M.C. Gill Corporation Group of Companies

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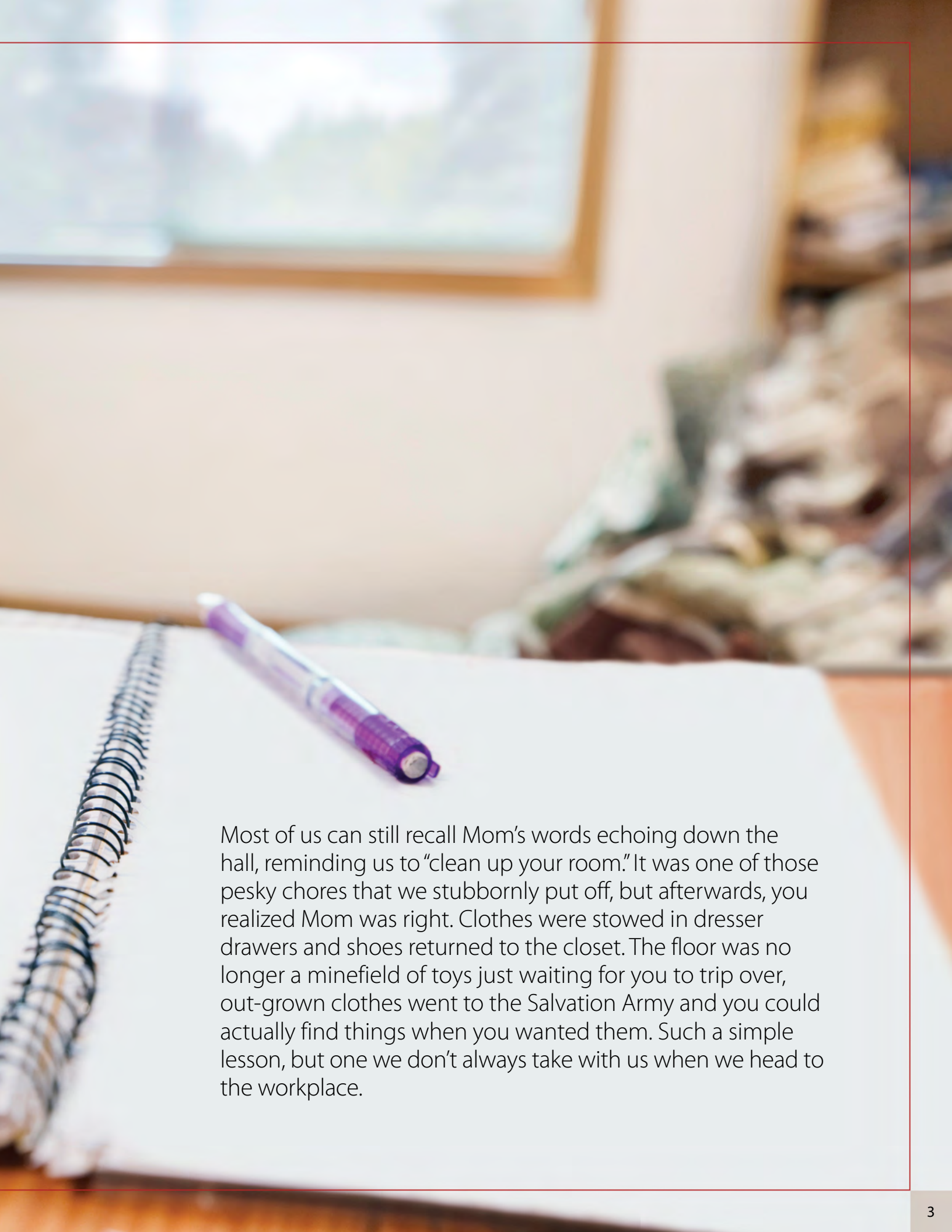
The Art of Order

5S:
The Art of Order



Most of us can still recall Mom's words echoing down the hall, reminding us to "clean up your room." It was one of those pesky chores that we stubbornly put off, but afterwards, you realized Mom was right. Clothes were stowed in dresser drawers and shoes returned to the closet. The floor was no longer a minefield of toys just waiting for you to trip over, out-grown clothes went to the Salvation Army and you could actually find things when you wanted them. Such a simple lesson, but one we don't always take with us when we head to the workplace.

