

*Quickie*® G-424  
Integrated C.G.Tilt

*User*

*Instruction*

*Manual*

*Supplement*

SUPPLIER:  
THIS MANUAL MUST BE GIVEN TO THE  
RIDER OF THIS WHEELCHAIR.

RIDER:  
BEFORE USING THIS WHEELCHAIR  
READ THIS ENTIRE MANUAL AND SAVE  
FOR FUTURE REFERENCE.



**QUICKIE G-424 INTEGRATED C.G. TILT  
USER INSTRUCTION MANUAL SUPPLEMENT**

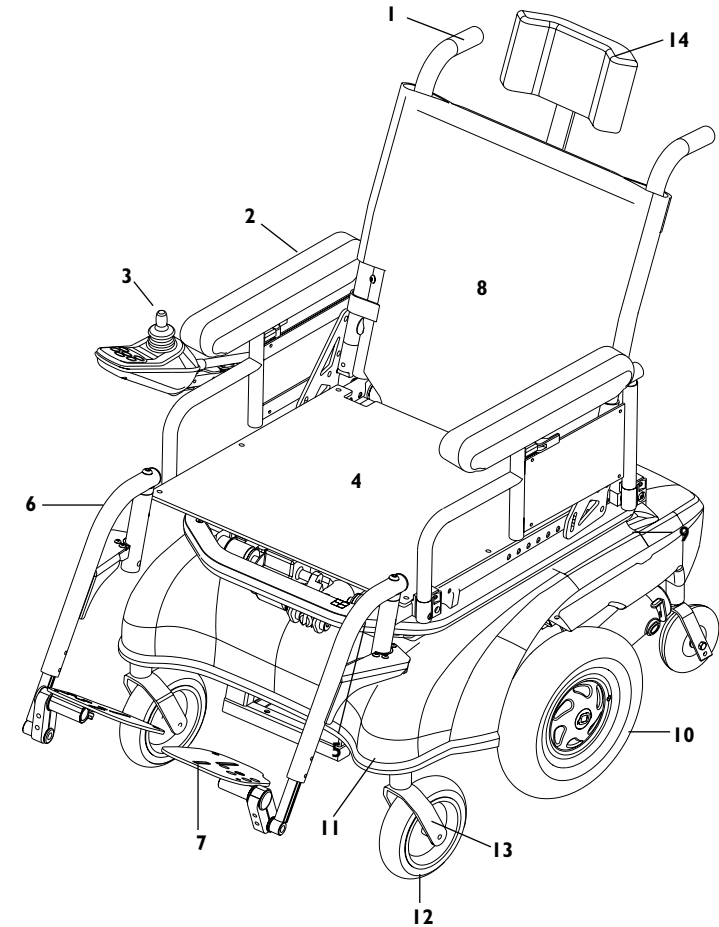
**NOTE:** This supplement contains information on the operation and adjustments for the Integrated C.G.Tilt System of a Quickie G-424 wheelchair ONLY. Please refer to the Quickie G-424 User Instruction Manual for additional notices; EMI information; warnings; tips for attendants; set-up, adjustment and use information; operating guide; battery and maintenance information; wiring diagrams and warranty information regarding the Quickie G-424.

**SUNRISE MEDICAL**  
**Customer Service Department**  
**7477 East Dry Creek Parkway**  
**Longmont, Colorado 80503**  
**(303) 218-4500 or (800) 333-4000**

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## I I I . YOUR CHAIR AND ITS PARTS



### QUICKIE G-424 INTEGRATED C.G. TILT

- |   |                                    |
|---|------------------------------------|
| 1. Push Handle                          | 8. Seat Back                       |
| 2. Dual Post, Height-Adjustable Armrest | 9. Shroud                          |
| 3. Remote Joystick                      | 10. 14" Drive Wheels               |
| 4. Seat Pan                             | 11. Caster Housing                 |
| 5. Swing-Away Footrest Latch Plate      | 12. 7" Solid Casters               |
| 6. Swing-Away Footrest Hanger           | 13. Caster Fork                    |
| 7. Angle-Adjustable Footplate           | 14. Headrest                       |
|   | 15. Tilt Toggle Switch (not shown) |

