



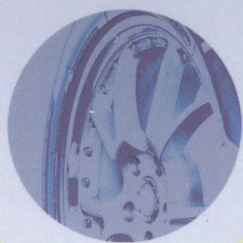
普通高等教育“十一五”国家级规划教材
高等职业院校国家技能型紧缺人才培养培训工程规划教材·汽车运用与维修专业

汽车实用英语

(第2版)

PRACTICAL AUTOMOBILE ENGLISH

栗利萍 主编 黄秋平 李贵林 副主编 萧恩 主审



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北京·BEIJING

内 容 简 介

本书是一本图文并茂地介绍汽车构造、维修保养和技术应用的通俗专业英语教材。全书共有 16 个单元,每个单元由课文、阅读材料、应用写作或科技英语知识组成。为了便于查阅和学习,书后还附有词汇总表、练习答案和参考译文。

本书可作为大专院校汽车相关学科的专业英语教材或课外读物,也适合希望通过英语了解现代汽车的英语爱好者阅读。

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前 言

《汽车实用英语》是根据教育部高等职业教育汽车运用与维修专业领域技能型人才培养的要求,结合汽车专业的实际需要而编写的。其编写目的是帮助大专院校相关专业学生较为系统地学习汽车专业英语知识,熟练掌握2 000个左右的专业英语词汇,能阅读和翻译汽车英语使用说明书和有关技术手册,能运用互联网查询相关专业英语资料,最终能与外籍客户用英语进行一般交流。

本书共分16个单元,每个单元由课文、阅读材料、应用写作或科技英语知识组成。课文为专业技术性文章,讲述汽车各主要系统的构造和工作原理。课文后安排的练习可帮助学生巩固所学内容。阅读材料为专业领域的实用性文章,内容涉及故障检修、常规保养和新技术的应用等。应用写作由商业信函、销售合同、商品使用说明书等组成,提供一定的参照范例并设计了应用文套写和翻译练习。科技英语知识则重点讲述如何通过字、词、句、篇来突破科技英语阅读和翻译的问题。为了便于查阅和学习,书后还附有词汇总表、练习答案、参考译文。

本书由湖南生物机电职业技术学院的栗利萍老师任主编,南京交通职业技术学院的黄秋平、湖南生物机电职业技术学院的李贵林老师任副主编,山西交通职业技术学院的杨晋平老师、中共湖南省委党校的苏四清老师参编。全书由《汽车与你》杂志总编辑萧恩主审。

因篇幅所限,本书不可能把汽车专业英语知识讲得非常全面。读者如能通过阅读此书,学以致用,解决工作实践中的一些具体问题,也就达到了编者的目的。书中如有不妥之处,敬请读者批评指正。

编 者

2008年1月

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Unit One

Text Structure of Automobile

Most people think in an easy way that the automobile is composed of four sections such as engine, chassis, body and electrical system. (see Figure 1-1)

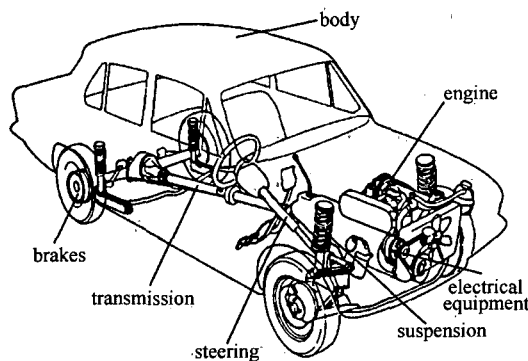


Figure 1-1 Layout of a Modern Automobile

The automobile engines can be classified according to: 1. number of cylinders; 2. arrangement of cylinders; 3. arrangement of valves; 4. type of cooling; 5. number of cycles (two or four); 6. type of fuel burned; 7. type of ignition.

The engine is the source of power that makes the wheels go around and the car move. It includes the fuel, lubricating, cooling, ignition and starting systems. Generally, an automobile is operated by internal combustion engine. The internal combustion engine burns fuel within the cylinders and converts the expanding force of the combustion or "explosion" into rotary force used to propel the vehicle.

