

玩  
转

从入门到大师

# TOPPER

[英] 戴夫·柯克瑞尔 约翰·凯格 / 著  
(Dave Cockerill & John Caig)  
王欣 / 译



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### 内容简介:

本书用专业的视角和通俗的语言,介绍了驰名世界的Topper小帆船的构造特点和使用技巧。初学者通过阅读本书并进行实践练习,可以掌握基本的帆船驾驶技能,并逐步提高到参加比赛和获胜的水平。作者出身中学老师并且有近三十年的帆船教练经验,在本书中呈现了系统而深入的Topper小帆船训练方法。

本书适合青少年及成年帆船爱好者阅读,也是供帆船教练使用的一本出色的教学参考书。

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# Contents 目录

<b>Introduction</b> 绪论	<b>8</b>
<b>Part 1 Sailing the boat</b> 第一部分：航行	<b>14</b>
1 Parts and rigging 组件和装船	15
2 The centre mainsheet 中置主缭	26
3 Sailing theory 航行原理	30
4 Reefing 缩帆	34
5 Launching 下水	36
6 A first sail 首次航行	38
7 Reaching 横风航行	43
8 Beating 迎风航行	49
9 Tacking 迎风转向	56
10 Running 顺风航行	60
11 Gybing 顺风转向	65
12 Taking a penalty 受罚	71
13 Capsizing 翻覆	72
14 Landing 上岸	76
15 Care and maintenance 保养和维护	78
16 The International Topper Class Association 国际Topper级别委员会ITCA	82
<b>Part 2 The Topper 4.2</b> 第二部分：Topper4.2级别	<b>83</b>
<b>Part 3 Racing: the basics</b> 第三部分：比赛：基本技巧	<b>87</b>
<b>Part 4 Masterclasses</b> 第四部分：大师级别	<b>101</b>
1 Preparing yourself for success 做好准备获得胜利	102
2 Preparing your boat for success 装配好船以获得胜利	110
3 Advanced control lines 加强版控制索具	118
4 Boatspeed and boat handling for success 提高船速并控制船只以获得胜利	124
5 Tactics and strategy for success 制胜的战术与策略	140
6 Preparing for an event 赛事准备	150
7 Dave Cockerill's guide for parents 给家长的建议	152
<b>And finally- silly games</b> 终结篇——趣味游戏	<b>155</b>



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THE TOPPER BOOK  
TOPPER SAILING FROM START TO FINISH



摄影: Simon McIlwaine





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## 英文版作者 Dave Cockerill 给中文版的前言

有了正确的指导，学习帆船是简单的事情。每次你在水上航行都可以一如既往地体会到那种快乐、兴奋与自由，而这种感受可以持续一生（我父亲一直到86岁都在参加帆船赛）。帆船给我的收获如此巨大，因此我非常高兴把对帆船的热情分享给大家。

过去的很多年我非常荣幸地指导了成百上千的帆船选手。其中有的人获得了奥运奖牌，并在世锦赛中取胜。而最让我高兴的并不是他们取得了这些骄人战绩，而是看到这些年轻人通过从事帆船成长为更优秀的人。我观察到孩子们不断提高自信心，解决问题的能力也明显提升，更加敢于担当。我也听到很多家长讲述孩子们在练习帆船之后学习成绩明显提高。这些都是孩子们获得成功人生所必需的基本技能。

我的儿子通过Topper爱上了帆船。从他八岁开始练习Topper一直到他转到更大的帆船，这期间我逐渐获得了大量的知识，并构成了本书的基础。

我从事帆船比赛已经有50年了，其中结合了在中学任教的25年，我逐渐地把教授帆船竞赛发展成自己的职业。我会把这两段经历相结合所产生的奇妙成果带给大家。这本书将指导你掌握基本技能直到赢得比赛。开始的部分指导你如何装船并作为初学者下水航行。对于想提高竞技水平的选手这本书也能提供帮助。通过练习和艰苦努力，你一定会实现目标。

