

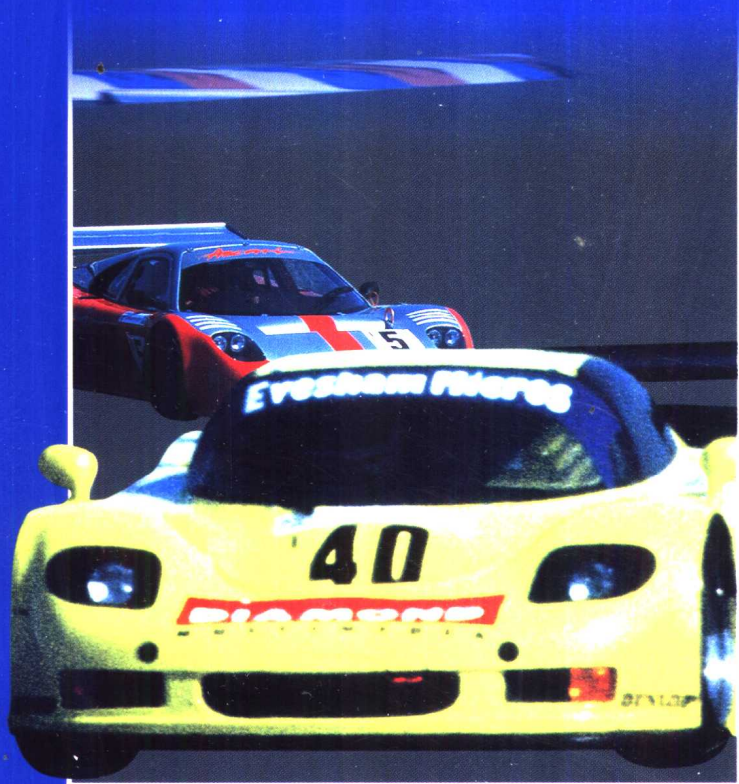
外研社·DK 英汉对照百科读物

ELEMENTARY B 初级 B

运动着的机器

MOVING MACHINES

Susan Woolard (英) 著



外语教学与研究出版社



英国 DORLING KINDERSLEY 公司

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姜晓云 葛萌 译

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致读者

欢迎阅读外研社·DK 英汉对照百科读物！这是第一套专门为非英语国家学习者编写的非小说类读物。这些缤纷多彩的读物揭示了我们周围世界的各个侧面：历史、地理、科技、体育……还有许许多多其他的事情。它们还为我们展示了现在和过去人们各种各样的生活方式。

外研社·DK 英汉对照百科读物为您提供了从中获取知识及享受阅读之乐的材料，使您体会到学习英语的真正意义所在。书中插图会帮助您理解与书的主题相关的特殊词汇：奥林匹克运动、时光之旅、特洛伊战争等等。选择您感兴趣的主题，在提高英语水平的同时学到知识，实在是一举两得的事情。

本套丛书按语言难度分为 5 个级别：入门级、初级 A、初级 B、中级、中高级，词汇量分别为 300 词、600 词、800 词、1300 词和 2000 词，非常适合中学生、大学生和剑桥考试参加者使用。

丛书的编排也颇具特色，书中图文穿插，彩色印刷，逼真的视觉效果将使您拥有更加美妙的阅读感受。

希望本丛书能令您读得开心！

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On land

In 1993, the Endeavor became the fastest truck in the world. It travelled at an amazing 363 kph, and broke the world land speed record.

在陆上

1993年, Endeavor号成了世界上最快的汽车。它能让以惊人的每小时363公里的速度行驶,打破了世界陆地上的速度纪录。



An Extreme Machine

Most of the cars, boats, and planes we travel in today are very safe and work well. We see them every day in our towns and cities, and they don't surprise us. They are a normal part of everyday life. But there are many other machines that can surprise us! These strange-looking machines are not for people to travel in. They are made to do something amazing – for example they go very fast or they fly really high.