5S: THE ART OF ORDER

Since the industrial revolution began, businesses have worked to maintain profitability in the midst of growth. Founding Father Benjamin Franklin wrote frequently about efficiencies in business, stressing "waste reduction thinking," and he served as a model for later American capitalists who would shape the pre-war commercial landscape.

Perhaps most famous is industrialist Henry Ford, who first revolutionized the automobile industry. Ford's success developing his mass assembly system is rooted in his desire to limit waste and increase efficiency. In 1915, one of Henry Ford's peers, Charles Buxton Going (engineer, author and editor), wrote, "Ford's success has startled the country, almost the world, financially, industrially, mechanically."

Standardization of parts, upper and lower dimensional tolerances and interchangeability buttressed Ford's production model. However, an ever-changing consumer market created demand for ever-increasing quality standards and the practice of continual improvement.

In the fall 2011 *Doorway*, we examined the historical roots of quality management leading to our recent AS9100 Rev. C certification. As a major supplier to the aerospace industry, product quality, safety and reliability play a critical role in our business. A major impetus for driving improvements is the need to reduce cost. Organizations must continue to produce safe and reliable products, but to survive in today's economic environment, we must adopt a continual improvement mentality. A key ingredient in the AS9100 Rev. C quality management system is for an organization to demonstrate continual improvement. Aerospace organizations have adopted improvement tools such as Kaizen, Lean, and 5S workplace optimization. These present an opportunity to drive out waste through defined methodologies and fulfill AS9100's continual improvement requirements. The results are improved, streamlined processes as well as reduced cost.

This is the Ford Model T assembly line in 1924.

AS9100 Rev. C (8.5.1 Continual Improvement) states:

"The organization shall continually improve the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

"The organization shall monitor the implementation of improvement activities and evaluate the effectiveness of the results. *NOTE:* Continual improvement opportunities can result from lessons learned, problem resolutions and the benchmarking of best practices."[1]

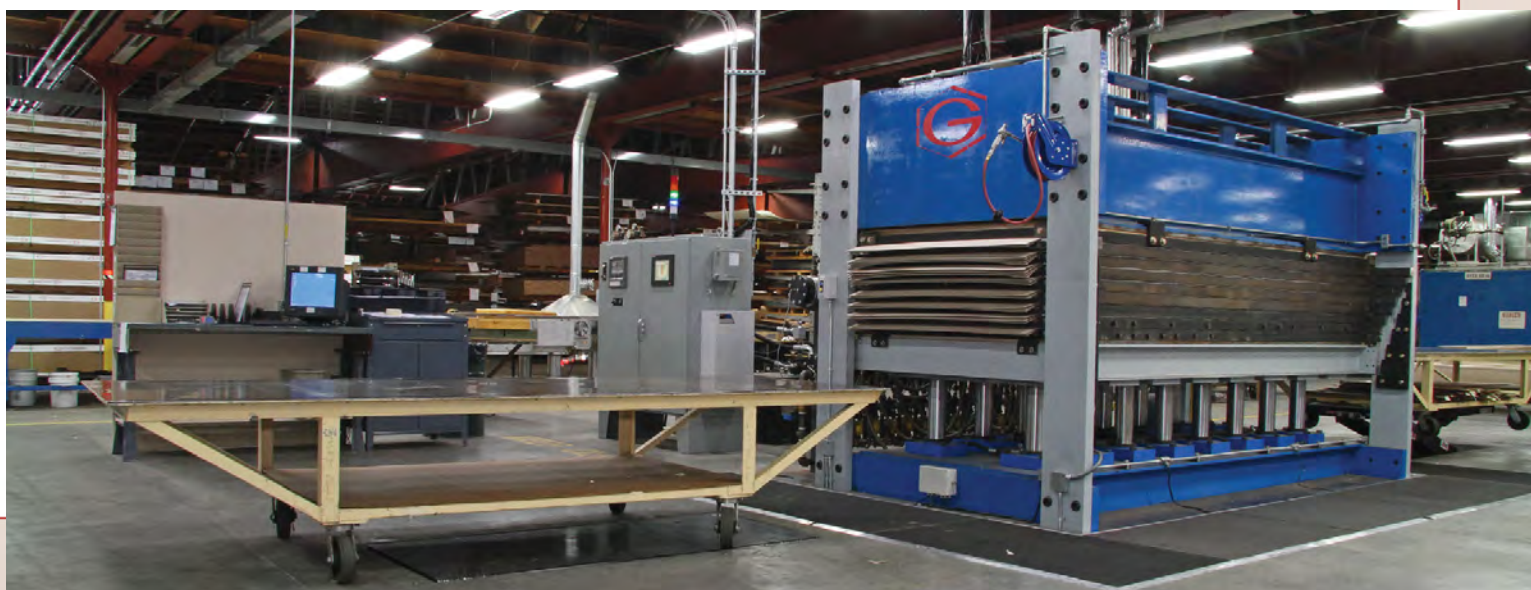
The management team at M.C. Gill Corporation utilizes a combination of quality management systems and tools to optimize operations. It would be easy to become complacent and tell ourselves we've done the work, passed the audit, have the tools in place so we can sit back and relax, but mother's words still echo in our minds. There is value in regularly examining how you do business and exposing yourself to scrutiny. The successful AS9100 audit was the perfect reminder to go back and re-invigorate an often-used quality tool to increase our efficiency.

