



SEQUENCE

Software Documentation

Work Instructions Made Easy!

Sequence Software enables manufacturing companies performing complex manual assembly to easily author, review, approve, deploy and verify the work instructions required to build their products. Most manufacturers with manual assembly requirements still use some 'office' software products to produce their work instructions today.

Common resulting business issues include:

- Excessive time spent creating a standard format, editing, reformatting, and managing documents
- Lack of real version control and documenting
- Inability to integrate with ERP/MRP to leverage existing information on routings, operations, BoMs
- Difficulty to collaborate with others in a network, multi-user environment
- Requires additional tasks to manage PDF files, printing and distribution to the shop floor
- Limited ability to move to paperless, electronic work instructions, with static PDF documents

Rather, Sequence Software offers a process-driven and more effective approach which solves the above issues, particularly for the technical writer or engineer responsible for work instructions, as well as offering additional value to the shop floor. Work Instruction content is produced by defining the process, step by step instructions, specific prompts to operators, and adding visuals such as annotated photographs, videos, or links to other documents. The software automatically formats the content to produce a consistent view in either in PDF or electronic form.

Whether you are a small shop with a single person writing your technical documents to a multi-facility, global manufacturer, Sequence Software offers scalable solutions to meet your requirements and budget. Two authoring software license options are available, with many customers using this technology for over 15 years.



Designed for single or multi-user network/server based environment

- Comprehensive editing capabilities
- Multi-user, collaborative authoring, approving, publishing features
- Auto formatting from design process tree to published, standard format work instruction
- Optional Enterprise integration options including MRP Ultra and/or MES Ultra
- Compatible with optional Sequence real-time Electronic Work Instruction (EWI) User Interface
- Low cost evaluation options available
- Affordable deployment options, phased approach as needed



Designed only for single user desktop deployments

- Single User working environment, desktop application
- Basic editing capabilities – see comparison chart below
- Auto formatting from design process tree to published, standard work instruction
- No integration to ERP/MRP or MES
- No integration to Sequence Electronic Work Instruction options
- Free trial option
- Low cost purchase \$799



Sequence Software authoring features available in WinSequence and LockStep.

Authoring Features	LockStep	WinSequence	Details
Process-Driven Authoring	✓	✓	Authoring user interface allows instructions to be developed in process flow, with BOM, Operations, step by step detailed work and prompted tasks as you define. Content resides in the Sequence database. Easy editing as needed, software auto formats the content for PDF use or EWI with Sequence Breeze or WebSequence real-time interfaces for the shop floor. (NOTE: EWI is not available with Lockstep products)
Integrated Text Editor	✓	✓	Text steps are created in a text editor designed with just the right amount of functionality. All the tools are visible on the tool bar and there is no need to search menus for commonly used features.
Integrated Picture Editor	✓	✓	This built-in picture editor is used to perform common editing functions (including crop, changing contrast or brightness, and annotating** an image with arrows and text callouts). **Picture annotations are always grouped with the image and stored in the picture repository for easy editing.
Integrated Spreadsheet Editor	✓	✓	The integrated editor allows users to perform spreadsheet functions that are most commonly used in documenting work instructions
Direct to Sequence Picture Addition	✓	✓	Pictures are added by automatic download when pictures are taken on an attached camera. See System Requirements for supported cameras using this feature.
Drag and Drop Pictures onto the Graphical Instruction Tree	✓	✓	Pictures are added to work instructions by dragging a picture from Microsoft folders directly onto the graphical instruction tree.
Indented Graphical Instruction Tree View	✓	✓	Information is presented in a view representative of the manufacturing process - a subassembly is made up of parts assembled in operations completed by performing discrete instructions. This feature reduces the workload to collecting the right pieces of information and putting them into the correct order—we take care of the formatting.
Drag and Drop Manipulation	✓	✓	The graphical instruction tree makes it simple to reorder, copy, or paste information in your work instructions. Drag and drop capabilities combined with the automatic formatting functionality make line balancing and updates exceptionally easy.
Global Parts and Assemblies	✓	✓	Parts and Assemblies are global objects that can be reused and if attributes change, all processes are updated automatically to reflect the change.
Global Tools	✓	✓	Tools are global objects that can be reused and if attributes of the tool change, all processes are updated automatically.
Save and Create Next Step	✓	✓	Current step is automatically saved, and a new step added to the tree. This feature saves time when documenting step- by-step processes found in manufacturing. This is one of the key features which allows the writer to document the process on the factory floor in one build cycle.



