5S
Training Module

Best Practices
North American Technical

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By: Soichiro Honda

The reason why I tell you, Honda employees, to keep our factory clean is not
to look good from the outside. A mindset which neglects a dirty and unorganized
factory will never generate excellent products. Our factory is where we all live.
Those who have no mindset to organize this place will never be able to build
excellent products. **Our mindset is directly reflected in our products.**

**Introduction and Agenda**

**5S**

- House of Continuous Improvement / Lean
- What is 5S?
- 5S Training and Audit
**House of Continuous Improvement and Lean**

- **Continuous Improvement & Lean**
  - Pulling Products
  - Flexibility
  - Innovation
  - Continuous Flow
  - Total Productive Maintenance
  - Quick Changeover
  - Improved Parts Presentation
  - Associate Involvement
  - Standard Work
  - 5S / VWM

- **The mortar represents the Company’s culture**

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**What is Standard Work?**

Most efficient work flow

- Considering Safety, Quality, Delivery and Cost
- The main focus is on human movements (Ergonomics, Safety & Efficiency of Movements)
- Eliminate the Dirty, Dangerous and Difficult

- **5S & Standard Work**
- 5S should be an Integral Part of Standard Work OR we are Just Straightening Up and Cleaning the Waste

- • Takt Time (Customer Demand)
- • Standard Work Sequence and Cycle Times
- • Standard Material Levels & Placement
Characteristics of The Visual Workplace

“Communications Open and Visual”

“Simplicity, Concentration & Speed”

“The Ability to see the Abnormal Condition Immediately”

Characteristics of the Visual Workplace

Workplace Organization & 5S
Introduction to 5S

**Agenda**

- **What is 5S?**
  - Getting Started
    - Sort
    - Set in Order
    - Shine
    - Standardize
    - Sustain
  - Getting the Most Out of the 5S’s

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**What is 5S?**

- A systematic method to organize the workplace, to keep it neat and clean, to maintain standardized conditions, and to sustain the discipline that is needed for high performance.

- The 5S system **should come first** as a basis for other improvements. 5S **identifies** where the **problems** are.
  - 5S is a great way to **eliminate waste**.
  - **5S is a culture**. It must be taught then used repeatedly to become part of everyone’s **daily** routine.
Implementing and Sustaining a 5S program takes a major Culture Change.

Does anyone look familiar?

Do you have “CAVE” Men or Women in your company?
The 5S System
Japanese -- English Terms

Seiri -- Sort
Seiton -- Set in Order
Seiso -- Shine
Seiketsu -- Standardize
Shitsuke -- Sustain
The 5S System

1: **Sort** - Eliminate unnecessary items.
2: **Set in Order** - Organize and Identify.
3: **Shine** - Clean / inspect routinely.
4: **Standardize** - Create visual standards.
5: **Sustain** - Establish good habits.

The Importance of 5S

- Safety Practices
- Productivity Efficiencies
- Quality Assurance
  - Mistake Proofing
  - Process Controls
- Equipment Reliability (TPM)
- Flexibility (short lead time)
  - One-piece-flow
  - Quick set-up
- Better work environment

Symbol - Identifies Benchmark process
Benefits of the 5S System

- Reduces
  - Waste
  - Downtime
  - Defects
  - Changeover time
  - Delays
  - Questions

- Improves
  - Safety
  - Customer satisfaction
  - Personal satisfaction
  - Visual Control
  - Standardization
  - Process Control

Introduction to 5S

- What is 5S?
- Getting Started
  - Sort
  - Set in Order
  - Shine
  - Standardize
  - Sustain
- Getting the Most Out of the 5S’s
Getting Started

• Prior to starting a 5S implementation project, planning and preparation must take place.

• Laying the groundwork:
  – Explain the overall concepts and objectives of 5S to upper-level management in the plant.
  – Get upper-level management support.
  – Select target area(s)
  – Choose a project facilitator for each target area.
  – Ensure that you have the target area management’s support, including resources.

Getting Started

• Form a core implementation team to manage 5S implementation in target areas.
  – People who are interested / willing to participate.
  – Represent the different job functions in the area.
  – Area manager must support each member’s involvement.
  – Each team member must understand scope of project.
  – Communicate 5S concepts and plan to all Associates.
Getting Started
Introducing 5S to associates. (flyers, banners etc.)

