COMMITTED TO THE BUILD

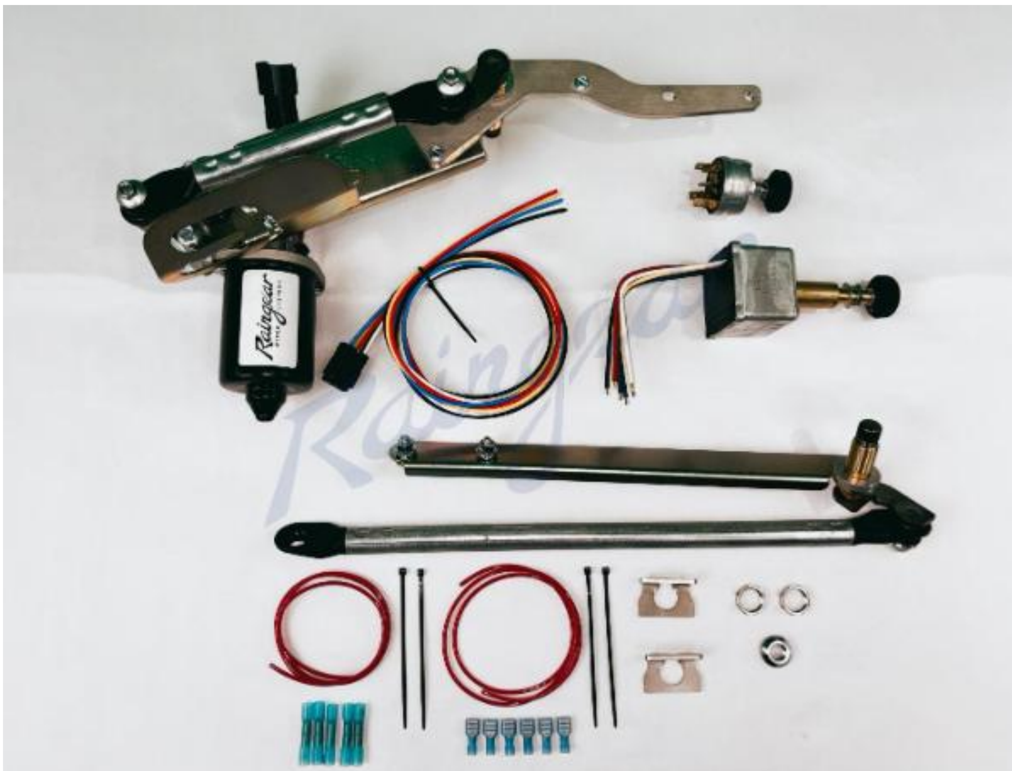
Raingear

HIDDEN WIPER SYSTEM
ASSEMBLED IN ARIZONA USA

FOR YOUR CLASSIC CAR
RAINGEARWIPERS.COM

Installation Instructions

1948-1952 Ford F-1 Pick-up Trucks



Raingear's modern lever-and-link electric windshield wiper system for 1948–1952 Ford F-1 pickups provide a direct mechanical connection from the powerful 12-volt motor to the wipers—replacing the original vacuum motor and linkage.
The result is a dependable, positive-action system that delivers reliable wiper performance in all weather conditions.

Important: The emergency brake bracket may need to be repositioned to prevent interference.

This modern F-1 Raingear kit mounts under the dash and features built-in adjustment points for easy installation.
The new wiper pivot shafts install in the original factory locations and are designed to use your original or reproduction escutcheons, preserving the truck's stock appearance.

Figure 1 - This is the F-1 unit as shipped

Each kit includes a 2-speed wiper/washer switch or an optional 2-speed wiper/washer/intermittent switch for upgraded functionality.

PLEASE TRY OUR WAY FIRST!

Note 1: This system is engineered to fit your truck as designed.
The intermittent switch will not fit in the original factory location.
If you believe modifications are necessary, please contact us first at
Sales@RaingearWipers.com before making any changes.
We're happy to help with technical support or troubleshooting.
Please note that most of our parts are custom-made, and your dealer may not be able to provide assistance.

Note 2: This kit does not include the exterior chrome escutcheons (trim bezels) or gaskets that cover the pivot shafts where they pass through the cowl.
If you'd like to purchase new escutcheons, please visit our website at RaingearWipers.com.

Note 3: An original speedometer cable must be used.
Aftermarket cables are typically too stiff and will not clear the drive unit shield.

Pre-Installation

⚠ **Important:** You will be working in an area of the vehicle that contains a high concentration of electrical wiring.
Disconnect the battery before beginning installation.

Disassembly and Preparation

1. **Remove Dash Components**
    - Remove the stock dash insert (speedometer and gauges).
    - For 1948–1949 models, remove the radio.
    - For 1950–1952 models, removing the radio is not required, but it will make installation easier.
    - In all model years, removing the glove box will also help provide better access.
2. **Remove Wiper Components**
    - Remove and save your original wiper arms and blades.
    - Remove the wiper control knob and cable assembly from the dash panel.
    - On the outside of the cowl, remove the stock escutcheon nuts and chrome escutcheons—save these for later use.
    - Remove the entire stock wiper system, including any vacuum hoses or wiring.

