



安装说明 | INSTALLATION INSTRUCTIONS

A、D、F、G系列非侧移式/侧移式夹类

(软包夹、多用刚臂夹、烟叶箱夹、桶夹、砖块夹、叉夹、
两用叉夹、旋转叉、无臂夹)

A,D,F & G-Series Non-Sideshifting & Sideshifting Clamps

(Bale Clamps, Multi-Purpose Clamps, Tobacco Carton Clamps,
Block Handlers, Fork Clamps, Turnaload, No-Arm Clamps)



官方微信号 天猫旗舰店

 服务热线
Customer Service Hotline

40088 57315

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- ▲ **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《安装说明书》。
- ▲ **WARNING:** Incorrect installation is the main calls of Attachment malfunctioning. Please do read this INSTALLATION INSTRUCTION comprehensively before installation.
- 💡 **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。
- 💡 **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 2300 psi (160bar) will void warranty.
- ▲ **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。
- ▲ **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.

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) : 140 bar (2000 psi)

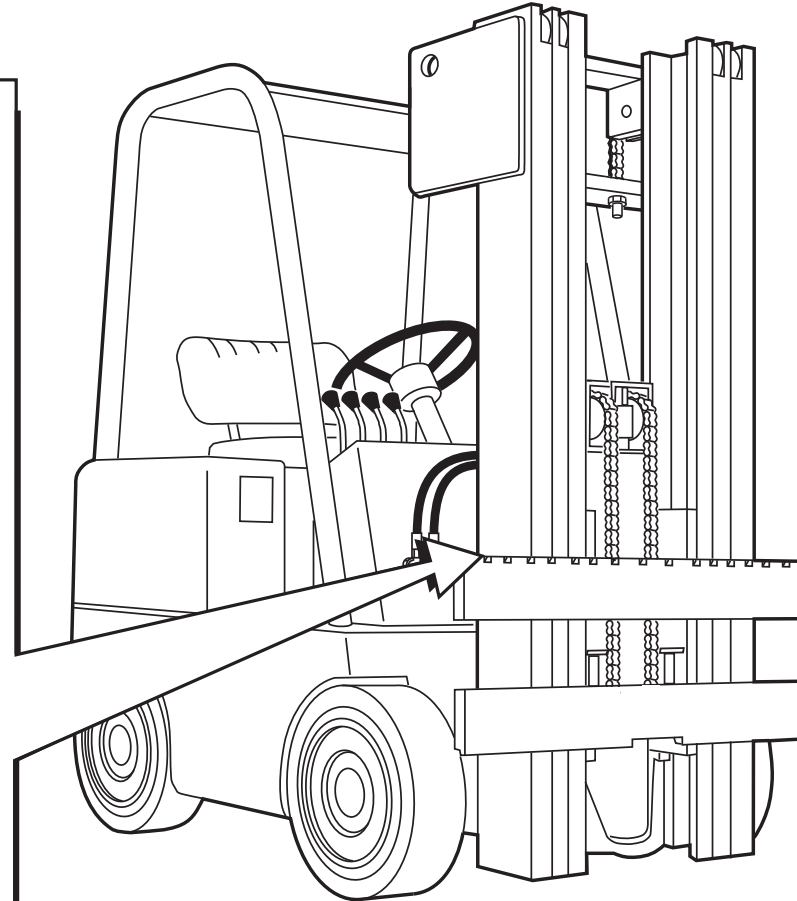
最大压力值 (Maximum) : 160 bar (2300 psi)

叉车供油流量 Truck Flow Volume ①

	最小值 ② Min.	推荐值 Recommended	最大值 ③ Max.
X25G, X27G X40G, X55G	19 L/min (5 GPM.)	38 L/min (10 GPM.)	57 L/min (15 GPM.)
X15D,15D 25D,X25D	15 L/min (4 GPM.)	21 L/min (6 GPM.)	21 L/min (6 GPM.)
35D,X35D	15 L/min (4 GPM.)	26 L/min (7 GPM.)	26 L/min (7 GPM.)
X25A,X28A 40D,50D, X55F,X50D	15 L/min (4 GPM.)	38 L/min (10 GPM.)	38 L/min (10 GPM.)
70D,80D, 100D	26 L/min (7 GPM.)	45 L/min (12 GPM.)	57 L/min (15 GPM.)
70F,X70F	38 L/min (10 GPM.)	53 L/min (14 GPM.)	64 L/min (17 GPM.)
140G,X140G 170G,200D 220D	38 L/min (10 GPM.)	57 L/min (15 GPM.)	91 L/min (24 GPM.)

①流量低于最小值会导致属具动作失常。

Flow less than minimum will result in attachment improper motion.



