The Toyota Way Essay, Research Paper

To address the seat problem, we would focus on finding out why there are so many defects in seat installation and production. Is it because of the supplier of the part? Or are the problems due to Toyota? Doug should also determine whether the process of installing and manufacturing the seats is allowing Toyota to efficiently identify the cause of problems and breakdowns.

As the Toyota plant Manager we would focus our attention on the following areas:

a) We will investigate the engineering change from metal to plastic. Although the hook breakage frequency went down in April, the process should be monitored further to determine if it contributes to the frequency of defects in the seat installation station.

b) Doug should work with the supplier Kentucky Framed Seat (KFS) to reduce supplier defects and errors. Because the frequency of defects has increased, TMC is often forced to hold more cars in finished goods inventory. There should be a concerted effort to improve the readiness of KFS in the change over process. This can be done by further reengineering of the KFS plant to make them more efficient in dealing with the changeover to a new model over a very short period. In addition, TMC alongside KFS should institute a worker training program for the new models. To further reduce the defects from KFS, TMC should work with its planning department to give KFS more lead-time in preparing their plant for the new models.

c) Because the seat defects are a problem in the line, we recommend TMC build a safety inventory of seats. By doing this, the cars will not be pushed through the line. Having a safety inventory of seats will make it more realistic for the plant to implement a Kanaban system.

d) Doug should determine if the plant can distinguish between defects from TMC and KFS. If this is possible, the TMC should institute a work in process inventory cap (WIP) or Kanaban system on the seat installation station. Although this will make the plant more vulnerable to operational problems, it would allow problems to be exposed quicker and it would place pressure on the plan to fix the operational problems in the plant. In applying the Kanaban system, due to the high number of defects we would apply a high Kanaban count to the seat installation station.

e) In addition Doug Friesen should ask KFS to increase the number of times it delivers replacement seats to the plant. This can be done by not waiting to batch the orders into two major trips a day. KFS could include a replacement part on each of their delivery trips every hour and half. This change in delivery of replacement parts will will reduce the cycle time and the idle bottleneck in the plant.

Two

Stopping the line increases the vulnerability of the plant to manufacturing and operational problems. Although costly, it serves a purpose of identifying problems early and addressing them immediately, and assigning responsibility to the work station.

The cost of pulling a chord can be based on wages for the hourly employees. Of the 769 hourly employees, approximately 75% or 577 are regular workers and the remaining 25% or a72 are team leaders.

Assumptions:

577 regular employees @$17/hour = $.283/minute

172 team leaders @$18/hour =$.30/hour

Work stoppage calculation

Regular employee per minute cost: ($.283\*1\*577)\*150% =$163.45

Teal leaders per minute cost: ($.30/1\*172)\*150% = $77.40

Cost of work stoppage/minute: $240.85

Cost of work stoppgae/30 minutes: $7,225

Cost of work stoppage/60 minutes: $14,451

The calculation assumes no extra cost for parts, management wags and benefits.

2b) If TMC can distinguish whether the defect is from their plant or KFS’, then it would be advisable to stop the line. However, if the defective parts are overwhelmingly form the supplier, stopping the line without immediate replacements from the supplier or from safety inventory would be too costly. Since the defective parts cannot be corrected on line or in the plant, it should be investigated off line.

Three

It deviates from the principles of Just in Time (JIN) and TPS because under the existing production process, if there is a defective seat it is not investigated and solved on line. Under the current production process in the seat installation station, the cars are pushed to the overflow parking area where the replacement seats are then added. This deviates from the JIN and TPS system of investigating problems during production.

Four

Doug Friesen has a two-fold problem: Increased variability in demand is making it difficult for his suppliers (KFS) to meet TMC’s demand Just in Time. The plant has to decide whether to move entire production of seats in house to gain better control of the process. Doing this will enable the Toyota plant in Kentucky to fully implement TPS in the production and installation of seats? With the plant approaching capacity, Toyota needs to decide whether to add additional capacity for production of seats or continue to use KFS. This would play a major role in implementing TPS for the seta installation station.

Bibliography

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