400W Peterbilt 579 Fairing SuperFlex Solar Panel with Integrated Edge Seal Installation Instructions

STOP! BEFORE CONTINUING:

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Required Materials

To complete the installation of the 400W Peterbilt 579 Fairing Solar Panel Kit, you'll need the following tools and materials:

Cleaning Supplies:

- Isopropyl alcohol (90% or greater concentration)
- Lint-free shop rags or clean cloths

Measurement & Marking Tools:

- Tape measure
- Permanent marker

Unpacking Tools:

- Scissors, utility knife, or hook tool (for cutting stretch wrap carefully)

Installation Tools:

- 1–2 squeegees (for setting panels without air bubbles, included with the kit)
- Zip ties and mounting blocks (included with the kit)
- Screws for mounting the charge controller (included with the kit)
- Drill or screwdriver (for mounting the charge controller)

Electrical Testing Tools:

- Multimeter (for verifying battery voltage and polarity)
- DC current clamp (for measuring current from the panel)

Additional (Optional but Recommended):

- Ladder or platform (for easier roof access)
- Protective gloves (to avoid finger oil transfer and cuts)
  Extra zip ties for cable management if needed

Step 1: Clean the Surface

A clean surface ensures strong adhesion that lasts the life of the panel (10+ years).

1. Spray isopropyl alcohol onto a lint-free rag and the fairing surface.
2. Thoroughly wipe the entire installation area.
3. Repeat the wipe with a fresh rag to ensure all debris, wax, and oil are removed.
4. Do not skip this step; cleanliness is critical to proper adhesion.

Step 2: Prepare the Panel

1. Confirm panel labeling: *“Passenger Side”* and *“This Side Up.”*
2. Lay the panel flat on the roof in the installation location with *“This Side Up”* showing.
3. Do **not** cut the red banding yet.
4. Cut and remove the two clear stretch bands (do not lift the panel; slide the cardboard out from the bottom side).
5. Remove the top and bottom cardboard.
6. Open the panel like a book (keeping the unsupported section of the panel always on the fairing, do not lift), allowing it to slide down the fairing.

Step 3: Align the Panel

1. Use the marked centerline to position the panel.
2. Ensure alignment at both the ridge and seam of the sleeper fairing. The panel should sit flush with the back edge and align vertically.

General Notes:

- Only expose a small amount of adhesive at a time (5–8 inches).
- Always begin adhesion from the centerline of the panel and sweep outward.
- Maintain panel alignment throughout the process.
- Avoid pressing directly on the solar cells with excessive force.
- **ONCE ADHESIVE IS ADHERED TO THE FAIRING, DO NOT TRY TO REMOVE OR PULL UP THE PANEL.**

Step 4: Adhere the Center Section

1. Remove clips and fan out the center release liner.
2. Lightly tack the center area by exposing 1–2" of adhesive.
3. Squeegee from center outwards, progressing in 5–8" increments.
4. Do **not** put body weight on the panel; use edges for support only.
5. Ensure the release liner from adjacent sections does **not** get stuck under the adhesive.

Step 5: Adhere the Lower Flap

1. Slowly pull the flap's release liner in 0.5" increments.
2. Squeegee down from the center, fanning out to avoid wrinkles.

Step 6: Adhere the Outer Sections

1. Remove clips and fan out the release liner.
2. Confirm the cable is positioned out of the way.
3. Begin adhesion near the last visible silver bus bar.
4. Adhere by pulling 1–2" at a time and squeegeeing outward.
5. Repeat for the bottom flap using the same slow, careful method.

Step 7: Repeat for Opposite Side

1. Follow the same procedure for the opposite side panel.
2. Align carefully with the previously installed panel to ensure symmetry.
3. Squeegee the center section first, then the outer section and flap.

Step 8: Cable Routing and Battery Connection

SCAN THE QR CODE BELOW TO WATCH THE BATTERY CONNECTION VIDEO

OR CLICK HERE TO WATCH THE BATTERY CONNECTION VIDEO

If the truck has an extension on the back of the cab for improved aerodynamics, loosen bolts holding the fairing extender and run panel cabling under the fairing extension to the back of the tractor. Retighten bolts on the fairing extension.

1. Mount the charge controller securely to a mechanically sound surface (e.g., inside compartment, battery box or metal frame) using the included screws.
    - If the desired mounting location is inside a compartment in the cab
        - Use a step drill to drill an 11/16” hole in the bottom rear of the compartment for the cables to exit the cab.
        - Fasten the charge controller to the rear wall of the compartment using the provided self-drilling screws.
        - Run the battery and panel extension cables out of the hole and fit the provided grommet around the wires as they exit the compartment.
2. Remove the fuse from the wiring harness before connecting to the battery.
3. Connect the ring terminals:
    - **Red** to positive (+)
    - **Black** to negative (–)
4. Use a multimeter to measure the battery voltage between the negative battery post and the charge controller side of the fuse holder, and confirm:
    - 12V system
    - Correct polarity
5. Reinstall the fuse in the harness.
6. Check the charge controller to ensure a light comes on, indicating that it is connected to a battery and that the fuse is in place. A green light indicates that it is connected and the battery voltage is normal. An orange light indicates the battery voltage is low.
7. Ensure the battery cables are routed loosely so they do not rub against anything and wear out over time. Support them as needed with zip ties.
8. Run the solar extension cables under the cab and up the back of the cab to connect to the solar panel pigtails. When routing the cables, ensure they are not too tight and will not rub against anything that could wear a hole in the cable.
9. Connect the extension cable to the solar panel pigtails and secure a zip tie over the connector locks as a secondary lock. To provide additional strain relief, support each connector side with a zip tie mounting block.
    - **IMPORTANT:** Clean the areas where mounting blocks will be applied using >90% isopropyl alcohol.
10. Use zip ties and self-adhesive zip tie mounting blocks to run cable in an orderly fashion down the back of the truck. Clean the area where the mounting blocks will be stuck with isopropyl alcohol and let it dry before sticking the block in place.

11. Do not pull the wire tight around the corner on the bottom of the cab. Leave it a little loose so it does not rub and wear through the protective insulation.
12. When the solar panel is exposed to sunlight:
    - Measure the battery voltage again—it should be slightly higher, based on the intensity of sunlight.
    - Check the charge controller. A second green LED light should flash, indicating the system is charging. This shows that the system is functioning properly and has been installed correctly.
13. Use a DC current clamp around the wire with the fuse installed to measure current:
    - Current will vary between 0–30A
    - A 0 or low reading may indicate the battery is fully charged (above 14.2V) or deeply discharged (below 9.5V)

Final Inspection and Testing

- Visually inspect all panel edges for full adhesion.
- Squeegee the entire surface again to eliminate air bubbles or wrinkles.
  Clean off any remaining labels; do not leave them on the panels.
- Avoid placing weight (such as a knee or palm) directly on the panel during installation.
- Slight cell cracks will not significantly impact performance, but may reduce efficiency.

You've completed the installation of the 400W Peterbilt 579 Fairing Solar Panel!