



21 世纪高职航海系列教材

轮机基础英语(1)

■主编 / 唐友东 主审 / 施祝斌



哈尔滨工程大学出版社
Harbin Engineering University Press



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内 容 简 介

本套教材根据 STCW78/95 公约和我国相关法律法规对轮机员的英语要求,经过多年的积累,开发而成。作为高职高专类航海院校轮机专业英语基础教材,本套教材编制内容系统、全面,难易适中,是开设轮机专业英语前理想的过渡教材。本套书独特的开发优势不仅给学生提供知识和学习的方法,丰富的内容也给教师的教学提供了很多便利的条件。本书为精读部分。

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前言

本套教材根据 STCW78/95 公约和我国相关法律法规对轮机员的英语要求,经过多年的积累,开发而成。作为高职高专类航海院校轮机专业英语基础教材,本套教材编制内容系统、全面,难易适中,是开设轮机专业英语前理想的过渡教材。本套书独特的开发优势不仅给学生提供知识和学习的方法,丰富的内容也给教师的教学提供了很多便利的条件。本书为精读部分。本套书有以下几个特点:

1. 语言地道自然。本书选材于英美文章,语言简练、精确、体裁富有变化。同时,部分课文有人物和情节,又有一定的趣味性。

2. 内容新颖全面。本书系统介绍了船舶机舱环境和主辅机工作情况,基本上涵盖了与轮机专业相关的所有知识,精读部分的阅读理解以及泛读部分能大大扩大学生的专业视野。

3. 难易梯度适合。本书总体符合高职高专低年级学生使用。选入的文章经过修改,删去了艰涩的语言,具有很强的可读性;同时,每课之间难易梯度适合,符合循序渐进、逐步提高的编写原则。

4. 章节衔接自然。本书前后课之间有很强的逻辑性。后一课比前一课不仅难度有所增加,而且注意内容上的关联,这样课与课之间就形成了一个有机的整体。

5. 基础提高并重。本书每一课后都配有适量的本专业常用动词,针对性的语法知识和适量的练习题,便于学生的复习提高。

6. 图文并茂,形象生动。考虑到学生的学习习惯和年龄特点,本书附有大量插图。

7. 教书育人,提升学生的人文素质。每课正文前有精选的格言,部分课文以故事的形式出现,这些安排,不仅能激发学生的学习兴趣,也能启迪智慧,陶冶情操。

本书还可以用于各级各类船舶轮机员英语入门培训,也可为喜欢航海的人员自学提供帮助。另外,根据不同学校的教学实际,授课时,内容可作适当删减。

本书在编写的过程中,受到很多专家和领导同事的帮助和指点,在此一并表示最衷心的感谢。本书虽经多年积累,但成书时间较短,谬误之处难免,恳请各位专家老师能不吝指教。

编者

■ ■ ■ ■ Contents

UNIT ONE	1
UNIT TWO	16
UNIT THREE	33
UNIT FOUR	48
UNIT FIVE	62
UNIT SIX	76
UNIT SEVEN	94
UNIT EIGHT	109
UNIT NINE	124
UNIT TEN	138

I'm not afraid of storms , for I'm learning how to sail my ship .

Louisa May Alcott

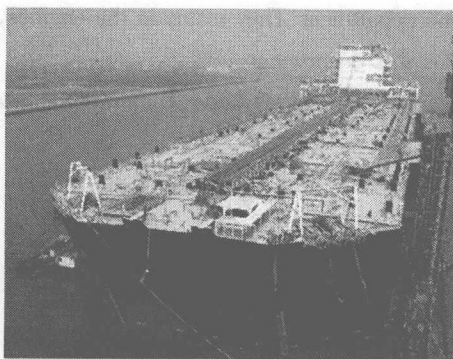
UNIT ONE

MAIN PARTS AND DEPARTMENTS OF A SHIP

In general, a vessel is made up of two parts, the hull and the superstructure. The main body of a ship is the hull. The hull contains the engine room, cargo space and a number of tanks.

The deck extending from bow to stern is called the main deck. The superstructure is above the main deck, the superstructure includes the forecastle, bridge and poop. The fore part of a ship is called the bow, and the after part is called the stern. The middle part of a ship is amidships.

When standing on board a ship and facing the bow, the left-hand side is called the port side, and the right-hand side is called the starboard side.



1. The hull is divided into a number of watertight compartments by decks and bulkheads. Bulkheads are upright steel walls going across the ship.

