Simplified Technical English (STE) is a controlled language specification published by the *Aerospace, Security and Defence Industries Association of Europe* (ASD). This specification includes a standard vocabulary and instructions in how to write maintenance manuals in Simplified Technical English.

The SMART Team provides the **MAXit Checker**, an AI software program that makes STE and S1000D compliance easy. The text simplification decreases the chance for human error during maintenance and forces consistency of terminology. Text in STE can be translated by computer.

1-1 GENERAL INFORMATION

The energy absorber is the means by which the aircraft is stopped. Two absorbers are used, one on each side of the runway, connected to the aircraft through the nylon tape and the engaging system.

1-2 BRAKING SYSTEM

The braking system controls the application of braking force during the arrestment and is also used to maintain tape tension when in the ready state. The system consists of a static pressure system, a pump pressure system, and the friction brake assemblies.

1-2.1 Static Pressure System

The static pressure system is used to apply sufficient pressure to the brakes so that tension can be maintained on the tapes in the battery position. Pretensioning of the tapes is necessary to minimize the dynamic forces when an aircraft engages the system.

The static pressure system consists of an accumulator, a hand pump, a reservoir, a shuttle valve, and the brakes. A diagram of the static pressure system is shown in Figure 2-1.

The accumulator is charged with pressurized nitrogen, with a level of hydraulic fluid in the bottom. The pressurized nitrogen attempts to force the fluid out the bottom of the accumulator. The shuttle valve is used to connect the static pressure system (or the pump pressure system) to the hydraulic brake lines.

When the shuttle valve is positioned to the static pressure system, the accumulator pressure forces hydraulic fluid into the brake lines until the pressure in the brake lines is the same as the pressure in the accumulator. This static pressure locks the brakes, maintaining the pretension of the tapes and engaging system.

Even though the hydraulic lines from the accumulator to the shuttle valve and from the shuttle valve to the brakes are normally filled with fluid, each time the static pressure system is engaged a small amount of fluid leaves the accumulator (enough to move the pistons in the brakes). Each time the static pressure system is used, the level of hydraulic fluid in the accumulator decreases. The loss of fluid allows the nitrogen in the top of the accumulator to expand, reducing the pressure in the static system.

Full pressure is restored by using a hand pump to transfer fluid from the reservoir to the accumulator. The accumulator is fitted with a sight glass so that the fluid level can be observed. The accumulator is also fitted with a pressure gauge, which allows the operator to read the pressure in the static pressure system.

When system pressure cannot be restored by replenishing the hydraulic fluid to the proper level, the accumulator must be recharged with nitrogen.

The accumulator is fitted with a Schrader-type valve for charging the accumulator with nitrogen. The locations of the static pressure system components are shown in Figure 2-2.

List Highlights for MAXit analysis

- Instant analysis within multiple authoring tools.
- MAXit navigates around graphics, links and indexes.
- Colors give writers a quick visual reference.
- Click for automatic replace of suggestions.
- GenAI intelligently adds definite articles for style.
- Automatic sentence length check.
- Dictionary checks for terminology consistency.
- Validation of STE verbs. (208 allowed)
- Removal of awkward or ambiguous language.

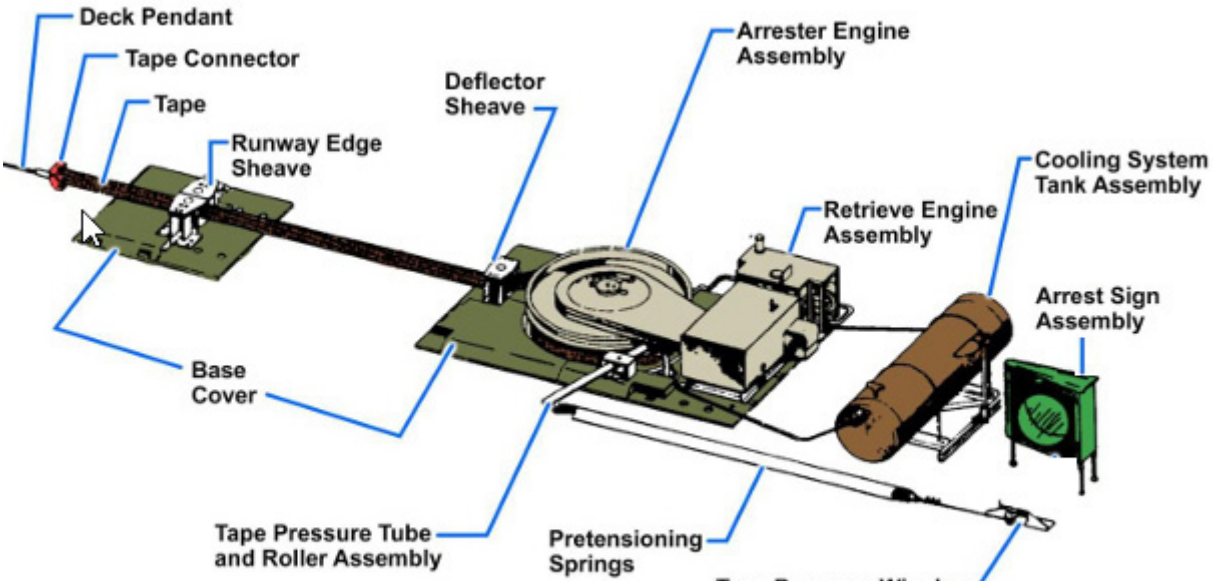
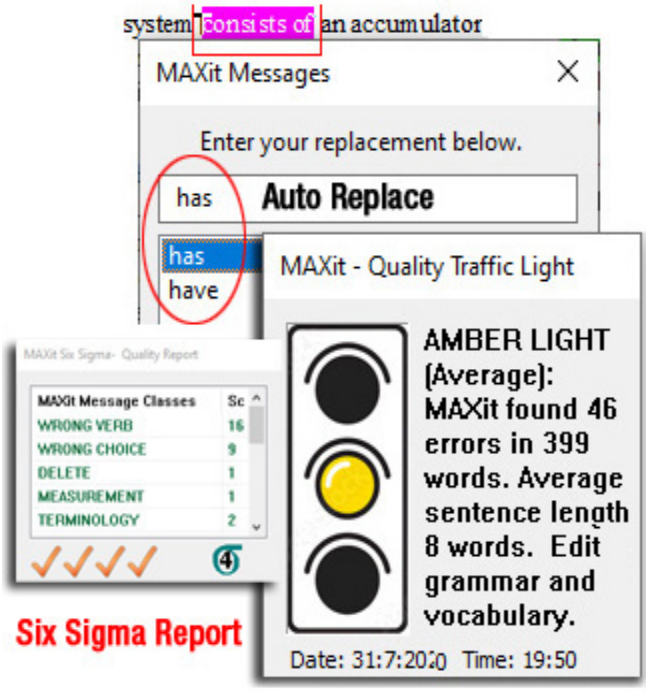


