

## Xpedition Powered Stair Chair

### Service Manual

REF	625700000000
REF	625705550001
REF	625705550002
REF	625705550003
REF	650700080301
REF	650700450301







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# Warning/Caution/Note Definition

The words **WARNING**, **CAUTION**, and **NOTE** carry special meanings and should be carefully reviewed.

## **WARNING**

Alerts the reader about a situation which, if not avoided, could result in death or serious injury. It may also describe potential serious adverse reactions and safety hazards.

## **CAUTION**

Alerts the reader of a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or damage to the product or other property. This includes special care necessary for the safe and effective use of the device and the care necessary to avoid damage to a device that may occur as a result of use or misuse.

**Note** - Provides special information to make maintenance easier or important instructions clearer.

## Summary of safety precautions

Always read and strictly follow the warnings and cautions listed on this page. Service only by qualified personnel.

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### **WARNING**

- Do not use portable RF communications equipment, including peripherals such as antenna cables and external antennas, closer than 12 inches (30 cm) to any part of **Xpedition**, including cables specified by the manufacturer.
  - Always avoid stacking or placing other equipment adjacent to **Xpedition** to prevent improper operation of the products. If such use is necessary, carefully observe the chair and the other equipment to verify proper operation.
  - Do not use accessories, transducers, and cables, other than those specified or provided by the manufacturer, to avoid increased electromagnetic emissions or decreased electromagnetic immunity and improper operation.
- 

### **CAUTION**

- Always use authorized parts to avoid the risk of product damage.
  - Always remove the battery before you service or upgrade the product to reduce the risk of shock.
  - Always use ESD protective equipment before you open antistatic bags and service electronic parts.
  - Do not place unprotected circuit boards on the floor.
-

# Introduction for service

This manual assists you with the service of your Stryker product. Read this manual to service this product. This manual does not address the operation of this product. See the Operations/Maintenance Manual for operating and use instructions. To view your Operations/Maintenance Manual online, see <https://techweb.stryker.com/>.

## Expected service life

**Xpedition** has a 7 year expected service life under normal use conditions and with appropriate periodic maintenance.

**Alvarium** charger has a 7 year expected service life under normal use conditions.

**Alvarium** battery has a 2 year expected service life under normal use conditions.

## Contact information

Contact Stryker Customer Service or Technical Support at: 1-800-327-0770.

Stryker Medical  
3800 E. Centre Avenue  
Portage, MI 49002  
USA

**Note** - The user and/or the occupant should report any serious product-related incident to both the manufacturer and the Competent authority of the European Member State where the user and/or occupant is established.

To view your operations or maintenance manual online, see <https://techweb.stryker.com/>.

Have the serial number (A) of your Stryker product available when calling Stryker Customer Service or Technical Support. Include the serial number in all written communication.

## Serial number location - Xpedition

See below for the chair (A) serial number location (Figure 1).

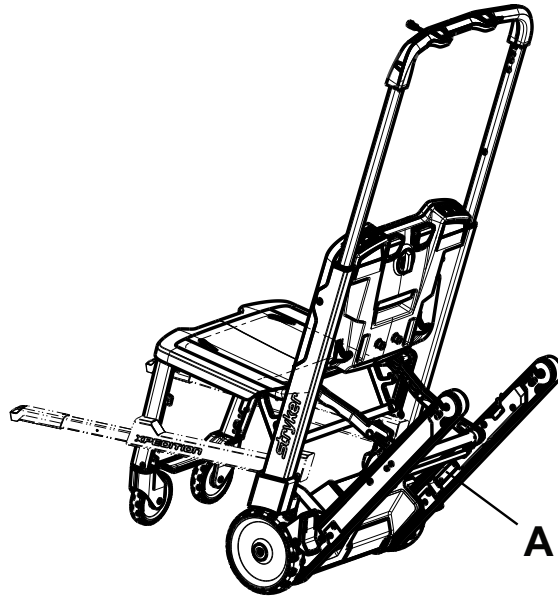


Figure 1 – Serial number location - Xpedition

## Serial number location - Alvarium

See below for the battery (B) and charger (C) serial number locations (Figure 2 and Figure 3).

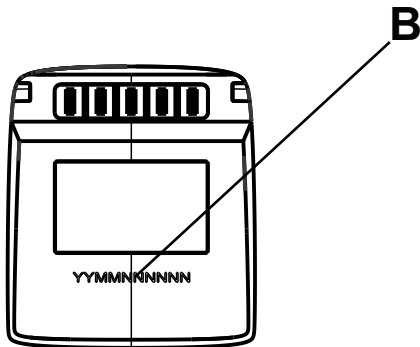


Figure 2 – Alvarium battery serial number location

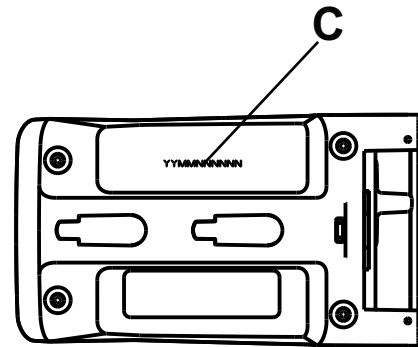


Figure 3 – Alvarium charger serial number location

# Preventive maintenance

**CAUTION** - Always use authorized parts to avoid the risk of product damage.

Establish and follow a maintenance schedule and keep records of the maintenance activity. Remove product from service before you perform the preventive maintenance inspection. You may need to perform preventive maintenance checks more often based on your level of product use. Service only by qualified personnel.

When using maintenance products, follow the directions of the manufacturer and reference all Material Safety Data Sheets (MSDS).

**Note** - Clean and disinfect the exterior of the support surface before inspection, if applicable.

Operation	Schedule	Procedure
Cleaning and disinfecting	Each use	See <i>Cleaning and Disinfecting</i> in the Operations/Maintenance Manual
Inspection	For 1-25 calls per month, inspect chair every 6 months	See checklist below
	For 26-200 calls per month, inspect chair every 3 months	
	For 201+ calls per month, inspect chair monthly	

Inspect the following items:

- \_\_\_\_\_ All fasteners secure (reference all assembly drawings)
- \_\_\_\_\_ No bent or broken tubing or sheet metal
- \_\_\_\_\_ No debris in wheels
- \_\_\_\_\_ Back wheels are secure and roll
- \_\_\_\_\_ Front casters are secure, roll, and swivel
- \_\_\_\_\_ Wheel locks hold wheels when applied and clear the wheels when released
- \_\_\_\_\_ Chair unfolds and locks
- \_\_\_\_\_ No rips or cracks in seat or backrest
- \_\_\_\_\_ Backrest covers are secure and align with the product
- \_\_\_\_\_ Restraint straps installed, intact, and working
- \_\_\_\_\_ Foot end carry handles extend and lock in place
- \_\_\_\_\_ Head end flip-up carry handles option, if equipped, fold and unfold
- \_\_\_\_\_ Grab bar extends and locks in all positions
- \_\_\_\_\_ Track system mechanism unfolds and locks in place
- \_\_\_\_\_ Track belt inner cords not showing; replace if necessary
- \_\_\_\_\_ Track release springs are intact (replace the track release springs every seven years)
- \_\_\_\_\_ Track belts for severe degradation that may affect track performance (replace track belts every three years)
- \_\_\_\_\_ Battery can be inserted and removed (replace the battery connector every three years)
- \_\_\_\_\_ Battery release springs and battery latch return springs are intact
- \_\_\_\_\_ No lubricants present on the track belts or the track frame surfaces
- \_\_\_\_\_ Foot end carry handle button is intact and secure (replace the foot end carry handle button every year)
- \_\_\_\_\_ Footrest can be stowed and deployed

\_\_\_\_\_ All accessories and parts operate

Product serial number:
Completed by:
Date:

## Maintenance record

[illegible]

## Training record

[illegible]



# Troubleshooting

## LED indicator information

If the chair is unresponsive, the head end LED indicator or battery power level LED may be lit.

LED indicator	Problem	Notes	Resulting action
Amber LED - constant illumination	Functional - electrical/PCB faults	Board level faults: <ul style="list-style-type: none"> <li>Power rails</li> <li>Stuck button(s)</li> </ul>	Use service tool to determine fault:  Power rail - replace the PCB.  Stuck button - replace the UI component with the issue.
	Motion - electrical/PCB faults	Board level faults: <ul style="list-style-type: none"> <li>Motor driver IC</li> <li>Hall sensor(s)</li> <li>Motor over current</li> </ul>	Use service tool to determine fault:  Motor driver IC - replace the PCB.  Hall sensor(s) - replace PCB. If the issue continues, replace the motor.  Motor over current - check for mechanical issues and bindings. Replace the PCB. If the issue continues, replace the motor.
	Motion - motor faults	Motor faults: <ul style="list-style-type: none"> <li>Stall</li> <li>Over temp</li> <li>Over current</li> </ul>	Use service tool to determine fault:  Stall fault - check for mechanical issues, bindings, and gears. Check the motor. Replace the motor, if necessary.  Motor over temp - if constant, replace the motor. If not constant, read motor temp.
Red LED - constant illumination	Function - PCB(s) fault	Board level fault - short on either the main or backdrive PCB	Depress and hold the LED, tortoise, and hare buttons. Wait five seconds for the fault to clear. If the fault resets (the grab bar UI turns blue, then red), replace the main, backdrive PCB, or both.  If the grab bar stays red (no change to blue), the issue is most likely with the wire harness or the grab bar RGB LEDs.  Check the connectors on the grab bar and the connector to the PCB for missing or bent pins.  If the wire harness looks fine, use a new grab bar button and LED UI to see if the correct/expected colors are illuminated. If so, replace the grab bar UI.
Battery power level LED (any or all levels) flashing	Multiple flashing LEDs - lost communication with battery	Board, cable, connector, and/or battery issue	Probe both ends of the battery cable connectors. If the issue continues, replace the battery. If the issue still continues, replace the PCB.

LED indicator	Problem	Notes	Resulting action
	Single flashing LED (lowest level) - loss of battery communication, battery is critically low, or never communicated	Battery is critically low - 20 seconds until power is out	<p>Loss of communication or never communicated:</p> <p>Probe both ends of the battery cable connectors. If the issue continues, replace the battery. If the issue continues, replace the PCB.</p> <p>If the battery is critically low, charge the battery.</p>

## Error code information

Use the Stryker Service Tool (521205080001) and a USB cable to access errors codes and live data from the chat.

Remove the power box upper cover to access the USB dongle before you troubleshoot error code information. See *Power box upper cover replacement* (page 16).

Fault ID	Fault group	Fault name	Software troubleshooting
6257-00-01-1	Digital core	NVRAM file system corrupted	<ol style="list-style-type: none"> <li>1. Cycle power and check fault history. Perform a full function check.</li> <li>2. If normal function check fails, replace the PCB.</li> </ol>
6257-00-02-1	Power	+3.3V over voltage	<ol style="list-style-type: none"> <li>1. Self clearing fault (fault set, not cleared): <ol style="list-style-type: none"> <li>a. The issue still exists and has not cleared. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</li> </ol> </li> <li>2. Self clearing fault (fault set and cleared): <ol style="list-style-type: none"> <li>a. Cycle power and check fault history. If issue still exists after power cycle, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</li> </ol> </li> </ol>
6257-00-02-2	Power	3.3V under voltage	<ol style="list-style-type: none"> <li>1. Self clearing fault (fault set, not cleared): <ol style="list-style-type: none"> <li>a. The issue still exists and has not cleared. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</li> </ol> </li> <li>2. Self clearing fault (fault set and cleared): <ol style="list-style-type: none"> <li>a. Cycle power and check fault history. If issue still exists after power cycle, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</li> </ol> </li> </ol>
6257-00-02-3	Power	+12V over voltage	<ol style="list-style-type: none"> <li>1. Self clearing fault (fault set, not cleared): <ol style="list-style-type: none"> <li>a. The issue still exists and has not cleared. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</li> </ol> </li> <li>2. Self clearing fault (fault set and cleared): <ol style="list-style-type: none"> <li>a. Cycle power and check fault history. If issue still exists after power cycle, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</li> </ol> </li> </ol>

Fault ID	Fault group	Fault name	Software troubleshooting
6257-00-02-4	Power	+12V under voltage	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. The issue still exists and has not cleared. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power and check fault history. If issue still exists after power cycle, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-02-5	Power	Motor high side over current	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. The issue still exists and has not cleared. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power (run the product with load, if possible) and check fault history. If issue still exists after power cycle, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-03-1	Motor system (PCB)	FET-A (high side)	FET-A (high) failure or malfunctioning 8305 motor drive chip on the PCB. Replace the PCB.
6257-00-03-2	Motor system (PCB)	FET-A (low side)	FET-A (low) failure or malfunctioning 8305 motor drive chip on the PCB. Replace the PCB.
6257-00-03-3	Motor system (PCB)	FET-B (high side)	FET-B (high) failure or malfunctioning 8305 motor drive chip on the PCB. Replace the PCB.
6257-00-03-4	Motor system (PCB)	FET-B (low side)	FET-B (low) failure or malfunctioning 8305 motor drive chip on the PCB. Replace the PCB.
6257-00-03-5	Motor system (PCB)	FET-C (high side)	FET-C (high) failure or malfunctioning 8305 motor drive chip on the PCB. Replace the PCB.
6257-00-03-6	Motor system (PCB)	FET-C (low side)	FET-C (low) failure or malfunctioning 8305 motor drive chip on the PCB. Replace the PCB.
6257-00-03-7	Motor system (PCB)	DRV8305 over temp	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Make sure that the PCB is powered down for at least 20 minutes.</p> <p>b. Cycle power, wait five minutes, and check fault history. If issue still exists after power cycle, replace the PCB.</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Make sure that the PCB is powered down for at least 20 minutes.</p> <p>b. Cycle power, wait five minutes, and check fault history. If issue still exists after power cycle, replace the PCB.</p> <p>c. If issue does not exist after five minutes, do nothing.</p>

Fault ID	Fault group	Fault name	Software troubleshooting
6257-00-03-8	Motor system (PCB)	DRV8305 general fault	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Replace the PCB.</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power (run the product with load, if possible) and check fault history. If issue still exists after power cycle, replace the PCB.</p>
6257-00-03-9	Motor system (PCB)	DRV8305 communication error	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Replace the PCB.</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power and check fault history. If issue still exists after power cycle, replace the PCB.</p>
6257-00-04-1	Motor system (BLDC motor)	Motor stall fault	<p>1. If stalling, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. If failing and triggering a commutation fault, check the hall wires and connectors. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-04-2	Motor system (BLDC motor)	Motor over temp fault	<p>Allow the product to cool down for at least 30 minutes after last use. Verify that CDS_S16_MOTOR_TEMP_DEGC is within an acceptable range (around or near ambient temperature). If the displayed temperature is not near ambient, you most likely have a bad thermistor. Replace the motor. If CDS_S16_MOTOR_TEMP_DEGC fault is still active, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-04-3	Motor system (BLDC motor)	Motor hall fault	<p><b>Note</b> - This fault only occurs when the motor is not operating.</p> <p>1. Self clearing fault (fault set, not cleared) means hall reads (F, F, F) or (low, low, low).</p> <p>a. Make sure that the connector is secure and no pins are bent or missing.</p> <p>b. Check all hall wires to PCB and motor. Make sure that no wires are broken.</p> <p>c. If fault has not cleared, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Make sure that the connector is secure.</p> <p>b. Check all hall wires to PCB and motor. Make sure that no wires are broken.</p> <p>c. Run the motor to verify proper operation.</p>

Fault ID	Fault group	Fault name	Software troubleshooting
6257-00-05-1	User interface	Stuck switch (external lights)	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Issue is still present. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power. Press and release the button 10 - 15 times. If issue returns, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-05-2	User interface	Stuck switch (up stairs button)	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Issue is still present. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power. Press and release the button 10 - 15 times. If issue returns, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-05-3	User interface	Stuck switch (down stairs button)	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Issue is still present. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power. Press and release the button 10 - 15 times. If issue returns, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-05-4	User interface	Stuck switch (fast speed)	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Issue is still present. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power. Press and release the button 10 - 15 times. If issue returns, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-05-5	User interface	Stuck switch (slow speed)	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Issue is still present. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power. Press and release the button 10 - 15 times. If issue returns, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>
6257-00-05-6	User interface	Stuck switch (motor engage)	<p>1. Self clearing fault (fault set, not cleared):</p> <p>a. Issue is still present. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p> <p>2. Self clearing fault (fault set and cleared):</p> <p>a. Cycle power. Press and release the button 10 - 15 times. If issue returns, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).</p>

Fault ID	Fault group	Fault name	Software troubleshooting
6257-00-06-1	Other	A/D converter fault	May be a thermal heating condition. May clear on its own but could mean that the power box and PCB are getting hot. Thermal imaging might be a good option to see if a part is heating up. This is a silent fault and is only meant to indicate that there may be an issue with the PCB and microprocessor. If the fault is consistently failing (more than five failures in the fault history), replace the PCB.
6257-00-06-2	Other	Smart battery SMBUS error	Most likely a cable, connector, or battery issue. See <i>Printed circuit board (PCB) troubleshooting</i> (page 14).
6257-00-06-3	Other	PFET short failure	See <i>Printed circuit board (PCB) troubleshooting</i> (page 14) to determine location of the short.
6257-00-06-4	Other	Hall commutation error	Engineering error.  If the hall commutation error timestamps align with the stall fault timestamps, an invalid commutation occurred long enough to stall the motor. Check all hall wires and connectors to make sure that the wires are not broken, the connectors are seated, and all pins are present and not bent inside the connector. If the wires and connectors are correct, see <i>Printed circuit board (PCB) troubleshooting</i> (page 14).

## Printed circuit board (PCB) troubleshooting

Remove the power box upper cover to perform PCB troubleshooting. See *Power box upper cover replacement* (page 16).

Symptom	Possible problem	Notes	Resulting action
Unit will not wake up	Make sure that all cabling is connected	Make sure that the left and right island are plugged in	Undo and reconnect the PCB.
	Backdrive PCB installed backwards	Check red-to-red and white-to-white	
	Battery cable is loose	Check that all other connections are secure	
	Bad backdrive PCB	Remove the backdrive PCB and plug in the battery cable (625700010001) to PCB (white-to-red, black-to-black)	Replace the backdrive PCB.
Unit still will not wake up	Power rail short	Check the 12V to GND connection (625700010002 green cable to black cable). Resistance with DMM should be >1000Ω.	Replace the PCB.
		Check the 3.3V to GND connection (625700010002 red cable to black cable). Resistance with DMM should be >1000Ω.	

Symptom	Possible problem	Notes	Resulting action
Rope light will not turn on	Bad rope light	Make sure that the light button is off. Measure resistance with DMM between the two pins - reading should be $>1000\Omega$ . Turn the light button on - reading should be $<15\Omega$ .	If you meet these two conditions, replace the rope light.
	Cable failure	Make sure that the light button is off. Measure resistance with DMM between the two pins - reading should be $>1000\Omega$ . Turn the light button on - reading should be $<15\Omega$ .	If you do not meet these two conditions, replace the PCB.
USB will not recognize	Cable failure	Plug into PC, check that the PC recognizes a new USB device.	Replace the PCB.

# Service

## Protecting against electrostatic discharge (ESD)

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### CAUTION

- Always use electrostatic discharge (ESD) protective equipment before you open antistatic bags and service electronic parts.
  - Do not place unprotected circuit boards on the floor.
- 

**Note** - Always ship the circuit boards back to Stryker. Use the antistatic bag that the new board was originally shipped in.

The electronic circuits in the product are completely protected from static electricity damage when factory assembled. Always use adequate static protection when you service the electronic systems of the product. All service personnel must use static protection whenever they touch wires.

Sample antistatic protection equipment includes:

- Antistatic wrist strap
- Grounding plug
- Test lead with a banana plug on one end and an alligator clip on the other end

Make sure that you follow the ESD manufacturer's instructions for appropriate protection against static discharge.

## Power box upper cover replacement

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**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

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### Tools required:

- T15 Torx driver
- Drop cloth
- Wire cutters
- Torque wrench (in-lb)

### Procedure:

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Remove the battery.
3. Place a drop cloth on the floor.
4. Lay the product on its right side on top of the drop cloth.
5. Using a T15 Torx driver, remove the nine pan head thread forming screws (AR) that secure the power box upper cover (H) to the lower cover (G) (Figure 4). Save the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (AR) to  $8 \pm 1.20$  in-lb when you reinstall.

6. Using a T15 Torx driver, remove the two pan head thread forming screws (AR) that secure the battery housing assembly (K) to the power box upper cover (H) (Figure 5). Save the battery housing assembly and the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (AR) to  $8 \pm 1.20$  in-lb when you reinstall.



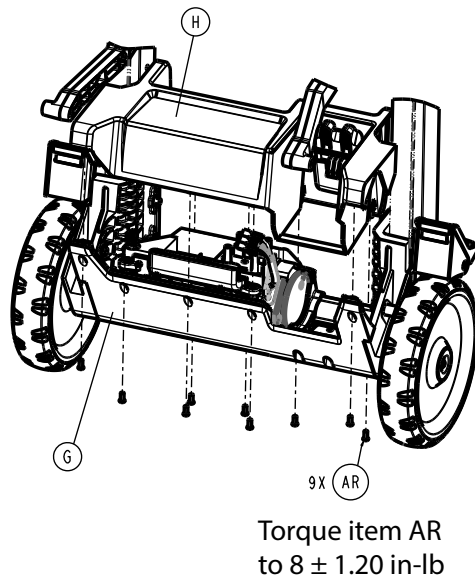


Figure 4 –

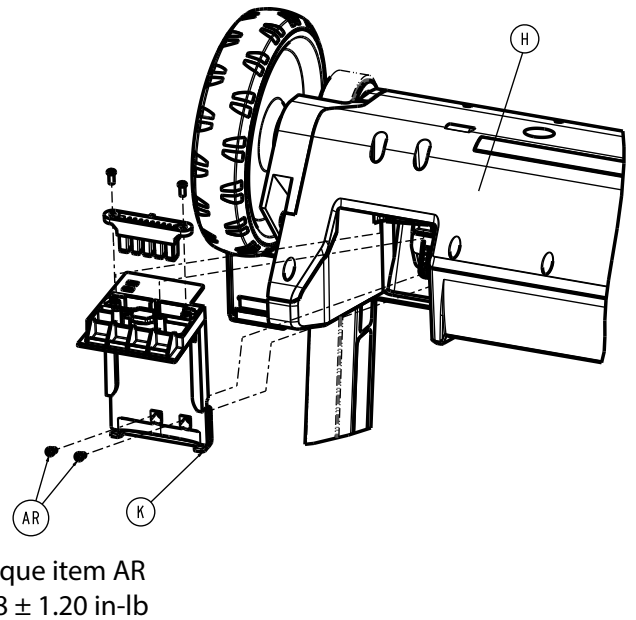


Figure 5 –

7. Place the chair in the upright position.
8. Open the track system. Make sure that the track system is locked in place.
9. Using wire cutters, cut the cable tie that secures the battery connector wires to the battery housing. Discard the cable tie.

**Note** - Using a cable tie, secure the battery connector wires to the battery housing assembly when you reinstall.

10. Route the battery housing assembly from the power box upper cover.
  - a. Lift the power box upper cover.
  - b. Tip the battery housing assembly so the front end clears the power box upper cover.
  - c. Lift the power box upper cover up and pull toward the track system.
  - d. Remove and discard the power box upper cover.

**Note** - The battery release button (L) and compression wires (AL) may fall out when you route the battery housing assembly from the power box upper cover (H) (Figure 6). Reinstall the battery release button and compression wires, if needed.

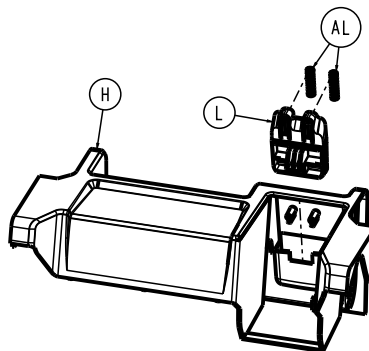


Figure 6 –

11. Reverse steps to reinstall.
12. Verify proper operation before you return the product to service.

## Power box lower cover replacement

### Tools required:

- Wire cutters
- 1/8" hex wrench
- Torque wrench (in-lb)

### Procedure:

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).
2. Using wire cutters, cut the cable tie that secures the left backrest and grab bar user interface cables to the power box lower cover. Discard the cable tie.
3. Using a 1/8" hex wrench, remove the two flat countersunk head cap screws (AW) that secure the power box PCBA (E) to the power box lower cover (G) (Figure 7). Discard the power box lower cover. Save the screws.

**Note** - Using a torque wrench, torque the flat countersunk head cap screws (AW) to  $15 \pm 2.25$  in-lb when you reinstall.

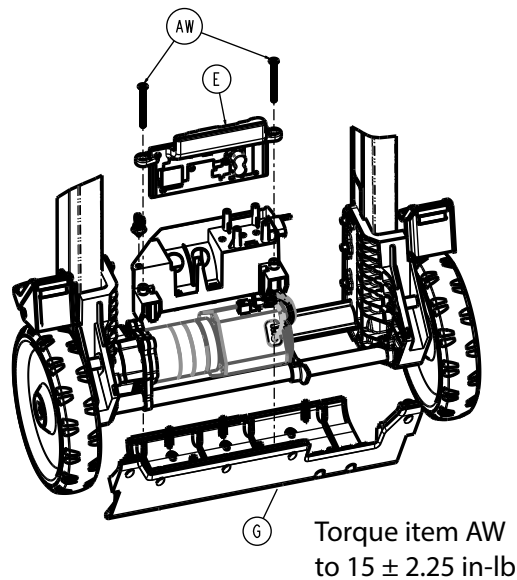


Figure 7 –

4. Remove and save the power box PCBA.
5. Reverse steps to reinstall.
6. Insert a fully charged battery.
7. Verify proper operation before you return the product to service.

## Battery connector replacement

### Tools required:

- T15 Torx driver
- Wire cutters

### Procedure:

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).
2. Using wire cutters, cut the cable tie located on the bottom of the battery housing assembly. Discard the cable tie.
3. Using wire cutters, cut the cable tie that secures the battery connector wires to the power box lower cover. Remove and discard the fir tree mount (AU) (Figure 8). Discard the cable tie.

**Note** - Install the supplied fir tree mount when you reinstall.

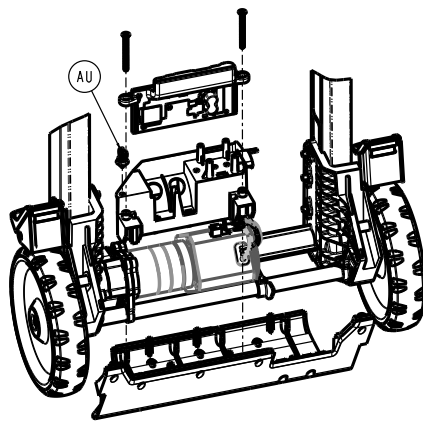


Figure 8 –

4. Using a T15 Torx driver, remove the two pan head thread forming screws that secure the battery connector to the battery housing assembly. Save the screws.
5. Remove and save the two retention clips (BB) (Figure 9).

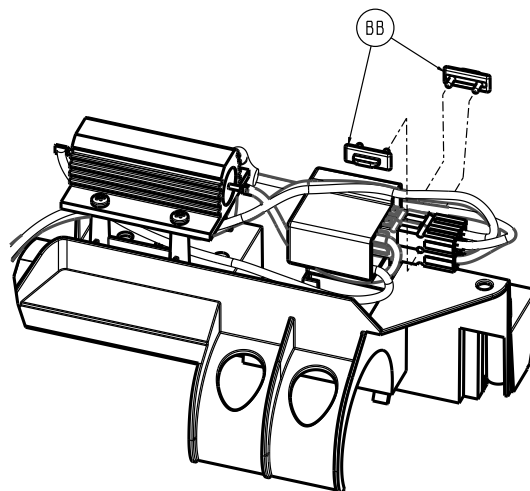


Figure 9 –

6. Unplug and save the wire connectors.
7. Remove and discard the battery connector and cable assembly.
8. Reverse steps to reinstall.
9. Insert a fully charged battery.
10. Verify proper operation before you return the product to service.

## Backrest cover replacement

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**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

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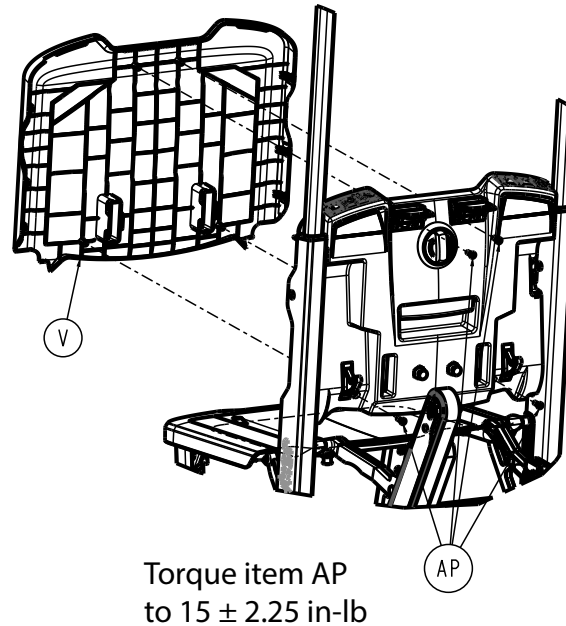
### Tools required:

- T20 Torx driver
- Torque wrench (in-lb)

**Procedure:**

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.
4. Using a T20 Torx driver, remove the two lower pan head thread forming screws (AP) that secure the backrest covers together (Figure 10). Save the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (AP) to  $15 \pm 2.25$  in-lb when you reinstall.



**Figure 10 –**

5. Fold the track system. Make sure that the track system is locked in place.
6. Using a T20 Torx driver, remove the two upper pan head thread forming screws (AP) that secure the backrest covers together (Figure 10). Save the screws.

**Note**

- Using a torque wrench, torque the pan head thread forming screws (AP) to  $15 \pm 2.25$  in-lb when you reinstall.
- The screws are located under the strap locks.

7. Pull the top backrest cover (V) out and lift to remove (Figure 10). Discard the backrest cover.

**Note** - Insert the seat panel at the bottom first when you reinstall.

8. Reverse steps to reinstall.
9. Insert a fully charged battery.
10. Verify proper operation before you return the product to service.

## Seat pan replacement

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**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

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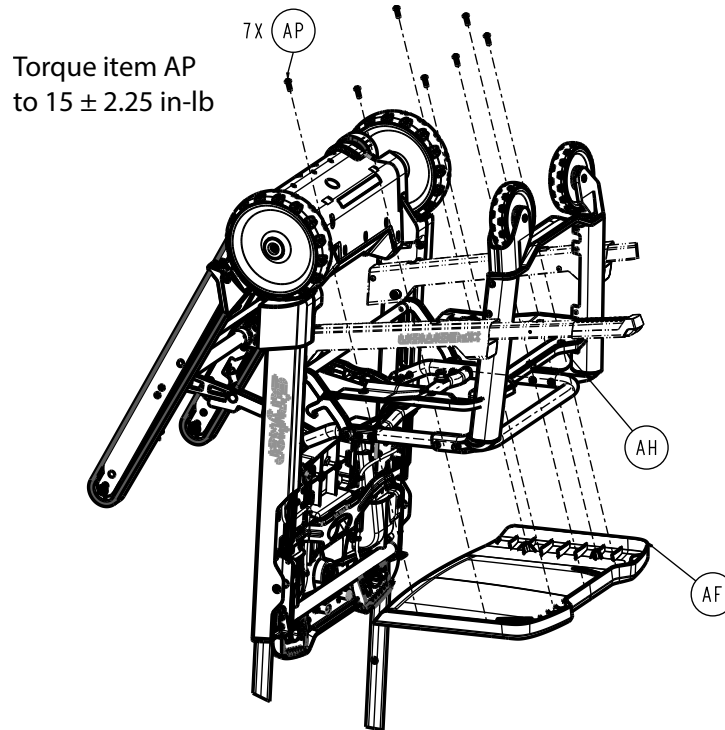
**Tools required:**

- T20 Torx driver
- Torque wrench (in-lb)

**Procedure:**

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.
4. Tip the product onto the track system.
5. Using a T20 Torx driver, remove the seven pan head thread forming screws (AP) that secure the seat pan (AF) to the seat rib cover (AH) (Figure 11). Save the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (AP) to  $15 \pm 2.25$  in-lb when you reinstall.



**Figure 11 –**

6. Remove and discard the seat pan.
7. Reverse steps to reinstall.
8. Insert a fully charged battery.
9. Verify proper operation before you return the product to service.

## Drive motor replacement

---

**CAUTION**

- Always use ESD protective equipment before you open antistatic bags and service electronic parts.
  - Do not place unprotected circuit boards on the floor.
-

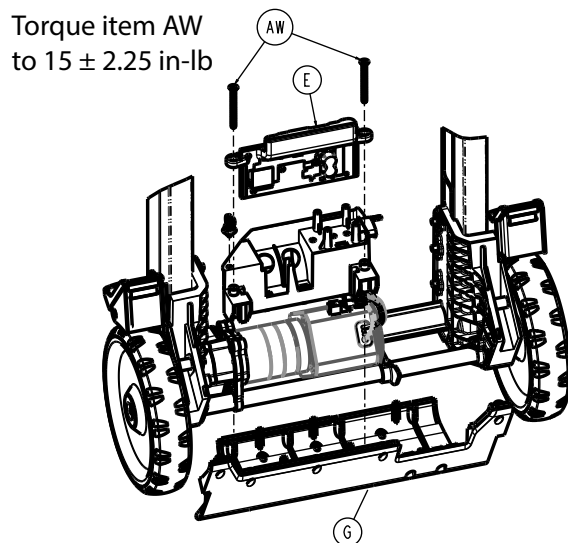
**Tools required:**

- 1/8" hex wrench
- Wire cutters
- T20 Torx driver
- 5/32" hex wrench
- T25 Torx driver (6")
- Impact driver
- Drop cloth
- Torque wrench (in-lb)
- Small slotted screwdriver
- ESD system

**Procedure:**

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).
2. Using a 1/8" hex wrench, remove the two flat countersunk head cap screws (AW) that secure the power box PCBA (E) to the power box lower cover (G) (Figure 12). Save the power box lower cover and screws.

**Note** - Using a torque wrench, torque the flat countersunk head cap screws (AW) to  $15 \pm 2.25$  in-lb when you reinstall.



**Figure 12 –**

3. Using a small slotted screwdriver, remove the two retention clips (BB) (Figure 13). Save the retention clips.

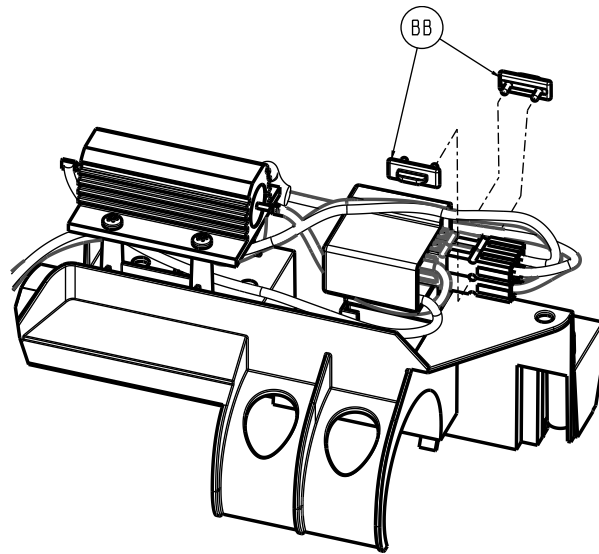


Figure 13 –

4. Unplug the three motor drive cable connections.
5. Using a T20 Torx driver, remove the flat countersunk head cap screw (V) that secures the back bulkhead (E) to the drive motor (N) (Figure 14). Discard the screw.

