

高职高专英语教材

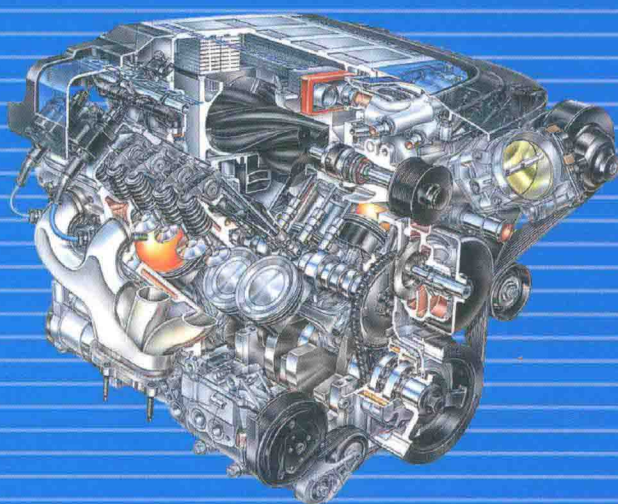
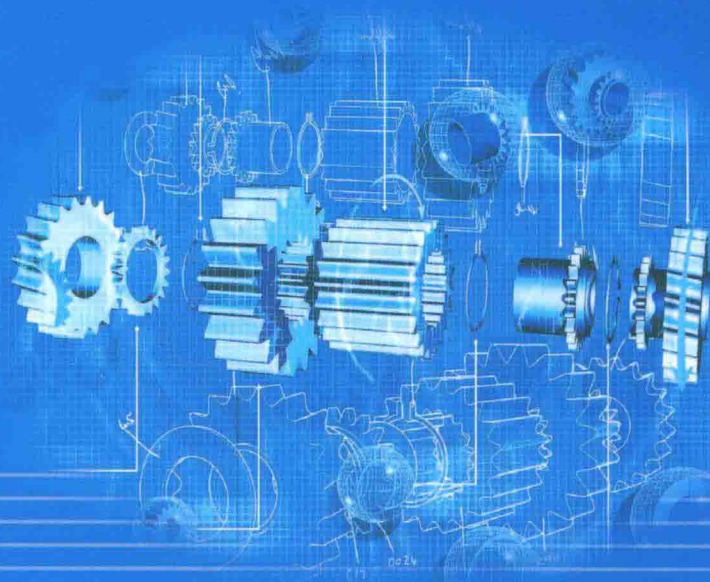
ENGLISH FOR OCCUPATION PURPOSE

行业英语

机械·汽车类

主审 明立军

主编 赵瑞雪



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前言

编写高职高专英语教材《行业英语:机械·汽车类》,一方面为了使高职高专学生强化理解《高职高专英语教学基本要求》中所涉及的知识重点和难点,加强学生英语词汇的运用能力、阅读和翻译英语文章的能力以及用英语书写实用应用文的语言综合技能;另一方面使学生掌握一定的行业英语知识。本教材在编写时遵循“实用为主,够用为度”的原则,强调“学好英语语言基础知识与培养英语语言综合运用能力并重”。

本教材在内容上涉及与高职学生所学专业相关的机械、汽车、信息工程以及学生感兴趣的航天、通讯、电子等方面的科技英语知识,又涉及学生日常生活所能接触到的身边的科学知识。本教材在难度上相当于“高职高专实用英语能力 A 级”(考虑到高职高专学生实际英语水平的差异,有些补充阅读材料难度略高于 A 级),建议教师在学生完成二至三个学期公共英语的学习后选用本教材。

本教材共有十个单元,每个单元结构如下:

一、Dialogue. 本部分与高等学校实用英语应用能力考试听力部分的难度相当,涉及订货、商务洽谈、商品展会等内容,旨在进一步强化学生的口语表达,尤其是与学生专业相关的知识的英语口语表达能力。

