

2024 Edition  
V.1



# SERVICE MANUAL



PART REPLACEMENT INSTRUCTIONS  
FOR MODELS: AX1, AX2, AX3, AX4

## SAFETY DETAILS

Please obey (Danger, Warning, Caution, and Notice) wording in this manual, as well as obey all instructions, safety precautions, and safety decals on the vehicle. Replace missing or damaged safety decals immediately to prevent possible property damage or personal injury, or death. Understand and follow all laws and regulations for operating the vehicle in your area.

### **WARNING**

**ELECTRICAL SHORTS CAN CAUSE A FIRE, ELECTRICAL SHOCK, SERIOUS PERSONAL INJURY, OR DEATH. PREVENT CONTACT BETWEEN POSITIVE VOLTAGE AND THE GROUND CIRCUIT. USE INSULATED TOOLS.**

**TO HELP PREVENT BEING HIT, DO NOT STAND IN FRONT OF OR BEHIND THE VEHICLE.**

**ONLY TWO PERSONS PER BENCH SEAT. ONLY RIDE ON THE BENCH SEAT. DO NOT LET PEOPLE RIDE ON ANY PART OF THE VEHICLE THAT IS NOT EQUIPPED WITH A SEAT AND SEAT BELT. DO NOT LET A PASSENGER HOLD A CHILD IN HIS OR HER LAP WHILE THE VEHICLE MOVES.**

**ONLY TRAINED TECHNICIANS SHOULD SERVICE OR REPAIR THE VEHICLE. ANYONE DOING EVEN SIMPLE REPAIRS OR SERVICE SHOULD HAVE KNOWLEDGE AND EXPERIENCE IN ELECTRICAL AND MECHANICAL REPAIR. THE APPROPRIATE INSTRUCTIONS MUST BE USED WHEN PERFORMING MAINTENANCE, SERVICE, OR ACCESSORY INSTALLATION**

- Always reduce speed when operating in rough terrain or conditions.
- Always use the brakes to control speed on steep slopes/hills.
- Always maintain adequate distance between vehicles around you.
- Always reduce speed in wet/icy roads or areas.
- Always use caution entering sharp or blind turns.
- Always use extreme caution where pedestrians are present.

# SAFETY DETAILS

## **⚠WARNING**

- This service manual should be read completely before attempting to service the vehicle. Failure to follow the instructions in this manual could result in property damage, severe personal injury, or death.

*It is important to note that some vital statements throughout this manual and on the decals affected to the vehicle are preceded by the words DANGER, WARNING, or CAUTION. For your protection, we recommend that you take special notice of these safety precautions. Safety precautions are essential and must be followed.*

*Throughout this manual and on the operation and safety decals affected to the vehicle, the words "LSV" and "Low Speed Vehicle" are used interchangeably. "Vehicle" is defined in the Notice of this manual and no other representation is stated or implied.*

*If any of the operation or safety decals on the vehicle become damaged, have been removed or cannot be easily read, they should be replaced immediately to avoid possible property damage, personal injury, or death. Contact your distributor/dealer.*

## **⚠DANGER**

- A DANGER indicates an immediate hazard that will result in severe personal injury or death.

## **⚠WARNING**

- A WARNING indicates an immediate hazard that could result in severe personal injury or death.

## **⚠CAUTION**

- A CAUTION with the safety alert symbol indicates a hazard or unsafe practice that could result in minor personal injury.

## **CAUTION**

- A CAUTION without the safety alert symbol indicates a potentially hazardous situation that could result in property damage.

## **HOW TO MAKE A WARRANTY CLAIM**

To make a warranty claim under this limited warranty, you must present the vehicle or defective component with evidence of proof of purchase date and number of amp hours (if applicable) to an authorized Sierra LSV dealer.

For warranty-related communication, contact your sales.

## **CONTACT INFORMATION**

Website: [www.sierralsv.com](http://www.sierralsv.com)

Email: [infor@sierralsv.com](mailto:infor@sierralsv.com)

Phone: 1-877-877-5993

Address: 317 Industrial Blvd

Thomasville, GA 31792

## PRACTICE SAFETY



Safety signs like you see above may at first seem shocking, but their impact is mild compared with the reality of severe personal injury.

Your safety and satisfaction are of the utmost importance to us. That is why before operating the vehicle, we urge you to review the information in this manual. Understand and become familiar with the DANGER, WARNING, and CAUTION statements and procedures it contains, along with the safety decals that are affected to your vehicle.

Take time to understand the language of safety. It is a language that can save your life.



**IMPORTANT:** When turning the LCD display on by the key-switch this notice will appear. Please read through and acknowledge the details called out in this message before operating the vehicle.

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# VEHICLE PREP SEQUENCE

## Battery On/Off

### Models: All Models

Estimated Completion Time: *1 minute*

- 1) Turn the Key switch to OFF, or press the START/STOP button to turn off the vehicle.
- 2) Turn off the lithium battery by pushing the power button located between the battery terminals on the passenger side. (No LED light will show when off)



## Chock Wheels

### Models: AX1, AX2, AX3, AX4

Estimated Completion Time: *1 minute*

- 1) Make sure your vehicle is on a flat terrain and the brake engaged.
- 2) If you're lifting the rear you will want to chock the **front** wheels. If you're lifting the front you will want to chock the **rear** wheels. (*This ensures a secure and stable environment and prevents the vehicle from rolling away.*)



### TOOLS NEEDED

2 Wheel Chocks  
Torque Wrench



## Lifting Front Body

Models: All Models

Estimated Completion Time: *1 minute*



### TOOLS NEEDED

Floor Jack  
Jack Stands



## Lifting Rear Body

Models: All Models

Estimated Completion Time: *1 minute*



### TOOLS NEEDED

Floor Jack  
Jack Stands



## Dash Removal

Models: All Models

Estimated Completion Time: 5 Minutes

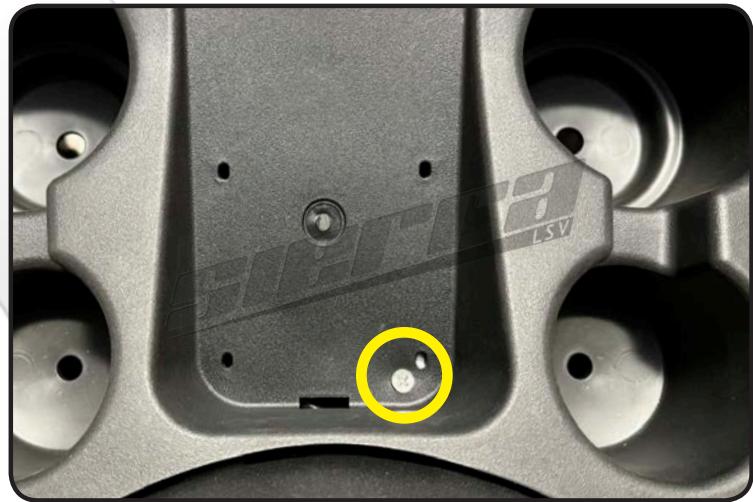


### TOOLS NEEDED

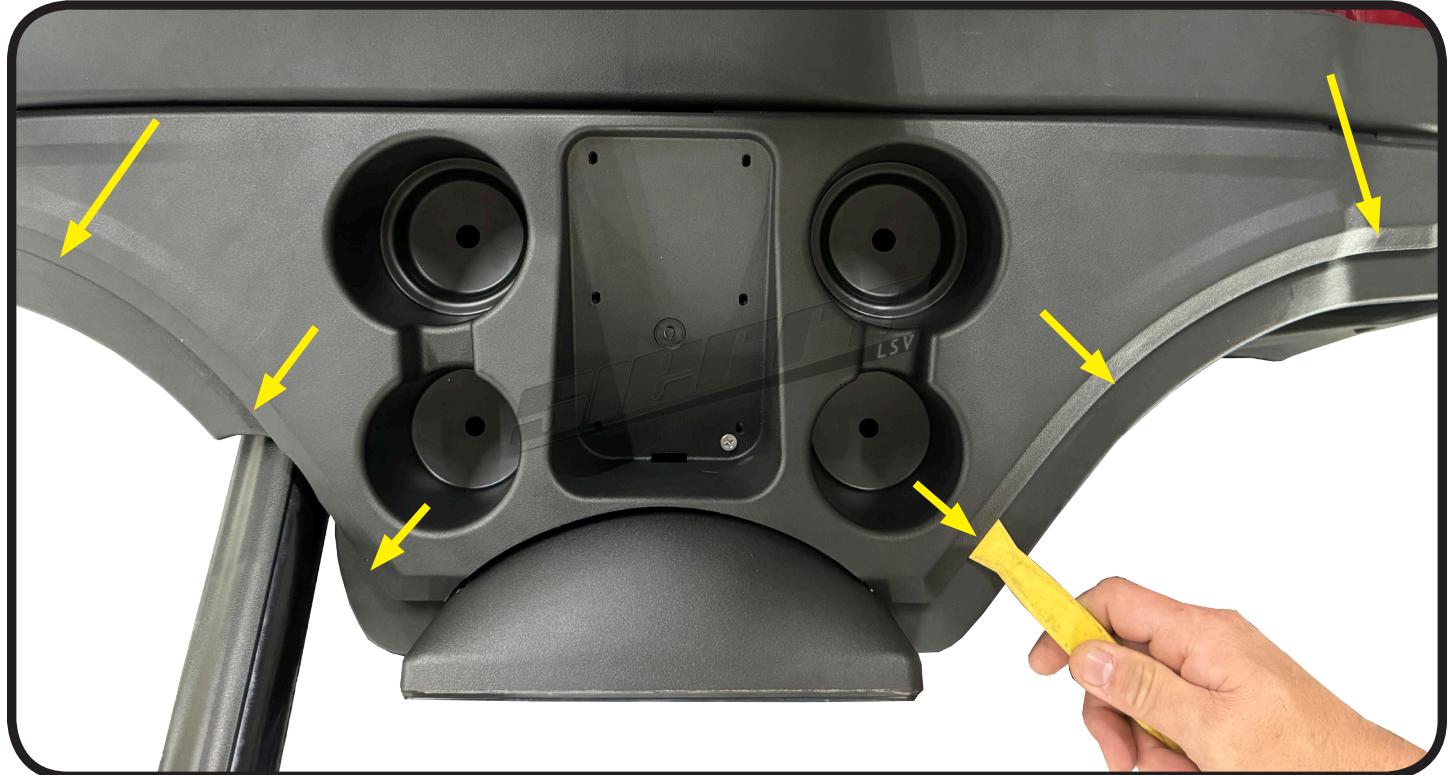
Phillips Screwdriver  
Panel Removal Tool

### INSTRUCTIONS

- 1) Remove the wireless phone charger pad and using the phillips head screwdriver remove the screw under the pad.



- 2) Using the panel removal tool carefully find the 6 tabs holding the cup holder panel and push them back with the tool to remove the cup holder panel.



# Torque Tightening Guide

Models: All Models

Size (mm)	Maximum Tightening Torque (Nm)      Ft lbs.			
	Property Class			
	Grade 8.8	Grade 9.8	Grade 10.9	Grade 12.9
M5	7.0 5.17	7.8 5.76	10.0 7.38	11.7 8.63
M6	11.8 8.71	13.3 9.82	17.0 12.5	19.9 14.7
M8	28.8 21.3	32.3 23.8	41.3 30.5	48.3 35.6
M10	57.3 42.3	64.1 47.3	81.8 60.4	95.7 70.6
M12	99.8 73.7	112 82.7	143 106	167 123
M16	248 183	277 204	354 261	413 305
M20	500 369		690 509	809 597
M24	865 638		1195 882	1395 1030
M30	1719 1269		2377 1754	2774 2047

# Electric Motor Replacement

## Models: All Models

Estimated Completion Time: *45 minutes*

Part# WHI-005



### TOOLS NEEDED

11mm Socket  
13mm Socket  
Strap/Belt

### INSTRUCTIONS

**NOTE:** AX4 motors can be accessed under the rear seat bottom cushion, AX1, AX2, and AX3 carts must be accessed from under the cart.

1) Prep the vehicle for service (See pages 2-3).

2) Remove 3 M8 nuts holding motor cables on the motor studs with a 13mm socket.

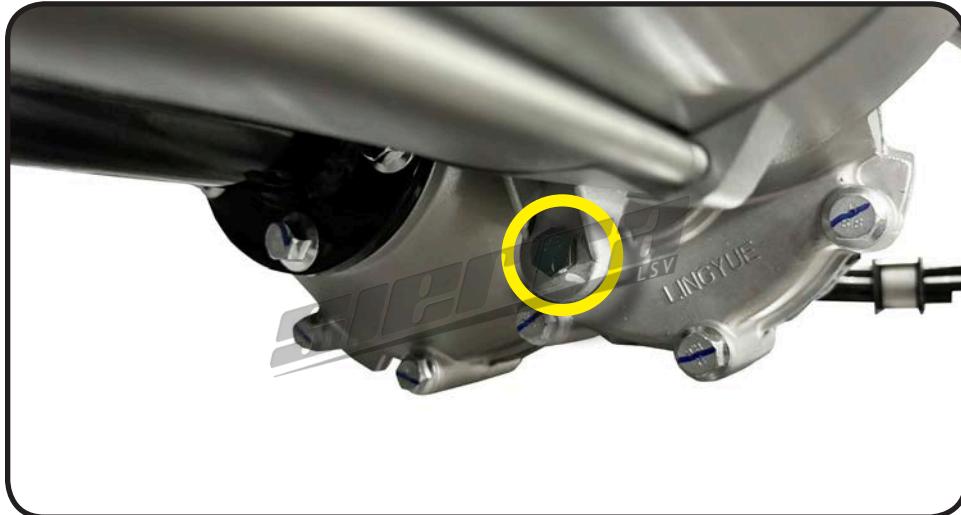
*Note orientation of cables before removing.*



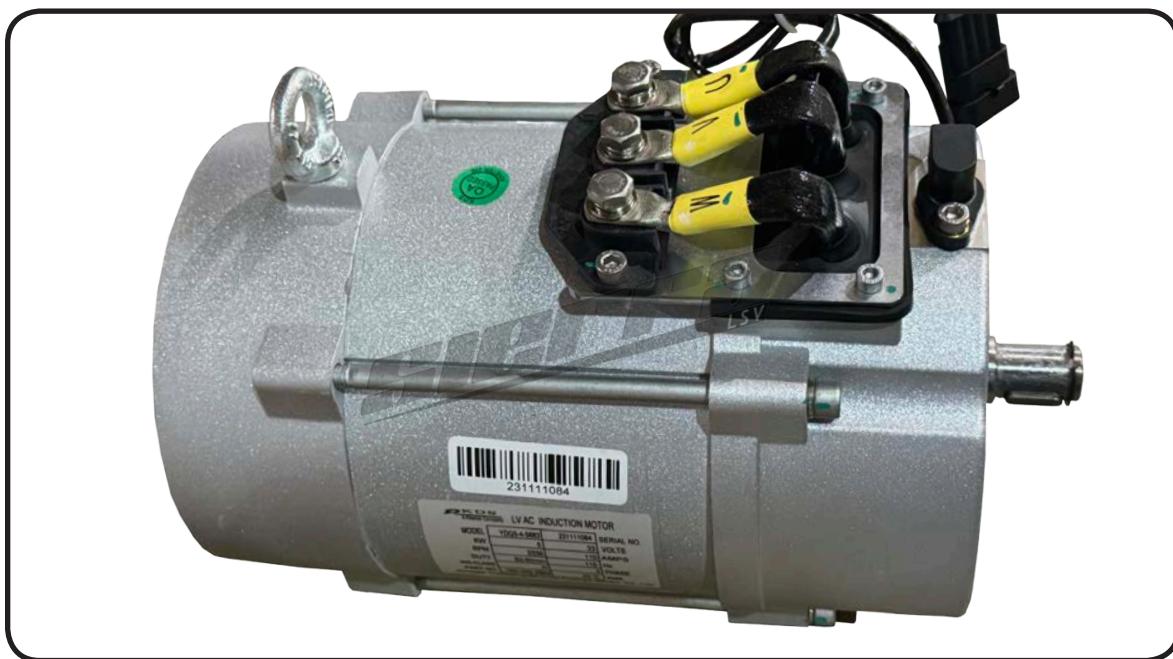
3) Remove the 3 M6 bolts facing passenger side tire using a 11mm socket.



4) Remove the M8 bolt facing driver side with a 13mm socket.



5) With the help of an assistant slide the motor free from the input shaft for the differential and lower to the ground to remove.



NOTE: Loop a strap or belt around the motor for easier lifting.

**CAUTION:** The motor is quite heavy use caution when removing it.

6) Reverse these steps to install the replacement motor. Refer to Torque tightening guide on page 5 for securing any hardware.

# Encoder Replacement

**Models: AX1, AX2, AX3**

Estimated Completion Time: *30 minutes*

**Part# X1-074**

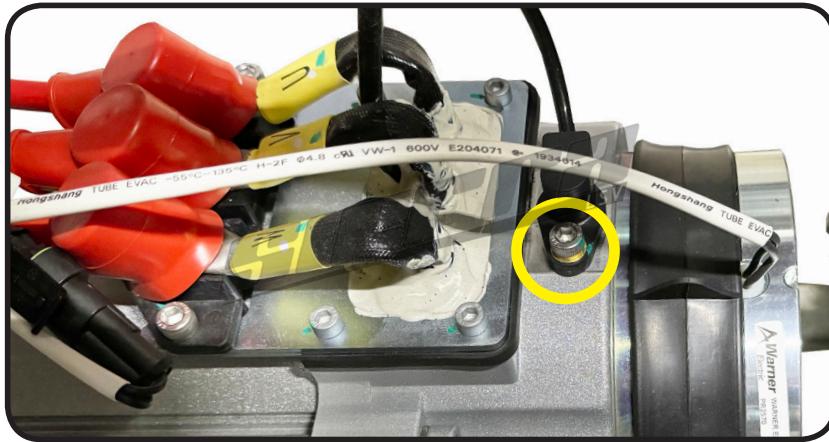


## TOOLS NEEDED

5mm Allen Key

### INSTRUCTIONS

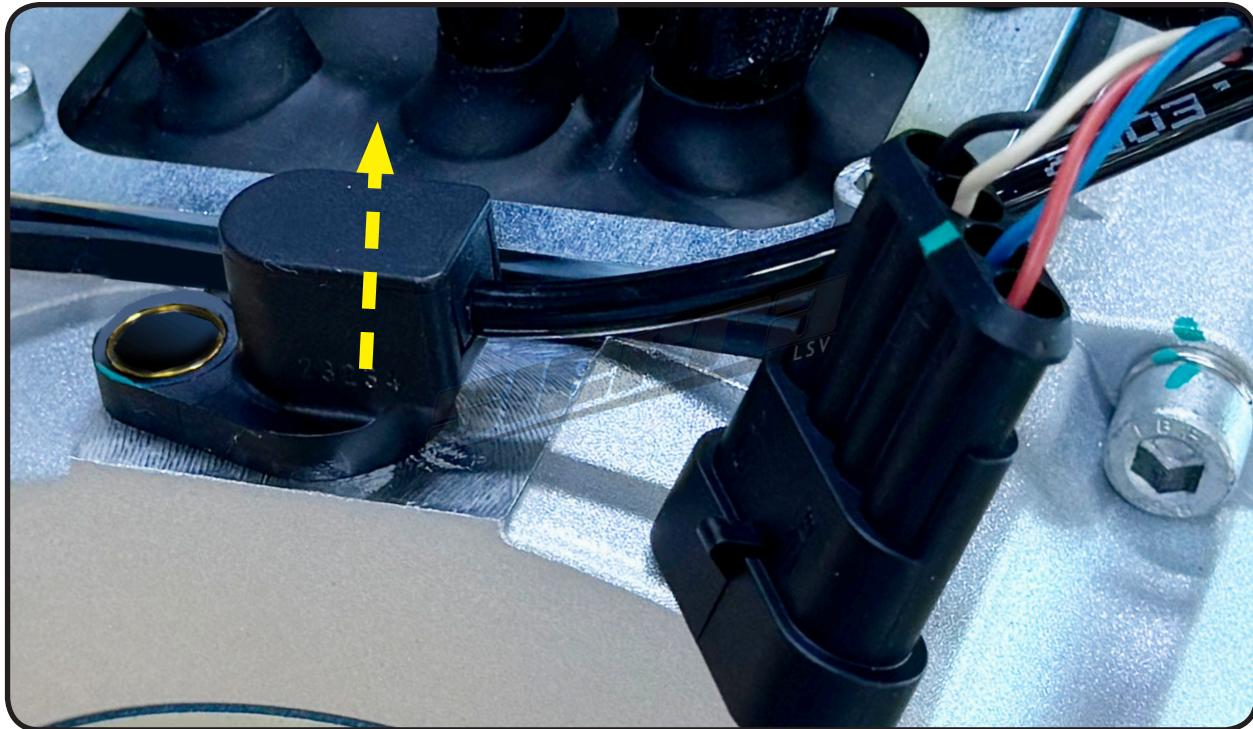
- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the allen screw on the top of the motor using the 5mm allen key.



- 3) Unplug the 4 pin connector from the wiring harness.



4) Pull the encoder out of the electric motor.



5) Reverse these steps to install the replacement encoder. Refer to Torque tightening guide on page 5 for securing any hardware.

# Encoder Replacement

Models: AX4 Only

Estimated Completion Time: 15 minutes

Part# X1-074

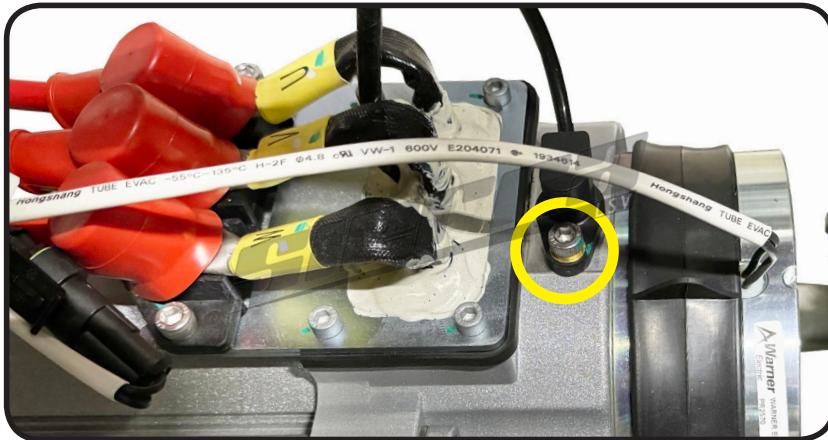


## TOOLS NEEDED

5mm Allen Key

### INSTRUCTIONS

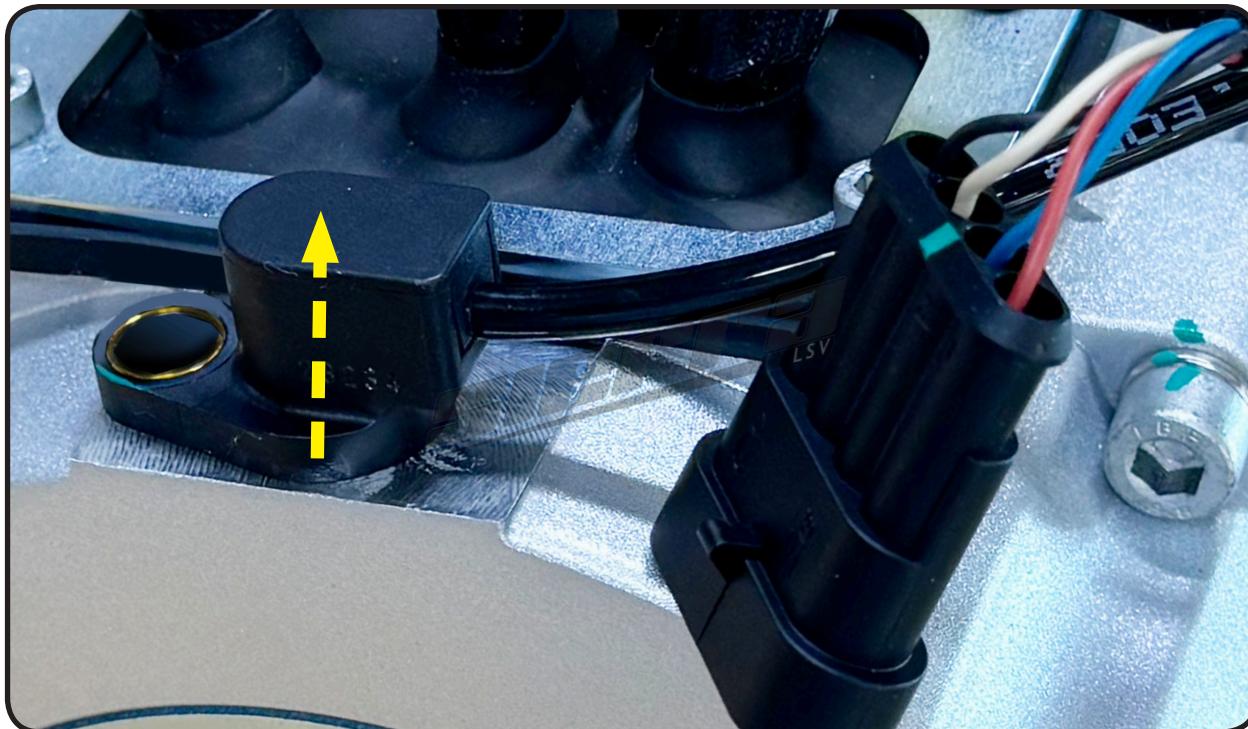
- 1) Prep the vehicle for service (See pages 2-3).
- 2) The encoder can be accessed under the rear seat bottom cushion.
- 3) Remove the allen screw attaching the encoder to the motor.



