FUV Maintenance

Quick Reference Guide

Refer to the **FUV Owner's Manual** (available at www.arcimoto.com) for details on safely operating the FUV and on using all of its features and functions.

Table of Contents

Overview

About This Document

This document provides basic maintenance information on the FUV. These instructions do not require specific technical expertise, but a general knowledge of the FUV is required.

For example, prerequisite to using this document is a thorough understanding of how to operate the FUV (including start-up, shut-down, use of the Control Panel and Display).

The instructions in this document do not require training as an Arcimoto Service Technician. In fact, part of the goal of this document is to provide *non-Service Technicians* with instructions that enable them to perform basic maintenance on the FUV.

Updates To This Document

This document will be updated with new information as it becomes available. To request additional information be added this guide, please email your request to Arcimoto Product Support at:

support@arcimoto.com

Contacting Arcimoto Product Support

If you have technical questions regarding these instructions, please contact Arcimoto Product Support at **(541) 780-0032** for assistance.

For support with maintenance issues that are not addressed in this document, please contact Arcimoto Product Support at **(541) 780-0032**.

Note: *Only trained Arcimoto Service Technicians should perform service on FUVs.*

Tools Required

The following tools are required to perform the maintenance procedures described in this document:

Cleaning	Sponge or a clean soft cloth Mild soap or detergent (example: liquid dish washing soap) Water
Tires	Tire tread depth measurement tool Air pressure gauge Air compressor
Windshield Wiper / Washer Fluid	Replacement windshield wiper blade (part # **003234**) Windshield wiper fluid (example: National Cycle N1401-01 Shield Wash) Rain repellent for polycarbonate windshields (example: RainZip® by National Cycle)
12V Battery - Trickle Charging	Philips-head screwdriver 10mm hex ¼ drive socket 6 inch extension 12V Trickle Charger (8 amp max)
Resetting the 12V System	Phillips-head screwdriver
Long-Term Storage / Battery Maintenance	Phillips-head screwdriver

Cleaning

Overview

The FUV should be washed periodically. Regular cleaning doesn't just keep the FUV looking great, it also ensures that safety-related parts remain in full working order.

CAUTION

Improper cleaning can damage electrical components, panels, and other plastic parts. Do not use high-pressure water or steam cleaners; they can cause water intrusion of bearing, seals, and electrical components.

Do not use harsh chemical products on plastic parts.

Avoid using cloths or sponges which have been in contact with strong abrasive cleaning products, solvent or thinner, fuels, rust removers or inhibitors, brake fluid, antifreeze, or electrolyte.

- Gently wash the FUV with a sponge or a clean soft cloth, mild detergent, and plenty of water.
- Avoid high-pressure water guns. High-pressure washers can damage certain parts.
- Use care when cleaning plastic parts; they scratch more easily than metal parts.
- Avoid getting water under the front cover and on the instrument panel.
- After washing, rinse the FUV thoroughly with plenty of clean water to remove any detergent residue.
- Dry the FUV with a chamois or a soft, dry towel.
- When the FUV is first driven after being washed, press the brake pedal several times to remove moisture from the brake pads.

Vinyl Care

The FUV exterior features vinyl film and graphics. Take special care to avoid damaging exterior vinyl:

- Do not use any polishing or wax products on matte or textured films.
- Do not allow cleaning solutions to soak, and immediately rinse with clear water.

Windshield and Roof

The FUV Windshield and Roof are made of high-quality clear polycarbonate, not glass. Clean with warm water and a soft, clean cloth. If necessary, use a small amount of liquid dish washing soap.

CAUTION
Never use glass cleaners on the Windshield or Roof. Glass cleaners can permanently damage the polycarbonate.

The following common liquids can damage the windshield and roof:

- Ammonia
- Vinegar
- Bleach
- Citrus-based cleaners
- Do not use rain repellent products that are designed for use on glass (i.e. Rain-X®). A recommended rain repellent for polycarbonate windshields is RainZip® by National Cycle.

Remove minor scratches with a polishing compound specifically designed for use on polycarbonate surfaces.

CAUTION
Never use a dry cloth, or your hand, to wipe clean the roof or windshield. Using a dry cloth to clean your roof or windshield will rub the dirt and dust into the polycarbonate, scratching or causing damage.

Seat Belts

To clean dirt or debris from the seat belts, sponge the straps with mild soap and water.

WARNING

Do not allow water, cleaners, or fabric to enter a seat belt mechanism; failure of the retraction mechanism may result. If you notice any damage on a seat belt, contact Arcimoto Product Support at (541) 780-0032.

- Do not use bleach, dye, or household detergents.
- Do not let wet seat belts dry in the sun. Move the FUV to a shaded area until the belts are totally dry.
- Make sure that seat belts are totally dry before allowing them to retract.

Interior

Clean with warm water and a soft, clean cloth (flannel or chamois). If necessary, use a small amount of liquid dish washing soap.

- Do not use bleach, dye, or household detergents.
- Using solvents (including alcohol), bleach, citrus, naphtha, or silicone-based products or additives on interior components can cause damage.
- Statically-charged materials can cause damage to the Display and sensitive internal components.

Wheels and Tires

Avoid using strong acidic wheel cleaners. If such products must be used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed.

Thoroughly rinse the area off with water, immediately dry it.

CAUTION

Do not use products such as tire dressings on tires as this can deteriorate traction.

Tires

Tire Information

Front Tires	• Type: Continental ContiEcoContact EP • Size: 145/65R15
Rear Tire	• Type: Continental ContiEcoContact EP • Size: 175/55R15

WARNING

Operating the FUV with worn tires, improper tires, or tires with improper or uneven tire pressure could cause loss of control or an accident.

Always use the correct size and type of tires specified for the FUV. Always maintain proper tire pressure as recommended in this Owner's Manual and on safety labels. Always replace tires when tread depth has worn to the minimum requirement (2/32").

If you experience a wheel impact, such as hitting a curb, a large pothole, or road debris, have your tires and rims inspected immediately. These types of impacts may cause hidden tire / rim damage that may not be noticeable during operation. This damage could cause tire or rim failures and result in accidents causing serious personal injury or death. If you are in doubt, have the wheel checked by your authorized Arcimoto dealer or tire professional.

Exercise care when parking along curbs, and reduce speed if possible when approaching unavoidable potholes and/or road debris.

CAUTION

Do not use products such as tire dressings on tires as this can decrease traction.

Tire Information Labels

The following information is permanently branded on the sidewalls of all tires sold in the United States:

- Information about the tire's basic characteristics
- Capacities and construction
- U.S. Department of Transportation (DOT) Tire Identification Number (TIN)

NOTE

Tire inflation pressure information is specified on the Vehicle Identification Number (VIN) Label affixed to the left front down tube of the frame.

Tire Inspection

Before each ride, inspect the tire sidewalls, road contact surface, and tread base. If inspection reveals cuts, punctures, cracks, or other wear or damage, replace the tire before driving the FUV.

WARNING

Do not drive the FUV if a tire is damaged, excessively worn, or inflated to an incorrect pressure. Check tires regularly for wear, and ensure there are no cuts, bulges or exposure of the ply/cord structure.

Checking Tread Depth

Replace the tires when tread depth wears to the minimum of **2/32" (1.6 mm**).

The FUV is fitted with tires that have wear indicators molded into the tread pattern. When the tire is worn down to the minimum recommended tread depth, the indicators start to appear at the surface of the tread pattern, producing the effect of a continuous band of rubber across the width of the tire.

For performance and safety, replace tires before the wear indicators are visible.

When a tire's tread wear indicator becomes visible, the tire is worn beyond the acceptable limit and must be replaced immediately. Using tires that are excessively worn or improperly inflated can cause a crash.

Checking Tire Pressure

Tires that are not inflated properly may wear excessively, which is one of the reasons it's important to check tire pressure. Tires with the incorrect pressure may lead to lower range and can negatively impact handling.

For an accurate reading, check tire pressure when tires are cold. This means that the tires have not been ridden on for at least three hours. Driving warms the tires and increases tire air pressure.

The recommended cold inflation pressure for all three tires on the FUV is **35 psi(241 kPa)**.

Do not exceed the maximum inflation pressure to seat the bead (44 psi / 303 kPa). Tire or rim failure may result.

1. Remove the cap from the air valve on the tire, and put it somewhere you won't lose it.
2. Press the tire gauge against the open valve stem for a second or two. It's normal to hear a hiss of air.

3. Read the air pressure gauge.
4. Compare this number with the recommended tire pressure: **35 psi**. If any tire is either over or under inflated, follow the steps below to adjust the air pressure (psi) in each tire as necessary.
5. Replace the tire's air valve cap. Postpone this step if you need to adjust the air pressure.
6. Repeat this process for each tire.

Inflating Tires

If the air pressure in any of the tires measures lower than **35 psi**, follow these steps to inflate the tires:

1. Park close enough to the air compressor so you can reach all three tires with the hose.
2. If the valve caps are still on, remove them.
3. Press the hose nozzle down on the valve stem. Air may flow automatically or you may need to press a lever. You should notice the tire inflating and feel air flowing through the hose. If you hear or feel air coming out of the hose nozzle while you're trying to fill the tire, check that it is properly connected to the tire valve stem.
4. Remove the hose fitting or release the inflation lever. Check the air pressure, as described above, using the gauge on the hose or your own tire gauge.
5. Repeat steps 3 and 4 as needed until the tire measures **35 psi**.
6. Repeats steps 3-5 for the vehicle's other tires.
7. Once the tires are inflated properly, replace the valve caps.

Releasing Air From Overinflated Tires

If the air pressure in any of the tires measures higher than **35 psi**, follow these steps to release air from the tires to lower the psi:

1. Briefly press the center of the valve stem on the tire.

   You should hear the air escaping the tire.

2. Use the gauge to check the tire pressure.
3. Repeat these steps until you've released enough air to reach the correct psi.

   As you near the correct pressure, release smaller amounts of air until you reach **35 psi**.

4. Replace the valve caps.

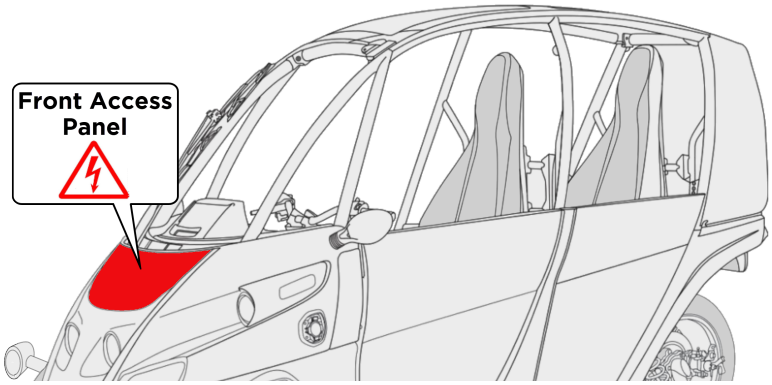
Adding Windshield Washer Fluid

Overview

The FUV features a 0.4 gal (1.5 L) Windshield Washer Fluid Bottle with Remote Fill Neck. When adding washer fluid, fluid is poured into the Remote Fill Neck.

The Remote Fill Neck and Washer Fluid Bottle are both located within the Front Access Portal.

The Front Access Portal is accessed by removing the Front Access Panel on the nose of the FUV, as described in this section.



Be aware that there are high-voltage components located behind the Front Access Panel. These include inverters, high-voltage cables, and connectors.

The high-voltage components behind the Front Access Panel are behind a plastic safety screen. However, it is important to exercise caution anytime the Front Access Panel is removed.

DANGER: DO NOT reach behind the plastic safety screen. There are no user-serviceable parts, and doing so exposes you to potential arc-flash risk, electrocution, and voids the warranty.

