# INSTALLATION INSTRUCTIONS

## SAFER-MED-K4

**TO FIT MEDLINE WHEELCHAIR MODELS:**

**Excel K4 Lightweight**

Safer Locks
Automatic Wheelchair Wheel Locks

**IMPORTANT!** Please read the *entire* installation packet and review *all* pictures before starting installation.

**INSTALLATION VIDEOS ARE AVAILABLE ON OUR WEBSITE AT**
**www.saferwheelchairs.com**

# *Safer Automatic Wheel Lock Kit*

## 1 General

Check all parts for shipping damage. In case of damage, DO NOT use. Contact Carrier/UPM for further instructions.
To ensure the safe installation of the Safer Automatic Wheel Lock Kits, these instructions must be followed.

**For Installation/Technical assistance please call 601-353-3193 ext. 215, Monday - Friday 8:00 AM-5:00 PM CST**

### 1.1 Symbols

Signal words are used in this manual and apply to hazards or unsafe practices which could result in personal injury of property damage. See the information below for definitions of the signal words.

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

**CAUTION**
Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage or minor injury or both.

Gives useful tips, recommendations and information for efficient, trouble-free use.

### 1.2 Overview

**WARNING**
DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as owner's manuals, service manuals or instruction sheets supplied with this product or optional equipment. If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, dealer or technical personnel before attempting to use this equipment - otherwise, injury or damage may occur.
This procedure **MUST** be performed by a qualified technician.
After any adjustments, repair or service and before use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**WARNING**
Sloped Surfaces: Always engage the wheelchairs manual locks while seated on any type of sloped surface. Safer Locks are not designed to engage while the wheelchair is occupied.

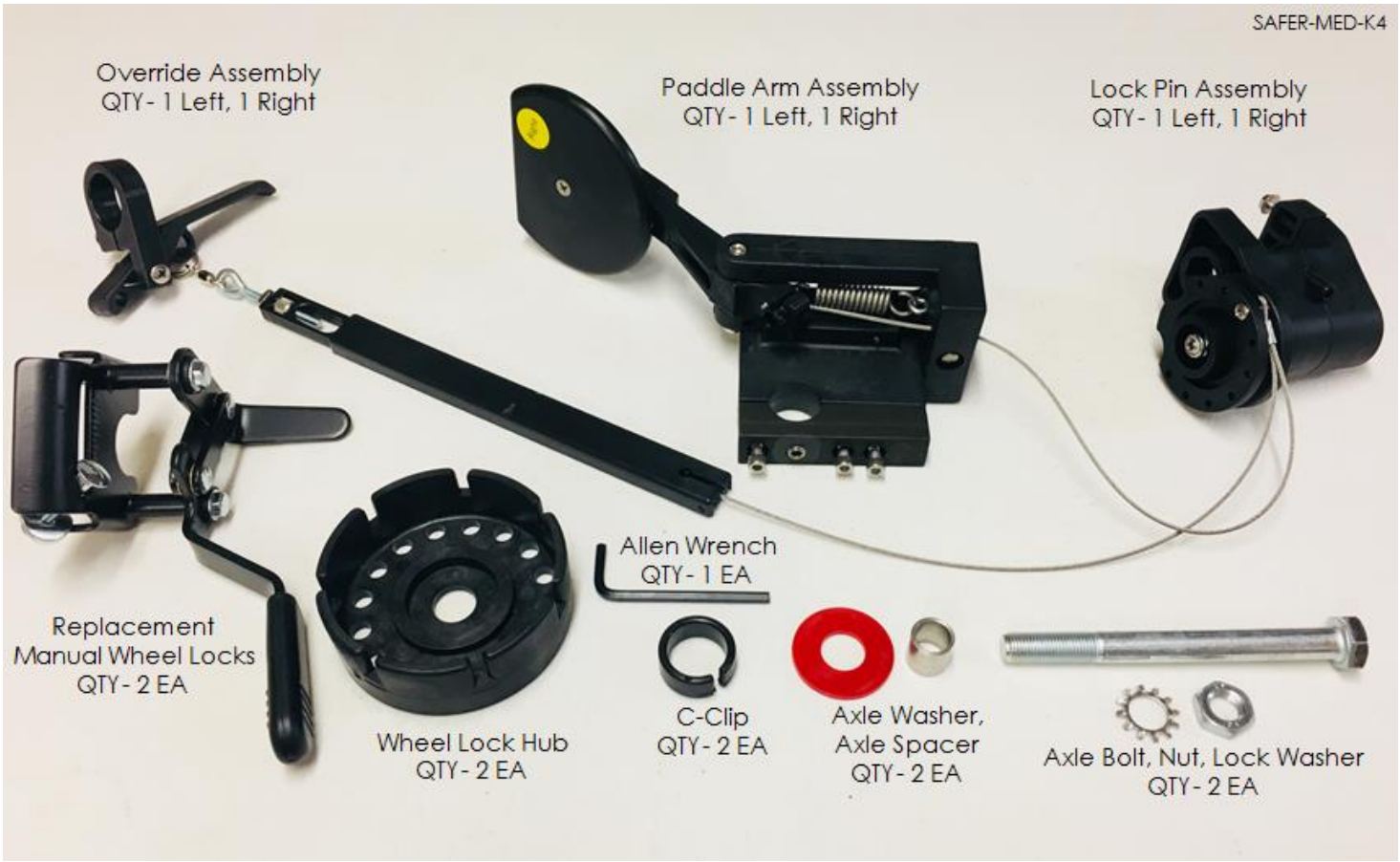
**WARNING**
The intended use of Safer Automatic Wheelchair Wheel Locks is to safe guard against unintended wheelchair roll while transferring to and from the wheelchair in the event that the manual locks are not engaged. Safer Locks are not a manual lock replacement.
CONTINUE TO USE YOU WHEELCHAIRS MANUAL LOCKS AS NORMAL.