- 4) Unplug the 4 pin connector from the wiring harness.



5) Pull the encoder out of the motor.



6) Reverse these steps to install the replacement encoder.

# Run/Tow Switch Replacement

**Models: All Models**

Estimated Completion Time: *15 minutes*

**Part# WX1-048**

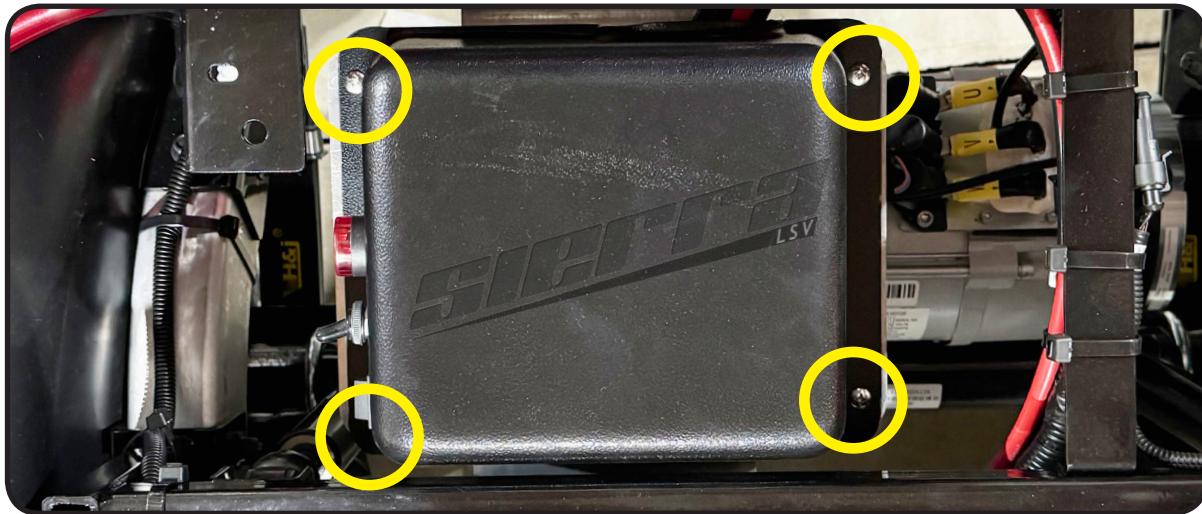


**TOOLS NEEDED**

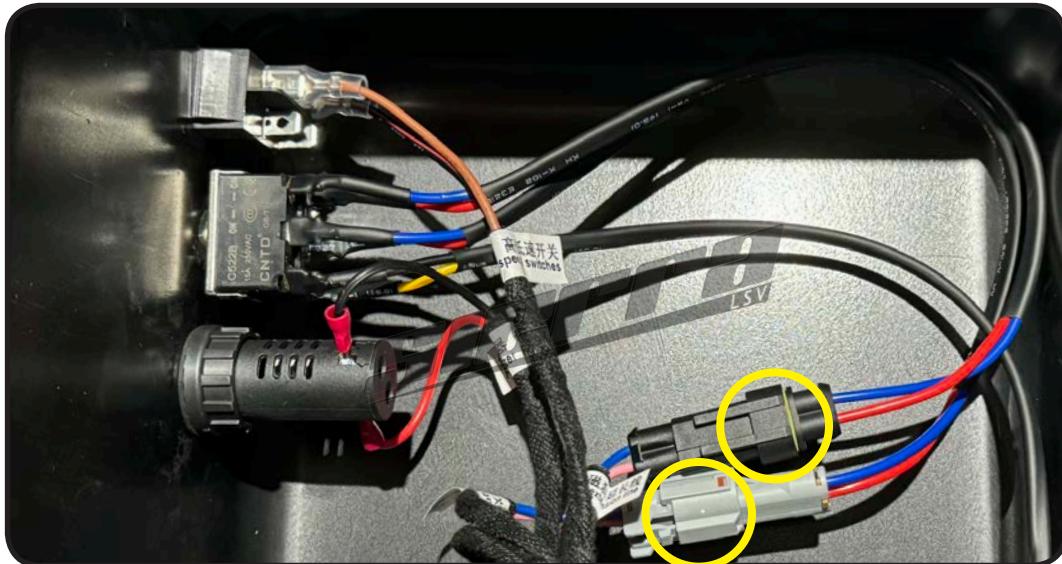
#3 Phillips

## INSTRUCTIONS

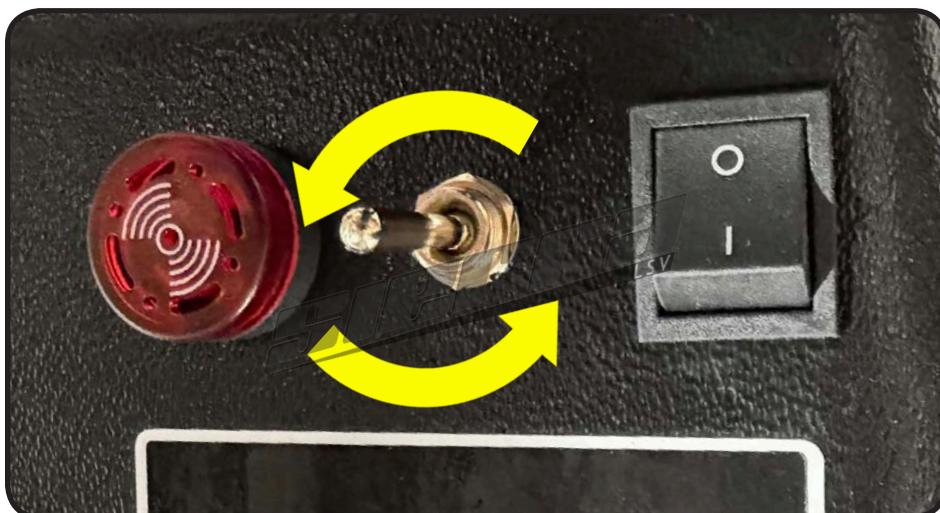
- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove controller cover using #3 phillips to remove the 4 screws.



- 3) Unplug the connectors for the switch.



4) Unscrew the threaded trim ring for the switch and remove it.



5) Reverse these steps to install new Run/Tow switch.

# E-Brake Replacement

## Models: All Models

Estimated Completion Time: *15 minutes*

Part# WX1-011



### TOOLS NEEDED

19mm Socket

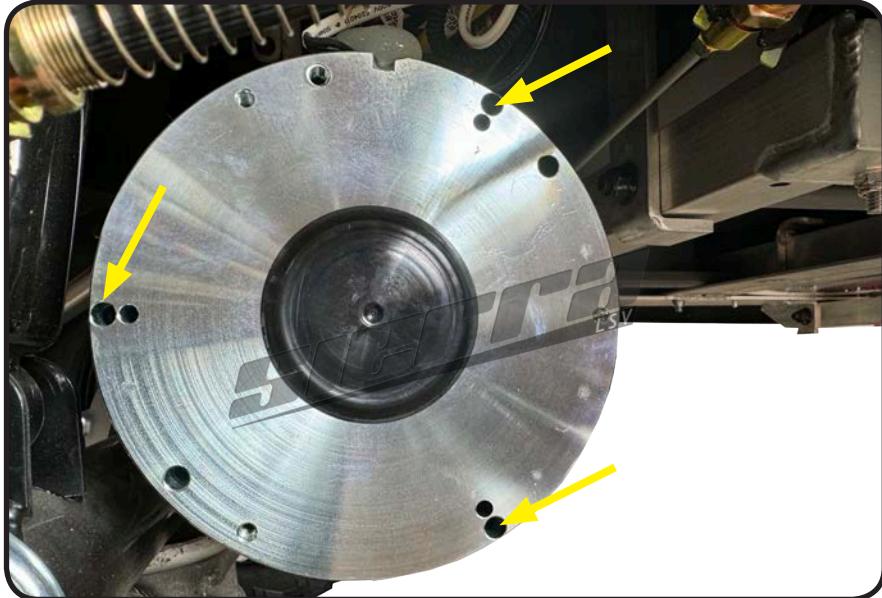
4mm Allen Key (2" T-handle)

### INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the driver side rear tire using 19mm socket.



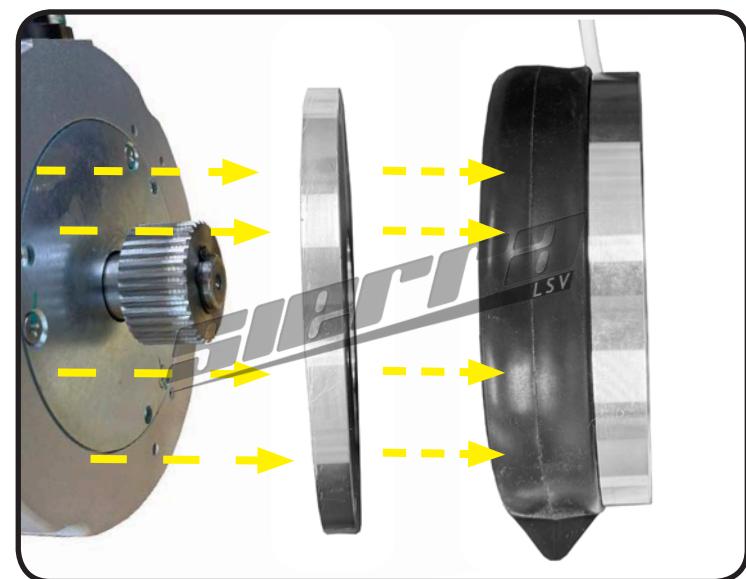
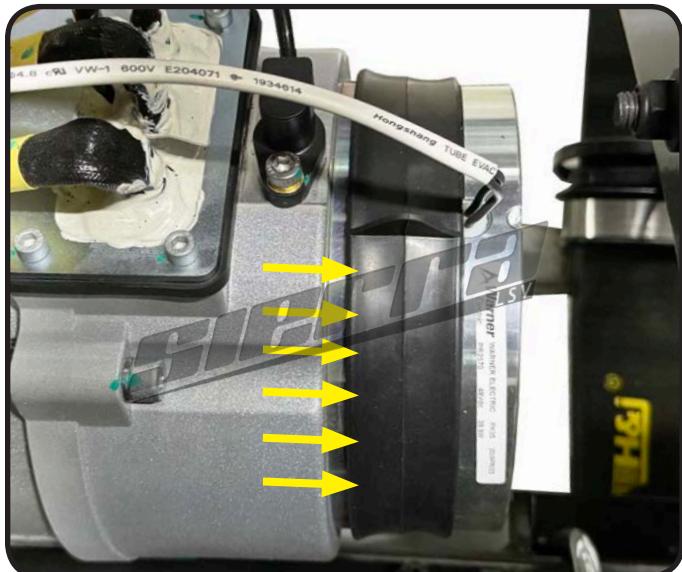
- 3) Remove the 3 screws attaching the brake to the motor using the 4mm allen key.



4) Unplug the brake wire connector.



5) Slide the brake off of the motor shaft.



6) Reverse these steps to install the replacement brake. Refer to Torque tightening guide on page 5 for securing any hardware. (Torque wheel to 65ft lbs)

# Brake Disc/Rotor Replacement

## Models: All Models

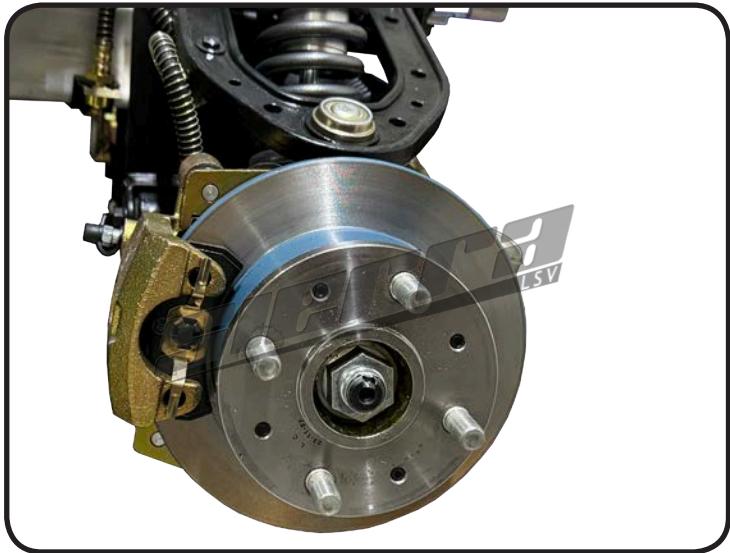
Estimated Completion Time: *45 minutes Front*  
*15 minutes Rear*

Part# X1-001(Front), X1-002 (Rear)

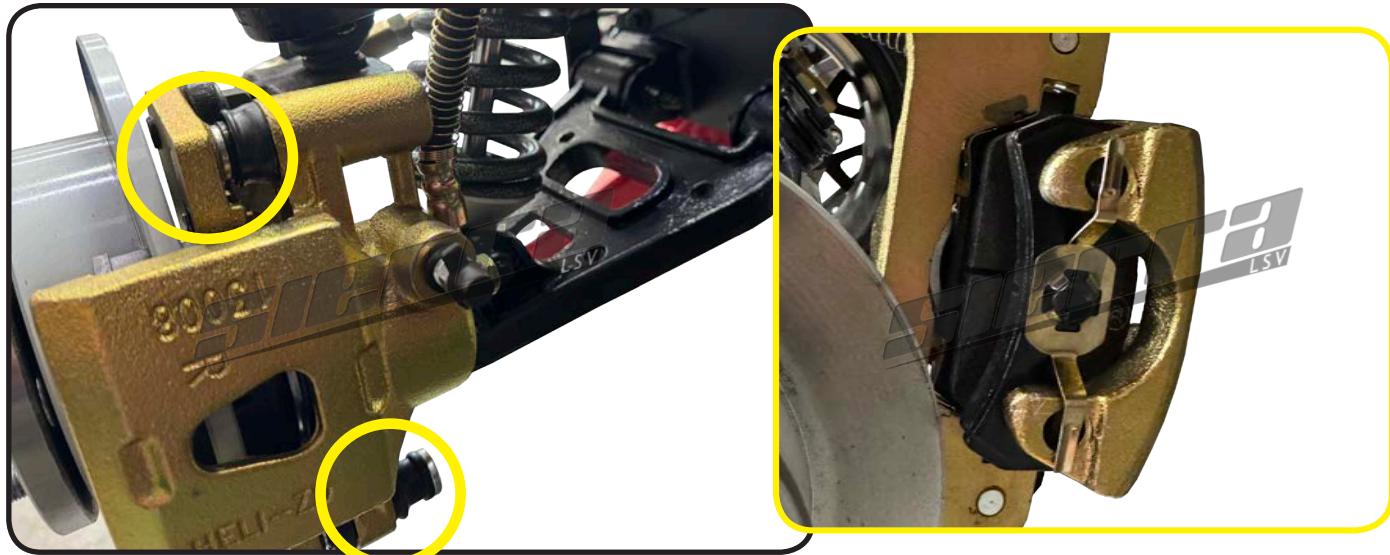


### INSTRUCTIONS

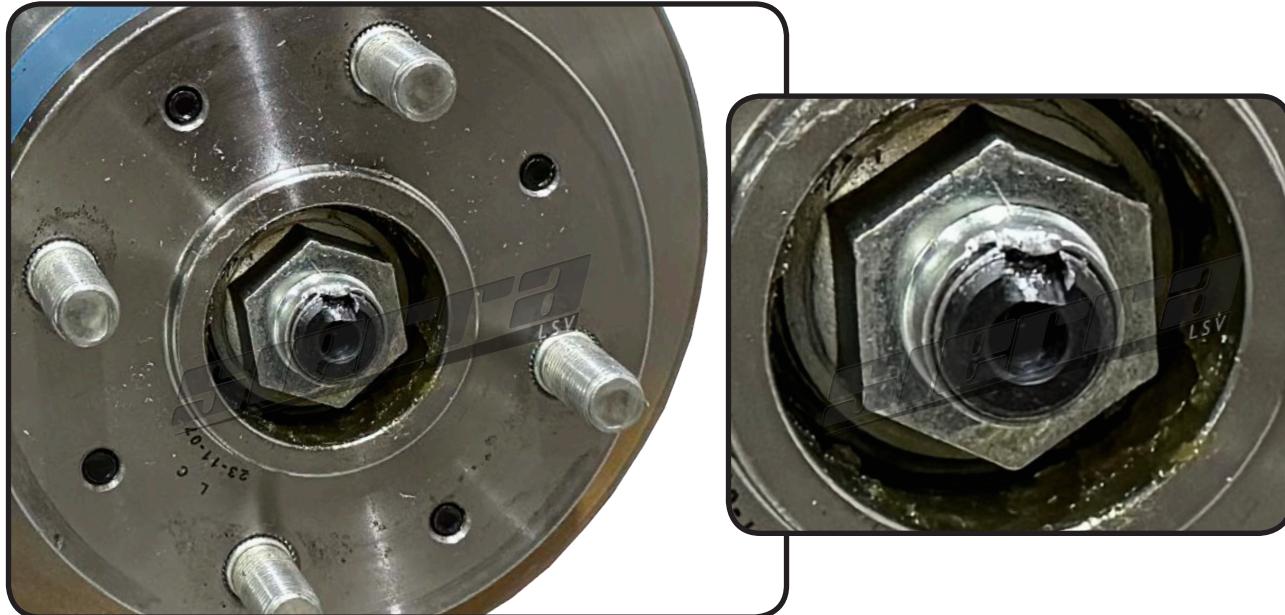
- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the tire/wheel using the 19mm socket.



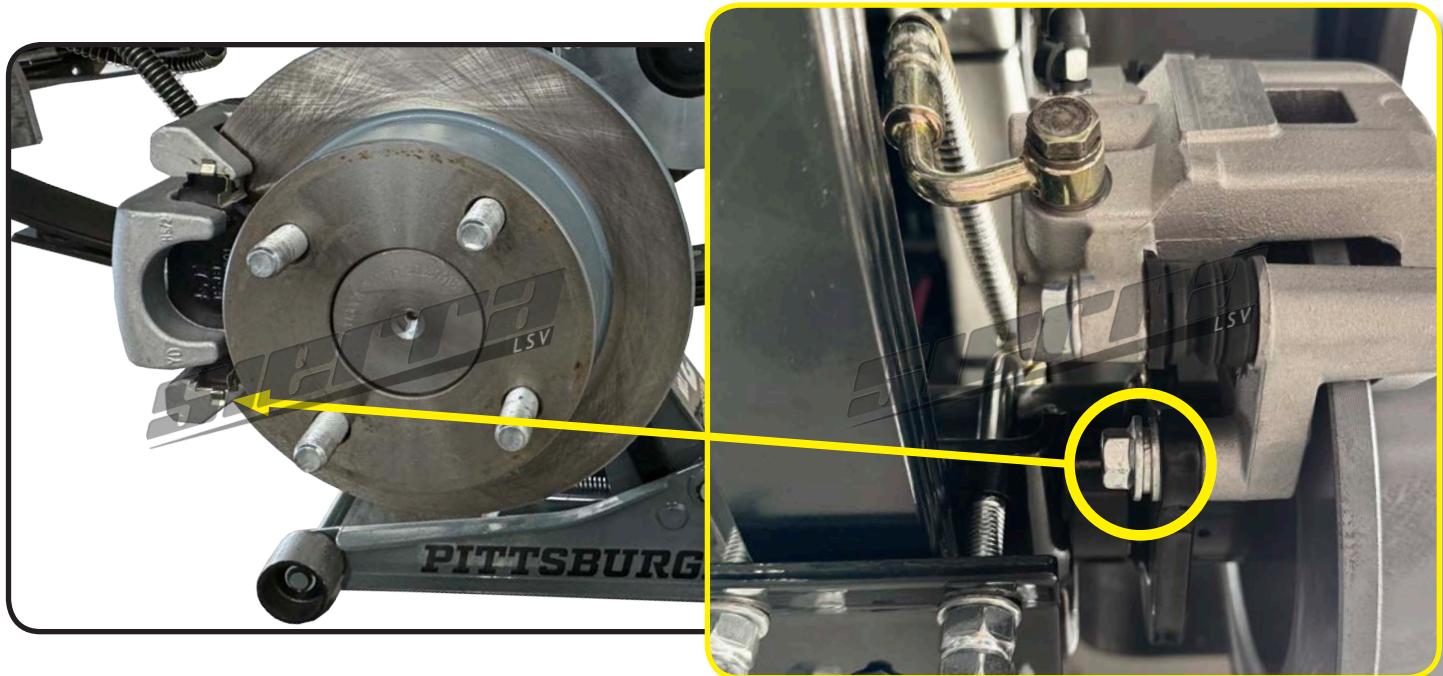
- 3) For **front** only, remove the 2 bolts holding the caliper on using the 15mm socket and move the caliper to the side to allow removal of the disc/rotor.



4) **For front only**, remove the nut in the center of the disc/rotor using the 30mm socket for the front wheel. Use the small flat head screwdriver to release the tab on the nut. Remove the disc/rotor.



5) **For rear only**, remove the caliper mounting bolt using the 15mm socket. The rotor will now slide off the lug studs.



6) Reverse these steps to install brake disc/rotor.  
Refer To Torque Tightening Guide for securing Caliper Hardware (Page 9).

# Brake Pad Replacement

**Models: All Models**

Estimated Completion Time: *15 minutes per wheel*



## TOOLS NEEDED

15mm Socket

19mm Socket

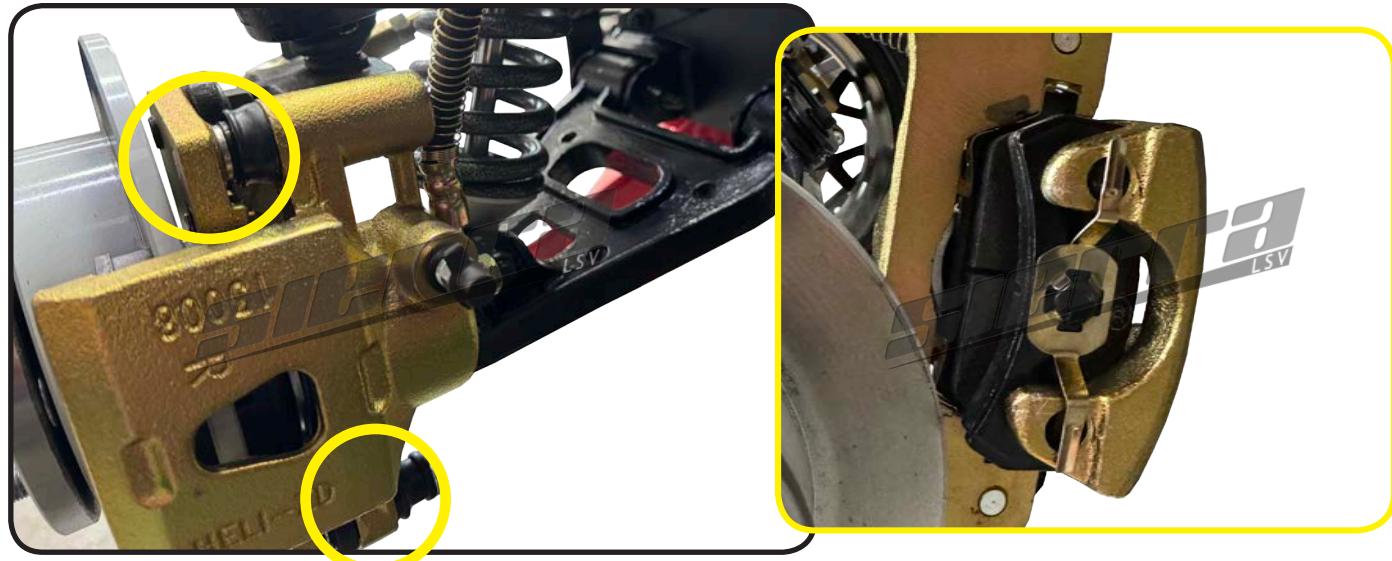
Small C-Clamp (or channel lock pliers)

## INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the Tire/wheel using a 19mm socket.



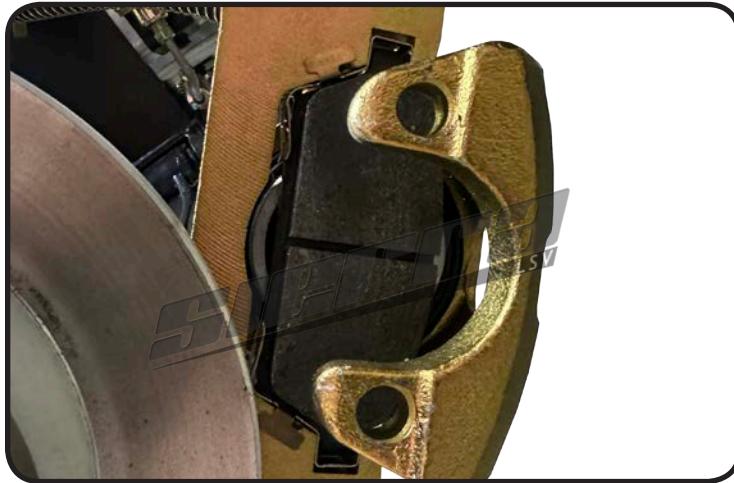
- 3) Remove the 2 bolts attaching the caliper using the 15mm socket.



