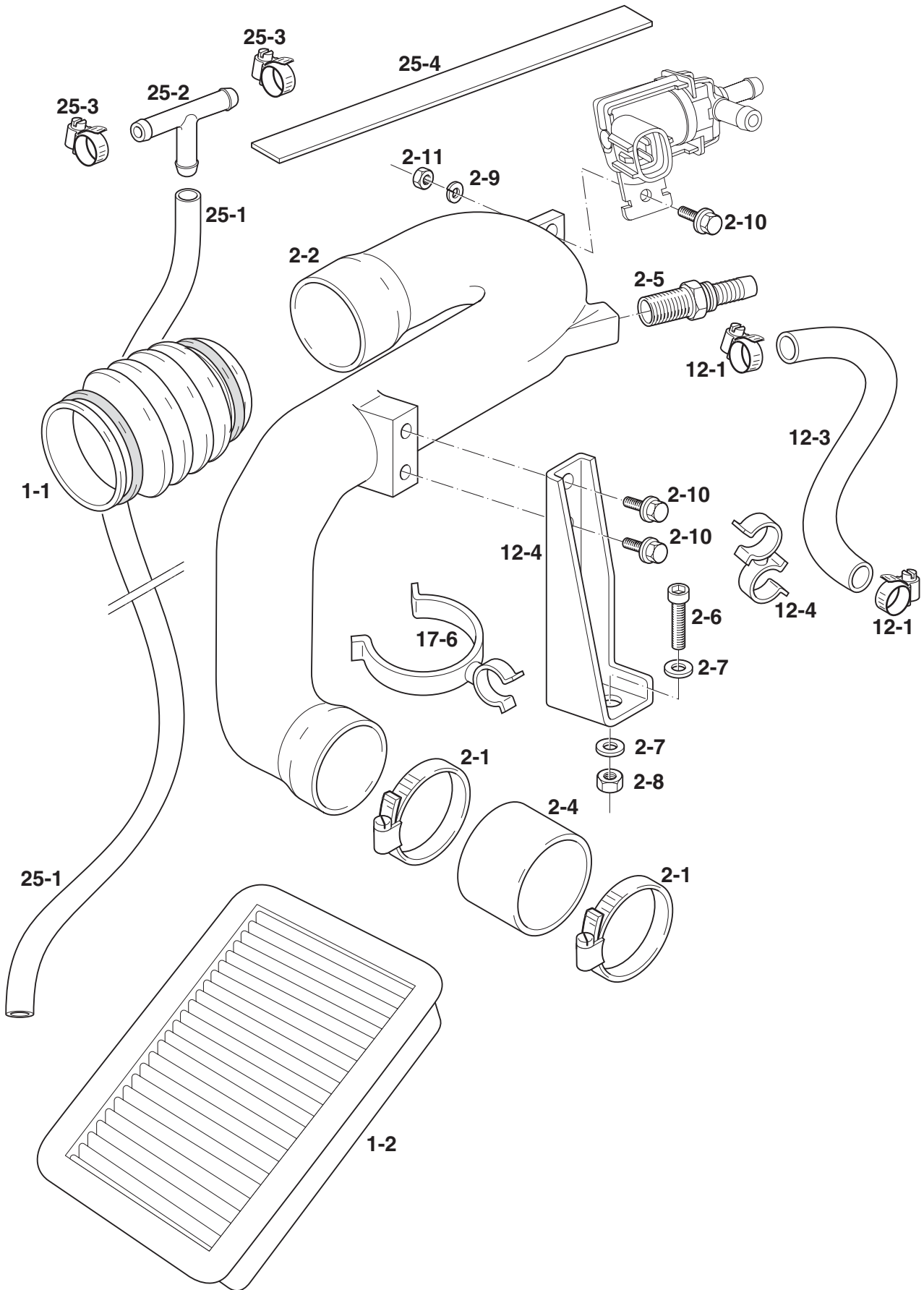
1.3. EXHAUST MANIFOLD



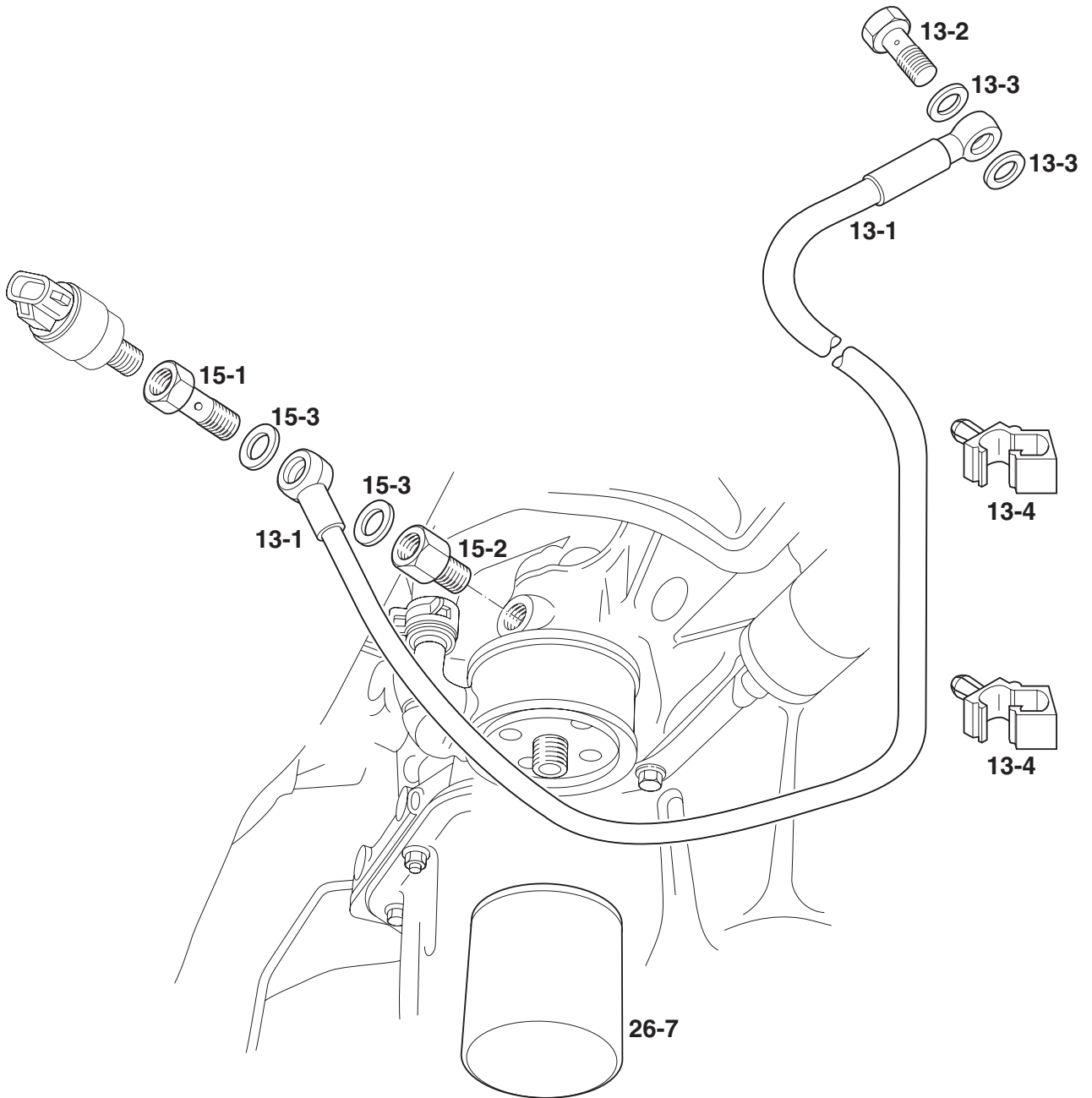
1.4. INTERCOOLER



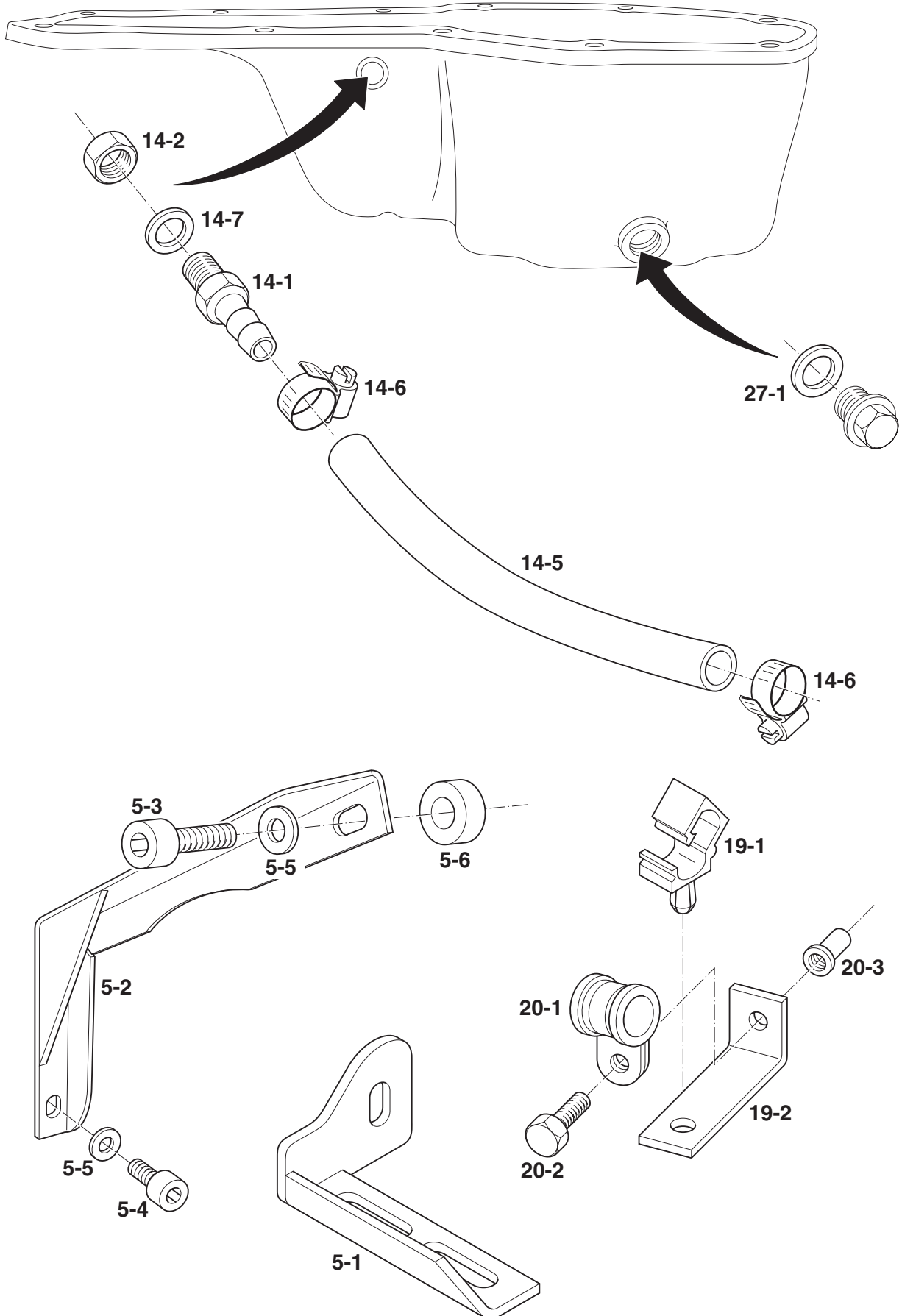
1.5. AIR INTAKE



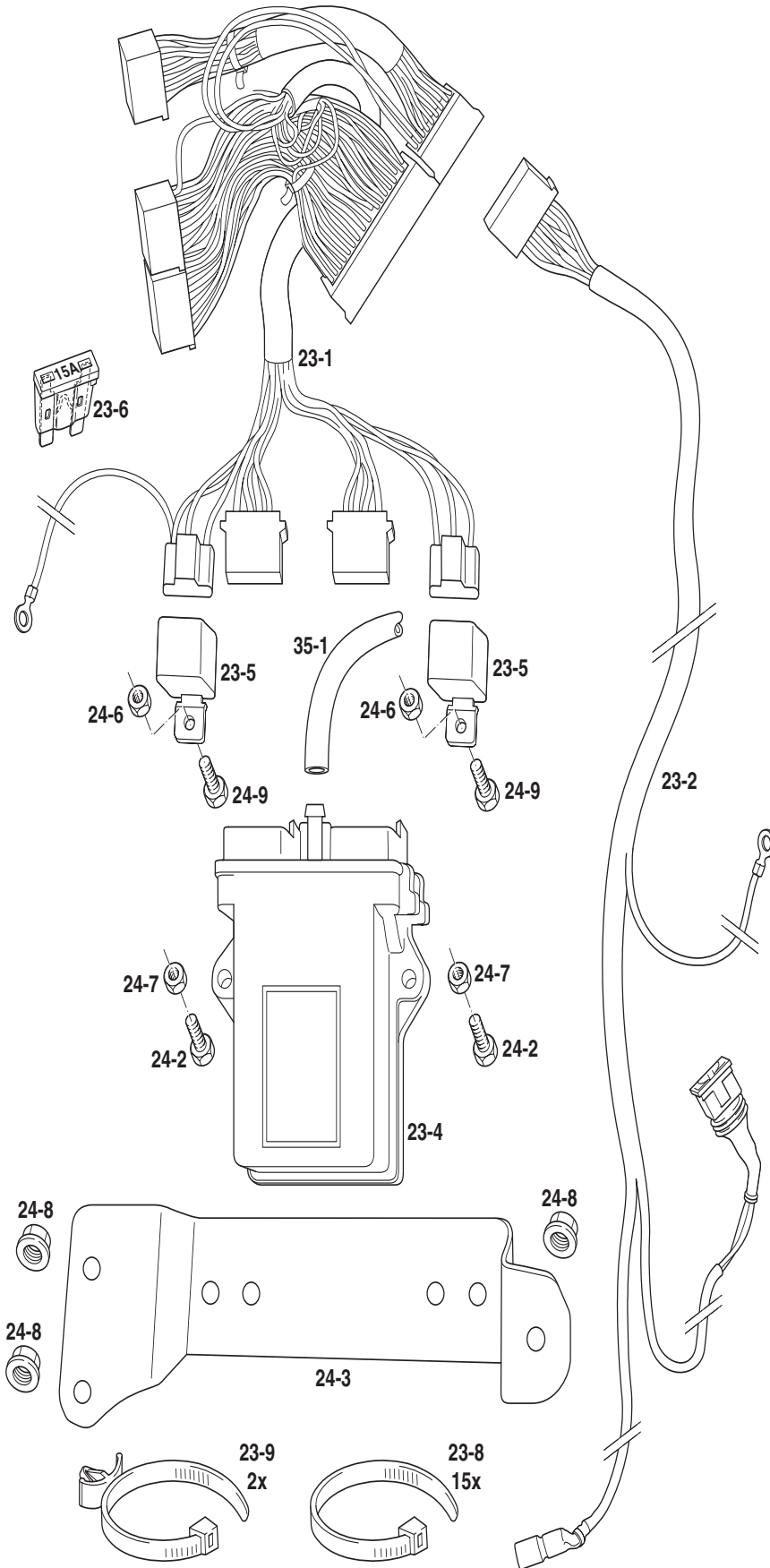
1.6. OIL FILTER



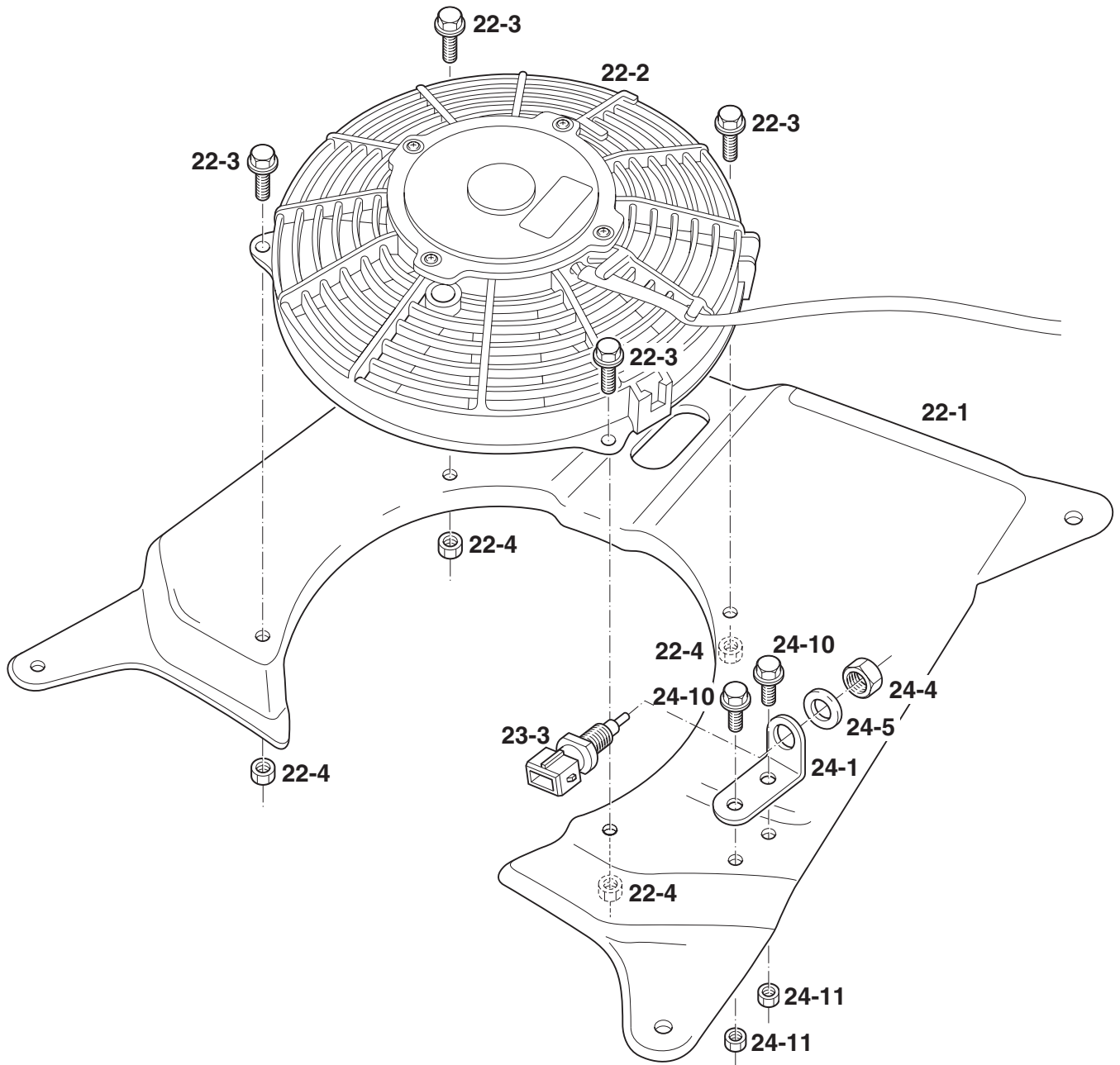
1.7. OIL PAN AND BRACKETS



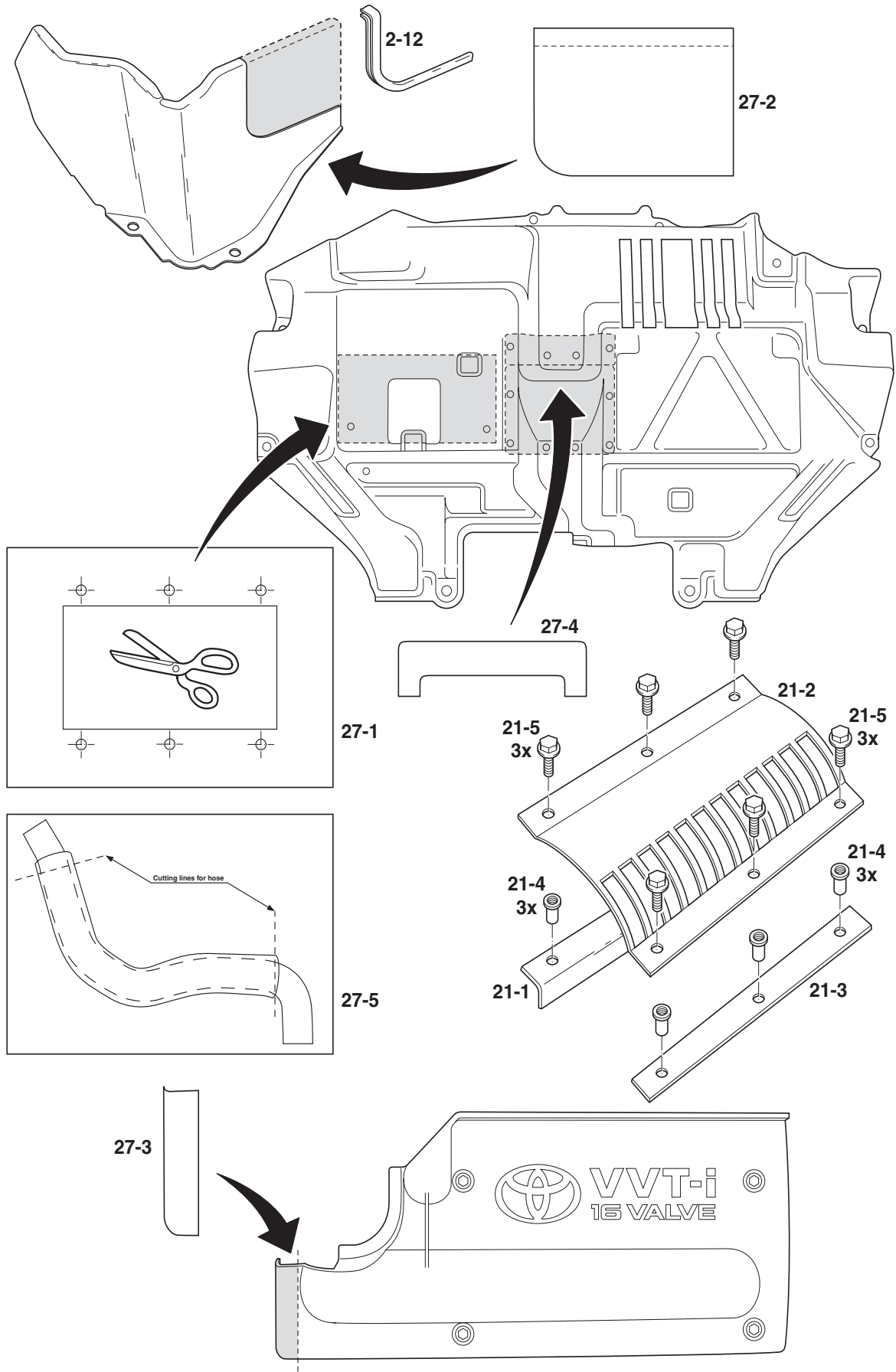
1.8. ELECTRIC COMPONENTS



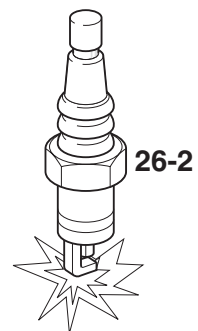
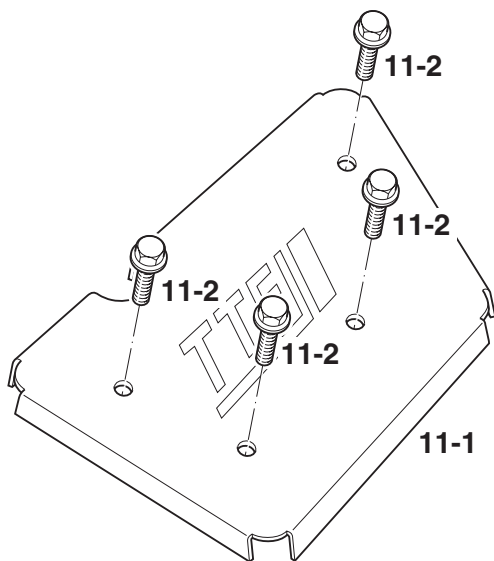
1.9. COOLING FAN



