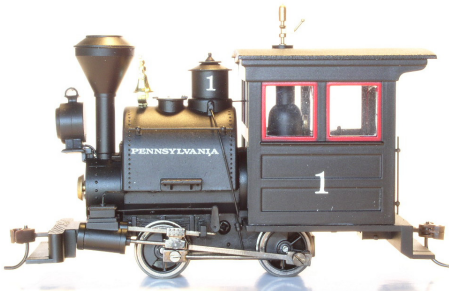


VII. Engines

The variety of RTR engines continues to increase, but detailing or building bodies on existing mechanisms has been the common method of acquiring new motive power. Many detail parts and body kits are available. Due to the amount of work involved, kitbashing and scratchbuilding steam engine bodies has not been included in this book.

Ready-to-Run (RTR)

Bachmann's Spectrum Series engines have become the mainstay of ready-to-run products. The line has expanded from these smaller engines to a variety of rod and geared models. New models come with DCC and sound.



0-4-0 Porter #25314



0-4-0 Side Rod Gas-Mechanical #28161



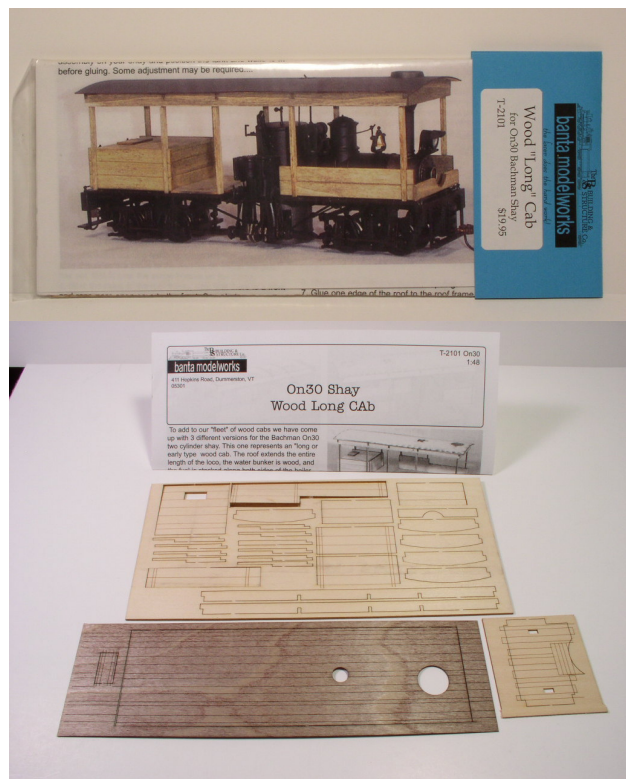
2-6-0 #25218
Denver & Rio Grande "Bumblebee" colors



Vertical Boiler Shay #25699
Options for fuel: wood, coal or oil. Two extra toolboxes and a water hose are also included.

Detail Kits

Detail kits contain replacement or further detailing parts.



The Banta Model Works #T2101 Wood "Long" Cab Kit

Replaces the stock cab on the Bachmann Shay. Parts are laser cut basswood and plywood. The details presented below were done in addition to the instructions.



Before construction began, all of the wood parts were stained with Minwax Early American stain and allowed to dry. The scribed sideboards were notched at the ends to give the appearance of individual boards.



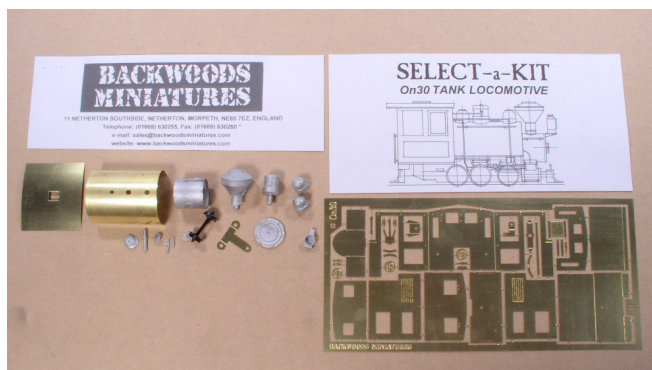
A rack was built from scraps from the kit. It has a back plate and two sideboards and sits on the water box. The wood load sets inside. It is painted gray in order to be visible for photographing.



