

Installation instructions for 1948 to 1952 Ford F-1 pick-up trucks

Pacific Western Design's modern RAINGEAR lever and link electric windshield wiper system for 1948 to 1952 Ford F-1 pickups provides a direct mechanical link from the powerful 12 volt motor to the wipers, replacing the old tired vacuum motor and linkage. The result is a much more dependable and positive system.



This modern F-1 Raingear Kit installs under the dash and is designed with simple, built-in, adjustments. The new wiper pivot shaft installs in the original position and uses your original or reproduction escutcheons to maintain the stock look. The F-1 Raingear kit includes a 2-speed Wiper/Washer switch or an optional 2-speed Wiper/Washer/Intermittent switch.

Complete Instructions and illustrations can also be found on our web site: "pacificwesterndesign.com"

Getting started: Some recommendations:

PLEASE TRY OUR WAY FIRST

Note 1: This system is designed to fit your truck. If you think you need to modify the parts supplied you are doing something wrong. Please read the instructions or call us (1-800-686-1955) before proceeding. For technical questions etc., please contact us directly! Your dealer does not stock replacement parts and is unlikely to be able to troubleshoot problems.

Note 2: This kit does not contain the outside chrome escutcheons (trim bezels) or gaskets, which cover the pivot shafts where they pass through the cowl. If you need the escutcheons, Dennis Carpenter stocks them.

Note 3: Please familiarize yourself with the photographs and figures included.



Fig 1: This is the kit as shipped. The one shown is for an F-100 but the F-1 unit is broken down for shipment in the same way.

Pre-Installation:

First disconnect your battery. You will be working under the dash in the area of your vehicle that contains the greatest concentration of electrical wiring.

Remove the stock dash insert (speedometer and gauges). For 1948-49, remove the radio. For 1950-52 it is not "necessary" to remove the radio but it will make things a little easier. The same is true for the glove box for all years.

Remove and save your stock wiper arms and blades. Remove the stock wiper control knob and cable assembly from the dash panel. On the outside of the cowl, remove the stock escutcheon nuts and chrome escutcheons. Keep them for later. Remove the stock wiper system and vacuum hose or wiring. If you are keeping the original engine, be sure to cap the vacuum fitting at the intake manifold if you had vacuum wipers or you will have a good size vacuum leak.

Remove the defroster ducts. Retain them for reinstallation.

The early model trucks incorporated two vertical sheetmetal braces beneath the dash panel that supported the lower lip of the dash. Remove these vertical braces. Later models did not have these braces. Further, the sheetmetal tab that the stock vacuum wiper motor was screwed to **MUST** also be removed. These braces and attachment points must be removed so the Pacific Western Design wiper system will fit properly. See figures 2 and 3.



Fig 2: On early F-1s, the two vertical sheetmetal braces beneath the dash panel **MUST** be removed.

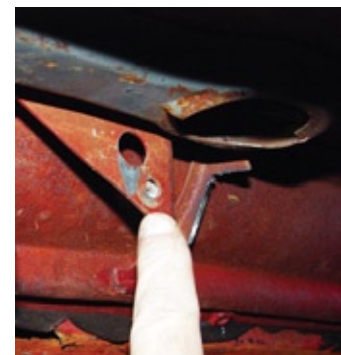


Fig 3: The sheetmetal tab that the stock vacuum wiper motor mounts to **MUST** also be removed.

Pre-installation assembly:

For shipping purposes the F-1 Raingear wiper system is disassembled into a right and a left side unit. The right has the right side pivot shaft assembly, the right hand bridge assembly and the cross link. The left is the drive unit which includes the left side pivot shaft, left side bridge assembly, the first link and the motor. See figure 1. The two sections must be reattached before installation into your F-1 cab.

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

Before attaching the cross link to the left side pivot shaft lever, make sure the right side pivot shaft lever is facing down, similar to the left side pivot shaft lever. This is extremely important. The cross link end should be below and slightly to the left of the pivot shaft. See figure 5.

With your fingers, remove the cup nut on the left side pivot shaft lever. Place the cupped plastic end from the cross link on the right side unit onto the top of the plastic link end on the left side pivot shaft lever. It must be installed with a lubricant such as white grease. Place the cup nut back on the left side pivot shaft lever and using a 3/8" wrench, snug the cup nut. See figure 6. The idea is to not tighten it too much. Pull up and down on the plastic cup bearing as you tighten the nut. You will feel the play diminish. Remove all play but do NOT tighten the nut any further. See figure 7. After some break-in, re-check to make sure it is still snug.

Place a body adapter on both threaded brass pivot shafts. See figure 8 & 9.

Now you are ready to install the Raingear windshield wiper assembly as a complete unit.

Installation:

Insert the brass pivot shafts through the stock wiper holes in the cowl. On the outside of the cowl, place one fibre or leather washer, the chrome escutcheon and a chrome nut on each brass pivot shaft. See figure 10. Tighten the chrome nut securely. See figure 11.

Fig 4: Below - The right and a left side units must be reattached before installation into your F-1 cab.



Fig 5: Above - Make sure the right side pivot shaft lever is facing down, similar to the left side pivot shaft lever. The cross link end should be below and slightly to the left of the pivot shaft.

Fig 6: Right - Place the plastic end from the right side cross link onto the top of the first link end on the left side pivot shaft lever. Replace the cup nut on the left side pivot shaft lever.



Fig 7: Right - Do not tighten the cup nut too much. Pull up and down on the plastic cup bearing as you tighten the nut. You will feel the play diminish. Remove all play but do NOT tighten the nut any further.