Note: If you're retaining the original engine and it was equipped with vacuum wipers, be sure to cap the vacuum fitting at the intake manifold to prevent a vacuum leak.

3. **Remove Defroster Ducts**
    - Remove the defroster ducts from under the dash.
    - These ducts will need to be modified for reinstallation, or you can purchase replacement ducts designed to fit the Raingear system.
      For replacement options, email us at **Sales@RaingearWipers.com.**
4. **Remove Lower Dash Braces**
    - Early-model trucks include two vertical sheet metal braces beneath the dash that support the lower lip of the dash panel.
    - These vertical braces must be removed to allow clearance for the Raingear system.

Figure 2:

On early F-1 models, the two vertical sheet metal braces located beneath the dash panel must be removed to provide clearance for the Raingear wiper system.

Later-model F-1 trucks do not have these vertical braces.
Additionally, the sheet metal tab that the original vacuum wiper motor was attached to must also be removed.
Both the braces and the vacuum motor attachment points must be removed to ensure the Raingear wiper system fits properly.

Figure 3:

The sheet metal tab where the original vacuum wiper motor was mounted must also be removed.

Pre-Installation Assembly

For shipping purposes, the F-1 Raingear wiper system is disassembled into right and left side units: ***(See Figure 1)***

- **Right-side unit:** Includes the right pivot shaft assembly, right bridge assembly, and cross link.
- **Left-side unit (drive unit):** Includes the left pivot shaft, left bridge assembly, first link, and motor.

Before installing the system into your F-1 cab, the right and left sections must be reattached.

1. Using two 1/4" nuts and washers, join the right-side bridge assembly to the left-side bridge assembly. ***(See Figure 4)***

Figure 4:

The right and left side units must be securely reattached before installing the wiper system into your F-1 cab.

Important: Before attaching the cross link to the left-side pivot shaft lever, ensure that the right-side pivot shaft lever is facing down, mirroring the position of the left-side lever.

The cross-link end should be positioned below and slightly to the left of the pivot shaft.
(See Figure 5)

Figure 5:
Ensure the right-side pivot shaft lever is facing down, matching the orientation of the left-side lever.
The cross-link end should sit below and slightly to the left of the pivot shaft.

2. Using your fingers, remove the cup nut from the left-side pivot shaft lever.
3. Position the cupped plastic end of the cross link (from the right-side unit) onto the top of the plastic link end on the left-side pivot shaft lever.

> **Tip:** Apply a lubricant, such as white grease, to ensure smooth operation.

4. Replace the cup nut on the left-side pivot shaft lever and snug it using a 3/8" wrench. ***(See Figure 6.)***

Figure 6:

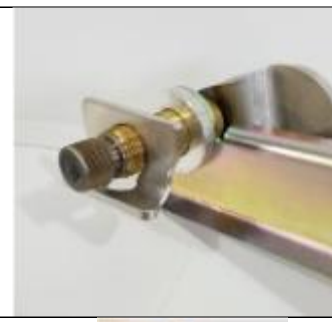
Place the plastic end of the right-side cross link onto the left-side pivot shaft lever, then replace the cup nut on the lever.

Important: Do **not overtighten** the cup nut.

5. While tightening, move the plastic cup bearing up and down—you will feel the play gradually diminish.
   Stop tightening once all play is removed, but do not tighten the nut any further.
   (See Figure 7)

Figure 7: Do not overtighten the cup nut. While tightening, move the plastic cup bearing up and down. Once all play is removed, stop tightening—do **not** tighten the nut any further.	

After a short break-in period, recheck the cup nut to ensure it remains snug.
Next, place a body adapter on each of the threaded brass pivot shafts.
(See Figures 8 & 9)

Figure 8: Before inserting the brass pivot shafts through the stock wiper holes in the cowl, place the body adapters on both sides of the pivot shafts.	
Figure 9: **Note:** The lower angled portion of the body adapters should face forward, toward the cowl.	

You are now ready to install the Raingear windshield wiper assembly as a complete unit.

