

Modeling the O&W
A tune-up for the NPP Class Y-2 4-8-2 – Part I
No. 45 in a Series
By Mal Houck

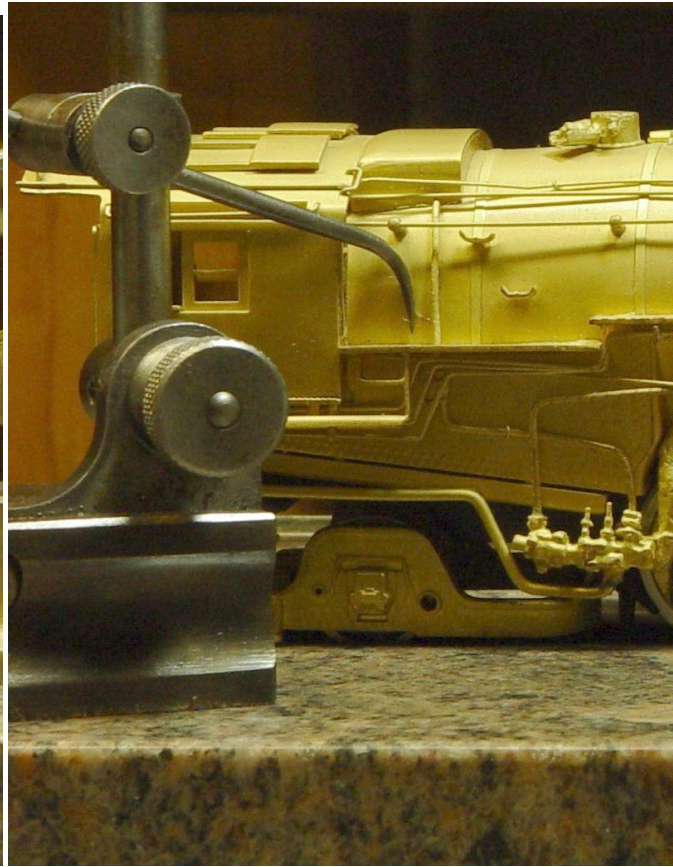
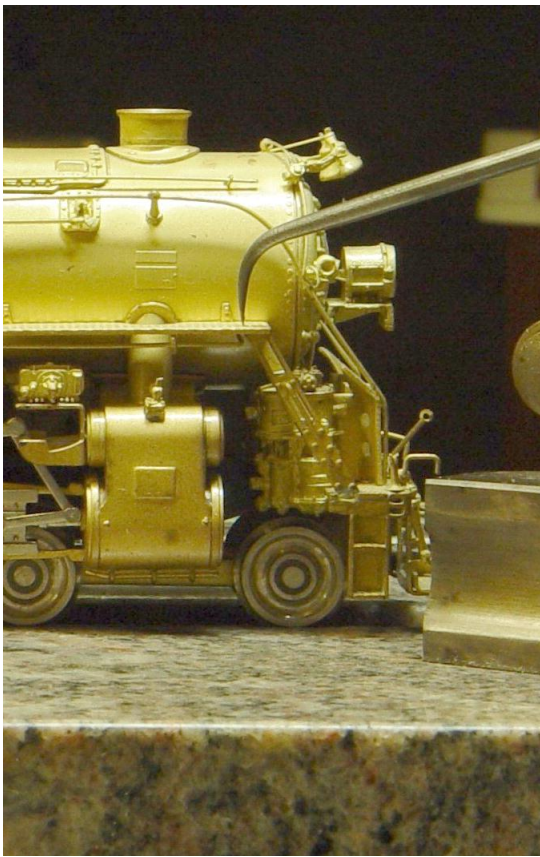
Between 1973 and ca. 1984-85 the firm of Nickel Plate Products (“NPP”) produced and sold brass imported HO Scale models of NYO&W locomotives and cars. With the single exception of a Class Y-2 4-8-2 imported by NJ custom Brass virtually at the same time as a NPP Class Y-2, the NPP products are all the of the NYO&W imports ever produced. Among the last of the NPP products was the Class Y-2 “Big 400” Mountain type.

