

Adobe® FrameMaker®+SGML  
Adobe Acrobat®

# Bombardier Transportation

**Bombardier creates and delivers critical maintenance and operations documentation faster with Adobe FrameMaker+SGML and Adobe Acrobat**

## ABOUT THE CUSTOMER

- A world leader in the manufacturing of passenger rail cars
- Headquarters: Montréal, Québec
- Employees: 56,000 worldwide; 16,000 at Bombardier Transportation
- Revenue: \$13.6. billion CN, corporate; \$3.4 billion CN, Bombardier Transportation

## BENEFITS SUMMARY

- Adobe FrameMaker+SGML allows Bombardier to author documents that are eight times longer than previous manuals in the same amount of time.
- FrameMaker+SGML supports the creation of interactive manuals that Bombardier can deliver via CD-ROM, the Web, or paper.
- Built-in FrameMaker+SGML features—tables of contents, cross-references, and the ability to reuse content—improve document quality and speed authoring.
- FrameMaker+SGML cross-platform compatibility enables seamless collaborative authoring.
- Extensive support for structured documents in FrameMaker+SGML simplifies the creation of manuals that must adhere to regulatory standards.
- Routing draft documents online in Adobe PDF greatly cuts costs and streamlines document review and approval.
- Fully searchable manuals in Adobe PDF reduce archiving costs and improve access for dispersed project teams.

[www.bombardier.com](http://www.bombardier.com)

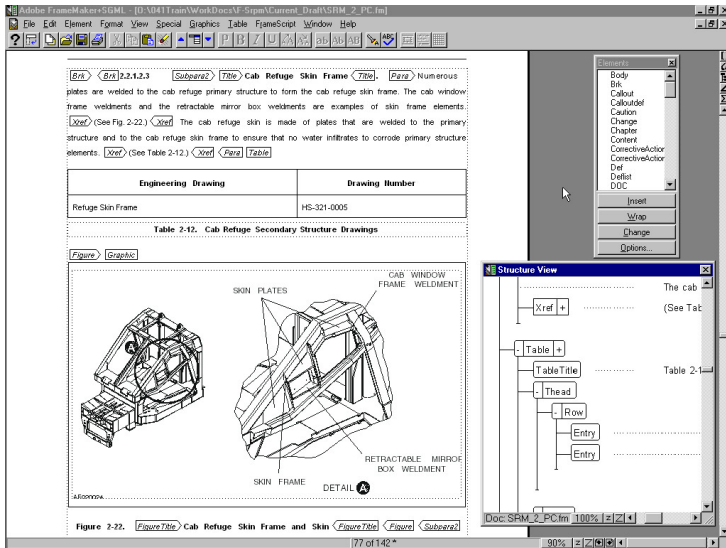
Step aboard any passenger train or light-rail system in North America, Europe, or Asia, and there's a good chance it was manufactured by Bombardier Transportation, a division of Bombardier, Inc. The Canadian company built its success upon a commitment to innovation and quality—and rightly so, because passenger safety and satisfaction depend on the flawless design, production, and ongoing maintenance of trains. Central to keeping Bombardier trains true to the high standards for which they are known worldwide is the company's product documentation, which details exactly how trains should be maintained and operated.

Millions of pages of documentation are created and updated annually for new systems and the more than 10,000 Bombardier rail transport vehicles used by Amtrak, New York City Transit, and other public transit leaders. Authoring this documentation, which must conform to regulatory requirements for vehicle safety information, demands a flexible environment that supports ongoing collaboration among project teams, information reuse, and easy training of employees. To meet these challenges, Bombardier relies on Adobe FrameMaker+SGML and Adobe Acrobat software.

“Adobe FrameMaker+SGML is the best application for authoring complicated product manuals,” says George Primeau, supervisor of technical publications and training at Bombardier Transportation. “Its intuitive interface works seamlessly in our multi-platform environment, so we can train staff easily and ensure employee collaboration. And with Adobe Acrobat, we can move from paper document distribution to cost-effective online delivery of Adobe Portable Document Format (PDF) files.”

