# EMD F3 F7 F9 Instructions

## Bowser Mfg - Stewart Hobbies PO Box 322 Montooursville PA 17754 Phone: 570-368-2379 Fax: 570-368-5046 Email: bowser@bowser-trains.com

## Installation of Detail Parts and Couplers

Install each brake cylinder (24) and brake hanger (25) into the holes in each sideframe (20). The use of cyanoacrilate (ACC) cement is optional. Turn the assembly upside down and place on a padded flat surface. Assemble the coupler (49) or select the X2F (48) and place it into the coupler box (50) and install the coupler lid (51). The coupler retainer (13) holds the assembly when snapped into coupler pads (10,11). Refer to the exploded view diagram on the back of this sheet.

#### **Removing the Shell**

Place some cushioning on a flat surface. Hold the unit over it. Position the shell (1) perpendicular to your body. Center each thumb on the roof. Use both index and middle fingers to pry the shell (1) outward at the center of the unit, just above the fuel tank. Position other fingers underneath the chassis to catch it. While prying the sides outward, thrust hands downward to release the chassis. An A-unit chassis may have a tendency to hang up in the front coupler area of the shell. This can be avoided by holding the unit in a slanted manner with the cab higher than the rear of the unit.

#### Painting Undecorated Shells

The use of a plastic compatible paint is a must. CAUTION – Paints and finish coats from different manufacturers may attack each other! Never paint one brand over another until the previous coat is completely dry. Paint is dry only when no fumes can be detected. Paint should be tested on the inside of the shell for both plastic and brand compatibility.

Prior to painting, the clear plastic windows can be removed. Each side window (3) can be released by pressing on them from the outside with a blunt instrument. The headlight lens (7) in an A-unit has a tab extending downward. The lens (7) can be removed by pulling inward on the tab with needle nosed pliers. Remove the front glass (8) in an A-unit by first using a blunt instrument to release the sides of the piece. This can be accomplished by pressing inward on each cab door window. Next, press inward on each front window. Once released, the front glass (8) can be removed.

Each number board (6) in an A-unit can be removed. This may be necessary to paint them in a different color, or to keep them black while a different color is applied to other areas of the model. The number board frames (4,5) protrude into the shell and can be released by pressing outward with a finger from the inside of the shell (1). Examination of the rear of each number board frame (4,5) will reveal a hole into which a small object (brass rod, stiff wire, pin, etc.) can be inserted to release the number board (6).

## Lubrication

All F-Units are lubricated before shipment. After many hours of use, additional lubrication may be required. One note of caution: Excessive lubrication attracts dirt, which will impair the electrical pickup in your locomotive. The two areas that require minimal lubrication are the motor bearings and the gears.

Removal of the circuit board (70) requires disconnecting each of the connector wires (72) from the wire traps on the circuit board (70). Slide the wire trap housings toward the middle of the board while pulling gently on the connector wires (72). The wires from the motor (61) must also be disconnected. Turn the unit upside down and remove the fuel tank (14) and each motor screw (59). Position the unit upright. Notice that each worm cover (53) has two legs extending inward. Release the worm covers (53) by using a small flat screwdriver to pry these legs outward. The worm gear assembly (66,67,68,69) and universal shaft (65) can be removed by prying upward with a small flat screwdriver. Labelle #106 Lubricating Grease with Teflon is recommended for application to the worm gear (69). The grease will be distributed to the plastic gears (73,74) in the truck while the unit is in

motion. Remove the motor assembly (60,61,62,63,64) from the frame. One drop (and only one drop!) of Labelle #108 Lubricating Oil should be placed on each motor bearing. (The motor bearings are located on each end of the motor (61) where the shaft extends outward. Return motor assembly (60,61,62,63,64) to frame. Place a finger on top of the motor (61) while turning the unit upside down to reinstall the motor mount screws (59). Snap the fuel tank (14) back into position.

