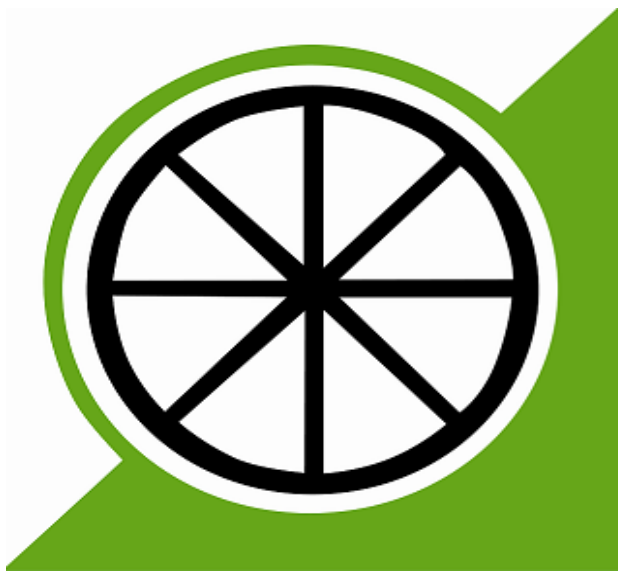


# INSTALLATION INSTRUCTIONS



## “Safer Locks” Automatic Wheelchair Wheel Locks

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



“Safer”  
Automatic  
Wheelchair  
Wheel  
“Locks”

## Installation / Maintenance Manual

**DEALER:** Keep this manual. The procedures in this manual **MUST** be performed by a qualified technician.

### *Safer Automatic Wheel Lock Kit*

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#### I General

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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.

##### 1.1 Symbols

Signal words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or 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.

## 2 Safer Automatic Wheel Lock General Overview



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



When receiving your Safer Automatic Wheel Lock Kit, make sure the Kit Part # listed on the box is for the designated wheelchair.

### 2.1 Invacare Wheelchair Kit Fit List

- There are currently 3 different Safer Automatic Wheel Locking Kits designed for Invacare Wheelchairs. Below is a list of the Invacare Models with the Kit Part # associated. See section 5 for Parts Supplied

<b>Wheelchair Model</b>	<b>Seat Size</b>	<b>Back Size</b>	<b>Kit Part #</b>
Tracer EX	16" thru 20"	16" thru 19"	SAFER-IVC
Tracer EX2	16" thru 20"	16"	SAFER-IVC
Tracer SX	16" thru 22"	16" thru 19"	SAFER-IVC
Tracer SX5	16" thru 22"	16" thru 19"	SAFER-IVC
Tracer SX5 Recliner	16" thru 22"	24"	SAFER-IVC-RC
9000SL	16" thru 20"	Adjustable	SAFER-IVC
9000XT Dual Axle Frame	16" thru 22"	Adjustable	SAFER-IVC
9000XT Super-Hemi Single Axle	16" and 18"	Adjustable	SAFER-IVC-SL
9000XT Super-Hemi MUST have Space Saver Arms			
9000XDT	16" thru 22"	Adjustable	SAFER-IVC

### 2.2 Drive Wheelchair Kit Fit List

- There is currently 1 Safer Automatic Wheel Locking Kit designed for Drive Wheelchairs. Below is a list of the Drive Models with the Kit Part # associated. See Section 5 for Parts Supplied

<b>Wheelchair Model</b>	<b>Seat Size</b>	<b>Back Size</b>	<b>Kit Part #</b>
Sentra	16" thru 22"	16" thru 19"	SAFER-DRV
Sentra EC	16" thru 22"	16" thru 19"	SAFER-DRV

### 2.3 Medline Wheelchair Kit Fit List

- There is currently 1 Safer Automatic Wheel Locking Kit designed for Medline Wheelchairs. Below is a list of the Medline Models with the Kit Part # associated. See Section 5 for Parts Supplied

<b>Wheelchair Model</b>	<b>Seat Size</b>	<b>Back Size</b>	<b>Kit Part #</b>
Excel Narrow	16"	16" thru 19"	SAFER-MED
Excel 2000	18"	16" thru 19"	SAFER-MED
Excel K3 Lightweight	16" thru 18"	16" thru 19"	SAFER-MED
Excel Wide (300lb. Cap)	20"	16" thru 19"	SAFER-MED

## 3 Installation

### 3.1 Installing the Lock Pin Assembly



#### CAUTION

Securely block up wheelchair frame so the rear wheels do not touch work surface and the wheels rotate freely.