**Note**

- Remove the power box lower cover to access the back bulkhead. Slide the power box lower cover over.
- Using a torque wrench, torque the flat countersunk head cap screws (V) to  $20 \pm 3.00$  in-lb when you reinstall.

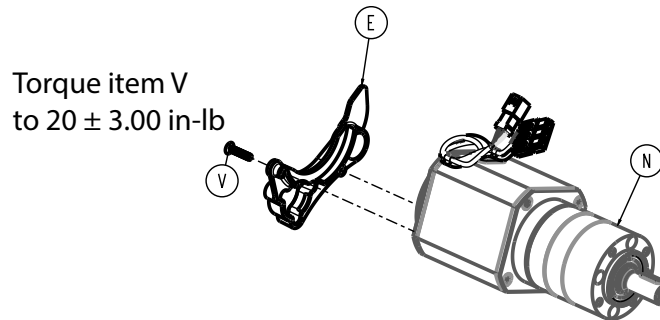


Figure 14 –

6. Lay the product on the drop cloth, front side down.
7. Using a 5/32" hex wrench, remove the button head cap screw (A), cap (T), and wheel assembly (P) (Figure 15). Save all parts.

**Note**

- Use one hand to hold the lock nut (C) in the upright assembly (Figure 15). Discard the nut if you replace the wheel assembly.
- Using a torque wrench and a 5/32" hex wrench, torque the button head cap screw (A) to  $75 \pm 11.25$  in-lb when you reinstall.

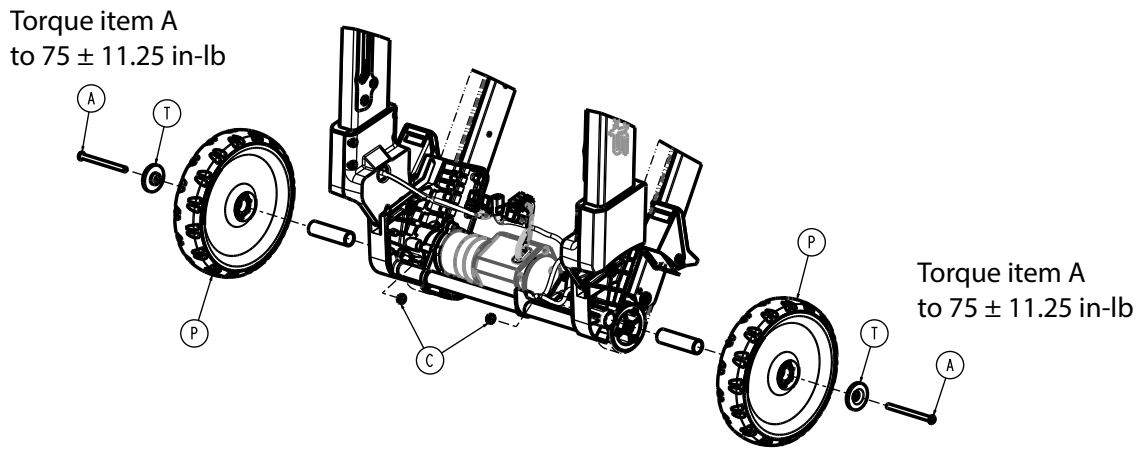


Figure 15 –

8. Using an impact driver and a 6" T25 Torx driver, remove the three button head cap screws (T) that secure the drive motor to the patient right upright assembly (P) (Figure 16). Discard the screws.

**Note**

- Access the drive motor screws from the three screw access holes above the screws.
- Support the drive motor with one hand while you remove the screws. You will need to remove the power box lower cover to access the drive motor screws.
- Using a torque wrench, torque the button head cap screws (T) to  $35 \pm 5.25$  in-lb when you reinstall.

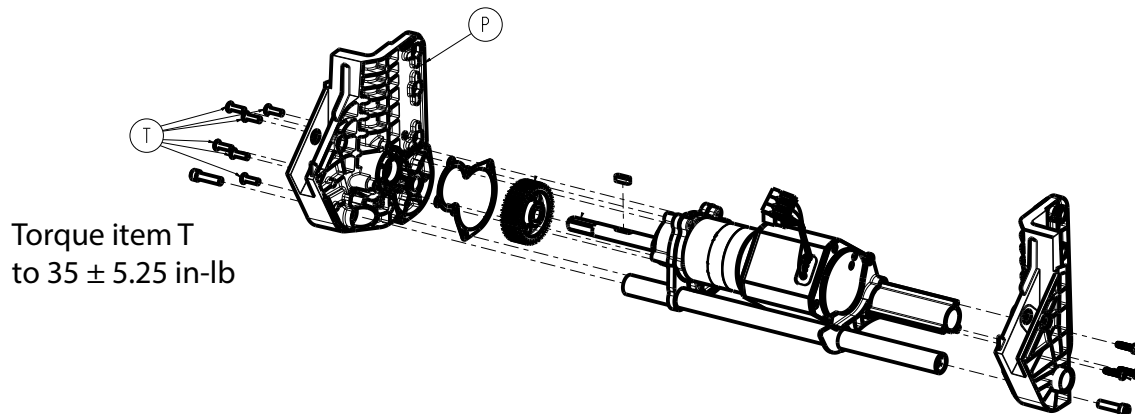


Figure 16 –

9. Remove and discard the drive motor.
10. Remove the gasket located between the drive motor and bulkhead gear assembly. Discard the gasket.
11. Using the supplied grease, apply lube to the supplied drive motor pinion.
12. Install the supplied gasket onto the bulkhead gear assembly.
13. Reverse steps to reinstall.
14. Insert a fully charged battery.
15. Verify proper operation before you return the product to service.

## Back wheel assembly replacement

**Tools required:**

- Drop cloth



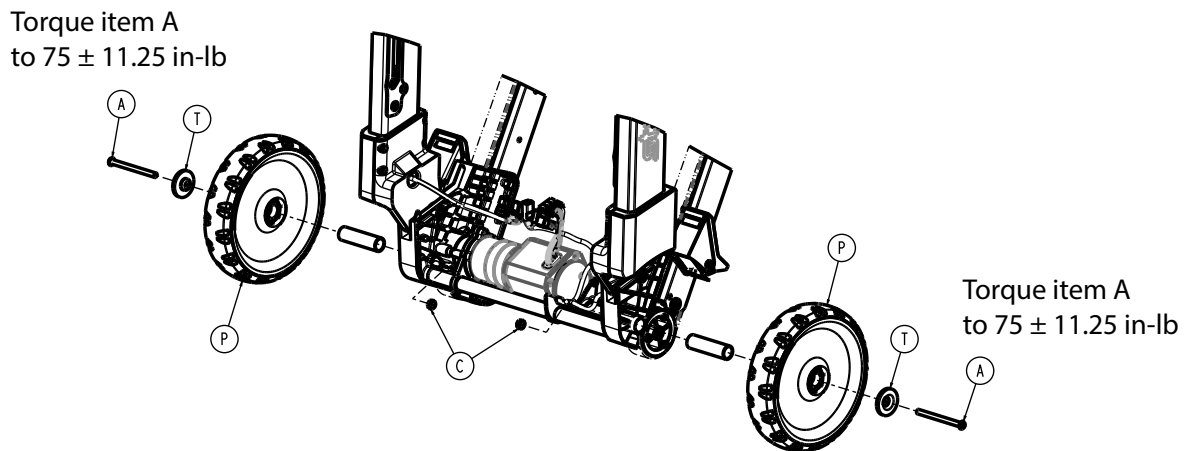
- Ratchet
- 5/32" hex wrench
- Torque wrench (in-lb)

**Procedure:**

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).
2. Place a drop cloth on the floor.
3. Lay the product on the drop cloth, back side down.
4. Using a ratchet and a 5/32" hex wrench, remove the button head cap screw (A) and back wheel cap (T) that secure the back wheel assembly (P) to the chair frame (Figure 17). Save the screw and cap.

**Note**

- Use one hand to hold the lock nut (C) in the upright assembly (Figure 17). Discard the nut if you replace the wheel assembly. Install the supplied lock nut when you reinstall.
- Using a torque wrench and a 5/32" hex wrench, torque the button head cap screw (A) to  $75 \pm 11.25$  in-lb when you reinstall.



**Figure 17 –**

5. Remove and discard the back wheel assembly.
6. Reverse steps to reinstall.
7. Place the chair in the upright position.
8. Insert a fully charged battery.
9. Verify proper operation before you return the product to service.

## Front caster assembly replacement

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**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

---

**Tools required:**

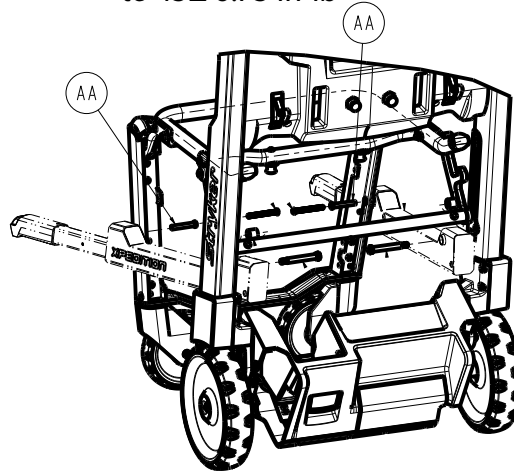
- T20 Torx driver
- 1/8" hex driver
- T25 Torx driver
- Torque wrench (in-lb)

**Procedure:**

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.
4. Tip the product onto the track system for access to the caster wheels.
5. Using a 1/8" hex driver, remove the lower handle flanged sleeves (AA) (Figure 18) that secure the lower handle assemblies to the front caster assembly. Save the lower handle flanged sleeves.

**Note** - Using a torque wrench, torque the lower handle flanged sleeves (AA) to  $45 \pm 6.75$  in-lb when you reinstall.

Torque item AA  
to  $45 \pm 6.75$  in-lb

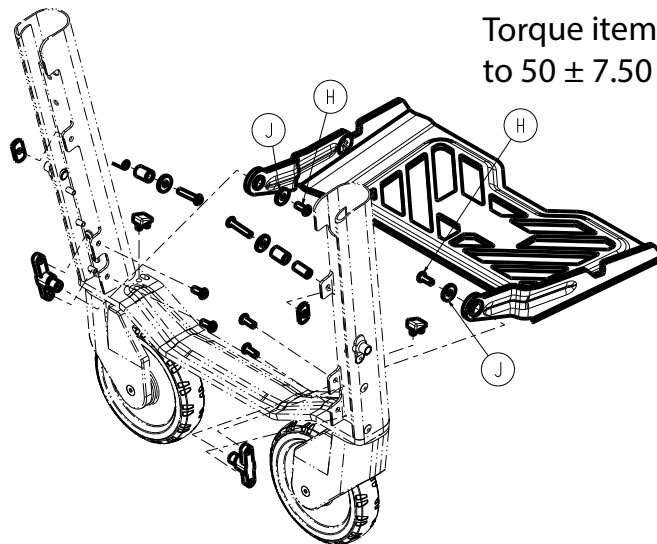


**Figure 18 –**

6. If equipped with the footrest option: using a T25 Torx driver, remove the button head cap screws (H) and washers (J) that secure the footrest to the leg assembly (Figure 19).

**Note** - Using a torque wrench, torque the button head cap screws (H) to  $50 \pm 7.50$  in-lb when you reinstall.

Torque item H  
to  $50 \pm 7.50$  in-lb



**Figure 19 –**

7. Using a T20 Torx driver, remove the four pan head thread forming screws (AP) that secure the leg assembly to the leg pivots (Figure 20). Save the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (AP) to  $50 \pm 7.50$  in-lb when you reinstall.

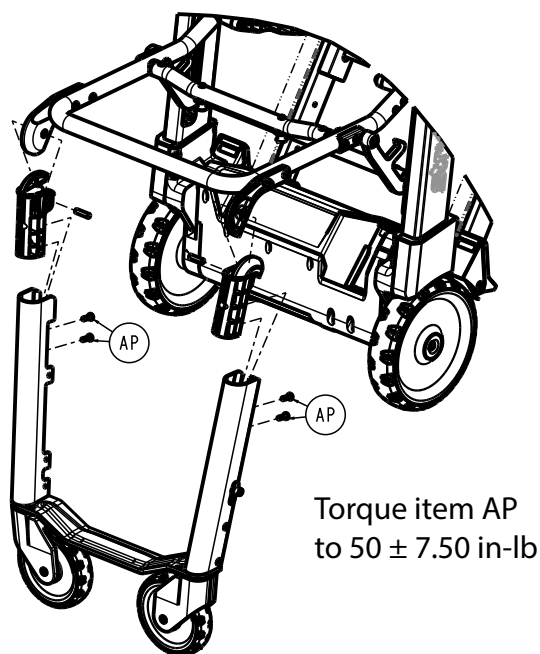


Figure 20 –

8. Remove and discard the leg assembly.
9. Reverse steps to reinstall.
10. Place the chair in the upright position.
11. Insert a fully charged battery.
12. Verify proper operation before you return the product to service.

## Track belt replacement, smooth and grooved

---

**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

---

### Tools required:

- 1/2" combination wrench
- 7/32" hex driver
- T27 Torx driver
- Drop cloth
- 3/8" drive ratchet
- 3/8" drive 3" extension
- Torque wrench (in-lb)

### Procedure:

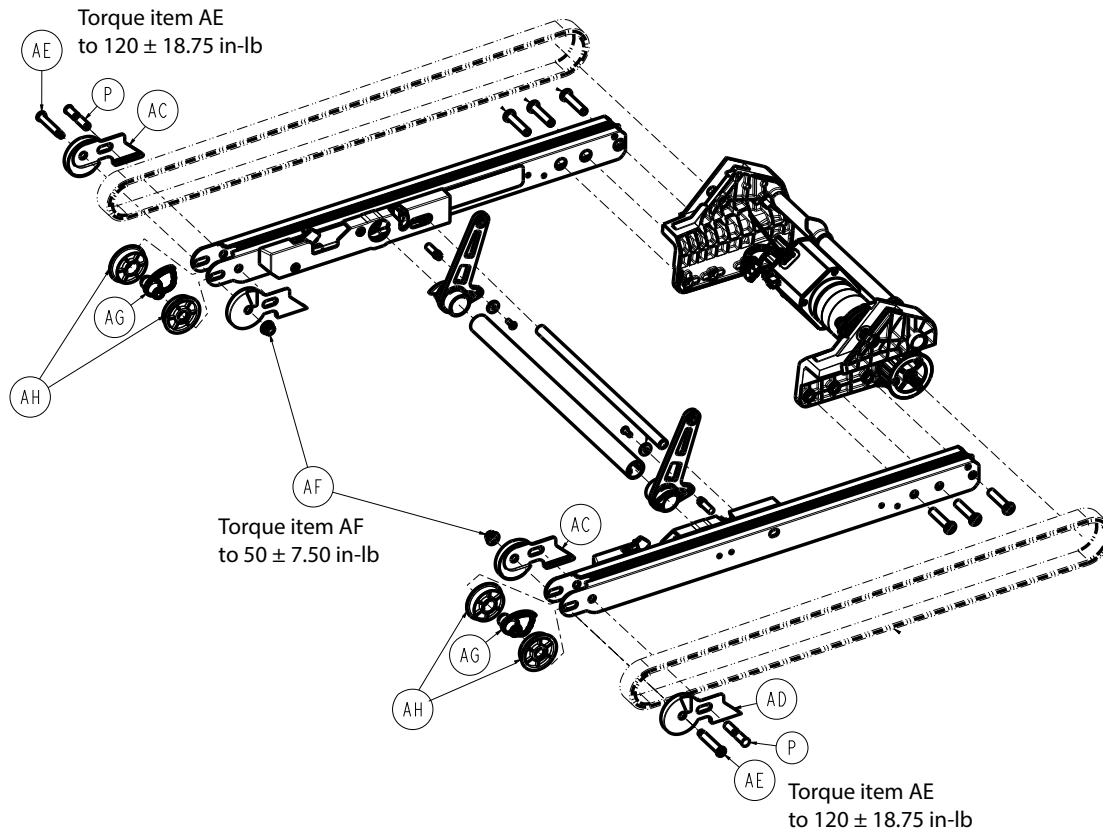
**Note** - Always replace both track belts at the same time, even if only one needs to be replaced.

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.
4. Place a drop cloth on the floor.
5. Lay the product on the drop cloth, front side down.

6. Using a 1/2" combination wrench, loosen the flanged Nylock hex nut (AF) that secures the track roller (AH) to the track assembly (Figure 21). Do not remove the nut.
7. Using a 7/32" hex driver and a 3/8" drive ratchet, turn the track tension bolt (AE) to loosen the track tension cam (AG) (Figure 21).

**Note**

- On the left side, turn the track tension cam (AG) clockwise to loosen.
  - On the right side, turn the track tension cam (AG) counterclockwise to loosen.
  - Using a torque wrench, torque the flanged Nylock hex nut (AF) to  $50 \pm 7.50$  in-lb when you reinstall.
  - Using a torque wrench, torque the track tension bolt (AE) to  $120 \pm 18.75$  in-lb when you reinstall.
8. Using one hand, push to remove the track tension pin (P) (Figure 22). Save the track tension pin.



**Figure 21 –**

9. Using a T27 Torx driver, 3/8" drive ratchet, and a 3/8" drive 3" extension, loosen both button head cap screws (A) that secure the brake assembly (D or E) to the track assembly (Figure 22).
10. Remove the button head cap screw (A) closest to the caster assembly (Figure 22). Save the screw.

**Note**

- Use one hand to hold the flanged Nylock hex nut (AF) in the upright assembly (Figure 21).
- Using a torque wrench, torque the button head cap screws (A) to  $75 \pm 11.25$  in-lb when you reinstall.

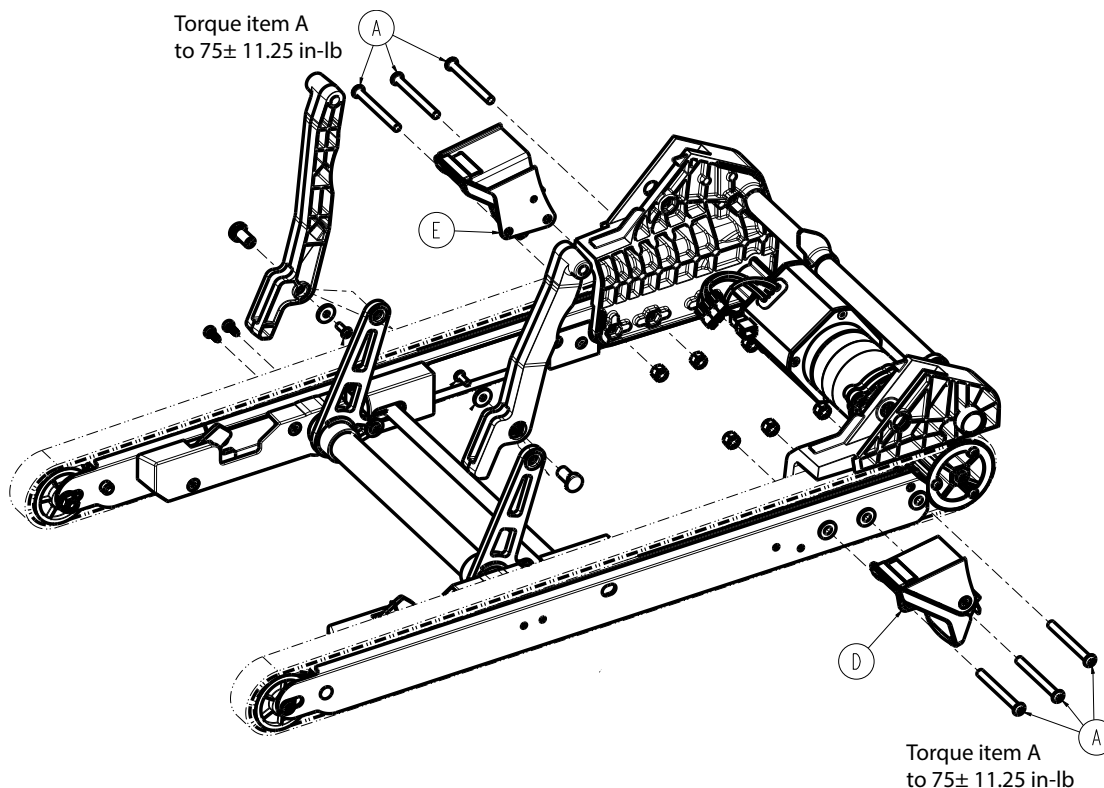


Figure 22 –

11. From the track tension side, adjust the track belt over the track roller and around the wheel assembly. Rotate the brake assembly to remove the track belt from the timing pulley. Discard the track belt.

**Note**

- You must twist the track belt so it fits behind the wheel assembly for removal.
- Make sure that the fabric side of the track belt faces in when you reinstall. The grooves on the fabric side match the track roller grooves.

12. Reverse steps to reinstall.

13. Adjust the track belt. See *Track belt adjustment* (page 29).

## Track belt adjustment

---

**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

---

**Tools required:**

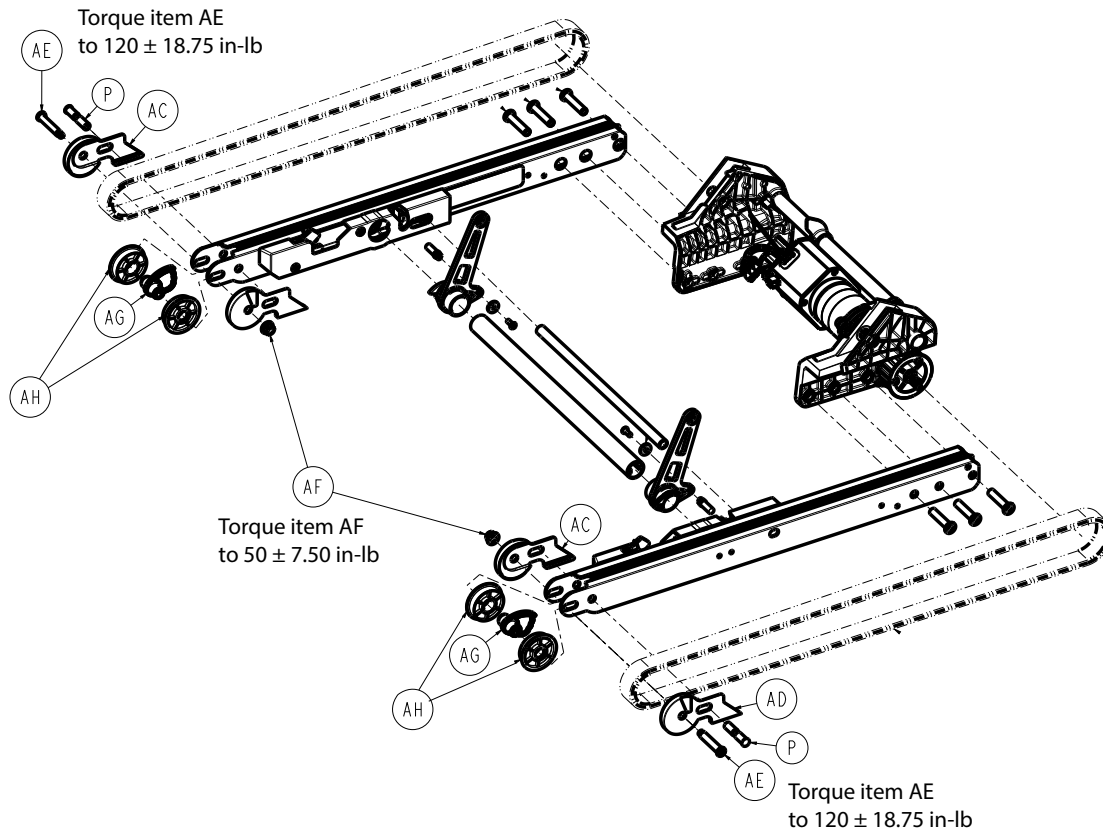
- 7/32" hex driver
- 1/2" combination wrench
- Torque wrench (in-lb)

**Procedure:**

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.
4. Check the belt to see if it is loose. If there is too much slack or the belt is slipping, adjust the belt.

5. Using a 1/2" combination wrench, loosen the flanged Nylock hex nut (AF) that secures the track roller (AH) to the track assembly (Figure 23). Do not remove the nut.
6. Using a 7/32" hex driver and torque wrench, turn the track tension bolt (AE) until you hear a loud click (one notch) or  $120 \pm 18.75$  in-lb (Figure 23).

**Note** - On the left side, turn the screw counterclockwise to tighten. On the right side, turn the screw clockwise to tighten.



**Figure 23 –**

7. Using a torque wrench, torque the flanged Nylock hex nut (AF) (loosened in step 5) to  $50 \pm 7.50$  in-lb.
8. Repeat steps 1-7 on the opposite side.
9. Insert a fully charged battery.
10. Verify proper operation before you return the product to service.

## Power box printed circuit board assembly (PCBA) replacement

### CAUTION

- Always use ESD protective equipment before you open antistatic bags and service electronic parts.
- Do not place unprotected circuit boards on the floor.

### Tools required:

- 1/8" hex wrench
- Pick
- Torque wrench (in-lb)
- ESD system

### Procedure:

1. Remove the backdrive board. See *Backdrive board replacement* (page 31).
2. Using a pick, disconnect all cable connections to the power box PCBA (Figure 24).

---

### CAUTION

- Always use ESD protective equipment before you open antistatic bags and service electronic parts.
  - Do not place unprotected circuit boards on the floor.
- 

3. Using a 1/8" hex wrench, remove the two flat countersunk head cap screws (AW) that secure the power box PCBA (E) to the power box lower cover (G) (Figure 25). Save the screws.

**Note** - Using a torque wrench, torque the flat countersunk head cap screws (AW) to  $15 \pm 2.25$  in-lb when you reinstall.

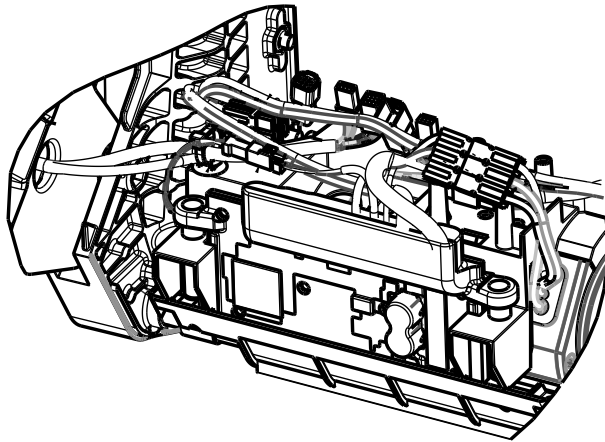


Figure 24 –

Torque item AW  
to  $15 \pm 2.25$  in-lb

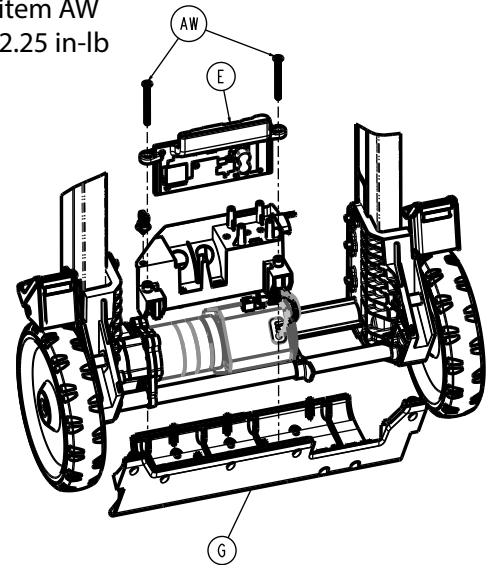


Figure 25 –

4. Reverse steps to reinstall.
5. Insert a fully charged battery.
6. Verify proper operation before you return the product to service.

## Backdrive board replacement

---

### CAUTION

- Always use ESD protective equipment before you open antistatic bags and service electronic parts.
  - Do not place unprotected circuit boards on the floor.
- 

### Tools required:

- T20 Torx driver
- Pick
- Torque wrench (in-lb)
- ESD system

### Procedure:

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).

2. Remove and save the two retention clips (BB) (Figure 26).
3. Unplug the backdrive board motor connectors.
4. Using a T20 Torx driver, remove the four pan head thread forming screws (AT) that secure the backdrive board (N) to the power box PCBA mount (Figure 27). Save the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (AT) to  $15 \pm 2.25$  in-lb when you reinstall.

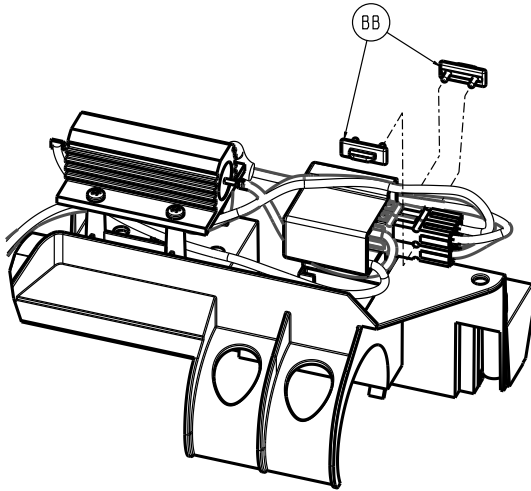


Figure 26 –

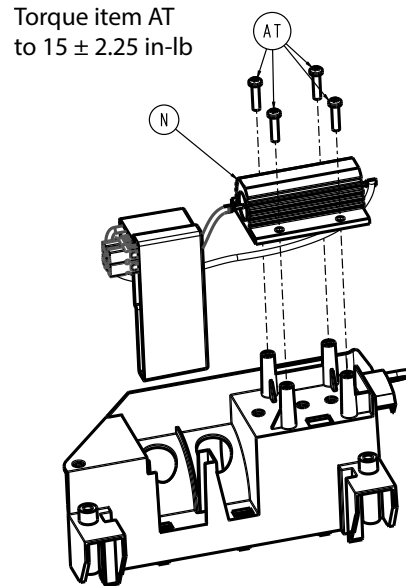


Figure 27 –

5. Using a pick, disconnect all cable connections to the power box PCBA.
6. Remove and discard the backdrive board.
7. Reverse steps to reinstall.
8. Verify proper operation before you return the product to service.

## Timing pulley assembly replacement

### Tools required:

- T25 Torx driver
- Torque wrench (in-lb)

### Procedure:

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).
2. Remove the track belt. See *Track belt replacement, smooth and grooved* (page 27).
3. Remove the back wheel assembly. See *Back wheel assembly replacement* (page 24).
4. Using a T25 Torx driver, remove the button head cap screw (T) and washer (AB) that secure the timing pulley (D) to the drive shaft (Figure 28). Save the screw and washer.

**Note** - Using a torque wrench, torque the button head cap screw (T) to  $50 \pm 7.50$  in-lb when you reinstall.



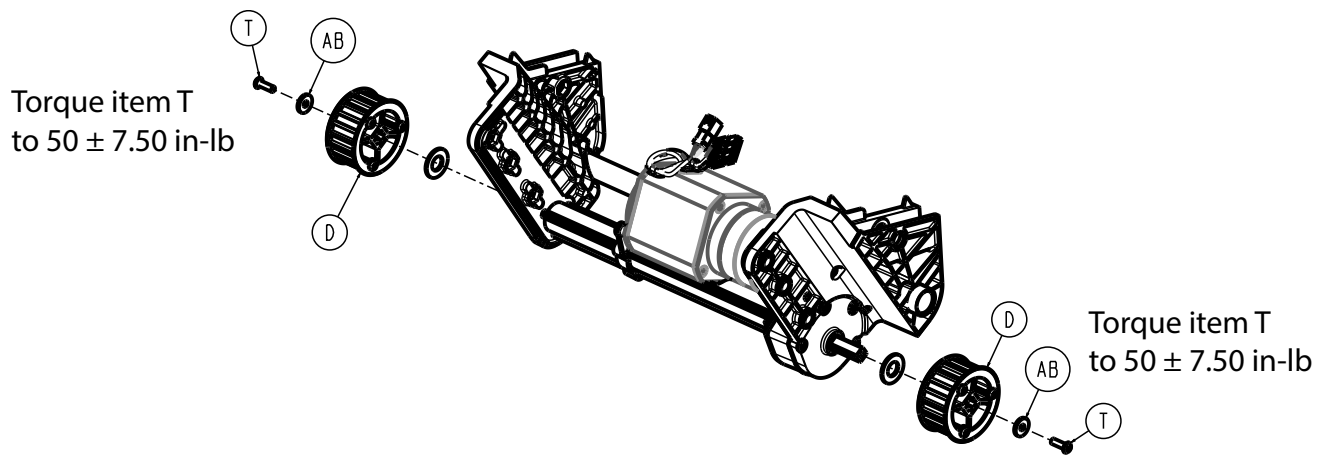


Figure 28 –

5. Using two hands, pull the timing pulley off the drive shaft. Discard the timing pulley.

**Note** - You will need to force the timing pulley off and back on the drive shaft.

6. Reverse steps to reinstall.
7. Insert a fully charged battery.
8. Verify proper operation before you return the product to service.

## Grab bar user interface (UI) module replacement

---

**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

---

### Tools required:

- T15 Torx driver
- Pick
- Torque wrench (in-lb)

### Procedure:

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Remove the battery.
3. Raise the grab bar. Make sure the grab bar is locked in the extended position.
4. Using a T15 Torx driver, remove the three pan head machine screws (N) that secure the grab bar cover (F) to the grab bar overmold (E) (Figure 29). Discard the screws.

**Note** - Using a torque wrench, torque the supplied pan head machine screws (N) to  $25 \pm 3.75$  in-lb when you reinstall.

5. Remove and save the grab bar cover.
6. Using a T15 Torx driver, remove the two button head cap screws (M) that secure the UI module (K) to the grab bar (Figure 29). Discard the screws.

**Note** - Using a torque wrench, torque the supplied button head cap screws (M) to  $15 \pm 2.25$  in-lb when you reinstall.

7. Push down on the UI buttons to remove from the grab bar overmold.
8. Using a pick, disconnect the UI module (K) and UI coil cable connector (L) (Figure 29). Remove and discard the UI module.

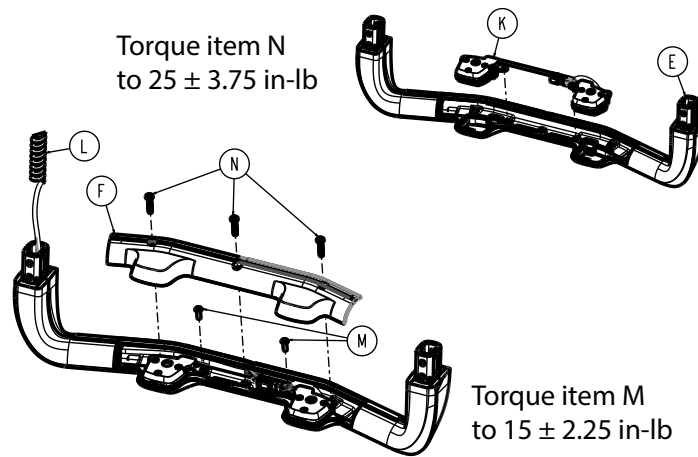


Figure 29 –

9. Plug the supplied UI module into the UI coil cable connector.
10. Press the supplied UI module into the grab bar overmold.
11. Using a T15 Torx driver, install the two supplied button head cap screws to secure the UI module to the product.

