CASE STUDY: Southern Pacific Railroad

Product: **Rhino,** *yard tractor*

Original Project Description: In 1982, Linea Forma designed and developed a plastic composite replacement body for the riveted, steel-bodied yard tractor that Southern Pacific Railroad used to move containers coming off ships at their port facilities. The composite body could be produced in a fraction of the time it took to produce the steel bodies, so additional amenities like air conditioning, air seat, radio and a back door were added. The project took a year and a half, and was very well received at the 1982 International Truck Show in San Francisco, California.

For its 25th anniversary, we recreated the original truck using our 3D software.

Software: Autodesk® Maya®

3D Model: The red 3D model on the back page was created using only front/top/side view drawings from the original specification sheet, and photos from the brochure, for reference.

Timeframe: 25-30 hours for the level of detail shown

The 1982 RHINO. *The body it replaced (seen in the top picture in orange) had no back door, air conditioning or sound dampening. The riveted, steel-plate construction had major vibration and ventilation problems, and it took 90 hours to produce one. The Linea Forma design solved those problems, and the molded composite body took nine hours to produce.*

The red truck shown here is our 3D model, added to the original scene in Photoshop. Check out the back page for more photos of the model.

RHINO 3D MODEL

RHINO Revisited.
The beauty of the 3D model is that it now remains permanently parked in its digital warehouse on our hard drive. Any future design changes, color options, accessories and extra products become simple duplications of the original, instead of starting over.

In this case, we could create a logging truck variation, a full width body, and various bed and box units for the back, without having to rebuild any of the lower chassis components.

For this 25th Anniversary 3D model of our original beast, we dropped its body lower into the tubular frame/ bumper unit which was not possible on the first round of production.

Detailing.
We scanned photos of the original instrument panels and applied them to the model for a simple 3D effect. For close-up renderings, more 3D detailis can be added. The amount of detail is flexible, based on budgetary and visibility demands.

*We can also create **semi-transparent** walls, or partially remove one, to show off interior details while still showing relationships of interior/exterior components. Anything is possible... even adding dirt and wear for more realism.*

Under 30 Hours.
That's all the time it took to get the model to this point. From here, we can hinge and pivot doors, body, rotate front wheels, show fifth wheel movements; turn on lights; change colors; create transparency or, make an animated video clip.

The 25 year difference.
Digital 3D modeling offers a significant breakthrough in both industrial design and marketing. Designs can be rendered quickly, and before production begins, customers can be shown a photo realistic demo of the product and product features with full animation and 360° views.