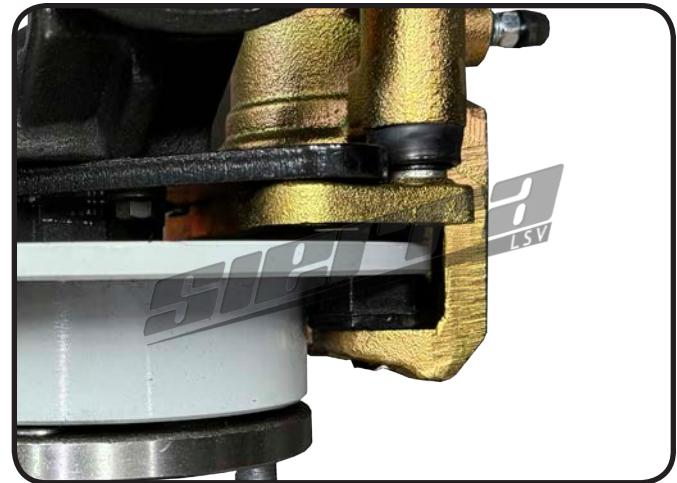
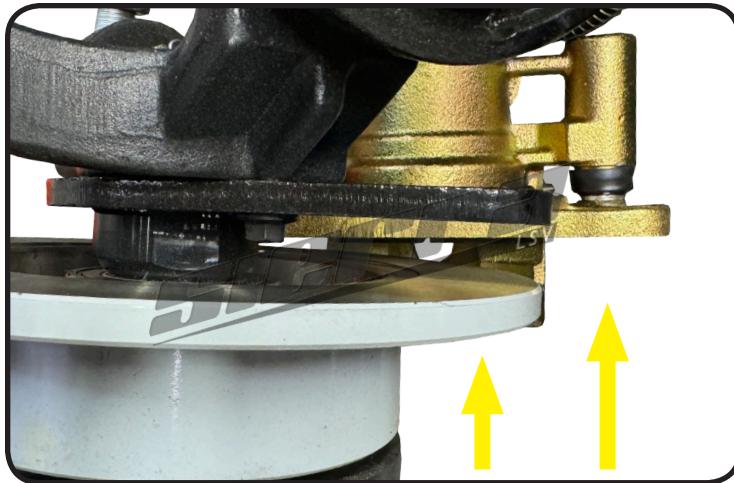
4) Remove the old pads.



5) Using a C clamp or channel lock pliers force the brake piston back into the caliper.



6) Install the new pads and reattach the calipers.



7) Pump the brake pedal until you get a hard pedal.

8) Lower the cart and test drive in a safe area with room for a rolling stop in case of brake failure.

# Brake Caliper Replacement

## Models: All Models

Estimated Completion Time: *45 minutes per wheel*

Part# X1-003(Driver), X1-004 (Pass)



### TOOLS NEEDED

15mm Socket  
19mm Socket  
14mm Open end Wrench

### INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the wheel and tire using the 19mm socket.

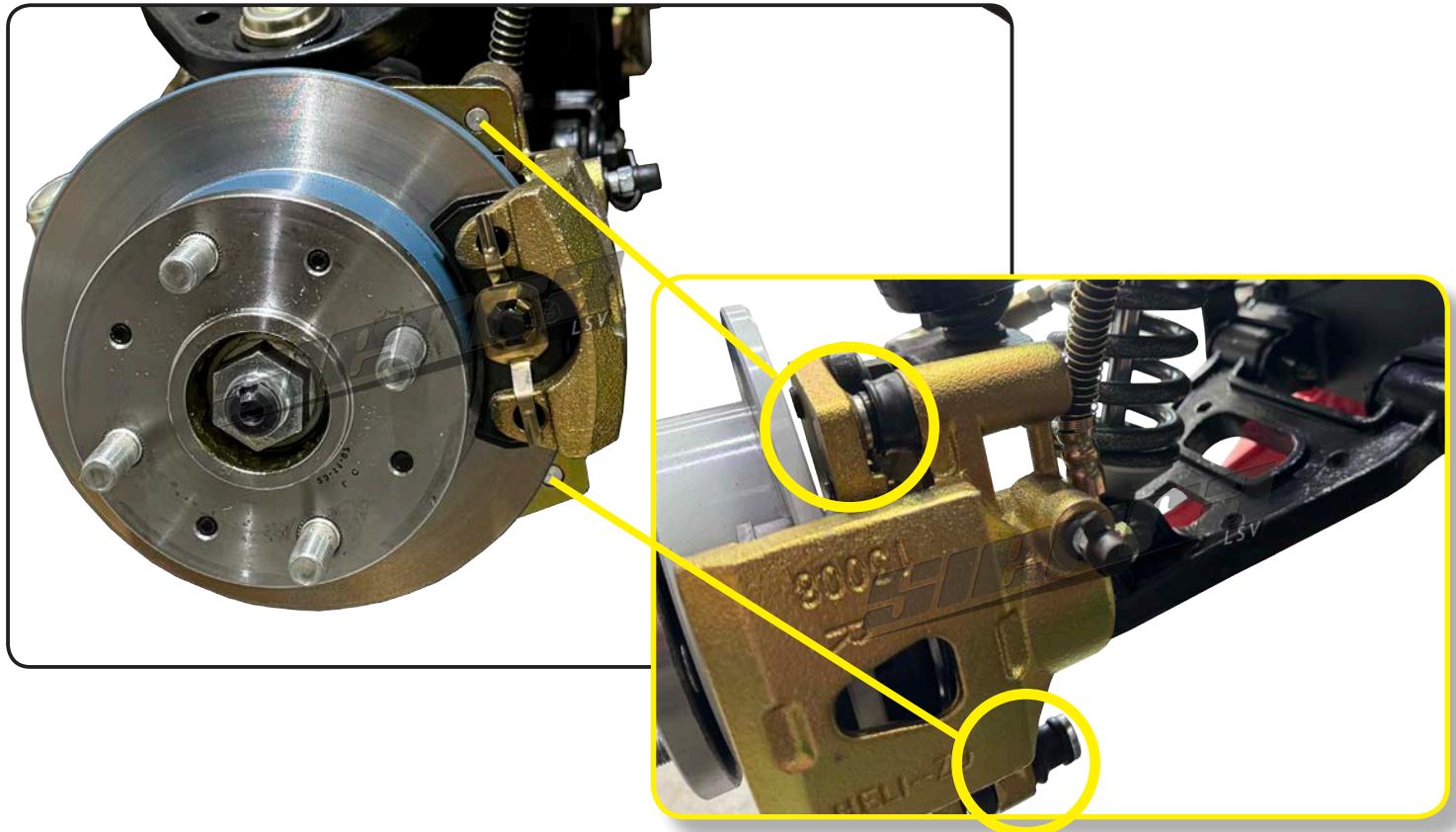


- 3) Remove the brake line using the 14mm wrench.



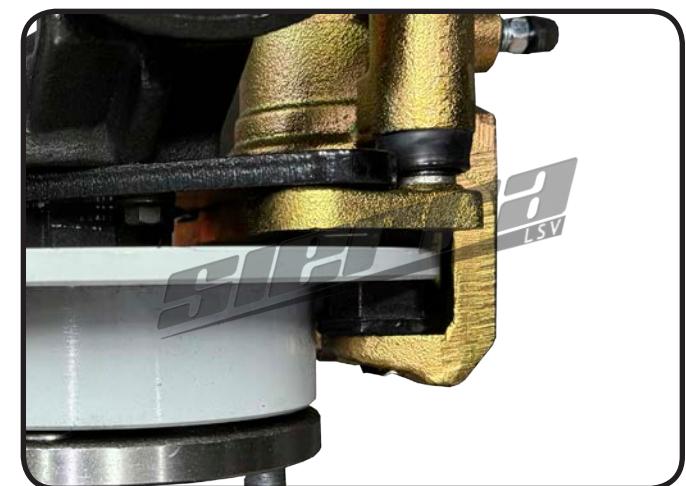
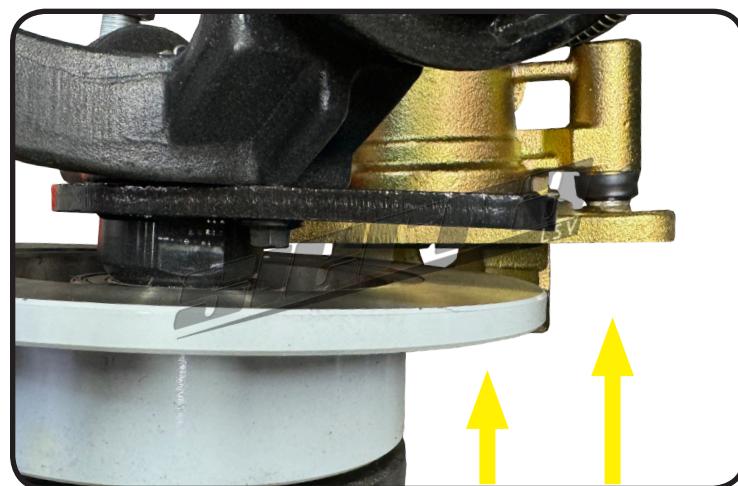
**NOTE:** Use a drip pan to catch any fluid that may leak out. DO NOT lose Crush washers. Cover line with a bag and tie up high if going to be off for an extended period of time.

4) Remove the caliper by removing the 2 bolts attaching it using the 15mm socket. Retain the bolts for reinstallation.



5) Attach the replacement caliper using the 15mm socket and retained bolts.

Refer To Torque Tightening Guide for securing Caliper Hardware (Page 5).



6) Follow brake bleeding instructions (*NEXT PAGE*) to bleed the air from the brake line(s).

# Brake Bleeding

**Models: All Models**

Estimated Completion Time: *1 Hour*



## TOOLS NEEDED

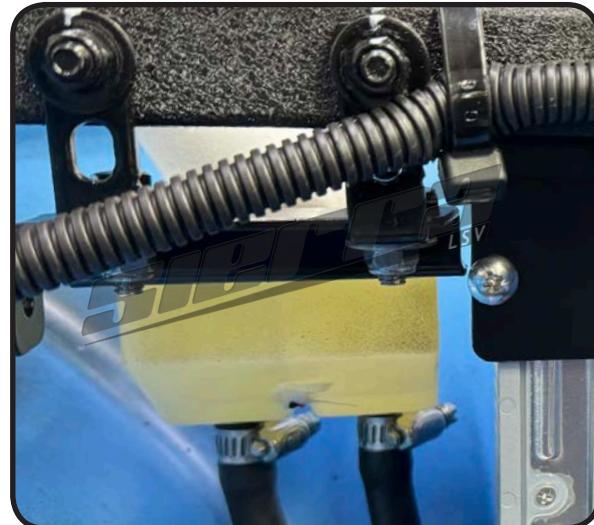
10mm Wrench  
Vacuum Brake Bleeding Tool  
DOT3 Brake Fluid

## INSTRUCTIONS

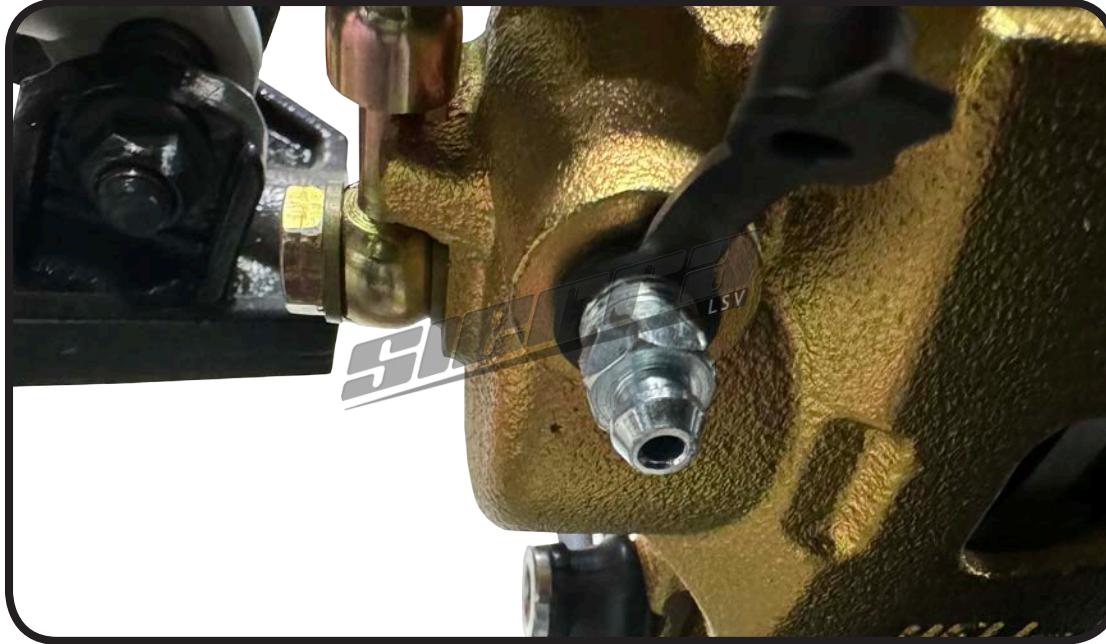
- 1) When bleeding the brakes jack up the end of the cart you are bleeding and chock the other 2 wheels. This way gravity is working with you and not against you.



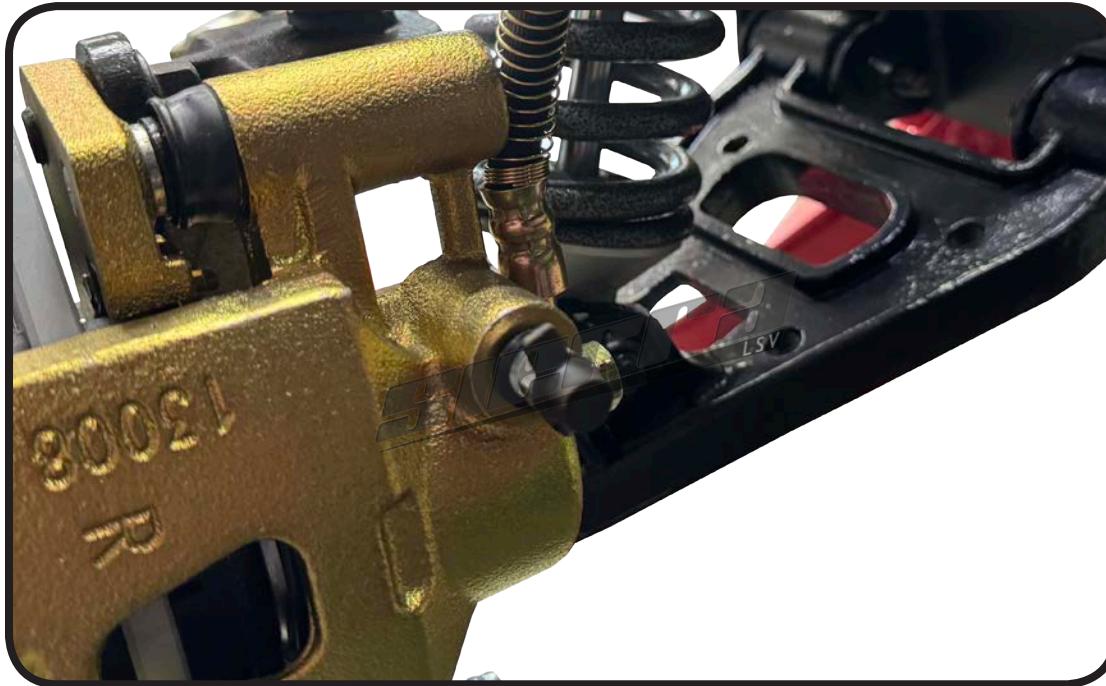
- 2) Keep a close eye on the brake fluid reservoir to make sure it does not run out of fluid during the bleeding process. If it does you have to start the process over again.



- 3) Attach the vacuum brake bleeding tool to the bleeding nipple on each of the calipers. The open the bleeding nipple using the 10mm wrench.



- 4) Use the vacuum bleeding tool until air bubbles are no longer visible in the hose.
- 5) Tighten the bleeding nipple and remove the vacuum bleeding tool.



- 6) Repeat this process for the other 3 brake calipers.

**NOTE:** After bleeding the brakes the brake pedal should stop before hitting the floor as the brakes are applied. Always use a safe area to test the brakes with plenty of room for a rolling stop in case the brakes fail to work properly.

# Master Cylinder Removal

Models: AX1, AX2, AX3

Estimated Completion Time: 1 Hour

Part# X1-006



## TOOLS NEEDED

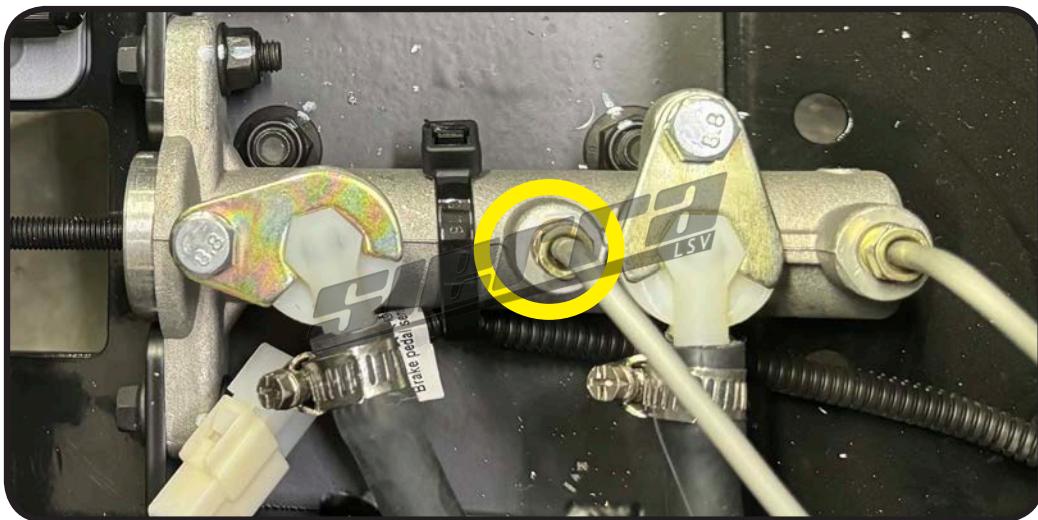
#3 Phillips Screwdriver  
10mm Wrench  
14mm Wrench  
13mm Deep Socket  
Drip Pan

## INSTRUCTIONS

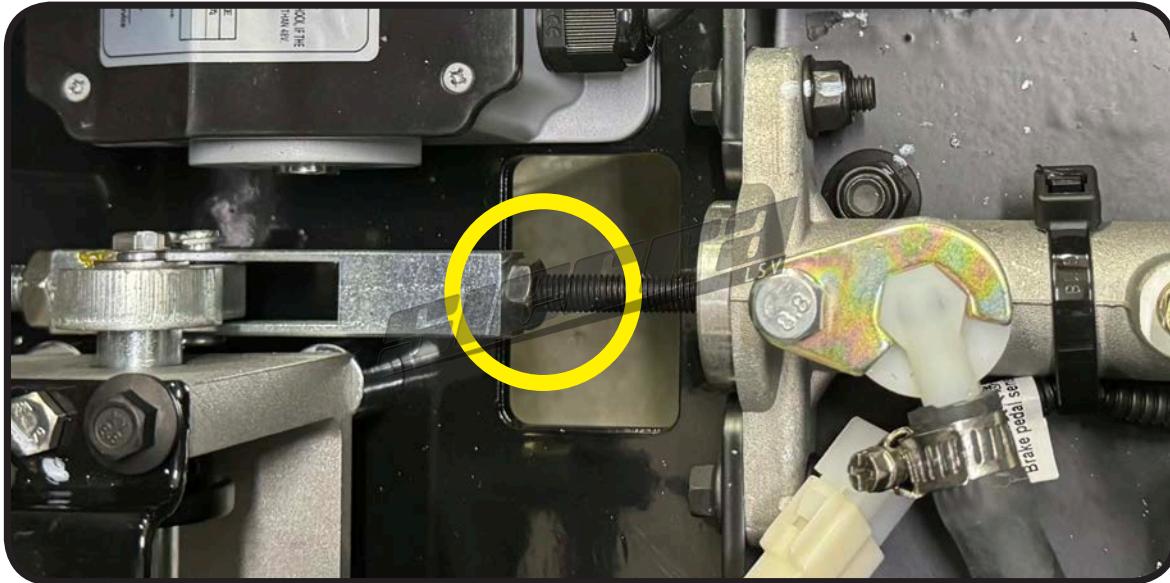
1) Remove the Floor Mat and Prep the vehicle for service (See pages 2-3).

2) Using the 10mm wrench remove the metal brake lines from the master cylinder.

**CAUTION!** Brake fluid will now be released from the master cylinder and is very corrosive.



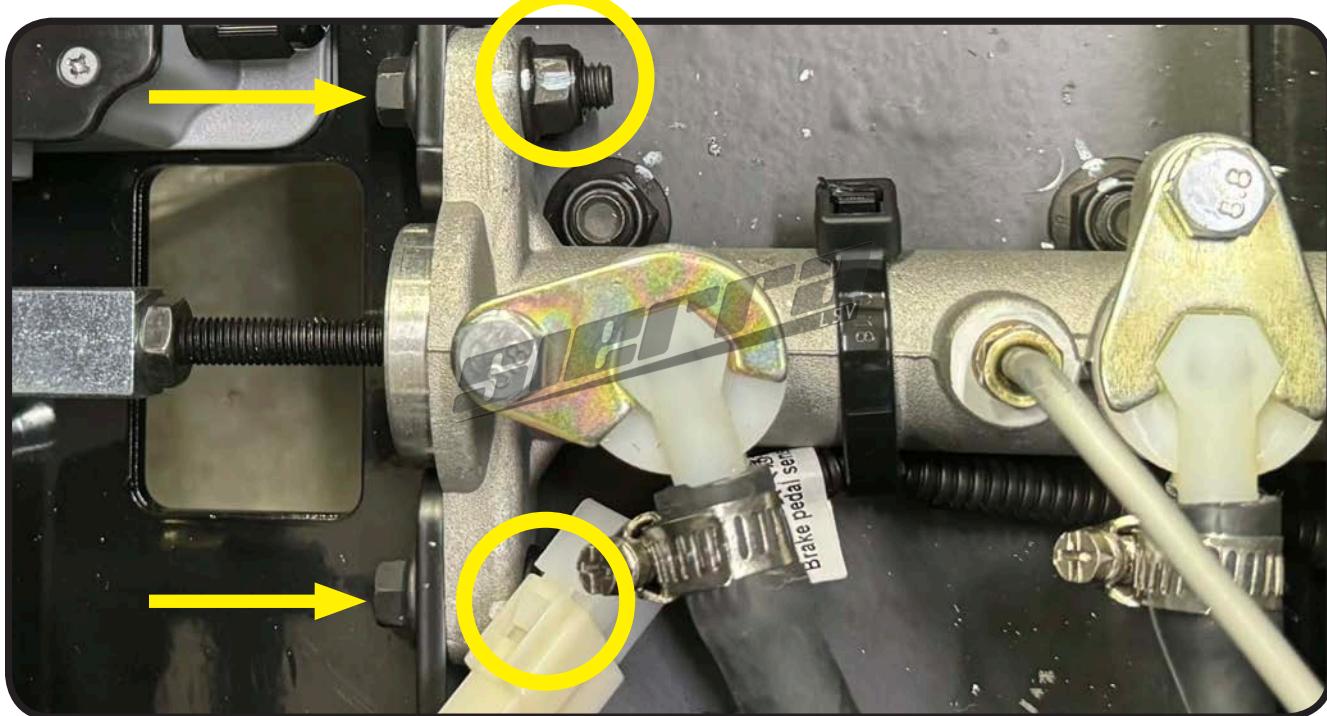
3) Using the 14mm wrench loosen the lock nut for the brake linkage and thread the linkage off of the master cylinder.