When installing Invacare Kits, part # SAFER-IVC-RC and part # SAFER-IVC-SL, also refer to sections 3a and 3b.



When Installing Lock Pin Assembly on Drive & Medline chairs, you will need to see sections 3.4 & 3.5 first. You will need to insert axle bolt and wheel together. Then secure Lock Pin Assembly



When installing the Lock Pin Assembly on the Older Model Invacare EX, (where the axle is welded to the back of frame) you will need to use the black square spacer. (See Diagram 1)

**Diagram 1**



As Pre-Assembled - Locks are labeled (left & right) as if you were sitting in the chair. The Safer Automatic Wheel Lock Kits are preset for installation at the adult height. See Lock Pin Assembly and Override Assembly Adjustment Guide to change to hemi heights. (See Diagram 10 pg 11)

1. Remove the rear wheels. Refer to the wheelchair or seating system owner's manual.
  - A. Discard the axle spacer if one was supplied on the wheelchair.
  - B. A new axle spacer is supplied in The Safer Automatic Wheel Lock Kits.
2. Unpack one side of the Safer Automatic Wheel Lock Assembly and perform the following:
  - A. Remove mounting screws and clamp from Paddle Assembly and loosen set screw located in the center of the paddle assembly clamp.
  - B. Remove mounting screws and clamp from Lock Pin Assembly and loosen set screw located 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. (See Diagram 2)



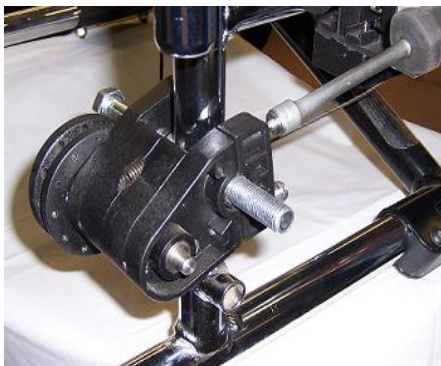
When positioning the Lock Pin Assembly onto the wheelchair frame, discard the axle spacer on Invacare chairs. Spacers are supplied with the Lock Pin Assembly for Drive and Medline wheelchairs.

4. Slide the new supplied axle bolt through the Lock Pin Assembly and wheelchair frame to hold the Lock Pin Assembly in position. Invacare - Insert axle bolt from inside of frame out to wheel. Drive & Medline - Insert axle bolt back the same way as removed. (See Diagram 2a)
5. Using the two mounting screws and clamp, secure the Lock Pin Assembly to the wheelchair frame. (See Diagram 2)
6. After securing the Lock Pin Assembly to the frame, tighten the set screw snug against wheelchair frame (See Diagram 2)
7. Repeat STEPS 2 - 6 to install other side of the Lock Pin Assembly.

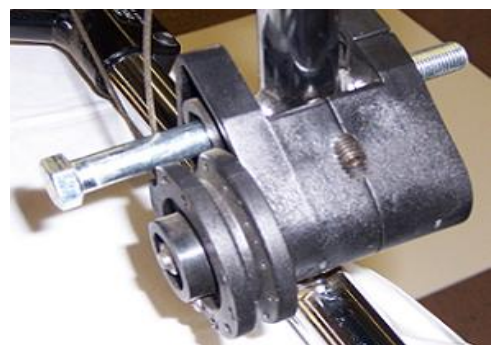


Ensure the Paddle Arm Assembly cable and the Override Assembly cable wraps under the Lock Pin Assembly cable guide and does not tangle with each other.