Authoring Features	LockStep	WinSequence	Details
Global Work Instructions/Common Routings		✓	Sequence allows authors to create 'global' steps enabling reuse of information and improving maintenance. When a "global" object changes, the information within it changes everywhere it is used. This can include best practices or common processes that are inserted into larger work instructions. This could also include completely common work instructions/routings that are used for multiple products. Judicious use of 'globals' will substantially reduce the cost of developing and maintaining a large number of instructions while increasing quality and standardization.
Expert/Novice Work Instructions		✓	As opposed to maintaining separate documents for expert and novice operators, novice instructions are organized as indented details to the expert instructions on the Graphical Instruction Tree. As such, instructions are presented at detail based on the skill-level of the operator.
BOM/Tool Assignment by Work Area		✓	Rather than a summary BOM and Bill of Tools for the whole process, operators receive a tools and parts list exclusive to their particular task.
Variable Text in Common Routings		✓	Imagine a common instruction that is used in a family of products where the only difference is the length of a cable. This feature allows authors to maintain one "global instruction" for all those scenarios while inserting the cable length as variable text.
Links to External Files		✓	Sequence allows you to include links to files on your network for viewing in their native formats; for example, CAD files, material certifications, etc.
Paper Deployment			
Automatic Formatting to PDF Documents	✓	✓	No need to manually format your documents! In just seconds, automatically format work instructions into PDF documents suited for different audiences or purposes.
Multiple PDF Formats	✓	✓	Work instructions can be printed in a variety of PDF formats including standardized worksheets for veteran employees, or detailed instructions for the trainee. Click and pick a format!
Efficient Space Requirements	✓	✓	The database model stores pictures and text in a format which uses less than 10% of the space required for the same information in a Microsoft Word Document.
Print Expert/Novice Instructions Based on Operator Skill Level		✓	Operators can be defined as expert or novice based on their skill level and experience. Sequence automatically prints the instructions with the appropriate level of detail presented to an operator.
Automated Version Control/Audit Trail	✓	✓	Automatically maintains draft, published, and retired versions of instructions. Opening any previous version of an instruction is just one click away.
Multi-User Collaboration		✓	A single centralized database allows enterprise-wide collaboration, access, and control of instructions.
User-Based Security		✓	User-based security creates individual profiles and determines what actions those users can perform and what parts / assemblies they can access. Privileges include: viewing, editing, approving, quality, redline, and administrative.



Content Management, Historical Archives	LockStep	WinSequence	Details
Check-In/Check-Out of Instructions		✓	Controlled check-in/check-out functionality maintains order in a multi-user environment.
Automated Release Note Management		✓	Sequence maintains a summary of all changes associated with a work instruction including approver, date approved, superseding date, and reason for change. A full set of release notes provides an audit trail for all changes to a work instruction.
Electronic Approval Process		✓	Formal process for routing a set of instructions through one or more approvers before being visible to the shop floor.
Electronic Redline Notes		✓	Similar to margin notes on a printed copy in production, these notes draw attention to specific errors of an instruction. Authors must address redline notes before approving a new version. User must have "redline" privilege to be able to create redlines. This feature requires WebSequence and work order integration.
Internal Notes		✓	Users in the Sequence authoring interface and the WebSequence shop interface may submit notes to authors on specific instructions calling attention to errors or suggestions for improved processes
Library Filter	✓	✓	Advanced search engine to find ANY information (step, tool, part, operation, etc.) for reuse in other work instructions.
Rapid Content Retrieval	✓	✓	Advanced cataloging and retrieval functions put specific work instructions at your fingertips in one step. This feature saves the user from manually searching folders in Microsoft Windows.
Favorites Folder	✓	✓	Folder for organizing shortcuts to commonly used documents.
Systems Integration			
Automatic Sync of BOMs, Routings, and work orders		✓	Using optional MRP Ultra, Sequence can automatically update parts, BOMs and routings as a result of changes in ERP/MRP data. With up-to-date BOM and routing information, management of affected work instruction content is made significantly easier. No dual entry is required to display accurate BOM information to operators eliminating costly errors. Work Orders can be imported for paperless deployment by work order, allowing users to record data against the work order (both paper and electronic work instruction deployments)
Link Specific Instructions to WorkOrders		✓	Using optional MRP Ultra, Sequence can automatically import work orders from ERP/MRP systems and associates them with specific instructions. This provides conclusive traceability for on-going regulatory and compliance requirements for how your products are built.
Automatic Email Notification when ERP Data Changes		✓	Using optional MRP Ultra, Sequence sends authors an email notification when ERP/MRP data changes. Authors in Sequence will have access to notes that specifically state what changed.