②流量高于最大值会导致过热，从而降低系统性能并缩短液压系统寿命。

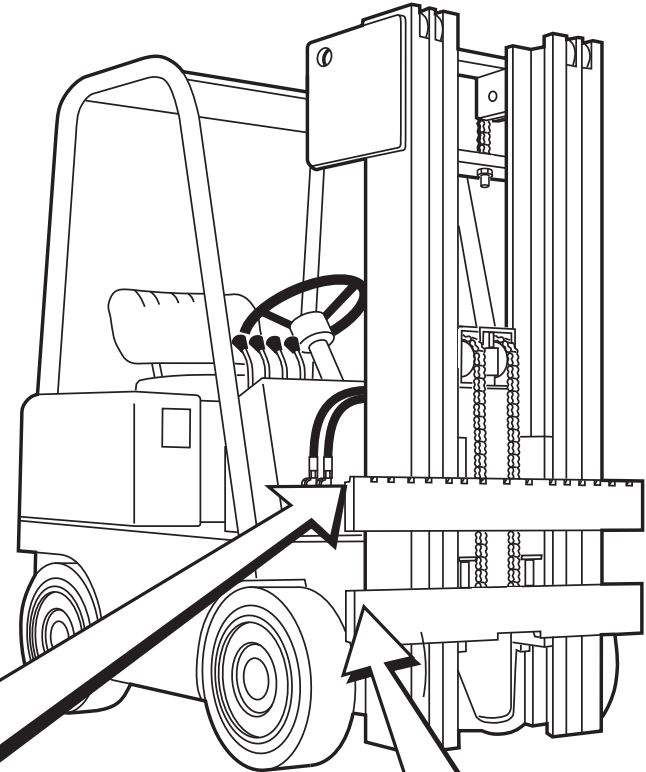
Flow greater than maximum can result in excessive heating, reduced system performance and shortened hydraulic system life.

安装前对叉车的要求

TRUCK REQUIREMENTS

说明：叉车属具的液压系统是按一定范围的压力和流量来设计的，属具能否正常工作取决于叉车供油系统是否符合要求。

Note: Attachment hydraulic system is designed on the basis of certain pressure and volumn value range. Excellent performance of attachement depends on a qualified truck supply system.



货叉架安装尺寸 (A) ITA (ISO)
Carriage Mount Dimension (A) ITA (ISO)



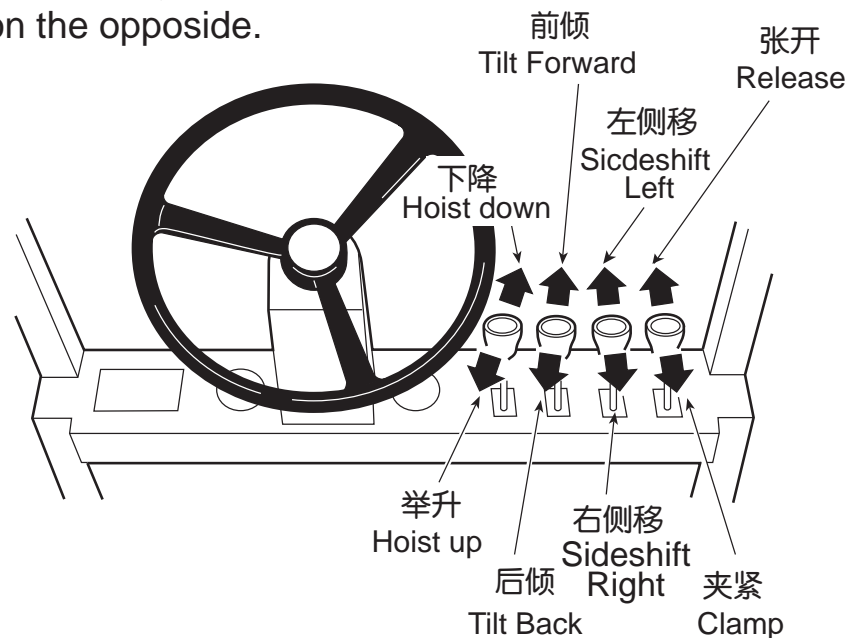
	最小值 Minimum	最大值 Maximum
ISO 2A	380.0 mm (14.94 in.)	381.0 mm (15.00 in.)
ISO 3A	474.5 mm (18.68 in.)	476.0 mm (18.74 in.)
ISO 4A	595.5 mm (23.44 in.)	597.0 mm (23.50 in.)



清洗货叉架，检查凹槽是否损伤。
Carriage-Clean carriage bars and inspect for damaged notches.

安装前对叉车的要求 TRUCK REQUIREMENTS

- 1. 推荐的软管和管接头孔径：
Recommended hose and fitting size:
 - a. 张夹油路 OPEN & CLOSE
-8# 软管，内通径 $\geq\Phi 12$ mm。
No.8 minimum fitting orifices of 13/32 in.
 - b. 侧移油路 SIDESHIFTING
-6# 软管，内通径 $\geq\Phi 10$ mm。
No.6 minimum fitting orifices of 9/32 in.
- 为了符合有关标准，在属具管路与叉车多路换向阀联接时，应符合下图所列动作方向的规定。
In order to conform to industry standard practice, the hoses should be connected to the truck auxiliary valve as indicated on the opposite side.