**Diagram 2**  
(Illustrates right side Lock Pin Assembly)



**Diagram 2a**  
(Illustrates right side Lock Pin Assembly)



Make sure the Lock Pin Assembly Clamp is tight and flush with the Lock Pin Assembly.

### 3.2 Installing the Override Assembly

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The Override Assembly adjuster cover pops off for adjusting.

1. Take Override Assembly adjuster cover off and give enough slack in the cable to install the Override Assembly. (See Diagram 3)
2. Wrap Override Assembly cable under the Lock Pin Assembly cable guide and up to the candy cane handle of the wheelchair. (See Diagram 3a)
3. Using the screw in the Override Assembly Bracket, spread the bracket and position over the candy cane handle and secure with screw. (See Diagram 3)
4. Insert the cable in the appropriate slot in the Override Assembly adjuster and close the adjuster cover.
5. Adjust the Override Assembly to the point when the handle is pressed, the Lock Pin Assembly pin is fully engaged into the Lock Pin Assembly and handle should just touch bottom of grip on candy cane. (See Diagram 3)
6. Repeat STEPS 1 - 5 to install other side of the Override Assembly.

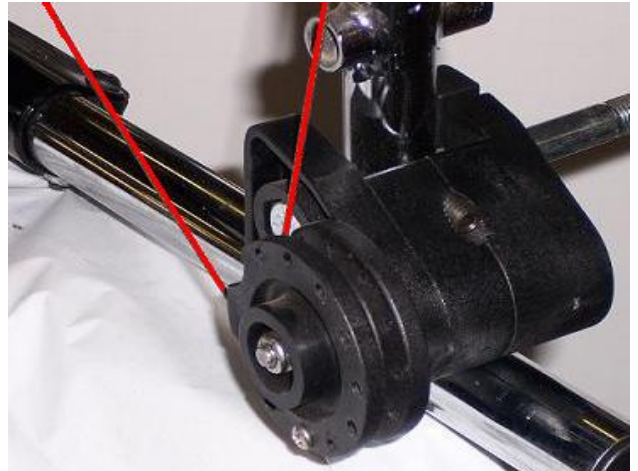
i

You may need to make some additional adjustments after the entire kit has been installed. See Lock Pin Assembly and Override Assembly adjustment guide (See Diagram 10 pg 11).

**Diagram 3**  
(Illustrates right side Override Assembly)



**Diagram 3a**  
(Illustrates right side Lock Pin Assembly)



### 3.3 Installing the Paddle Arm Assembly

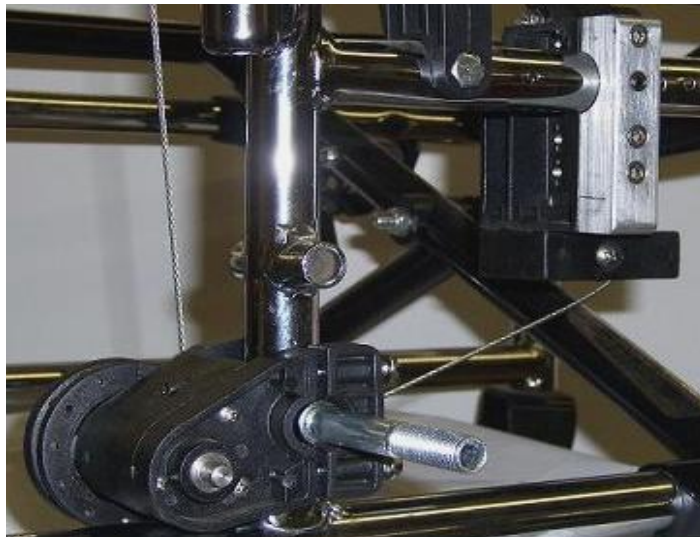
1. Wrap Paddle Arm Assembly cable under the Lock Pin Assembly cable guide (See Diagram 3a) and mount under the seat of the wheelchair. (See Diagram 4)

i

The Safer Automatic Wheel Lock Kits are set up for installation at adult height. See Lock Pin Assembly and Override Assembly Adjustment Guide to change to hemi heights (See Diagram 10 pg 11).