**QUICKIE G-424 INTEGRATED C.G.TILT**

**Weight**

172 lbs. with swing-away footrests and armrests, without batteries

**Drive Wheels**

14" x 3"

Tire types:

Standard - pneumatic

Option - airless insert, solid

**Joystick**

Standard - integral (right-hand or left-hand mount)

Option - remote (left-hand or right-hand mount)

Option - swing-away retractable joystick

**Batteries**

(2 batteries required to operate chair)

Option - GP 24 deep cycle gel,

Option - 22 NF deep cycle gel

**Battery Charger**

Standard - off board (Lester)

**Colors**

Refer to current order form

**Chair Parts**

Standard - black

**Seat Frame Dimensions**

Seat Frame width: standard - 14"-20"

Seat depth: 14"-20" adjustable

Solid seat back

Aluminum seat pan

Optional cushions: Jay Cushions

**CG Tilt**

0° - 50°

3° - 53°

**Backrest**

Standard - Non-folding: 15" - 20"

Straight Backpost - standard

**Footrest**

Standard - Swing-away with angle-adjustable footplates and heel loops.

Option - elevating legrests and multiposition

**Casters**

Standard - 7" solid

Option - 7" pneumatic  
7" solid insert

**Armrests**

Standard - dual post flip back

Option - height-adjustable dual post or single post with desk or full length waterfall pads or standard armpads

**Swing-Away Lateral Thoracic Supports**

Option - Curved

Option - Straight

**Headrest**

Standard - 8" x 5" or 7" x 4.5" headrest pad

All features may not be available with some chair setups or in conjunction with another chair feature. Please consult your supplier for more information. Your authorized supplier can also provide you with more information on accessories.

**A. SOLID SEAT BACK**

**⚠ WARNING**

Do not use the Solid Seat Back to push or lift the wheelchair. Improper use may cause the back to unexpectedly detach from the wheelchair.

**B. DRIVING**

**⚠ WARNING**

You should drive your chair with the tilt at the minimum angle.

**C. TILTING**

**⚠ WARNING**

To prevent damage and personal injury, avoid tilting near objects such as walls, tables or chairs.

To avoid injury, ensure other people, especially children, are clear of the system.

If using a swing-away abductor, be sure not to tilt with the abductor swung away. Otherwise, the abductor may collide with the tilt actuator when returning to the untilted position.

**D. CHANGES & ADJUSTMENTS**

**⚠ WARNING**

Never use non-Quickie parts or make changes to your chair unless authorized by Sunrise. (Doing so will void the warranty and may create a safety hazard.)

1. If you modify or adjust this chair it may increase the risk of fall or tip-over.
2. Modifications unauthorized by Sunrise constitutes remanufacturing of the wheelchair. This voids the warranty. The rider then assumes all future liability for the wheelchair.

**E. LOCKING PINS**

**⚠ WARNING**

Never use or operate this device without the use of all locking pin devices. (p. 11)

**TOOLS YOU WILL NEED**

**I. Basic Tool Kit:**

To set up, adjust and maintain your chair you will need the following tools:

- 5/32" Allen wrench
- 3/16" Allen wrench
- 5/16" Allen wrench
- 9/16" box and open-end wrench
- 1/2" box and open-end wrench
- Phillips screwdriver #1
- Standard slot screwdriver

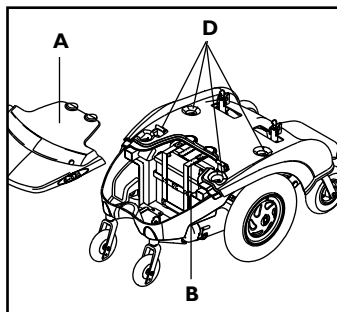
**NOTE:** Setting the wheelchair on a flat surface, such as a table or a workbench, helps make these procedures easier.

