



## Benefits of a Maintenance Engineer

Years ago the majority of manufacturing and facility organizations had Maintenance Engineers as one of the key positions in the organization. As matter of fact, many organizations required *all* maintenance supervisor and maintenance engineer positions be filled by engineers with degrees. The theory was, and I still think a valid one, that having a maintenance supervisor with a strong engineering background would dramatically improve the decision making process when repairing or replacing assets. I believe that is still true today but most of those positions have disappeared due to the salary requirements and the lack of engineers that want to work in the maintenance field.

The Maintenance Engineer position was different in many ways. Often the position did not have any direct reports or if it they did, they were more staff-related like planners and schedulers, lubricators, PM teams, vibration technicians, etc. As you can see from the job titles the team which was lead by a maintenance engineer was responsible not for the ordinary and routine maintenance activities but the specialty programs which were responsible for moving the organization down path from what I call "Chaos to World Class" or, as I sometime describe it, performing proactive maintenance activities. Having an engineer responsible for this group was a big advantage due to some of the technical and engineering issues that arose with proactive and predictive activities. The other major component of the Maintenance Engineer position was to be responsible for analyzing reactive work and reviewing all failures to determine if the problems can be "engineered out." The importance of this process is essential to continually keeping your organization moving in the positive direction. If you don't review failures and reactive work to see if some re-engineering is justified you are assured to repeat your history.

### So what happen to the engineers?

Well they disappeared with all of the other technical help we used to have.

### So how do we continue to move forward without that knowledge?

The key to continuous improvement is to establish the maintenance engineering function, not the job but the function. It more than likely will not be an engineering position but at least have the function assigned to someone. This person should be responsible for reviewing all reactive or emergency work requests with special interest whenever there is a catastrophic failure. This can be handled fairly easily, by reviewing all reactive or emergencies, using a priority system to:

- filter the important assets,
- looking for repetitive failures,
- using the cost of the repairs, or the cost of the downtime or business interruption

Bottom-line you are looking for problems to assets that in one way or another caused you a lot of money or stress. In addition to looking for major problems to resolve, you are looking for fixes that will not happen again through a slight redesign, specking different repair parts, or revising the preventive maintenance procedures which will allow you to catch the problems before they occur.

### The key questions are:

Why did it occur and could we have prevented the failure? The objective here is to start asking why, why, why....did it fail? Somewhere along my career I was told you should always ask why five times whenever you have a significant problem. If you do this every time you have a failure that causes you some chaos in your work life, either in money or stress, you will be able to begin to reduce the amount and magnitude of the problems your organization is experiencing. Most of the



time if you complete the whys five times it will lead you to a preventive maintenance solution. What I mean is the answers to your 'why' questions will lead you to a solution that the existing preventive maintenance program for that particular asset needs to be modified in some form or fashion by changing frequencies and or the content of the inspection.

**So the bottom-line is...**to have accurate work order documentation which will allow you to identify the assets where most of your reactive or breakdown is occurring. Keep in mind the "Pareto Rule", or the 80/20 rule - 20% of your assets are causing 80% of your breakdowns and headaches. Preventive maintenance and re-engineering out repeat failures by using the maintenance engineering function is the number one way to pull yourself out of the maintenance chaos ditch.