5S Implementation Schedule:
(Target Area Example)

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
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Notes:
1. Each S may take several months to implement but perfecting the process never ends.
2. The 5S system will expand into other areas after the initial area is complete.
Sort / Seiri

- Identify what is needed and not needed right here, right now
- Set items aside for group disposition
- Dispose of items:
  - Find a better location in the work area
  - Locate elsewhere in the facility
  - Sell, give away, or throw away

5S Red Tag

Sorting Items from the Workplace

<table>
<thead>
<tr>
<th>Level</th>
<th>Degree of Need (Frequency of Use)</th>
<th>Storage Method (Stratification)</th>
</tr>
</thead>
</table>
| Low    | • Things you have not used in the past year or won’t be needing  
        • Things you have only used once in the past 6-12 months | • Throw them out  
                                    • Store at a distance |
| Average| • Things you have only used once in the last 2-6 months  
        • Things used more than once a month | • Store in a central place in the workplace |
| High   | • Things used once a week  
        • Things used every day  
        • Things used hourly | • Store near the work site or carry on the person |
Red Tagging

- Red tagging is a visible way to identify items that are NOT needed or in the wrong place.
  - Establish the rules.
  - Identify unneeded and misplaced items.
  - Throw out items that have no use or value.
  - Attach Red tags to items that are unknown or might be used outside of the work area.
  - Move tagged items to the Red tag holding area for temporary storage.
  - Communicate that items have been moved.

5S Red Tag Example

The red tag should include:
- Description of item
- Where & when tagged
- Date
- Reason tagged
- Additional items for your situation
AEP **Red** Tag Holding Area

Locate in highly visible area and close to Management.

Here’s a Red Tag Area that’s easy to understand.

Simple instructions posted on the board indicate how the area is to be used.
It’s amazing how much you can find!

Central Red Tag Area at the Anna Engine Plant.

### Alternative Method of Red Tagging

#### Red Tag
- NOT needed
- Dispose now.
- Allocate a central Red Tag area.
- Include disposal instructions.
- Appoint a review board for questionable items.

#### Yellow Tag
- We MAY need this.
- Keep it until _______ Date
- Allocate a Yellow Tag area close to workplace.
- Review on specific date.
- Store occasionally used items in out of the way locations.

#### Green Tag
- We DO Need it.
- Keep it
- Leave Green Tag items in the workplace.
- Set their final location later in 5S process.
Introduction to 5S

Agenda

• What is 5S?
• Getting Started
  • Sort
• **Set in Order**
  • Shine
  • Standardize
  • Sustain
• Getting the Most Out of the 5S’s

Second S: Set in Order

• Organize and locate all necessary items.
• Decide how many of each item will be stored in a given location (set height, size, and min/max inventory limits).
• Make it easy for anyone to find and use them.
• Make it obvious when they are not in their correct place.

"A Place for Everything and Everything in its Place"
Second S: Set in Order

• Increases job efficiency by making it easier for anyone to find, use and return items.

• Check points for your workplace:

  ✔ Are the positions of main corridors, aisles and storage places clearly marked?
  ✔ Are tools / office equipment divided into specialized use and “regular items?”
  ✔ Are all pallets always stacked to the proper heights?
  ✔ Is anything stored around fire extinguishers & eye wash stations?
  ✔ Are office areas / workstations clearly identified?

Principles of Storing Jigs, Tools & Materials

✔ Locate according to their frequency of use
✔ Items used together should be stored together
✔ Right size storage areas
✔ Eliminate variety by using multi-purpose tools
✔ Use open storage systems
✔ Use Gravity to your advantage
✔ Make it obvious where things belong
5S Example: Organization

- Standard Work
- Shadow board
- Tool Belt

5S Example: Organization
5S Example: Organization

Notes:
• Everything has a place.
• Shelves are built on an angle.
• Items are identified with labels.
• Work area is clean and organized.
5S Example: Organization

Before

After

5S Example: Organization

Organized Tool / Die repair area
Establishing Boundaries

Boundaries identify the designated location and space for each item. They encourage recoil, that is the proper placement and return of an item.

These barrels should be here. A missing barrel is not obvious. Boundary lines designates proper location.

Clearly something is missing. Address tells us what is missing. Address on both barrel and location, encourages it’s proper placement and return.

5S Example: Organization

Before

After
5S Example: NO Organization

5S Example: Organized Maintenance area
5S Example: Assembly aisle Identification

Tow motor route controlled through floor markings.

5S Example: Organized Traffic Flow
Introduction to 5S

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Shine / Seizo

• Thoroughly clean the overall workplace.
• Clean workstations and equipment, inside and out.
• Identify and eliminate sources of contamination.
• Find ways to keep the workplace clean.
• Make cleaning part of everyday work.
• Adopt cleaning as a form of inspection.
Identify the source of contamination and eliminate it.

No Band Aids!

Third S: Shine

What's wrong with this machine?

 .......... Now we can find out!
Third S: Shine

Before

After

Third S: Shine

Before

After
Third S: Shine

- Restore items to like-new condition where possible.
  - Refurbish, paint, clean, polish, etc.
- Plan cleaning assignments and cleaning methods.
- Replace worn wires, hoses, etc.
- Prevent dirt, grime and contamination from occurring.