**A. BATTERY REMOVAL**

To remove the batteries for transporting or servicing:

**I. Remove Batteries**

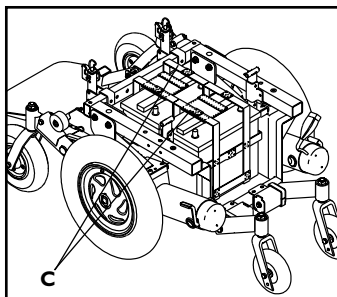
- a) Lift up deck lid (A).
- b) Unplug and remove batteries from rear of chair (B).
- c) Lift up batteries by lifting up on battery straps (C).



**II. Alternate Battery Removal**

Recommended method for Group 24 batteries.

- a) Remove seat by removing quick-release pins attaching seat to mount.
- b) Lift seat off seat mounts.
- c) Release all release levers (D) on the top of the shroud cover.
- d) Remove the shroud cover to expose the batteries.
- e) Unplug and lift up batteries by lifting up on the battery straps.



**III. Battery Installation**

See Section XI. Batteries, D for installation and wiring diagram.

**⚠ WARNING**

**Batteries may weigh up to 55 lbs. Care must be taken to avoid injury when lifting up on battery straps (C).**

**B. SOLID SEAT BACK & LATERAL THORACIC SUPPORTS**

1. To adjust the height of the lateral support mount, loosen the adjustment screw until the receiver slides freely on the back posts. Tighten the adjustment screw when the proper height is determined.
2. Assess and fit the lateral thoracic supports. Assess client for proper positioning of the lateral thoracic supports. Each support is independent and may be adjusted for your client's clinical need.

**⚠ WARNING**

**A minimum of 1" (2.5 cm) of clearance should exist between the top of the lateral support and the user's arm pit.**

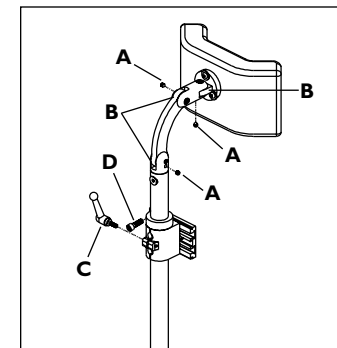
- a) To adjust the height, angle or width of the lateral thoracic support pads, loosen the top bolts and slide to correct width. Tighten bolt to bolt plate. If more adjustment is necessary, loosen the internally mounted bolts, and slide in the track to the desired height and width. The angle is obtained by tilting the bracket as needed. Tighten the bolts.
- b) To adjust the depth of the lateral thoracic pads, turn the middle bracket so that the slots are on side. Adjust to desired depth. Re-tighten the bolts.

**C. HEADREST**

1. Mounting a headrest.

The Solid Seat Back has a headrest plate mounted to it. Care should be taken to use the proper screw length when mounting.

2. To position the headrest use the double clamp and the collar clamp (B,C,D) to obtain the proper height and distance. For clamp B use a 3/32 Allen set screw (A) and a 3/16 Allen cap screw. Clamp B positions the headrest forward and aft. However, due to the vertical movement of this adjustment, collar clamp D will have to be moved in conjunction.
4. Retighten both the 3/16 Allen and the set screws (A) with a 3/32 Allen wrench.

