Top 100 Equipment Supply/Repair Team Actions Execute Operational Goals Ensure Spectrum Readiness of Force

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Top 10 Equipment Product Support Job Site Services Case Study Objectives

To meet Marine Corps objectives, we commissioned this case study to not only optimise current equipment product support Job Site operations and enhance dedication to Field-Level Troops product support services, but also provide Marine Corps with the tools, templates and real world strategies so Marines have capacity to sustain these improvements into the future.

We established the following Job Site scope areas, which framed the objectives of this Case Study:

1. Optimise allocation of Job Site product support resources, including oversight of routine, peak & specialty work orders

2. Design product support programmes for field level unit outreach at Job Sites, including mission-driven reporting & surveys

3. Propose product support approach for receipt of individualised Job Site service level work orders with field-level units

4. Maximise "wrench turning" produce at Job Sites, including product support programmes for continued training, incentives & performance

5. Establish core product support Job Site services, specialised services evaluation & changing conditions.

6. Enhance Job Site performance metrics, including key product support performance indicators, techniques & reporting

7. Provide framework for evaluating the Job Site costs/ benefits of expanded product support services to existing or new troop units

8. Conduct Job Site space requirements assessment, addressing barriers to efficient product support operations.

9. Optimise Job Site operations, including product support policies, procedures & performance requirements for on-hand stock parts/tools

10. Evaluate Job Site product support work order rate-setting systems and recommend adjustments to rate setting & replacement planning

Top 10 Equipment Maintenance Unit Division Structure List Appropriated Tasks

1. Field level maintenance is generally characterised by on-near system maintenance, often utilising line replaceable units & component replacement using tools and test equipment found in the field-level organisation not limited to simply "remove and replace" actions but also allows for repair of components or end items on-near system.

2. Field-level maintenance includes adjustment, alignment, service, applying approved field-level work orders, fault/failure diagnoses, battle damage assessment, repair, and recovery to always repair and return to the user include maintenance actions able to be performed by operators.

3. Crew maintenance is responsibility of using organisation formally trained operators/crews from proponent on specific system to perform maintenance on its assigned equipment, tasks consist of inspecting, servicing, lubricating, adjusting, replacing minor components and assemblies as authorised by allocation chart using basic issue items and onboard spares.

4. Operator/maintainer system specialists for example, signal, military intelligence, or a manoeuvre unit receive functional individulised training from proponent on diagnosing/troubleshoot problems focus on system performance/ integrity identify, isolate &trace problems to on-board spares deficits correct crew training deficiencies.

5. Maintainer maintenance accomplished on a component, accessory, assembly, subassembly, plugin unit, or other portion either on system or after it is removed by trained maintainer remove and replace authority indicates complete repair is possible return items to user after work order performed at this level.

6. Sustainment-level maintenance generally characterised by “off system” component repair or end item repair and return to the supply system, or by exception, back to the owning unit performed by activity function to be employed at any point in integrated logistics chain.

7. Sustainment level intent to perform commodity-oriented repairs on all supported items return to standard providing consistent/measureable level of reliability execute maintenance actions support force & supply system not able to be performed at field-level maintenance unit.

8. Exceptions made to when in-house sustainment level maintenance activities may conduct maintenance and return items to using unit but also may be performed by contract agreement comprised of below depot sustainment.

9. Below depot sustainment level maintenance assign to component, accessory, assembly, subassembly, plug-in unit, or other portion generally after it is removed from system. The remove and replace authority indicates complete repair is possible at below depot level return items to supply system also applies to end item repair and return to the supply system.

10. Depot level maintenance accomplished on end items or component, accessory, assembly, subassembly, plug-in unit, either on the system or after it is removed define remove and replace authority indicates complete repair is possible at depot level return items to supply system, or by exception directly to using unit after maintenance is performed

Top 10 Construct Tool Focus on Innovate/Maintain Tech in Application of Military Strategies

1. Construct R&D portfolio for advances in force structure utility, derived from an overall national security to be utilised as roadmap for R&D progress; maintain DoD military superiority; Conduct a top down review of capabilities to ensure smart equipment, and investments

2. Conduct concerted effort to examine application in DoD of corporate investment decision models and maintain diversified portfolio with potential payoffs, and do not allow any single tech area to dominate spend unless demo evidence focus is warranted

3. Make DoD commit to sustained levels of commercial item buying standards and streamline practices/processes; traditional standards not to use certified pricing/cost estimates; establish authorities for R&D and production programs in designated product areas, Expand models for accessing tech capable of being transitioned to the war fighter.