极限机器

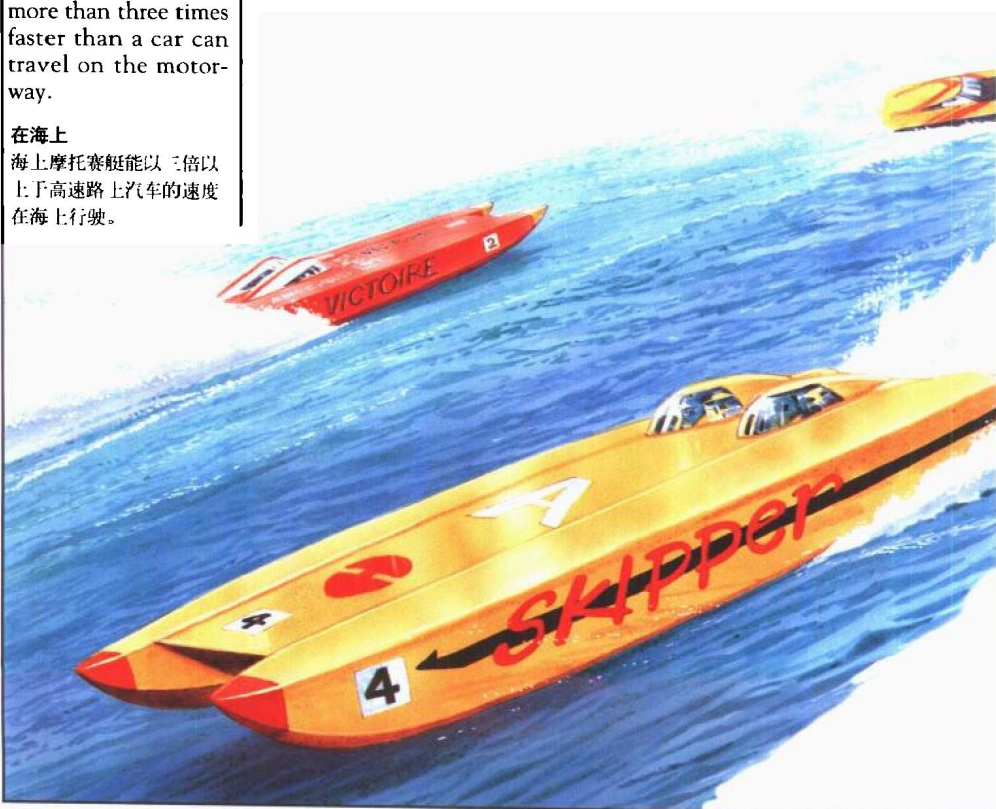
我们今天所乘坐的大部分汽车、轮船和飞机都很安全,性能也很好。在城镇中我们每天都能看到它们,它们并不会使我们感到惊讶。这些机器是我们日常生活中的一部分。但有许多其它的机器会让我们吃惊。这些样子怪怪的机器并不是让人们用来乘坐旅行的,而是让人用来做一些了不起的事情,比如使它们跑得非常快或飞得异常地高。

On the sea

Offshore powerboats can travel on the sea more than three times faster than a car can travel on the motorway.

在海上

海上摩托艇能以三倍以上于高速路上汽车的速度在海上行驶。





These are extreme machines – this means they are the fastest/biggest/highest machines of their kind in the world. Extreme machines are amazing; most people are interested in seeing them, and would like to get close to them. Some people would like to do even better – they'd like to ride in them!

In this book you will learn more about some of the strangest machines in the world – what they look like and what they can do. You will also learn a little about how they work. We will look at the people who put their own lives in danger to ride the extreme machines.

这些都被称做极限机器——也就是说它们是世界上同种机器中最快的、最大的或者飞得最高的机器。极限机器是很奇特的、许多人很想看到并接近这些机器。还有些人想的更多——他们还想乘坐这些机器！

在本书中，你将会了解到更多关于世界上最为奇特的机器的一些知识：如它们的外观以及它们所能做的事情。同时你也会知道一点它们是如何运行的知识。我们还将看到有些人是如何冒着生命危险乘坐这些极限机器的。

In the air

The space shuttle is built to make many trips into space, and it is big enough to carry a lot of things inside. In fact, it could even carry a small whale!

