河南德钧实业有限公司

Henan Dejun Industrial Co.,Ltd

简易龙门架使用说明书

Portal Crane Operation Manual

Henan Dejun Industrial Co.,Ltd

警告：操作者在使用门吊前必须仔细阅读本说明书，并严格按本说明书中的操作步骤操作。违规操作，将会造成严重后果。

Warning: The user should read this manual carefully before operating this crane. The operation should follow this manual.

有下列情况之一者，严禁起吊：

These are one of bellow cases, the crane is prohibited to use

①被吊重物质量超过本机允许值范围；

The load object excess the rated capacity.

②吊物下方有人 People are bellow the loading goods.

③吊物上方站人 People are above the loading goods.

④起吊埋在地下物 The loading goods is buried in the ground.

⑤斜拉斜牵重物 Tilt lifting.

⑥吊装绳与重物连接不牢；

The connection between Lifting webbing sling and loading goods are not strong.

⑦六级以上强风；6 degree and above wind.

⑧索具不牢固。Rigging part is not properly installed.

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一、用途及构造

Application and Structure

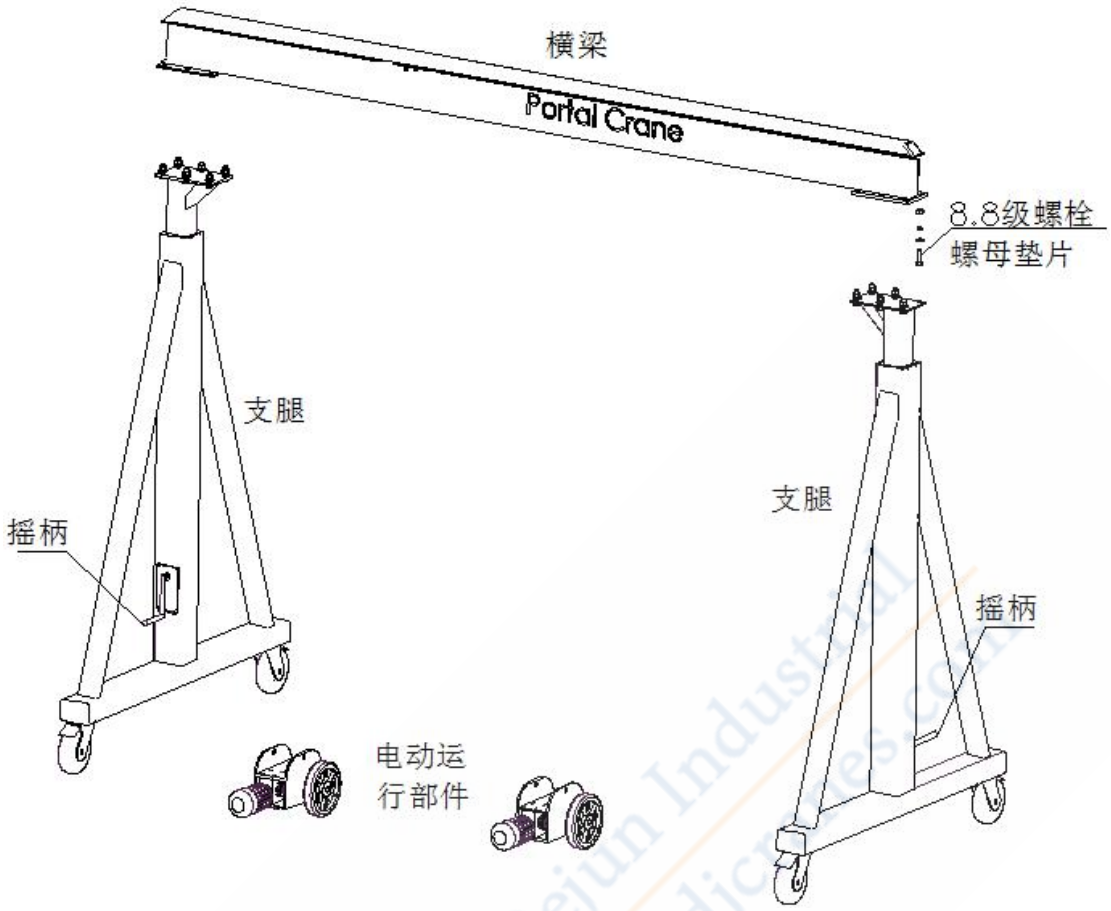
此起重机主要用于装配车间、机加工车间、模具装配、科研实验室、维修保养车间、小型货运站、仓库、汽修厂等场所的吊装作业及货物搬运。

This crane is mainly designed for material handling work in the assembling workshop, machining workshop, model assembling, research laboratory, maintenance, small cargo terminal, warehouse, car repair center, etc.