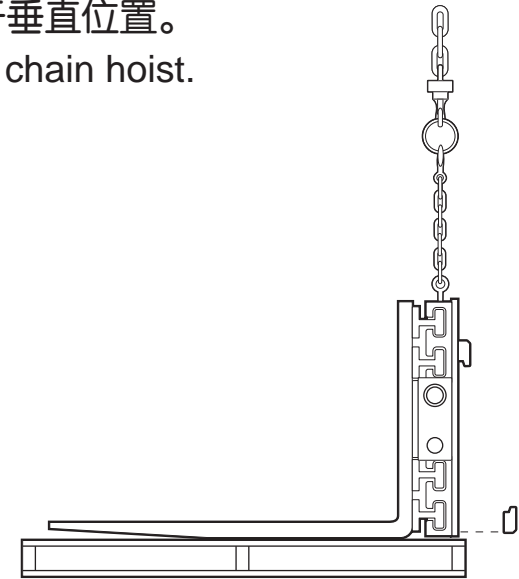


1. 在框架上安装两个吊环螺栓（1/2"-13NC），用合适的链条起吊，使属具处于垂直位置。
Install two eyebolts(1/2"-13NC) to the frame and attach a suitable overhead chain hoist.
Set the clamp vertical.



注意：吊具的额定起重量至少为450kg(1000 lbs)。

WARNING: Make sure the overhead hoist has a rated capacity of at least 450kg(1000lbs).



2. 安装快换式下钩（螺栓紧固式下钩请跳至步骤3）

Install the Quick Change lower mounting hooks. For Bolt-On type hooks, proceed to step 3.

- a, 在基板的安装孔上装上导块。使导块孔的中心向上偏，即从导块顶部至孔中心距离为16mm，锁紧螺栓。

扭矩：

ISO 2A/3A: 150Nm(110 ft.-lbs)

ISO 4A: 260Nm(190 ft.-lbs)

Install the guides to the baseplate mounting holes with the guide hole offset in the upward position-16 mm(5/8 in.) from top of guide to hole center. Tighten the capscrews to a torque of:

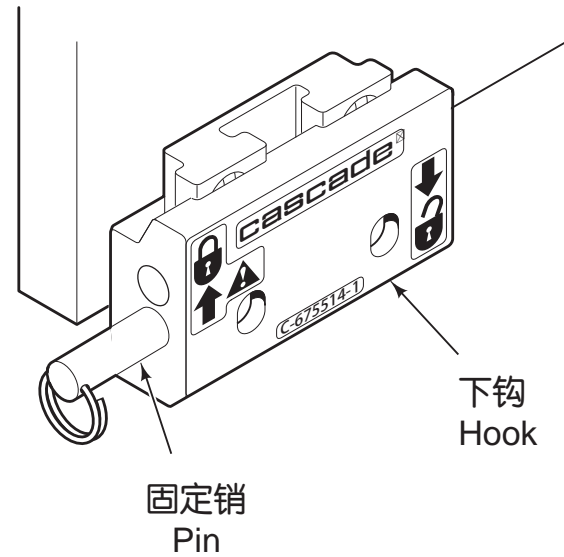
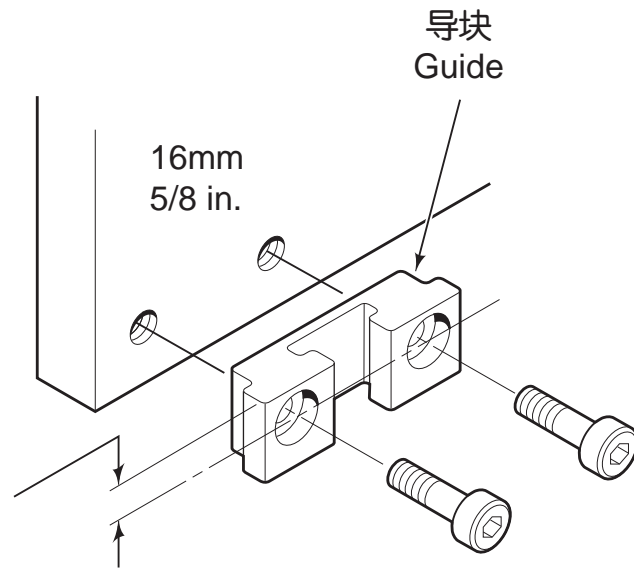
ISO 2A/3A: 150Nm(110 ft.-lbs)

ISO 4A: 260Nm(190 ft.-lbs)