在空中

航天飞机是为了进行太空旅行而制造的，它的内部大得能装下许多东西。事实上，它甚至能装下一头小鲸鱼。

Ray power

Solar cars use the power of the sun's rays, not petrol or diesel. This car, called the *Mad Dog*, can achieve speeds of more than 70 kph (but not on cloudy days!).

光能

太阳能汽车用的是太阳能的能量，而非汽油或者柴油。这辆车称做“疯狗”的汽车能达到每小时70公里以上的速度（阴天可不行）。



Drag Car Racing

Two drivers were sitting in their drag cars, waiting for the next 400-metre race. They watched as someone put water over all the tyres (or slicks) at the back of the cars. This made the fat slicks smoother and easier to slip. Each driver put one foot down hard on the front brakes and with the other foot he pressed the accelerator.

The noise from the car engines was very loud, and everyone in the crowd shouted and cheered. The cars were not moving forwards, but the slicks started turning round and round. Everyone could see smoke – it was rising up behind the slicks.

No treads

Slick tyres are tyres with no treads (the deep lines in the tyre). Treads in car tyres let rainwater out, so the car doesn't skid or slip.

没有胎纹的轮胎

光滑轮胎没有胎纹（轮胎上陷下去的纹路）。轮胎上的胎纹是为了释放雨水的，以防车轮打滑。

高速短程赛车比赛

两位赛车手坐在他们的高速赛车里，等待着下一场的400米比赛。他们看着一个人把车后部的所有轮胎（也叫光滑轮胎）都洒上了水。这样，这些宽大的轮胎就更加光滑，从而容易滑行。每位驾驶员都一脚踩着前刹车，另一只脚踩着加速器。

汽车引擎发出轰鸣般的响声，观众里的所有人都大喊着，欢呼着。车还没有往前开，但光滑的后轮胎已经开始不停地转起来了。每个人都能看到从轮胎的后部冒出的烟。



After a few seconds, the slicks on the cars got hotter and hotter, and they became softer. Now they were not so dangerous, and they could hold on to the ground very well when they were travelling. The wheels wouldn't slip – even when the drivers suddenly started to move very fast.

Each driver now put his car into first gear. The engine was very loud, and he had to hold tightly on to the handbrake to stop the car moving. Then the drivers could feel their cars pulling forwards, and it was difficult to hold on to the brakes. Waiting like this was the worst part of the race, and made everyone feel excited and nervous.

In front of the drivers were a lot of lights, one on top of the other – they looked like a Christmas tree. All eyes were on the “tree”. The drivers were looking hard at the lights, ready to move as soon as they changed colour.

几秒钟之后，赛车的后轮胎变得越来越热，而且也更软了。这样它们在行驶的时候就会紧贴地面，也就不那么危险了。即使在驾驶员突然快速启动时，轮子也不会打滑。

每位赛车手都把车挂到了一挡。引擎的噪声很大，赛车手死死抓住手刹以防赛车移动。然后驾驶员就会感觉到他们的赛车向前冲出，而且很难控制住刹车。如此等待是赛车过程中最扣人心弦的部分，它使每个人都非常地兴奋和紧张。