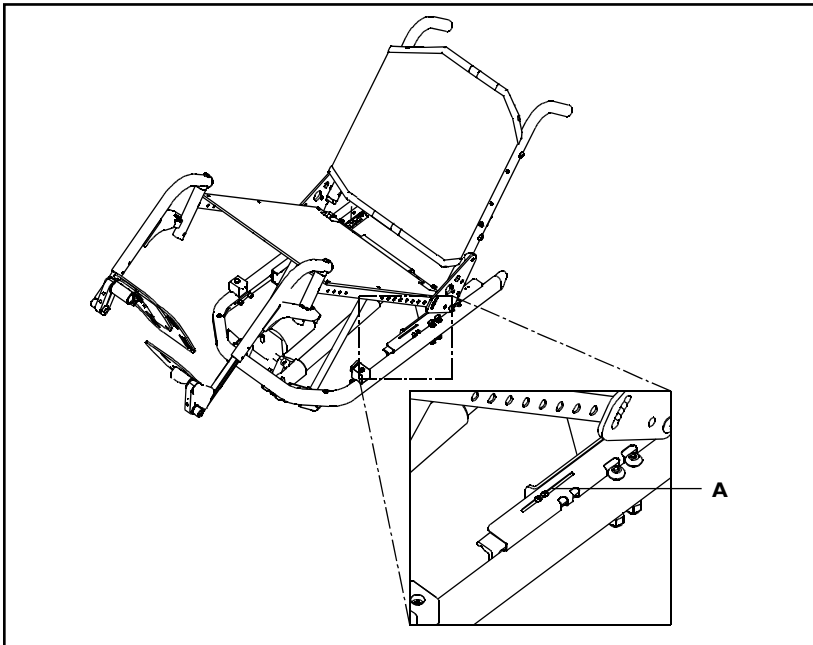


**D. FOAM BACK**

1. Secure the foam and cover to the shell.  
To secure the back foam and cover on the Solid Seat Back, slide the top edge of the cover over the top lip of the shell. Press the back in place against the shell.

**E. SEAT TILT ADJUSTMENTS & DRIVE LOCK-OUT**

1. Maximum Tilt Angle  
Maximum tilt angle can be adjusted to a limit of 50°.
  - a) Loosen and remove switch fasteners (A).
  - b) The switch can be positioned forward and aft within slot in order to fine tune the maximum tilt angle. Forward positions increase tilt angles. Aft position remove tilt angles.
  - c) Tighten the switch fasteners at desired maximum tilt angle
2. Drive Lock out Angle.  
The Drive Lock-out angle is fixed and is set at 15°±3°



**F. SEAT REMOVAL**

1. Remove Seat
  - a) Loosen knob (A) and move inward. It is most easily accessed when the seat is tilted at or above 40°. Retighten so that it does not fall back into the way.
  - b) Remove safety lock pin (B).
  - c) Flip seat back and remove with a slight forward motion.

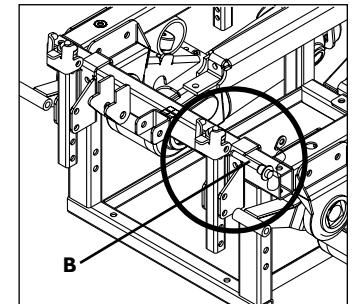
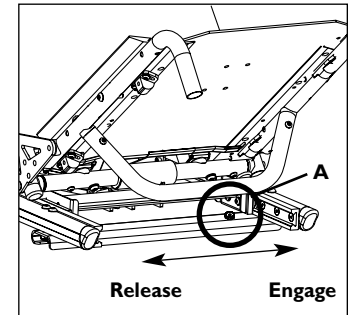
**⚠ WARNING**

It is recommended that two people perform this operation. The seat is heavy and can be large depending on seat size.

2. Replace Seat
  - a) Position rear of seat on docking mount.
  - b) Rotate seat forward until latches lock the seat in place.
  - c) Replace the safety lock pin (B) under release lever and position both rear latch knobs (A) outward and tighten.

**⚠ WARNING**

Always replace the latching lock pins to prevent inadvertent release of the seat.



**G. SEAT DEPTH**

The seat depth can be adjusted in one inch increments.

1. Seat Frame Depth Adjustment
  - a) To adjust, remove the two bolts (C & D p. 12) from each side of the backrest pivot plate.
  - b) Reposition the backrest to the desired position.

**Note:** Substitute Bolt (D) with rear back rest pivot plate bolt (C) for 18" seat depth.

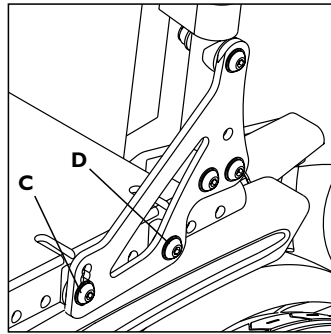
  - c) Replace and retighten bolts on each side of the backrest pivot plate.

**H. BACKREST**

A backrest angle adjustment is standard.