2. Using the three mounting screws and clamp, install the Paddle Arm Assembly to the upper bar of the wheelchair frame between the rear seat H-block and the center cross brace. Do not tighten the clamp at this point. (See Diagram 4)
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. (See Diagram 4)
4. Paddle Arm Assembly MUST be vertically level to get the proper cable tension and for the Locking system to work properly. (See Diagram 4)
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. (See Diagram 4)
6. Repeat STEPS 1 - 5 to install other side of the Paddle Arm Assembly.

**Diagram 4**  
(Illustrates  
right side  
Paddle Arm  
Assembly)



### 3.4 Installing the Wheel Locking Hub

1. Supplied in the Safer Automatic Wheel Lock Kit is both sets of 7 spoke Wheel Locking Hubs and 9 spoke Wheel Locking Hubs. (8 spoke Wheel Locking Hubs for Drive and Medline chairs)
2. Line the spoke grooves on the Wheel Locking Hub with the spokes on the wheel. Using a rubber hammer, tap the Wheel Locking Hub onto the wheel making sure the Wheel Locking Hub is flush and level with wheel. (See Diagram 5)
3. Repeat STEP 2 to install the other side of the Wheel Locking Hub.



Wheel Locking Hub **MUST** be very firm against wheel.

**Diagram 5**



### 3.5 Reinstalling the Rear Wheel

1. Slide the metal spacer, supplied with kit, onto axle bolt.



The Drive and Medline spacers are pre-attached into the Lock Pin Assembly Clamp.

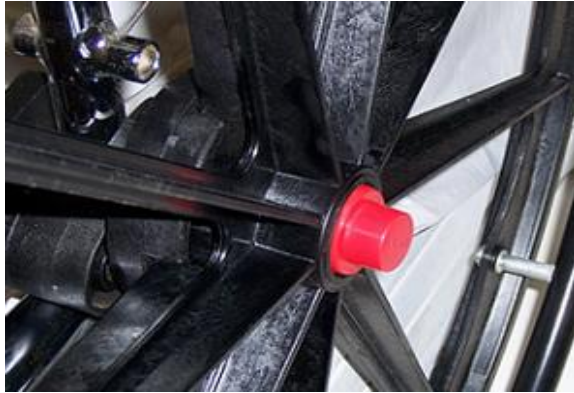
2. Put 2 of the 4 washers that are supplied onto the axle bolt. (Two Washers Per Side)
3. Reinstall the rear wheel onto the axle bolt and reinstall the Retainer Washer on outside of wheel.
4. Screw on the axle nut and tighten until snug.



Once axle nut is tight, you will need to back off axle nut until the rear wheel rotates freely.

5. Snap the supplied Red Hub Cap onto the Retainer Washer. (Not needed for Drive & Medline Chairs)  
(See Diagram 6)
6. Repeat STEPS 1 - 4 to install other side Rear Wheel.

**Diagram 6**  
(Illustrates  
right side  
Wheel)



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### 3a ADDITIONAL INSTALLATION INSTRUCTIONS FOR PART # SAFER-IVC-RC

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1. The Override Brackets will need to be installed on the horizontal bar going from left side to right side next to the recliner levers. (See Diagram 3a)
2. The easiest way to install the Override Brackets is to remove the horizontal bar, install brackets and reinstall horizontal bar.
3. First install the C-Clips onto handle (See Diagram 3b). After placing the C-Clips on, install the Override Bracket over the C-Clip. Then Tighten the screw to secure the bracket in place.
4. The Override will work best when the back is in the up right position. However you can move the cable in the Override Adjuster to make the Overrides work while in a reclining position.