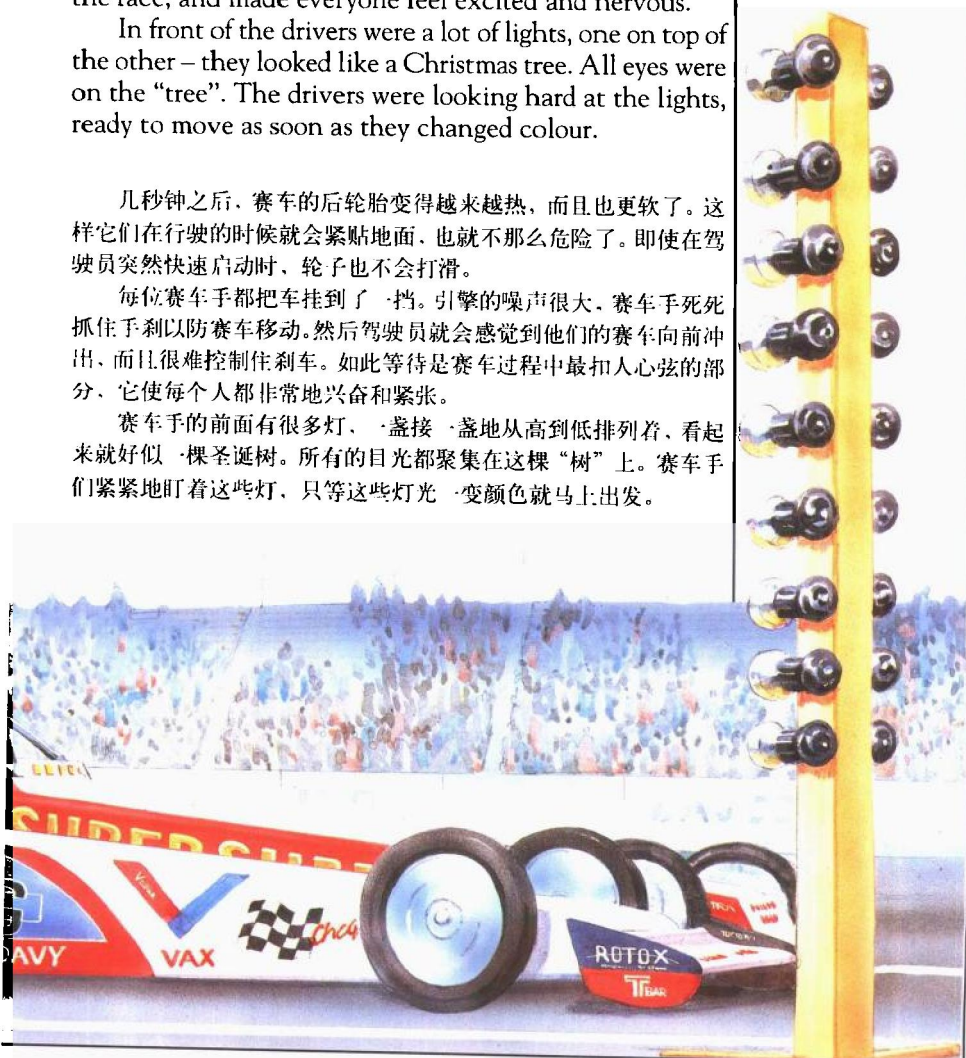
赛车手的前面有很多灯，一盏接一盏地从高到低排列着，看起来就好像一棵圣诞树。所有的目光都聚集在这棵“树”上。赛车手们紧紧地盯着这些灯，只等这些灯光一变颜色就马上出发。

Best ever

The fastest recorded drag car took only 5.63 seconds to travel over 400 metres. That is six times faster than a racehorse.

最好成绩

高速赛车最快的成绩是仅用5.63秒就驶过了400米。这要比一匹赛马快六倍。





Slow car?

A Ferrari can get from 0 to 100 kph in about five seconds. Drag racers do this in two seconds!

哪一辆车慢?

一辆法拉利能在约五秒钟内把速度从0提至100公里/小时。高速赛车的车手们可以在两秒钟内完成这个过程。

First one of the lights came on, and then another. Then a green light came on, and the two cars jumped forwards very fast.