我非常荣幸地指导了很多中国的少年帆船选手，并参与了中国休闲航海运动的快速发展。通过在中国各地具有专业资质的帆船俱乐部学习帆船，你会发现帆船非常有趣、安全，并且容易掌握。我可以预期在不远的将来一定会有成千上万的优秀中国选手来享受这个非凡的运动，毫无疑问会有很多人在世界舞台上获得巨大成功。

我要特别感谢John Caig对本书的贡献。他对Topper船型的发展做出了巨大推动，我很高兴能够把他的杰出工作延续到21世纪。我还要特别感谢来自北京航海中心和万航帆船的Rick Pointon、李小桓、叶小明和王欣，他们独具慧眼致力于Topper的普及并推动中国休闲航海运动的发展。

很多年以来，我从Topper设计者Ian Proctor的儿子Roger Proctor那里获得了非常多的帮助。他和我与Topper International（制造商）合作持续地对作为竞赛船型的Topper进行改进。他的支持和睿智的见解具有无法估量的价值。



### Dave Cockerill 简介：

- 1972 - 2000 年先后在三个中学担任设计技术课老师,成为学科负责人
- 2004年RYA全国代表队最佳教练
- 2001 - 2014 RYA Topper国家级教练
- 2009 - 2011 RYA奥林匹克残奥会教练
- 2000 - 2014 共14年成功的航海工作经历
- 对Topper进行了一系列成功的改进，包括中置式主缭和4.2级别帆
- 国际Topper级别协会ITCA负责训练的副总裁



# Topper专利所有人 Roger Proctor 给中文版的前言

Topper是个不可思议的故事。

我父亲Ian Proctor（皇家工业设计师）在1960年代后期设计了Topper。他在职业生涯中设计了很多高性能的竞赛船型和奥运级别船型。他设计Topper的目的是制造一艘价格低廉而令人兴奋的船，让各年龄阶段和各种能力的人们都能从事帆船运动，掌握技巧，强健体魄，磨练意志，提升耐力，自立自强，最重要的是享受乐趣。

在1970年代他重新设计了Topper并采用了新的注塑技术，使这种船结实耐用，坚不可摧。到目前为止，Topper可能依然是世界上最大的聚丙烯注塑产品，它不仅是一艘超级棒的帆船，也是一件工程设计杰作。

结果是显而易见的，这种便宜而“友好”的帆船让所有年龄段的人爱上了帆船这项运动。

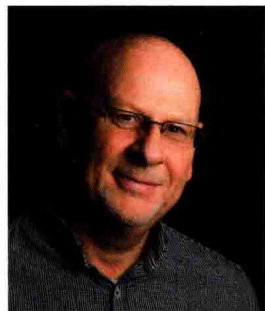
但是设计和技术仅仅是Topper故事的一个方面，另一方面则是与它有关的人。世界各地的帆船选手和推广者，培养出了各种船型的国家级和世界级冠军，还包括那些环游世界的大帆船水手以及奥运会冠军选手们，都使用Topper进行训练和比赛。

Dave Cockerill和John Caig 是Topper训练和竞赛领域的传奇人物。多年以来，他们两位为Topper投入了大量时间和热情，因为他们坚信对于投身并热爱帆船运动的年轻人来说，Topper是一种非常理想的船型。

Dave Cockerill对于把Topper发展成为领先的训练和比赛用船做出了突出贡献。帆船比赛永远是充满挑战的，但在Dave的帆船哲学中，首要因素是享受乐趣。没有人比他更了解Topper，也没有人比他更能够挖掘出Topper的妙处。在过去的20年中，Dave的哲学与智慧令他享誉世界，他还领衔训练了很多奥林匹克未来帆船之星。

