

重装/维修手册

FW28 系列鞍座

■ RK-280-A 重装工具包



中文

English

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简介

本手册提供正确重装荷兰® FW28、XA-280-A 系列鞍座所需的信息。请将本手册存放在安全的地方，以供日后查阅。本手册的更新内容将根据需要发布，并可以通过访问 www.safholland.cn 在互联网上获取。

重要提示： 锁止测试器，零件编号为 TF-TLN-1500，可以从赛夫-荷兰® 的经销商处获得，为重装FW28系列鞍座所必须的零件。

如需更换零部件，赛夫-荷兰® 强烈建议只使用赛夫-荷兰® 原厂配件。您可以访问 www.safholland.cn，查找供应赛夫-荷兰® 原装零配件的赛夫-荷兰® 技术支持地点，或者拨打 +86 592 6388891 联系我们的客服。本手册背面列有距离最近的提供协助的地点。

注释、注意和警告

使用设备之前，您应该首先阅读并理解本手册中展示的全部程序。本手册中包含“注”、“重要提示”、“注意”和“警告”等词，后跟重要的产品信息。这些词的定义如下：

注： 提供额外信息，有助于准确、轻松地执行程序。

重要提示： 提供额外信息，如不遵循，可能无法充分利用产品性能。

注意

不含安全提醒标志时，表示如不避免该潜在危险情况，可能会造成财产损失。

⚠ 注意

表示如不避免该潜在危险情况，可能会导致轻微或中度人身伤害。

⚠ 警告

表示如不避免该潜在危险情况，可能会导致死亡或严重人身伤害。

1. 一般安全说明

- 请阅读并遵守所有“警告”和“注意”下的危险警示信息。这些警示信息有助于防止发生严重人身伤害和/或部件损坏。

警告

如果不按照本手册的说明和安全注意事项进行操作，可能会导致不正确的操作或动作，进而引发组件故障，而组件故障如果无法避免，可能会导致死亡或严重的人身伤害。

- 所有维修和维护工作都应由训练有素的技术人员使用适当/特定的工具并遵循安全操作程序来完成。

注：重装华兰德® 鞍座之前请查看标识标签上指定的型号。此重装程序只适用于FW28, XA-280-A型号的鞍座顶板。

重要提示： 切记，所有维护工作都必须在牵引车与挂车分离之后进行。

重要提示： 这些说明只适用于 FW28, XA-280-A 系列鞍座顶板的正确重装。出于必要性、谨慎原因考虑和/或依照要求，还有其他重要检查、检视和程序，但这里未列出。

- 如需了解正确的安装程序，请参阅安装手册 XL-FW10008BM-zh-CN（可通过访问 www.safholland.cn 在互联网上获取）。

重要提示： 开始操作鞍座之前，请确认鞍座已经正确安装到车辆上。

警告

如果鞍座未能正确维修和安装，可能会给性能带来不利影响，从而导致牵引车和挂车分离；如不可避免，可能会造成严重人员伤亡。

2. 型号识别

鞍座的序列号标签位于鞍座支架销之上鞍座顶板的右侧，或位于挂接坡板上（图1）。

标签上列出了识别号和序列号（图2）。

图1

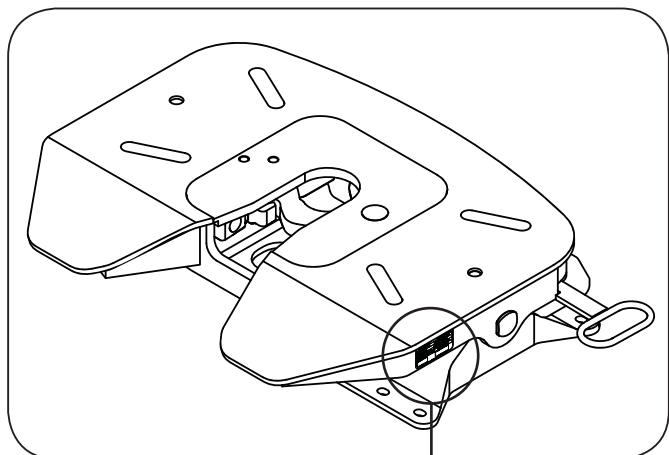
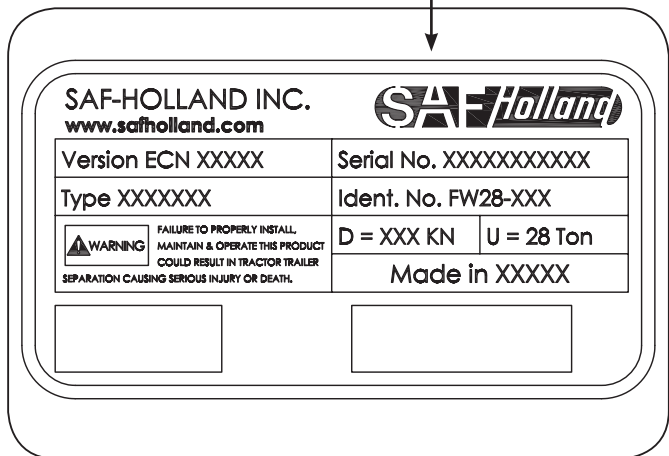
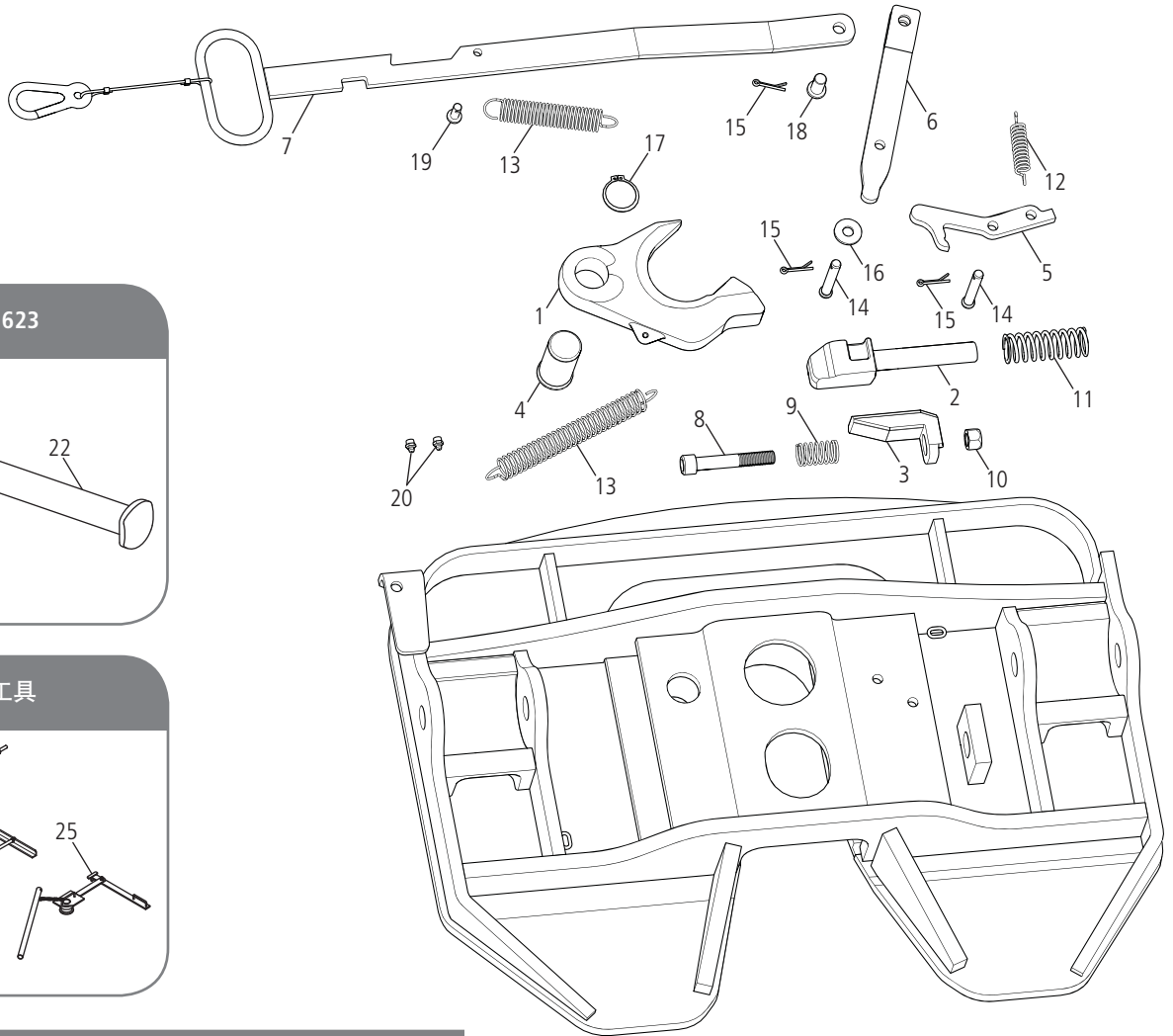
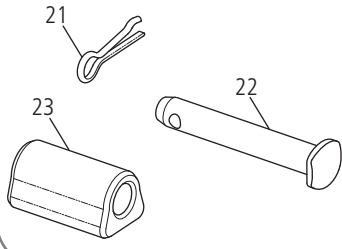
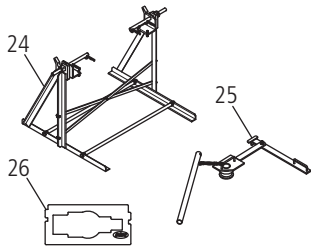


图2




RK-11623

维修工具

FW28 RK-280-A KIT 套件零件列表

项目	说明	零件编号	数量
1	锁止块	XA-11598	1
2	锁止保持装置	XA-11597	1
3	调整楔	XD-11593	1
4	锁止销	XA-11594	1
5	卡齿装置	XA-11577	1
6	控制杆	XA-11596	1
7	解锁把手	XA-11600	1
8	凹头螺钉, M16 x 2 x 100mm	XB-11591	1
9	小号压缩弹簧	XB-11592	1
10	锁紧螺母, M16 x 2	XB-11590	1
11	大号压缩弹簧	XB-11586	1
12	小号伸展弹簧	XA-11576	1
13	大号拉伸弹簧	XB-10489-C	2
14	控制杆销	XA-11583	2
15	开口销, M4 x 32mm	XA-11612	3
16	垫圈, M12	XB-11588	1
17	固定环	XB-11849	1
18	固定销, Ø15 x 28.5mm	XB-11845	1
19	固定销, Ø10 x 25 mm	XB-11790	1
20	润滑嘴	XB-11579	2

RK-11623 零件列表

项目	说明	零件编号	数量
21*	夹销	9900169	2
22*	支架销	XA-11533	2
23*	橡胶衬套	XB-0011-3-C	2

维修工具

项目	说明	零件编号	数量
24*	鞍座重装工作架	TF-04229-1	1
25*	牵引销锁止测试器	TF-TLN-1500	1
26*	牵引销规	TF-0110	1

* 未包含于 RK-280-A 重装套件中。

注: RK-280-A 中的所有配件必须作为整个套件来订购。其中的配件不可以单独订购。

3. 拆卸顶板

注意

鞍座的部件承有高弹簧张力，有可能会意外弹出，如不可避免该潜在危险情况，可能会导致死亡或严重人身伤害。

1. 拆下鞍座顶板两侧支架销上的夹销（图3）。
2. 使用撬杠将鞍座支架销从鞍座顶板中撬出（图3）。
3. 使用提升能力达到 230 kg（507 磅）的提升设备，将顶板从安装底座上拆除。将鞍座倒置放于平坦洁净的工作区域内。

注： 遵循提升设备制造商发布的说明，正确操作提升设备。

4. 将所有部件从鞍座上拆除并丢弃。

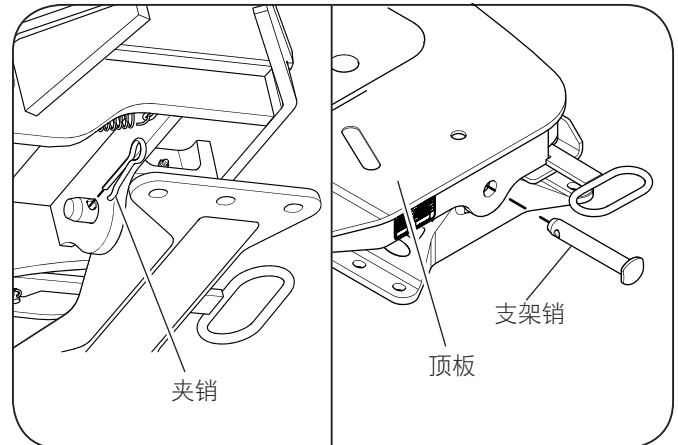
重要提示： 此重装套件包含完全重装鞍座顶板所需的所有组件。请勿重复使用旧零件。

注意

请勿用钢锤敲击钢质零件，因为零件可能会破碎，使碎钢片向任何方向飞出，带来危险，如不可避免，可能会导致轻微或中度人身伤害。

5. 用蒸汽彻底清洁顶板和前端锁止区，从而去除所有润滑脂和碎屑。

图3



- 检查顶板是否有裂缝，引出锁止销并调整销孔和平整度。如果顶板破损坏，则必须将其废弃。

警告

如未能更换弯曲、出现裂缝或锁止销孔或调节销孔拉长的鞍座，可能导致牵引车和挂车分离；如不可避免，可能会造成严重人员伤亡。

4. 安装调整楔

- 将 M16 x 2 x 100 凹头螺钉装入顶板阻楔块上的沉孔 (图4)。
- 将小号压缩弹簧套上凹头螺钉的螺纹端，直到其和顶板阻楔块齐平 (图4)。
- 润滑调整楔 (图5)。
- 将调整楔上的孔套上凹头螺钉。将调整楔装在顶板上并调整其位置，使其倾斜面和阻楔块齐平，且其挤压小号压缩弹簧 (图6)。

图4

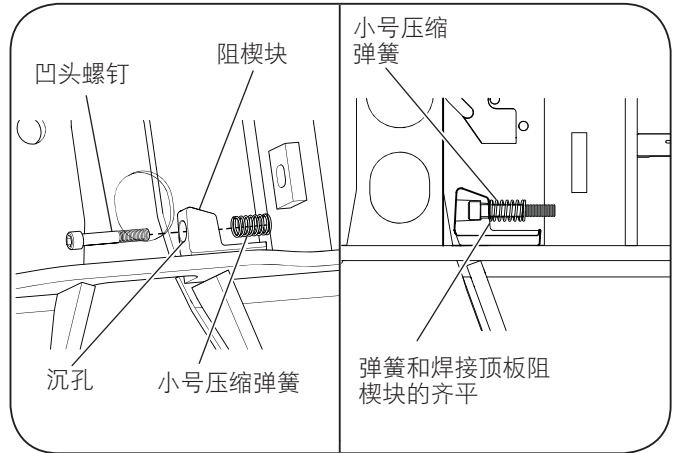


图5

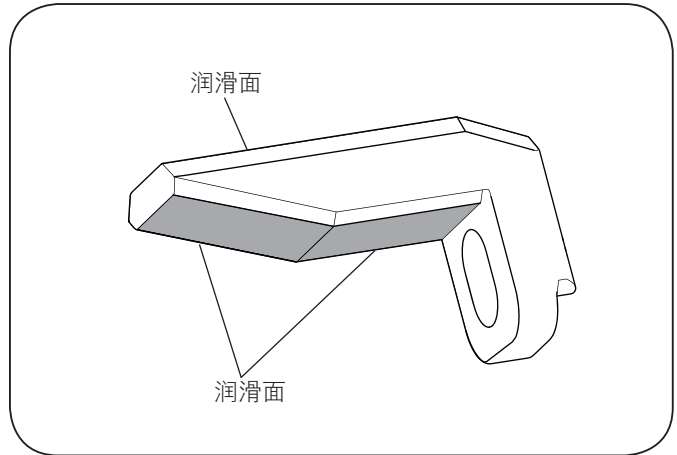
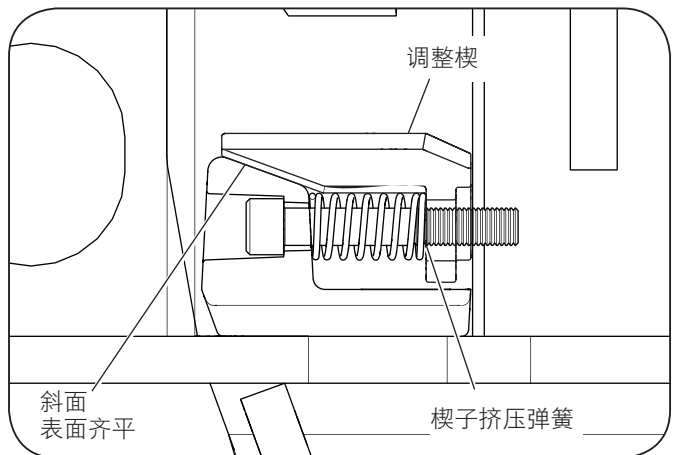