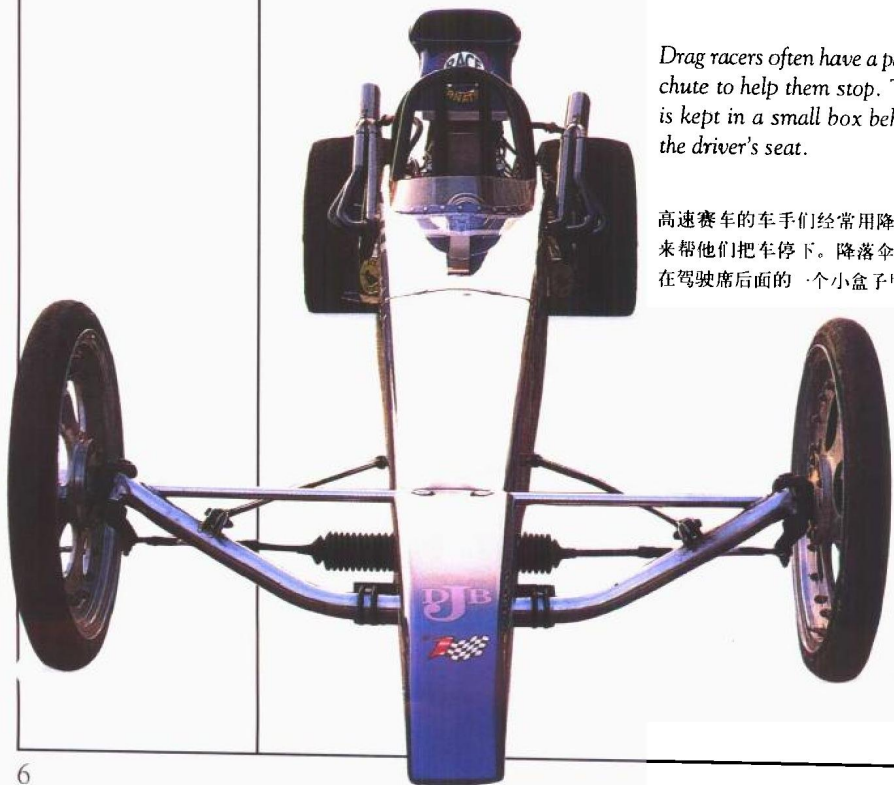
This kind of racing is very different from races like Le Mans or Formula One. There are only two cars, but you have to watch very carefully at a drag car race – if you close your eyes for a moment you could miss the race! Less than eight seconds later, the cars went across the finish line – this was 400 metres down the track. In this time, the cars got up to 240 kph – that is twice as fast as a car on a motorway.

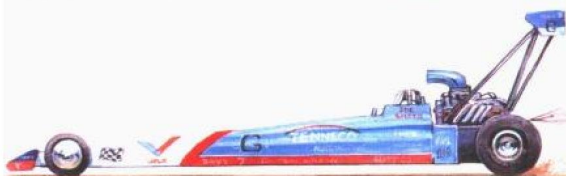
第一盏灯亮了,接着另一盏也亮了。当一盏绿灯亮起的时候,两辆赛车都疾速向前窜了出去。

这种车赛与勒芒车赛或一级方程式车赛有着很大的不同。虽然只有两辆车参加比赛,但你却不得不非常仔细地观看高速赛车比赛——如果你一不留神,你就会错过这场比赛。因为不到八秒钟之后,赛车就穿过了赛道全长400米的终点线。此时,赛车的速度高达240公里/小时,是高速路上汽车速度的两倍。

Drag racers often have a parachute to help them stop. This is kept in a small box behind the driver's seat.

高速赛车的车手们经常用降落伞来帮他们把车停下。降落伞存放在驾驶席后面的一个小盒子里。





Because the drag cars were travelling so fast, it was very difficult to stop. So the drivers used parachutes to help them to slow down. The parachutes were like strong brakes, pushing against the air and pulling the car back.

The two cars finished very close together this time, and it was hard for the excited people in the crowd to see which car won. Luckily, the organisers could use an electronic timer to check the times and decide the winner. This time, the winner was the driver of the car on the left, but he was only seven-hundredths of a second faster than the other car!

After the race was finished, the loser drove off the track and the winner drove back along a special road to start his next race. Both drivers got a small piece of paper that told them their time for the race, and their speed at the end.

The winning driver had a very good day. He had seven races in two hours, and he won all of them. But the amazing thing is that because each race is very short, in all that time he was racing for less than a minute!