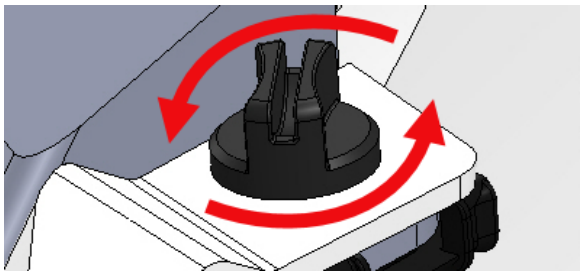
There is a risk of fatal injury.

DANGER: DO NOT allow any metal objects (including but not limited to tools and jewelery) inside the front access portal or near any of the internal components. Doing so exposes you to potential arc-flash risk, electrocution, and voids the warranty.

There is a risk of fatal injury.

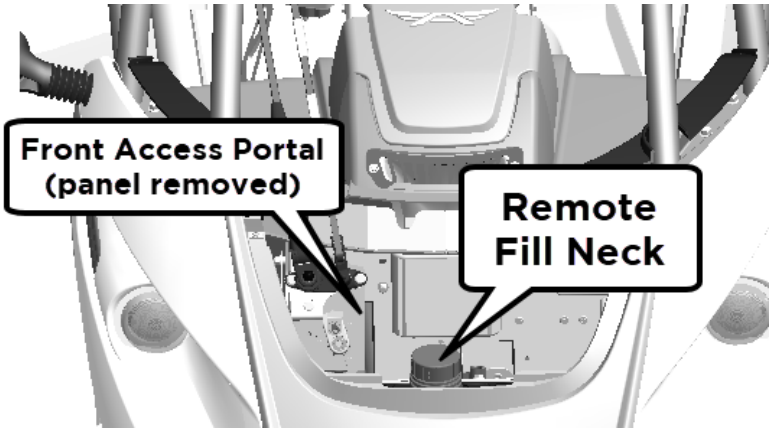
The Front Access Panel is secured with two quick-release thumbscrews that do not require the use of tools.

1. Twist both thumbscrews counter-clockwise to release the panel.



2. Once released, pull the Front Access Panel out and away from the nose. Place the panel on a clean, soft surface.
3. Locate the *Remote Fill Neck* and *Wiper Fluid Reservoir*:

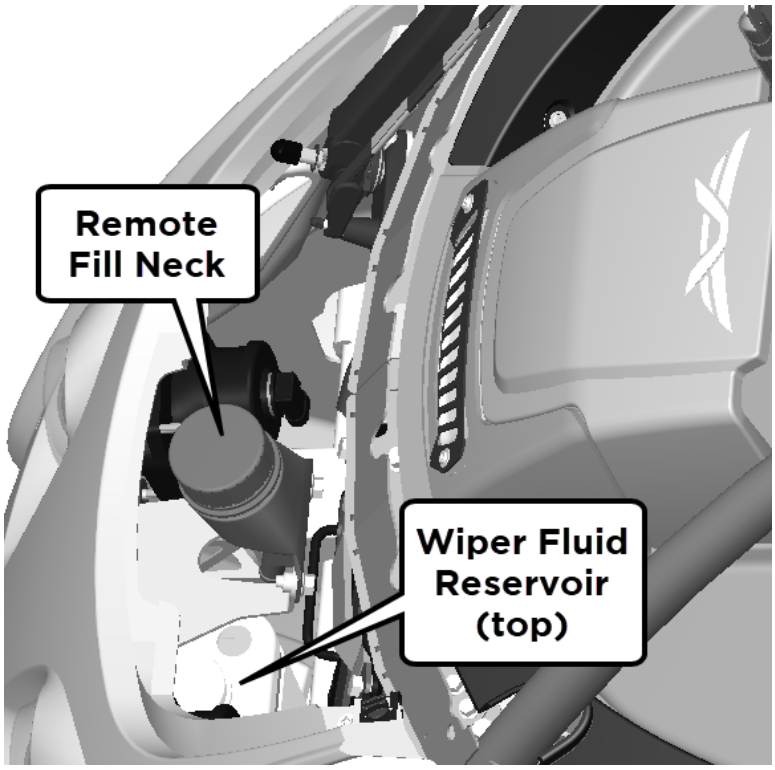
- The *Remote Fill Neck* is located at the front center of the Front Access Portal. When adding wiper fluid, always pour it into the Remote Fill Neck.
- The washer fluid bottle is located underneath the Remote Fill Neck (connected via a clear plastic tube).



4. Remove the cap from the Remote Fill Neck and pour washer fluid in.

   While pouring fluid in, observe the top of the washer fluid bottle to ensure it doesn't spill over.

   Add fluid until the washer fluid bottle is filled to the top (you can see the washer fluid through the top of the bottle when full).



CAUTION

To avoid leakage, never over-fill the washer fluid bottle. When finished adding fluid, there should not be wiper fluid visible in the Remote Fill Neck or the plastic tube that fills the bottle.

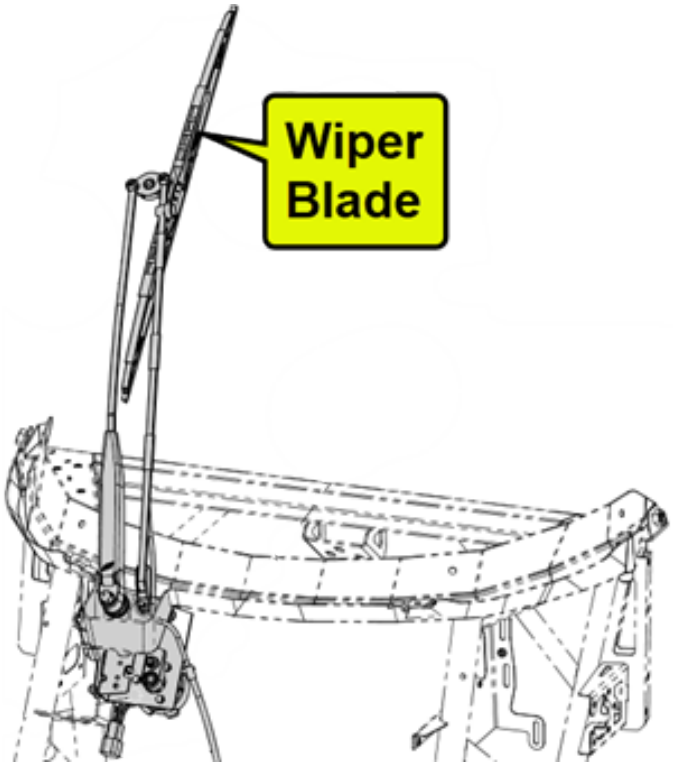
5. Replace and tighten the Remote Fill Neck cap.
6. Replace the Front Access Panel, and twist both thumbscrews clockwise to secure the panel.

Replacing the Windshield Wiper Blade

Overview

The Windshield Wiper Blade should be replaced if it is visibly damaged, or is leaving streaks, or if it chatters when used. A damaged Wiper Blade can inflict permanent damage on the surface of the Windshield.

The Windshield Wiper on the FUV uses a *24" framed wiper blade*. Replacement Windshield Wiper Blades are available to purchase from Arcimoto (part # **003234**).

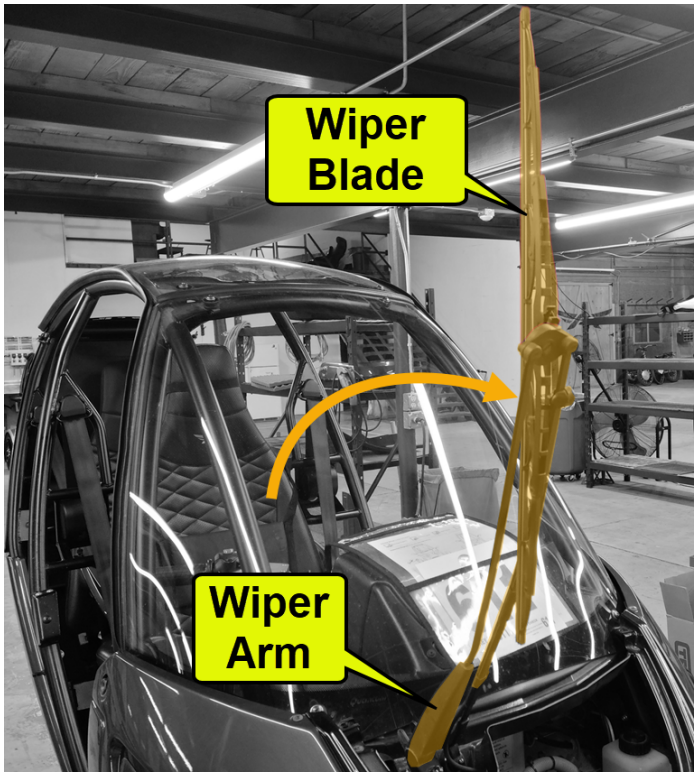


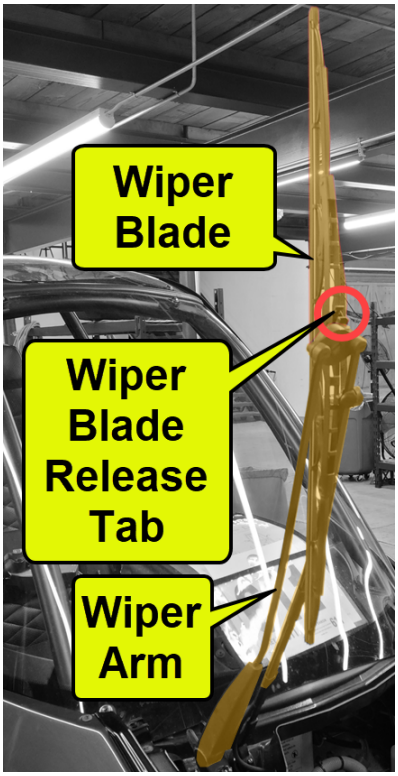
Windshield Wiper Blade (003234)

No tools are required for this procedure.

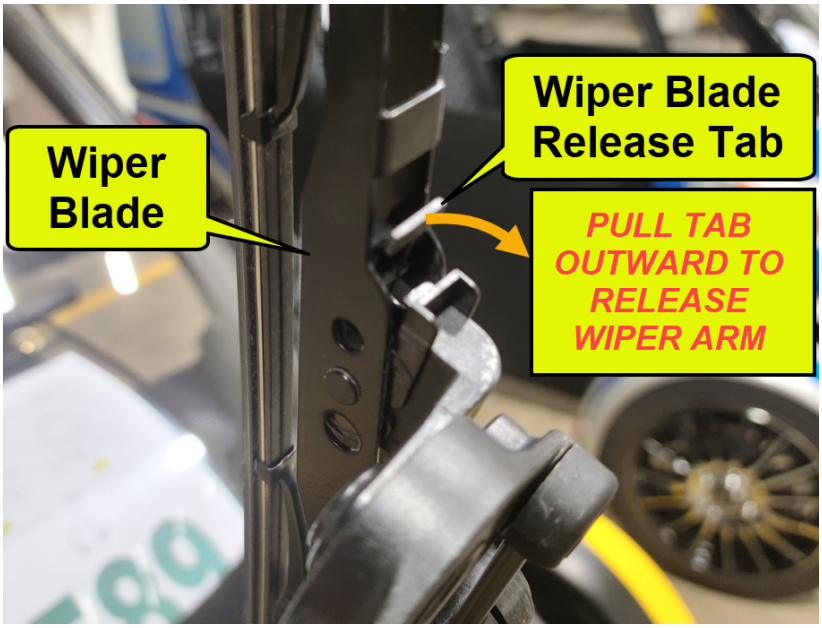
Removing the Wiper Blade from the Wiper Arm

1. Grasp the Wiper Arm, and gently pull it forward until it locks into it's forward-extended position. This makes it easy to access the Wiper Blade Release Tab and remove the Wiper Blade.