安装 / INSTALLATION

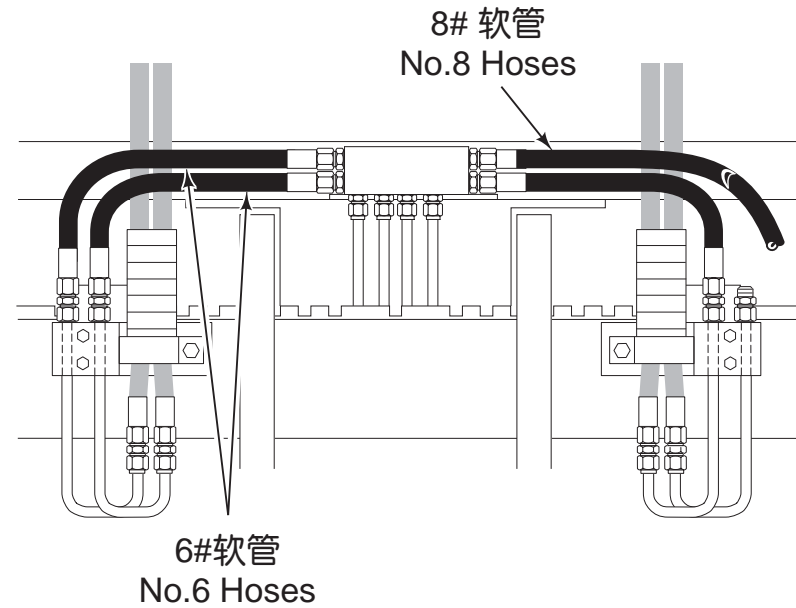
b. 将下钩从导块上方滑下，插上固定销。

Slide the hooks over the top of the guides. Install the locking pin through the hook lower hole.



3. 如图示，将软管与接头连接到属具上，驾驶叉车使货叉架靠近属具背面，根据油口相对位置确定连接软管的长度，拆下软管，切除所需的长度。

Connect the hydraulic hoses to the attachment using hoses and fittings as shown. Position the truck carriage behind the attachment to determine hose lengths required to connect hoses to the hose terminal kits. Remove the hose and cut the length as required.

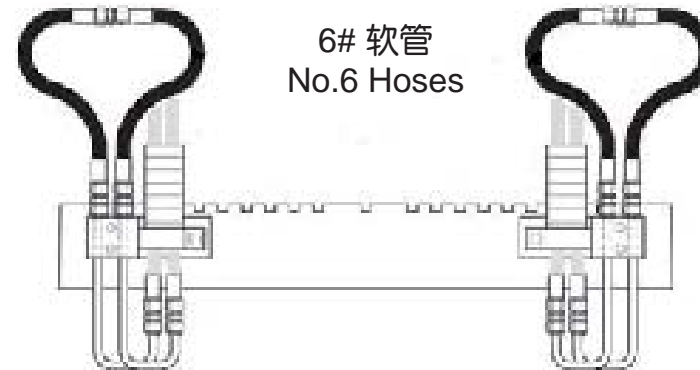


注意：禁止拆下控制阀夹紧（CL）油口的接头。若软管管接头形式不一，请使用转换接头。

WARNING: Do not remove the fitting from the valve clamp (CL) port. For No. 6 hose connection, use a 6-8 reducer.

4. 如图示冲洗软管：将软管一端与多路换向阀连接，另一端按图示管接头相连，启动叉车并操纵叉车多路换向阀手柄在两个方向各30秒，以便把留在管内的脏物冲到叉车液压油箱和滤油器中。

Connect hoses to the truck hose terminal kits or internal reeving fittings. Connect the hoses together using union fittings. Start the truck and actuate the truck control valves in both directions for about 30 seconds to carry any debris left in the hoses to the truck hydraulic tank and filter.



注意：必须按以上步骤冲洗管路，以防损坏属具液压件。

WARNING: Flush the hoses as follows to prevent damage to the attachment hydraulic components.

5. 卸下连接管接头，将软管接于属具进油接头上。

Remove the union fittings and disconnect hoses from the hose terminal kits. Connect hoses to the attachment fittings.

6. 把叉车开到属具背面，货叉架缓慢下降对中，前倾门架，使左上钩旁的定位凸块嵌入货叉架上横梁与之最近凹槽内，升起货叉架至靠上属具挂板背面，将属具提升至离托盘5cm。

Center the lift truck behind the attachment. Tilt the mast forward. Engage the mounting hook tab with the closest upper carriage bar notch and raise the truck carriage into position behind the attachment. Lift the attachment 5cm (2 in.) off the pallet.

