



Assembly Instructions

5C7 054 915

Original retrofitting engine preheating system 120 Volt

Instructions de montage en français ⇒ Page 5

Scope of delivery:

- ◆ 1 x Extension Cord 120 Volt
- ◆ 1 x Engine preheater
- ◆ 1 x Bracket for engine preheater
- ◆ 2 x Coolant hose
- ◆ 2 x Hose clamps
- ◆ 1 x Connection wire with connecting plug 120 Volt and securing clamp
- ◆ 1 x Installation instructions



Note

The individual parts of the scope of delivery are partially preassembled; see also installation overview ⇒ Page 2.

Special tools, test and measuring equipment, and ancillaries required:

- ◆ Collecting tray -VAS 6208-
- ◆ Torque wrench -V.A.G 1331-
- ◆ Hose crimping pliers -VAS 6340-

Procedure:

! CAUTION!

Improper installation procedures can cause serious personal injury.

- Installation should be performed only by a qualified technician.
- Read all instructions thoroughly before starting.
- Observe all safety precautions when working under a vehicle.
- Beware of sharp edges.
- Always wear safety glasses to help protect eyes.
- Always wear protective gear as gloves and use caution when using hand tools.



Note

- ◆ The installation of the original preheating system 120 Volt must be carried out by a competent workshop. For installation, special tools including complete vehicle specific literature are needed. Improper installation can cause damage to the vehicle or the preheating system.
- ◆ Secure the wires so that they cannot come into contact with any rotating or other moving parts and so that they cannot chafe on any sharp metal or plastic edges.
- ◆ All rights to make technical changes reserved.
- ◆ For operation, see operation instructions.



⚠ CAUTION!

Improper use of the engine preheating may cause short circuits, fires and serious or fatal personal injury.

- Always connect the connecting cable to a grounded 230 Volt or 115 Volt socket protected by a residual current breaker. The socket must be protected from water, moisture and other fluids.
- Never connect the engine preheating system to a conventional socket, regardless of whether the socket protected or not.

⚠ CAUTION!

Using unsuitable or damaged Sockets and connecting cables and disregarding accepted safety practices may cause short circuits, accidents, and serious or fatal personal injury.

- Never use damaged sockets and connecting cables. Check connectors and cables for damage prior to each use.
- Never modify or repair electrical components.
- Never allow connectors to come into contact with water, moisture and other fluids.

1.1 Installation overview of the engine preheating system (Scope of delivery)

Engine preheating must be fitted in the installation space in-between the engine and the cooler. The connection into the cooling circuit is carried out between the engine oil cooler and the cooler return line.

1 - Safety clip

- ◆ yellow

2 - Installation cable with 120 Volt connector

3 - Extension cord 120 Volt

4 - Left headlight holder (5C6 853 665 B) (not included in scope of delivery)

- ◆ with attachment for 120 Volt connector

5 - Holding clip (not included in scope of delivery)

- ◆ black

6 - Engine preheater¹⁾

7 - Holder engine preheater¹⁾

- ◆ with clamp

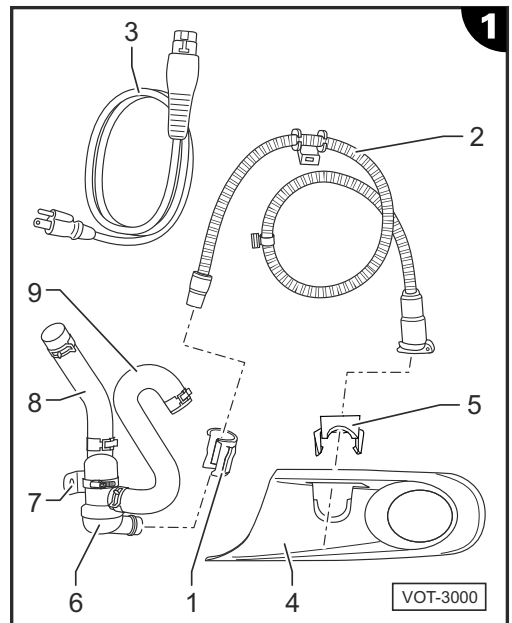
8 - Coolant hose¹⁾

- ◆ Engine preheater to thermostat housing

9 - Coolant hose¹⁾

- ◆ Engine preheater to oil cooler

¹⁾ Components are preassembled with 2 hose clamps already installed.

