Kohs & Company INCORPORATED **The Finest in 'O' scale**

Union Pacific Challenger

August 2010 Project Update

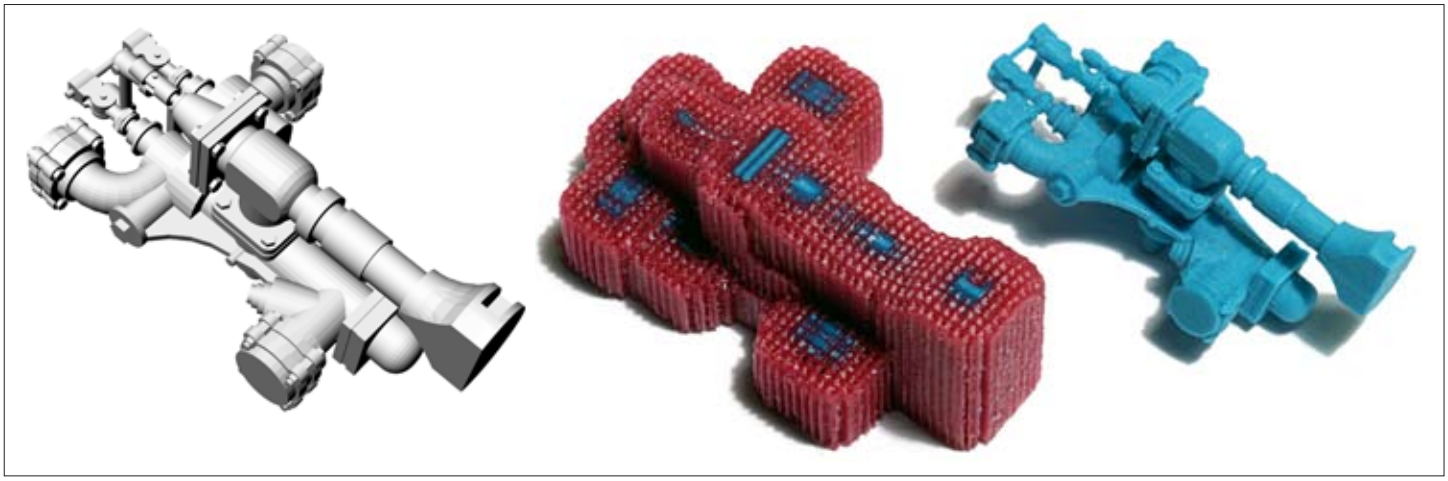
It has been far too long since the last printed update for the Challenger project was provided for reservation holders and for that I do apologize. While there have been continual web updates, direct communication with you as a project stake holder is certainly important. It has been an extremely challenging period of time since the official launch of this project. Staying true to our founding principles has been my primary concern throughout to make certain that our Union Pacific Challenger models will meet the long standing precedent of bettering our previous projects in quality and overall fidelity.

The impact of the economic crash hitting the world economy shortly after the Challenger reservation process started was certainly significant. More significant in terms of our current project status were the personal decisions that I faced regarding the support of my beloved mother in the final months of her life and dealing with the aftermath of her death. Only in retrospect has the full extent of that impact been realized, but that is now behind me. The fundamental concern both then and now has been to ensure the satisfactory project results while adhering to our high standards. In addition to the economy and my personal situation, there have been other challenges; the introduction of new technology into the production process, an even closer than usual adherence to the results of prototype research and the introduction of new design standards have all created an extremely high bar for what I would consider a successful conclusion to this project. It is important to provide some insight into each influencing factor, that will help explain the current project status and why this will be an exceptional project of which we can all be proud when it is completed.

Concerning the economy, I am not aware of any business that has escaped the down turn and the drop in available disposable income which is the lifeblood of the hobby industry. I am very thankful to have an extremely loyal customer base, but reaching accommodations with some customers regarding payments has been more difficult than usual and has required a considerable follow up effort. In cases where I have tried for many months to 'work' with reservation holders without a meaningful response, I have been regrettably forced to consider some reservations abandon as a matter of fairness for all concerned. As this situation has played out over the last several months and the gravity of the economic situation has improved ever so slightly, I am again very nearly at a full support level for this project, which all things considered is amazing.

Moving forward, the focus is on expediting all of the processes necessary to complete the project as quickly as possible without compromising what has already been accomplished, this has always been our methodology and what most have come to desire and expect.