While some of the tools mentioned above may sound foreign, a closer examination reveals principals familiar to our American industrial roots. *Kaizen* is Japanese for "improvement" or "change for the better" and refers to the philosophy or practices that focus on continuous improvement of processes in manufacturing, engineering, game development and business management. When used in the business sense, *Kaizen* refers to activities that continually improve all functions, and involves all employees from the CEO to the assembly line workers.[2]

1 AS9100 Manual, published January 2009

2 Kaizen, Wikipedia.org/wiki/kaizen

Equipment and tools clearly marked to improve efficiency and ensure work areas remain clean.



Civil Communication Section in Japan, post WWII.

Kaizen

Kaizen was first introduced to Japan by American occupation forces after World War II. The Civil Communications Section (CCS) brought in business experts (to help Japan rebuild) who developed a management training program that taught statistical control methods. The program was launched in a training film called "Improvement in Four Steps" (translates in Japanese as *Kaizen eno Yon Dankai*). The course, implemented by W. Edwards Deming, is the precursor of the modern *Kaizen* tool which became central to emerging Japanese companies like Toyota (who call their particular refined version the Toyota Production System, or TPS). Another improvement tool is called "Lean Manufacturing."

Lean Manufacturing

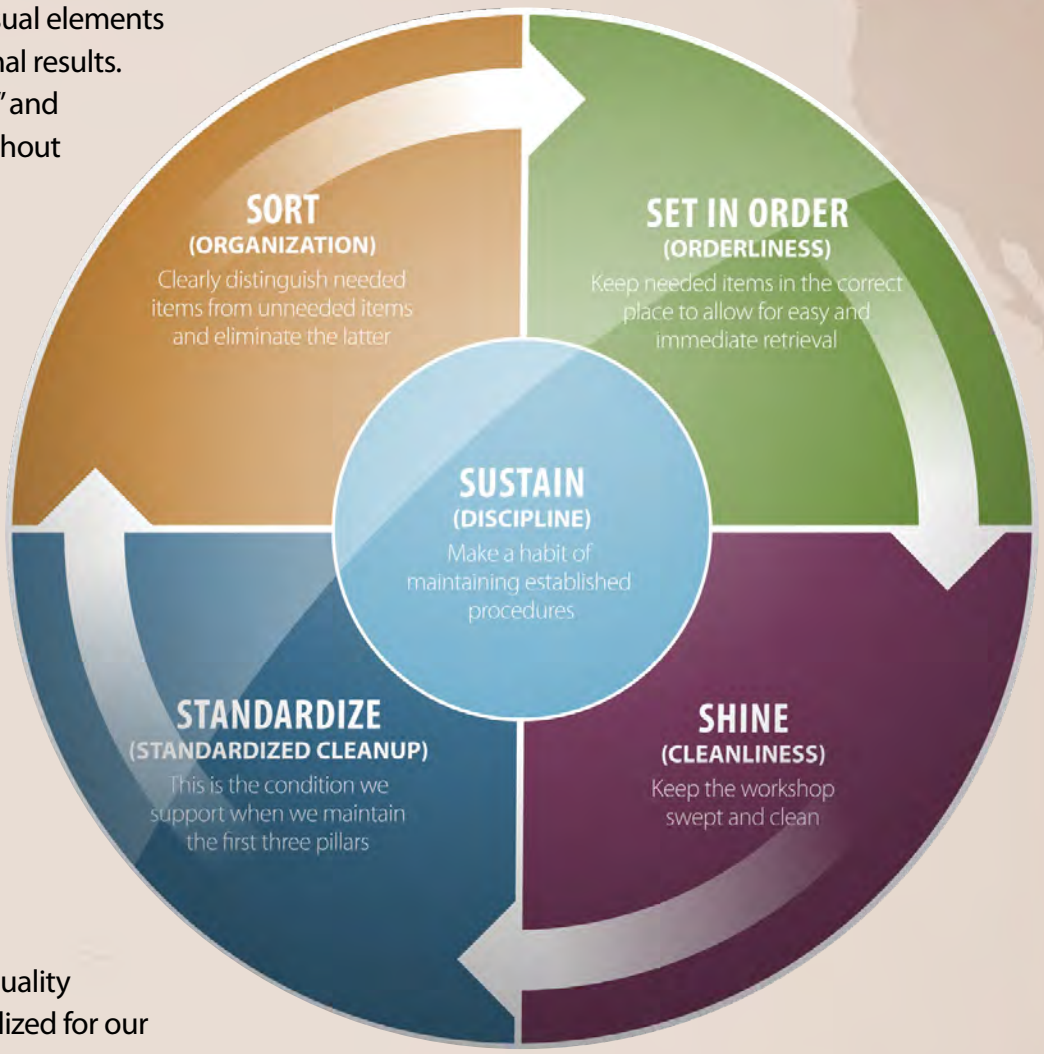
Lean Manufacturing is a practice that focuses on limiting waste within an organization. Allocating resources for any goal other than the creation of value for the end customer is wasteful and should therefore be eliminated. "Lean is a management philosophy derived from TPS. Lean Manufacturing is a variation on the theme of efficiency based on optimizing flow; it is a present-day instance of the recurring theme in human history toward increasing efficiency, decreasing waste and using empirical methods to decide what matters, rather than uncritically accepting pre-existing ideas."