**Note** - Do not pinch or damage the cables and connector.

12. Using a T15 Torx driver, install the three supplied pan head machine screws to secure the grab bar cover to the grab bar overmold.
13. Insert a fully charged battery.
14. Verify proper operation before you return the product to service.

## Backrest user interface (UI) module replacement, patient right or left

### Tools required:

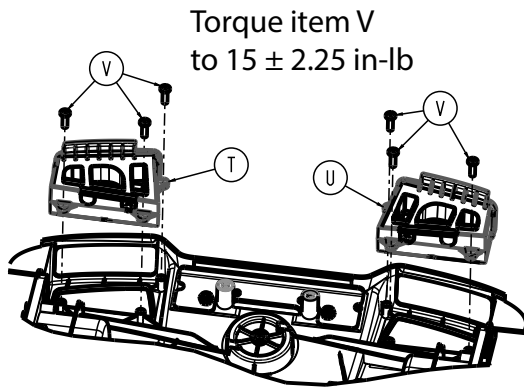
- T20 Torx driver
- Wire cutters
- Electrical tape
- Torque wrench (in-lb)

### Procedure:

1. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).
2. Unplug the cable connectors (J11 and J12, right UI or J13 and J14, left UI).
3. Remove the seat backrest cover. See *Backrest cover replacement* (page 19).
4. Open the track system. Make sure that the track system is locked in place.
5. Using a T20 Torx driver, remove the three pan head thread forming screws (V) that secure the backrest UI module (T or U) to the backrest (Figure 30). Save the screws.

**Note** - Using a torque wrench, torque the pan head thread forming screws (V) to  $15 \pm 2.25$  in-lb when you reinstall.

6. Using wire cutters, cut the two cable ties that secure the backrest UI module cable to the backrest (Figure 31). Discard the cable ties.



Torque item V  
to  $15 \pm 2.25$  in-lb

Figure 30 –

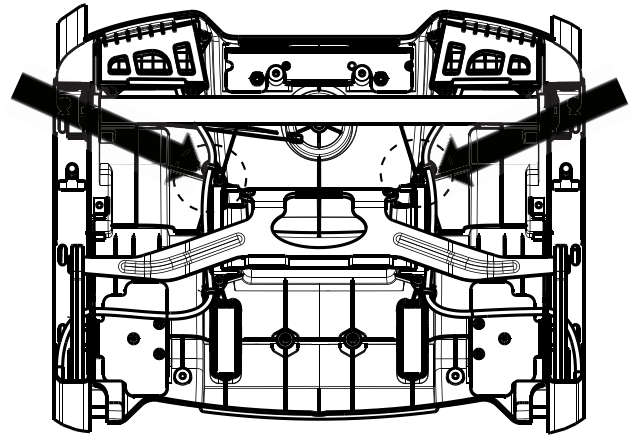


Figure 31 –

7. Unclip the cable from the retainer on the side of the backrest.
8. Using wire cutters, cut the cable from the UI module near the backrest release handle. Discard the backrest UI module and cut cable.
9. Route the supplied backrest UI module cable from the top of the backrest behind the backrest crossbar.
10. Using a T20 Torx driver, install the three pan head thread forming screws (removed in step 5) to secure the backrest UI module to the backrest.
11. Using electrical tape, tape the backrest UI module cable connectors to the end of the old cutoff cable.

**Note** - Stack the new cable connectors on top of each other to keep them as thin as possible.

12. Pull the old cable from the power board area with one hand and feed the new cable through with the other hand. Make sure that there is enough new cable length at the power board.

**Note** - Route cables through the holes on the inner pivot caps (Figure 32).

13. Remove and discard the electrical tape.
14. Plug in the cable connectors.
15. Plug the grab bar UI coil cable (L) into the backrest (Figure 33).

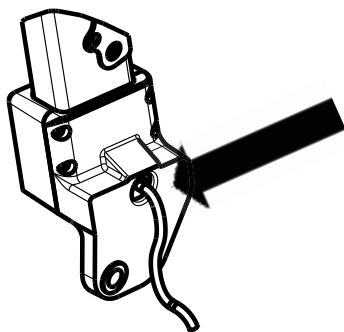


Figure 32 –

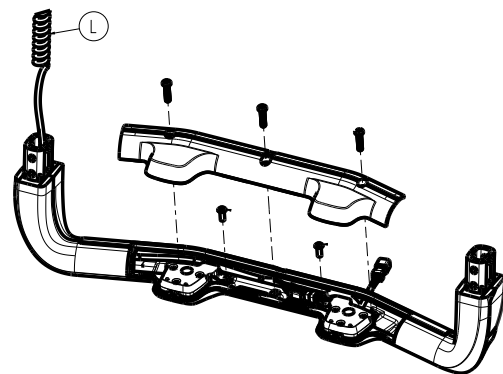


Figure 33 –

16. Remove the two cable retainer posts where the cable ties were cut.
17. Push the two pre-mounted cable retainers into the backrest. Verify cable routing.
18. Reinstall the backrest cover.

19. Reinstall the power box upper cover.
20. Insert a fully charged battery.
21. Verify proper operation before you return the product to service.

## Lower carry handle assembly replacement, standard and extended

### Tools required:

- 1/8" hex wrench
- 5/32" hex wrench
- Torque wrench (in-lb)
- T15 Torx driver
- Drop cloth

### Procedure:

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.

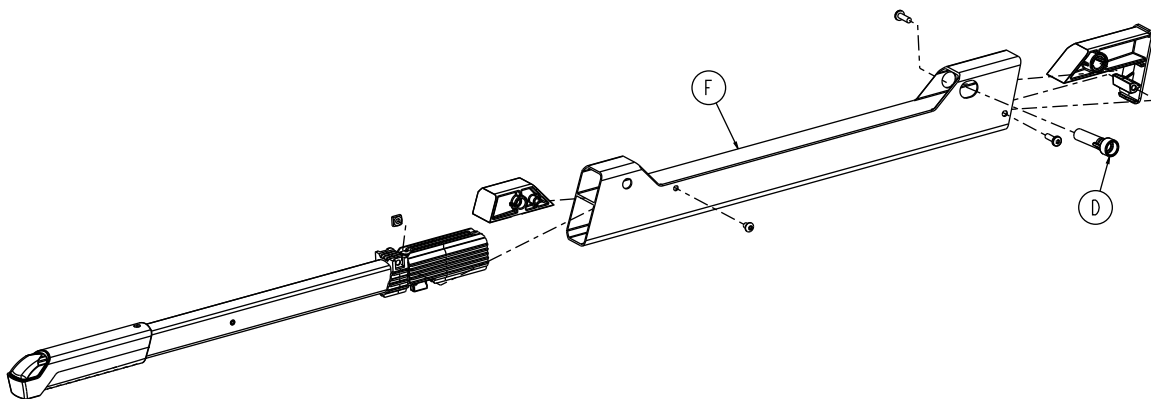
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**CAUTION** - Always remove the battery before you perform this upgrade to reduce the risk of shock.

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4. Place a drop cloth on the floor.
5. Lay the product on its side on top of the drop cloth.
6. Tip the product onto its right side.
7. Using a 5/32" hex wrench, remove the socket head shoulder screw (BA) and the lower handle spacer (D) from the lower handle outer housing (F) (Figure 34 and Figure 35). Save the screw and spacer.

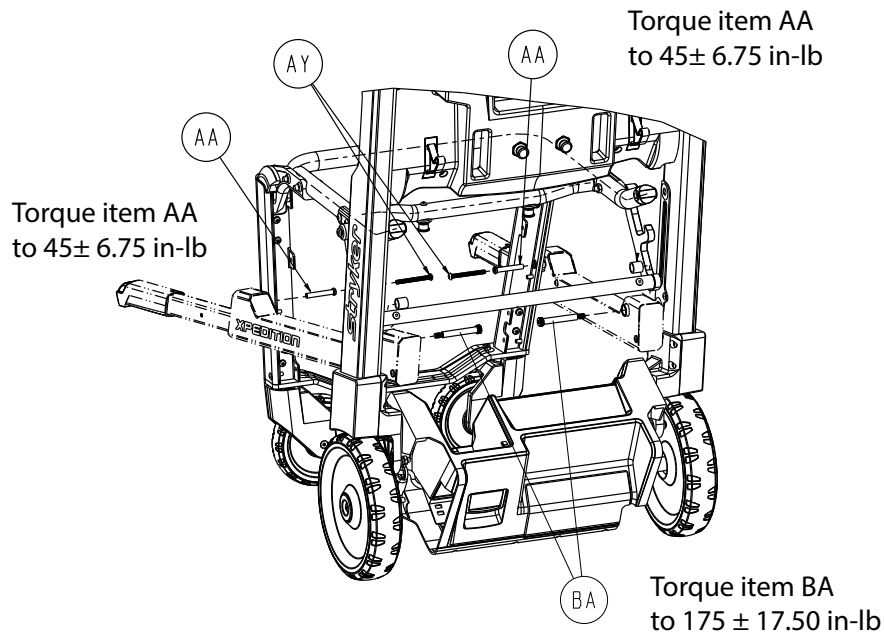
**Note** - Using a torque wrench, torque the socket head shoulder screw to  $175 \pm 17.50$  in-lb when you reinstall.



**Figure 34 – Lower handle assembly, standard, patient right**

8. Using a 1/8" hex wrench, remove the button head cap screw (AY) and lower handle flanged sleeve (AA) from the inside of the lower handle outer housing (Figure 35). Save the screw and flanged sleeve.

**Note** - Using a torque wrench, torque the button head cap screw to  $45 \pm 6.75$  in-lb when you reinstall.



**Figure 35 – Common components assembly**

9. Slide the lower handle assembly out to remove. Discard the lower handle assembly.
10. Reverse steps to reinstall.
11. Tip the product onto its left side and repeat steps 7-10.
12. Verify proper operation before you return the product to service.

## Lower handle slider assembly replacement, standard and extended

### Tools required:

- 1/8" hex driver
- Torque wrench (in-lb)

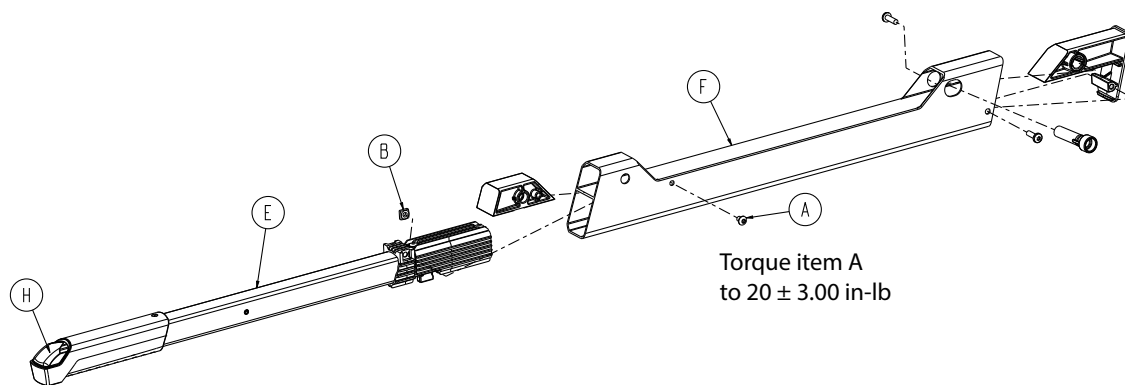
### Procedure:

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. **Standard option:** Using a 1/8" hex driver, remove the button head cap screw (A) that secures the lower handle outer housing (F) to the lower handle slider assembly (E) (Figure 36). Discard the screw.
3. **Extended option:** Using a 1/8" hex driver, remove the button head cap screws (H) that secure the lower handle outer housing (F) to the lower handle slider assembly (E) (Figure 37). Discard the screws.
4. Squeeze the lower handle button (H or C) to extend and remove the lower handle slider assembly (Figure 36 or Figure 37). Discard the lower handle slider assembly.

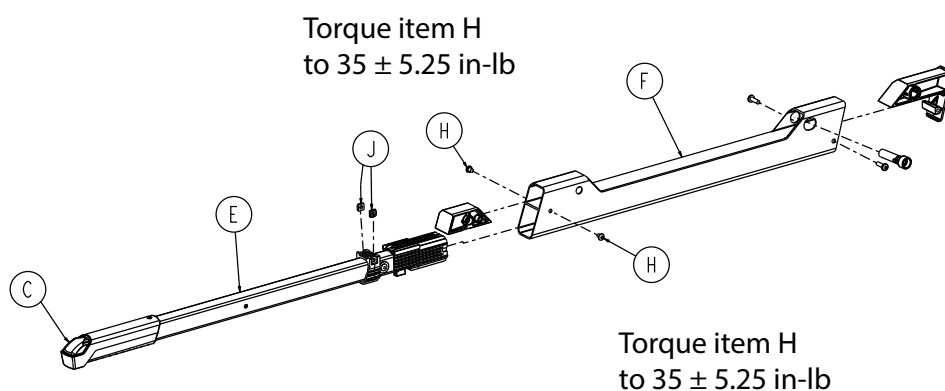
**Note** - The square nut(s) (B or J) may fall out when you remove the lower handle slider assembly. Save the nut(s) for when you reinstall.

5. Squeeze the supplied lower handle button and install into the lower handle outer housing.

**Note** - Secure the square nut(s) into the bearing before you slide the lower handle slider assembly into the lower handle outer housing.



**Figure 36 – Standard option (patient right shown)**



**Figure 37 – Extended option (patient right shown)**

6. Push the lower handle slider assembly all the way in.
7. Move the lower handle slider assembly in or out to make sure that you can see the square nut(s).
8. Using an 1/8" hex driver, install the supplied button head cap screw(s) and square nut(s) to secure the lower handle slider assembly.

**Note** - Using a torque wrench, torque the supplied button head cap screw (A) to  $20 \pm 3.00$  in-lb (standard option) or the supplied button head cap screws (H) to  $35 \pm 5.25$  in-lb (extended option).

9. Verify proper operation before you return the product to service.

## Battery compression wire replacement

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**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

---

### Tools required:

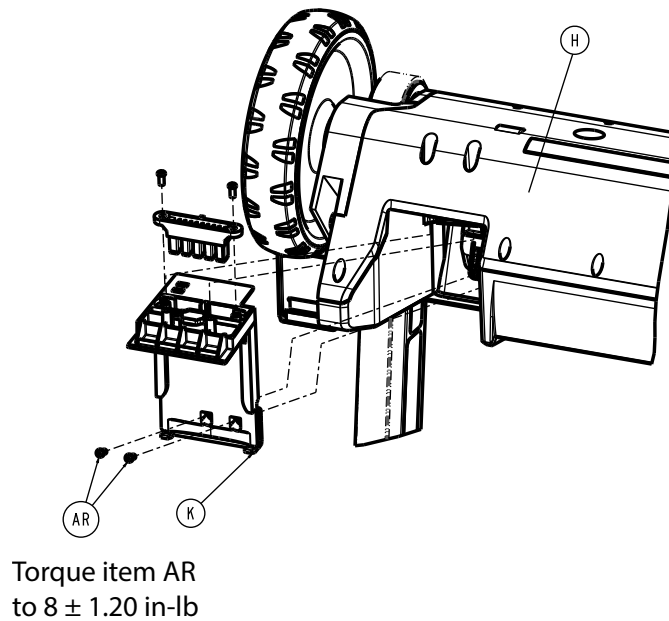
- T15 Torx driver
- Torque wrench (in-lb)

### Procedure:

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.

3. Remove the battery.
4. Using a T15 Torx driver, remove the two pan head thread forming screws (AR) that secure the battery housing assembly (K) to the power box upper cover (H) (Figure 38). Save the screws.

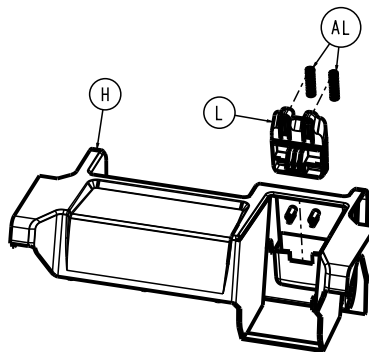
**Note** - Using a torque wrench, torque the pan head thread forming screws (AR) to  $8 \pm 1.20$  in-lb when you reinstall.



**Figure 38 –**

5. Tip the battery housing assembly away from the power box.

**Note** - The battery release button (L) and compression wires (AL) may fall out while you route the battery housing assembly from the power box upper cover (H) (Figure 39). Reinstall the battery release button and compression wires, if necessary.



**Figure 39 –**

6. Remove and discard both compression wires (AL) (Figure 39).

**Note** - Always replace both compression wires when you reinstall.

7. Reverse steps to reinstall.
8. Verify proper operation before you return the product to service.

# Grab bar assembly replacement

## Tools required:

- |                   |                    |                         |              |
|-------------------|--------------------|-------------------------|--------------|
| • T20 Torx driver | • 5/32" hex wrench | • Wire cutters          | • ESD system |
| • T25 Torx driver | • 7/16" hex wrench | • Pick                  |              |
| • T27 Torx driver | • Ratchet          | • Torque wrench (in-lb) |              |

## Procedure:

1. Unfold the product. Make sure that the product is locked in the unfolded position.
2. Open the track system. Make sure that the track system is locked in place.
3. Remove the battery.
4. Remove the power box upper cover. See *Power box upper cover replacement* (page 16).

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**CAUTION** - Always remove the battery before you service or upgrade the product to reduce the risk of shock.

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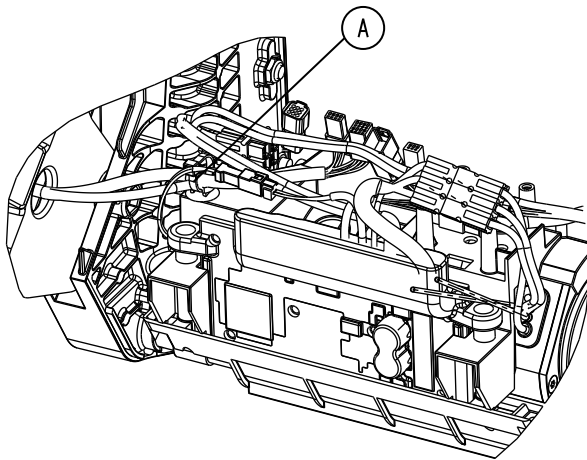
5. Using wire cutters, cut the cable tie (A) that secures the cables on the patient left backrest upright assembly (Figure 40). Discard the cable tie.
6. Using a pick, unplug the cable connectors J11.1 and J12.1. Save the wire connectors.

## CAUTION

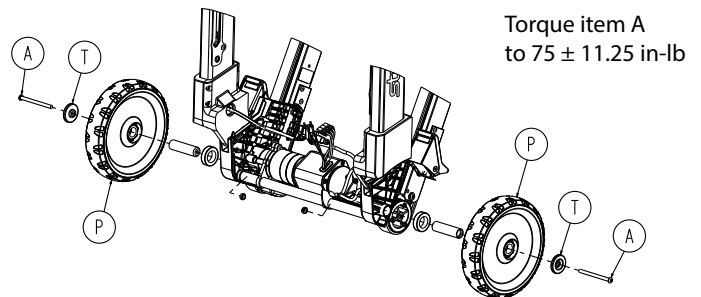
- Always use electrostatic discharge (ESD) protective equipment before you open antistatic bags and service electronic parts.
- Do not place unprotected circuit boards on the floor.

7. Using a ratchet and a 5/32" hex wrench, remove the button head cap screw (A) and back wheel cap (T) that secure the back wheel assembly (P) to the chair frame (Figure 41). Save all parts.

**Note** - Using a torque wrench, torque the button head cap screw to  $75 \pm 11.25$  in-lb when you reinstall.



**Figure 40 – Remove the cable tie**



**Figure 41 – Remove the back wheel assembly components**

8. Using a T25 Torx driver, remove the four button head cap screws (W) that secure the patient left outer pivot cap (H) to the patient left inner pivot cap (G) (Figure 42). Save the screws and pivot caps.

**Note** - Using a torque wrench, torque the button head cap screws to  $50 \pm 7.50$  in-lb when you reinstall.

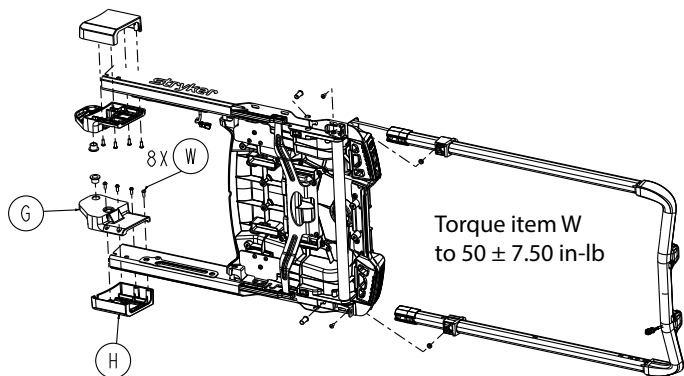
9. Using a T25 Torx driver, remove the four pan head thread forming screws (AP) that secure the backrest cover (V) to the chair frame (Figure 43). Save the screws.



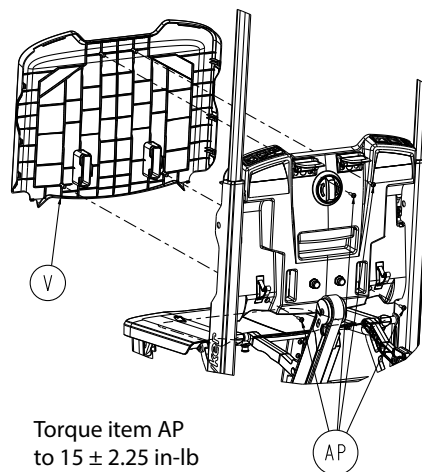
**Note** - Using a torque wrench, torque the pan head thread forming screws to  $15 \pm 2.25$  in-lb when you reinstall.

10. Remove and save the backrest cover.

**Note** - Do not damage the plastic tabs when you remove the backrest.



**Figure 42 – Remove the pivot caps**



**Figure 43 – Remove the seat cover**

11. If applicable, remove the no upper carry handle option:

- a. Using a T25 Torx driver, remove the two pan head thread forming screws (C) that secure the two grab bar dead stops (B) to the grab bar (Figure 44). Save the screws and dead stops.

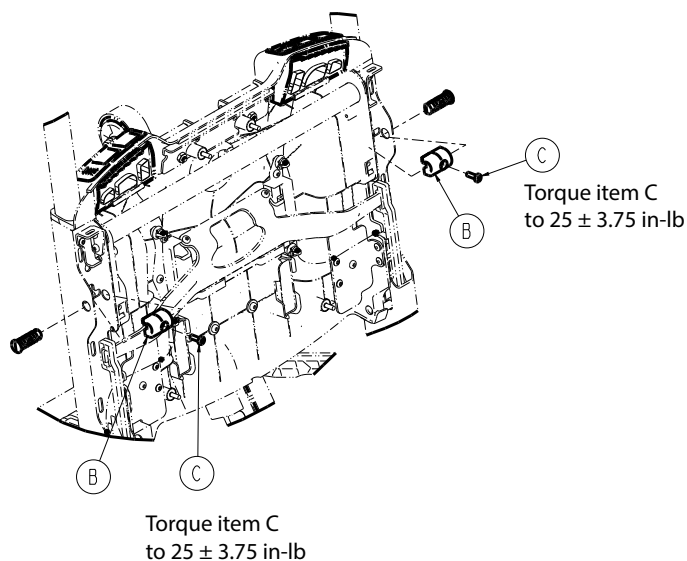
**Note** - Using a torque wrench, torque the pan head thread forming screws to  $25 \pm 3.75$  in-lb when you reinstall.

12. If applicable, remove the upper carry handle option:

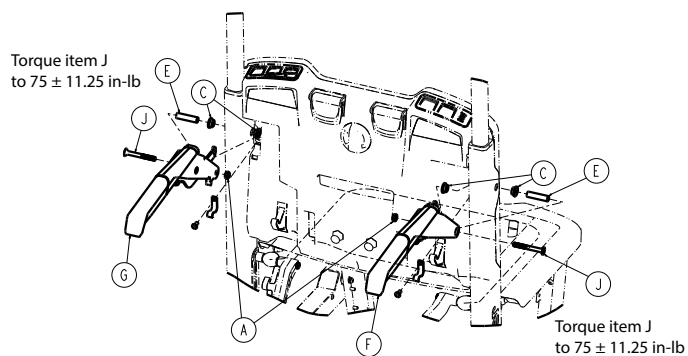
- a. Using a 7/16" hex and T27 Torx driver, remove the flat countersunk head caps screws (J) and Nylock nuts (A) that secure the upper carry handle assemblies (G and F) to the product (Figure 45). Save the screws and nuts.

**Note** - Using a torque wrench, torque the flat countersunk head caps screws to  $75 \pm 11.25$  in-lb when you reinstall.

13. Remove the upper carry handle main pivot sleeves (E) and flange bearings (C) (Figure 45). Save all parts.

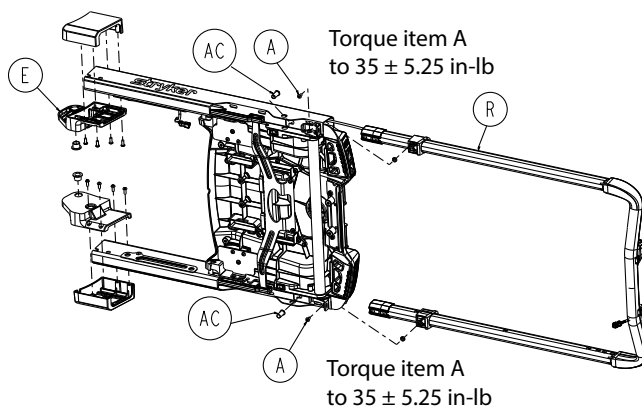


**Figure 44 – Remove the dead stops**



**Figure 45 – Remove the upper carry handles**

14. Remove and save the two long nose spring plungers (AC) (Figure 46).
15. Using a T20 Torx driver, remove the two button head cap screws (A) that secure the grab bar assembly (R) to the chair frame (Figure 46). Save the screws.
16. Pull the cable (unplugged in step 6) through the patient right inner pivot cap (E) (Figure 46).



**Figure 46 – Remove the grab bar assembly**

17. Extend the grab bar to the highest height position. Remove and discard the grab bar assembly and cable.
18. Reverse steps to reinstall.
19. Insert a fully charged battery.
20. Verify proper operation before you return the product to service.

# Common components option - 625700000001

Rev AB (Reference only)



Item	Number	Name	Quantity
A	0025-122-000	Dome head pop rivet	2
B	625700000002	Common components assembly (page 47)	1
C	625700010912	Label, serial number MTO	1

# MTS - 6257 Xpedition, mid config - 625705550001

Rev AD (Reference only)

Item	Number	Name	Quantity
A	0025-122-000	Dome head blind rivet	2
B	6257-009-001	<b>Xpedition</b> Powered Stair Chair Operations/Maintenance Manual - Model 6257	1
C	625700000002	<i>Common components assembly</i> (page 47)	1
D	625700010913	Label, serial number, MTS, medium	1
E	625700100600	<i>Patient containment system (PCS) full assembly- 625700100600</i> (page 101)	1
F	625700300200	Packaging assembly, MTS	1
G	625709990101	<i>Upper carry handles - 625709990101</i> (page 83)	1
H	625709990103	<i>Standard lower carry handles - 625709990103</i> (page 90)	1
K	625709990107	<i>Footrest option - 625709990107</i> (page 98)	1
L	625700100260	<i>IV hook option, patient left - 625700100260</i> (page 107)	1
M	625709990105	<i>Smooth tracks - 625709990105</i> (page 66)	1

# MTS - 6257 Xpedition, high config - 625705550002

Rev AE (Reference only)

Item	Number	Name	Quantity
A	0025-122-000	Dome head blind rivet	2
B	6257-009-001	<b>Xpedition</b> Powered Stair Chair Operations/Maintenance Manual - Model 6257	1
C	625700000002	<i>Common components assembly</i> (page 47)	1
D	625700010914	Label, serial number, MTS, high	1
E	625700100600	<i>Patient containment system (PCS) full assembly- 625700100600</i> (page 101)	1
F	625700300300	Packaging assembly, MTS, high	1
G	625709990101	<i>Upper carry handles - 625709990101</i> (page 83)	1
H	625709990103	<i>Standard lower carry handles - 625709990103</i> (page 90)	1
K	625709990107	<i>Footrest option - 625709990107</i> (page 98)	1
L	650700080301	<i>Battery assembly</i> (page 100)	1
M	625700100260	<i>IV hook option, patient left - 625700100260</i> (page 107)	1
N	625700100300	<i>Oxygen bottle holder option - 625700100300</i> (page 108)	1
P	625700100400	<i>Head restraint option - 625700100400</i> (page 109)	1
T	625709990105	<i>Smooth tracks - 625709990105</i> (page 66)	1

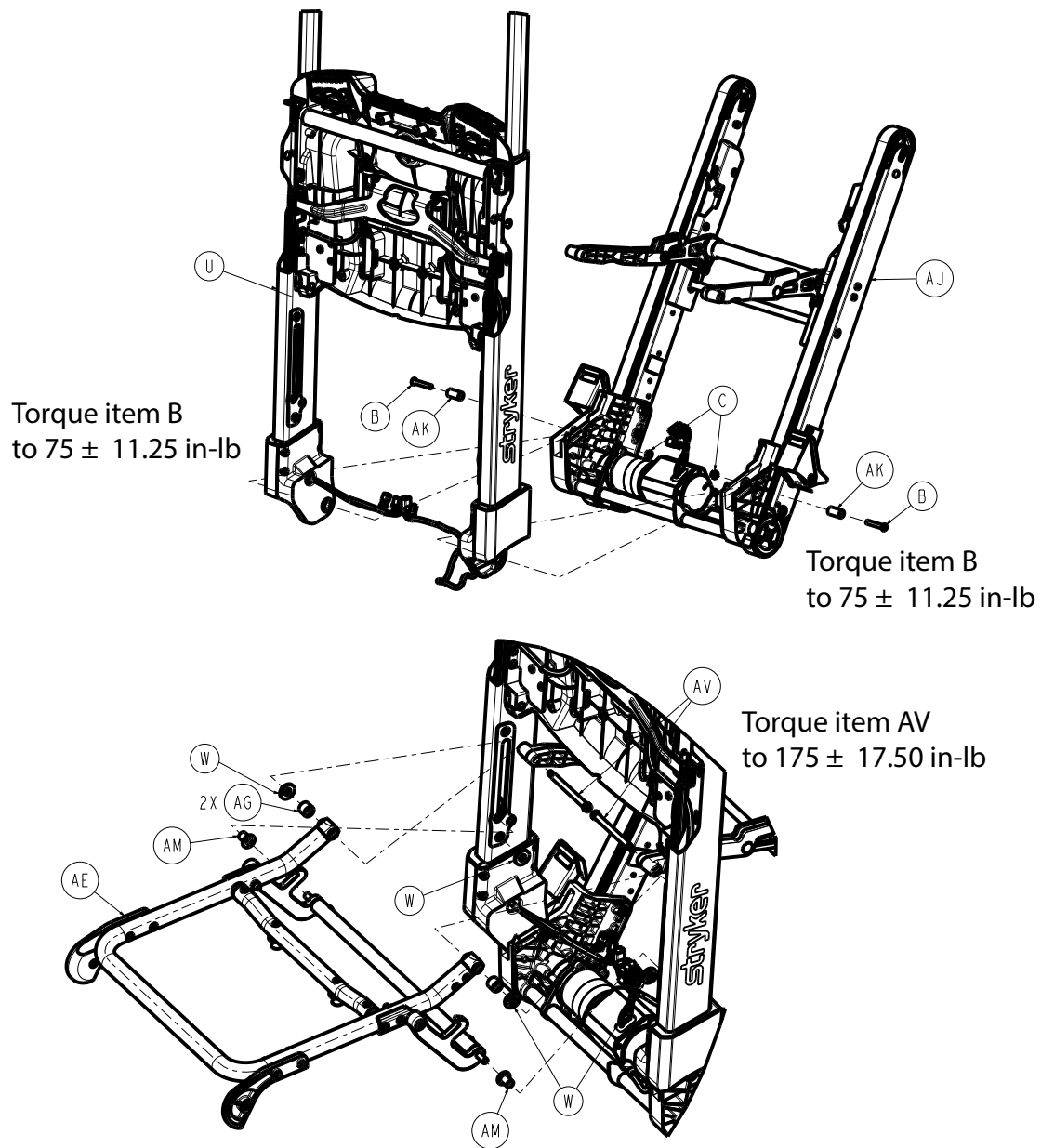
# MTS - 6257 Xpedition, mid extended - 625705550003

Rev AD (Reference only)

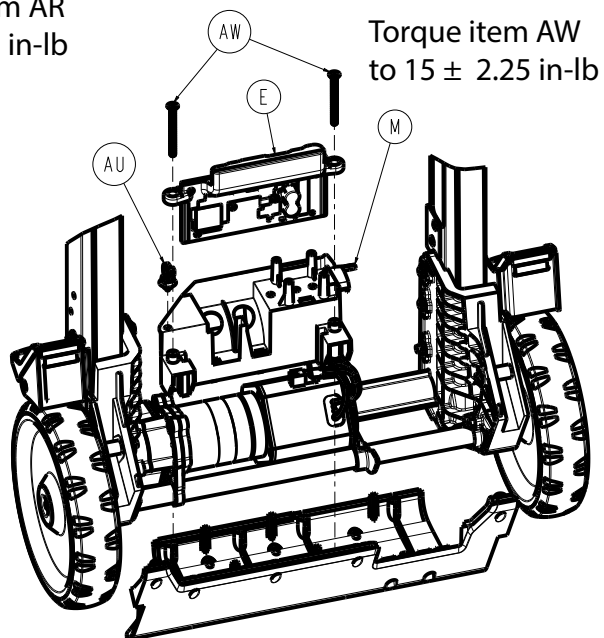
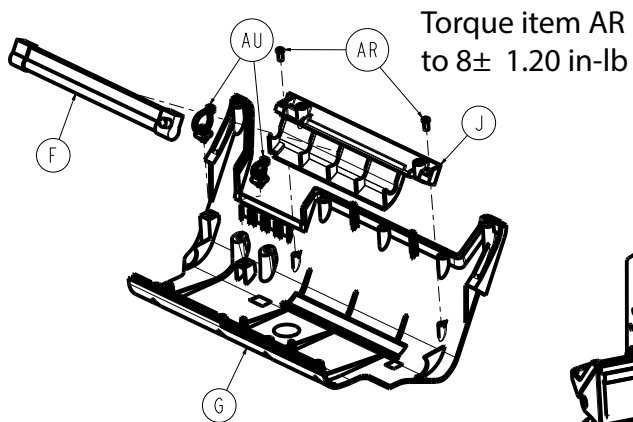
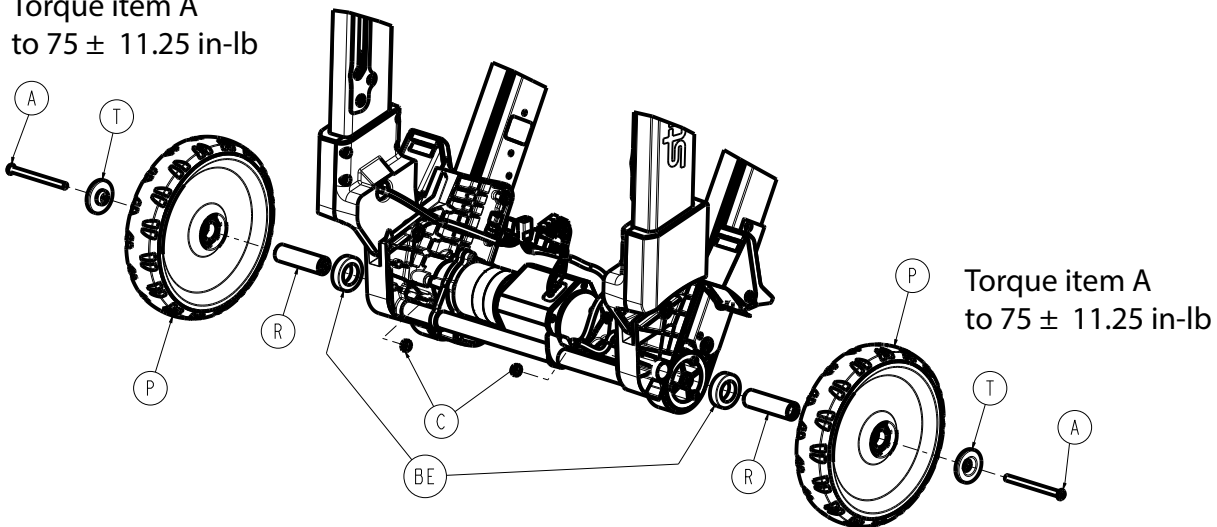
Item	Number	Name	Quantity
A	0025-122-000	Dome head blind rivet	2
B	6257-109-001	<b>Xpedition</b> Powered Stair Chair Operations/Maintenance Manual - Model 6257	1
C	625700000002	<i>Common components assembly</i> (page 47)	1
D	625700010919	Label, serial number, MTS, mid ext. handles	1
E	625700100600	<i>Patient containment system (PCS) full assembly- 625700100600</i> (page 101)	1
F	625700300200	Packaging assembly, MTS	1
G	625709990101	<i>Upper carry handles - 625709990101</i> (page 83)	1
H	625709990104	<i>Extended lower carry handles - 625709990104</i> (page 94)	1
J	625709990107	<i>Footrest option - 625709990107</i> (page 98)	1
K	625700100260	<i>IV hook option, patient left - 625700100260</i> (page 107)	1
L	625709990105	<i>Smooth tracks - 625709990105</i> (page 66)	1

