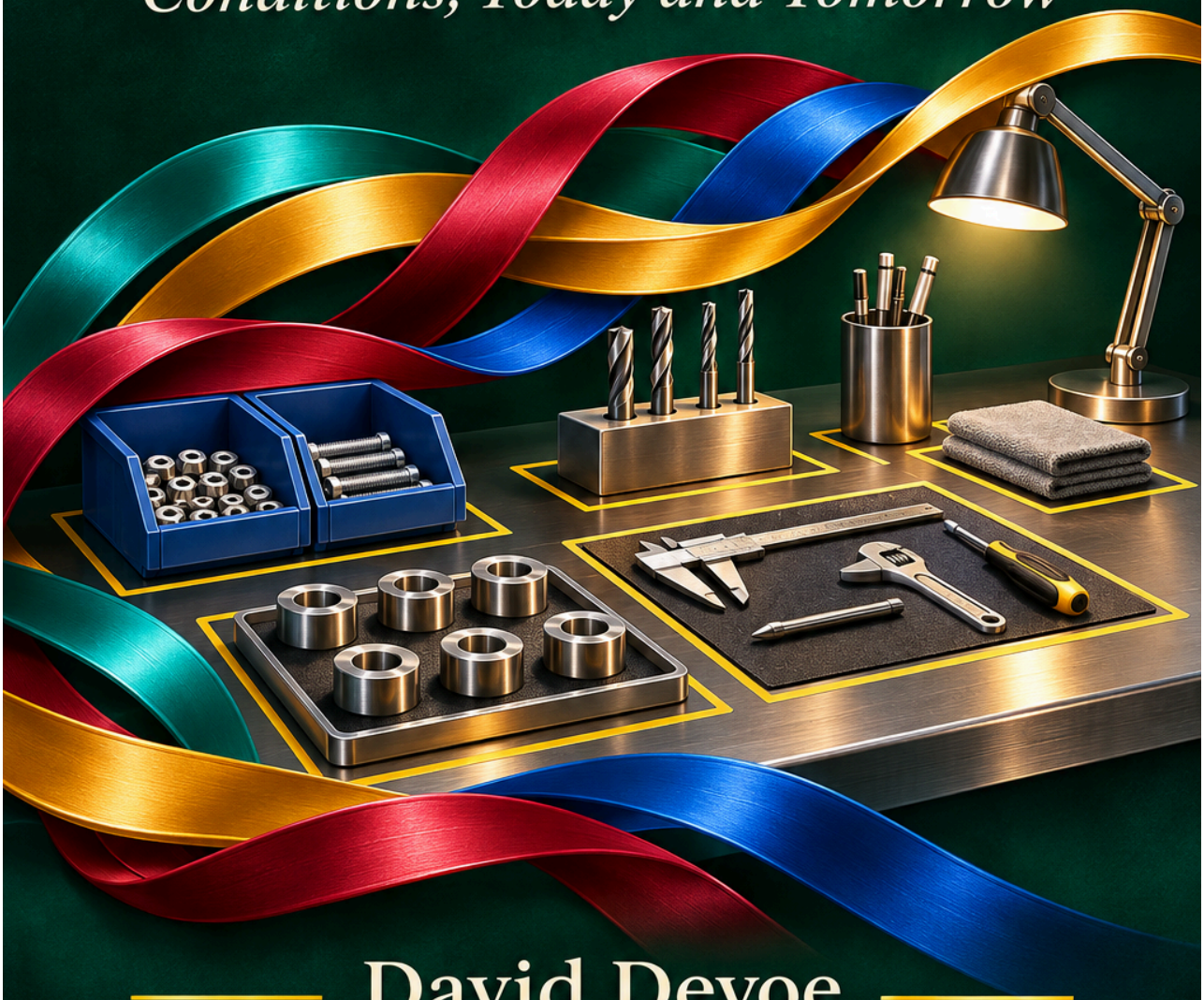
LeanTPS™ | Chapter 2

5S THINKING

Governing Workplace Conditions, Today and Tomorrow



David Devoe

About this chapter

This chapter examines the physical conditions that make a method practical: what belongs at the workplace, where it is needed, in what quantity, and in what condition. The five disciplines help people establish and maintain these arrangements while learning from the difficulties encountered in use. Later sections extend these responsibilities to prospective Mixed-Model Human-Humanoid Environments, where several product variants and different kinds of worker or machine depend on the same physical arrangements.