4. Require DoD components take into account requirements for competition and participation by non-traditional vendors in shaping long-term acquisition strategies include streamlining of requirements for major systems and tracking functions test compliance with contract standards.

5. Expand application of venture capital in defense markets, providing for funds that would, in coordination with DoD, make equity investments to consider successful vendors to market transition of innovative concepts to the war fighter.

6. Enact series of measures to reward risk-taking and facilitate transition of tech application to War Fighter requirements; Integrate promising new concepts; eliminate conflict between units with specialised DoD objectives and other R&D divisions; scale up activities and better leverage resources and incentivise collaboration with war fighters.

7. Create prototyping fund and set aside significant portion as on ramp for commercial technologies and firms, using competition as appropriate; establish DoD processes to ensure focused decisions determine if tech delivery to the war fighter is accelerated; Require focused consideration of technology insertion at all major milestones on ongoing acquisition programmes.

8. Design new defense systems and implement with open architecture except when contrary to DoD interests to be subject to override by acquisition executive; add new evaluation metrics for commercial tech proposals and use of open architecture and require vendors provide detailed response to past performance inquiries.

9. Implement incentives and evaluation metrics to enhance critical aspects of vendors

participation in accessing and transitioning commercial technology require submit plans in response to requests made by DoD; adopt policy in favour of commercial item authorities/approaches in areas where commercial capability is better value with exceptions subject to review/approval

10. Promote enhanced S&T activity by vendors and encourage greater spending in order to bring levels in line with historic and comparable defense market norms established DoD interactions; require investment in force of the future not short-term incremental reactions; provide top-level guidance in key areas of vendor investment; override short-term customer pressures usually shape efforts

Top 10 Questions Direct Incorporation of Set-Based Design into Weapons System Acquisition Phase Processes

Here we consider how DoD acquisition process can leverage Set-based Design techniques to deliver more affordable systems to the fleet faster, focusing on definition of core Set-based Design principles to gain insight into appropriate uses and implementation processes.

Key objective is to determine how to tailor an acquisition strategy to incorporate elements of Set-based Design to mitigate cost growth and scheduling delays due to changing requirements and design instability.

DoD contracting agents are critical components of efforts to execute its missions. But leadership has taken narrow view of contracting operations. By primarily focusing on ensuring contracting agents are obligating funding before it expires, in effect promoting “use or lose” perspective and does not emphasise efficient/effective contracting operations.

Senior leaders responsible for contracting are not systematically assessing the timeliness of contract awards, cost savings attributable to contracting activities, or the quality of contractors’ products/services. Additionally, they are not identifying whether they have large enough workforce to meet contracting needs of the Services.

As a result, leadership does not have the critical information necessary to determine if DoD contracting enterprise has capacity needed to operate under complex, real-world scenarios. We provide guidance on what aspects of the acquisition space would allow for such an approach, by reporting on the following Questions:

1. Can you provide description of advances in Set-based Design and its major principles/characteristics?

2. How do you plan on jump starting an exploration of Set-based Design implementations in field-level sectors?

3. Can you give brief description of how Set-based Design fits into established acquisition guidelines?

4. How would you Identify system types to result in good candidates for Set-based Design application?

5. Can you exclude some system type scenarios where Set-based Design would not be recommended?

6. Can you recommend implementation practices/processes within acquisition phase instructions for use of Set-based Design?

7. How would you define Set-based Design and what about it provides potential benefits to acquisition system?

8. How would you identity factors making particular acquisition programmes good candidate for applying Set-based Design approach?

9. Can you describe effects of Set-based Design on overall system costs and risks in support of acquisition?

10. How would you promote revision of instructions/processes to
facilitate use of Set-based Design principles in acquisition programme activities?