现在，Dave的知识财富也在帮助中国的新一代水手发现、享受Topper并爱上这项伟大的运动。如果你要向大师学习，这本书就是秘笈。如果你想问Dave为什么对Topper 训练如此痴迷和投入，我想一定是因为他非常享受Topper选手脸上洋溢的笑容与快乐。

享受帆船吧！



## Roger Proctor 简介：

- 国际Topper级别协会ITCA执行委员
- Proctor+Stevenson设计公司董事长
- 英国帝国勋章获得者 (MBE)
- 前 Topper英国冠军
- Topper船型设计者Ian Proctor的儿子



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帆船运动伴随着风险和受伤的可能, 请勿把此书作为唯一的训练信息来源。帆船运动必须在专业人员的监督下并使用相应的安全设备才能进行。

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# Contents 目录

<b>Introduction</b> 绪论	<b>8</b>
<b>Part 1 Sailing the boat</b> 第一部分：航行	<b>14</b>
1 Parts and rigging 组件和装船	15
2 The centre mainsheet 中置主缭	26
3 Sailing theory 航行原理	30
4 Reefing 缩帆	34
5 Launching 下水	36
6 A first sail 首次航行	38
7 Reaching 横风航行	43
8 Beating 迎风航行	49
9 Tacking 迎风转向	56
10 Running 顺风航行	60
11 Gybing 顺风转向	65
12 Taking a penalty 受罚	71
13 Capsizing 翻覆	72
14 Landing 上岸	76
15 Care and maintenance 保养和维护	78
16 The International Topper Class Association 国际Topper级别委员会ITCA	82
<b>Part 2 The Topper 4.2</b> 第二部分：Topper4.2级别	<b>83</b>
<b>Part 3 Racing: the basics</b> 第三部分：比赛：基本技巧	<b>87</b>
<b>Part 4 Masterclasses</b> 第四部分：大师级别	<b>101</b>
1 Preparing yourself for success 做好准备获得胜利	102
2 Preparing your boat for success 装配好船以获得胜利	110
3 Advanced control lines 加强版控制索具	118
4 Boatspeed and boat handling for success 提高船速并控制船只以获得胜利	124
5 Tactics and strategy for success 制胜的战术与策略	140
6 Preparing for an event 赛事准备	150
7 Dave Cockerill's guide for parents 给家长的建议	152
<b>And finally- silly games</b> 终结篇——趣味游戏	<b>155</b>

# Introduction 绪论

The Topper has a special place in sailing. Thousands of people learn the basic skills in Toppers every year. But it's not just a beginner's boat as you will see by reading the later chapters of this book. Topper fleets are established at many sailing clubs, and the class association organises a programme of open meetings and championships for Topper enthusiasts. The Topper Book is for beginners and racers, and is organised into four parts:

Topper在航海界有特殊的位置，每年有成千上万的人使用Topper学习航行的基本技能。但看完本书后你会发现Topper不仅仅是适用于初学者的船，很多航海俱乐部都在使用这种船，Topper国际级别委员会每年都会为爱好者们组织一系列公开的活动和锦标赛。本书主要针对初学者和竞赛爱好者，分为四个部分：

**Part 1** is for beginners and teaches sailors to **rig and sail the boat.**

第一部分是为初学者讲解如何装船和航行。We have also introduced the centre mainsheet here, because most sailors now use it. All the photos show the boat with gear in race configuration, but to keep things simple at this stage the race control lines are shown later in Masterclass 3.

我们也将介绍现在大部分水手使用的中置式主缭。所有照片中的船只都是竞赛型配置。但为简便起见，竞赛时的索具控制将在后面的大师级别3部分进行讲解。

**Part 2** details the new **Topper 4.2** rig. This is a boon for light sailors (<45kg) and for strong wind sailing for the less experienced.

第二部分讲解新款的Topper 4.2船型帆索具。这是适用于体重轻于45公斤的初学者在大风时航行的船型。



摄影：张琦



**Part 3** is an **introduction to racing.**

If you get up to speed (see Part 1) and employ these tactics you should be able to win a club championship.