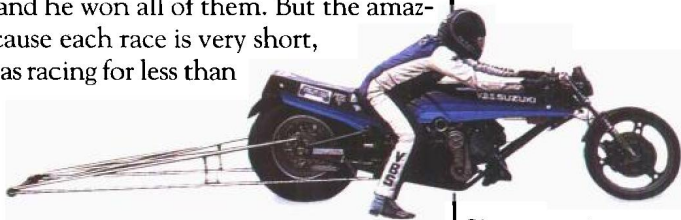
由于高速赛车的速度很快，很难把它停下来。因此车手们

使用降落伞来帮他们把车速减下来。降落伞就像强有力的刹车装置，阻曳着空气，从而把车向后拖。

这一次两辆车几乎同时到达终点，很难让兴奋的观众看出是哪一辆车赢得了比赛。幸好比赛组织者有一种电子计时器可以测出时间并判断出谁是胜利者。这一次胜出的是开左边那辆车的赛车手，但他也仅仅比另一辆车快了0.07秒！

比赛结束之后，输了的车手就把车驶离赛道，赢了的车手则要把车沿着一条专用路开回去以继续下一场比赛。两位选手都会得到一张告知他们比赛所用时间及到达终点时的速度的小纸条儿。

那位获胜的赛车手一整天都很高兴。他在两小时内参加了七场比赛，这七场比赛他都赢了。不过有意思的是因为每场比赛都很短，所以他全部比赛的用时加起来还不到一分钟。



Not so fast

A drag bike is slower than a drag car. This is because it can easily go up on its back wheel if it goes too fast. This would make the bike travel even more slowly.

别太快啦

一辆高速摩托车要比高速赛车慢。这是因为如果开得太快的话，它的前轮就容易翘起，从而只能靠后轮行驶。这就会使它跑的更慢。

Slower again

Drag trucks are slower than drag cars and drag bikes, because they are bigger and heavier. It takes them twice as long as drag cars to travel the 400 metres of the special race track.

还要慢

高速卡车则要比高速摩托车和高速赛车还要慢，因为它们更大更重。在专用赛道上行驶400米，它花的时间是高速赛车的两倍。

Round and round

At Le Mans, cars go round a circuit (a race-track that starts and finishes in the same place, like a circle) that is about twelve kilometres long. They go round this circuit about 350 times in the race.

一圈又一圈

在勒芒市，赛车都要沿着一条大约12公里长的环形赛道（一种像一个圈一样的，起点和终点在同一位置的赛道）进行比赛。在比赛中它们要沿着这条赛道行驶大概350圈。

Running start

In the past, drivers started the Le Mans race outside their cars — they ran across the track and jumped into them. But this was dangerous and it doesn't happen now.

比赛的开始

过去，车手们都是从车外开始勒芒赛车比赛的，就是说一开始他们要跑步穿过赛道，再跳进赛车。但这样很危险，现在已经不采用这种方式了。

Le Mans

One of the most famous and difficult car races in the world is at a track near Le Mans (a town in France). Every year, in May and June, the town of Le Mans is very busy and full of people. All the big racing cars are there, with their drivers and special teams of workers. And because this race is very famous, thousands of people come to watch.

The cars have come there to be in a long, hard 24-hour race around the circuit near the town. It is very fast, it is very tiring, and, of course, for many people it is very exciting. The winners will have their photographs in newspapers around the world.

勒芒车赛

世界上最为著名和最为艰苦的车赛之一就是在勒芒（法国一城市名）附近的一条赛道上进行的一种车赛。每年的五、六月份，勒芒市就显得非常地繁忙，而且到处都是人。所有的大型赛车连同车手以及专业的工作人员队伍都来到了这里。因为这个比赛非常出名，所以成千上万的人都前来观看。

所有参赛的赛车都要在城边的环形赛道上进行一场漫长而又艰苦的24小时的比赛。比赛很快，也很累人，当然对于许多人来说，比赛又是非常激动人心的。胜出的车手们的照片不久就会出现在世界各地的报纸上。



On the day of the race, there are between seventy and eighty cars at the starting line. It is an amazing thing to see! Then the race starts, and the cars travel round and round the circuit all day – and it takes only a few minutes to do one circuit.

The circuit at Le Mans is only twelve kilometres long. This does not seem like a long way, but when they get to the end of the race, cars have travelled nearly 4,888 kilometres. This is the same as travelling across the USA, then coming more than a third of the way back!

It is very difficult for one driver to do this race alone, so each car has a team of three drivers. The drivers in the team change places after fifteen circuits. This means that each person drives for about one hour and then stops for a rest.