Figure 2-2 Components - Static-pressure System

Partial list continued

- Automatic simplification through approximately 19,000 AI rules, grammar and syntax.
- Identification and correction of gerunds (*-ing*) words.
- Passive voice is marked to change to active voice.
- Identification of noun clusters that cause problems.
- Curated dictionaries show suggestions in context.
- Automatic global replace of preselected errors.
- Insertion of missing register or trademark symbols.
- Fast removal of all MAXit markers.
- Validation of numbers for engineering style.
- Removal of gender pronouns and other language.
- MAXit can navigate complex .xml and .dita formats. (Structured Documentation)
- Simplified Technical English texts remain technical.
- STE is easy-to-read on mobile devices and tablets in low-light areas. Small screens need small text.
- STE is ideal English as a second language (LEP).
- Removal of *nice to know*, keep ***need to know***.
- Navigation of hotspots for Augmented Reality (AR).
- Simplified content is ideal for AI prompt generation.
- Quality Reports for Six Sigma and Traffic Light.
- Text is written at US 8th Grade reading level.
- Style suggested for button names. (OFF position)
- Simplified texts are approximately 30% smaller.
- Simplification makes Digital Transformation easier.

Next page shows the original text from first page rewritten in **Simplified Technical English** (STE).



Menus, Tools and Quality Reports

- Check by para., page, selection or document.
- QA/QC Reports for Six Sigma or Traffic light.
- Word Finder to search dictionaries.
- Verb Selector to see list of valid STE verbs.
- Metric/English conversion tool for engineering.
- On-line grammar help with many examples.
- Temporary Dictionary to suggest new terms.

Simplified Technical English - clear, concise, easy-to-read, understand and translate

1-1 GENERAL INFORMATION

The energy absorbers on each side of the runway stop the aircraft. These energy absorbers use nylon tape to engage the aircraft braking system.

1-2 AIRCRAFT BRAKING SYSTEM

The braking system controls the tension applied to nylon tapes during operation of the braking system. This system includes a static-pressure system, pump pressure system and friction brake assemblies.

1-2.1 Static-Pressure System

A static-pressure system applies sufficient pressure to the brakes to keep tension on the nylon tape to hold the battery in position. Before the aircraft engages the braking system, tension is applied to the nylon tape to control the brake force.

The static-pressure system includes an accumulator, hand pump, reservoir, shuttle valve and brakes. A diagram of the static-pressure system is shown in Figure 2-1.

The accumulator has a pressurized nitrogen charge that pushes hydraulic fluid from the bottom of the accumulator. A shuttle valve connects the static-pressure system to the hydraulic brake lines.

When the shuttle valve is in the correct position, the static-pressure system pushes the hydraulic fluid into the brake lines. The pressure from the accumulator must be equal to the pressure in the brake lines. This static pressure locks the brakes and applies tension to the nylon tapes.

The hydraulic lines from the accumulator to the shuttle valve fill the braking system with hydraulic fluid. When the static-pressure system engages, a small quantity of hydraulic fluid causes the pistons to move in the brakes. This action decreases the level of hydraulic fluid in the accumulator.

The loss of hydraulic fluid causes the nitrogen in the top of the accumulator to increase. This action decreases the pressure in the static-pressure system.

To restore pressure, use a hand pump to move hydraulic fluid from the reservoir to the accumulator. A sight glass shows the level of the hydraulic fluid. A pressure gauge shows the pressure in the static-pressure system.

If the pressure in the hydraulic system cannot stay at the correct level, a Schrader valve will charge the accumulator with nitrogen.

The parts for the static-pressure system are shown in Figure 2-2.

About this example

This text is a random example of a mission-critical document rewritten in STE. The text describes an aircraft landing safety device to avoid accidents. Because simplification decreases the text by 20% to 30%, translation costs are decreased.

Curious?

To see **MAXit** on your text, ask about our FREE offer to run a test sample.

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