第三部分是关于竞赛技巧的介绍。如果你能够掌握第一部分中的技能并且能够快速航行，你将有机会在俱乐部级别的比赛中取胜。

**Part 4** is a **Masterclass** with Dave Cockerill, National Topper Coach. Follow his advice, get out on the water, practise hard, and the sky's the limit...

And finally, we show you how to have fun in the Topper... even when you aren't sailing!

第四部分是大师级别的技能。国家级Topper教练Dave Cockerill将带领你出海并刻苦训练，突破你的极限……

最后，我们将教你几招使用Topper的好玩儿游戏，即使你不是在航行……

**THE STORY OF THE TOPPER**  
**Topper的故事**

The Topper was designed by Ian Proctor as a simple 'beach boat' and as an introduction to sailing. Originally made in GRP it was chosen by ICI to form the core of an experiment to see how big injection mouldings could be made. Clearly successful, it is said to be the biggest injection moulding product in the world some forty years later. Most boats are made in wood or GRP (Glassfibre Reinforced Plastic) and increasingly in Polythene by a rotary moulding technique. The Topper is unique in that it is made by injecting polypropylene between two huge moulds in a way that controls the thickness and allows strengthening to be placed only where required. The results is an extremely lightweight and durable boat (especially compared to the recent upsurge of plastic boats using rotary moulding techniques) and gives the Topper its spritely performance.



摄影：庄丽

Ian Proctor当初为了造一艘简单的入门级“沙滩型帆船”而设计了Topper。ICI（英国化学工业集团）选择了玻璃钢制造的Topper来试验用喷塑技术能制造多大的船体。结果是成功的，据说Topper是过去的四十年中世界上最大的注塑产品。现在大多数的船体都用木制或玻璃钢制造，同时随着滚塑技术的应用，聚乙烯塑料船体也越来越多。但Topper的独特性在于使用两个巨大的模具进行聚乙烯注塑，工艺中对于材料厚度进行控制，同时在必要之处进行强化处理。最终造就了轻盈而坚固耐用的船体（特别是与最近流行的滚塑制造的塑料船体相比），赋予Topper轻巧的性能。

They have all come out of the same mould and it is quite possible to find an old Topper in the corner of a boat park and bring it back to race spec.

With the addition of some new controls and a reasonable amount of hard work good racing can be had at a very reasonable cost.

所有的Topper都使用同一款模具制造。即便是在船只仓库里的一只年代久远的Topper，依然可以用它进行比赛。通过一番努力和有限的预算，增加一些新式控制器具，它依然会有优异的比赛性能。

## The great strengths of the Topper

### Topper的伟大之处：

- Fundamentally they are all the same. 船型基本是一样的。
- They are extremely durable. 坚固耐用。
- Their lightweight construction makes them really lively and fun. 船体轻盈，充满乐趣。
- They can be found everywhere and can be made into an effective race machine or excellent ‘beach boat’ for little cost. 身影随处可见，竞赛性能优异，是物美价廉的沙滩型帆船。
- All spare parts are readily available. 所有的配件都容易获取。

## How the Topper has changed Topper是如何改进的

It is amazing that a boat designed for recreation and training could adapt so well to the increased loads associated with racing. There have been a number of relatively minor changes over the years in response to this:

