

G503 WWII 1945 Ford GPW Vacuum Wipers assembly

This article shows the mystery behind the correct WWII Jeep vacuum Windshield wipers and the proper assembly.



Vacuum wipers were field mods in 1944 and production mods in 1945, but there are questions as to the correct parts used for the vacuum wiper it.

To start with, let's look at a NOS vacuum wiper kit. The kit number was G503-5700249



In the kit you see here there is 1/4" brass tubing for around the windshield, and a brass tube for connection to manifold, rubber hose tubing, clips for the windshield, motorized wipers, blades, the elusive metal "Y" connector, bushings for the exhaust manifold, and the clips/hardware.



One of the frequent questions is what is the correct Trico wiper motors. The model number is S 583-1 which does not have markings on the face of the wiper motors.



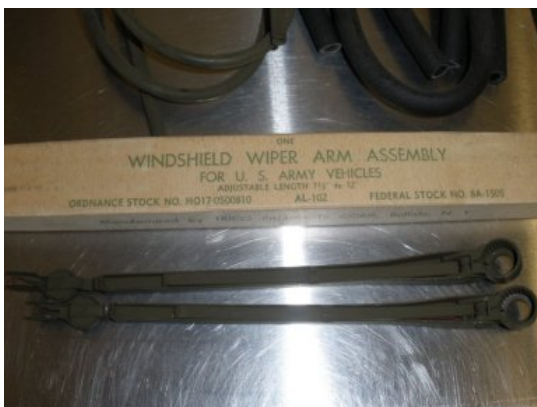
Don't be fooled! Some vendors are passing this wiper motor off as being correct for WWII because of the stamping at the bottom S-583-1. It is not! This wiper motor is April 1954-Dec 1955 according to TM manuals tracing the part number stamping.



Here you see some of the hardware that comes in the NOS kit. Clips, Screws around the windshield, the metal "Y" connector, the brass bushings for the connection to the manifold.



A close up inspection on the Y connector and the brass bushings. These brass fittings are a little hard to find now a days because todays standards use compression fits.



The wiper arms and blades are also included in this kit as well. If you can't find NOS sets, the repo sets are pretty close.



Here you see an two examples of the fixed length brass tubing that connects to the manifold. The brass tube to the left is the NOS one that comes with the kit. The one on the Right, has been fitted on the the bushing with a <td> fit. The angle in this example is for a field mod with rubber tubing coming under the hood and not through the cowl (see further down the article)



A closer inspection you see the swedge fit on the brass bushing. This is now ready to insert into the next bushing which goes into the manifold.

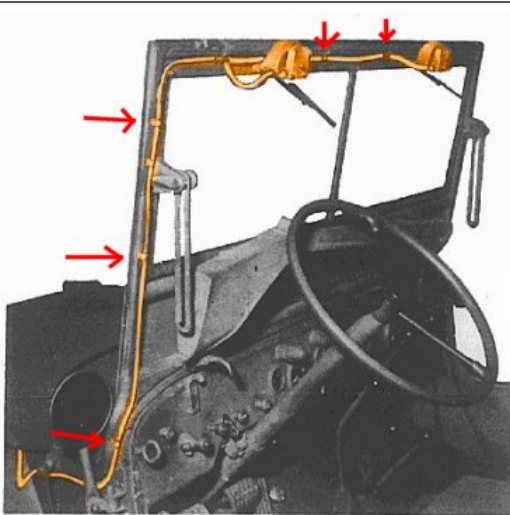


Here you see an example of how the bushings are tightened into a manifold. The brass tubing shown here is angled for a field mod with the rubber tubing going over the cowl and under the hood.

If you have a hole in your cowl, the angle will only be about 30 degrees.



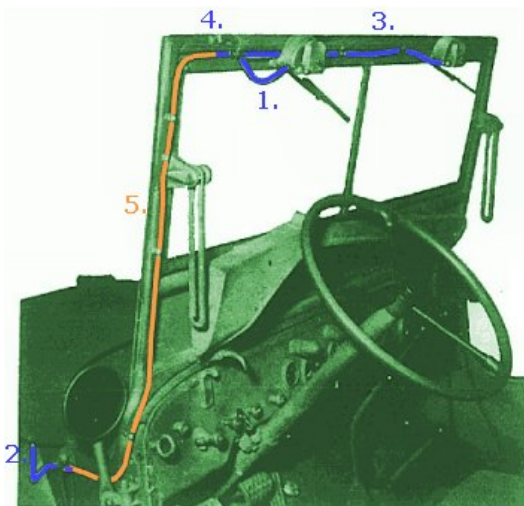
Here is an example where the ACM II tub has the provision for the vacuum wipers hole. In this case, the brass tubing in #10 will be slightly bent meet the rubber tubing through the cowl.



In the Feb 15 1945 ORD9 manual you will see that they show the route for the vacuum wipers. According to Todd Paisley he notes that MB's with Vacuum Wipers were 252516 to 336270 (roughly July 1943 to May 1944) 363849 to 395156 (roughly August 1944 to December 1944) 437213 and up (roughly May 1945 and up.) Fords, unsure.



