

## 2016 VW Service

# Fluid Capacity Tables

- ⇒ Beetle Family (5C1 / 5C7)
- ⇒Golf Family (AU1 / BX5 / 5G1)
- ⇒e-Golf Family (BE2)
- ⇒Jetta Family (163)
- ⇒Eos Family (1F8)
- ⇒ Passat Family (A33)
- ⇒CC Family (358)
- ⇒Tiguan Family (5N2)
- ⇒Touareg Family (7P6)

#### Beetle Family (5C1 / 5C7 1.1



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Agency of information of the correctness o All quantities are approximate. Always refer to the Repair Manual and 7 or the Maintenance Procedures for correct filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
1.8L (CPKA / CPRA)	VW 502 00 (5W-40)	5.5 L (5.8 qt)
2.0L (CPLA / CPPA)	VW 502 00 (5W-40)	5.5 L (5.8 qt)
2.0L TDI (DELA)	VW 507 00 (0W-30)	5.5 L (5.8 qt)

#### **ADBLUE TANK**

Component	Application	Capacity
Refer to Parts Catalog	TDI Vehicles Only	Initial 14.7 L (15.5 qt) Fill / Refill

#### **ENGINE COOLANT**

Component	Application	Capacity	
Refer to Parts Catalog	CPKA / CPRA / CPLA / CPPA / DELA	Initial Fill / Refill	Approximately 8.0 L (8.5 qt)

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#### **AIR CONDITIONING**

Component	Application	Capacity	
A/C System Refrigerant (R134a)	Beetle Family	Initial Fill / Refill	$525 \pm 25g \ (18.5 \pm 0.8 \ oz.)$
Refrigerant Compressor Oil	Denso	Initial Fill / Refill	90 cc $\pm$ 10 cc 3.0 $\pm$ 0.3 fl. oz.)
	Sanden	Initial Fill / Refill	110 cc $\pm$ 10 cc 3.7 $\pm$ 0.3 fl. oz.)

#### **DRIVETRAIN**

Component	Application	Capacity	
Transmission	5 Speed Manual 0A4	Initial Fill	1.9 L (2 qt)
	6 Speed Manual 02Q	Initial Fill	2.3 L (2.4 qt)
	6 Speed Automatic 09G	Initial Fill	7.0 L (7.4 qt)
	Nakswagen AG. Volkswagen AG does no	Refill	3.0 L (3.2 qt)
ojjesth	40° 90°	Pans	
es author	6 Speed Direct Shift Gearbox 02E	Initial Fill	6.9 - 7.2 L (7.6 qt)
o o o o o o o o o o o o o o o o o o o		Refill	5.2 L (5.5 qt)
		Mecha-	3-4 L (3.2-4.2 qt)
		tronic On-	

### **BRAKE HYDRAULIC SYSTEM**

Component	Application	Capacity
in pai	Automatic Trans.	Initial 1.0°L (1.05 qt) Fill / Refill
Hydraulic Fluid	Manual Trans.	Initial 1.15 L (1.22 qt) Fill / Refill

# 1.2 Golf Family (AU1 / BX5 / 5G1)



All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
1.8L (CXBA / CXBB)	VW 502 00 (5W-40)	5.7 L (6 qt)
2.0L (CXCA / CXCB)	VW 502 00 (5W-40)	5.7 L (6 qt)



Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
2.0L (CYFB)	VW 502 00 (5W-40)	5.7 L (6 qt)
2.0L TDI (DEJA)	VW 507 00 (0W-30)	5.5 L (5.8 qt)

#### **ADBLUE TANK**

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Component	Application	Capacity	
Refer to Parts Catalog	TDI Vehicles Only	Initial 15.4 L (16 qt) Fill / Refill	

#### **ENGINE COOLANT**

Component	Application	Capacity
Refer to Parts Catalog	CXBA / CXBB / CXCA / CXCB / DEJA	Initial Approximately 8.0 L (8.5 qt) Fill / Refill
	CYFB CYFB	Initial Approximately 10.0 L (10.5 qt) Fill / Refill

#### **AIR CONDITIONING**

Component	Application	Capacity
A/C System Refrigerant (R134a)	commet	Initial 500 $\pm$ 15 g (17.6 $\pm$ 0.5 oz.) Fill / Refill
	o o o o o o o o o o o o o o o o o o o	This is a second of the second
Refrigerant Compressor Oil	Delphi	Initial 110 $\pm$ 10 cc (3.7 $\pm$ 0.3 fl. oz.) Fill / Refill
	Sanden 14011/10/00 Appalatorial	Initial 75 $\pm$ 1.0 cc (2.5 $\pm$ 0.3 fl. oz.) Fill / Refill
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#### **DRIVETRAIN**