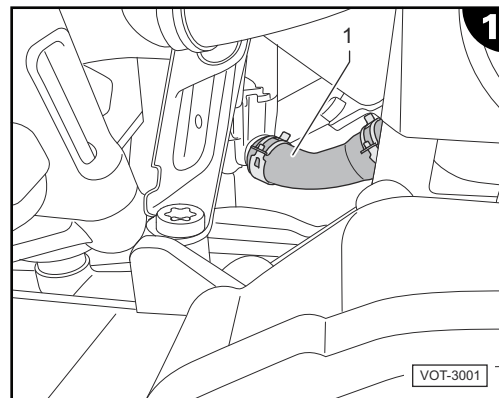


Note

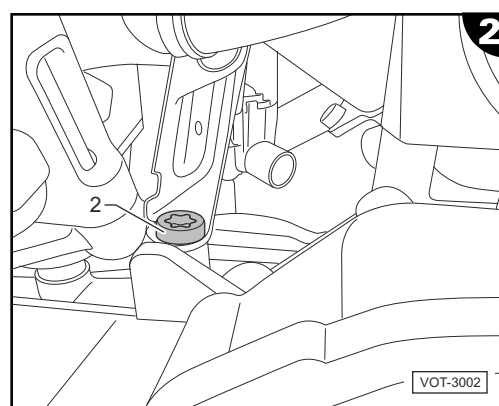
Hose clamps are not shown in the assembly overview. The hose clamps already installed in the vehicle will be reused. The hose clamps included in the scope of delivery are for the additional hoses that are added.

1.2 Preparing the vehicle for fitting the engine preheating system

- Remove the underbody cladding from the underside of the vehicle.
- ⇒ Body; General body repairs; exterior; Repair Group 50: Body front; Underbody cladding; Assembly overview - Underbody cladding
- Drain the coolant.
- ⇒ 5-cyl. 2,5 Ltr. engine; Rep. Gr. 19; Engine cooling; Drain off coolant and refill
- Remove the following coolant hose - 1 -:
Thermostat housing to engine cooler.
- ⇒ 5-cyl. 2,5 Ltr. engine; Rep. Gr. 19; Engine cooling; Parts of the cooling system - Engine side - Assembly overview

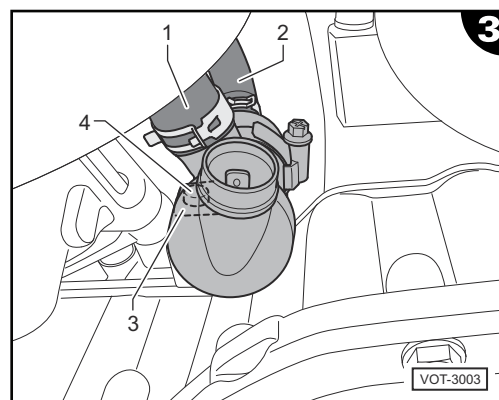


- Remove the bolt from the air conditioner compressor - 2 -.