(Kohs & Company current sample model)



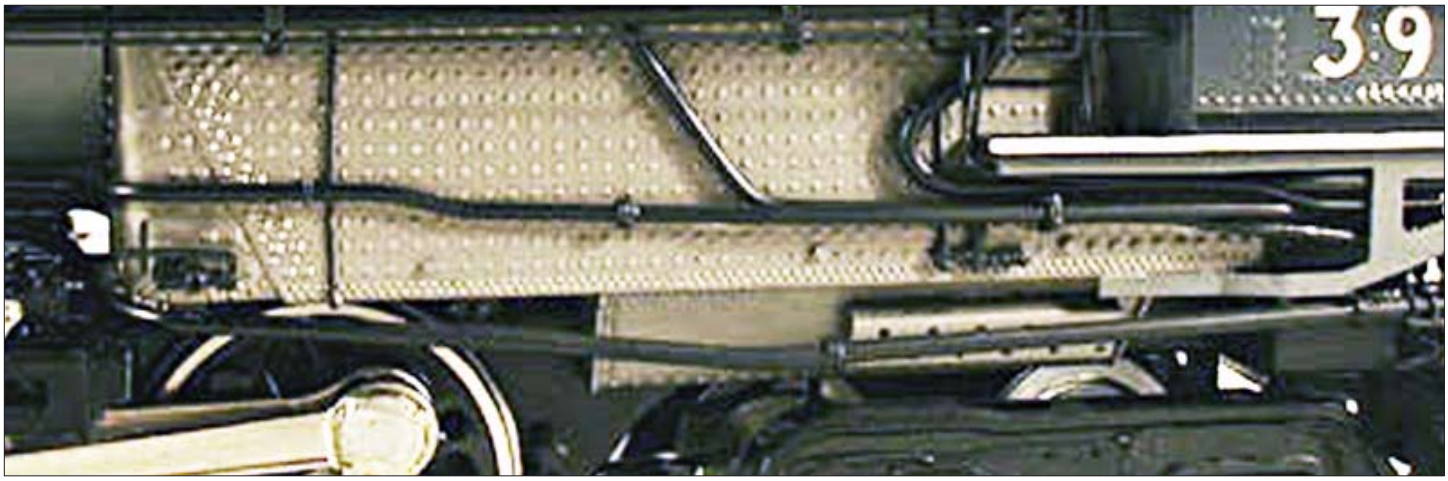
Certainly a major factor in a no compromise project is the ability to bring to bear the most appropriate and effective production techniques. It is not a secret that the production of highly detailed brass models is not becoming any easier with rising costs as a result of the loss of skilled labor, particularly for creating master patterns used in the production of castings. To speed up existing production and to help insure our future capability, an additional resource had to be developed to fill the growing gap resulting from normal attrition and the movement of workers to higher paying positions in mass-produced consumer goods industries in South Korea.

Having recognized this eventuality several years back, I have routinely looked for alternatives and solutions. I have watched with great interest the development of the new technologies generally categorized as 'Rapid Prototyping'. Rapid prototyping in essence is the direct creation of three dimensional entities from the data stored in computer aided design files. Following the evaluation of the latest generation of machines that seemed potentially capable of creating parts with sufficient resolution and consultation with Mr. Lee at S.J. Models, I made a trip to New Hampshire last fall to pick up a piece of equipment from Solidscape. Incorporated. After learning more about the technology and processes involved, the new 'RP' machine was ultimately shipped to South Korea for use in creating master patterns for the lost wax casting production.

Let me briefly explain how the Solidscape machine functions; for every cast part used on a model there needs to be a pattern created from which the casting waxes are made. To begin, a 'solid' 3D computer model must be drawn to define the shape and size of the pattern part required. With the part defined, it has to be turned into a tangible entity using the Solidscape machine to translate the data stored in the drawing file shown at the far left above. The 'RP' machine lays down very thin layers of resin (blue color) and wax (red color) in a pattern defined by the drawing data as illustrated by the photo in the center above. The red wax is a support structure that is ultimately washed away to reveal the finished part shown at the far right. The machine is accurate to 0.0005 of an inch and can create a 'feature' as small as 0.010 of an inch. I have grossly over simplified the process, but let it be understood that learning the skills and techniques required to utilize this technology and understanding it's proper application is not a 'rapid' process. This is a resource that we are using now and that will provide for the future.