## 2 Safer Automatic Wheel Lock General Overview

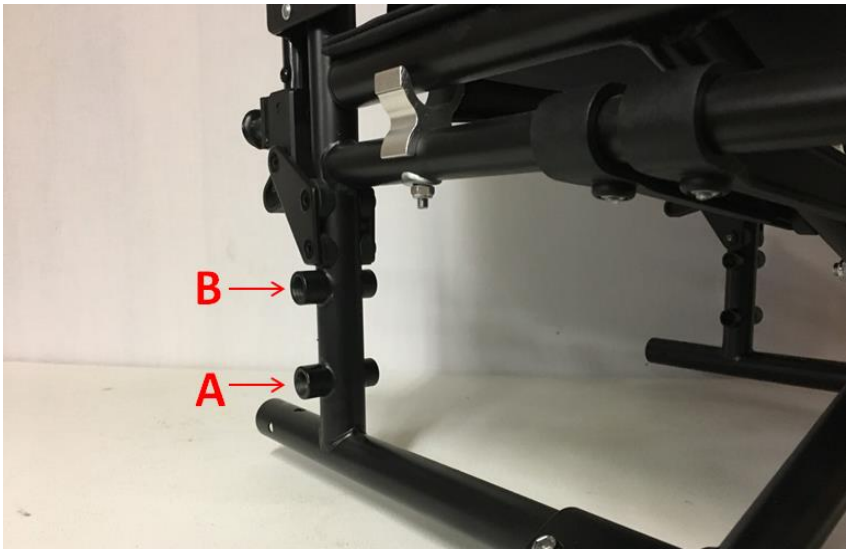
Tools Required - Flat Head Screwdriver, Phillips Screwdriver, Socket Wrench Set, Rubber Hammer (Allen Wrench included).

### 2.1 Parts Supplied

**Check that you receive all parts listed and for any damage to parts during shipping.**
**In case of damage, DO NOT USE. Contact Carrier/UPM for further instructions**



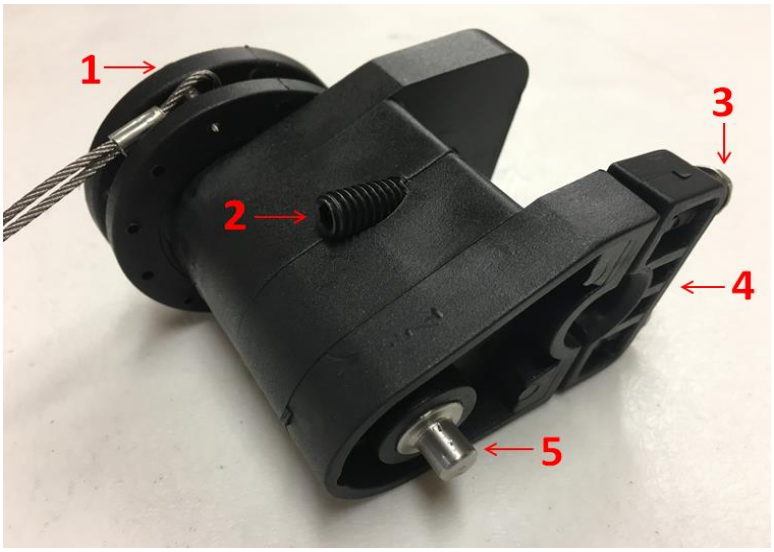

### 2.2 Wheelchair Height Settings




**A: Standard/Adult Height: Typically sets seat 19.5" from floor.**

**B: Hemi Height: Generally two to three inches lower than Standard/Adult Height, allows the seated user to easily propel their wheelchair with their feet.**