The chassis is a framework used to assemble auto components on it. The chassis itself is divided into four systems like transmission system, suspension system, steering system and brake system.

The transmission system applies to the components needed to transfer the drive from the engine to the road wheels. The main components are clutch, gearbox, drive shaft, final drive and differential.

The primary purpose of the suspension system is to increase strength and durability of components and to meet customers' requirements for riding comfort and driving safety. In automobile suspension, the major component is springs. The springs used on today's vehicles are engineered in a wide variety of types, sizes, rates and capacities. Spring types include leaf springs,

coil springs and torsion bars. Springs are paired off on vehicles in various combinations, and are attached to vehicle by different mounting techniques.

The function of the steering system is to provide the driver with a means for controlling the direction of the vehicle as it moves. The steering system consists of steering wheel, steering shaft, worm, gear sector, pitman arm, drag link, steering knuckle arm, king pin, steering arms, tie rod, front axle and steering knuckle. They enable the car to change the direction by means of turning and moving forth and back.

The automobile brake system is a friction device to change power into heat. When the brakes are applied, they convert the power of momentum of the moving vehicle(kinetic energy) into heat by means of friction, thus retarding the motion of the vehicle. Structurally, an automotive brake system contains these major parts like brake drum, brake shoe, brake lining, etc. Functionally, an automotive brake system can be divided into wheel brake mechanism and parking brake mechanism.

The automobile body serves the obvious purpose of providing shelter, comfort and protection for the occupants. The body is generally classified into four sections: the front, the rear, the top and the underbody. These sections can further fall into a lot of assemblies and parts, such as the hood, the fenders, the roof panels, the door, the instrument panel, the bumpers and the luggage compartment.

The electric system supplies lighting and driving power for the automobile. It cranks the engine for starting. It supplies the high-voltage surges that ignite the compressed air-fuel mixture in the combustion chambers. The electric system includes the battery, generator, starting system, ignition system, lighting system, horn system, radio and other devices.

The auto description above seems to conclude that though automobiles are quite different in design, they are basically similar in structure.

New Words and Expressions

chassis ['ʃæsi]

n. 底盘

valve [vælv]

n. 阀, 气门

ignition [ig'niʃən]

n. 点火, 点燃

lubricate ['lu:brikeit]

v. 润滑, 加润滑油

assemble [ə'sembl]

v. 装配, 集合, 聚集

transmission [trænz'miʃən]

n. 变速器, [机] 传动装置, 传送

suspension [səs'penʃən]

n. 悬挂

steer [stiə]

v. 驾驶,

n. [车辆] 转向机构

brake [breik]

n. 闸, 刹车

v. 刹车

clutch [klʌtʃ]

n. 离合器

v. 抓住, 咬合

gearbox ['giəbɒks]
n. 变速箱, 齿轮箱

differential [ˌdɪfə'renʃəl]
n. 差速器

capacity [kə'pæsɪti]
n. 容量, 生产量, (负)载量, 能力

coil [kɔɪl]
v. 盘绕, 卷
n. 圈 (弹簧)