It is very important for the drivers to stay awake, because if they get tired in a race like this, it is very easy to crash. When a car crashes, the organisers have to get it off the track as soon as possible before more cars crash into it. Usually, if a car breaks down on the road, someone will pull it away – this is called a tow. All cars at Le Mans must have a special towing eye at the front and back, and this makes it easier to tow the car off the track quickly. You can see the towing eye at the front of car number five in the picture here.

在比赛的那一天,有70到80辆赛车停在起跑线上。观看比赛真是太有意思了!比赛开始后,这些赛车就一整天都绕着环形赛道一圈又一圈地行驶,然而转一圈也就只用几分钟的时间。

勒芒的环形赛道全长只有12公里。这看上去好像并不长,但当比赛结束时,赛车已经行驶了将近4,888公里的路程。这相当于横穿美国大陆,然后再折返回1/3多路程的距离!

单靠一位车手完成比赛是十分困难的,所以每辆赛车都有一个三位车手组成的司机小组。小组中的成员每15圈轮换一下位置。这就是说每个人要开大概一小时才能停下来休息。

对于车手来说,保持清醒是相当重要的,因为在像这样的一场比赛中,如果疲劳驾驶就很容易撞车。当一辆车发生事故时,比赛组织者就要尽快把它拖离赛道,以避免其它的车撞上。通常,如果一辆车坏在路上,就会有人把它拖走——这被称做“a tow (拖走)”。勒芒赛车的前后部都要有一个拖眼,这样就会很容易地把赛车快速拖离赛道。你会看到左图中五号赛车的前部就有一个拖眼。



Wet or dry?

Tyres with lines cut in them (the tread) are used when it rains. Smooth, flat tyres with no tread are used when it's dry.

湿轮胎还是干轮胎?

刻有凹线(胎纹)的轮胎是下雨天用的。而表面平滑,没有胎纹的轮胎则是气候干燥的时候用的。

Used once

Windscreens get damaged easily in the race, so they are used only once.

只用一次

赛车的挡风玻璃在比赛中很容易被损坏,所以只能用一次。



Low = fast

Le Mans cars are very low – about one metre high – and very wide. This helps them to hold the track and stay on the ground at high speed.

矮身材就等于速度快

勒芒赛车都很矮,大约只有一米高,但是很宽。这就使得它们能够贴紧赛道,即使高速行驶也不会飞离地面。



Quick change

It is important to change tyres very quickly in a race. Usually a car wheel has four nuts that hold it on to the car – but a racing car wheel has only one nut so it is faster to get it off and on.

快速更换

在比赛中迅速更换轮胎是十分重要的。通常把一个轮子固定到车上需要四颗螺母，但一辆赛车的轮子上只有一颗螺母，这样装卸起来就会更快。

Who's that?

Racing cars have big numbers on the top and sides. It is easy to see the numbers, even when the cars are going very fast.

是谁?

赛车的顶部和侧面都有很大的号码。即便赛车开得非常快，人们也很容易看到这些号码。

The best place to watch the race at Le Mans is somewhere near the pits. The pits are special areas where mechanics change the tyres, add petrol, and fix any problems with the car or the engine. Cars often drive into the pits during the race, looking for more petrol or new tyres. So if you stand near there, you will see all the drivers at some time coming in to stop. It is easier than trying to see them racing past on their circuit!

As soon as a car comes into the pits, the mechanics in the team are all over it – like insects. Each mechanic does one special job, and they practise this again and again until they can do it very fast. With good mechanics, the car gets new tyres and is filled with petrol in only a few seconds. Then the driver is off again and back into the race – he doesn't want another driver to overtake him.

在勒芒观看比赛最好的地方是靠近修理处的地方。修理处是机械师换轮胎、加油、修理赛车和处理发动机故障的专用区域。赛车经常在比赛过程中到修理处内加油或者更换新轮胎。所以你站得离那儿近的话，就会在某段时间内看到所有的车手都进来停车。这要比看他们在环形赛道上飞驰更容易一些。

当一辆赛车一进入修理处时，车队里的机械师们就会像虫子一样附到车上。每位机械师只做一项工作。他们要反复地练习这项工作直到他们能非常迅速地做好为止。有了好的机械师，赛车更换新轮胎和加油只要几秒钟的时间。然后车手又马上离开，重新投入比赛，他可不想让别的车手超过他。



The pits are very busy places. There are cars, with the drivers inside wanting to hurry up and get back into the race. There are the other drivers in the team, resting and waiting to change places, and of course the mechanics, working and checking everything. There are also photographers and newspaper reporters, taking pictures and writing stories about the race. Behind the pits, each team has a big garage where they keep the parts for their cars.