图6



5. 在凹头螺钉上安装 M16 x 2 锁紧螺母，部分拧紧螺母，直到凹头螺钉的螺纹和锁紧螺母的端面齐平。该步将调整楔和小号压缩弹簧固定在顶板上（图7）。

注：第 12 节将会进行进一步的调整。

5. 安装锁止保持装置

1. 润滑锁止保持装置（图8）。
2. 将大号压缩弹簧套在锁止保持装置的轴上（图9）。

图7

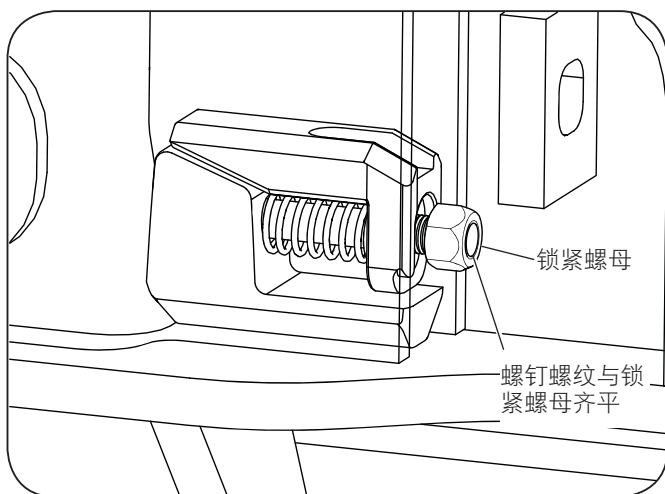


图8

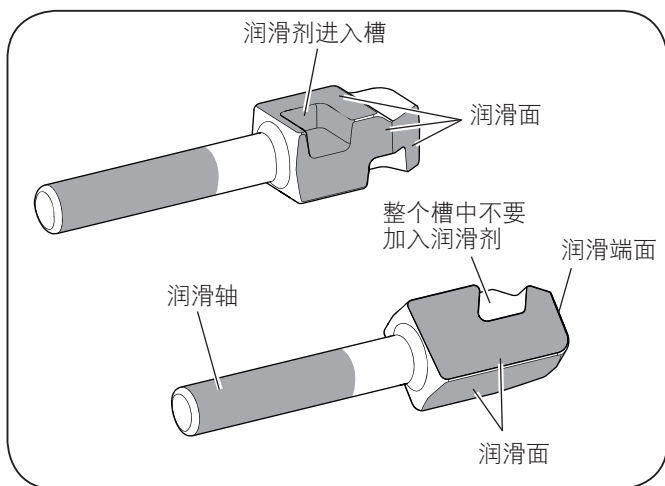
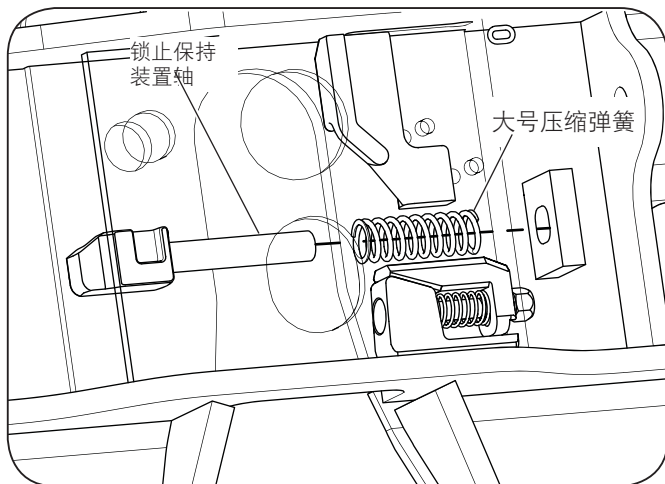


图9



3. 将锁止保持装置和大号压缩弹簧安装在顶板的中心锁止区，然后执行以下步骤（图10）：

- 锁止保持装置端部带有一个大的斜切面的一面朝向鞍座的中心，牵引销将安装于此。
- 锁止保持装置紧挨着调整楔安装。
- 压缩弹簧和顶板固定模块齐平。
- 锁止保持装置轴应与顶板固定模块的孔对齐。

4. 使用一种装置（比如大夹子）来对锁止保持装置一端施加压力，以压缩弹簧，并使锁止保持装置的轴穿过固定模块上的孔（图10）。

注：所使用的装置必须能够压缩锁止保持装置弹簧，并且将锁止保持装置牢固安装在鞍座顶板上。

6. 安装把手和控制杆

1. 润滑把手（图11）。
2. 使把手上较大的切口朝向远离鞍座中心的方向（图12）。
3. 将把手穿过鞍座上的把手槽（图12）。

图10

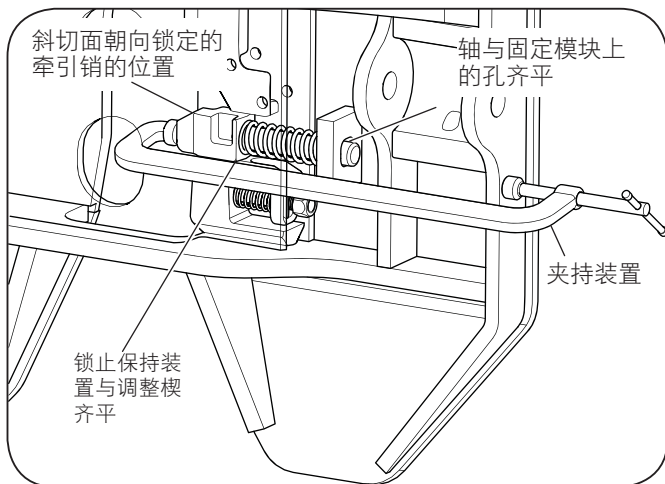


图11

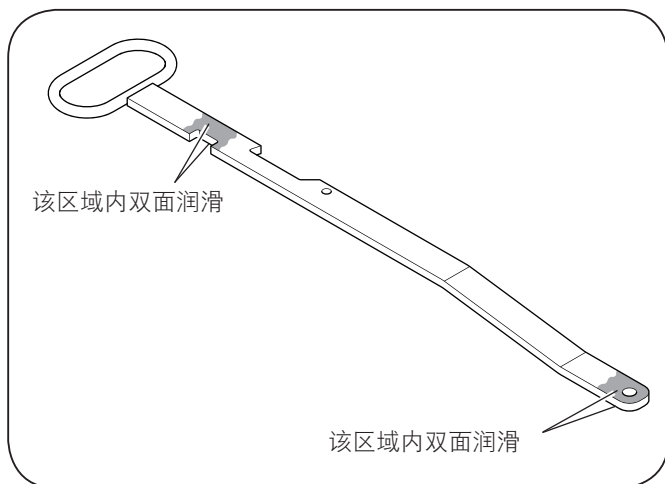
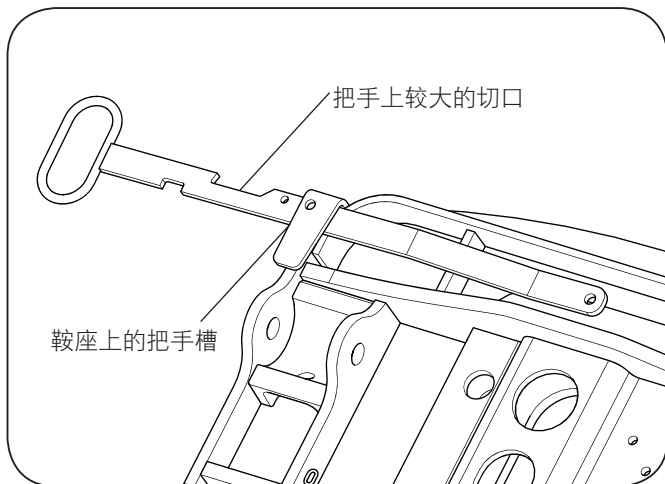


图12



4. 润滑下列部件 (图13) :

- 控制杆
- 一 (1) 个控制杆销钉
- M12 垫圈
- Ø15 x 28.5 mm 固定销
- 鞍座上的主肋槽开口

5. 将把手末端装入控制杆的固定端, 将孔对齐 (图14)。

6. 将 Ø15 x 28.5 mm 固定销穿过把手和控制杆对齐的孔, 固定销头应该距鞍座最近 (图15)。

7. 用一个 M4 x 32 开口销穿过固定销末端的孔, 将其固定于控制杆上 (图15)。

8. 将开口销两边分开至少 20° 夹角 (图15)。

图13

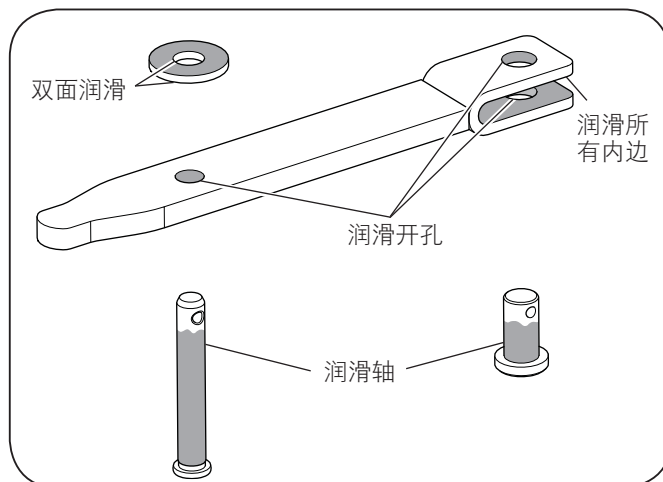


图14

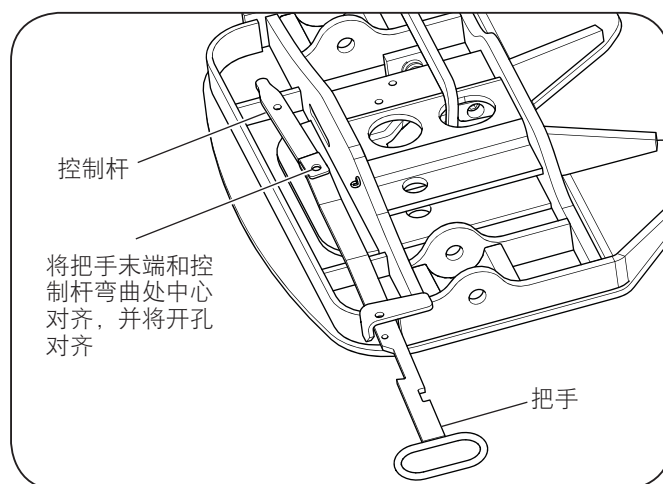
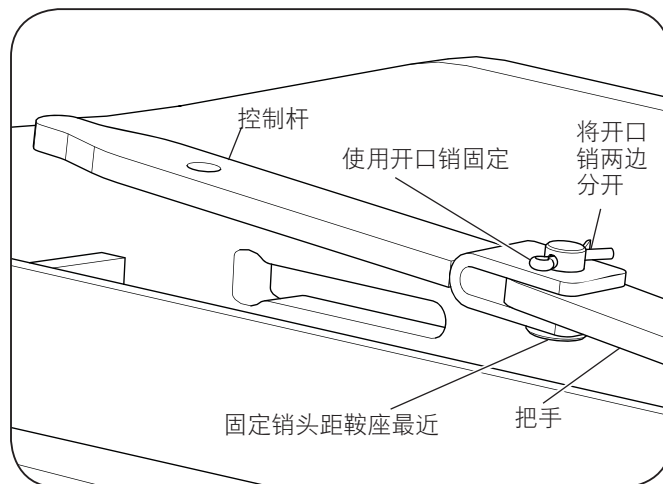


图15



9. 将控制杆装入主肋板上的槽 (图16)。
10. 将 M12 垫圈放在控制杆上方, 将垫圈孔和位于控制杆末端的转轴孔对齐 (图16)。

注: 润滑剂有助于让这些部件粘在一起。

11. 调整控制杆的位置, 使具有铣削轮廓的一端牢固的插入锁止保持装置上的凹槽中 (图16)。
12. 使用控制杆销钉穿过鞍座面、控制杆和垫圈, 直到销钉伸出鞍座盖板, 从而将控制杆和垫圈进行固定 (图17)。
13. 用一个 M4 x 32 开口销穿过控制杆销末端的孔, 将其固定于鞍座上 (图18)。
14. 将开口销两边分开至少 20° 夹角 (图18)。

警告

如果未能在控制杆销中正确安装开口销, 可能会导致牵引车和挂车分离; 如不可避免, 可能会造成严重人员伤亡。

15. 松开夹子或其他用来将锁止保持装置压缩或固定在顶板的机械装置。

图16

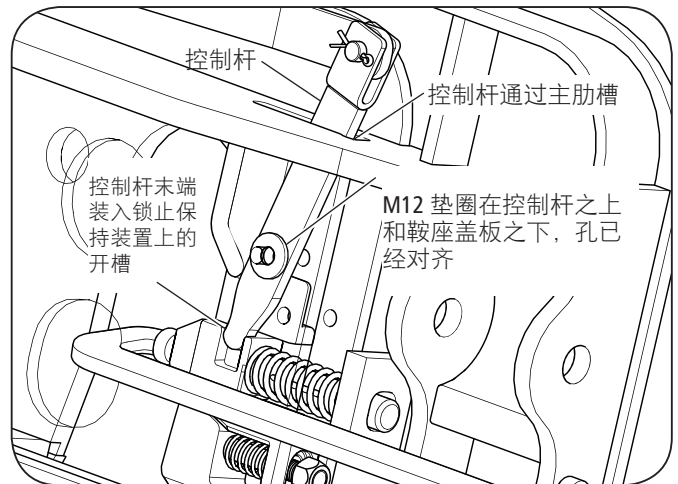


图17

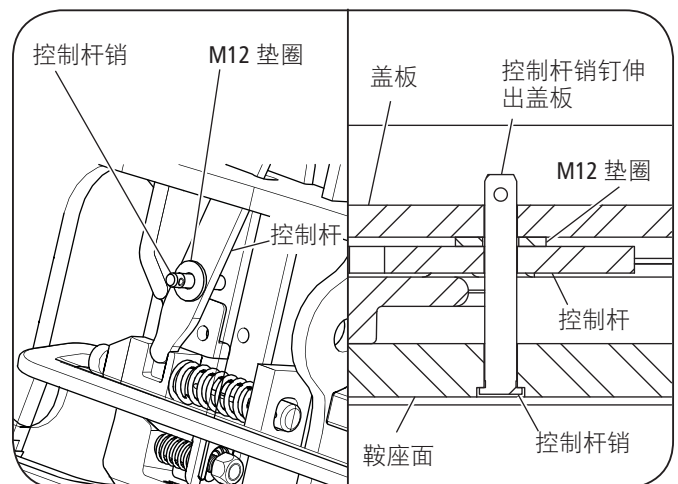
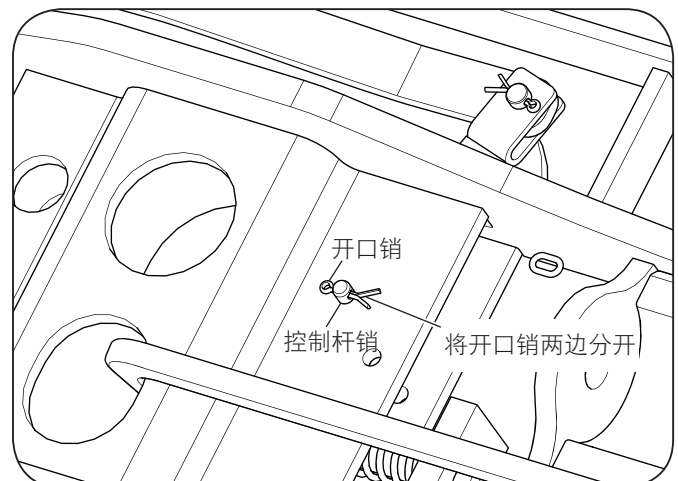


