



用户手册 **U** SER MANUAL

前移叉 Telescopic Forks



官方微信号 天猫旗舰店

 服务热线
Customer Service Hotline

40088 57315

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特别说明 SPECIAL DEFINITIONS

本手册含有一些特别提示。操作前务必仔细阅读所有的“警告”和“注意”。“重要提示”和“备注”则作为具有特定意义或简化工作的信息提供。



警告: 所示内容必须切实牢记、以免造成人身伤害。警告说明始终位于一个规定的方框内。

注意: 此类标识的内容必须遵守,以免造成设备损坏。

重要提示: 这种提示包含特定信息。

备注: 这种标识所含信息便于理解并可简化您的工作。

The statements shown below appear throughout this manual where special emphasis is required. Read all WARNINGS and CAUTIONS before proceeding with any work.

Statements labeled IMPORTANT and NOTE are special information that is useful when servicing the attachment.



WARNING - A statement preceded by a WARNING is information that should be acted upon to prevent **bodily injury**. A WARNING is always inside a ruled box.

CAUTION – A statement preceded by CAUTION is information that should be acted upon to prevent machine damage.

IMPORTANT – A statement preceded by IMPORTANT is information that possesses special significance.

NOTE – A statement preceded by NOTE is information that is handy to know and may make the job easier.

▲ **警告：**安装不当是导致属具故障的第一要素，请在安装属具前认真阅读本《用户指南》。

💡 **重要提示：**现场改动将减弱属具的性能和承载能力，并导致失去保修资格，任何需要对属具进行的改动，请事先与卡斯卡特公司协商。工作压力超过180bar将会对属具造成损坏。

▲ **注意：**叉车/属具综合承载能力系由叉车主机厂确定，其值可能比属具铭牌上所示数值小，请参见叉车铭牌。

▲ **WARNING:** Incorrect installation is the main cause of Attachment malfunctioning. Please do read this USER MANUAL comprehensively before installation.

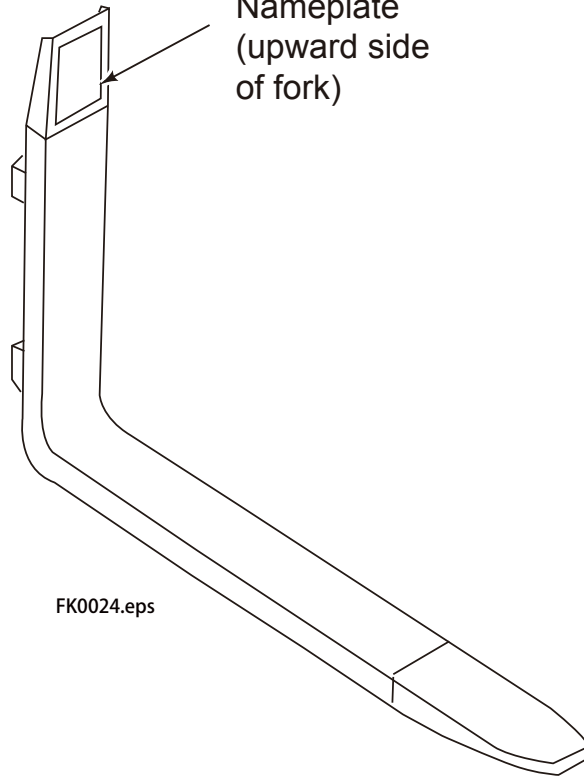
💡 **IMPORTANT:** Field alterations may impair performance or capability and could result in loss of warranty. Consult Cascade for any required modifications. Operating at pressures over 180bar will result in structural damage.

▲ **CAUTION:** Rated capacity of the truck/attachment combination is a responsibility of the original truck manufacturer and may be less than shown on the attachment nameplate. Consult the truck nameplate.

本手册包含前移叉的功能介绍、安装和定期维护保养等内容。在探讨任何有关属具的问题时，请提供铭牌上（如下图示）的属具型号和产品编号等信息。如果铭牌丢失，可在铭牌下方的位置找到产品编号。

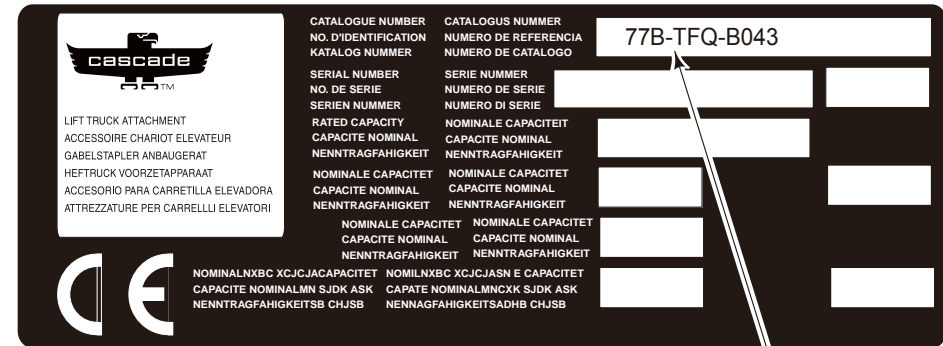
This manual provides functions, installation instructions and periodic maintenance requirements for Telescopic Forks. In any communication about the attachment refer to the product catalog and serial numbers stamped on the nameplate, as shown. If the nameplate is missing, the numbers can be found stamped on the surface below the nameplate.

铭牌（位于货叉上方）
Nameplate
(upward side
of fork)



FK0024.eps

RR1037.eps



铭牌确认

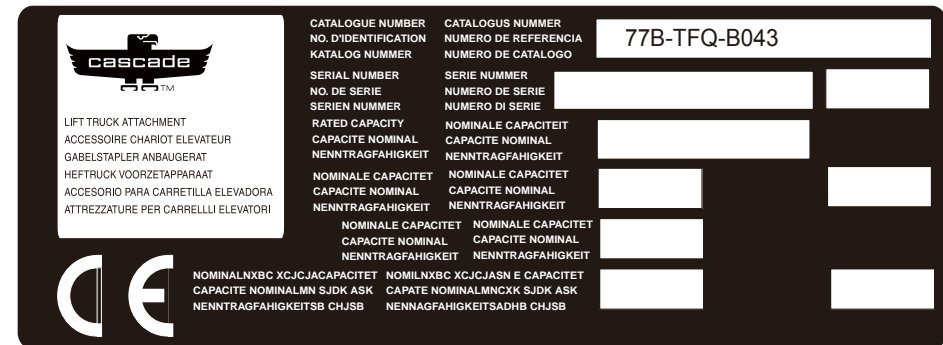
在开始安装前移叉之前，请确认铭牌上的型号是否与您的订单相一致，并确认发货的型号是否正确。

一套前移叉组件通常包括一副完全相同的货叉，一个分流阀和四条油管。铭牌上列出了前移叉的主要数据，铭牌位于货叉叉柄延伸端的挡板上。

Nameplate Check

Before starting to install please check whether the supplied Telescopic forks are in accordance with your order and also check whether the delivery is complete.