Component	Application	Capacity	
Transmission	5 Speed Manual 0A4	Initial Fill	1.9 L (2 qt)
		Refill	1.7 L (1.8 qt)
	6 Speed Manual (0FB)	Initial Fill	2.3 L (2.4 qt)
	6 Speed Manual 02Q	Initial Fill	2.3 L (2.4 qt)
	6 Speed Automatic 09G	Initial Fill	7.0 L (7.4 qt)
		Refill	3.0 L (3.2 qt)
	6 Speed Direct Shift Gearbox	Initial Fill	6.9 - 7.2 L (7.6 qt)
	0D9 (FWD)	Refill	5.2 L (5.5 qt)
		Mecha- tronic On- ly	3-4 L (3.2-4.2 qt)
	6 Speed Direct Shift Gearbox 0D9 (AWD) Volkswagen AG does not gue	Initial Fill	6.9 – 7.2 L (7.6 qt)
		Refill	5.2 L (5.5 qt)
nisedb		Mecha-	3-4 L (3.2-4.2 qt)
25 autho		tronic On- ly ్య	
adinie		Bevel Box	0.9 L (1 qt)
		AWD	655 ml (22.0 oz.)
, snow		Clutch Ini- tial Fill	Q William
, , , , , , , , , , , , , , , , , , ,		tiai Fiii	resper
Rear Final Drive	Golf R	Final Drive	0.95 L (1 qt)
part	COII IX	Initial Fill	0.75 L (0.8 qt)
		AWD Coupling	rrectnes
or commercial purposes, ir		Refill AWD Coupling	0.65 L (0.7 qt)
Tr. Comme	Alltrack	Initial Fill / Refill	0.95 L (1 qt)

## BRAKE HYDRAULIC SYSTEM

Component	Application	Capacity
Hydraulic Fluid	Automatic Trans.	Initial 1.0 L (1.05 qt)
Tryuraunc Fluid	Manual Trans. Sy usben	Initial 1.15 L (1.22 qt) Fill / Refill



## 1.3 e-Golf Family (BE2)

## i Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions.

#### **E-MOTOR COOLANT**

Component	Application	Capacity	
Refer to Parts Catalog	EAZA	Initial Fill / Refill	Refer to repair manual chapter "Cooling System" and follow strict fill procedure

#### **AIR CONDITIONING**

Component	Application	Capacity
A/C System Refrigerant (R134a)	without heat pump	Initial 500 + / - 15 g (17.6 + / - 0.5 Fill / Refill oz.)
	with heat pump	Initial 950 + / - 15 g (33.5 + / - 0.5 Fill / Refill oz.)
	AC Volkswa	200p.
Refrigerant Compressor Oil	Visteon without heat pump	Initial 120 ml (4.06 fl. oz.) Fill / Refill 9497979
	Visteon with heat pump	Initial 250 ml (8.45 fl. oz.) Fill / Refill

#### **DRIVETRAIN**

Component	Application	Capacity
Transmission	Single Gear (0CZA)	Initial Fill 1.0 L (1.05 qt)
	inwt	Refill 0.8 L (0.85 qt)

#### **BRAKE HYDRAULIC SYSTEM**

Component	Application	Capacity
Hydraulic Fluid	All Vehicles	Initial 1.0 L (1.05 qt) \$\int \text{S} \text{S} \text{Fill / Refill}

## 1.4 **Jetta Family (163)**

## i Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions.

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#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
1.4L (CZTA CNLA)	VW 502 00 (5W-40)	4.0 L (4.2 qt)
1.8L (CPKA / CPRA)	VW 502 00 (5W-40)	5.5 L (5.8 qt)
2.0L (CPLA / CPPA)	VW 502 00 (5W-40)	5.5 L (5.8 qt)
2.0L TDI (DELA)	VW 507 00 (0W-30)	5.5 L (5.8 qt)

#### **ADBLUE TANK**

Component	Application	Capacity
Refer to Parts Catalog	TDI Vehicles Only	Initial 14.4 L (15.2 qt) (3.8 gal.)  Refill  AG Volkswagen AG (10.2)
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## **ENGINE COOLANT**

Component	Application	Capacity
Refer to Parts Catalog	CZTA / CNLA / CPKA / CPRA / CPLA CPPA / DELA	Initial Approximately 8.0 L (8.5 qt) Fill / Refill