2. An ordinary cargo ship usually has five holds. They are numbered from forward to aft. Forward of No. 1 hold is the forecastle and the poop is aft of No. 5 hold.

3. The decks below the main deck are known as tween deck. Some ships have more than one tween

deck, such decks are called upper and lower tween decks.

4. At the fore and after ends of the hull are the fore and after peak tanks. They are used for fresh water and ballast water.

5. The space between the holds and the bottom of the hull contains double bottom tanks. These are used for ballast water and fuel.

6. The port side aft part of a vessel is called the port quarter, and the aft part on starboard side is called the starboard quarter.

7. A short raised deck above the main deck at the bow is the forecastle deck. There is a jack staff right forward. The poop deck is at the stern and right aft is the ensign staff.

8. The forward part of the vessel on the port side is called the port bow and on the starboard side the starboard bow.

9. The height from water level to the top of weather deck is called freeboard.

10. The depth from waterline to vessel's bottom is called draft.

There are three departments on a ship. They are the deck department, the engine department and the service department.

Officers, bosuns, carpenters, sailors and radio operators are the members of the deck department. They work on the bridge or on the deck. They steer the ship, take care of the cargo and contact with others. The chief officer is in charge of the deck department.

Engineers, electricians and motormen work in the engine department. They maintain the engines, the auxiliary, the motors and the pumps. The chief engineer heads this department.

The purser is the head of the service department. He leads cooks and stewards. They prepare meals, do cleaning work and provide other service for the crew on board.

The captain often works with the deck department, but he is in overall command of the ship.

NEW WORDS AND EXPRESSIONS

vessel ['vesl]

n. 船, 容器, 器皿

hull ['hʌl]

n. 船体, 船身, 外壳

superstructure ['sju:pəstrʌktʃə]

n. 上层建筑

deck ['dek]

n. 甲板, 舱面

bow [bau]

n. 船首: 船或小艇的前面部分

stern [stɜ:n]

n. 船尾: 轮船或小船的后部

forecastle ['fəʊksl]	<i>n.</i> 艏楼
bridge [brɪdʒ]	<i>n.</i> 驾驶台, 舰桥, 船桥
poop [pu:p]	<i>n.</i> 艉楼
port [pɔ:t]	<i>n.</i> 左舷
starboard [stɑ:bɔ:d]	<i>n.</i> 右舷
watertight ['wɔ:tətait]	<i>adj.</i> 不漏水的, 水密的
compartment [kəm'pɑ:tmənt]	<i>n.</i> 舱, 隔间
upright ['ʌp'reɪt]	<i>adj.</i> 垂直的, 竖式的
hold [həʊld]	<i>n.</i> 货舱, 底舱: 船里舱下半部用来载货的地方
forward ['fɔ:wəd]	<i>n.</i> 在、向着前方 (the forward part of a ship 船的前部)
aft [a:ft]	<i>adj.</i> 在、朝、向着船只的尾部
tween [twɪn]	<i>prep.</i> (= between) 在两者之间, 在……中间
tween deck	中层甲板
peak [pi:k]	<i>n.</i> 尖舱: 在船首或船尾船舱的较窄的一部分; <i>adj.</i> 最高的
ballast ['bæləst]	<i>n.</i> 压舱物
fuel [fjuəl]	<i>n.</i> 燃料
jack [dʒæk]	<i>n.</i> 船首小旗, 水手
freeboard ['fri:bɔ:d]	<i>n.</i> 干舷
waterline ['wɔ:təlain]	<i>n.</i> (船的) 吃水线, 水线
draft [dræft]	<i>n.</i> 吃水深度
department [di'pɑ:tmənt]	<i>n.</i> 部门
bosun ['bəʊsn]	<i>n.</i> 水手长
carpenter ['kɑ:pɪntə]	<i>n.</i> 木匠
steer [stiə]	<i>v.</i> 驾驶, 掌舵
engineer [,endʒɪ'niə]	<i>n.</i> 轮机员, 工程师, 机械师
electrician [ɪlek'trɪj(ə)n]	<i>n.</i> 电工, 电学家
motorman ['məʊtəmæn]	<i>n.</i> 电动机操作者, 机匠
maintain [men'teɪn]	<i>v.</i> 保养; 维修
auxiliary [ɔ:g'zɪljəri]	<i>adj.</i> 辅助的, 补助的
motor ['məʊtə]	<i>n.</i> 发动机, 电动机, 马达
purser ['pɜ:sə]	<i>n.</i> 事务长
steward ['stjuəd]	<i>n.</i> 乘务员, 轮船上的服务员
crew [kru:]	<i>n.</i> 全体船员: 在船上操作或服务的全体工作人员