[3] Lean Manufacturing incorporates many practices found in earlier leaders like Henry Ford (Fordism), while functioning in a modern global economy. Lean tools (value stream mapping – material and information flow mapping, *kanban* – pull systems, *poka yoke* – error proofing and 5S) allow an organization to identify and then eliminate waste in their operations.

The goals of Lean Manufacturing are to improve quality, eliminate waste, reduce time and reduce costs. Because of the unprecedented growth in sales, new personnel, equipment and facility upgrades, management at M.C. Gill Corporation felt it would be an excellent time to re-audit themselves. The improvement tool M. C. Gill Corporation has recently *re-undertaken* is 5S.

3 Lean Manufacturing, Wikipedia.org/wiki/lean_manufacturing

The 5S Pillars

5S is a system to help reduce waste and optimize productivity by maintaining an orderly work environment, using visual elements to improve overall operational results. Implementing 5S "cleans up" and organizes the workplace without completely reconfiguring the space. 5S is a cyclical methodology defined by five steps:



Sort (*Sein*)

Straighten (*Seiton*)

Shine (*Seiso*)

Standardize (*Seiketsu*)

Sustain (*Shitsuke*)

Under the guidance of the quality department, a matrix specialized for our organization has been developed to evaluate our operations through the 5S methodology. The quality department began the 5S process by evaluating themselves and then trained other departments on the auditing principles. Four key areas in each of the five steps are evaluated so the teams of auditors can conduct their evaluations with minimal interruption to daily workflow.