4) Using a #3 phillips screwdriver remove the 2 hose clamps and the 2 hoses.



5) Using the 13mm socket remove the mounting bolts for the master cylinder.



6) Reverse these steps to install the replacement master cylinder.

Refer To Torque Tightening Guide for securing all Hardware (Page 5).

7) Follow brake bleeding instructions after brake master cylinder replacement (*PREVIOUS PAGE*).

# Brake Master Replacement

Models: AX4

Estimated Completion Time: 90 Minutes

Part# X1-006



## TOOLS NEEDED

#3 Phillips Screwdriver  
#2 Stubby Phillips Screwdriver  
10mm Wrench  
14mm Wrench  
8mm Socket  
10mm Socket  
13mm Deep Socket

## INSTRUCTIONS

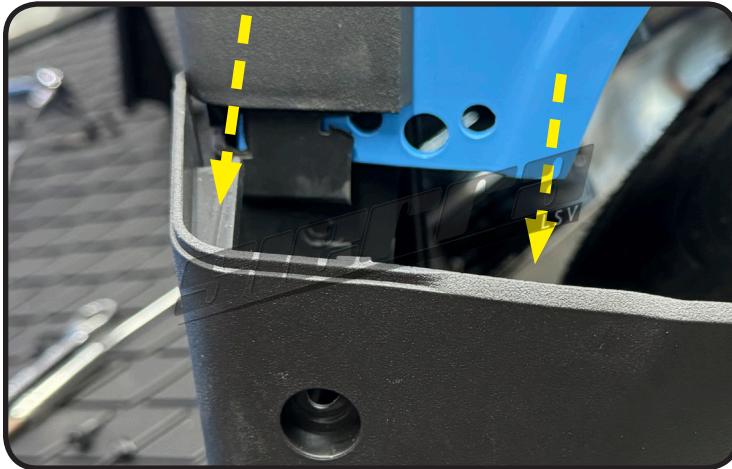
- 1) Remove both kick panels using the #3 screwdriver and 10mm socket.



- 2) Remove the #2 screws with spacers from the inside of the front body above and to the rear of the front tires.



3) Remove the #3 phillips under the plastic cover.



4) Remove the six 8mm screws under the dash.

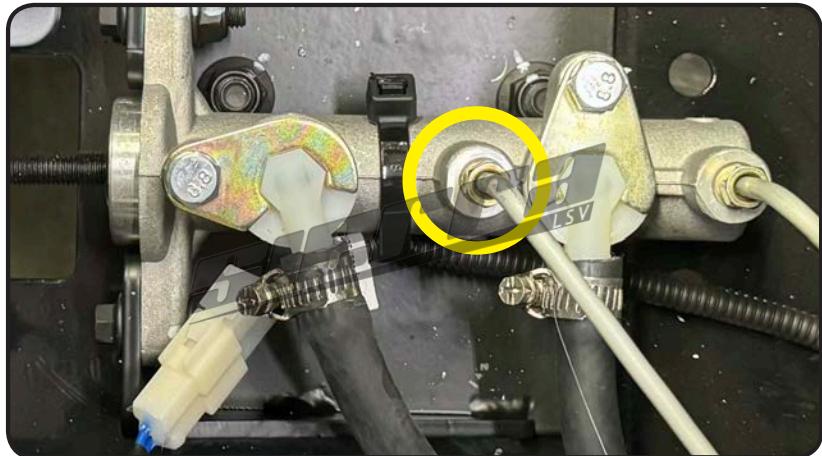


5) Pull the floormat back to expose the cover over the master cylinder in the floor just to the rear of the cart from the brake pedal. Take out the six #3 screws attaching the cover and remove it.

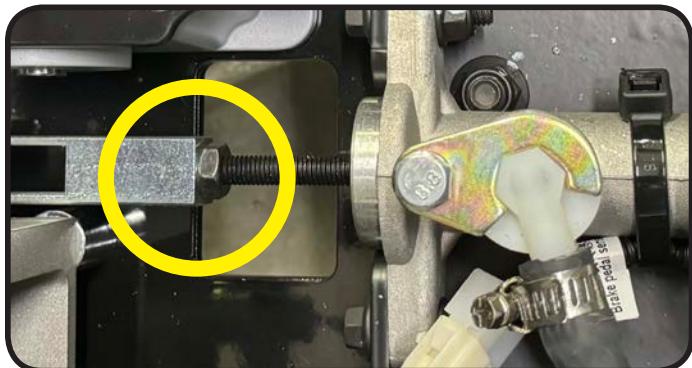


6) Use the 10mm wrench to remove the metal brake lines.

**CAUTION!** Brake fluid will now be released from the master cylinder and is very corrosive.



7) Using the 14mm wrench loosen the lock nut for the brake linkage and thread the linkage off of the master cylinder.



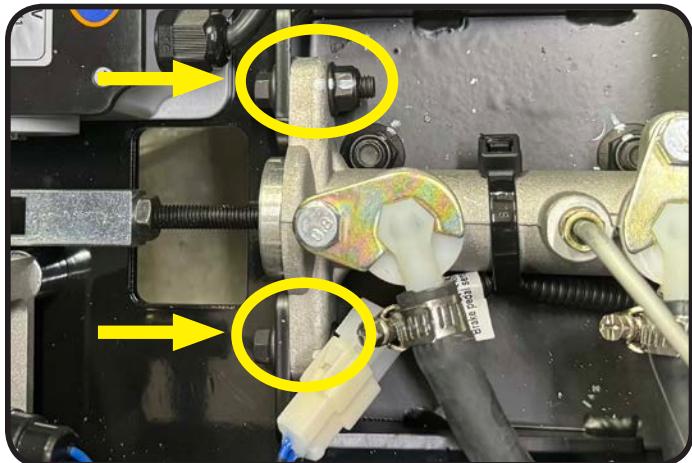
8) Remove the 2 hose clamps using the #2 phillips screwdriver and remove the hoses.



9) Using the 13mm socket remove the mounting bolts for the master cylinder.

10) Reverse these steps to reinstall the replacement master cylinder. Refer to Torque tightening guide on page 5 for securing any hardware.

11) Follow brake bleeding instructions after brake master cylinder replacement (**Page 22**).



# DNR Switch Replacement

## Models: All Models

Estimated Completion Time: 30 minutes

Part# WX1-066

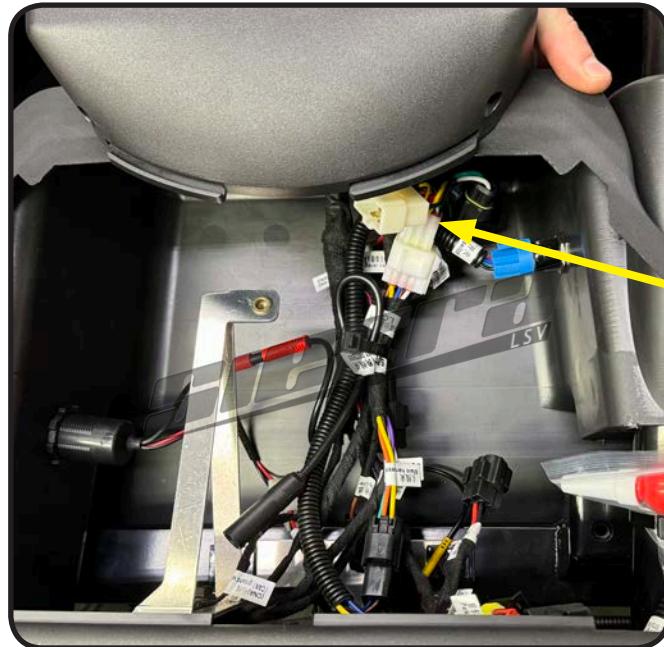


### TOOLS NEEDED

Phillips Screwdriver  
Panel Removal Tool

### INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Refer to Dash removal section (Page 4)
- 3) Take a picture of the wiring or write down the wire colors and position on the switch before removing the eight wires.



All wires are tagged to match pin position as shown



1. R switch
2. 48V power
3. D switch
4. backup camera power
5. 12v power
6. negative
7. Reverse light power

5) Squeeze the retaining tabs on the switch and push it out of the dash.



6) Reverse these steps to install the switch.

# Lithium Battery Replacement

## Models: All Models

Estimated Completion Time: 45 Minutes



### TOOLS NEEDED

13mm Socket

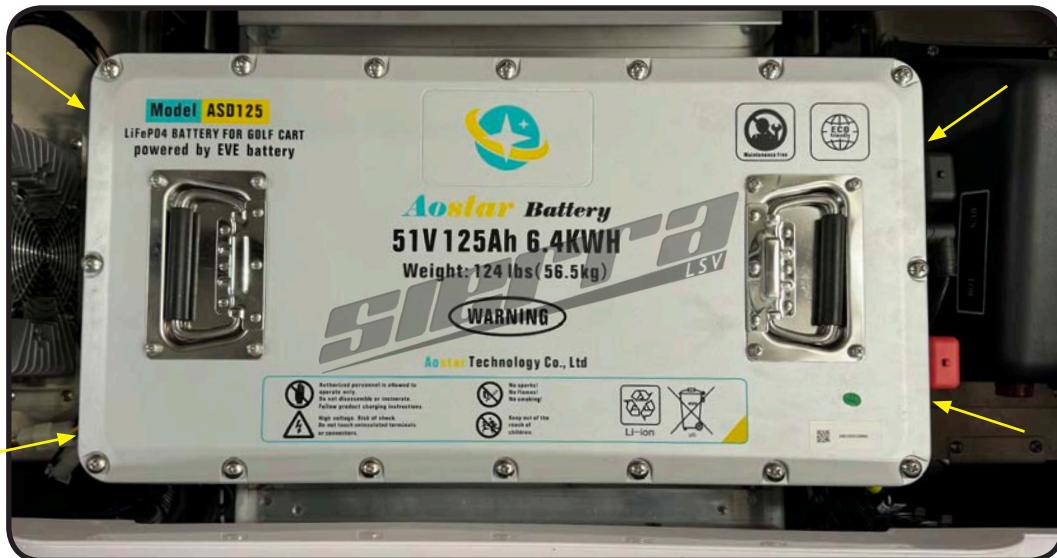
## INSTRUCTIONS

1) Prep the vehicle for service (See pages 2-3).

2) Remove the terminal covers and unplug the two connectors from the battery. Pay close attention to the orientation of the positive and negative cables. Remove one side at a time and secure the first cable before moving to the next, reattach the terminal cover before moving to the next terminal.



3) Remove the 4 mounting bolts using the 13mm socket.



4) Using 2 people carefully lift the lithium battery from the cart.



5) Reverse these steps to install a replacement battery pack. Refer to Torque tightening guide on page 5 for securing any hardware.

CAUTION: Ensure Battery is off before installation.

# Charger Replacement

Models: All Models

Estimated Completion Time: 30 Minutes



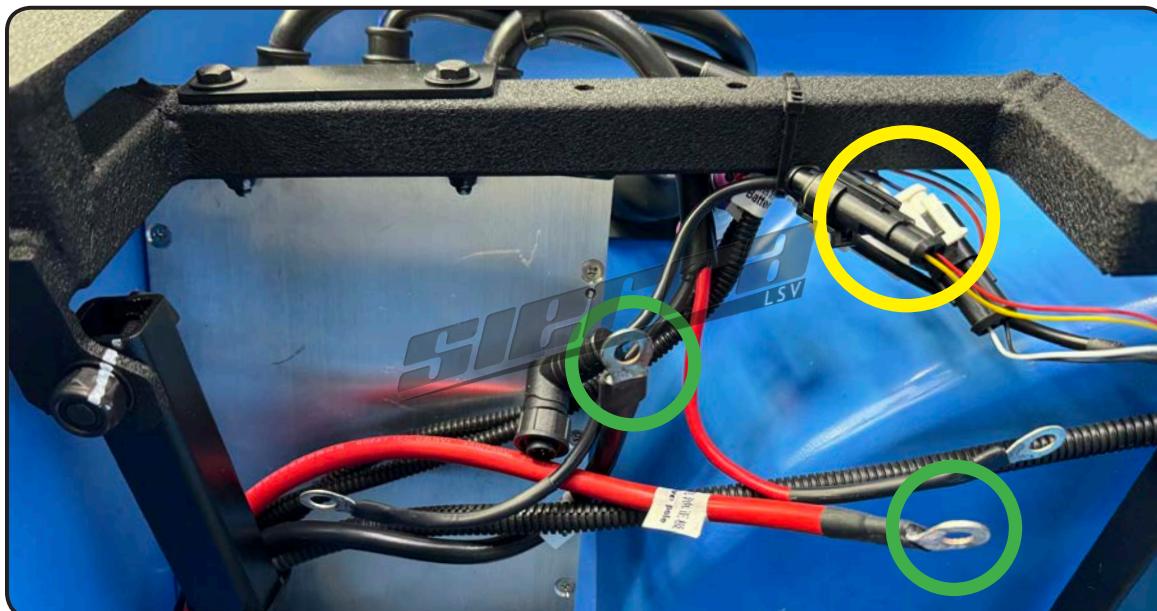
## TOOLS NEEDED

#2 Phillips  
8mm Socket  
10mm Socket

## INSTRUCTIONS

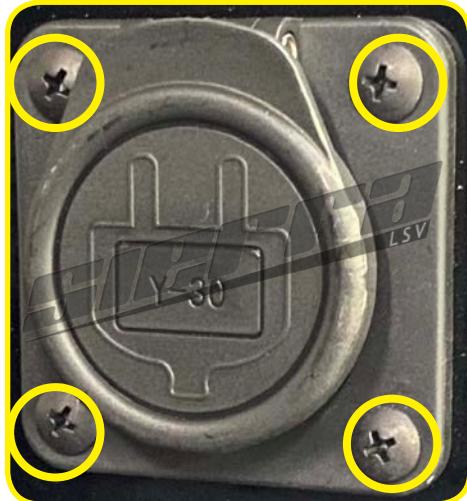
1) Prep the vehicle for service (See pages 2-3).

2) Unplug the charger connectors.

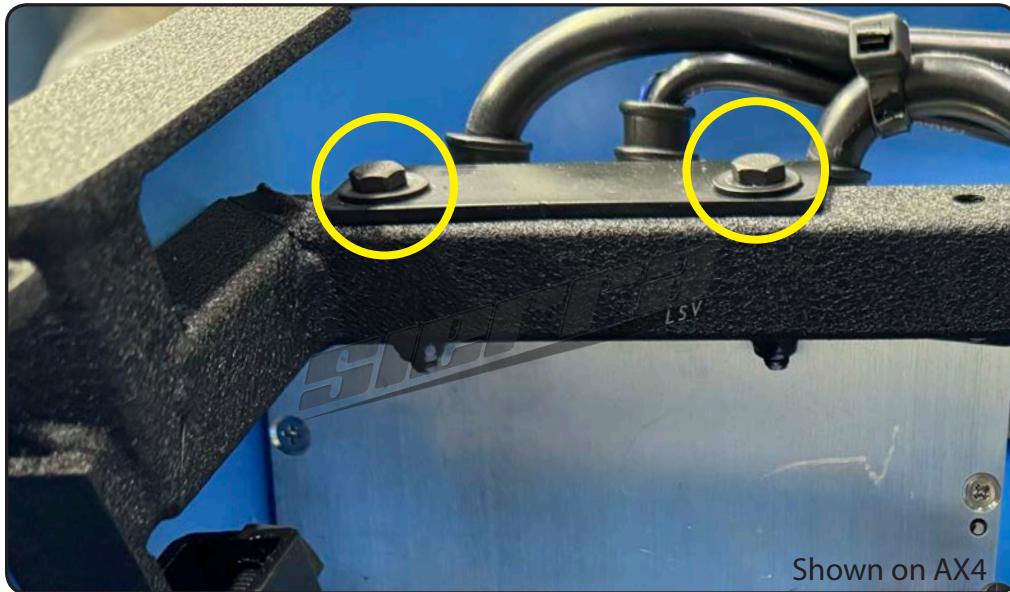


NOTE: On the AX4 you will need to disconnect the two main, If charger is still connected to battery remove the two main leads and camera interface wire.

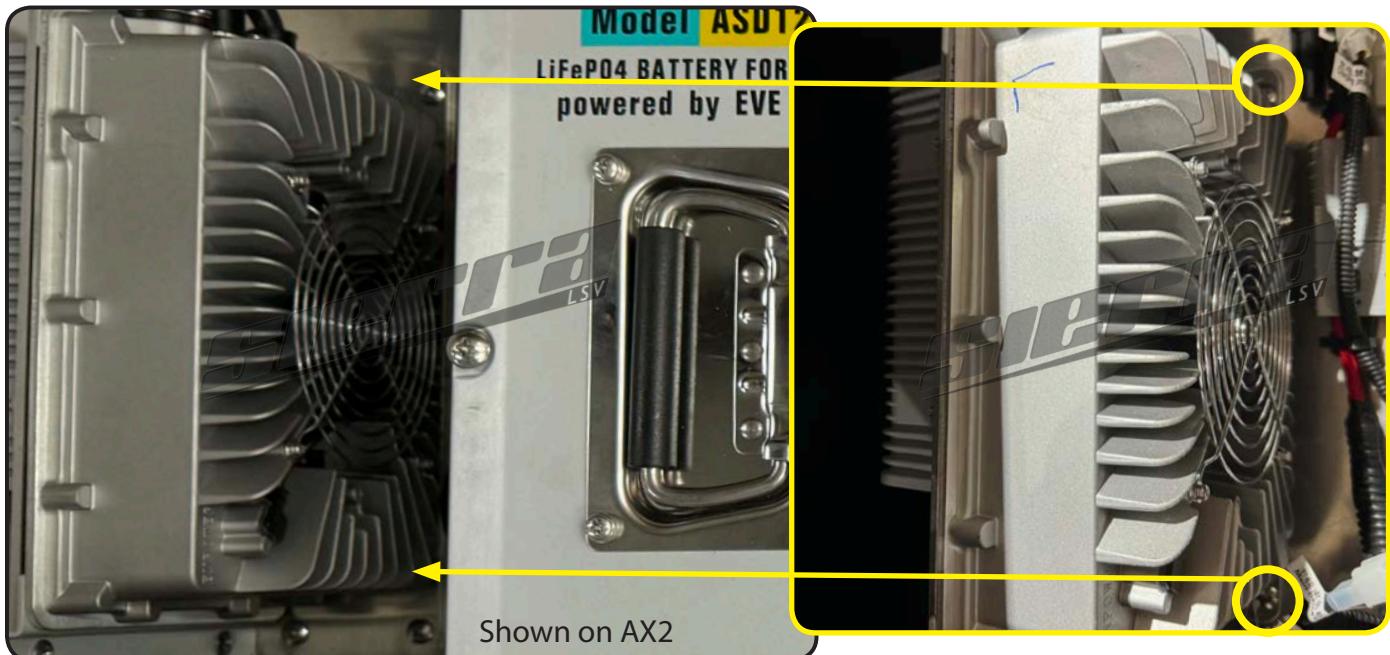
3) Using the phillips screwdriver and 8mm socket remove the receptacle cover. Remove the four- #2 phillips screws from the receptacle and remove receptacle from cart.



4) Remove the two bolts with 10mm nuts attaching the charger to the mounting plate using a 10mm socket and wrench.



5) Remove the four- #2 phillips screws with 10mm nuts attaching charger to mounting plate.



6) Reverse these steps to install replacement charger. Refer to Torque tightening guide on page 5 for securing any hardware.

**NOTE:** A small arc will occur when replugging in converter.

# Controller Replacement

**Models: All Models**

Estimated Completion Time: *30 Minutes*

**Part# H1-006**

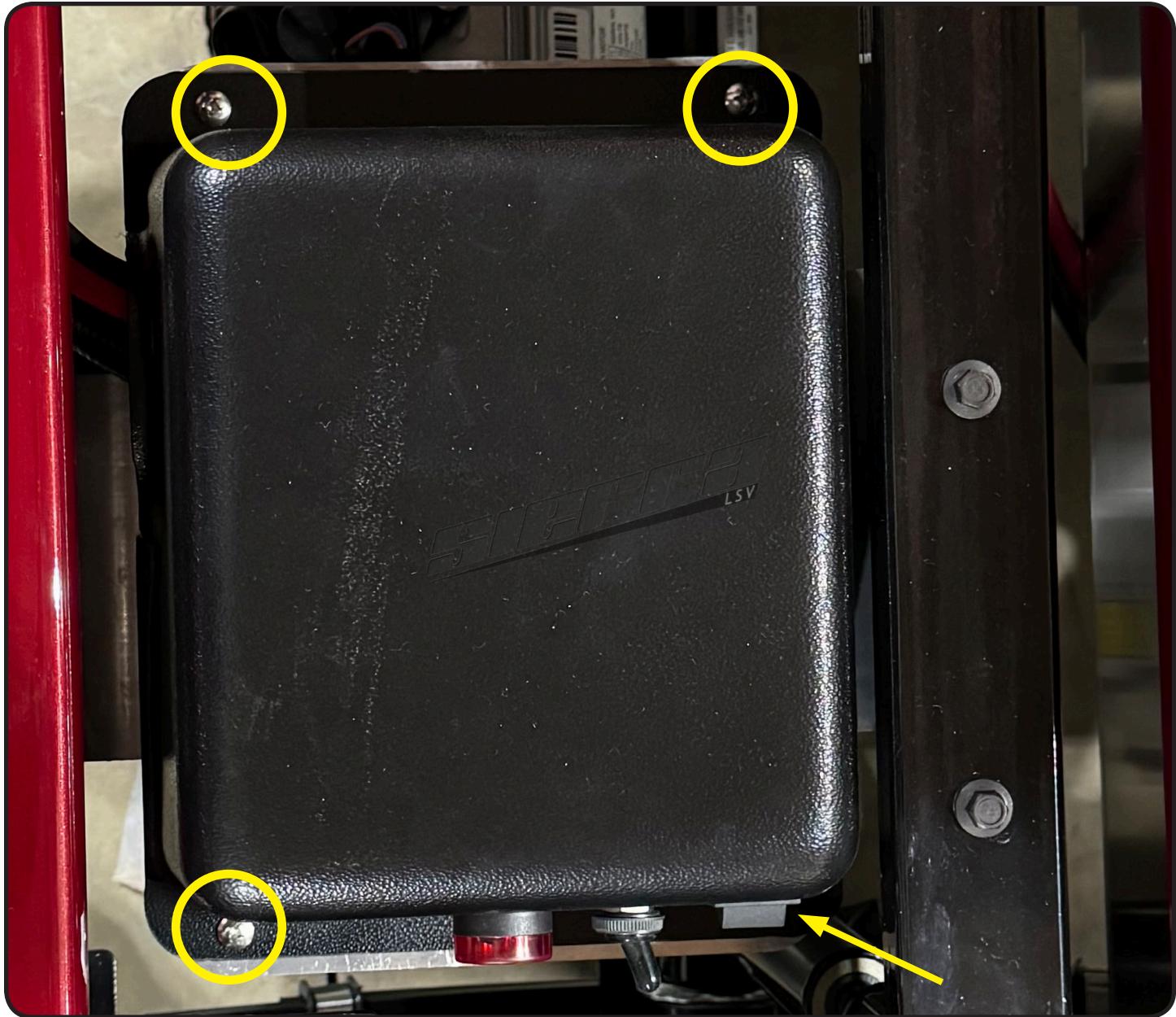


## TOOLS NEEDED

#3 Phillips Screwdriver  
13mm Socket

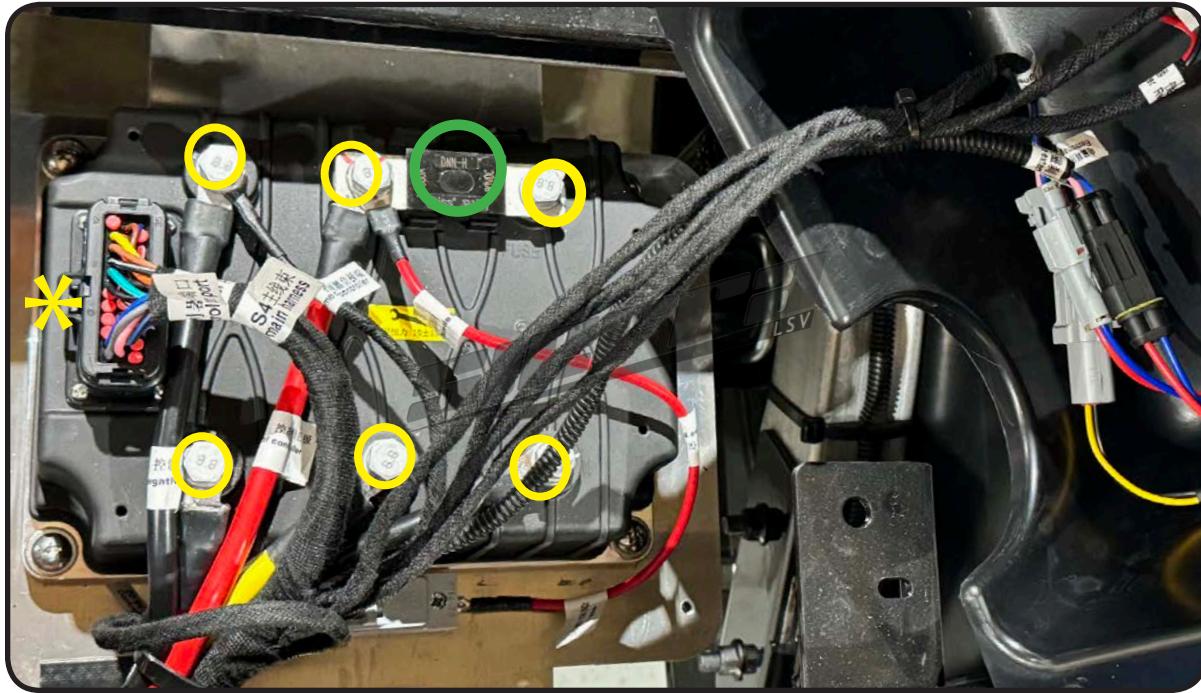
### INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the four screws attaching the controller cover using the #3 phillips.