Top 10 Questions Highlight Requirement for Supply Action Groups to Assess Critical Operational Frameworks

DoD procurement groups are biased toward contract life phase milestones. Business units and indirect procurement staff focus on the budget, while engineering groups work with direct procurement staff regarding strategic supply choices made during product service life, asset design, project planning, and field-level engagement.

Progressive supply organisations don't operate these silos independently. Instead they engage with stakeholders across all of these phases to optimise supply/spend outcomes through combination of processes.

Truly strategic aspects of supply line assessments will occur not only within these phases, but also on the edges where they intersect. Top level business group frameworks integrate other areas such as strategic sourcing and lover level supplier action groups.

1. Can supply base meet demand, set targets and broader strategy?

2. What are spend drivers during each phase?

3. How/where to best measure/mitigate supply risks?

4. How good is performance of supply line, spend category?

5. How to monitor/align performance across functional levels?

6. What capabilities and factors are driving performance?

7. What opportunities/risks are prioritised by information type used for assessments ?

8. How to close performance/capability gaps?

9. Where to simplify, standardise & consolidate?

10. Are realised operational gains holding the line?

Top 10 Benefits of Weapon Systems Prototype Innovation to Acquisition Programme Performance

1. Prototyping effort benefits were worth the cost, provided a positive return on business case investment include customer needs are valid and can best be met with advancement of chosen concept to be produced with existing resources, such as time, money, and available technology.

2. Prototyping provided programmes with information on technology maturity, feasibility of the design concepts, potential costs, and on achievement of planned performance requirements assist in injecting realism into business cases.

3. Prototyping demonstrated key technologies or proposed design solutions to determine if riskier, cutting edge design was feasible. Without prototyping, programmes would not have had sufficient information to be confident in riskier option-- contractor would not have proposed it without opportunity to provide functional demo.

4. Prototyping informed programmes understanding of prices to validate business case cost estimates. During prototyping process, contractors select vendors, ensure productive communications with suppliers, purchase materiel, and build full system version or parts of the system to provide information on potential costs.

5. Prototyping increased cost information available to programmes leading to cost reductions and competitive prototyping incentivised contractors to determine cost drivers in order to be more competitive in next phase.

6. Prototyping made programmes better understand requirements to make performance trade-offs meeting cost targets.for example to determine if different versions of system were best suited to meet unique requirements.

7. Prototyping provided programmes means to improve system performance, for example, collect

information support operational success during prototype testing set stage to improve target classification and identify potential reliability issues early in process.

8. Prototyping changed perception of subsystem materiel utility based on information about wear/tear during prototype testing-- prototypes served as test assets during system project milestones or used to continue demo efforts.

9. Prototyping approaches to competition generated additional benefits to enable more favourable business terms using competition to result in service life cost savings and reduce operation/support expenditures over life of programmes.

10. Prototyping with competition reduced likelihood that contractors would team up in the next phase so prospect of only one proposal is diminished. In other cases, competition improved quality of systems contractors to introduce/continue cutting edge designs to remain competitive in next phase of programmes using existing capital for prototyping efforts.

Top 10 Field-level Unit Survey Recommend Improve Work Order Capacity of Repair Shop Status Updates

Operation of Navy Fleets is complicated and sometimes conflicted because fleet specification, replacement & maintenance rest with multiple organisations.

Navy to consider revisit aircraft specification process to increase standardisation of Fleet. Insufficient standardisation can have negative impact on maintenance mechanics productivity, tracking of parts locations and aircraft acquisition costs.

When asked to provide comments on how Repair Service Capacity is related to provision of solutions for field-level equipment users and/or make better use of existing equipment, Troops again cited Work Rig set-up status updates more frequently than any other area needing improvement.

If mechanic productivity increases or the number of work shifts increase, then fewer Work Rigs would be required than otherwise so capacity of Job Ste increases.

Conversely, more Work Rigs would be needed and Job Ste capacity would be reduced if the fleet service life is pushed beyond original limits or greater share of work were attempted to be done in-house.

Also, if Work Rig functions were to change, i.e. Work Rigs were switched from capitalisation work to maintenance/repair work, there is big impact on Job Site capacity.

1. Better understanding of service priority order: i.e., first come, first served or other protocol.

2. Improved communication between dispatchers coordinating with vendor and end users to

speed up process.

