

# SPECIAL ENGLISH FOR AUTOMOBILE

## 汽车专业英语

邓贤贵 徐达 编著

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FOR AUTOMOBILE



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人民交通出版社

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## 内 容 提 要

本书内容以汽车发动机和底盘的系统知识为主,选编了有关汽车运用、修理和维护方面的文章,共20单元,包括课文、词汇、注释、练习和阅读材料等,并附有总词汇表和国外汽车译名对照。

本书可作为高等工科院校汽车及其相关专业的英语教材,亦可供具有一定英语基础知识的工程技术人员和管理人员自学参考。

### 汽车专业英语

邓贤贵 徐 达 编著

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## 前 言

本书是为高等工科院校汽车及其相关专业学生编写的专业英语教材。它以高校英语教学要求为依据,分为基础阶段和专业阅读阶段,并规定,专业阅读课是必修课。在完成基础阶段的教学后应及时让学生转入专业阅读,使学生从学习性阅读转到应用性阅读,通过一定学时的专业英语阅读,巩固已经掌握的基本词汇和语法知识,扩大专业词汇,掌握科技文章的语法结构及文体方面的知识,提高英语应用能力,使学生能达到以英语为工具,获得专业所需要的信息。本教材也可供从事汽车工程的管理技术人员和技术人员使用。

课文内容以汽车构造为主,并选编了有关汽车维修方面的文章,在课文的编排上尽量照顾到汽车专业知识学习的系统性,基本上按汽车发动机和底盘的系统进行编排,共 20 单元,包括课文、词汇、注释、练习和阅读翻译材料。有的课文和阅读材料配有附图,针对课文和阅读材料中的长难句都加注了语法分析和翻译,还附有总词汇表和国外汽车译名对照。

本教材由武汉冶金科技大学邓贤贵副教授任主编,武汉汽车工业大学徐达副教授任副主编,匡力原老师校阅了课文、注释和翻译材料。

在编写中参阅了国内外有关的书籍和杂志,得到了果继辉和郑安文副教授的帮助,以及人民交通出版社的大力支持,在此一并表示感谢。

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# UNIT ONE

## Types of Automobiles

The automobile industry is a fast developing industry. From the later 18th century when the first automobile was put on road, this industry has developed tremendously. Now there are thousands of factories all over the world manufacturing numerous types of automobiles. This industry employs crores of men and women directly and indirectly in allied industries. The automobile engines are also being used in engine powered machines for agriculture, construction and manufacturing processes. Various types of small engines are also being used in lawn movers, power saws, snow removers and similar equipments. The automobile industry is a developing and demanding industry which does not find its end or saturation point. There is a great demand for varied types of automotive products, vehicles and engines. There is also a great demand for trained and experienced persons in this industry for diagnosing motor vehicle troubles, repairing and replacing engines, components, transmissions, propeller shafts, differentials, axles, steering system components, brake system components, suspension components, airconditioners, heaters, body and glass work.

There are numerous types of automobiles used in the world. There are in general three main classifications of the



various types of vehicles.

25 (1)The single-unit vehicles or load carriers.

(2)Articulated vehicles.

(3)The heavy tractor vehicles.

Single-unit vehicles are of conventional four-wheel type. The great majority of vehicles are of two axle design. In these vehicles the front axle is a steering non-driving axle and the rear axle is the driving axle. With the passage of time, a great many changes have taken place in the number of axles and the driving arrangements.

35 In this classification, digital terms like  $4 \times 2$ ,  $4 \times 4$ ,  $6 \times 4$  etc. are commonly used. The first figure denotes the total number of wheels and the second figure the number of driving wheels.