**I. Adjustment on Seat Frame**

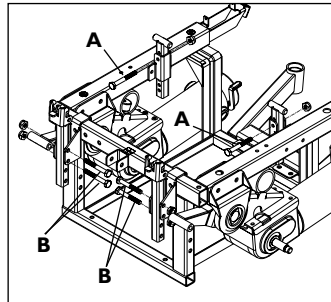
- a) Remove the front securing bolt (C) on the side of the backrest hinge plate.
- b) Loosen the lower rear bolt (D)
- c) Set at desired angle. There are four holes (in 4° increments) to choose from.
- d) Reinstall the front bolt and tighten both bolts securely.



**I. SEAT HEIGHT ADJUSTMENT**

The seat height can be adjusted from 19"-22" at 1" increments.

1. Remove the seat and shroud cover
2. Reposition all four of the seat mounts to desired position by removing bolts, adjusting mounts and replacing bolts.
3. Ensure that the top of all seat mounts sit at the same height. (except as noted below)
4. Replace shroud and seat.



**Note:** 1" of seat dump can be set by lowering the rear post two hole positions.

**⚠ WARNING**

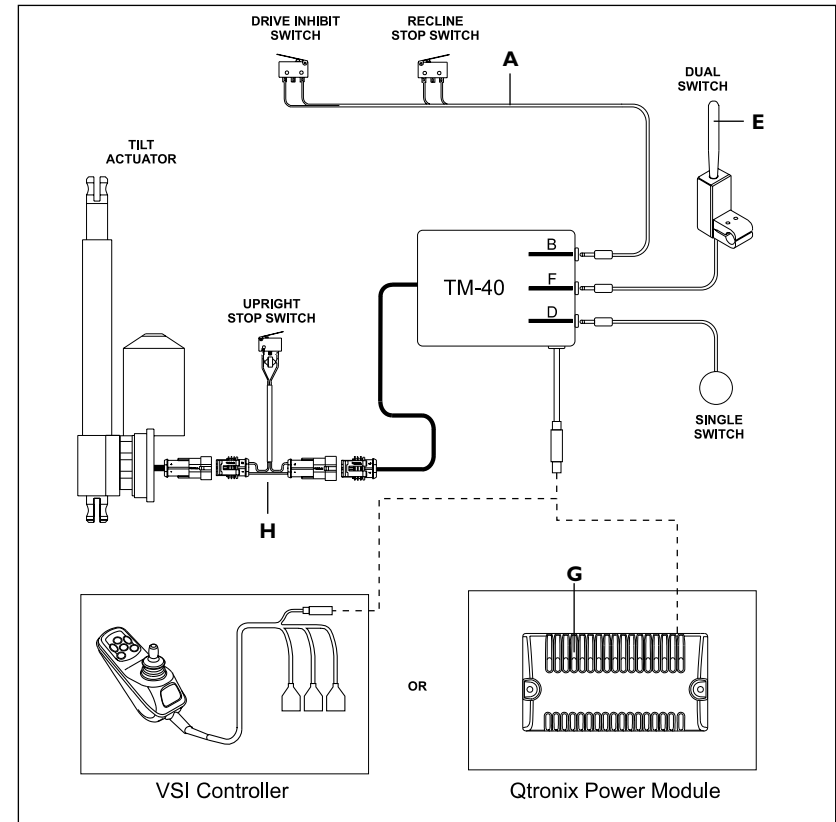
In all configurations of seat height and fixed tilt angles, ensure that both the front and rear latches (2) are all properly engaged.

**J. TM40 SINGLE OR DUAL SWITCH ACTUATOR CONTROLLER**

(Refer to diagram on page 13)

The TM40 actuator controller can be used to activate the tilt mechanism with either single or dual switch controls.

1. Plug limit switch harness assembly (A) into TM40 limit switch jack (B).
2. Plug single switch (C) into TM40 single switch jack (D) OR plug dual switch (E) into TM40 dual switch jack (F).
3. Plug TM40 into the QTRONIX Power Module (G).
4. Use mating plugs (H) to connect the TM40 to the tilt actuator.



**K. CHECK-OUT**

Once the tilt assembly is adjusted, it should actuate smoothly and easily.

All accessories should also perform smoothly.