One set of Telescopic forks normally consists of two identical forks, one flow di-vider and four hoses. The main data of the forks appears on the type plate placed on the screen in the continuation of the fork shank.



前移叉由固定部分（基本的货叉）和移动部分（叉套）构成。

货叉配置了液压油缸，凭借活塞杆的伸缩带动叉套运动。用液压软管与货叉顶部的油口接头相联，从而带动油缸活塞杆运动。液压油从这些接头进入货叉内部的油缸中。

由于货叉是成套使用，它们各自的油缸是独立工作。因此给它们统一供油时，叉套负载较小的那根货叉首先前伸动作。如果油缸没有做出相应的跟进动作，则位于两根货叉上的货物在随着货叉前伸或后退时将会转向。

基于以上的原因，前移叉需要配置一个分流阀，它能够让整个液压系统实现以下功能，即能将叉车提供的液压油均分成两条流量相同的油路。而每一路液压油驱动了各自货叉的伸缩油缸，从而带动叉套以相同的速度运动（无需考虑负载的影响）。

A telescopic fork consists of a stationary part (the basic fork) and a movable part (the shoe).

The basic forks are equipped with a hydraulic cylinder, and via the piston rod it moves the shoe. The hydraulics necessary for moving the cylinder are (as stand-ard) connected to nipples on top of the shank. The oil passes inside the fork from these nipples to the cylinder.

As the forks are used as a set they have two cylinders working independently of each other. With a common hydraulic supply, the shoe with less load will be the first to move and if the cylinders are not forced to follow each other, the load nor-mally laying on both forks will swerve out during the movement in and out.

For above reason a flow divider is supplied and this should be installed into the hydraulic system in such a way that the oil flow coming from the operating hydraulics of the truck is divided into two equal oil flows. These oil flows are each sent to the cylinder (fork) and thus the shoes are forced to move with the same speed regardless of the load.

禁止载人行驶
No riders



禁止伸手穿越门架
No reaching through mast

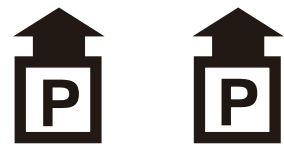
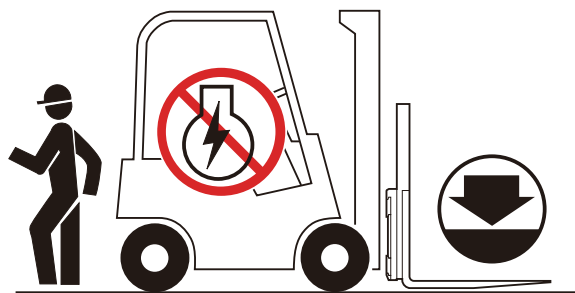


禁止货物下站人
No standing under load



SS0719.eps

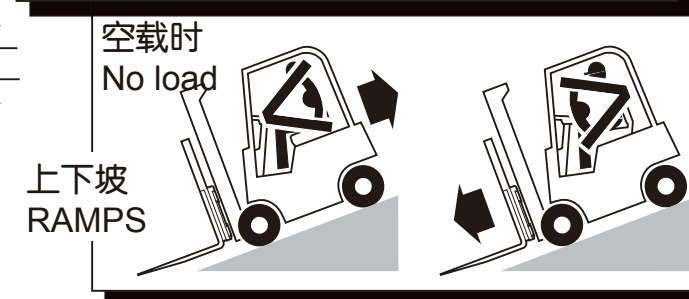
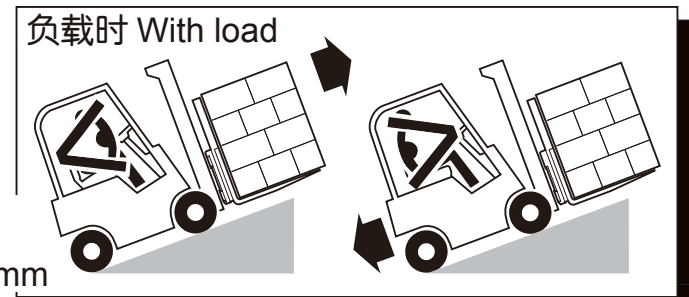
在装载时前后倾
Tilt when Traveling loaded



关闭发动机,制动,降下货叉
Motor off, park, lower load



空载行驶
Traveling Empty





禁止坡上停车
No parking on ramp



禁止坡上转弯
No turning on ramp



注意行驶空间
Watch clearances

SD0720.eps

交通标志
TRAFFIC



观察
Observe



湿地板
Wet floors



工作人员
Workers



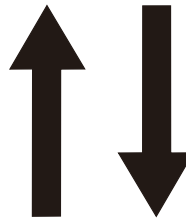
停止
Stops



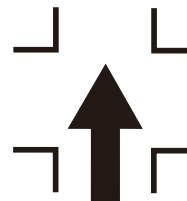
凸起
Bumps



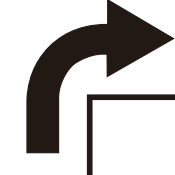
凹坑
Dips



双向行驶时须慢行
Slow for two way
traffic



十字路口处鸣笛,慢行
Sound horn, slow at
intersection



转弯时须鸣笛,慢行
Sound horn, slow at
corner

安装前对叉车的要求

T RUCK REQUIREMENTS

叉车供油压力 Truck Relief Setting

推荐压力值(Recommended): 140bar(2000psi)

最大压力值 (Maximum): 180bar(2571 psi)

叉车供油流量 Truck Flow Volume ①

	最小值 ② Min.	推荐值 Recommended	最大值③ Max.
55B, 77B	38 L/min (10 GPM.)	57 L/min (15 GPM.)	76 L/min (20 GPM.)