图18



7. 安装卡齿装置

1. 润滑下列部件 (图19) :

- 卡齿装置
- 余下的控制杆销

2. 拉下鞍座解锁把手, 并将把手挂在鞍座把手勾上 (图20)。

重要提示: 使用老虎钳固定把手, 以防止把手意外的从把手勾上弹开 (图20)。

注意

如果未能将把手固定, 则其有可能会重新进入鞍座并在组装过程中循环往复, 如不可避免, 可能会造成严重人身伤害。

3. 卡齿装置的锁定部分朝向锁止保持装置, 将卡齿装置从带有开孔的一端开始, 插入鞍座盖板下, 并将其通过鞍座锁定挡片的间隙滑入指定位置 (图21)。

图19

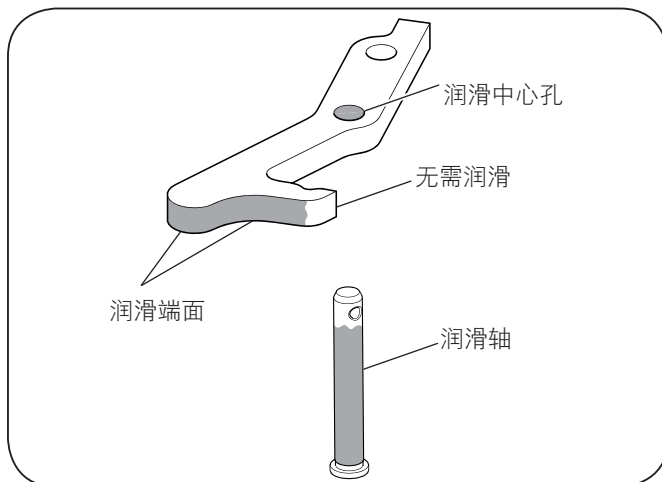


图20

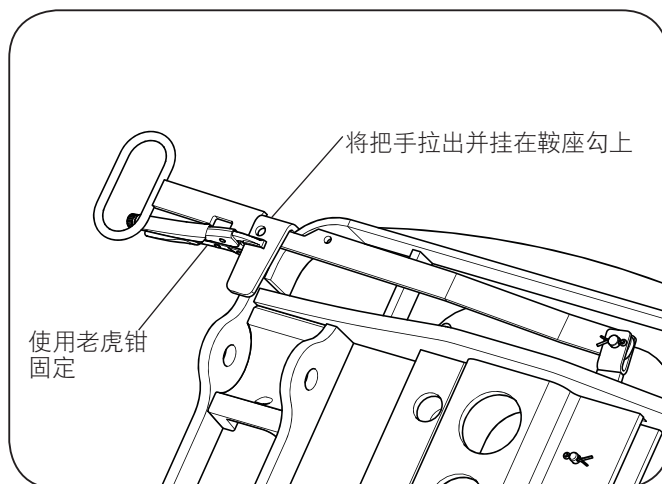
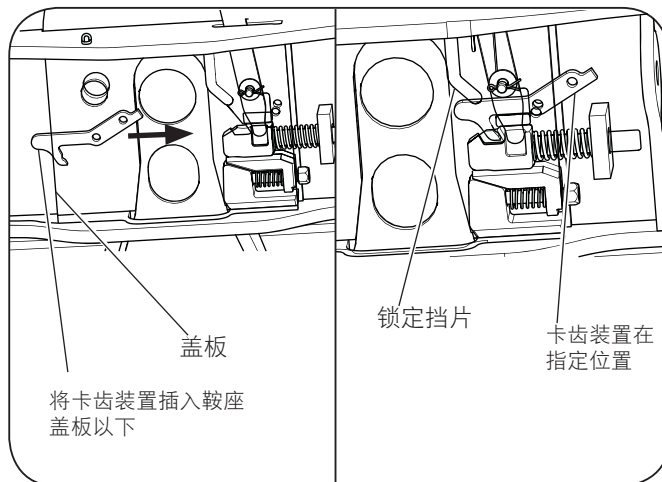


图21



4. 将小号拉伸弹簧的一端挂在卡齿装置上的孔上。
5. 将小号伸展弹簧的另一端挂在靠近主肋槽的链环上。

重要提示： 弹簧开口朝上且远离鞍座面的方向，使其在产品使用中能抵抗地球引力（图22）。

6. 将卡齿装置的锁定部分放入锁止保持装置底部的凹槽中（图22）。
7. 施压以调整卡齿装置的位置，使中间的孔和鞍座顶板上的孔对齐（图22）。
8. 使用控制杆销钉穿过鞍座面和卡齿装置，直到销钉伸出鞍座盖板，从而将卡齿装置固定（图23）。
9. 用一个开口销穿过控制杆销末端的孔，将其固定于鞍座上。
10. 将开口销两边分开至少 20° 夹角（图23）。

警告

如果未能在控制杆销中正确安装开口销，可能会导致牵引车和挂车分离；如不可避免，可能会造成严重人员伤亡。

8. 安装锁止块

1. 润滑下列部件（图24）：

- 锁止块
- 锁止销

图22

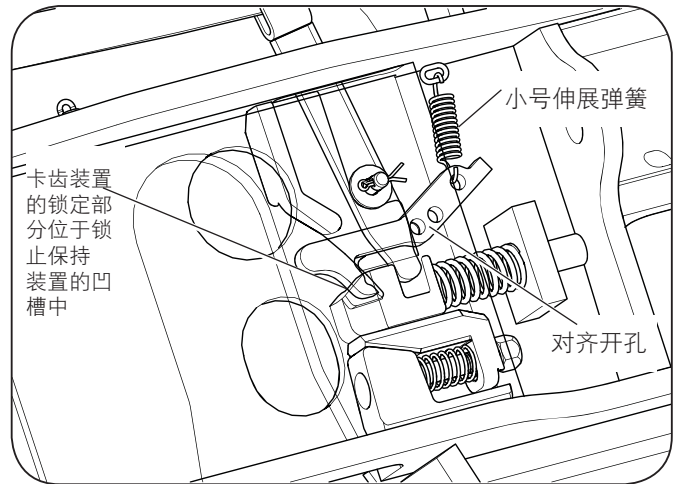


图23

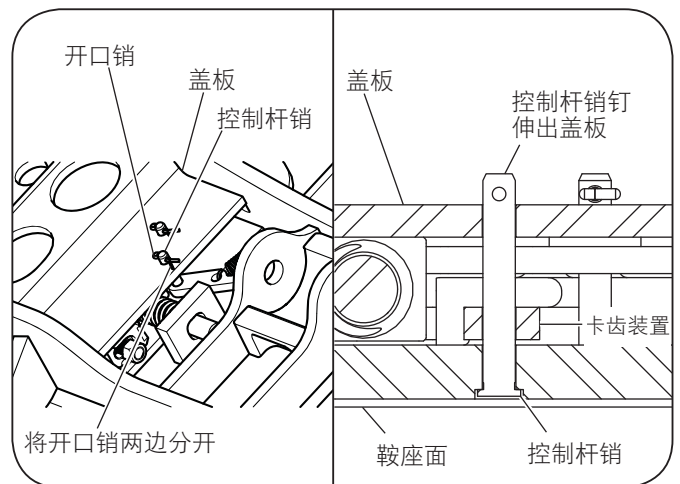
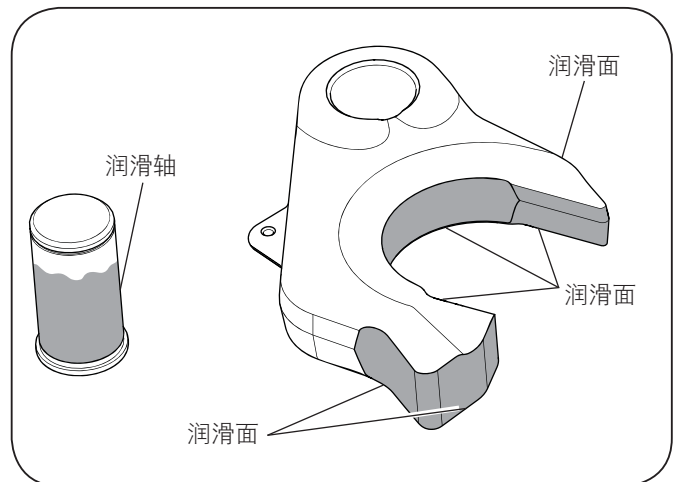


图24



2. 将锁止块安装在鞍座上。调整锁止块的位置，使其关闭端部分距离鞍座中心最近（图25）。
3. 将一个大号拉伸弹簧连接至锁止块和内耳处的链环。

重要提示： 弹簧开口朝上且远离鞍座面的方向，使其在产品使用中能抵抗地球引力（图25）。

4. 调整锁止块上开孔的位置，使其和鞍座顶板上的孔对齐。使用锁止销穿过鞍座面和锁止块，直到销钉伸出鞍座盖板，从而将锁止块固定（图26）。
5. 将扣环安装于锁止销末端的沟槽中，以将锁止销固定于鞍座上（图27）。

图25

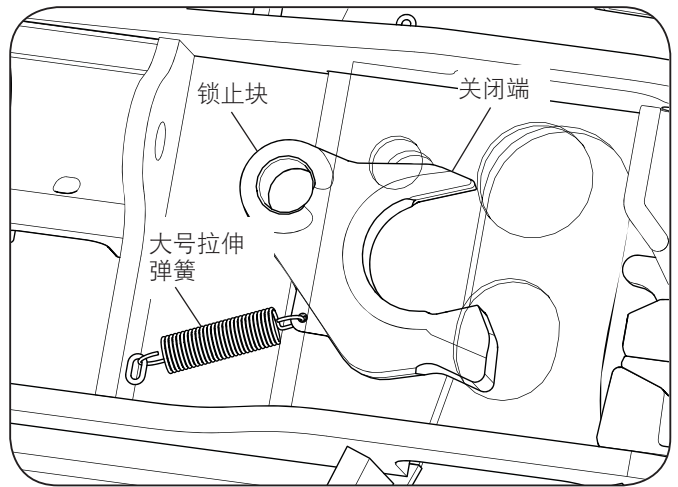


图26

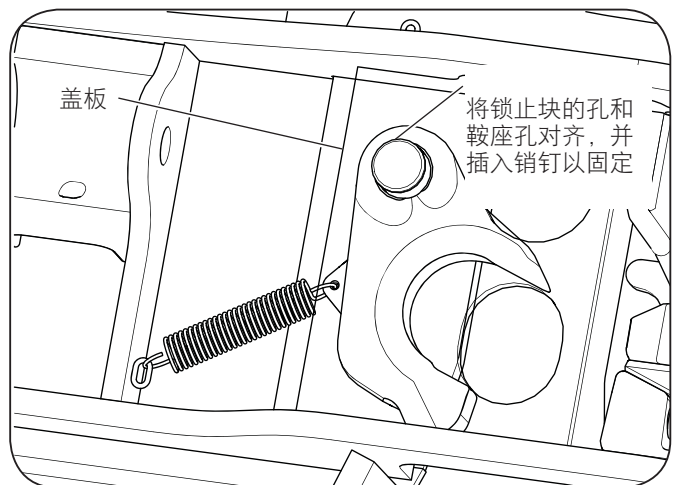
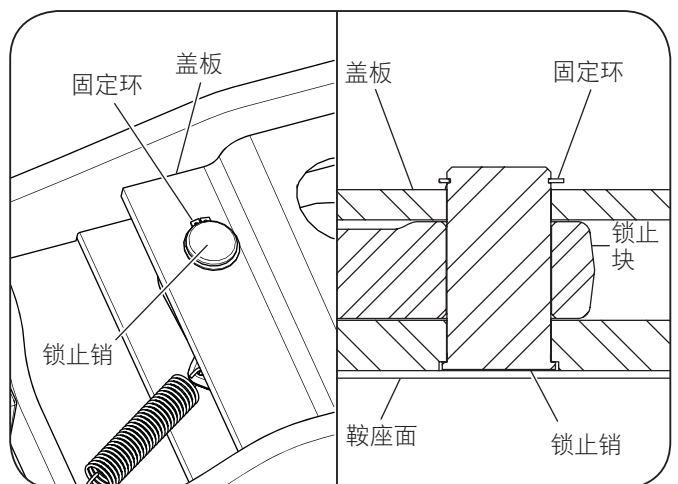


图27



9. 安装把手弹簧

重要提示： 锁止测试器，零件编号为 TF-TLN-1500，可以从赛夫-华兰德® 的经销商处获得，为重装 FW28 系列鞍座所必须的零件。

1. 移除用来固定把手的老虎钳。
2. 用手掌敲打把手，将把手勾从鞍座勾中松开（图28）。
3. 使用撬棍或其他类似工具，于卡齿装置暴露端施压，以将锁止保持装置解锁（图29）。（这样能够使锁止保持装置和控制杆将把手移动至闭合位置，以便安装把手弹簧。）

注意

不要用手来松开卡齿装置，会造成轻度或中度人身伤害。

4. 润滑 $\varnothing 10 \times 25 \text{ mm}$ 固定销（图30）。

图28

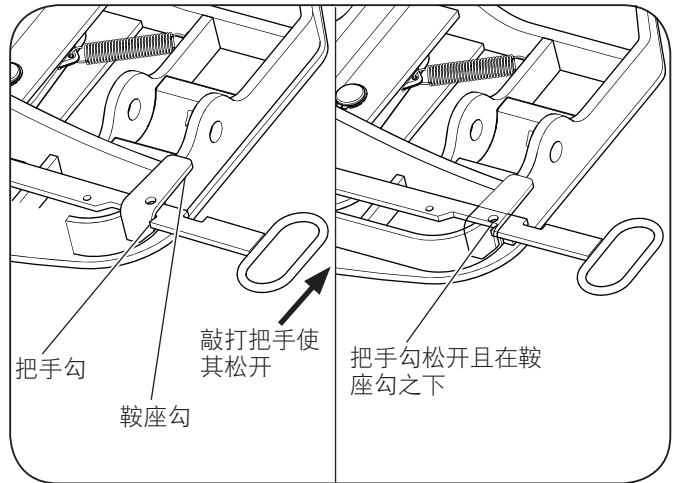


图29

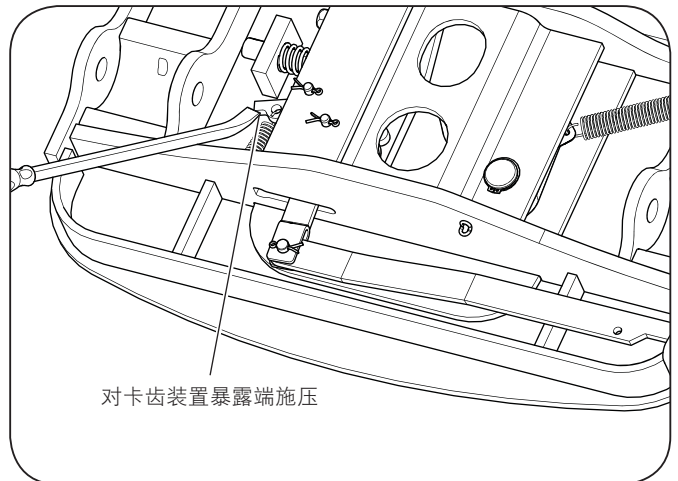
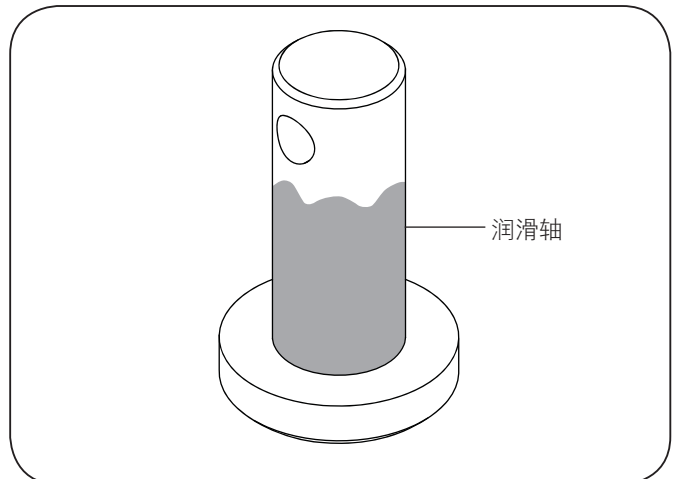


