

Frugal M/C/S Modeling in S-Gauge Hi-Rail

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I have always sought a creative outlet in my hobbies. While I like to collect, I am not a collector. While I like to build realistic models, I have never had the desire for precision true scale modeling. Hi-Rail trains fill the gap, since they are to a realistic scale, but generally have less accurate couplers and trucks.



Photo 1: American Flyer Hudson puffing smoke on the mainline. The layout is all original American Flyer tinplate track and switches.

One of the great advantages of S-gauge Hi-Rail trains is that of abundant supply and relatively low cost. The A.C. Gilbert Company began to produce S gauge American Flyer Trains before World War II. Lionel Corporation bought out American

Photos by Michael

Flyer and still produces trains today. Over 80 years of production, means a lot of availability for secondhand trains. Sets can be found on eBay, at yard sales, and swap meets at relatively low cost. I have really enjoyed repairing, restoring and customizing these trains.

American Flyer trains are generally divided by period of production. AF introduced 3/16" scale trains in the early 1940's which are characterized by stamped metal trucks and "link" style couplers and are termed "pre-war". After World War II, in the late forties and into the fifties, trains have cast metal trucks and operating knuckle couplers and are characterized as "post-war". The early AF trains ran on tinplate track. As the popularity of trains declined into the 60's, as a cost cutting measure, trains were made with plastic trucks and flexible plastic couplers and track more like sectional HO track. These were branded as "Pikemaster" trains. Lionel acquired American Flyer tooling in 1967 and produced what is termed "Flyonel" now back with cast metal side frames and operating knuckle couplers to the present day. Other manufacturers such as American Models, DesPlaines, S-Helper Service, and others also build AF compatible trains, often with greater detail and true scale options for trucks and couplers.

Having family history there is soft spot in my heart for the New York Central. My parents met while they worked on the Michigan Central (later to become the Detroit Division), and my father worked with the NYC through its merger and demise. I grew up with NYC trains as my

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father was a yardmaster and then trainmaster for the line.

There is an excellent assortment of S-gauge hi-rail equipment available on eBay and from other various sources. Through these sources and swap meets, I have accumulated several NYC Flyonel engines and cars, as well as American Models, S-Helper Service and DesPlaines models. Most of the available engines and rolling stock are for other roads, but I have never let the lack of older AF NYC cars be an impediment and enjoy modifying these into a variety of other configurations.

S gage equipment can still be bought new from several manufacturers including American Flyer (by Lionel), American Models, DesPlaines and others (**Photo 2**). Some new NYC engines and rolling stock are available and some can be purchased undecorated so you can finish them as you like.



Photo 2: NYC rolling stock is available from several vendors including these examples from S-Helper Service.

But I am generally too frugal to buy much in the way of new stock and have found that older models can be updated and converted, while providing entertaining time along the way. Besides, I get to have all the fun of tearing the old ones apart, cleaning and refitting them the way I want.

I was able to get an undecorated S-Helper Service SW-8 locomotive at a swap meet for \$100. It came in the original box and had both scale and high-rail wheels and pilots. I did a little custom work on the pilot to work better with the hi-rail couplers and I installed DCC with sound. I finished it in classic NYC black livery with striped pilots and yellow railings. This is an engine I remember seeing around Wenona Yard in my youth. It was far less costly than purchasing a new one that would have set me back close to \$300.

Most of my American Flyer engines were purchased for less than \$60 each. It only takes a few hours of work to get them running smoothly under AC power. It takes a bit more to update and convert them to DCC. One of the reasons, I get them so cheap is because the decals are damaged or missing and the paint may be worn. Where I am planning to refinish them in new livery, this is not a problem. I mostly look to see that the shells are sound, without gouges, cracks, or missing pieces and that all the mechanical parts are present. In some cases, I have sometimes bought two engines to make one, where one has damaged shells, but sound motor and mechanical parts and the other has good shells but may be missing mechanical parts.

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Photo 3: Custom versions of American Flyer Engines. Top: PA and PB units redone in NYC livery, Center: AF Hudson refinished in NYC, Bottom: AF Franklin steamer reconstructed as NYC 999.

There is some New York Central equipment available in original American Flyer S gage hi-rail. One of the most popular American Flyer Steam engines is the NYC Hudson, though the tender is labeled as "American Flyer Lines" with an NYC oval. It has continued to be produced throughout the incarnations of American Flyer. It is reasonably modelled on the J3a and can be made more realistic easily just by adding the correct decals. In the early AF there is little NYC rolling stock, but it is more plentiful in the later years and more modern production. I have acquired several of these and modified the decaling.

The old A.C. Gilbert locomotives are nearly bulletproof and can usually be put in running order with a modicum of elbow grease. The most common issues with these old locomotives are that the lubricating grease in the gearing has solidified and the electrical contacts have become corroded. Both require a bit of patience for disassembly, cleaning and

reassembly. One of the performance issues with these older locomotives is that they require a bit of power to get started and run best at higher speeds, much higher than would be realistic.

A.C. Gilbert steam engines commonly have a mechanical chuffing unit attached to the smoker. This consists of a piston driven by a gear from the main drive worm that cycles air into and out of a cylinder through a small orifice. This makes a chuffing sound timed with the wheels of the locomotive. It also produces a puff of air into the smoke unit that creates puffs of smoke that are timed with the locomotive speed. The smoke unit operates from track power, so it produces less smoke at low speeds and no smoke when the engine is not in motion. It often amazes me how well old smoke units still work after 60 or more years, though I have rebuilt several of them. A properly working unit can puff a lot of smoke.