The instructions were easy to follow and the cab went together well. Builders In Scale gray tarpaper was used to cover the roof.

Body Replacement

The most common method to change the appearance of powered units is add a new body. This section looks at ways to convert HO powered units to On30 by replacing the HO body.

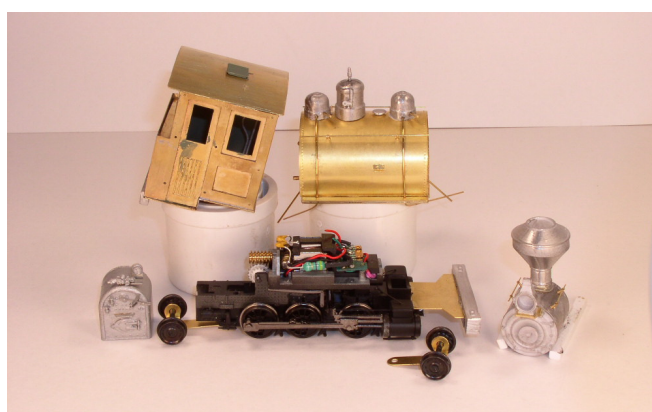


Backwoods Miniatures Select-A-Kit

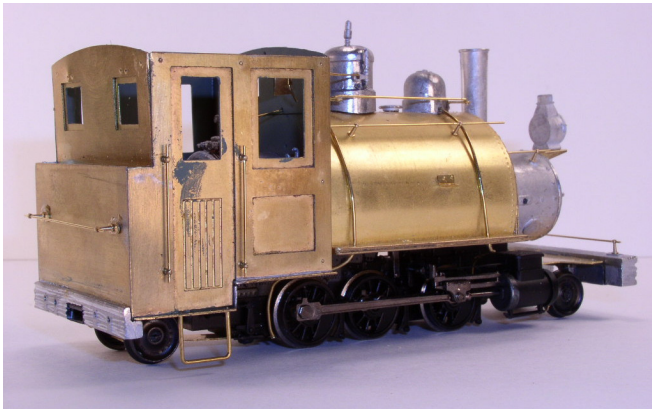
This is an On30 replacement body for the Bachman HO 0-6-0 engine. This kit has numerous etched brass and white metal parts. Only half of the parts are shown in the photo. Assembly can be done by soldering or CA glue. Several options are available such as rounded or square water tanks, and lead and trailing wheels.



Bachmann Spectrum HO 0-6-0 steam switcher.



Major subassemblies completed: cab, boiler, chassis, and smokebox.



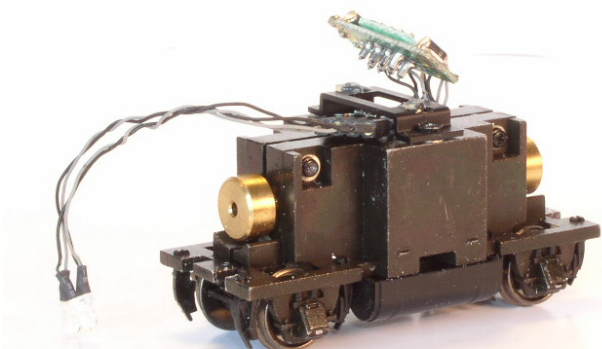
Major subassemblies mounted on chassis.



The completed engine. This kit is quite a challenge but makes a great looking small engine.

Scratchbuilt Bodies for the MDC Model 40 Chassis

The Model 40 is a small HO centercab switcher and MDC has provided a great power unit for the engine.



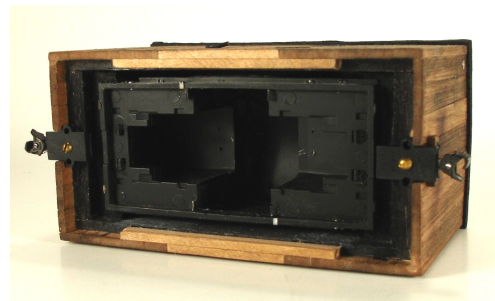
The Model 40 chassis is great running unit with flywheels and is DCC ready. It has an O scale wheelbase of approximately 72". Chassis is split down the length.

1. Powered Freight Cars

Since building two axle non-powered steam engines is becoming popular, the easiest method to power them is by hiding the power unit in a freight car. This way a larger power unit can be used and there is no hassle trying to make the engine look realistic. This means that this freight car will always have to be used to move the engine and the body could be a tender unit.