1.10.TEMPLATES



1.11. HEAT INSULATION, STICKERS AND SPARKPLUGS



2. Parts List

No.	PART NAME	QTY	PART No.	REF
1.0	KIT, AIRBOX	1	AM300-32400	
1-1	Bellow with spring clamps	1	AM183-17000	
1-2	Airfilter, sport	1	AM181-50000	
2.0	KIT, INTAKE TURBO	1	AM300-32500	
2-1	Hose clamp 50-70	2	AM901-17000	
2-2	Pipe Airbox turbo	1	AM182-63000	
2-3	Bracket, pipe airbox-turbo	1	AM300-25500	
2-4	Hose, intake Turbo	1	AM300-25600	
2-5	Air connection	1	AM300-25700	
2-6	Bolt, hexagon socket M10X30X1.5	1	AM300-25800	
2-7	Washer	2	AM300-01500	
2-8	Nut, hex head M10X1.5	1	AM300-25900	
2-9	Spring washer	1	AM300-26000	
2-10	Bolt, hex head M6X1X12	3	91511-B0612	
2-11	Nut, hex head M6X1	1	94150-80640	
2-12	Edge protection	1	AM901-18000	
3.0	KIT, TURBO CHARGER	1	AM300-32600	
3-1	Turbo charger	1	AM181-80000	
3-2	Rod End	1	AM300-34700	
3-3	Actuator	1	AM300-34800	
3-4	Nut, Actuator	2	AM300-34900	
3-5	Nut, Rod End	1	AM300-35600	
3-7	Gasket, turbo charger, casting	1	AM182-82000	
4.0	KIT, TURBO CHARGER FIXING NO.1	1	AM300-32700	
4-1	Bolt, hex head M8X30X1.25	6	AM300-25200	
4-2	Bolt, hex head M8X25X1.25	1	AM901-40000	
4-3	Locking Plate No.1	2	AM300-25300	
4-4	Locking Plate No.2	1	AM182-92000	
5.0	KIT, TURBO CHARGER FIXING NO.2	1	AM300-32800	
5-1	Turbo charger bracket gearbox to exhaust	1	AM182-78000	
5-2	Bracket, turbo	1	AM182-81000	
5-3	Bolt, hexagon socket M8X25X1.25	1	AM901-41000	
5-4	Bolt, hexagon socket M8X18X1.25	1	AM300-35900	
5-5	Washer	2	AM300-31800	
5-6	Bush, distance, bracket, turbo	1	AM869-75000	
6.0	KIT, HEATED AIR	1	AM300-32900	
6-1	Pipe intercooler inlet	1	AM182-84000	
6-2	Hose, turbo	1	AM869-96000	
6-3	Hose with bead, LLK	1	AM300-27200	
6-4	Hose clamp 40-60	4	AM901-20000	
6-5	Bolt, hex head M6X16X1.0	1	91511-B0616	

7.0 KIT, INTERCOOLER		1	AM300-33000	
7-1	Intercooler	1	AM181-82000	
7-2	Bracket, intercooler, No.1	1	AM300-27600	
7-3	Bracket, intercooler, No.2	1	AM300-27700	
7-4	Bracket, intercooler, No.3	1	AM300-27800	
7-5	Cushion M8	2	AM300-27900	
7-6	Bolt, hex head M8X12X1.25	1	91511-B0812	
7-7	Nut, hex head M8X1.25	3	90179-08206	
7-8	Bolt, hex head M10X20X1.25	1	90105-10393	
8.0 KIT, COOLED AIR		1	AM300-33100	
8-1	Pipe Intercooler to throttle plate	1	AM182-87000	
8-2	Hose with bead	1	AM300-27200	
8-3	Hose, throttle body	1	AM300-27300	
8-4	Hose clamp 40-60	2	AM901-20000	
8-5	Hose clamp 60-80	2	AM300-25400	
8-6	Clamp	1	90464-00527	
9.0 KIT, EXHAUST MANIFOLD		1	AM300-33200	
9-1	Exhaust manifold, casting	1	AM181-81000	
9-2	Gasket, exhaust manifold	1	17173-22010	
9-3	Nut, exhaust manifold	5	90179-08228	
10.0 KIT, PRE CATALYTIC CONVERTER		1	AM300-33300	
10-1	Pipe with pre-catalyser	1	AM182-77000	
10-2	Heat shield No.2	1	AM182-90000	
10-3	Bracket heat insulation	2	AM300-24300	
10-4	Bolt, hex head M10X40X1.25	3	90105-10227	
10-5	Nut, hex head M10X1.25	3	90177-10001	
10-6	Bolt, hexagon socket M6X16X1	4	AM300-24600	
10-7	Gasket, exhaust pipe	1	17451-22060	
10-8	Gasket, exhaust pipe	2	90917-06065	
11.0 KIT, HEAT INSULATION		1	AM300-33400	
11-1	Heat insulation No.1	1	AM182-91000	
11-2	Bolt, hexagon head M8X20X1.25	4	91511-J0820	
12.0 KIT, ENGINE BREATHER		1	AM300-33500	
12-1	Hose clamp 16-25	3	AM300-27100	
12-2	Protection cap	1	AM182-98000	
12-4	Clamp, distance, engine breather	1	90464-00763	
13.0 KIT, INFLOW OIL TURBO		1	AM300-33600	
13-1	Tube,Steel flex Oil pressure	1	AM182-70000	
13-2	Screw, hollow M12X25X1.5	1	AM182-69000	
13-3	Seal ring	2	90201-12109	
13-4	Clamp, wiring	2	82711-1B010	
14.0 KIT, OILRUNBACK, TURBO		1	AM300-33700	
14-1	Adapter, oil pan,	1	AM869-76000	
14-2	Nut for adapter, oil pan	1	90179-12149	
14-3	Bolt, hex head M8X20X1.25	2	91511-J0820	

14-4	Pipe, oil runback	1	AM869-79000	
14-5	Hose, connection to oil pan	1	AM869-80000	
14-6	Hose clamp 16-25	2	AM300-27100	
14-7	Gasket	2	90430-12031	
14-8	Seal ring, oil runback pipe	1	AM902-11000	
15.0 KIT, OIL PRESSURE SWITCH		1	AM300-33800	
15-1	Extension, oil pressure switch No.1	1	AM300-26300	
15-2	Extension, oil pressure switch No.2	1	AM300-26400	
15-3	Copper Seal ring	2	90201-12109	
16.0 KIT, INFLOW WATER, TURBO		1	AM300-33900	
16-1	Pipe bended Water turbo	1	AM182-67000	
16-2	adapter, turbo, water, No.2 M16X1.5//M14X1.5	1	AM869-85000	
16-3	Hose Heat protection	1	AM869-99000	
16-4	Clip, waterhose	1	87124-17060	
17.0 KIT, RUNBACK WATER, TURBO		1	AM300-34000	
17-1	Pipe water runback	1	AM182-68000	
17-2	Hose Water	1	AM300-28200	
17-3	Hose clamp 16-25	2	AM300-27100	
17-4	adapter, turbo, water, No.1 M16X1.5	1	AM869-94000	
17-6	Clamp, big	1	90464-00527	
17-7	Hose heat protection	1	AM901-84000	
18.0 KIT, ACTUATOR		1	AM300-34100	
18-1	Hose, Heat protection	1	AM300-27500	
18-2	Hose, Actuator turbo	1	AM182-65000	
18-3	Hose clamp 10-16	2	AM300-00400	
19.0 KIT, FIXING, AIR FUEL SENSOR		1	AM300-34200	
19-1	Cable clip	2	AM300-27000	
19-2	Cable fixing bracket No.1	1	AM182-80000	
20.0 KIT, FIXING, TAIL-LIGHT		1	AM300-34300	
20-1	Clamp, Multifix	1	AM300-24800	
20-2	Bolt, hex head M6X16X1.0	1	91511-B0616	
20-3	Jack nut (rivet) M6	1	AM901-31000	
20-4	Protection, Edge	1	AM901-18000	
21.0 KIT, SHROUD COMPARTMENT VENTILATION		1	AM300-34400	
21-1	Shroud, engine Ventilation No.1	1	AM300-26500	
21-2	Shroud, Engine ventilation No.2	1	AM300-26600	
21-3	Shroud, Engine ventilation No.3	1	AM300-26700	
21-4	Nut, jack, (rivet) M6	6	AM901-32000	
21-5	Bolt, hex head M6X16X1.0	6	91511-B0616	
22.0 KIT, FAN		1	AM300-34500	
22-1	Cover, bonnet	1	AM869-81000	
22-2	Air fan, bonnet	1	AM182-94000	
22-3	Bolt, hex head M6X12X1.0	4	91511-B0612	
22-4	Capnut M6X1.0	4	90176-06045	
23.0 KIT, ELECTRONIC		1	AM300-30100	
23-1	Loom. Wiring, No.1	1	AM300-30200	
23-2	Loom. Wiring, No.2	1	AM300-30300	

23-3	Sensor, Temperature	1	AM300-30400	
23-4	Power Control unit	1	AM300-31000	
23-5	Relay	2	AM300-31900	
23-6	Fuse, 15 Ampere	1	AM300-34600	
23-7	Arma Flex	3	AM199-07000	
23-8	Tie Wrap	15	AM199-06000	
23-9	Tie Wrap with socket	3	AM300-37200	
24.0 KIT, FIXING, ELECTRONIC		1	AM300-30800	
24-1	Bracket, Sensor, Temperature	1	AM300-30900	
24-2	Bolt, hex head M6X30	2	91511-B0630	
24-3	Bracket, Power Control unit	1	AM300-30500	
24-4	Nut, flat M12X1.5	1	AM300-32200	
24-5	Washer for temperature sensor 12 mm	1	AM300-32300	
24-6	Nut for relay M5X1	2	90179-05004	
24-7	Nut for ECU M6X1	2	94150-80640	
24-8	Nut for bracket M8X1.25	3	90179-08067	
24-9	Bolt for relay M5X12X1	2	90119-05021	
24-10	Bolt, for temperature sensor Bracket	2	91511-A0610	
24-11	Capnut, for temperature sensor Bracket	2	90176-06045	
24-12	Clip, Bonnet insulation	3	90467-10018	
24-13	Clip, Bonnet cover	1	90467-07155	
25.0 KIT, HOSE CONNECTION POWER CONTROL		1	AM300-37700	
25-1	Hose, Boost pressure	1	AM300-37400	
25-2	T-junction, Connector	1	AM300-37300	
25-3	Hose clamp, 10-16, Air connection	2	AM300-04000	
25-4	Foam tape	1	AM300-37500	
26.0 KIT, SPAREPARTS NO.1			AM300-37900	
26-1	Sticker, RON 98	1	74559-YW601-A	
26-2	Spark Plug	4	90919-01210	
26-3	Sticker, TTE Turbo	3	AM901-44000	
26-4	Manual, Installation	1	AM901-45000	
26-5	Manual, Repair	1	AM901-46000	
26-7	Oil Filter	1	90915-YZZC7	
26-8	Jack nut tool	1	AM300-38300	
27.0 KIT, TEMPLATES			AM300-38700	
27-1	Template, Shroud Engine Ventilation No. 1	1	AM901-64000	
27-2	Template, Heat Insulation Left Side	1	AM901-65000	
27-3	Template, Engine cover	1	AM901-68000	
27-4	Template, Shroud Engine Ventilation No. 2	1	AM901-69000	
27-5	Template Engine Ventilation Hose	1	AM901-96000	

3. Specified torque

Part tightened	Torque specification		
	Nm	kgcm	ft.lbf
Harness fixation clamp	3	30	2.2
Oil return adapter	45	460	33
Oil change plug	37	370	27
Air guide bracket	5	50	3.7
Cooling-fan	6	60	4.4
Temperature sensor bracket	10	100	7.2
Temperature sensor	20	200	15
Vacuum hose adapter	25	255	18
VSV	9	90	6.6
Heat shield catalyser	6	60	4.4
Turbo control-unit	8	80	5.7
(Turbo) relays	6	60	4.4
Water outlet adapter	70	710	50
Water inlet adapter	50	510	37
Water inlet hose	14	140	10
Water outlet tube	12	120	8.6
Oil pressure tube	25	255	18
Pressure actuator	10	100	7.4
Pressure actuator hose	2	20	1.5
Exhaust manifold	37	375	28
Turbo charger locking plates	28	285	19
Turbo charger bracket bolt turbo charger	20	200	14.3
Turbo charger bracket bolt turbo charger- engine	16	160	11.5
Hose turbo inlet side clamps	3	30	2.2
Hose turbo engine side clamps	3	30	2.2
Water outlet clamps	3	30	2.2
Blind cap throttle body	9	90	6.6
Oil pan	9	90	6.6
Oil-pressure switch adapter	13	130	9.3
Oil-pressure switch adapter bolt	20	200	14.3
Oil-pressure switch	13	130	9.3
Intercooler inlet pipe clamps	3	30	2.2
Intercooler inlet pipe bracket	12	120	8.6
Intercooler outlet pipe hose clamps	3	30	2.2
Intercooler outlet pipe clamps	3	30	2.2
Intercooler fixation bolts Hex.Head M10X20X1.25	16	160	11.5
Intercooler fixation bolts Hex.Head M8X12X1.25	12	120	9.4
Intercooler fixation nut Hex.Head M8X1.25	12	120	9.4
Inlet pipe clamp	3	30	2.2
Bracket turbo inlet pipe	9	90	6.6
Bracket inlet pipe-cylinder head	25	255	18
Turbo inlet pipe inner clamp	3	30	2.2
Clamps vacuum hoses VSV	3	30	2.2
Engine breather hose clamps	3	30	2.2
Exhaust pipe bracket	24	240	17.9

Exhaust pipe onto turbo	16	160	11.5
Oil return pipe	20	200	15
Ground bolt	9	90	6.6
Cooling fan cover	6	60	4.4
Lambda sensor No. 1	44	450	32
Exhaust manifold heat shield	20	200	15
Lambda sensor No. 2	44	440	32
Spark plugs	25	250	17.9
Ignition coils	9	90	6.6
Control-unit assembly (manual)	13	130	9.3
Control-unit assembly (automatic)	13	130	9.3
Automatic control unit	13	130	9.3
Wiring harness ground connection	9	90	6.6

INSTALLATION PROCEDURES

1. Introduction

1.1. SI UNIT.

The UNITS given in this manual are primarily expressed according to the SI (international System of Units), and alternately expressed in the metric system and in the English system.

1.2. CAUTION * NOTICE * HINT.

CAUTION: There is a possibility of injury to you or other people. Be sure to observe the contents.

NOTICE: There is a possibility of damage to the components or vehicle. Be sure to observe the contents.

HINT: Additional information to help you perform the installation correctly and efficiently.

1.3. DEFINITION OF SYMBOLS.

U: Part or parts that will become Unnecessary after removal or disassembly.

K: New part or parts from the Kit that will be used for installation or assembly.
The numbers in the text and in the illustrations (Ex.4-C) which follow this symbol correspond to numbers in "PARTS LOCATION" and "No." in "PARTS LIST".

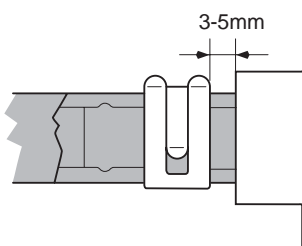
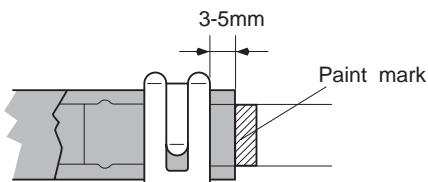
R: Part or parts that has/have been removed from the vehicle and will be Reused for installation or assembly.

1.4. WATER HOSE AND CLAMP.

NOTICE:

Follow the instructions below. Otherwise the hose may come off or the coolant may leak from the connection, resulting in engine overheat.

Example:

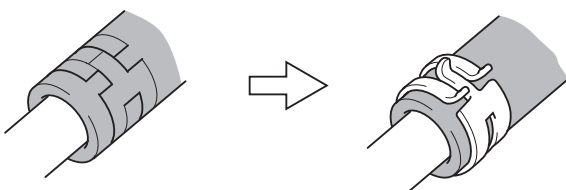


- When fitting the hose, mixture of water and L.L.C. (50: 50 to 100: 0) can be used for lubrication.
- The paint mark on the water hose is the reference for positioning. Unless otherwise specified in this manual, fit the hose with the mark at the top.
- When fitting the hose to the pipe, make sure to push in the hose until it reaches the paint mark. If there is no paint mark on The pipe, push the hose to the end.
- Unless otherwise specified in this manual, f it the hose clamp at 3 to 5 mm (0. 1 1 8 to 0.197in.) from the end of the hose while making sure the tabs do not interfere with any other parts.

HINT:

Do not wrap the hose clamp around the hose at a slant.

- When both the water hose and hose clamp are reused, make sure to fit the hose clamp at the mark left from previous clamping.

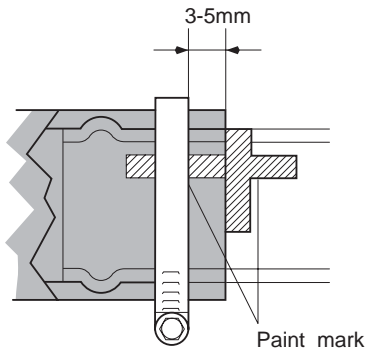


1.5. AIR HOSE AND CLAMP.

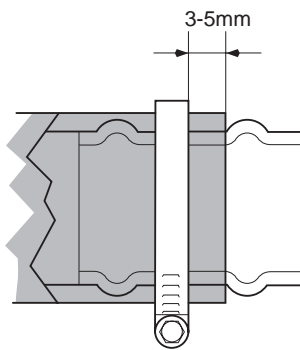
NOTICE:

- Follow the instructions below. Otherwise the hose may come off or intake air may leak, disabling driving due to engine stop.
- Wrapping the hose clamp too tightly may damage the part or related parts.

Example:



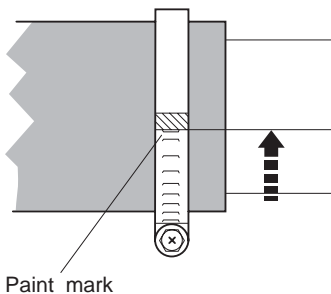
- (a) The paint mark on the air hose is the reference for positioning. Align the mark with that of the pipe for fitting.
- (b) When fitting the hose to the pipe, make sure to push in the hose until it reaches the paint mark. If there is no paint mark on the pipe, push the hose to the end.
- (c) Unless otherwise specified in this manual, fit the hose clamp at 3 to 5 mm (0.118 to 0.197 In.) from the end of the hose.



HINT:

Do not wrap the hose clamp around the hose at a slant.

- (d) When tightening the hose clamp, check the illustration in this manual and make sure the position and orientation of the screw is appropriate for on-vehicle maintenance.



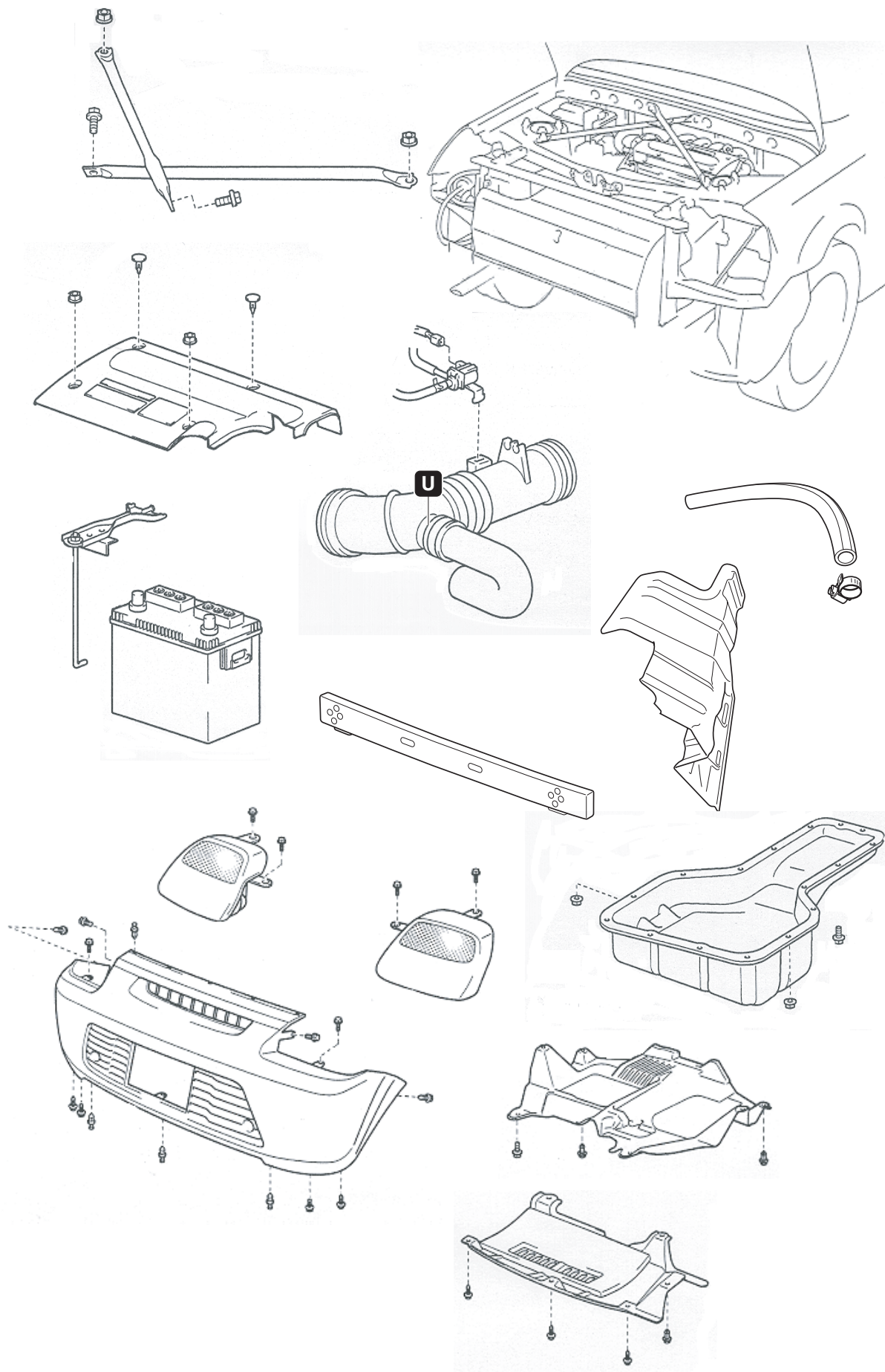
HINT:

Tighten the hose clamp until the end of the clamp reaches the paint mark, in order to ensure optimal tightening condition.