①如果流量低于推荐值,会造成前移叉的伸缩速度偏低。

②如果流量超过最大值,会造成过热,降低系统性能同时缩短液压系统的寿命。

① Flow less than recommended will result in a movement speed of telescopic forks too slow.

② Flow greater than maximum can result in excessive heating, reduced system performance and short hydraulic system life.

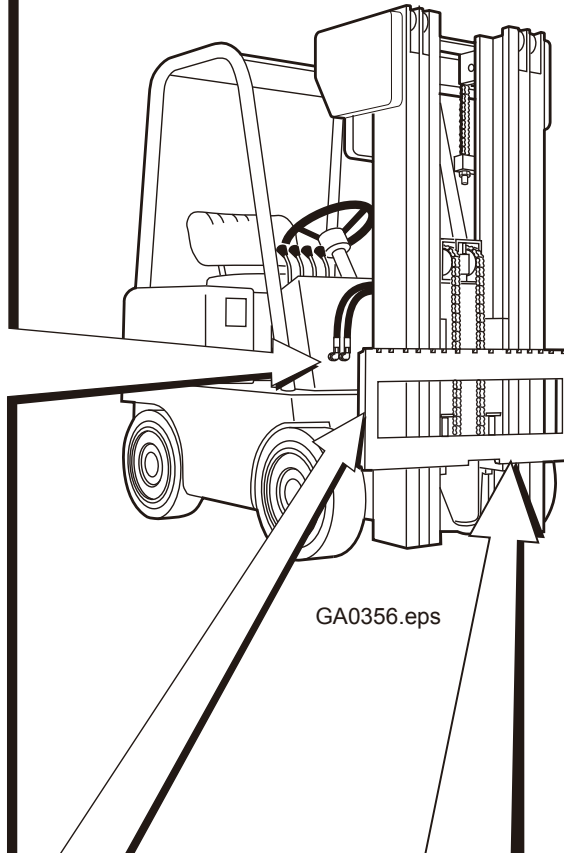
货叉架安装尺寸 (A) ITA (ISO)

Carriage Mount Dimension (A) ITA (ISO)



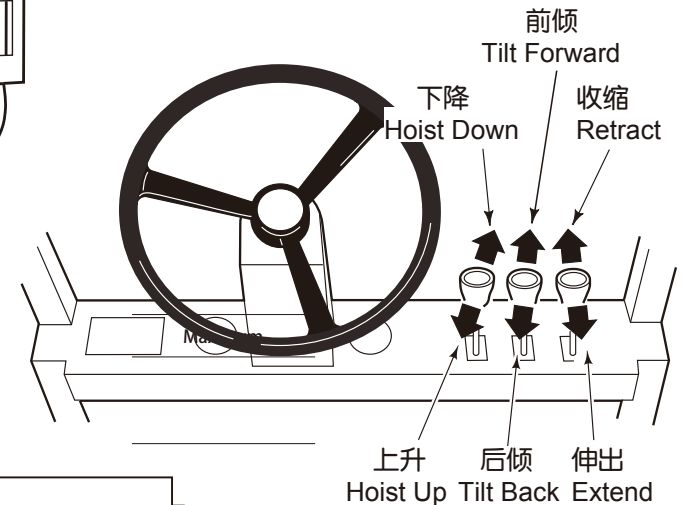
	最小值 Minimum	最大值 Maximum
ISO 2A	380.0 mm (14.94 in.)	381.0 mm (15.00 in.)
ISO 3A	474.5 mm (18.68 in.)	476.0 mm (18.74 in.)
ISO 4A	595.5 mm (23.44 in.)	597.0 mm (23.50 in.)

GA0028.eps



警告: 叉车/属具的综合承载能力由叉车制造商决定, 它可能低于铭牌所标注的数值。详细数据请查阅叉车铭牌

WARNING: Rated capacity of the truck/attachment/fork combination is a responsibility of the original truck manufacturer and may be less than that shown on the attachment nameplate. Consult the truck nameplate.



货叉架

清理并检查货叉架横梁的破损情况和平滑度。须对焊接突出部位或磨损的槽口进行修补。

Carriage

Clean and inspect carriage bars for damage and smoothness. Repair any protruding welds or damaged notches.

1

安装前移叉及分流阀

- 前移叉的安装方式通常与货叉相同。在大多数情况下挂钩的安装等级符合ISO 2328标准。
- 在左侧前移叉上刻有“L”，在右侧前移叉上刻有“R”。从司机的角度观测，两根前移叉必须分别按左、右侧朝向挂装在叉车的货叉架上。
- 在货叉架上平移前移叉直到前移叉顶部的插销嵌入到货叉架的凹槽中。
- 将分流阀安装到便于防护的位置即叉车货叉架背面，或者将分流阀置于液压组件和软管免于损坏的位置。
- 注意分流阀和货叉之间的联接软管长度必须相同。
- 为了确保两根货叉能够分得均衡的流量，有必要将分流阀安装在水平位置。
- 必须安装第13页图示要求安装软管尽可能避免液压系统产生背压。

MOUNTING OF FORKS AND FLOW DIVIDER

- The forks are mounted usually in the same way as standard forks. In most cases this means with the hooks according to ISO 2328.
- On the serial number an “L” is marked on the left telescopic fork and an “R” is marked on the right telescopic fork. The telescopic forks must accordingly be mounted left and right on the lift truck carriage, as seen from the drivers seat.
- Shift the telescopic forks on the lift truck carriage and shift if the pin of the telescopic forks properly fits into the notch of the lift truck carriage.
- Mount the flow divider on a well protected place; e.g. on the back of the lift truck carriage. Or place a protection to protect the hydraulic components and hoses against damage.
- Please take care that the hoses between the flow divider and the forks have equal length to avoid accumulator effects in the hoses.
- To get a good balance in the divided flow, it is necessary to that the flow divider is horizontally mounted.
- The hoses must be mounted according to the scheme page13, to avoid back pressure in the hydraulic system as good as possible.