## 2.3 Lock Pin Assembly Breakdown




**1: Lock Pin Assembly Cable Guide**

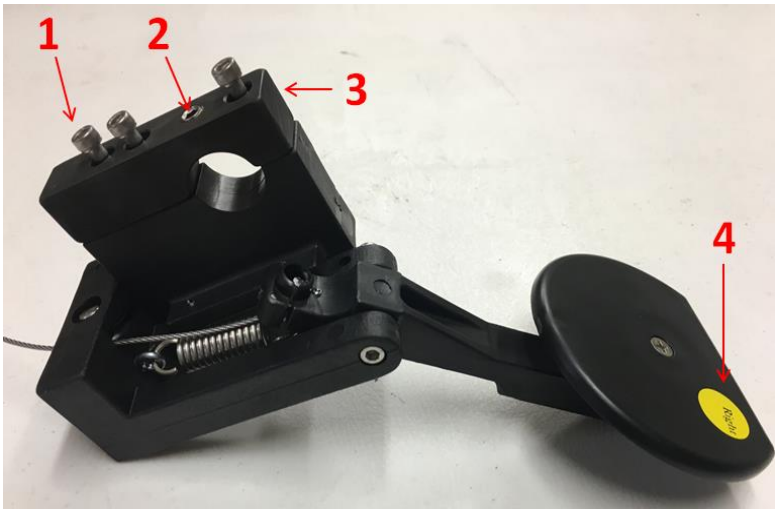
**2: Set Screw**

**3: Mounting Screw (2 per side)**

**4: Clamp**

**5: Lock Pin**

## 2.4 Paddle Assembly Breakdown



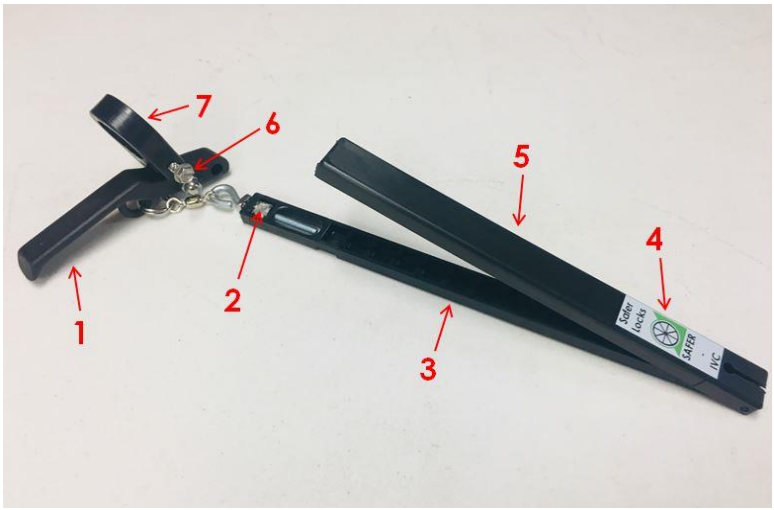

**1: Mounting Screws (3 per side)**

**2: Set Screw**

**3: Clamp**

**4: Left/Right Label**

## 2.5 Override Assembly Breakdown




**1: Override Handle**

**2: Override Fine Tune Adjuster**

**3: Override Assembly Adjuster**

**4: Kit Model**

**5: Adjuster Cover**

**6: Clamp Screw**

**7: Override Handle Clamp**

# 3 Installation

## 3.1 Installing the Lock Pin Assembly

**CAUTION**
If not using a **Safer Wheelchair Service Stand** (pg. 13), securely block up the wheelchair frame so that the rear wheels do not touch work surface and the wheels rotate freely.

As Pre-Assembled - Locks are labeled Left & Right as if you were sitting in the chair. (2.4-4)
Your Safer Automatic Wheel Lock Kit is preset for installation at the Adult Height. (2.2)

Refer to Lock Pin/Override Assembly Adjustment Guide for Hemi Height Settings. (pg. 13)