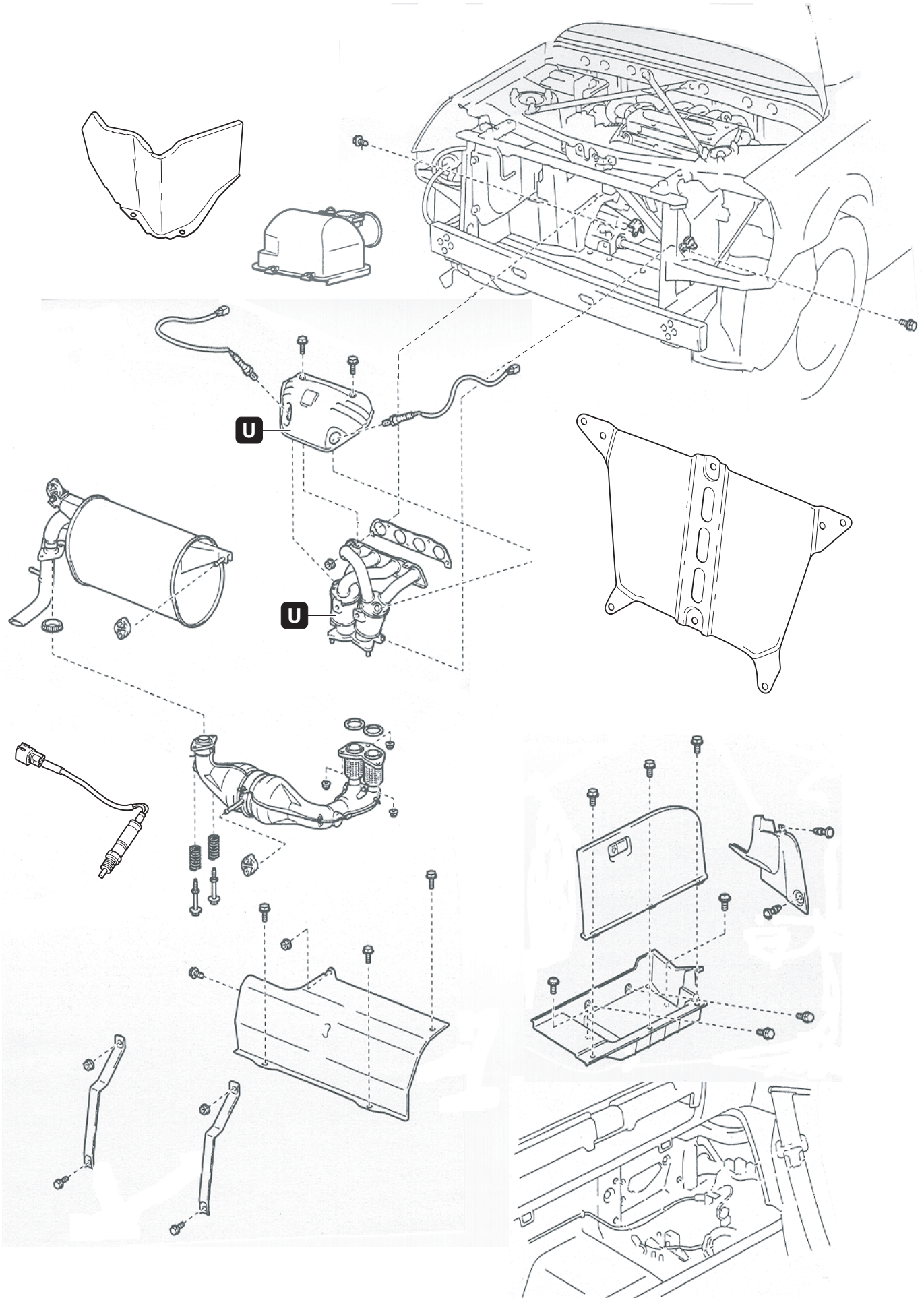
1.6. OIL AND COOLANT.

Reuse the oil and coolant if it is judged possible from their condition.

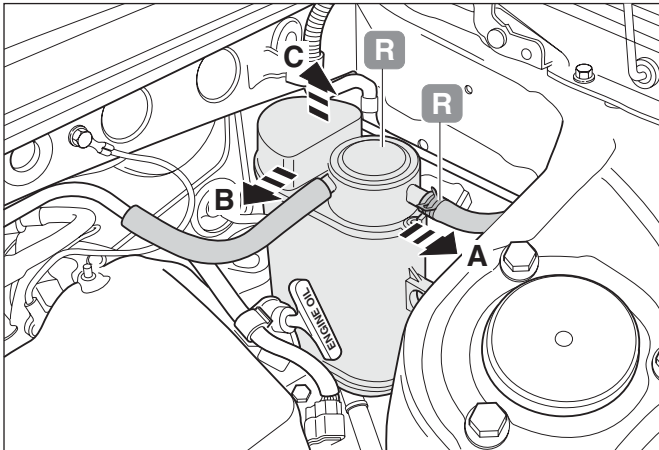
2. Parts to be removed (see workshop manual for detailed instructions)



CONTINUED

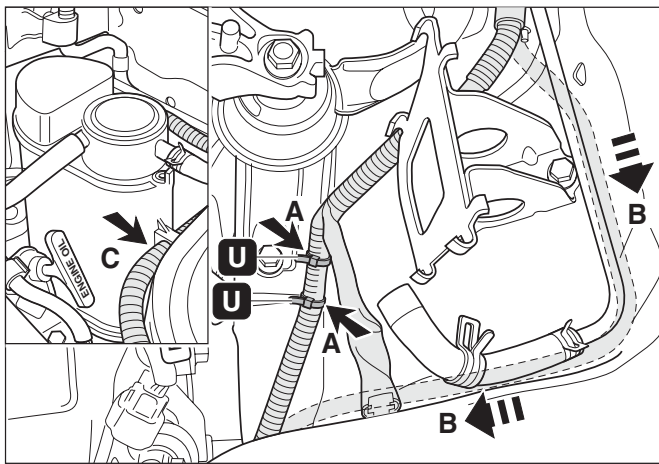


3. Vehicle preparation



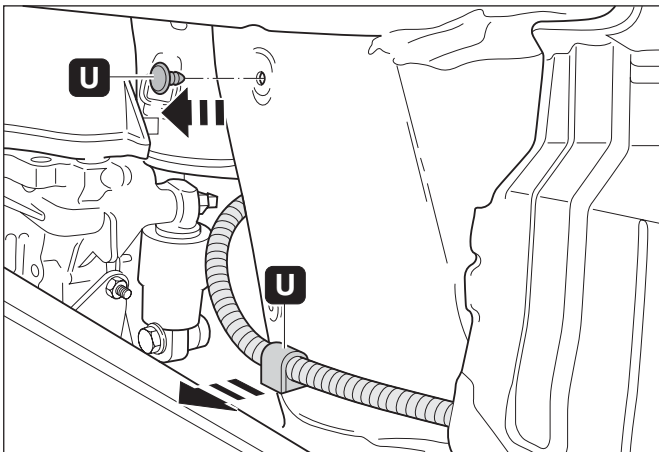
1. REMOVE CARBON CANISTER.

- (a) Remove the clamp of the vacuum hose.
R: Clamp
- (b) Disconnect the vacuum hoses from the carbon canister.
- (c) Remove the carbon canister from its bracket by sliding it upwards.
R: Carbon canister

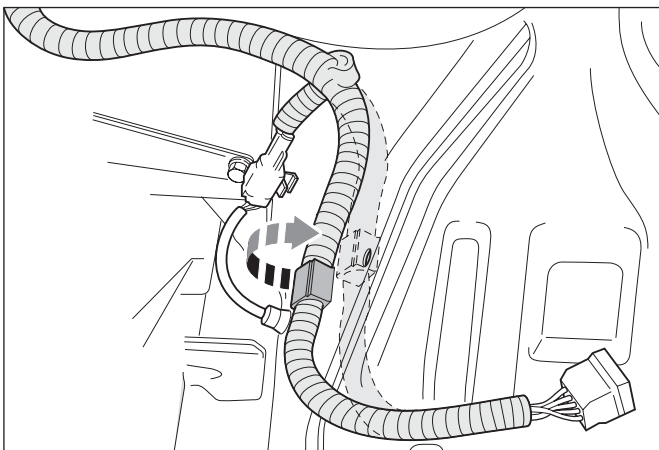


2. REMOVE HARNESS CLAMPS.

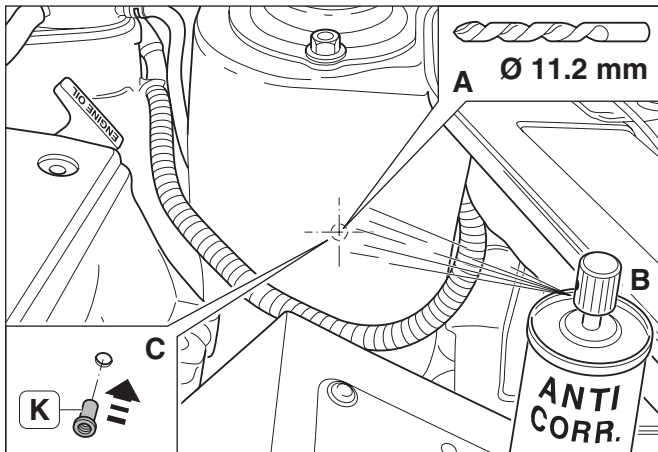
- (a) Cut the harness clamp (A) from the harness.
U: Harness clamp
- (b) Reposition the harness (B).
- (c) Reinstall the carbon canister
- (d) Reconnect the carbon canister hoses with the clamp.
- (e) Fix the harness to the carbon canister clip (C).



- (f) Remove the harness clamp out of the body panel.
U: Harness clamp
- (g) Remove the plastic plug from the body panel.
U: Plug

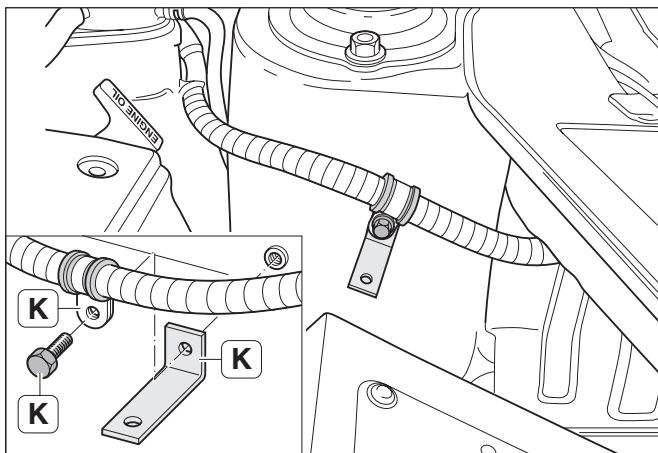


- (h) Reposition the harness clamp.



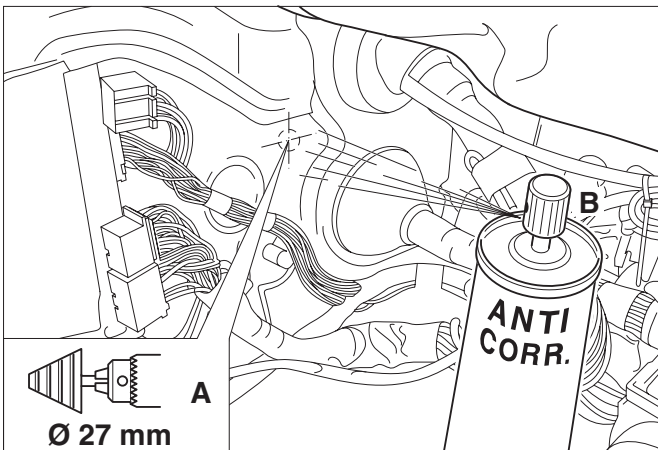
3. HOLE PREPARATION.

- (a) Drill the hole out to 11.2 mm.
- (b) Remove burrs and protect the hole with anti-corrosion primer.
- (c) Insert the steel jack nut using the special tool.(SST AM300-38300)
K: Jack nut tool (26-8)
K: Jack nut (20-3)



4. HARNESS FIXATION.

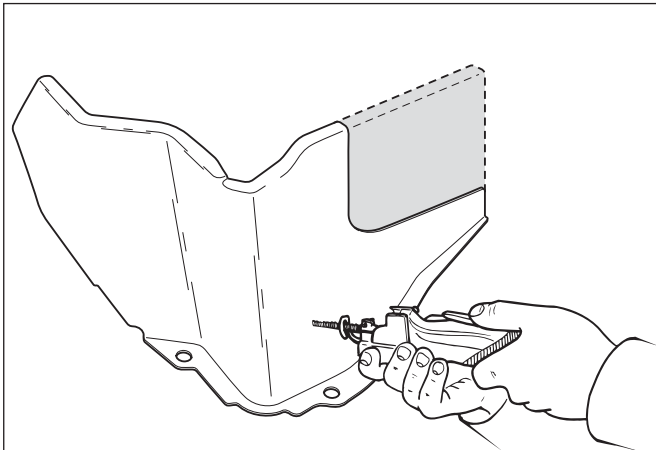
- (a) Mount the harness clamp onto the vehicle harness.
K: Harness clamp. (20-1)
- (b) Mount the clamp with 1 bolt and bracket into the jack nut.
K: Bolt (20-2)
K: Bracket No. 1 (19-2)
Torque: 3 Nm



5. HARNESS GROMMET HOLE.(INTERIOR)

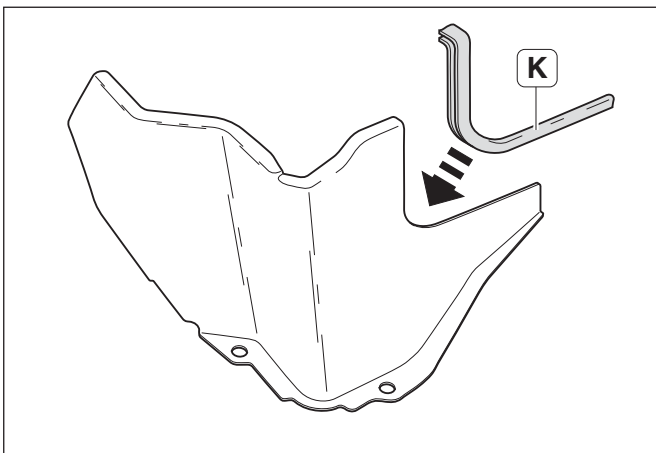
- (a) Mark the position where to drill.
- (b) Drill a 27 mm hole using a special hole-saw.
NOTICE: Ensure that all harness and vehicle components in the interior AND engine compartment are moved aside to avoid damage during drilling.
- (c) Remove burrs and protect the hole with anti-corrosion primer.

4. Airfilter box heat shield preparation

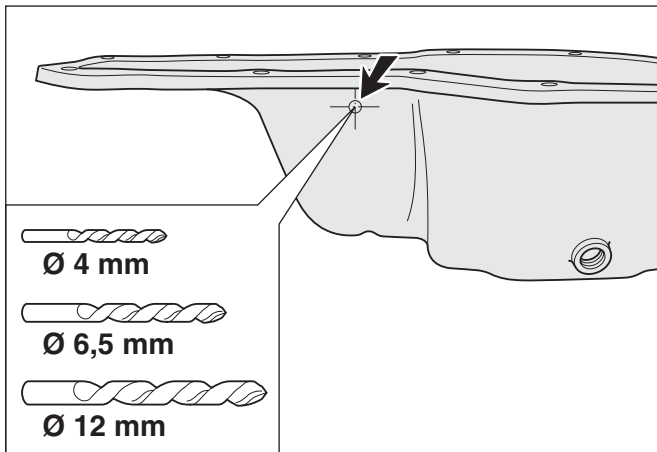


1. PREPARATION HEAT SHIELD.

- (a) Mark the position where to cut by using the template.
K: Template (27-2)
- (b) Remove the marked part, use an air driven saw or plate cutting tool.
- (c) Remove sharp edges and install protection strip.
K: Protection strip.(2-12)

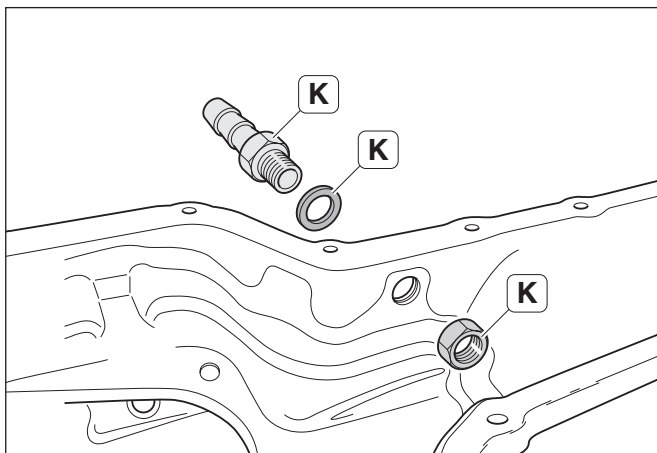


5. Oil-sump preparation

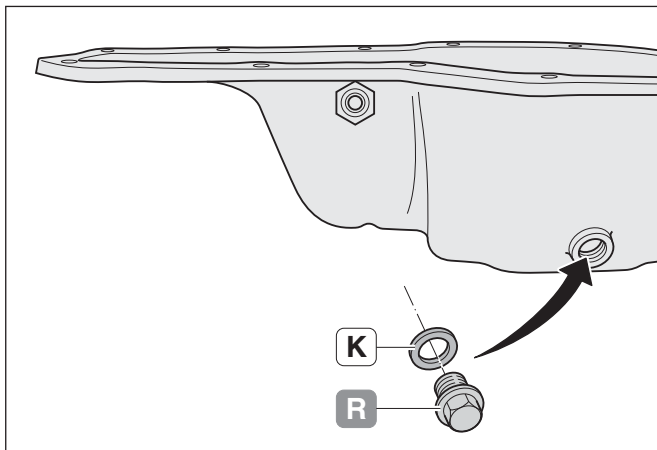


1. INSTALL OIL RETURN ADAPTER.

- Mark the position of the oil return hose adapter.
- Punch-mark the drilling position.(spot-weld position)
- Pre-drill a 4 mm hole.
- Pre-drill to 6.5 mm
- Drill the hole out to 12mm.
- Remove burrs.



- Install the oil return adapter with the nut and copper gasket and Loctite No.270
 K: Adapter (14-1)
 K: Nut (14-2)
 K: Copper gasket (14-7)
 Torque: 45 Nm



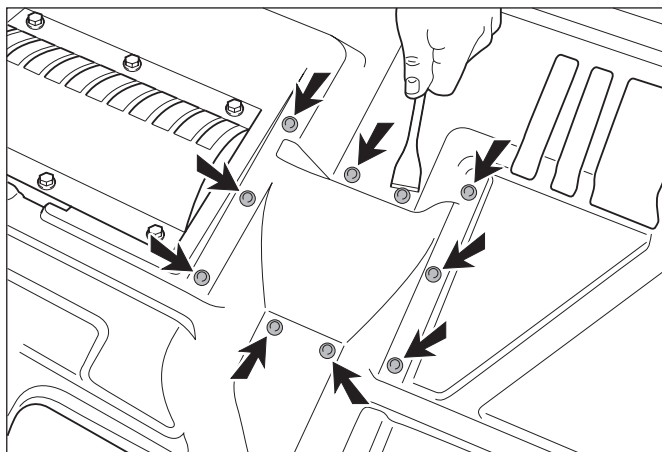
- Install the oil drain plug with a new gasket.
 K: Gasket (14-7)
 R: Oil drain plug
 Torque: 37 Nm

2. CLEANING.

- Remove all liquid gasket remains from the contact surface.
- Clean the oil-sump in a parts wash system to ensure all gasket and drilling particles are removed.

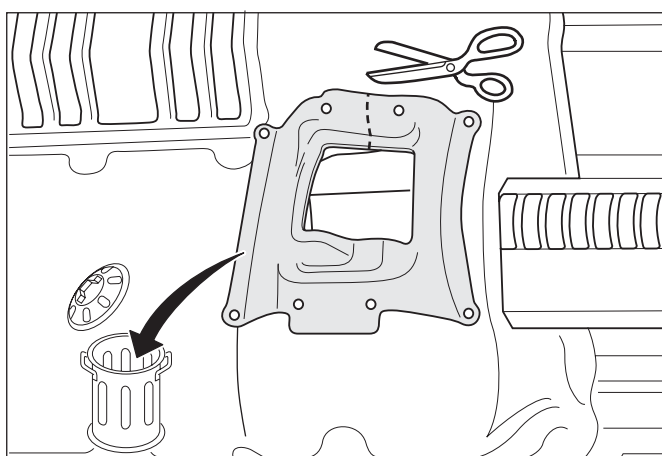
NOTICE: Check if the gasket contact surface is straight and clear due to removal activities.

6. Underbody protection preparation



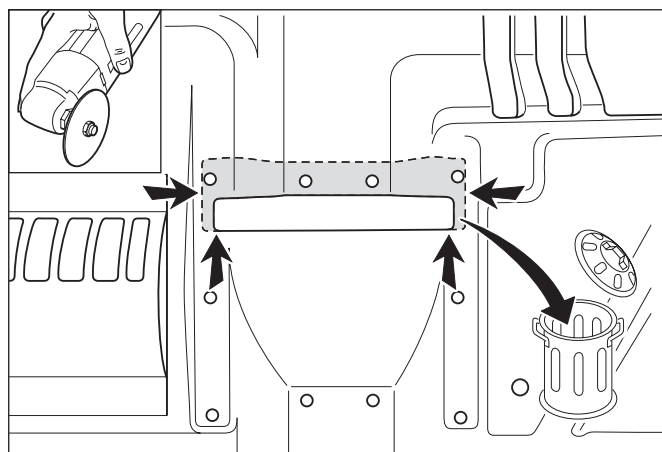
1. UNDERCOVER PREPARATION.

- (a) Remove the 10 pop-rivets from the undercover.



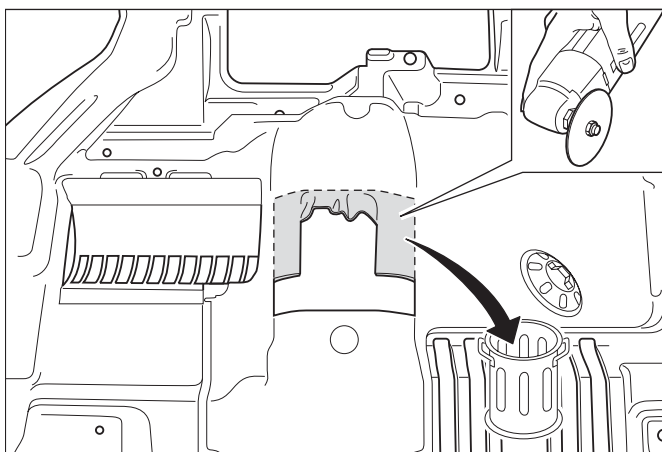
- (b) Remove from the bottom side (engine side) the plastic reinforcement out of the sound insulation.

NOTICE: Before removing the plastic reinforcement cut it with scissors.

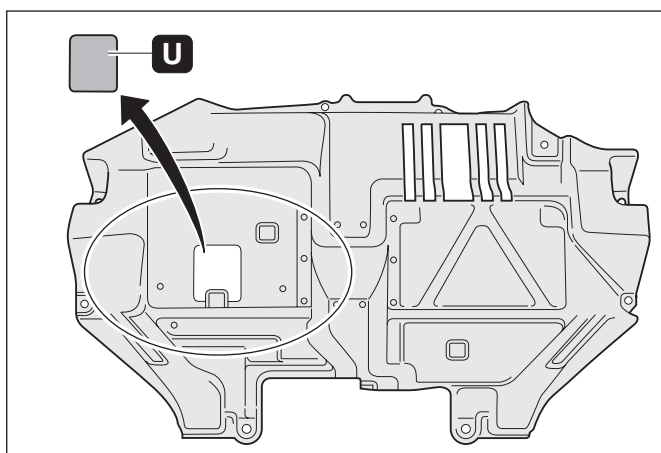


- (c) Fix the template to the undercover with tape.
K: Template (27-4)

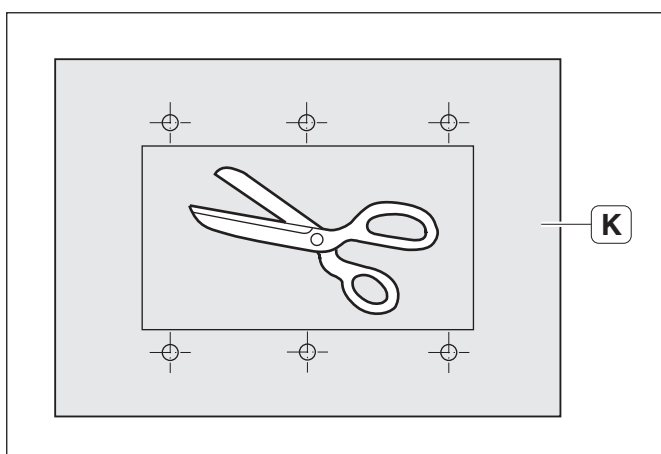
- (d) Mark the position where to cut.
(e) Cut the marked position.
(f) Remove the template.