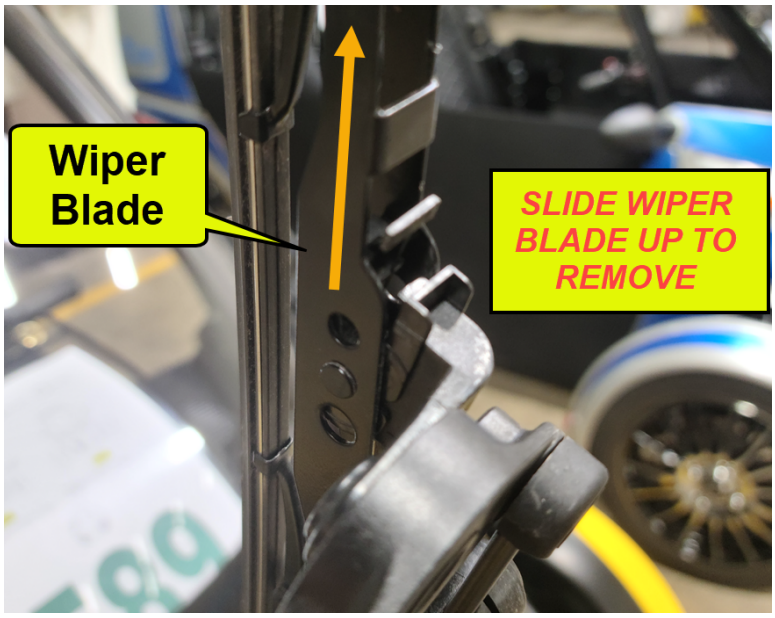


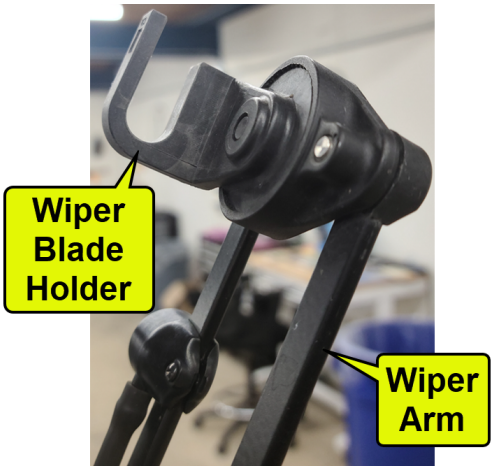


2. Locate the *Wiper Blade Release Tab* near the center of the Wiper Blade, where the Wiper Blade attaches to the Wiper Arm.
3. Use a finger to **pull** the tab **outwards**. This unlocks the Wiper Blade from the Wiper Arm.



4. Slide the Wiper Blade **UP** to remove it from the Wiper Arm:



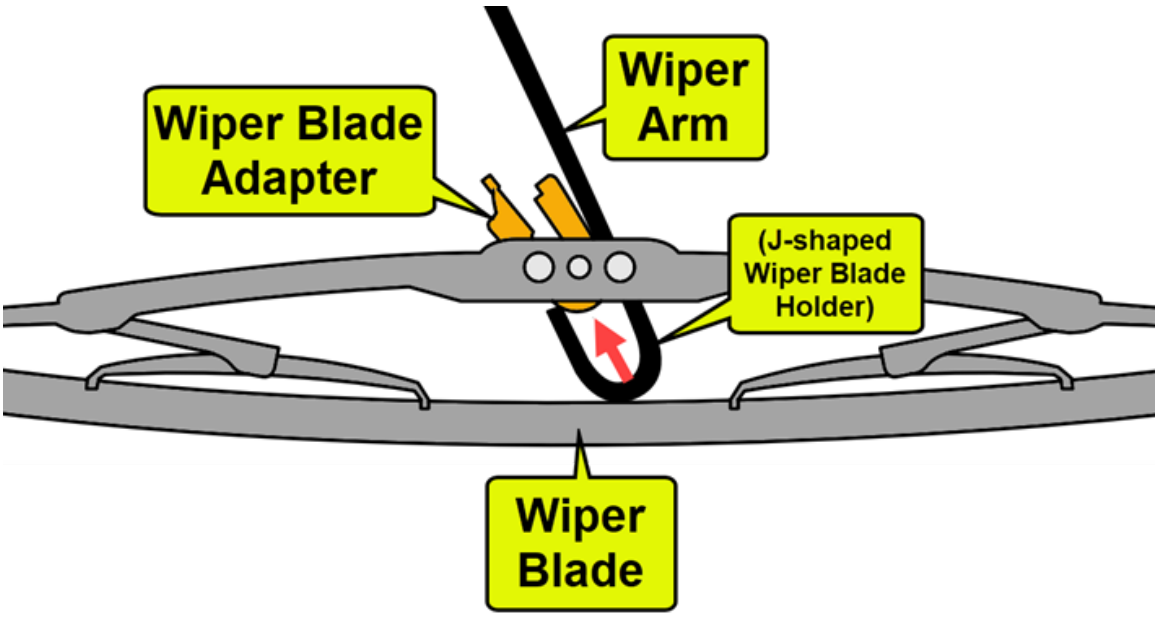


Wiper Arm, with Wiper Blade removed

Attaching the New Wiper Blade to the Wiper Arm

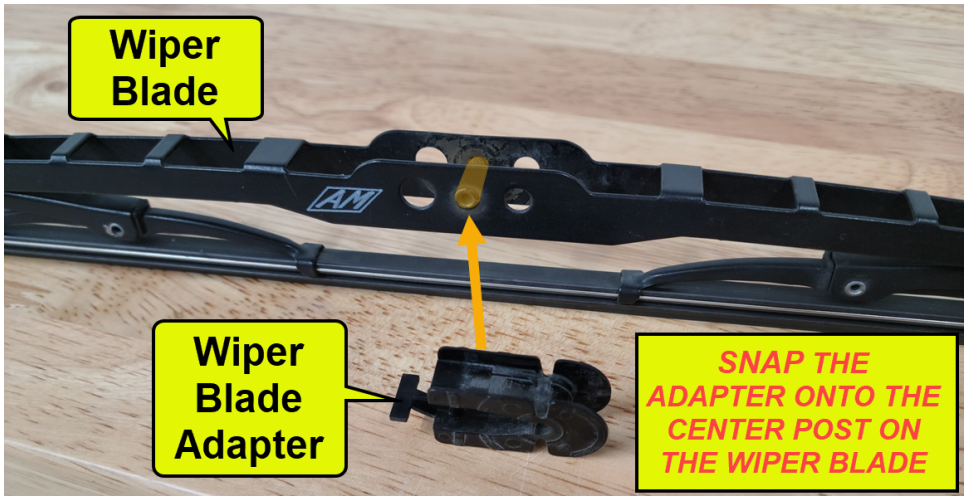
1. Hook the J-shaped Wiper Blade Holder (at the end of the Wiper Arm) around the Wiper Blade Adapter.

   Orient the Adapter so that the tab end faces the open end of the J-shaped Wiper Blade Holder:



2. Press the Wiper Blade into the J-shaped Wiper Blade Holder until the Wiper Blade Adapter clicks into place.

Note that the Wiper Blade Adapter can be reused if necessary. The Adapter snaps onto the center post of the Wiper Blade frame:



Testing the New Wiper Blade

1. Spray the windshield with wiper fluid. Never use the windshield wiper on a dry windshield.
2. Activate the windshield wiper with the Windshield Wiper button the Control Panel.

The Wiper Blade should travel smoothly across the windshield. If the new blade does not work smoothly:

- Ensure that the Wiper Blade Adapter is fully seated in the Wiper Blade frame.
- Ensure that the Wiper Blade (with Adapter) are fully seated on the Wiper Arm.

If the Wiper Blade hangs up on the side of the Windshield, adjustments to the Wiper Arm may be required. Contact Arcimoto Product Support at (541) 780-0032 for assistance.

12V Battery - Trickle Charging

Overview

This topic describes how to charge the 12V battery in the FUV using an external Trickle Charger.

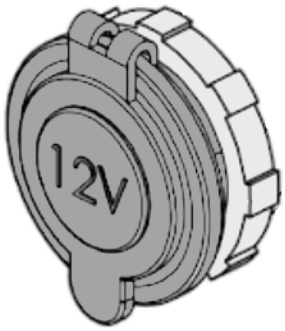
Safety

These instructions do not require accessing any high-voltage components. However, always be aware, and follow these basic safety rules:

- Remove all metal jewelery before following these instructions.
- Keep metal objects of any kind (tools, jewelry) away from any internal components.

Charging the 12V Battery via the 12V Accessory Power Socket

Newer FUVs feature a 12V Accessory Power Socket located directly below the Control Panel. Use this feature to charge a discharged 12V Battery, via an external 12V trickle charger (not included).



Many (but not all) 12V trickle chargers either use a 12V Power Socket adapter or provide the option to use a 12V Power Socket adapter.

Tools Required

- Trickle Charger (8 amp max) with 12V Power Socket adapter

CAUTION

Always follow the instructions and important safety information provided with your trickle charge unit.

1. Plug in and power up the trickle charge unit.
2. Plug the 12V Power Socket adapter on the trickle charger into the 12V Accessory Power Socket in the FUV. This should begin the charging process. Charge information is provided by the trickle charger.
3. When the 12V Battery is charged sufficiently, simply unplug the adapter and replace the dust cap.

Trickle Charging the 12V Battery via the Battery Terminals

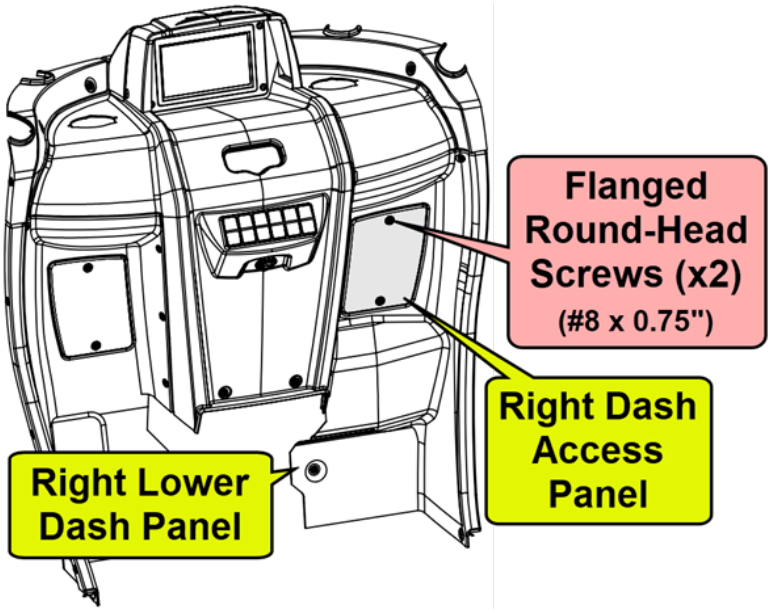
If the FUV does not have the 12V Accessory Power Socket, then it is necessary to connect the trickle charger to the terminals on the 12V Battery, as described below.

Tools Required

- #2 Philips-head screwdriver
- Trickle Charger (8 amp max)

STEP 1: Remove the Right Side Access Panel

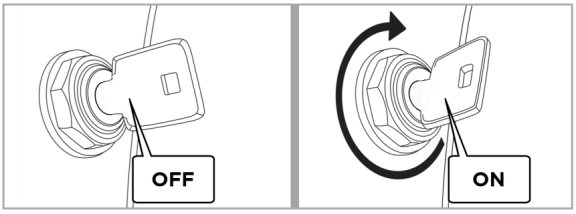
There are two Dash Access Panels located on either side of the Dash Assembly. In this case, it is necessary to remove only the right-side Access Panel:



1. Use a #2 Philips-head screwdriver to remove the two screws at the top and bottom of the Access Panel.
2. Carefully remove the panel and set it face up on a soft, clean drop cloth.