作为娱乐和训练之用的Topper依然可以对压力巨大的比赛应付自如，这一点令人惊叹。过去的几十年中，针对下面情况对船只进行了微调：

- The old 1 1/4" (25mm) boom has been changed to one of 1.5" (32.5mm) external diameter. The thinner boom is fine for a beach boat but will break in time if used with the modern controls for racing. Aim to replace yours as soon as possible (or when it breaks!). 主帆横杆由老款的25毫米直径换成32.5毫米直径。老款的细横杆非常适合在沙滩上下水，但在使用现代索具比赛时易于损坏。如果你还在使用旧的横杆尽量早点更换。
- Originally aft sheeted, there is now the option to use a centre sheeting system. Aft sheeting is fine for a beach boat, if only because there is more room in the cockpit, but centre sheeting is far better for racing. (Please see Part 1, chapter 2 - The centre mainsheet). 主缭滑轮组原来放置在船尾，现在可以选择放在船体中央部位。主缭后置很适合沙滩型帆船，好处仅在于给船舱留下更大的空间。而主缭中置则在比赛时有明显的好处（请参阅第一部分第二章：主缭中置）。
- The original tiller extension was limited, by class rules, to 712mm. This has been upgraded to 975mm and the use of a rubber universal joint is allowed. 最初的副舵柄长度由于级别规则的限制是712毫米。现在升级为975毫米并且允许使用橡胶制万向节。
- The introduction of an alternative sail (Part 2 - The Topper 4.2) allows lighter sailors to join in the fun.

小型帆的使用（请参阅第二部分：Topper 4.2）可以让体重轻的选手也能享受航行的乐趣。



- At one time the purchase<sup>①</sup> on the downhaul was a maximum of 3:1. 6:1 is now allowed and is an essential upgrade for racing at anything beyond club level (photo 1).

曾经帆前下角拉索的最大力矩比是3:1, 现在达到6:1, 比赛性能有本质性提升(图1)。

- All other purchases have remained unaltered but the quality of the kit has improved by the use of ball-bearing blocks and Dyneema rope. 其他所有的设备都保持原样。但随着滚珠滑轮和迪尼玛纤维(超高相对分子质量聚乙烯)绳索的使用, 设备质量有很大提升。

- The centre toestay can be any length whereas previously it was controlled. This suits smaller sailors and can even be made to be adjustable, for length, on the water.

中央压舷带由固定长度改为可变长度。这对身材小巧的选手非常适用, 压舷带甚至长度可调。

- The halyard has been replaced with a short loop of rope (the halyard loop) which stretches very little. Subsequently sails have a webbing strap across the top which is easier to fit and cannot stretch at all. A new masthead fitting is used with a groove to prevent the sail unwrapping when reefed (photo 2).

升帆索被一种拉伸度很小的短绳套代替(升帆套)。后来主帆拥有了横贯顶部的硬边使其易于装配并不可拉伸。新的桅杆顶设计了一个凹槽来防止主帆缩帆时无法折叠(图2)。

- Originally the outhaul cleat was a small 'v cleat' which prevented any meaningful adjustment on the water. A cam cleat can now be attached to the boom, originally with a specially designed plate and more recently using a dedicated plastic fitting. The later is fixed with one rivet on the top of the boom and has virtually eliminated booms breaking at that point (photo 1).

最初的后拉索夹绳器是一种简单的V形夹绳器, 防止任何有效的调整。现在变为固定在横杆上的凸轮夹绳器, 材料曾经是特

别设计的转盘, 后来改为特制的塑料凸轮。这种夹绳器被一颗铆钉固定在横杆顶部, 最终消除了横杆在此处折断的隐患。

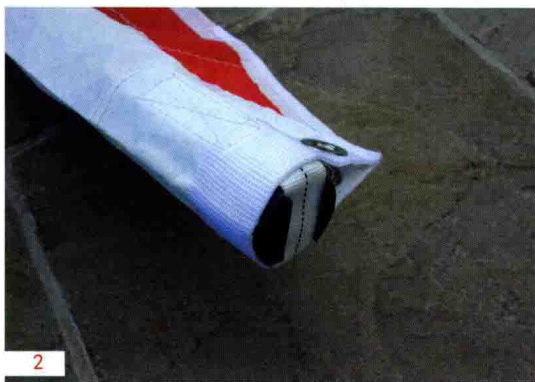
(图1)

- As increasing loads were transferred to the spars via the controls masts were breaking too often. The kicker take off points on mast and boom are now via rings attached by webbing straps.