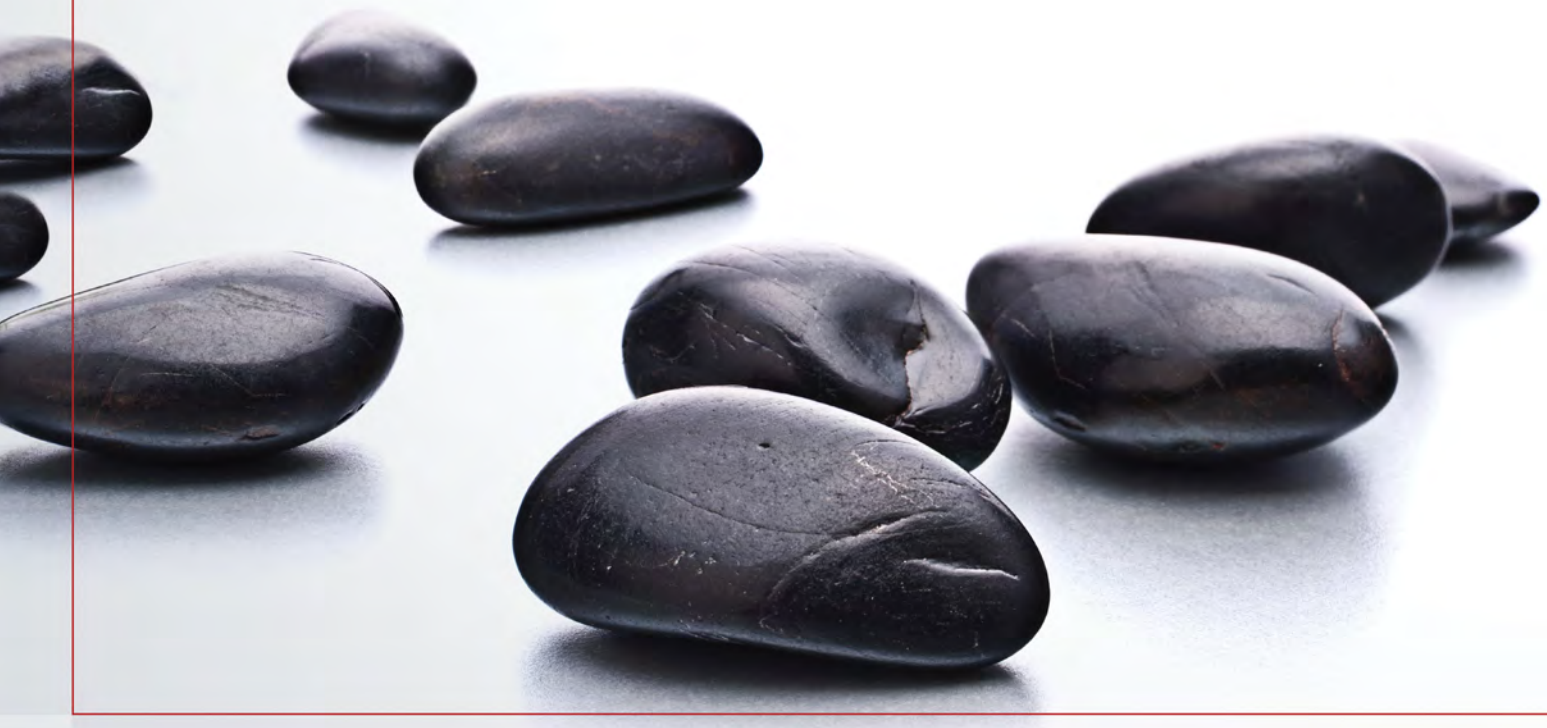
Auditors meet with employees in each department to confirm alignment with 5S principals and offer suggestions for improved productivity. Employees are scored (0-2) in the various areas of 5S to determine a cumulative total that is reviewed and logged on an ongoing basis to encourage cooperation.

Sorting involves eliminating unnecessary parts, tools and instructions in the work environment. This requires removing confusing duplications, prioritizing essential items and keeping them in easily accessible locations while everything else is stored.

1. **Unneeded objects** – are unneeded items removed and stored?
2. **Unneeded files and papers** – have unnecessary files been archived?
3. **Cables and wires** – are computer cables and wires secured?
4. **Walls and partitions** – are walls free of unneeded posters and papers?

Straightening means establishing a place for everything in clearly labeled locations, arranged in a well-organized manner to promote efficient workflow.

1. **Area identification** – are areas and offices clearly identified?
2. **File identification** – are shelves and file cabinets clearly marked?
3. **Documents and files identified** – are internal files and documents clearly labeled?
4. **Document and file organization** – are documents and files logically organized?



Shine means cleaning the workspace and equipment so it is tidy and organized and obvious where things belong. This activity is helpful in identifying potential safety issues since abnormalities (leaks, spills, rubbish, etc.) tend to jump out.