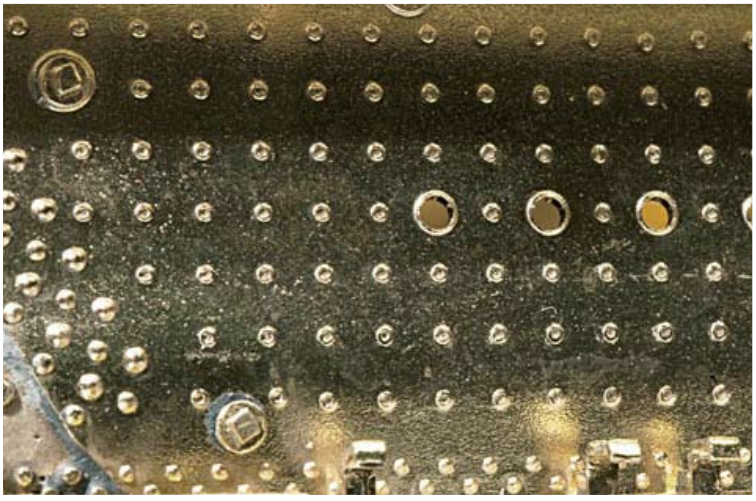
In my previous update, I outlined how our project research is approached and the many considerations that are involved in ensuring project accuracy. Let me use the remainder of this update to illustrate some specific examples of how our multi-approach research has affected our Challenger project development.

Shown at the bottom of the page are two examples of lettering for use on Union Pacific models; the lettering on the left is from what had been recognized as the best O scale Challenger model produced to date, the builder was Samhongsa. The lettering on the right will be used for our Challenger project, there are obvious differences. The Samhongsa model lettering somewhat resembles what the original Union Pacific Railroad drawings show as steam era lettering and has been used on numerous projects. The lettering I will use was created based on extensive photographic research and is correct for all late UP steam locomotives. The same mistakes made on the Samhongsa model have occurred on most every Union Pacific model produced, regardless of scale or price. Trusting original railroad drawings does not guarantee design integrity, nor does trusting that a referenced preserved prototype locomotive has been properly restored. In this example the Union Pacific drawings were wrong and the existent prototype example was as well. As a matter of course, I have always created the artwork that we have used on each Kohs & Company project, except in the case of Pennsylvania Railroad models, which have been handled by Nick Seman of Middle Division fame. A thorough cross-referencing of original data, photographic resources and existent prototypes is the only way to make certain that there is a clear 'picture' of what to model, this accounts for a significant portion of the time and expense involved in our project development.



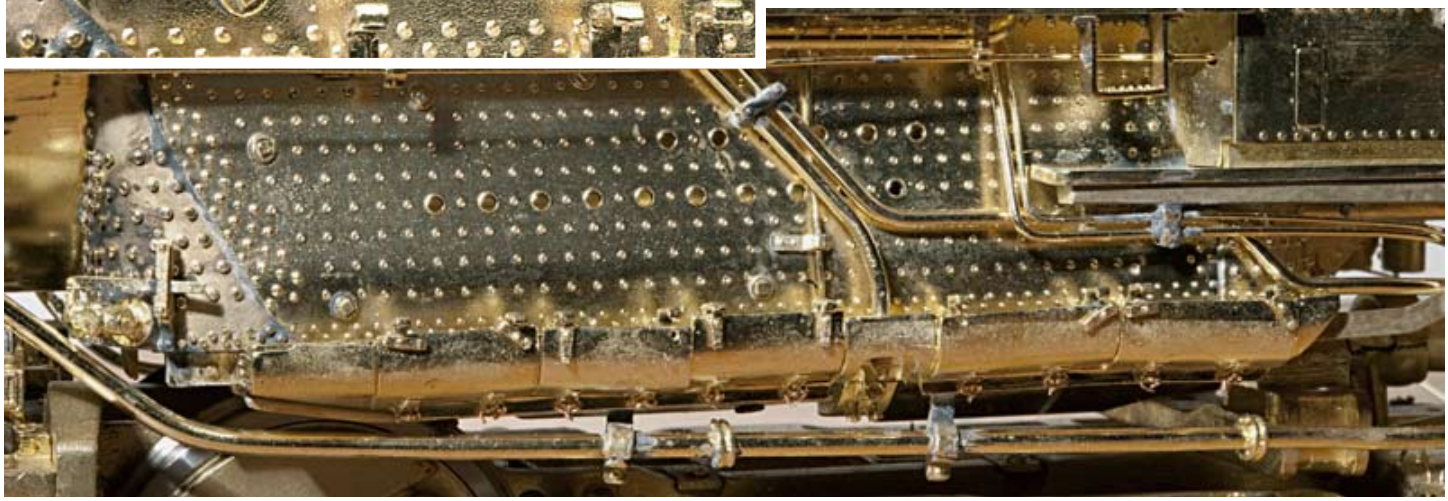
Every model ever produced or that will be produced is a collection of compromises which should be based on the accumulated research. Our collective decisions on when and where to compromise are what have distinguished Kohs & Company models. With that in mind, let's consider how Kohs & Company design compromises compare to those employed on a highly regarded previously produced model in modeling one of the most critical areas of a prototype locomotive.