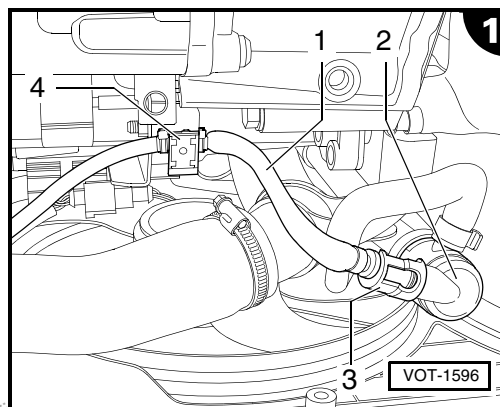


1.3 Fitting the engine preheating system

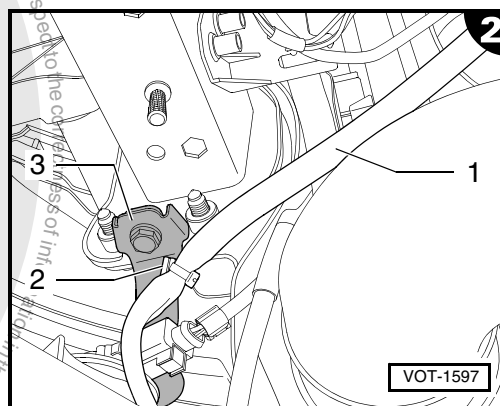
- Using a hose clamp attach the coolant hose - 1 - (included in the scope of delivery) with the thermostat housing and tighten the clamp securely.
- Using a hose clamp attach the coolant hose -2 - (included in the scope of delivery) with the oil cooler and tighten the clamp securely.
- Bolt the bracket - 3 - to the air conditioner compressor bolt - 4 - that was previously removed.



- Attach the connection wire - 1 - (included in the scope of delivery) to the engine preheater - 2 - and secure it with the yellow securing clip - 3 -. Insert the safety clip - 3 - from below.

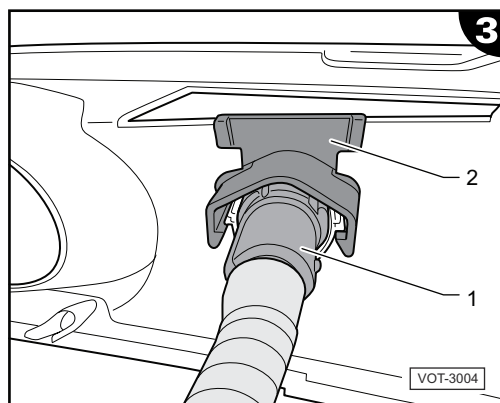


- Secure the connection wire - 1 - into position on the left horn bracket - 3 - with the cable tie.



1.4 Connecting up the engine preheater

- Remove the left ventilation grille from the front bumper and replace it with 5C6 853 665 B.
- ⇒ General body repairs; Rep.Gr. 63; Bumper; Front bumper; Removing and installing air intake grille.
- Pull the connection wire from outside to inside through the installation opening in the new front grille.
- Push the connecting plug 120 Volt - 1 -, as shown in the illustration into the bracket of the new left front ventilation grille (not included in the scope of delivery).
- Engage the securing clamp - 2 - onto the bracket as shown to secure the connecting plug to the grille.
- Assemble the left ventilation holder grille back into the front bumper.
- ⇒ General body repairs, exterior; Rep.Gr. 63; Bumper; Front Bumper; Removing and installing air intake grille.
- Install the underbody cladding to the underside of the vehicle.
- ⇒ Body; General body repairs, exterior; Rep. Gr. 50; Underbody cladding; Assembly overview - underbody cladding.
- Refill the coolant.
- ⇒ 5-cyl. 2,5 Ltr. engine; Rep. Gr. 19; Engine cooling; Draining and filling coolant.



Guide de montage

5C7 054 915

Module constructeur préchauffage moteur 120 Volt

Contenu de la livraison:

- ◆ 1 x câble de raccordement 120 Volt
- ◆ 1 x préchauffage moteur
- ◆ 1 x support préchauffage moteur
- ◆ 2 x flexible fluide de refroidissement
- ◆ 2 x colliers à bande ressort
- ◆ 1 x câble de liaison avec connecteur 120 Volt et pièce de fixation
- ◆ 1 x guide de montage



Remarque

Les pièces du lot sont partiellement prémontées, voir le synoptique montage en page 6.