#### **AIR CONDITIONING**

	S	<b>E</b>
Component	Application	Capacity
A/C System Refrigerant (R134a)	Letta / GLI	Initial 525 $\pm$ 25 g (18.5 $\pm$ 0.9 oz.) Fill / Refill
	in pa	сопт
Refrigerant Compressor Oil	etta / GLI	Initial 110 $\pm$ 10 cc (3.7 $\pm$ 0.3 ¶. oz.) Fill / Refill
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#### **DRIVETRAIN**

Component	Application	Capacity	
Transmission	6 Speed Automatic 09G	Initial Fill - Gen 1	7.0 L (7.4 qt)
		Initial Fill - Gen 2	6.1 L (6.4 qt)
	5 Speed Manual 0A4	Initial Fill	1.9 L (2 qt)
	6 Speed Manual 02Q	Initial Fill	2.3 L (2.4 qt)
	6 Speed Direct Shift Gearbox 02E	Initial Fill	7.2 L (7.6 qt)
		Refill	5.2 L (5.5 qt)
	worised by Volkswagen AG. Volkswage	Mecha- tronic On-	3-4 L (3.2-4.2 qt)
	morised by	ly	ranto
	055 aut.		-eor <sub>do</sub>
	7 Speed Direct Shift Gearbox OCG	Gear Oil Initial Fill	2.1 L (2,2 qt)
is not beanity	* no maintenance required	ATF Initial Fill	1.0 L (1.05 qt)

## **BRAKE HYDRAULIC SYSTEM**

Component	Application	Capacity
Hydraulic Fluid	Automatic Trans.	Initial 1.0 L (1.05 qt) Fill / Refill
nyuraunc riuiu	Manual Trans.	Initial 1.15 L (1.22 qt) Fill / Refill



1.5 Eos Family (1F8)

Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions. filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
2.0L (CBFA)	VW 502 00 (5W-40)	4.7 L (4.9 qt)



#### **ENGINE COOLANT**

Component	Application	Capacity
Refer to Parts Catalog	CBFA	Initial Approximately 8.0 L (8.5 qt) Fill / Refill

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#### **AIR CONDITIONING**

Component	Application	Capacity
A/C System Refrigerant (R134a)	Jetta / GLI	Initial 525 $\pm$ 25 $\mathfrak{g}$ (18.5 $\pm$ 0.9 oz.) Fill / Refill
0000		This
Refrigerant Compressor Oil	4/4	Initial 140 $\pm$ 10 cc (4.7 $\pm$ 0.3 fl. oz.) Fill / Refill
	Sanden	Initial $10 \pm 10$ cc (3.7 $\pm$ 0.3 fl. oz.) Fill / Refill
	Zexel SAN Protection SAN	าค์ที่เกี่ยง 120 $\pm$ 15 cc (4.0 $\pm$ 0.5 fl. oz.) Fill / Refill

#### **DRIVETRAIN**

Component	Application	Capacity	
Transmission 6–Speed Direct Shift Gearbox (02E)	•	Initial Fill	6.9 - 7.2 L (7.6 qt)
	(02E)	Refill	5.2 L (5.5 qt)
	Mecha- tronic On- ly	3-4 L (3.2-4.2 qt)	
		Front. Fi- nal Drive	0.9 L (1 qt)

#### **BRAKE HYDRAULIC SYSTEM**

Component	Application	Capacity
Hydraulic Fluid	All Vehicles	Initial 1.0 L (1.05 qt) Fill / Refill

## 1.6 Passat Family (A33)

## i Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
1.8L (CPRA)	VW 502 00 (5W-40)	5.5 L (5.8 qt)
3.6L (CDVB)	VW 502 00 (5W-40)	5.5 L (5.8 qt)

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#### **ENGINE COOLANT**

Component	Application	Capacity
Refer to Parts Catalog	Eaby Nolkswage CPRA olkswagen AG does not gue	Initial Approximately 10.0 L (10.5 qt) Fill / Refill
desauthoris	CDVB	Initial Approximately 9.0 L (9.5 qt)

## AIR CONDITIONING

Component	Application	Capacity
A/C System Refrigerant (R134a)	Passat Family	Initial 575 $\pm$ 5 g (20.3 $\pm$ 0.2 oz.) Fill / Refill
or in t		cttot
Refrigerant Compressor Oil	Sanden	Initial $\frac{1}{8}$ 110 ± 10 cc (3.7 ± 0.3 fl. oz.) Fill / Refill

