

Toyota's approach to quality

A new approach to quality assurance was developed in America by many specialists, most famously W. Edwards Deming. They advocated many changes to traditional quality control systems to assure the quality of finished products. In the mid 1940s many Japanese manufacturers listened to their ideas and then started to re-think and re-develop their basic approach to quality.

Toyota has achieved a reputation for the production of very high quality vehicles in all countries around the world. This has been achieved by an approach to quality control and quality assurance, which is unique to Toyota and has been developed over many years.

Toyota considers quality control as a key part of the activities to produce products or services economically and to be of a standard, which exceeds customer needs.

Customer satisfaction is at the heart of all Toyota activities. In order to satisfy customer needs Toyota includes all Members in quality control activities. Everybody from research and development to manufacturing, retailing and servicing contribute to the quality control process. All Members have two roles, their own job and quality assurance. At Toyota we call this "Company wide quality control".

Some people understand quality assurance to mean thoroughly inspecting parts after they are made or by promptly complying with claims on products in the market. This is not the belief at Toyota. Total quality control is carried out using two basic principles: quality is built in at every stage and quality is continually improved.

To achieve total quality control Toyota Manufacturing UK involves each and every Member to ensure that only the best work is passed on to the next process. The use of standardised work together with visual control clearly indicate the current status and make it very easy to spot problems or unusual conditions as they occur.

Strict adherence to standardised work is vital. This is the only way that we can ensure stability of quality and be able to quickly identify the cause of any problems, which may happen.

Many processes are equipped with intelligent automation called "pokayoke" devices that automatically stop the production line if an error is detected. For example, if four nuts were required to be tightened the machine would count each operation and automatically stop the process if it counts less than four. Every piece of equipment has a special tune dedicated to it and when a concern is detected the tune dedicated to that particular piece of equipment plays and the Maintenance Member responsible recognises the tune and knows which equipment needs attention.

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Each Member is responsible for the quality of his or her work and aims never to pass on poor quality to the next stage. If anything unusual is noticed, the Member can pull the andon cord (a cord runs alongside the whole length of the production line), which stops the process, allowing time to investigate and confirm the quality before continuing.

If the Member pulls the andon cord, this action summons assistance from their Team Leader, by lighting up a number corresponding to their workstation on one of the many andon boards hanging overhead. If the problem can be rectified within that Member's process time, that is the time it takes for the car to pass through the Member's workstation, then the line does not actually stop.

Only if the concern is more serious and cannot be rectified within that Member's process time will the line stop. The Team Leader will pull the cord again once the problem has been resolved to enable the line to continue. This means that any quality concerns are sorted out when they occur and are not passed on to the next person.

Rigorous scrutiny of key features and functions of each vehicle helps to confirm both the quality of the vehicle and the stability of the production process.

The most important point in preventing recurrence of problems is thoroughly examining the causes and taking appropriate countermeasures to correct them. Countermeasures are classified into those involving machinery and equipment and those involving the process flow. Operational standards are reviewed and revised depending on the situation. It is important to find the root cause of problems. One way to do this is to keep asking why. Normally finding the real cause will require "why" to be asked at least five times.

Toyota quality relies on the flexibility and teamwork of its Members. Careful selection and continuous structured training has resulted in a workforce which is multi-skilled, flexible and highly motivated; committed to maintaining and improving the Company performance.

To confirm our process each day a number of cars will be selected at for further testing on our test track circuit.

The quality of the completed vehicle is greatly dependent upon a reliable supply of high quality parts and materials. Toyota's philosophy is to establish a long term working relationship with its suppliers, through early selection and continuous joint development. This has enabled suppliers as well as Toyota Manufacturing UK to actively contribute improvements to design and the production process. Parts from European suppliers meet the same high standard as Japanese and some of Toyota Manufacturing UK's European suppliers supply parts to Toyota in Japan.

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Toyota Manufacturing UK will never stand still. Kaizen, or continuous improvement, is used in every area of the Company to always look for a better way, to increase quality and efficiency and reduce costs. The Company continually reviews its targets and achievements to ensure that it continues to delight the customer.