EWI Paper / Electronic Deployment to Shop Floor	LockStep	WinSequence	Details
Real-time, Controlled Deployment		✓	Deploying work instructions electronically allows real-time updates to the shop floor when they are approved. This eliminates the never-ending task of updating paper documents and surprises during ISO audits revealing outdated versions of instructions on the shop floor.
Restrict Operator Access to Current Published Version of Instructions		✓	Operators have access to only the most recently published version of an instruction... guaranteed! This prevents costly shop floor errors. The moment a work instruction is approved, it is immediately available for access.
Access Instructions by Work Order		✓	Operators can view instructions by work order, as well as collect data (see the data collection feature below), eliminating guesswork associated with who worked on a work order, which instruction was used, and any data collected.
Display Specific Instructions for Configured Products		✓	When products have multiple options, Sequence will automatically display to an operator the configuration-specific instructions for a given work order. This eliminates operator confusion by only showing the necessary instructions to execute a work order. In addition, this automates the traceability associated with the variety of ways a configured product can be built.
Play Video or Audio for Operators		✓	In addition to traditional pictures, video and/or audio can be played for operators at individual work instruction steps.
Links to External Files		✓	Sequence allows you to include links to files on your network for viewing in their native formats; for example, CAD files, material certifications, etc.
Present Expert/Novice Instructions Based on Operator Skill Level		✓	Operators can be defined as expert or novice based on their skill level and experience. Sequence automatically configures the level of detail presented to an operator.
Data Collection from Shop Floor Operators		✓	For customers that deploy instructions by work order and need to maintain records from operators, Sequence allows the capture of information. This can include electronic signatures by operator/supervisor or production data like serial numbers, oven temperatures, etc. Data can then be used to provide an as-built record of production for specific products. See "Access Instructions by Work Order" for more detail.
Real-Time Feedback from Shop Floor Operators		✓	Instead of leaving their station to fill out a paper form, operators can click a "Submit Request" button to provide instant feedback without leaving the current work instruction. An email is automatically sent to manufacturing engineers containing the request, operator's name, product, specific work instruction step, along with a date time stamp. Our customers indicate they are now learning more about "unspoken" issues in production.
Operator Acknowledgement of Change Notifications		✓	When an operator attempts to access an instruction after a change, Sequence requires the operator to acknowledge the change before proceeding. Sequence maintains a log of all acknowledgements for all operators.

Note: Specifications on network, server, computer hardware and OS requirements are described in Sequence Software Systems Requirements document available on request. For more details and complete list of features on Sequence EWI, see Sequence Electronic Work Instruction Summary Brochure.

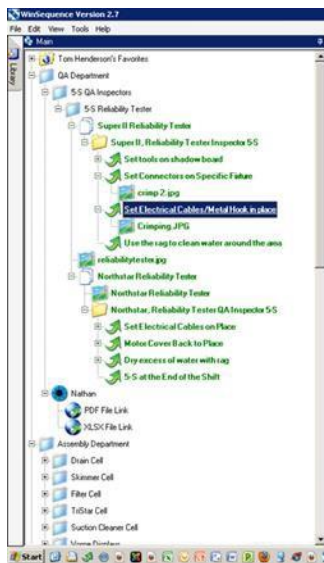
LockStep Free, LockStep & WinSequence Product Comparison

Built-In Auto-Formatting

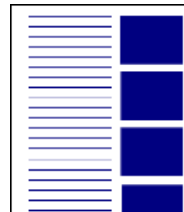
When using WinSequence or LockStep, authors do not worry about formatting issues to make consistent, standard work instructions for presentation in PDF documents. This is a huge time savings for authors!

Authoring is done using a 'process tree' to define your operations, process steps, instructions and media to be used on the work instruction. NO FORMATTING is required by the author. All the data remains in the Microsoft SQL Database, ready for use when needed. When the instruction is ready to be viewed, the system automatically formats the instruction for an easy to read, consistent, accurate format in PDF.

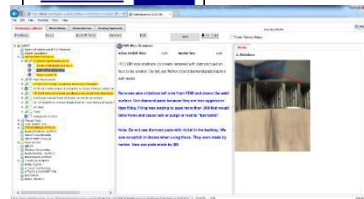
Authoring Tree



AutoFormat



- Creates consistent PDF Format
- Select From Several Stylesheets Available
- Customizable by Customer or Sequence



OPTIONAL EWI Real-time, User Interface to view scrollable instructions, or interactive user capabilities (Using WinSequence not LockStep)

See Sequence EWI Summary document for Breeze and WebSequence product details

WinSequence & LockStep Authoring Environment – Full User Interface

Process Driven Authoring Tree

Editing Area for Visible Step-by-Step Instruction for Shop Floor Users

Customizable PDF Formats

EWI Options Breeze and WebSequence

WebSequence User Interface

Ask us about integration options to ERP/MRP or MES or using Sequence in bar code applications.

Contact Sequence Software Technical Sales at 865.927.3000 Extension 614 with your questions or interest in a trial project to prove feasibility and potential increase in effectiveness for your operations.