Reassemble the worm gear parts (66,67,66,69) and attach the worm universal (66) to the universal shaft (65). Insert each universal shaft (65) completely into each flywheel universal (64). Use a small screwdriver to snap each worm bearing (67) into the trucks. Snap the worm covers (53) into position over each worm gear (69). To insure that the covers (53) are properly seated, press all four corners of each cover (53) with a small screwdriver. Plug each connector wire (72) and motor wire into the wire traps on the circuit board (70).

## **Painting Truck Sideframes**

Modelers who wish to paint or weather truck sideframes (20) may wish to remove them to prevent paint overspray from impairing electrical pickup. This requires partial disassembly of the truck to release the sideframes (20). Access to the trucks can be gained by following the disassembly steps described above. After the worm assembly (66,67,68,69) and each universal shaft (65) are removed, the frame (47) can be lifted upward and away from the trucks. The sideframes (20) are locked into place by a retainer clip (57). Four tabs extend upward from this clip (57). These tabs are only visible when the truck is viewed from directly overhead. The retainer clip (57) can be removed by gently prying outward on each tab. Sideframes (20) can now be easily pulled away from the gear cases (54,55).

#### Attaching Shell to Chassis

Place the shell (1) upside down on a flat surface. Position each side window piece (3). Turn the chassis upside down and lower it into the shell (1). The hooks on each side window piece (3) snap into the receptacles on the side of the frame (47).

#### **DCC** Information

For DCC users, a DCC compatible plug socket has been provided. Remove the DCC Plug (71) from the main circuit board (70). Reference your DCC manual for proper decoder installation.

## **Questions or Problems**

We hope that you will be happy with this finely detailed kit. If any questions or problems occur, please inform us. Any problems with defective parts will be responded to promptly.



Part	Description
ran	Undecorated Rody Shell Specify:
5100-001	F3A Phase I Single Headlight
5100-001	F2R Dhace I
5100-002	F3D F11dSE1
5101-001	F3A Phase I Double Readinght
5102-001	F3A Phase I Single Headlight Non-Dynamic
5102-002	F3B Phase I Non-Dynamic
5103-001	F3A Phase I Double Headlight Non-Dynamic
5200-001	F3A Phase II Early Single Headlight
5200-002	F3B Phase II Early
5201-001	F3A Phase II Early Double Headight
5202-001	F3A Phase II Early Single Headlight Non-Dynamic
5202-002	F3B Phase II Early Non-Dynamic
5203-001	F3A Phase II Early Double Headight Non-Dynamic
5300-001	F3A Phase II Late Single Headlight
5300-002	F3B Phase II Late
5301-001	F3A Phase II Late Double Headlight
5302-001	F3A Phase II Late Single Headlight Non-Dynamic
5302-002	F3B Phase II Late Non-Dynamic
5303-001	F3A Phase II Late Double Headlight Non-Dynamic
5400-001	F3A Phase III Single Headlight
5400-002	F3B Phase III
5401-001	F3A Phase III Double Headlight
5402-001	F3A Phase III Single Headlight Non-Dynamic
5402-002	F3B Phase III Non-Dynamic
5403-001	F3A Phase III Double Headlight Non-Dynamic
5500-001	F3A Phase IV Single Headlight
5500-002	F3B Phase IV
5501-001	F3A Phase IV Double Headlight
5502-001	F3A Phase IV Single Headlight Non-Dynamic
5502-002	F3B Phase IV Non-Dynamic
5503-001	F3A Phase IV Double Headlight Non-Dynamic
5600-001	F7A Phase I Early Single Headlight
5600-002	F7B Phase I Early
5601-001	F7A Phase I Early Double Headlight
5502-001	F7A Phase I Early Single Headlight Non-Dynamic
5502-002	F7B Phase I Early Non-Dynamic
5503-001	F7A Phase I Early Double Headlight Non-Dynamic
5700-001	F7A Phase I Late Single Headlight
5700-002	F7B Phase I Late
5701-001	F7A Phase I Late Double Headlight
5800-001	F7A Phase II Single Headlight
5800-002	F7B Phase II
5801-001	F7A Phase II Double Headlight
5900-001	F9A Single Headlight
5900-002	F9B
5901-001	F9A Double Headlight