torsion ['tɔ:ʃən]
n. [物][机] 扭转, 转矩

knuckle ['nʌkl]
n. 转向节, 关节

momentum [məu'mentəm]
n. 动力, 要素, [物] 动量

kinetic [kai'netɪk]
adj. (运)动的, 动力(学)的

retard [ri'ta:d]
vt. 使减速, 阻止, 妨碍, 阻碍

shelter ['ʃeltə]
n. 掩蔽处, 掩蔽, 保护, 庇护所
v. 掩蔽, 躲避

hood [hud]
n. 车篷, 引擎罩
v. 给……加罩, 覆盖

fender ['fendə]
n. 防护物, 挡泥板

bumper ['bʌmpə]
n. 汽车保险杠, 缓冲器

surge [sə:dʒ]
n. 电涌, 电流急冲
v. 汹涌, 澎湃, 振荡, 使汹涌奔腾, 急放

battery ['bæteri]
n. 电池

generator ['dʒenəreɪtə]
n. 发电机, 发生器

internal combustion engine
 内燃发动机

final drive
 主减速器

gear sector
 扇形齿轮

pitman arm
 转向摇臂

drag link
 直拉杆, 转向

steering knuckle arm
 转向节臂

king pin
 主销

tie rod
 转向横拉杆

kinetic energy
 动能

brake lining
 制动器摩擦衬片

combustion chamber
 燃烧室

torsion bar
 (汽车减震用的) 扭力轴

Notes to the Text

1. The automobile is composed of four sections such as engine, chassis, body and electrical system.

译文: 汽车都是由发动机、底盘、车身及电气系统四部分组成的。

2. The chassis itself is divided into four systems like transmission system, suspension system, steering system and brake system.

译文：底盘本身可以分成四个系统，即传动系统、悬挂系统、转向系统和制动系统。

3. The steering system consists of steering wheel, steering shaft, worm, gear sector, pitman arm, drag link, steering knuckle arm, king pin, steering arms, tie rod, front axle and steering knuckle.

译文：转向系统包括方向盘、转向轴、蜗杆、扇形齿轮、转向摇臂、直拉杆、转向节臂、主销、转向臂、转向横拉杆、前轴和转向节。

4. These sections can further fall into a lot of assemblies, and parts, such as the hood, the fenders, the roof panels, the door, the instrument panel, the bumpers and the luggage compartment.

译文：这些部分可以进一步分为许多的部件，如发动机盖板、挡泥板、车身顶板、车门、仪表板、汽车保险杠和行李箱。

Check Your Understanding

I .Give brief answers to the following questions .

1. What are the four sections of an automobile?
2. What is the function of each section in an automobile?
3. What does the chassis consist of ?
4. Is the brake system used to slow and stop the motion of the vehicle by means of friction?

II . Choose the correct word to match the sentence .

chassis	crankshaft	lubricating	friction	ignition
suspension	combustion	cylinder	transmission	axle

1. _____ The framework on which the body and working parts of a vehicle are fastened
2. _____ to put oil into the moving parts of a machine to make them work more easily
3. _____ starting an engine by electrically firing the gases from the petrol
4. _____ the act of catching fire and burning
5. _____ a long round hollow on solid body
6. _____ the parts by which power is carried from an engine to the wheels that produce movement in a vehicle
7. _____ the pieces of apparatus fixed to the wheels of a car to lessen the effects of rough road surfaces
8. _____ the rubbing of one against another
9. _____ a rod turning, or driven by a crank
10. _____ a bar with a wheel on either end

III. Fill in the table below.

English	Chinese
electrical system	
	膨胀力
auto component	
	后桥, 主减速器
gear sector	
	转向摇臂
drag link	
	转向横拉杆
king pin	
	制动蹄片

IV. Translate the following sentences into English or Chinese.

1. The internal combustion engine burns fuel within the cylinders and converts the expanding force of the combustion or "explosion" into rotary force used to propel the vehicle.
2. The primary purpose of the suspension system is to increased strength and durability of components and to meet customers' requirements for riding comfort and driving safety.
3. 底盘是一个用以总装汽车部件的框架。
4. 汽车制动系统是一种把动力转变为热量的摩擦装置。

Build Up Your Vocabulary

I. Write down the words that the abbreviations stand for.

- | | |
|----------------|------------|
| 1. AACV _____ | 辅助空气控制阀 |
| 2. AADT _____ | 年平均日交通流量 |
| 3. AALA _____ | 美国汽车标牌法 |
| 4. AAPS _____ | 先进的汽车动力装置 |
| 5. AATC _____ | 主动式防盗系统 |
| 6. AAV _____ | 防后燃阀 |
| 7. ABARS _____ | 汽车倒车距离修正系统 |
| 8. ABCV _____ | 空气旁通控制阀 |

II. Look at the picture (Figure 1-2) and label it correctly using the words given below.

differential, rear axle	fuel tank	front axle	engine
universal joint	road springs	exhaust/silencer	clutch and gearbox
propeller shaft	steering	frame	wheels radiator