二、Scientific Reading. 本部分为与学生所学专业相关,内容又相对浅显的科普文章。本部分设有导入环节 Leading in, 在话题的导入过程中,编者注重为学生的课堂讨论留有适度的话语空间。这有助于发挥学生自主学习的积极性,促进教学模式的转变。同时考虑到高职学生对词汇和语法结构掌握的现状,对已出现在《高职高专英语教学基本要求》中、学生掌握起来相对困难的词汇(超过《高职高专英语教学基本要求》的词汇已进行标注)以及课文中出现的复杂句式,如学生在理解中出现困难的省略句、倒装句、主从复合句、虚拟语气、非谓语动词等结构加以注释;并在课后配备了相应的词汇和语法习题。同时,为了进一步扩展学生的专业英语知识,每个单元都设有 Learn Some More 的部分,通过学习这一部分可了解与专业相关的英语词汇和句式。在 Scientific Reading 后,每个单元辅助有阅读理解、英汉短语互译、英文句式翻译等习题。通过这些习题,一方面强化了学

生的英语基础知识,另一方面强化了学生的阅读、翻译等语言综合运用能力。

三、Supplementary Reading.考虑到目前高职学生英语水平的差异,本书在每个单元都设置了这个环节。本部分阅读材料的难度有的略高于高职高专实用英语能力 A 级的要求,有的文章难度接近大学英语四级的阅读能力要求。通过阅读本部分的材料,可使学生进一步强化阅读英语文章的能力。同时,教师在指导学生阅读时,也可适时地为学生介绍阅读技巧,培养学生自主阅读英语文章,尤其是英语科普文章的能力。

四、Practical Writing.实用应用文的写作,始终是高职学生英语学习的难点。因此,在编写本教材时,编者继续注重强化高职学生的实用应用文的写作能力;力求从不同的角度培养学生书写,如商务信函、公司简介、产品简介等实用应用文的能力;引导学生通过对图片、图表的描述,锻炼英语语言综合运用能力,为学生自我展示提供空间,从而体现学生的个性化学习。

参加本教材编写的人员如下:第一至三单元由赵瑞雪、张慧编写,第四至六单元由任丽丽、杨磊编写,第七单元由赵瑞雪、孙晶编写,第八至九单元由孙晶、葛晓霞、孙雅军编写,第十单元由赵瑞雪、任丽丽编写。书后的趣味阅读材料由赵瑞雪、葛晓霞、栗九红编写。全书由明立军、赵瑞雪、任丽丽、孙晶进行审核。

本教材由沈阳职业技术学院汽车分院教材编审委员会进行审订。

在教材编写过程中,沈阳职业技术学院汽车分院的葛岳老师给予了很大支持,特此表示感谢。

编 者

2014 年 7 月

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Unit One



DIALOGUE

- A: Nice to see you again, Mr. Smith. How is your business?
- B: Oh, very well. I've just come back from a trade fair in the UK, where I have ordered a 20-foot container of toys for my client.
- A: You must have learnt a lot from the fair, right?
- B: Yes, of course. There were many fashionable commodities on the show. And I met a lot of factory owners in the toy industry.
- A: How did you learn about the fair?
- B: I learnt it from the Trade Fairs and Exhibitions UK, the official web site for the UK exhibition industry.
- A: Oh, I've never heard of that before. Could you tell me a bit more about it?
- B: Certainly. It offers a comprehensive listing of all public, industrial and trade exhibitions to be held in major venues around UK. And the information is updated twice a month.
- A: Then, how can I find what I want from there?
- B: You can search for the list by putting in the key words such as exhibition type, date, organizer, venue and so on. You can find it fairly easily.
- A: That sounds great.
- B: Yes. That is very useful for our business.
- A: That is right. The Internet can help a lot in modern society.

Leading In

We must drink water every day, and you can also list some usages of water in our life: cleaning, watering the flowers, etc.. But do you think water can be used as a cutting tool?

SCIENTIFIC READING

Water as a Cutting Tool

Ever thought of water, whose versatility has never been in question, being used as a liquid knife?

A recent experiment has proved that indeed water jets can cut metals—aluminium, granite and just about any other material, the same way as an electrically-operated sawing machine or laser would.

The discovery of this technique goes to an Indian scientist, Dr. Mohan Vijay of National Research Council of Canada, who works with water jet cutting tools whose blade is a high pressure stream of water. It generates as powerful as 150kw of power, propels up to 80 litres of water a minute through a nozzle, which is usually thimble-shaped and varies in size from 0.076 to 0.635mm in diameter. Leaving the nozzle at pressures up to 310 megapascals (45,000 psi),



Figure1-1 produced by water cutting

the water jet is capable of quickly slicing through most materials without much mess, waste, or disturbance to surrounding material. "The industrial applications for water jet cutters are enormous," says Vijay. "And though they have been around for more than a decade, recent developments in high pressure pumps have made these cutters more reliable, and thus more economically reasonable, than ever," he says.