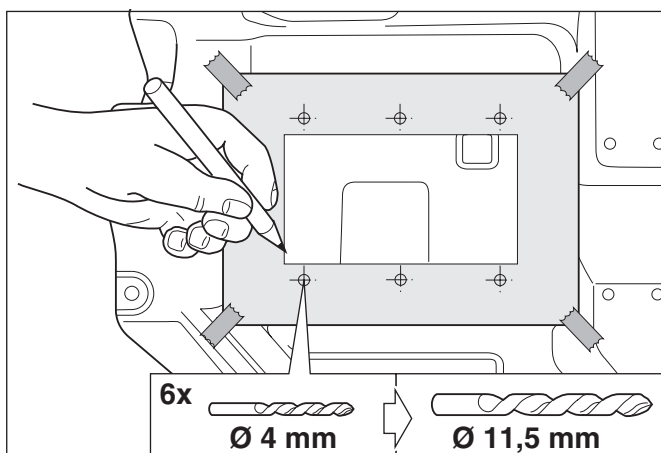
- (g) Turn the cover with the engine side facing up.
(h) Mark the position of the sound insulation where to cut.
(i) Cut the marked position.



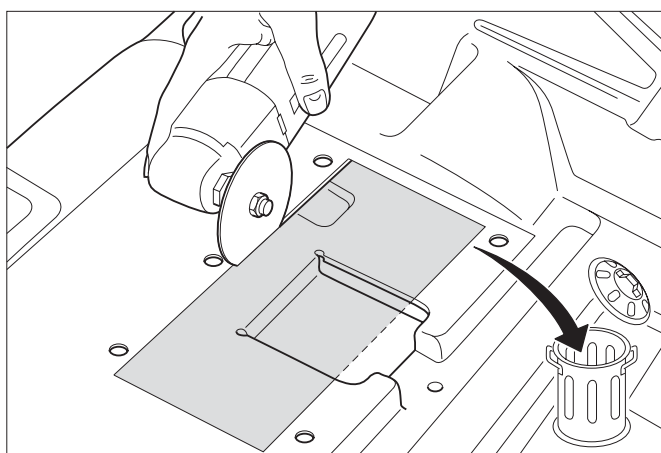
- (j) Place the undercover on the floor (engine side facing down)
- (k) Remove drain plug cover.



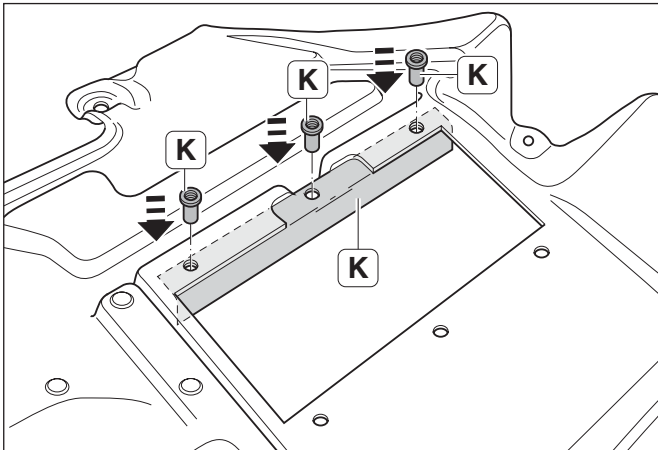
- (l) Prepare the template.
K: Template (27-1)



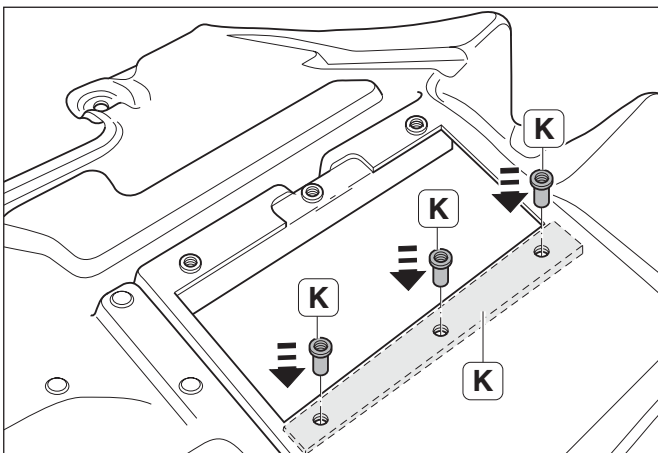
- (m) Fix the template onto the undercover with tape.
- (n) Mark the position where to cut with a marker.
- (o) Mark the 6 hole positions into the undercover.
- (p) Remove the template.
- (q) Pre drill 6 holes of 4mm.
- (r) Drill the 6 x 11.2 mm holes into the undercover.



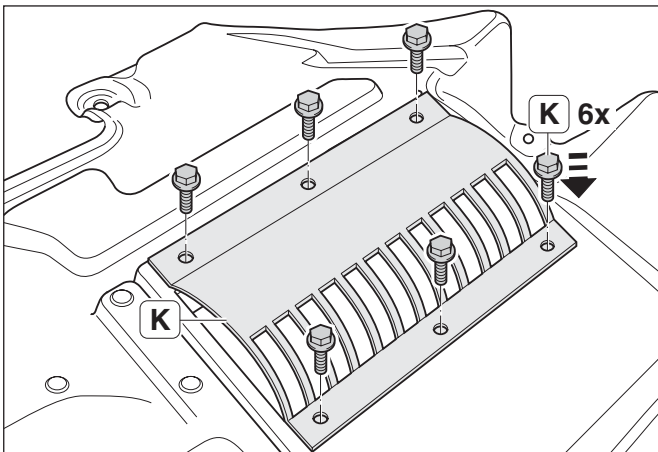
- (s) Cut the marked position out of the undercover with a cutting tool.



- (t) Install the aluminum bracket-spoiler onto the undercover with 3 aluminum jack nuts using the jack nut tool.(SST AM300-38300)
 K: Bracket spoiler (21-1)
 K: Aluminum jack nuts (3 pcs.) (21-4)
 K: Jack nut tool (26-8)

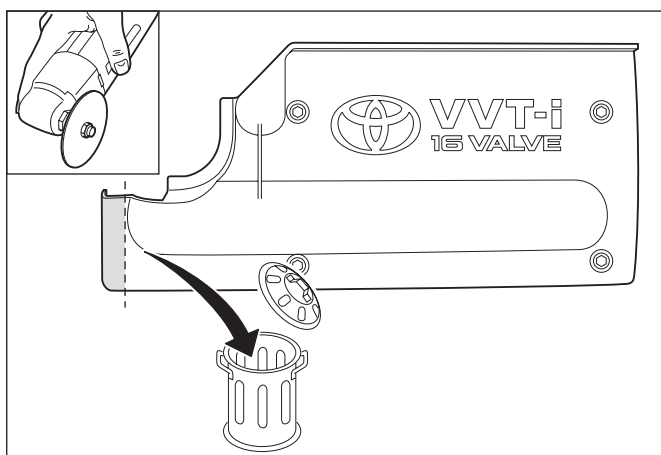


- (u) Install the aluminum bracket onto the undercover with 3 aluminum jack nuts using the jack nut tool.(SST AM300-38300)
 K: Aluminum bracket (21-3)
 K: Aluminum jack nut (3 pcs.) (21-4)
 K: Jack nut tool (26-8)



- (v) Install the aluminum air guide bracket onto the undercover brackets using 6 bolts.
 K: Air guide bracket (21-2)
 K: Bolt (6 pcs.) (21-5)
 Torque: 5 Nm

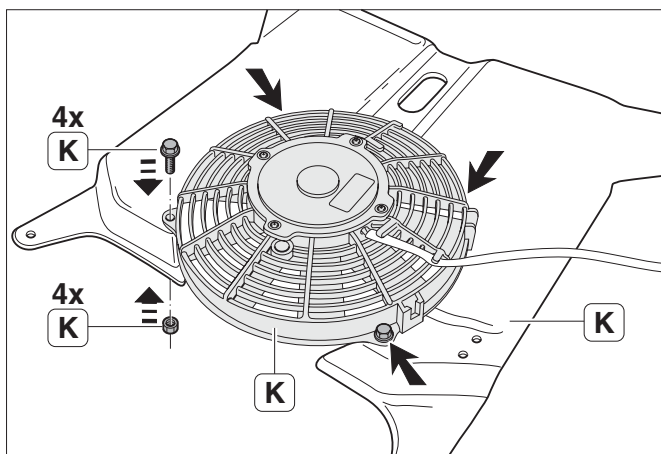
7. Engine cover preparation



1. ENGINE COVER PREPARATION.

- (a) Mark the position where to cut. Use template 27-3
- (b) Remove the marked part, use an air driven saw.
- (c) Remove sharp edges
K: Template (27-3)

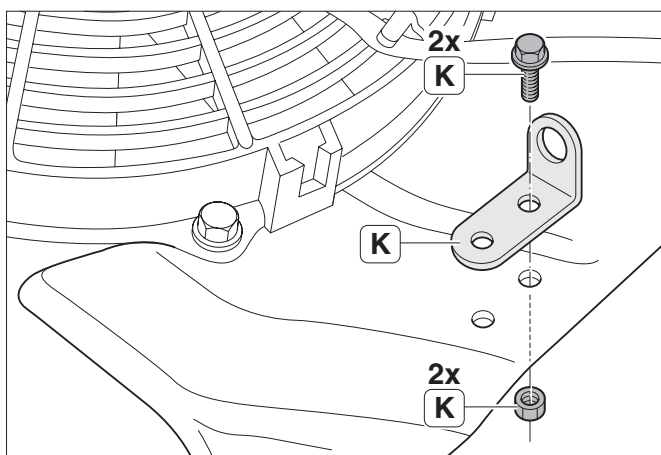
8. Cooling fan preparation



1. INSTALL COOLING-FAN.

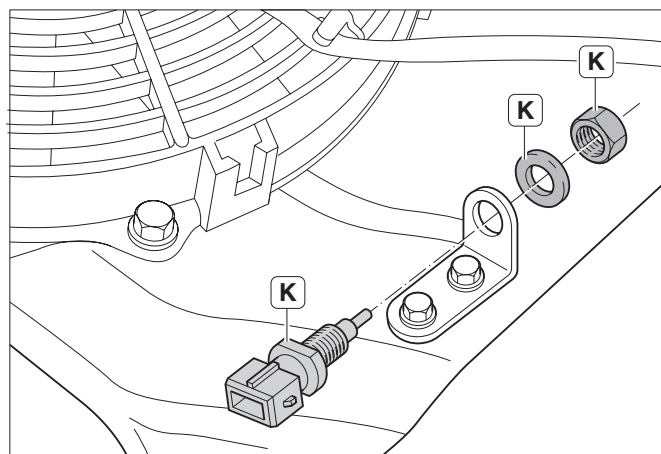
- (a) Position the cooling-fan on the bonnet cover.
K: Cooling-fan (22-2)
K: Bonnet cover (22-1)
- (b) Install 4 bolts and nuts.
K: Bolt (4 pcs.) (22-3)
K: Nut (4 pcs.) (22-4)
Torque 6 Nm

NOTICE: Ensure that the harness connection is facing the right direction.



2. INSTALL BRACKET TO COVER.

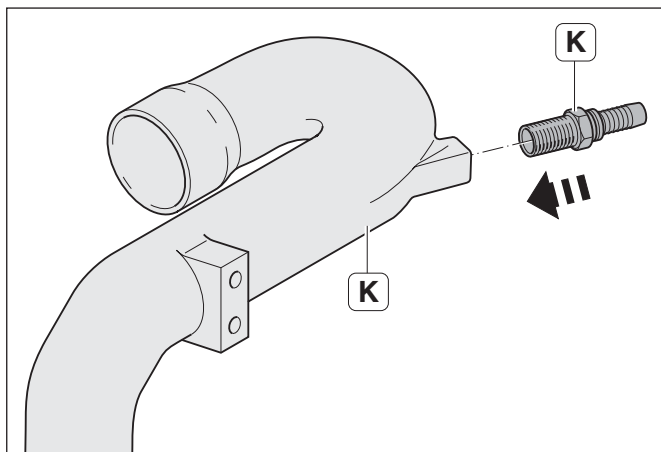
- (a) Install temperature sensor bracket to cover
K: Bracket (24-1)
K: Nut (2x) (24-11)
K: Bolt (2 pcs.) (24-10)
Torque: 10 Nm



3. TEMPERATURE SENSOR.

- (a) Install the temperature sensor into the bracket with a nut.
K: Temperature sensor (23-3)
K: Washer (24-5)
K: Flat nut (24-4)
Torque: 20 Nm

9. Inlet pipe preparation



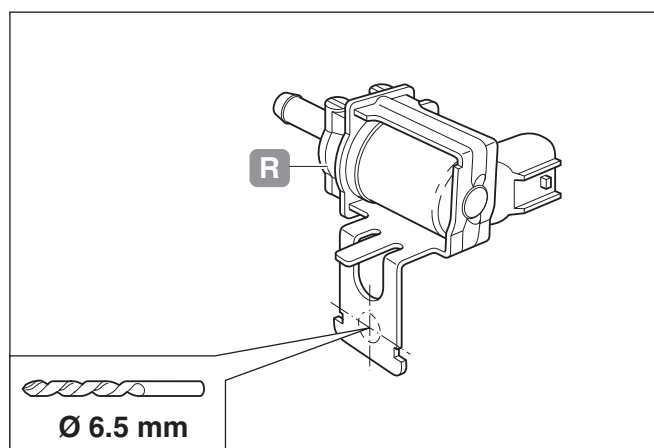
1. INSTALL VACUUM HOSE ADAPTER.

- (a) Put Loctite 270 on the hose adapter.
- (b) Install the hose adapter into the inlet pipe.

K: Vacuum hose adapter (2-5)

K: Inlet pipe (2-2)

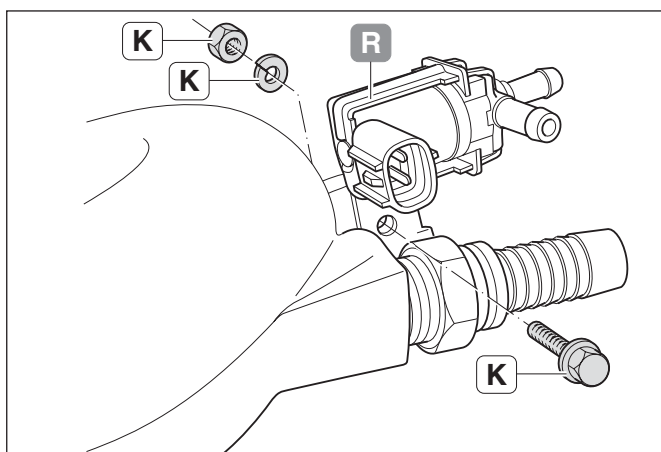
Torque: 25 Nm



2. PREPARATION OF VSV.

- (a) Mark the VSV bracket for drilling
- (b) Drill a 6.5 mm hole into the VSV bracket.

R: VSV



3. INSTALL VSV.

- (a) Install the VSV onto the inlet pipe with the bolt.

K: Bolt (2-10)

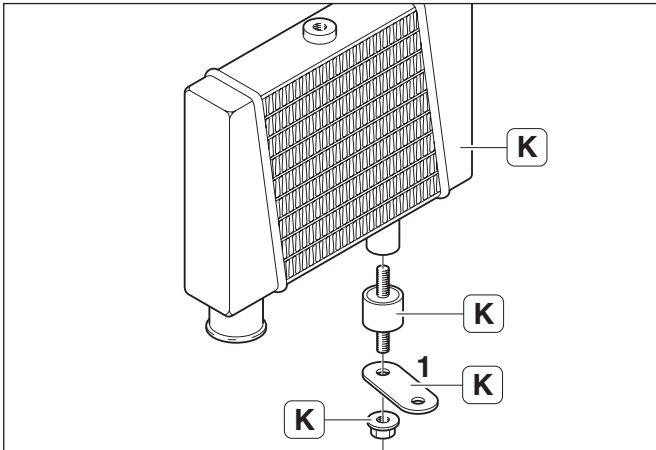
K: Washer (2-9)

K: Nut (2-11)

R: VSV

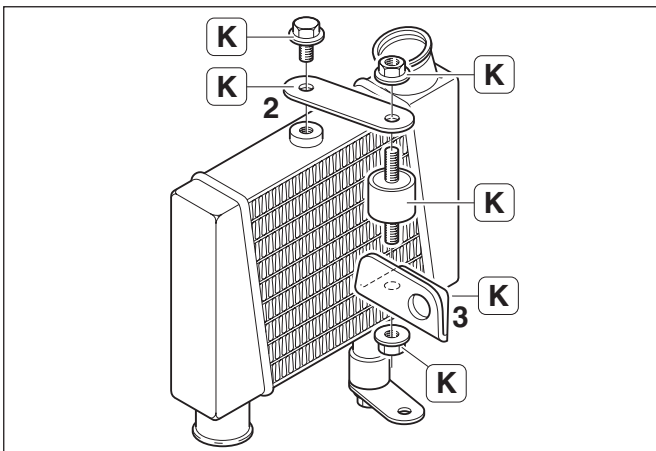
Torque: 9 Nm

10. Intercooler preparation



1. INSTALL LOWER BRACKET.

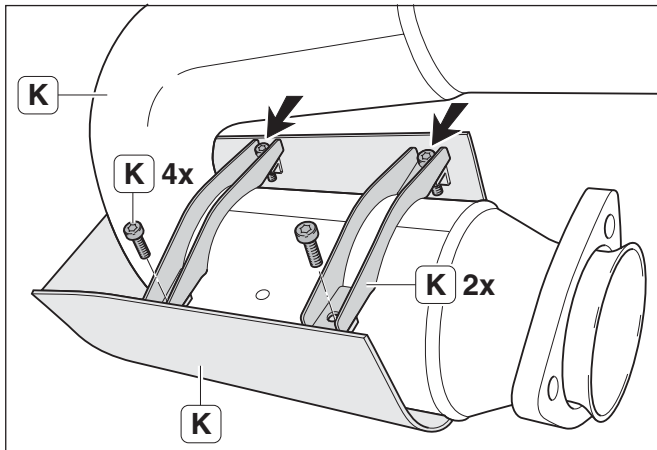
- (a) Install the rubber mounting onto the intercooler with Loctite 243 and handtighten.
K: Rubber mounting (7-5)
K: Intercooler (7-1).
- (b) Install the bracket (1) onto the rubber mounting with a nut. (hand tighten).
K: Bracket Intercooler No. 1 (7-2).
K: Nut (7-7)



2. INSTALL UPPER BRACKET.

- (a) Install the bracket (2) onto the intercooler with a bolt (hand tighten while using Locktite 243).
K: Bracket Intercooler No. 2 (7-3)
K: Bolt (7-6)
- (b) Install the rubber mounting onto the bracket (2) with a nut and hand tighten while using Locktite 243.
K: Rubber mounting(7-5)
K: Nut (7-7)
- (a) Install the bracket (3) onto the rubber mount with a nut (hand tighten while using Locktite 243).
K: Bracket Intercooler No. 3 (7-4)
K: Nut (7-7)

11. Pre-catalyser heat shield preparation



1. INSTALL PRE-CATALYSER HEAT SHIELD.

- (a) Install the heat shield with the 2 clamps and 4 bolts onto the catalyser.

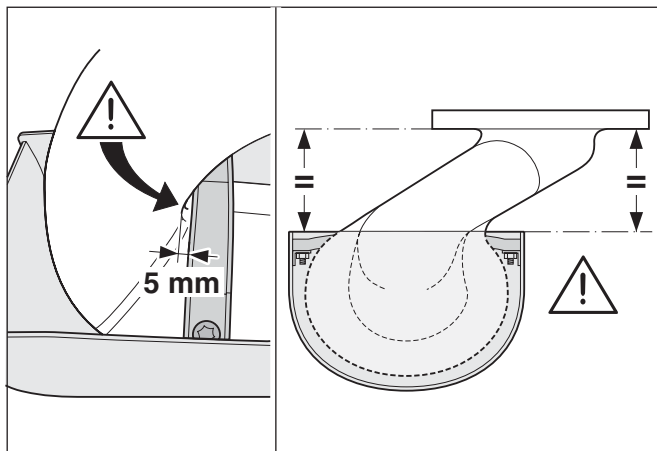
K: Catalyser (10-1)

K: Heat insulation No. 2 (10-2)

K: Bolts (4 pcs.) (10-6)

K: Bracket (2 pcs.) (10-3)

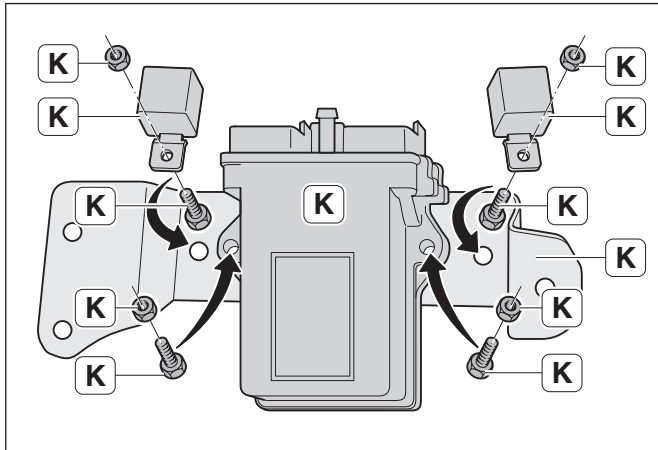
Torque: 6 Nm



NOTICE: Ensure clearance between the clamp and the exhaust tube of 5 mm.

NOTICE: Ensure location is parallel to flange.

12. Turbo control system preparation



1. TURBO CONTROL SYSTEM PREPARATION.

- (a) Install the power control-unit onto the bracket using the 2 bolts and 2 nuts.

K: Bolt (2 pcs.) (24-2)

K: Control-unit (23-4)

K: Power Control-unit bracket (24-3)

K: Nut (2 pcs.) (24-7)

Torque: 8 Nm

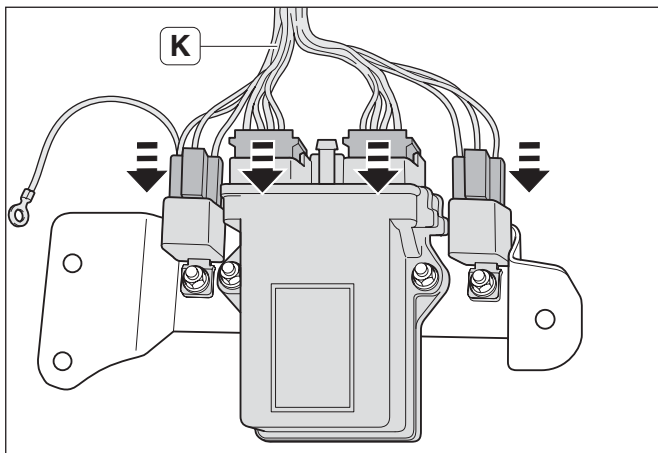
- (b) Install the relays onto the bracket using 2 bolts and 2 nuts.