Outillage spécial requis, instruments de mesure et de contrôle et matériel accesoire:

- ◆ bac colleur -VAS 6208-
- ◆ clé dynamométrique -V.A.G 1331-
- ◆ pince de serrage flexible -VAS 6340-



Déroulement de l'opération:

ATTENTION!

Une procédure d'installation incorrecte peut être à l'origine d'accident corporel grave.

- Installation assurée impérativement par du personnel qualifié.
- Prendre connaissance de toutes les instructions avant de commencer.
- Suivre les consignes de sécurité en opérant sous le véhicule.
- Prendre garde aux arêtes tranchantes.
- Toujours porter des lunettes de protection.
- Toujours porter un équipement de protection (gants, etc.), opérer avec précaution avec les outils.



Remarque

- ◆ Le montage du module constructeur préchauffage moteur 120 Volt doit être effectué par un atelier qualifié. Le montage nécessite un outillage spécial et la documentation spécialisée en rapport. Un montage incorrect peut entraîner des dommages sur le véhicule ou sur le préchauffage moteur.
- ◆ Fixer les câbles pour empêcher tout contact avec un organe mobile ou tournant (dommage sur une arête vive).
- ◆ Toute modification réservée.
- ◆ Utilisation, voir le manuel.



! ATTENTION!

Une utilisation inappropriée du système de préchauffage moteur entraîner des court-circuits, un incendie ou d'autres accidents graves.

- Toujours brancher le câble de raccordement à une prise 230-volt ou 115-volt avec mise à la terre et coupe-circuit des courants de fuite. La prise doit être à l'abri de l'eau, de l'humidité et de tout fluide.
- Ne jamais raccorder le système de préchauffage moteur à une prise habituelle, que cette prise soit protégée ou non.

! ATTENTION!

Une prise ou un câble inadapté ou endommagé, le non respect des règles de sécurité peut entraîner des court-circuits, un incendie ou d'autres accidents graves.

- Ne jamais utiliser des câbles ou des prises endommagées. Vérifier l'état des câbles et des connecteurs avant toute opération.
- Ne jamais modifier ou réparer un composant électrique.
- Ne jamais mettre en contact un connecteur avec l'eau, l'humidité ou d'autres fluides.

1.1 Vue d'ensemble montage préchauffage moteur (matériel fourni)

Le préchauffage moteur se monte entre moteur et le radiateur. Le raccordement au circuit de refroidissement se fait entre le radiateur moteur et la conduite retour du circuit de refroidissement.

1 - Pièce de fixation

- ◆ jaune

2 - Câble avec connecteur 120 Volt

3 - Câble de raccordement 120 Volt

4 - Support phare gauche (5C6 853 665 B) (non compris dans la livraison)

- ◆ avec prise pour connecteur 120 Volt

5 - Pièce de fixation (5C6 971 830) (non compris dans la livraison)

- ◆ noir

6 - Préchauffage moteur¹⁾

7 - Support préchauffage moteur¹⁾

- ◆ avec collier

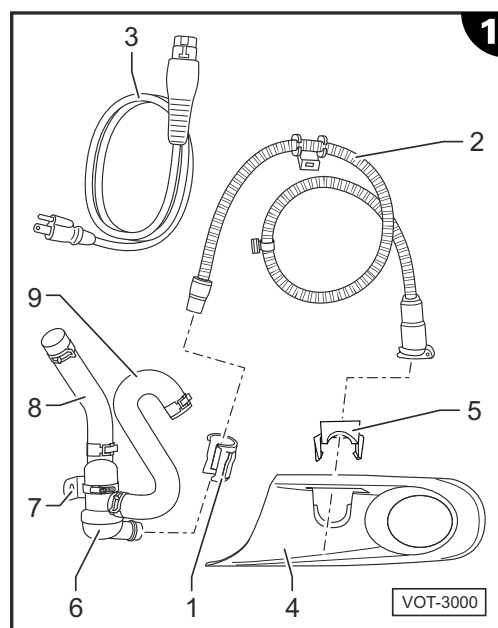
8 - Flexible fluide de refroidissement¹⁾

- ◆ préchauffage moteur vers boîtier thermostat

9 - Flexible fluide de refroidissement¹⁾

- ◆ préchauffage moteur vers refroidisseur d'huile

¹⁾ Pièces fournies prémontées avec deux colliers à bande ressort.