They are already widely used for tough cleaning jobs (like knocking marine growth from off shore oil rigs) and are starting to be used in the mining industry. Jet cutters, which are working in several countries, can slice through concrete and could be of use in the construction industry, especially for the disposing of the debris left when a building is torn down.

But jet cutters can also handle jobs requiring more finesse. A precision instrument capable of accurately cutting fur, aluminium sliding, rubber and other materials has been developed. He says, "The nozzle of the instrument is made of artificial sapphire, looks like a tiny glass bead, and measures less than 0.076mm in diameter."

Dr. Vijay says the stream of water shooting out of this nozzle can cut most material as well as a knife can, but without many of the problems encountered in mechanical cutting. "There are no blades to dull in the water jets," he says.



"There is a growing demand for this type of precision instrument in the manufacturing sector," Vijay says. "The prospects are good, and already they have quite a few customers, especially from the cleaning industry," he adds.

New Words

# versatility [ˌvə:sə'tiləti]	<i>n.</i>	多功能性
jet [dʒet]	<i>n.</i>	喷射流
# saw [sɔ:]	<i>n.</i>	锯
# blade [bleid]	<i>n.</i>	刀刃
# propel [prə'pel]	<i>v.</i>	推动
litre [li:tə(r)]	<i>n.</i>	升
# nozzle ['nɔzl]	<i>n.</i>	喷嘴
# thimble-shaped	<i>adj.</i>	针箍状的
megapascal ['megə 'pæskəl]	<i>n.</i>	兆帕(压强单位)
psi = pounds per square inch		磅/平方英寸
disturbance [dis'tə:bəns]	<i>n.</i>	搅乱, 弄乱
feasible ['fi:zəbl]	<i>adj.</i>	可实行的
# marine [mə'ri:n]	<i>adj.</i>	海洋的
# offshore ['ɔ(:)fɔ:]	<i>adj.</i>	海上(海下)作业的
slice [slais]	<i>v.</i>	切(片)
dispose [dis'pəuz]	<i>v.</i>	处理
# debris ['deibri:, 'deibri:]	<i>n.</i>	碎片, 残骸
# finesse [fi'nes]	<i>n.</i>	精密技巧, 手段
# sapphire ['sæfaɪə]	<i>n.</i>	蓝宝石
# bead [bi:d]	<i>n.</i>	小珠
dull [dʌl]	<i>v.</i>	变钝

Phrases and Expressions

be around

在某一行业(领域)中活跃突出

● Notes

1. Ever thought of water, whose versatility has never been in question, being used as a liquid knife?

句子的开头省略了 have you, 句中 whose 引导非限定性定语从句, 其先行词为 water, being used as a liquid knife 的结构为动名词结构, 做 thought of 的宾语。

2. The discovery of this technique goes to an Indian scientist, Dr. Mohan Vijay of National Research Council of Canada, who works with water jet cutting tools whose blade is a high pressure stream of water.

Go to 在此可进行意译理解为“归功于”, Dr. Mohan Vijay of National Research Council of Canada 是 an Indian scientist 的同位语, 而 who works with water jet cutting tools whose blade is a high pressure stream of water 为非限定性定语从句, 修饰先行词 scientist。

L earn Some More

Cutting (切削加工), which is one type of processing technology, is also used when mechanical parts (机械零件) are produced. Other mechanical parts processing technology include turning (车削), drilling (钻削), boring (镗削) process as well as fitter technology (钳工工艺). In addition, slottuing (插削), broaching (拉削), milling (铣削), etc. are also commonly used in processing machine parts. For some special cases, some of the special processing technology, such as EDM (电火花加工), laser processing (激光加工) and ultrasonic processing (超声加工) are also used.

Exercises

Reading Comprehension: Choose the best answer to the questions.

- (1) How many kinds of material that can be cut by water jet were mentioned in this passage?

A. 3	B. 5
C. 9	D. 4
- (2) According to this passage, in which field are water jets already widely used?

A. Mining industry	B. Cutting metal
C. Cleaning jobs	D. Construction industry



(3) What's the main reason that the precision instruments are needed to cut some materials?