**Diagram 3a**  
(Illustrates  
right side  
Override  
Assembly)



**Diagram 3b**



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### 3b ADDITIONAL INSTALLATION INSTRUCTIONS FOR PART # SAFER-IVC-SL

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1. Note: This item does not come with the Override Assembly.
2. Note: The 9000XT Super-Hemi MUST have Space Saver Arms for Kit to fit.
3. Note: On all other model wheelchairs, the Lock Pin Assembly is mounted to the rear of the axle frame. The Lock Pin Assembly for this wheelchair will be reversed, mounted to the front of the axle frame (See Diagram 3c).
4. Make sure cable runs underneath the Lock Pin Assembly Cable Guide.

**Diagram 3c**  
(Illustrates  
Left Side  
Lock Pin  
Assembly)



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## 4 TESTING

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

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



If Lock Pin Assembly Pin does not pop into all 16 holes of the Wheel Locking Hub, loosen or tighten the Lock Pin Assembly Set Screw. Tightening the set screw too tight can cause Lock Pin Assembly to become out of line.



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. (See Diagram 7)

Diagram 7



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. (See Diagram 8)

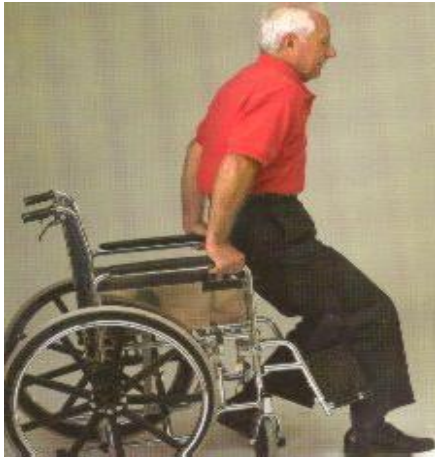
Diagram 8



#### 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 insure the Safer Automatic Wheel Locking system is working properly.

Diagram 9



#### 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.



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

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### 5 Parts Supplied

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#### CAUTION

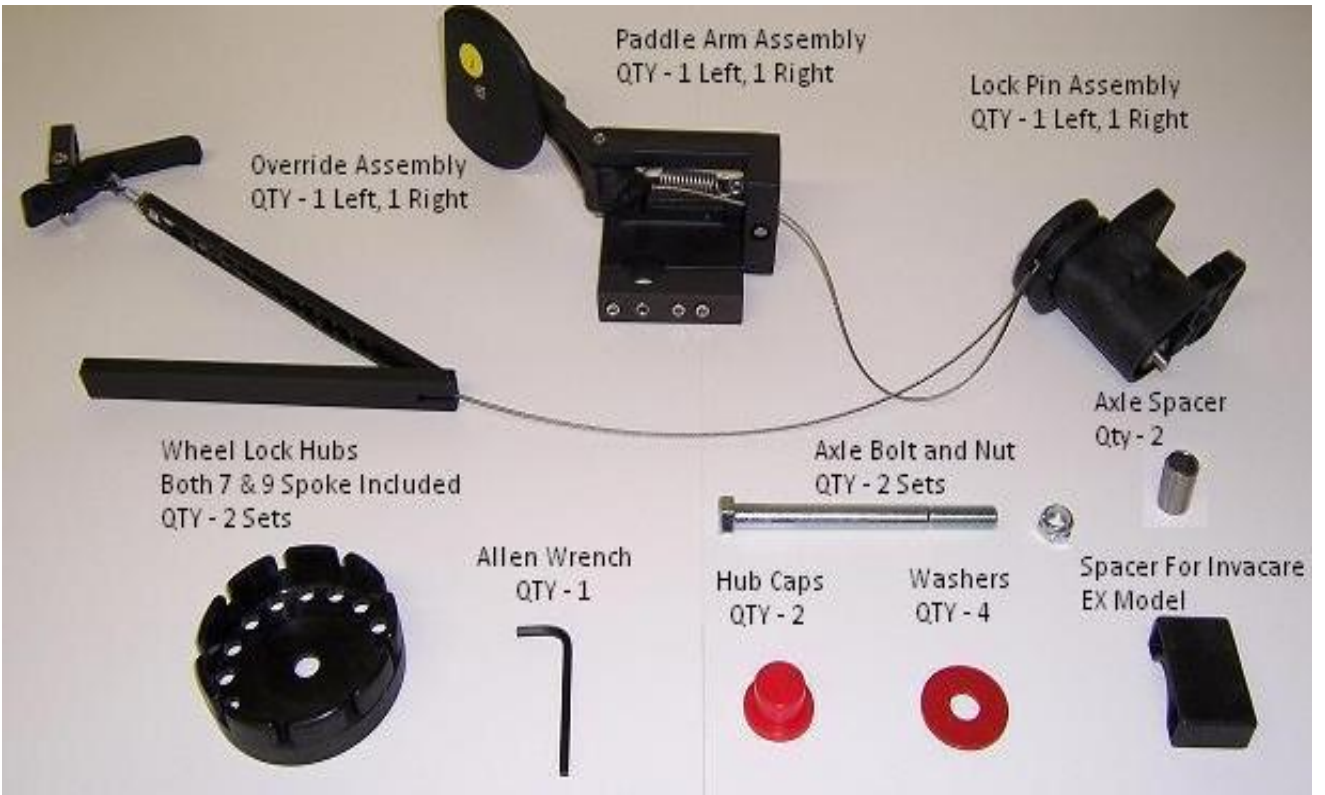
Check all parts listed to parts included and for shipping damage. In case of damage, DO NOT use. Contact Carrier/UPM for further instructions.