1. Verify seat can achieve full tilt and will return to neutral.
2. Verify the motor cuts out once the neutral position is reached.
3. Verify no debris is interfering with the glide bearings.
4. Verify all hardware is securely tightened.
5. Verify that the drive lock-out switch is positioned to prevent drawing if the system is tilted to an angle of greater than 15°.
6. Verify that the safety lock pin and rear securement knobs are in place.

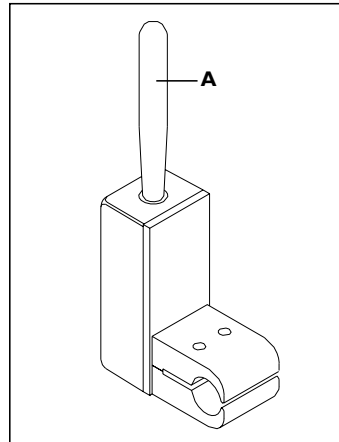
**⚠ WARNING**

If the actuator stop switches are not properly adjusted, the actuator will current limit or "stall" at the end of the stroke. Repeated "stall" conditions will shorten the life of the actuator.

**TO OPERATE THE C.G. TILT**

**A. TOGGLE SWITCH ACTIVATION**

1. To operate, push the toggle switch (A) forward (to tilt back) or pull toggle backward (to return to neutral) until tilted into the desired position.
2. The toggle switch will return to neutral when released and the seating system will stop moving.



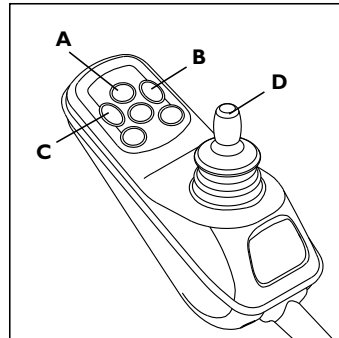
**B. SINGLE SWITCH ACTIVATION**

1. Depress and hold single switch to tilt back into the desired position.
2. Depress and hold single switch to return to neutral until tilted into the desired position.

**C. INTEGRAL JOYSTICK ACTIVATION (OPTIONAL)**

From the "off" position:

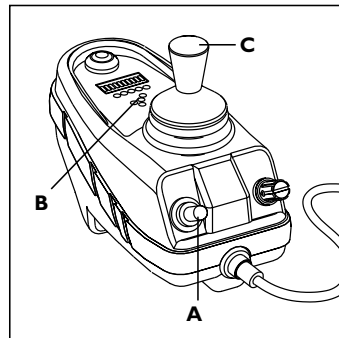
1. Push the on/off button (A) once to turn the chair on.
2. Push either tilt button (B or C) to activate tilt mode.
3. Push forward on joystick (D) to tilt back.
4. Pull backward on joystick (D) to tilt forward.
5. Push either tilt button (B or C) to deactivate and resume drive mode.



**D. REMOTE JOYSTICK ACTIVATION (OPTIONAL)**

From the "off" position

1. Push the on/off mode select toggle switch (A) down once to turn the chair "on".
2. Push the on/off mode select toggle switch (A) up twice to move index to tilt mode (noted by two (2) actuator lights (B)).
3. Push the joystick (C) forward to tilt backward or backward to tilt forward.
4. Push the on/off mode select toggle switch (A) up once to return to drive mode.



**A. MAINTENANCE**

You should check the items on this chart at the indicated intervals. If any of the items are loose, worn, bent or distorted, immediately have them checked and/or repaired by your authorized Sunrise supplier. Frequent maintenance and servicing will improve performance and extend wheelchair life.

**NOTE:** Check weekly, and use a clean, dry cloth or compressed air as needed to keep glide bearings free of debris.

CHECK...	Daily	Weekly	Monthly	Quarterly	Annually
Charge Batteries	✓				
Glide bearings free of debris			✓		
Check tires for proper inflation level			✓		
Check batteries for proper electrolyte level (wet cell only)			✓		
Check plugs and connectors for proper connections				✓	
Check all moving parts for wear					✓
Inspect all nuts, bolts and fasteners for looseness or wear					✓
Inspect upholstery for wear					✓
Remove and inspect motor brushes					✓
Servicing by authorized Supplier					✓
Check front mount bolts for looseness					✓
Check actuator limit switch position					✓
Check front mount for excessive wear					✓

**B. TROUBLESHOOTING TIPS**

If you should notice your C.G.Tilt system binding up, not running in a smooth fashion, or emitting an unusual noise during use, a foreign matter may have come into contact with the glide bearings. If this occurs, use a clean, dry cloth or compressed air to clear or, if needed, please see your authorized Sunrise supplier.