# Common components assembly

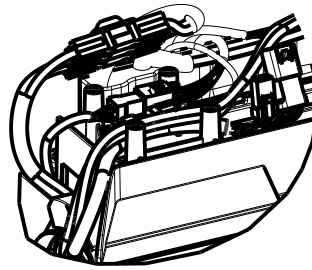
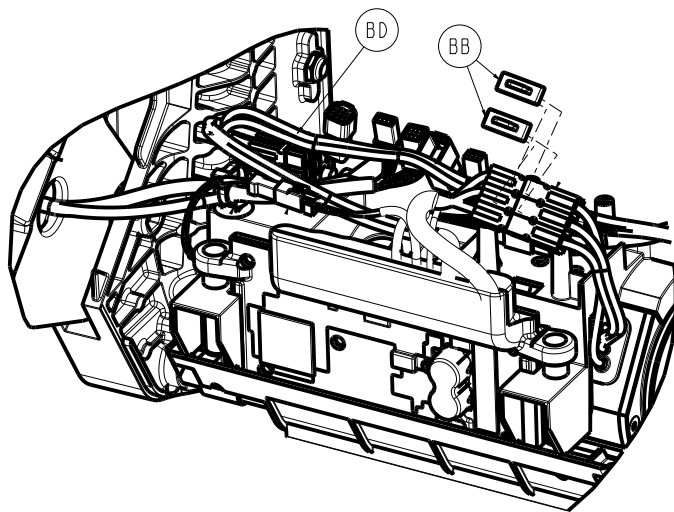
625700000002 Rev AH (Reference only)



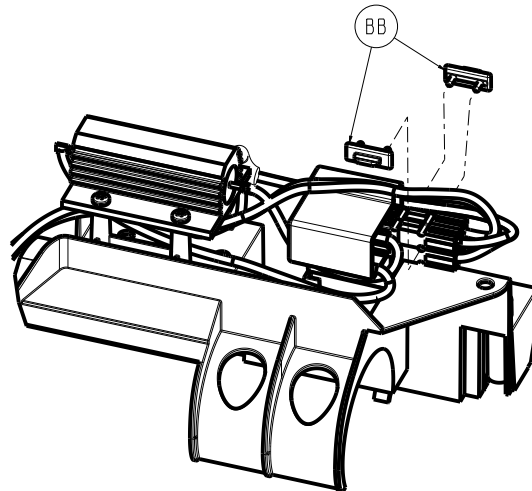
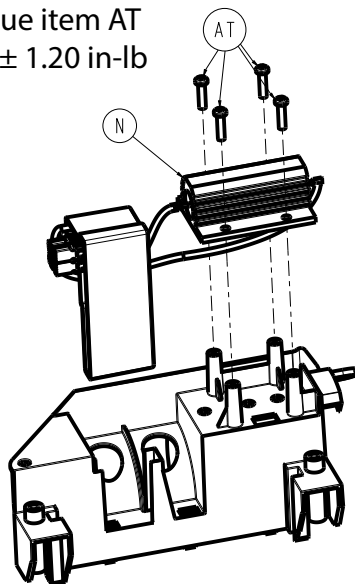
Torque item A  
to  $75 \pm 11.25$  in-lb

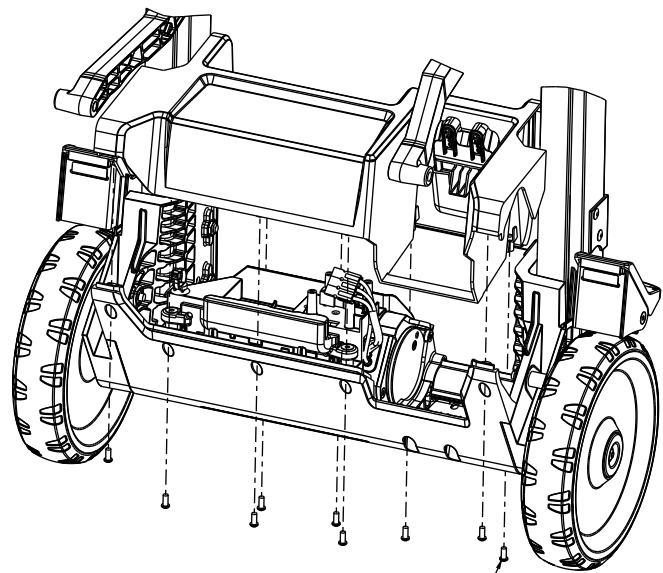
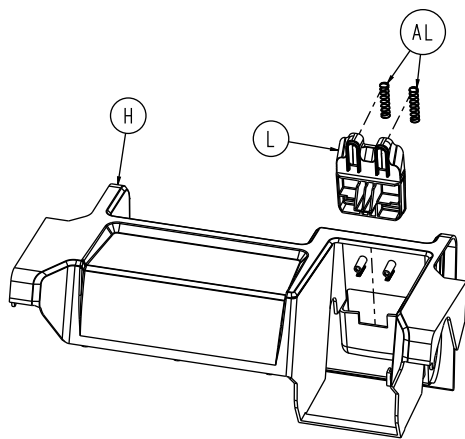
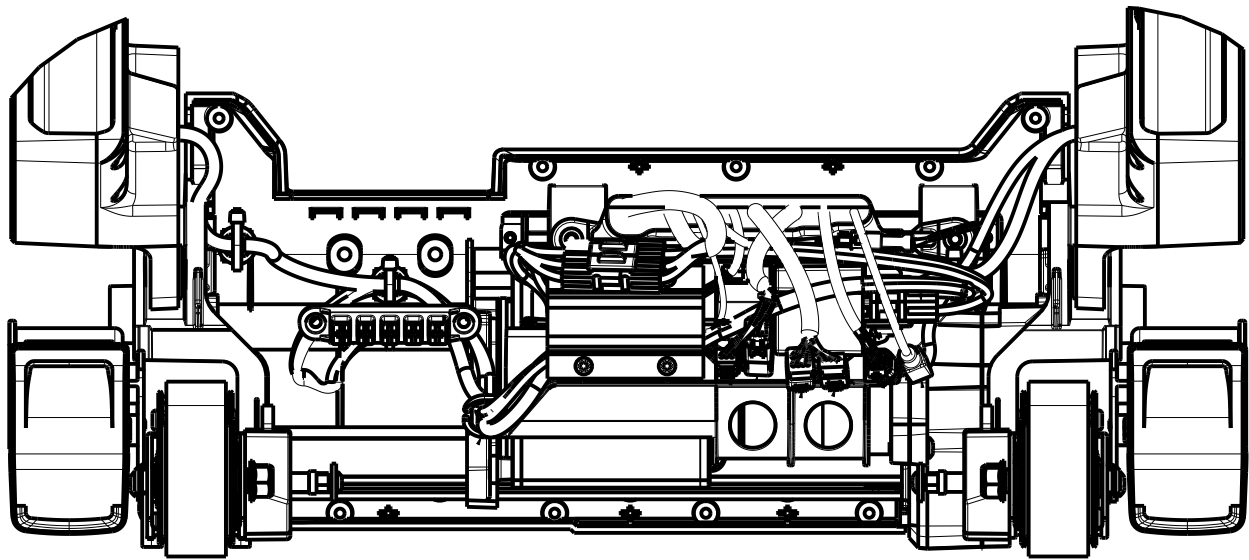






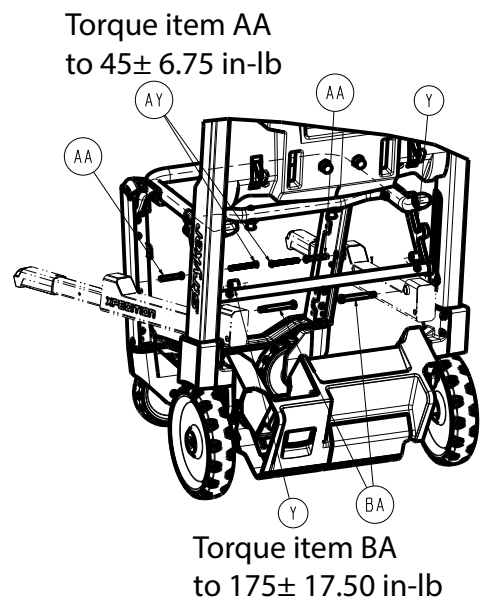
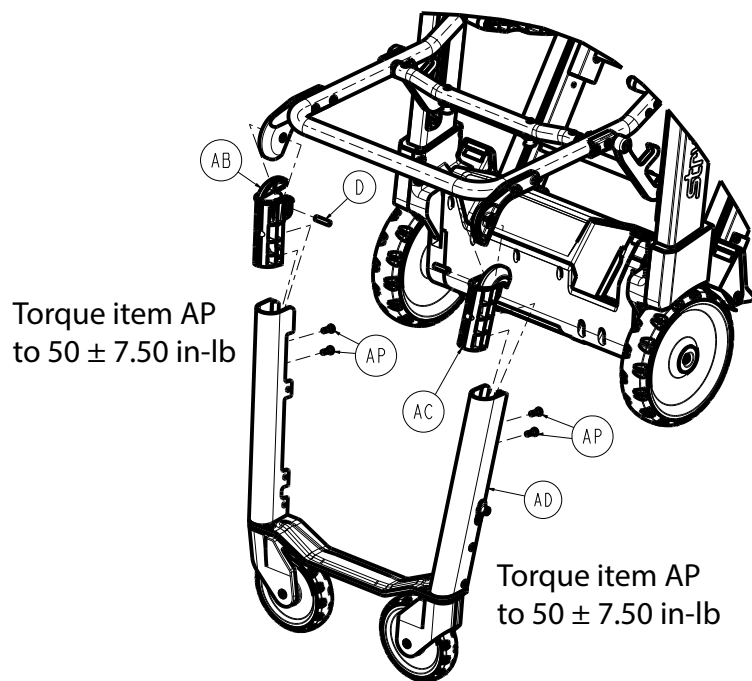
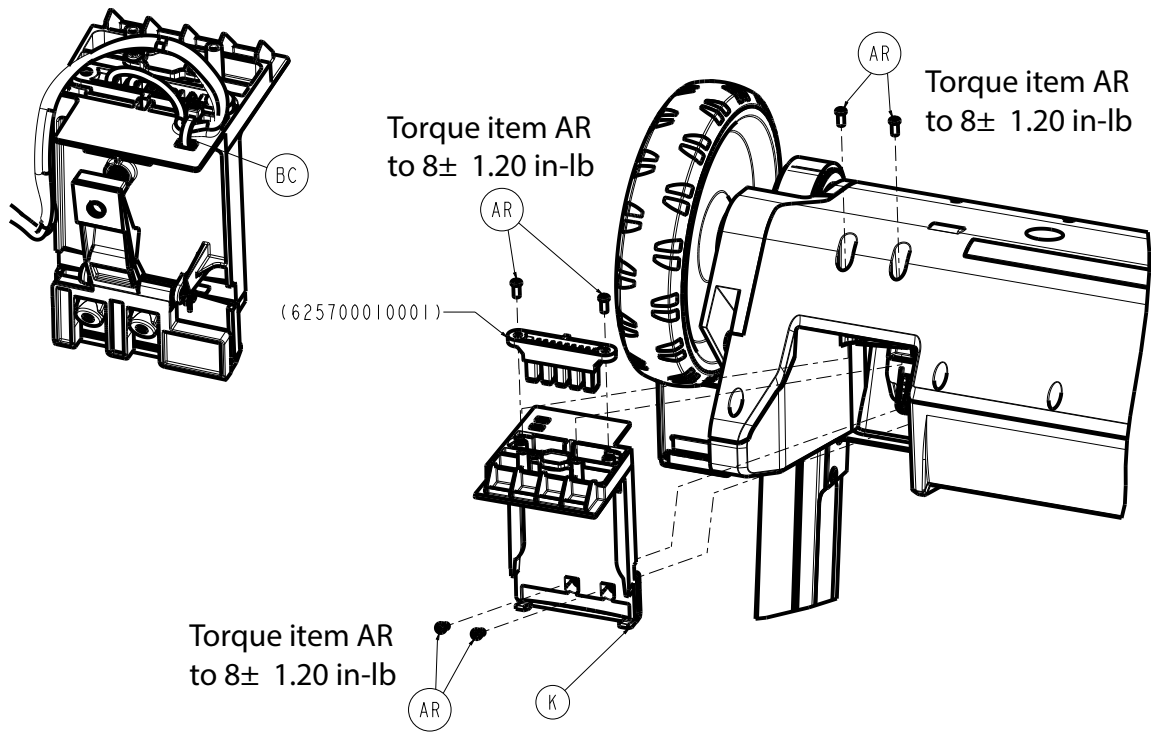
Torque item AT  
to  $8 \pm 1.20$  in-lb

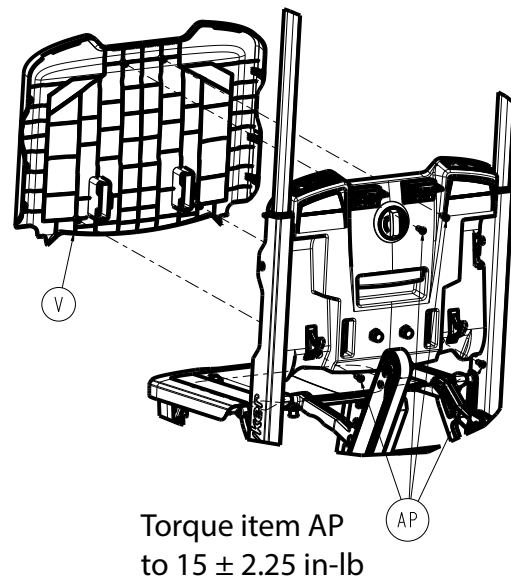
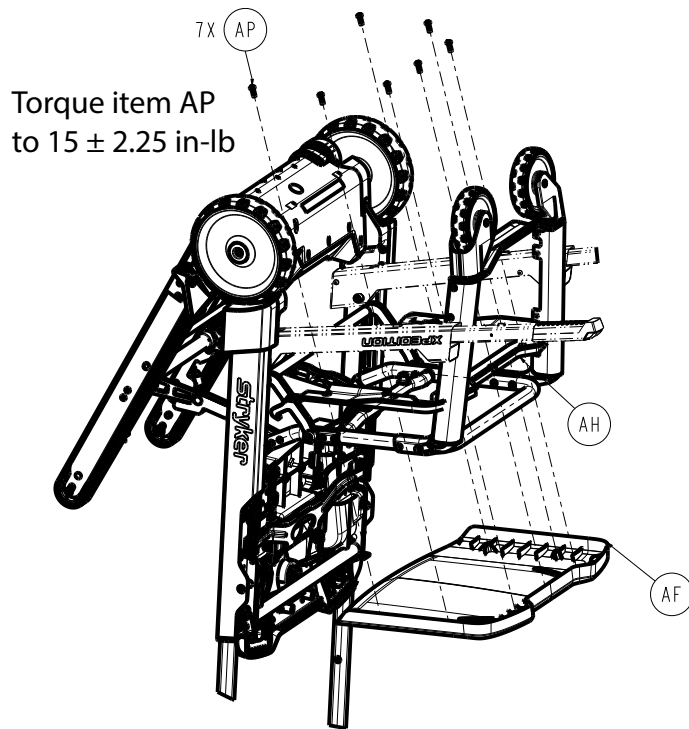




Torque item AR  
to  $8 \pm 1.20$  in-lb

9X (AR)



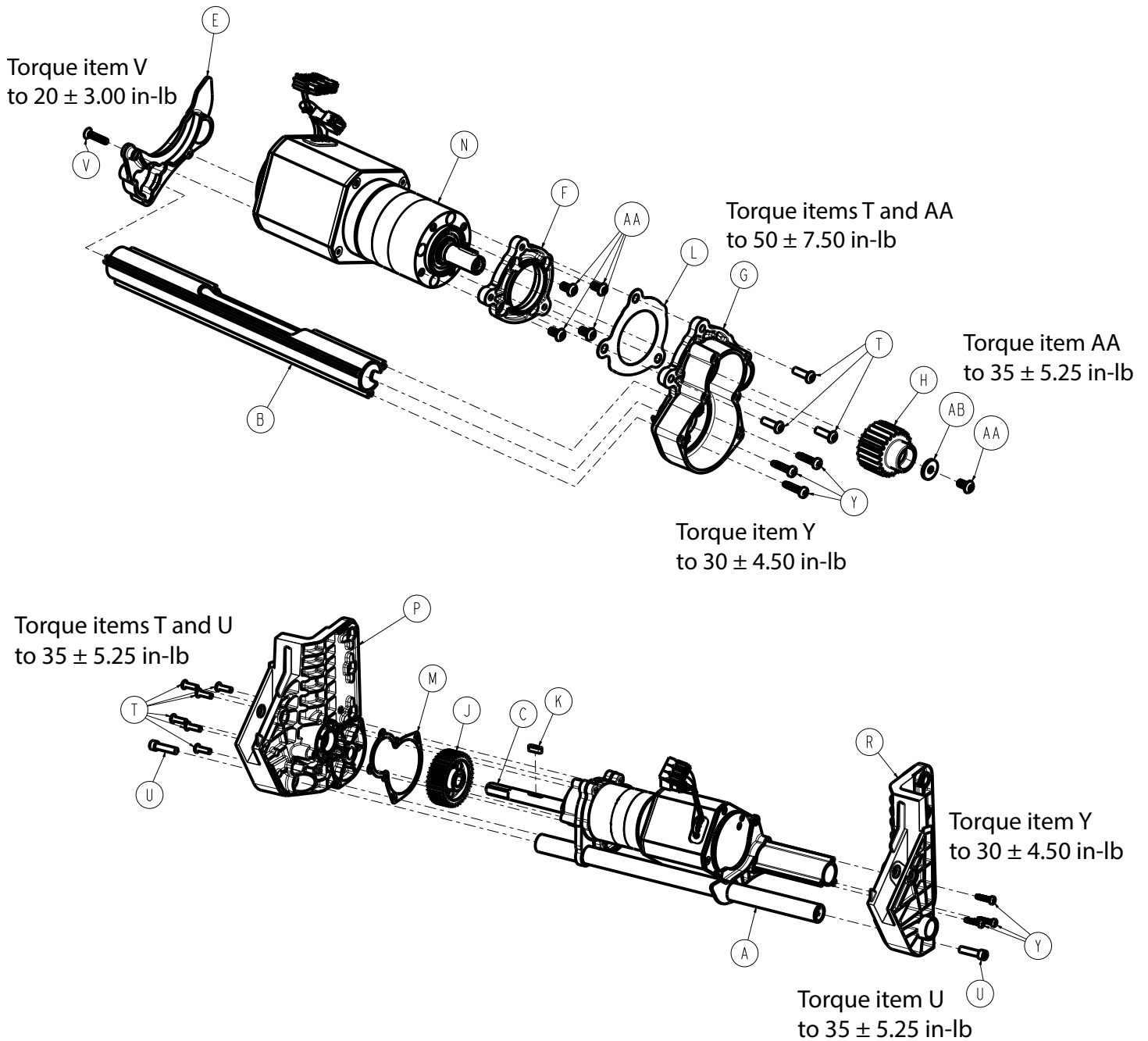


Item	Number	Name	Quantity
A	0004-218-000	Button head cap screw	2
B	700000689591	Button head cap screw	2
C	0016-102-000	Nylock hex jam nut	4
D	0026-265-000	Standard series dowel pin	2
E	625700010119	Power box PCBA with software	1
F	625700010015	Power box LED light	1
G	625700010017	Power box cover, lower	1
H	625700010018	Power box cover, upper	1
J	625700010020	Power box light lens	1
K	625700010030	<i>Battery housing assembly (page 70)</i>	1
L	625700010032	Battery release button	1
M	625700010039	Power box PCBA mount	1
N	625700010057	Backdrive board	1
P	625700010310	Back wheel assembly	2
R	625700010321	Back wheel axle	2
T	625700010312	Back wheel cap	2
U	625700020000	<i>Backrest assembly (page 71)</i>	1
V	625700020003	Backrest cover	1
W	625700020023	Backrest insert post	4
Y	625700030008	Lower handle outer spacer	2
AA	625700030027	Lower handle flanged sleeve	2
AB	625700060111	Front legs top pivot, patient right	1
AC	625700060211	Front legs top pivot, patient left	1
AD	625700060300	<i>Leg assembly, front (page 88)</i>	1
AE	625700070000	<i>Seat assembly (page 86)</i>	1
AF	625700070018	Seat pan	1

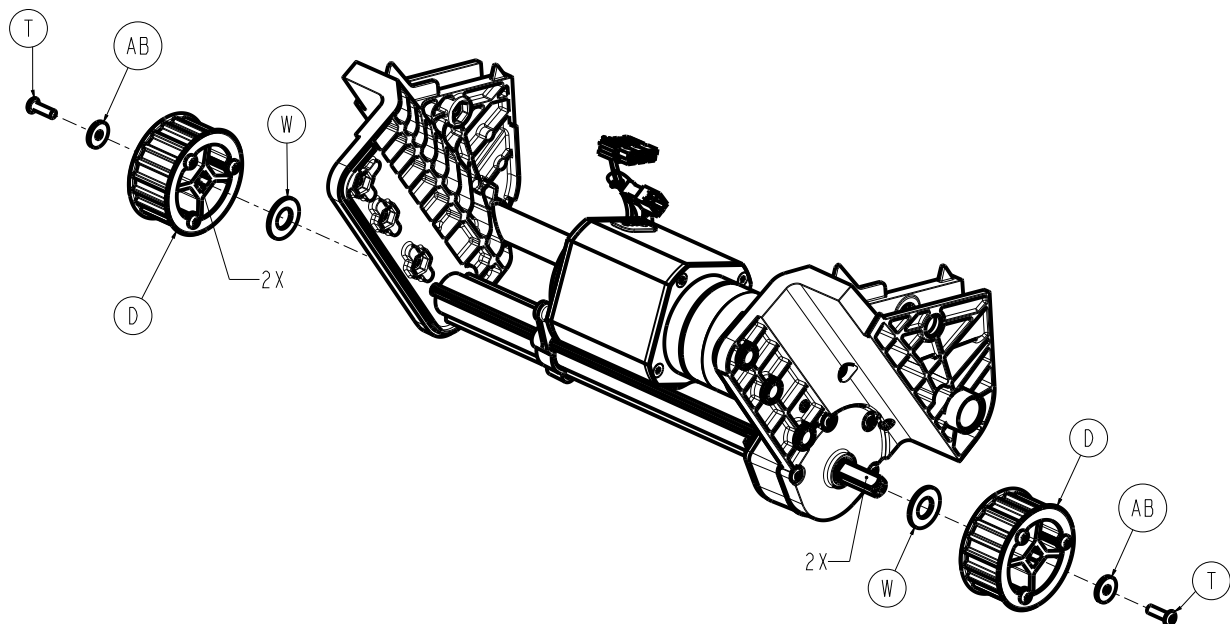
Item	Number	Name	Quantity
AG	625700070021	Seat pivot spacer	2
AH	625700070027	Seat rib cover	1
AJ	625700090000	<i>Track assembly</i> (page 59)	1
AK	625700090019	Track pivot spacer	2
AL	625700100044	Compression wire	2
AM	625700100143	Flange bearing, fold link	2
AN	650700080301	<i>Battery assembly</i> (page 100) (not shown)	1
AP	700000550115	Pan head thread forming screw	15
AR	700000617917	Pan head thread forming screw	17
AT	700000687300	Pan head thread forming screw	4
AU	700000827137	Fir tree mount	3
AV	700001674010	Socket head shoulder screw	2
AW	700002353565	Flat countersunk head cap screw	2
AY	700002265356	Button head cap screw	2
BA	700001803230	Socket head shoulder screw	4
BB	700001948497	Retention clip	4
BC	700002081488	Cable tie, 6"	1
BD	625700010001	Battery cable	1
BE	625700010323	Wheel axle support ring	2
BF	625700010450	Ankle restraint assembly (not shown)	1

# Power box assembly

625700010800 Rev AD (Reference only)



Torque item T  
to  $50 \pm 7.50$  in-lb

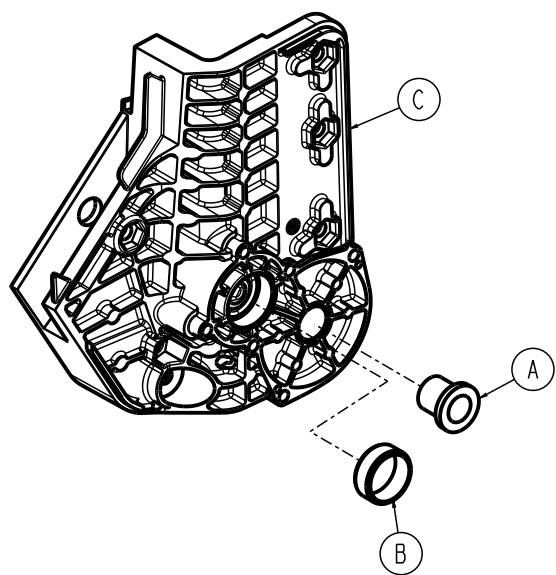


Torque item T  
to  $50 \pm 7.50$  in-lb

Item	Number	Name	Quantity
A	625700010010	Cross tube assembly	1
B	625700010011	Power box tri tube	1
C	625700010023	Drive shaft	1
D	625700010025	Timing pulley assembly	2
E	625700010028	Back bulkhead	1
F	625700010029	Mount motor plate	1
G	625700010040	Bulkhead gear assembly	1
H	625700010041	Motor pinion gear	1
J	625700010042	Track output gear	1
K	625700010043	Rounded key	1
L	625700010048	Power box motor plate gasket	1
M	625700010049	Power box bulkhead gasket	1
N	625700010050	Drive motor	1
P	625700010150	Upright assembly, patient right (page 56)	1
R	625700010250	Upright assembly, patient left (page 57)	1
T	700000689500	Button head cap screw	11
U	700000740914	Socket head cap screw	2
V	700001673897	Flat countersunk head screw	1
W	700001674481	Thrust bearing	2
Y	700001676998	Pan head thread forming screw	6
AA	700001680911	Button head cap screw	5
AB	700001774964	Washer	3

# Upright assembly, patient right

625700010150 Rev AA (Reference only)

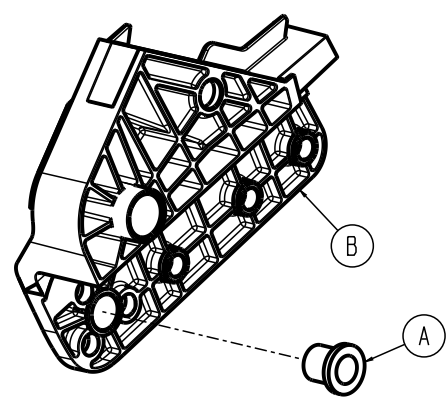


Item	Number	Name	Quantity
A	0081-008-000	Flange bearing	1
B	625700010026	Sleeve bearing	1
C	625700010151	Power box, upright, patient right	1



# Upright assembly, patient left

625700010250 Rev AA (Reference only)

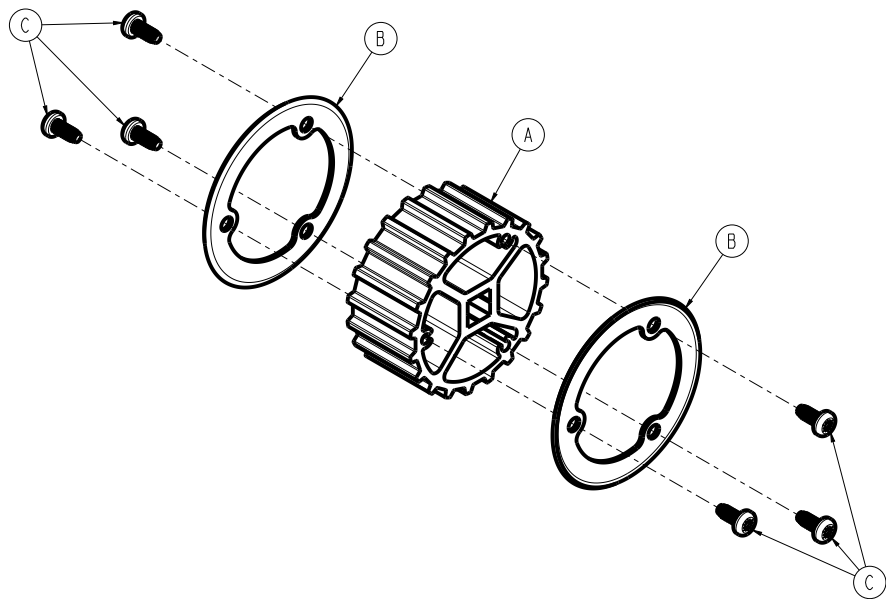


Item	Number	Name	Quantity
A	0081-008-000	Flange bearing	1
B	625700010251	Power box, upright, patient left	1

# Timing pulley assembly

625700010025 Rev AC (Reference only)

Torque item C  
to 30 +3.0/-2.0 in-lb

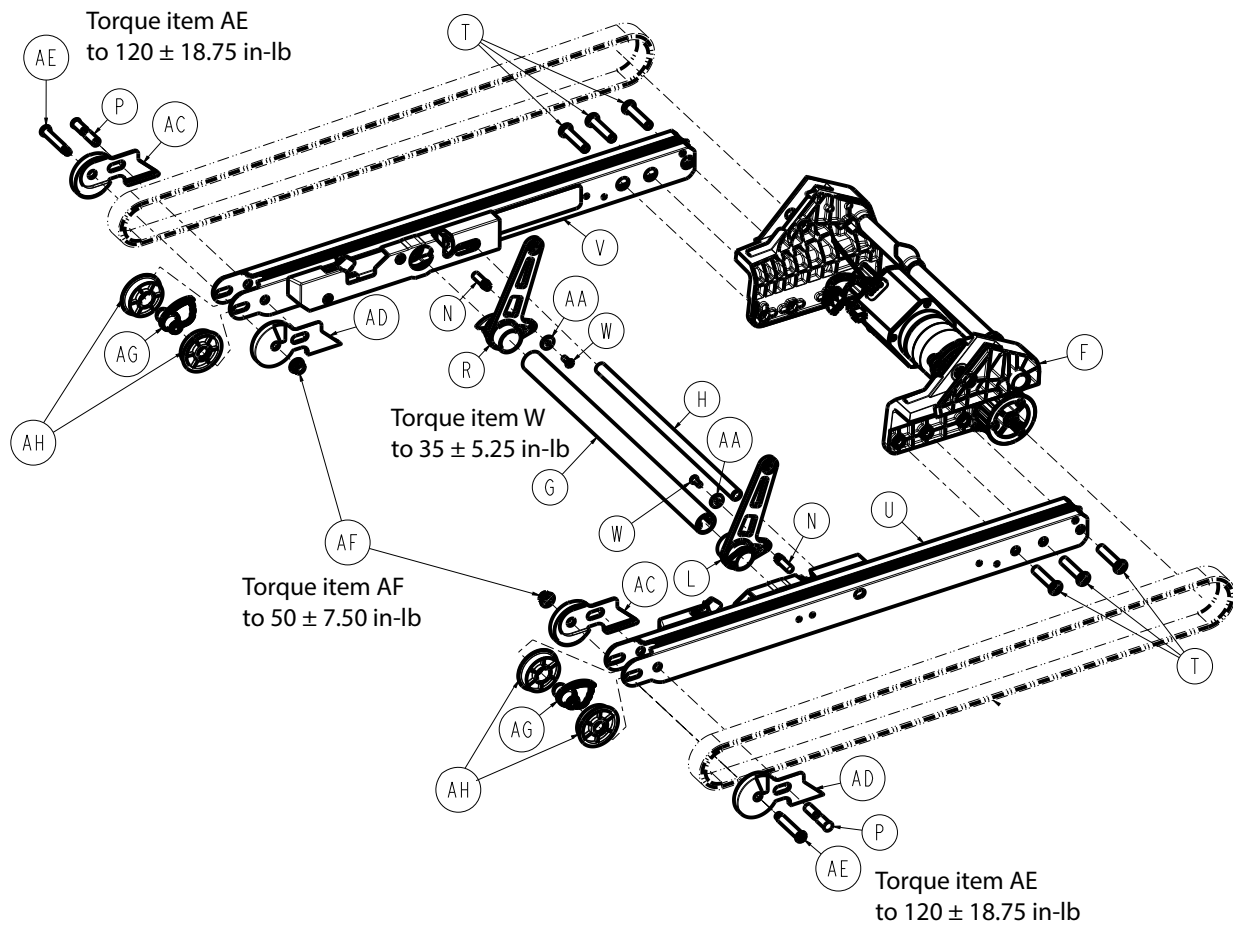


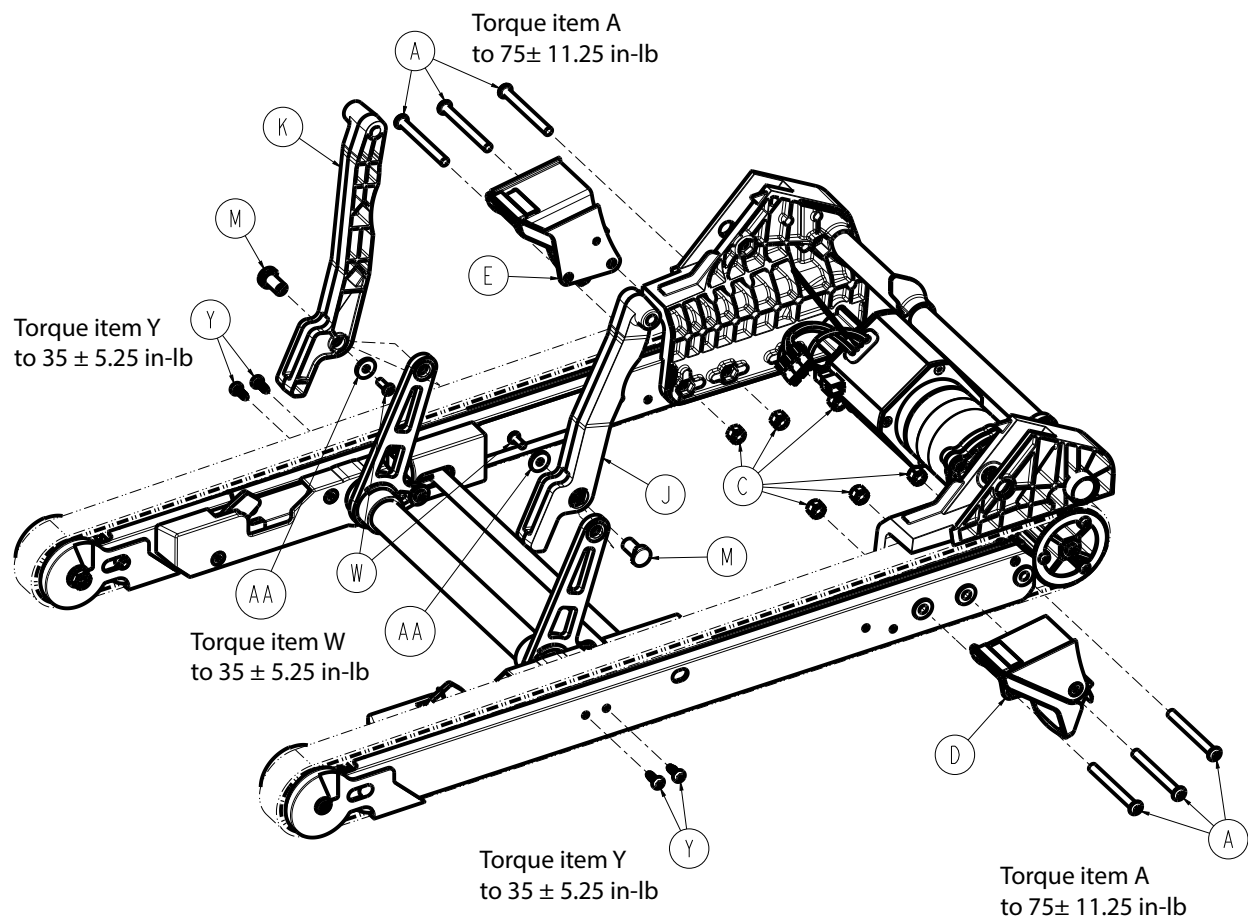
Torque item C  
to 30 +3.0/-2.0 in-lb

Item	Number	Name	Quantity
A	625700010021	Timing pulley, track	1
B	625700010022	Timing pulley washer, track	2
C	700001677019	Pan head thread forming screw	6

