



FRONT RANGE PRODUCTS

1331 Sherman Dr.
Longmont, CO 80501

40' BOX CAR

FRONT RANGE PRODUCTS
ACF 40' SINGLE & TWIN DOOR BOX CAR

Congratulations,

You have purchased one of the most accurate railroad boxcar kits available today. These kits have been designed by and for scale modelers. We have developed many new features which add measurably to the prototype appearance of these cars while still keeping the effort needed to build the cars and the price of the cars very reasonable.

SPECIAL FEATURES:

Separate Detailed Standoff Ladders
Separate Detailed Stirrups
Separate Detailed Grab Irons
Separate Coupler Boxes
Two Operating Door Styles Provided
Constructed with or without Walkway
Pin-Mounted Fully Equalized Trucks

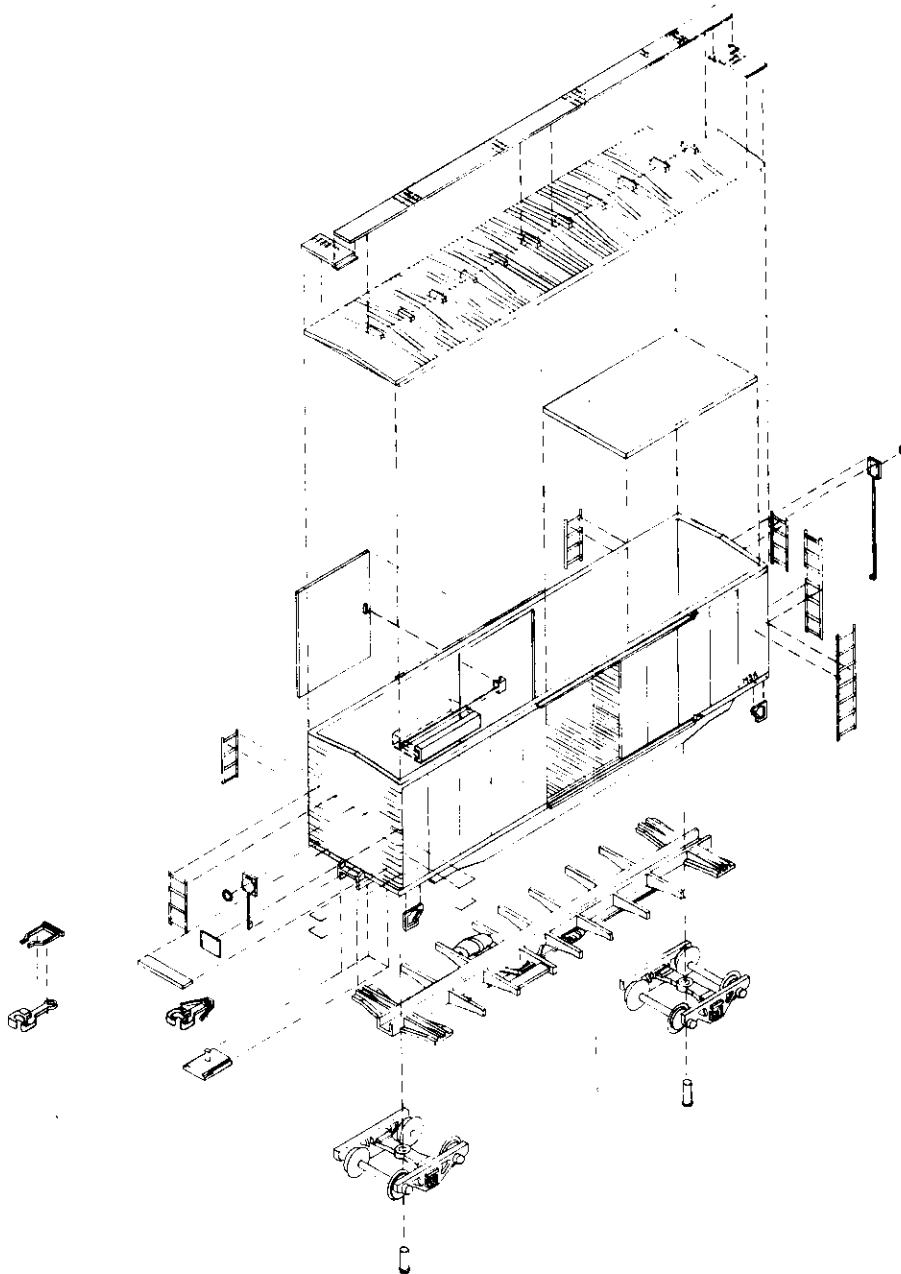
Two Ladder Styles - High & Low
Separate Brake Housings - High & Low
Separate Detailed Tack Boards
KD Compatible Dummy Couplers Provided
Doors are Scale Size & Thickness
Correct NMR Standard Weight
Scale Wheels with Needle Point Axles