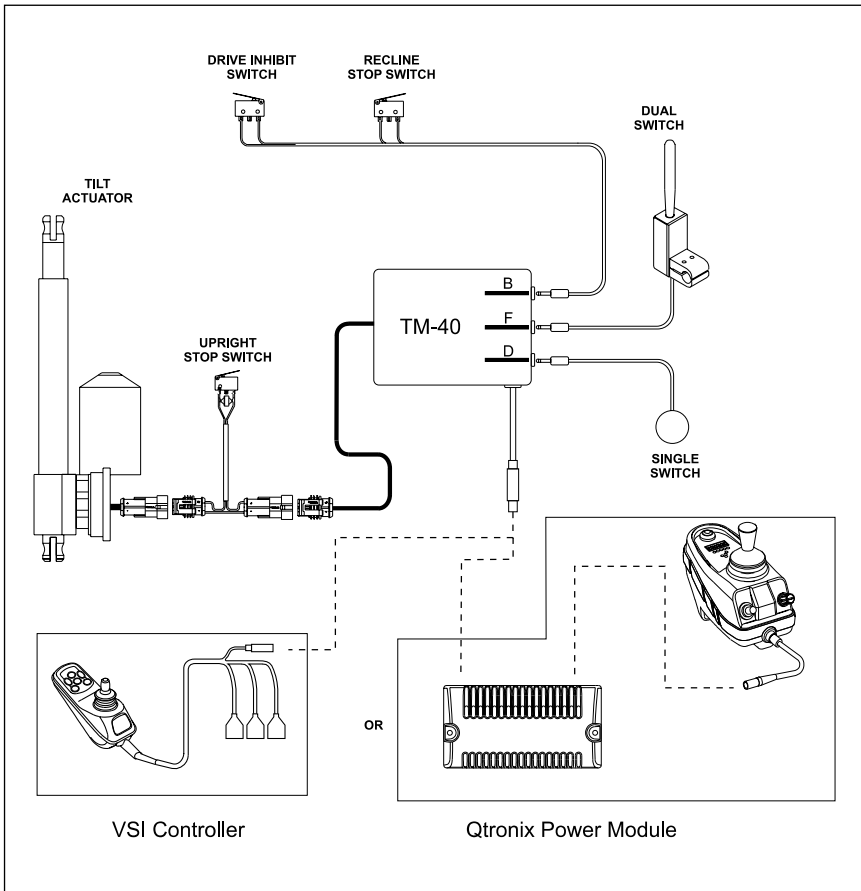
If your tilt system will not function, check to ensure the tilt lock-out sensor is seated properly in its mount. The wires should lead out of the sensor toward the front of the chair.