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5.1 Invacare Wheelchair Part # SAFER-IVC

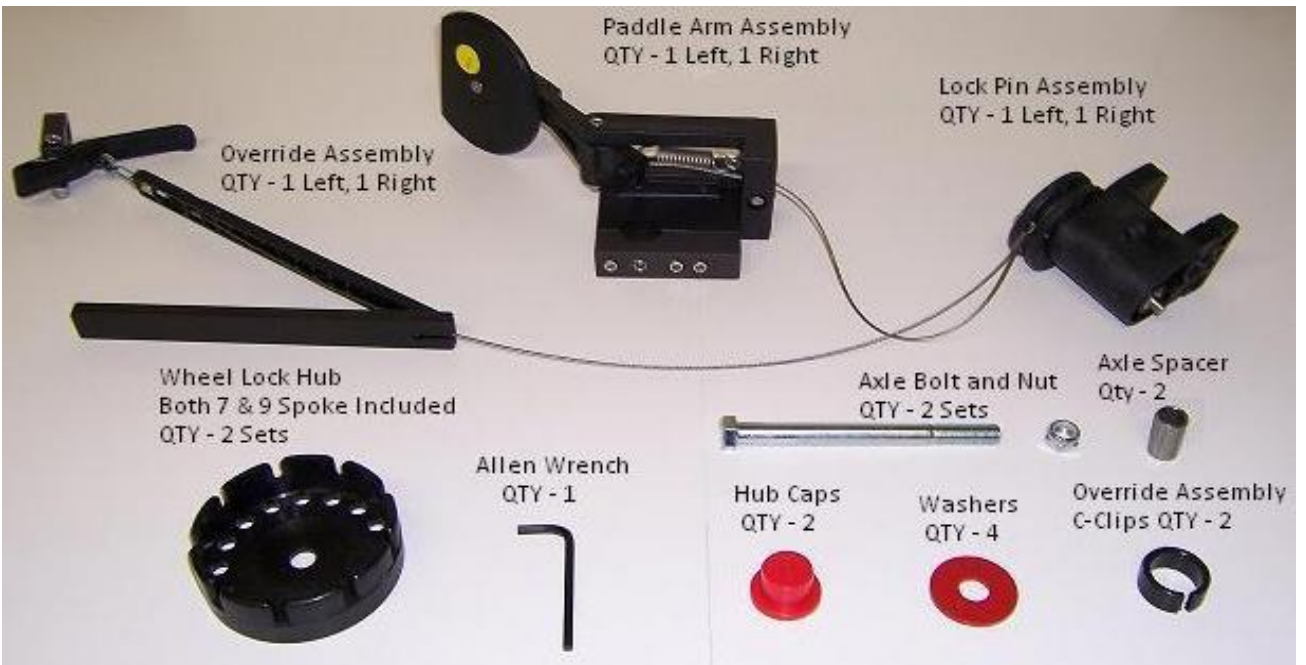
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5.2 Invacare Wheelchair Part # SAFER-IVC-RC