# Track assembly

625700090000 Rev AH (Reference only)



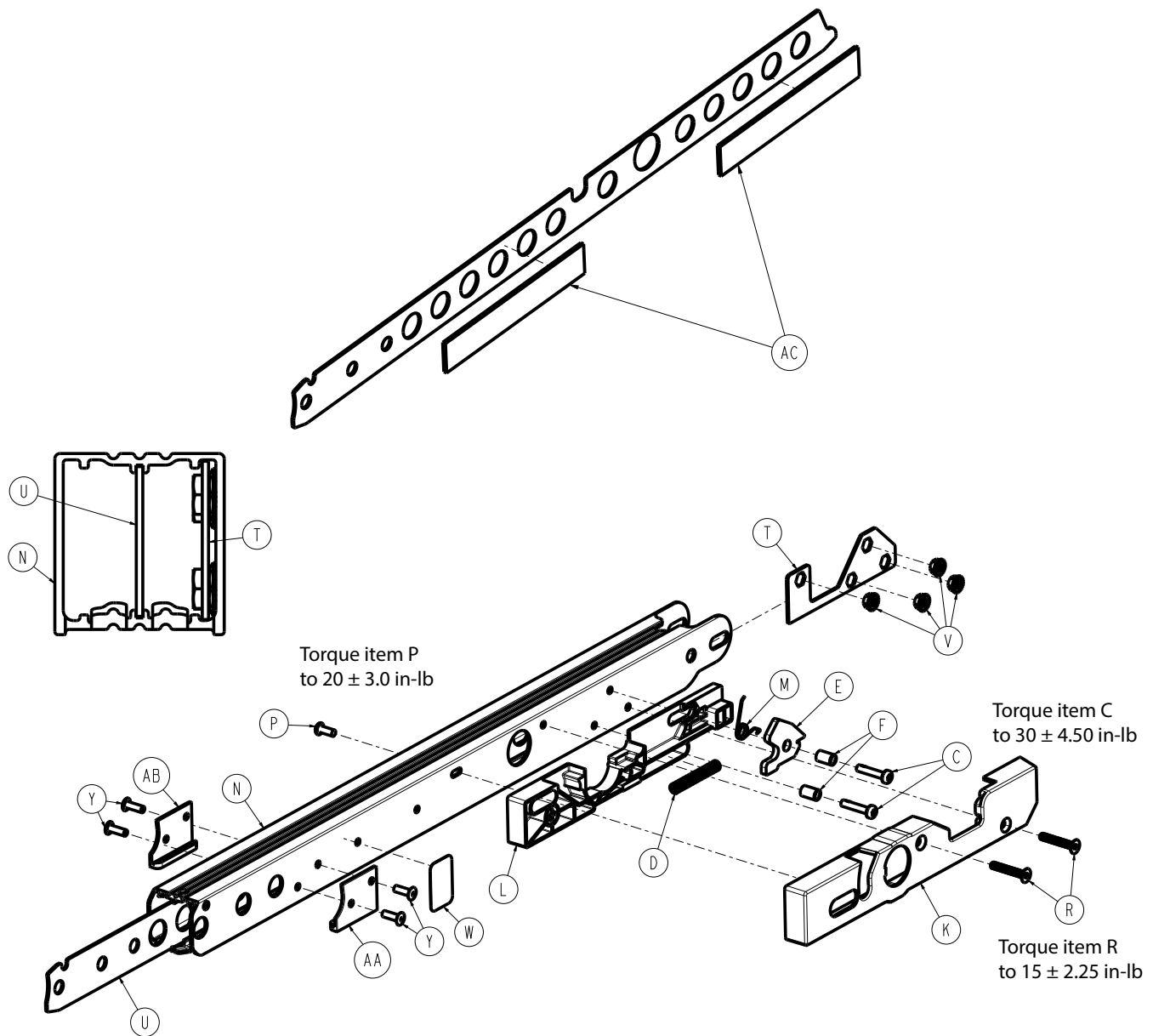


Item	Number	Name	Quantity
A	0004-597-000	Button head cap screw	6
C	0016-102-000	Nylock nut	6
D	625700010420	<i>Brake assembly, patient right (page 68)</i>	1
E	625700010430	<i>Brake assembly, patient left (page 69)</i>	1
F	625700010800	<i>Power box assembly (page 54)</i>	1
G	625700090003	Track crossbar	1
H	625700090006	Track release handle	1
J	625700090012	Track front link, patient right	1
K	625700090013	Track front link, patient left	1
L	625700090015	Track back link overmold, patient right	1
M	625700090016	Track link pin	2
N	625700090017	Track release pin	2
P	625700090023	Track tension pin	2
R	625700090025	Track back link overmold, patient left	1
T	625700090033	Track flanged spacer	6
U	625700090110	<i>Track extrusion assembly, patient right (page 62)</i>	1
V	625700090210	Track support brace assembly, patient right	1
W	700000689499	Button head cap screw	4
Y	700001677115	Pan head thread forming screw	4
AA	700001774964	Washer	4
AC	625700090042	Track guide cage, patient left	2

Item	Number	Name	Quantity
AD	625700090041	Track guide cage, patient right	2
AE	625700090024	Track tension bolt	2
AF	0016-135-000	Nylock flange hex nut	2
AG	625700090021	Track tension cam	2
AH	625700090022	Track roller	4

# Track extrusion assembly, patient right

625700090110 Rev AF (Reference only)

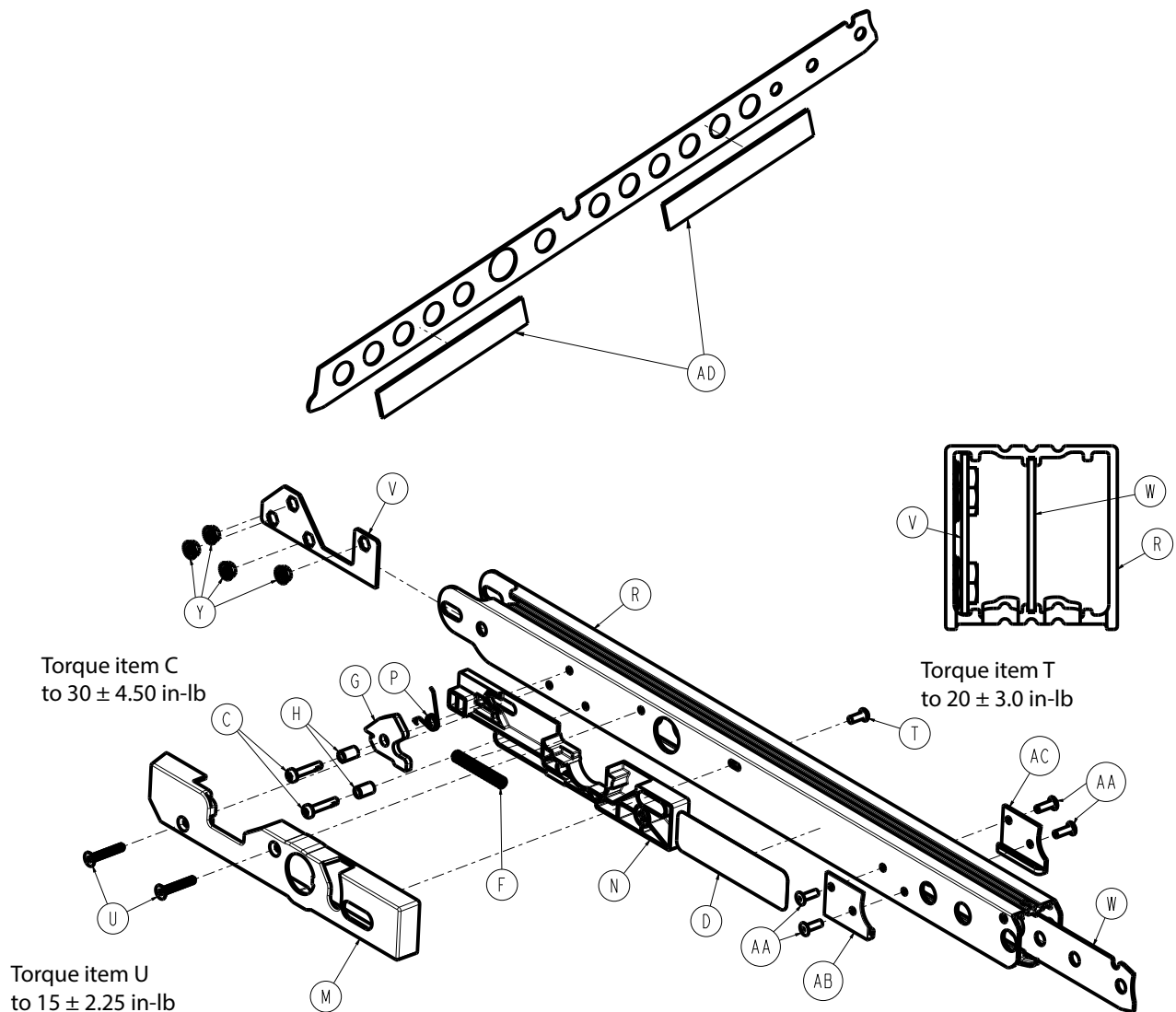


Item	Number	Name	Quantity
C	0050-093-000	Pan head machine screw	2
D	625700090004	Compression wire	1
E	625700090007	Track release latch	1
F	625700090008	Track release spacer	2
K	625700090102	Track release housing, patient right	1
L	625700090103	Track release slide, patient right	1
M	625700090106	Track release torsion spring, patient right	1
N	625700090111	Track extrusion, patient right	1
P	700002472227	Button head cap screw	1
R	700001674026	Flat countersunk head cap screw	2

Item	Number	Name	Quantity
T	625700090009	Track nut housing	1
U	625700090018	Track extrusion support brace	1
V	700001682825	Serrated flange locknut	4
W	625700010917	Label, prop 65	1
Y	700000820540	Dome head blind rivet	4
AA	625700090043	Track guide rail, patient right	1
AB	625700090044	Track guide rail, patient left	1
AC	625700090036	Track sound deadening mat	2

# Track extrusion assembly, patient left

625700090210 Rev AF (Reference only)



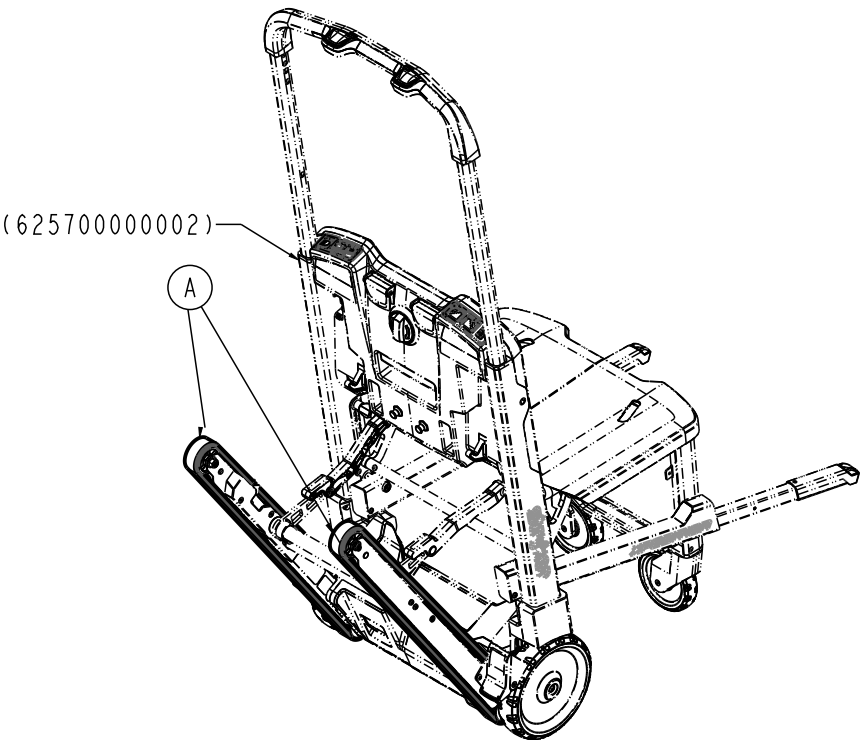
Item	Number	Name	Quantity
C	0050-093-000	Pan head machine screw	2
D	625700010911	Label, specification	1
F	625700090004	Compression wire	1
G	625700090007	Track release latch	1
H	625700090008	Track release spacer	2
M	625700090202	Track release housing, patient left	1
N	625700090203	Track release slide, patient left	1
P	625700090206	Track release torsion spring, patient left	1
R	625700090211	Track extrusion, patient left	1
T	700002472227	Button head cap screw	1
U	700001674026	Flat countersunk head cap screw	2
V	625700090009	Track nut housing	1
W	625700090018	Track extrusion support brace	1
Y	700001682825	Serrated flanged locknut	4



Item	Number	Name	Quantity
AA	700000820540	Dome head blind rivet	4
AB	625700090043	Track guide rail, patient right	1
AC	625700090044	Track guide rail, patient left	1
AD	625700090036	Track sound deadening mat	2

# Smooth tracks - 625709990105

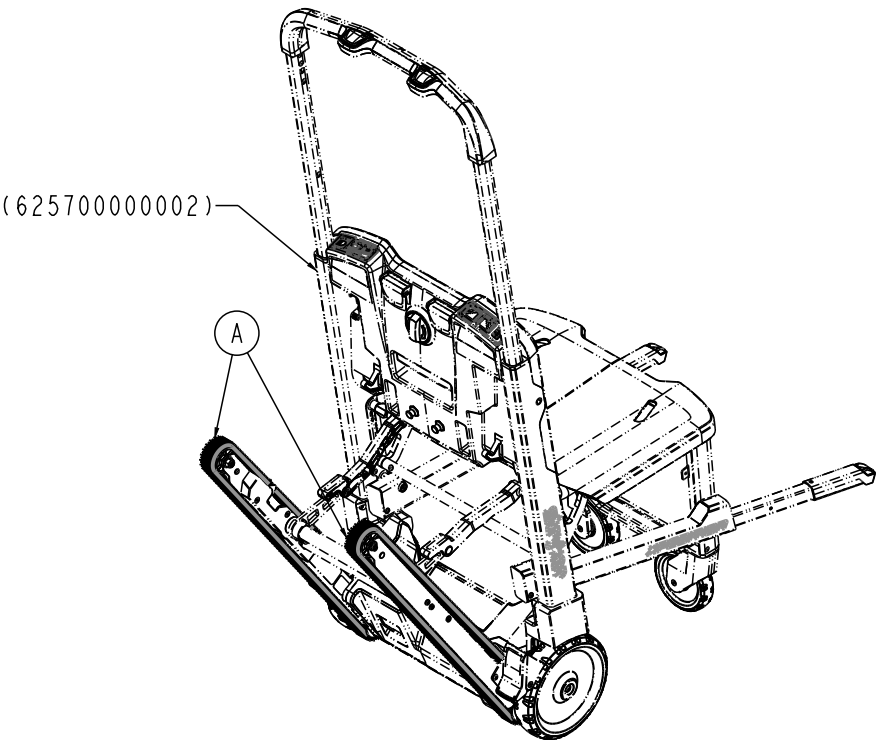
Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700095039	Track	2

# Grooved tracks - 625709990106

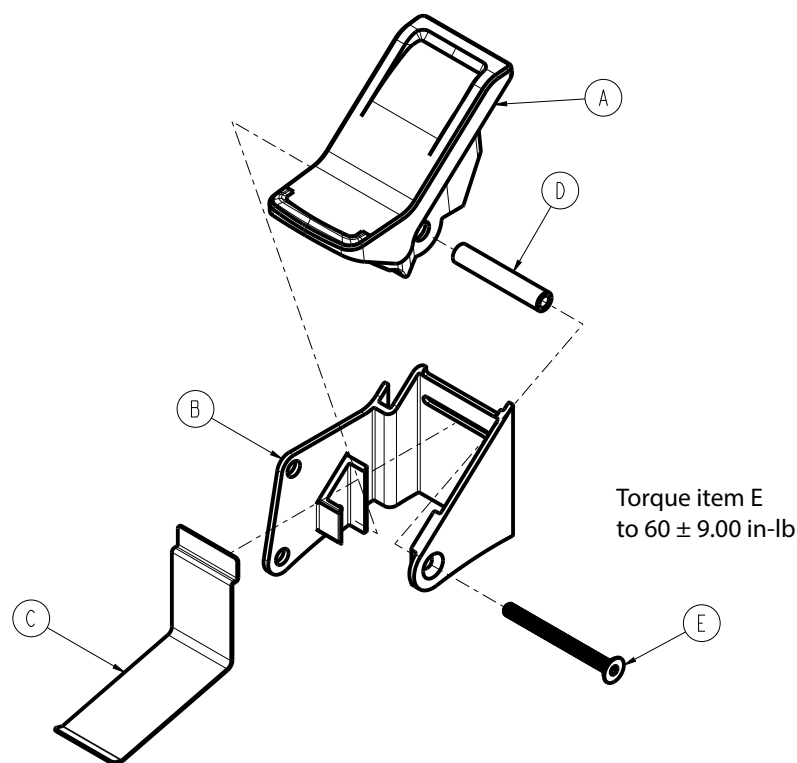
Rev AA (Reference only)



Item	Number	Name	Quantity
A	625700095139	Grooved track	2

# Brake assembly, patient right

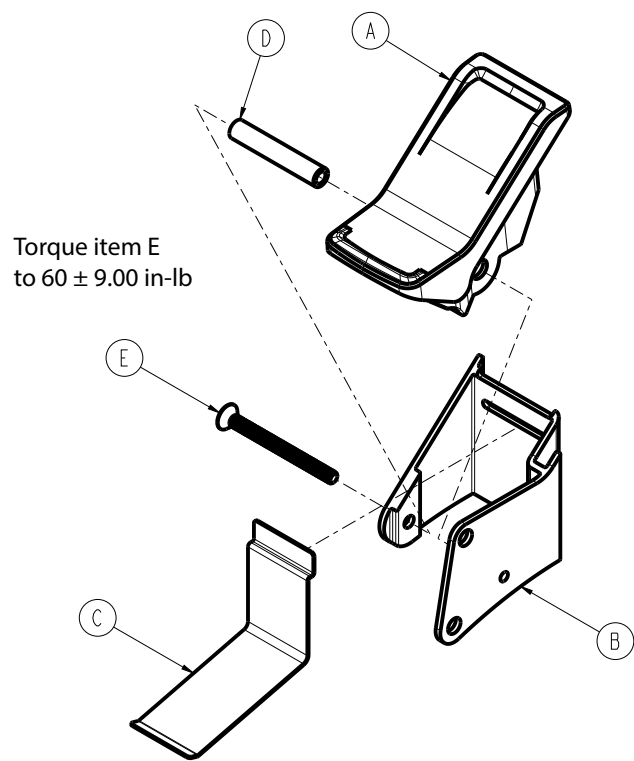
625700010420 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700010411	Brake pedal	1
B	625700010412	Brake extrusion, patient right	1
C	625700010414	Brake spring	1
D	625700010416	Brake spacer	1
E	700001674032	Flat countersunk head cap screw	1

# Brake assembly, patient left

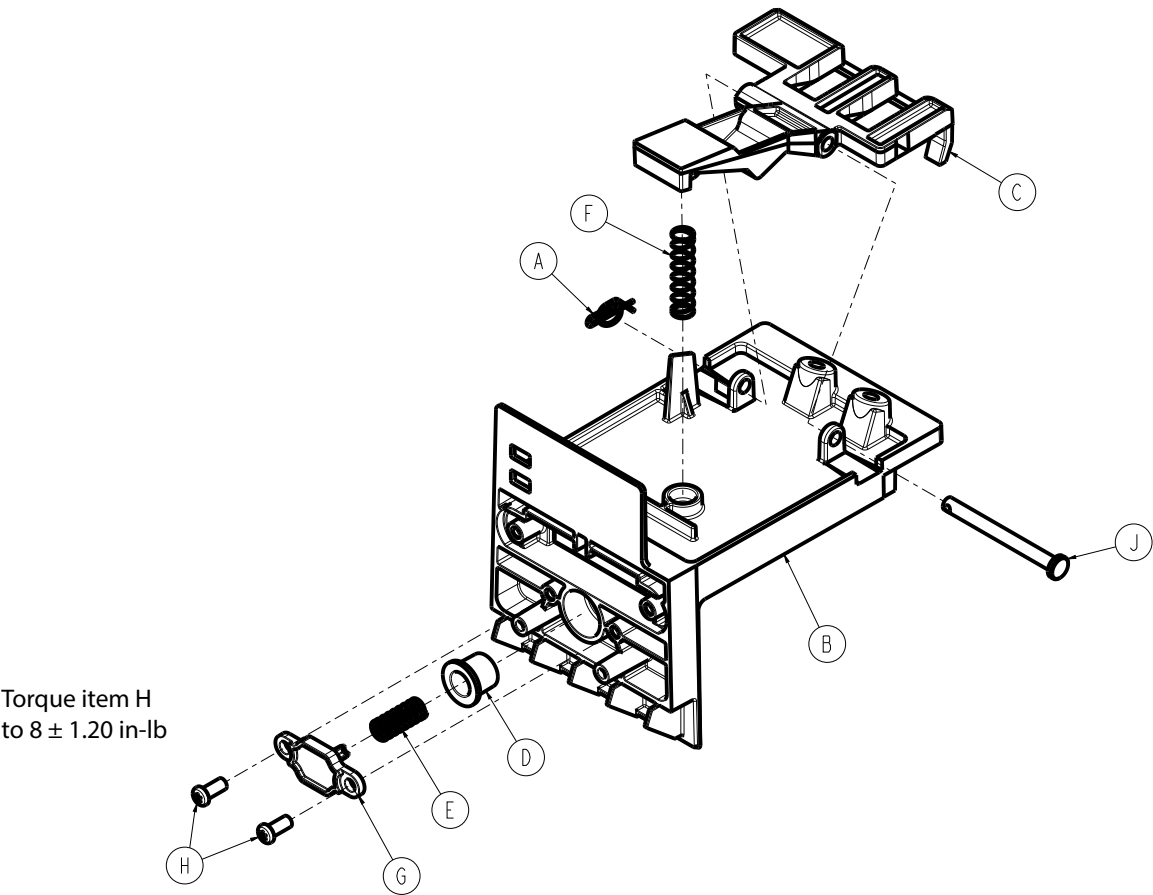
625700010430 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700010411	Brake pedal	1
B	625700010413	Brake extrusion, patient left	1
C	625700010414	Brake spring	1
D	625700010416	Brake spacer	1
E	700001674032	Flat countersunk head cap screw	1

# Battery housing assembly

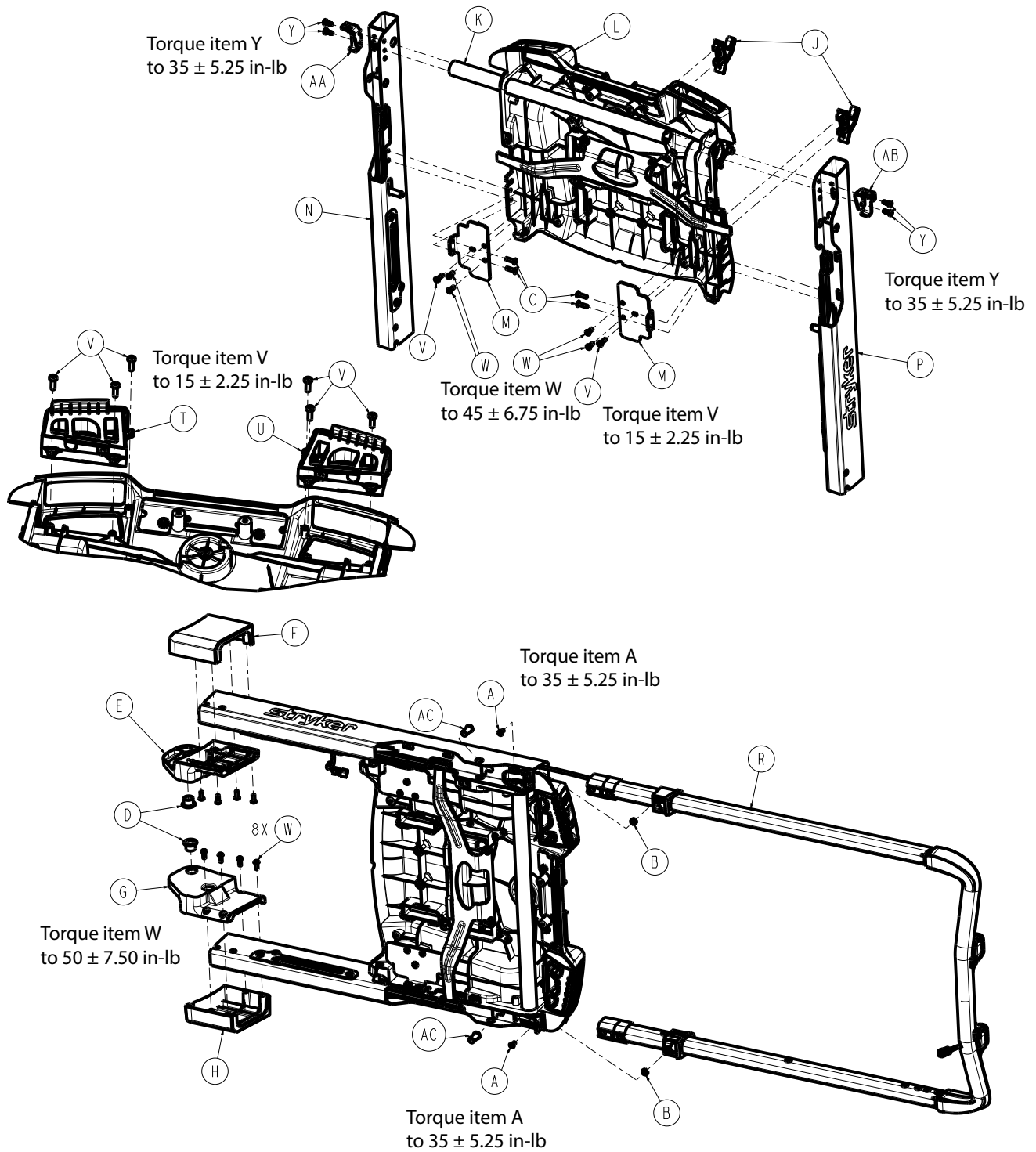
625700010030 Rev AB (Reference only)

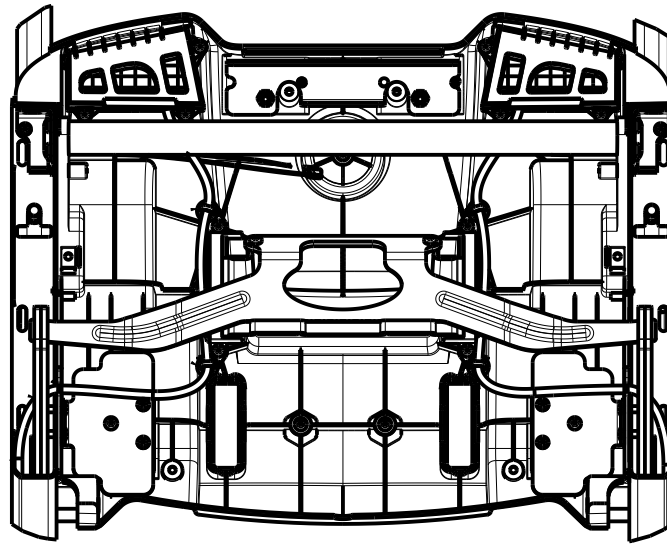
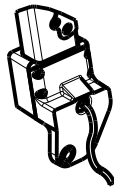


Item	Number	Name	Quantity
A	0027-020-000	Rue ring cotter	1
B	625700010031	Battery housing	1
C	625700010033	Battery release latch	1
D	625700010034	Battery release pusher	1
E	625700010035	Compression wire	1
F	625700100044	Compression wire	1
G	650700080122	Battery pusher cover	1
H	700000617917	Pan head thread forming screw	2
J	700001678771	Clevis pin	1

# Backrest assembly

625700020000 Rev AG (Reference only)



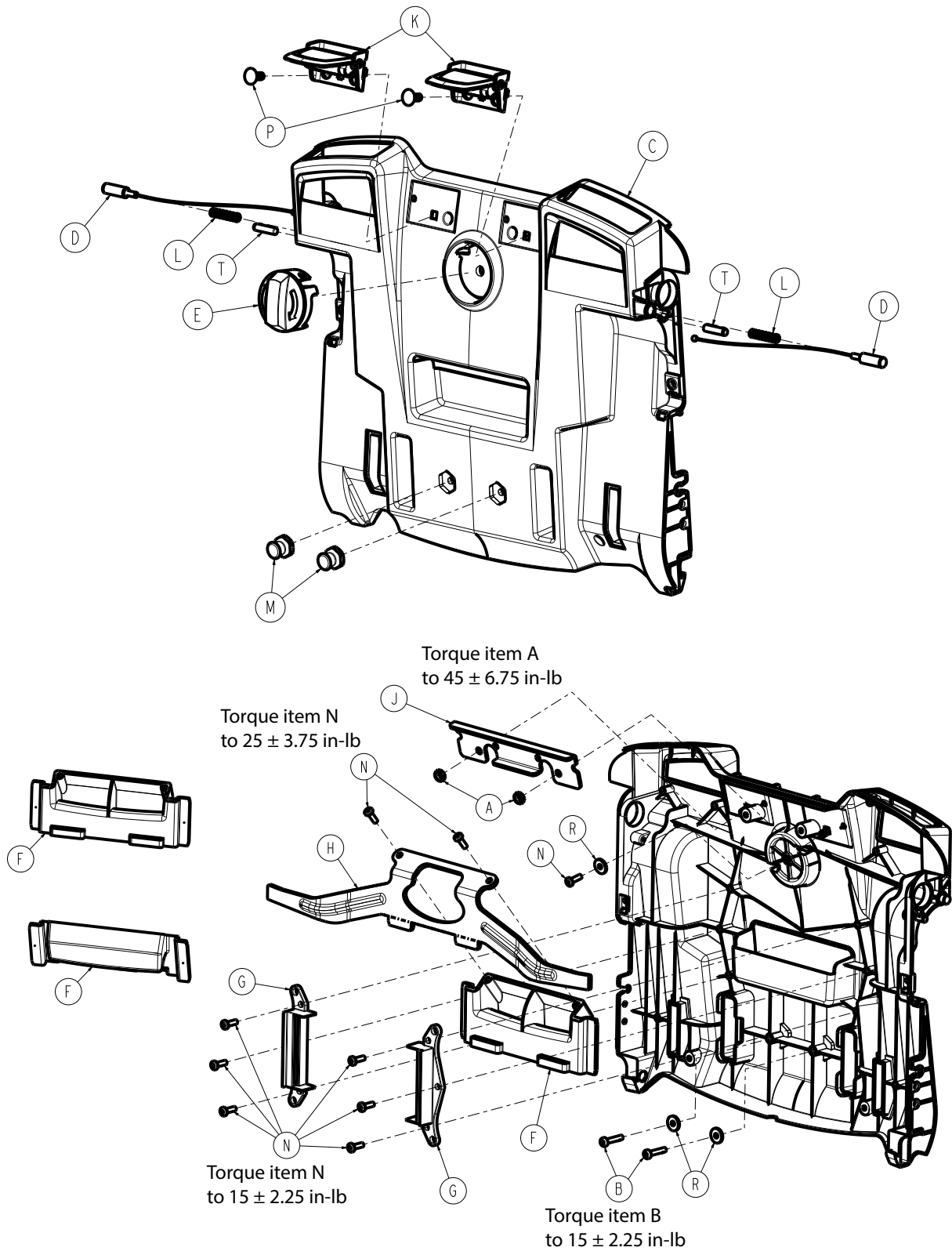


Item	Number	Name	Quantity
A	0004-442-000	Button head torx screw	2
B	0015-003-000	Nut	2
C	0025-086-000	Dome head pop rivet, open end	4
D	0081-213-000	Flange bearing	2
E	625700010111	Pivot cap, inner, patient right	1
F	625700010112	Pivot cap, outer, patient right	1
G	625700010211	Pivot cap, inner, patient left	1
H	625700010212	Pivot cap, outer, patient left	1
J	625700020006	Backrest hook	2
K	625700020007	Backrest crossbar	1
L	625700020010	<i>Backrest sub assembly (page 73)</i>	1
M	625700020029	Backrest hook support bracket	2
N	625700020100	<i>Backrest upright assembly, patient right (page 76)</i>	1
P	625700020200	<i>Backrest upright assembly, patient left (page 78)</i>	1
R	625700050000	<i>Grab bar assembly (page 80)</i>	1
T	625700110100	Backrest user interface module, patient right	1
U	625700110200	Backrest user interface module, patient left	1
V	700000550115	Pan head thread forming screw	8
W	700000689499	Button head cap screw	12
Y	700001677115	Pan head thread forming screw	4
AA	625700020102	Backrest support bracket, patient right	1
AB	625700020202	Backrest support bracket, patient left	1
AC	625700050022	Long nose spring plunger	2