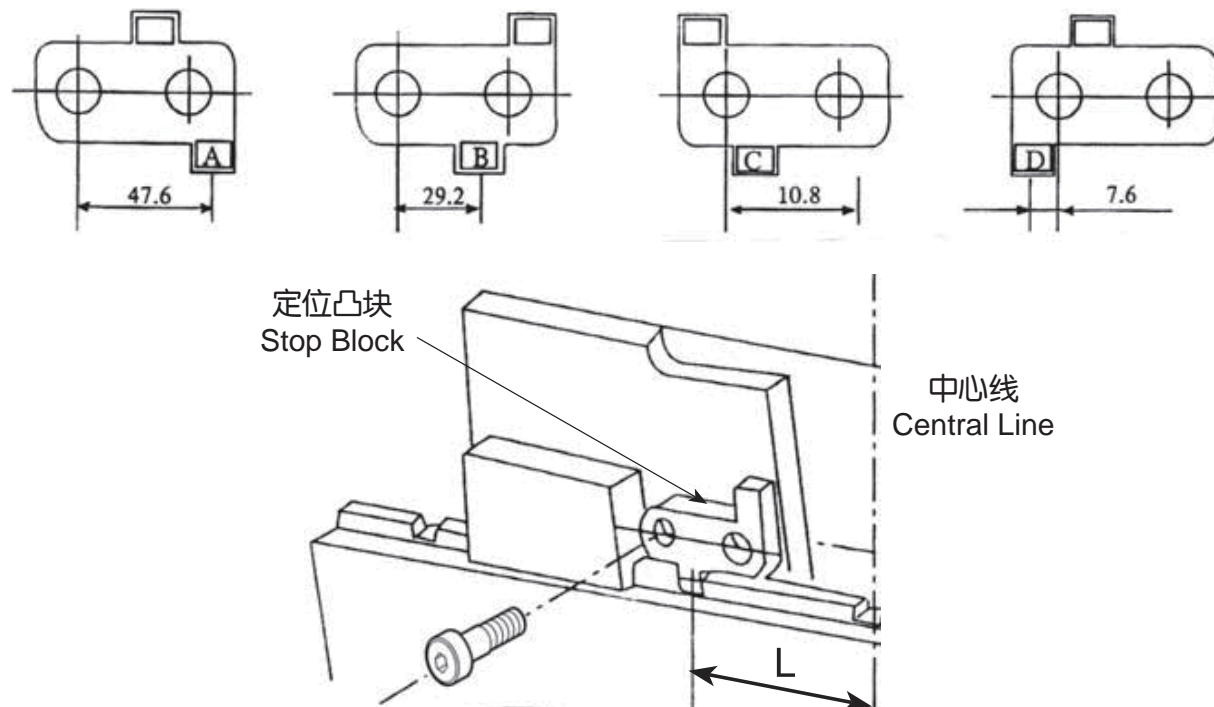
安装 / INSTALLATION

①上钩凸块嵌入货叉架横梁凹槽时，属具可能与货叉架不完全对中。为了使属具挂装后尽量靠近货叉架中位，请根据不同的货叉架上横梁缺口分布形式，调整左上钩侧的定位凸块（共可获得四种形式A、B、C、D），如上图所示。

The attachment may not be perfectly centered on the carriage bar when the mounting hook tab is engaged in the closest carriage notch. For the best centered condition. Please select the right tab form as shown according to different carriage notch location. There are 4 tabs available(A、B、C&D).

注：A、B、C、D分别对应左上钩侧定位凸块的四种形式。

Note: Choose 1 type of stop block positioning out of the 4 possible options to mount the clamps as close as possible to the central position,



型号 Model	安装等级 Mounting	框架宽度 Frame Width	L(mm)			
			A	B	C	D
35D		940	135	154	172	190
		1040	185	204	222	240
50D	2级 ISO 2A	所有规格	183	201	219	238
	3级 ISO 3A	所有规格	232	250	266	284
X55F	2级 ISO 2A	所有规格	152	171	189	207
	3级 ISO 3A	所有规格	170	188	204	222

②上钩必须很好地挂入货叉架上横梁上，左上钩侧的定位凸块应嵌入货叉架上横梁相应的凹槽中。

The mounting hooks must be properly engaged with the upper carriage bar. The tab on the left mounting hook must be engaged in a mating notch on the upper carriage bar.

③若上钩定位凸块没嵌入货叉架上横梁凹槽，则下钩无法安装。

The lower hooks cannot be properly installed if the upper hook tab is not engaged in the carriage notch.

安装 / INSTALLATION

7. 将下钩与货叉架下横梁接合。

Engage the lower hooks with the truck lower carriage bar.

- a. 螺栓紧固式下钩：装上下钩和螺栓，拧紧螺栓。按箭头方向用锤子轻击下钩使下钩与货叉架下横梁完全接合。最后锁紧螺栓。扭矩为：

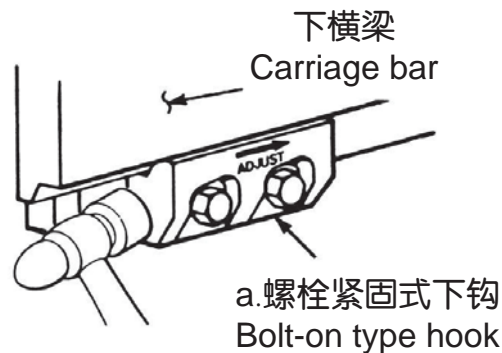
ISO 2A, 3A: 150 Nm(110 ft.lbs)

ISO 4A: 257 Nm(190 ft.lbs.)

Bolt On Type-Install the hooks and capscrews. Tighten the capscrews finger tight. Tap the end of the hooks with a hammer in the direction of the adjust arrow for maximum engagement with the carriage bar. Tighten the capscrews to a torque of:

ISO 2A/3A: 150 Nm(110 ft.lbs)

ISO 4A: 257 Nm(190 ft.lbs.)