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**5.3 Invacare Wheelchair Part # SAFER-IVC-SL**

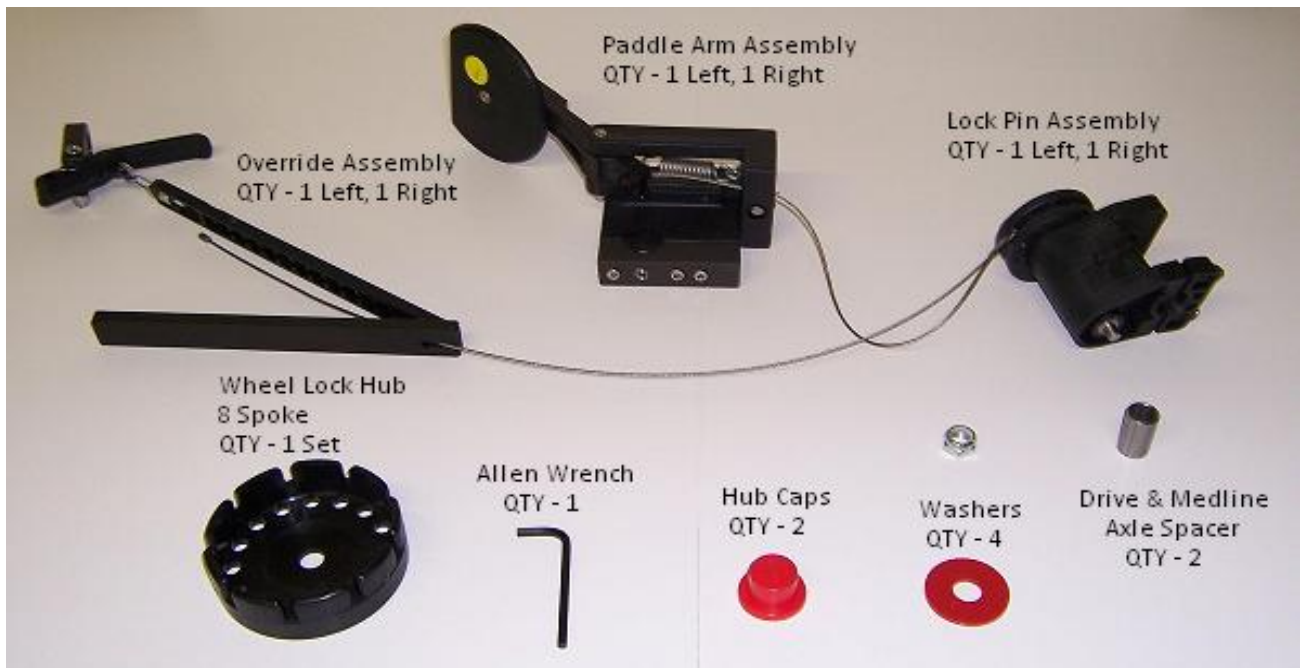
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**5.4 Drive and Medline Wheelchair Part # SAFER-DRV & Part # SAFER-MED**