STEP 2: Cycle the Key ON

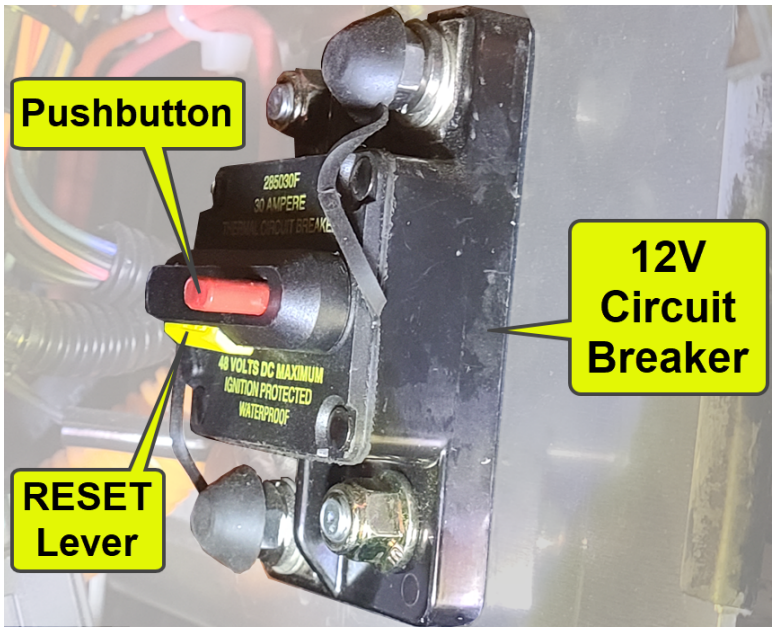
1. Insert the Key (in the OFF position).



2. Turn the Key clockwise to switch to the ON position.

STEP 3: Reset the 12V Circuit Breaker/Key OFF

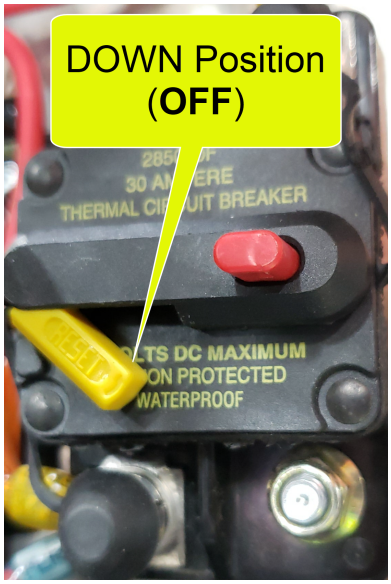
Look into the right- side service port to locate the 12V Circuit Breaker. It is a black box with a pushbutton and a RESET lever, located directly behind the steering column:



1. Depress the pushbutton on the 12V Circuit Breaker to remove 12V battery power from the FUV.

   Note that when the pushbutton is pressed, the RESET lever flips down to the OFF position.

   Do not push the RESET lever down any further. Overextending the RESET lever may damage the circuit breaker.



Note that the images above show a 12V Circuit Breaker that has a red pushbutton and yellow RESET lever. Newer FUVs use a 12V Circuit Breaker with a blue pushbutton and orange RESET lever. Regardless of the colors used, the steps are the same.

2. Turn the Key back to the OFF position.

STEP 4: Verify that 12V Power is Off

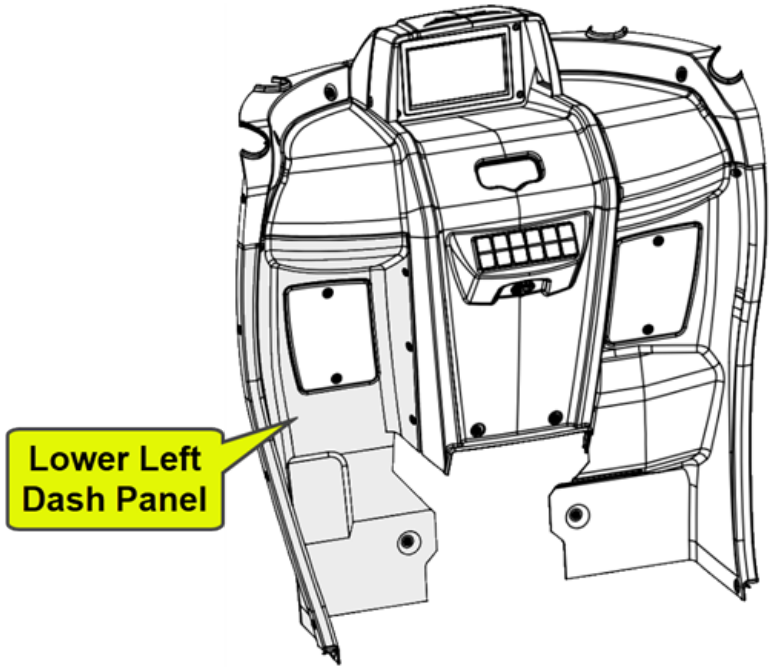
To verify that 12V power has been successfully turned off, touch the Display.

Since the Display uses 12V power, it should not turn on or respond in any way when touched.

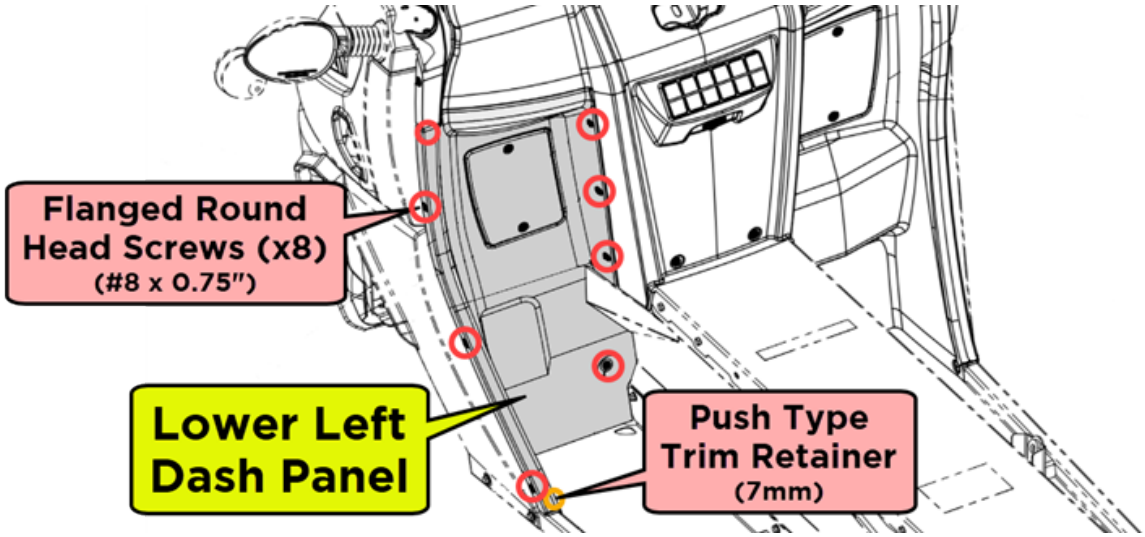
If the Display turns on when touched, it is an indication that 12V Power is still active. In this case, follow the additional steps indicated in Hard Resetting the 12V System.

STEP 5: Remove the Left Lower Dash Panel.

The Lower Left Dash Panel is located on the left side of the Dash Assembly.

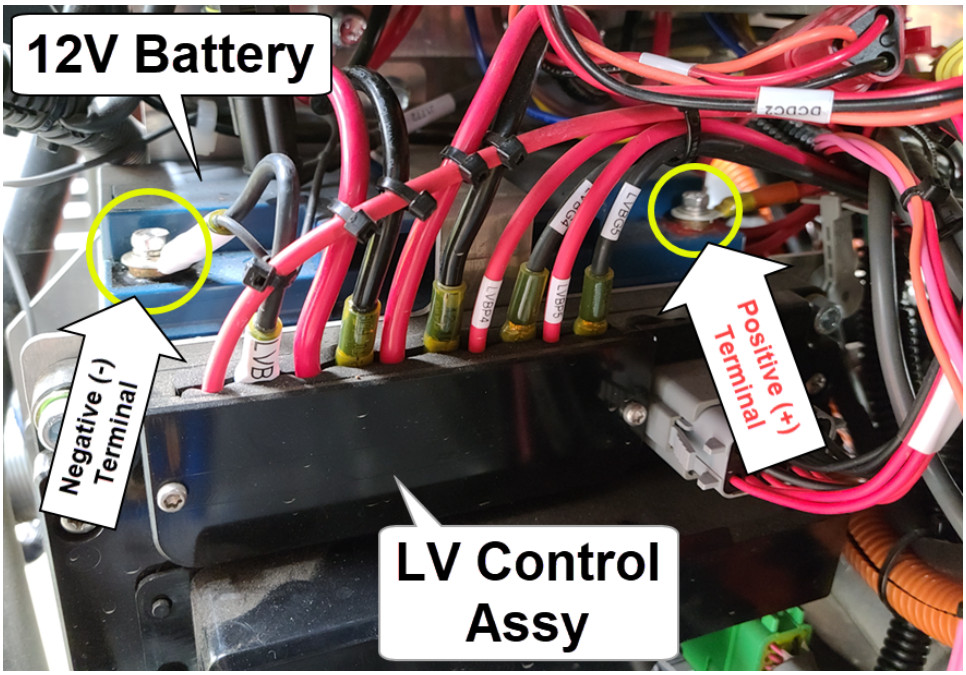


1. Remove the eight #2 Phillips screws and one push clip at bottom of the panel.



2. Carefully remove the panel and set it face up on a soft, clean drop cloth.

   With the Lower Left Dash Panel removed, the 12V Battery can be accessed. It is located behind the LV Control Assy:



Note that the **Negative (-)** terminal is located on the left (outboard) side, and the **Positive (+)** terminal is on the right (inboard) side.

STEP 6: Configure the Trickle Charger Settings for the FUV's 12V Battery

Most trickle chargers consist of a simple box, a power cable, and two cables with alligator clips; one to connect to the **Negative (-)** terminal, and one to connect to the **Positive (+)** terminal on the 12V Battery.

Note: The image above is an example of a 12V Trickle Charger for illustration purposes only and is not a specific brand endorsement.

It is important that the Charger is configured properly to safely charge the 12V Battery BEFORE it is connected to either the 12V Battery in the FUV or to a power source. *Refer to the charger manufacturer's instructions to set the maximum charging voltage and current.*

The proper settings for the 12V Battery in the FUV are:

- MAX CHARGING VOLTAGE: **14.2V**
- MAX CHARGING CURRENT: **8A**

BEFORE CONNECTING THE TRICKLE CHARGER:

- Before connecting anything, be sure to set the Trickle Charger to the voltage and amperage appropriate for your battery.
- Check the switches and buttons on the Trickle Charger, and set them prior to connecting the Charger to a power source.

STEP 7: Connect the Trickle Charger to the 12V Battery

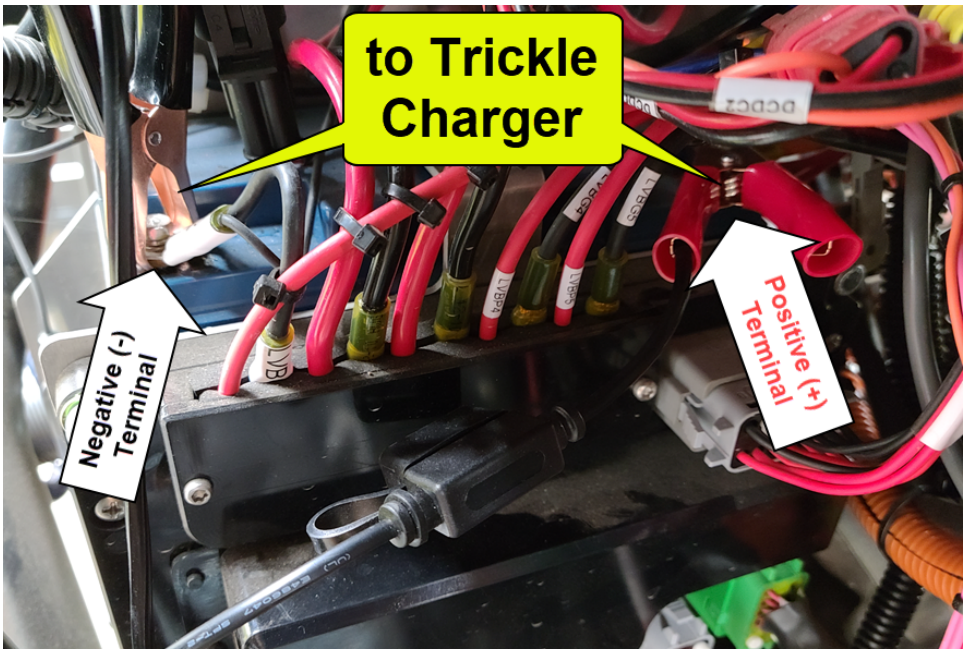
Once 12V power is disabled, you can attach a Trickle Charger to the 12V Battery.