## SIMPLIFYING COMPLEX DOCUMENTS

When Amtrak awarded Bombardier Transportation a contract to develop the first high-speed train in North America, timely delivery of maintenance documentation was stipulated as a key component. To meet Amtrak's requirements, Bombardier created and maintained a 20,000-page manual in Standard Generalized Markup Language (SGML). The multivolume manual—used by Amtrak engineers and Bombardier service staff to ensure proper functioning of the train—includes thousands of detailed schematic illustrations and massive amounts of technical prose.



The Structure View in FrameMaker+SGML lets authors quickly locate parts of a document and verify a document's structure automatically. Authors can import unstructured text or FrameMaker documents into FrameMaker+SGML and then structure a larger document using the Structure Generator.

"Adobe FrameMaker+SGML was the obvious solution for the project," explains Primeau. "The ability to reuse content, generate indexes, create tables of contents, and build in cross-references allows us to quickly develop lengthy, easy-to-navigate documentation."

#### LIGHT WORK OF LONG DOCUMENTS

Bombardier's documentation has grown—from 3,000 pages to more than 25,000 pages in just a few years—in step with the sophistication of its products. The Structure View in FrameMaker+SGML lets authors quickly locate parts of a document and verify a document's structure automatically. Authors can import unstructured text or FrameMaker documents into FrameMaker+SGML and then structure a larger document using the Structure Generator.

Each Bombardier manual includes a table of contents, a list of figures, a list of tables, and an index, all of which are generated automatically within FrameMaker+SGML, based on specified paragraph and character tags. Further, the software automatically creates hypertext links for cross-referencing these

elements. If an element is relocated within the document, all cross-references are updated instantly to reflect the change.

Additional FrameMaker+SGML benefits result from standard document templates that make it easy to reuse information. For instance, layouts and text blocks can be changed slightly to accommodate the documentation needs of other customers that use similar rail technology.

#### COLLABORATIVE AUTHORIZING

Bombardier manuals continue to grow in length and complexity—yet the time and money needed to create these documents have remained constant. In the same amount of time, the 20-person technical publications group can author documents that have eight times more information, including detailed text, images, and cross-references.

"FrameMaker+SGML's accessible user interface lets our document authors focus on content and collaborate without needing to learn the complexities of SGML," says Daniel Roy, technical writer at Bombardier Transportation. "Authors can segment

manuals by system or specialty, work on them independently, and later reunite all the parts to build the full manual, tailored to each customer's requirements."

#### RAPID ONLINE DOCUMENT DELIVERY

To streamline document delivery, Bombardier uses the integrated Adobe Acrobat component within FrameMaker+SGML to output documents to Adobe PDF. Draft versions of manuals are delivered as Adobe PDF files via CD-ROM and intranet to the company's product testers for review. Final copy is placed in a fully searchable electronic archive that is available over the intranet to Bombardier content specialists, repair teams, and trainers. Customers are also given access to these documents on CD-ROM and on paper.

In light of the growing prevalence of SGML, Extensible Markup Language (XML), and Adobe PDF for online delivery—as well as increased demand for interactive electronic documents—Bombardier's migration to FrameMaker+SGML positions it to better meet customer needs.

"Accurate, usable documentation must be available when products are delivered to customers," says Primeau. "Our success, and the success of our customers, depend on it. With FrameMaker+SGML and Adobe Acrobat, we create and deliver increasingly complex manuals faster, lowering our administrative costs, and resulting in satisfied customers."

#### TOOL KIT

##### Software

Adobe Acrobat  
 Adobe FrameMaker  
 Adobe FrameMaker+SGML  
 Windows NT®

##### Hardware

HP Pentium® based PCs  
 Xerox printer/copier