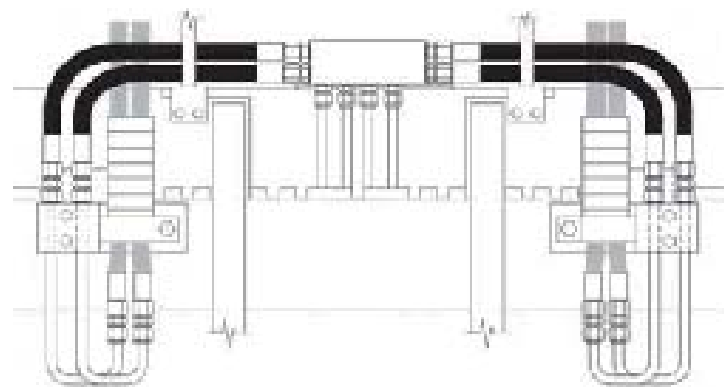
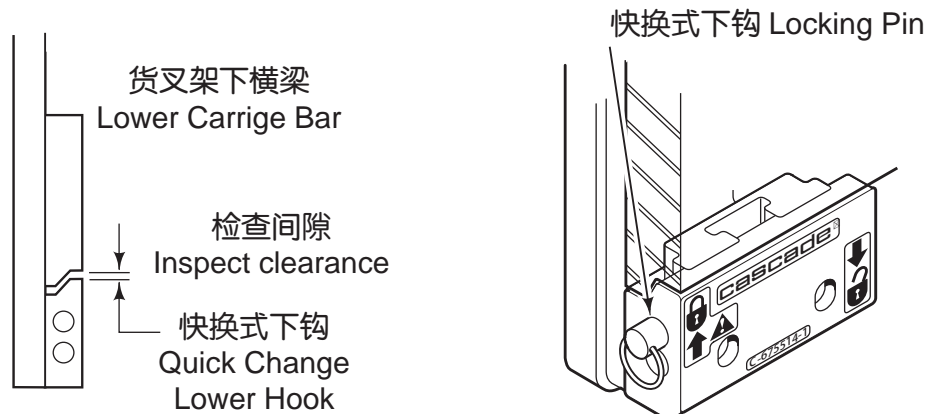
安装 / INSTALLATION

b.快换式下钩：卸下插销，向上滑动下钩与下横梁接合，在钩的上孔装上插销。

Quick Change Hooks- Remove the locking pins. Slide the hooks up to engage with the carriage bar. Install the locking pins through the upper holes.

注意：对于快换式下钩的安装，若发现货叉架下横梁与下钩的间隙超过6mm，则导块应反装，使固定孔中心下偏（导块底部到中心距离为16mm）以减小间隙。

CAUTION: if the clearance between the carriage bar and the hooks exceeds 6 mm(3/16 in.),the guides(refer to step2) should be inverted and installed with the hole offset downward (16mm(5/8 in.)from bottom of guide to hole center) to minimize the gap.



8.接好软管。软管不能有干涉，以防受损。

Connect hoses to the right fittings.Hoses should not be intervened for protection.

用户自选夹臂的安装（无臂夹）

ARM INSTALLATION

CUSTOMER FABRICATED (NO-ARM CLAMPS)

无臂夹配有两块基板，专用叉可直接焊接到基板上，基板也可以用于用户自选夹臂的安装。

Clamps without arms are supplied with two arm bases. Special forks can be welded directly to them or they can be used as a base to fabricate custom built arms.



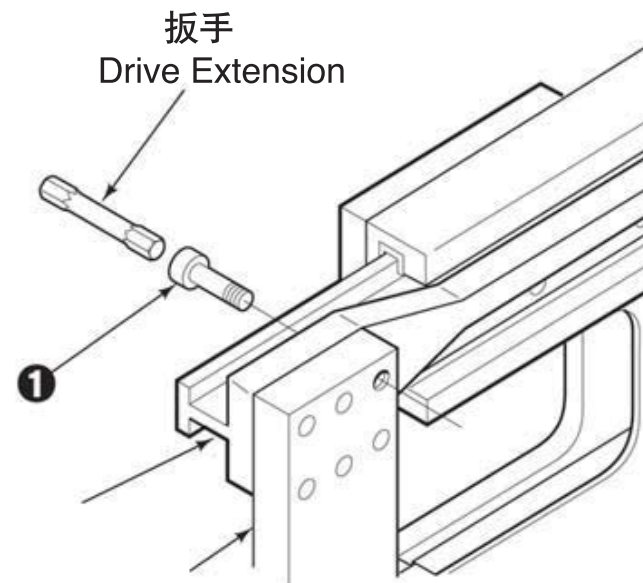
注意：焊接时，要由合格的焊工，以合适的焊接工艺进行。

WARNING: Use a certified welder and proper welding procedures when welding arms to the arm bases.



注意：只准在臂基基板上焊接用户自选夹臂，不许在滑杆上焊接或用螺栓紧固特制夹臂或货叉。

CAUTION: Weld fabricated arms to the arm bases only. Do not weld or bolt special built arms or forks directly to the arm bars.



用户自选夹臂的安装（无臂夹）

CUSTOMER FABRICATED

ARM INSTALLATION

(NO-ARM CLAMPS)

臂基基板材料为ANSI-1020，性能参数如下：

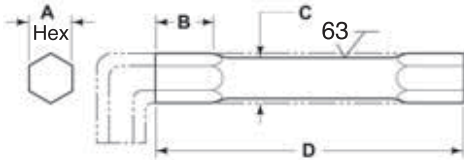
The arm base material is ANSI C-1020 with the following specifications.