One of my favorite modifications to a Hudson has been to install a low-speed DC can-motor. It is necessary to add a rectifier so that these may still be run on AC systems. The lower speed motor allows the engine to run with greater control and more realistic speeds. A side benefit is that the smoker performs much better, since the track voltage is higher for the same speed than it would be for a normal speed motor. The general effect is much more realistic performance of the engine and more voluminous smoke output (**Photo 1**)

Rolling stock modifications are simple if one does not really desire accurate scale trucks. Some of the more modern cars produces in the past 20 years or so tend to have better scaled trucks. Being a frugal

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modeler, I tend to stay with the older ones with stamped metal or cast metal trucks. I have never found the improved scale effect of new trucks to justify the relatively high-cost replacement trucks. I do try to augment the existing trucks by weathering, so they attract less attention. I have also added leaf springs to the stamped metal trucks by drilling out the side frame of the sheet metal and inserting springs made from styrene. If I am feeling ambitious, I will remove cast-in grab-irons and replace them with wire.

I can often find rolling stock for less than \$10 each. I can usually get them in working condition and looking good for less than \$10. Parts cars with broken trucks or cracked shells can often be found in lots of 3-5 cars for \$10 to \$20. Of course, the market in these varies considerably over time, so patience pays off. I can usually scavenge trucks, wheels and couplers from broken cars and shells from others. One does need basic skills to drill out old rivets and install new ones to make a working model. Skill in painting, decaling, drilling, working with wire to make grab irons and railings, together with lots of patience can produce satisfying results. (Photo 4)



Photo 4: Customized versions of American Flyer cars; top: tinplate hopper with link style couplers, center: MOW box car, bottom: lighted caboose.

One of my favorite projects, was creating an Empire State Express train from an A.C. Gilbert Frontiersman set. This began with a damaged American Flyer Franklin engine, originally in red and green FY&P livery, and a combine and passenger car in yellow and black FY&P livery. The loco had a bad smoker and a broken roof, but otherwise ran well. I thought they might enjoy a new life as NYC Empire State Express. The Franklin Atlantic engine bears a reasonable resemblance to the 999 engine that held a passenger rail speed record at the turn of the last century). While not an exact replica, it seemed close enough to create the effect. The Franklin is an Atlantic like the 999, except it has the large wide smokestack of a wood-burner. A friend of mine with a 3-D printer made me a new smokestack to the required dimensions. It came out perfectly, so I cut off the old one, reattached the broken piece of the cab roof and got to work on the rest (Photo 3, bottom)

After repainting the shell in a couple of coats of black paint to cover the red and green base colors. I went about creating the lettering the same way A.C. Gilbert did with the original. I printed the lettering on

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label stock and stuck them on. I did use a clear coat over the entire engine and tender shells for a glossier look. I rebuilt the smoker, painted the wheels black. I highlighted the wheels and body with silver striping and replaced the brass handrails with new ones made from stainless steel wire. I added a jewel to the headlight to improve on the foil of the original and added an engineer in the cab. I also added black highlights to the running gear. I completed the silver stripping using a fine tipped paint pen. I painted the bell using a gold paint pen. I then painted and highlighted the wheels and rebuilt the smoker using a kit from Portlines. While not an accurate model, the resulting effect was quite satisfying.

I took two of the cars and repainted those green with black roofs and added gold NYC decals. I enhanced the look by creating silhouettes in the windows of both cars by printing them on film and backing them with paper (**Photo 5**) I replaced all the handrails and rods with new ones formed from stainless steel wire. I really disliked the open doors on the baggage car and made doors from scrap styrene scribing them with a hobby knife to approximate the wood look of the car.



Photo 5: Empire State Express set converted from an original American Flyer Frontiersman set. (See engine close-up in Photo 3-bottom)

As for my layout, I have kept the same frugal philosophy. American Flyer tin-plate track is plentiful and cheap. Switches and other accessories are also inexpensive.

Some of this older equipment needs a little cleaning up, but with a little elbow grease can be made operable, for a fraction of the cost of new scale rail. Adding rubber tie inserts makes it a little more realistic in appearance, even though it is not true scale.



Photo 6: A portion of my NYC maintenance yard. The flatcar with wheel sets and the jade box car are original American Flyer. The MOW box car is custom refinished.

I have recently begun dipping my toe into DCC. I find that it works well with standard American Flyer track and switches. I have converted a couple of my AF engines to DC can motors and added mobile decoders. Even with the expense of the new motors and decoders, these engines run well and can look as good as you want them too for a fraction of the price of new more modern equipment. Are there more true-to-scale options? Sure, but at what cost? I have found the re-purposing of old model trains to be enjoyable and satisfying. I even enjoy going to swap meets to find gems in the rough. All this without breaking the bank.

All that said, I have dabbled in scale models in S scale where I have acquired pieces as part of larger collections. I have an NYC RS-3 in scale and picked up an American

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Models S-scale NYC box car kit which I am now assembling. While there are lots of high-quality modeling resources in true scale, including brass models, I doubt they will ever replace my high rail trains.

Some of Michael's S-Gauge Models



American Flyer NYCS Mikado



American Flyer NYCS 0-6-0



American Flyer NYCS Hopper



American Flyer NYCS 3-Dome Tank Car



American Flyer NYCS Derrick



American Flyer Conversion 0-8-0



American Flyer NYCS Pacemaker Boxcar



It is wonderful to have an article on S-scale/gauge modeling. How about some more from you S-modelers!!!