- 为了避免前移叉着地时磨损，可以在油缸和活塞杆末端之间加装一个塑料隔套，这样以来，当前移叉降低到最低位置时其底部不会撞击到地面。另一个解决的办法是缩短属具挂装吊绳。
 - 前移叉的工作流量不超过75L/min，如果超过这个最大值，则可以叉车上的节流阀来调节流量。
 - 前移叉的最大工作压力为180bar。
- To avoid wear of the telescopic forks on the floor you can use a plastic spacer between the cylinder and the rod end, in a way that in the lowest po-sition the telescopic forks just not hit the floor. Another solution is to shorten the hoist chain.
 - At an oil flow of 75 litre/min or more the oil flow must be reduced by a flow regulator in the lift truck.
 - Maximum operating pressure of the reach forks is 180 bar.

2

安装前移叉

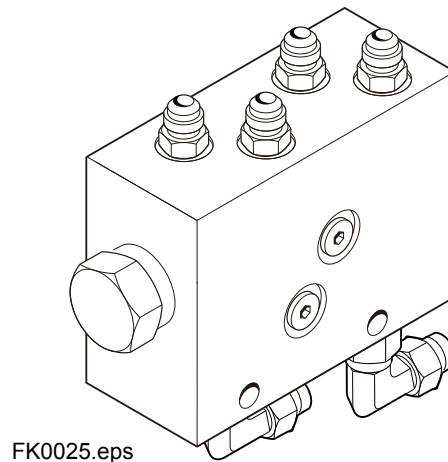
第一条软管，一端联接叉车多路阀，另一端联接分流阀的连接端口（阀体上标注的“P”端口）。第二条联接到阀体上“R”端口的软管，是用于回油到叉车油箱中。分流阀与每一根前移叉之间通过两种软管相联，一种与“P”口联接，用于为属具提供液压油，另一种与“R”口联接，用于回油到叉车油箱。

先在空载状态下让前移叉缓慢地进行伸出与收缩动作；然后在负载状态下继续伸缩动作循环以将系统中的空气排除出去。检查软管和钢管是否缠绕在一起。检查整个液压系统是否有漏油，是否需要添加润滑脂。

Installation of the Telescopic Forks

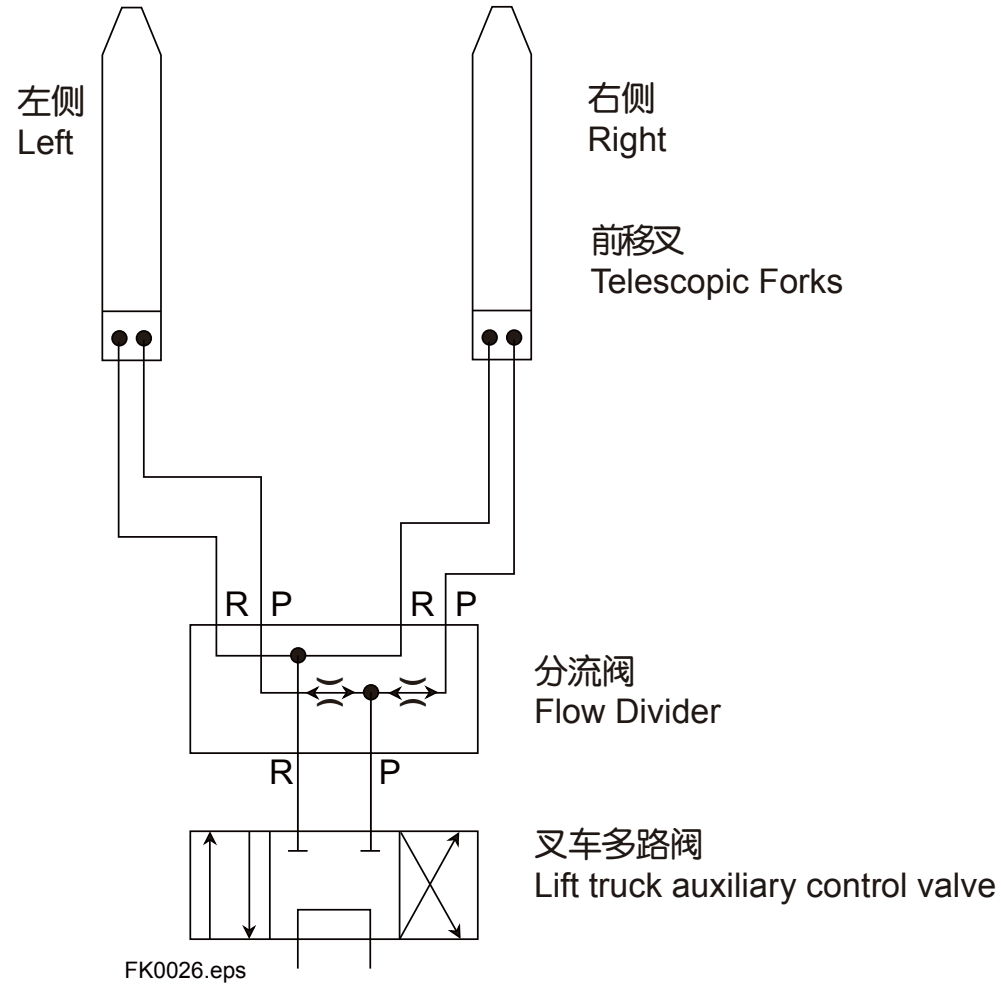
The supply hose from the auxiliary control valve of the lift truck is connected to the inlet port of the flow divider (stamped with "P"). A second hose, fitted on the place where "R" is stamped, is used for the return oil flow back to tank and is also connected to the auxiliary control valve. The flow divider is connected with each of the telescopic forks by means of two hoses, where "P" again means pressure and "R" return to tank.

Extend and retract the telescopic forks at first slowly and without a load, to drain trapped air from the hydraulic system. Check if the hoses and tubes are not kinked. Check on oil leakages and grease the system.