### DRIVETRAIN

Component	Application	Capacity	
Transmission	6 Speed Automatic 09G	Initial Fill	7.0 L (7.4 qt)
5350		Refil	3.0 L (3.2 qt)
Real Contraction of the Contract		his of	
400	6 Speed Direct Shift Gearbox	nitial Fill	6.9 – 7.2 L (7.6 qt)
11/do 3.11	02E	Refill	5.2 L (5.5 qt)

# BRAKE HYDRAULIC SYSTEM

°5 ,,		Refill 5.2 L (5.5 qt)
BRAKE HYDRAULIC SYSTEM	Volkewagen and Volkewagen	inp.
Component	Application	Capacity
Hydraulic Fluid	All Vehicles	Initial 1.0 L (1.05 qt) Fill / Refill

## 1.7 CC Family (358)

## i Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
2.0L (CCTA / CBFA)	VW 502 00 (5W-40)	4.7 L (4.9 qt)
3.6L (CNNA)	VW 502 00 (5W-40)	5.5 L (5.8 qt)



#### **ENGINE COOLANT**

Component	Application	Capacity
Refer to Parts Catalog	CCTA / CBFA	Initial Approximately 8.0 L (8.5 qt) Fill / Refill
	CNNA  Nolkswagen AG. Volkswa	gen <sub>AG does</sub> Fill / Refill Approximately 9.0 L (9.5 qt)

### **AIR CONDITIONING**

Component	Application	Capacity	
A/C System Refrigerant (RT34a)	CC Family	Initial Fill / Refill	550 ± 5 g (19.4 ± 0.2 oz.)
$\beta^{\prime}$ is $n$			With I'
Refrigerant Compressor Oil	Denso	Initial Fill / Refill	$140 \pm 10$ cc (4.7 ± 0.3 fl. oz.)
	Sanden / Delphi	Initial Fill / Refill	$110 \pm 10$ cc (3.7 ± 0.3 fl. oz.)
	Zexel	Initial Fill / Refill	$120 \pm 15$ cc (4.0 ± 0.5 fl. oz.)

#### **DRIVETRAIN**

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Component		Application	Capacity	
Transmission	TO DIE	6 Speed Direct Shift Gearbox 02E	Initial Fill	6.9 – 7.2 L (7.6 qt)
	JIHO TO		Refill	5.2 L (5.5 qt)
	* Olisalo	6 Speed Direct Shift Gearbox 02E  γισημοσορομοίος συναθοίος συναθ	Mecha- tronic On <sup>2C</sup> ly	3-4 L (3.2-4.2 qt)
		agen AG. Protected by	Way	
		6 Speed Manual Transmission 02Q	Initial Fill	2.3 L (2.4 qt)
		6 Speed Automatic Transmission 09M	Initial Fill	7.0 L (7.4 qt)
			Bevel Box	0.9 L (1 qt)
			AWD Clutch Ini- tial Fill	0.85 L (0.9 qt)
			AWD Clutch Re- fill	0.7 L (0.74 qt)
Rear Final Drive		AWD Only	Initial Fill / Refill	0.95 L (1 qt)



#### **BRAKE HYDRAULIC SYSTEM**

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BRAKE HYDRAULIC SYSTEM	ijijed lijdes salihootie ed by s	olkswagen AG. Volkswagen AG does not guarantee or accept and the corace of accept and the corac of accept and the cor
Component	Application	Capacity
Hydraulic Fluid	All Vehicles	Initial 1.0 L (1.05 qt) Fill / Refill

1.8 Tiguan Family (5N2)

\*\*Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions. filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
2.0L (CCTA)	VW 502 00 (5W-40)	4.7 L (4.9 qt)

#### **ENGINE COOLANT**

Component	Application	Capacity	
Refer to Parts Catalog	CCTA	Initial 9 Approximately 8.0 L (8.5 qt)	
_		Fill / Refill	

#### **AIR CONDITIONING**

Component	Application	Capacity
A/C System Refrigerant (R134a)	Tiguan Limited	Initial 660 $\pm$ 15 g (23.3 $\pm$ 0.5 oz.) Fill / Refill
Refrigerant Compressor Oil	Denso	Initial 140 $\pm$ 10 cc (4.7 $\pm$ 0.3 fl. oz.) Fill / Refill
	Sanden	Initial 110 $\pm$ 10 cc (3.7 $\pm$ 0.3 fl. oz.) Fill / Refill