最小抗拉强度 TENSILE STRENGTH	最小屈服强度 YIELD STRENGTH	最大含碳量 CARBON CONTENT
420 MPa 61,000 PSI	300 MPa 43,000 PSI	23% 23% max.

1. 将臂基基板与滑杆按上表所示力矩将螺栓锁紧。

Fasten the arm bases to the arm bars. Tighten the capscrews to the torque values indicated in the chart.

型号 Clamp	夹臂螺栓锁紧力矩 Torque Values for Arm Capscrews
25D	257-298 Nm(190-220 ft-lbs.)
35D,40D 50D	380-434 Nm(280-320 ft-lbs.)
70D,80D, 100D	922-976 Nm(680-720 ft-lbs.)



型号 Model	尺寸 Dimensions-mm(in.)			
	A	B	C	D
25D	12.7(.50)	19.0(.75)	11.6(.46)	88.0(3.50)
35D,40D, 50D	15.7(.62)	12.7(.50)	14.7(.58)	88.0(3.50)
70D,80D, 100D	19.0(.75)	12.7(.50)	19.0(.75)	127(5.00)

用户自选夹臂的安装（无臂夹）

ARM INSTALLATION

CUSTOMER FABRICATED (NO-ARM CLAMPS)



注意：基板的平面度允差在螺栓孔范围内必须保证在0.25mm之内，且滑杆用手推拉能于导槽中自由滑动。
CAUTION:The surface flatness of the arm base must remain within 0.010 inch in bolt area and arm bars must slide free manually.

重要说明：请勿损伤滑杆。否则会引起滑动支承的过早失效。

IMPORTANT: Be careful not to damage the arm bar. Premature bearing failure will occur.

2. 给油缸活塞杆螺纹、螺母螺纹及球面部涂上润滑脂。

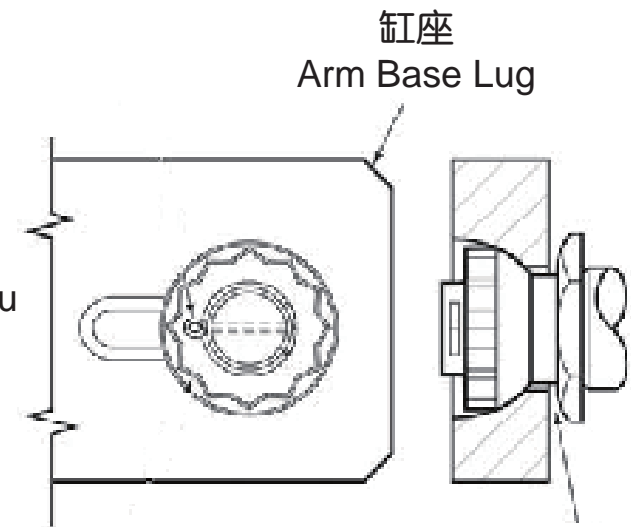
Lubricate the cylinder rods threads, nut threads and spherical portion of nut with STP.

3. 于活塞杆端装上六角垫圈，圆锥面面向缸座。

Install the washer on the rod end with the beveled side facing the lug.

4. 将活塞杆端装入缸座。

Engage the rod end into the lug.



六角垫圈的圆锥面面向缸座
Hex washers beveled side facing lug

用户自选夹臂的安装（无臂夹）

ARM INSTALLATION

CUSTOMER FABRICATED (NO-ARM CLAMPS)

5. 锁紧活塞杆端螺母。用扳手卡住六角垫圈，防止活塞杆转动。

Tighten the rod end nut to the torque values below. Prevent rod turning by using wrench on hex washer.

25D,35D,40D,50D,X55F: 203-237 Nm (150-175 ft.lbs.)。

70D: 305-340 Nm (222-250 ft.lbs.)。

6. 装上护圈及开口销。

Install retainer and cotter pin.



注意：活塞杆端螺母应相对六角垫圈，而不是相对左右挂板上的缸座锁紧。螺母与缸座间存在着一定松度，使夹紧时油缸与活塞杆能保持平直。

CAUTION: The rod end nut is being tightened against the hex washer. The nut will not be tight against the arm base lug. This looseness allows for cylinder alignment during clamping.

7. 在每根滑杆上涂一薄层润滑脂。

Lubricate the bearing portion of the arm bars with a thin film of chassis grease.

操作前的检查 **P**RIOR TO OPERATION

1. 检查油缸固定螺母，看护圈和开口销是否装好。

Check the cylinder anchor nuts for properly installed retainers and cotter pins.

2. 检查接头和活塞杆端部是否有外泄露。

25D、35D、40D、50D和X55F夹具在张臂时液压回路采用的是正反馈油路，夹臂张开速度比夹紧速度快，属正常现象。

Check for external leaks at the fittings and rod ends.

25D, 35D, 40D, 50D –The clamp utilizes a regenerative hydraulic circuit in the arm opening mode. The arms will open at a faster speed than when closing. This is normal. If required, the regenerative function can be eliminated. Refer to Service Manual 669224.