1. Remove the rear wheels. Refer to the wheelchair or seating system owner's manual.
   A. Discard the Quick Release Axle Bolt from the wheelchair.
   B. A new Axle Bolt, Nut and Spacer is supplied in your Safer Automatic Wheel Lock Kit.
2. Unpack one side of the Safer Automatic Wheel Lock Assembly and perform the following:
   A. Remove Mounting Screws (2.4-1) and Clamp (2.4-3) from Paddle Assembly and loosen Set Screw (2.4-2) in the center of the Paddle Assembly Clamp (2.4-3).
   B. Remove Mounting Screws (2.3-3) and Clamp (2.3-4) from Lock Pin Assembly and loosen Set Screw (2.3-2) in the center of the Lock Pin Assembly.
3. Position the Lock Pin Assembly onto the wheelchair frame so that the Lock Pin Assembly aligns with the proper axle hole - Adult or Hemi Height. (2.2 and Fig. 3)
4. Slide the newly supplied Axle Bolt through the Lock Pin Assembly and wheelchair to hold the Lock Pin Assembly in position. **(Insert bolt from inside of the wheelchair frame out toward the wheel)**
5. Using the two Mounting Screws and Clamp (2.3-3), secure the Lock Pin Assembly to the wheelchair frame. (Fig. 3)
6. After securing the Lock Pin Assembly to the frame, tighten the Set Screw (2.3-2) snug against the wheelchair frame. (Fig. 4) **(Do not overtighten. Stop once Set Screw touches frame)**
7. Repeat STEPS 2 - 6 to install other side of the Lock Pin Assembly.

Ensure the Paddle Arm Assembly Cable and the Override Assembly Cable wraps under the Lock Pin Assembly Cable Guide (2.3-1) and does not tangle with each other.

**Fig. 3**

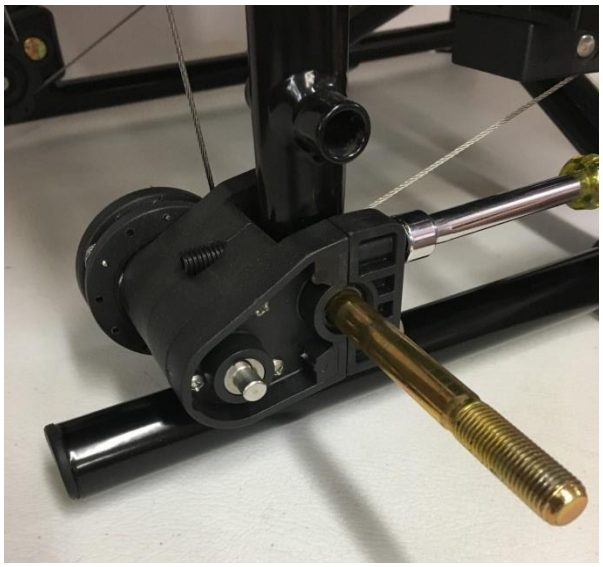


**Fig. 4**

Make sure the Lock Pin Assembly Clamp is tight and flush with the Lock Pin Assembly. (Fig. 3)

### 3.2 Installing the Override Assembly

The Override Assembly Adjuster Cover pops off for adjusting.

1. Take Override Assembly Adjuster Cover (2.5-3) off and give enough slack in the cable to install the Override Assembly.
2. Wrap Override Assembly Cable under the Lock Pin Assembly cable guide and up to the handle of the wheelchair. (Fig. 3)
3. Spread C-Clip and place on the wheelchair handle as close to the grip as possible. (Fig.6)
4. Using the Screw (2.5-5) in the Override Assembly Bracket (2.5-6) , spread the bracket and position over the C-Clip and secure with screw. (Fig. 7)
5. Insert the Cable in the appropriate slot in the Override Assembly Adjuster (2.5-4) and close the Cover. (Fig. 8)
6. Adjust the Override Fine Tune Adjuster (2.5-2) to the point when the handle is squeezed, the Lock Pin (2.3-5) is fully engaged into the Lock Pin Assembly. (Fig. 9)
7. Repeat STEPS 1 - 6 to install other side of the Override Assembly.

You may need to make some additional adjustments after the entire kit has been installed.
See Lock Pin Assembly and Override Assembly Adjustment Guide (pg 13).

**Fig. 5**

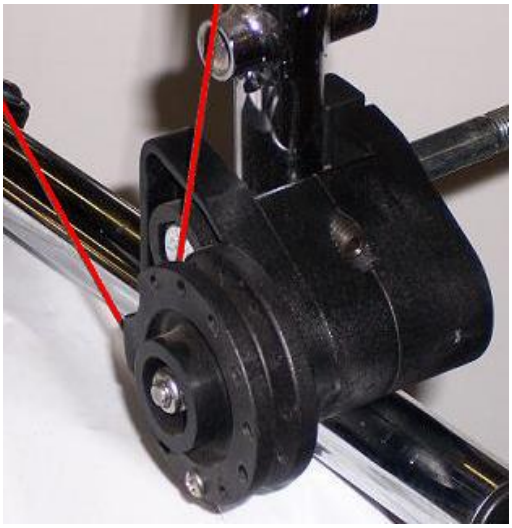


**Fig. 6**

**Fig. 7**

**Fig. 8**

**Fig. 9**

### 3.3 Installing the Paddle Arm Assembly

1. Wrap Paddle Arm Assembly Cable under the Lock Pin Assembly Cable Guide (Fig. 3) and mount under the seat of the wheelchair.