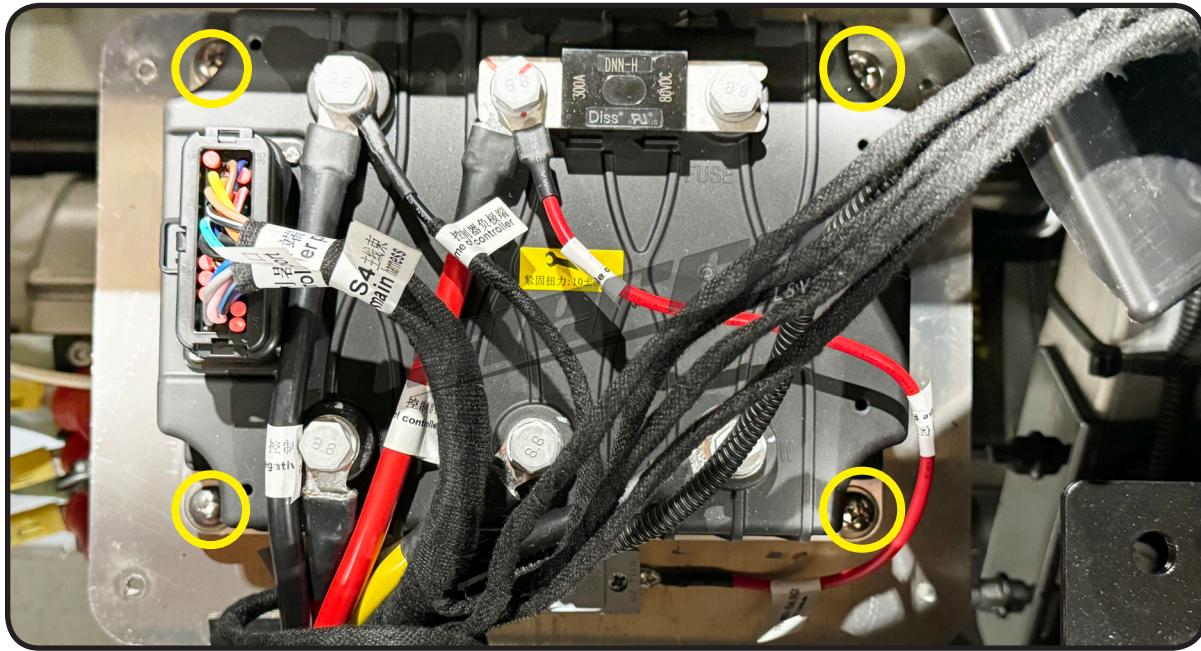


- 3) Move the cover to the side and remove the cables from the controller using a 13mm socket.  
\*Unplug the wiring harness connector from the controller.

**Note the position of the cables on the motor so that they can be reinstalled correctly.**



- 4) Remove the four screws attaching the controller to the cart using the #3 phillips.



- 5) Reverse these steps to install replacement controller.

# Key Switch Replacement

Models: AX2, AX3, AX4

Estimated Completion Time: 30 Minutes

Part# H1-006

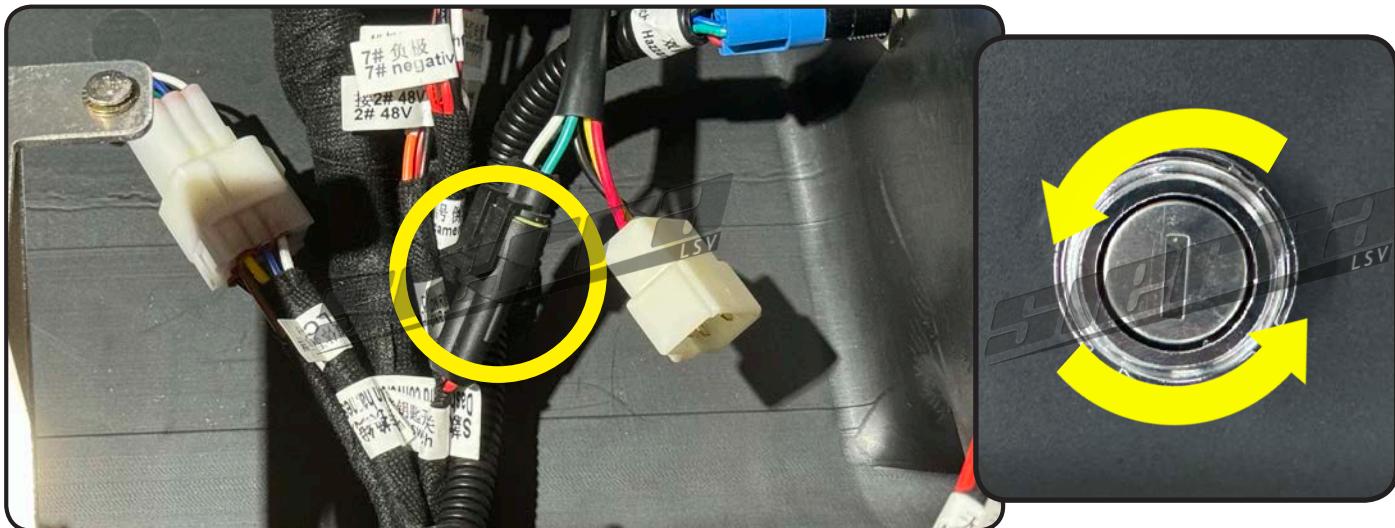


## TOOLS NEEDED

#2 Phillips  
Panel Removal Tool  
Channel Locks

## INSTRUCTIONS

- 1) Refer to Dash removal section (Page 4)
- 2) Turn off lithium pack.
- 3) Unplug the 2 pin connector from the key switch and remove the threaded bezel of the switch.



- 4) Push the switch back through the hole in the dash to remove it.



- 5) Reverse these steps to install new key switch.

**NOTE:** Keys are unique to each switch.

# Push Start/Stop Button Replacement

Models: AX1

Estimated Completion Time: 30 Minutes

Part# WG1-005A



## INSTRUCTIONS

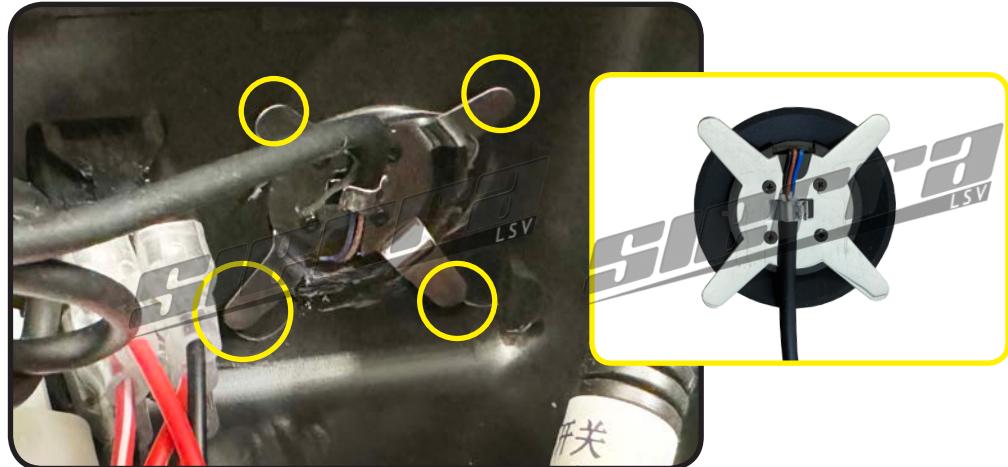
1) Refer to Dash removal section (Page 4)

2) Turn off lithium pack (Page 2).

3) Unplug the connector for the switch.



4) Carefully bend the tabs on the back of the switch to release it.



5) Pull the switch out of the dash.

6) Reverse these steps to install new start/stop switch.



**NOTE:** Key Fobs do NOT need to be reprogrammed if only replacing the Start/Stop Button.

# Bluetooth Start/Stop Receiver

Models: AX1

Estimated Completion Time: 30 Minutes

Part# WG1-005B



## TOOLS NEEDED

#2 Phillips  
Panel Removal Tool

## INSTRUCTIONS

- 1) Refer to Dash removal section (Page 4)
- 2) Turn off the lithium battery pack.
- 3) Unplug the connector from the bluetooth receiver.



6) Remove receiver from dash area by using a #2 Phillips head screwdriver if necessary.

7) Reverse these steps to install a new receiver.



**NOTE:** Key Fobs will need to be reprogrammed. Remove tape covering pin and using a small paper clip hold until fob is recognized.

# Display Screen Replacement

Models: All Models

Estimated Completion Time: 45 Minutes

Part# WG1-007

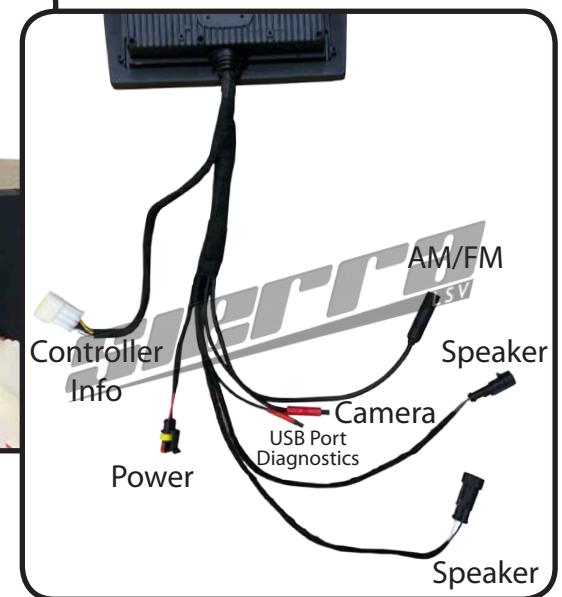
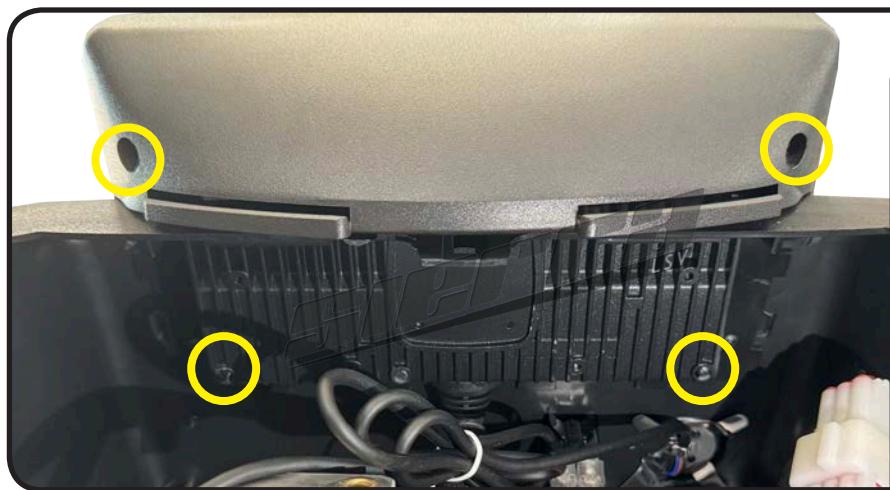


## TOOLS NEEDED

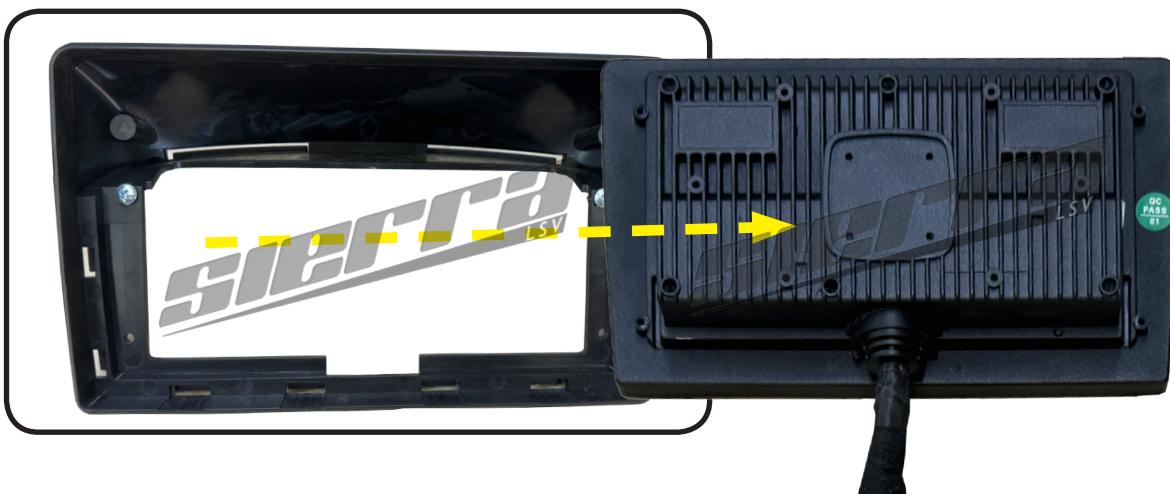
#2 Phillips Screwdriver  
Panel Removal Tool

## INSTRUCTIONS

- 1) Refer to Dash removal section (Page 4).
- 2) Turn off lithium battery pack (Page 2).
- 3) Remove the four #2 phillips screws attaching the display screen to the bezel.



- 4) Carefully push the screen out of the bezel.



- 4) Reverse these steps to install replacement display screen.

# Voltage Converter Replacement

Models: AX1, AX2, AX3

Estimated Completion Time: 15 Minutes

Part# WG1-004

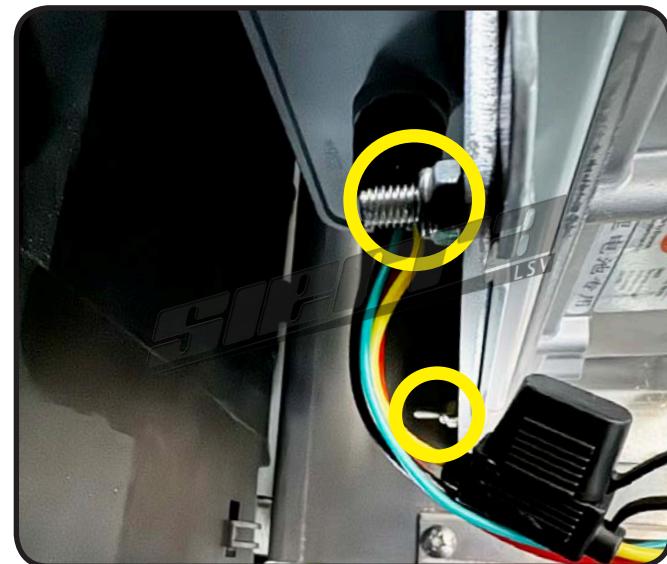
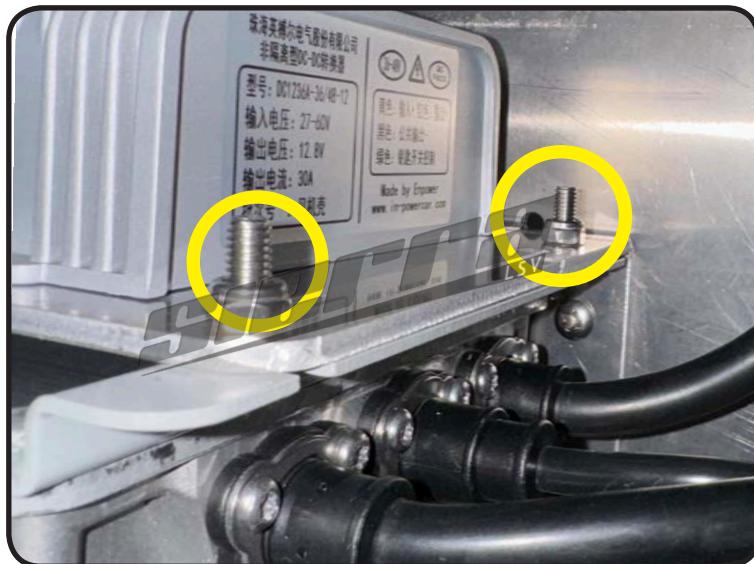


## TOOLS NEEDED

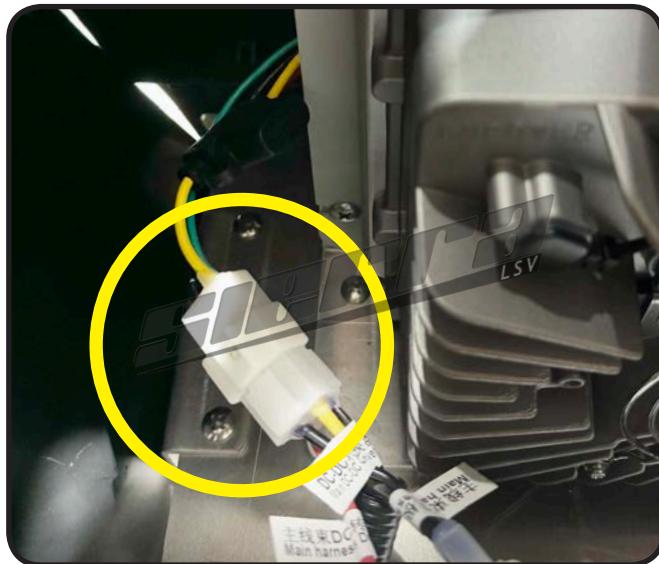
#2 Phillips Screwdriver  
8mm Socket  
10mm Socket

## INSTRUCTIONS

- 1) Turn off the battery (Page 2).
- 2) Remove the 4 screws attaching the charger to the bracket using the #2 phillips and 10mm socket



- 3) Disconnect the converter plug.



NOTE: A small arc will occur when replugging in converter

# Voltage Converter Replacement

Models: AX4

Estimated Completion Time: 15 Minutes

Part# WG1-004

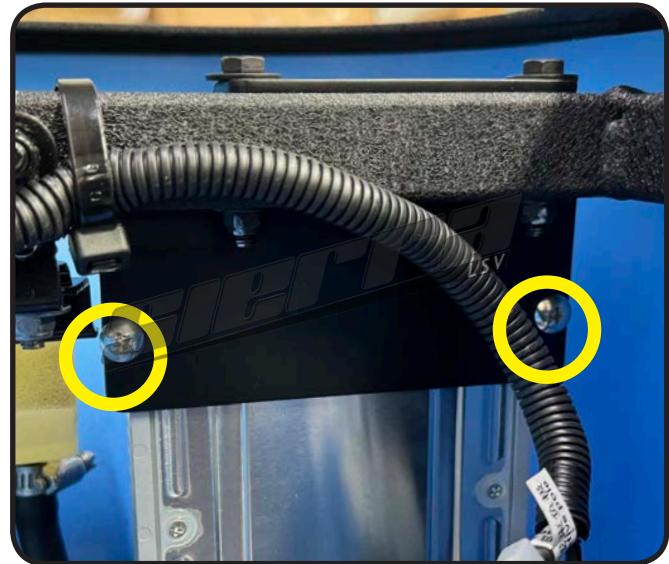


## TOOLS NEEDED

#2 Phillips Screwdriver  
8mm Socket  
10mm Socket

## INSTRUCTIONS

- 1) Turn off the battery (Page 2).
- 2) Remove the 4 screws attaching the charger to the bracket using the #2 phillips and 10mm socket



- 3) Disconnect the converter plug.



NOTE: A small arc will occur when replugging in converter.

