

Installing the Hood & Grill Assembly on the Ferguson F-40: *a new approach*

By Jon Fenner, Phil Fenner, and Paul Nelson

Note: Two persons are required for final assembly and placement of hood assembly on chassis.

Installation of the F-40 hood and grill is not simple; at best it can be a bit tricky and, at worst, difficult. If you have just repainted your tractor, you will certainly want to re-assemble the unit in such a way as to protect the new paint finish in the best way possible. This revised sequence of steps is highly recommended to make it as easy as possible. Numbers in parentheses are reference numbers from applicable pages of the F-40 parts manual. We have included page 34 (found on page 4 of this article) which contains most of the hood assembly components. The capital letters in parentheses represent the different sub-assemblies discussed below. The "hood" discussed here is defined to be composed of all the sheet metal parts, including the actual hood top piece (11) which is installed last, but is called "hood assembly" in the F-40 parts book.

Issue 15 (March 2004) of the *Ferguson Furrows* magazine included an article detailing a suggested sequence for the installation of the sheet metal on F-40 tractor. A slightly revised edition was later included on the FENA web site. Those of us who have tried to follow the suggested sequence frequently forgot some step or some part, which then necessitated removing the installed part, correcting the error and reinstalling. We believe this revised sequence, utilizing several sub-assemblies that are built **off the tractor**, has several advantages. These advantages include ease of installing lights and wiring and troubleshooting before the final tractor sheet metal installation so you know the lights work before you do the final install. Purchasing an electrical wiring harness and light wiring kit for the F-40 will make this much easier. This revised approach also allows easier trouble shooting of other tractor systems, including fuel, cooling, and carburetor adjustments without the sheet metal getting in the way. It is highly recommended that two people be available when carrying out several of the 11 steps described herein.

SYSTEM CHECKS

Before starting on the sheet metal installation, we recommend that the tractor be started and warmed up to check the fuel system, cooling system, engine timing, carb adjustments, and electrical system charging. For this, the lower dash panel (43) should have the ignition switch and start button pre-wired and separated from the upper dash panel (44) which is kept loose over the steering column to accommodate installation of the instruments and throttle components, all connected appropriately to the battery platform, engine and carb. The upper dash panel (44) and throttle components should be bolted to the battery platform (4) before engine checks are made. The fuel tank (9), fuel line, carb and air filter tube (8)(straight section with loose hose and clamps) and battery, should be installed prior to the engine check.

Install the radiator (1), radiator shroud (5), fan belt, radiator brace rod (4) , and both R & L radiator seal assemblies (28, 31). **Note: use only #10 x ¼" sheet metal screws to attach the shroud to radiator to avoid damage to radiator.** Install the radiator assembly with hoses for the cooling system checks. Once the tractor systems are checked out and any corrections are made, the sheet metal installation can be started without too much worry that things will work when the installation is finished. When satisfied that all engine systems are working, the upper dash panel (44) can be firmly fixed to the battery box platform and the lower dash panel (43) attached (snapped) to the upper dash panel (44).

SUB-ASSEMBLIES

The following is a description of the recommended sub-assemblies to be made **off the tractor** and then assembled together **off the tractor** before installing the total assembly back on the tractor as a single unit. This revised procedure allows much easier assembly of fasteners and allows ease of light and wiring installation and checks for proper grounds and power wire connections. Each sub-assembly can be easily oriented when off the

tractor to ease fastener installation and any problem needing attention. (See F-40 parts book for guidance and correct fasteners used for assembly).

The sub-assemblies consist of the following: (A) – Hood Cap, (B) – Grill, and (C) – Side Panels. These three sub-assemblies are combined to make a (D) sub-assembly (see photo on page 3), and with the addition of the hinged hood top piece (11), are known as the Hood Assembly (E).

ASSEMBLY STEPS

Step 1 - Build the Hood Cap sub-assembly (A) beginning with (12) and add the rubber bumpers (13), the air intake tube adapter (14), air intake screen (15) with the number “40” attached and held in place with the chrome retainer ring (18). (See F-40 parts list for proper fastener applications for each part.) Set this sub-assembly aside in a protected location. Install the remaining rubber bumpers (9 total including hood cap for 1956 model; 11 for the 1957 model – extras are for the grill access door) in the upper instrument panel (44) and left side hood panel (1) to protect the paint.

Step 2 - Build the Grill sub-assembly (B) by attaching the right and left hand grill screens (26, 30) to the upper plate (22) and lower plate (27) with the proper metal screw fasteners and tighten. Insert the air cleaner (2)(without oil) into the upper mounting plate (22) and fasten tight with sheet metal screws. Make sure the inlet and outlet openings have the correct orientation.