#### **DRIVETRAIN**

Component	Application	Capacity	
Transmission	6 Speed Automatic 09M	Initial Fill	7.0 L (7.4 qt)
		Bevel Box	0.9 L (1 qt)
		AWD Clutch Ini- tial Fill	0.85 L (0.9 qt)
		AWD Clutch Re- fill	0.7 L (0.74 qt)
Rear Final Drive	AWD Only	Initial Fill / Refill	0.95 L (1 qt)



#### **BRAKE HYDRAULIC SYSTEM**

Component	Application	Capacity
Hydraulic Fluid	All Vehicles	Initial 1.10 L (1.16 qt) Sill / Refill

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## 1.9 Touareg Family (7P6)

## i Note

All quantities are approximate. Always refer to the Repair Manual and/or the Maintenance Procedures for correct filling instructions.

#### **ENGINE OIL CAPACITY**

Engine	Engine Oil Type	Engine Oil Capacity With Filter Change
3.6L (CGRA)	VW 502 00 (5W=40)	. DA nagen 6.7 L (7.1 qt)
3.0 L TDI (CNRB)	VW 507 00 (0W-30)	7.7 L (8 qt)

#### **ENGINE COOLANT**

Component	Application	Capacity
Refer to Parts Catalog	CGRA	Initial Approximately 15.0 L (15.8 qt) Fill / Refill
	CNRB	Initial Approximately 10.0 L (10.5 qt) Fill / Refill

#### **ADBLUE TANK**

Component	Application	Capacity
Refer to Parts Catalog	TDI Vehicles Only	Initial 20.0 L (21 qt) Fill / Refill

#### **AIR CONDITIONING**

Component	Application	Capacity
A/C System Refrigerant (R134a)	One Evaporator	Initial 850 $\pm$ 50 g (30 $\pm$ 1.8 oz.) Fill / Refill
	Two Evaporators	Initial 1100 $\pm$ 50 g (39 $\pm$ 1.8 oz.) Fill / Refill
Refrigerant Compressor Oil	CGRA	Initial 140 $\pm$ 10 cc (4.7 $\pm$ 0.3 fl. oz.) Fill / Refill



### **DRIVETRAIN**

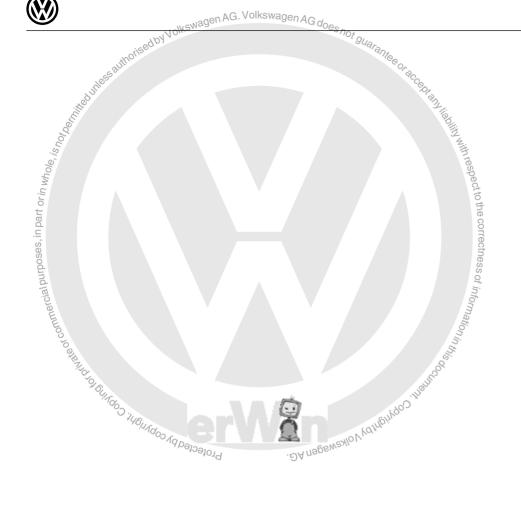
Component	Application	Capacity	
Transmission	8 Speed Automatic 0C8	Initial Fill	
		Depend- ant on en- gine type	10.4 L – 12.8 L (11–13.5 qt)
		Refill	3.5 – 4.0 L (4.2 qt)
,,cwagen AG	à. Volkswagen AG <sub>does</sub>	Transfer Case Ini- tial Fill (OBV)	0.85 L (0.9 qt)
dunas authorised by Volko	a. Volkswagen AG does not guarantee of accepte	Transfer Case Ini- tial Fill (OBU)	0.6 L (0.6 qt)
illi.	2	: %	
Front Final Drive		如itial f訓 / Refill	0.8 L (0.85 qt)
whole		espe	
Rear Final Drive		with EDL	1.25 L (1.3 qt)
s, in part		without EDL	0.9 L (1 qt)

## **BRÄKE HYDRAULIC SYSTEM**

Component	Application	Capacity	
Hydraulic Fluid	Automatic Trans.	Initial Fill / Refill	1.0 L (1.05 qt)
	Hybrid	nitial Fill / Refill	1.10 L (1.16 qt)
Tydradic Fluid	-DA negewealo Vyorhewagen A.G.		

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## **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 Volkswagen Factory Approved 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.

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## **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 frained Volkswagen Service technicians should test, disassemble or service the airbag system.



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## **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
- 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 Volkswagen Factory Approved 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.