While not engaging a history of the NPP models in any comprehensive exercise (such an undertaking being a topic for another time), and as dedicated O&W modeler, such offerings as were brought to the market are greatly appreciated by this writer personally, but (and there’s always a “but”) for any number of reasons, upon a critical evaluation, each model seemed to have some deficiencies. I do not intend to lay upon the now departed NPP Company, with a brick-bat, but will point out the shortcomings as I see them, and then outline the steps I took, or have taken, to elevate the particular model of topic to a finer or more accurate level of detail. In the now 21st Century era of Digital Command Control (“DCC”), and so far as all NPP locomotive models well predated DCC, and now DCC sound, I shall also outline steps to provide for both better operation and the installation of a DCC suite.

That final NPP O&W locomotive offering, the Class Y-2, as mentioned above is the topic for this column. With an intention to provide a narrative in outline form (omitting certain specific included modeling steps), and observing the proverb of a picture being worth many thousand words, I shall illuminate with workshop – workbench base images.



This is a NPP Y-2 straight from the box posed upon the specialty granite surface block that I regularly use in locomotive construction or rebuilding. Beginning as the waste cut-out for the sink opening in a granite kitchen counter I had the installer round the corners and smooth the edges and cut a .625” groove 1/8” deep down the center. That groove then represents a “track” upon which models can be “railed” allowing accurate dimensional, or comparative measurements of height from the railhead; -- from which most prototype measurements are depicted in drawings. A peculiar out-of-box appearance of the NPP Y-2 is that running boards seem to witness a slope from front to rear. Here a comparison is begun to determine if it is the running boards that are not correctly applied or if it is the entire boiler – superstructure that is not properly seated.



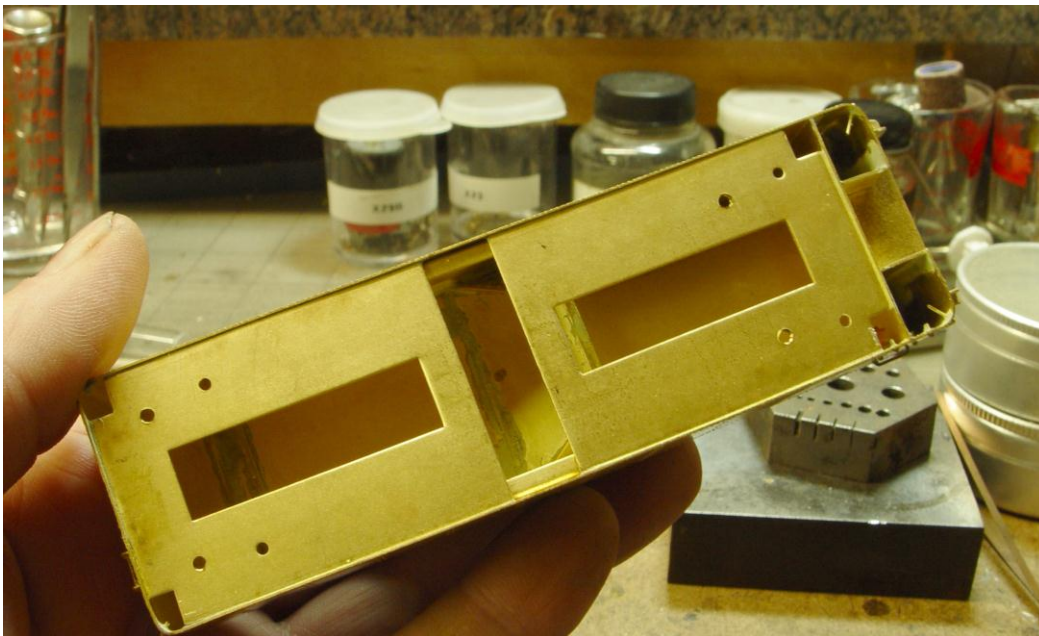
After some measurements with calipers it appears that running boards are correctly placed, but comparisons with a surface gauge suggest that the boiler – superstructure is the trouble. That can be resultant from either too low a mounting point at the rear of the cab, or that the cylinders are seated in the frame at too high up in the frame saddle.