# Front Shock Replacement

Models: All Models

Estimated Completion Time: 15 Minutes per Shock

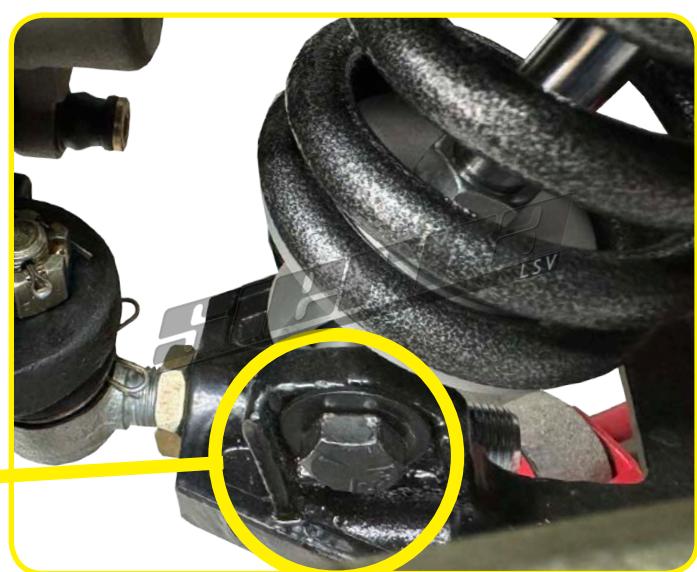
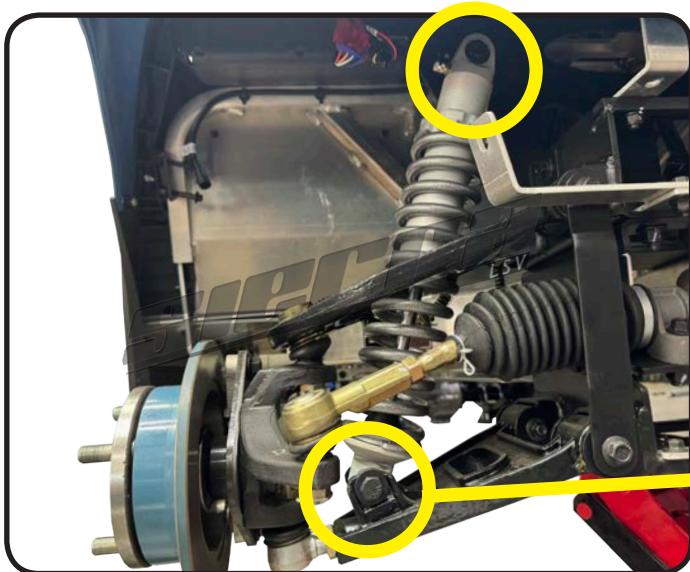


## TOOLS NEEDED

5/8" Socket  
5/8" Wrench  
5/8" Ratchet

## INSTRUCTIONS

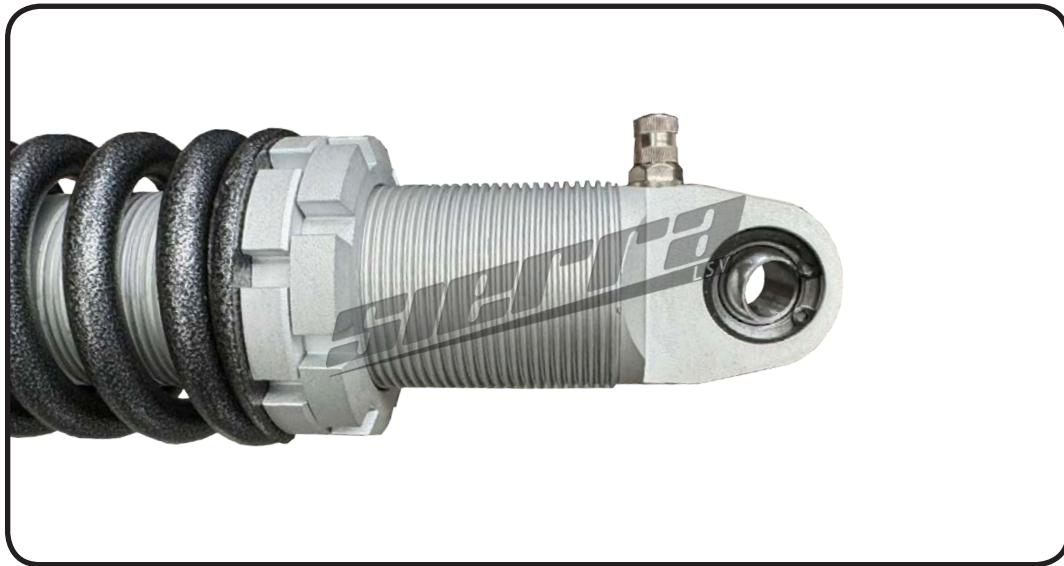
- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove the nuts at the top and bottom mounts of the shock using the 5/8" socket and wrench.



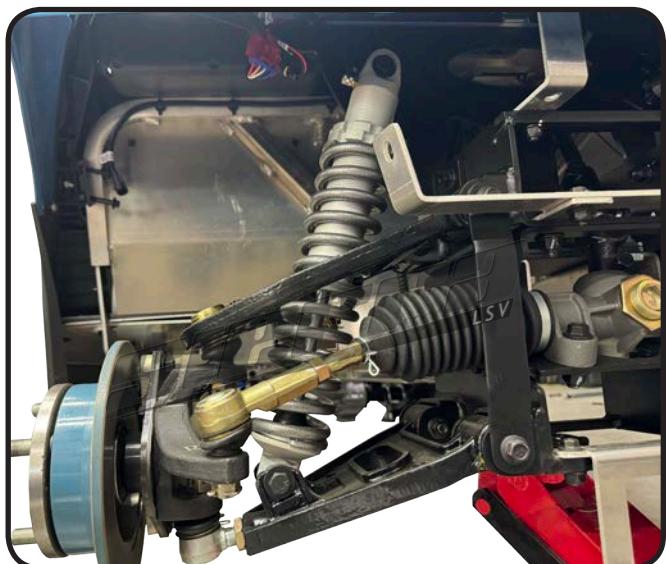
- 3) Pay close attention to the order of the shock, spacer and other hardware so you can reinstall it the same way.



4) Remove shock(s) and retain all hardware.



5) Reinstall the shock, spacers, and hardware in the correct order at the top and bottom of the shock.



Refer To Torque Tightening Guide for securing all Hardware (Page 5).

# Rear Shock Replacement

## Models: All Models

Estimated Completion Time: 20 Minutes per Shock

**Part# X1-032 (AX1), X1-033 (AX2/AX3/AX4)**



### TOOLS NEEDED

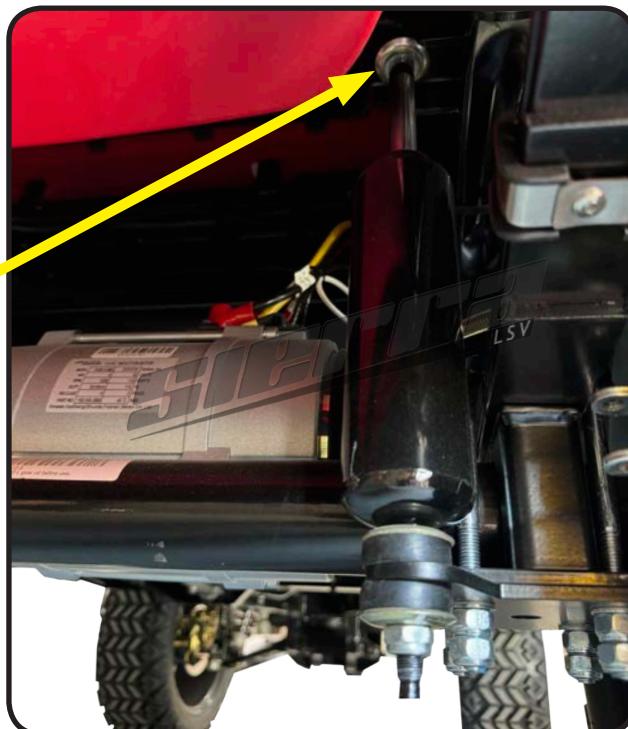
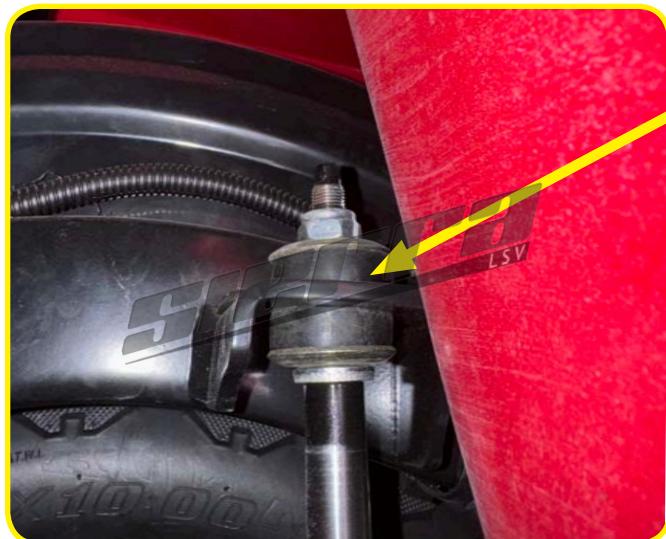
17mm Socket  
Wrench

### INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Jack up rear wheels and support cart on jack stands.

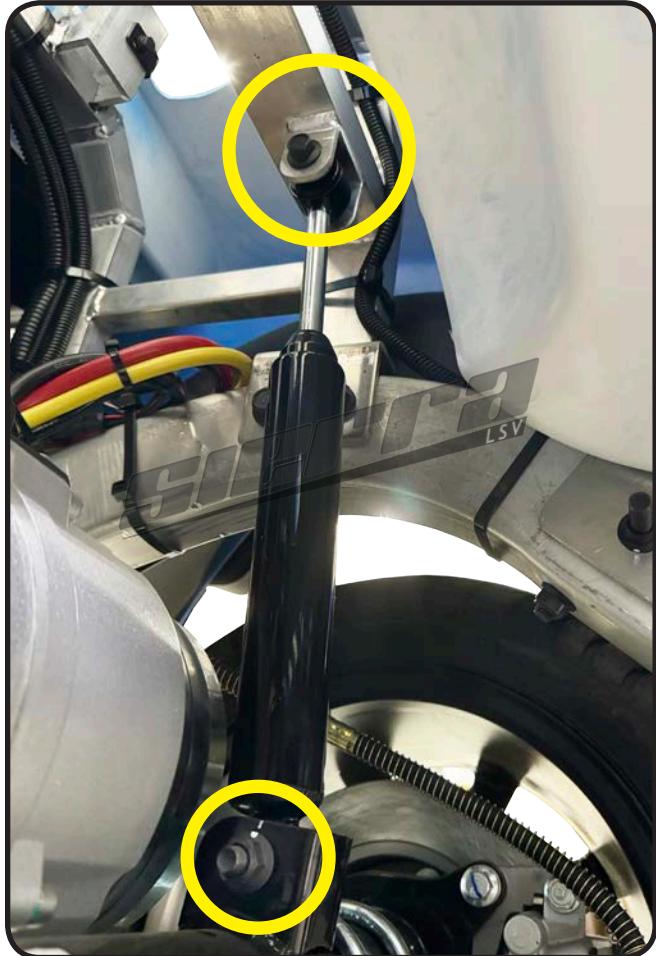


- 3) Remove nuts from shock mounting bolts using the 17mm socket and wrench and remove mounting bolts and shocks and retain all hardware.



4) AX4 upper shock mount bolts can be accessed under the rear seat cushion, all other models must be accessed from under the cart.

**Note: Pay attention to the order of the hardware so you can reinstall it the same way.**



6) Reinstall the replacement shocks using retained hardware.

Refer To Torque Tightening Guide for securing all hardware (Page 5).

# Rear Spring/Bushing Replacement

Models: All Models

Estimated Completion Time: *60 Minutes per Spring*

**Part# X1-012 (AX2/AX4), X1-013 (AX1/AX3)**

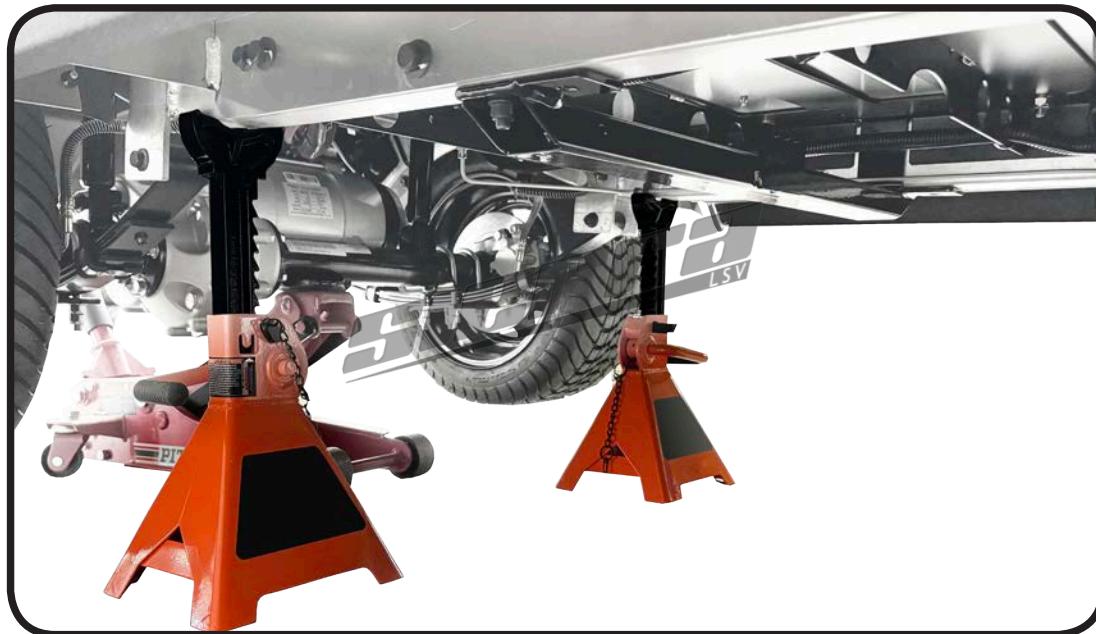


## INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).

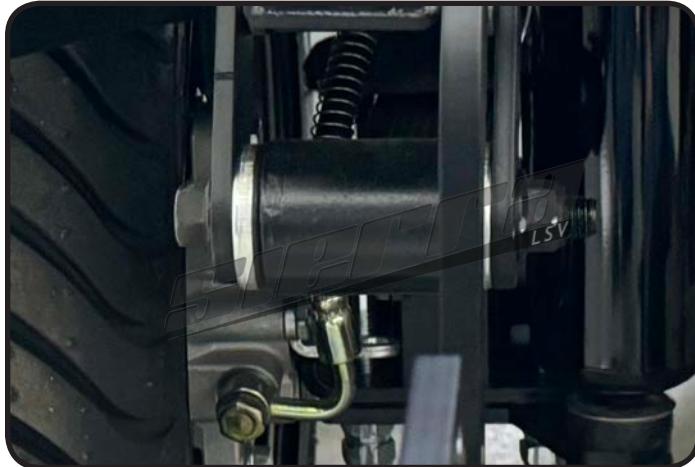
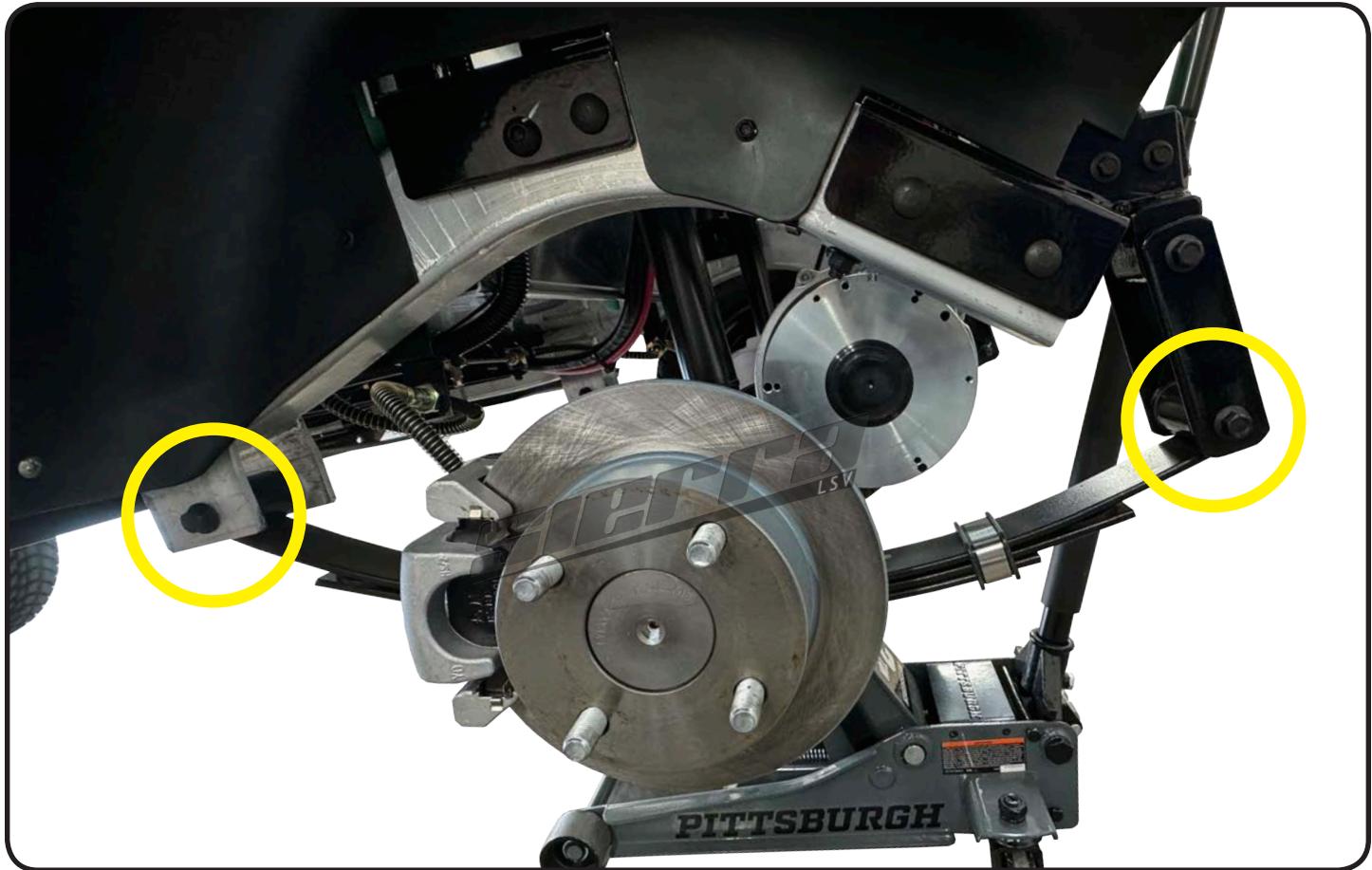


- 2) Use a second floor jack to support the rear differential so it does not drop when the spring is detached.



3) Using a 13mm and 15mm socket remove the bolts from the front and rear eyes of the spring, retain all hardware.

**NOTE:** Only remove one side at a time.



4) If replacing bushings use the jack supporting the differential to lower it to gain access to the bushings to replace them.

**NOTE:** Be careful not to over tighten the hardware for the bushings, just tighten it until the connection has no slop.

5) If replacing the spring use the 17mm socket to remove the nuts from the u bolts.

**IMPORTANT** Do not remove the u bolts from both Driver and Passenger Side Springs at the same time this could cause the axle to rotate and damage the motor or wiring.



6) Remove spring and replace by reversing the above steps. Refer to Torque tightening guide on page 5 for securing any hardware.

# Front Suspension Alignment

## Models: All Models

Estimated Completion Time: 45 minutes



### TOOLS NEEDED

13mm Wrench      Framing Square  
16mm Wrench      Tape Measure  
18mm Wrench  
24mm Wrench

### INSTRUCTIONS

#### CAMBER

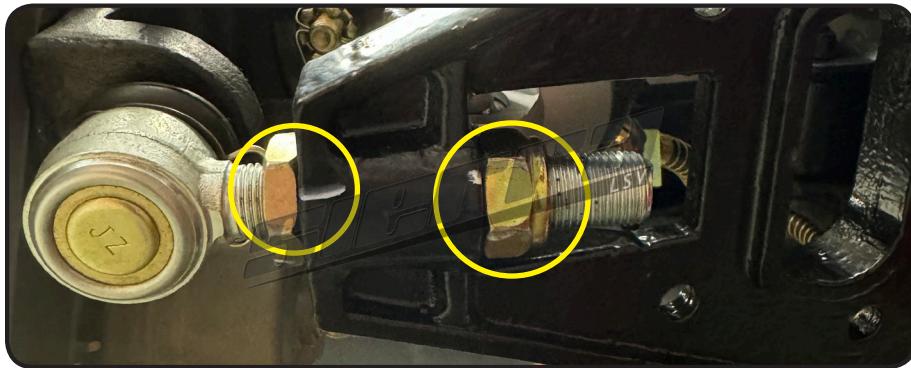
1) To check camber on a flat level surface place one leg of the square on the floor and use the other leg to see if the front tires are 90 degrees. **If the tire is not 90 degrees**, jack up the front wheels and support with jack stands, use a 24mm wrench to loosen the outer nut on the heim joint on the end of the lower a arm.



2) Using the inner and outer nuts on the threaded portion of the heim joint, adjust the heim joint in or out to make the tire 90 degrees.



3) Tighten both nuts to secure the heim joint.



4) Lower the cart to the ground, drive vehicle around, and recheck camber using framing square.

## TOW ALIGNMENT

5) For tow adjustment measure between the inner sidewalls of the front tires at the front of the tire and again at the back.

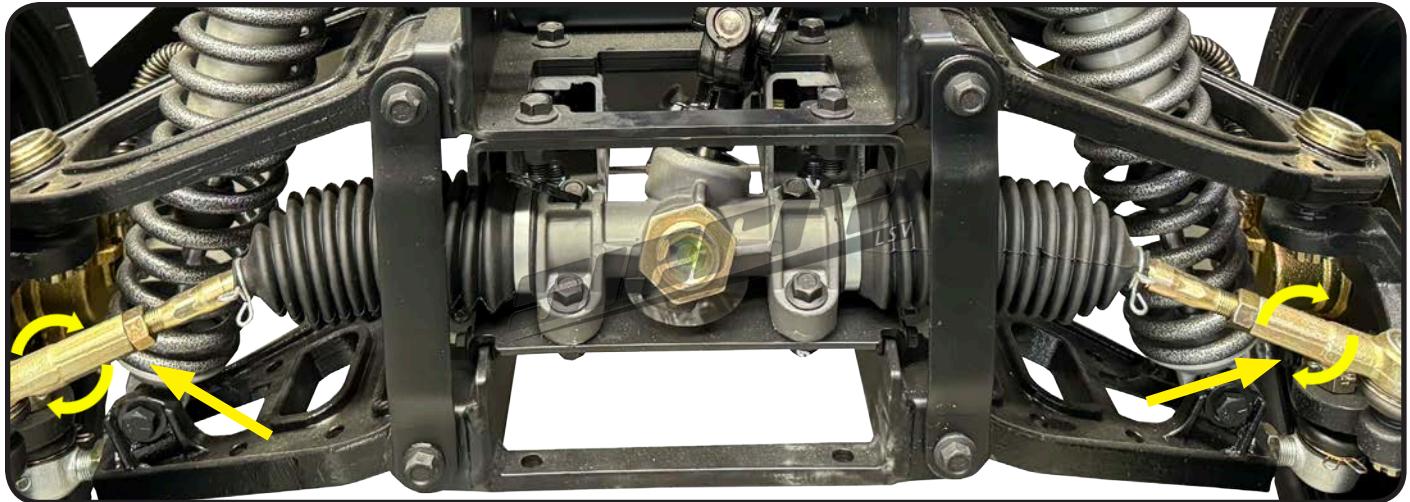


6) Some tires have a mold line in the center this can also be used for this measurement.

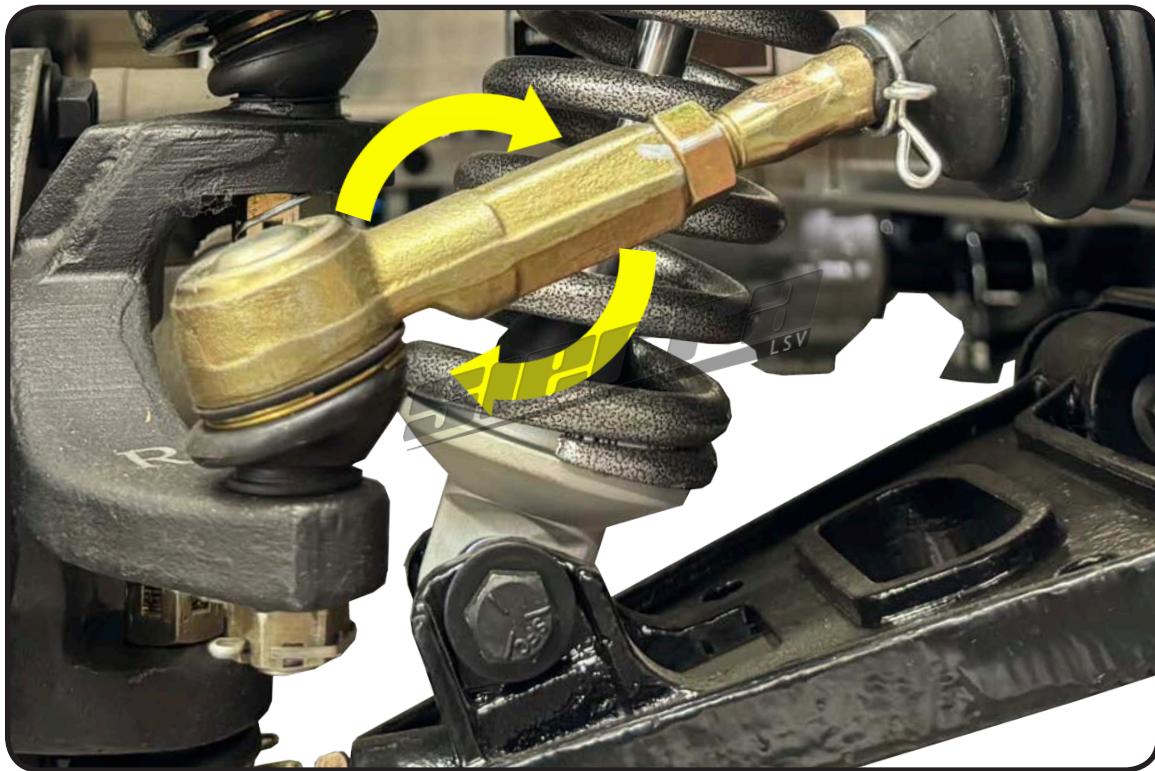


7) Proper toe setting is  $1/8"$  to  $1/4"$  toed in. Meaning the measurement between the sidewalls of the tires is shorter measured at the front of the tires than at the back of tires.