A lower powered three-wheeler with a single steering wheel in front and a conventional rear driving axle is an example of articulated vehicles. It has a greater handling ability in awkward places. It can be turned about its own tail due to the three-wheel construction. The coupling mechanism between semi-trailer and tractor in most of these vehicles is arranged for automatic connection and coupling up  
45 necessitating only its reversing into the position. But for uncoupling operation, a lever is provided within the driver's cabin to reverse the whole process. A pair of retractable wheels in front are also provided. Along with the coupling or uncoupling operation, they can be raised or lowered automatically.  
50

To move heavy loads, heavy tractor or independent tractor vehicles commonly operate in pair either in tandem or as 'puller' and 'pusher'.

55 A special consideration is made in respect of the drive  
to the front wheels in all-wheel-drive vehicles. We know  
that the front wheels are to travel farther than the rear  
wheels on every band. The wind-up produced by this differ-  
ence of travel over-stresses the transmission system. To  
60 avoid this a great necessity of some form of differential or  
its equivalent has been felt to provide it the front and rear  
drives. It has been seen that if the conditions are not very  
abnormal, sufficient amount of tyre slip taking place under  
running conditions would release these stresses complete-  
ly.

65 An all-wheel drive is better than the introduction of  
differentials between the various axles. It provides adhe-  
sion under the worst possible conditions. On the other  
hand, the drive to all the other axles is liable to be lost if  
any one axle or group of axles loses adhesion.

70 Types of automobiles. There are numerous types of  
automobile found in different parts of the world. With re-  
spect to different purposes, the various types of automo-  
biles are classified as under :

I. With respect to the use :

75 (a) Auto-cycles and Mopeds. (b) Scooters and Motor  
cycles. (c) Cars, Station Wagons and Pick-ups. (d) Lorries  
(Buses) and Trucks. (e) Tractors.

II. With respect to capacity :

(a) Heavy Transport Vehicles or Heavy Motor Vehi-  
80 cles : Tata, Leyland. (b) Light Transport Vehicles, or Light  
Motor Vehicles (Cars, Jeeps, Scooter/Motor cycles). (c)  
Medium Vehicles : Tempo, Minibus, Station Wagon.

III. With respect to the fuel used :

- (a) Petrol Vehicles: Cars, Scooters, Motor Cycles. (b)  
85 Diesel Vehicles: Tata, Leyland Vehicles, Mercedes Car. (c)  
Gas Vehicles: Coal-gas, Gas Turbine or Producer-Vehi-  
cles. (d) Electric Vehicles-using electric storage batteries  
or accumulators to drive electric motors attached to the  
front or rear wheels, e. g. Heavy cranes. (e) Steam Vehi-  
90 cles-It is now obsolete.

IV. With respect to the make:

- (a) Leyland, Tata. (b) Ambassador, Fiat (Premier-  
President), Standard, Herald etc. (c) Vespa/Bajaj, Raj,  
Hans, Rajdoot, Royal Enfield, Vijay Delux, Vijay Kesari,  
95 Priya.

V. With respect to wheels and axles:

- (a) Two Wheelers: Motor Cycles/Scooters. (b) Three  
wheelers: Tempos, Auto Rickshaws. (c) Four Wheelers:  
Cars, Jeeps, Buses, Trucks (6 Tyres) etc. Buses and Trucks  
100 have six tyres out of which four are carried on the rear  
wheels for additional traction. (d) Axle 6 wheelers (10  
tyres) Vehicles: Shaktiman, Dodge.

VI. With respect to the drive:

- (a) Left hand drive-most of the American vehicles.  
105 (b) Right hand drive-most of the Indian vehicles.  
(c) Fluid drive-Vehicles using Fluid Coupling Engine  
and Transmission. (d) Front wheel drive-volks Wagon, Sko-  
da, Austin. (e) Rear wheel drive-most of the Indian vehi-  
cles. (f) All wheel drive-Jeep 4×4.

- 110 VII. With respect to motion: (a) Reciprocating-piston  
Engines. (b) Rotary-wankel Engine, Gas Turbine.

VIII. With respect to the suspension: (a) Conventional-  
Leaf Spring. (b) Independent Coil, Torsion

bar, Pneumatic.