i Your Safer Automatic Wheel Lock Kit is set up for installation at Adult Height. (See 2.2)
Refer to Lock Pin/Override Assembly Adjustment Guide for Hemi Height Settings. (pg. 11)

2. Using the three Mounting Screws (2.4-1) and Clamp (2.4-3), install the Paddle Arm Assembly to the upper bar of the wheelchair frame between the rear seat H-block and the center cross brace. Thread Screws through Clamp into the Paddle Arm Assembly, but DO NOT tighten the Clamp at this point. (Fig. 10 & Fig. 11)
3. Move the Paddle Arm Assembly back and forth until Cable is at the correct tension. Correct cable tension should have approximately 1" of slack in the cable. (Fig. 12)
4. Paddle Arm Assembly MUST be vertically level to get the proper cable tension and for the Locking system to work properly. (Fig. 13)
5. After Paddle Arm Assembly is vertically level and the cable is at the proper tension, secure the Paddle Arm Assembly by tightening the three Mounting Screws and the center Set Screw. (Fig.14/15)
6. Repeat STEPS 1 - 5 to install other side of the Paddle Arm Assembly.

**Fig. 10**

**Fig. 11**

**Fig. 12**

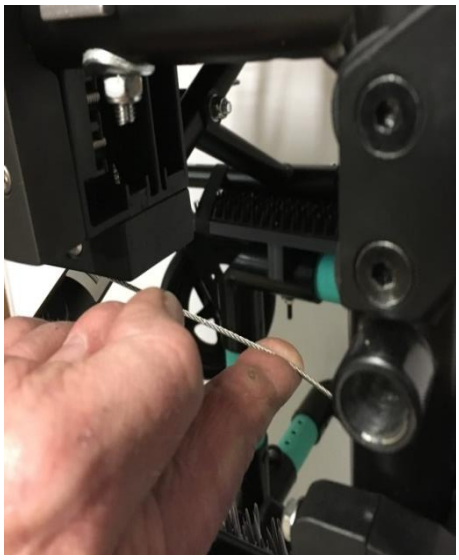


**Fig.13**

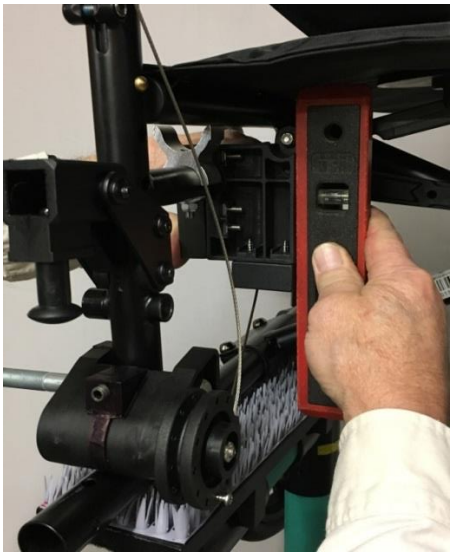


**Fig. 14**

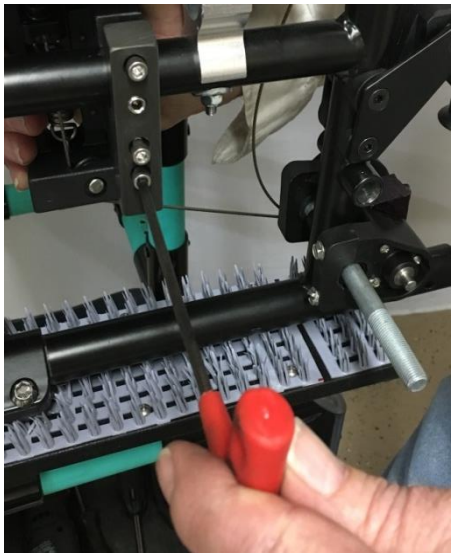
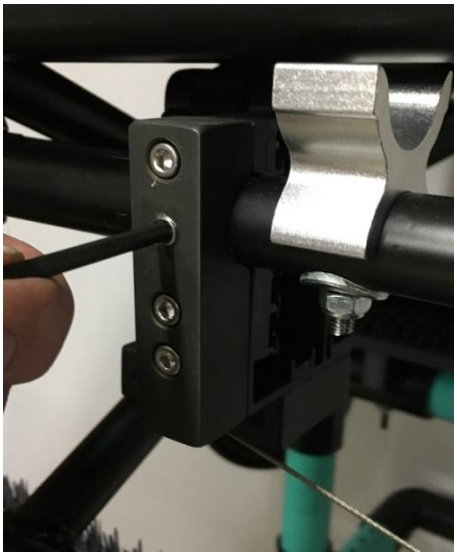