图30



5. 保持 $\varnothing 10 \times 25$ mm 固定销的轴指向远离鞍座定顶板的方向，将固定销插入解锁把手上的小孔中（图31）。
6. 将另外一个大号拉伸弹簧连接到固定销和主肋前面的链环上。

重要提示： 弹簧开口朝上且远离鞍座面的方向，使其在产品使用中能抵抗地球引力（图32）。

10. 安装润滑嘴

1. 在鞍座上每一个润滑腔入口孔上都安装一个润滑嘴（图33）。

图31



图32

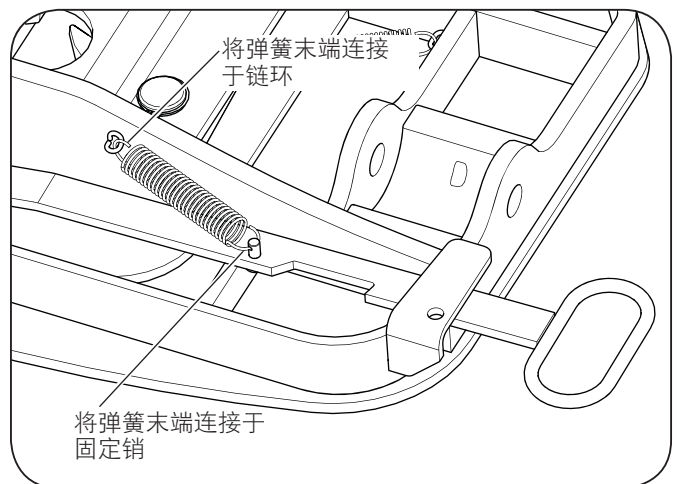
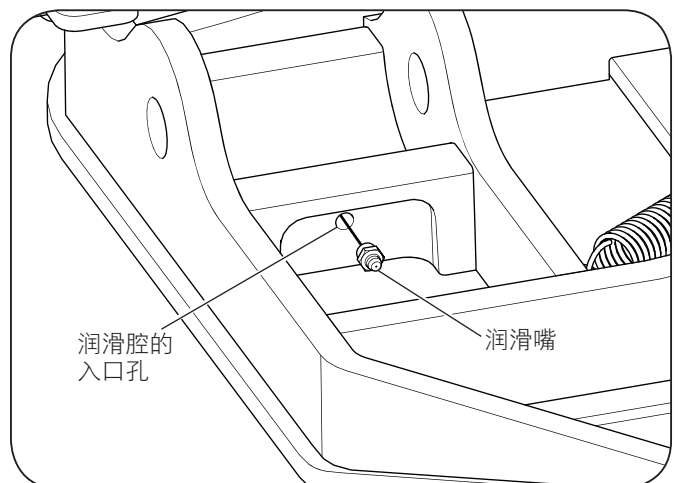


图33



11. 安装顶板

1. 润滑下列部件 (图34) :
 - 鞍座铸造腔
 - 支架盖顶端
2. 检查支架内的橡胶衬套, 如有需要请更换。衬套维修套件 RK-11623 可以从赛夫-华兰德® 的经销商处获得。
3. 使用提升能力达到 230kg (507 磅) 的提升设备, 将鞍座顶板安装到其固定支架上。

注: 遵循提升设备制造商发布的说明, 正确操作提升设备。

4. 在鞍座的每一边, 通过顶板、衬套和固定支架进行支架销的安装。每一个支架销头应该和鞍座顶板外部齐平 (图35)。
5. 在每个支架销的末端孔中, 安装一个弯头销来将支架销固定于鞍座 (图36)。

图34

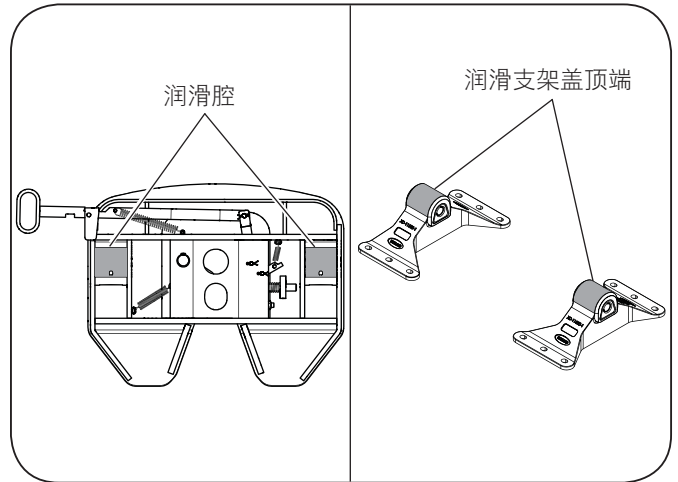


图35

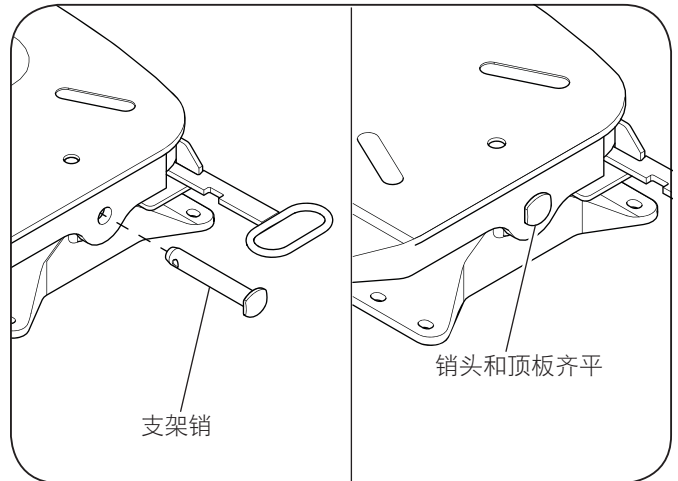
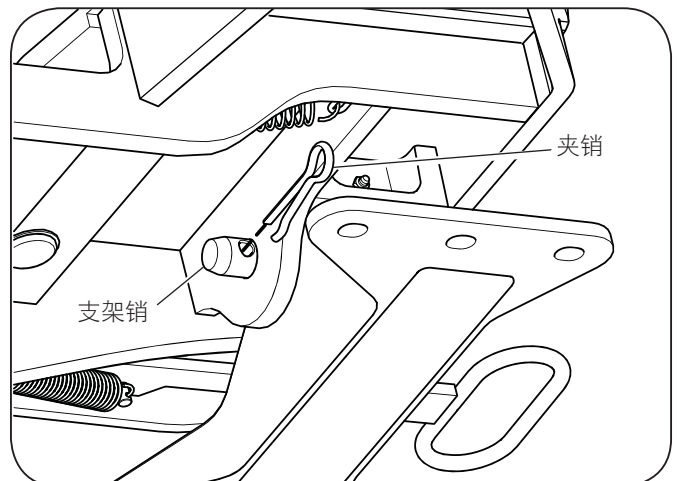


图36



12. 鞍座调节

1. 将鞍座解锁把手向右拉出，且将把手的勾槽挂在鞍座勾上（图37）。
 2. 使用零件编号为 TF-TLN-1500 的锁止测试器来进行以下四 (4) 个步骤：
 - a. 在锁止块还在打开位置的时候，抓住锁止测试器牵引销部分的把手，将其置于打开的锁止块中（图38）。
 - b. 用一只手按下锁止测试器牵引销部分的把手，另外一个手推动控制杆来锁定鞍座（图38）。
- 注：** 在这一步，有可能需要将锁止测试器旋转到一个角度，以使锁止测试器的控制杆能接触到鞍座的前面。
- c. 将鞍座解锁把手向右拉出，且将把手的勾槽挂在鞍座勾上（图37）。
 - d. 再重复步骤“b”和“c”两 (2) 次。这样能保证各个部件都安装到了正确的位置。
3. 在鞍座锁定于牵引销的时候，使用 14 mm 内六角扳手或者套筒扳手配合 14 mm 内六角扳手头，将 M16 x 2 x 100 mm 调整螺钉拧至足够紧（图39）。
 4. 将调整螺钉松 1 圈半以消除残余张力。

图37

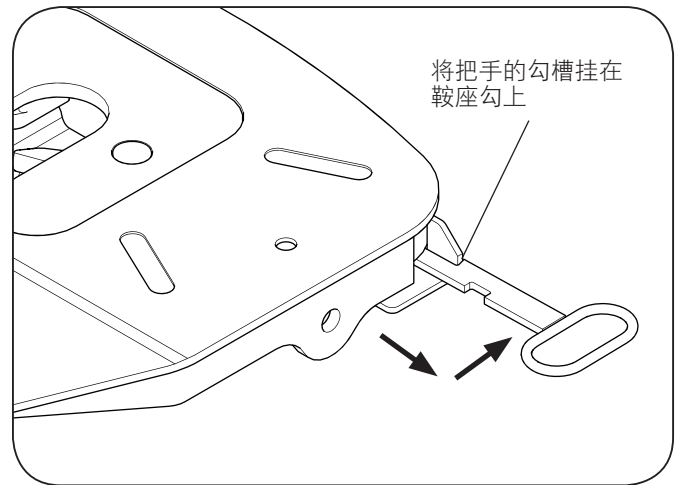


图38

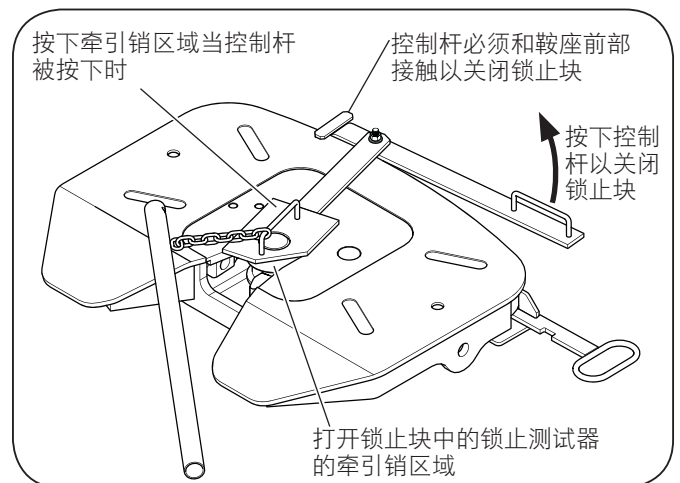
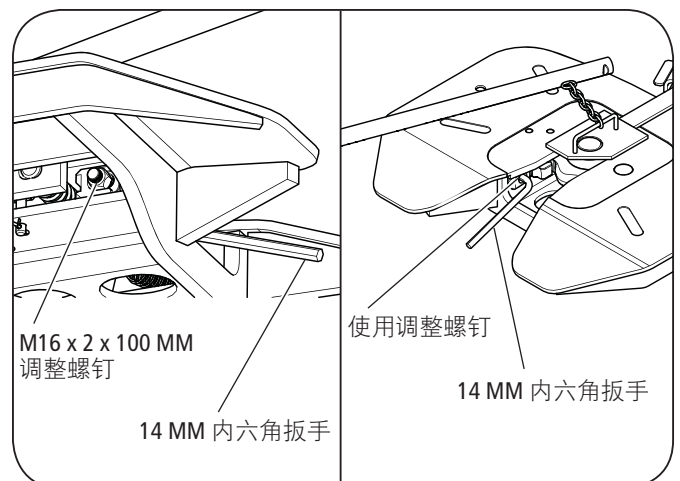


图39



5. 损毁调整螺钉上暴露部分的螺纹。这样可以防止锁紧螺母松脱 (图40)。
6. 拉下解锁把手，将鞍座解锁，并验证机械功能。
7. 移除锁止测试器。如果出现移除困难，使用锁止测试器上的杆作为杠杆来将其从锁止区移除 (图41)。
8. 对前锁止区中牵引销和顶板接触的地方进行全面润滑。检查锁止块，如果润滑脂在组装过程中有损耗，则重新添加润滑脂 (图42)。

图40

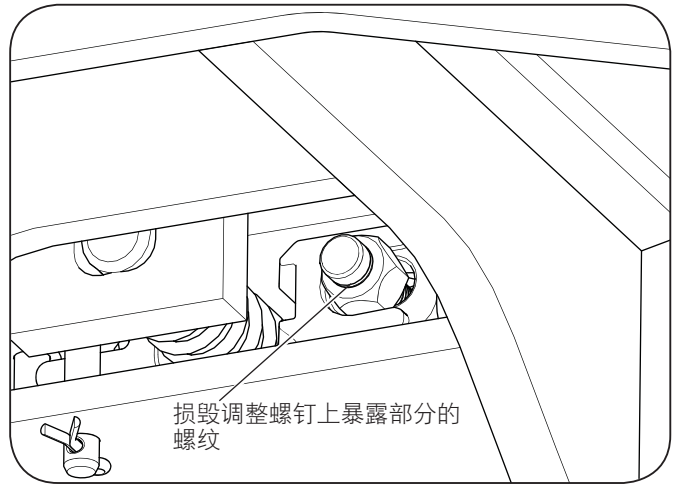


图41

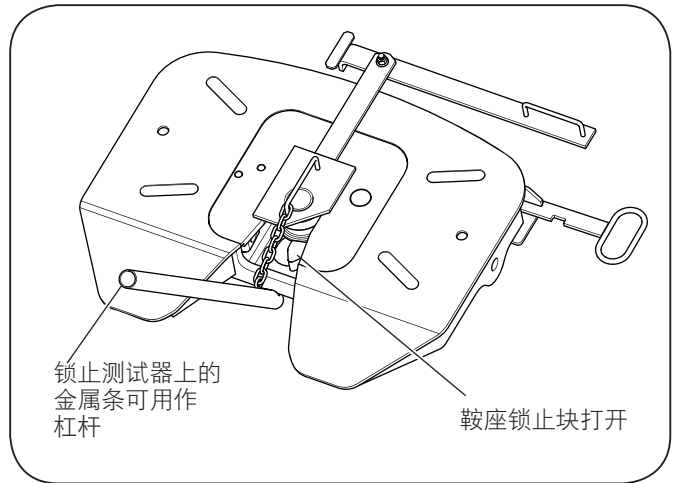
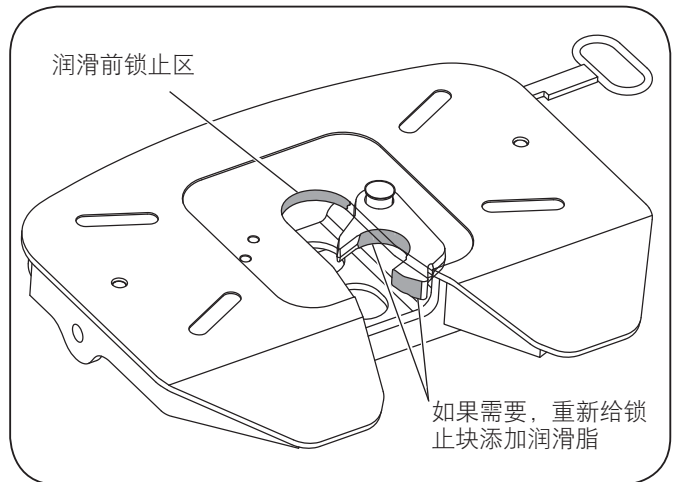


图42



Rebuild/Repair Manual

FW28 Series Fifth Wheels

- RK-280-A Rebuild Kit



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Introduction

This manual provides the information necessary to properly rebuild the HOLLAND® FW28, XA-280-A Series Fifth Wheels. Read this manual before using or servicing this product and keep it in a safe location for future reference. Updates to this manual, which are published as necessary, are available on the internet at www.safholland.cn.

IMPORTANT: Lock tester, part number TF-TLN-1500 available at SAF-HOLLAND® distributors, is required for proper rebuild of the FW28 fifth wheel.

When replacement parts are required, SAF-HOLLAND® highly recommends the use of ONLY SAF-HOLLAND® Original Parts. A list of SAF-HOLLAND® technical support locations that supply SAF-HOLLAND® Original Parts can be found on the internet at www.safholland.cn or contact Customer Service at +86 592 6388891. Refer to this manual’s back cover for the nearest location for assistance.