Step 3 - The Hood Cap sub-assembly (A) should be then bolted to the right and left sides of the Grill sub-assembly (B) upper plate using two ¼” bolts on each side. Then set this unit aside in a protected area.

Step 4 – Using two persons, the L & R side panels (C) can be lifted separately and bolted to the Grill sub-assembly (B) and the Hood Cap sub-assembly (A) joined together in Step 3, using sheet metal screws. This is done **off-tractor** on a protected pad or rug. The sub-assemblies joined in Step 4 and now referred to as sub-assembly (D) is now ready to be lifted and fastened on the tractor, utilizing two people. However, if installing lights this is a good time to do so, before sub-assembly (D) is placed on the tractor.

Step 5a - Place sub-assembly (D) on its back on a protected cloth surface for ease of installation of the lights on each side panel. The right hand panel requires a 47” length wire and the left side a 51” length wire. Each panel originally had 4 clips holding the wires to the top side of the lower “lip” of the associated L or R panel. Original clips are hard to find and are visible when installed. Instead, automotive clips with a rubber insert for wire protection may be used with silicon to keep them in place after cutting off one of the metal ears and cementing the other to the panel lip. To check the lights for grounds and power, use a jumper wire from a 12V battery to the panel ground and the light power wiring. Optionally, you can plug the light wires into the tractor light wiring 4-way connector (part of kit) under the dash and use the ignition/light switch to check the complete light system.

Step 5 b - Install the right panel brace rod (21) to the fuel tank with bent end going in the slot on the front right side of tank. ***This must be done before Step 6.***

Step 6 - When satisfied with the lights (or if not installing lights), use two people to lift sub-assembly (D), placing the grill lower mounting plate (27) so that it rests on the front pedestal. Attach the lower plate to the pedestal with a 3/8” x 3/4” hex head cap screw (not shown in parts list). Just finger-tighten the cap screw at this time.

Step 7 – Do not fasten the right side panel until the air cleaner tube (8) is loosely installed to the air cleaner (2) opening in the Nose Cap with hose and clamps. Leave all rubber clamps loose and accessible for future adjustment at this point. Otherwise the nose cap will cover the hose clamps making it impossible to make future adjustments. Make sure the threaded hole of the brace rod (21) is positioned **under** the air tube when installing. Use a punch to carefully line up the instrument console (44) holes with the rear holes of the L & R side panels (1, 19). Then insert two 1/4” x 3/4” hex head cap screws, using a flat washer, through the rear holes in the right side panel (19) and through the holes in the instrument console/bracket (44). Do the same with the left side panel. Do not completely tighten at this point.

Step 8 –With one person holding the hood (11), the other person will loosely attach the hinge of the top hood piece (11) to the right side panel (19) with sheet metal screws (leave loose for final adjustments). ***The hood piece (11) rotates to the left to close when installed properly.*** Attach the threaded end of the brace rod (21) **under** the top lip on the right side panel with a fastener of choice that is low in height to clear the hood extrusion when

hood is closed (grind down bolt head if necessary). Attach the hinged hood stop lever assembly (20) to the hole in the bracket under the front of the hood piece (11) and to the outside hole of the bracket that is mounted on the right front of the fuel tank (9).

Step 9 – Install the remaining hood sheet metal screws, but do not tighten until hood piece is adjusted for alignment. ***The top hood piece may be moved slightly forward or rearward to position it correctly relative to the instrument console and the hood cap (12) before tightening the sheet metal screws.*** Slotted mounting holes are provided for hood alignment. Align the hood so that it closes without over- or under-lapping the nose piece at the front and the instrument panel at the rear.

Step 10 - Attach the lower grill (chin) panel (29) to the lower grill plate and bolt together with side panels (1, 19) to the steering support casting. When you are satisfied with the over-all alignment, tighten all sheet metal screws and cap screws.

Step 11 – Complete the process by adding oil to air cleaner cup, installing the air cleaner decal, the grill center access door (23), and the steering wheel assembly. Applying side panel “Ferguson” decals will provide the finishing touch.

