Two Level Maintenance
DoD Maintenance Alignment in the 21st Century:
Cross Boundary Maintenance
DoD Maintenance Symposium
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Agenda

- Historical Background
- Four-Level Maintenance Doctrine
- Four-Level / Two-Level Maintenance Comparison
- Two-Level Maintenance Actions
- Benefits of Two-Level Maintenance
- Maintenance Functions Distribution
- Maintenance Allocation Chart Format Change
- Soldier Military Occupational Specialty Consolidation
- Summary
Four-Level Maintenance Doctrine
(1940s – 2000)

**Linear Battlefield**

- WW II
- Korea
- Vietnam
- Desert Storm

**Depot**

- General Support
- Direct Support
- Organizational
- Operator/Crew

- Echeloned maintenance
- Large logistics footprint
- Relies on evacuation systems
- Built-in overhead burden
- Requires backup maintenance support

Problem... Legacy Four Level Maintenance System had built in duplication and redundancies...
Two-Level Maintenance Actions

Field Maintenance Actions
- On-System
- Plug & Play
- Fewer Actions Requiring Tools
- Crew Level Maintenance Tasks
- Typical Replace Tasks:
  - Replace Starter
  - Replace Winch
  - Replace Electronic Module
  - Replace Geared Hubs
  - Replace Engine
  - Replace Transmission

Sustainment Maintenance Actions
- Off System
- Disassemble / Assemble
- Repair to National Standards
- Requires Wide Variety of Tools
- Typical Repair Tasks:
  - Repair Starter
  - Repair Winch
  - Repair Electronic Module
  - Repair Geared Hubs
  - Replace Engine
  - Replace Transmission
Benefits of a Two-Level System

- Maintenance support unit to be co-located with the serviced unit (In the same facility in garrison)
- Equipment availability time (readiness) to increase.
- Army retrograde pipeline inventory investment to be reduced
- Reduced Logistics Footprint
- Increased Flexibility and Depth of Capabilities
- Leverages “Replace Forward – Fix Rear” equipment designs, Embedded Diagnostics & Prognostics, and CBM+.
- “Pit Stop” maintenance to be enabled.
Summary

- Two-Level Maintenance improves readiness, streamlines the maintenance process, and saves overhead costs.
- No loss of capability.
- Reduces the retrograde pipeline.
- Consolidates Military Occupational Specialties that can perform both Organizational and Direct Support tasks.
- Already documented at Brigade Combat Teams and below.
QUESTIONS?
Benefits of a Two-Level System

✓ Fewer maintenance echelons
✓ Eliminates duplication of work
✓ Reduced logistics footprint
✓ Takes advantage of expected improvements in Reliability, Embedded Diagnostics & Prognostics
✓ Significant reduction in procedural steps/people

<table>
<thead>
<tr>
<th>Actions</th>
<th>4 Level</th>
<th>2 Level</th>
</tr>
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<tbody>
<tr>
<td># of steps updating forms and records</td>
<td>47</td>
<td>10</td>
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<tr>
<td># of people the evacuation process flowed through</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td># of people that verified the fault existed</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td># of people that validated the work order was filled out correctly ..</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td># of total steps in the process</td>
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<td>27</td>
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Four Level Maintenance System

Depot | General Support | Direct Support | Unit

Sustainment | ORGANIZATIONAL | OPERATOR

Field