3

前移叉（带分流阀）液压原理图
Hydraulics schematics with flow divider

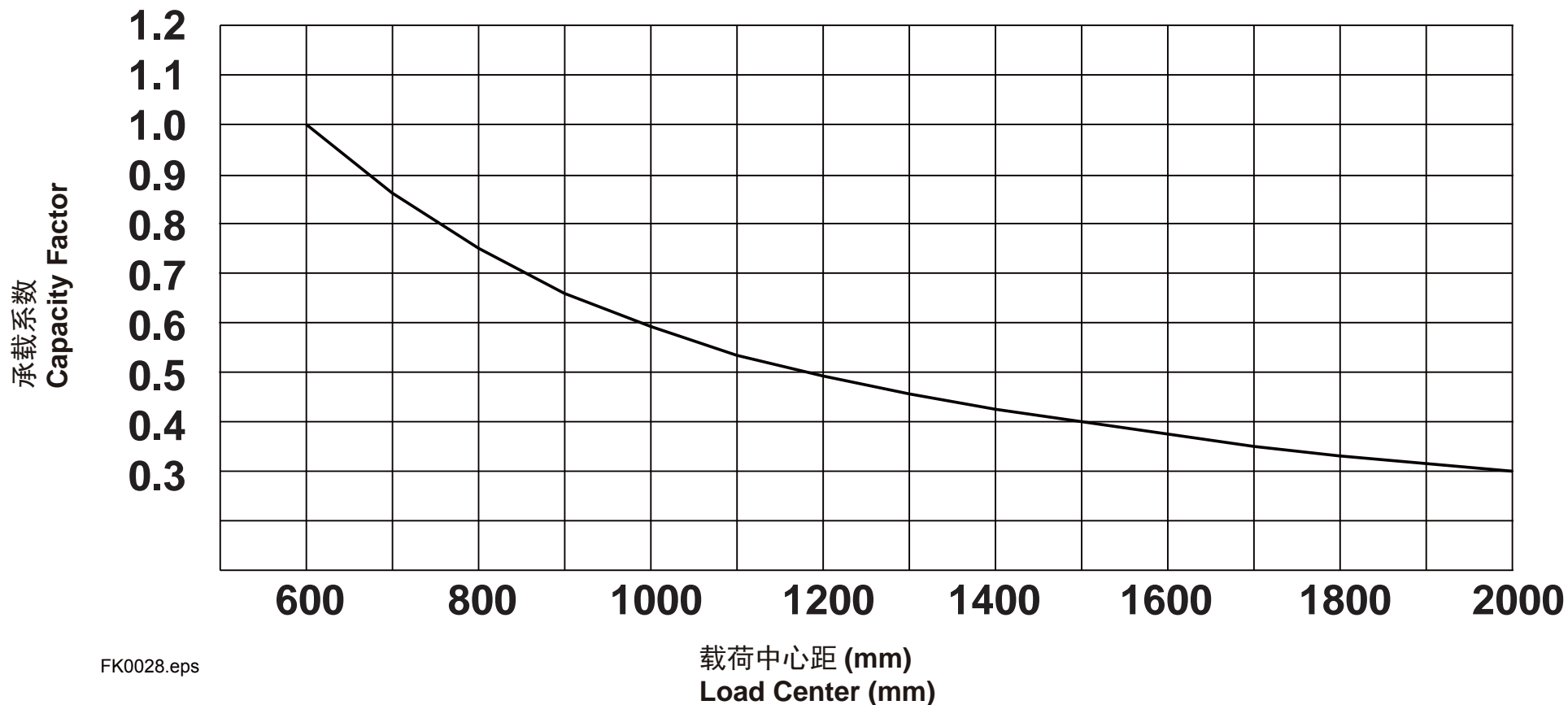


4 承载能力

每一根前移叉上都有铭牌。上面注明了每根货叉的最大承载能力。每根货叉的侧面则刻有载荷中心距最大限值。从以下的载荷图表中可以看到承载能力与载荷中心距的关系曲线。横轴表示载荷中心距，纵轴表示承载系数。

CAPACITY

On each of the two telescopic forks a nameplate is mounted. The maximum capacity per fork is mentioned in this nameplate. The maximum load center of the fork is stamped on the side of the fork. From the load diagram below you can deviate the capacity at a certain load centre. Horizontally the load centre in mm and vertically the (dimensionless) capacity factor.



用户在使用产品前请仔细核对铭牌上的参数信息包括承载能力和前移叉的伸缩行程等。铭牌分别位于两根货叉叉柄延伸端的挡板上，上面分别注明了货叉完全收缩与伸出时的载荷中心以及与之对应的承载能力。

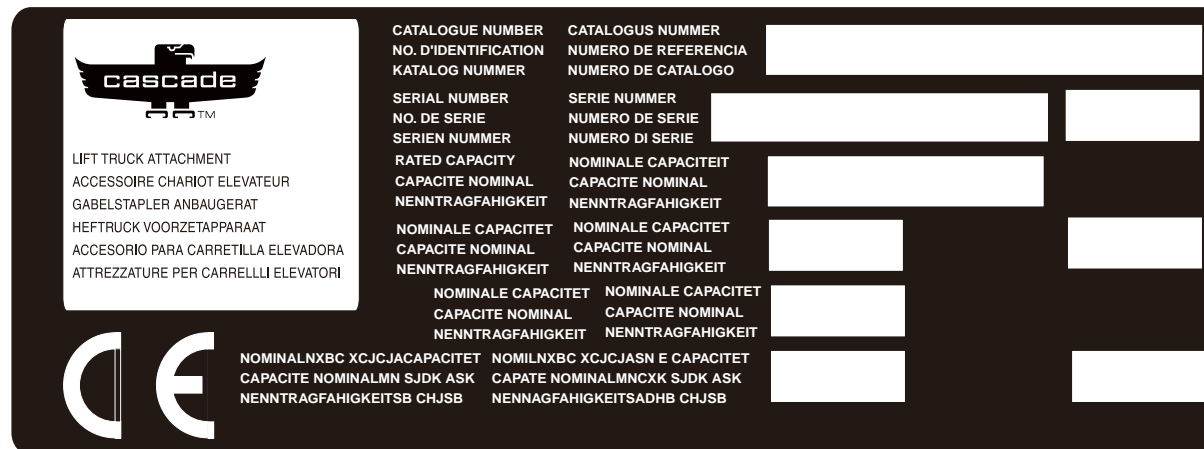
需要强调的是前移叉应注意以下两点

- 1) 提升和搬运的货物重量及货物载荷中心不能超过铭牌上标注的最大值。
- 2) 为了实现沿水平方向前伸平移货物（重量不超过铭牌上标注的第一个承载能力）。须确保货叉在作前伸动作时叉车处于静止状态。

The user should check whether the nameplate of forks received meet the current demand on lifting capacity and extension. This data appear on the nameplate of the Telescopic forks, where the lifting capacity of each fork is specified at two different load centres (retracted and extended).