The chapter can be read independently. Environmental refers to the physical workplace and its operating arrangements. Governance refers to the decisions, responsibilities, and follow-through that support the work. Use the discussion to examine one real arrangement with the people who depend on it.

The experience behind the teaching

My teaching draws on training at Toyota Industries Corporation in Takahama, Japan, and 13 years at Toyota BT Raymond. I was a core member of the Toyota Material Handling Manufacturing North American TPS Working Group and led Jishuken within Toyota Material Handling North America, including activities hosted by Susumu 'Sonny' Toyoda. My experience includes Toyota Business Practices and training with Sadao 'Sam' Nomura beginning in 2006, including Dantotsu Radical Quality Improvement. I write from participation in this work: the development of people, management responsibility, and the practical integration of TPS into an organization. The archive records reproduced here support that account; they do not stand in for it.

Figure credits

The workplace photograph and housekeeping audit series are from my teaching archive. The five-discipline diagram develops the operating questions taught in this chapter. The 2012 Blue Garage example describes a historical plan, with intended targets distinguished from confirmed results.

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Extract from Lean TPS: The Thinking People System - A System to Prevent Failure (2026 Edition).
Complete-book PDF ISBN: 978-1-0699261-1-1.
The ISBN identifies the complete book; this chapter is sold separately.

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CHAPTER 2

5S Thinking: Governance of Workplace Conditions

2.0 The Workplace Conditions for Reliable Work

In this book, 5S Thinking describes a practical way to define and improve the physical conditions required by the work. Sort, Set in Order, Shine, Standardize, and Sustain help people decide what belongs, where and how much is needed, and how its condition will be maintained. These decisions should make necessary work easier, expose meaningful departures, and support an appropriate response. An orderly appearance is useful evidence to examine, but the stronger test is whether the arrangement serves the work and the people performing it.

Workplace conditions at the point of use



Figure 2.1. A reach tractor cell from my workplace teaching archive. Use the material presentation, fixture, access, and point-of-use arrangements as subjects for direct observation.

The photograph directs attention to the arrangement, but the people using it can explain replenishment, product differences, and difficulties that a still image cannot show. Confirm whether each necessary item is identifiable, available, reachable, and in suitable condition during the actual sequence.

The subject is the workplace that people must actually use. My Toyota experience connected 5S with leadership responsibility for those conditions, including the difficulty created by unsuitable storage, ambiguous locations, excess material, and recurring compensation. This chapter develops that argument independently. Its later connection with Standardized Work explains how a dependable environment supports a repeatable method.

2.0.1 Workplace as a System Component

Lean TPS does not treat the workplace as a passive setting in which work occurs. The environment is an active component of the production system. Its condition influences whether execution can follow defined methods or whether avoidable variation is introduced before work begins. When location, access, and material presence are inconsistent, people may be unable to follow the intended method. Downstream checks can detect or contain some consequences, but they do not remove the unstable starting conditions that created them.

The condition of the workplace therefore governs an important starting point of every activity. Before an operator begins, the environment must support the method. Unstable conditions create demands for adjustment that the work design may not anticipate. Recognizing those demands is the first step toward correcting them.

2.0.2 Environmental Condition as Entry Control

5S Thinking establishes environmental condition as an entry requirement for controlled execution. It defines what is present, where it is located, how much is required, and what condition is acceptable. These definitions reduce avoidable ambiguity at the point of use. When a required condition is missing, the response must protect people and Quality: contain the exposure, stop the affected work when necessary, and involve the responsible person before a verified restart. A visible requirement is useful only when the organization acts on it.