Benefits of Shine

- Cleaning helps uncover problems “Inspection”.
- Cleaner facilities support higher quality, higher precision and finer processing technologies.
- Fewer equipment breakdowns because you spot problems/deterioration early.
- A safer workplace with fewer hazards.
- A more effective and satisfying place to work.
Inspection Through Cleaning

**Example:**

**Difference between washing a car in an automatic car wash and washing it by hand.**

**Overall, the car is clean either way.**

But less obvious physical defects are revealed only by personal inspection of the various parts (tire wear-out, presence of nails, cracks in the finish, body scratches, rust, etc.)

This type of cleaning through inspection of equipment in your area is important for the same reasons.

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**Example of 5S Cleaning Duties**

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**E.O.S. ASSIGNMENT MATRIX**

<table>
<thead>
<tr>
<th>CODE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
<td>7</td>
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<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
</tbody>
</table>
5S Supplies or Tools provided line side

Supply storage board

Cleaning kit and check sheet

Designated location for cleaning supplies.

5S Supplies or Tools provided line side

Organized 5S cleaning supply station.

Organized and labeled recycle and trash locations.
Introduction to 5S

Agenda

• What is 5S?
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Standardize / Seiketsu

• Determine standard procedures and make them visible.

• Designate standard colors, shapes, and symbols to be associated with standard procedures.

Fourth S: Standardize

• Implement the rules by which the first 3S’s are performed and maintained
  – Standardize Red tag procedures and Red tag holding area rules
  – Standardize location, number and position of all items (standardize colors, shapes, symbols, etc.)
    • Make temporary lines, signs, and labels permanent
  – Standardize cleaning schedules and procedures
  – Standardize work procedures and make visible
Fourth S: Standardize

- Establish the standard conditions of Sort, Set in Order, and Shine.
- Attain those conditions
  - Additional 3S work may be necessary to reach the standards you have set.
- Make it easy (visual) to conform to standards.
- Maintain and monitor these 5S conditions.
  - audits & tracking, daily follow up

### Color Coding for Floor Markings

<table>
<thead>
<tr>
<th>SIZE</th>
<th>COLOR</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 INCH</td>
<td>WHITE</td>
<td>ASILES, CONSUMABLES STORAGE, WORK IN PROCESS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>RED</td>
<td>REJECT BINS, REJECT AREAS, SCRAP PARTS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>YELLOW</td>
<td>SAFETY ITEMS, FLAMMABLE STORAGE, STAIR ACCESS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>GREEN</td>
<td>FINISHED PARTS STORAGE, WIP</td>
</tr>
<tr>
<td>2 INCH</td>
<td>BLUE</td>
<td>RAW MATERIALS, SUPPLIER COMPONENT PARTS STORAGE</td>
</tr>
<tr>
<td>2 INCH</td>
<td>BLACK</td>
<td>TRASH CANS AND WASTE DUMPSTERS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>ORANGE</td>
<td>MASTERS, TOOL CRM, TOOLS STORAGE, SWEEPER STORAGE</td>
</tr>
<tr>
<td>2 INCH</td>
<td>RED / WHITE</td>
<td>REPAIR / HOLD AREAS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>YELLOW / BLACK</td>
<td>ELECTRICAL CABINETS &amp; PANELS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>WHITE / GREEN</td>
<td>PRODUCTION CONTROL AISLES</td>
</tr>
<tr>
<td>2 INCH</td>
<td>PURPLE</td>
<td>PARTIAL / EMPTY STORAGE TOTES OR RACKS</td>
</tr>
<tr>
<td>2 INCH</td>
<td>SILVER</td>
<td>Pb FREE ZONE</td>
</tr>
<tr>
<td>2 INCH</td>
<td>BROWN</td>
<td>CFRN COLOR</td>
</tr>
</tbody>
</table>

ALL 2 INCH COLORED TAPE IS TO BE PLACED ON TOP OF 3 INCH WHITE TAPE WITH ONE INCH OVERLAP TO BE TO THE OUTSIDE OF THE TAPED AREA.

IDENTIFICATION LABELS ARE TO BE ONE INCH TALL, BLACK LETTERS, ARIAL FONT ON WHITE BACKGROUND.

SEE EXAMPLE BELOW:

EXAMPLE
Standardize Example
5S Map & Color Coding

Various plumbing going in and coming out of machinery.
Responsibility Areas Designated with 5S map

Some evidence of standardized work areas
- Clear, clean, side ways
- Color coded areas
- Slogans, banners
- No work in process (WIP)
- One Piece Flow
- Standardized Work Sheets
Introduction to 5S

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Sustain / Shitsuke

Stick to the Rules

Sticking to the rules shows us where improvement is needed.

Adherence

When we achieve 100% adherence to standards, many of our workplace problems disappear.