K: Relay (2pcs.) (23-5)

K: Bolt (2 pcs.) (24-9)

K: Nuts (2 pcs.) (24-6)

Torque: 6 Nm



2. INSTALL CONTROL-UNIT HARNESS.

- (a) Install the control-unit harness into the control-unit with the 2 connectors.

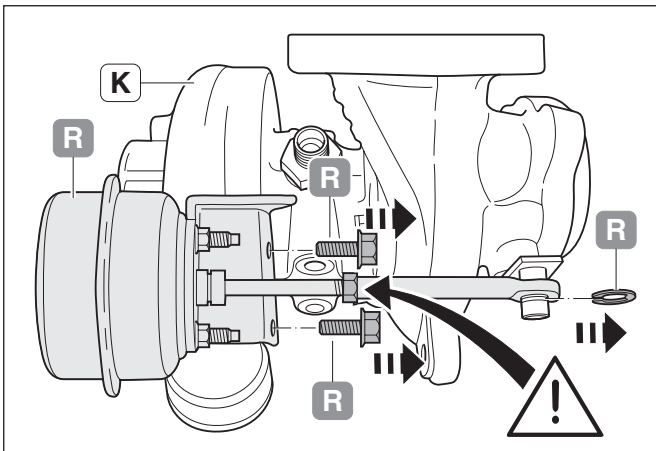
K: Control-unit wiring harness No.1 (23-1)

- (b) Install the relay connectors into the relays.

13. Turbo preparation

1. TURBO PROTECTION.

CAUTION: Cover all the inlet and outlet holes with protective tape to avoid parts from falling in.



2. REMOVE PLATE WITH PRESSURE ACTUATOR.

- (a) Remove the pressure actuator bracket by removing the clip and 2 bolts.

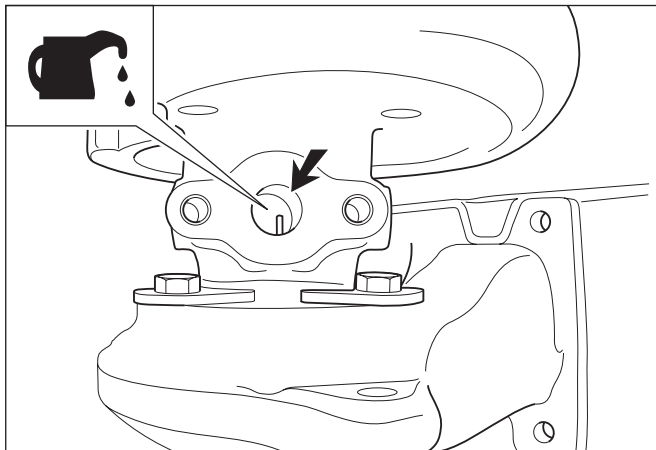
R: Clip

R: Bolt (2 pcs.)

R: Pressure actuator.

K: Turbo charger (3-1)

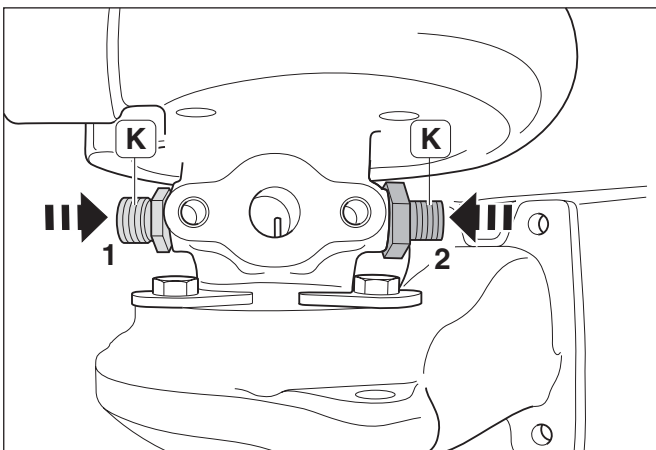
CAUTION: Do not damage nut assurance.



3. TURBO LUBRICATION.

- (a) Insert some engine oil into the oil return outlet side of the turbo and rotate the turbo turbine axle a few times to lubricate the axle bearings.

CAUTION: Close the inlet hole with tape to avoid parts from falling in.



4. INSTALL WATER ADAPTERS.

- (a) Install the water outlet (2) adapter (16/16mm).

K: Outlet adapter No.1 (17-4)

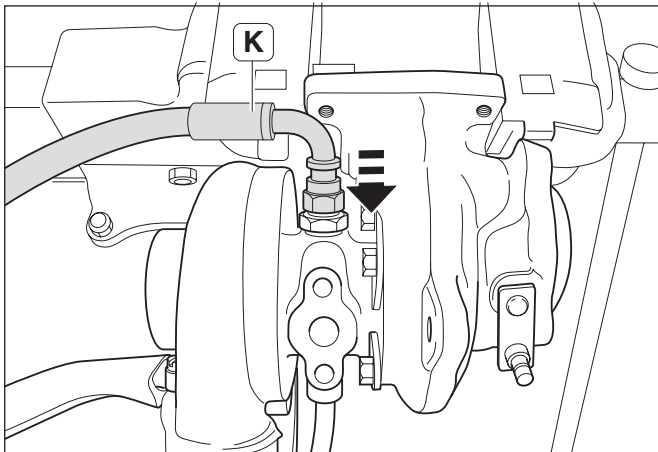
Torque: 70 Nm

NOTICE: The boss-side of the adapter is facing the turbo housing side.

- (b) Install the water inlet adapter (14/16mm).

K: Inlet adapter No. 2 (16-2)

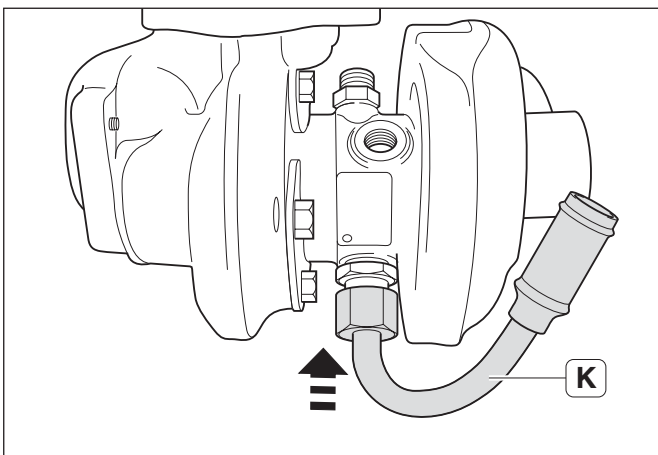
Torque: 50 Nm



5. INSTALL WATER OUTLET HOSE.

- (a) Install the outlet hose onto the outlet adapter.
 K: Water outlet hose (17-1)
 Torque: 14 Nm

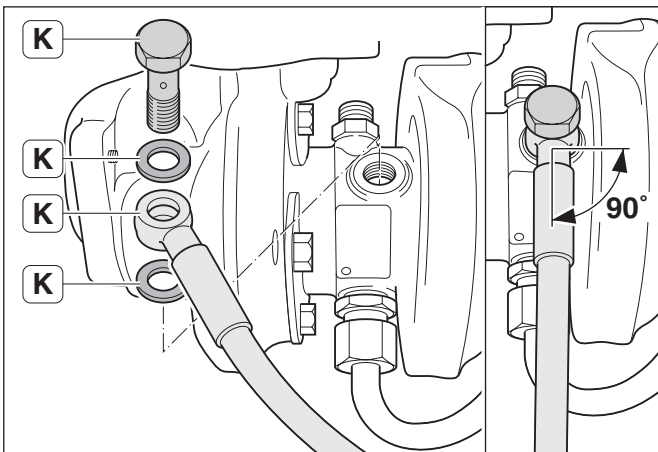
NOTICE: Ensure that the connection is pointing into the right direction (in line with exhaust manifold connection)



6. INSTALL WATER INLET TUBE.

- (a) Install the water inlet tube onto the water inlet adapter.
 K: Water inlet tube (16-1)
 Torque: 12 Nm

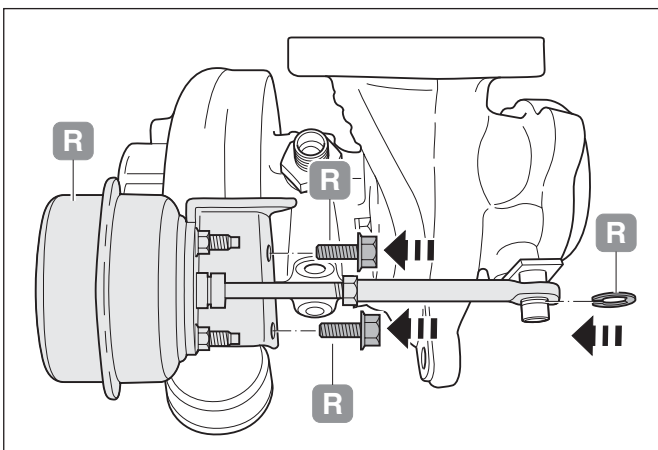
NOTICE: Ensure that the water inlet tube is pointing into the right direction.



7. INSTALL OIL PRESSURE TUBE.

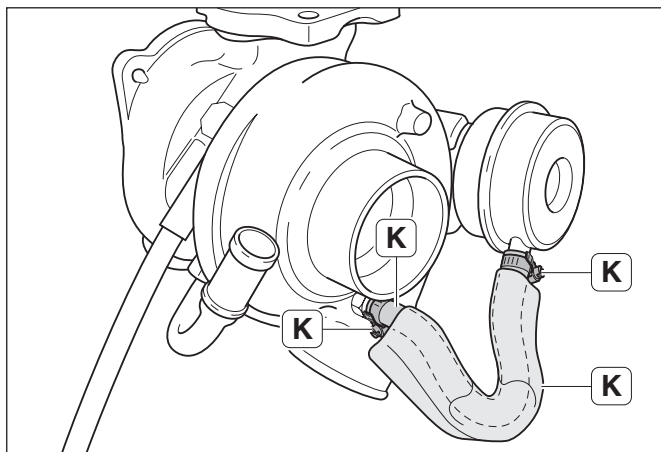
- (a) Install the oil pressure tube with the screw and 2 copper seal rings.
 K: Oil pressure tube (13-1)
 K: Screw (13-2)
 K: Copper seal rings (2 pcs.) (13-3)
 Torque: 25 Nm

NOTICE: Ensure that the connection is pointing into the right direction (in line with turbo inlet housing)



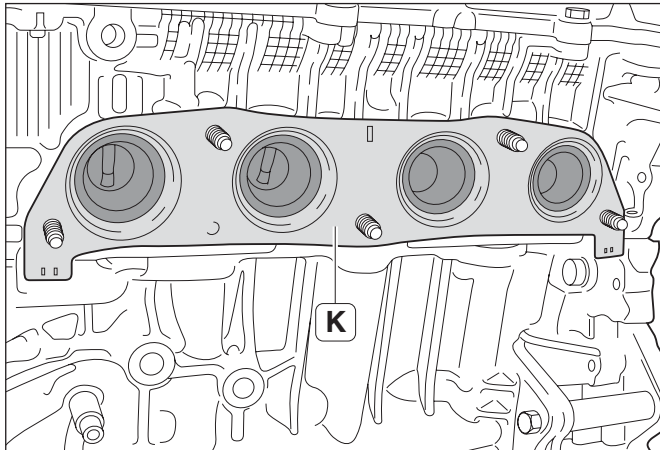
8. INSTALL PLATE WITH PRESSURE ACTUATOR.

- (a) Install the pressure actuator with bracket, with the 2 bolts and clip.
 R: Pressure actuator
 R: Bolt (2 pcs.)
 R: Clip
 Torque: 10 Nm

**9. INSTALL PRESSURE ACTUATOR HOSE.**

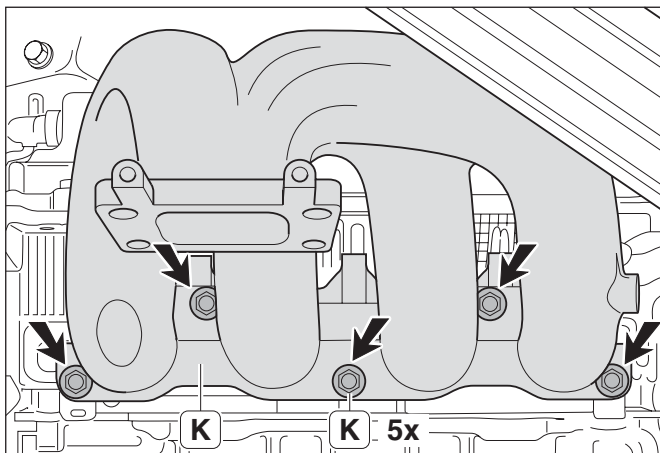
- (a) Insert the pressure hose into the heat protection hose
 - K: Pressure hose (18-2)
 - K: Hose Heat protection (18-1)
- (b) Install the pressure hose with the 2 clamps.
 - K: Clamp (2 pcs.) (18-3)
 - Torque: 2 Nm

14. Installation engine compartment



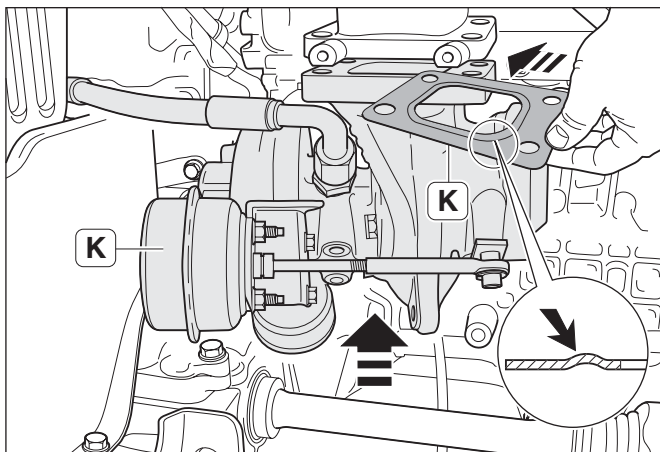
1. INSTALL EXHAUST MANIFOLD GASKET.

- (a) Place the new gasket onto the cylinder head studs.
K: Gasket (9-2)



2. INSTALL EXHAUST MANIFOLD.

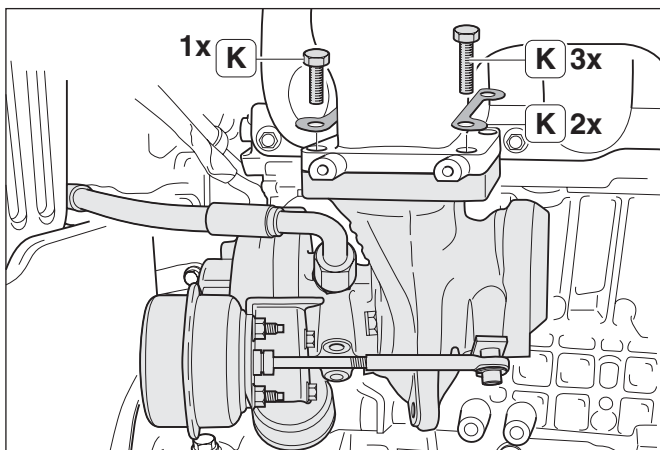
- (a) Install the exhaust manifold onto the cylinder head using the 5 nuts.
K: Nuts (5 pcs.) (9-3)
K: Exhaust manifold (9-1)
Torque: 37 Nm



3. POSITION TURBO CHARGER.

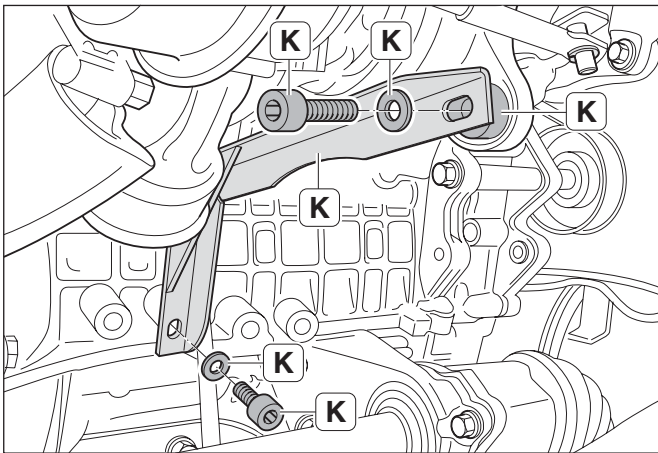
- (a) Position the Turbo charger underneath the exhaust manifold.
K: Turbo charger (3-1)
(b) Position the gasket between the manifold and the Turbo charger.
K: Gasket (3-7)

NOTICE: The embossed side of the gasket should face towards the exhaust manifold.



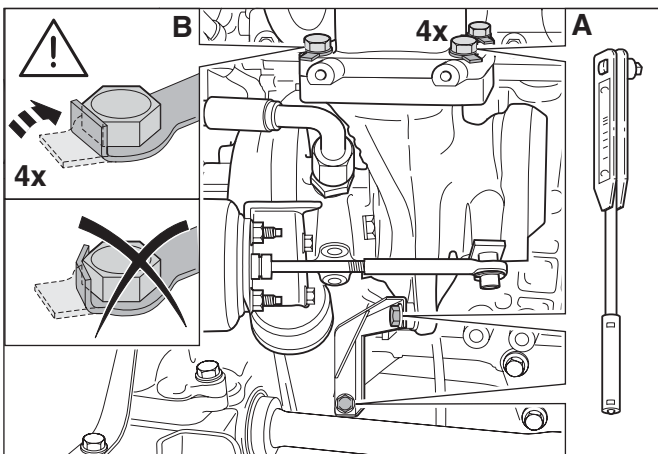
4. INSTALL TURBO CHARGER.

- (a) Install the 4 bolts with the locking-plates (hand tighten).
NOTICE: The left front bolt is short (25 mm length).
K: Bolt (3 pcs.) (4-1)
K: Locking plate (2 pcs.) (4-3)
K: Bolt (4-2)



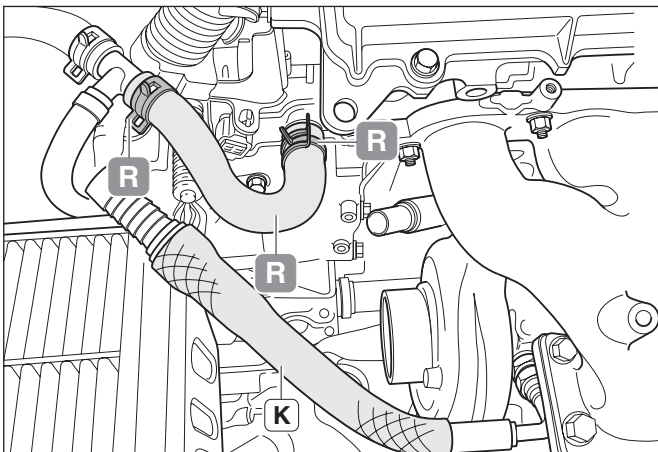
5. INSTALL TURBO CHARGER BRACKET.

- (a) Install the bracket with short bolt and washer to the engine (hand tighten).
K: Bolt (5-4)
K: Washer (5-5)
K: Bracket (5-2)
- (b) Install the bracket with long bolt, washer and spacer to the Turbo charger (hand tighten).
K: Bolt (5-3)
K: Washer (5-5)
K: Bush (5-6)



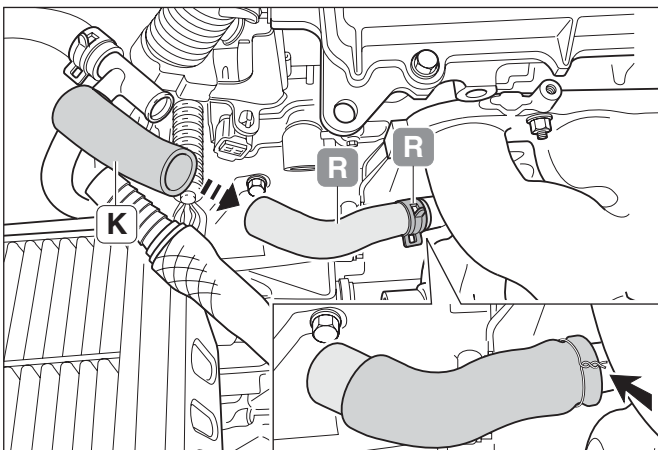
6. TIGHTENING TURBO CHARGER.

- (a) Tighten the 4 bolts of the Turbo charger.
Torque: 28 Nm
- (b) Bend the locking plates against the side of the bolt.
- (c) Tighten the bolt of the bracket to the Turbo charger.
Torque: 20 Nm
- (d) Tighten the bolt of the bracket to the engine.
Torque: 16 Nm



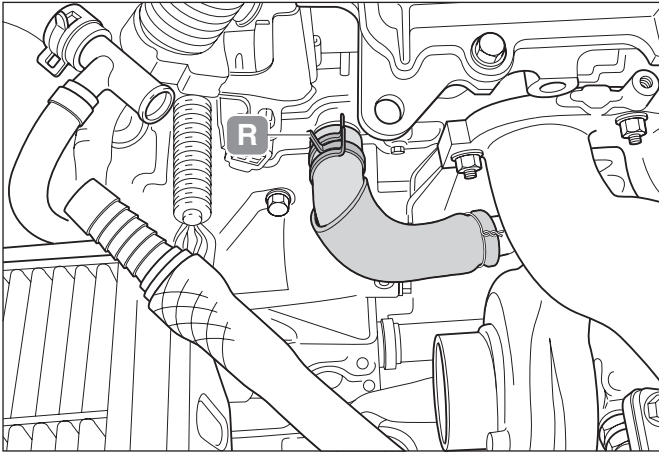
7. INSTALL WATER INLET CONNECTION.

- (a) Remove the water hose clamps.
R: Hose clamps (2 pcs.)
- (b) Remove the water hose.
R: Water hose.
NOTICE: Some coolant will flow out of the cooling system.
- (c) Install additional Hose Heat Protection.
K: Hose Heat Protection. (17-7)

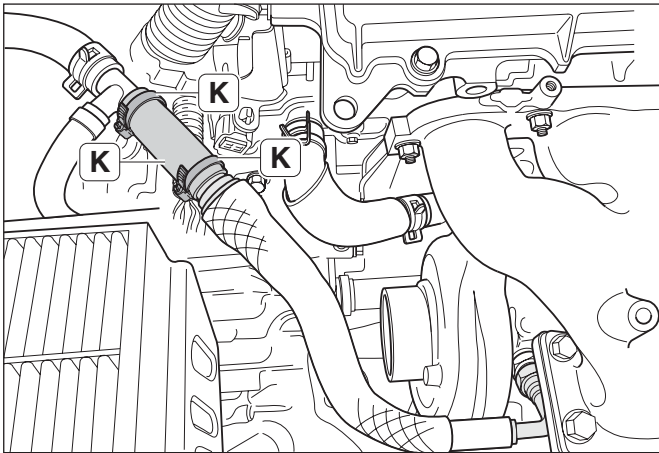


- (d) Install hose on turbo inlet side with a clamp.
R: Clamp
Torque: 3 Nm
- (e) Install heat protective hose with Lockwire. Use a stainless steel wire to fit.
K: Hose. (16-3)

NOTICE: Ensure that the clamp is covered by the sleeve.



