[Top 10 Parts Component Utilisation/Control Application Mechanism for Equipment Upgrade/Repair Scenarios]

06/06/2017

Modernised applications designed to facilitate success of Spare parts supply systems play an important role in achieving desired availability of fleet equipment components for meeting work orders at optimum cost to mission. Installations should shoot for fiscally sound, deployment-oriented & integrated technology. Dispatchers have recognised non-availability of spare parts supply at installations when required for repairs, contributing to much of total downtime.

Cost effective and timely provision of high quality repair parts and supplies to upgrade/repair workers is a key element in the overall provision of fleet maintenance services. The organisation and staffing of the parts supply function, the procurement of parts, parts stock utilisation/control each have a large effect on the overall success of field-level missions, and a corresponding effect on the efficiency and cost effectiveness of fleet maintenance services.

Unique work order problems faced by installations in controlling spare parts integration are characterised by elements of supply uncertainty as to when a part is required & also the quantity of upgrade/repair requirements b/c failure of a fleet equipment component due to overuse cannot be predicted accurately. Spare parts are not readily available from many suppliers since they are not fast moving items. Original suppliers deploy spares in most cases.

Individual purchase orders typically are used to procure parts that are not carried in inventory or available from a local supplier under contract purchase agreement. While they offer maximum flexibility in sourcing parts, utilisation usually is limited to the purchase of infrequent used specialty parts due to administrative effort, cost and time delays involved in their issuance and the inability to capture volume discounts through piecemeal buying.

Well-designed contracts & purchase agreements enable organisation to reduce administrative effort and time delays associated with procuring parts; to monitor and control parts purchases; to simplify fiscal appropriation for such purchases; and to secure discounts associated with buying from particular suppliers in volume. In short, they can reduce both the direct and indirect costs of buying parts and other fleet maintenance-related commodities.

Each installation must proceed systematically & establish an effective spare parts information integration system. Supplier connection codification policy helps to minimise duplication of spare parts stocking & aids in establishment of solid work order process to facilitate integration of spare parts control systems.

Optimal organisation and staffing of the parts supply function varies considerably with the size and complexity of the maintenance operation, and decisions regarding procurement and stock investment. Adequate staffing in terms of tasks assigned is critical success factor, as is designing a parts organisation that is suitable in scope of responsibility to the scope of the maintenance operation as a whole.

Dispatchers have introduced new supplier connection models to incorporate auto system design integration, phasing out stove-piped information desks in order to integrate work orders, and spares for outdated transmission models are not readily available. These factors are significant in cases of sourced fleet components since equipment design changes move at different speeds at multiple installations.

The identification of the types of parts required to support maintenance and repair activities involves assessing key attributes and indicators of parts requirements, including types, quantities, and timing of parts usage; parts and parts supplier performance; and parts accessibility and waiting tolerances.

Auto system integration must be carried out on the basis of different characteristics of spare parts techniques to establish good work order policy such as monitor of consumption value period, mission criticality, supplier lead time, unit cost & schedule frequency of use. Installations must direct ambition efforts on integration & establishment of suitable policies for selective supplier control, focusing efforts on real-world mobile operation problem areas.

Cost of spare parts is significant portion of the total impact of upgrade/repair activity at installations. Upgrade/repair systems face non-availability of spare parts supply to meet deployment requirements w/ fiscal costs of fleet equipment components being classified as locked up capital, signifies vital importance of automated spare parts system integration for installation work orders.

For sourcing expensive spare parts, it is essential to recognise useful life for equipment is extended by appropriate applications of reconditioning & upgrade/repair techniques. Installation work order efforts must be made to integrate spare parts in view of difficult sourcing processes. Installation establishment of spare parts supplier register banks goes very long way in reducing the total cost of holding expensive spare parts in stock.

Parts Stock control involves the tracking and physical control of parts from the point of receipt through consumption. This process is important for controlling stock levels of items, with direct effect on the cost of carrying parts stocks. Control of physical access, and methods employed to replenish and disperse these items ensure that parts consumption is accounted for properly.

Quantity & variety of spare parts to be integrated into new supplier connection models are often times too large, making close auto system control more & more tedious. Also, there exist tendencies for work order transitions from sourcing stages of fleet equipment components to spare parts use stages. As such, requisitions for spare parts at increased number than actually required results in accumulation at installations.

Good auto system controls will help to integrate supplier policies involved in sourcing procedures & achieve optimum levels of spare part cache control for work orders. In addition, installations must optimise replacement policies for selected spare parts with increased down time costs. Installations must identify required spare parts and carry out supplier connection exercises for integrating optimum replacement policies.

Procedures for establishing, monitoring, renewing, and circumventing contracts must be designed to maximise vendor performance, minimise administrative effort, and facilitate maintenance organisations flexibility to procure a part by other means when contract suppliers cannot satisfactorily meet its needs.

For different installations, it is imperative to establish spare parts supplier register banks & suitable integrated information system for spare part supply exchange. Automated applications for processing of spare parts information & operation of effective spare parts control systems will assist installations with scheduling of upgrade/repair job work orders.

Determining proper parts stock size/composition requires applied attention to several interrelated factors, including cost trade-offs between volume and individual purchases of specific commodities; trade-offs between inventory carrying and parts delivery costs; and trade-offs between parts availability and delivery times and waiting tolerances of particular fleet users and equipment types.

Objectives of spare parts system integration include ensuring spare parts are readily available from suppliers for upgrade/repair of fleet components as & when required at optimum cost. Also, there exist absolute work order requirements for spare parts to be of high quality in order to meet the requirements of subsequent deployment to meet mission requirements.

Finally, work order reviews have established results indicating spare parts consumption rates for some installations are very high, while other installations experience lower consumption & varied deployment patterns, highlighting the utility of building systematic spare parts integration with supplier connection models.

Effective parts supply processes allow mechanics to focus directly on maintaining and repairing fleet, by putting parts in their hands with a minimum of disruption to maintenance activities, reducing repair turn-around time/costs and creating advances in mechanic productivity, efficiency, and effectiveness.

Multiple actions following from establishment of supplier connection episodes are required to ensure that spare parts system integration is effective to meet mission requirements of installations. Mandates for systematic actions in building integrated spare parts systems are as follows:

1. Use assessment technique of stock items to segregate low moving parts so true inventory turnover rate can be identified.

2. Begin kitting parts for preventive maintenance and other scheduled work where it is feasible.

3. Review existing stocks to ensure that the correct parts and quantities are being stocked, to increase the turns per period and reduce total inventory on hand.

4. Identify parts required for predictive maintenance and establish timeline for adding items to stock.

5. Start planning preventative maintenance and other definable work in advance and utilise schedule for part kitting.

6. Collect metrics for performance measures such as parts accuracy/variance rate and stock out rate.

7. Identify parts for stock at the time of new equipment delivery to include items immediately needed, and items for predictive maintenance in the future.

8. Make help screens available while in the system to improve understanding of parts issues/procedures.

9. Clarify duties and reporting structure for parts control personnel

10 Conduct study to determine parts quantity/type on hand may be possible to cost-effectively reduce inventory to level provide for immediate use and reliance on supplier stocks