# Backrest sub assembly

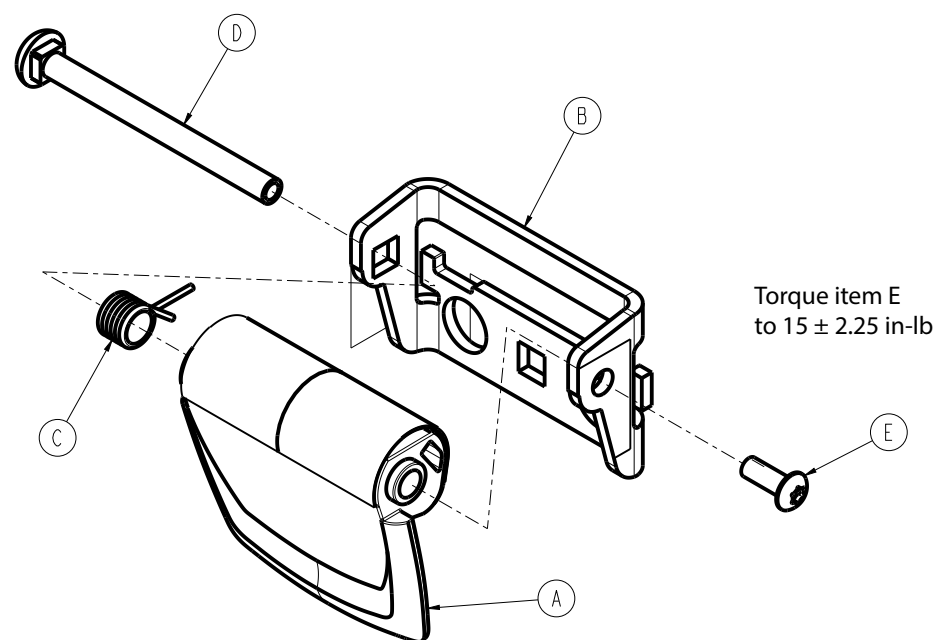
625700020010 Rev AC (Reference only)



Item	Number	Name	Quantity
A	0016-102-000	Nylock nut	2
B	0050-093-000	Pan head machine screw	2
C	625700020004	Backrest	1
D	625700020011	Cable lock pin	2
E	625700020017	Backrest turn knob	1
F	625700020018	Backrest release handle	1
G	625700020019	Backrest guide handle	2
H	625700020026	Backrest fold release bracket	1
J	625700020028	Backrest PCS support bracket	1
K	625700020040	PCS cam assembly	2
L	625700100044	Compression wire	2
M	625700100049	PCS post	2
N	700000550115	Pan head thread forming screw	9
P	700001674499	Round washer square neck bolt	2
R	700001774964	Washer	3
T	0026-265-000	Standard series dowel pin	2

# PCS cam assembly

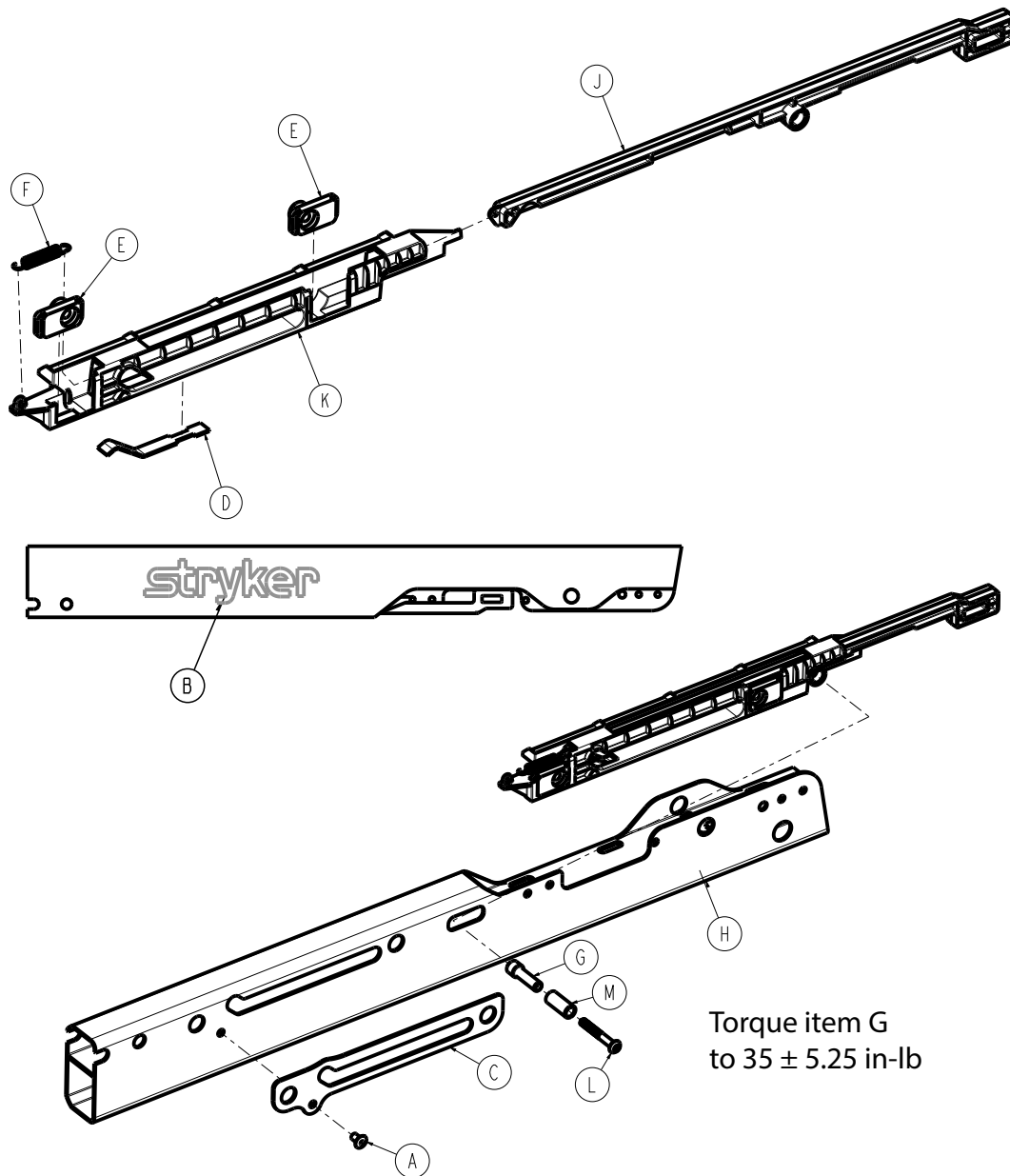
625700020040 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700020041	Backrest PCS cam	1
B	625700020042	Backrest PCS cam mount	1
C	625700020043	Backrest PCS cam spring	1
D	625700020044	Backrest PCS cam barrel	1
E	700000715589	Button head cap screw	1

# Backrest upright assembly, patient right

625700020100 Rev AD (Reference only)

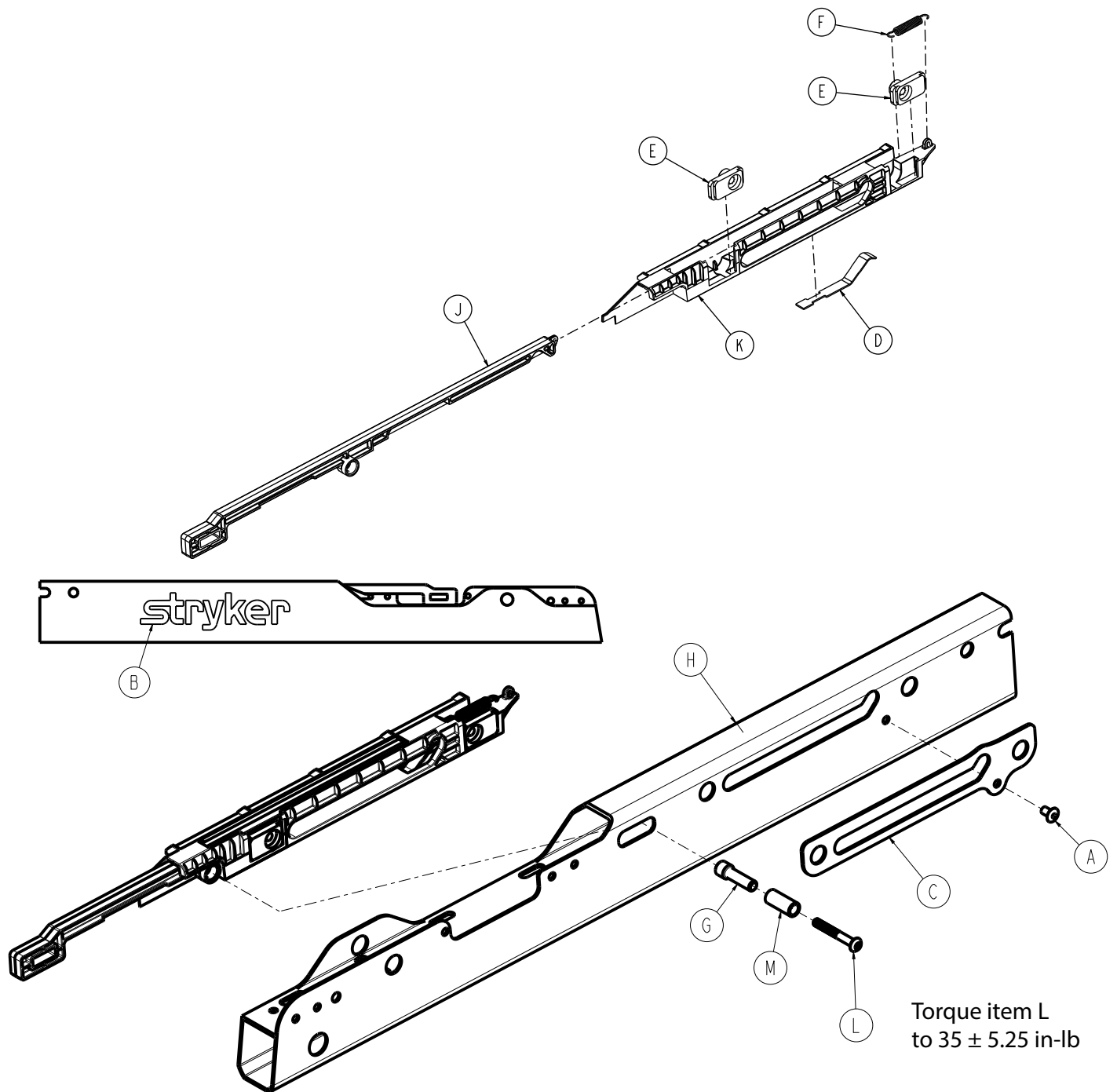


Item	Number	Name	Quantity
A	0025-122-000	Dome head pop rivet	2
B	625700010916	Label, Stryker	1
C	625700020008	J-slot overlay	1
D	625700020021	Backrest fold lock spring	1
E	625700020022	Backrest threaded insert	2
F	625700020024	Backrest fold lock return spring	1
G	625700020031	Backrest fold link spacer	1
H	625700020101	Backrest, upright, patient right	1
J	625700020111	Backrest fold release, patient right	1
K	625700020112	Backrest release housing, patient right	1

Item	Number	Name	Quantity
L	700001678647	Button head cap screw	1
M	625700020027	Backrest stepped spacer roller	1

# Backrest upright assembly, patient left

625700020200 Rev AC (Reference only)

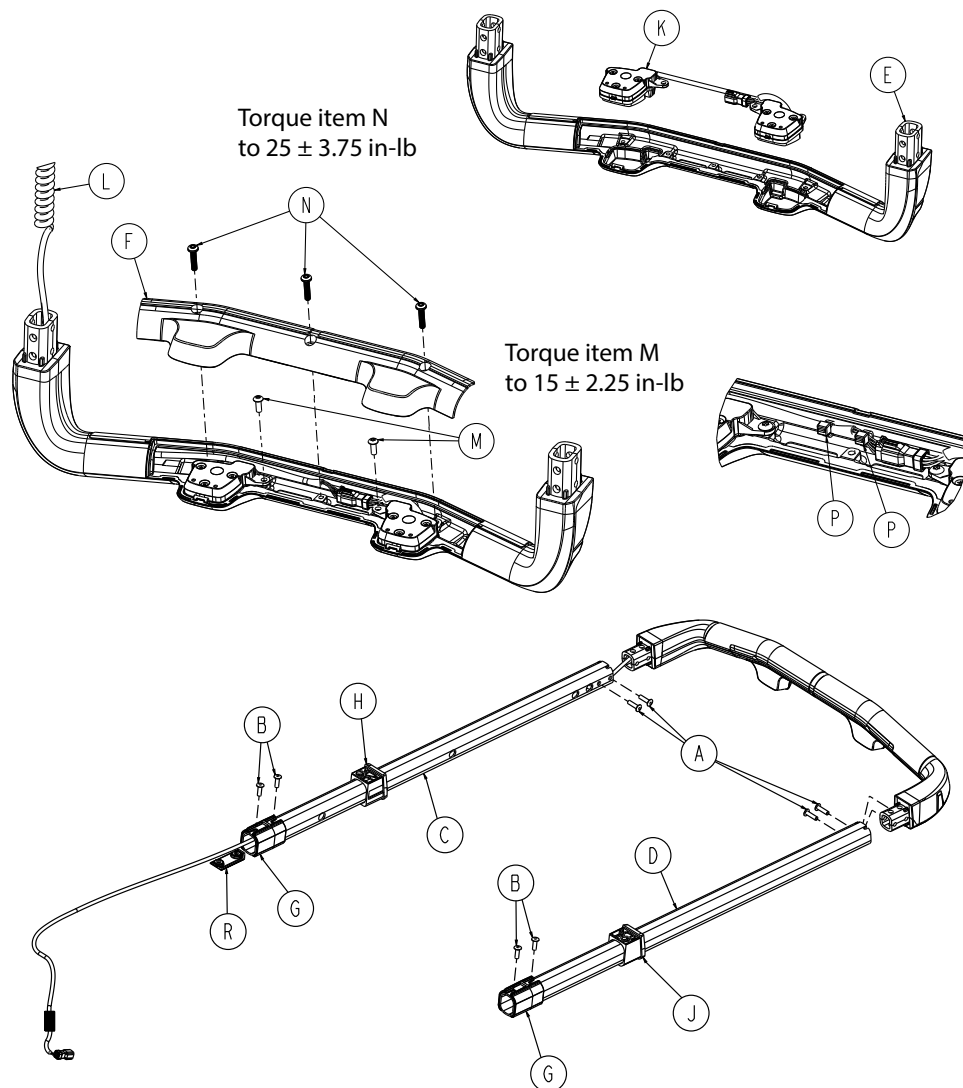


Item	Number	Name	Quantity
A	0025-122-000	Dome head pop rivet	1
B	625700010916	Label, Stryker	1
C	625700020008	J-slot overlay	1
D	625700020021	Backrest fold lock spring	1
E	625700020022	Backrest threaded insert	2
F	625700020024	Backrest fold lock return spring	1

Item	Number	Name	Quantity
G	625700020031	Backrest fold link spacer	1
H	625700020201	Backrest, upright, patient left	1
J	625700020211	Backrest fold release, patient left	1
K	625700020212	Backrest release housing, patient left	1
L	700001678647	Button head cap screw	1
M	625700020027	Backrest stepped spacer roller	1

# Grab bar assembly

625700050000 Rev AG (Reference only)



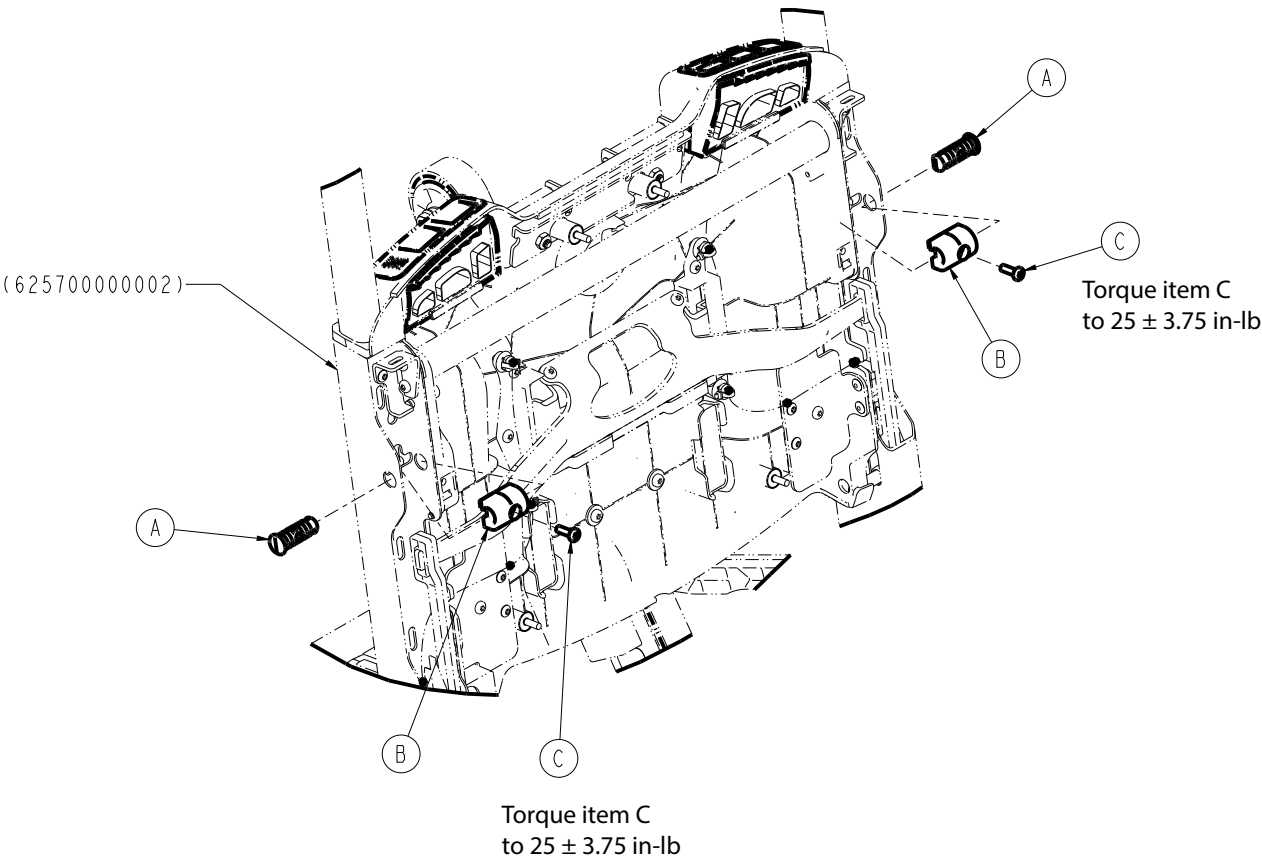
Item	Number	Name	Quantity
A	0025-086-000	Dome head pop rivet, open end	4
B	700000820540	Dome head blind rivet	4
C	625700050001	Grab bar extrusion, patient right	1
D	625700050002	Grab bar extrusion, patient left	1
E	625700050005	Grab bar overmold	1
F	625700050006	Grab bar cover	1
G	625700050011	Grab bar bushing, bottom	2
H	625700050012	Grab bar bushing, top, patient right	1
J	625700050013	Grab bar bushing, top, patient left	1
K	625700050020	Grab bar user interface module	1
L	625700050024	Grab bar user interface coil cable	1
M	700000715589	Button head cap screw	2
N	700001923152	Pan head machine screw	3



Item	Number	Name	Quantity
P	700002081488	6" cable tie	2
R	625700050016	Grab bar rivet cover	1

# No upper carry handles - 625709990102

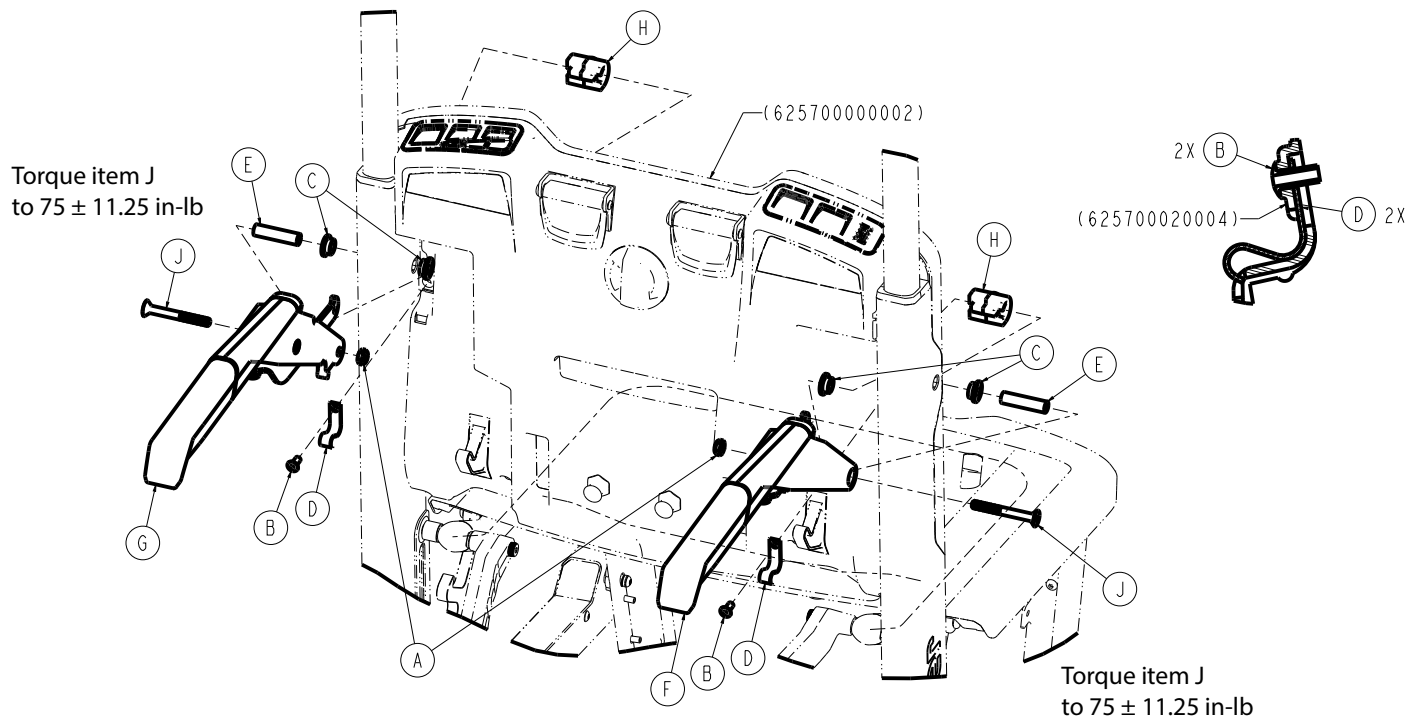
Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700050008	Grab bar dead stop plug	2
B	625700050009	Grab bar dead stop	2
C	700000550115	Pan head thread forming screw	2

# Upper carry handles - 625709990101

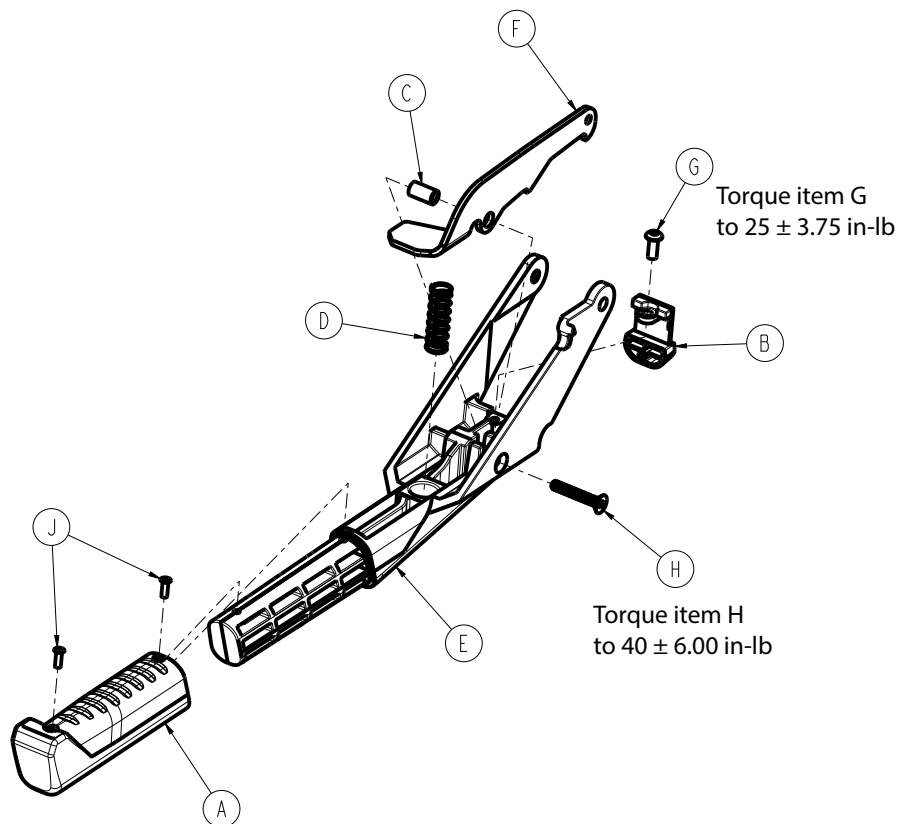
Rev AB (Reference only)



Item	Number	Name	Quantity
A	0016-102-000	Nylock nut	2
B	0025-079-000	Dome head pop rivet	2
C	0081-240-000	Flange bearing	4
D	625700040011	UCH detent spring	2
E	625700040018	UCH main pivot sleeve	2
F	625700040100	Upper carry handle assembly, patient right (page 84)	1
G	625700040200	Upper carry handle assembly, patient left (page 85)	1
H	625700050009	Grab bar dead stop	2
J	700001678244	Flat countersunk head cap screw	2

# Upper carry handle assembly, patient right

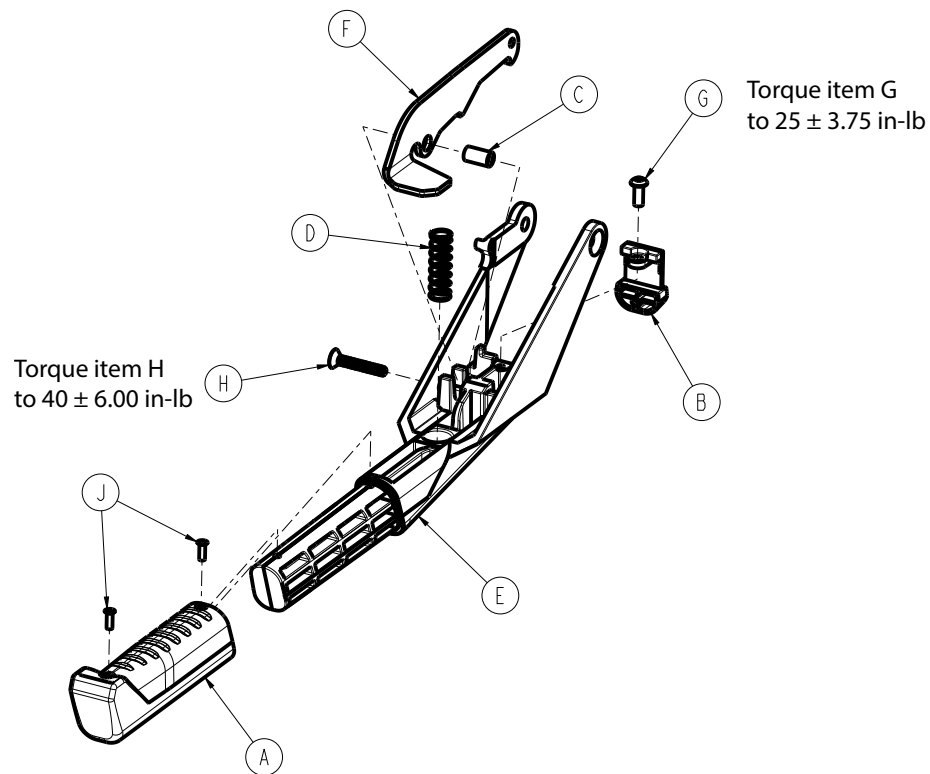
625700040100 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700040012	Upper carry handle (UCH) grip	1
B	625700040013	UCH deadstop	1
C	625700040014	UCH pivot sleeve	1
D	625700040015	UCH lock lever spring	1
E	625700040202	UCH casting, patient right	1
F	625700040203	UCH handle lock lever, patient right	1
G	700000689499	Button head cap screw	1
H	700001674026	Flat countersunk head cap screw	1
J	700002029995	Countersunk blind rivet	2

# Upper carry handle assembly, patient left

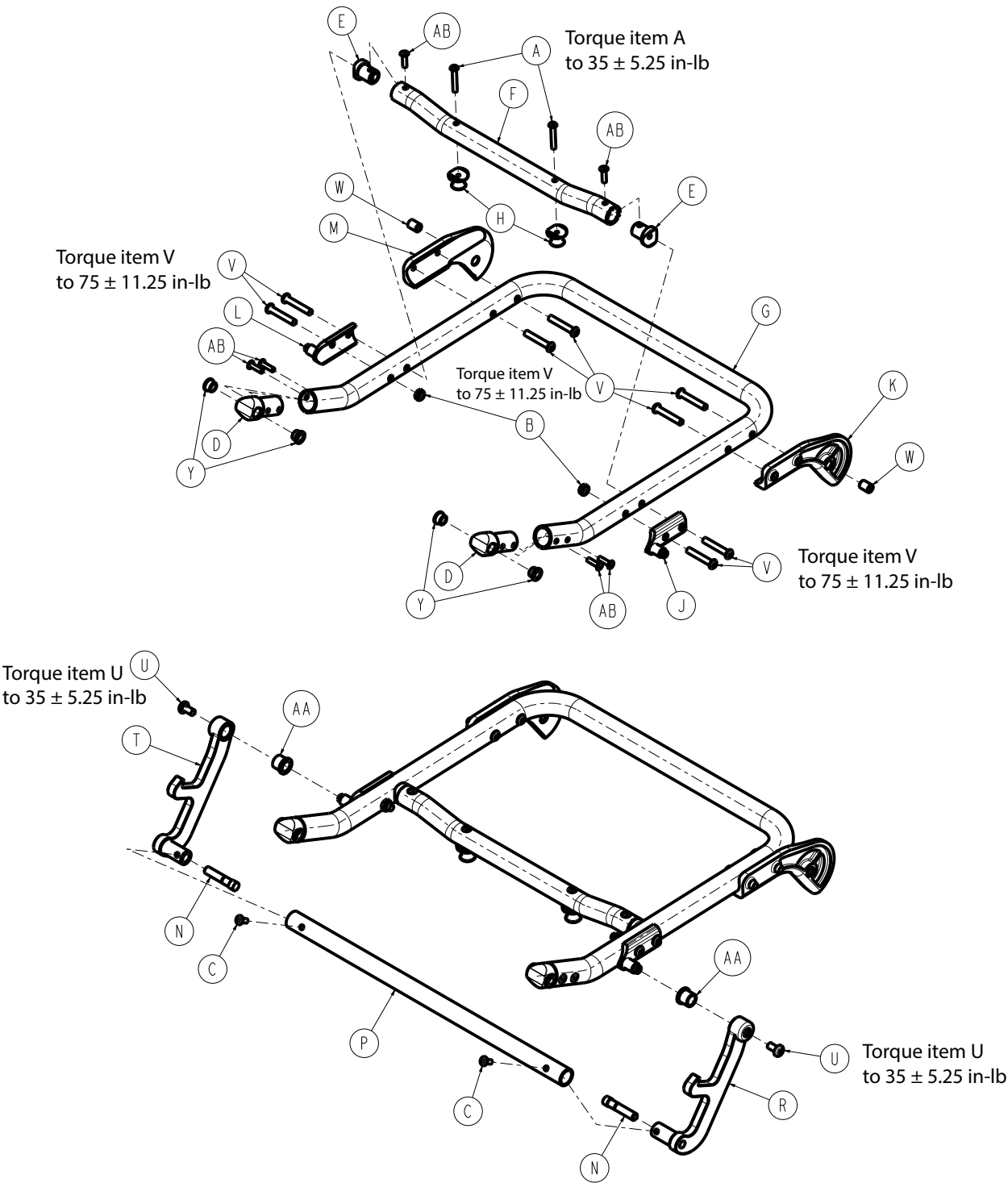
625700040200 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700040012	Upper carry handle (UCH) grip	1
B	625700040013	UCH deadstop	1
C	625700040014	UCH pivot sleeve	1
D	625700040015	UCH lock lever spring	1
E	625700040202	UCH casting, patient left	1
F	625700040203	UCH handle lock lever, patient left	1
G	700000689499	Button head cap screw	1
H	700001674026	Flat countersunk head cap screw	1
J	700002029995	Countersunk blind rivet	2

# Seat assembly

625700070000 Rev AC (Reference only)

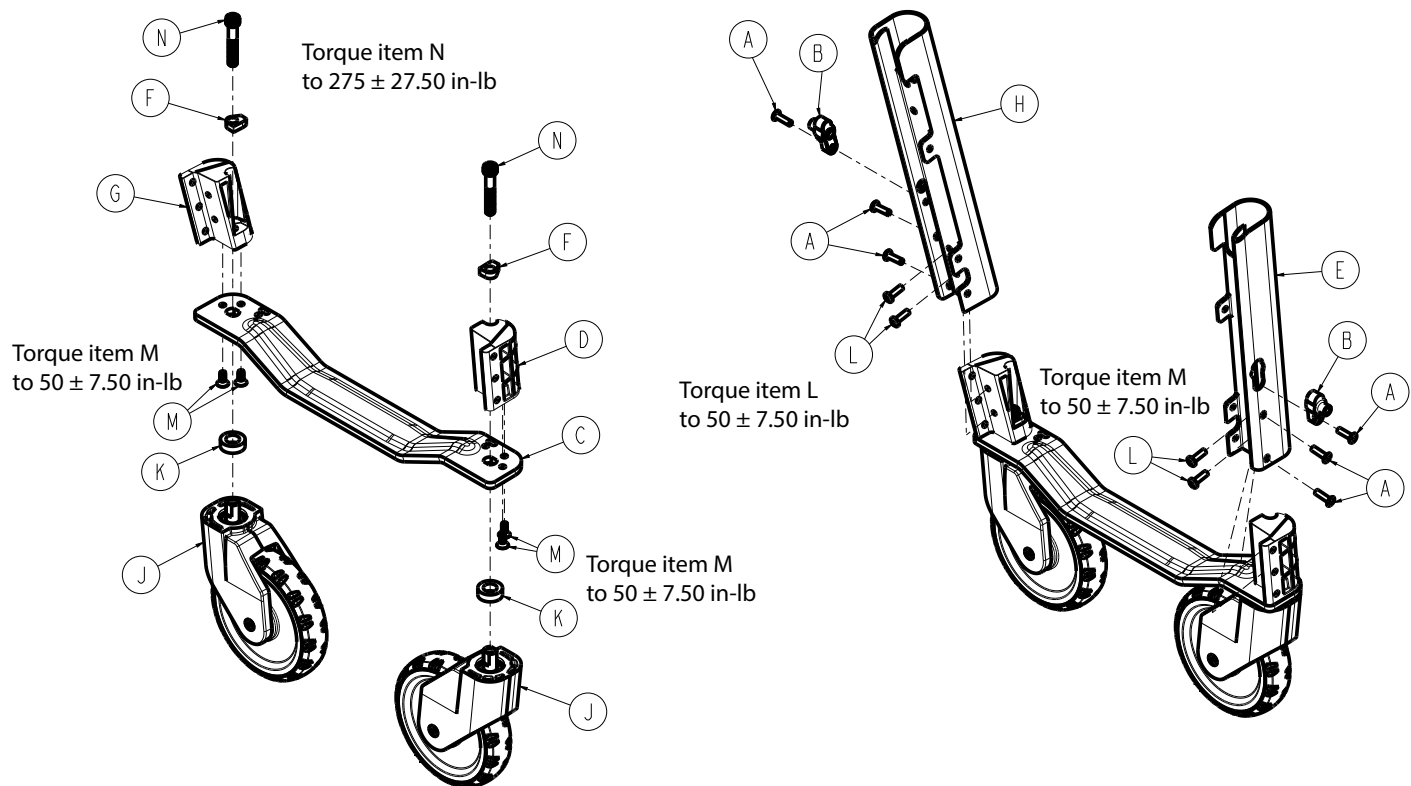


Item	Number	Name	Quantity
A	0004-601-000	Button head cap screw	2
B	0016-102-000	Nylock nut	2
C	0025-079-000	Dome head pop rivet	2
D	625700070022	Seat pivot insert	2