**Fig. 15**



### 3.4 Removing and Replacing the Manual Wheel Locks

WARNING
The manual wheel locks must be replaced with the extended locks provided in your kit

**<u>Before</u> removing the existing wheel locks, mark where they are located on the frame.**

1. Using a 10mm socket, remove the nut from the manual lock inside the wheelchair frame. (Fig.16)
2. Once the nut is removed, pull the bolt and manual lock off of the frame and discard.
3. Using your mark as a reference, reinstall the replacement locks in the same position on the chair that they were removed from by sliding the supplied bolt through the lock and then the outside frame.
4. From the inside of the chair, slide the supplied curved washer onto the bolt, then tighten the nut.
5. Once installed, the lock should make an indention on the wheel roughly 1/8" deep.
6. **Test lock and adjust if necessary.**

**Fig. 16**

**Fig. 17**

**Fig. 18**

### 3.5 Installing the Wheel Locking Hub

1. Line the spoke grooves on the Wheel Locking Hub with the spokes on the wheel. Using a rubber hammer, **lightly** tap the Wheel Locking Hub onto the wheel making sure the Wheel Locking Hub is flush and level with wheel. (Fig. 19) Repeat to install the other side of the Wheel Locking Hub

Wheel Locking Hub MUST be very firm against wheel.

**Fig. 19**

### 3.6 Reinstalling the Rear Wheel

1. Slide the Metal Spacer, supplied with kit, onto Axle Bolt. (Fig. 20)
2. Put 2 of the 4 Washers that are supplied onto the Axle Bolt- Two Washers Per Side (Fig.21/22)
3. Slide the rear wheel, then the Lock Washer onto the Axle Bolt. (Fig. 23)
4. Screw on the Axle Nut and tighten until fully on the bolt with threads showing. (Fig. 24/25)

i **The kit you received may contain two Jam Nuts in place of the Lock Washers and Non-Locking Nuts. If Jam Nuts are included in your kit; follow the same steps as below- EXCLUDING Fig. 23**

i Once Axle Nut is tight, you may need to back off Axle Nut until the rear wheel rotates freely.

5. Repeat STEPS 1 - 4 to install other side Rear Wheel.

**Fig. 20**

**Fig. 21**

**Fig. 22**

**Fig. 23**

**Fig. 24**

**Fig. 25**

## 4 TESTING

### 4.1 Testing to ensure Safer Automatic Wheel Lock Kits are installed correctly

1. Before removing chair from work stand, press the Override Assembly Handle (2.5-1) and release while turning the wheel. You will need to do this to ensure the Lock Pin Assembly Pin pops into all 16 holes in the Wheel Locking Hub. **Do this on both sides of chair.**

i If Lock Pin Assembly Pin (2.3-5) does not pop into ALL 16 holes of the Wheel Locking Hub, loosen or tighten the Lock Pin Assembly Set Screw (2.3-2). If the Set Screw is too tight, this can cause the Lock Pin Assembly to become out of line.

i To adjust the Lock Pin Assembly Pin: While holding pressure on pin with wheel, using a 7/16 wrench, adjust nut to increase or decrease pin clearance. (Fig. 26)

**Fig. 26**

**Fig. 27**

2. When pressing the Override Assembly Handle, make sure the Lock Pin Assembly Pin is retracted enough so the pin will not touch the Wheel Locking Hub. You can make fine adjustments by adjusting the eye bolt on top of the Override Assembly Adjuster. (2.5-2 and Fig. 27)

### 4.2 Testing by USING the Safer Automatic Wheel Lock Kits.

1. Remove chair from work stand. Sit in and stand out of chair multiple times to ensure the Safer Automatic Wheel Locking system is working properly.

**Fig. 28**

! **CAUTION**
Use caution when sitting and standing from wheelchair while testing. If the Safer Automatic Wheel Lock system fails, it has been designed to fail in the LOCKED position. However if the Safer Automatic Wheel Lock Kit is not installed properly, the Lock Pin Assembly may not lock into the Wheel Locking Hub. Follow all the Safety Guidelines in the Wheelchairs Owners Manual.

i If The Safer Automatic Wheel Lock system does not work properly after troubleshooting, Contact UPM/Manufacture for further instructions.