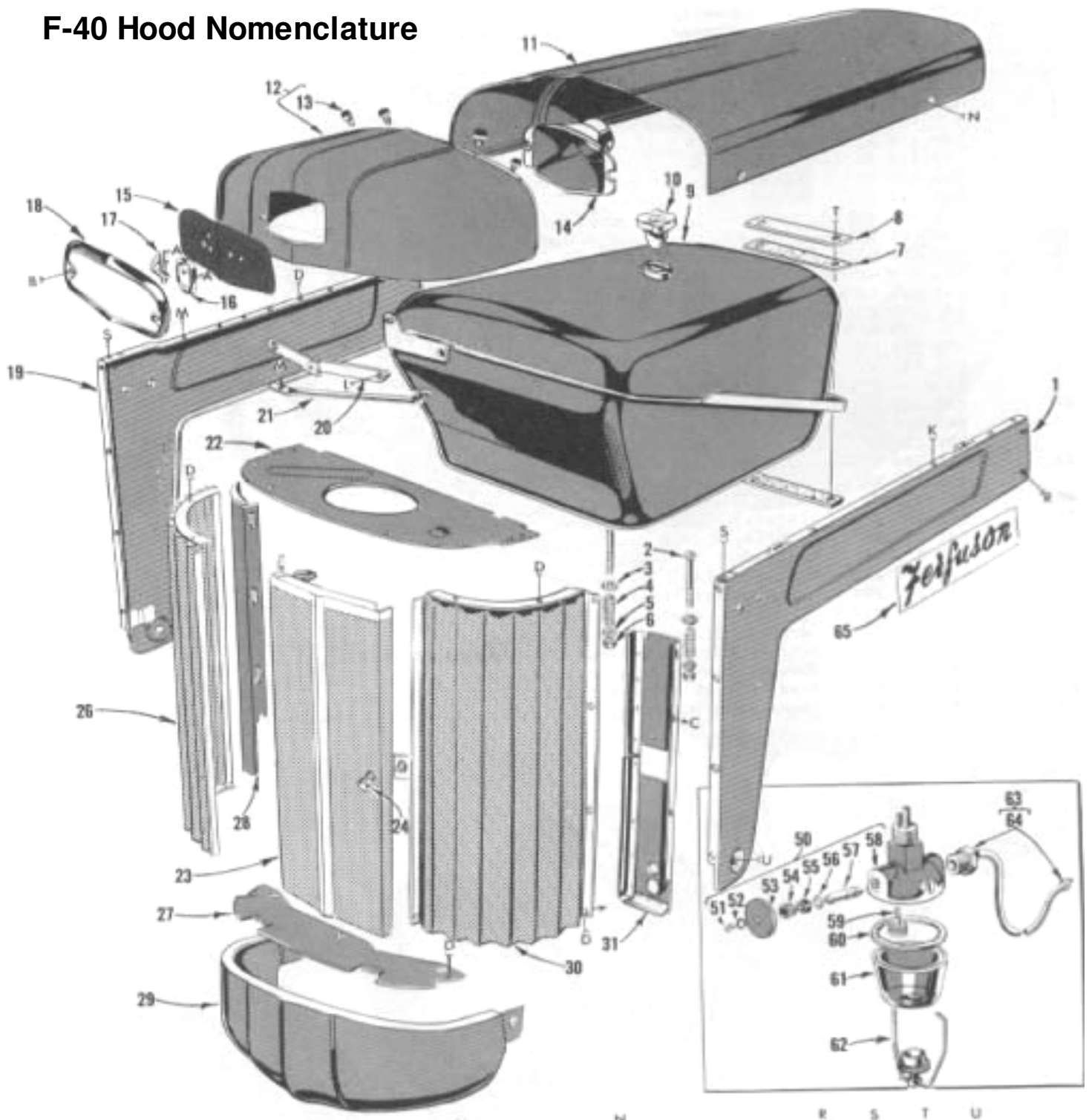
Then go and have a couple of cold beers!

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See page 4 for F-40 hood nomenclature. Specific MF part numbers and descriptions will be found in the Ferguson F-40 parts book (Form No. 693 053 M1).



F-40 Hood Nomenclature



Parts Reference Numbers (from pages 34-35 of the F-40 Parts Book)

- | | |
|------------------------------|------------------------------|
| 1. Left side panel | 22. Upper grill plate |
| 11. Hood assembly | 23. Grill access door |
| 12. Hood cap (nose) assembly | 26. Right grill |
| 19. Right side panel | 27. Lower grill plate |
| 20. Hood stop lever assembly | 29. Lower grill panel (chin) |
| 21. Side panel brace rod | 30. Left grill |

See these additional components on the following pages of the F-40 parts book:

- Instrument console (pages 22-23),
- Cooling system (pages 46-47),
- Air cleaner system (pages 48-49),
- Steering support assembly (pages 60-61).