Customer Services

Advisory Wire

REFERENCE NO:	AW300-78-0314	INFORMATION TYPE:	Maintenance Operational
ATA:	78-30	EFFECTIVITY:	Challenger 300 (20003 – 20500) Challenger 350 (20501 – 20999)
SUBJECT:	No Throttle Response due to Thrust reverser “TR State 2 Error”		

1. REFERENCES:

   1.1 Honeywell SIL-D201807000041 – No Throttle Response Due to Thrust Reverser “TR State 2 Error”

2. INTRODUCTION:

   This Advisory Wire is to inform Operators that it is possible to experience a no response on throttle advance under certain conditions.

   DESCRIPTION:

   There have been In-Service reports of no engine response to throttle advance from Idle. It has been discovered that this was due to a rapid deploy & stow of the Thrust Reverser (TR).

   Review of the EEI (Electronic Engine Interface) data, it indicated that the cause for the no throttle response was due to a condition known as “TR (thrust reverser) State 2 Error”. This error sets and latches the engine control idle set point for the remainder of an ECU (Engine Control Unit) power cycle when detected. The “TR State 2 Error” is defined as a condition where the thrust reverser was detected as not deployed when it should be deployed.

   The conclusion from data analyzed showed that during a TR deployment earlier in the ECU power cycle, the standby channel detected a TR State 2 Error and then locked itself at idle for the remainder of the ECU power cycle. Since the ECU in control did not detect the error there was no annunciation of the faults logged by the ECU not in control.

   Engine testing at Honeywell, was conducted in an attempt to replicate the TR State 2 Error events. Testing showed that rapid deploy - stow - re-deploy commands can exceed the TR system capability resulting in TR State 2 errors.

   In order for a TR State 2 Error to occur, the following sequence of events would be required:

   - TR was deployed on the flight sequence prior to the event
   - A brief deploy - stow - redeploy was commanded during the TR deployment
   - TR State 2 Error was experienced by the standby channel only
   - ECUs were not depowered from the time of the previous landing and taxi/takeoff attempt in which the event was experienced.

3. ACTION:

   Flight crews should avoid the following actions in order to avoid TR State 2 events from occurring:

   - Do not perform rapid deploy - stow - re-deploy sequences unless necessary
   - Do not modulate the throttle in the forward-to-reverse idle thrust region

   If a TR State 2 Error event occurs, the following procedure can be used to clear the condition and return the AC to service:

   - Shut engine down
   - Remove power to the ECU for the affected engine via circuit breakers. Wait 10 seconds (de-powering ECUs clears the condition)
   - Re-establish power to the ECU
   - Start the engine. Once stabilized at idle, advance throttle and confirm that the engine responds normally to throttle and annunciations indicate no additional engine issues (confirms first channel is OK)
   - Confirm that the TR deploys correctly and the engine responds normally to throttle in reverse thrust
   - Shut engine down
   - Restart the engine. Verify that the engine responds normally to throttle and annunciations indicate no additional engine issues. This confirms that the second channel, which had been held to idle, is clear.

Additional information can be found in Honeywell Service Information Letter D201807000041.