Another cause of breakages was eradicated.

桅杆经常由于控制杆件负荷过重而损坏。Topper则采用硬制尼龙带固定斜拉索代替传统的铰接式斜拉器, 排除了此类原因造成的桅杆损坏。

- The attachment of the rudder to the boat via the transom plate has changed from aluminium to stainless steel. Most recently a new top pintle fitting has been introduced which removes any unwanted movement and improves the strength in that area of the deck (photo 3).



注释: ① purchase 指多个滑轮组成的绕绳装置, 拉动时由于力矩原理比单根绕绳更省力。如果三个滑轮, 则力矩比是3:1。



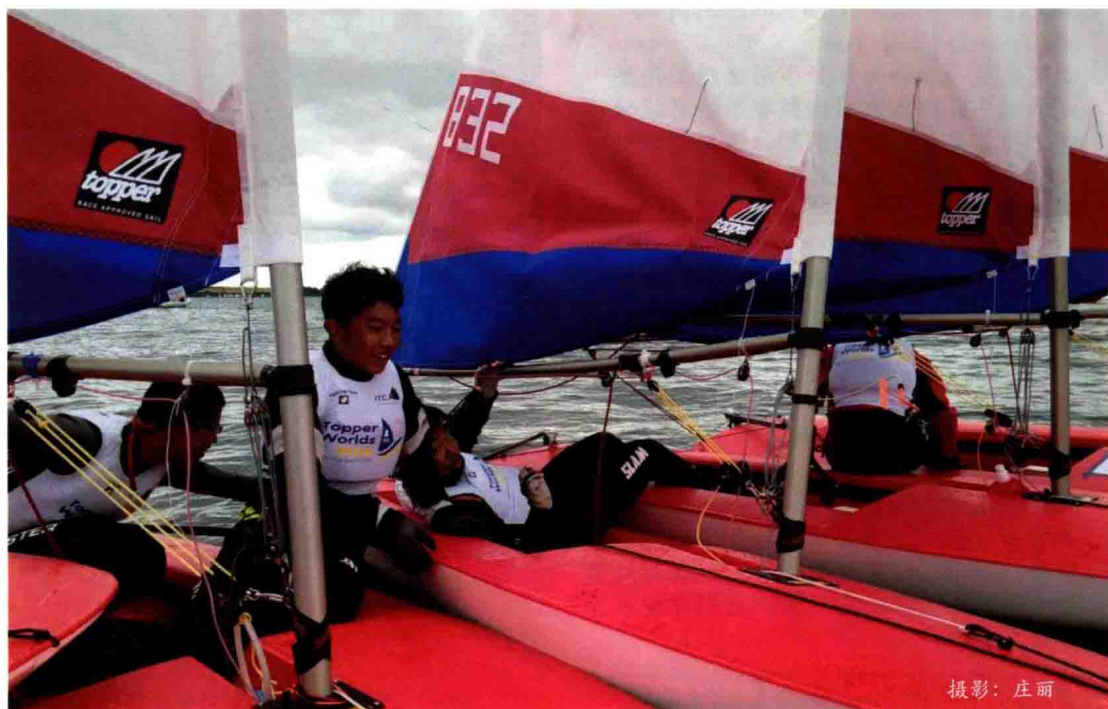
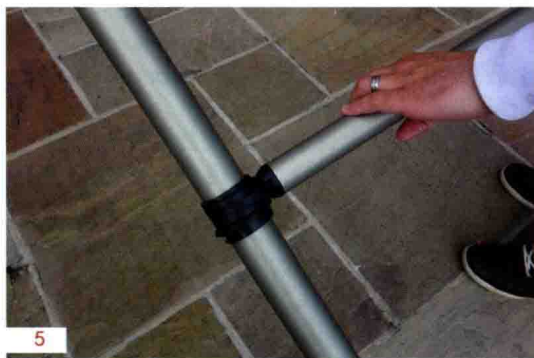
舵叶和船尾板的连接件从铝制变成了不锈钢。最近开始应用一种新的高级舵栓，可以避免任何不需要的移动并且改善周边船体区域的强度（图3）。

- Finally a new gooseneck system has replaced the original 'rollock' type to make it more reliable (photos 4 & 5).