Notes

1. In general, a vessel is made up of two parts, the hull and the superstructure.

一般来说,一艘船由两部分组成:船体和上层建筑。

hull:船体,船壳(船的框架或主体,不包括桅杆、发动机和上层建筑) superstructure:上层建筑,甲板上部结构(位于主甲板之上的舰船结构部分)

2. The superstructure includes the forecastle, bridge and poop.

上层建筑包括艏楼,驾驶台和艉楼。

forecastle: 艏楼

bridge: 驾驶台(船的驾驶舱上横跨的平台或封闭部)

poop: 船尾,艉楼(位于船尾部的上层结构)

3. Forward of No.1 hold is the forecastle and the poop is aft of No.5 hold.

No.1 hold in the forward is called the forecastle and No.5 hold at the aft is called the poop.

1号舱前部为艏楼,5号舱后部为艉楼。

hold: 货舱,底舱(船里舱下半部用来载货的地方)

4. There is a jack staff right forward. The poop deck is at the stern and right aft is the ensign staff.

正前方有船首旗杆。艉楼甲板在艉部,正后方为船尾旗杆。

jack staff: 船首旗杆

ensign staff: 船尾旗杆

5. The height from water level to the top of weather deck is called freeboard.

从水面至露天甲板的高度称为干舷。

freeboard: 干舷(吃水线以上的船身)

6. The depth from waterline to vessel's bottom is called draft.

水线至船舶底部的深度称为吃水。

draft: 吃水深度(船的龙骨在吃水线下的深度,尤指载重时的吃水深度)

Exercise A

I. Read over the passage and then answer the following questions.

1. What does the hull consist of?
2. Which part of a ship is called the port side?
3. What is the duty of the engineers, electricians and motormen who work in the engine department?
4. What is the function of the fore and after peak tanks?
5. Where are the double bottom tanks located and what are they used for?

II. Group discussion

1. In general, please describe the overall structure of a ship.
2. Who are the members of the deck department and what do they do?

III. Active words

1. adjust [*ə'dʒʌst*] *vt.* 调整, 校准
 - He soon adjusted to the life on board.
他很快适应了船上的生活。
 - adjust the timing of a car's engine.
调整汽车引擎的定时
 - Adjust the safety valve to open at 700 N/cm².
把安全阀调整至每平方厘米 700 牛顿起跳。
2. align [*ə'lain*] *vt.* 找正, 对中
 - Align up the cylinder after refitting the liner.
缸套重新装附后, 找中气缸。
 - Make the alignment of the crankshaft.
曲轴对中。
 - Align the tops of a row of pictures
使一排画的顶端形成一条直线
3. anneal [*ə'ni:l*] *vt.* 退火
 - The cooling pipe has to be annealed after welding.

冷却水管焊接后必须退火。

- Please keep the kiln at the annealing temperature of 940 degrees.

请把炉膛保持在 940 度的退火温度。

4. assemble [ə'semb(ə)l] *vt.* 装配, 组装集合; 聚集

- All the people assembled at Mary's house.

所有的人都聚集在玛丽的屋子里

- The spare exhaust valve should be assembled and kept in a safe place.

备用排气阀应装配好并保存在安全的地方。

5. block [blɒk] *vt.* 阻塞

- block traffic.

妨碍交通

- My nose is all blocked up and I can hardly breathe.

我鼻子塞了, 气都透不过来。

- The oil hole of the main bearings is found partly blocked.

主轴承孔发现部分阻塞。

IV. Vocabulary Check by translating sentences with the words given:

1. He is unable to _____. (适应新的环境).
2. It is not easy to _____ (把这些零件 < parts > 摆成一条线).
3. _____, metal or glass become tough. (退火后)
4. The machine _____ prior to 6th of June. (必须组装好)
5. Navigational traffic _____ for two hours. (已经阻塞)

V. Helpful Grammar

基本句子结构

归纳起来, 英语有以下几种基本的句子结构, 即:

- (1) 主语 + 谓语
- (2) 主语 + 联系动词 + 表语
- (3) 主语 + 谓语 + 宾语
- (4) 主语 + 谓语 + 间接宾语 + 直接宾语
- (5) 主语 + 谓语 + 宾语 + 宾语补足语