8) If the toe adjustment is not set properly loosen the lock nuts for the tie rod ends using a 13mm wrench.



9) Using the 13mm wrench on the hex portion of the steering arm connecting the steering rack to the tie rod end, rotate the steering shaft to thread the tie rod in or out to change the adjustment.



10) Adjust both tie rods the same amount so that the steering wheel does not get off center.



11) Once the correct alignment is achieved retighten the tie rod end lock nuts.

12) Drive vehicle around then recheck alignment.

# Lower A-Arm Heim Joint Replacement

**Models: All Models**

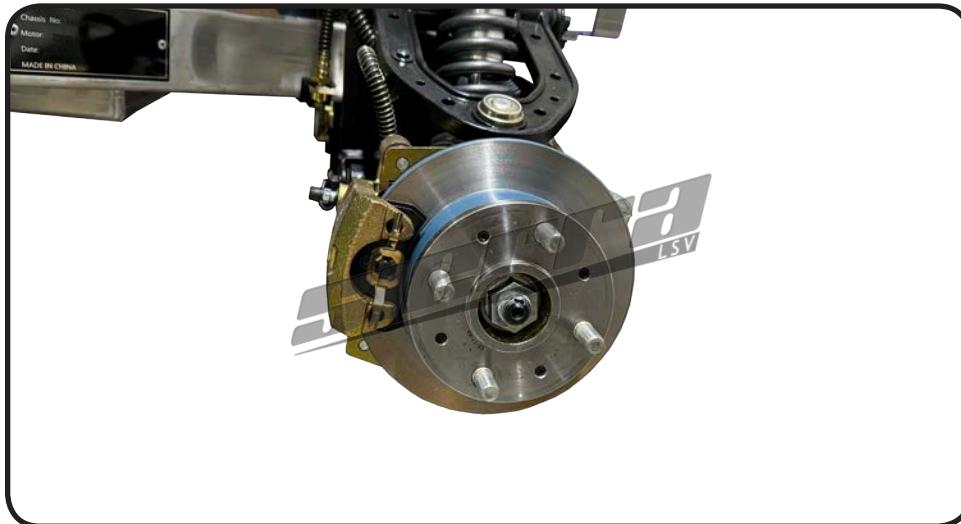
Estimated Completion Time: *15 minutes*

**Part# X1-044**

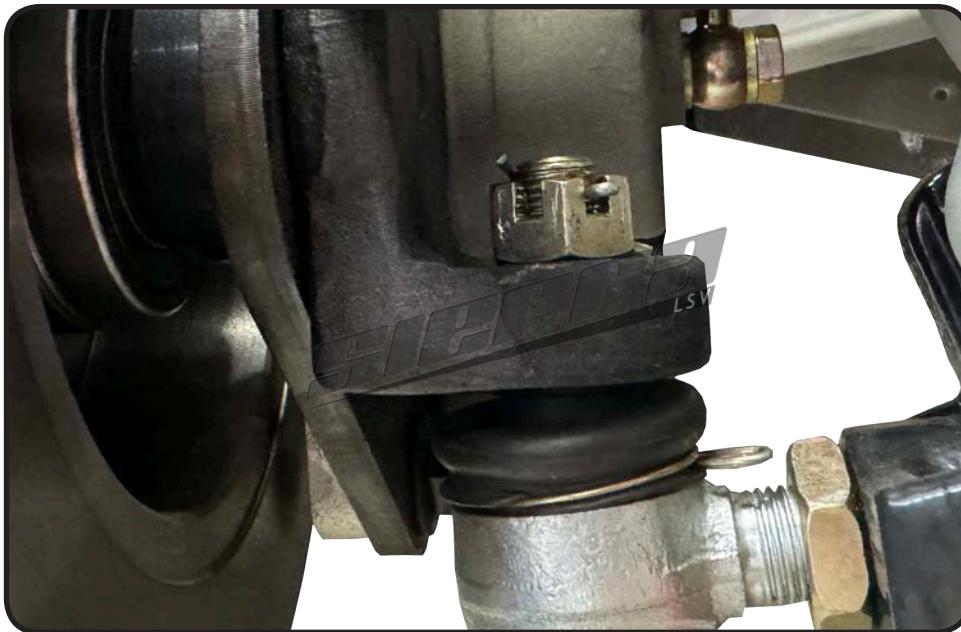


## INSTRUCTIONS

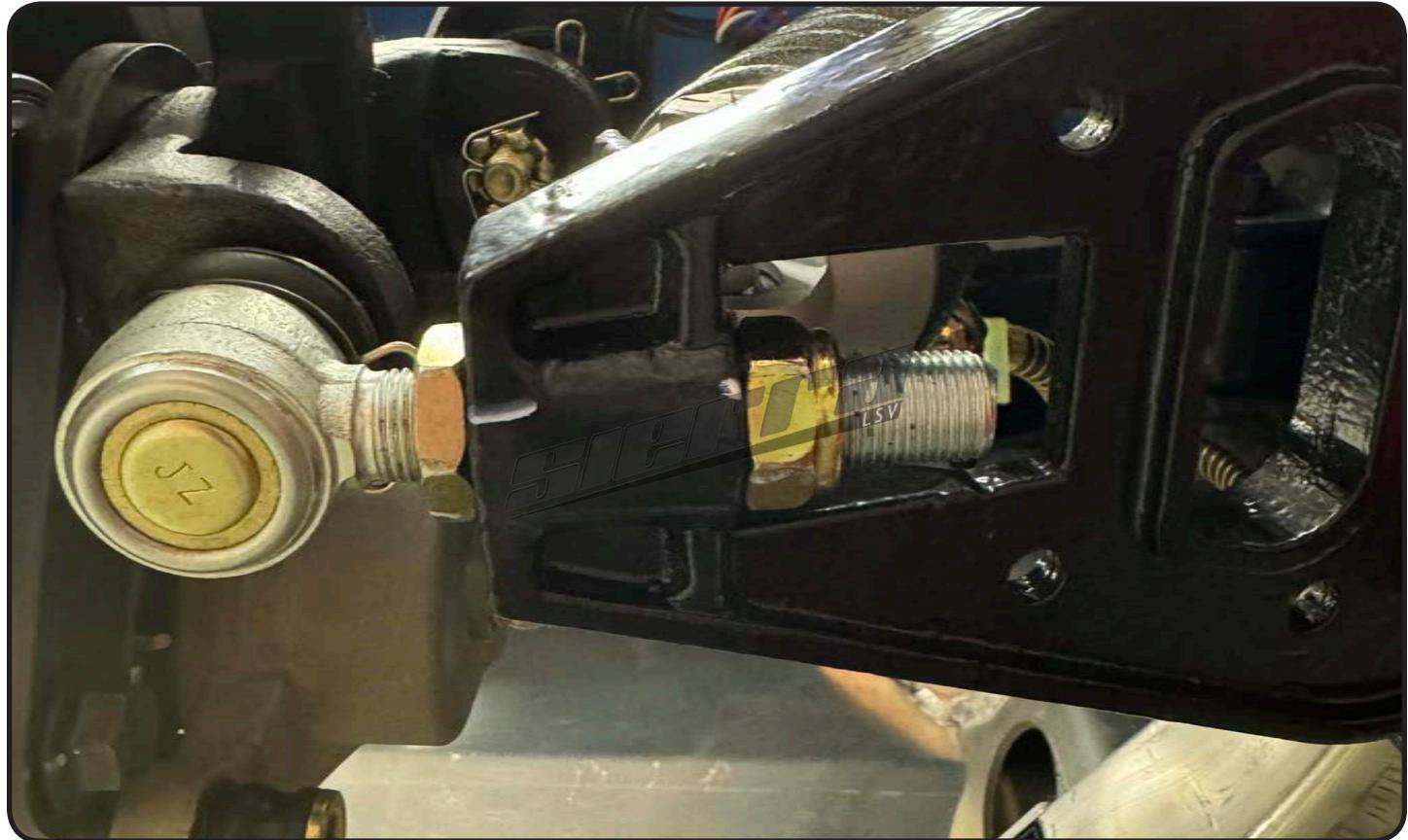
- 1) Prep the vehicle for service (See pages 2-3).
- 2) Remove front tire using 19mm socket.



- 3) Remove cotter pin from castle nut and use 18mm socket to remove castle nut, retain all hardware.



4) Remove heim joint using 24 mm socket.



5) Reverse these steps to install new heim joint and reassemble front suspension.

6) Follow front suspension alignment instructions.

**NOTE:** If Heim joint is stuck in spindle arm, lightly tap spindle arm with mallet to free it.

# Upper Tie Rod End Replacement

**Models: All Models**

Estimated Completion Time: *30 Minutes*

**Part# X1-043**



## TOOLS NEEDED

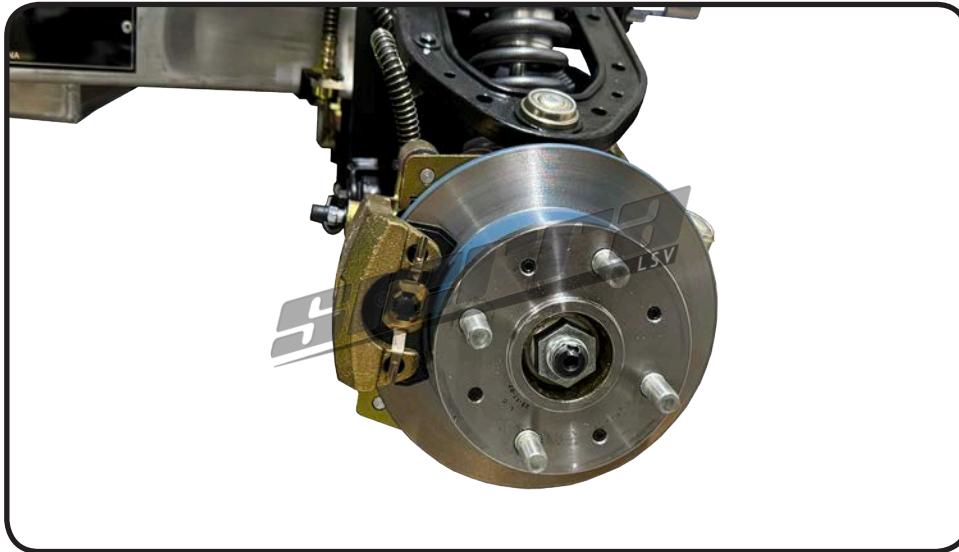
18mm Socket

19mm Socket

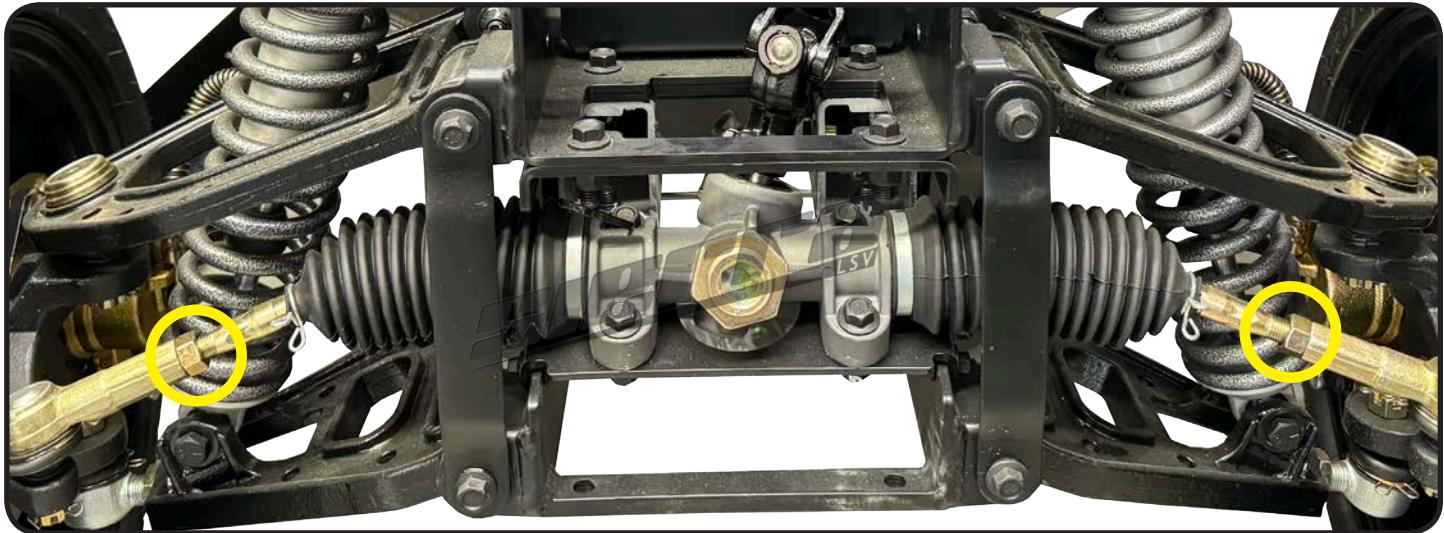
16mm Wrench

## INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Use the 19mm socket to remove the front tire.



- 3) Mark the position of the tie rod end using a tape or marker on the threaded steering shaft so the alignment process will be easier after reinstallation.



4) Remove the cotter pin and use the 18mm socket to remove the castle nut.

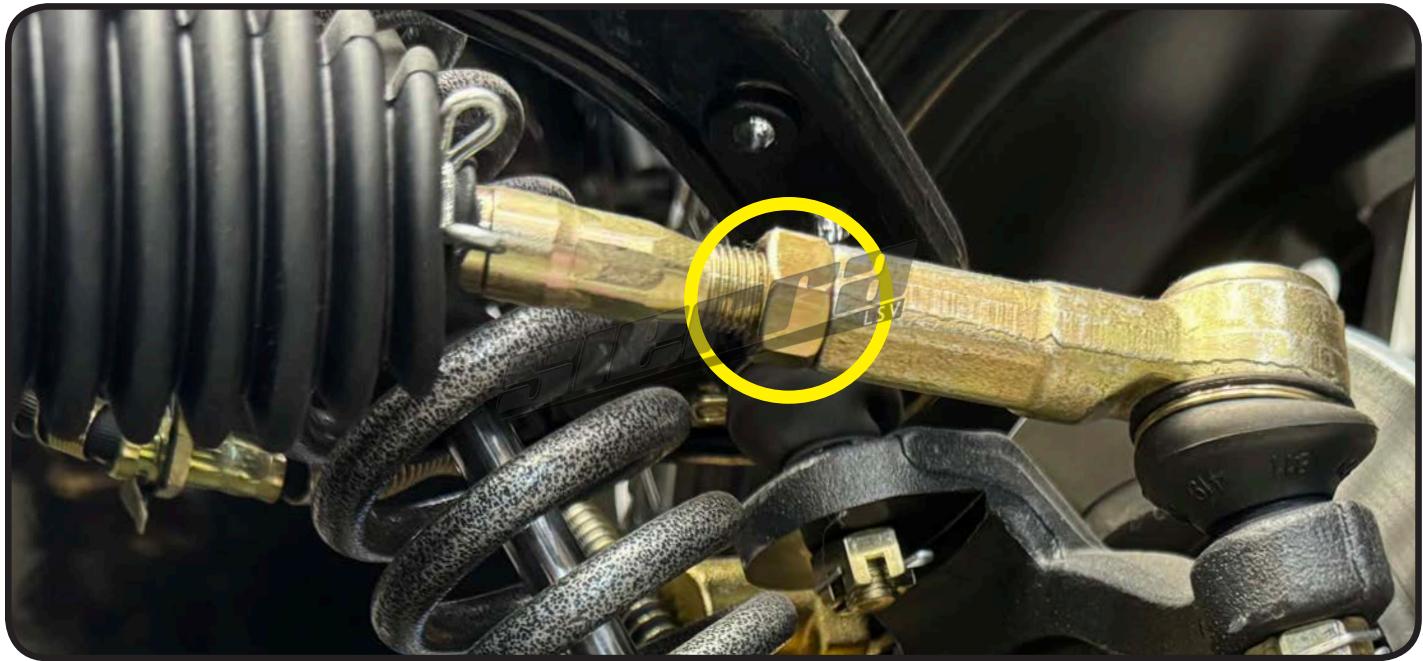


5) Press or tap the tie rod end out of the steering arm of the spindle.



6) Be careful not to damage the threads of the tie rod end.

7) Use the 16mm wrench to loosen the lock nut for the tie rod end, then thread the tie rod end off of the steering shaft.



8) Reverse these steps to install a replacement tie rod end. Refer to Torque tightening guide on page 5 for securing any hardware.

9) Follow front suspension alignment instructions.

# Steering Rack Replacement

## Models: All Models

Estimated Completion Time: *45 Minutes*

Part# X1-045

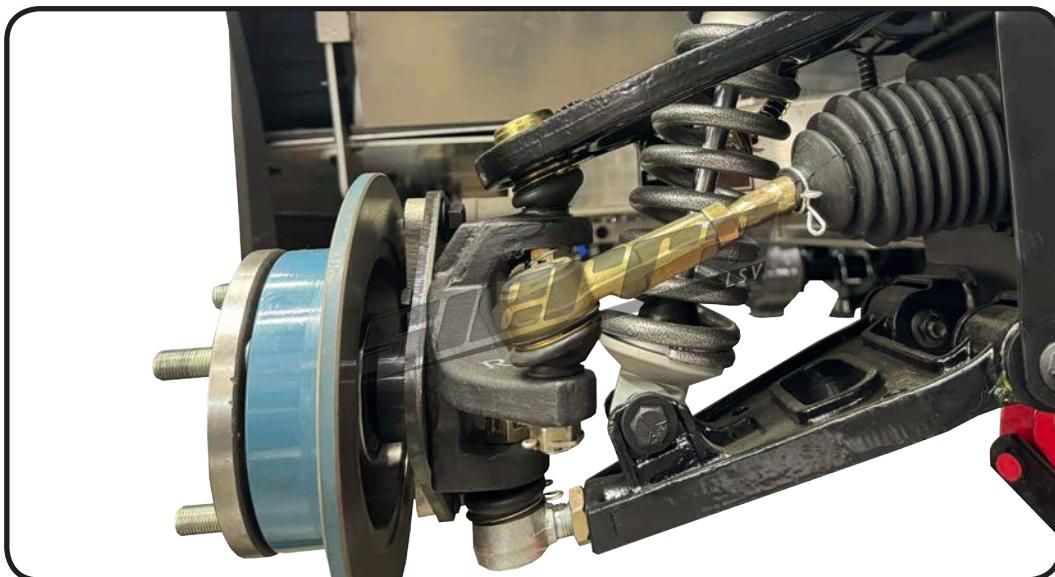


### TOOLS NEEDED

10mm Socket  
13mm Socket  
18mm Socket  
19mm Socket  
16mm Wrench

### INSTRUCTIONS

- 1) Prep the vehicle for service (See pages 2-3).
- 2) Use the 19mm socket and remove the front tires.



- 3) Remove the cotter pins from Driver and Passenger's side Tie ends and retain.



4) Use the 18mm socket to remove the castle nuts for both tie rod ends.



5) Press or tap the tie rod ends out of the steering arms for the spindles.

NOTE: Be careful not to damage the threads on the tie rod ends.

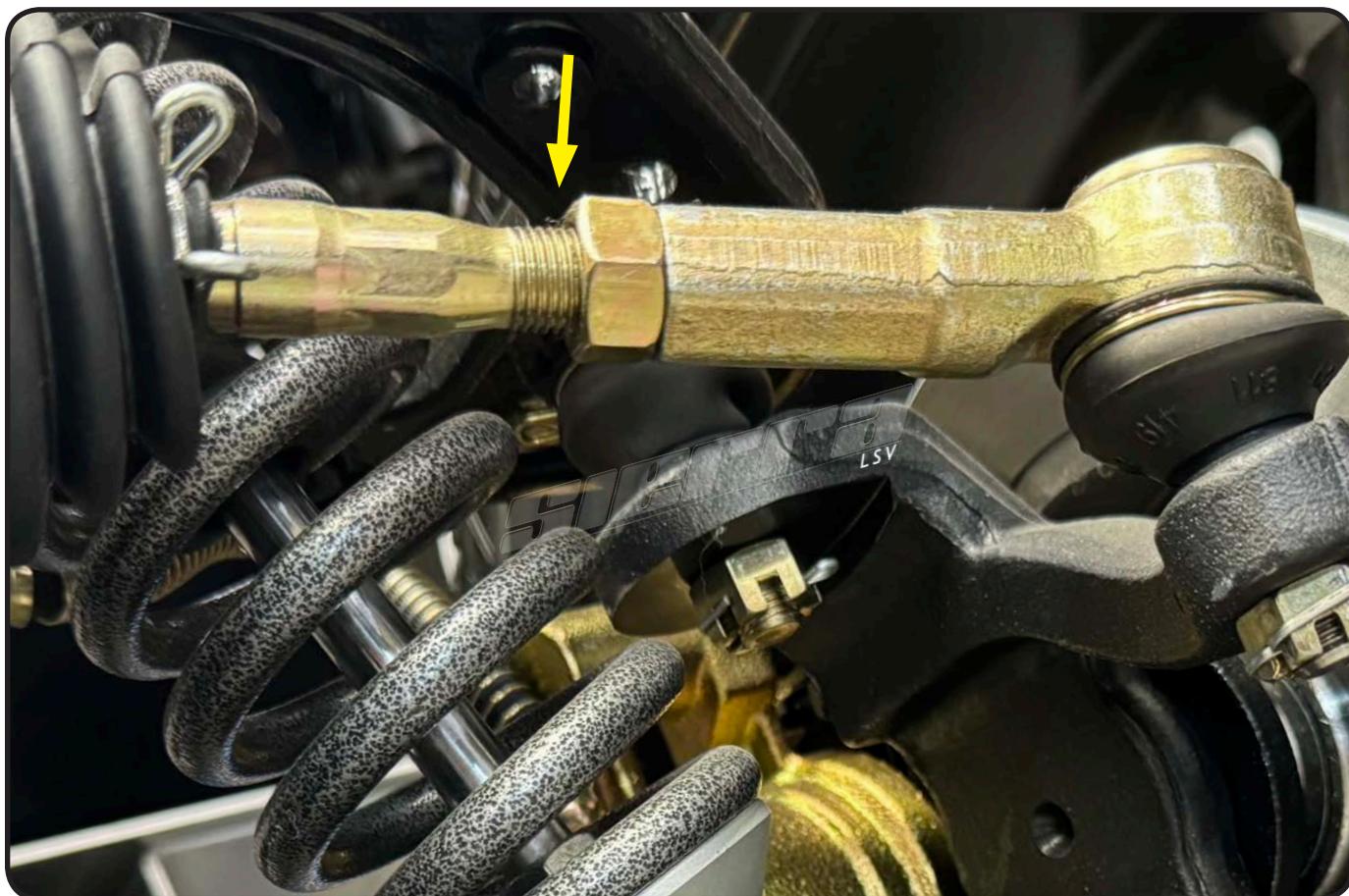
6) Using the 13mm socket loosen the clamp connection from the steering column shaft to the steering rack.



