

Date: 4/20/12
Location: ACRC
Aircraft: Thor
Pilot: Arion Mangio
Flights: 5 Thor

Weather

Sunny, Moderate northerly winds, some gusts, temps around 55F.
METAR KANE 201945Z 33010G15KT 12SM SKC 14/M04 A3005=

System ID flights with Thor using augmented manual inputs. The pilot was given manual control in the axis of the chirp, and was denied inputs on the remaining surfaces. A baseline controller was used to control the off-axis. The pilot was instructed to obtain a hands-off trim before injecting the automatic chirp signal. The entire team attended to get a feel for flight test operations. Austin's last flight test.

Software used was [trunk/Software/FlightCode rev 802](#)

Flight 36 was dedicated to chirps of the elevator and aileron surfaces. The input frequency range was .4 to 7 Hz, with amplitudes of 4 deg.

Thor Flight 36

Rx data: A068, L664, F013, H000 (includes range test)

Flight 37 was a continuation of Flight 36, this time with chirps on the rudder.

Thor Flight 37

Rx data: A008, L008, F000, H000

Flight 38 was dedicated to lower frequency chirps, for .1 to 5 Hz, but with larger amplitudes of 6 deg. The lower frequency range was required to avoid hitting the rate limits on the actuators.

Thor Flight 38

Rx data: A036, L119, F001, H000

Flight 39 was dedicated to obtaining doublet sequences. There were 4 elevator doublets, followed by 5 aileron, and 4 rudder doublets. The amplitude in the aileron and rudder channels (in particular, the rudder channel) were noted to be too small, and these amplitudes were increased in the subsequent Flight 40.

Thor Flight 39

Rx data: A004, L007, F000, H000

Flight 40 was the same as Flight 39, only with increased amplitudes in the surface commands for the doublets.

Thor Flight 40

Rx data: A004, L026, F000, H000

Issues

There were occasional wind gusts, but most of the time we were able to fly in calm conditions.

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