从上面五种句子结构可以看出, 完整的英语句子都有自己的谓语。谓语包括由实义动词构成的简单谓语和系动词 + 表语、助动词 + 其他相应时态或语态形式的动词以及情态动词 +

原形动词构成的复合谓语。换句话说,英语的句子不能缺少作谓语的动词。动词有时态、语态和语气等形式上的变化。

(一)主语 + 谓语

在这种句型结构中,用作谓语的动词主要有两种类型,一类是不及物动词,另一类是及物动词的被动态。

1. The engine doesn't start on air.

无法用空气启动发动机。

2. The surveyors ended the test at midnight.

验船师在午夜结束了试验

3. The cylinder liner should be polished to mirror appearance.

气缸套(表面)应该抛光到镜面那样。

4. The crankshaft deflections are taken by the 2nd engineer before and after repair.

在修理前后,拐档差由大管轮测取。

【注】 有的动词在英语中既可以作及物动词,也可以作不及物动词,如上例中的 end,如果用作不及物动词,我们也可以说: The test ended at midnight. 试验在午夜结束了。

(二)主语 + 联系动词 + 表语

在科技英语中,联系动词除了最常用的 be 动词外,还有 appear, feel, look, remain, seem, keep, become, get, grow, turn, prove 等。这些词本身有词意,但是不完整,在句子中不能作谓语,必须和后接的形容词、名词、代词等词一起构成复合谓语。

1. This superpower engine is a single-acting, low-speed, two-stroke diesel engine. 这台大功率发动机是一台单作用、低速、二冲程船舶柴油机。

2. The clearance at this side seems too big.

这一边的间隙似乎太大。

3. Apart from accurate recording, the engine log book must be kept clean and tidy.

轮机日志除记录正确外,还必须保持整洁。

4. The spare parts still remain unchecked.

备件仍然未被检查。

【注】 be 动词一般可以表达层含义,第一,表示判断,意思是“是”;第二,表存在的状态,一般不作翻译。例如:

1. This is my business card.

这是我的名片。

2. The generator is in trouble.

发电机有故障。

(三)主语 + 谓语 + 宾语

在这种句子结构中,谓语动词为及物动词,如果宾语为人称代词,形态要发生变化,如: they 要变成 them。

1. Engines produce power.

发动机产生动力。

2. Motors drive machines.

电动机驱动机器。

3. We still have some fuel oil left in the tank.

油箱里有剩油。

4. We've completed surveying the marine engine and auxiliaries.

我们已经检测完船舶发动机和辅机。

(四)主语 + 谓语 + 间接宾语 + 直接宾语

在这种句型中,谓语动词必须能够带双宾语。此类动词常见的有: give, show, allow, offer, pass, save, cost, order, find, get, spare 等。

1. He showed me how to check the fuel strainer.

他演示给我看如何检查燃油滤器。

2. Computers save us time.

计算机节省我们时间。

3. Would you please give us a brief description of the engine room?

请你给我们简单介绍一下机舱的情况好吗?

4. The bearing cost us more than we expected.

这个轴承比我们期待的花费要多。

(五)主语 + 谓语 + 宾语 + 宾语补足语

这个句子结构在形式上与上一个结构相类似。宾语补足语可由名词、形容词、介词短语或一定结构形式的动词(如 to + 动词原形)担任,用来说明宾语是什么,什么样或干什么。动词通常是一些表示使役、称谓、知觉等意义的词,如: make, get, set, keep, ask, tell, find, name, consider, regard, feel, see, hear 等。

1. This makes the metal hard.

这就使得金属变硬了。

2. That will help the engineer easily locate the trouble and remedy it.

那将有助于轮机员很容易发现并排除故障。

3. We found the installations up to standard.

我们发现这些装置符合标准。

4. What makes some liquids conductors of electric currents?

是什么使得某些液体成为电流可以通过的导体。

5. I would have him wait for me on board.

我让他在船上等我。

【注】

A. “宾语 + 宾语补足语”与“间接宾语 + 直接宾语”的区别在于:

1. 及物动词宾语后的名词与宾语所表示的若是同一事物时, 该名词为宾语补足语; 否则则为直接宾语。例如:

(1) Electricity gives us light.

电供给我们光。(us 和 light 不是同一事物, light 为直接宾语)

(2) We call the small particles atoms.

