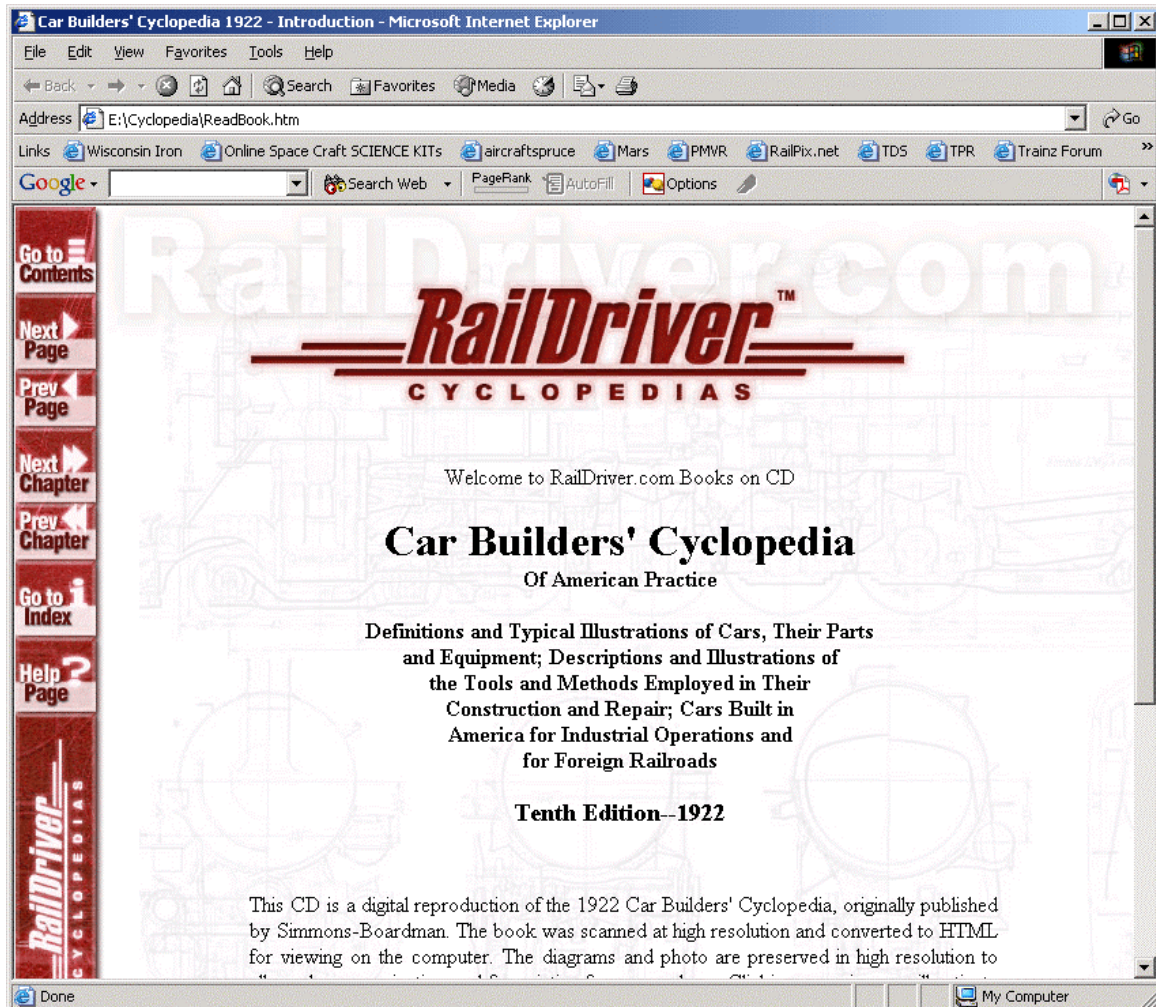


Review

Car Builders' Cyclopedia Of American Practice

By Scott Monsma



Main page.