- A. Because they work more reliable.
- B. Because they produce no waste.
- C. Because there are no blades to dull.
- D. Because they cut more accurate.

(4) What's the main idea of the author for the water jets?

- A. Develop this kind of cutting tool.
- B. Exist many problems.
- C. Only can be used in some fields such as cleaning jobs.
- D. Still cannot satisfy our demand.

(5) Usually, what is the size of the nozzle of a water jet in diameter?

- A. More than 0.076mm B. Less than 0.076mm
- C. 0.076 to 0.635mm D. More than 0.635mm

2 There are 10 incomplete sentences here. You should fill in each blank with the proper form of the word given in the brackets.

- (1) Many great(discover) _____ have been made in the field of science.
- (2) This new boiler(锅炉)(generate)_____ more heat than the old one.
- (3) The machine(operate)_____ properly now.
- (4) Electric current(电流)is often(power)_____ enough to kill a man.
- (5) You can work in here without any(disturb)_____.
- (6) He has measured my garden(accurate)_____.
- (7) It is necessary that a good student(finish)_____ his homework on time.
- (8) Helen had a very (disappoint)_____ look when her mother told her John couldn't come.
- (9) He has no choice but(go)_____ to see them.
- (10) (see)_____ from space, our earth appears as a "blue planet" with oceans.

3 There are 20 incomplete statements here. You are required to complete each statement by choosing the most appropriate answer from the 4 choices marked A,B,C and D.

(1) He was eager to make some extra money, since during these years he could hardly live on his_____.

- A. little wage B. few wage C. wage D. wages

- (2) Most of the houses in the village were burnt to _____ during the war.
A. an ash B. the ash C. ash D. ashes
- (3) The students at colleges or universities are making _____ for the coming New Year.
A. many preparations B. much preparation
C. preparations D. preparation
- (4) The police investigated those _____ about the accident.
A. stander-by B. standers-by C. stander-bys D. standers-bys
- (5) Physics _____ with matter and motion.
A. deal B. deals C. dealing D. are
- (6) She is such an irritating woman, I don't know how you can _____ her.
A. put up B. stand up to C. stand with D. put up with
- (7) It was purely _____ chance that the mistake was discovered.
A. in B. for C. by D. from
- (8) The magician picked several persons _____ from the audience and asked them to help him with the performance.
A. by accident B. on occasion C. on average D. at random
- (9) Some areas, _____ their severe weather conditions, are hardly populated.
A. but for B. in spite of C. due to D. with regard to
- (10) The construction of the new building will cost _____ 1,000,000 dollars, and it's not easy to get so much money.
A. at last B. at most C. at least D. at large
- (11) A new teacher was sent to the village in place of _____ one who had retired.
A. a B. the C. an D. its
- (12) Virtue and vice are before you; _____ leads you to happiness, _____ to misery.
A. the former, latter B. a former, a latter
C. the former, the latter D. former, latter
- (13) _____ of the buildings were ruined.
A. Three fourth B. Three four C. Three-fourths D. Three-four
- (14) There are several pretty girls standing under the tree, but _____ are known to me.
A. neither B. none C. no one D. all
- (15) The price was very reasonable; I would gladly have paid _____ he asked.
A. three times much as B. three times as many as
C. as three times much as D. three times as much as
- (16) _____ the child expresses his interest in an activity, the stronger it will become.
A. The more frequent B. The frequenter
C. The more frequently D. the frequentlier
- (17) The photographs of Mars taken by satellite are _____ taken from the earth.
A. clearest than those B. clearer than that
C. much clear than those D. much clearer than those



- (18) It is _____ that I would like to go to the beach.
 A. so nice weather B. such nice weather
 C. so nice a weather D. such a nice weather
- (19) She can speak _____ in front of Mack, but she can't eat _____ in his restaurant.
 A. free, free B. free, freely C. freely, free D. freely, freely
- (20) It was _____ late in the evening that the students returned to the dormitories.
 A. till B. before C. when D. not until



The following is a list of terms frequently used in physics. After reading it you are required to find the items equivalent to those given in Chinese in the table given below.

A — solid	B — volume
C — quantity	D — quality
E — weight	F — diversity
G — function	H — power
I — colorless	J — tasteless
K — physical characteristics	L — liquid
M — chemical characteristics	N — versatility
O — pressure	

Example (J) 无味的

- | | |
|--------------|----------|
| (1) () 多功能性 | () 重量 |
| (2) () 固体 | () 物理特征 |
| (3) () 多样性 | () 体积 |
| (4) () 液体 | () 无色的 |
| (5) () 化学特征 | () 质量 |



Translate the following sentences into Chinese.