该机主要由行走系统、钢结构架系统、电气控制系统、起升系统等组成。行走系统分为脚轮式、钢轨式、电动行走式。钢结构架分为完全可拆卸式和局部可拆卸式。起升系统根据客户需求选配手拉葫芦或者电动葫芦及其他起重设备。

The crane contains travelling system, steel structure, control system, hoist system. The travelling system can be drived by castor wheel type, rail type and electrical drive type. The steel structure can be full or part disassemble. The hoist can be electric hoist or manual chain block.

该机结构简单、拼装方便、操作容易。



二、主要技术参数

Main technical data

1、额定起重量： 5 吨

Lifting capacity:5ton

2、跨　　度:4500mm

Span:4500mm

3、整机高度:4000-6000mm

Total height:4000-6000mm

4、电压：单相电，240v，50Hz

Voltage:Single phase,240v,50Hz

三、图纸

Drawing

四、安装注意事项及拼装顺序

Safety and Installation

门吊安装时，应注意以下几点：

Take notes before installation

1、起重机运输至现场后，首先按货物清单清点零部件，检查各构件在运输过程中，有无损坏和变形，若有则必须于地面修复后才能组装和架设。

Once the crane has been shipped to the destination, according to the packing list, check if these are any damages or deforms. If yes, try to repair it.

2、作业地面必须坚实、平整。

The installation floor should be stable and smooth.

拼装方法一 Installation Method I：

1、在地面把左右两侧钢结构和行走装置组装好。

Properly assemble the two sides leg and ground beam .

2、将脚轮刹车踩下，支起一侧支腿成 60 度角，将横梁一侧抬起放在支起 的支腿上，使连接法兰重合。

Brake the wheel and lift the leg to 60 degree. Lift one side of the beam. Join the flanges.

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3、安装好高强螺栓、垫片、弹簧垫圈和螺母，安装紧固。

Assemble the flanges by high-strength bolts, spacers and spring washer. Fasten those parts.

4、抬起安装好的横梁，放置到另一侧支腿上，使连接法兰重合，重复第 3 步。

Lift the finished beam and lay to the other side legs. Repeat the step 3.

5、将需要使用的起吊设备安装到横梁上，确定吊具安全可用。

Assemble the hoist to the beam and make the hoist safe and workable.

6、如果是电动起升，连接电缆滑线及电源线。

Install the festoon system if the hoist is electric type.

7、如果是电动行走，连接电机和控制柜间的电缆线，至此主要安装工作结 束。

Install the electrics between the motors and electric box.Till now, the installation is finished.