1. **Cleanliness of floors** – are floors and carpets clean?
2. **Updating tasks** – is someone responsible for updating files?
3. **Wastebaskets** – are wastebaskets regularly emptied?
4. **Tidiness and Cleanliness** – are offices clean and tidy?

Standardize relates to work practices. Once the first four activities are in place, similar work spaces and functions become interchangeable.

1. **Ergonomics** – are areas organized ergonomically?
2. **Confidential information** – is confidential information secure?
3. **Electronic filing** – is shared electronic filing organized for easy retrieval?
4. **Stationery** – are minimum supply quantities indicated?

Sustaining requires maintainance and review of company standards. After the first four activities have been established, *this* becomes the new way of operating. It is important not to slide back into old practices and when new ideas or equipment are introduced, the four "S" activities should be reviewed to assure compliance.

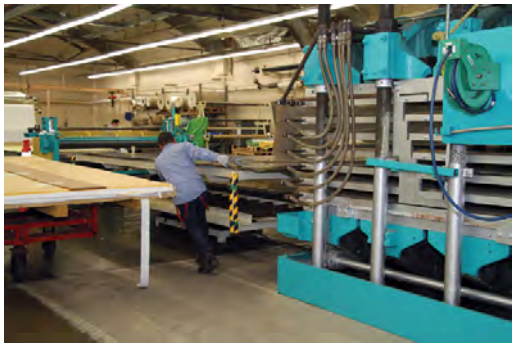
1. **Meetings** – do team members hold regular meetings?
2. **Standards awareness** – are new and existing employees practicing and aware of 5S?
3. **Audit results** – are audit results posted clearly?
4. **Audits and updates** – are dates set for next 5S audits?

Besides the obvious benefits gained through 5S, there are additional advantages an organization gains.

Safety in the workplace is improved for both office and operational personnel. Security risks are more easily identified and corrected as they relate to fixed assets, human resources, brand equity, intellectual properties, information technology and materials. Employee satisfaction improves as employees take more ownership in their functions and environment.

Ask a tradesman and they will tell you any job is easier with the right tools. Utilizing proven business tools is a way for manufacturers to delight their customers while remaining efficient and profitable. 5S is a tool to steer a company towards a more efficient, waste-free environment and the results speak for themselves – so I guess Mom was right!

Production staff review work orders for accuracy.



Production areas are kept free of debris.

Materials clearly marked per 5S methodology.

Above & below: Work areas kept clean and orderly.

Below: Software tools used to improve efficiency.

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Alcore does not sell sandwich panels. Contact M.C. Gill for these products.

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THE FUNNY SIDE

"Mister, why doesn't this cow have any horns?" asked the young lady from a nearby city. The farmer cocked his head for a moment, then began in a patient tone: "Well, ma'am, cattle can do a powerful lot of damage with horns. Sometimes we keep 'em trimmed down with a hacksaw. Other times we can fix up the young 'uns by puttin' a couple drops of acid where their horns would grow in, and that stops 'em cold. Still, there are some breeds of cattle that never grow horns. But the reason this cow don't have no horns, ma'am, is 'cause it's a horse."

A man with a nagging secret couldn't keep it any longer. In the confessional, he admitted that for years he had been stealing building supplies from the lumberyard where he worked.

"What did you take?" his priest asked.

"Enough to build my own house and enough for my son's house. And houses for our two daughters and our cottage at the lake."

"This is very serious," the priest said. "I shall have to think of a far-reaching penance. Have you ever done a retreat?"

"No, Father, I haven't," the man replied. "But if you can get the plans, I can get the lumber."

Two brothers jointly owned a business and both were wise in worldly ways. While dying, one brother instructed his sibling to put half of their combined wealth into the grave with the casket. The brother reluctantly agreed. In time his brother died. At the graveside ceremony the living brother wrote a check for half of their assets and placed it in the casket.

Q. What lies at the bottom of the ocean and twitches?

A. A nervous wreck.

Q. How do you double the value of a Geo Metro?

A. Fill it with gas.

Q. How many ears did Davy Crockett have?

A. Three – his left ear, his right ear, and his wild front ear.

Q. Did you hear about the blind man who went bungee jumping?

A. He loved it, but it scared the heck out of his dog.

Q. Why don't cannibals eat clowns?

A. Because they taste funny.