What it is

RailDriver (a division of P.I. Engineering) has undertaken the mammoth task of reproducing representative volumes of the Car Builders' Cyclopedia in digital format. The Cyclopedias were originally produced by the Master Car Builders Association, an organization of professional car builders from manufacturers of rolling stock and from the leading railroads. Each Cyclopedia contained mechanical drawings, illustrations and photographs of current car building practices, plus descriptions of best practices and other useful information.

This unabridged digital reprint of the 1922 Tenth Edition is packed with 2657 images (JPEG format) and 1192 pages of text, filling the CD to capacity. The pages of the original printed volume were scanned in gray-scale, and optical-character recognition software was used to convert the scans into text data. (For an interesting overview of the process, visit [The RailDriver Cyclopedia Scanning Project](#).) The quality of the text conversion is beyond reproach; I have not yet found a recognizable text conversion error.

The Cyclopedia covers nearly every aspect of passenger and freight car construction, including trucks, couplers, brake gear, heating and ventilation, plus car repairs and car shop layouts.

How to read it

As supplied, the Cyclopedia can be read using your Internet browser. Opening the main *ReadBook.htm* page gives you a vertical navigation bar on the left and the first page of the book in the main area of your browser window. The navigation buttons allow you to jump to the table of contents or the index; move to the next page or previous page; and to skip forward to the next chapter or back to the previous chapter. A typical page contains one or two images plus two columns of text. The images are all high-resolution. Although displayed initially within the page width (600-800 pixels wide), double-clicking on an image opens it in a viewing window, allowing close scrutiny of the details. Additional buttons allow zooming in, zooming out, resetting to the original size, and returning to the source page of the Cyclopedia.

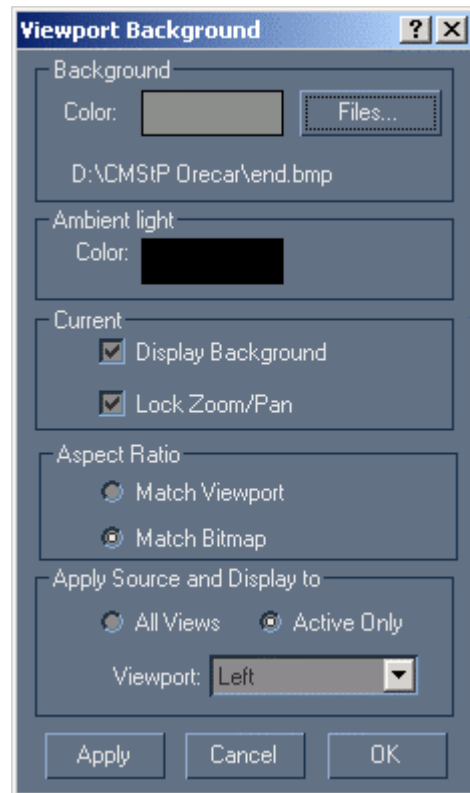
Given this huge volume of information, the main task of the modeler is to find the relevant figures and drawings. Depending on your temperament, you might start with the index and scan for the terms you are interested in. Unfortunately, the only index is the original publication's index, which consists of a single page with about 200 entries. Yes, the page numbers for these entries *are* linked, so if you find your term it is easy to jump to that page; but most of the items and terms that I wanted to find were simply not present.

The next approach, frequently used with electronic media such as this, would be to use the computer's search function to find the relevant terms within the text of the pages. However, since the pages are all individual HTML files, the Internet browser is only able to search within the current page for any text string. Thus text searching is pretty much out of the question, unless the reader uses a separate program to search the content of the HTML files.

This leaves the Table of Contents, which lists the chapters and subsections, and gives a link to the first page of each chapter. The Table of Contents also has a "jump to" button that allows you to enter a page number and jump directly there -- only useful if you already have jotted down the pages you're interested in. Once within a chapter, the only approach is to step through the pages sequentially, zooming in on images as needed and noting which are worthy of modeling.