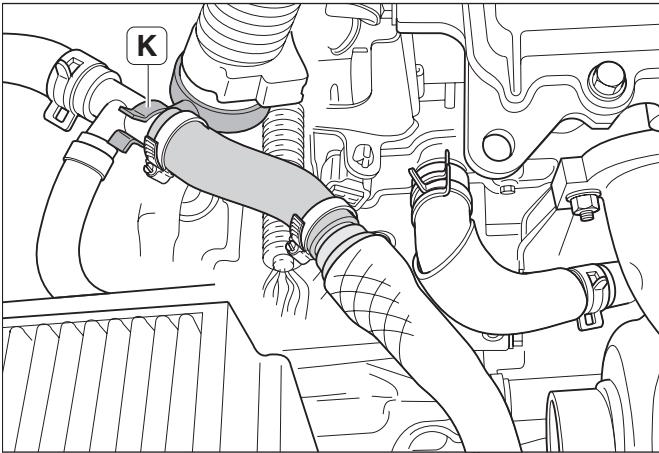
- (f) Install hose on engine side with a clamp.
 R: Clamp
 Torque: 3 Nm



8. INSTALL WATER OUTLET CONNECTIONS.

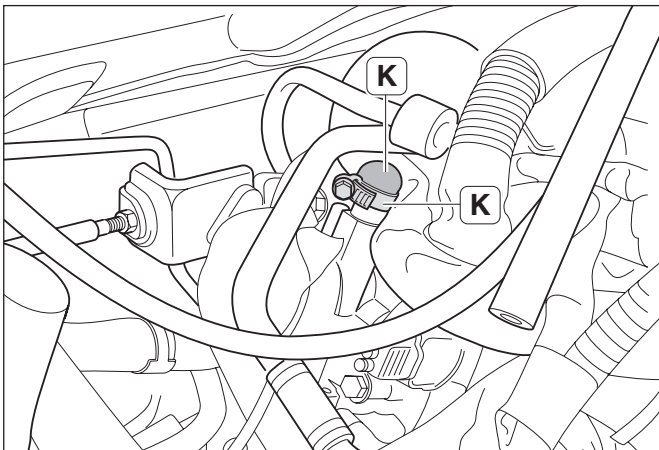
- (a) Install the clamps on the water outlet hose.
 K: Water outlet hose (17-2)
 K: Hose clamp (2 pcs.) (17-3)
 Torque: 3 Nm
- (b) Install the water outlet hose between the Turbo charger water tube and the engine water connection.

NOTICE: ENSURE THAT THE CLAMP MECHANISM IS FACING DOWNWARDS TO AVOID DAMAGE TO THE INLET TUBE (TO BE INSTALLED LATER)



9. WATERHOSE FIXATION.

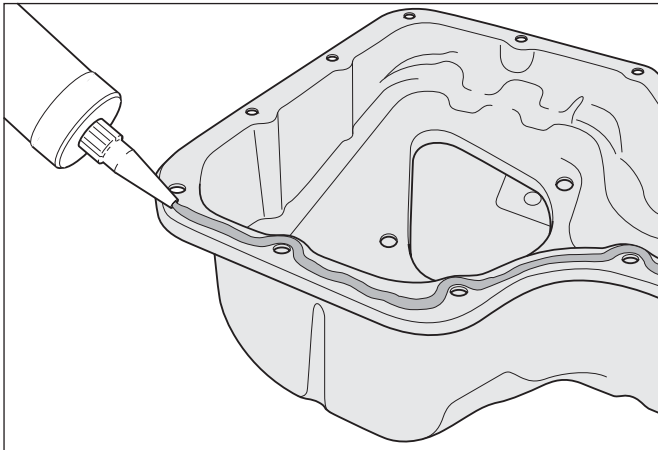
- (a) Install the plastic clamp to fix the water outlet hose.
 K: Plastic clamp. (16-4)



10. INSTALL PROTECTION CAP THROTTLE BODY HOUSING.

- (a) Install the blind cap on the throttle body housing with a clamp.
 K: Protection cap (12-2)
 K: Clamp (12-1)
 Torque: 9 Nm

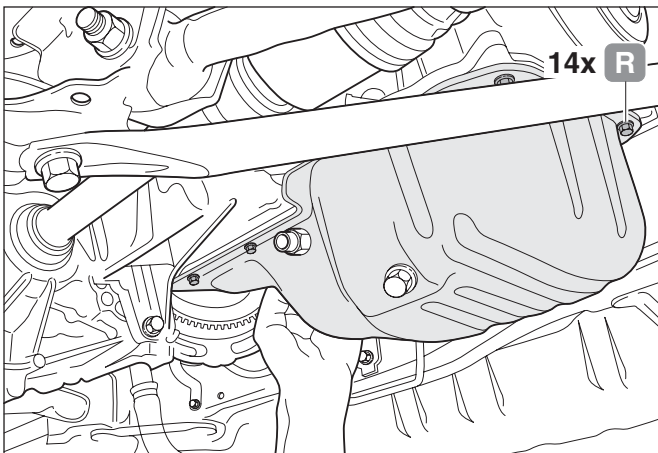
15. Installation engine compartment lower



1. APPLY LIQUID GASKET TO OIL PAN.

- (a) Apply the liquid gasket onto the clean sump surface.

NOTICE: Liquid gasket 08826-00080



2. INSTALL OIL PAN.

- (a) Within 3 minutes after applying the liquid gasket install the oil-pan onto the engine using the 14 bolts and 2 nuts.

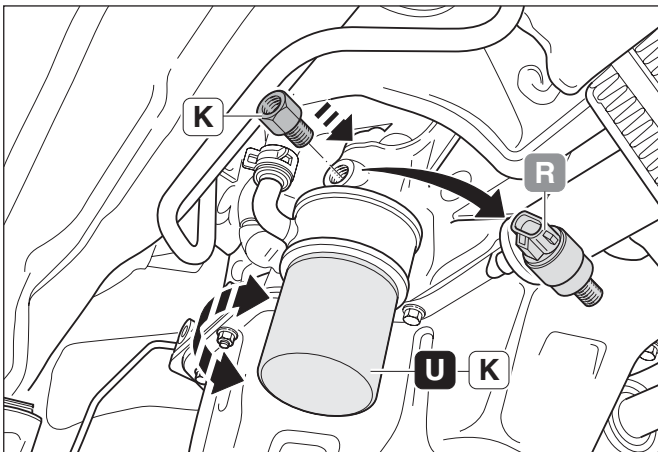
R: Bolt (14 pcs.)

R: Nut (2 pcs.)

- (b) Tighten the bolts and nuts carefully first with 5 Nm and after with the final torque.

Torque: 9 Nm

- (c) Install plastic flywheel cover.



3. INSTALL OIL PRESSURE SWITCH EXTENSION.

- (a) Remove oil pressure switch. Use Special tool (SST 09816-30010)

R: Oil pressure switch

- (b) Install the oil-pressure switch extension into the oil filter housing using Loctite 243.

K: Extension (15-2)

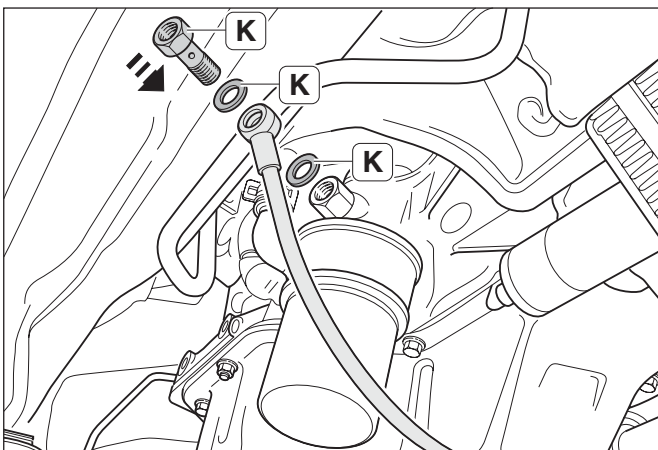
Torque: 13 Nm

- (c) Remove oil filter. Use special tool (SST 09228-06501)

U: Oil filter

- (d) Install a new oil filter.

K: Oil filter (26-7)



4. INSTALL OIL PRESSURE SWITCH EXTENSION BOLT.

- (a) Route the oil pressure tube towards the adapter.

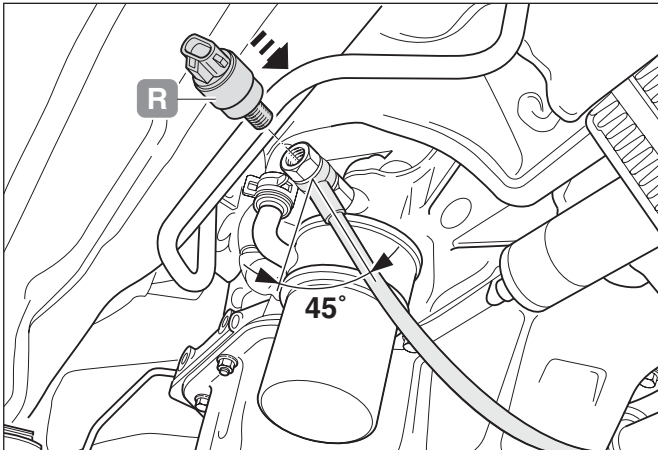
- (b) Insert the hollow bolt with the 2 copper seal rings into the adapter using Loctite 243.

NOTICE: When applying the correct torque onto the hollow-bolt ensure that the adapter is secured against further rotation and that the pressure tube is pointing into the correct direction.

K: Hollow-bolt (15-1)

K: Seal rings (2 pcs.) (15-3)

Torque: 20 Nm



5. INSTALL OIL PRESSURE SWITCH.

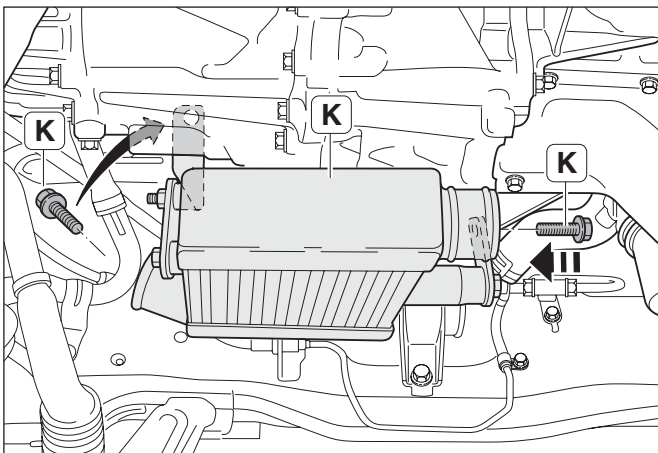
- (a) Install the oil pressure switch into the adapter using Loctite 243. Use SST 09816-30010

R: Pressure switch

Torque: 13 Nm

- (b) Connect the oil pressure switch connector to the pressure switch.

NOTICE: Turn oil filter until the o-rings touches the flange. Turn oil-filter 270° by hand.



6. INSTALL INTERCOOLER.

- (a) Position the intercooler assembly underneath the gearbox.

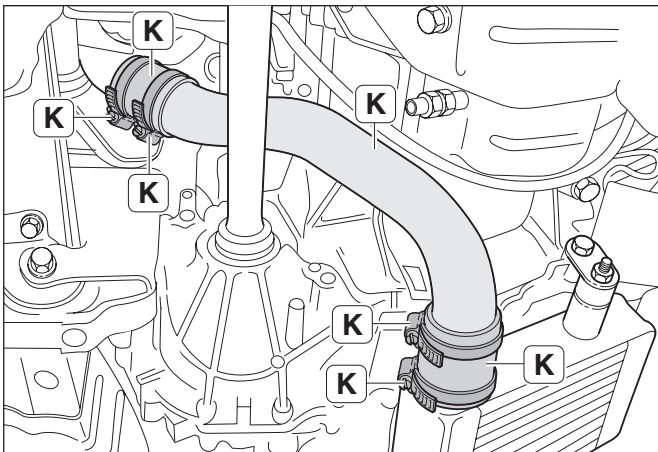
K: intercooler (7-1)

- (b) Install the bolt M8 x 12 into the gearbox side to fix the bracket. (hand tighten)

K: Bolt (7-6)

- (c) Install the bolt M8 x 20 into the gearbox front to fix the bracket (hand tighten)

K: Bolt (7-8)



7. INSTALL INTERCOOLER INLET PIPE.

- (a) Position intercooler inlet pipe, 2 hoses and 4 hose clamps.

K: intercooler inlet pipe (6-1)

K: Hose turbo side (6-2)

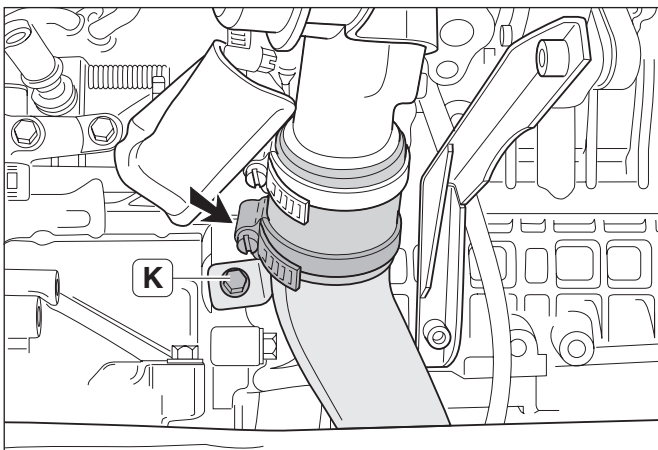
K: Hose intercooler side (6-3)

K: Clamp (4 pcs.) (6-4)

- (b) Tighten outer hose clamps on turbo charger side and intercooler side.

Torque: 3 Nm

- (c) Pull inlet pipe 5 mm out of the hoses on both sides and hand tighten inner clamps.



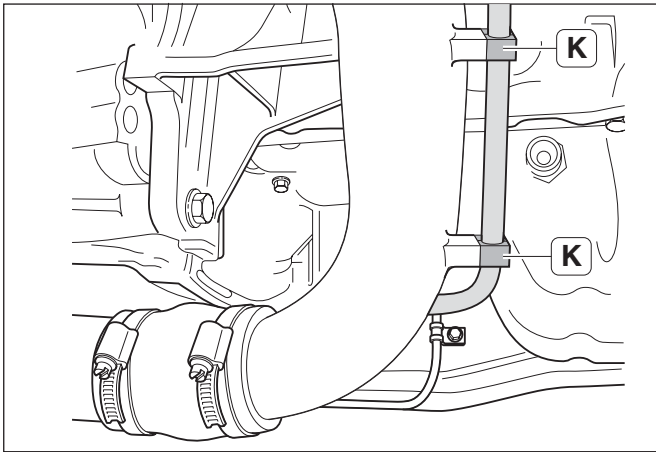
- (d) Install the inlet pipe with a bolt to the engine.

K: Bolt (6-5)

Torque: 12 Nm

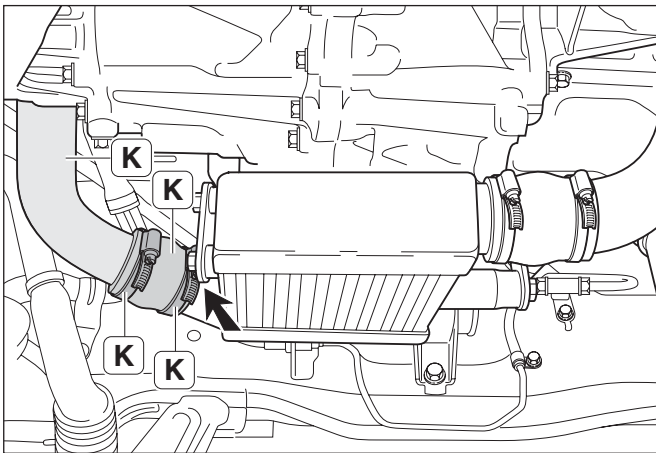
- (e) Tighten the inner hose clamps.

Torque: 3 Nm



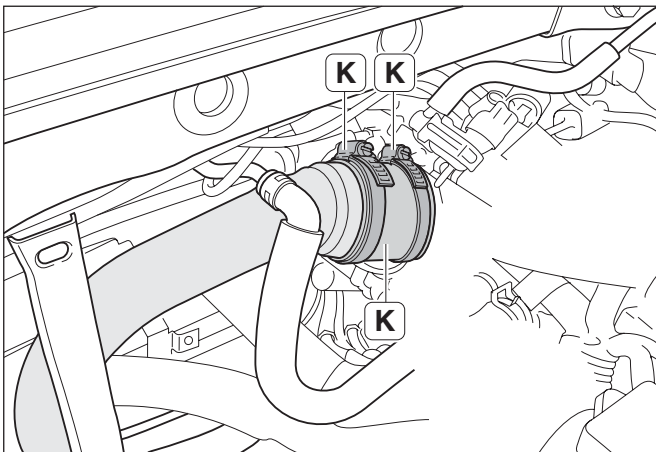
8. INSTALL OIL PRESSURE TUBE.

- (a) Install the oil pressure tube onto the inlet pipe using the clamps.
K: Clamp (2 pcs.) (13-4)

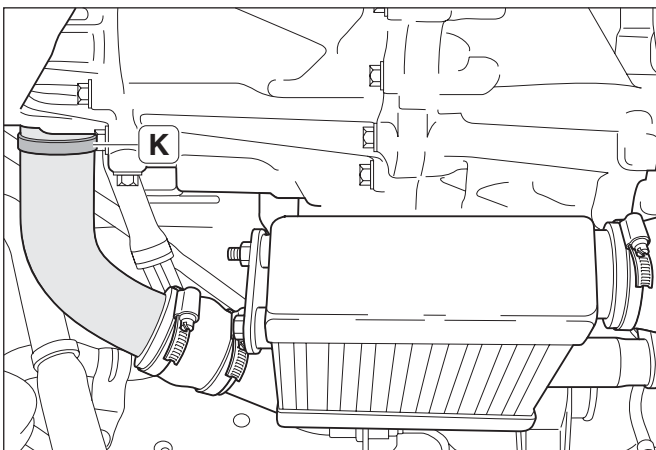


9. INSTALL INTERCOOLER OUTLET PIPE.

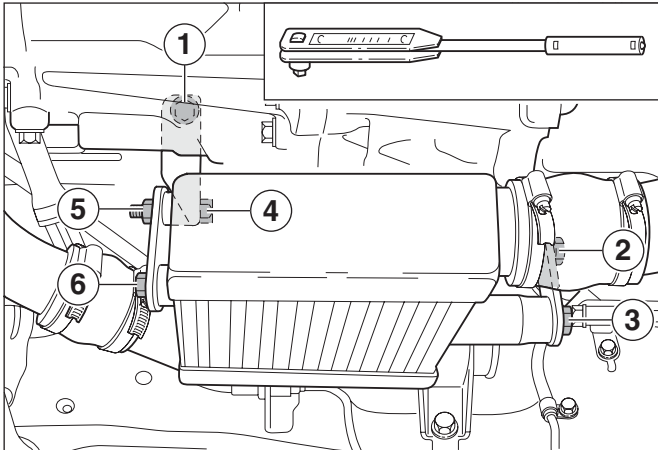
- (a) Position intercooler outlet pipe, hose and 2 hose clamps.
K: intercooler outlet pipe (8-1)
K: Hose intercooler side (8-2)
K: Clamp (2 pcs.) (8-4)
- (b) Tighten outer hose clamp on intercooler side.
Torque: 3 Nm
- (c) Pull outlet pipe 5 mm out of the hose and hand tighten inner clamp.



- (d) Position intercooler outlet pipe, hose and 2 clamps.
K: Hose throttle body side (8-3)
K: Clamp (2 pcs.) (8-5)
- (e) Tighten outer hose clamp on the throttle body side.
Torque: 3 Nm
- (f) Pull outlet pipe 5 mm out of the hose and tighten inner clamp.
Torque: 3 Nm



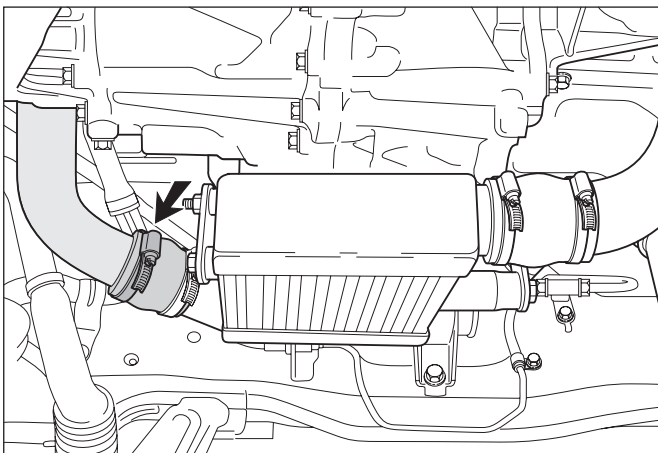
- (g) Install the plastic clamp on the outlet pipe and the A/C hose.
K: Clamp (8-6)



(h) Tighten the Intercooler fixation bolts.

- Torque:
1. Bolt 16 Nm
 2. Bolt 16 Nm
 3. Nut 12 Nm
 4. Nut 12 Nm
 5. Nut 12 Nm
 6. Bolt 12 Nm

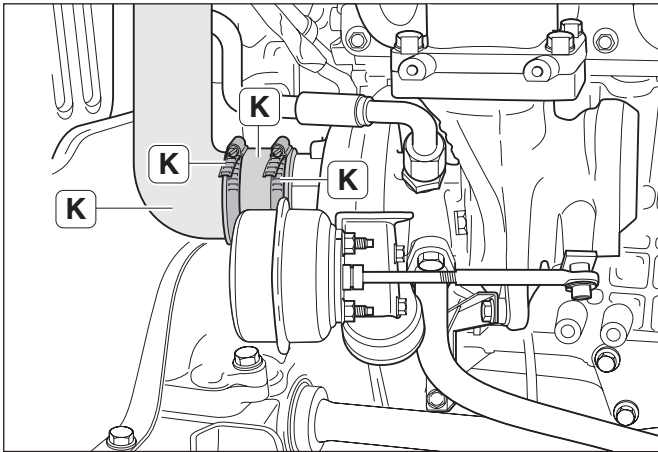
NOTICE: When applying the correct torque to the fixation bolts ensure the correct positioning of the Intercooler and clearance from surrounding parts.



(i) Tighten the inner clamp of the inlet pipe

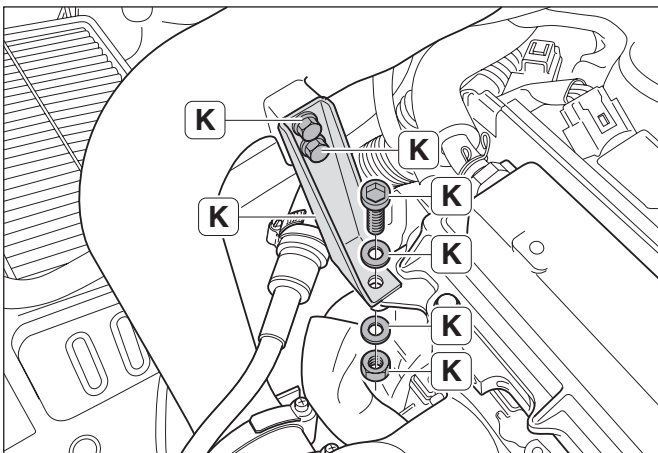
- Torque: 3 Nm

16. Installation engine compartment upper



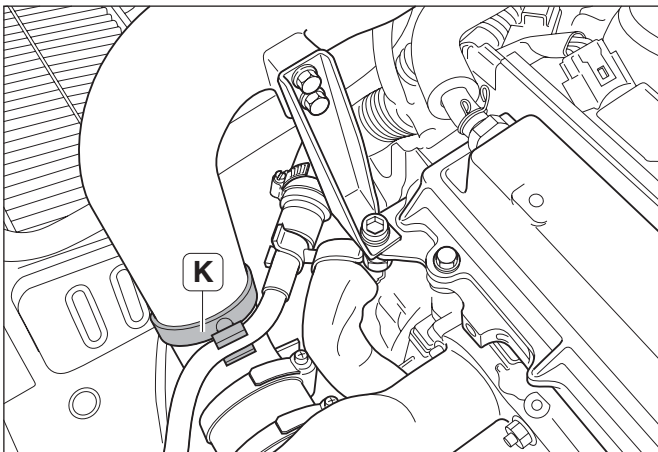
1. INSTALL TURBO INLET PIPE.

