8D Problem Solving Process
Solving Major Problems in a Disciplined Way
(Also known as Global 8D Problem Solving)

When your company runs into a major problem, you need to address it quickly. However, you also need to deal with it thoroughly and ensure that it doesn't recur – and this can take a lot of effort and elapsed time.

The 8D Problem Solving Process helps you do both of these seemingly-contradictory things, in a professional and controlled way. In this article, we'll look at the 8D Problem Solving Process, and we'll discuss how you can use it to help your team solve major problems.

Origins of the Tool

The Ford Motor Company developed the 8D (8 Disciplines) Problem Solving Process, and published it in their 1987 manual, "Team Oriented Problem Solving (TOPS)." In the mid-90s, Ford added an additional discipline, Do: Plan. The process is now Ford's global standard, and is called Global 8D.

Ford created the 8D Process to help teams deal with quality control and safety issues; develop customized, permanent solutions to problems; and prevent problems from recurring. Although the 8D Process was initially applied in the manufacturing, engineering, and aerospace industries, it's useful and relevant in any industry.

The eight disciplines are shown in figure 1, below:

Figure 1: The 8D Problem Solving Process
The 8D Process works best in teams tasked with solving a complex problem with identifiable symptoms. However, you can also use this process on an individual level, as well.

**Applying the Tool**

To use the 8D Process, address each of the disciplines listed below, in order. Take care not to skip steps, even when time is limited; the process is only effective when you follow every step.

**Discipline 0: Plan**

Before you begin to assemble a team to address the problem, you need to plan your approach. This means thinking about who will be on the team, what your time frame is, and what resources you'll need to address the problem at hand.

**Discipline 1: Build the Team**

You should aim to put together a team that has the skills needed to solve the problem, and that has time and energy to commit to the problem solving process. Keep in mind that a diverse team is more likely to find a creative solution than a
team of people with the same outlook (although if outlooks are too diverse, people can spend so much time disagreeing that nothing gets done.)

Create a **team charter** that outlines the team's goal and identifies each person's role. Then, do what you can to **build trust** and get everyone involved in the process that's about to happen.

If your team is made up of professionals who haven't worked together before, consider beginning with **team-building activities** to ensure that everyone is comfortable working with one another.

**Discipline 2: Describe the Problem**

Once your team has settled in, describe the problem in detail. Specify the who, what, when, where, why, how, and how many; and use techniques like **CATWOE** and the **Problem-Definition Process** to ensure that you're focusing on the right problem.

Start by doing a **Risk Analysis** – if the problem is causing serious risks, for example, to people's health or life, then you need to take appropriate action. (This may include stopping people using a product or process until the problem is resolved.)

If the problem is with a process, use a **Flow Chart**, **Swim Lane Diagram**, or **Storyboard** to map each step out; these tools will help your team members understand how the process works, and, later on, think about how they can best fix it.

Discovering the root cause of the problem comes later in the process, so don't spend time on this here. Right now, your goal is to look at what's going wrong, and to make sure that your team understands the full extent of the problem.

**Discipline 3: Implement a Temporary Fix**

Once your team understands the problem, come up with a temporary fix. This is particularly important if the problem is affecting customers, reducing product quality, or slowing down work processes.

Harness the knowledge of everyone on the team. To ensure that each person's ideas are heard, consider using **brainstorming** techniques such as **Round Robin Brainstorming** or **Crawford's Slip Writing Method**, alongside more traditional team **problem solving** discussions.

Once the group has identified possible temporary fixes, address issues such as cost, implementation time, and relevancy. The short-term solution should be quick, easy to implement, and worth the effort.
**Discipline 4: Identify and Eliminate the Root Cause**

Once your temporary fix is in place, it’s time to discover the root cause of the problem.

Conduct a **Cause and Effect Analysis** to identify the likely causes of the problem. This tool is useful because it helps you uncover many possible causes, and it can highlight other problems that you might not have been aware of. Next, apply **Root Cause Analysis** to find the root causes of the problems you’ve identified.

Once you identify the source of the problem, develop several permanent solutions to it.

If your team members are having trouble coming up with viable permanent solutions, use the **Straw Man Concept** to generate prototype solutions that you can then discuss, tear apart, and rebuild into stronger solutions.

**Discipline 5: Verify the Solution**

Once your team agrees on a permanent solution, make sure that you test it thoroughly before you fully implement it, in the next step.

Consider:

- Conducting a **Failure Mode and Effects Analysis (FMEA)** to spot any potential problems.
- Using **Impact Analysis** to make sure that there will be no unexpected future consequences.
- Using **Six Thinking Hats** to examine the fix from several different emotional perspectives.

Last, conduct a **Blind Spot Analysis** to confirm that you and your team haven’t overlooked a key factor, or made an incorrect assumption about this solution.

**Discipline 6: Implement a Permanent Solution**

Once your team reaches consensus on the solution, roll your fix out. Monitor this new solution closely for an appropriate period of time to make sure that it’s working correctly, and ensure that there are no unexpected side effects.

**Discipline 7: Prevent the Problem From Recurring**

When you’re sure that the permanent solution has solved the problem, gather your team together again to identify how you’ll prevent the problem from recurring in the future.

You might need to update your organization’s standards, policies, procedures, or training manual to reflect the new fix. You’ll likely also need to train others on the new process or standard. Finally, you'll need to consider whether to change your
management practices or procedures to prevent recurrence.

**Discipline 8: Celebrate Team Success**

The last step in the process is to celebrate and **reward your team's success**. Say "thank you" to everyone involved, and be specific about how each person’s hard work has made a difference. If appropriate, plan a party or celebration to communicate your appreciation.

Before the team disbands, conduct a **Post-Implementation Review** to analyze whether your solution is working as you thought, and to improve the way that you solve problems in the future.

**Key Points**

In the late 1980s, Ford Motor Company developed the 8D (8 Disciplines) Problem Solving Process to help manufacturing and engineering teams diagnose, treat, and eliminate quality problems. However, teams in any industry can use this problem solving process.

The eight disciplines are:

0. Plan.
1. Build the Team.
2. Describe the Problem.
3. Implement a Temporary Fix.
4. Identify and Eliminate the Root Cause.
5. Verify the Solution.
6. Implement a Permanent Solution.
7. Prevent the Problem From Recurring.
8. Celebrate Team Success.

The 8D Problem Solving Process is best used with a team solving complex problems; however, individuals can also use it to solve problems on their own.