一种新型的帆杆插头系统代替了原来的环形锁方式并且更加可靠（图4和图5）。

So a great little boat has been made even better. It just needs to be enjoyed!

这样一只伟大的小船被造得越来越好，来享受它吧！



摄影：庄丽

## CAR TOPPERING 车顶运载

The Topper got its name in the first place because of the ease with which it could be transported on the roof of a car and this great mobility has certainly played a considerable part in the boat's worldwide success. The inverted boat presents a smooth, aerodynamic shape to the wind and neither speed nor fuel consumption is greatly affected during 'car toppering'. In fact, many caravan owners claim an improvement in consumption when towing because the Topper's shape guides the airflow around the bluff front of their vans.

Topper的名字来源于它非常容易放置在汽车顶上进行运输。这种超级机动性是它获得全球成功的主要原因之一。倒置过来的船体展示出流线型的空气动力学形状，因此车顶装载运输时的速度和油耗基本不受影响。实际上很多旅行车车主都表示装载Topper行驶时的油耗其实有节约，因为旅行车直钝的车头被船身形状导引了空气流动而减少阻力。In spite of the simplicity of the operation there are some important guidelines to follow if – like us – you drive many thousands of miles each year beneath a Topper. Position the two roof bars as far apart as possible on the car roof up to about a 4-foot/1.2m maximum. It is quite acceptable for them to be much closer together than this as may be necessary if you drive a coupe or rigid-topped sports car. Load the Topper upside down, bow forward and ensure that the front bar supports the side decks immediately behind the aft end of the foredeck. Ideally, the rear bar should support the side deck immediately ahead of the stern deck. Quick-release straps are by far the simplest means of securing the Topper and the least likely to come undone. If the bars are wide enough, you can lay the spars alongside the hull and take the straps right around the whole lot, which will greatly reduce loading time. Always tie the boat down to the bumpers (fenders) fore and aft. The bow painter can be used forward – this will stop the wind from lifting the boat – and the horse

(traveller) can be used aft, where it will check any tendency for the boat to run forward in an emergency stop. A trolley can also be carried on top of the upside-down hull.

虽然车载运输的操作很简单，依然有一些重要的规矩要遵守——如果你像我们一样每年要装载Topper行驶数千英里的话。把车顶横杆架安装得尽量远，最大间距是4英尺或1.2米。当然如果你驾驶一辆轿跑车或者硬顶跑车时，车顶横杆架也可以距离很近。将Topper底朝上放置，船头向前并确保汽车前支柱支撑在船只前甲板与中仓交汇处。理想情况下，汽车后柱要支撑在船只后甲板与中仓交汇处。快速包装带可以很方便地固定Topper并且不易松脱。如果车身宽度足够，就可以把桅杆及横杆捆在船身侧面，充分节省包装时间。一定要把船体和汽车前后保险杠相连，前面用船头缆绳固定，防止气流把船体举起。后面用主帆滑车与后保险杠相连，防止紧急刹车时船体前移。船车也可以放在反扣的船体上面。

It is quite feasible to carry two Toppers on the roof of most cars but remember that the all-up weight will be 190lb/85kg. The lower hull should be loaded right way up, bows forward. You will find that two Toppers fit together very snugly in this way – but do make sure that they are very well strapped down.

对于大多数汽车来说，车顶装载两条Topper也是可行的。但请注意两条船的总重量为190磅或85公斤。放在下面的船体必须甲板朝上，船头向前。你会发现两条船叠放在一起非常妥贴——但一定要确保捆绑结实。





# Part 1 第一部分

## Sailing the boat 航行