Notes, Cautions, and Warnings

Before starting any work on the unit, read and understand all the safety procedures presented in this manual. This manual contains the terms “NOTE”, “IMPORTANT”, “CAUTION”, and “WARNING” followed by important product information. These terms are defined as follows:

NOTE: Includes additional information to enable accurate and easy performance of procedures.

IMPORTANT: Includes additional information that if not followed could lead to hindered product performance.

CAUTION Used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, could result in property damage.

CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

1. General Safety Instructions

- Read and observe all Warning and Caution hazard alert messages. The alerts provide information that can help prevent serious personal injury, damage to components, or both.

⚠ WARNING Failure to follow the instructions and safety precautions in this manual could result in improper servicing or operation leading to component failure which, if not avoided, could result in death or serious injury.

- All repair and maintenance should be performed by a properly trained technician using proper/special tools, and safe procedures.

NOTE: Before rebuilding the HOLLAND® Fifth Wheel review the model number on the identification tag. This rebuild procedure applies only to models FW28, XA-280-A fifth wheel top plates.

IMPORTANT: All maintenance **MUST** be performed while the tractor is uncoupled from the trailer.

IMPORTANT: These instructions apply to the proper rebuild of FW28, XA-280-A series fifth wheel top plates **ONLY**. There are other important checks, inspections, and procedures not listed here that are necessary, prudent, and/or required.

- For proper installation procedures, refer to Installation Manual XL-FW10008BM-zh-CN available on the internet at www.safholland.cn.

IMPORTANT: Prior to operation of the fifth wheel, verify that the fifth wheel has been properly installed on the vehicle.

⚠ WARNING Failure to properly repair and install the fifth wheel could adversely affect performance resulting in tractor trailer separation which, if not avoided, could result in death or serious injury.

2. Model Identification

Fifth wheel serial tags are located on the right side of the fifth wheel top plate above the fifth wheel bracket pin, or on the pickup ramps (**Figure 1**).

The identification number and serial number are listed on the tag (**Figure 2**).

Figure 1

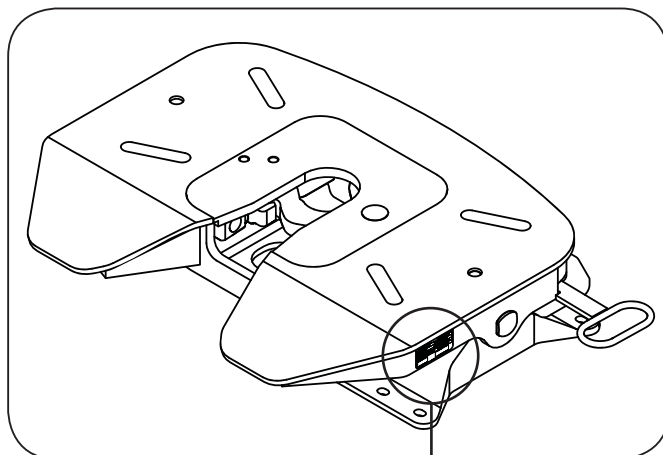
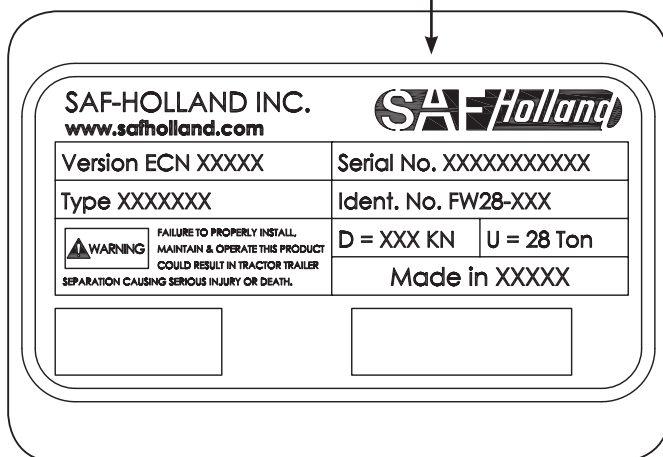
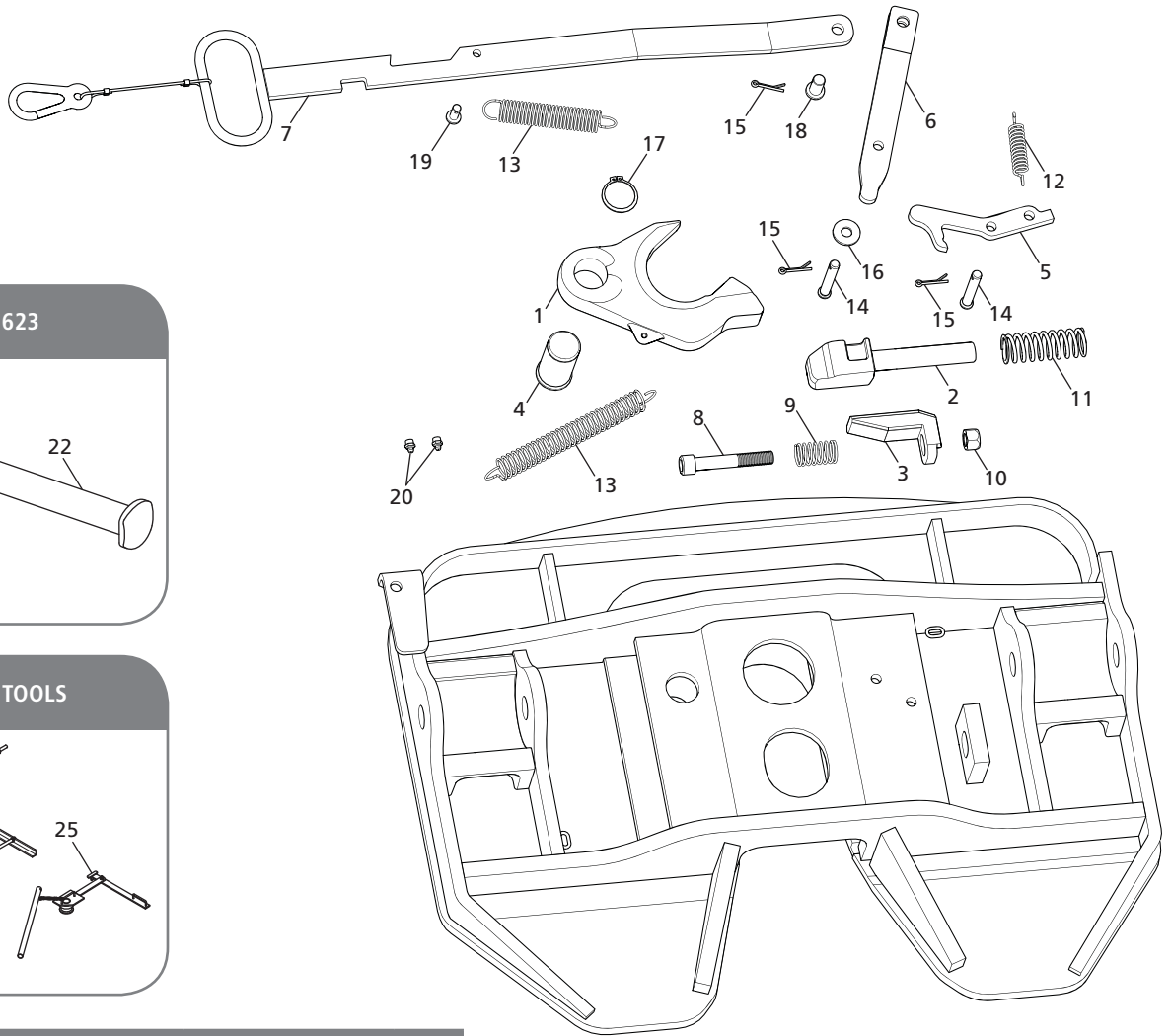
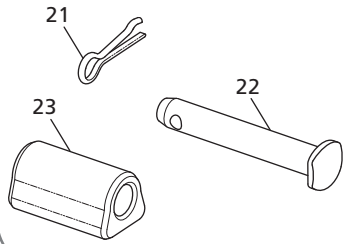
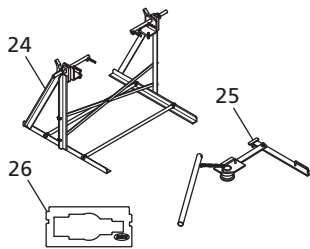


Figure 2




RK-11623

SERVICE TOOLS

FW28 RK-280-A KIT PARTS LIST

ITEM	DESCRIPTION	PART NUMBER	QTY
1	Lock	XA-11598	1
2	Lock Retainer	XA-11597	1
3	Adjustment Wedge	XD-11593	1
4	Lock Pin	XA-11594	1
5	Latch	XA-11577	1
6	Lever	XA-11596	1
7	Release Handle	XA-11600	1
8	Socket Head Cap Screw, M16 x 2 x 100 mm	XB-11591	1
9	Small Compression Spring	XB-11592	1
10	Lock Nut, M16 x 2	XB-11590	1
11	Large Compression Spring	XB-11586	1
12	Small Extension Spring	XA-11576	1
13	Large Extension Spring	XB-10489-C	2
14	Lever Pin	XA-11583	2
15	Cotter Pin, M4 x 32 mm	XA-11612	3
16	Washer, M12	XB-11588	1
17	Retaining Ring	XB-11849	1
18	Clevis Pin, Ø15 x 28.5 mm	XB-11845	1
19	Clevis Pin, Ø10 x 25 mm	XB-11790	1
20	Lube Fitting	XB-11579	2

RK-11623 PARTS LIST

ITEM	DESCRIPTION	PART NUMBER	QTY
21*	Clinch Pin	9900169	2
22*	Bracket Pin	XA-11533	2
23*	Rubber Bushing	XB-0011-3-C	2

SERVICE TOOLS

ITEM	DESCRIPTION	PART NUMBER	QTY
24*	Fifth Wheel Rebuild Stand	TF-04229-1	1
25*	Kingpin Lock Tester	TF-TLN-1500	1
26*	Kingpin Gauge	TF-0110	1

* Not included in RK-280-A Rebuilt Kit.

NOTE: All contents of RK-280-A MUST be ordered as a full kit. Parts CANNOT be ordered separately.

3. Top Plate Removal

CAUTION Fifth wheel components are under high spring tension which could release unexpectedly which, if not avoided, could result in death or serious injury.

1. Remove clinch pins from the bracket pins on both sides of fifth wheel top plate (**Figure 3**).
2. Using a pry bar, pull fifth wheel bracket pins out of fifth wheel top plate (**Figure 3**).
3. Using a lifting device capable of lifting 230 kg (507 lbs.), remove top plate from mounting base. Place fifth wheel upside down on a flat, clean working area.

NOTE: Follow instructions published by lifting device manufacturer for proper operation of lifting device.

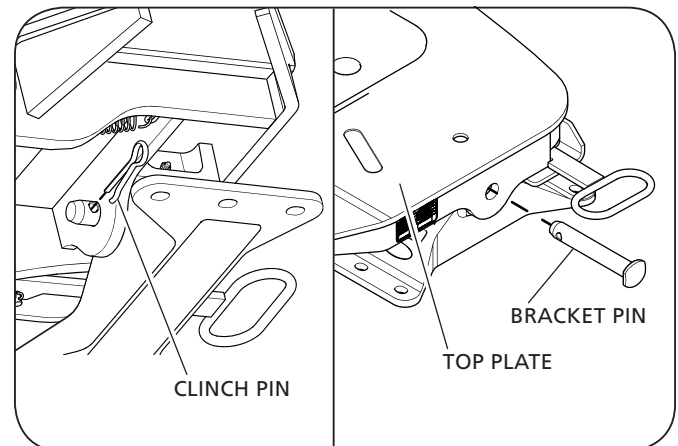
4. Completely remove all components from the fifth wheel and discard.

IMPORTANT: This rebuild kit contains all the components necessary to completely rebuild the fifth wheel top plate. DO NOT reuse old parts.

CAUTION DO NOT hit steel parts with a steel hammer as parts could break, sending steel fragments flying in any direction creating a hazard which, if not avoided, could result in minor to moderate injury.

5. Thoroughly steam clean the top plate and front lock region to remove all grease and debris.

Figure 3



6. Inspect the top plate for cracks, elongated lock pin and adjusting pin holes, and flatness. If the top plate is damaged, it MUST be discarded.

WARNING Failure to replace fifth wheels that are bent, have cracks or elongated lock pin or adjusting pin holes could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

4. Adjustment Wedge Installation

1. Install the M16 x 2 x 100 socket head cap screw through the counter bored hole located in the top plate's wedge support block (**Figure 4**).
2. Slide the small compression spring over the threaded end of the socket head cap screw until it is seated flush against the top plate's wedge support block (**Figure 4**).
3. Lubricate the adjustment wedge (**Figure 5**).
4. Slide the hole in the adjustment wedge over the socket head cap screw. Position the wedge into the top plate so that the angled surfaces on the wedge and support block are flush and the wedge is seated against the small compression spring (**Figure 6**).

Figure 4

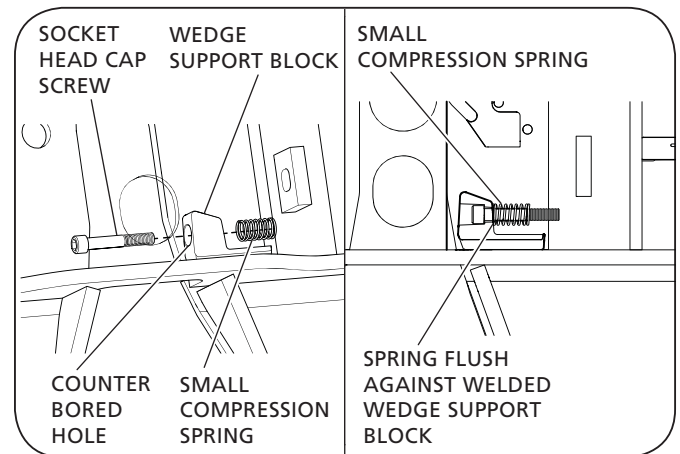
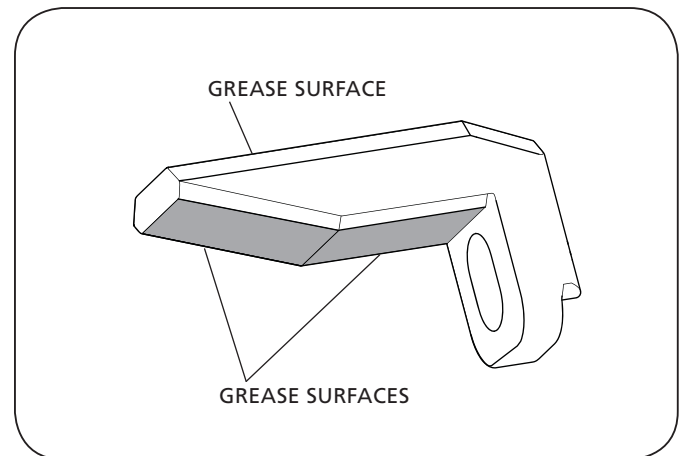
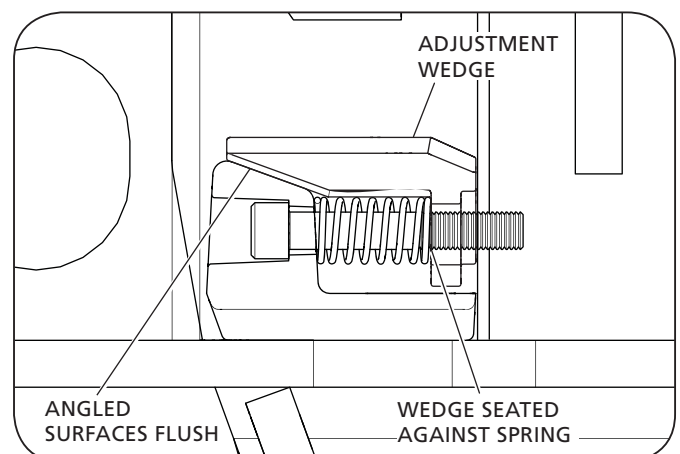


Figure 5



English

Figure 6



5. Install the M16 x 2 lock nut onto the socket head cap screw and partially tighten until the threads of the socket head cap screw are flush with the end of the lock nut. This will secure the adjustment wedge and small compression spring to the top plate (**Figure 7**).