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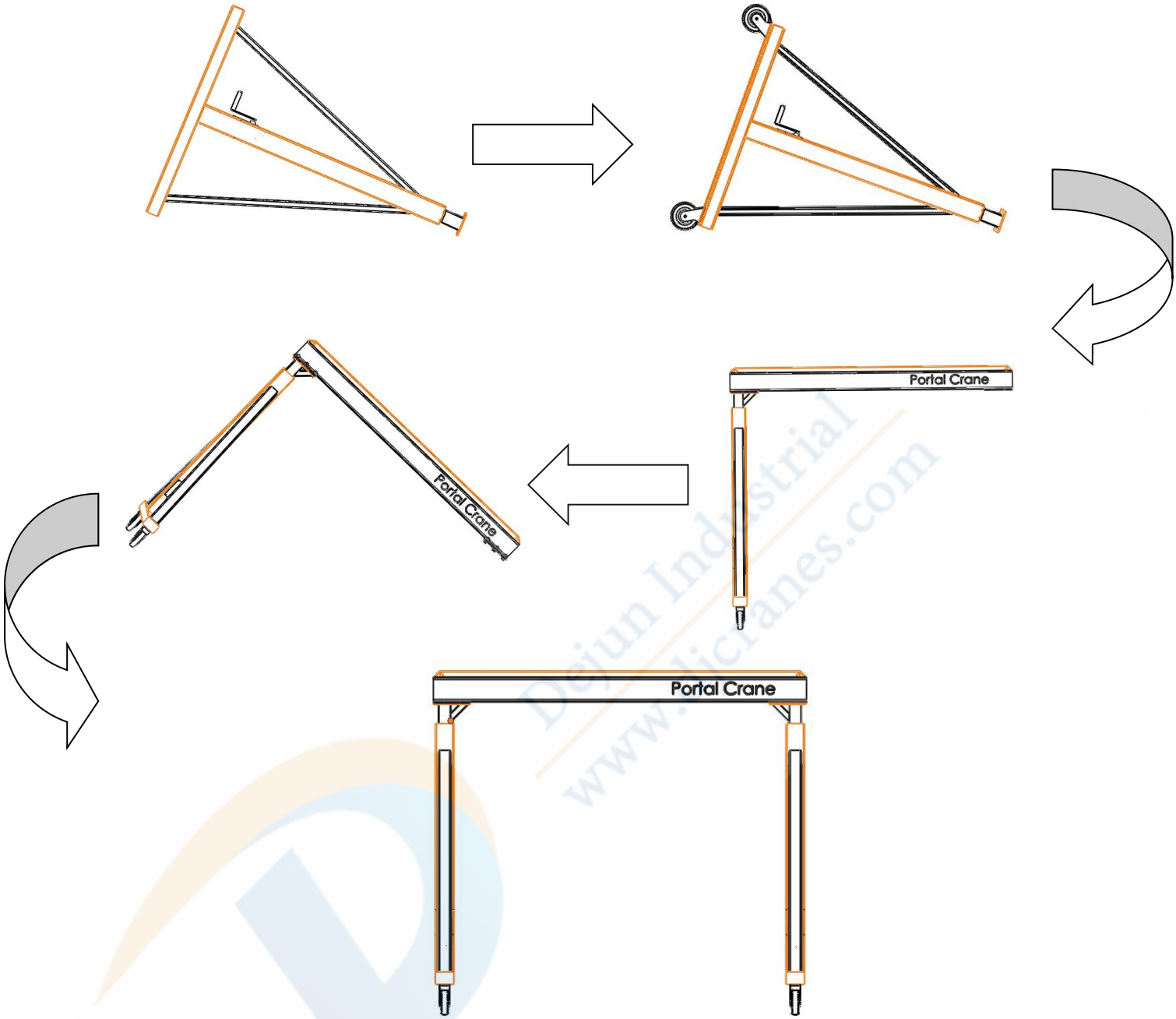

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拼装方法二 Installation Methods II：

1、在地面把左右两侧钢结构和行走装置组装好。

Assemble the two sides legs and walking system.

2、将脚轮刹车踩下，把两侧支腿根据横梁长度摆放。

Brake the wheels. Put the 2 legs parts to proper position according to the beam length.

3、将横梁摆放到合适位置，使两侧连接法兰重合。

Put the beam to the proper position and match the flanges between the beam and leg.

4、安装好高强螺栓、垫片、弹簧垫圈和螺母，安装紧固。

Assemble the flanges by the high-strength bolts, spacer, spring washer and nuts. Fasten those parts.

5、安装完毕后，依靠起重设备或者人力将龙门吊抬起至工作状态。

After assembling, lift the whole crane to up strait by worker or by lifting equipment.