Most trickle chargers consist of a simple box, a power cable and two cables with alligator clips; one to connect to the **Negative (-)** terminal, and one to connect to the **Positive (+)** terminal on the 12V Battery.

- Do not plug the Trickle Charger into the wall outlet until AFTER it has been connected to both terminals on the 12V battery.
- ALWAYS follow the charger manufacturer's instructions and safety guidelines for safely connecting and using the charger.

Once the Trickle Charger is set for 12V, connect the alligator clips to the terminals on the 12V Battery:

1. Connect the **RED Positive (+)** terminal on the right (inboard) side first.
2. Then connect the **BLACK Negative (-)** terminal on the left (outboard) side.



***NOTE**: It is important to ensure that the both cables are solidly attached before plugging in your charger (in the next step).*

STEP 8: Plug in the Trickle Charger and Charge the 12V Battery

Once both connections have been made and you have verified that all of the proper settings are set as per the manual's recommendations for 12V batteries:

1. Plug your charger into a wall outlet and turn it "On".
2. Allow the Trickle Charger to charge the 12V Battery to **full charge**, following the charger manufacturer's instructions and safety guidelines for safely connecting and using the charger.
3. Once the 12V Battery is fully charged, disconnect the Trickle Charger.

STEP 9: Reset the 12V Circuit Breaker to ON

1. Flip the RESET lever on the 12V Circuit Breaker UP to the **ON** position.

2. You should hear a contactor click; this indicates that the 12V power system is active.

STEP 10: Plug In the HV Charger

1. Connect the main HV charger, and check the Charge Level indicator on the Display. The system should now allow the FUV to charge normally.

2. If the Display indicates that the FUV is accepting a charge, remove the Trickle Charger and replace the panels.

STEP 11: Replace the Access Panels

1. Replace the Left Lower Dash Panel.
2. Replace the Right-Dash Access Panel.

Manually Resetting the 12V System

Overview

The FUV has many electronic components and systems. Like any complex electronic device, the FUV may occasionally require a reset to restore normal functionality.

The following instructions describe how to perform a manual reset of the 12V electrical system in the FUV.

Tools Required

Phillips-head screwdriver

Safety

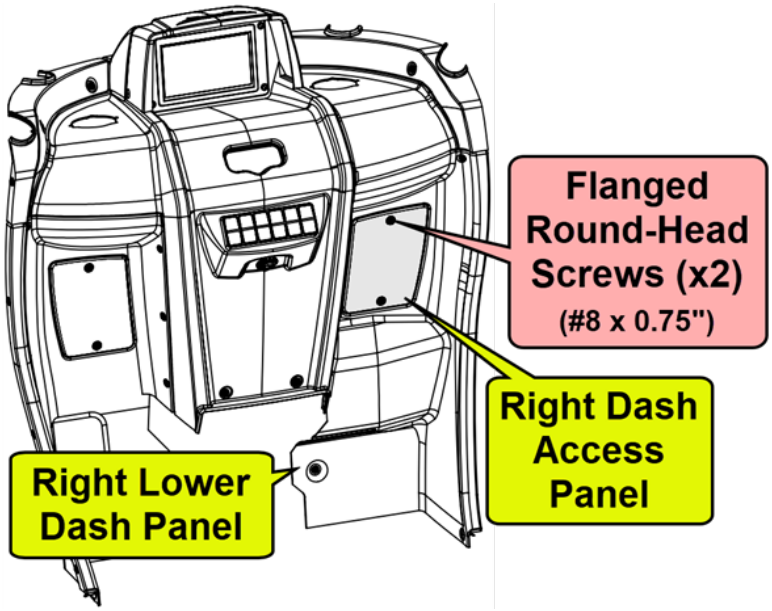
These instructions do not require accessing any high-voltage components. However, always be aware, and follow these basic safety rules:

- Remove all metal jewelery before following these instructions.
- Keep metal objects of any kind (tools, jewelry) away from any internal components.

STEP 1: Remove the Right Side Access Panel

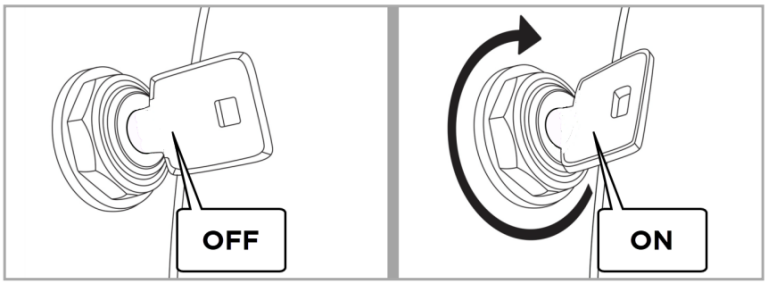
There are two Dash Access Panels located on either side of the Dash Assembly.

In this case, it is necessary to remove only the right-side Access Panel:



STEP 2: Cycle the Key ON

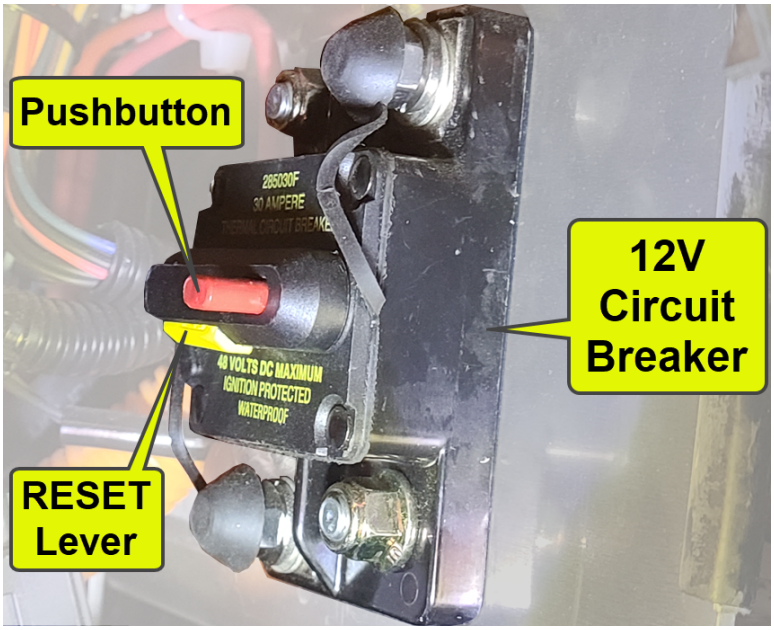
1. Insert the Key (in the OFF position).



2. Turn the Key clockwise to switch to the ON position.
3. Turn the Key back to the OFF position.

STEP 3: Reset the 12V Circuit Breaker/Key OFF

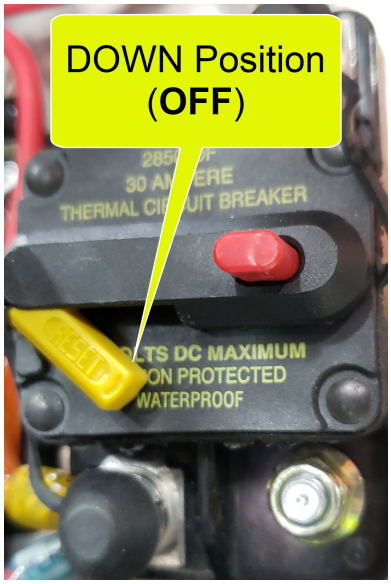
Look into the right- side service port to locate the 12V Circuit Breaker. It is a black box with a pushbutton and a RESET lever, located directly behind the steering column:



1. Depress the pushbutton on the 12V Circuit Breaker to remove 12V battery power from the FUV.

   Note that when the pushbutton is pressed, the RESET lever flips down to the OFF position.

Do not push the RESET lever down any further. Overextending the RESET lever may damage the circuit breaker.



Note that the images above show a 12V Circuit Breaker that has a red pushbutton and yellow RESET lever. Newer FUVs use a 12V Circuit Breaker with a blue pushbutton and orange RESET lever. Regardless of the colors used, the steps are the same.

STEP 4: Verify that 12V Power is Off

To verify that 12V power has been successfully turned off, touch the Display.

Since the Display uses 12V power, it should not turn on or respond in any way when touched.

If the Display turns on when touched, it is an indication that 12V Power is still active. In this case, follow the additional steps indicated in Hard Resetting the 12V System.

STEP 5: Flip the Lever on the 12V Circuit Breaker

On the 12V Circuit Breaker, flip the RESET lever up to the closed (ON) position.

To verify that 12V power is restored, touch the Display; it should turn on.

If it does not turn on when touched, check the 12V Circuit Breaker to ensure that the RESET lever is flipped fully up (in the ON position).

STEP 6: Replace the Dash Access Panel

Carefully replace the right-side service port panel, and use a Phillips-head screwdriver to hand-tighten the screws.

The hard reset is complete, and the FUV is ready to start.

If the Manual 12V Reset Doesn't Work

If resetting the 12V Circuit Breaker did not remove power from the Display, or if the 12V icon on the Display is illuminated red after following the procedure described above, additional steps can be taken to physically reset the 12V system. See "Hard Resetting the 12V System" on page 33.

Hard Resetting the 12V System

Overview

If the 12V Manual Reset doesn't work, the following additional steps can be taken to physically reset the 12V system.

These steps may be necessary in case resetting the 12V Circuit Breaker did not remove power from the Display, or if the **12V icon** on the Display is illuminated red after completing the 12V Manual Reset procedure (see "Manually Resetting the 12V System" on page 29).

Tool Required

Phillips-head screwdriver

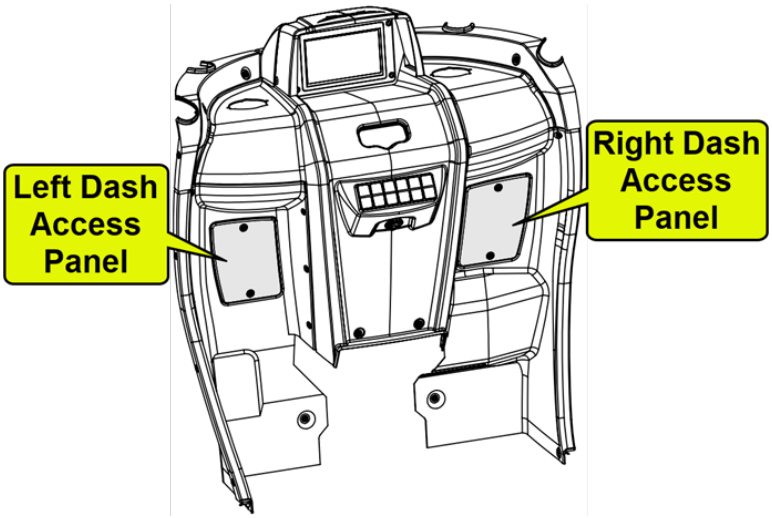
Safety

These instructions do not require accessing any high-voltage components. However, always be aware, and follow these basic safety rules:

- Remove all metal jewelery before following these instructions.
- Keep metal objects of any kind (tools, jewelry) away from any internal components.