Fig 8: Right- Place the body adapters on both pivot shafts before inserting the brass pivot shafts through the stock wiper holes in the cowl.

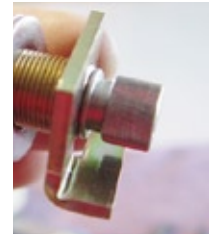


Fig 9: Above- Note the lower angled portion of the body adapters face forward towards the cowl.

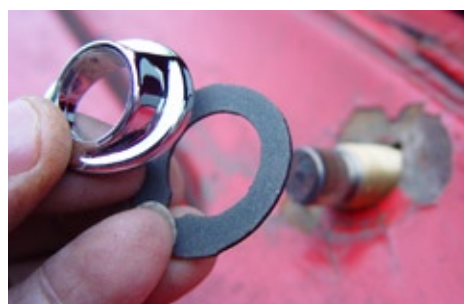


Fig 10: Above- On the outside of the cowl, place one fibre or leather washer, the chrome escutcheon and a chrome nut on each brass pivot shaft.



Fig 11: Above- Tighten the chrome nut.

Reinstall the defroster ducts.

Install the wiper switch into the stock dash position using the supplied bezel nut. See figure 12. Install the knob. See figure 13.

Please wire the system according to the wiring diagram supplied with the switch you are using.

Testing:

Do not install the wiper arms yet. You first must test to make sure the system functions properly.

You must use a good, charged 12 volt battery to test the system. A battery charger will not work. A battery with a charge below 11.5 volts will not work.

Test the wiper park position by wrapping tape around the shafts, leaving about 6" flaps. Turn on the wipers and make sure the arms will park in the proper position. The flap of tape should stop at the end of the rotation, just as the direction reverses.

Adjustments:

We make every effort to adjust the drive arm on the wiper motor so that it will park correctly at the end of the stroke. If after running your new wiper system the arms park early (before the end of travel, where the direction reverses) or late (the arm goes down, then comes back up again), you will need to remove the system and realign the wiper motor drive arm with the first link. See figure 14.

Point "A" is the center of the wiper motor spindle where the drive arm attaches. Point "B" is the lower end of the "first link". It rotates about point "A" as the drive arm rotates. Point "C" is the upper end of the "first link" and attaches to the left side pivot shaft lever. Note that in the park position, points B, A and C are all in line. See figure 14. To realign this geometry, hold the drive arm with a wrench or channel locks. Loosen the 13mm spindle nut at point "A" and realign per figure 14. Retighten the spindle nut to lock the drive arm to the motor output spindle. Retest to make sure the sweep is now correct.

Installing the wiper arms and blades:

Remove the old flap of tape and reinstall a new flap where you want the wiper arms to park. Turn on the wipers and make sure they are now parking properly and the sweep is correct. When satisfied that both the park position and sweep are correct, remove the tape and install the arms and blades.

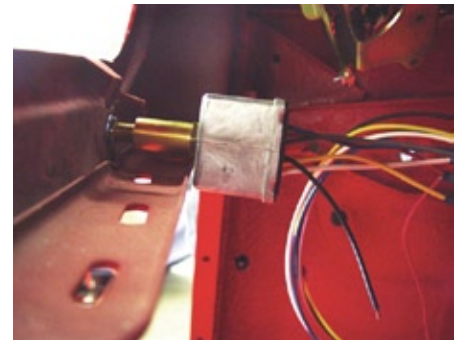


Fig 12: Right- The switches mount in the stock location. Due to the size, the optional variable/intermittant switch is provided with an extension so it will clear the bottom of the dash



Fig 13: Above- Install your knob.

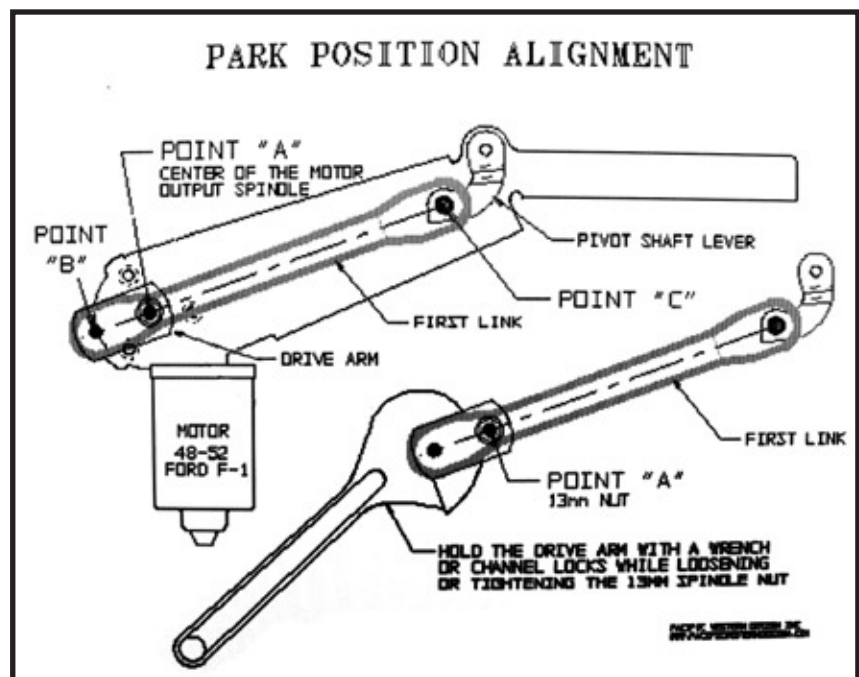


Fig 14: At the upper left is a diagram of the left side unit. The lower right shows the correct park position alignment and how to secure the drive arm with a wrench.