我们把这些微小的粒子叫做原子。(particles 和 atoms 为同一类事物, atoms 为宾语补足语)

2. 宾语的不定式带有 what 等疑问词时, 该不定式为直接宾语。否则, 为宾语补足语(或状语、定语)。例如:

(1) The engineer officer told the engineer cadet how to operate the machine.

轮机员告诉实习生如何去操作那台机器。

(2) The Chief Engineer asked me to repair it on my own.

轮机长让我自己去修理。

B. 由 make, let 等使役动词和 see, feel 等五官感觉动词后接的宾语补足语如果是动词不定式, 则“to”必须省略。不过, get 用作使役动词时, 后面一般加 to; help 后面的不定式可以加 to, 也可以不加。

Correct the following sentences.

1. He is not know the name of the machine.

2. The engine room very large, I really like it.

3. The stud takes me \$ 20.

4. We had the machine repair.

5. I watched him to leave the cabin.

6. You can't regard the ship chandler for a friend but a business associate.

7. He makes me believed him.

8. The motor is in trouble is in the workshop.

9. He finally got the fresh water generator work.

10. The careless motorman kept the machine run for hours.

11. He came and helped me be out of the trouble.

12. The captain spared me for ten minutes.

Exercise B

I . Translate the following sentences into English.

1. 当船撞上冰山时船长用无线电发出了求救信号。
2. 在这次事故中,位于火车后部的车厢严重受损。
3. 当泰坦尼克号(Titanic)快要沉没时船上还有很多人。
4. 这辆新车很好驾驶。
5. 在抗美援朝战争(Korean War)期间,彭德怀元帅是解放军总指挥。

II . Translate the following sentences into Chinese.

1. When standing on board a ship and facing the bow, the left-hand side is called the port side, and the right-hand side is called the starboard side.
2. The hull is divided into a number of watertight compartments by decks and bulkheads. Bulkheads are upright steel walls going across the ship.
3. At the fore and after ends of the hull are the fore and after peak tanks. They are used for fresh water and ballast water.
4. The port side aft part of a vessel is called the port quarter, and the aft part on starboard side is called the starboard quarter.
5. The forward part of the vessel on the port side is called the port bow and on the starboard side the starboard bow.

III . Multiple Choices:

1. One of the three _____ on a ship is in the charge of the chief officer.
A. departure B. departs C. departments D. department
2. The induction cooker isn't working because of a (an) _____ fault.
A. electricity B. electronic C. electrical D. electronics
3. Milk, which _____ a lot of nutrition is good for people's health.
A. contains B. includes C. contained D. included
4. Professor Li is expected to _____ our department next year.
A. heading B. head C. holding D. hold

5. You can kick the _____ side of the ball to make it bend to the left.
A. up B. down C. right-hand D. left-hand
6. Society _____ people of different personalities.
A. being made up of B. is made up of C. makes up of D. is making up of
7. A (An) _____ card is a card allowing a! person to board a plane.
A. post B. business C. compass D. boarding
8. He feels like _____ a yacht at sea.
A. to steer B. steer C. steering D. to steering
9. The second-hand machine which _____ by that engineer runs well now.
A. is maintained B. maintained C. is welded D. welded
10. A watertight compartment prevents water _____ getting in and out.
A. into B. to C. from D. by

READING MATERIAL

MODERN SHIPBUILDING

Modern ships, since roughly 1940, have been produced almost exclusively of welded steel. Early welded steel ships used steels with inadequate fracture toughness, which resulted in some ships suffering catastrophic brittle fracture structural cracks. Since roughly 1950, specialized steels such as ABS Steels with good properties for ship construction have been used.

Modern shipbuilding makes considerable use of prefabricated sections; entire multi-deck segments of the hull or superstructure will be built elsewhere in the yard, transported to the building dock or slipway, then lifted into place. This is known as Block Construction. The most modern shipyards pre-install equipment, pipes, electrical cables, and any other components within the blocks, to minimize the effort needed to assemble or install components deep within the hull once it is welded together.

Shipbuilding (which encompasses the shipyards, the marine equipment manufacturers and a large number of service and knowledge providers) is an important and strategic industry in a number of countries around the world. This importance stems from:

The large number of trade persons required directly by the shipyard and also by the supporting industries such as steel mills, engine manufacturers, etc.

A nation's need to manufacture and repair its own Navy and vessels that support its primary industries.