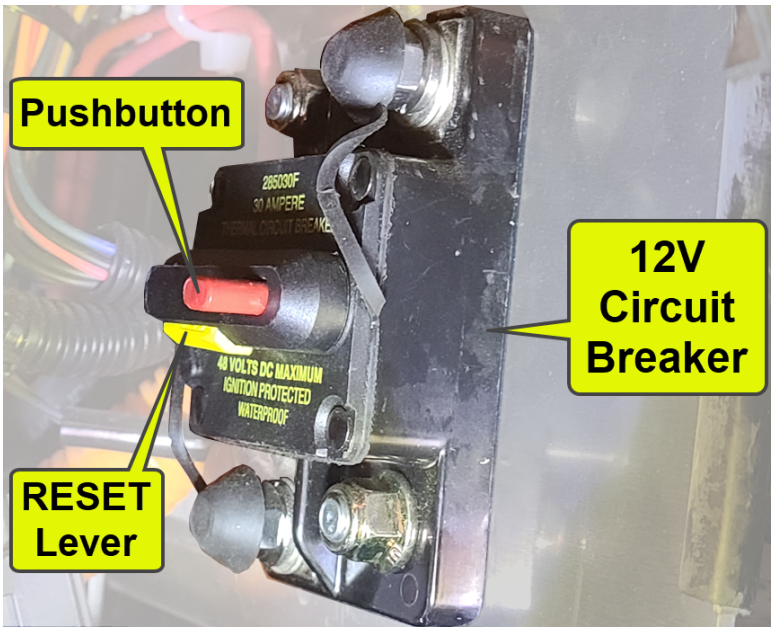
STEP 1: Remove Both Dash Access Panels

There are two Dash Access Panels located on either side of the Dash Assembly. In this case, it is necessary to remove both Access Panels:

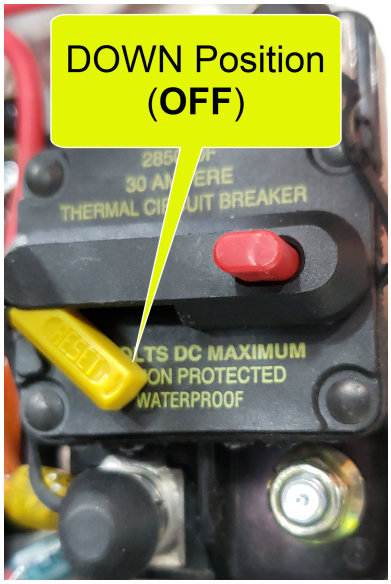


STEP 2: Reset the 12V Circuit Breaker

Look into the right-side service port to locate the 12V Circuit Breaker. It is a black box with a pushbutton and a RESET lever, directly behind the steering column:



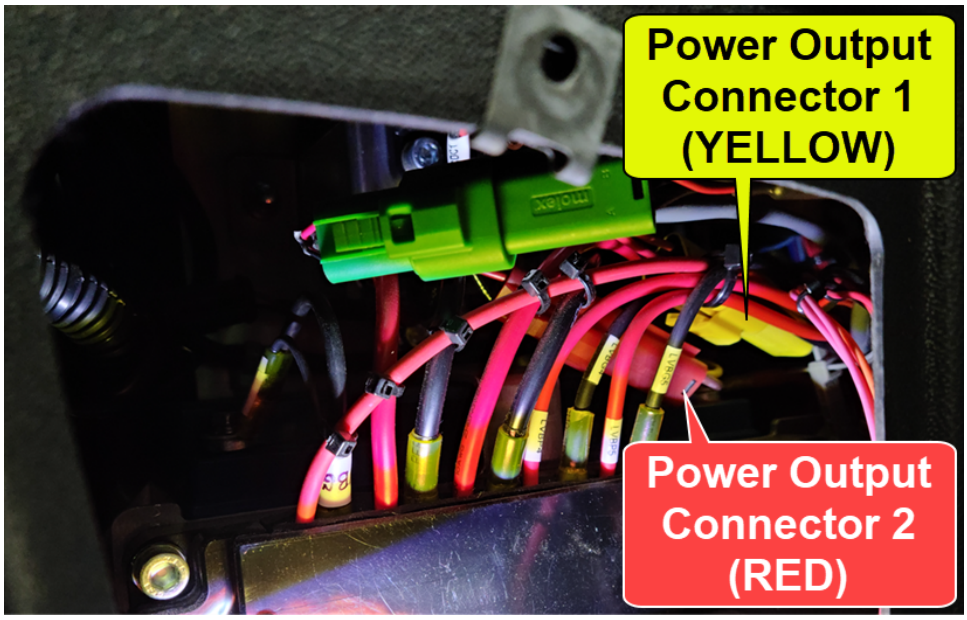
1. Push the pushbutton on the 12V Circuit Breaker to remove 12V battery power from the FUV.
2. When the pushbutton is pressed, the RESET lever flips down to the OFF position.



Note that the images above show a 12V Circuit Breaker that has a red pushbutton and yellow RESET lever. Newer FUVs use a 12V Circuit Breaker with a blue pushbutton and orange RESET lever. Regardless of the colors used, the steps are the same.

STEP 3: Unplug the Power Output Connectors

Look into the left-side service port to locate the Power Output Connectors. The Power Output connectors are identical 3-wire connectors with triangular housings. They are situated side by side, to the left of the steering column.



- Note that the images in this section show YELLOW and RED connectors for clarity. Newer FUVs use Power Connectors that are both colored GREY.
- The Power Output Connectors are positioned behind other wires; take care to avoid accidentally pulling on other wires when handling the Power Output Connectors:

Press the locking tab down, and gently pull to unplug each Power Output Connector.

STEP 4: Wait 10 seconds, then plug both connectors back in

Wait at least 10 seconds, then plug both Power Output Connectors back in by gently sliding the connectors into their plugs until the locking tabs snap.

Note that these connectors are indexed; they cannot accidentally be plugged in incorrectly, and it doesn't matter which one is plugged in first.

STEP 5: Flip the RESET Lever on the 12V Circuit Breaker

1. On the 12V Circuit Breaker, flip the RESET lever up to the closed (ON) position.
2. To verify that 12V power has been restored, touch the Display; it should turn on.

If the Display does NOT turn on when touched

1. Check the 12V Circuit Breaker to ensure that the RESET lever is flipped fully up (in the ON position).
2. Check both Power Output Connectors to ensure that they are fully connected. The locking tabs snap into place when the connectors are fully seated.

STEP 6: Replace the Service Port Panels

Carefully replace both service port panels, and use a Phillips-head screwdriver to hand-tighten the screws.

The hard reset is complete, and the FUV is ready to start.

Adjusting the Parking Brake Cable

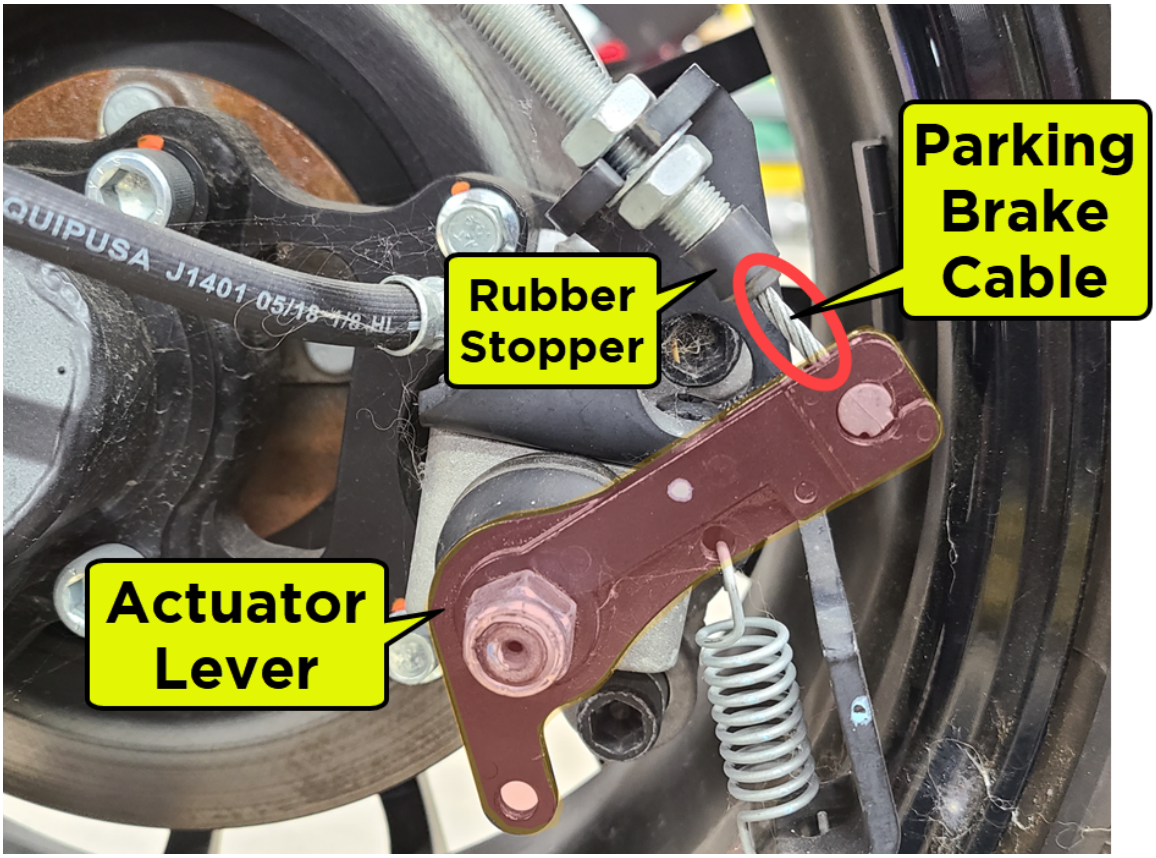
The vehicle must not move with the Parking Brake engaged. Also, all three LEDs on the Parking Brake button should be lit when the Parking Brake is engaged.

If the rear wheel can roll, or if all three LEDs do not light when the Parking Brake is engaged, the Parking Brake Cable should be adjusted.

Note: To engage the Parking Brake, the FUV must be powered ON.

With the Parking Brake engaged, view the Parking Brake assembly on the left side of the rear wheel, check the amount of cable visible between the top of the elbow lever and the rubber stopper at the end of the parking brake cable.

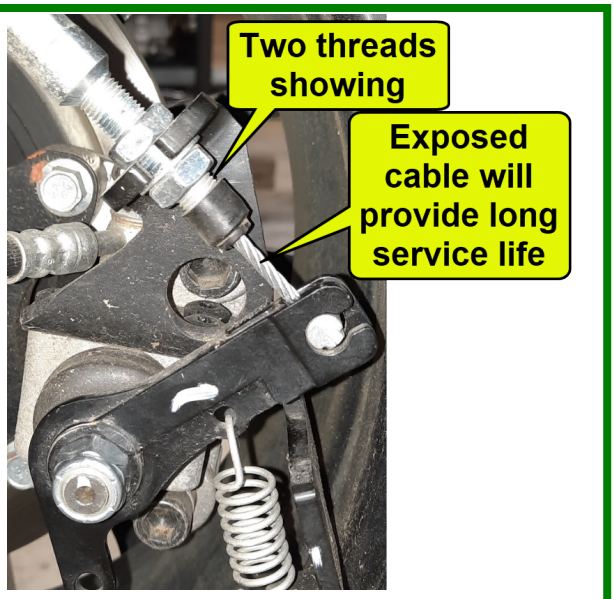
There should be 1/2" and 3/4" gap between the top of the Actuator Lever and the Rubber Stopper at the end of the Parking Brake Cable.