## 5 KIT FIT LIST

| INVACARE | | Kit Number | Seat Width | Back Height |
|---|---|---|---|---|
| Tracer EX2 | | SAFER-IVC | 16"-20" | 16" |
| Tracer SX5 | | SAFER-IVC | 16"-22" | 16"-18" |
| 9000 SL | | SAFER-IVC | 16"-20" | ADJ |
| 9000 XT (Dual Axle Frame) * | | SAFER-IVC | 16"-22" | ADJ |
| 9000 XDT | | SAFER-IVC | 16"-22" | ADJ |
| Tracer SX5 Recliner | | SAFER-IVC-RC | 16"-22" | 34" |
| Tracer IV | | SAFER-IVC-T4 | 18"-24" | 16" |
| 9000 XT (Super Hemi Single Axle) ** | | SAFER-IVC-SL | 16"-18" | ADJ |

*** Will not fit 9000 XT Recliner** **** 9000 XT Super Hemi must have Space Saver Arms**

| MEDLINE | | | | |
|---|---|---|---|---|
| Excel Narrow | | SAFER-MED | 16" | 16" |
| Excel 2000 | | SAFER-MED | 18" | 16" |
| Excel Wide (300lb. Cap) | | SAFER-MED | 20" | 16" |
| Excel K3 Lightweight | | SAFER-MED | 16"-18" | 16" |
| Excel K4 Lightweight | NEW | SAFER-MED-K4 | 16"-20" | ADJ |

| BREEZY | | | | |
|---|---|---|---|---|
| Breezy Ultra 4 * | REVISED | SAFER-BR-U4 | 16"-20" | ADJ |
| Breezy 600 * | | SAFER-BR-600 | 16"-20" | ADJ |

*** Will not fit Breezy Ultra 4 or Breezy 600 Ultra Hemi**

| NOVA | | | | |
|---|---|---|---|---|
| 5000 Series | NEW | SAFER-NOVA | 16"-20" | 16" |

| DRIVE | | | | |
|---|---|---|---|---|
| Viper Plus GT | NEW | SAFER-DRV-GT | 16"-22" | 16" |
| Cruiser III | NEW | SAFER-DRV-C3 | 16"-20" | 16" |
| Silver Sport 2 | NEW | SAFER-DRV-SS2 | 16"-20" | 16" |
| Sentra EC | | SAFER-DRV | 20"-22" | 16" |

## LOCK PIN ASSEMBLY AND OVERRIDE ASSEMBLY CABLE ADJUSTMENT GUIDE

### INVACARE WHEELCHAIRS

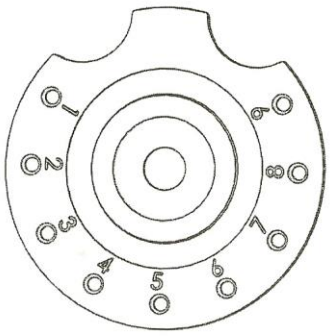
| CHAIR MODEL | CABLE GUIDE HOLE | OVER-RIDE ADJUSTMENT SLOT | CHAIR BACK HEIGHT |
|---|---|---|---|
| Tracer EX-2 Adult | 3 | 11 | 16" |
| Tracer EX-2 Hemi | 2 | 15 | 16" |
| Tracer SX-5 Adult | 2 | 11 | 16" |
| Tracer SX-5 Adult | 5 | 8 | 18" |
| Tracer SX-5 Hemi | 2 | 15 | 16" |
| Tracer SX-5 Hemi | 2 | 9 | 18" |
| Tracer SX-5 Recliner | 5 | 9 | 24" |
| 9000 SL Hemi | 2 | 16 | 15" |
| 9000 SL Hemi | 2 | 15 | 16" |
| 9000 SL Hemi | 3 | 12 | 17" |
| 9000 SL Adult | 5 | 14 | 15" |
| 9000 SL Adult | 5 | 13 | 16" |
| 9000 SL Adult | 5 | 10 | 17" |
| 9000 XT Adult | 5 | 14 | 15" |
| 9000 XT Adult | 5 | 12 | 16" |
| 9000 XT Adult | 5 | 10 | 17" |
| 9000 XT Adult | 5 | 8 | 18" |
| 9000 XT Adult | 5 | 6 | 19" |
| 9000 XT Adult | 5 | 4 | 20" |
| 9000 XT Hemi | 2 | 15 | 15" |
| 9000 XT Hemi | 2 | 13 | 16" |
| 9000 XT Hemi | 2 | 11 | 17" |
| 9000 XT Hemi | 2 | 9 | 18" |
| 9000 XT Hemi | 2 | 7 | 19" |
| 9000 XT Hemi | 2 | 5 | 20" |

### DRIVE & MEDLINE WHEELCHAIRS

| | | | |
|---|---|---|---|
| Drive Adult | 5 | 8 | 16" |
| Drive Hemi | 4 | 11 | 16" |
| Medline Adult | 5 | 8 | 16" |
| Medline Hemi | 4 | 11 | 16" |