NOTE: Further adjustment will be performed in Section 11.

5. Lock Retainer Installation

1. Lubricate the lock retainer (**Figure 8**).
2. Place the large compression spring onto the shaft of the lock retainer (**Figure 9**).

Figure 7

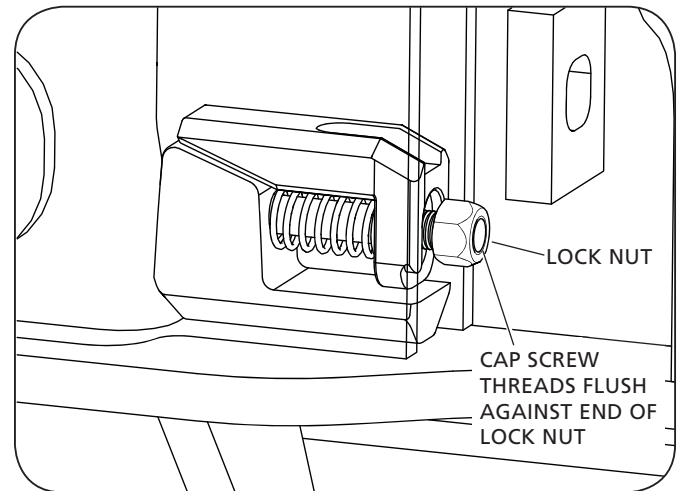


Figure 8

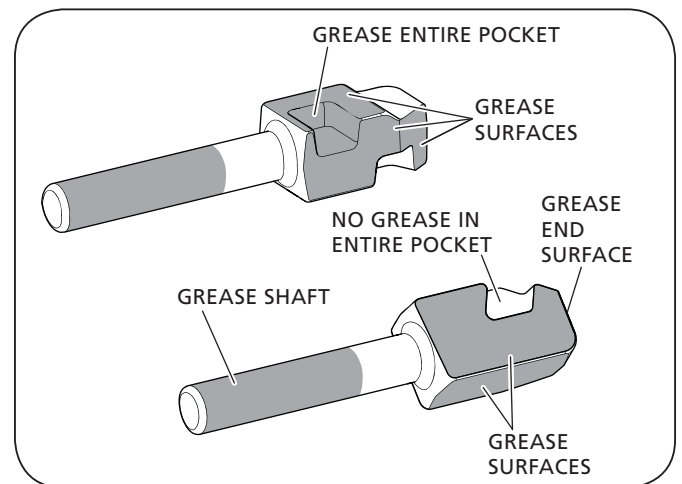
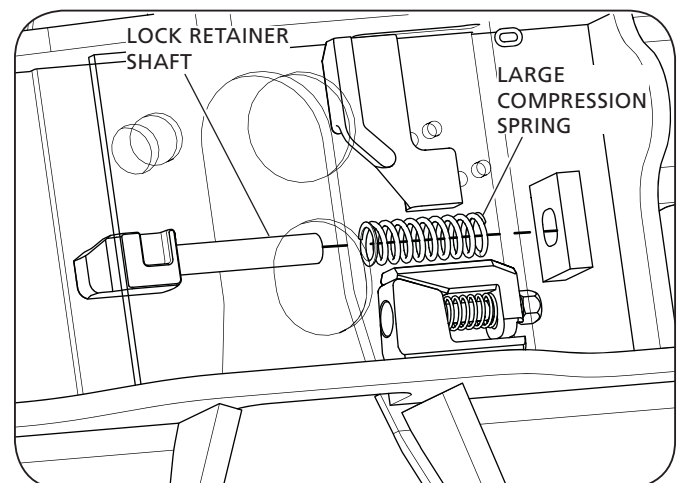


Figure 9



3. Install the lock retainer and large compression spring into the central lock area of the top plate and conform to the following (**Figure 10**):
 - The side of the lock retainer equipped with a large chamfer at the end is facing the center of the fifth wheel where the kingpin will be locked.
 - The lock retainer is seated against the adjustment wedge.
 - The compression spring is flush with the top plate retaining block.
 - The lock retainer shaft is aligned with the hole in the top plate retaining block.
4. Use a device, such as a large clamp, to apply force to the end of the lock retainer so that the spring compresses and the shaft of the lock retainer passes through the retaining block hole (**Figure 10**).

NOTE: The device MUST be capable of compressing the lock retainer spring and securing the lock retainer into the fifth wheel top plate.

6. Handle and Lever Installation

1. Lubricate the handle (**Figure 11**).
2. Orient the handle so the larger cutout is facing away from the center of the fifth wheel (**Figure 12**).
3. Install the handle through the handle slot of the fifth wheel (**Figure 12**).

Figure 10

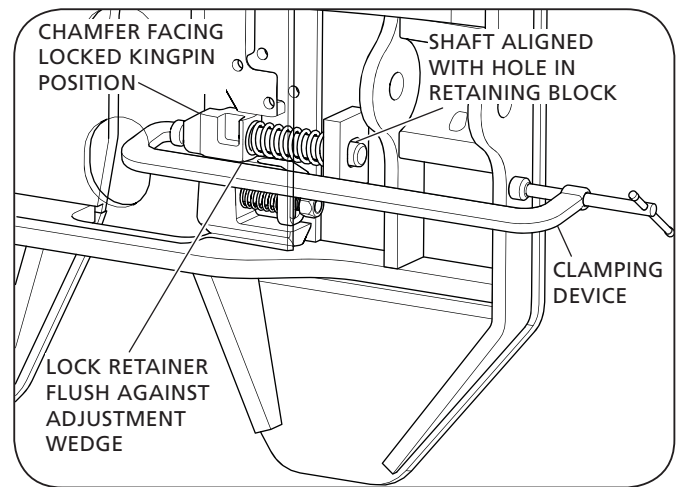


Figure 11

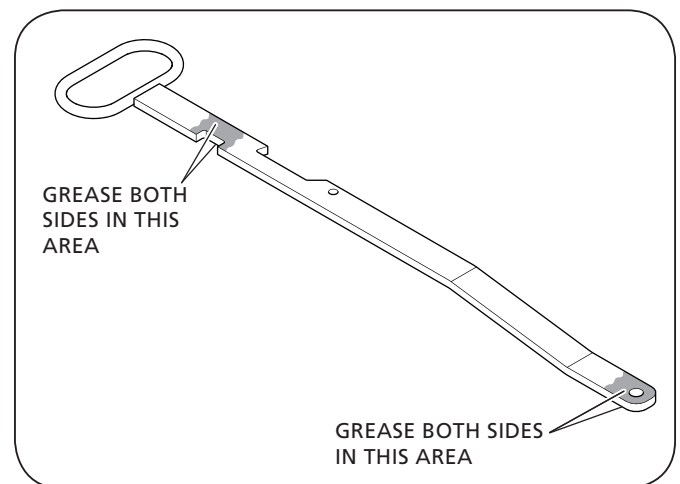
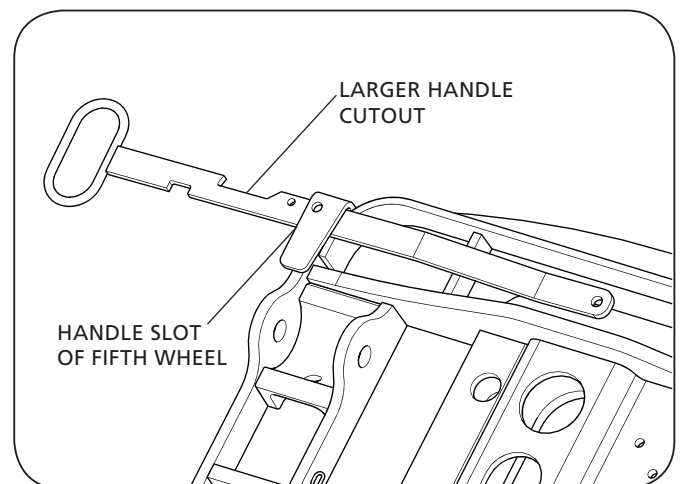


Figure 12



4. Lubricate the following components (**Figure 13**):

- Lever
- One (1) lever pin
- M12 washer
- Ø15 x 28.5 mm clevis pin
- Main rib slot opening of fifth wheel

5. Install the end of the handle into the clevis end of the lever, aligning the holes (**Figure 14**).

6. Insert the Ø15 x 28.5 mm clevis pin through the aligned holes of the handle and lever, with the head of the pin closest to the fifth wheel (**Figure 15**).

7. Secure the clevis pin to the lever by inserting a M4 x 32 cotter pin through the hole at the end of the clevis pin (**Figure 15**).

8. Spread both legs of the cotter pin at a 20° angle minimum (**Figure 15**).

Figure 13

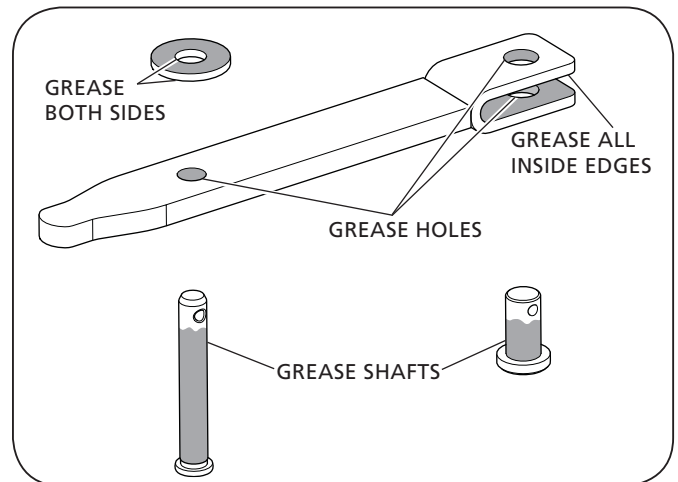


Figure 14

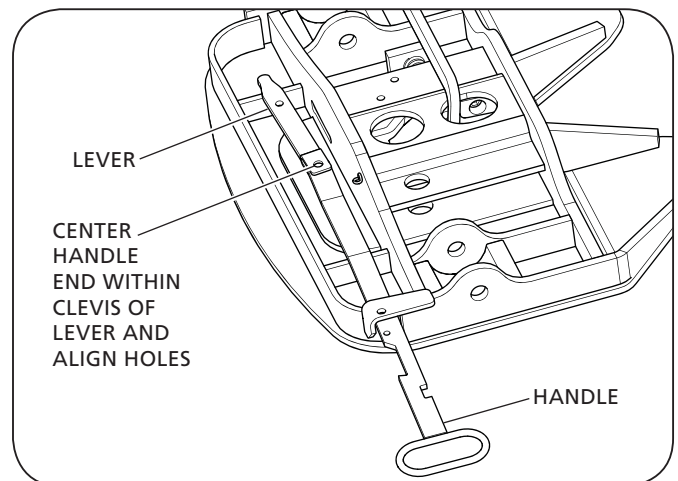
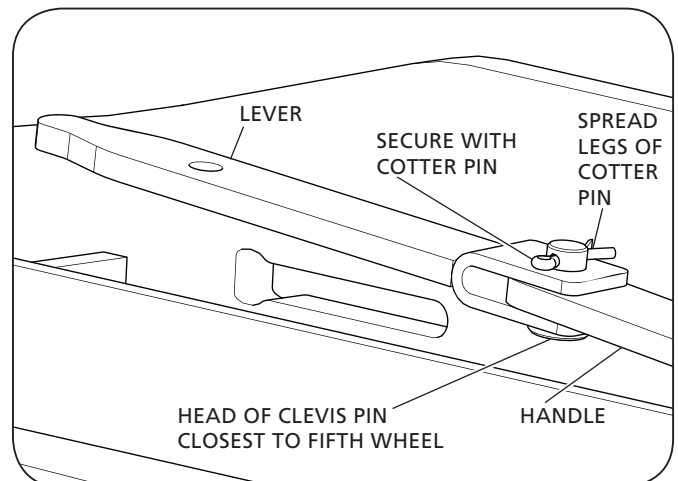


Figure 15



9. Install the lever through the slot in the main rib (**Figure 16**).
10. Place the M12 washer on top of the lever bar so that the washer hole is aligned with the pivot hole located near the end of the lever bar (**Figure 16**).

NOTE: Lubrication should help these components stick together.

11. Position the lever so that the profiled end fits securely into the recessed pocket in the lock retainer (**Figure 16**).
12. Secure the lever and washer by inserting the lever pin through the fifth wheel face, lever, and washer until it protrudes out of the fifth wheel cover plate (**Figure 17**).
13. Secure the lever pin in the fifth wheel by inserting a M4 x 32 cotter pin through the hole at the end of the lever pin (**Figure 18**).
14. Spread both legs of the cotter pin at a 20° angle minimum (**Figure 18**).

WARNING

Failure to properly install the cotter pin in the lever pin, could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

15. Disengage the clamp or mechanical device used to compress/secure the lock retainer in the top plate.

Figure 16

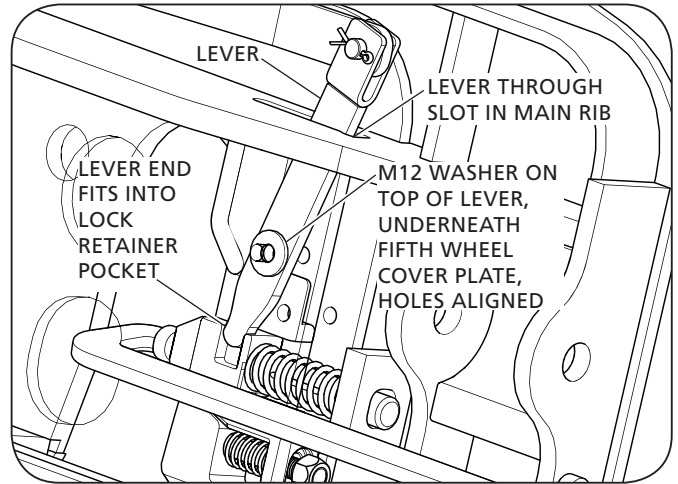


Figure 17

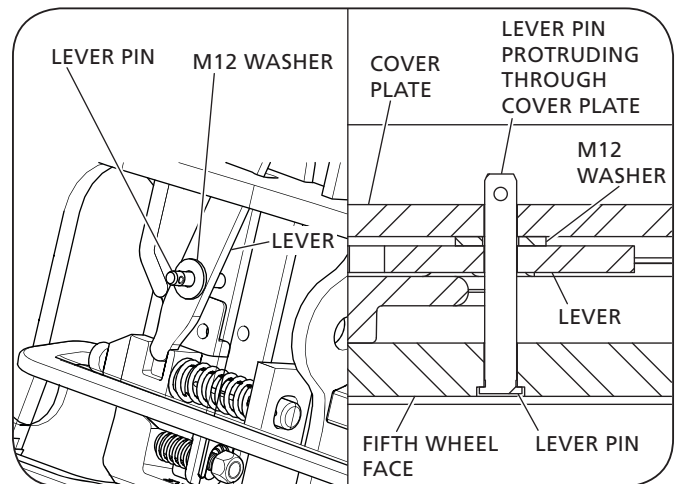
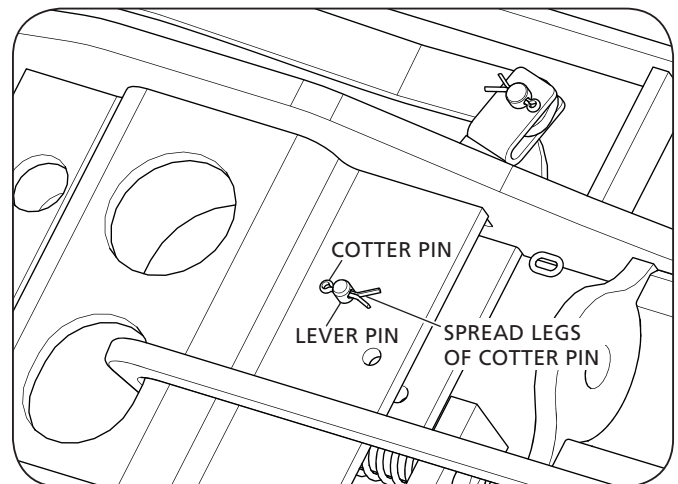


Figure 18



7. Latch Installation

1. Lubricate the following components (**Figure 19**):
 - Latch
 - Remaining lever pin
2. Pull the fifth wheel release handle and hook the handle on the fifth wheel handle tab (**Figure 20**).