There are three rubber hoses that come with the NOS kit. Each are the following lengths:
 Tiny: 1/14 in (Y connector)
 Short: 5 1/4 in (left Motor)
 Medium: 14 1/2 in (under hood)
 Long: 28 in. (top windshield piece)



Installation of the wiper motors is pretty straight forward. You insert the motor arm through the windshield hole and install the screws from the otherside and tighten into the housing.



Next, install the arms on the motor arms as shown in the instructions. If you are installing them into a Repo Windshield, you can follow the instructions in AAW II book, page 271.



The tubing is pretty thick, here you see the OD 3/8 in. and the ID is a little less than 1/4in.



Here you see the brass fittings made by manufacturer EDELMANN and their part numbers. These are close but not exact. The bottom large bushing needs to tap the threads further for the middle piece to fit like original. The middle piece, has a slightly smaller Inside Diameter than the NOS piece.

Part #'s:
 111400
 112420
 210420



Here is a close up of the three bushings, note the middle piece and the larger inside diameter.



Hood Block Note: after installing the wiper motors you will note that putting your windshield down lands the wiper motor arm and blade on the driver hood block! Here you see in the picture, that you must move the hood block on the driver side. From the center of the hood seam, this appears to be about 13 inches. No documentation has been found to verify this length other than original hoods that have recorded this modification.



Factory Install?

From some of the late models, Jun-Aug 45, there are beliefs that the vacuum wiper assembly came off the production lines a bit different than the NOS kit shows.

Here are some of the differences we believe to be different:

Top Tubing: Steel and 24in long

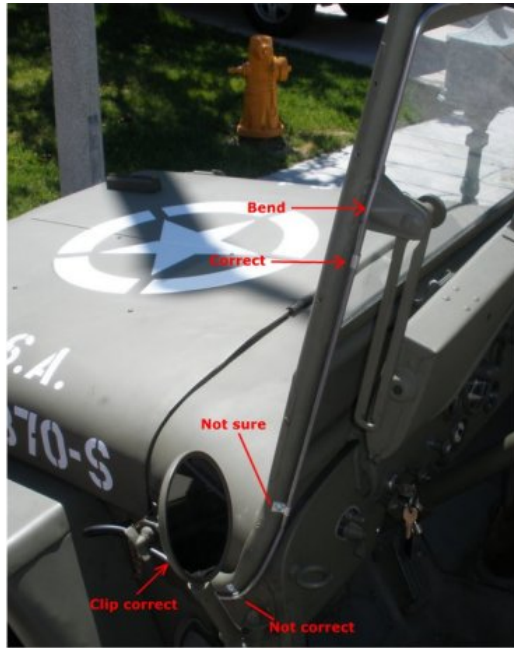
2 - Motor Hoses: 5 1/4in'

2 - Y connector Hoses: 1 1/4in



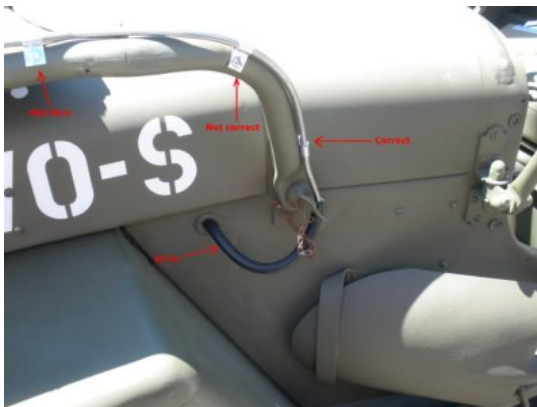
The clips for the top pieces are on the inside of the windshield frame based on this original windshield.

We are in the process of confirming the lengths measurements of the clips, by comparing to other original late windshield frames. (waiting on this)



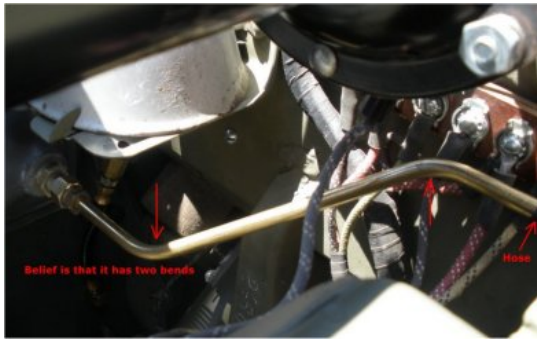
The main tubing that came down the frame is Brass in the NOS kit, we believe it would have been preformed for production and most likely steel.

On this example, we have a couple clips that are inconsistent with where we believe the clips should be. (This is still under review)



Here we show the clips coming around the bend of the Windshield frame. In addition with the hood down, the length of the rubber tubing to the manifold tubing is slightly shorter than the NOS under hood rubber tubing.

We estimate that the rubber tubing going through the cowl to be about 10in. Also, there is a sneaky clip hole under the Windshield frame by the connection



Finally, the brass tubing from the engine manifold to the cowl, we believe, is the same size at 15in. as the NOS kit. The difference, we believe is that the tubing is going to be bent in a rolled configuration so that it lines up with cowl hole.

Here you see the brass tube from the manifold to the cowl.

Note: the factory install configuration is still under research...