

Toyota Production System Steers JAL Group Cargo Operations at Narita

Tokyo, August 09 2005: By applying the ingenuity and originality of the Toyota Production System to their cargo operations at Tokyo's Narita Airport, Japan Airlines are on the way to saving millions of dollars annually and making huge strides in improving efficiency and productivity, while at the same time maintaining service quality and safety.

JAL Cargo is the first airline in the world to adopt the production techniques of the renowned automobile maker in their cargo handling operations through a project started by the airline in October 2004.

Narita Airport is the world's second busiest airport in terms of international cargo volume handled, with a total throughput of 2,311,417 tons in 2004. Hong Kong's Check Lap Kok airport is number one. JAL Group's Narita cargo operations, including their own traffic and that of about 40 foreign carrier customers, account for nearly half of the import and export cargo passing through Japan's major gateway, with a total JAL-handled throughput of import and export cargo, of *1,093,036 tons in FY2004 (*transit not included).

Controlling the JAL Narita cargo operation is a complex and challenging task, involving nine different warehousing sites covering 121,000 square meters and involving 2,400 personnel, including subsidiaries. Yearly costs, including handling services for three JAL Group airlines and their many customer carriers, run to 20 billion yen (nearly US\$ 200 million). JAL is aiming at a 10% productivity improvement using the Toyota know-how.

In 2004, the JAL cargo division was under increasing pressure to make changes. The cargo business environment was rapidly changing following airport expansion and wider deregulation. Traditional profit structure has also changed, with higher fuel costs and downward pressure on yield. To make cargo operations more profitable in these circumstances and give the JAL Group a competitive edge, it became increasingly important to improve airport- to- airport profitability.

At this point JAL Cargo decided to call in Toyota and from October last year the JAL Project M3 got under way.

The key word in the Toyota vocabulary is kaizen, which translates as continuous improvement, the constant search for ways to do the job better.

JAL named their plan the M3 Project after the three main elements in the Toyota Production System's (TPS) philosophy of eliminating muda (waste), mura (eliminating the lack of standardization) and muri (taking the strain out of the job).

The ultimate aims of the TPS are to cut out the three M's—muda, mura, and muri - and put into practice the four S's—seiri [sorting], seiton [simplifying], soji [systematic cleaning] and seiketsu [cleanliness].

In the case of export cargo, the process from cargo intake, build-up and out shipment to the ramp is basically the same as the flow of materials and action in a manufacturing plant. JAL cargo planners felt that there was much to be learned from the Toyota system and decided to introduce it.

Narita was the obvious choice for action, because even moderate kaizen efforts were found to yield considerable savings. For example, just by turning off the lights in offices during lunch hour and in all the warehouses during the day, JAL found it could save three million yen (US\$28,000) yearly.

On October 1 last year, the company-wide Project M3 team at Narita including members from JAL, JALTOS – the airlines' cargo handling operator - and subsidiary AGS Aircargo Service (AAC) started work under project leader Hiroshi Ohira, JAL's director of cargo at the Narita Terminal. Included in the team were two Toyota consultants.

They decided to implement the Project M3 at two locations in the JAL cargo complex at Narita, the JL1 import cargo warehouse and the JL5 export cargo warehouse

The team established a schedule of three phases.

In phase one from October to the end of December, the team drew up project plans and identified some 150 kaizen items. Phase two, from January to June, covered the introduction of the project and developing and identifying further kaizen ideas. The Toyota consultants stayed for this nine-month period. In phase three now under way, JAL is expanding the TPS scheme to other departments and is embarking on an autonomous kaizen process.

In accepting new ideas the project team found that the people who had been on the job longest, ever since Narita started operating, and who had a lot of accumulated know-how and experience, had the most difficulty accepting in new ideas. The perspective from inside the company tended to be narrowly focused and it was hard to make changes, so the team started by trying to change attitudes with the help of the Toyota know-how.

The team carried out their project by encouraging personnel to take on challenges. The team discovered that staff needed to learn that making a mistake while acting proactively was not a problem. The problem lay in not attempting to do anything at all.

The 150 kaizen items drawn up at the end of Phase 1, were grouped into three categories: those than could be implemented immediately, those which need to be considered, and those for which certain conditions needed to be met.

In April this year the JAL Group Narita cargo operations were reorganized. The Narita cargo administration office and the terminal operating company, JALTOS, were combined into one unit and subsidiary companies AGS Aircargo Service Company (AAC) and Narita Logistic Terminal Company (NLT), which handle loading and unloading, were combined into one company under the AAC banner. This new organizational setup has already increased efficiency.

From the Toyota perspective, closely examining worksite processes and evaluating each one in order to improve productivity was a new approach for JAL and the experience was a good opportunity for the airline to reevaluate operations in terms of both quality/safety and productivity.

For some cargo workers, the Toyota approach was a real eye-opener. Where once unquestioning acceptance of the methodology was simply taken for granted, workers started looking at the work more objectively and are identifying where there are wasted efforts and unnecessary processes and are becoming more cost-conscious.

The manufacturing process involves the flow of parts into an assembly plant along a production line. Similarly, cargo handling involves the flow of cargo shipments and documents.

Kaizen examples pinpointed in the JAL project range over processes and stage in export and import cargo handling. They included re-establishing reasons for doing tasks in a certain way. Here the team often shot videos of wasteful activities to show doubtful staff where they could make changes.

Re-positioning cargo containers and pallets on the warehouse reduced time and effort. And by better positioning and routing in the warehouses reduced forklift requirements.

Greater efficiency was achieved after the working floor in cargo building JL1 was divided into two separate areas, one for cargo shipment checking, the other for unloading.

Setting specific routes for vehicle such as forklifts eliminated waste movements, as did placing equipment in the best locations for worker access and proximity to actual use.

Export cargo deliveries tended to build up to huge levels in mid-afternoon and some of this included shipments due out the next day. JAL worked out a system to control the flow, seeking the cooperation of freight-forwarders to work to a revised cargo acceptance schedule.

Basic training of new employees has been expanded, to encourage more individual initiative.

Some tasks, once handled separately, have been integrated, to improve efficiency. Of these, the biggest example is

the integration of the two ground handlers, AGS Airport Cargo and Narita Logistics Terminal into one company. This has resulted in a reduction of work processes and a reduction in the number of forklift trucks – somewhat ironic as JAL buys most of its forklifts from Toyota.

Company officials stress that JAL cargo has always worked positively to improve productivity, safety and quality in cargo handling. With TPS they are aiming at more and more improvements in total service.

The use of TPS is not a one-off project. It is being continuously applied to JAL cargo handling to improve not only productivity but also safety and quality.

JAL Cargo is now systemizing and accumulating know-how on safety, quality and productivity in cargo handling, which has now been enhanced by the Toyota experience. JAL Cargo will maximize the application of this accumulated know-how for further development of its cargo services.xxxxxxxx

###