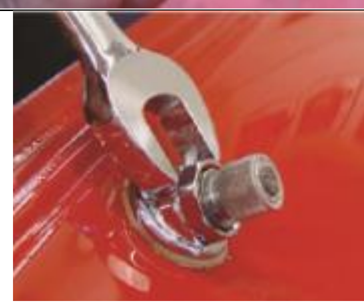
Installing the Wiper Assembly and Controls

1. Install Pivot Shafts

- Insert the brass pivot shafts through the stock wiper holes in the cowl.
- On the outside of the cowl, place the following on each pivot shaft in order:

1. Fiber or leather washer
2. Chrome escutcheon
3. Chrome nut

- Tighten the chrome nut.
  (See Figures 10 & 11)

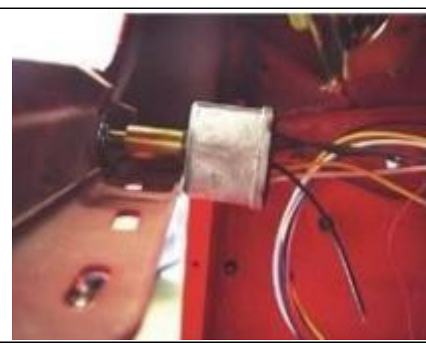
Figure 10: On the outside of the cowl, place a fiber or leather washer, chrome escutcheon, and chrome nut on each brass pivot shaft.	
Figure 11: Tighten the chrome nut	

2. Reinstall Defroster Ducts

- Reinstall the defroster ducts under the dash.

3. Install the Wiper Switch

- Mount the wiper switch into the stock dash location using the supplied bezel nut.
  (See Figure 12)

Figure 12: The switches mount in the stock location. The optional variable/intermittent switch includes an extension to clear the bottom of the dash.	

4. Install the Knob

- Install the wiper control knob
  (See Figure 13)

<u>Figure 13:</u>

Install your knob

5. Wiring

- Wire the system according to the wiring diagram supplied with your switch.

2 Speed	2 Speed with Delay

https://raingearwipers.com/installation-instructions

<u>Testing the Wiper System</u>

1. Do Not Install Wiper Arms Yet

- Before final installation, the system must be tested to ensure it functions properly.

2. Power Requirements

- Use a **fully** charged 12-volt battery for testing.
- **Do <u>not</u> use a battery charger**, as it will not provide the proper waveform.
- A battery with less than 11.5 volts will not operate the system correctly

3. Check Wiper Park Position

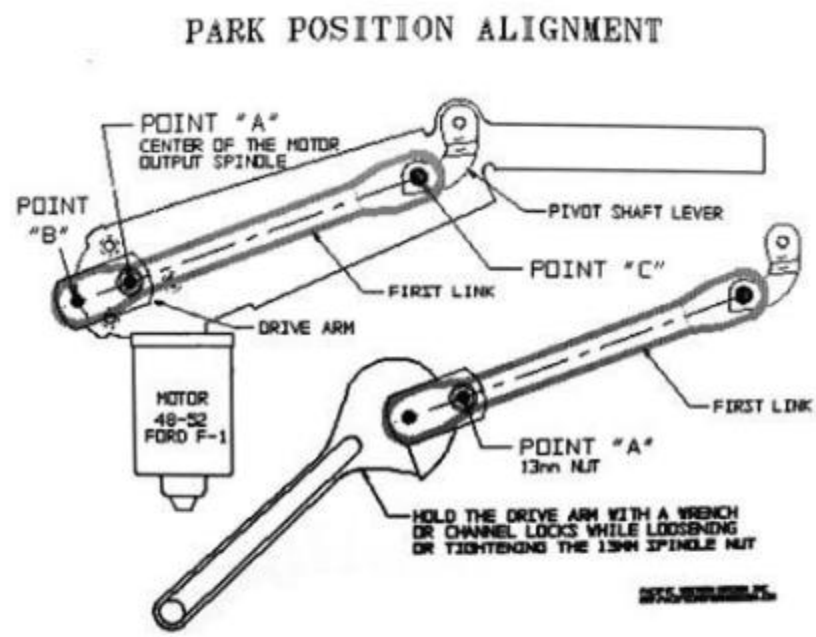
- Wrap a piece of tape around each pivot shaft, leaving approximately 6-inch flaps.
- Turn on the wipers and observe the rotation.
- The flap of tape should stop at the end of the rotation, just as the wiper direction reverses, indicating the correct park position.

Wiper Park Position Adjustment

Raingear pre-adjusts the wiper motor drive arm so the system should park correctly at the end of its stroke.

- If, during testing, the wiper arms park early (before the end of travel, where the direction reverses) or late (the arm moves down, then comes back up again), you will need to:
  1. Remove the system
  2. Realign the wiper motor drive arm with the first link
     (See Figure 14)

Figure 14:



- **Upper left:** Diagram of the left-side unit.
- **Lower right**: Correct Park position alignment and how to secure the drive arm with a wrench.
- Once aligned, use tape to hold the position and then install the wiper arms and blades.

Installing the Wiper Arms and Blades

1. **Set Desired Park Position**
    - Remove the old flap of tape used for testing.
    - Reapply a new flap of tape at the position where you want the wiper arms to park.
2. **Test Wiper Operation**
    - Turn on the wipers and verify that:
        - The arms park correctly
        - The sweep pattern is correct
3. **Final Installation**
    - Once both the park position and sweep are correct, remove the tape and install the wiper arms and blades.

Thank you for choosing Raingear Wiper Systems. We look forward to assisting you with your next project!