It should be emphasized that the Telescopic forks have been constructed for the following purpose:

- 1) To lift and to carry a load not heavier and with the load centre not longer than indicated on the nameplate section CAP. MAX.
- 2) To move a load not heavier than specified under 1 horizontally. This movement should take place with a stationary/parked truck.



FK0030.eps

货叉在负载或不负载的状态下启动叉车，为了保护液压系统和叉套须将叉套保持收缩状态。

若叉套处于伸出状态将会导致液压系统的压力达到峰值将损坏液压系统的密封件。

避免叉套表面沾满灰尘或沙粒，因为这将有可能对货叉的滑动表面造成磨损。如果叉套表面的灰尘已经引起你的注意（或你认为叉套表面可能有灰尘），则请将灰尘去除并清理干净。

叉套在作伸缩运动时，与其（部分）相滑动的是可更换且免润滑的滑动支承。

When running the truck with or without load on the forks the fork shoes should be retracted in order to protect the hydraulic system and the shoes.

If a collision takes place with extended shoes it would result in a pressure peak in the hydraulic system could damage seals etc.

Please avoid the fork shoes from getting filled up with dirt, sand etc., as this would damage the sliding surfaces. If such dirt accumulations have been noted (or you have a suspicion about a such) the shoes should be removed and cleaned . During extension and retraction the shoes slide on (partly) replaceable and maintenance free wear plates.

前移叉的操作是通过封闭式的自我润滑液压系统来实现的。为了保证前移叉拥有较长的使用寿命，须采取如下措施：

- 在每次开始使用产品前，先检查前移叉是否受损现象。
- 相关负责人需及时向上级反映任何异常情况。
- 进行维护保养前，确保其不在实物操作状态。
- 叉车必须熄火并将启动钥匙拔下。

具体维护保养的细节参考如下说明。

日常保养

- 检查液压系统是否泄漏，所有联接部位的螺栓重新锁紧

每周保养

- 通过润滑咀（1个）对货叉导套进行润滑
- 润滑内货叉外表面

The operating of the telescopic forks take place by means of a closed loop self greasing oil system. To guarantee a long lifetime a restricted set of measures have to be taken. It is, however, necessary to:

- Check every time before start of the operation, the telescopic forks for damage.
- Mention everything that is not OK to the responsible person.
- Before doing maintenance on the telescopic forks, check if the telescopic forks are out of operation.
- The lift truck must be switch off and the key must be removed from the ignition switch. For further details on inspection and maintenance see the maintenance scheme.

Daily Maintenance

- Inspection of leakage of hydraulic oil, re torque all connections with two keys.

Weekly Maintenance

- Greasing fork guidance, 1 nipple
- Greasing the outside of the inner fork



3个月或150小时保养

- 检查液压系统是否泄漏，所有联接部位的螺栓重新锁紧
- 检查滑动支承的磨损（每根货叉4个）
- 检查外货叉的磨损（每根货叉1个）

年度或2000小时保养

- 通过润滑咀（1个）对货叉导套进行润滑
- 用两个额定负载测试货叉
- 更换螺旋状轴套

清理分流阀

所有型号的前移叉（除了带挡货架的型号以外，这种型号关注的是两根前移叉的同步性）。

按照以下要求对分流阀进行清理：

- 拆下分流阀芯
- 用高压气枪清理分流阀芯和阀块
- 重新安装分流阀芯并检查其功能是否正常

3 monthly or 150 hours Maintenance

- Inspection of leakage of hydraulic oil, re torque all connections with two keys
- Wear of wear strip; 4 per fork
- Wear of outer fork; 1 per fork

Yearly or 2000 hours Maintenance

- Cleaning of the fork guidance nipple
- Testing of the complete fork with 2x the nominal load
- Replacement of the spiral bushes

Cleaning of Flow Divider

With all types of telescopic forks (with exception of telescopic forks with a load backrest, which takes care of the equal fork movement of the telescopic forks). The cleaning of the flow divider can be done in the following way:

- Remove the flow divider cartridge
- Clean the cartridge and the valve block with pressurised air
- Mount the flow divider cartridge, check the working of the cartridge

符合OSHA规则一工业车辆和属具(详见OSHA1910.178)



警告：本工业车辆安全操作和维护规则遵循OSHA1910.178和ANSI B56.1-1969工业车辆安全标准。当操作和维护安装有属具的叉车时您要特别注意这些规则的如下部分。您应熟悉这些规则的所有部分。不明之处请向您的上级询问。

(a)常规要求

(4)除非预先得到书面许可，用户无权擅自更改和添加影响作业能力和操作安全的操作。

(5)如果用户自行在叉车上安装属具而不通过厂家安装，用户将被要求对叉车进行标注以区别于属具，并标明在货物载荷中心夹持并举升到最大高度时叉车 / 属具准确的综合载重量。