3. 检查双臂活动是否同步。若不同步则按如下步骤调整节流阀：

Check for equal arm travel. If the travel is unequal the restrictor cartridges can be adjusted as follows:

① 松开节流阀上的锁紧螺母，将螺塞旋进到底，再退出三圈。

Loosen the jam nuts on the restrictor cartridges. Screw in the plungers until they bottom. Screw each plunger out three full turns.

② 将夹臂张开至全开状态。

Activate the arms to the fully open position.

③ 夹紧，至其中一臂走完全行程，测量另一臂剩余行程。

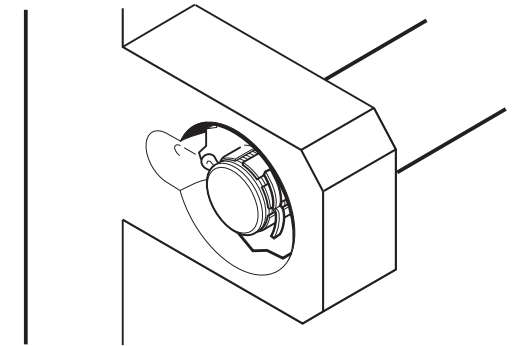
Activate the arms to close until one arm bottoms out. Measure the amount of stroke remaining in the opposite arm.

④ 若移动不同步量超过50mm,则将先到底的油缸螺塞向内旋半圈。

If the unequal closing movement exceeds 50mm(2 in.), screw the plunger in 1/2 turn on the cylinder that bottoms first.

⑤ 重复②至④步，直至不同步小于50mm。

Repeat steps b through d until unequal closing movement is less than 50 mm(2 in.)



检查护圈和开口销
Restrictor Cartridge

操作前的检查 **P**RIOR TO OPERATION

4.检查各软管是否有干涉现象。

Check the hose to be sure there are no interfered.

5.夹持货物前，先使夹臂工作几个空循环，以将系统中的空气排到油箱。

Before picking up a load, operate the clamp through several full cycles to force any air from the system to the hydraulic tank.

注意：不同步允许值：

夹紧 $\leq 50\text{mm}$ (2 in.)

张开 $\leq 127\text{mm}$ (5 in.)

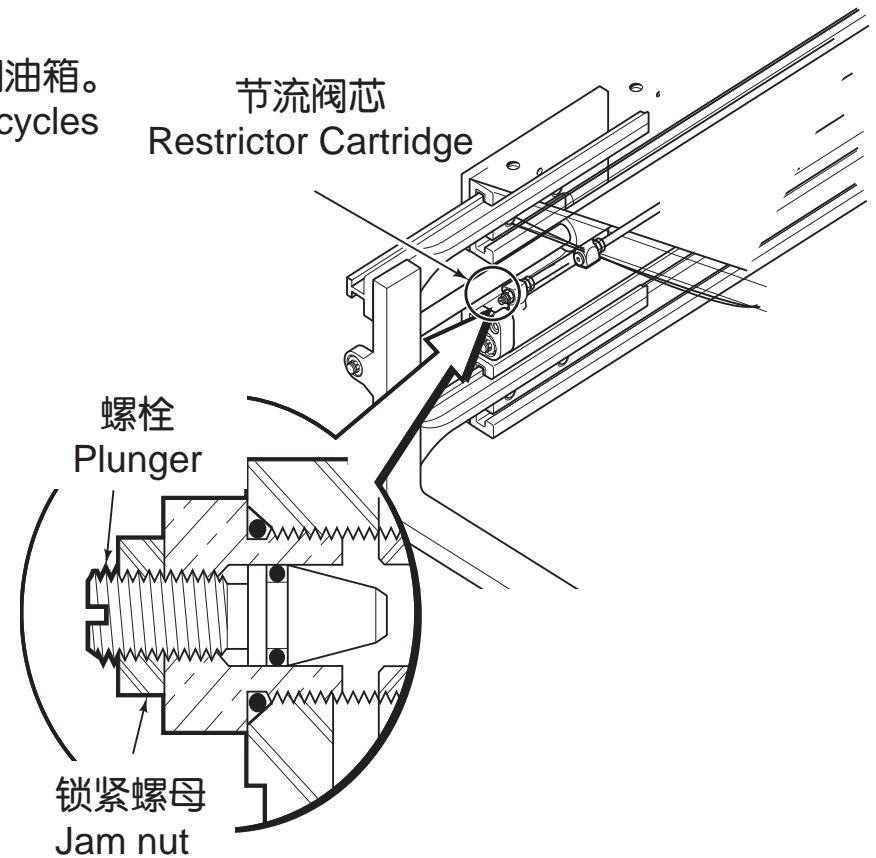
NOTE: Unequal allowance

Clamp $\leq 50\text{mm}$ (2 in.)

Open $\leq 127\text{mm}$ (5 in.)



注意：搬动货物时，确保属具附近没有人。
WARNING: Make sure there are no people in the vicinity of the attachment when picking up a load.



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