Honeywell Product Performance

Honeywell products are installed on every commercial aircraft fleet amassing tens of millions of flight hours each year. Airlines and your passengers rely on those products everyday to get to their destination safely and on-time in an efficient and cost effective way. In other words, the performance of our products is critical to your operation and your passengers satisfaction. While the vast majority of our products meet or exceed industry expectations, we have opportunities to improve.

We want to raise the bar for measuring product performance. For years the industry definition of product reliability has been focused on Mean Time Between Unscheduled Removal (MTBUR). While MTBUR is a useful measurement of continuous planned hours on-wing, it’s only one aspect of the overall customer experience. In order to better understand how our products are performing for our customers, Honeywell has developed a holistic process that examines the entire life-cycle of the product. We monitor quality and removal data from the airframe production line through its first year of service. As the product enters its mid-life cycle, we then expand the focus to MTBF, in-service failures, NFF and shop visit occurrences.

Performance Indicators

- “No fault founds”
- MTBUR
- MTBF
- Production line removals
- Cost
- 1st year removals
- Warranty spend
- Number of component failures
- Shop visit induction control charts

Platform-Based Performance Reporting

We know that OEMs and operators focus their attention on aircraft platforms, so Honeywell developed Platform-Based Performance Reporting by aircraft model: 737NG, 777, Airbus Single Aisle, Long Range, and A380. By using global fleet performance data within an aircraft type, both the OEMs and operators can view performance and issue resolution as a complete aircraft solution.
Honeywell Product Performance

Actions to Improve

Beginning in April 2011, Honeywell kicked off a program to review the performance of every product against our Platform-Based Performance Reporting tool. Based on that part by part analysis we have identified targeted products for performance improvement plans. We are driving rigor into each step required to drive down our time to get a fix and also ensure high quality solutions are provided to operators. We’ve begun executing an entirely new process of ensuring our products meet the expectations of our customers. As we look to the future, we’ve reset our expectations and will direct our product standards to meet our customers’ needs. Honeywell will continue to provide regular and frequent product-specific updates throughout 2011 and into the future.

<table>
<thead>
<tr>
<th>Yesterday</th>
<th>vs.</th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Managed individual components</td>
<td></td>
<td>• Manage by A/C platform</td>
</tr>
<tr>
<td>• Focus on field – not production</td>
<td></td>
<td>• Base work on multiple indicators</td>
</tr>
<tr>
<td>• MTBUR Guiding Measure</td>
<td></td>
<td>• Production line to “sunset”</td>
</tr>
<tr>
<td>• Worked issues individually</td>
<td></td>
<td>• Cross platform synergies</td>
</tr>
<tr>
<td>• Cumbersome funding &amp; work process</td>
<td></td>
<td>• Reorganizing work processes</td>
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<tr>
<td></td>
<td></td>
<td>– Completeness – work all issues</td>
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<tr>
<td></td>
<td></td>
<td>– Fix it the 1st time</td>
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<tr>
<td></td>
<td></td>
<td>– Speed</td>
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<tr>
<td></td>
<td></td>
<td>– Satisfaction</td>
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</tbody>
</table>

Driving Speed and Quality for Field Fixes
Honeywell Product Performance

What Products Have We Targeted

Honeywell installs more than 900 components on the Airbus and Boeing aircraft platforms. More than 840 of them meet their intended performance levels. Fifty-nine of the components display performance issues and are in need of improvement. The graphic below shows the components that are planned for product improvement programs.

In the next issue we will share the components for Embraer, Bombardier and our main engine components.

<table>
<thead>
<tr>
<th>Honeywell Component Content</th>
<th>Products Performing Successfully</th>
<th>Products Performing Below Potential</th>
<th>Products Targeted for Improvement Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boeing 737NG</td>
<td>272</td>
<td>237 (88%)</td>
<td>35 (12%)</td>
</tr>
<tr>
<td>Boeing 777</td>
<td>295</td>
<td>273 (93%)</td>
<td>22 (7%)</td>
</tr>
<tr>
<td>Airbus Single Aisle</td>
<td>146</td>
<td>116 (80%)</td>
<td>30 (20%)</td>
</tr>
<tr>
<td>Airbus Long Range</td>
<td>255</td>
<td>205 (88%)</td>
<td>30 (12%)</td>
</tr>
<tr>
<td>Airbus A380</td>
<td>109</td>
<td>103 (95%)</td>
<td>6 (5%)</td>
</tr>
</tbody>
</table>

Components Targeted for Improvement Plans

- DME
- LRRA
- Rad Alt
- ADF
- Printers
- MMRs
- VHF Radio
- Flight Data Recorder
- CVR
- HF Ant. Coupler
- EGPW
- RTA-4B
- RDR-4000
- Mode S Transponder
- TCAS
- DU-II
- DU-III
- Antennae Drive
- IP Control Valve
- LCD/MCDU
- DMU
- HPA
- FDAMS
- Bleed Air Reg.
- Precooler Control Valve
- High Stage Regulator
- Precooler Sensor
- 390/450 Thermostat
- High Stage Valve
- Trim Air Mod. Valve
- Cowl Anti-ice Valve
- Zone Temp Control
- Vacuum Blower
- Cargo Smoke Detector
- SPCU
- AIMS-I & II I/O Module
- AIMS-II Processor Mod.
- AIMS-II Communication
- Airbus/Boeing ADIRUs
- AESU
- APU LCVs
- Starter Air Valve & ATS
- SDU
- SEPDS

Concentrating Focus On The 7%