6、将需要使用的起吊设备安装到横梁上，确定吊具安全可用。

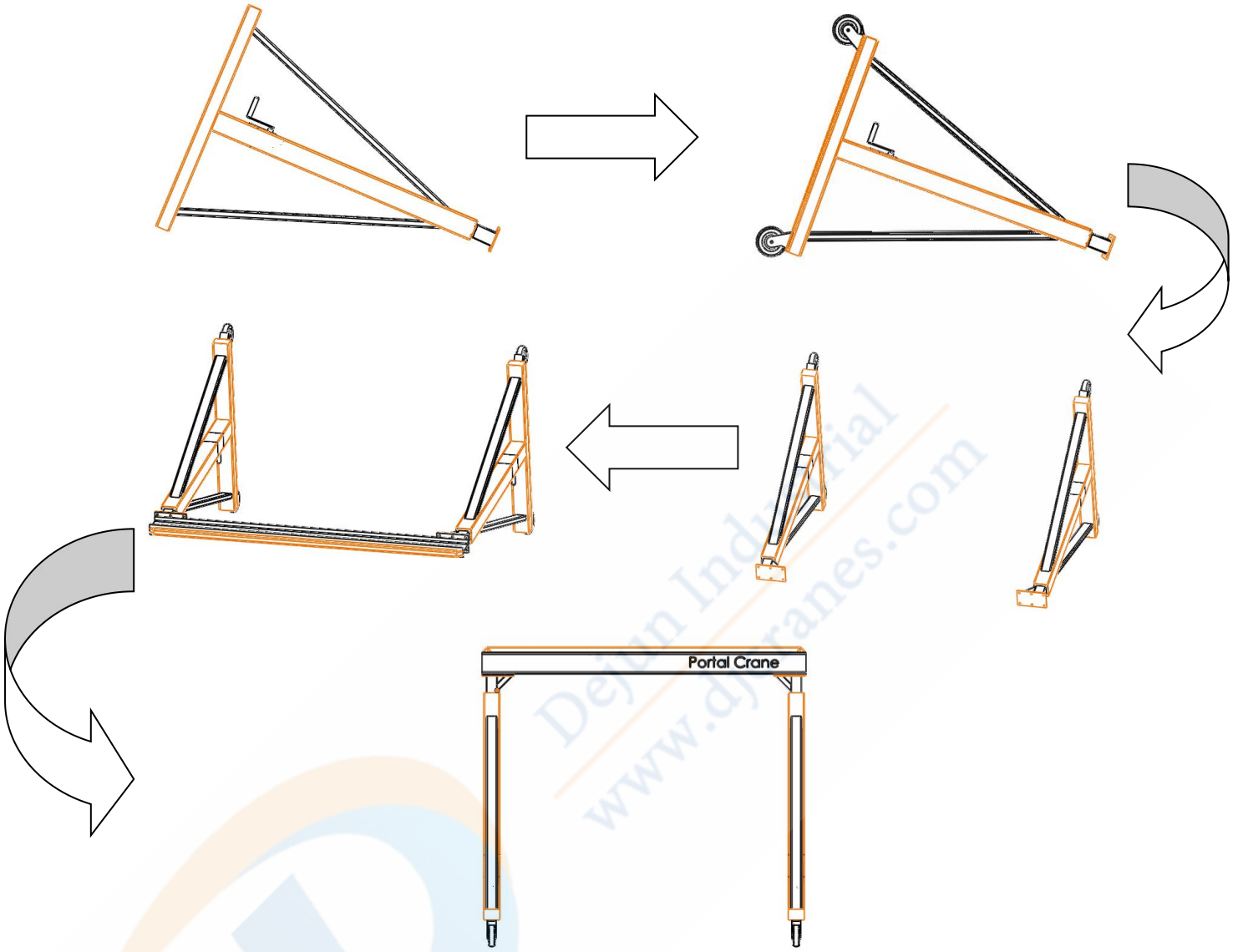
Install the hoist to the beam.

7、如果是电动起升，连接电缆滑线及电源线。

Install the festoon system and electric if the hoist is electric type.

8、如果是电动行走，连接电机和控制柜间的电缆线，至此主要安装工作结束。

Install the motor to the electric cabinet if the crane travel is drive by motors.Till now, the installation is finished.



四、起重机试车

Commissioning

1、切断全部电源。 Shut off the electricity supply.

2、检查各紧固件是否牢固，各金属结构有无变形。

Check all fasteners are all well fixed. Check there is any deforming of the steel structure.

3、空载运行起重机，检查有无异常现象。

Make lifting without loading to check if any abnormal happens.

4、静负载试车：负载额定重量，在横梁上行走，将起重小车开到跨中，将重物升到一定高度（离地面约 100mm）,静置 10 分钟；如此连续实验三次，且第三次卸掉负荷后，横梁不得有残余变形。

Static test: drive the hoist to the middle of the beam with loading. Keep the lifting object to certain height (100mm above the floor) for 10 minutes. Start over this test by three times. Unloading the object and check the beam. The beam is not allowed to have any deformation.