(6)用户在维护时应能看到所有铭牌和标签清晰明了。

(e)安全规则

(2)如果货物堆放形式不合安全规范，用户应根据如下(a)(2)要求给叉车加装竖式挡货架。

(a)(2)所有1972年2月15日以后用户购买的叉车的设计和结构必须符合由ANST制定ANSI B156.1-1969工业车辆部件 II 标准。

(l)操作人员培训

只有经过培训和授权的操作者才可以驾驶叉车。在叉车安全培训时应为培训人员制订相关规程。

(m)叉车驾驶

(1)叉车不允许朝工作台或其他固定物体前的站立者行进。

(2)叉车举升时无论空载还是载货时都不允许有人站在货叉下方或从货叉下方经过。

(3)未经授权的人员不允许驾驶叉车，用于安全驾驶叉车的场地亦须得到许可。

(4)不允许将手臂或脚伸到门架之间或行进着的叉车外。

(5i)当叉车载着货停放时，货物应尽量完全放低。控制杆应挂空挡，关闭发动机并拉上制动刹车手柄。如果叉车停在斜坡上还应用块状物挡住车轮。

(5ii)叉车在以下情况属无人看管状态：操作者远离叉车7.6米以上（即使在视野以内），或任何时候操作者离开叉车并不在视野范围内。

(5iii)当操作者离开叉车并在7.6米的视野范围内时，应先完全降下货物，挂空挡，关闭发动机并拉上制动刹车手柄。

(6)在任何装卸码头或载重卡车作业时都应使叉车与斜坡或平台保持一定的安全距离。叉车不能用于开闭门。

(10)无论是否需要都应加装挡货架，以尽可能减小货物或部分货物向后掉落的可能性。

(n) 行进

(4)驾驶员经过十字路口或其他影响视野的障碍物时应慢速行驶并鸣笛。如果货物搬运时前方视线被挡，驾驶员应采用倒退搬运。

(7i)当斜坡坡度超过10°时，叉车装载行驶时须使货物相对叉车而言处于坡度上方（即上坡时叉车向前行驶，下坡时叉车倒退行驶。）

(7iii)在坡上行驶时，叉车门架尽可能后倾，并提升必要的高度以保证货物运输安全。

(o) 装货

(1)只允许搬运包装稳定或安全的货物。在搬运载荷中心不对中的货物时须小心谨慎。

(2)只允许搬运叉车承载能力范围内的货物。

(3)当货物尺寸过长或过高（包括多层货物）而影响承载能力时，必须调整货物。

(4)操作安装上属具的叉车，即使不夹持货物，也应把它看成搬运了一定重量（非满载）货物。

(5)须小心地后倾门架以保证货物稳定性。

(6)货物前后倾时要格外小心，特别是高层堆垛时。货物提升时不能同时前倾，除非叉起货物时。提升货物至堆垛货物上方时再前倾。当堆垛多层货物时，应尽量后倾以保证稳定性。

(p) 叉车操作

(1)任何时候发现叉车处于须维修、有缺陷或任何安全隐患的情况，叉车必须停下来维修直到可重新安全工作。

(q) 叉车维护

(1)任何存在不安全操作隐患的叉车都应该返修。所有维修工作应由经授权的人员完成。

(5)叉车上所有待维修更换的部件都只能用标准更换件更换以确保叉车保持出厂时的安全使用状态。

(6)未经授权不得对叉车擅自改动以避免和出厂时众多部件原有位置不符。也不允许用即使制造商原先没提供的额外部件进行更换或减少任何配件。除非得到叉车制造商的许可，否则不得对叉车超载作业。

(7)叉车投入使用前应先检查，如果检查显示任何对叉车操作不安全的迹象时都不可投入使用。这样的检查至少应每日进行。如果叉车是24小时不间断工作，那么每次换班时需例行检查。发现毛病时应立即上报并更正。

SAFE OPERATION AND MAINTENANCE (OSHA REGULATIONS)



WARNING:The safe operation and maintenance of industrial trucks is regulated by Occupational Safety and Health(OSHA) regulations 1910.178 and American National Standards Institute(ANSI)Safety Standard for Powered Industrial Trucks,ANSI B56.1-1969.When operating and maintaining industrial trucks equipped with attachments you should pay particular attention to the following sections of these regulations.You should be familiar with all sections of these regulations. **Ask your employer for the complete regulations.**

(a) General Requirement

(4) Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturers prior written approval. Capacity,operation and maintenance instruction plates,tags or decals shall be changed accordingly.

(5) If the truck is equipped with front-end attachments other than factory installed attachments,the user shall request that the truck be marked to identify the attachments and show the appropriate weight of the truck and attachment combination at maximum elevation with load laterally centered.

(6) The user shall see that all nameplates and markings are in place and maintained in a legible condition.

(e)Safety Guards

(2) If the type of load presents a hazard,the user shall equip fork trucks with a vertical load backrest extension in accordance with (a) (2)following. (a) (2)All new powered industrial trucks acquired and used by an employer after February 15,1972 shall meet the design and construction requirements for powered industrial trucks established in the "American National

Standard for Powered Industrial Trucks, Part II,ANSI B56.1-1969",except for vehicles intended primarily for earth moving or over -the-road hauling..

(l)Operator Training

Only trained and authorized operators shall be permitted to operate a powered industrial truck. Methods shall be devised to train operators in the safe operation of powered industrial trucks.

(m)Truck Operations

(1) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.

(2) No person shall be allowed to stand or pass under the elevated portion of any truck,whether loaded or empty.

(3) Unauthorized personnel shall not be permitted to ride on powered industrial trucks.A safe place to ride shall be provided where riding of trucks is authorized.

(4) The employer shall prohibit arms or legs from being palced between the uprights of the mast or outside the running lines of the truck.

(5i) When a powered industrial truck is left unattended, load engaging means shall be fully lowered,controls shall be neutralized,power shall be shut off and brakes set.Wheels shall be blocked if the truck is parked on an incline.

(5ii) A powered industrial truck is unattended when the operator is 25 feet or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.

(5iii) withinWhen the operator of an industrial truck is dismounted and within 25 feet of the truck still in his view, the load engaging means shall be fully lowered,controls neutralized and the brakes set to prevent movement.

SAFE OPERATION AND MAINTENANCE (OSHA REGULATIONS)

(6) A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock or platform or freight car. Trucks shall not be used for opening or closing freight doors.

(10) A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.

(n) Travelling

(4) The driver shall be required to slow down and sound the horn at cross isles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

(7i) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.

(7ii) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

(o) Loading

(1) Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.

(2) Only loads within the rated capacity of the truck shall be handled.

(3) The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.

(4) Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

(5) A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.

(6) Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with

load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

(p) Operation of the Truck

(1) If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

(q) Maintenance of Industrial Trucks

(1) Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.

(5) All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.

(6) Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter-weighting of fork trucks shall not be done unless approved by the truck manufacturer.