Item	Number	Name	Quantity
E	625700070023	Seat crosstube insert	2
F	625700070024	Seat crosstube	1
G	625700070025	Seat tubular frame	1
H	625700070026	Seat PCS post	2
J	625700070121	Seat j-link pivot, patient right	1
K	625700070122	Seat front pivot, patient right	1
L	625700070221	Seat j-link pivot, patient left	1
M	625700070222	Seat front pivot, patient left	1
N	625700100041	Fold link pin	2
P	625700100142	Fold link crossbar	1
R	625700100144	Fold link, patient right	1
T	625700100244	Fold link, patient left	1
U	700000576833	Pan head machine screw	2
V	700000689591	Button head cap screw	8
W	700001673736	Sleeve bearing	2
Y	700001680966	Flange bearing	4
AA	700002103794	Flange bearing	2
AB	0025-086-000	Dome head blind rivet	6

# Leg assembly, front

625700060300 Rev AB (Reference only)

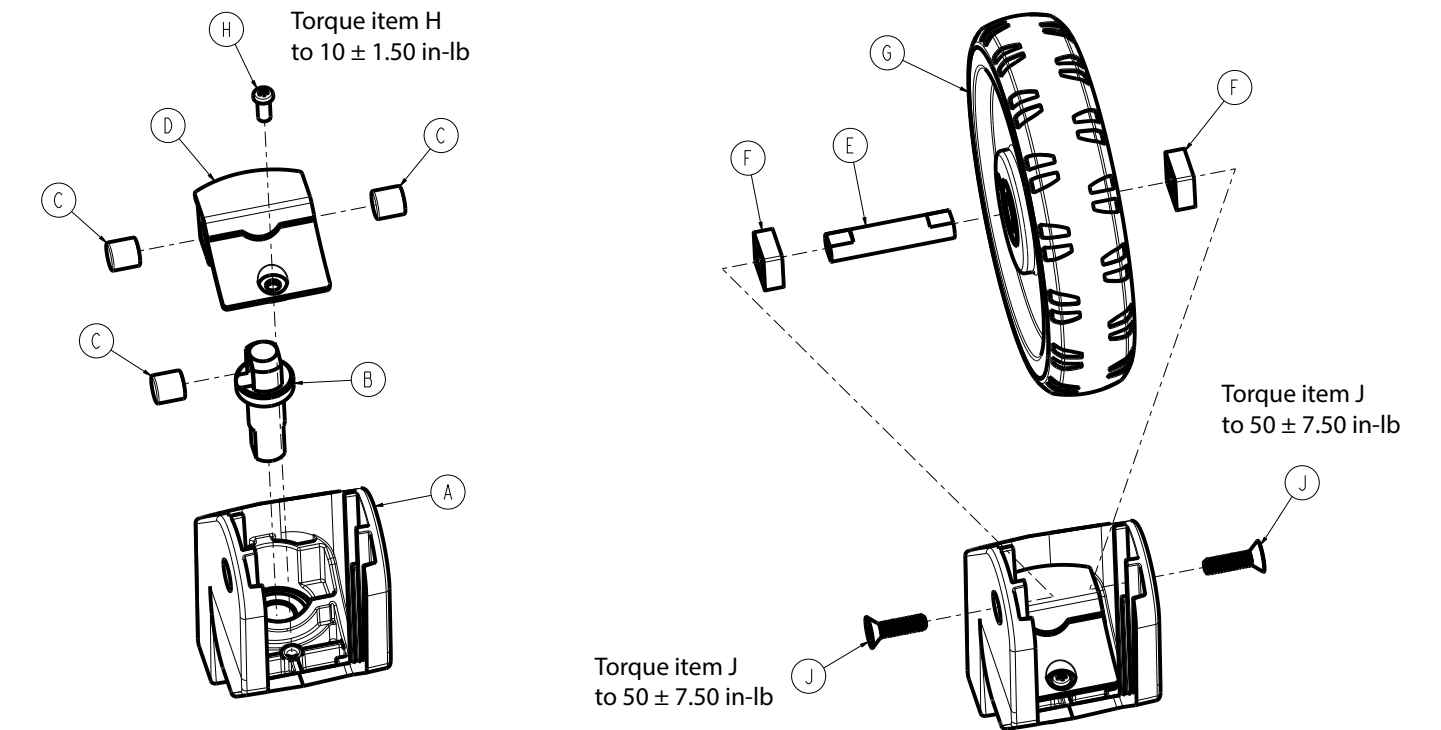


Item	Number	Name	Quantity
A	0025-086-000	Dome head pop rivet, open end	6
B	625700030018	Lower handle front leg spacer	2
C	625700060011	Heel rest	1
D	625700060101	Caster mount, patient right	1
E	625700060102	Front legs extrusion, patient right	1
F	625700060103	Caster washer	2
G	625700060201	Caster mount, patient left	1
H	625700060202	Front legs extrusion, patient left	1
J	625700060310	Caster assembly (page 89)	2
K	625700060325	Caster pin spacer	2
L	700000550115	Pan head thread forming screw	4
M	700001773433	Flat countersunk head cap screw	4
N	700001786440	Socket head cap screw	2



# Caster assembly

625700060310 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700060305	Caster horn	1
B	625700060321	Caster pin	1
C	625700060322	Caster magnet	3
D	625700060323	Caster magnet housing	1
E	625700060324	Caster shaft	1
F	625700060326	Caster shaft spacer	2
G	625700060330	Caster wheel bearing assembly	1
H	700000617917	Pan head thread forming screw	1
J	700001678236	Flat countersunk head cap screw	2

# Standard lower carry handles - 625709990103

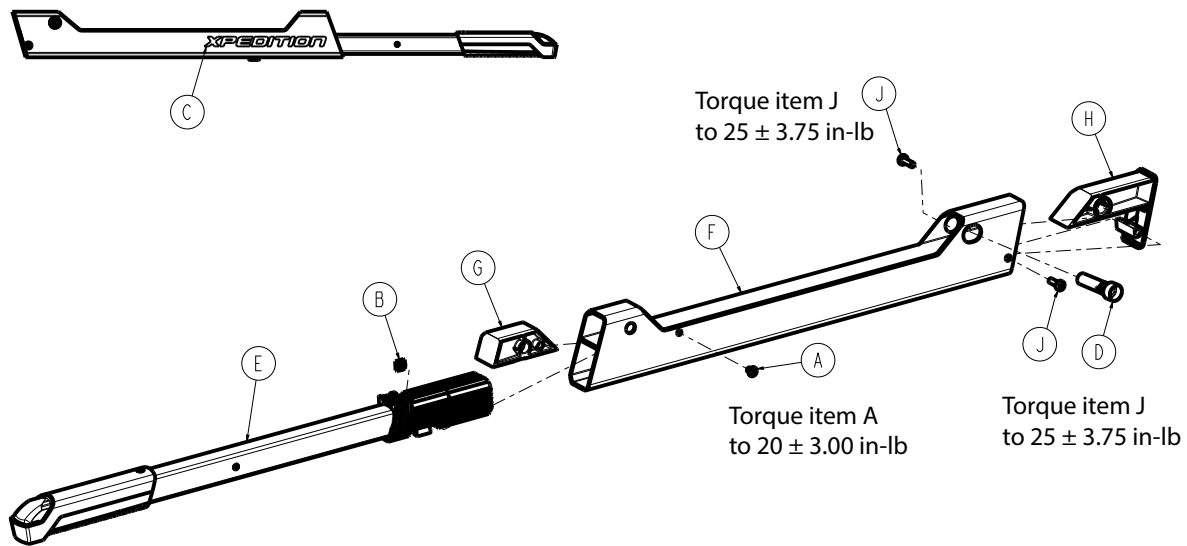
Rev AA (Reference only)



Item	Number	Name	Quantity
A	625700030100	Lower handle assembly, standard, patient right (page 91)	1
B	625700030200	Lower handle assembly, standard, patient left (page 92)	1

# Lower handle assembly, standard, patient right

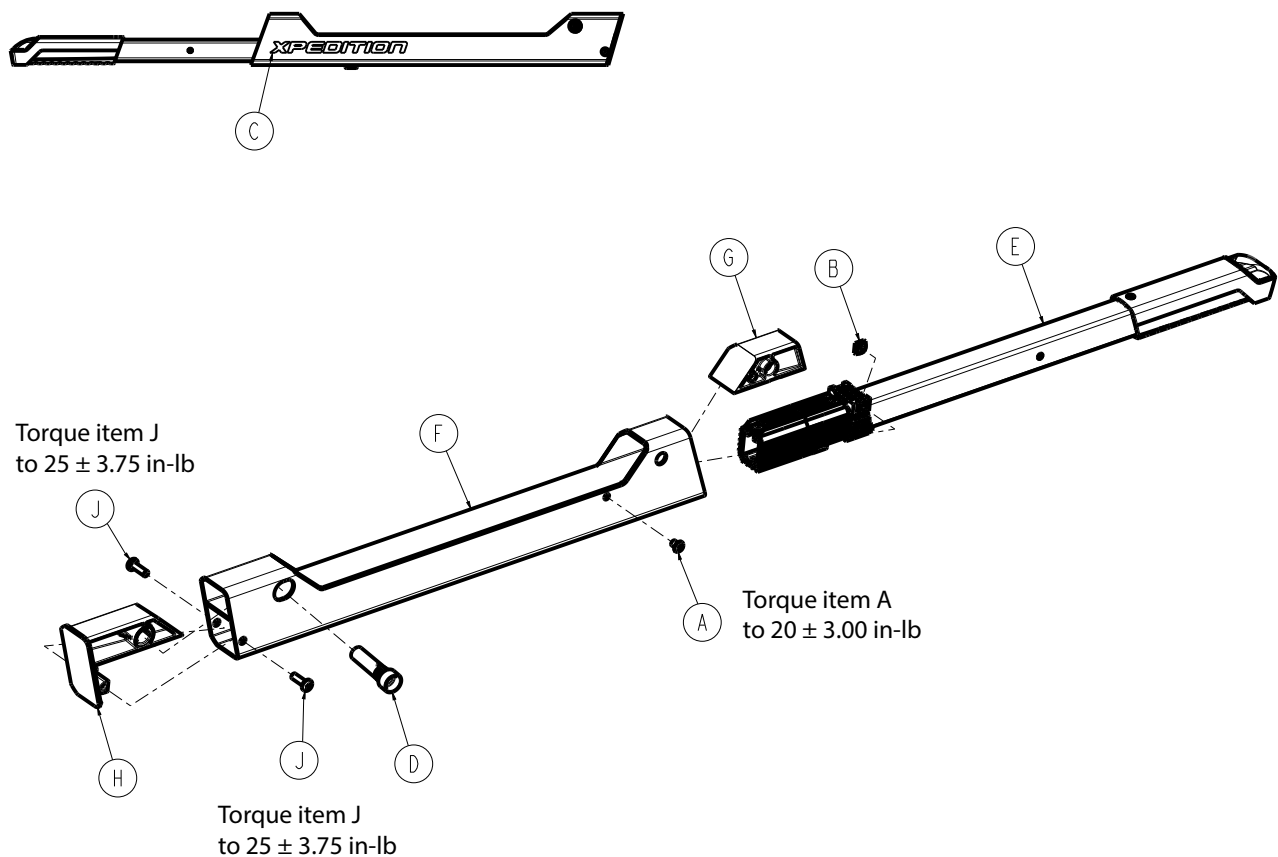
625700030100 Rev AB (Reference only)



Item	Number	Name	Quantity
A	0004-483-000	Button head cap screw	1
B	0015-051-000	Square nut	1
C	625700010915	Label, <b>Xpedition</b>	1
D	625700030012	Lower handle spacer	1
E	625700030040	<i>Lower handle slider assembly, standard</i>	1
F	625700030101	Lower handle outer housing, patient right	1
G	625700030105	Lower handle front sleeve, patient right	1
H	625700030106	Lower handle rear sleeve, patient right	1
J	700000550115	Pan head thread forming screw	2

# Lower handle assembly, standard, patient left

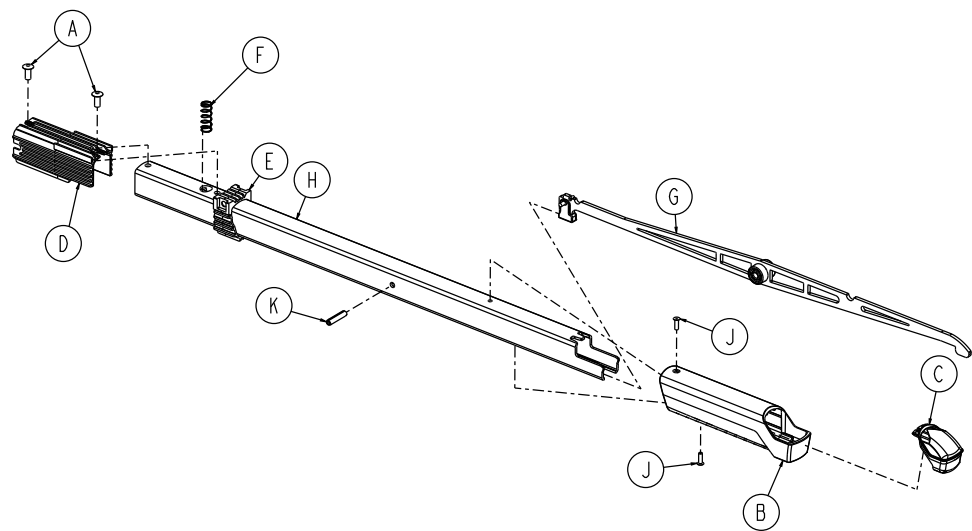
625700030200 Rev AB (Reference only)



Item	Number	Name	Quantity
A	0004-483-000	Button head cap screw	1
B	0015-051-000	Square nut	1
C	625700010915	Label, <b>Xpedition</b>	1
D	625700030012	Lower handle spacer	1
E	625700030040	<i>Lower handle slider assembly, standard</i> 1 (page 93)	
F	625700030201	Lower handle outer housing, patient left	1
G	625700030205	Lower handle front sleeve, patient left	1
H	625700030206	Lower handle rear sleeve, patient left	1
J	700000550115	Pan head thread forming screw	2

# Lower handle slider assembly, standard

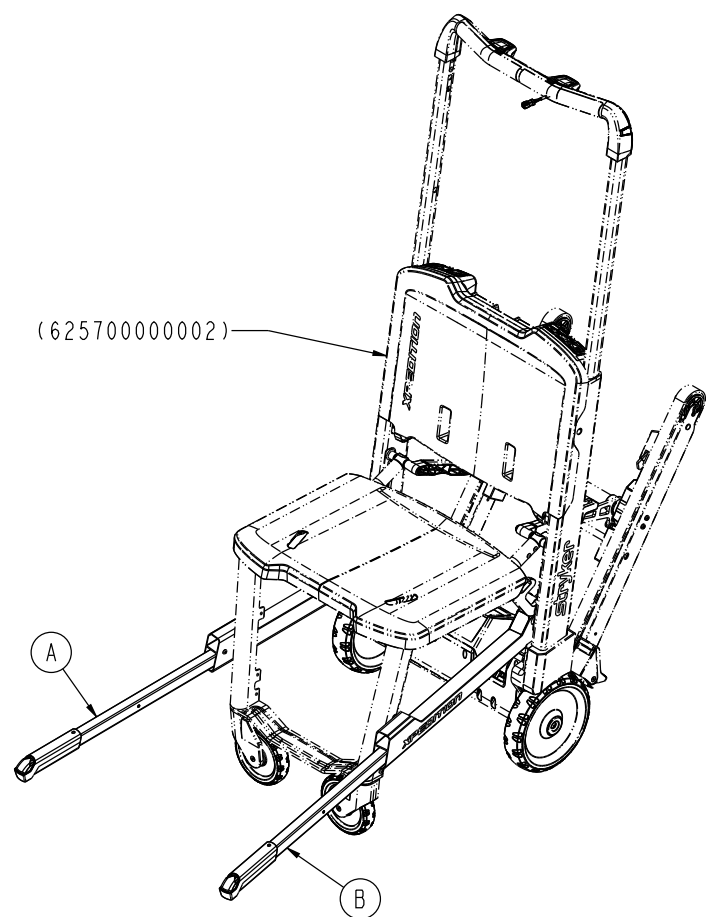
625700030040 Rev AD (Reference only)



Item	Number	Name	Quantity
A	0025-079-000	Dome head pop rivet	2
B	625700030002	Lower handle grip	1
C	625700030009	Lower handle button	1
D	625700030016	Lower handle slider bearing	1
E	625700030017	Lower handle stationary bearing	1
F	625700030029	Lower handle pivot bar spring	1
G	625700030026	Lower handle pivot bar glider overmold	1
H	625700030115	Lower handle extension bar	1
J	700002029995	Countersunk blind rivet	2
K	700002031510	Coiled spring pin	1

# Extended lower carry handles - 625709990104

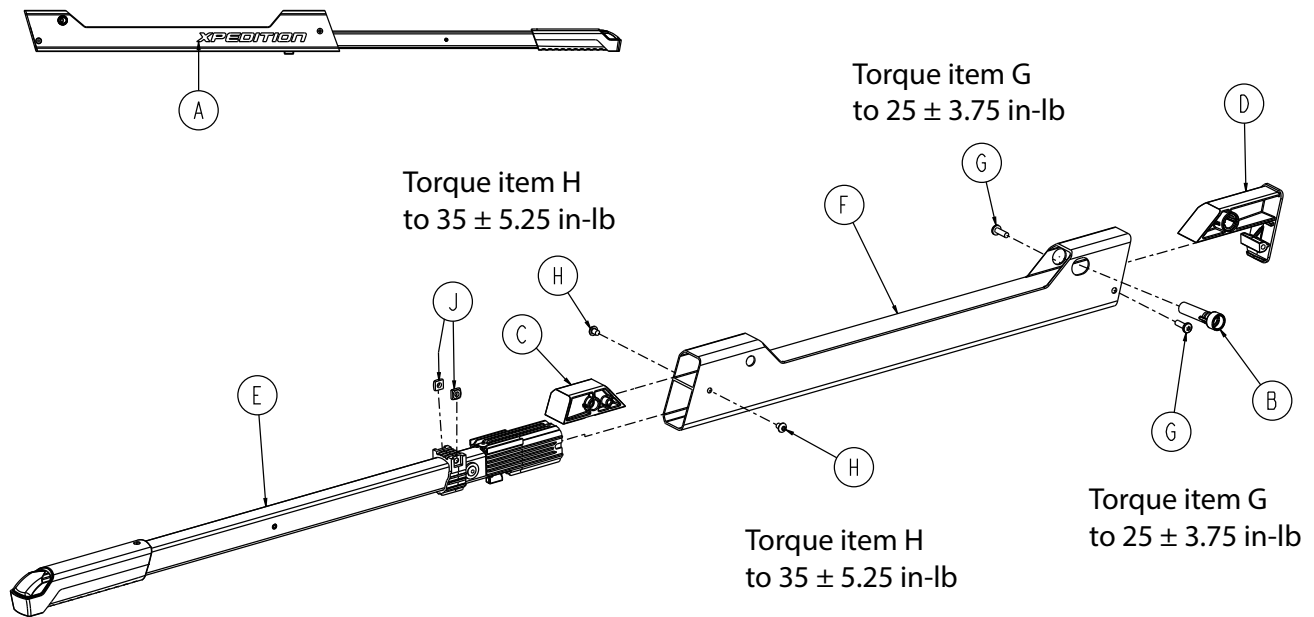
Rev AA (Reference only)



Item	Number	Name	Quantity
A	625700030400	Lower handle assembly, extended, patient right (page 95)	1
B	625700030500	Lower handle assembly, extended, patient left (page 96)	1

# Lower handle assembly, extended, patient right

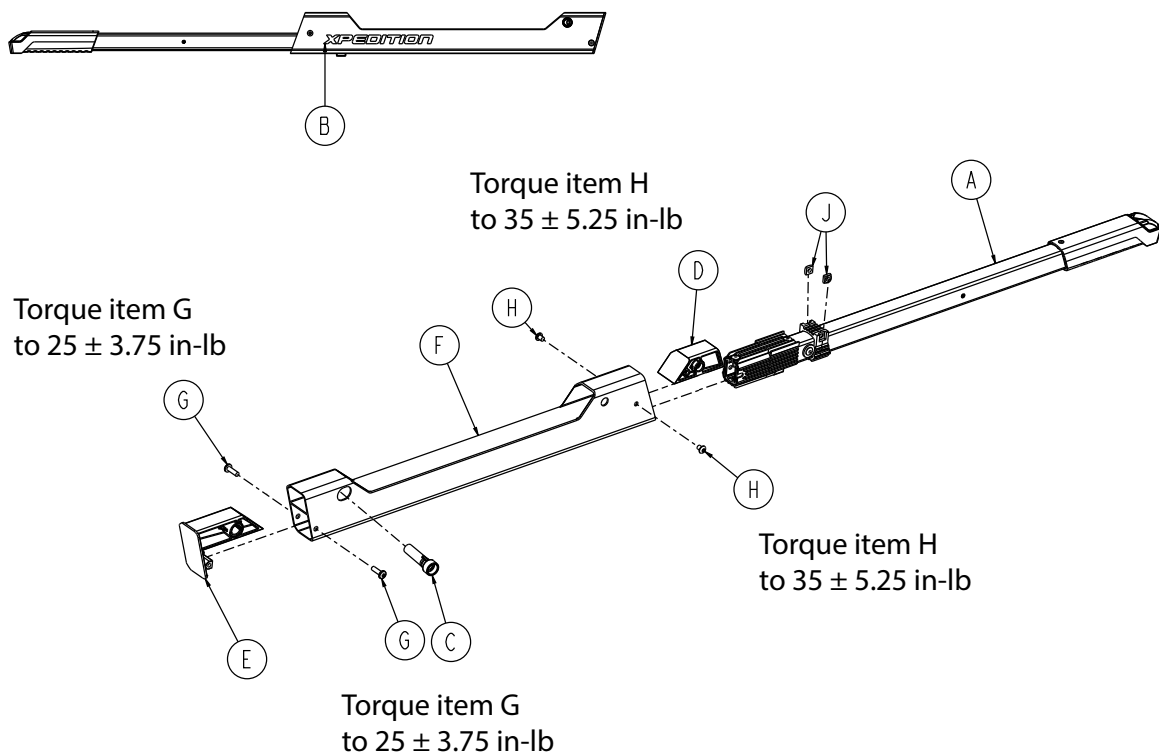
625700030400 Rev AC (Reference only)



Item	Number	Name	Quantity
A	625700010915	Label, <b>Xpediton</b>	1
B	625700030012	Lower handle spacer	1
C	625700030105	Lower handle front sleeve, patient right	1
D	625700030106	Lower handle rear sleeve, patient right	1
E	625700030140	<i>Lower handle slider assembly, extended</i> 1 (page 97)	
F	625700030401	Extended lower handle outer housing, patient right	1
G	700000550115	Pan head thread forming screw	2
H	0004-483-000	Button head cap screw	2
J	0015-051-000	Square nut	2

# Lower handle assembly, extended, patient left

625700030500 Rev AD (Reference only)

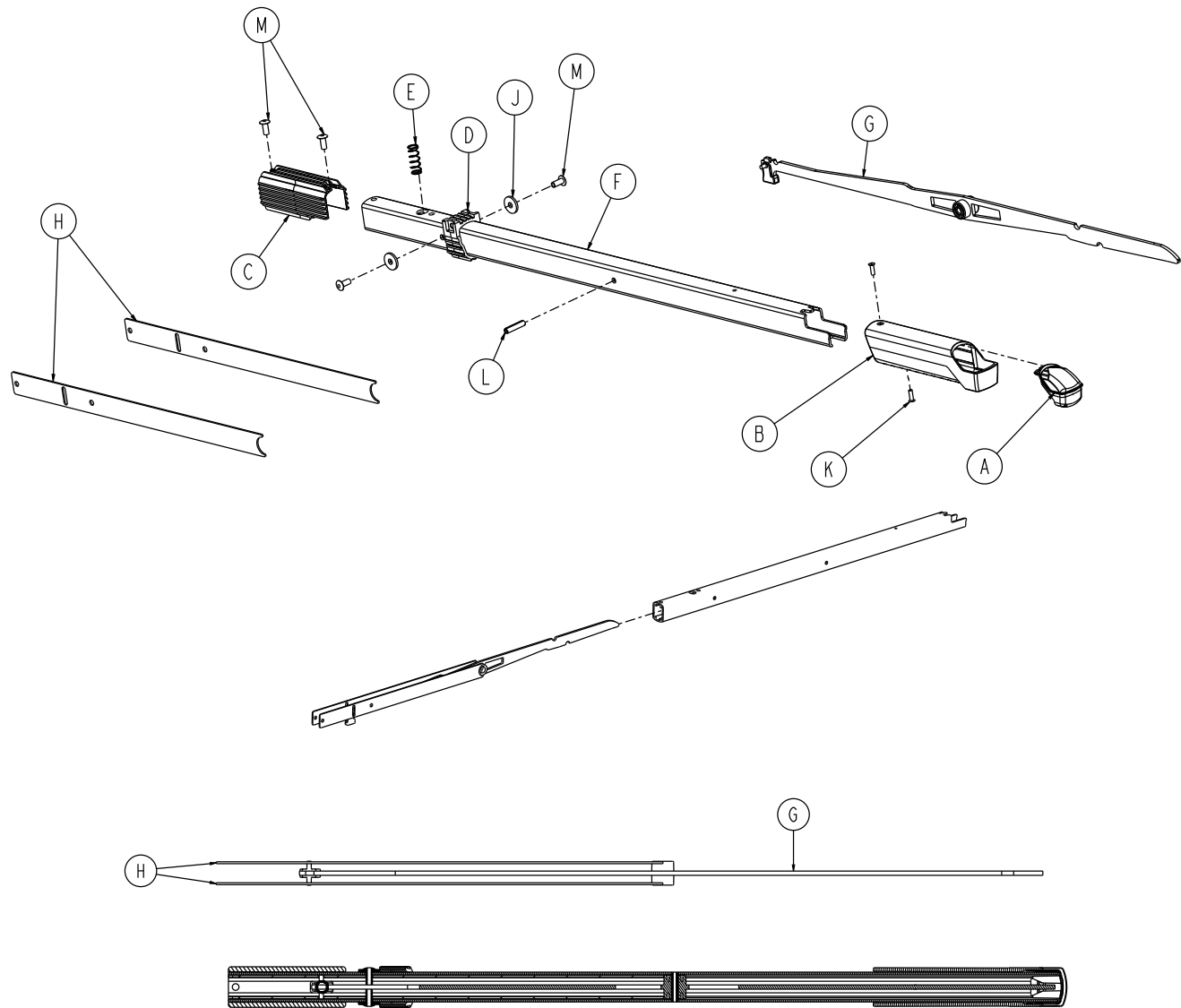


Item	Number	Name	Quantity
A	625700030140	Lower handle slider assembly, extended 1 (page 97)	1
B	625700010915	Label, <b>Xpedition</b>	1
C	625700030012	Lower handle spacer	1
D	625700030205	Lower handle front sleeve, patient left	1
E	625700030206	Lower handle rear sleeve, patient left	1
F	625700030501	Extended lower handle outer housing, patient left	1
G	700000550115	Pan head thread forming screw	2
H	0004-483-000	Button head cap screw	2
J	0015-051-000	Square nut	2



# Lower handle slider assembly, extended

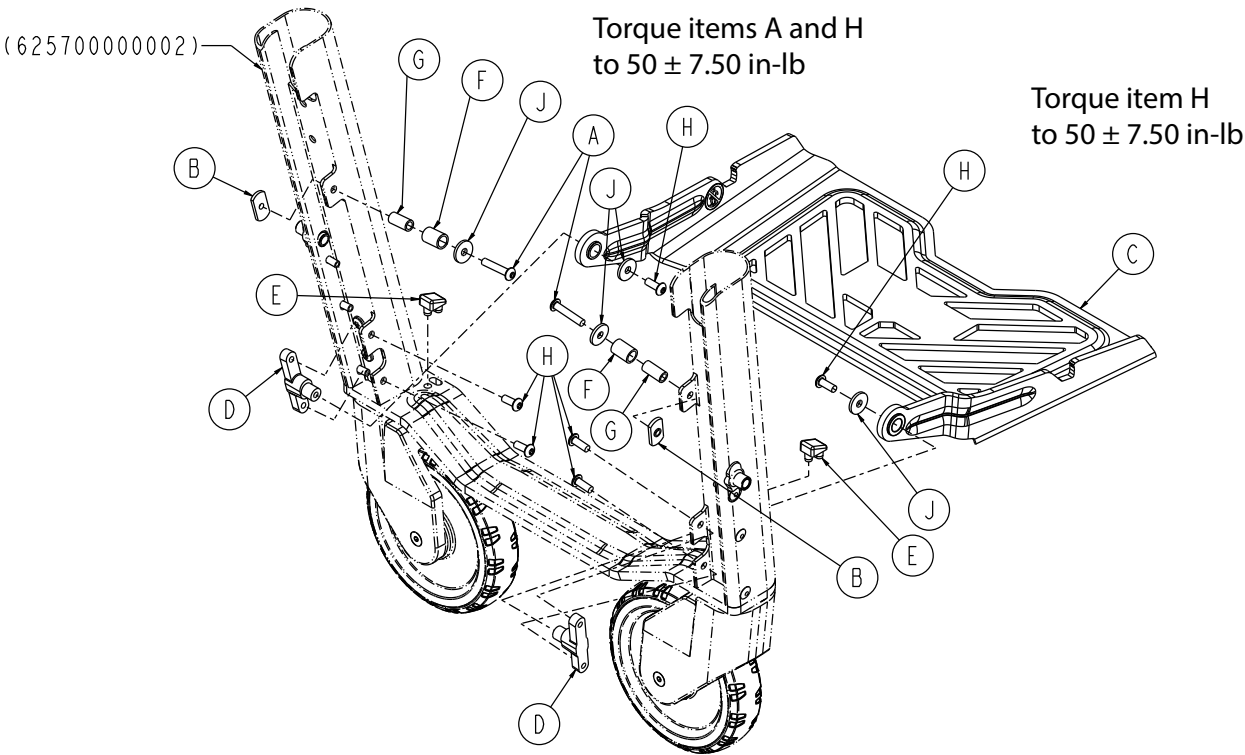
625700030140 Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700030009	Lower handle overmolded button	1
B	625700030002	Lower handle grip	1
C	625700030016	Lower handle slider bearing	1
D	625700030017	Lower handle stationary bearing	1
E	625700030029	Lower handle pivot bar spacing, 4 lb	1
F	625700030036	Extended lower handle extension bar	1
G	625700030037	Extended lower handle pivot bar glider overmold	1
H	625700030049	Lower handle extrusion brace	2
J	700001774964	Washer	2
K	700002029995	Countersunk blind rivet	2
L	700002031510	Coiled spring pin	1
M	0025-079-000	Dome head pop rivet	4

# Footrest option - 625709990107

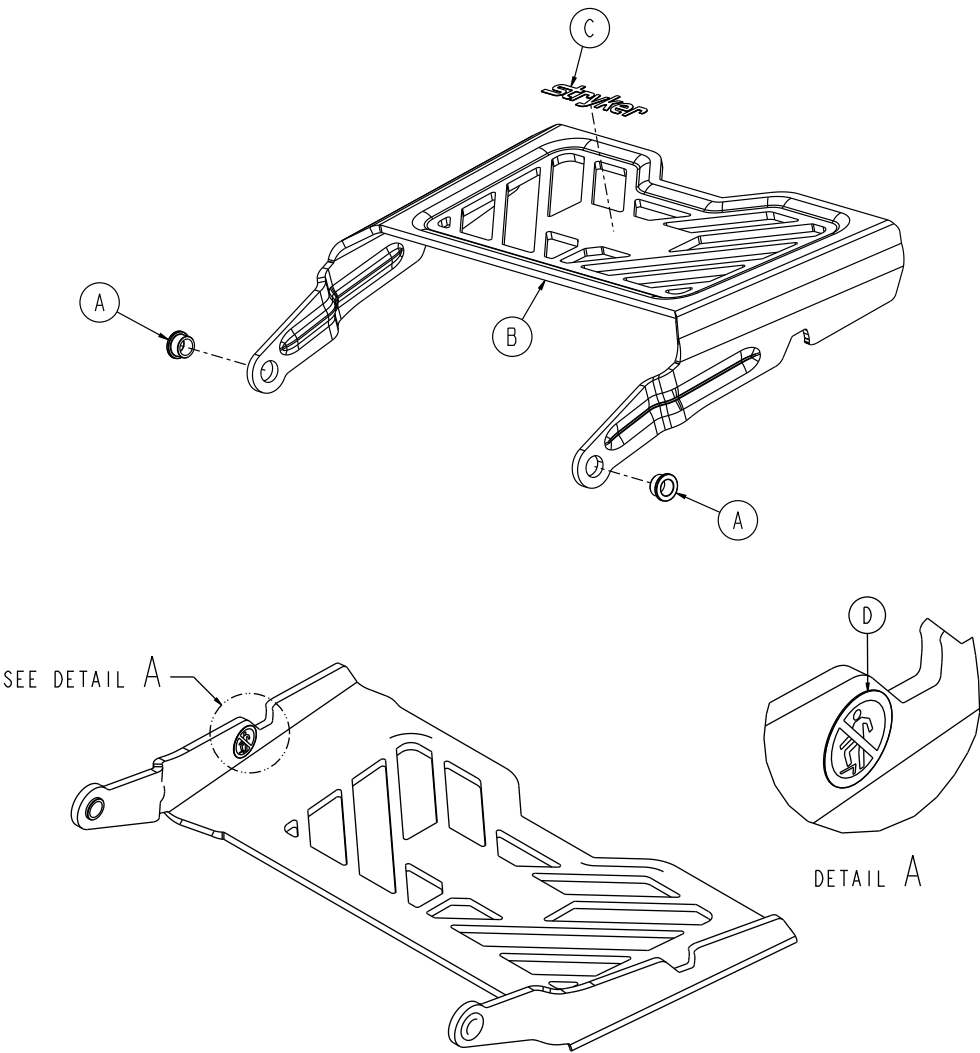
Rev AD (Reference only)