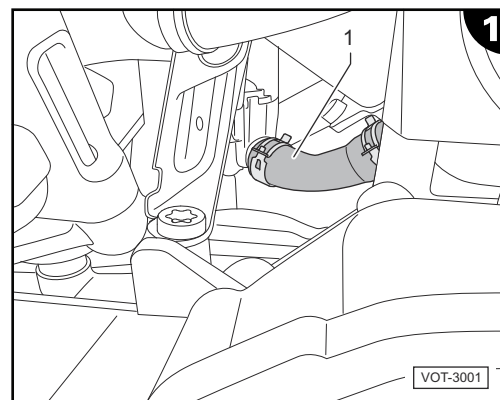


Remarque

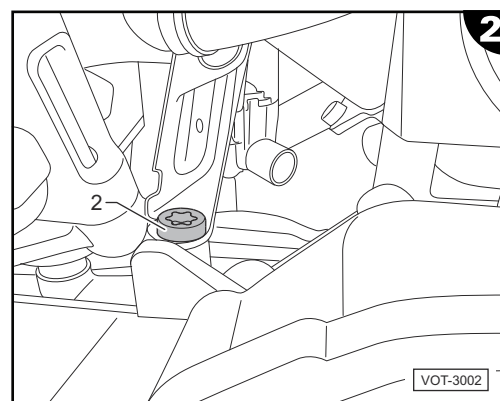
Les colliers à bande ressort ne sont pas pris en compte dans la vue générale du montage. Les colliers à bande ressort montés dans le véhicule sont utilisés par la suite et sont complétés par ceux fournis dans le matériel livré. Tous les colliers à bande ressort sont identiques et peuvent être montés dans n'importe quelle position.

1.2 Préparation du véhicule pour le montage du préchauffage moteur

- Démonter le bloc amortisseur du véhicule.
- ⇒ Travaux montage carrosserie extérieur; Rep. Gr. 50; carrosserie avant; silencieux; vue d'ensemble montage silencieux.
- Vidanger le liquide de refroidissement.
- ⇒ Moteur 5-cyl. 2,5 l; Rep. Gr. 19; refroidissement; vidange et remplissage liquide de refroidissement.
- Démonter ce flexible liquide de refroidissement: boîtier thermostat vers refroidisseur moteur - 1 -.
- ⇒ Moteur 5-cyl. 2,5 l; Rep. Gr. 19; refroidissement; pièces du circuit de refroidissement.

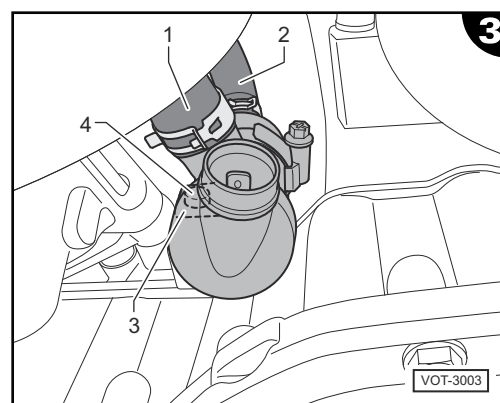


- Enlever la vis pour le compresseur de la climatisation - 2 -.