(7) Industrial trucks shall be examined before being placed in service and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examinations shall be made at least daily. When industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

质量保证政策 **W**ARRANTY

感谢您选用卡斯卡特（厦门）叉车属具有限公司产品。为了充分保障您的权益，请认真阅读本质量保证政策。

以下：“卡斯卡特（厦门）公司”指卡斯卡特（厦门）叉车属具有限公司；“购买商”指直接与卡斯卡特（厦门）公司签订产品购销合同的叉车主机厂或获得叉车主机厂授权的代理商。

卡斯卡特（厦门）公司：保证其产品符合卡斯卡特（厦门）公司所提供的有效的产品购销合同、报价单、产品手册中所列有关性能参数的要求。

卡斯卡特（厦门）公司全新产品：包括属具、货叉、卷管器和配件，质量保证期为卡斯卡特（厦门）公司货交第一承运人之日起24个月或该产品使用4000小时。以上述两项中先到期限者为准。

卡斯卡特（厦门）公司绿萌系列再制造产品：质量保证期为卡斯卡特（厦门）公司货交第一承运人之日起6个月或该产品使用1000小时。以上述两项中先到期限者为准。

本政策中，“质量保证”的含义是：卡斯卡特（厦门）公司将对于获得其书面授权人员检查后确认在材料或制造工艺方面存在缺陷的任何零部件进行修理或更换。

购买商、最终用户应做到：

1.在对卡斯卡特产品进行安装、调试、使用和保养时，必须严格按照相关的卡斯卡特安装说明书、检测规范、操作指南和维修手册的规定进行操作。

2.只有在获得卡斯卡特（厦门）公司的书面授权后，方可对所购的卡斯卡特公司产品进行修理，但不能拆除或更换产品上的零部件。

任何在未经卡斯卡特（厦门）公司书面授权的情况下对卡斯卡特产品所作的修理、改动，或使用非卡斯卡特（厦门）公司原厂提供的零部件，或违反卡斯卡特安装说明书、检测规范、操作指南和维修手册中的有关规定，都将导致失去享受本质量保证政策的权利。

质量保证政策 **W**ARRANTY

注意事项:

1. 卡斯卡特（厦门）公司对于使用其产品进行超出该产品适用工况的特殊作业导致的产品损坏或任何非正常状况不予保修。
2. 当购买商或最终用户已拥有或虽未拥有但已开始使用本公司产品后，发生的该产品丢失、该产品使用中的人身或财产造成损失或损害（包括间接损失或损害），卡斯卡特（厦门）公司均不承担责任。
3. 产品正常使用中的磨损、消耗、未按卡斯卡特（厦门）公司操作指南而进行非正常使用、以及正常或定期的维护保养工作，不享受本质量保证政策。
4. 超出本质量保证政策内容及卡斯卡特（厦门）公司购销合同上所述的产品相关条款外的情况，均不享受本质量保证政策。

最终用户如果需要进一步了解卡斯卡特（厦门）公司产品或安装及修理方面的事宜，请首先向售出该产品的叉车主机厂或其代理商咨询。

卡斯卡特（厦门）公司也非常乐意解答您在这方面的任何问题。

请洽：卡斯卡特（厦门）叉车属具有限公司 服务与配件处

电话：40088 57315

本质量保证政策自2013年9月24日起生效。在新的质量保证政策频发前，本政策一直有效。卡斯卡特（厦门）公司保留对本政策进行修改的权利，届时恕不一一通知。请注意本政策页面下端的版本号。

Version No.: Cascade Xiamen 2013

WARRANTY

Thank you very much for your purchasing Cascade products, in order to fully guarantee your rights and interests, please read the content of this Warranty carefully.

In this article, hereafter, "Cascade Xiamen" means Cascade Xiamen Forklift Truck Attachment Co., Ltd.;"Buyer" means the forklift truck OEM (Original Equipment Manufacturer) or its authorized Dealer who signs purchasing contract with Cascade Xiamen directly for its product.

Cascade Xiamen: warrants its products to conform to published specifications as found in its valid sales contracts, quotations, brochures, price lists.

Cascade Xiamen New Products: consisting of attachments, forks, hose reels and service parts are warranted for 24 months following the date of delivery to the primary carrier, or 4000 hours of operation, whichever terminates first alternatively.

Cascade Xiamen Remanufactured Products: are warranted for 6 months following the date of delivery to the primary carrier, or 1000 hours of operation, whichever terminates first alternatively.

Within the policy, "Warranty" means Cascade Xiamen will repair or replace, at its option, any part that a Cascade Xiamen itself or authorized inspection reveals to be defective in materials or workmanship.

What Buyers and Customers must do:

- 1.To preserve Cascade Xiamen's Warranty, Buyers and Customers must carefully follow applicable Cascade Installation Instructions, Service Manuals and Operator Guides when installing, adjusting, maintaining and operating Cascade equipment.
- 2.Buyers, Customers must obtain Cascade Xiamen written authorization for repairs other than removal or replacement of defective parts.

Any unauthorized repairs or alterations, use of parts not provided by Cascade Xiamen, or failure to follow Cascade's Installation Instructions, Service Manuals and Operator Guides will result in loss of Warranty.

WARRANTY

Notice:

1. Cascade Xiamen does not warrant that its products will perform any particular task which conditions are not suitable for the product.
2. Cascade Xiamen assumes no responsibility for loss, damage or injury to persons or property, or for consequential damages, resulting from the possession or use of its products.
3. Cascade Xiamen's Warranty does not cover wear, tear, abnormal applications which fail to follow Cascade Xiamen product Operator's Guide properly, normal or scheduled maintenance.
4. **THERE ARE NO WARRANTIES EITHER EXPRESS OR IMPLIED INCLUDING ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXTEND BEYOND THOSE STATED IN THIS WARRANTY AND THE PRODUCT DESCRIPTION ON THE FACE OF CASCADE XIAMEN'S ORDER ACKNOWLEDGEMENT.**

If the end user customer would like to know more about Cascade Xiamen product or the relevant aspects of installation and service, please firstly consult with the forklift truck OEM or its Dealer who sold the product.

Cascade Xiamen is also very happy to answer any of your questions on this. Please contact: Service and Spare Parts Department, Cascade Xiamen Forklift Truck Attachment Co., Ltd. Phone: 40088 57315

This Warranty's effective since September 24, 2013. Its validity remains until being superceded by a later version. Cascade Xiamen reserves all the rights of amendment without notice. Please note the Version No. at the bottom of this page.

Version No.: Cascade Xiamen 2013

卡斯卡特（厦门）叉车属具有限公司 Cascade Xiamen Forklift Truck Attachment Co. Ltd

地址：厦门市海沧区阳光路668号 邮编：361026

No.668 Yangguang Road, Haicang, Xiamen, Fujian ,361026 P.R China

电话/Tel: 0592-6512500 传真/Fax: 0592-6512571

cascade corporation

www.cascorp.com.cn

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Cascade Ximen reserves the rights to make change without notice.

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