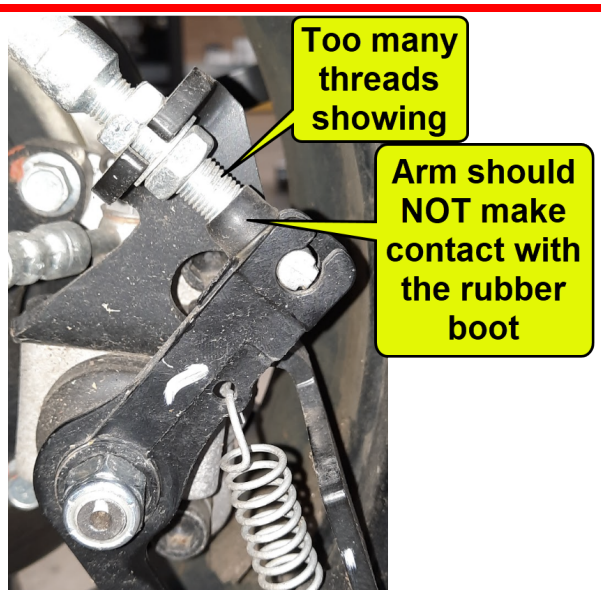
Correct vs Incorrect Adjustment

If only one of the three LEDs on the Parking Brake button is lit when the Parking Brake is applied, the Parking Brake is out of adjustment.

The following images illustrate the visible difference between a correctly adjusted Parking Brake Cable and one that is out of adjustment:



CORRECT ADJUSTMENT
(when parking brake is applied)



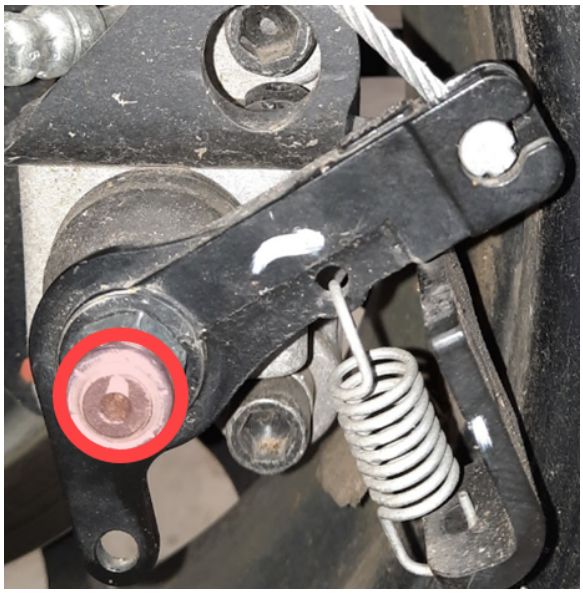
INCORRECT ADJUSTMENT
(when parking brake is applied)

- A correct gap between the Lever and the Stopper ensures proper functionality of the Parking Brake and provides a long service life.
- An insufficient gap (where the Lever touches or nearly touches the Stopper) will result in a loss of parking brake power. In this case, the vehicle may be able to roll even with the Parking Brake engaged.

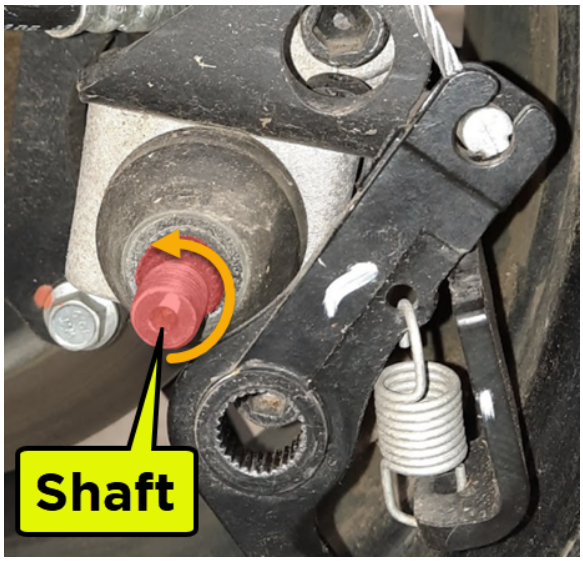
Parking Brake Cable Adjustment

To increase the gap between the Actuator Lever and Rubber Stopper, the Actuator Lever will need to be re-clocked:

1. With the Parking Brake released, use a **16mm socket** to remove the nut that secures the Actuator Lever to the Parking Brake assembly:



2. Remove the Actuator Lever from the shaft, and rotate the shaft counter-clockwise:



3. Reinstall the Actuator Lever onto the shaft (*using a new **7/16”-20 Nylon Insert Nut***), and reapply the Parking Brake to check adjustment.

NOTE
The full Arcimoto part description for the Actuator Nut is: **Nut, Nylon Insert, Rear Caliper, Parking Brake Lever, 7/16”-20, STL, Zn Plated**

Torque the Actuator Nut to 36 FT-LBS:

- Only TWO threads should be visible above the Rubber Stopper.
- All three LEDs on the Parking Brake button should be OFF when the brake is disengaged, and all three LEDs should be ON when the brake is engaged.
- With the Parking Brake engaged, it should not be possible to move the rear wheel, or to move the vehicle by pushing it.

NOTE: After the Actuator Lever is adjusted and cycled, disengage the Parking Brake and check for excessive brake drag by spinning the rear wheel by hand. If excessive drag is present it may be necessary to back the Actuator Lever off by one tooth.

Long-Term Storage/Battery Maintenance

Overview

These instructions describe how to place the FUV into long-term storage mode. This disables the 12V electrical system in the FUV.

Follow these instructions any time that the FUV will be stored for more than one week.

Tools Required

Phillips-head screwdriver

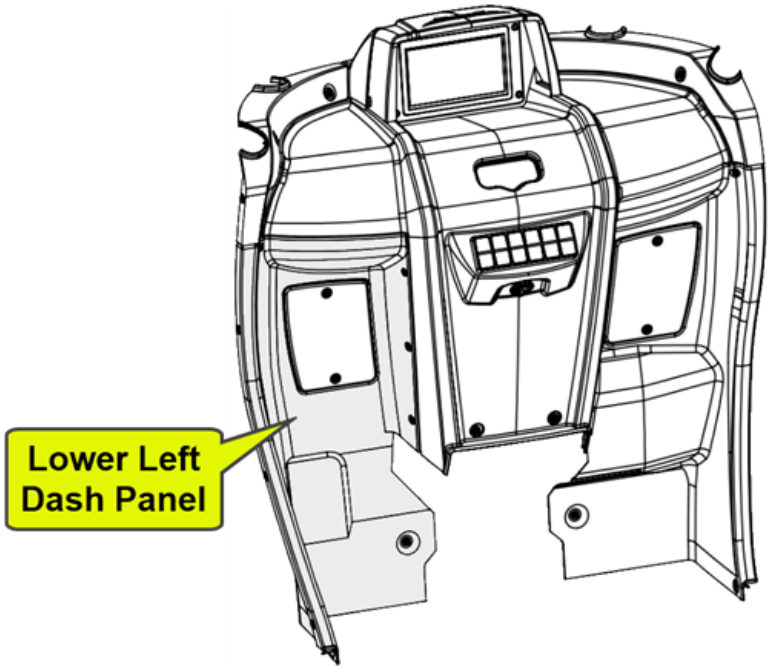
Safety

These instructions do not require accessing any high-voltage components. However, always be aware, and follow these basic safety rules:

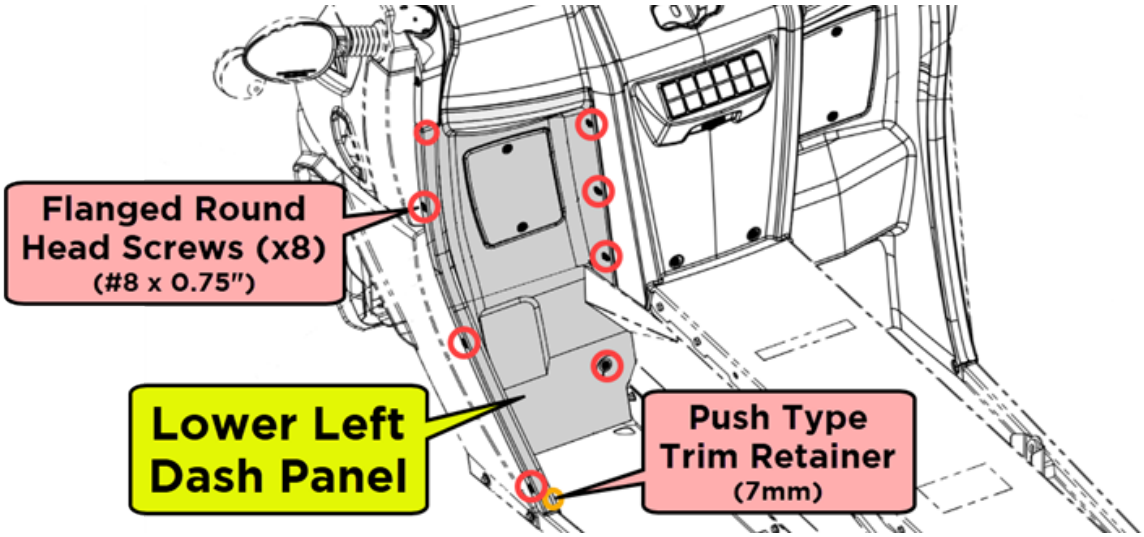
- Remove all metal jewelery before following these instructions.
- Keep metal objects of any kind (tools, jewelry) away from any internal components.

STEP 1: Remove the Left Lower Dash Panel:

The Lower Left Dash Panel is located on the left side of the Dash Assembly.



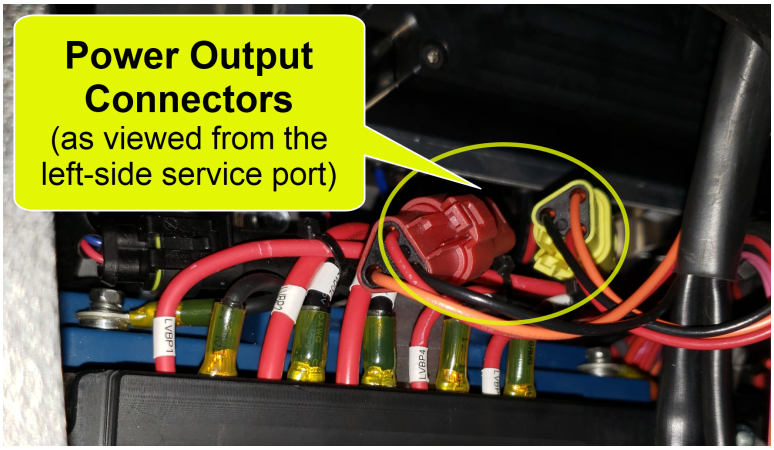
1. Remove the eight #2 Phillips screws and one push clip at bottom of the panel.



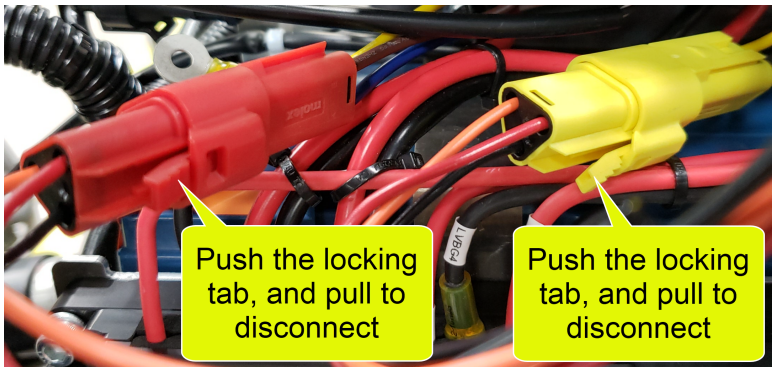
2. Carefully remove the panel and set it face up on a soft, clean drop cloth.