- Position the turbo inlet pipe, hose and 2 clamps.
K: Pipe, Airbox turbo (2-2)
K: Hose (2-4)
K: Clamp (2 pcs.) (2-1)
- Tighten outer hose clamp on turbo charger side.
- Pull inlet pipe 5 mm out of the hose and hand tighten inner clamp.



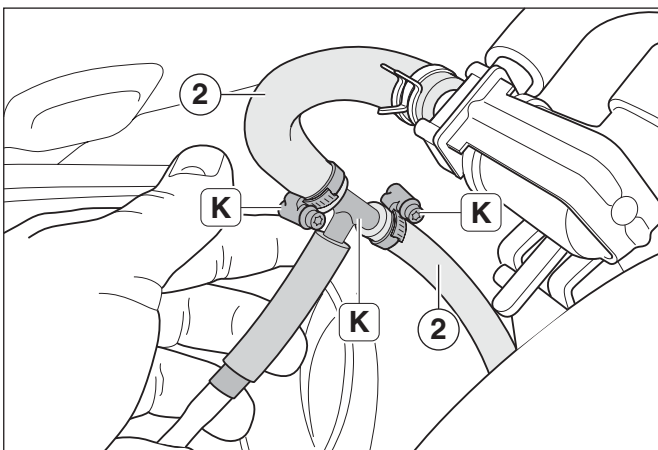
2. INSTALL TURBO INLET PIPE BRACKET.

- Install the bracket with the 2 bolts onto the inlet pipe.
K: Bolt (2 pcs.) (2-10)
K: Bracket (2-3)
Torque: 9 Nm
- Position the bracket and fix the bracket to the cylinder head with a bolt, washers and nut.
K: Bolt (2-6)
K: Nut (2-8)
K: Washer (2 pcs.) (2-7)
Torque: 25 Nm
- Tighten the inner clamp of the inlet pipe hose.
Torque: 3 Nm



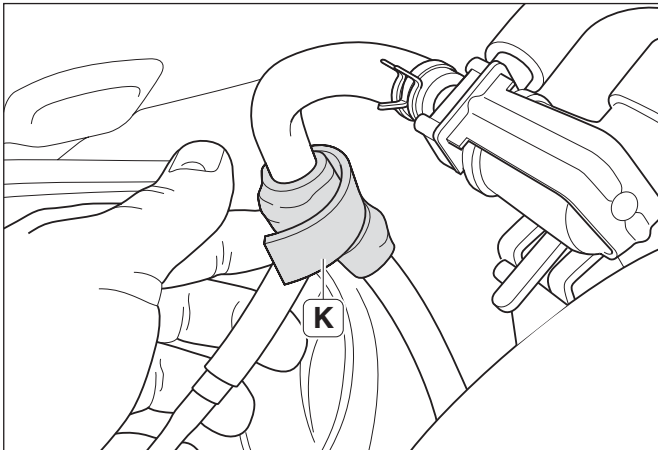
3. INSTALL WATER HOSE CLAMP

- Install the water hose with the clamp to the turbo inlet pipe.
K: Clip (17-6)

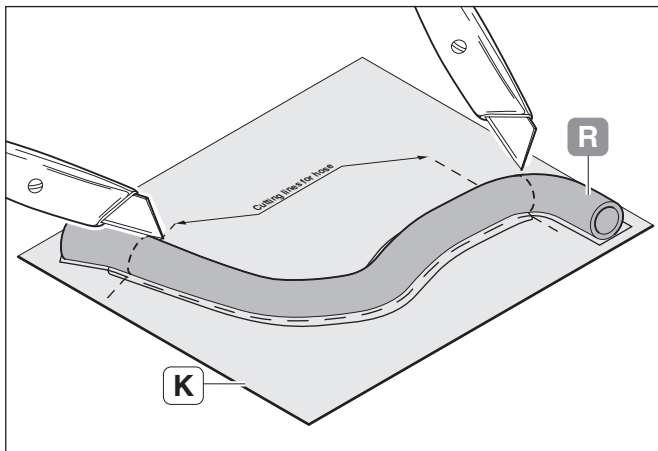


4. INSTALL VSV T-JUNCTION.

- Cut the vacuum hose 2 and insert the T-junction.
- Install the clamps onto the vacuum hoses.
K: Clamp (2 pcs.) (25-3)
K: T-Junction (25-2)
Torque: 3 Nm
- Install the vacuum hose 2 onto the VSV using the clamp.
R: Clamp.

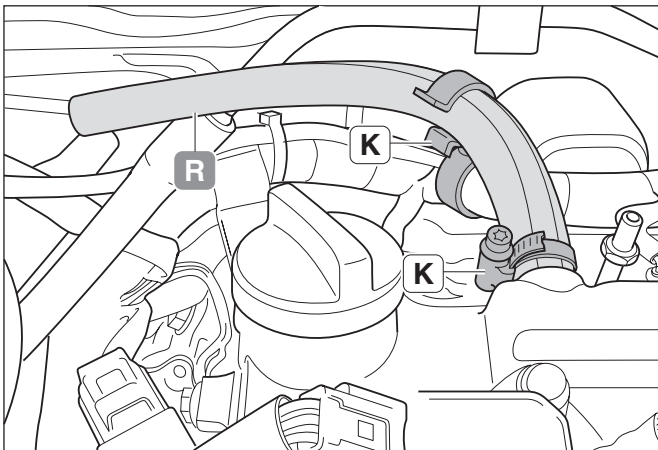


- (d) Wrap the T-junction with the anti-rattle foam.
K: Anti-rattle foam (25-4).



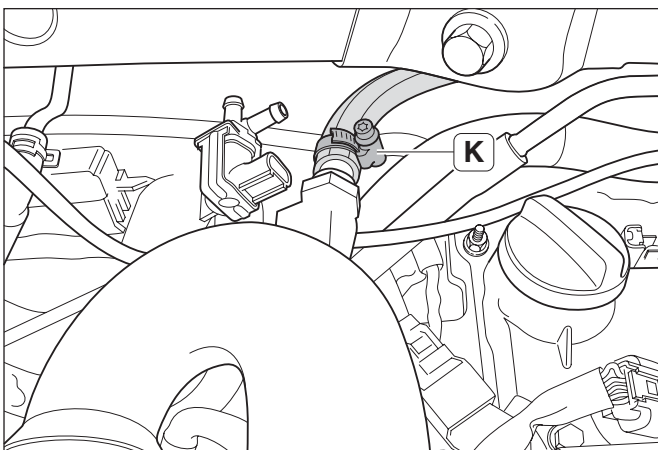
5. MODIFY ENGINE VENTILATION HOSE.

- (a) Modify the ventilation hose as indicated on the template.
K: Template (27-5)



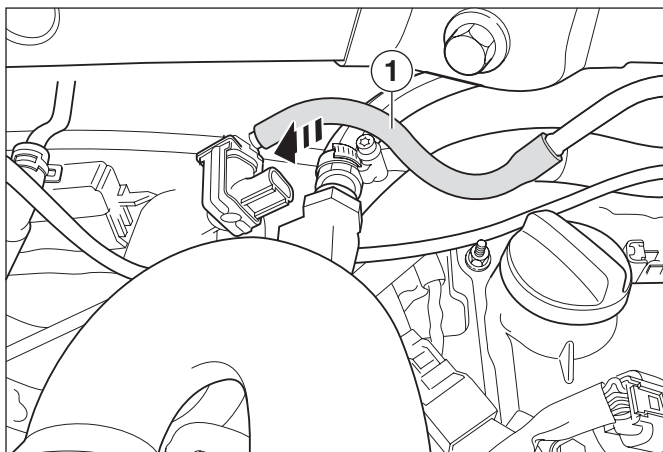
6. INSTALL ENGINE VENTILATION HOSE ONTO ENGINE.

- (a) Install the engine ventilation hose with the hose clamp onto the engine connection.
R: Ventilation hose
K: Clamp (12-1)
Torque: 3 Nm
(b) Install distance clamp onto the hoses.
K: Clamp (12-4)



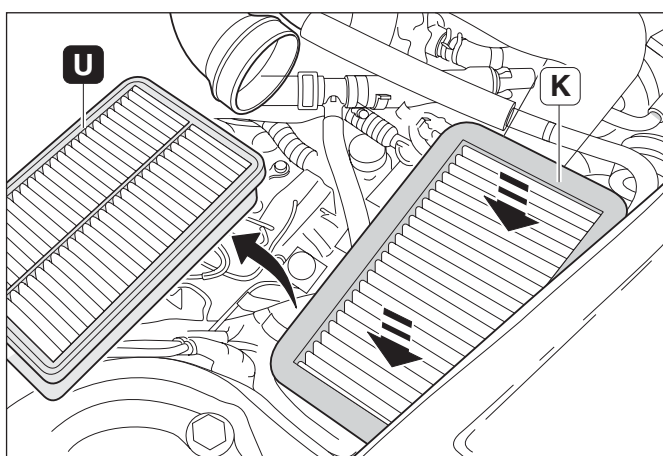
7. INSTALL ENGINE VENTILATION HOSE ONTO TURBO INLET PIPE.

- (a) Install the ventilation hose onto the turbo inlet pipe with the hose clamp.
K: Clamp (12-1)
Torque: 3 Nm



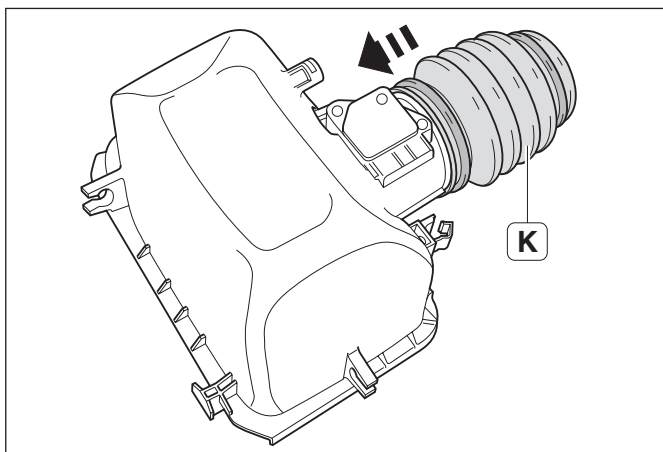
8. INSTALL VSV CONNECTIONS.

- (a) Install the vacuum hose 1 onto the VSV.



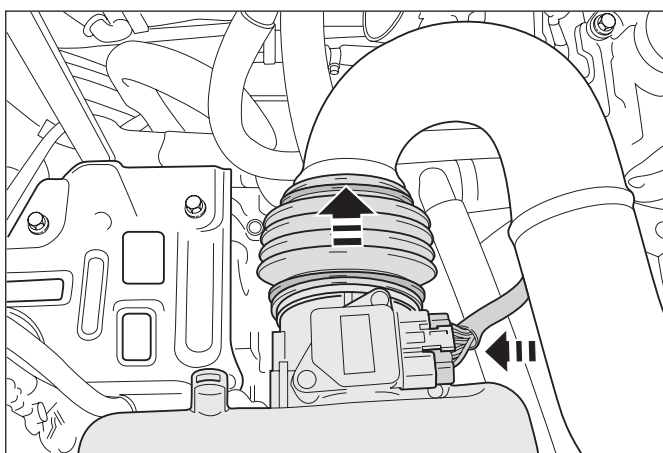
9. INSTALL AIR FILTER.

- (a) Remove the air filter from the air filter box.
U: Air filter.
- (b) Install the high performance air filter into the air filter box.
K: Air filter, sport (1-2)



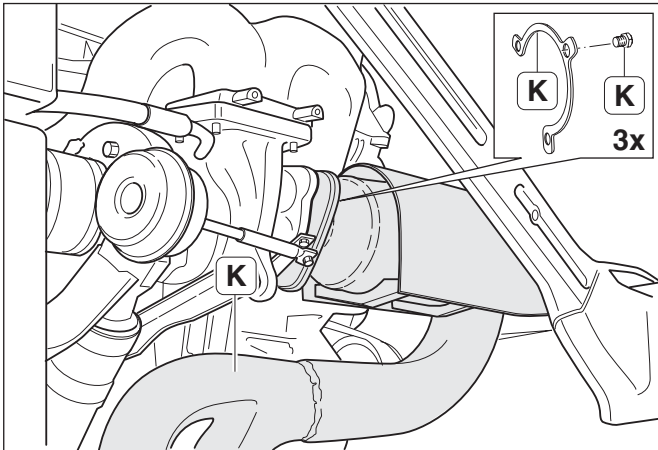
10. PREPARE AIR FILTER BOX COVER.

- (a) Install the bellow onto the air filter box cover using the spring clamp.
K: Bellow with spring clamps (1-1)



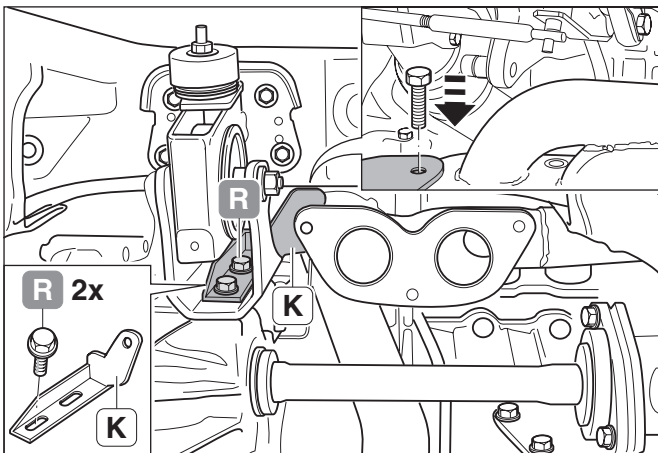
11. INSTALL AIR FILTER BOX COVER

- (a) Install the cover onto the air filter box.
- (b) Install the bellow onto the turbo inlet pipe using the spring clamp.
- (c) Close the 2 clamps of the air filter box.
- (d) Connect the airflow meter connector
- (e) Install the harness clip to the side of the air filter box.
- (f) Install the radiator overflow tank hose to the air filter box clips.



12. INSTALL EXHAUST PIPE PRE-CATALYSER.

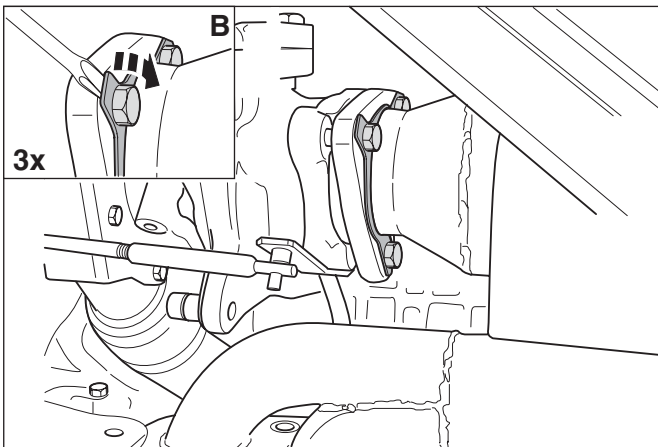
- Position the exhaust pipe next to the turbo outlet side.
K: Exhaust pipe pre catalyser (10-1)
- Install the exhaust pipe onto the turbo charger using the locking plate and bolts.(handtighten)
K: Locking plate No. 2 (4-4)
K: Bolt (3 pcs.) (4-1)



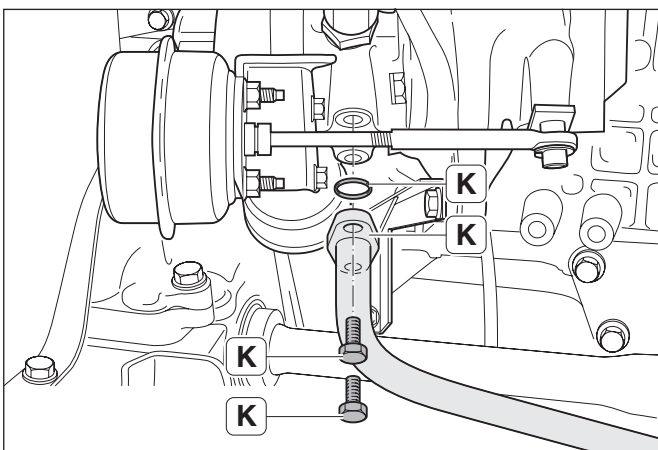
13. INSTALL EXHAUST PIPE BRACKET.

- Remove the 2 bolts of the gearbox mounting bracket.
R: Bolt (2 pcs.)
- Install the exhaust pipe bracket using the bolts.
K: Bracket (5-1)
Torque: 24 Nm

NOTICE: Temporarily install a bolt onto the bracket and exhaust flange, for positioning the outlet pipe.



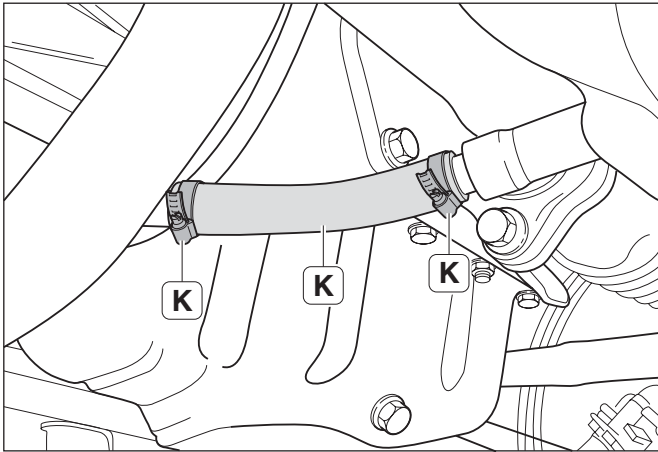
- Tighten the 3 exhaust bolts.
Torque:16 Nm
- Bend the locking plates against the bolt heads to secure the bolts.



14. INSTALL OIL RETURN PIPE.

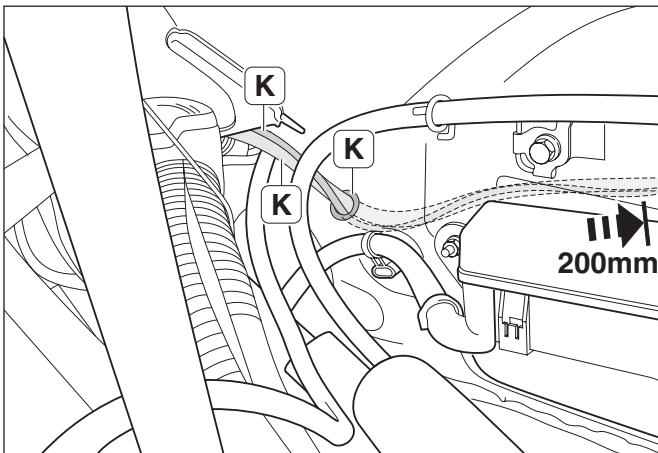
- Install the oil return pipe onto the turbo charger using 2 bolts and a gasket.
K: Oil return pipe (14-4)
K: Bolt (2 pcs.) (14-3)
K: O-ring (14-8)
Torque: 20 Nm

CAUTION: Move to the right to have maximum space to catalytic converter.



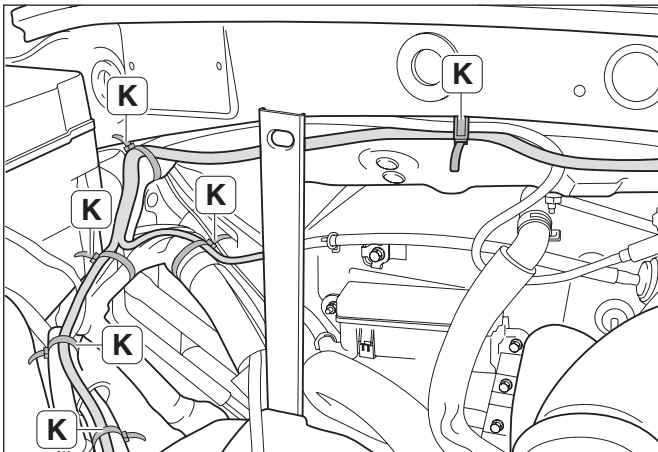
15. INSTALL OIL RETURN HOSE.

- (a) Install the oil return hose onto the oil return pipe and oil pan adapter using 2 clamps.
 K: Clamp (2 pcs.) (14-6)
 K: Oil return hose (14-5)

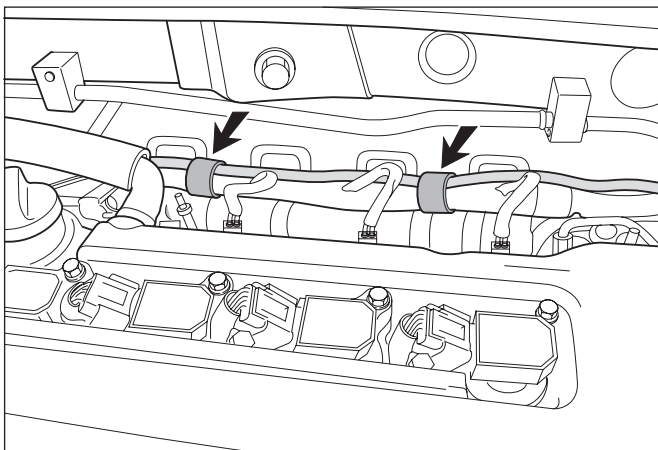


16. INSTALL WIRING HARNESS.

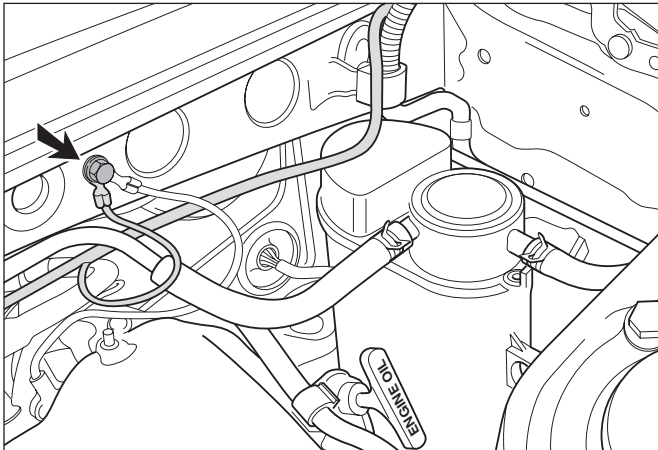
- (a) Insert the 15A fuse into the wiring harness fuse-socket.
 K: 15A Fuse (23-6)
- (b) Insert the vacuum hose into the grommet. Ensure that that 200mm of vacuum hose and wiring harness length is in the interior compartment.
 K: Vacuum hose (25-1)
- (c) Install the wiring harness grommet into the bulk-head hole. (Short end towards interior)
 K: Wiring harness No. 2 (23-2)



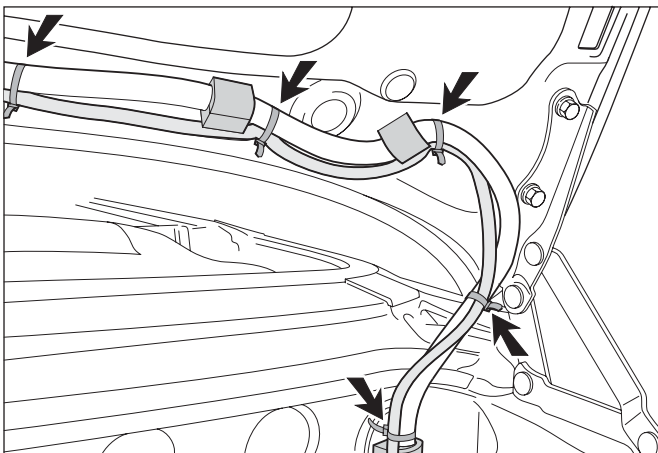
- (d) Install the cable tie wraps into the body holes.
 K: Tie wraps (2 pcs.) (23-9)
- (e) Route the harness branch with the eyelet towards the positive battery terminal following the original vehicle harness using the tie wraps.
 K: Tie wraps (5 pcs.) (23-8)
- (f) Route the other harness branch together with the vacuum hose through the tie wraps.
- (g) Tighten the tie wraps.
- (h) Connect the vacuum hose to the vacuum T-junction.