- (1) It generates as powerful as 150kw of power, propels up to 80 litres of water a minute through a nozzle, which is usually thimble-shaped and varies in size from 0.076 to 0.635mm in diameter.
- (2) Computer-Aided Design (CAD) is concerned with the application of digital computers and computer-based techniques to the design of engineering systems.
- (3) The term CAD was used initially to describe the application of computers to any design calculation; it has now taken on a more specific meaning referring to interactive systems where the designer and the computer are working together in an intimate partnership.
- (4) Using CAD systems the engineer is able to explore new ideas and techniques, with design results being rapidly communicated back to him in a graphical or typewritten form.
- (5) As well as providing analysis and synthesis procedures, the use of CAD also enables the engineer to document his designs and generate checking facilities.

SUPPLEMENTARY READING

Keystone Forging Company

The Forging Process

Forging is a process of making parts by shaping metal under pressure to produce a finished shape. This is probably the simplest and traditionally the most ancient of the metal-working crafts. Basically the process is one of simple compression. Forging may be effected either between closed or open dies, depending on the complexity of the part to be produced, and is quite often carried out by means of simple pair of flat-faced dies. Each piece is heated to well over the critical temperature, then shaped until the final product reaches our customer's exact specifications. The finished product is much more reliable for strength and quality than a similar product produced by casting, stamping, or machining.

Forging offers these distinct advantages

- Inherent high strength and structural integrity
- Improved mechanical properties
- Minimal metal waste saves material
- No hidden flaws
- Affordable method of forming difficult materials
- Cost-efficient production of complex shapes
- Combination parts can be forged in one step

Our History and Performance

Keystone Forging Company was established in 1893 to meet the needs of Pennsylvania. The art of forging metal is a tradition at Keystone Forging, and all of our products are built with the expertise necessary to accommodate various industries. Each customer's specifications are carefully transformed into a cost-efficient reality. Every part we create is a representation of our overall dedication to craftsmanship. As a result of our performance over the years, we have established a strong reputation nationally for quality and service.

Production Capacities

The forging of large components between open dies is usually effected by very powerful hydraulic presses. Typical values of the force between the dies of large hydraulic presses are of the order 10,000 to 20,000 tons, whilst the cup of a large forging hammer can weigh up to 40,000 lbs, giving an impact blow of the order of 40,000 tons.

Our Forging Equipment

- Gravity Hammers 500 to 6,500 lbs



- 23 kinds of Die Forging
- Mechanical Press 500 to 1,300 tons
- Our Material Capacity
- Ferrous Carbon up to 40 lbs
- Alloy up to 40 lbs
- Stainless up to 20 lbs
- Copper base alloys up to 40 lbs

Products

Keystone Forging Company produces a variety of products for a broad range of industries. We can quote on quantities as small as one, or as large as hundreds of thousands. Our capabilities as a full-service quality job shop range from initial engineering service to delivery of the finished forged and machined product. Our years' experience in the metal forging field has enabled our company to offer the support that customers demand to meet their manufacturing requirements.

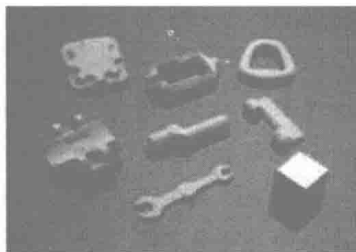
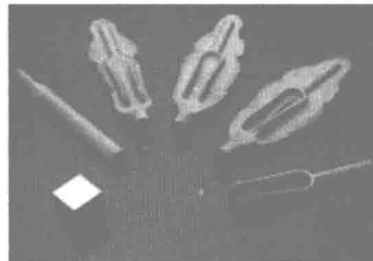
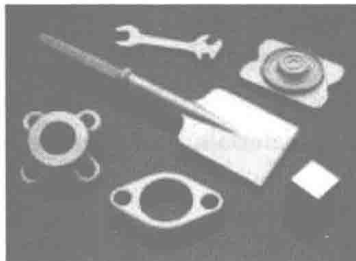


Figure1-2 products made by Keystone Forging Company

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