STEP 2: Disconnect the Power Output Connectors:

1. Look into the **left-side service port** to locate the RED and YELLOW Power Output Connectors. These 3-wire connectors are side by side, to the left of the steering column.

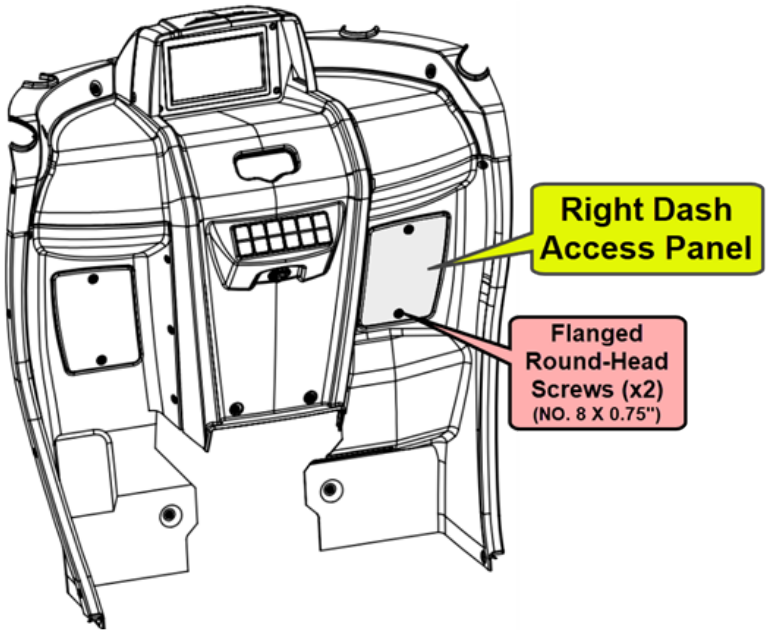


2. Press the locking tab down, and gently pull to unplug each connector.



STEP 3: Remove the Right-Dash Access Panel to gain access to the 12V Circuit Breaker:

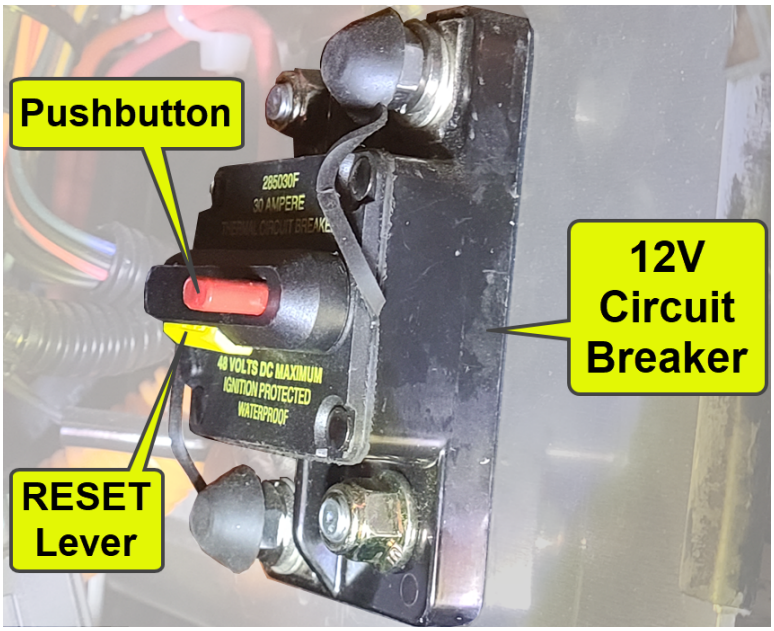
Remove the Right-Dash Access Panel to gain access to the 12V Circuit Breaker. The Right Dash Access Panel is inset in the center of the Lower Right Dash Panel and is secured by two screws:



1. Remove the two #2 Phillips screws at the top and bottom of the panel.
2. Carefully remove the panel and set it face up on a soft, clean drop cloth.

STEP 4: Disable the 12V Circuit Breaker:

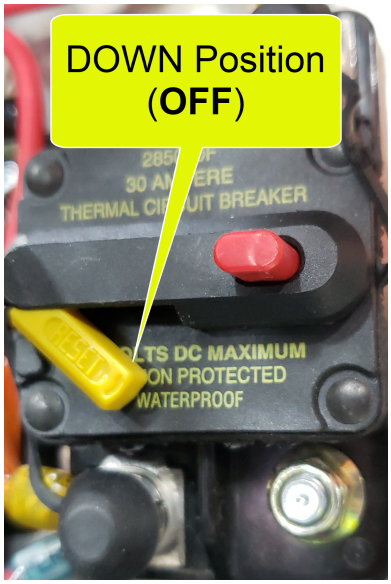
Look into the right- side service port to locate the 12V Circuit Breaker. It is a black box with a pushbutton and a RESET lever, located directly behind the steering column:



1. Depress the pushbutton on the 12V Circuit Breaker to remove 12V battery power from the FUV.

   Note that when the pushbutton is pressed, the RESET lever flips down to the OFF position.

   Do not push the RESET lever down any further. Overextending the RESET lever may damage the circuit breaker.



Note that the images above show a 12V Circuit Breaker that has a red pushbutton and yellow RESET lever. Newer FUVs use a 12V Circuit Breaker with a blue pushbutton and orange RESET lever. Regardless of the colors used, the steps are the same.

When the Circuit Breaker is OFF, 12V power is disabled.

2. To verify the lack of 12V power, touch the Display - it should not respond.

Recovering From Cold Storage Mode

STEP 1: Re-connect the Power Output Connectors:

On both Power Output Connectors (Red and Yellow), gently slide the connectors into their plugs until the locking tabs snap.

Note that these connectors are indexed - they cannot accidentally be plugged in incorrectly, and it doesn't matter which one is plugged in first.

STEP 2: Reset the 12V Circuit Breaker to ON:

1. Flip the yellow RESET lever on the 12V Circuit Breaker UP to the **ON** position.
2. You should hear a contactor click - this indicates that the 12V power system is active.

STEP 3: Replace the Access Panels:

1. Replace the Left Lower Dash Panel
2. Replace the Right-Dash Access Panel

STEP 4: Perform a Functionality Check:

Turn the FUV ON to verify that the 12V system is functional.

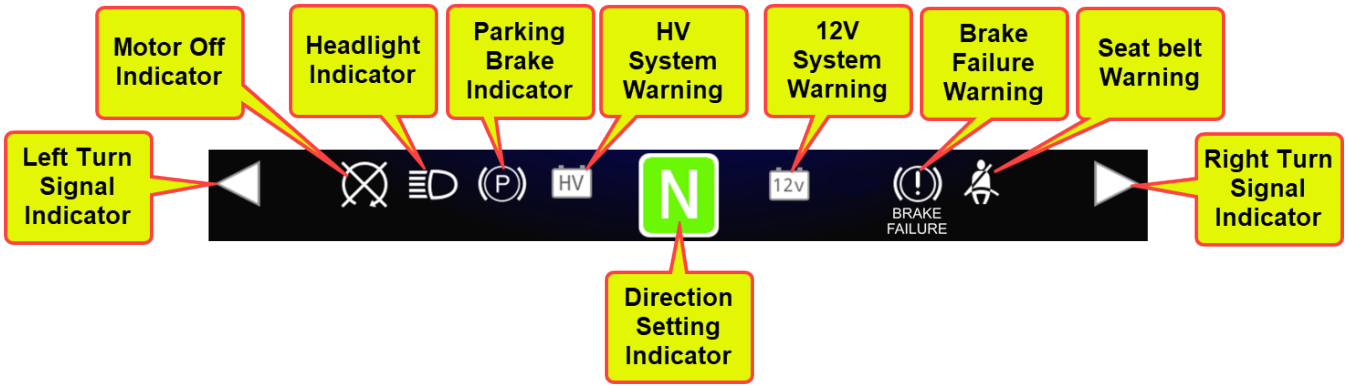
Battery Maintenance

- For better long-term performance, avoid exposing the FUV to ambient temperatures above 140° F (60° C) or below -22° F (-30° C) for more than 24 hours at a time.
- Park the FUV in a cool and shaded area whenever possible.
- Recharge the FUV after each use, especially when leaving the vehicle in a cold environment. Charging a cold battery will take considerably longer than charging a battery still warm from driving.
- For optimal battery life, the FUV should be plugged in as soon as possible when fully discharged. Leaving the battery in an uncharged state for an extended period of time is harmful to the battery.

Understanding Display Telltales

Overview

A series of icons (called "telltales") along the bottom of the Drive screen provide quick visual feedback for many important functions on the FUV:



Note that while all of the telltales are shown here for illustration purposes, each telltale is only visible on the Display when the associated function is active.

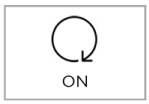
In addition to basic telltales such as Turn Signal, Headlight, and Direction Setting indicators, there are several telltales that indicate that there may be a problem with the FUV. These telltales are described below:

Motor Off

The *Motor Off* tell-tale on the Display indicates if the motors are turned off.

This telltale lights for 2-3 seconds when the FUV is turned ON, while the FUV is electrically prepared for driving. Once this telltale is off, the FUV can be started.

If this telltale remains lit, check the MOTOR OFF Switch on the right-hand grip. If the MOTOR OFF Switch is in the OFF position, then the Motor Off tell-tale will be lit, and FUV will not start.



In this case, switch the MOTOR OFF Switch to the **ON** position. The telltale should turn off, and the FUV should start.

Parking Brake

The *Parking Brake* tell-tale on the Display indicates that the Parking Brake is engaged.

The Parking Brake is engaged and disengaged via the Parking Brake button on the Control Panel. The Parking Brake should be fully disengaged when all three LEDs on the Parking Brake button (on the Control Panel) are OFF. This takes approximately three seconds.

Control Panel - Parking Brake Engaged

Control Panel - Parking BrakeDisengaged

Never drive the FUV with the Parking Brake engaged. Driving the FUV with the parking brake engaged or partially engaged can damage the brakes.

If this telltale remains lit after the Parking brake has been disengaged, it could indicate a problem with the Parking Brake Sensor. This sensor can be adjusted to correct this problem. Contact Arcimoto Product Support at (541) 780-0032 for assistance.

HV System Warning

The *HV System Warning* tell-tale on the Display indicates that a system warning is detected in the high-voltage electrical system.

This warning can be cleared by resetting the FUV (see "Manually Resetting the 12V System" on page 29).

If this telltale remains lit after a reset, contact Arcimoto Product Support at (541) 780-0032 for assistance.

12V System Warning

The *12V System Warning* tell-tale on the Display indicates a problem with the low-voltage (12V) electrical system. Note there are two levels of the 12V System Warning telltale (yellow and red):

A **YELLOW** 12V telltale indicates that the 12V battery in the FUV is weak.

In this case, drive the FUV normally (avoiding excessive accessory use), and recharge the FUV as soon as possible. Contact Arcimoto Product Support at (541) 780-0032.

A **RED** 12V telltale indicates a system fault is detected.

In this case, drive range is limited. Carefully drive the FUV to the nearest safe location and contact Arcimoto Product Support at (541) 780-0032.

Brake Failure

The *Brake Failure* tell-tale on the Display indicates a potential problem with the hydraulic brake system.

Typically, this means either that the hydraulic brake system is low on brake fluid, or the brake sensor switch is incorrectly adjusted. This telltale will also light in the case of a Pressure Sensor failure.

If this telltale remains lit, contact Arcimoto Product Support at (541) 780-0032 for assistance.

Seat belt Warning

The *Seat belt Warning* tell-tale on the Display indicates that one or both front seat belts are not fastened. Additionally, a warning message at the top of the Display indicates which belt is not fastened

As a safety feature, both front seat belts must be latched for the FUV to allow motion. It is not required that the rear seat belts are latched for the FUV to allow motion; if you have a passenger, always ensure that both rear seat buckles are secured.