5、动负载试车：静负载试车合格后，方可进行动负载试车。

Dynamic loading test: The dynamic loading test can only be done once the static test passes.

6、起重机负载额定重量做反复起升和下降制动试车，然后开动小车左右来回行走 3~5 次，并反复制动和启动。此时机构的制动器、限位器、电气操作应可靠，准确和灵活，车轮不打滑，机架震动正常，机构运转平稳，卸载后机构和机架无残余变形。

Put rated loading to the hoist. Repeat lifting and lowering. Drive the trolley to the left and right along the beam by 3-4 times. Repeat the brake and starts. During the testing, the brake, limit switch, pendant control should be accreted。 No skidding of the wheels. The vibration should be normal. All traveling should be smoothly. After unloading, the structure should be no deformation.

各项试验合格后，可安全使用。

All tests have been finished and passed, the crane can be put into using.

五、起重机安全操作

Safety Rules and Operation

1、起重机操作人员应熟悉本机的结构特点和操作方法。

The operators should be familiar with the features and the way of operation of the crane.

2、每当第一次吊运物品以使吊运接近额定载荷的物品时，应先将重物起升至不超过 0.5 米，然后下降到接近地面时制动。

For the first lifting operation of each work shift, should not Higher than 0.5 meters.

3、禁止超负荷使用。

No overloading.

4、禁止倾斜吊运物品 。

No tilt lifting.

5、禁止人随物品一起升降。

No lifting people.

6、不允许长时间吊重物于空中停留，起重机吊装重物时，操作人员不得离开。

When crane lifting heavy duty goods,operators are not allowed to leave.

7、禁止在横梁上放工具、零件等物品，以免坠落伤人。

Tools are not allowed to put on top of the beam in case of hurting if falling down.

8、突然断电时，要将所有控制手柄转至零位。

If power is suddenly off, all control switches should set to zero.

9、不工作时，应当踩下刹车，防止滑溜。

When the crane is not work, the wheels should be braked.

10、禁止六级以上风力工作。

The crane is not allowed to be used when the wind is 6 degree and above.

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六、润滑保养

Lubrication and Maintenance

1、起重机各机械的使用质量和寿命，很大程度上取决于经常和正确的润滑。因此应该对起重机的行走机构和升降机构定期润滑。

The performance quality and life of the crane is decided, to some extend, by the lubrication work. The motion parts such as the long travelling system and hoisting system should be lubricated periodically.

2、使用钢丝绳时，应注意钢丝绳断裂情况，如有断丝断股和磨耗量达到报废标准时，应更换新绳，并定期用油脂润滑钢丝绳。

Lubricate the wire rope periodically. Change new wire rope if any strand is broken or the wire rope reaches discard standard.

3、吊具必须定期检查。

Hoist device should be inspected periodically.

4、定期检查轮缘和踏面，当轮缘部分的磨损或崩裂达到30%厚度时，更换新轮。

The flange and thread of the wheel should be inspected periodically. Change new wheel if the flange abrasion or breakage excess 30% of the thickness.

5、起升机构的制动器应牢固的支承额定载荷的1.25倍（下降制动时），运行机构的制动器应调到及时闸住机构的运行,又不发生打滑为原则。The hoist braking system should be set to 1.25 times of the rated capacity(braking during lowering). The travelling braking system should be set to the point when the braking is functional but no slipping.

七、装箱单

Packing List

序号 No.	名称 Name	数量 Quantity
1	支腿 leg	2
2	横梁 beam	1
3	带刹车万向脚轮 universal wheel with brake	4
4	M8 螺栓（8.8 级） M8 bolt(8.8 degree)	16
5	M16 螺栓(8.8 级) M16 bolts(8.8 degree)	12
6	16 平垫圈 16 washer	12
7	16 弹簧垫圈 16 spring washer	12
8	M16 螺母（8.8 级） M16 nut (8.8 degree)	12
9	使用说明书 Manual	1
10	合格证书 Pass Certification	1
11	电动行走装置（选配） Electrical drive system (optional)	2

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