

## 英语学习

## 英语翻译技巧(31)

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## 1.3 TYRE DESIGN

The tyre designer is faced with an impossible task in trying to satisfy all the needs of the vehicle manufacturer and the user, and is, therefore, forced to seek a compromise with emphasis on the important factors of safety and tread life (Clifton, 1969)<sup>①</sup>.

In determining the tyre size and type, the vehicle and tyre designers give prime consideration to:

1. Vehicle weight distribution, which will determine the load-carrying capacity of the tyre and the operating inflation pressure.

2. Axle height and clearance for the chassis, suspension, and braking system; these decide the overall diameter, section width, and bead diameter of the tyre.

3. The vehicle suspension system, which will influence the basic tyre construction including the selection of either radial or diagonal ply construction.

4. The speed capability and operating conditions, both of which will have to be considered in relation to construction, compounds, and tread pattern design.

Having established the basic tyre dimensions, which must conform to agreed industry standards<sup>②</sup>, the tyre designer is in a position to decide on the tyre mould dimensions, tread pattern details, rubber

mixes, textile reinforcement, and the form of the structure. From the vehicle weight and speed requirements, mathematical calculation of the casing and bead wire strengths can be made; the materials can then be selected and their make-up settled.

When formulating a tyre design it is essential, from a manufacturing standpoint, to pay due regard to the cost and availability of materials, factory plant, and production methods, so that a viable product is produced at an economic price and meeting the needs of the consumer<sup>③</sup>.

## 生 词

compromise	折衷(方案)
tread life	轮胎行驶里程, 轮胎使用寿命
load-carrying capacity	负荷能力
operating inflation pressure	工作气压
chassis	底盘
suspension	悬挂,悬架
braking system	制动系统
overall diameter	外直径
section width	断面宽
tread pattern design	胎面花纹
rubber mix	混炼胶
textile reinforcement	织物骨架材料, 织物增强层
casing	胎体,外胎

bead wire

钢丝圈

formulate

配方设计

## 译 文

## 1.3 轮胎设计

轮胎设计人员面临着要设法满足汽车制造厂和用户全部要求这一无法实现的任务,因而不得不寻求一项突出安全和使用寿命这两个重要因素的折衷方案(Clifton, 1969)<sup>①</sup>。

在确定轮胎规格品种时,汽车和轮胎设计人员考虑的主要因素是:

1. 车辆重量分布,它将决定轮胎的负荷能力和工作气压。

2. 轴高度和底盘、悬挂及制动系统占的空隙;这些参数决定了轮胎的外径、断面宽和胎圈直径。

3. 车辆的悬挂系统,它将影响轮胎的基本结构,其中包括采用子午线结构还是斜交结构。

4. 速度能力和行驶条件,在轮胎结构、胶料和胎面花纹设计中都必须考虑这两个因素。

轮胎基本尺寸必须符合各方同意的工业标准,确定基本尺寸后<sup>②</sup>,轮胎设计人员就能决定轮胎模型尺寸、胎面花纹的细节、胶料、织物增强层以及轮胎的结构形式。根据车重和速度要求,可进行胎体和钢丝强度的数学计算;然后可选择材料并确定其分布。

在制订一个轮胎设计方案的配方时,必须从制造观点出发,适当地注意成本以及材料、工厂设备和生产方法的可得性,以便经济地生产可行的产品并满足消费者的要求<sup>③</sup>。

注:①此句为简单句,“is faced”和“is forced”为并列谓语动词;“in trying to……”和“with emphasis on”这两个介词短语都可以看作是前面名词的定语。

②此处直译为“确定了必须附合各方同意的工业标准的基本尺寸后”,定语过长,因此采取分译办法,译为两句:“轮胎基本尺寸必须符合各方同意的工业标准,确定基本尺寸后”。

③“it is essential……methods”是主句,“from a manufacturing standpoint”为插入语,“it”为先行词,“to pay due regard to……methods”是句子的真正主语。

## 英译汉常见错误实例

Marked differences have been shown by experiment in the composition and properties of the boundary plies, for instance, of the tread-breaker system, as may be seen from fig. 8, where we give the absolute values of the modulus for the various zones of a vulcanisate in a multi-ply structure.

误:试验组分和边界层性能(如胎面-缓冲层体系)表明有显著的不同,从图8可以看出,我们给出多层结构不同区域硫化胶定伸应力的绝对值。

正:试验表明边界层(如胎面-缓冲层)的组分和性能都有如图8所示的明显区别,图中示出了多层结构不同区域硫化胶定伸应力绝对值。

注:①“in the composition and properties……”是“differences”的定语;“by experiment”是句子的逻辑主语。

②“as may be seen from fig. 8”是插入的定语,实际上也是用于修饰“differences”的。

③“where”引出的定语从句用于修饰“fig. 8”。