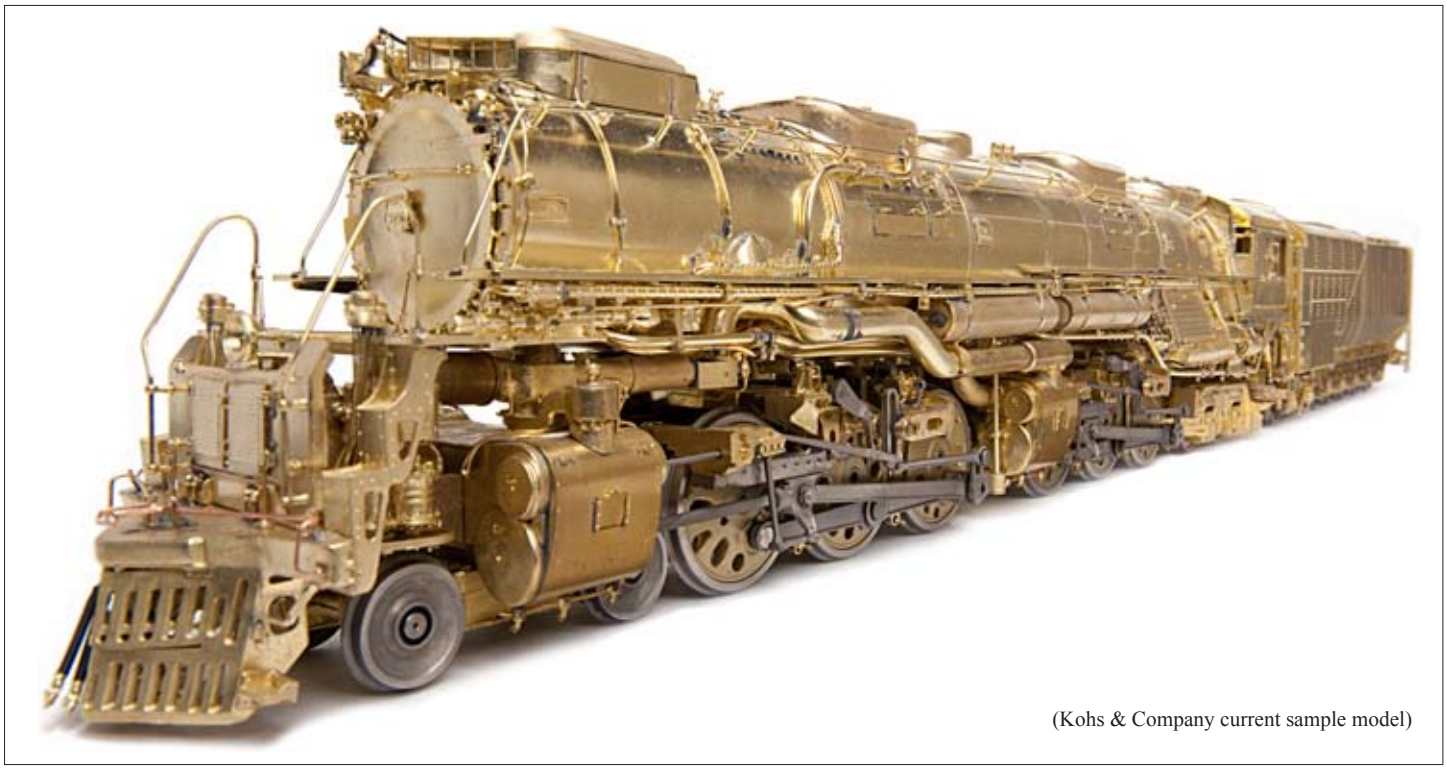
Shown above is again a Samhongsa produced Challenger model which illustrates the very typical approach to modeling an O scale firebox and shown below is our Kohs & Company first sample model. Start your evaluation with the basic shape and contours of the exterior sheeting, notice the differences in contours or lack of same and especially the lower front corner shape. On the upper model the front corner is a simple folded square corner. On our model, you'll have a fully detailed, correctly contoured sheeting that faithfully replicates the prototype. Does this approach take longer, require more skill to build and ultimately cost more to produce....certainly. The staybolt and rivet detail on the Samhongsa model is etched so the shapes are not correct and the sizes are not correctly represented. On our model, the detail is either punched or applied by soldering. Starting with the smallest 'clear-vue' style staybolts, notice the correct inspection hole in the center of each staybolt head shown in the enlarged inset photo. Also notice the numerous sizes of larger staybolts and that everything is in a uniform pattern and has uniform definition.



