



TITAN
CONSULTING

MRO SOLUTIONS



VARIOUS LEVELS OF COMPLEXITY ON THE SHOP FLOOR

INTRODUCTION

Maintenance Repair & Overhaul (MRO) solutions can vary from simple, high-volume processes (e.g. cell phone repair) to very complex, low-volume processes (e.g. engine repair). However, the difficulty for most businesses is determining the best model for their business for the cases where the complexity is in between (e.g. subassembly repair), and how to bridge the gap for the full spectrum of your business in such a way that technicians and associated workers do not have to apply vastly disparate system processes to achieve the desired end result, which is a repair of a unit to the customer's requirements. It is imperative that you determine the best solution approach while still considering all of the various levels of repair complexity on the shop floor.

FACTORS AFFECTING COMPLEXITY/ SOLUTION

1. Does the customer require that certain information be retained with a repair? (i.e. phone numbers, serial numbers, repair log)
2. Does the customer desire a quick turnaround time? Are ready spares acceptable?
3. Are there special disposal requirements? (i.e. hazardous materials, special rules involving disposal of government property)
4. How many levels of assemblies are required in the most typical of repairs?
5. What volume is expected for repairs?
6. How profitable is it to repair vs. replace components? (i.e. consumables, inexpensive components)



STAGES OF REPAIR

Every repair contains some flavor of each of the following stages, even if some are combined for process efficiency purposes:

1. Induction
 - a. Goods receipt of the item to be repaired
 - b. Review of paperwork associated with repair
 - c. Recording of required data for reporting / tracking purposes
 - d. Labeling of customer unit for shop floor control
 - e. Prioritization of repair
 - f. Determination of warranty and/or outstanding service agreements (i.e. who is going to pay and how much?)
2. Evaluation
 - a. Review of Induction paperwork
 - b. Inspect customer unit
 - c. Determine any outstanding required/optional modifications (i.e. Service Bulletins, Engineering Change Orders, Air Worthy Directives, etc.)
 - d. Diagnosis testing
 - e. Determining repair alternatives (i.e. can I use ready spares -or- does the customer require that I maintain integrity (i.e. use customer's parts where possible to repair and replace only what is immediately needed))
3. Disassembly
 - a. Teardown to desired level needed to perform repair
 - b. Labeling of customer-owned sub-assemblies / components for shop floor control
4. Repair
 - a. Determine components for repair
 - i. Allowable repair components
 - ii. Combinations of components / assemblies allowed
 - iii. Obsolescence
 - iv. Super cession
 - b. Determine consumables to be used
 - c. Repair the unit
 - d. Test / inspect as needed
5. Assembly
 - a. Build customer unit back to proper functional form
 - b. Test / inspect as need
6. Final Inspection
 - a. Final functional tests
 - b. Certification of repair
7. Return to Customer / Inventory / Service
 - a. Ship back to customer
 - b. Return applicable components to ready spare inventory (would also follow the repair process)



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GLOBAL HEADQUARTERS

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