PROTOTYPE INFORMATION

These cars were built by ACF Industries from 1938 to 1956. There were 51,248 cars built and represented the standard ACF 40' steel boxcar for this period. There are several variations of roof, doors, and trucks based on railroad preference. In addition to the one ACF demonstration car, the railroads which originally purchased these cars were:

Alton - 600
Ann Arbor - 100
Atlantic Coast Line - 3200
Baltimore & Ohio - 600
Bangor & Aroostook - 500
Bessemer & Lake Erie - 100
Buffalo Creek - 1000
Chicago & Illinois Midland - 150
CSP&O - 1500
Canadian National - 600
Central of Georgia - 300
Central of New Jersey - 1753
Chesapeake & Ohio - 550
Chicago & Eastern Illinois - 400
Chicago North Western - 3000
Clinchfield - 100
Columbia, Newberry, & Laurence - 50
Delaware, Lackawana & Western - 1250
Delaware & Hudson - 25
Detroit, Toledo, & Ironton - 300
Elgin, Joliet, & Eastern - 300
Erie - 3200
Great Northern - 500
Gulf, Mobile, & Ohio - 3284
Illinois Central - 2500
Illinois Terminal - 860
Jennings Grain - 2
Kansas City Southern - 400
Louisiana & Arkansas - 300

Louisville & Nashville - 1450
Mexico - 1500
Missouri, Kansas, & Texas - 1450
Missouri Pacific - 1850
Missouri-Illinois - 50
Navy - 13
New York Central - 1000
Nickel Plate - 800
NJ&I - 50
Northern Pacific - 3350
OL&W - 500
P&V - 100
Pennsylvania - 1500
Pierre Marquette - 300
Reading - 1900
Republic Steel - 8
Rock Island - 2000
Santa Fe - 500
Shippers Carline (Air Reduction) - 6
Shippers Carline (Inde) - 120
Southern Pacific - 2200
Toledo, Peoria & Western - 25
Timkin - 1
Union Pacific - 1500
W&L - 450
Wabash - 800
West India Fruit - 150
Western Maryland - 250



REFERENCES:

Car Cyclopedica, 21st Edition (1961), Pg. 78 "ACF 40 Ton, 40' 6" Standard Box Car
ACF Industries, St. Louis, Mo.

ASSEMBLY INSTRUCTIONS

Tools Needed:

Small Needlenose Pliers
Emery Board or Small Flat File
Xacto #1 Knife (or Equivalent)

Liquid Plastic Cement
ACC Cement (Super Glue)
Xacto #2 Knife (or Equivalent)

Optionally:

Pin Vise

Precision Miniature Drill Set

Please read the instructions through completely at least one time to get a general understanding of the assembly. Please note, this car is supplied with extra parts allowing you to build it several ways representing several different prototype practices and eras. The first thing you must decide is how your car will look. Generally, the long ladders, long brake housing, and roofwalk are used for steam and transition era models. The short ladders, short brake housing, and car end brake platforms are used for cars of the modern era. There are many exceptions to these rules since these cars have been around for some time. Check your prototype. There are several delicate parts (ladders, grab irons, stirrup steps) designed to add to the realistic appearance of your model. Remove these carefully from the casting sprues by cutting them off with a sharp Xacto knife. Do not try to twist or break the parts off the sprues. For those advanced prototype modelers, we have included some suggestions under the heading *****MASTER NOTE:*****

SECTION I - MAIN BODY

- 1) Secure the metal weights to the inside floor at each end of the car, centered between the walls, with ACC glue. Set this aside to dry.
- 2) Choose the operating door you will use (either paneled or plug). Carefully cut the door and the door operating rod from the sprue. Sand the top of the doors slightly to remove any flash. Sand the bottom of the door slightly until it slides easily between the top and bottom rails. Remove the door and glue the door rod to the rear of the door with the rod slot on the raised bar inside the door. Set the doors aside to dry. **NOTE** - If you do not want the doors to operate, you may glue them in place at this time.
- 3) Test Fit the roof. Sand the rib on the inside end of the roof with the emery board if required until it snaps in snugly (The fit is intentionally tight). We suggest that you do not glue the roof in place at this time since you may need to work inside the car.
- 4) Test fit the frame under the body. Sand the outside edges of the frame and bolster where necessary. It is not necessary to glue the frame in place, but you may if you wish.