3. Additional training on how to best utilise equipment information system to produce reports.

4. More collaboration between field-level installations to resolve and solve issues.

5. Faster, Location accurate delivery of parts type/quantity

6. Clearly defined decision-making authorities between administration and Shop determine what required for operations

7. Additional reserve field-level equipment in case of communication breakdown

8. Consolidate communications technicians, installers and dispatch centre

9. Coordinate Customer Contacts and Parts Stock Ratings

10. Performance/Standardisation Measurement.

Top 10 Authorisation Conditions for Unit/Organisation Repair Part Designate Mobile Mission to Consider Supply Factors

In order to ensure Marine Corps units can independently sustain successful operations for brief periods, Site Visit Executive must establish and maintain limited quantities of supplies. Shop supply listings and maintenance-related supplies of common items must be combined as directed for custody of individual element stocks, along with overall listing of repair parts assets in accordance with supply.

Product support dispatchers must maintain shop supply listings and supplies must be made accessible within minutes of the supply requirements under co-located conditions apply equally applicable to distribution/allowances updates. Bench stocks must be available in all maintenance operations and parts needed to complete repairs not available from shop supply listings will follow issue priority designator consistent with maintenance priority.

Site Visit Executive must ensure supply dispatchers are fully cross trained with backups available from other elements in the organisation as necessary with no inhibition of mission due to unexpected absences or losses. Dispatchers must conduct status updates from equipment inspections/fault corrections, including work orders referred to support maintenance that could not be immediately corrected.

When dispatchers discover equipment faults that cannot be worked off by the operator, must make status updates describing fault to include both uncorrected faults and parts ordered so Site Visit Executive is alerted as to current condition of the equipment. When crew operator identifies a non-mission capable fault unit Site Visit Executive must be notified immediately to verify item and initiate repair actions.

Dispatchers must compare requests for issue or turn-in against records of stock quantities reflecting mission demand rates and parts are issued in accordance with unit assigned priorities. If stock is not available, due-out status to the unit is established and requirement is passed on to next supply level. Dispatchers must periodically provide status updates on open requests to all supported units for example, daily supply status updates and parts received updates.

Controlled exchange is the removal of serviceable components from unserviceable, economically repairable end items for immediate reuse to restore like items to mission capable condition. Controlled exchange is authorised only when:

1. Required components are not available from the source of supply within the timeframe reflected by the issue priority designator and valid requisition is submitted to replace the unserviceable item.

2. Maintenance effort required to restore all of unserviceable reparable material involved within authorisation and the capability of the unit performing the controlled exchange.

3. End item from which the serviceable component is removed is classified not mission- capable supply.

4. Repair instructions contain requirement for known serviceable component to be temporarily used/exchanged while trouble shooting.

5. End item is protected from degradation to an uneconomically reparable condition.

6. Unserviceable component is retained and tagged with end item serviceable item originated

7. Organisation performing the controlled exchange takes prompt action so issue requisition for incoming part to restore the unserviceable equipment to mission-capable condition.

8. Controlled exchange is the only means reasonably available to eliminate an adverse effect on the operational readiness of the unit.

9. Indicated by issue priority designator on maintenance request to modify controlled exchange conditions as necessary for mobile missions.

10. Controlled exchange is not authorised on mobile operational readiness assets when Site Visit Executive has not formally released materiel under investigation.

Top 10 Part Component Item Order Quote Scheduling Consider Supply Line Route Groups

Scheduling is communications tool facilitate balance customer demands with your ability to fulfill that demand. Provides schedule date and warehouse that will fulfill customers request.

If item check is enabled, then supply will be consumed from pool of available supply for that item. If an item does not have Check enabled, then supply will not be consumed.

Schedule order lines with multiple routed to locations, warehouses, request dates, promise dates, schedule dates, and inventory details.

With Routing Sets, you can specify which lines on an order must be grouped together. To manually schedule an order enter item info and schedule an entire order, configuration or a set of lines using multi-select capability of Tool.

Auto Schedule from the Tools Menu Auto Schedule check box Auto Schedule through profile option value setting Auto Schedule through use of order types.

Tools allow you to quote order lines as you enter them or in batch mode with automated application of discounts. Tool offers discounts from single source instead of working with products from multiple vendors.