Granite Creek Enterprises sells this powered 4-wheel boxcar. An On30 wood boxcar body is built around the MDC Model 40 plastic engine body.



A view of the body with the mechanism removed. The plastic body has to flex a bit in order to be installed and removed.

This principle can be applied to any type of body. An example--a flat car could be built with the crate load covering the mechanism. Depending on how the body was attached to the mechanism, bodies could be interchanged as desired.

2. Scratchbuild An Industrial Engine Body

This simple diesel/gasoline style body is made from styrene, the design is free form. No plans were drawn up, but photos of European industrial engines were consulted.

While information to build the platform is included, the design and dimensions of the body are left to the modeler.

Partial Parts List

(1) Platform: styrene .060 x 1.25 X 3.25

Skirting: styrene

(2) Sides (long): .060 X .188 X 3.13

(4) Sides (short): .060 X 1.25 X .500

(4) Ends: .060 X .188 X 1.25

Body Mounts

(2) Lugs: brass .020 X .250 X .500

(2) Body Mount Screws: 2-56 X 1/4

(8) Strips: .040 X .125 X .750 [cut to fit]

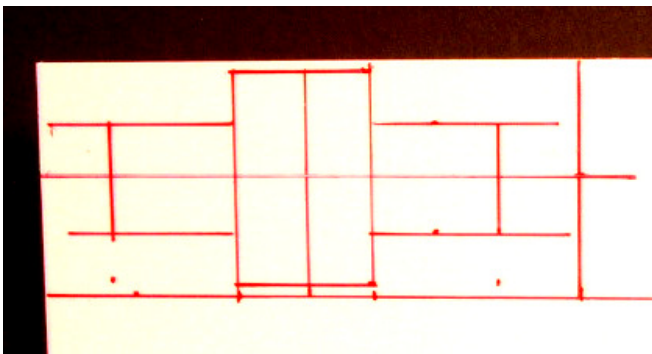
(1pr) Couplers: Kadee #5

(6) Coupler Frame: .040 styrene [cut to fit]

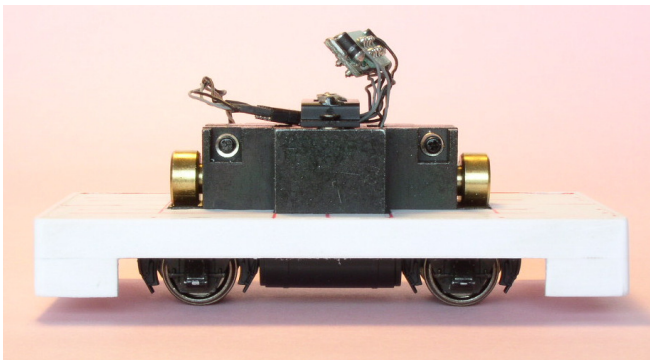
Hood

(1) Grill: removed from Athearn HO Hustler body

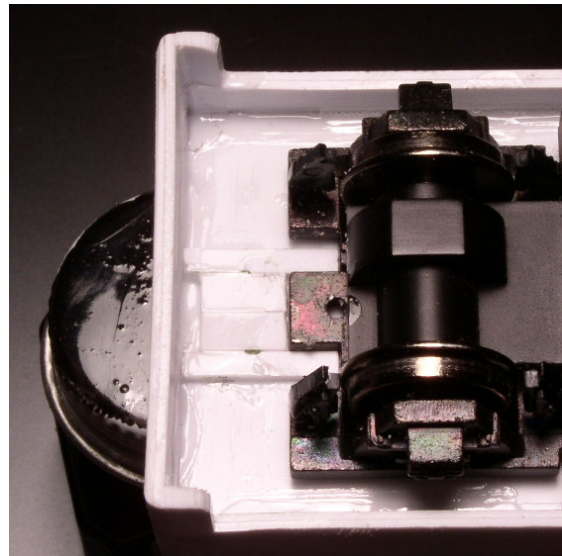
(1) Exhaust: 1/8" X 1" brass tubing



On a sheet of styrene, mark out the platform 5' wide and 13' long. The length has to be long enough to accommodate the metal chassis and a Kadee coupler at each end. The cutout for mechanism is shown by the three rectangles. Dimensions are not provided—get them from the mechanism



Fit the platform onto the chassis. Strips of .060 X .188 are glued to the sides and ends for skirting. Glue an extra row on the ends with short sections on the sides. These provide strength.