VIII. WIRING DIAGRAMS

**TM40 ACTUATOR CONTROLLER**

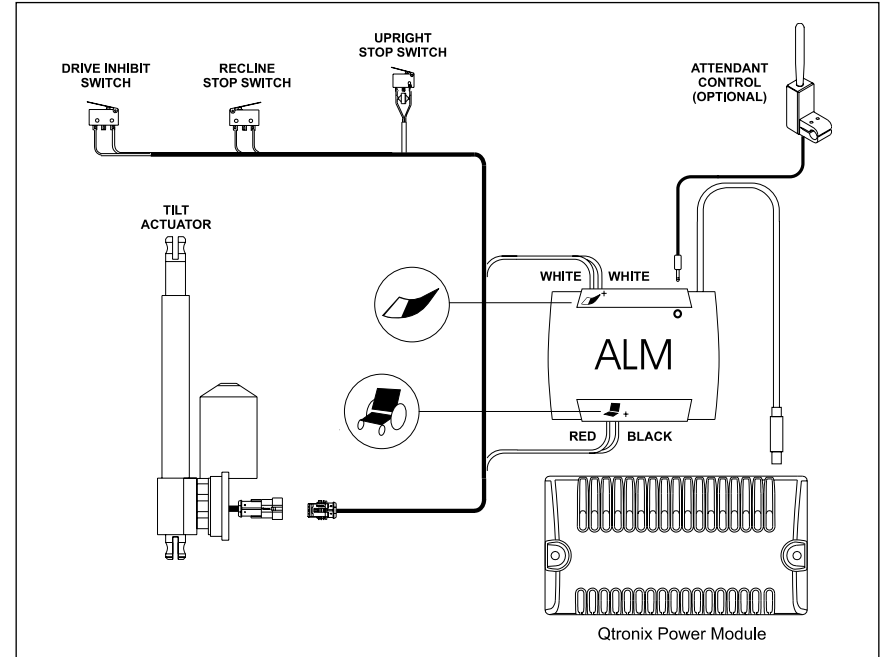
(Independent switch control, Integral Joystick, and Remote Joystick)



VIII. WIRING DIAGRAMS

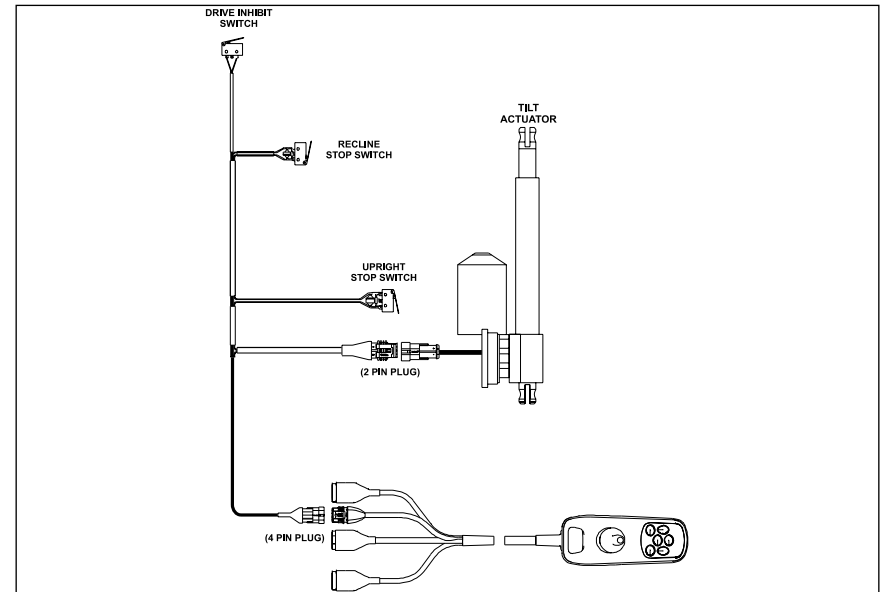
**ALM ACTUATOR CONTROLLER**

(Through drive control- Integral Joystick)



**ALM ACTUATOR CONTROLLER**

(Through drive control- Remote Joystick)



## **IX. SUNRISE LIMITED WARRANTY**

### **FOR THREE (3) YEARS:**

We warrant the C.G. power tilt seating system seat frame, sub-base frame, actuator and structural components of this wheelchair against defects in materials and workmanship for three (3) years from the date of first consumer purchase.

### **FOR TWO (2) YEARS:**

We warrant the ALM (Actuator Lights Module) actuator controller for two (2) years from the date of first consumer purchase.

### **FOR ONE (1) YEAR:**

We warrant other electronic components such as the single switch actuator controller for one (1) year from the date of first consumer purchase.

### **Additional Warranty:**

We warrant all other original components (such as upholstery, plastic, rubber parts and painted surfaces) for three (3) months from the date of first consumer purchase.



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**Sunrise Medical**

7477 East Dry Creek Parkway • Longmont, Colorado • 80503 USA

(800) 333-4000

In Canada (800) 263-3390

Manufactured under one or more of the following patents:  
U.S. and European patents pending.

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