A comparison of this image showing a rebuilt NPP Y-2 and the very first image above shows the discrepancy in the profiles of the two; and clearly a difference can be easily seen. Some magnified observation shows that the original model indeed had the cylinders seated to high up in its frame saddle. The centerline of the piston rod is well above the centerline of the drivers; -- the piston rod should be absolutely in dead center alignment with the centers of the driving wheel axles. On a model this is not of great consequence since the power is applied through the gearbox system to the center of a “driven” axle, although such misalignment can compromise or deny a smooth operation of the mechanism through a “rocking” motion in the crosshead guide resulting in a troublesome “hitch.” Under steam this misalignment would destroy the prototype locomotive within a couple of driver revolutions . . . if even that many!



In this much rebuilt Y-2 mechanism the side rod, at center, lines up with the piston rod, as it should be! The alteration here involved lowering the entire cylinder set, through a tedious trial and error, to arrive at the proper and correct alignment. Noticeable also is the additional detail of the brake cylinders, centered on the frame immediately to the rear of the cylinder saddle.



This's the underside of the NPP tender shell. . . so far as the bottom edge of the body is rimmed with a formed brass angle it completely escapes logic as to why the fabricator felt a need to further add this robust inner bottom. In order for there to be any use at all of the interior this must be removed, and it can be done without any compromise to the strength, shape or integrity of the shell. The revised tender body shell is completely opened for the installation of a DDC decoder, "Stay Alive" circuitry (either home built or a commercial product and high base speaker with space left over).



The earliest brass models were produced with virtually no coal bunkers at all; -- having simply a flat slab of brass onto which a modeler could pile the scenic material of choice to represent a coal supply. As the brass model business "matured" later imports came with tenders having a complete coal bunker fashioned as shown is this image of an unmodified NPP Y-2 tender shell. While this feature allows the modeler to represent a tender coal load in all stages of use from completely filled to partially used in supply to the firebox, then to near empty, too much of the interior of the tender shell is consumed; -- making for some tightly squeezed DCC – sound electronic components. A detail missing from the tender tank top is the Elesco Oil Separator. Exhaust steam from the drive cylinders is used to power the two cylinder auxiliary trailer truck "Booster" engine; -- and the steam in turn exhausted from the booster engine is piped through the cold water of the tender cistern to condense it and return the condensate to the water tank. However the booster exhaust steam is contaminated with lubricating oil supplied to the booster engine and is therefore run through the Elesco fixture to remove the oil from the condensed water. In order to prevent the water tank from being pressurized by the then twice used steam (and so far as this exhaust steam is not completely or entirely condensed) a vent releases the residual steam to the atmosphere. Careful observation of historic movie films and still images of a Y-2 under way, with its booster cut in and working reveals a plum of low pressure steam boiling around and about the tender tank top.

A second part of this column topic will cover the detail modifications to the NPP Y-2 model; --

- Replacement of hand rails and wiring conduits;
- Trimming and truing piping. . . and replacement of the Elesco exhaust steam injector;
- Addition of fireman side non-lifting injector left off by the NPP fabricator;
- Replacement of the very much less than adequate NPP trailer truck;
- Modifications to the engine truck, and pilot deck;
- Tender modifications and DCC – sound installation;
- Frame and running gear improvements;
- Boiler weight and overall weighting.

So, until that next blog column cast that critical eye upon the NPP Class Y-2 languishing on the bench or test track.....More later.....