

# Beyond the Flight Deck

The Role of Maintenance Personnel  
in Emergency and Abnormal  
Situations

# Who Gets Involved?

- 1 Dispatch
- 1 Maintenance Control - SAMC
- 1 Engineering
- 1 Flight Ops duty manager
- 1 Engineering test flight
- 1 Flight Attendants
- 1 ATC

# UAL Maintenance Control

- 1 Located in IND, LHR and SFO
- 1 Separate organization from line maintenance
- 1 Technical training on respective fleet type
- 1 Some flight ops training, ex. LOFT. Familiarity with flight manuals.
- 1 Qualified by fleet or engine type
- 1 Technical experts for line maintenance
- 1 Primary customer is pilots
- 1 Handle all in-flight maintenance issues

# How Maintenance Control Gets Involved

- 1 ACARs
- 1 RDI
- 1 ARINC
- 1 SATCOM
- 1 Dispatch
- 1 Cell phone
- 1 Air phone

# Role of Maintenance Control

- 1 Provide technical support
- 1 Supplement flight manual
- 1 Suggested 'fix' depends on the operation
- 1 Think 'outside the box'
- 1 Liaison with other support groups

# Maintenance Control Tools

- 1 ECM – Engine condition monitoring
- 1 CMC – Central maintenance computer data downloads
- 1 C/B database
- 1 AMIS - Aircraft maintenance history
- 1 Supplemental databases and manuals

CURRENT AS OF 3/6/2003

### 737-300/500 CIRCUIT BREAKER DATABASE

REQUESTS FOR ADDITIONS/CHANGES TO THIS DATABASE MUST BE ADDRESSED TO THE RESPONSIBLE FLEET SUPPORT ENGINEER IN OP/SEG (634-5977).

BOOST PUMP TANK 2 FWD C0829 10 28 P6-03 B03 28-23-01 AC 115V MAIN BUS 2 P6-12 A2 C0817

DESIG. AMPS ATA PANEL GRID WIRING D. BUS PANEL GRID DESIG.

737-300/500 ALL

MODEL EFFECTIVITY

YES  NO, PROHIBITED

PROHIBITED? IS CYCLING APPROVED BY ENGINEERING?

REASON FOR CYCLING:

N/A

FLIGHT MANUAL PROCEDURES:

If CB is tripped in flight follow FUEL PUMP LOW PRESSURE irregular procedure.  
There is NO flight crew procedure which allows cycling or resetting of this CB.

PRIMARY SYSTEMS AFFECTED:

Right wing fuel tank (no.2) forward fuel boost pump.

SECONDARY SYSTEMS AFFECTED:

None

ENGR. & OPS. REMARKS & PRECAUTIONS:

Cycling or resetting prohibited by Boeing Operations Manual GRH Cl.2.2.  
Affected fuel pump will be inop. if CB tripped. Associated fuel pump low pressure light will be on.  
Maintenance may pull and reset this CB as part of maintenance procedures.

MEL CONSIDERATIONS IF DEFERRED (SEE MEL FOR DETAILS):

28080 Fuel Boost Pumps-Main Tank  
One pump per main tank may be inop. CB for failed pump must be safetied. Maintain 4800 lbs. unusable fuel in affected tank.

YES  NO

NOTE: IF DATA BLOCK IS FULL, CLICK ON SCROLL ARROWS TO ENSURE ALL DATA IS PRESENTED.

HAS THIS BEEN EVALUATED IN SIMULATOR?

YES  NO

HAS THIS BEEN EVALUATED IN THE AIRPLANE?

YES  NO

# Real Life Examples

- 1 DC10 – Loss of all hydraulics
- 1 757 – SVA failsafe message
- 1 757 – Unable to extend gear
- 1 767 – Engine stall
- 1 MD83 - Stabilizer trim failure



# Lessons Learned

- 1 Maintenance bias is to 'fix it'
- 1 Crews need to establish clear expectations
- 1 Need good communication and coordination
- 1 Need better checklists and use of technology
- 1 Maintenance needs more crew orientated training, primarily around irregular procedures

# Challenges for the Future

- 1 Define role of maintenance
- 1 Address FAA concerns
- 1 Finding qualified candidates
- 1 Develop better training and checklists
- 1 Find ways to make technology work for you