Using the images for modeling

Upon finding images with potential for modeling, my advice is to save a copy to your hard disk, and give the new copy a recognizable name. This is easily done by right-clicking the image in your browser, and choosing "Save image as..." from the popup menu. Creating 3D models for Trainz is beyond the scope of this review, but most modelers will use a combination of methods for working with dimensioned images. In most 3D modeling programs, an image can be used as a backdrop in the modeling window and adjusted to the proper magnification, allowing the creation of parts directly on top of the plan. This *can* be accomplished in gmax with a bit of trial and error, using the Viewport Background command (Alt-B). Load the image (top button in the Viewport Background dialog box) and be sure to choose "Match Bitmap" under Aspect Ratio. The zoom tool can be used to adjust the viewport scale to match the image, and then the image can be locked by using Alt-B again and checking the "Lock Pan and Zoom" box.



Another method is to use the image as a texture on a flat plane object (explained very elegantly in the [ScaleBox tutorial](#) by Slugsmasher). This method uses transparency and isometric views applied to orthogonal planes, making it very easy to check the proportions of each created part in all 3 dimensions. Using gmax for creating Trainz models, I have had some difficulty with this method due to the poor resolution that gmax imposes on the textured plane -- even if the texture is based on a high resolution image, gmax will sample the texture to no more than 256 pixels on screen. For a 70-foot plan, that means each pixel is more than 3 inches wide, preventing accurate creation of parts against the displayed plan.

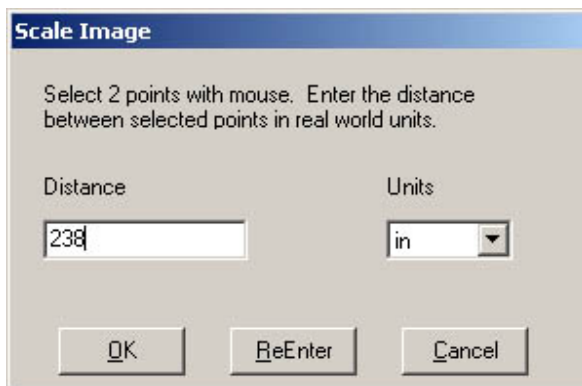


image formats (bmp, jpg, tif, wmf and emf). The image needs to contain a dimension line or scale bar, which establishes the standard for ScalePrint. Using the

For most of us, a printed copy of a plan is essential whether creating virtual models on the computer or physical models from wood, plastic and metal. Many thanks are due to RailDriver for including an excellent plan printing utility on the Cyclopedia CD. The utility is called ScalePrint, and it allows you to produce accurate printouts of plans and drawings. ScalePrint can be used with any image and can open most of the common

Scale Image dialog box, you click on the two ends of the dimension line, and then enter the indicated length. Next select your desired printout scale from a list containing most of the common modeling scales (from F 1:20.3 to Z 1:220) or enter your own custom user scale 1:X. You can now print your image on whatever you have available; the image will be tiled across several sheets if necessary. In my tests I printed Figure 22, Plan and Elevation of 50-Ton Boxcar, in 1:20.3 scale on an Epson inkjet printer. Using a caliper, measurements of the wheel diameters were 1.631 to 1.650 inches or 33.11 to 33.50 inches. Another dimension drawn as 4' 5 15/16" (53.94 inches) printed out at 53.75 inches (2.648 inches x 20.3), or about 0.4% under size.

Summary

Overall, I am very impressed by the quality of reproduction and the contents of RailDriver's Car Builders' Cyclopedia, and would not hesitate to recommend this Cyclopedia to the serious rail modeler. Briefly, the CD:

- is reasonably priced and available (compared to hit-or-miss in used book market, where you could expect to pay several hundred dollars)
- has a huge amount of information for modeling (virtual and physical)
- has interesting reading and covers many facets of the railroad industry
- includes ScalePrint utility for highly accurate printed plans
- is lacking some areas: non-comprehensive index, not searchable for keywords, limited to browser's ability to bookmark pages

You can get RailDriver's Car Builders' Cyclopedia for \$29.95 at the [Raildriver web site](#). There are four CDs in the series:

- Locomotive Cyclopedia of American Practice
- 1922 Car Builders' Cyclopedia of American Practice
- 1921 Maintenance of Way Cyclopedia
- 1911 Electric Railway Dictionary

Happy reading!

Scott

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