The washout plugs are soldered in place using small individual castings as are the blowoff cocks. The full detail extends around the front lower face of the firebox as it should while this area does not exist on the Samhongsa model. All Kohs & Company models have been modeled in this fashion.

During the last several months there has been considerable discussion within the hobby regarding wheel profiles and gauging. The NMRA standards in place until late last year had become very outdated and a hand-full of individuals stirred quite a controversy about the need for an updated standard or recommended practice. Long story made short, the NMRA adopted an updated RP25 recommended



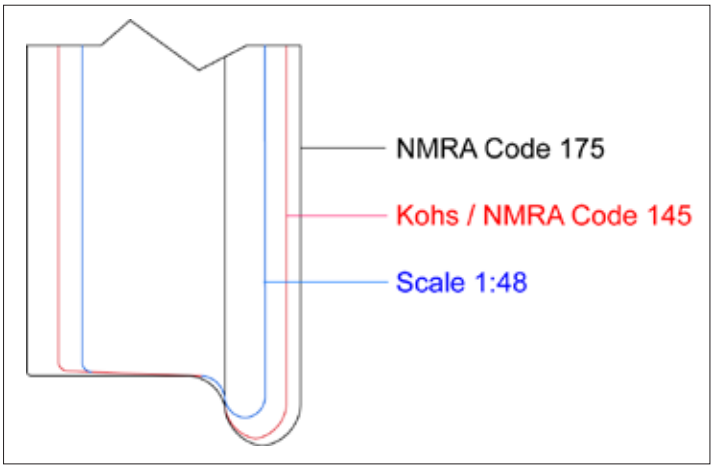


(Kohs & Company current sample model)

practice that essentially mirrors the profile specifications I have been using for almost twenty years. With that in mind, it seemed like a good time to stay ahead of the curve and push forward with my implementation of scale wheel profiles. Based on numerous requests, I have been working to define the new standard and implement the new design in time for use on our Challengers. Shown in the diagram below is a direct comparison of the original NMRA code 175 profile, the new code 145 profile (existent Kohs profile) and the 1:48 scale profile. The advantages of the new scale profile are many and that will be addressed in greater detail in the next update. As with all previous Kohs models, don't bother applying an NMRA gauge, it's not applicable.

During the development of some of our previous projects, I had made available multiple sample models to show different versions of our projects and also to help illustrate the stages of project development. With the ever rising expense of development and production, continual decisions have to be made about what physical samples are required versus 'assembling' versions using design software. The primary reason for relying more heavily on computer design resources is to keep our model prices as low as possible, while again not compromising the integrity of the project. The initial sample is vital to establish a base point for design, from that point forward extra samples have become an expensive luxury. Additionally, as the importer environment has been degraded by some of the 'players' involved, it has become less than advantageous to openly share development information. Case in point, there have been two Challenger projects announced since our project was launched. When the time is appropriate, I will provide comprehensive information and photos for owners as I did following the production of our H-8.

With space growing short here, my current plan is to distribute another project update during the first week of December. I hope that what I have shared thus far has provided greater insight into the Challenger modeling process. You are always welcome to contact me directly for additional information.



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