IMPORTANT: Secure the handle with vise-grips so that the handle cannot be accidentally bumped off the handle tab (**Figure 20**).

CAUTION Failure to secure handle could allow the handle to re-enter the fifth wheel and cycle during assembly, which if not avoided, could result in significant injury.

3. With the catch portion of the latch positioned toward the lock retainer, feed the latch, hole end first, under the fifth wheel cover plate and slide it into place through the gap of the fifth wheel lock stop (**Figure 21**).

Figure 19

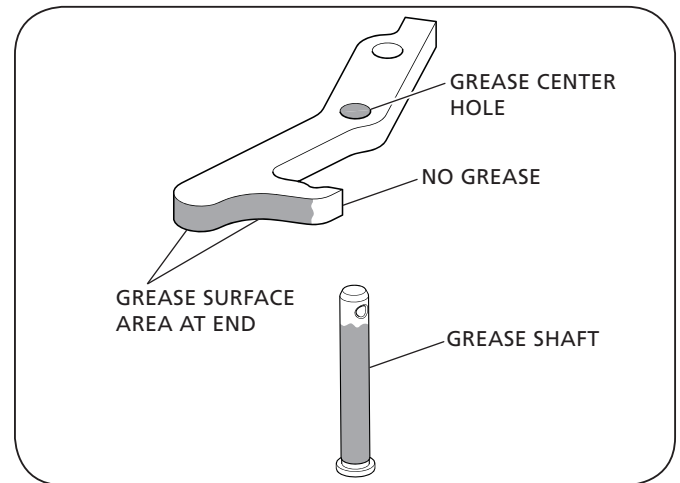


Figure 20

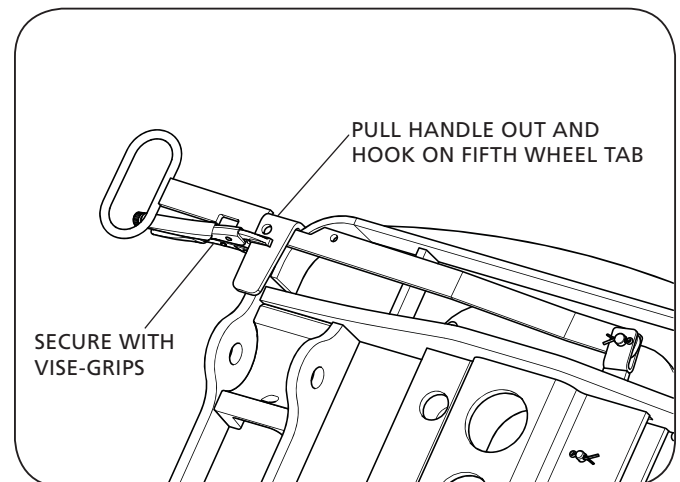
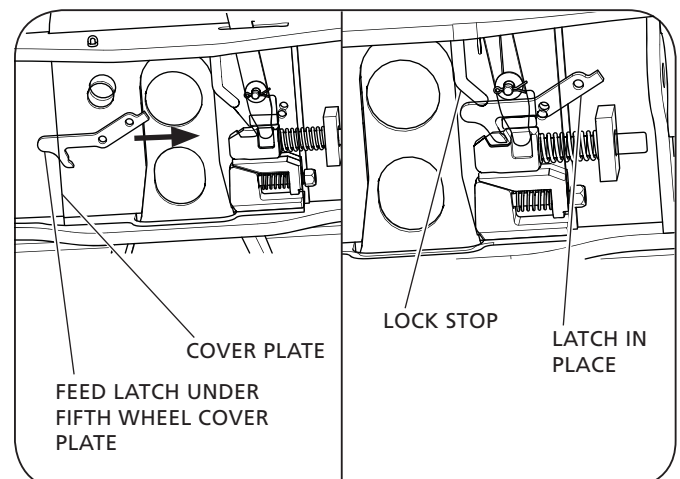


Figure 21



4. Hook one end of the small extension spring through the hole in the latch.
5. Hook the other end of the small extension spring through the chain loop located near the slot in the main rib.

IMPORTANT: Position the spring openings upward, away from the face of the fifth wheel, so that it will resist the effect of gravity during product use (**Figure 22**).

6. Place the catch portion of the latch into the recessed pocket on the bottom side of the lock retainer (**Figure 22**).
7. Apply pressure to position the latch so the center hole is aligned with the hole in the fifth wheel top plate (**Figure 22**).
8. Attach the latch by inserting the lever pin through the fifth wheel face and latch until it protrudes out of the fifth wheel cover plate (**Figure 23**).
9. Secure the lever pin to the fifth wheel by inserting a cotter pin through the hole at the end of the lever pin.
11. Spread both legs of the cotter pin at a 20° angle minimum (**Figure 23**).

WARNING Failure to properly install the cotter pin in the lever pin, could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

8. Lock Installation

1. Lubricate the following components (**Figure 24**):
 - Lock
 - Lock pin

Figure 22

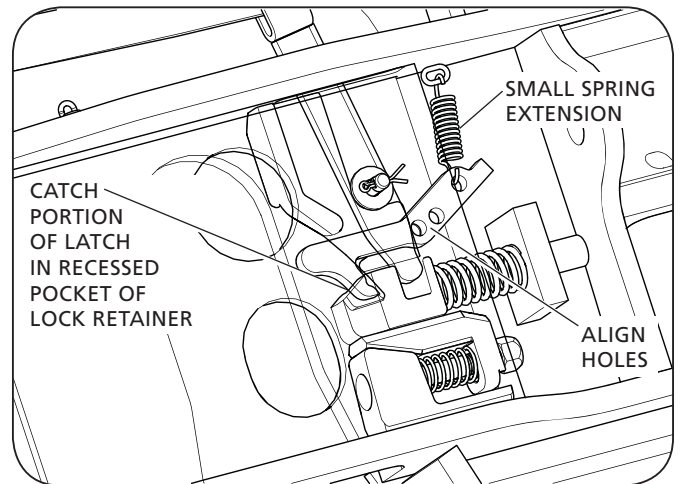


Figure 23

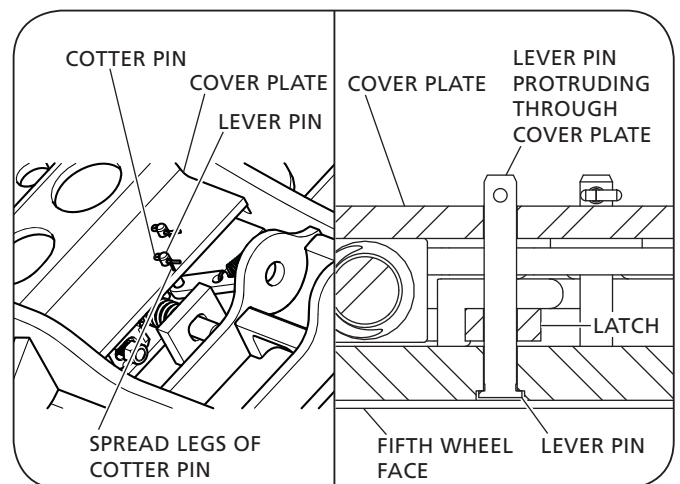
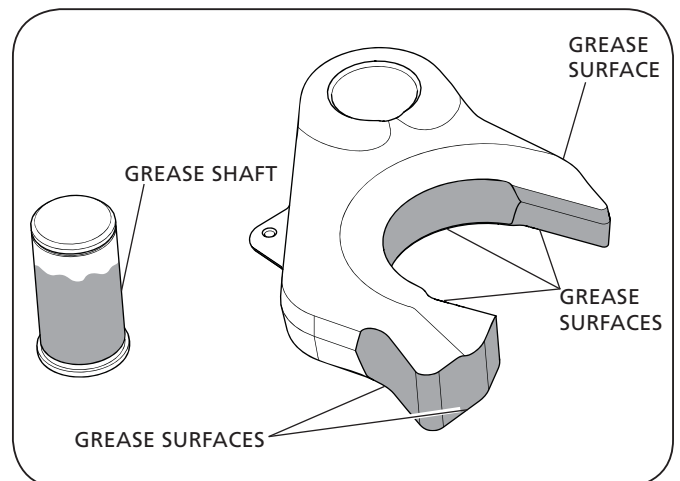


Figure 24



2. Install the lock into the fifth wheel. Position the lock with the closing finger portion of the lock located closest to the center of the fifth wheel (**Figure 25**).
3. Connect one of the large extension springs to the lock and chain loop located on the inner ear.

IMPORTANT: Position the spring opening upward, away from the face of the fifth wheel, so that it will resist the effect of gravity during product use (**Figure 25**).

4. Position the hole in the lock so that it is aligned with the hole in the fifth wheel top plate. Secure the lock by inserting the lock pin through the fifth wheel face and through the lock until it protrudes out of the fifth wheel cover plate (**Figure 26**).
5. Install the retaining ring into the groove at the end of the lock pin to secure the lock pin to the fifth wheel (**Figure 27**).

Figure 25

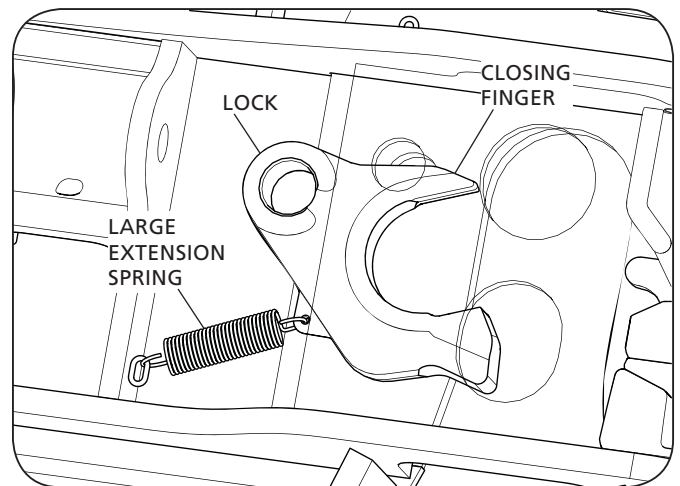


Figure 26

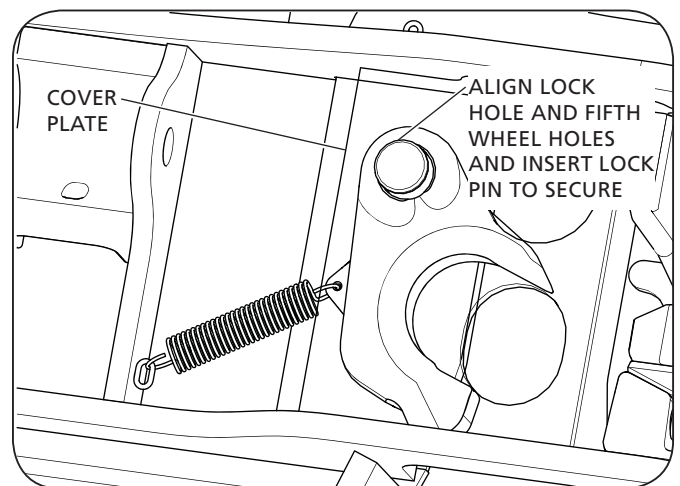
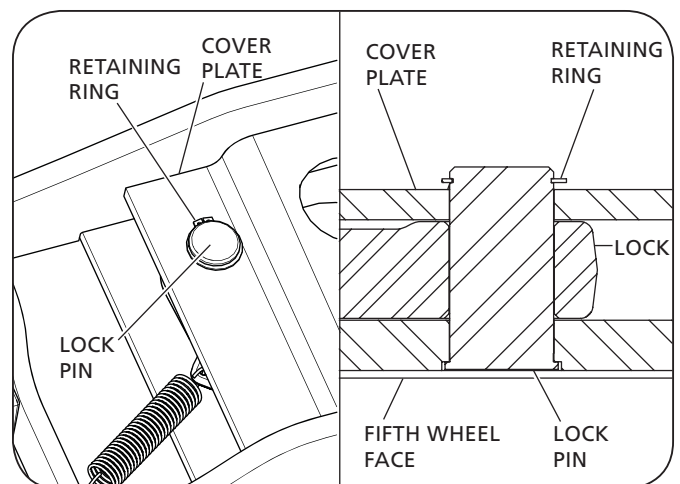


Figure 27



9. Handle Spring Installation

IMPORTANT: Lock tester, part number TF-TLN-1500 available at SAF-HOLLAND® distributors, is required for proper rebuild of the FW28 fifth wheel.

1. Remove the vise-grips used to secure the handle.
2. Bump handle with palm of hand to dislodge hook of handle from fifth wheel tab (**Figure 28**).
3. Using a pry bar or a similar tool, apply pressure to the exposed end of the latch to release the lock retainer (**Figure 29**). (This will allow the lock retainer and lever to move the handle to the closed position to allow for handle spring installation.)

CAUTION DO NOT use hand to dislodge latch, as it could result in minor to moderate injury.

4. Lubricate the $\varnothing 10 \times 25$ mm clevis pin (**Figure 30**).

Figure 28

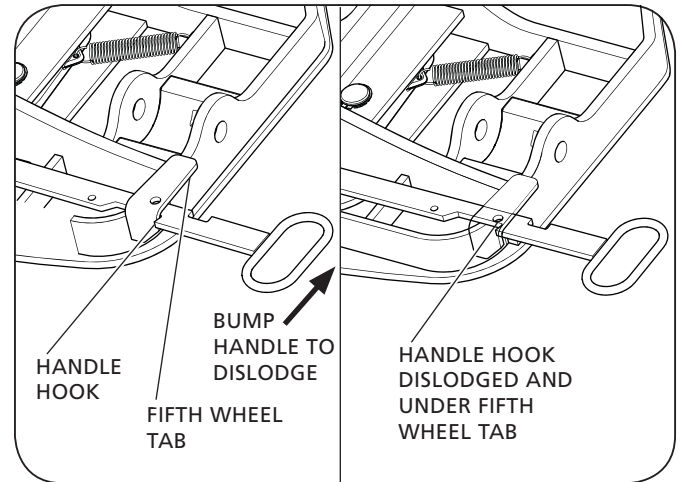


Figure 29

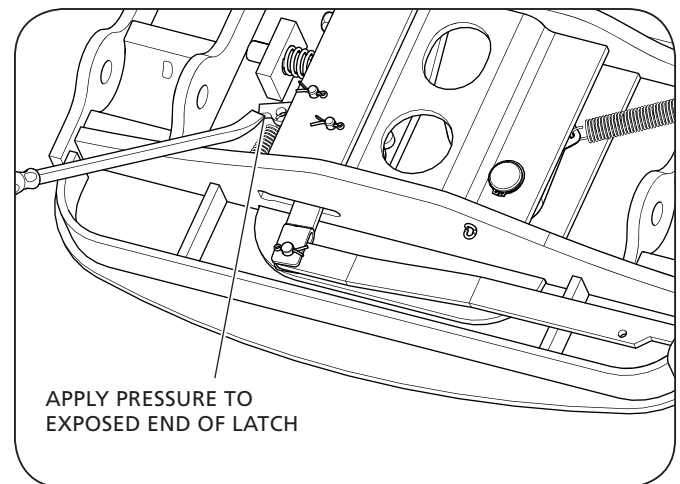
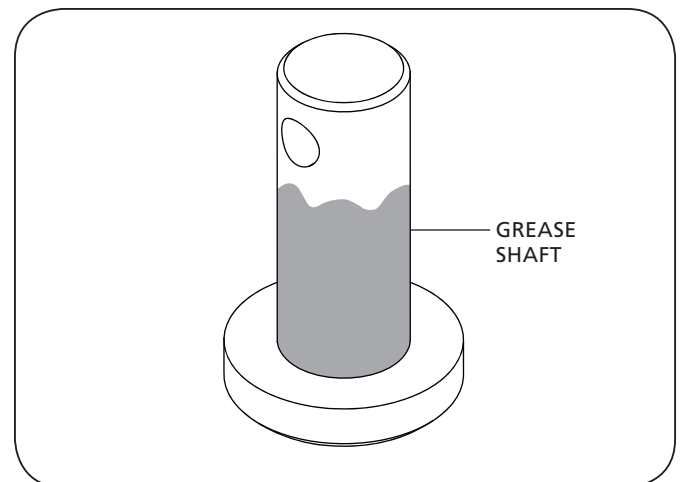


Figure 30



5. With the shaft of the $\varnothing 10 \times 25$ mm clevis pin pointing away from the fifth wheel top plate, insert the clevis pin into the small hole of the release handle (**Figure 31**).
6. Connect the other large extension spring to the clevis pin and the chain loop located in the front of the main rib.