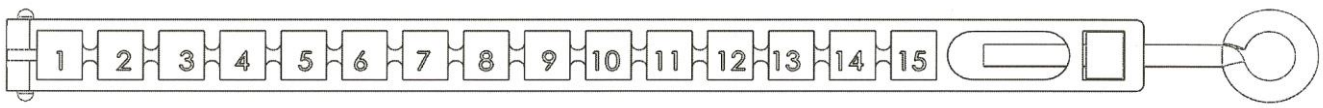
| CHAIR MODEL | CABLE GUIDE HOLE | OVER-RIDE ADJUSTMENT SLOT | CHAIR BACK HEIGHT |
|---|---|---|---|
| XDT Tall | 6 | 11 | 15" |
| XDT Tall | 6 | 9 | 16" |
| XDT Tall | 6 | 7 | 17" |
| XDT Tall | 6 | 5 | 18" |
| XDT Tall | 6 | 3 | 19" |
| XDT Tall | 6 | 2 | 20" |
| XDT Adult | 5 | 14 | 15" |
| XDT Adult | 5 | 12 | 16" |
| XDT Adult | 5 | 10 | 17" |
| XDT Adult | 5 | 8 | 18" |
| XDT Adult | 5 | 6 | 19" |
| XDT Adult | 5 | 4 | 20" |
| XDT Hemi | 2 | 15 | 15" |
| XDT Hemi | 2 | 13 | 16" |
| XDT Hemi | 2 | 11 | 17" |
| XDT Hemi | 2 | 9 | 18" |
| XDT Hemi | 2 | 7 | 19" |
| XDT Hemi | 2 | 5 | 20" |

***Lock Pin Assembly Cable Guide**




The bottom hole is number 9

### OVER-RIDE ASSEMBLY ADJUSTMENT GUIDE



# Safer Wheelchair Service Stand

**EASIER & SAFER: DESIGNED TO SAFELY HOLD WHEELCHAIRS AT THE PERFECT HEIGHT FOR ALL MANUAL WHEELCHAIR SERVICE AND REPAIR, INCLUDING SAFER LOCK INSTALLATIONS**

***SIMPLE, FUNCTIONAL, LIGHTWEIGHT, PORTABLE & DURABLE***

- Adjustable Width fits Wheelchairs from 16"-24" wide
- Sets Wheelchair Axles 37" from floor
- Overall Footprint of 36" x 35" with Leg Extensions
- Overall Footprint of 36" x 14" without Leg Extensions
- Weighs Only 20 LBS.
- Optional Tool Tray
- Nest Pads keep wheelchairs level regardless of frame design and eliminates rocking
- Durable enough for everyday use by DME companies, Nursing Facilities and Hospitals
- Portable Design allows the Safer Stand to easily be carried in delivery vehicles for field service

## SAFER AUTOMATIC WHEEL LOCK CLEANING PROCEDURES

The material used in your Safer Automatic Wheelchair Wheel Locks is developed by one of America's top corporations, DuPont. The plastic materials used in the locks include Zytel nylon, a component that is strong, durable and slides easily against itself and metal without lubrication. Even when exposed to water, Zytel will not corrode. Safer Locks also have stainless steel and zinc hardware which allows the locks to be washed by any cleaning method without the risk of rust or corrosion.

## SAFER AUTOMATIC WHEEL LOCK WARRANTY

Your Safer Automatic Wheelchair Wheel Locks are warranted to be free from defects in material and workmanship under normal operating conditions for a period of **TWO YEARS** from the date of purchase. Safer Automatic Wheelchair Wheel Locks sole obligation under this warranty will be replacement of the Automatic Wheel Locking device and shipping. This warranty does not cover failure due to abuse, misuse, alterations or improper installation performed by facilities outside of the Safer Automatic Wheelchair Wheel Lock facility.

Keep this book and your sales slip together for future reference. You must provide proof of purchase or installation date for warranty service.

Write down the following information about your Safer Automatic Wheel Lock Kit to better help you obtain assistance or service if you should ever need it. You will need to know your complete wheelchair model and serial number, and the complete locking kit part and serial number. The locking kit part number is located on the box that the kit was shipped in, and the locking kit serial number is on the back of the Lock Pin Assembly.

**Dealer Name:**

**Date of Purchase:**

**Wheelchair Model Locking Kit Installed on:**

**Wheelchair Serial Number Locking Kit installed on:**

**Locking Kit Part Number:**

**Locking Kit Serial Number:**

Safer Locks
Automatic Wheelchair Wheel Locks

Manufactured By: United Plastic Molders, Inc.
105 East Rankin Street - Jackson, MS 39201
800-890-5113
Fax: 601-353-8069
www.saferwheelchairs.com

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