After visiting the pits and changing tyres, the driver has to be very careful. Cold tyres do not hold on to the ground as well as hot tyres, so they are more dangerous. It is easier to skid (slip) with cold tyres, especially if it is a fast start. This is a good test of the driver's skills. Many drivers make mistakes, and so a lot of cars never finish the race.

修理处是很忙碌的地方。这里面有一些车，车手还在车里，急着回到比赛。车队里的其他车手正在休息，等待着更换上场。当然还有机械师在忙碌地工作着或检查着车况。也有摄影师和新闻记者在拍照或写关于车赛的报道。在修理处的后面，每个车队都有一个大的车库，里面放着赛车的各种部件。

在去过修理处换完轮胎以后，车手必须非常小心，因为冷的轮胎不像热的轮胎一样容易贴紧地面，所以就会更加危险。冷轮胎更易打滑，尤其是在突然启动的时候。对于车手的技艺，这是一个很好的考验。很多车手都会犯错误，因此有许多赛车从来就没有完成过比赛。



Strong truck—

This truck was in a long, difficult race called the Baja 1,000. This race is in Mexico, and it is for 1,000 kilometres – but not on roads. The race is over rocky and sandy ground.

结实的卡车

这种车用在一种被称为 Baja 1,000 的艰苦而又漫长的车赛上。这种车赛在墨西哥举行，赛道长 1,000 公里，但在不是在公路上，而是在布满了岩石和沙砾的地面上举行的。



Engine power

The engines in Le Mans cars are very powerful – four times more powerful than in normal cars! Most engines are at the back, behind the driver, and not in the front, like family cars today.

引擎的力量

勒芒赛车的引擎很有力量，比一般的汽车引擎功率要大四倍。大部分的引擎都置于驾驶席后的车后部，而不像现在的家庭轿车一样置于车的前部。

Thrust SSC

The Thrust SSC (SSC means supersonic car) was designed like this for a very special reason – it was built to be the fastest car in the world, and break the world land speed record. It was also the first car to travel at supersonic speed (in other words, to go faster than the speed of sound, which is about 1,224 kph). But the team of people who built the car had big problems at first when they tried to race it. In fact, they almost stopped trying.

The team built the car in Britain, where they lived. But unfortunately they couldn't race the car there. They needed a very long, flat piece of ground to try out the car. Without this, they couldn't get it up to its top speed, and break the record. But there was nowhere like this in Britain – everywhere they looked was too short, or had hills.

刺 SSC

“刺SSC”(SSC的意思是“超音速赛车”)是为了这样一个特殊的原因而设计的——它是为成为世界上最快的汽车、为打破世界陆上速度纪录而制造的。这也是第一辆以超音速的速度(也就是比1.224公里/小时的声速还要快)行驶的汽车。但开始时,当建造它的工作人员试着让它开起来时却遇到了很大的麻烦。事实上他们几乎就放弃了尝试。

工作人员在自己住的地方(英国)建造这辆汽车。但不幸的是他们不能在那里驾驶这辆车。试验这辆车需要一条很长的、平坦的路面。没有这样的路,他们就不能让它达到最高速度,也就不能打破纪录。但在英国没有这样的地方。他们所找的每个地点要么太短,要么就是有山坡。

Fast truck

Thrust SSC is made to move through the air as quickly as possible. It is long and thin, and holds the ground well. Its special design is aerodynamic, and this helps it to travel much faster.

很快的车

“刺SSC”在制造上力求能使它尽可能快地在空中穿过。它又长又窄,而且紧贴地面。在设计上它与众不同地采用了空气动力学的原理,这就使得它能够异常快速地行驶。