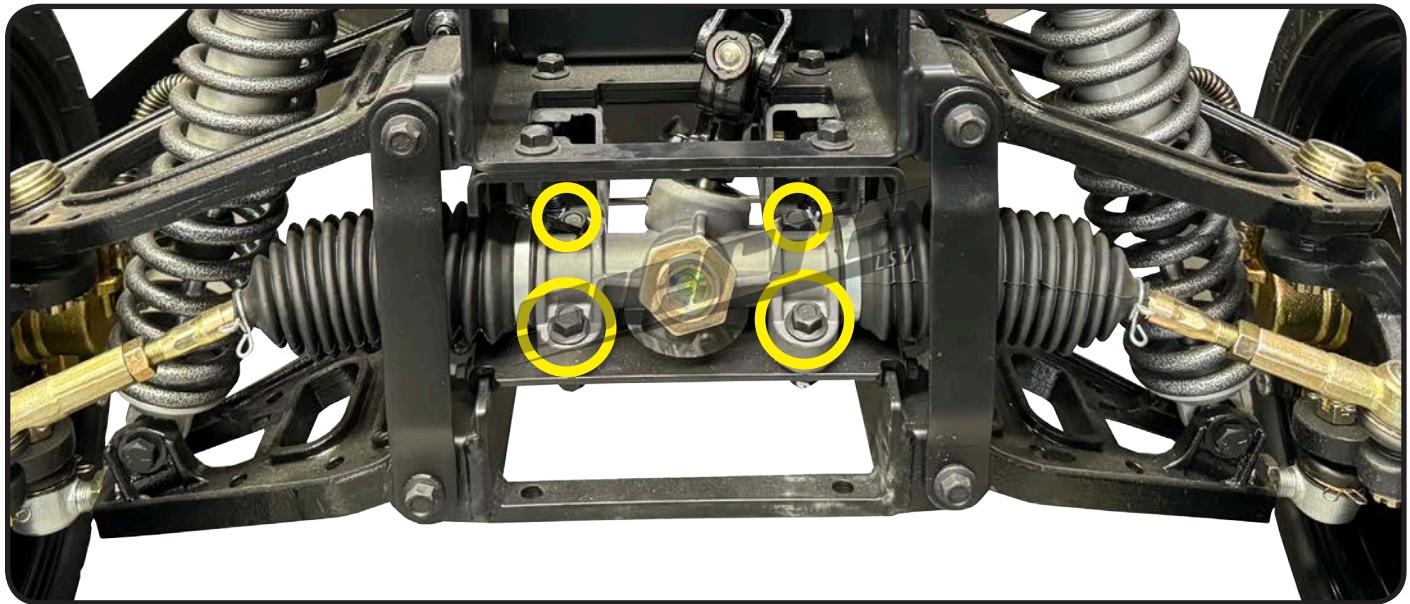
7) Using the 16mm wrench loosen the lock nuts for the tie rod ends.



9) Mark the location of the tie rod ends on the threaded shaft to help make the alignment easier.



10) Using the 10mm socket remove the 4 bolts attaching the steering rack to the golf cart.



11) Slide the steering rack off of the steering column shaft.

12) Reverse these steps to reinstall a replacement steering rack. Refer to Torque tightening guide on page 5 for securing any hardware.

13) Follow front suspension alignment instructions.

# Front Bumper Replacement

Models: All Models

Estimated Completion Time: 15 Minutes

Part# Y1-001



## TOOLS NEEDED

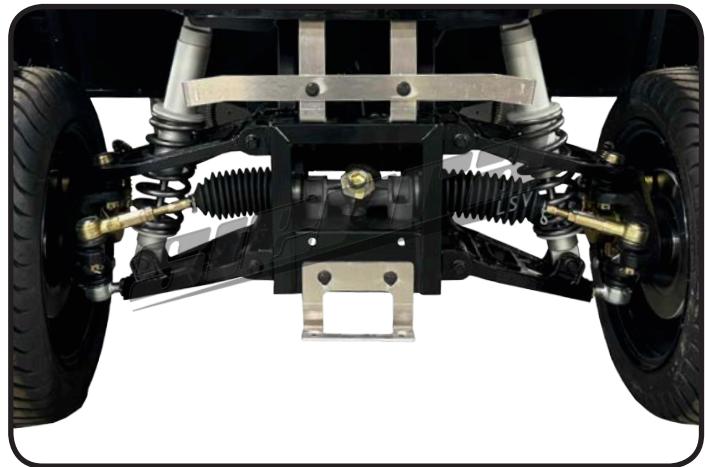
10mm Socket/Wrench  
Stubby #2 Phillips Screwdriver

### INSTRUCTIONS

- 1) Using the 10mm socket and phillips screwdriver remove the four bolts attaching the bumper to the cart.



- 2) Remove bumper.



- 3) Reverse these steps to install a replacement bumper. Refer to Torque tightening guide on page 5 for securing any hardware.

# Rear Bumper Replacement

Models: AX2, AX3, AX4

Estimated Completion Time: 15 Minutes

Part# Y1-024

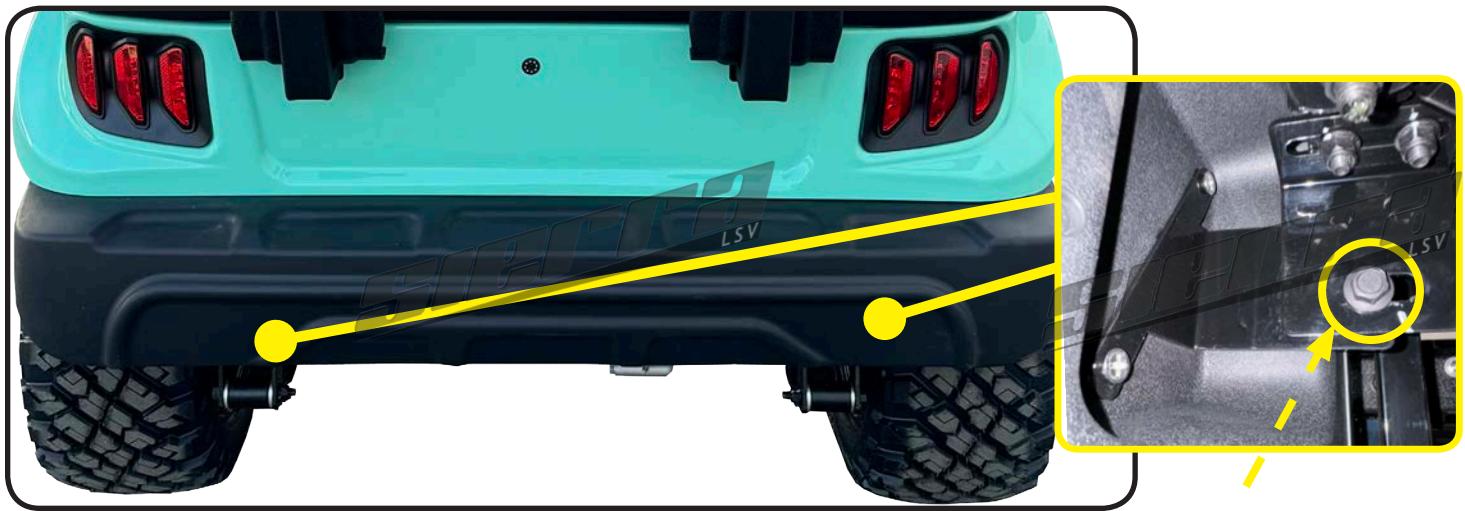


## TOOLS NEEDED

8mm Socket/Wrench

### INSTRUCTIONS

- 1) Remove the Two- 8mm nuts attaching the bumper to the cart.



- 2) Remove bumper.



- 3) Reverse these steps to install a replacement bumper.

# Headlight Replacement

## Models: All Models

Estimated Completion Time: 15 Minutes

Part# WY1-010A (Driver), WY1-010B (Pass)

### INSTRUCTIONS

- 1) Unplug the 4 pin wiring connector from the headlight.



- 2) Remove the four- T25 Torx screws.



- 3) Remove the headlight by pushing it forward out of the body.



- 4) Reverse these steps to reinstall the headlight, do not use a power tool to install the Torx screws as that may damage the threads in the plastic housing of the light. Refer to Torque tightening guide on page 5 for securing any hardware.



### TOOLS NEEDED

T25 Torx

# Tail Light Replacement

Models: AX1

Estimated Completion Time: 30 Minutes

Part# WY1-010C (Driver), WY1-010D (Pass)

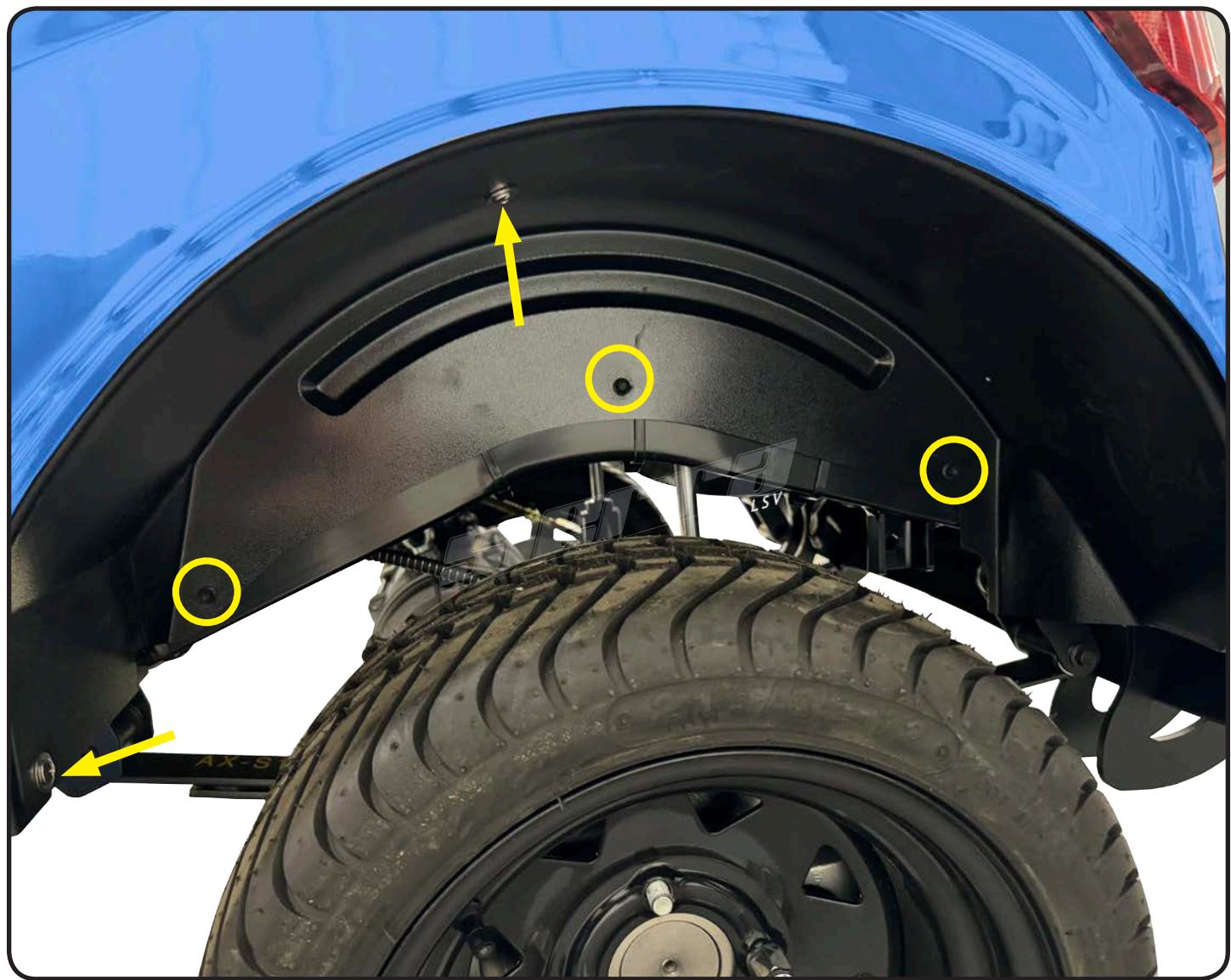


## TOOLS NEEDED

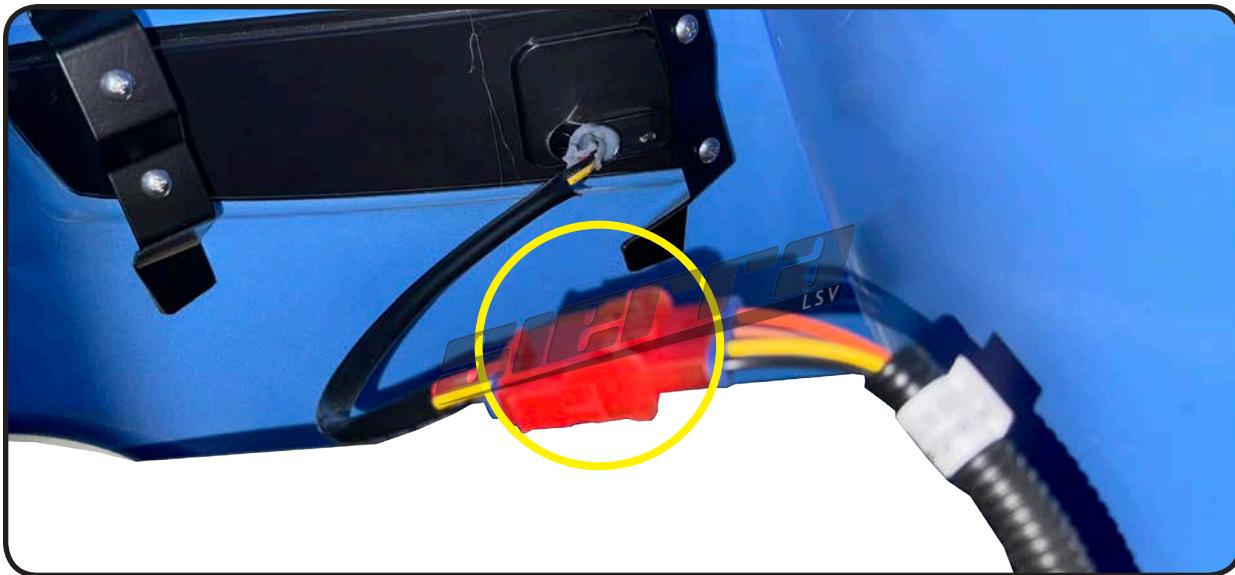
#2 Phillips Screwdriver  
8mm Socket

## INSTRUCTIONS

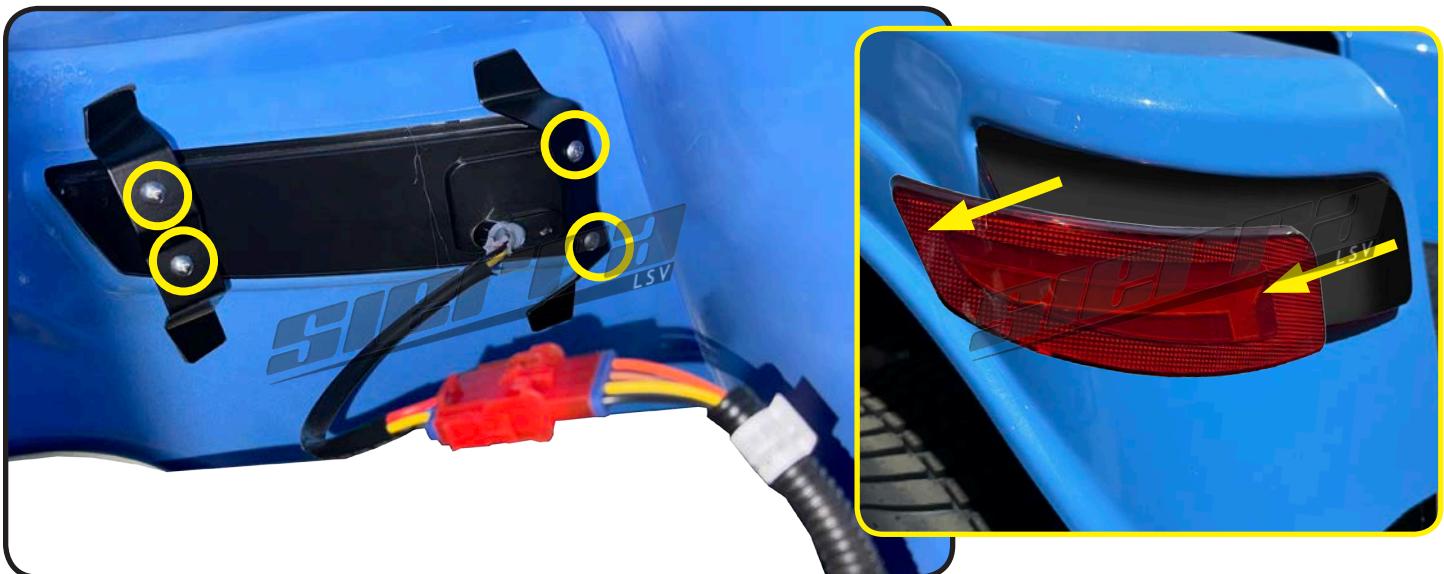
- 1) Make sure that the key switch is off.
- 2) Using the phillips head screwdriver and the 8mm socket, remove the inner fender liner.



3) Unplug the wiring harness connector from the tail light.



4) Using the #2 phillips screwdriver, remove the 4 screws attaching the light and push it out of the rear body.



5) Reverse these steps to install the tail light, do not use a power tool to reinstall the #2 phillips screws as that may damage the threads in the plastic housing of the light. Refer to Torque tightening guide on page 5 for securing any hardware.

# Tail Light Replacement

Models: AX2, AX3

Estimated Completion Time: 15 Minutes

Part# WY1-011C (Driver), WY1-011D (Pass)



## TOOLS NEEDED

#2 Phillips Screwdriver  
Panel Removal Tool

### INSTRUCTIONS

- 1) Make sure that the key switch is off.
- 2) Using the panel removal tool remove the christmas tree rivet attaching the rear fender liner to the bumper. Gently pull back to expose the Connector and Tail Light.



- 3) Disconnect the harness connector from the tail light.



4) Using the #2 phillips screwdriver remove the 4 screws attaching the tail light to the body.



5) Carefully push the tail light out of the body.



6) Reverse these steps to install the tail light, do not use a power tool to install the #2 phillips screws as that may damage the threads in the plastic housing of the light.

# Tail Light Replacement

Models: AX4

Estimated Completion Time: 15 Minutes

Part# WY1-011C (Driver), WY1-011D (Pass)



## TOOLS NEEDED

#2 Phillips Screwdriver

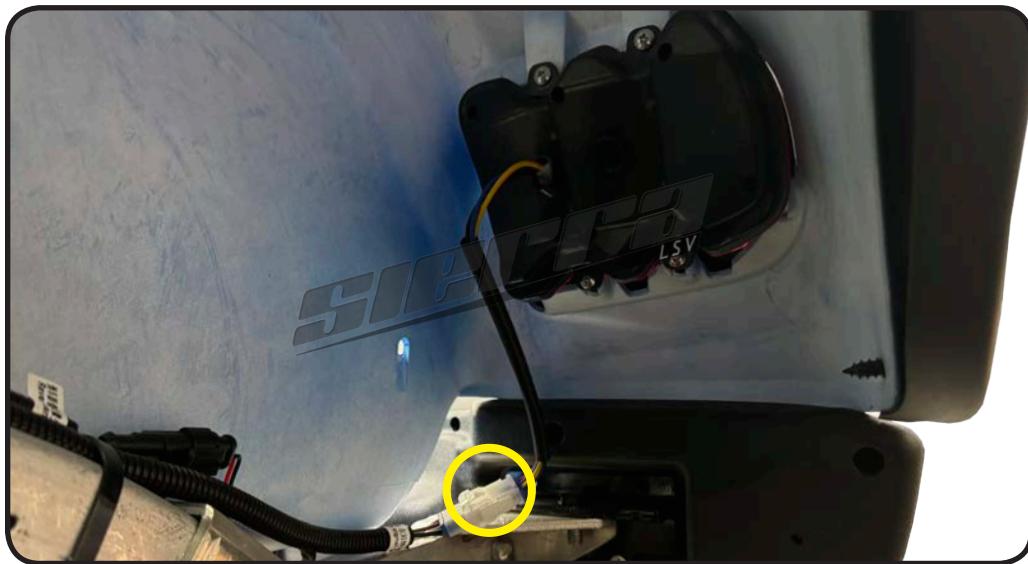
## INSTRUCTIONS

1) Make sure that the key switch is off.

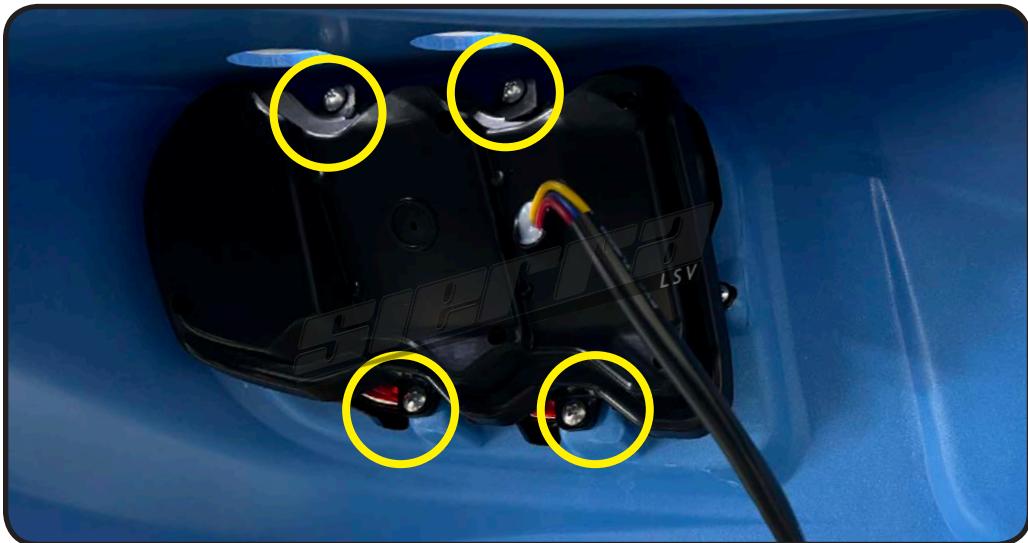
2) Lift the rear seat bottom.



3) Unplug the wiring harness connector from the tail light.



4) Using the #2 phillips screwdriver remove the 4 screws holding the tail light to the body.



5) Carefully push the tail light out of the body.



6) Reverse these steps to install the tail light, do not use a power tool to reinstall the #2 phillips screws as that may damage the threads in the plastic housing of the light.

# Turn Signal Assy. Replacement

**Models: All Models**

Estimated Completion Time: *45 Minutes*

**Part# WY1-010G**



## TOOLS NEEDED

#2 Phillips Screwdriver  
Panel Removal Tool

### INSTRUCTIONS

- 1) Remove the wireless phone charger pad and using the phillips head screwdriver remove the screw under the pad.



- 2) Using the panel removal tool carefully find the 6 tabs holding the cup holder panel and push them back with the tool to remove the cup holder panel.



3) Remove the steering column cover and the cover for the turn signal stalk.



4) Using the #2 phillips screwdriver remove the 4 screws for the clamps holding the turn signal assembly to the steering column.



5) Follow the wiring down the steering column to the connector plugged into the harness and unplug connector.



**NOTE:** Ensure harness does not get pinched when reattaching the turn signal assembly.

6) Reverse these steps to install a replacement turn signal switch.

# Top Replacement

## Models: All Models

Estimated Completion Time: *45 Minutes*

**Part# J1-003, J1-004 (AX3)**



### TOOLS NEEDED

13mm Socket  
Panel Removal Tool

### INSTRUCTIONS

- 1) Using the panel removal tool or screwdriver to remove the 8 plugs from the top of the front and rear struts.



- 2) Using the 13mm socket remove the 8 locknuts from the top bolts in the front and rear struts.



3) Remove top from cart and remove the 8 bolts from the top.



4) Install the 8 bolts in the new top using the openings cut into the top track.



5) Align the bolts with the holes in the struts by sliding them in the tracks in the aluminum extrusions.



6) The top spacing is measured from the rear of the horizontal top portion of the front strut to where the aluminum side track meets the plastic corner. For AX1 and AX2 carts use 12 1/4" for AX4 carts use 10 3/4".



7) When the top is in the correct position install the eight lock nuts using the 13mm socket and reinstall the eight plugs.



Refer to Torque tightening guide on page 5 for securing any hardware.

# Windshield Replacement

## Models: All Models

Estimated Completion Time: *30 Minutes*

Part# J1-005

### INSTRUCTIONS

- 1) Using a 10mm socket and wrench remove the two bolts at the base of the windshield then remove the cross bar at the base of the windshield.



Note: The orientation of the holes in the mounting brackets at the end of the cross bar, they should be on the top side of the bar when reinstalling.

- 2) With the windshield folded down carefully remove the plastic clips by pushing them forward so they unclip from the front strut.



- 3) Reverse these steps to install the replacement windshield and cross bar. Refer to Torque tightening guide on page 5 for securing any hardware.

# Speaker Replacement

**Models: All Models**

Estimated Completion Time: *15 Minutes*



## TOOLS NEEDED

#2 Phillips Screwdriver

**Part# WG1-008**

## INSTRUCTIONS

- 1) Using a #2 phillips screwdriver remove the four- #2 phillips screws attaching the speaker.



- 2) Pull the speaker into the dash compartment and disconnect the 2 connectors.



- 3) Reverse these steps to install the replacement speaker.