1. Apply discounts by percentage, lump sum or amount.

2. Substitute/Modify new defined quote

3. Specify order line quotes contained in lists

4. Set service item quote at % serviceable item.

5. Quote entire order and adjust auto using discounts

6. Override standard discounts and quotes enter reason

7. Choose lowest discount/ Freeze status of quote

8. Assign only certain types of adjust to line.

9. Determine routing quotes as separate component

10. Schedule quotes as of specific date.

Top 10 Case Studies Detail Operation Condition Scenarios at Job Sites Require Site Visit Executive Attention

Site Visit Executive has recognised requirements for improvement in Job Site productivity to be realised through innovation/application of proper equipment at all levels of materiel handling. Job Site Case Studies have been formulated with the objective to provide personnel with an introduction to type examples of handling problems encountered on daily basis at Job Sites.

Even while these Case Studies are very brief, they illustrate some commonly encountered operational and equipment oriented problems. You are encouraged to design solutions for each of these cases to be used as points of discussion or assigned in groups as problems to solve.

In several Case Study situations we have presented, the full problem is not clearly defined and you are challenged to solve whatever problems are apparent to you after studying the case. We are confident this approach will induce competition between problem-solving groups, an essential element of Training Processes.

1. Job Site is in the business of modifying and repairing critical aircraft assembly. Due to mechanism complete assembly must be removed using lift equipment from the aircraft. Once detached, assembly is moved to a location adjacent to site of repair. Because lift equipment is also used for other jobs, many scheduled operations must be delayed.

2. Job Site operates centrally located storeroom in their repair complex. Every afternoon each specialty craft foreman writes separate orders for requisition of common use items required for next work on the line. Each shift, workers go to the storeroom to pick up the filled order. Time is unproductive causing problems leading to efforts to reduce transit times between sites.

3. Job Site faces inventory rotation problem. This difficulty stems from the fact that some supplies must be used prior to a stated expiration date. Upon receipt, a new shipment of these perishable items must be stacked beneath the boxes that are currently in inventory. A substantial amount of time is consumed in restacking the items according to their expiration dates. Job Site wants reduction in multiple instances of handling.

4. Job Site produces smaller sized replacement item packaged in separate small containers that are in turn packed into a larger carton for transit. The packing operation for this unit is in different area from where packages are sorted according to transit line. After sorting, all packages are routed to spot where they await pick up by the assigned truck line. By disregarding labour requirements in model, solutions have been proposed to improve efficiency of package movement.

5. Job Site uses reusable boxes to ship custom length items, but recently unit cost of a shipping box has soared to unsustainable levels. In addition, box maintenance has gone up so reusability has turned into a cost trap. Extra transit runs truck runs are being employed to recover the returnable boxes since on return trips the trucks are needed to pick up raw stock.

6. Job Site storage area is presently filled to capacity with thousands of items. Finished goods inventory is expected to increase by same ratio as increased production capability that has recently been enacted. New techniques have been proposed for increasing the storage area to accommodate expected increase in finished goods inventory.

7. Job Site currently moves pallet loaded with production items to transit dock for loading. Due to increased production purchase of several new trucks are required as well as an increase in labour levels. Operators are seriously considering increasing pallet load capacity, but it is unclear

if new equipment is required for new scenario.

8. Job Site has sub-contracted production of critical part for aircraft. The details contained in the contract calls for the furnishing of the material, labour, and storage of the finished part component until conditions of requisition order is determined.

9. Job Site specialises in transporting packaged part components and is currently experiencing difficulty in moving loads of parts items from transit vehicle with large capacity into smaller fleet and period of operations is constant. Mechanism of moving materiel to open area in the warehouse requires backing out of the load entering and picking up the load form the other direction. This operation is repeated for each pallet load. The present load patterns in transit vehicles cannot be changed, calling for determination of time to place pallet into new location.

10. Job Site is faced with problems stemming from mess in the receiving areas involving empty shipping containers. Examination of receiving operations is indicative of scenario when a large shipment of materiel is received and items are removed from their shipping cartons and placed on racks. The empty cartons and packing materials are left on the floor. Periodically, when workers are immobilised due to the mess subcontractors are called in to crush & stack the excess containers.