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**Diagram 10**

**LOCK PIN ASSEMBLY AND OVERRIDE ASSEMBLY CABLE ADJUSTMENT GUIDE**

**INVACARE WHEELCHAIRS**

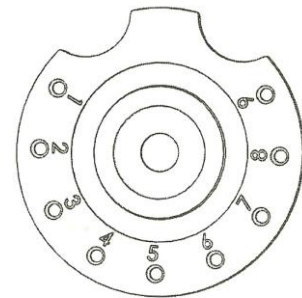
CHAIR MODEL	CABLE GUIDE HOLE	OVER-RIDE ADJUSTMENT SLOT	CHAIR BACK HEIGHT
Tracer EX-2 Adult	3	11	16"
Tracer EX-2 Hemi	2	15	16"
Tracer SX-5 Adult	2	11	16"
Tracer SX-5 Adult	5	8	18"
Tracer SX-5 Hemi	2	15	16"
Tracer SX-5 Hemi	2	9	18"
Tracer SX-5 Recliner	5	9	24"
9000 SL Hemi	2	16	15"
9000 SL Hemi	2	15	16"
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"

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"

**DRIVE & MEDLINE WHEELCHAIRS**

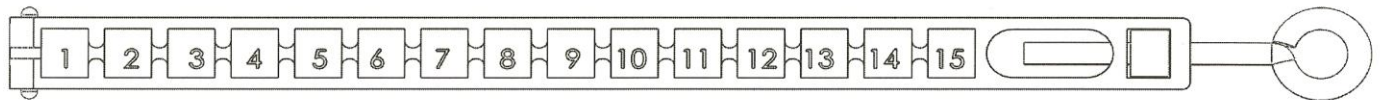
CHAIR MODEL	CABLE GUIDE HOLE	OVER-RIDE ADJUSTMENT SLOT	CHAIR BACK HEIGHT
Drive Adult	5	8	16"
Drive Hemi	4	11	16"
Medline Adult	5	8	16"
Medline Hemi	4	11	16"

**\*Lock Pin Assembly Cable Guide**



\*left or right side  
The top hole is number 1  
The bottom hole is number 9

**OVER-RIDE ASSEMBLY ADJUSTMENT GUIDE**



**NOTE:**

Kit comes assembled in the adult height settings.  
You may need to deviate from this guide to fit your particular situation.

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### SAFER AUTOMATIC WHEEL LOCK CLEANING PROCEDURES

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The material used in the 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. The 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.

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### SAFER AUTOMATIC WHEEL LOCK WARRANTY

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The 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 devise and shipping. This warranty does not cover failure due to abuse, misuse, alterations, improper installation done 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 Wheelchair Wheel Lock Kit to better help you obtain assistance or service if you 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 kit shipped in and the locking kit serial number is on the Lock Pin Assembly.

**Dealer name:**

---

**Date of purchase:**

---

**Wheelchair model locking kit installed on:**

---

**Wheelchair serial number locking kit installed on:**

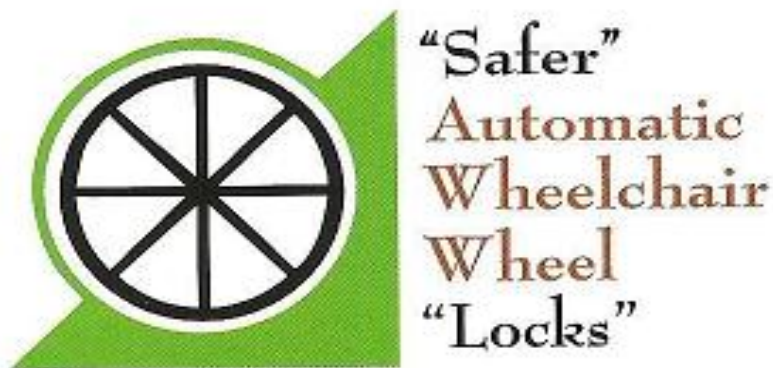
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**Locking kit part number:**

---

**Locking kit serial number:**

---



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