

## THE VITAL AIRLINK

Aviation in Scotland has a brave and pioneering heritage, and Loganair is proud to maintain a pioneering spirit that has set the pattern for the airline's reputation. From modest beginnings Loganair has developed into a regional commuter airline with a comprehensive network of scheduled services, and is now one of the longest established airlines in the United Kingdom.



### Lean Team

Alan McCartney – Planning

Eamon McHugh – Technical

Elaine Walmsley – Purchasing

Reg Dunlop – Stores

Mark Parrish – Base Maintenance

Iain Welsh – Line Maintenance

### Lean Implementation Project

Loganair handles 550,000 passengers on an annual basis employing 410 staff. The engineering "Lean team" carried out a project on the SAAB 340 aircraft of which Loganair has 16 covering 28,000 flights per annum. The Lean project was to improve efficiencies on the SAAB "Part Exchange Agreement" (PEP). This agreement has been in place since 1999.

### Data Analysis:

The engineering department exchange repairable units to cover future component failure. The removal rate (RR) is based on the total claims divided by flying hours multiplied by 1000. During 2009, well over 600 PEP units were removed with annual costs of more than £2M. Annual SAAB flying hours cumulate to 20,000. The team collated "PEP" measurements for 2009.

### Lean tools utilised:

- Brown Paper Process Mapping
- Pareto Analysis
- SIPOC Analysis

- Team Brainstorming
- Why/ Why Analysis
- Workplace Organisation 5S

The Lean tools listed have become a very visual part of the day-to-day activities within the Glasgow hanger. Utilising these tools and focusing on the improvements during the project led to initial low cost/no cost successes.

### Working to PDCA:

The "Lean" emphasis focused on defect analysis and investigation. Looking in detail at the management of spares and engineering processes highlighted where improvements could continue to be made. Numerous pareto charts were created to measure trends of activity and the team presented these throughout the project.

### Technical Action Plans

- Operational activities included:
- Common effective diagnosis
  - Sharing of intelligence
  - Elimination of "Shot Gunning"
  - Improved fault reporting
  - Continued measurement
  - Regular feedback

### PEP Project Successes

A measured removal rate of 38 in 2009 was reduced to 34 early in the project and this will be further reduced to 29 during 2010. This will result in reduced costs of £74,500.

### Further Project Benefits

- Improved inventory management
- Shared ownership
- Effective Communications
- Increased environmental responsibilities

These will result in:

- £30,000 reduction in spares costs
- £19,000 reduction in Logistics costs
- £1,000 reduction in aviation fuel costs

### Component Change Analysis

The team continued their analysis to develop further improvements going forward. Detailed study of the component change showed a total change time of 3hrs 40 mins resulting in a cost of £2,930. This will now be used as a benchmark to quantify cost reduction targets as "Lean" practices are embedded in to the business.

### Improving the environment

Improvements to date have resulted in a reduction in Co2 outputs as follows:

- Fuel reduction of 3000Kg
- Nitric Oxide reduction of 9.45Kg
- Carbon Monoxide reduction of 130Kg
- Unburned Hydrocarbons reduction of 13kg

"The Lean programme gave us a disciplined opportunity to take a good look at our processes and focus our team on real cost reduction. This was achieved through employee development and participation which has set us up for on-going process improvement. We have planned a new Lean team for later this year"

Alan McCartney, Planning Department