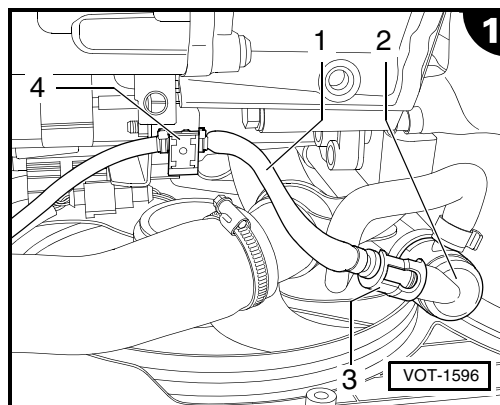


1.3 Montage du préchauffage moteur

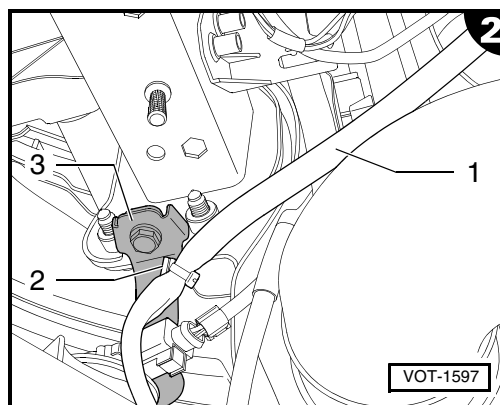
- Relier le flexible liquide de refroidissement - 1 - (matériel fourni) avec le raccord du boîtier thermostat et le fixer avec un collier à bande ressort.
- Relier le flexible liquide de refroidissement - 2 - (matériel fourni) avec le refroidisseur d'huile et le fixer avec un collier à bande ressort.
- Visser le support - 3 - du préchauffage moteur avec la vis - 4 - pour le compresseur de la climatisation.



- Raccorder le câble liaison - 1 - (matériel fourni) au préchauffage moteur - 2 - et fixer le connecteur avec la pièce de fixation jaune - 3 -. Enfiler par en dessous la pièce de fixation - 3 -.

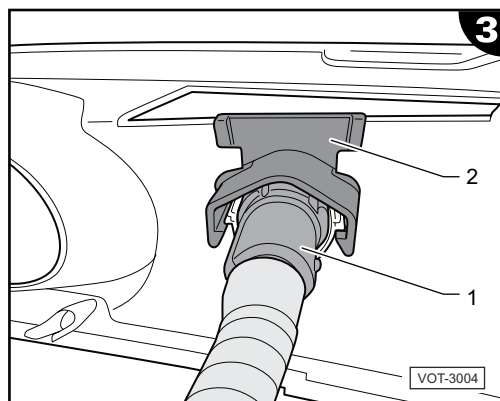


- Encliqueter l'ensemble fixation - 2 - du câble de liaison - 1 - sur le support de klaxon gauche - 3 -.



1.4 Connexion du préchauffage moteur

- Démontez le support de phare gauche dans le pare-choc avant et le remplacer par 5C6 853 665 B.
- ⇒ Travaux montage carrosserie extérieur; Rep.Gr. 63; pare-choc; pare-choc avant; pare-choc avant pièces de montage.
- Tirer vers l'extérieur le câble de liaison par l'ouverture de la grille de ventilation dans le pare-choc.
- Engager le connecteur 120 Volt - 1 - comme indiqué sur la figure, dans le support de phare (non compris dans la livraison).
- Encliqueter la pièce de fixation - 2 -, comme indiqué, dans le logement sur le support de phare (non compris dans la livraison).
- Monter le support de phare dans le capot de pare-choc.
- ⇒ Travaux montage carrosserie extérieur; Rep.Gr. 63; pare-choc; pare-choc avant; pare-choc avant pièces de montage.
- Remonter le bloc amortisseur du véhicule.
- ⇒ Travaux montage carrosserie extérieur; Rep. Gr. 50; carrosserie avant; silencieux vue d'ensemble montage silencieux.
- Faire le remplissage en liquide de refroidissement.
- ⇒ Moteur 5-cyl. 2,5 l; Rep. Gr. 19; refroidissement; vidange et remplissage liquide de refroidissement.



Cautions & Warnings

Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

I have read and I understand these Cautions and Warnings.