Item	Number	Name	Quantity
A	0004-460-000	Button head cap screw	2
B	0016-120-000	Weld nut	2
C	625700100015	Footrest assembly (page 99)	1
D	625700100032	Footrest pivot	2
E	625700100035	Footrest bumper	2
F	625700100036	Footrest roller	2
G	625700100037	Footrest roller sleeve	2
H	700000689499	Button head cap screw	6
J	700001774964	Washer	4

# Footrest assembly

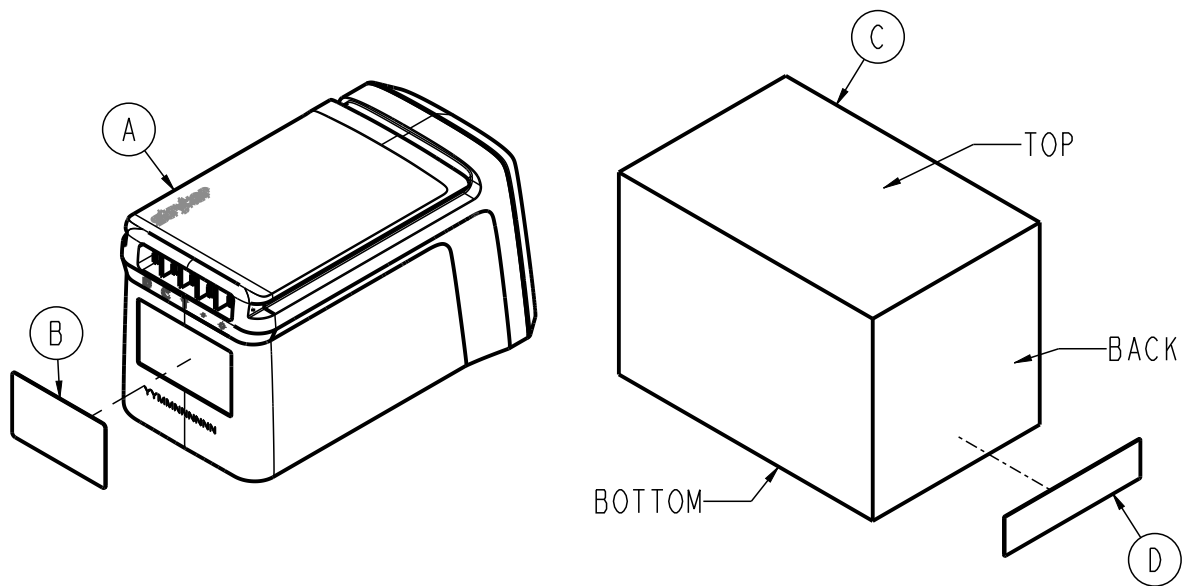
625700100015 Rev AD (Reference only)



Item	Number	Name	Quantity
A	5900330003	Bushing	2
B	625700100031	Footrest	1
C	625700010921	Label, footrest, Stryker	1
D	625700010918	Label, no stepping	1

# Battery assembly

650700080301 Rev AL (Reference only)



Item	Number	Name	Quantity
A	650700080401	Battery assembly	1
B	650700010930	Label, battery	1
C	650700190011	Packaging, battery, individual box	1
D	650700010940	Label, GSI barcode, battery	1

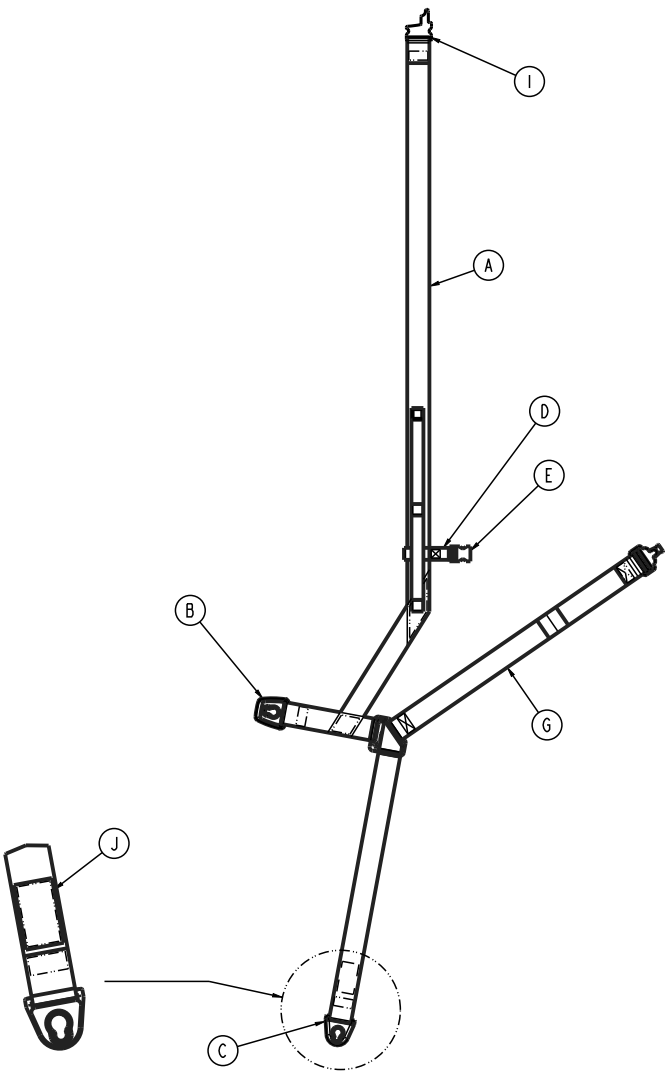
# Patient containment system (PCS) full assembly- 625700100600

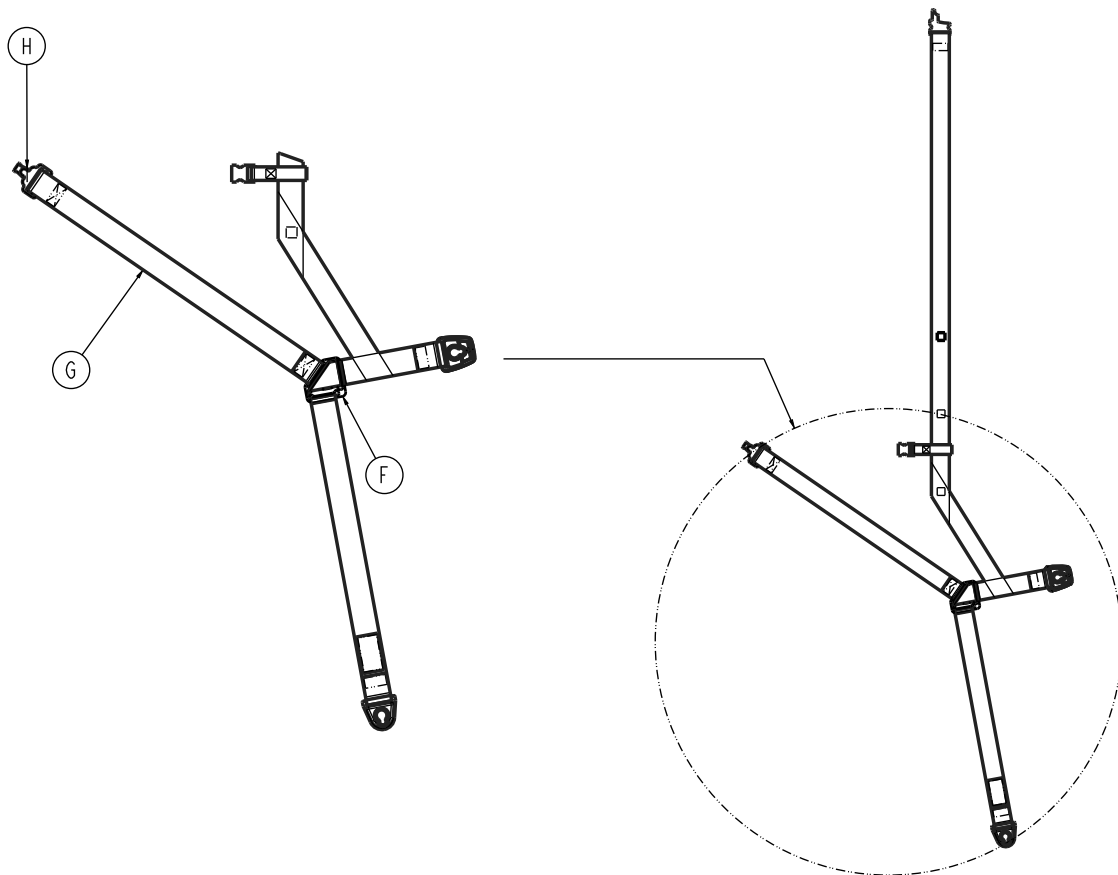
Rev AE (Reference only)

Item	Number	Name	Quantity
A	625700100610	PCS assembly, patient right (page 102)	1
B	625700100620	PCS assembly, patient left (page 104)	1

# PCS assembly, patient right

625700100610 Rev AF (Reference only)

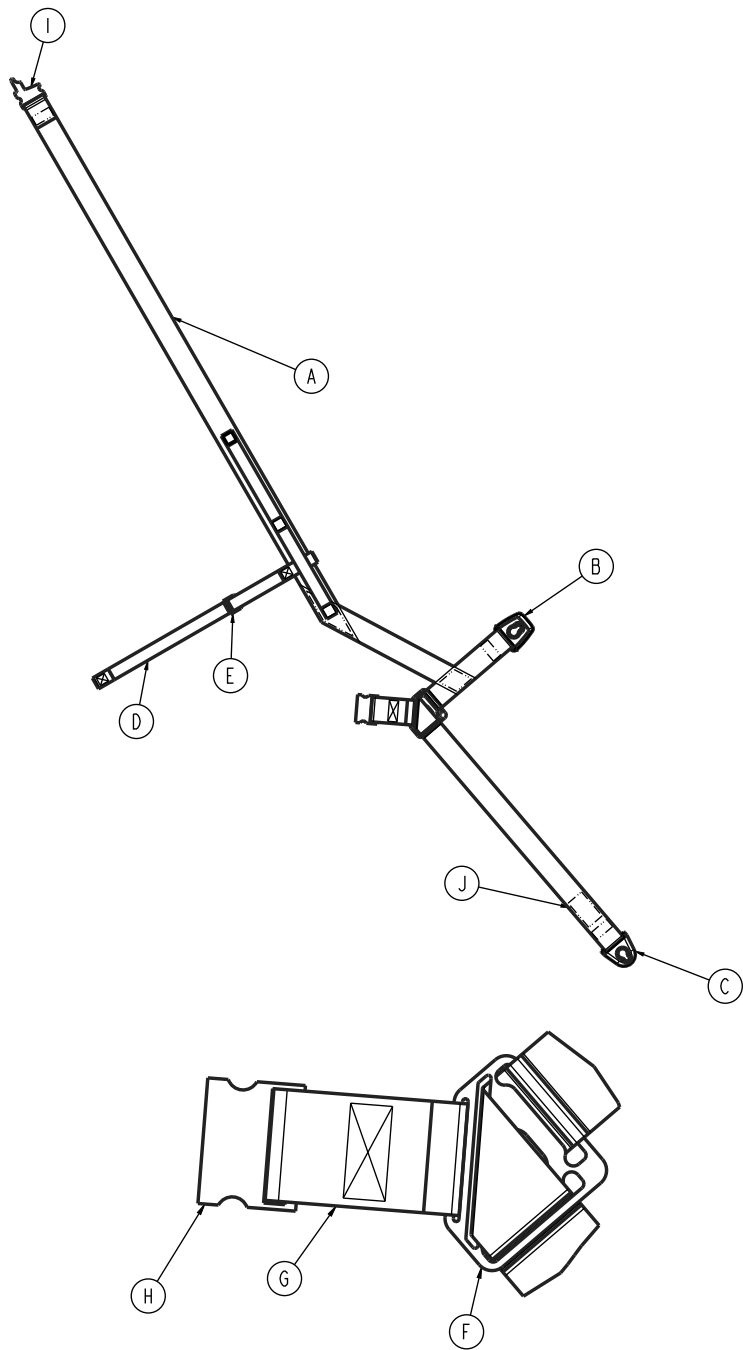




Item	Number	Name	Quantity
A	625700100611	PCS harness, patient right	1
B	625700100602	PCS back clip	1
C	625700100601	PCS seat clip	1
D	625700100613	PCS chest strap, patient right	1
E	-	PCS female buckle, 1"	1
F	625700100604	PCS reducer clip	1
G	625700100612	PCS waist strap, patient right	1
H	-	PCS male buckle, 2"	1
I	625700100603	PCS shoulder clip	1
J	625700100614	Label, PCS, patient right	1

# PCS assembly, patient left

625700100620 Rev AF (Reference only)



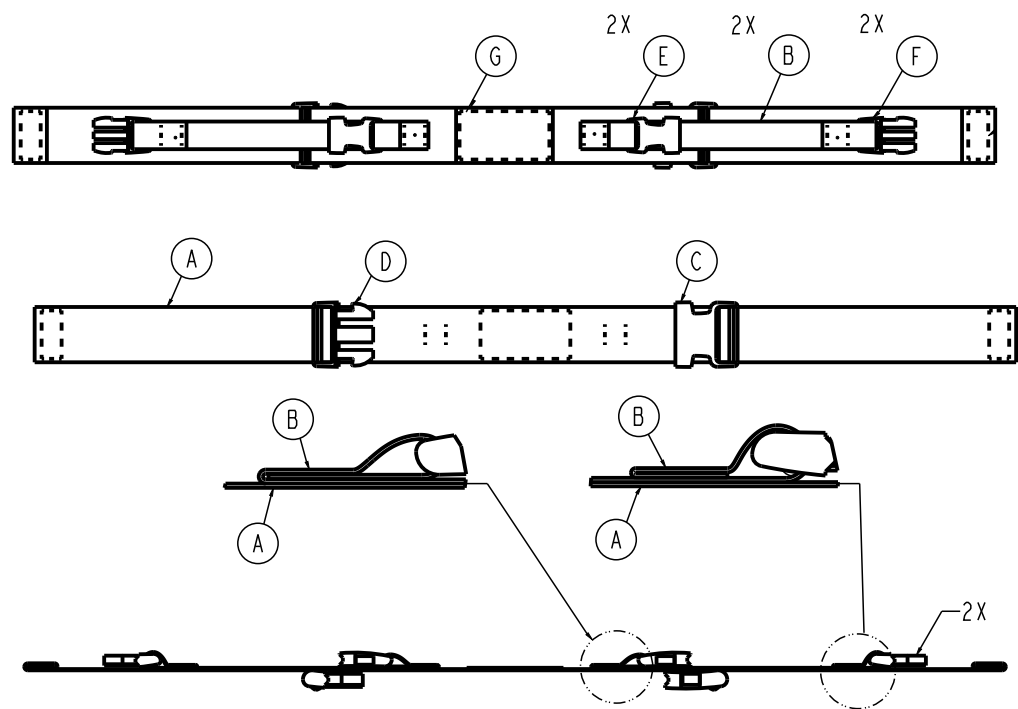
Item	Number	Name	Quantity
A	625700100621	PCS harness, patient left	1
B	625700100602	PCS back clip	1
C	625700100601	PCS seat clip	1
D	625700100623	PCS chest strap, patient left	1
E	-	PCS female buckle, 1"	1
F	625700100604	PCS reducer	1
G	625700100622	PCS waist strap, patient left	1



Item	Number	Name	Quantity
H	-	PCS male buckle, 2"	1
I	625700100603	PCS shoulder clip	1
J	625700100624	Label, PCS, patient left	1

# Ankle restraint assembly

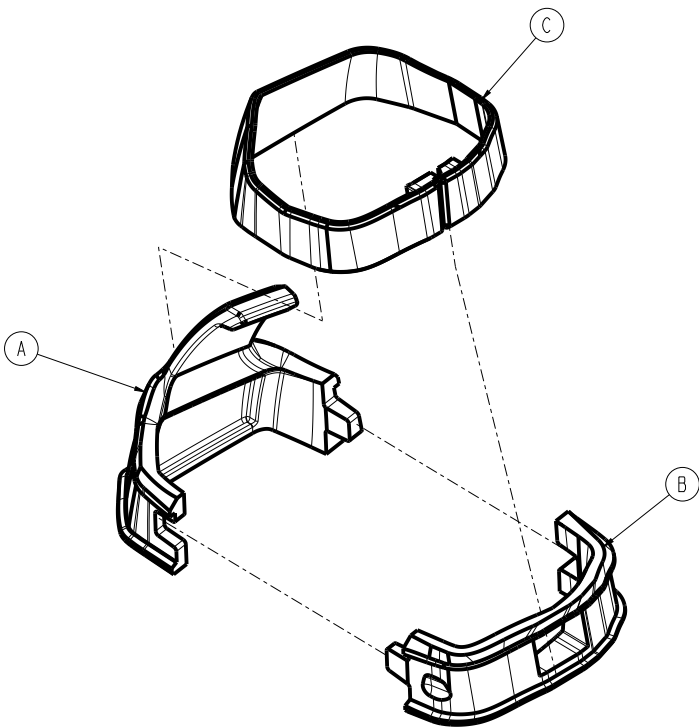
625700100450 Rev AE (Reference only)



Item	Number	Name	Quantity
A	N/A	2" wide belt, black	1
B	N/A	1" wide belt, black	2
C	150-1200	2" buckle, double adjust, female	1
D	150-1200	2" buckle, double adjust, male	1
E	150-0100	1" buckle, single adjust, female	2
F	150-0100	1" buckle, single adjust, male	2
G	625700100451	Label, ankle restraint	1

# IV hook option, patient left - 625700100260

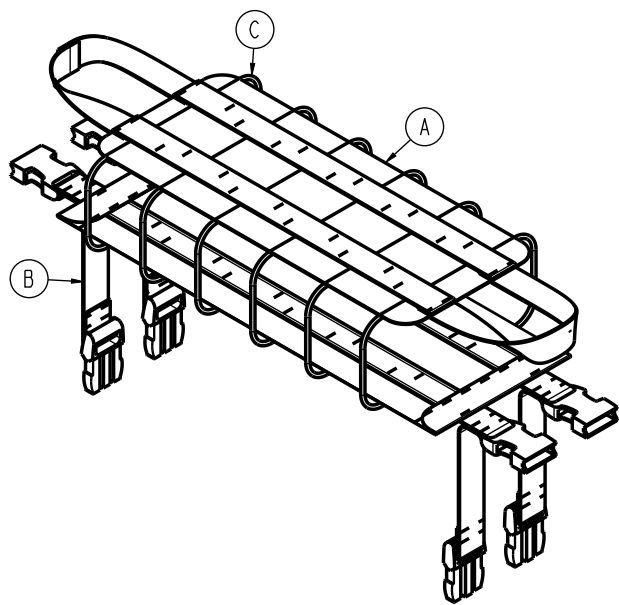
Rev AD (Reference only)



Item	Number	Name	Quantity
A	625700100261	IV hook base, patient left	1
B	625700100262	IV hook closure, patient left	1
C	625700100263	IV hook band, patient left	1
D	625700100264	Label, IV hook, patient left	1

# Oxygen bottle holder option - 625700100300

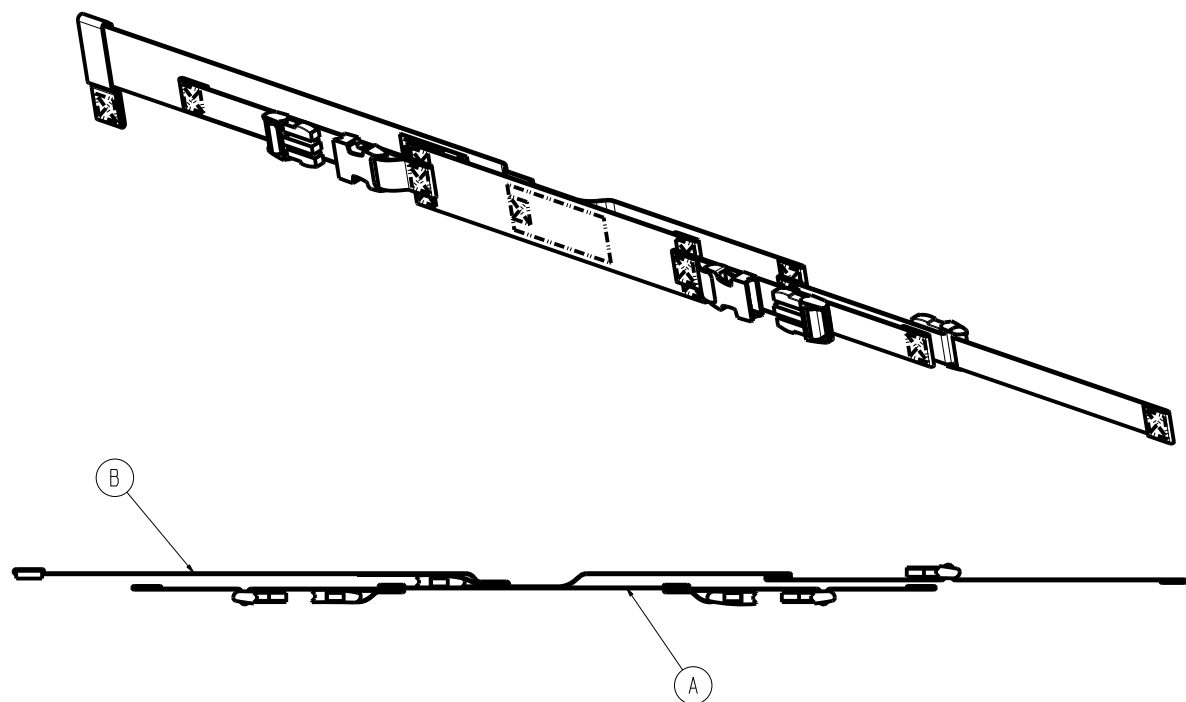
Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700100310	Oxygen bottle holder, top panel	1
B	625700100320	Oxygen bottle holder, bottom panel	1
C	N/A	Elastic bungee shock cord	1

# Head restraint option - 625700100400

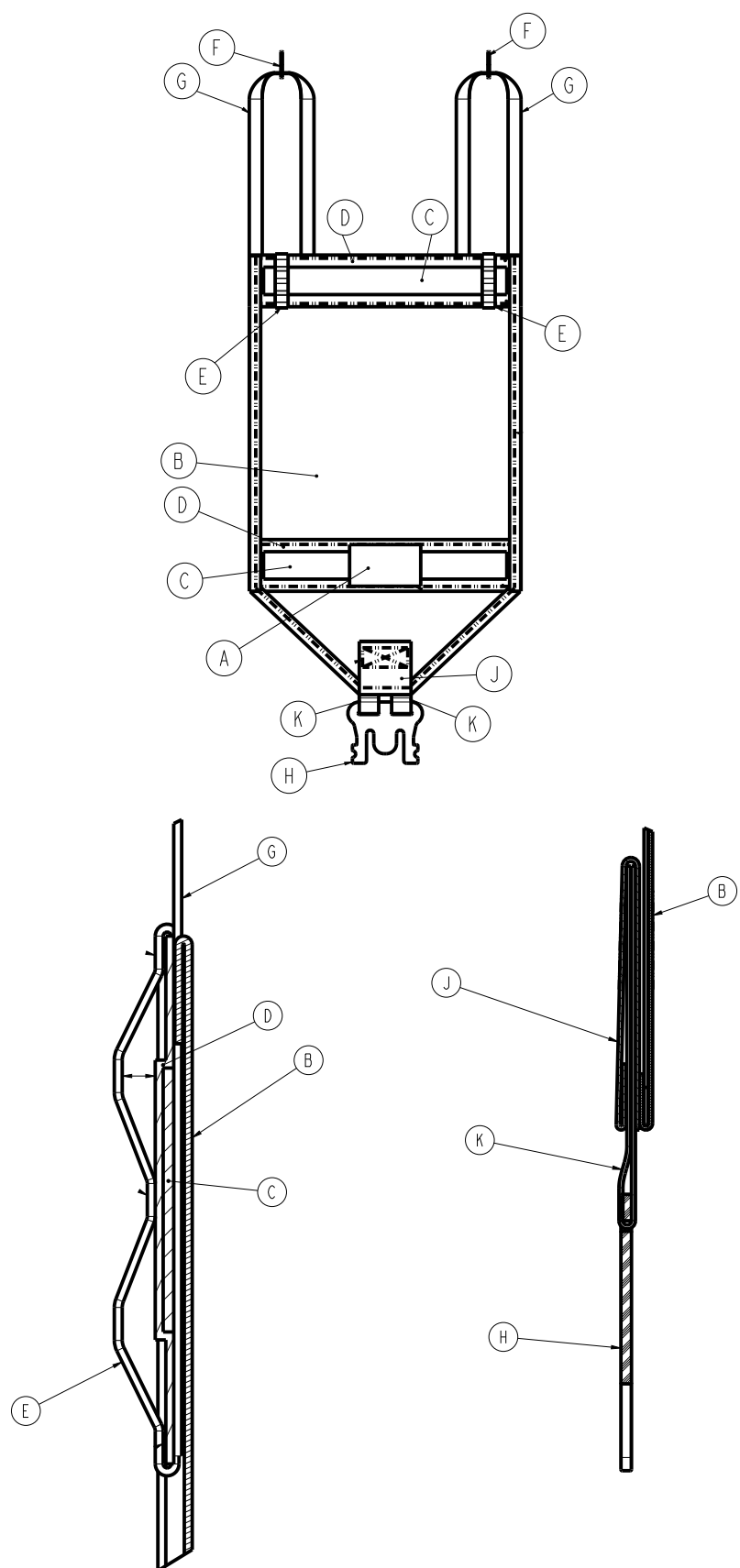
Rev AB (Reference only)



Item	Number	Name	Quantity
A	625700100410	Head restraint base assembly	1
B	625700100420	Head restraint forehead assembly	1

# Head support option - 625700100350

Rev AG (Reference only)



Item	Number	Name	Quantity
A	625700100351	Label, head support	1
B	625700100352	Head support panel one	1
C	2850-030-104	Handle strap	2
D	-	Head support stiffener webbing	2
E	-	Head support G-hook daisy chain	2
F	HH046 15MM	Tilt head clip hook	2
G	-	Head support G-hook webbing	2
H	625700100361	Head support retainer clip	1
J	-	Head support reinforcer black webbing	1
K	-	Black webbing	2

# EMC information

## WARNING


- Do not use portable RF communications equipment, including peripherals such as antenna cables and external antennas, closer than 12 inches (30 cm) to any part of **Xpedition**, including cables specified by the manufacturer.
- Always avoid stacking or placing other equipment adjacent to **Xpedition** to prevent improper operation of the products. If such use is necessary, carefully observe the chair and the other equipment to verify proper operation.
- Do not use accessories, transducers, and cables, other than those specified or provided by the manufacturer, to avoid increased electromagnetic emissions or decreased electromagnetic immunity and improper operation.

Guidance and manufacturer's declaration - electromagnetic emissions		
Emissions test	Compliance	Electromagnetic environment
<b>Xpedition</b> is intended for use in the electromagnetic environment specified below. The customer or the user of <b>Xpedition</b> should assure that they are used in such an environment.		
RF emissions CISPR 11	Group 1	The emissions characteristics of this equipment make it suitable for use in professional healthcare facilities, emergency medical services, and home healthcare environments. If it is used in other environments, this equipment might not offer adequate protection to radio-frequency communication services and power supply networks. The user might need to take mitigation measures, such as relocating or reorienting the equipment.
RF emissions CISPR 11	Class B	

Guidance and manufacturer's declaration - electromagnetic immunity			
<b>Xpedition</b> is suitable for use in a professional healthcare facility, home, and EMS environments. <b>Xpedition</b> is not suitable for use in environments exceeding immunity test conditions that the product was evaluated to, such as near high frequency (HF) surgical equipment and inside of the radio frequency (RF) shielded room of magnetic resonance imaging (MRI) equipment. The customer or the user of <b>Xpedition</b> should assure that it is used in such an environment and that the electromagnetic environment guidance listed below is followed.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge (ESD) IEC 61000-4-2	$\pm 12$ kV contact $\pm 15$ kV air	$\pm 12$ kV contact $\pm 15$ kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.



## Guidance and manufacturer's declaration - electromagnetic immunity

<p>Radiated RF</p> <p>IEC 61000-4-3</p>	<p>10 V/m</p> <p>80 MHz to 2.7 GHz</p>	<p>10 V/m</p>	<p>Portable and mobile RF communications equipment should follow the guidance in the table titled Recommended separation distances between portable and mobile RF communication equipment and <b>Xpedition</b>. If the mobile service is not listed in the table, the recommended separation distance should be calculated from the equation appropriate for the frequency of the transmitter.</p> <p>Recommended separation distance:</p> $D=(0.6) (\sqrt{P})$ <p>where <math>P</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
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**Note** - These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

<sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast, and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which **Xpedition** is used exceeds the applicable RF compliance level above, **Xpedition** should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating **Xpedition**.

<sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths are less than 10 V/m.

Recommended separation distances between portable and mobile RF communications equipment and Xpedition			
Band (MHz)	Service	Maximum power (W)	Minimum separation distance (m)
<b>Xpedition</b> is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of <b>Xpedition</b> can help prevent electromagnetic interferences by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters), <b>Xpedition</b> , and cables, as recommended below, according to the maximum output power of the communications equipment.			
380-390	TETRA 400	1.8	0.3
430-470	GMRS 460 FRS 460	2.0	0.3
704-787	LTE band 13, 17	0.2	0.3
800-960	GSM 800/900 TETRA 800 iDEN 820 CDMA 850 LTE band 5	2.0	0.3
1,700-1,990	GSM 1800 CDMA 1900 GSM 1900 DECT LTE band 1, 3, 4, 25 UMTS	2.0	0.3
2,400-2,570	Bluetooth WLAN 802.11 b/g/n RFID 2450 LTE band 7	2.0	0.3
5,100-5,800	WLAN 802.11 a/n	0.2	0.3
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
<b>Note:</b> These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.			

**CAUTION** - Changes or modifications to the **Alvarium** Battery Management System, not expressly approved by Stryker, could void the user's authority to operate the equipment.

**For United States only:**

**Alvarium Battery Management System: Model 650700080301 (battery) and Model 650700450301 (charger)**

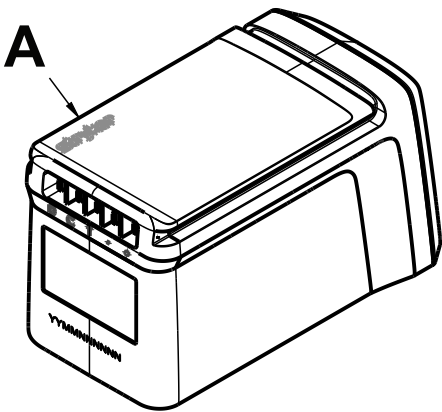
**Note** - This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or TV technician for help

Recycling passport

650700080301

Rev AL



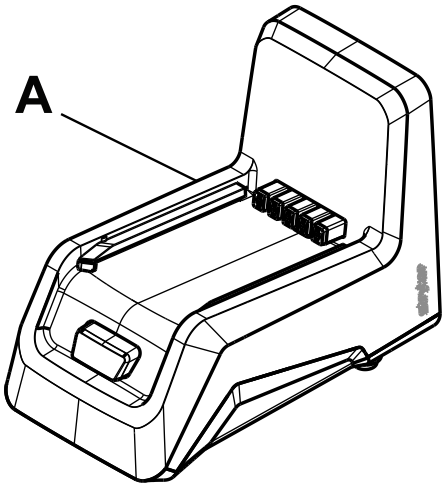
Item	Recyclable part number	Material code	Important information	Quantity
A	650700080401	Battery (LiFePO <sub>4</sub> )		1



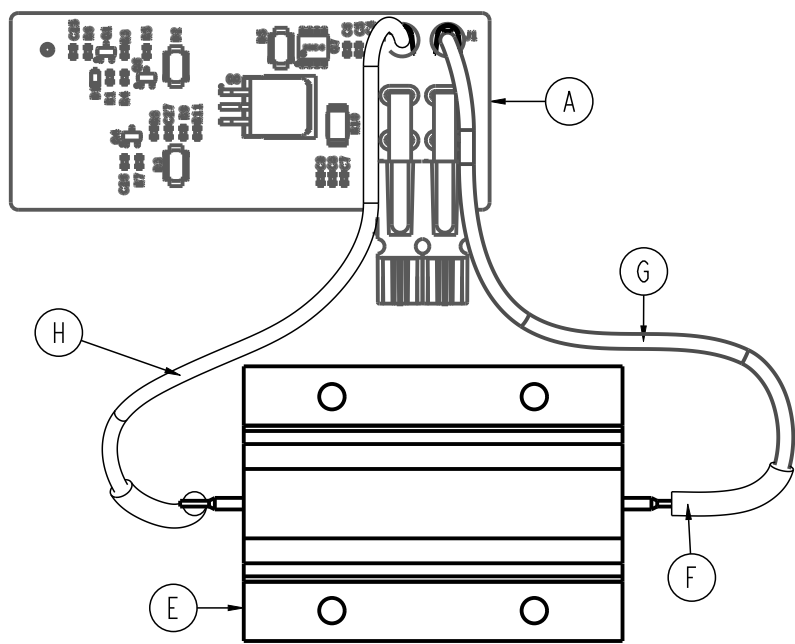
The Rechargeable Battery Recycling Corporation (RBRC) is a non-profit, public service organization that promotes the recycling of portable rechargeable batteries. Batteries must be delivered to a battery collection site. Visit the RBRC website ([www.rbrc.org](http://www.rbrc.org)) to find a nearby collection site or call the phone number shown on the recycling symbol.

650700450301

Rev AI



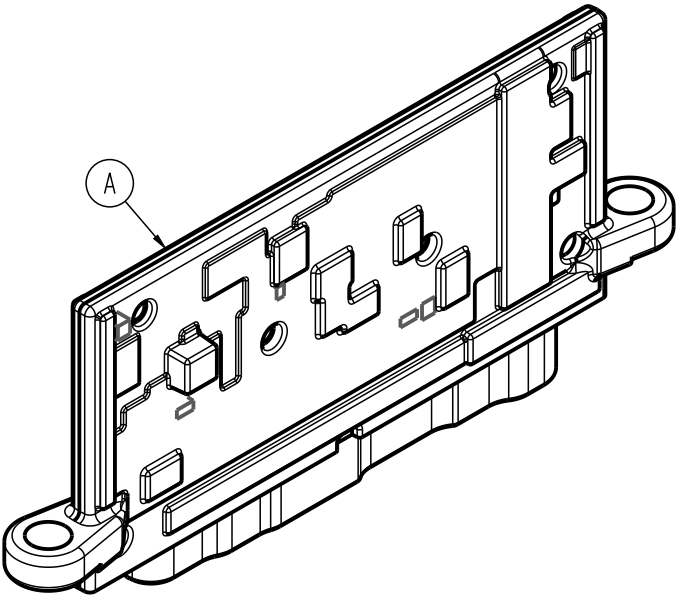
Item	Recyclable part number	Material code	Important information	Quantity
A	650700450401	Battery (LiFePO <sub>4</sub> )		1



Item	Recyclable part number	Material code	Important information	Quantity
A	625700010400	Backdrive PCBA		1

625700010119

Rev AB



Item	Recyclable part number	Material code	Important information	Quantity
A	625700020009	Power box PCBA		1



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