- (i) Route the wiring harness alongside the engine harness and fix the harness with the original harness clamps.

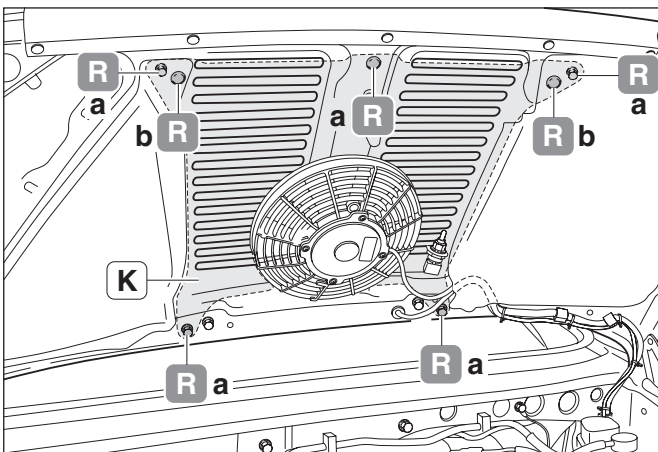


- (j) Route the harness branch with the ground connection towards the original ground connection bolt.
- (k) Install the ground connection.
Torque: 9 Nm
- (l) Route the harness towards the bonnet hinge and follow the original vehicle harness.



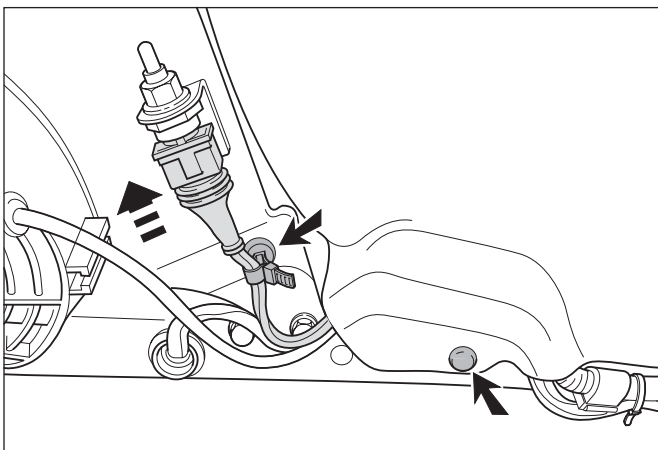
NOTICE: Ensure that there is enough harness slack to avoid harness damage due to engine movement.
Ensure that the harness is secured every 15 cm using the tie wraps.

K: Tie wraps (23-8)

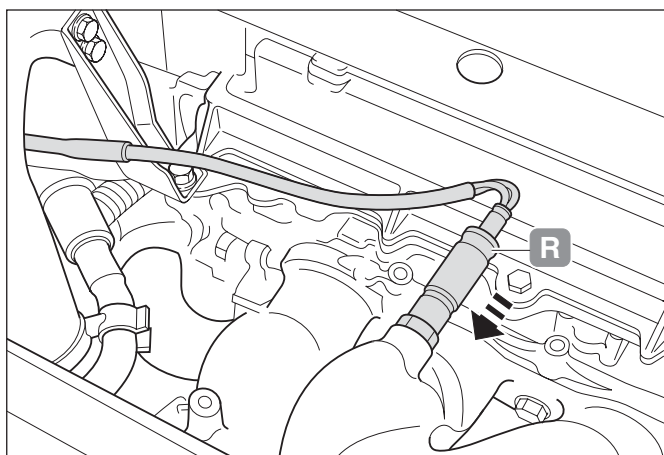


17. INSTALL COOLING FAN COVER.

- (a) Install the cooling fan cover onto the engine bonnet using 4 bolts and a clip.
R: Bolt (4 pcs.).
K: Clip (24-13)
Torque: 6 Nm
K: Cover (22-1)

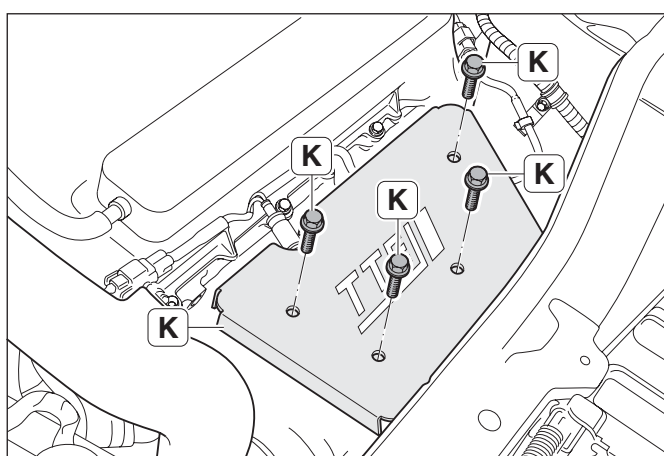


- (b) Connect the wiring harness to the temperature sensor.
- (c) Remove the plastic clip and position the vehicle and cooling fan harness behind the sound insulation.
- (d) Install the sound insulation with the 2 clips.
K: Clip (2 pcs.) (24-12)
- (e) Install the Tie wrap and clip onto the wiring harness of the temperature sensor.
K: Clip (2 pcs.) (23-9)



18. INSTALL LAMBDA SENSOR NO. 1

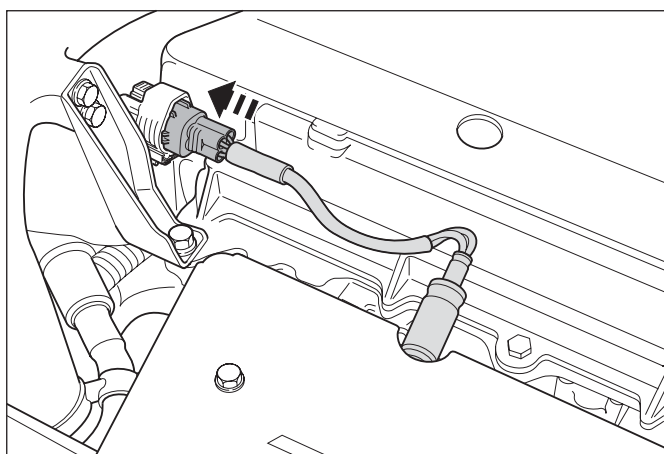
- (a) Install the lambda sensor into the exhaust manifold.
 R: Lambda sensor.
 Torque: 44 Nm



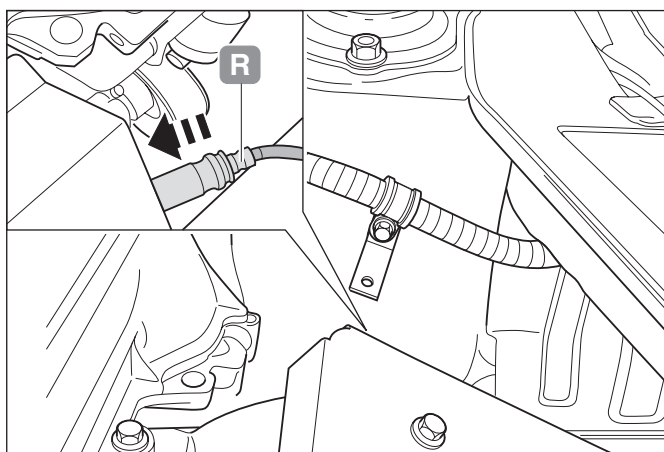
19. INSTALL EXHAUST MANIFOLD HEAT SHIELD.

- (a) Install the exhaust manifold heat shield onto the manifold using the 4 bolts .
 K: Heat insulation No. 1 (11-1)
 K: Bolt (4 pcs.) (11-2)
 Torque: 20 Nm

- (b) Connect the lambda sensor connector to the vehicle harness.

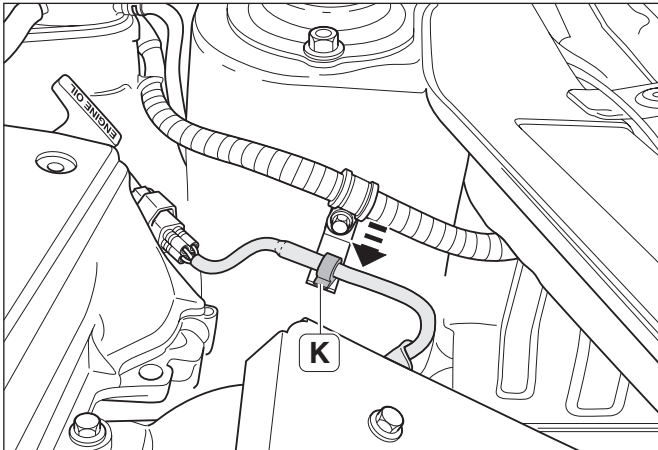


- (c) Fix the sensor connector to the inlet pipe bracket.

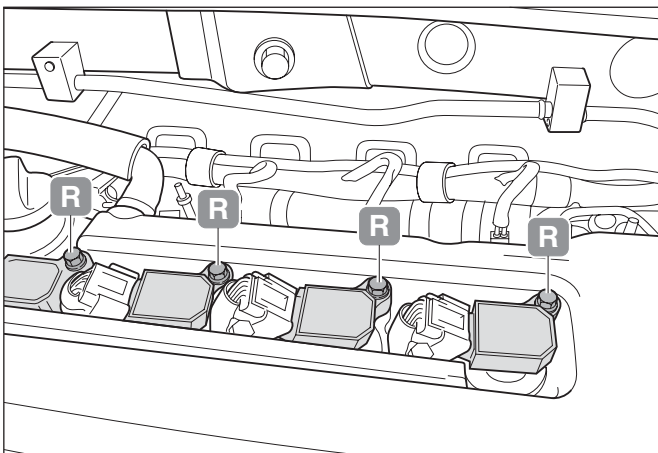


20. INSTALL LAMBDA SENSOR NO..2

- (a) Install the lambda sensor into the exhaust manifold.
 R: Lambda sensor.
 Torque: 44 Nm



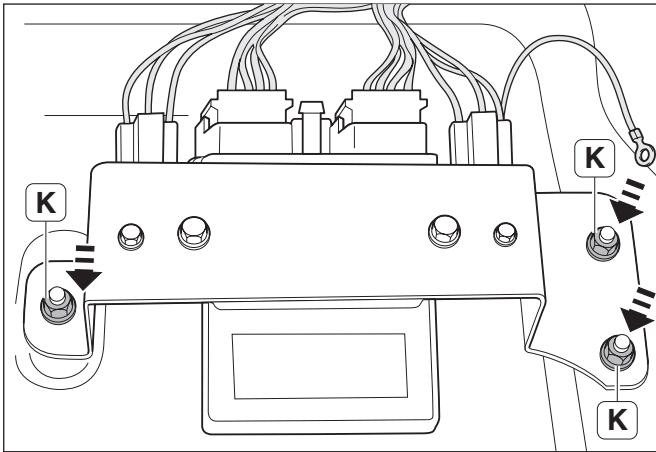
- (b) Install the lambda sensor harness with the clip into the bracket.
K: Clip (19-1)



21. SPARK PLUG EXCHANGE

- (a) Remove the 4 bolts of the coils.
R: Bolts (4 pcs.)
- (b) Remove the ignition coils.
- (c) Remove the spark plugs.
- (d) Install new spark plugs.
K: Spark plug (SK20R11-iridium) (26-2)
Torque 25 Nm
- (e) Install the ignition coils with 4 bolts.
R: Bolts (4 pcs.)
Torque 9 Nm

17. Install interior compartment

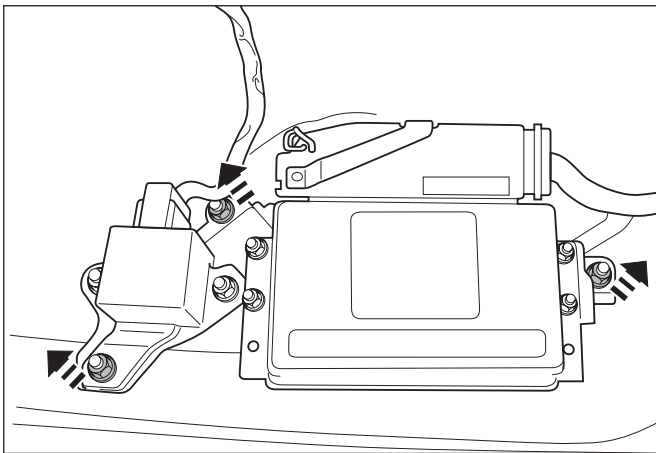


1. INSTALL CONTROL-UNIT ASSEMBLY. (MANUAL TRANSMISSION ONLY)

- (a) Install the control-unit assembly onto the studs using 3 nuts.

K: Nut (3 pcs.) (24-8)

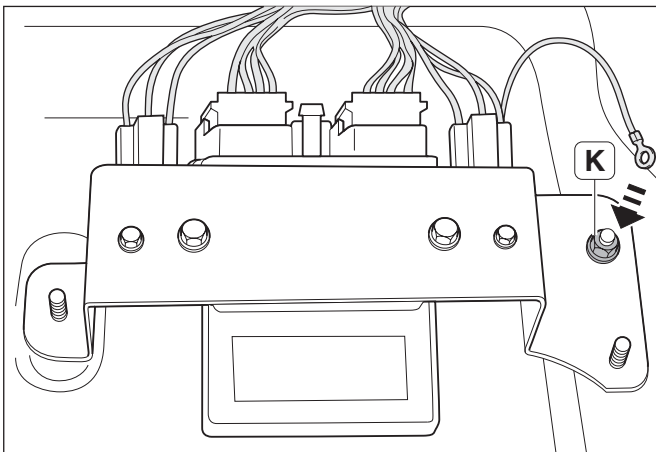
Torque: 13 Nm



2. REMOVE AUTOMATIC TRANSMISSION CONTROL-UNIT (AUTOMATIC TRANSMISSION ONLY).

- (a) Remove the 3 nuts.

- (b) Remove the control-unit and put it aside. (do not disconnect the connectors)

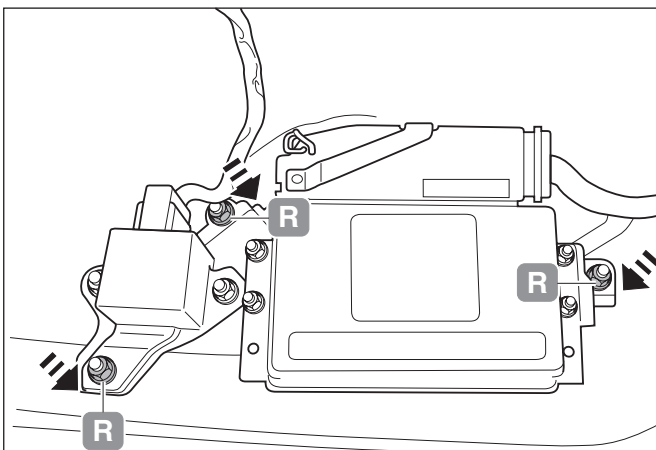


3. INSTALL CONTROL-UNIT ASSEMBLY (AUTOMATIC TRANSMISSION ONLY).

- (a) Install the control-unit assembly onto the studs using a nut.

K: Nut (24-8)

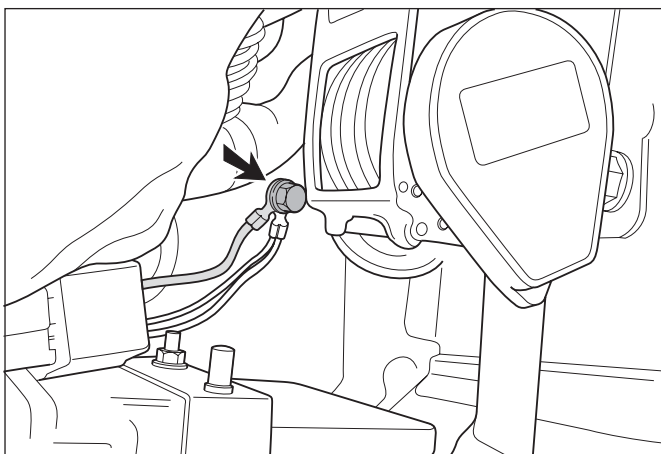
Torque: 13 Nm



- (b) Install the automatic control unit using the 3 nuts.

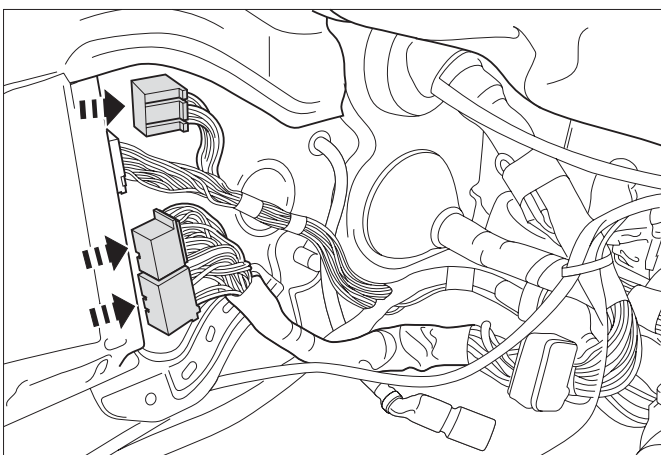
R: Nut (3 pcs.)

Torque: 13 Nm



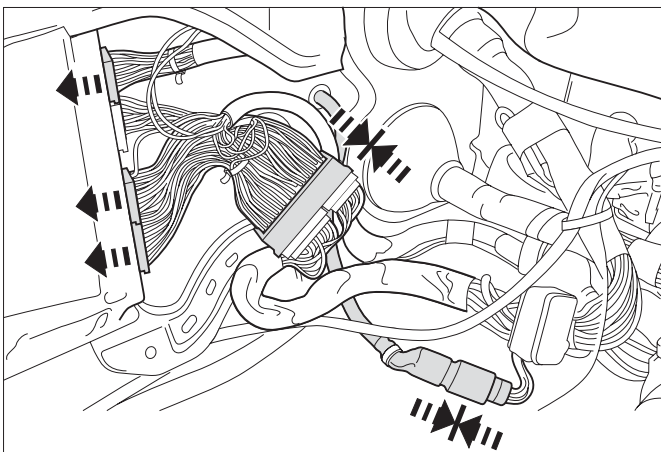
4. INSTALL GROUND CONNECTION.

- (a) Remove the original ground bolt.
 - (b) Install the ground point onto the bolt.
 - (c) Install the ground bolt.
- Torque: 9 Nm

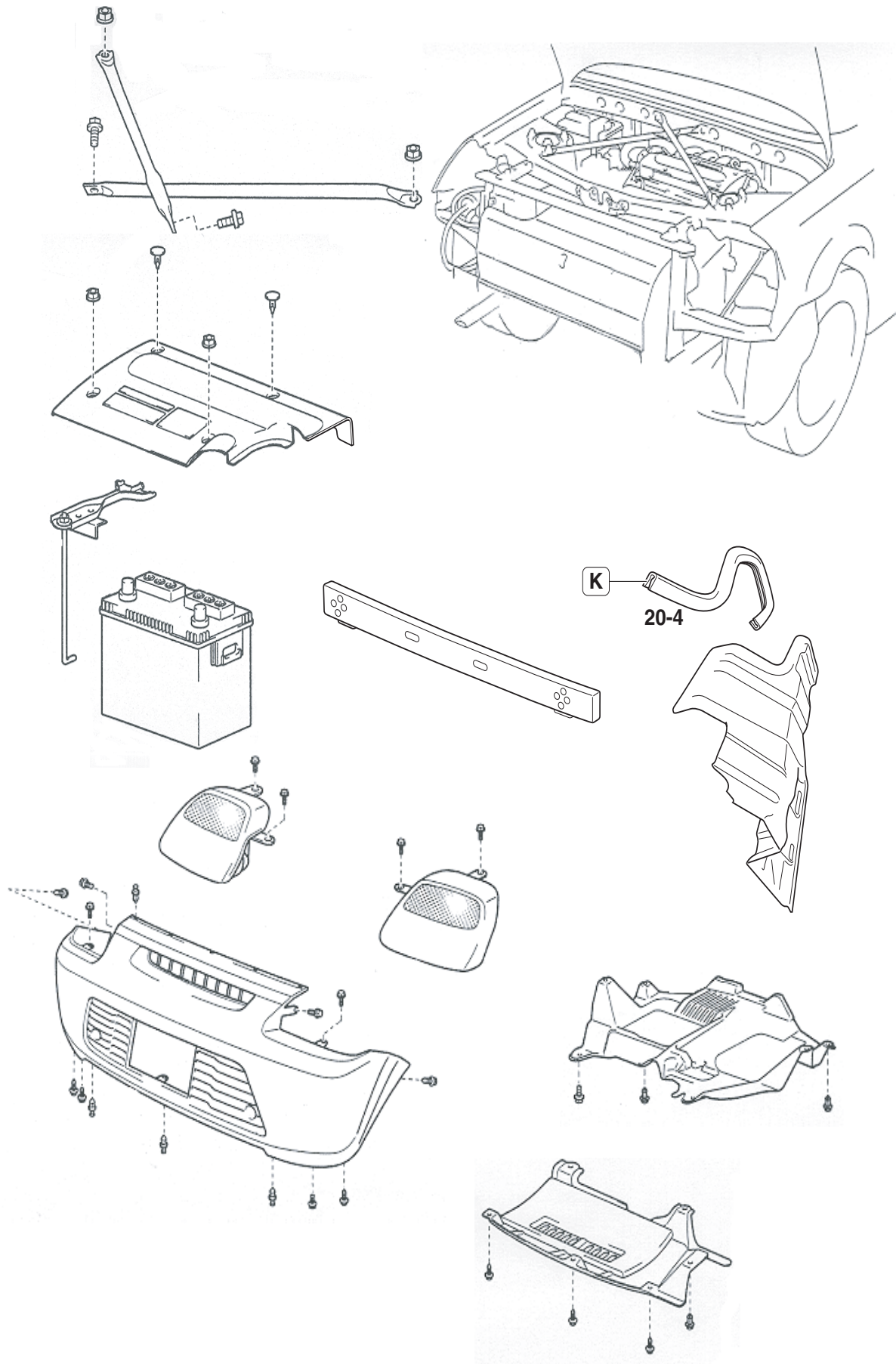


5. CONNECT WIRING HARNESS.

- (a) Disconnect the 3 connectors of the engine ECU.



- (b) Connect the turbo charger control unit harness to the engine ECU.
- (c) Connect the 3 engine ECU connectors to the turbo charger control system harness.
- (d) Connect the grey connector of the interior harness to the engine room harness.
- (e) Connect the vacuum hose to the control unit.

18. Parts to be installed (see workshop manual for detailed instructions)

CONTINUED