- 115 IX. With respect to the body and number of doors: (a) Sedan—Two doors, four doors. (b) Convertible—Jeep. (c) Station Wagon. (d) Delivery Van.

X. With respect to transmission:

- (a) Conventional—Most of Indian vehicles.  
120 (b) Semi-automatic—Modern British vehicles.  
(c) Automatic—American Vehicles.

## NEW WORDS

- automobile [<sup>1</sup>ɔ:təməbi:l, ɔ:təmə'bi:l] *n.* 〔美〕小客车, 汽车, 机动车
- tremendously [<sup>1</sup>tri'mendəsli] *adv.* 惊人(可怕)地, 极, 非常
- crore [<sup>1</sup>krɔ:, krəə] *n.* (印英)一千万(通常指 rupees 卢比)
- allied [<sup>1</sup>ə'laid, 'æləid] *a.* 有关的, 相近的, 性质上有密切联系的
- 5 construction [<sup>1</sup>kən'strʌkʃən] *n.* 建筑, 结构, 构造, 施工
- automotive [<sup>1</sup>ɔ:tə'moutiv] *a.* 汽车的, 机动车的, 自行的
- vehicle [<sup>1</sup>vi:ikl] *n.* 车辆, 运输车辆, 机动车
- experienced [<sup>1</sup>iks'piəriənst] *a.* 有(实践)经验的, 熟练的
- diagnose [<sup>1</sup>daiəgnəuz] *v.* 诊(判)断, 确定, 断定
- trouble [<sup>1</sup>trʌbl] *n. ; v.* 故障, 事故; 扰乱, 损坏
- 10 component [<sup>1</sup>kəm'pəʊnənt] *n.* 部(元, 组, 零, 构)件, 部分

	transmission [træns'miʃən] n.	变速器, 变速箱, 传动(系, 装置)
	differential [difə'renʃəl]n.	差(动, 速), 差分(动)器
	suspension [səs'penʃən]n.	悬架, 吊架, 悬挂系, 悬架装置
	airconditioner ['eəkən'diʃənə]n.	空气调节器, 空调装置
	classification [klæsifi'keiʃən]n.	分类, 分级, 归类
15	articulated [a:'tikjuleitid]α.	铰接的, 有活节的, 关节式连接的
	conventional [kən'venʃənəl] α.	惯例的, 常规的, 传统的
	majority [mə'dʒɔriti]n.	多数, 大多数, 半数以上
20	passage ['pæsidʒ]n.	通过, 经过, 推移
	arrangement [ə'reindʒmənt] n.	布置, 排列, 分布
	digital ['didʒitl]α.	数字的, 计数的, 指状的
	denote [di'nout]vt.	指示, 表示, 意味着
	mechanism ['mekənizəm]n.	机构, 机械, 机械结构
25	connection [kə'nekʃən]n.	连接, 接合, 接头
	cabin ['kæbin]n.	驾驶室, 客舱, 客室
	retractable [ri'træktəbl]α.	可收回的, 可缩进的
	automatically [ɔ:tə'mætikəli]adv.	自动地, 自然而然地
	abnormal [æb'nɔ:məl]α.	反常的, 不正常的, 不规则的
	tyre [taɪə]n., vt.	轮胎, 车胎; 装轮胎在...上
	introduction [intrə'dʌkʃən] n.	引进, 传入, 采用
	adhesion [əd'hi:ʒən]n.	粘着, 附着, 附着力

scooter ['sku:tə]n.	低座小摩托车, 小型摩托车
transport ['trænsɜ:t]n.	运输, 运输工具
40 minibus ['minibʌs]n.	小型公共汽车(四座四人)
accumulator [ə'kju:mjuleitə]n.	蓄电池, 储蓄器, 储压器
crane [krein]n. ; v.	起重机, 吊车; 用起重机搬运
wheeler ['hwi:lə]n.	有轮车, 有…轮的东西
motion ['mouʃən]n.	运动, 移(摆, 开)动
45 reciprocate [ri'siprəkeit]v.	往复运动, 前后转动, 来回
pneumatic [nju:'mætik]a.	气动的, 风动的, 空气推动的
convertible [kən've:təbl]a.	可改变的, 可变换的