Glue the strips onto the platform and into the notches on the mechanism. Add two more pieces in between the strips.



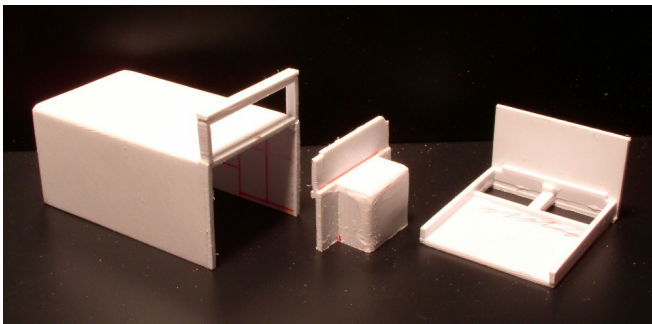
Make the lugs as shown. To install, remove the mounting holes from the side of the Kadee draft gear. Lay the draft gear in place and mark where it touches the end.



Cut out the end so the draft gear can slide through. Test fit the lug so that the bent part sits on the mechanism. The draft gear lid lip should extend .040 past the end. Use a piece of .040 styrene as a guide. Mark the hole location and drill. Install all the pieces. Do both ends.



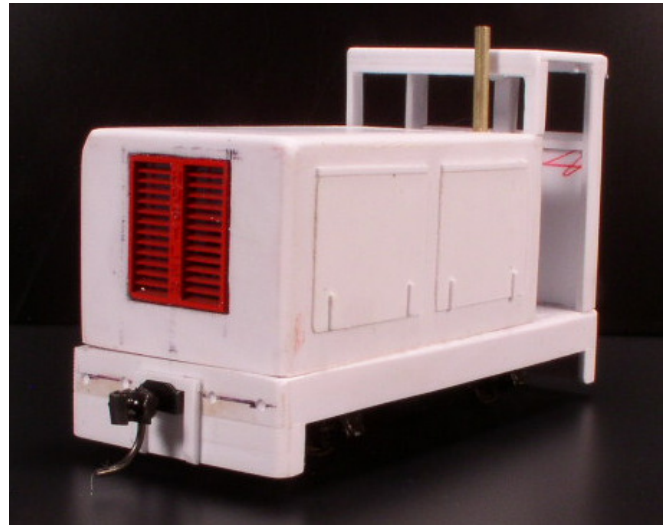
Coupler is framed with square stock. The top piece covers the width and once dry, the corners are rounded. The vertical pieces are angled at the bottom. All pieces should touch the draft gear and the draft gear lid lip should set against the top piece.



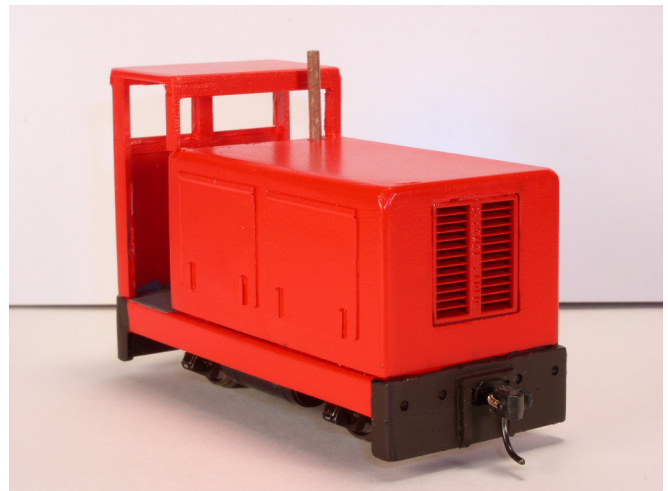
A body, firewall and cab are scratchbuilt out of .060 styrene sheet and strips.



Once the body is roughed in and the corners sanded, access panels are made from .010 sheet and .010 X .020 strip.



The grill is from an HO Athearn Hustler body. The exhaust pipe is a piece of brass tubing. The simulated bolt recesses on the front ballast were made by drilling shallow holes with a drill bit.



Completed engine. Body is painted red and the ends flat black.