SECTION II - COUPLERS

- 1) Carefully cut the coupler mounting boxes from the details sprue. Install the dummy (or X2F - not supplied) coupler over the pin in the box. To install KD #5 couplers, place the coupler into the coupler box with the "tail" down. Install the Delrin spring (located in the pack with the dummy couplers) into the box.
- 2) Install the box cover over the coupler pin with the brace up and to the front. Press the exposed coupler pocket pin into the hole in the floor. Do not glue this assembly to the floor in order to make it removable.

SECTION III - DETAILS - Apply details according to your prototype.

- 1) **LADDERS** - Locate the ladders (short or long) you will use. Carefully cut these from the sprue. If you use the long ladders, note that only the lower mounting posts have pins which will go in the mounting holes in the body. We suggest you file the top pins (only) on the two long ladders which are used on the car ends. Apply a small amount of plastic cement to the ends of the pins and carefully place the pins in the body holes.
- 2) **GRAB IRONS** - Carefully cut the grab irons from the sprue. Test fit these in the holes in the sides and ends. Sand slightly where necessary. Apply a small amount of plastic cement to the ends of the grabs and carefully place the grabs in the body holes.
*****MASTER NOTE: YOU MAY USE DETAILS ASSOCIATES FREIGHT CAR GRABS (FC 6210) BY FIRST CLEARING THE MOUNTING HOLES WITH A #80 DRILL WHERE NECESSARY.**
- 3) **HANDBRAKE** - Locate the brake housing (Short or Long) you will use. Carefully cut this from the sprue. Glue this in place on one end according to your prototype. Install the brake wheel into the housing.
- 4) **BRAKE PLATFORM** - If you are making a modern version (short ladders and handbrake), cut the end brake platforms from the sprues. Glue these platforms to the car ends just above the couplers.
- 5) **STIRRUP STEPS** - Carefully cut the stirrup steps from the sprue. Test fit these in the holes in the underside of the floor. Drill the holes out with a #77 drill where necessary. Sand the stirrup pins slightly where necessary. Apply a small amount of plastic cement to the ends of the steps and carefully place them in the holes. *****MASTER NOTE: YOU MAY USE DETAILS ASSOCIATES STIRRUP STEPS (SS 6412) BY FIRST DRILLING THE MOUNTING HOLES WITH A #77 DRILL. USE ACC CEMENT TO ATTACH.**
- 6) **TACK BOARDS** - Remove the tack boards from the sprues. Install the tack boards on the car sides and ends according to your prototype.
- 7) **ROOFWALK** - If you wish to use the roofwalk, finish drilling the mounting holes (#53) through from the underside of the roof. Glue the roofwalk end extensions to the roofwalk using the locator pins on the extensions. Install this assembly and glue from the underside of the roof.
- 8) **ROOF** - Glue the roof in place at this time by applying liquid cement to the inside edge of the body.

SECTION IV - TRUCKS

- 1) Check to make sure all parts are free of any flash. **NOTE: DO NOT REMOVE THE SIX (4 USED + 2 EXTRA) PINS FROM THE RUNNER THEY ARE ATTACHED TO AT THIS TIME!**
- 2) Take the runner with the 6 pins (T-2) and press one pin at a time into the holes on the back side of each of the four sideframes (T-1) taking care to insure that any flash, left when the pin is removed from the runner, is located down towards the bottom of the sideframe. Press on a flat surface or use the pliers to seat the pin fully into the hole (you will hear a "pop" when the pin is fully seated).
- 3) Snap each bolster (T-3) over the pin on each sideframe (T-2) to make two trucks.
- 4) Check the wheels for any flash. Tilt the sideframe to install the needle bearing axles into the sideframe holes. Check that each truck is free-running.
- 5) Locate and remove the truck mounting pins from the sprue. Install the trucks with the mounting pins provided by pressing the pins into the bolster holes. **DO NOT USE ANY PLASTIC CEMENT ON THESE PINS.** You may use #2-56 screws if you wish, however operation will be better if you use the pins. The trucks can be removed by carefully pulling the pin out with needlenose pliers.

Congratulations, your car should now be ready for revenue service!