Sustain / Shitsuke

- Use self-discipline
- Develop good habits
- Develop visual controls
Fifth S: Sustain

• Sustaining the habits and discipline of the first 4 S's (Sticking to the rules)
  – Correct procedures have become a habit.
  – Proper training of all Associates has occurred
  – ’Buy-In’ from Associates and a change in work habits have been achieved.
  – The workplace is well-ordered and run by agreed upon standards.
  – Tools/ Supplies must be provided for associates.

Note:
• To remember something, people must see it 7 times
• To develop a new habit it must be repeated 21 times

How to Achieve the Fifth S: Sustain

• Practice, Practice, Practice
• Training
• Continuous Improvement
• Audits / Inspections
• Feedback
• Total Associate Involvement

• Coaching
• Facilitation
• Education
• Self Discipline
• Leader Involvement

Note: The first effort at implementing the first 4 S’s is NOT permanent—continue to question and improve as needed.
### Fifth S: Sustain

#### 5S Audit Checksheet

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ITEM</th>
<th>DATE MATTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank (Organization)</td>
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<tr>
<td>Set in Order (Cleanliness)</td>
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<td>Silica</td>
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<tr>
<td>Maintenance (Self-discipline)</td>
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<tr>
<td>Banks (Self-evaluation)</td>
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</table>

#### 5S Audits

- Use numerical score to monitor performance trends

#### Score 5S Weekly Audit Scores

![Graph showing 5S Weekly Audit Scores]

- We must investigate Area C!
Ex: 5S Practice Floor display

Includes Duties, Check sheets, 5S Map, and last audit results.

Plant “Overall” status displayed for all associates to see.
Why do we conduct audits?

Our goal with the audit is not just to measure 5S, but to **create a system of thought** centered on the principles behind 5S - defining and simplifying the job, organizing the flow, improving communication with other departments and making/tracking constant improvements. It all comes down to the Rules in Use. 5S is really a tool to gain better understanding of how the Rules impact your day-to-day and the overall company practices.

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### Exercise #1

**5S Practical Application**

- Performing a 5S Audit
- Results of your 5S Audit

![5S Audit Checksheet]

(If time allows and training is being conducted at Supplier location)
Introduction to 5S

**Agenda**

- What is 5S?
- Getting Started
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  - Sustain
- **Getting the Most Out of the 5S’s**

---

**Getting the Most Out of the 5 S’s**

- Formulate a 5S plan and follow it through.
  - **Involve** lots of **people** with the plan.
  - Make slogans, posters, and **publicize** and **train**.
  - Set up a 5S **organization**.
  - Set **targets** and plan for feedback on schedule and implementation progress.
  - Use **quick** Kaizen **projects** to help meet objectives.
  - Consider starting with “**model**” areas.
  - Break work down into **manageable** portions.
Getting the Most Out of the 5 S’s

• **Top management** must take the **lead** and be serious about the 5 S’s

• **Everyone** must take part.

• **Quantify results** of workplace audits and post in each area.

• There can be no **backsliding**.

• Success has to be consolidated and **achievements recognized** at each stage.

Example

of a

Shop Floor

5S

Transformation
Recognition

“Golden Bucket”
trophy

Presented to weekly department winner by President. Put on display in department until another department defeats the weekly champions.
Detailed Before and After “Recognition of Success” with team members pictures.

5S Program -vs- PDCA Cycle

- Plan
  - Develop a Plan for the First Four S
  - Organization Committee
  - Training and Education

- Do
  - Everyone Practices Housekeeping & Cleanup
  - Everyone Practices Workplace Organization

- Check
  - Evaluation & Recognition

- Action
  - Take Corrected Actions
• **Do not** limit your 5S activity to the production floor.

• When 5S becomes part of the “Culture” it must be plant wide.

The **office area** in most cases can use the **5S principles**.

Overstated but you Get the Idea?
Example: Office “Red Tag” area.

Common example of the Engineer work area.
Example: 3-ring Binder shelf Organization

Draw or tape line through Binders. Easy to see if one is missing or out of order.

Even Conference Rooms need 5S.

Before

After

Before

After
Characteristics of The Visual Workplace

“Communications Open and Visual”

“Simplicity, Concentration & Speed”

Visual Control

Visual Display

Workplace Organization
Standard Work
(Based upon a 5S Culture)

“The Ability to see the Abnormal Condition Immediately”

Here are a few 5S material / supply Resources……..

www.5Ssupply.com
www.magnatag.com
www.the5Sstore.com
www.wcmfg.com
Presenter:

Jack Parsons
Lean Network Steering Committee Member
Honda of America Mfg., Inc.
Purchasing North American Technical Supplier Support and Training
Office Phone: 937-644-7849
Cell Phone: 937-309-6904
jack_parsons@ham.honda.com

Thank you!