## PHRASES AND EXPRESSIONS

1. all over the world	全世界
2. manufacturing process	生产流程, 制造过程
3. lawn mover	剪草器, 割草机
4. snow remover	扫雪车
5. saturation point	饱和点
6. single-unit vehicle	整体式车身车辆, 承载式车辆
7. arrange for	安排, 准备
8. on the other hand	另一方面
9. with respect to	关于, 就…而论, 根据
10. be classified as	分成…类
11. delivery van	厢式送货车

## NOTES TO THE TEXT

- 5 This industry employs crores of men and women directly and indirectly in allied industries.

该工业在相关行业中直接、间接雇用了数千万男女从业人员。crore-千万,印度英语,通常用以指印度货币卢比的数量,如:a crore of rupees 一千万卢比。

- 35 The first figure denotes the total number of wheels and the second figure the number of driving wheels.

第一个数字指车轮总数,第二个数字指驱动轮数。这是一个并列句,后句省略了和前句相同的谓语动词 denotes。

- 45 But for uncoupling operation, a lever is provided within the driver's cabin to reverse the whole process.

(但)为了进行分离操作,在驾驶室里装了一根操作杆来控制倒车过程。

“But for” here means “However, in order to” and links the consequent phrase to the previous sentence.

- 58 To avoid this a great necessity of some form of differential or its equivalent has been felt to provide it the front and rear drives.

为了避免这种情形,很有必要采用某种形式的差速器或其等效装置对汽车提供前后桥驱动。

necessity (of, for) 有必要,需要

## EXERCISES

I. Put the following expressions into Chinese:

1. automobile transportation
2. to put on trial
3. manufacturing technique
4. construction-type lift crane
5. experienced driver (=expert driver)
6. snow removal equipment
7. differential gear with self-locking device
8. suspension stability control
9. single-unit truck
10. articulated frame
11. in the great majority of cases
12. digital fuel consumption meter
13. turn about its own tail
14. be well arranged for production
15. forced reversing
16. retractable hard top
17. in tandem
18. transmission mechanism
19. adhesion of wheels
20. be liable to leak oil occasionally

II. From Column I, choose the term which best matches the definition given in Column II:

Column I

Column II

1. engine a something in or on which people or goods



can be carried from one place to another

2. propeller shaft   b   drive shaft connecting transmission  
with rear axle
3. vehicle   c   prime source of power generated to propel  
a vehicle
4. battery   d   a hydraulic clutch used to transmit engine  
torque to transmission gears
5. scooter   e   an oil-burning engine in which ignition is  
produced by the heat of suddenly com-  
pressed gas
6. fluid coupling   f   motor-bicycle with a lower seat
7. axle   g   any number of complete electrical cells as-  
sembled in one housing or case
8. diesel engine   h   shaft or shafts of a vehicle upon  
which wheels are mounted

III. Choose a phrase from the list for each space in the passage  
below:

- |                      |                   |
|----------------------|-------------------|
| 1. are classified as | 7. are classed    |
| 2. intended for      | 8. groups of      |
| 3. are divided into  | 9. designed for   |
| 4. in turn           | 10. equipped with |
| 5. referred to as    | 11. special work  |
| 6. used to           |                   |

As to purpose, motor vehicles \_\_\_\_ transport vehicles, special-purpose vehicles, and competition vehicles. Transport vehicles \_\_\_\_ in several types: (a) cars—motor vehicles \_\_\_\_ carrying small groups of people (up to eight in number); (b) buses—passenger service vehicles designed for carrying large \_\_\_\_ people (more than eight in number); (c) trucks—motor vehicles intended for carrying various cargos.