IMPORTANT: Position the spring opening upward, away from the face of the fifth wheel, so that it will resist the effect of gravity during product use (**Figure 32**).

10. Lube Fitting Installation

1. Install a lube fitting into the tapped hole in each of the fifth wheel pockets (**Figure 33**).

Figure 31

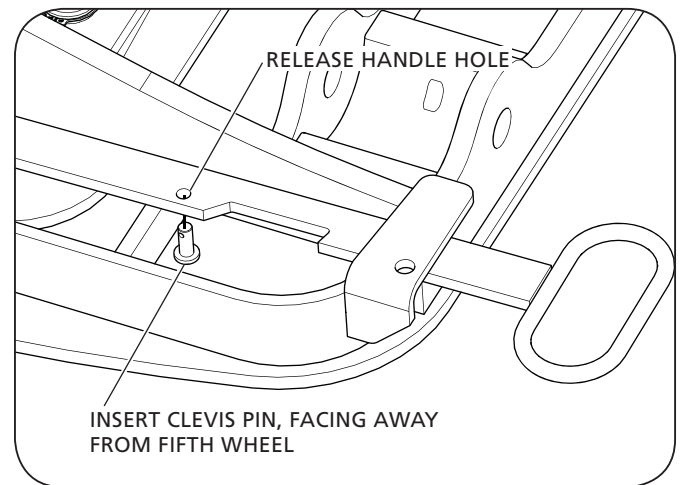


Figure 32

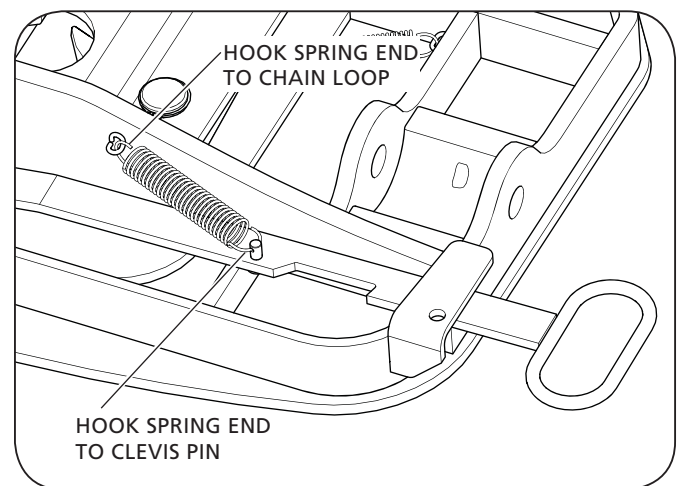
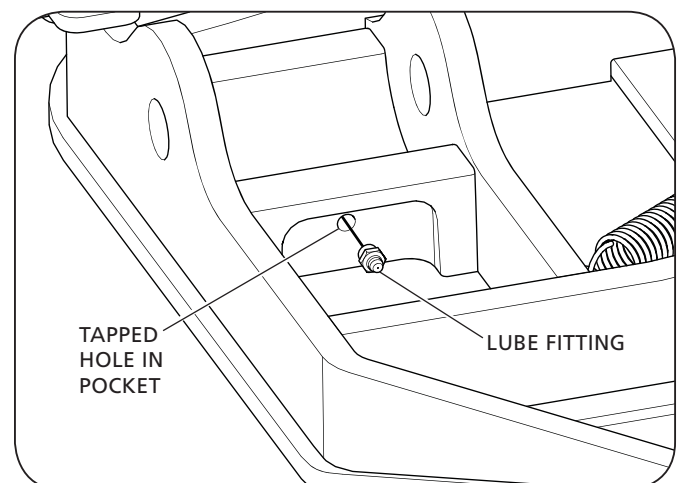


Figure 33



11. Top Plate Installation

1. Lubricate the following components (**Figure 34**).
 - Fifth wheel cast pockets
 - Top of bracket caps
2. Inspect the rubber bushings contained inside the brackets and replace if necessary. Bushing repair kit, RK-11623, is available at a SAF-HOLLAND® distributor.
3. Using a lifting device capable of lifting 230 kg. (507 lbs.), install the fifth wheel top plate onto the mounting brackets.

NOTE: Follow the instructions published by lifting device manufacturer for proper operation of lifting device.

4. Install the bracket pin through the top plate, bushing, and mounting bracket on each side of the fifth wheel. The head of each bracket pin should sit flush with the outside of the fifth wheel top plate (**Figure 35**).
5. Install a clinch pin through the hole at the end of each bracket pin to secure the bracket pins to the fifth wheel (**Figure 36**).

Figure 34

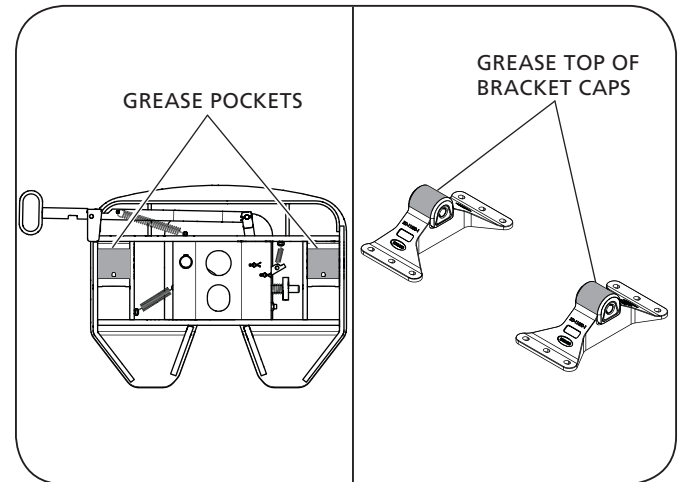


Figure 35

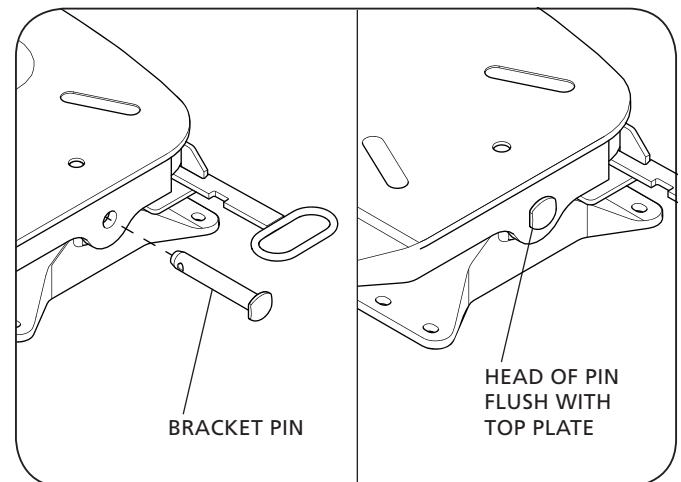
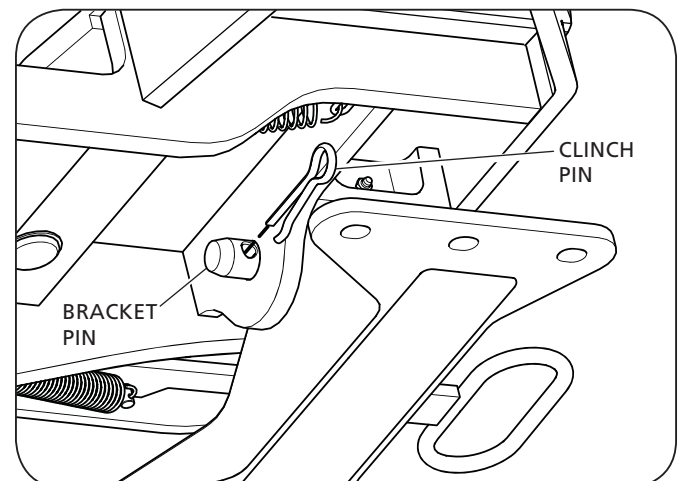


Figure 36



12. Fifth Wheel Adjustment

1. Pull fifth wheel release handle out and to the right, and hook notch of handle to the fifth wheel tab (**Figure 37**).
2. Use lock tester TF-TLN-1500 for the following four (4) steps:
 - a. With the lock still in the open position, grasp the handle of the kingpin portion of the lock tester and place it in the open lock (**Figure 38**).
 - b. Push down on the kingpin portion of the lock tester with one hand and push the lever with the other hand to lock the fifth wheel (**Figure 38**).

NOTE: In this step, it may be necessary to pivot the lock tester at an angle that allows the lock tester lever to come in contact with the front of the fifth wheel.

- c. Pull fifth wheel release handle out and to the right, and hook notch of handle to the fifth wheel tab (**Figure 37**).
 - d. Repeat steps "b" and "c" two (2) additional times. This will ensure that components are properly seated into position.
3. With the fifth wheel locked around the kingpin, tighten the M16 x 2 x 100 mm adjustment screw until it is tight, with a 14 mm allen wrench or socket wrench with a 14 mm allen bit (**Figure 39**).
4. Loosen the adjustment screw 1-1/2 turns to remove residual tension.

Figure 37

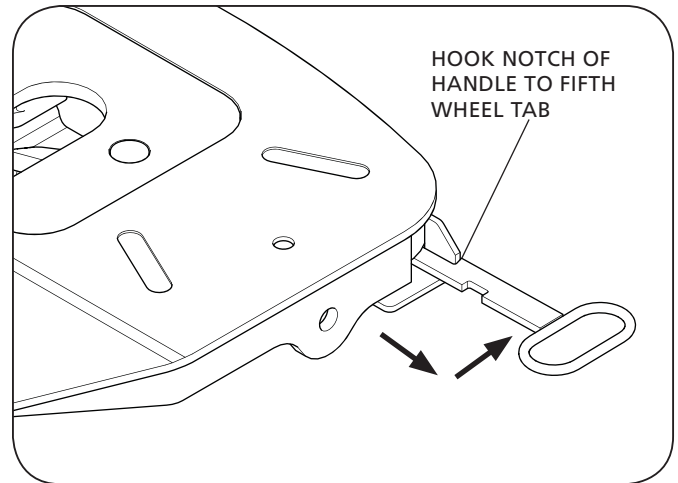


Figure 38

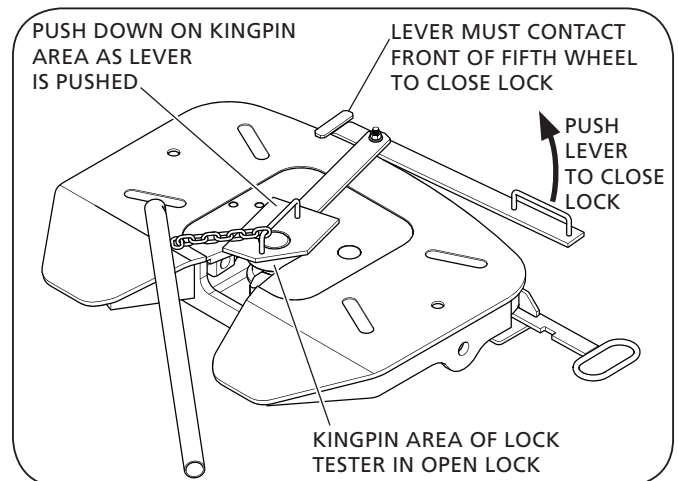
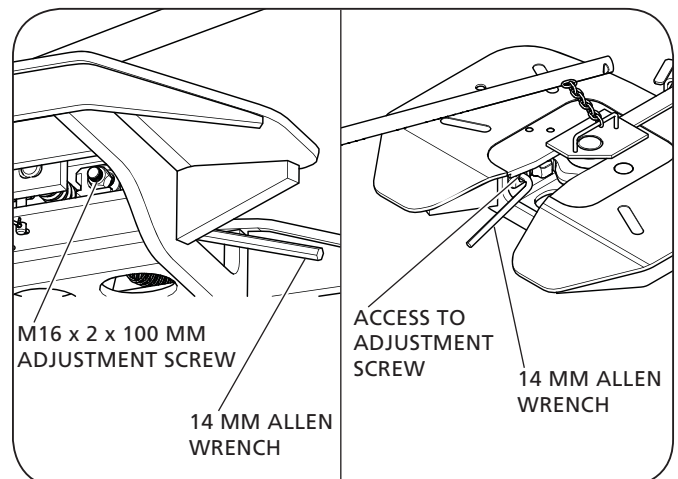


Figure 39



5. Deform the exposed threads of the adjustment screw. This will prevent the lock nut from coming off (**Figure 40**).
6. Unlock the fifth wheel by pulling the release handle to verify mechanical function.
7. Remove the lock tester. If it is not easily removed, use the bar of the lock tester as leverage to pull it out of the lock area (**Figure 41**).
8. Thoroughly lubricate the front lock area where the kingpin would make contact with the top plate. Inspect lock and reapply grease if any was removed during assembly process (**Figure 42**).

Figure 40

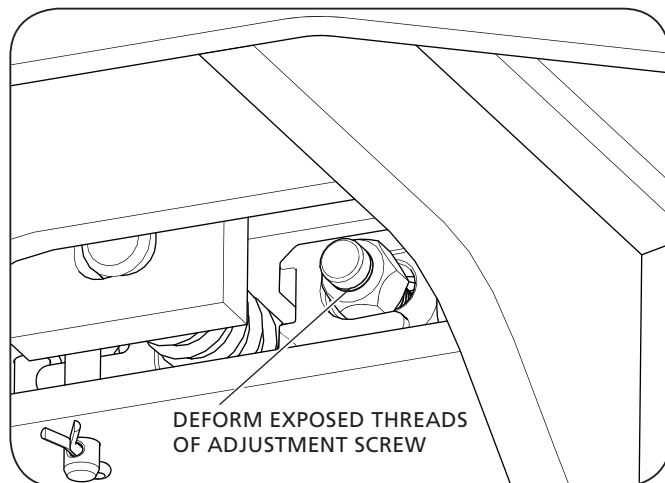
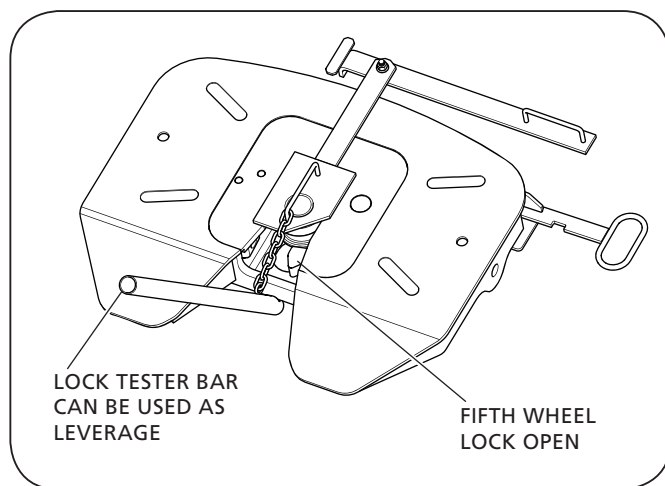
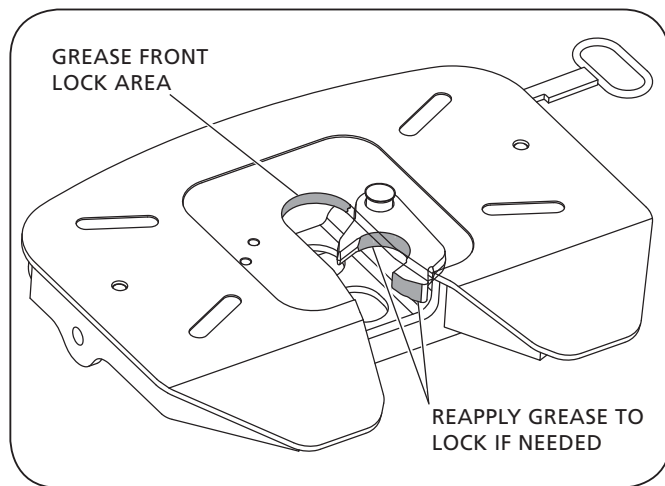


Figure 41



English

Figure 42





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