***Card Creation and Approval***

A Southern California airframe manufacturer provides the outline below to create test cards:

STANDARD TEST PLANNING/REFERENCE DOCUMENTS

\* "FTE" HANDBOOK

‑ ESTIMATED AERO PERF & S&C DATA

-- P.E. CURVES; AOA & BETA INDICATED‑VS‑TRUE

‑ THRUST SETTINGS

‑ SYSTEMS "LIMITATIONS"

‑ KNOWN USEFUL INFO: RUNWAYS, A/C DIMENSIONS/DWGS, ETC

\* STRUCTURAL PLACARDS

‑ PREPARED BY STRUCTURAL DESIGN GROUP

‑ DISTILLATION OF STRUCTURAL DESIGN CRITERIA

PLUS

‑ DATA/CURVES HISTORICALLY KNOWN TO BE NEEDED

--OPERATION OUTSIDE "AFM" WEIGHTS & CG'S

-- FLOOR LOADINGS FOR BALLAST

-- ABNORMAL FUEL USAGE FOR CG CONTROL

-- LIMIT LOADS OF S/G'D PARTS 0

FLIGHT CARD CONTENT

\* FLIGHT CARDS CONTAIN A SECTION TITLED "SYSTEM CONFIGURATION"

WHICH DETAILS

‑ THE SETUP OF AIRPLANE SYSTEMS RELEVANT TO THE TEST CARD

‑ THIS GENERALLY MEANS CALLING OUT THE REQUIRED POSITION OF

COCKPIT SWITCHES.

\* A MATRIX IS DEVELOPED FROM THE PILOT'S EXPANDED CHECKLIST, &

REVIEW OF SPECIAL TEST SYSTEMS.

‑ TAKEOFF,

‑ CLIMB (BEGINNING AFTER GEAR, FLAP & SLAT RETRACTION),

‑ CRUISE (ABOVE FL180),

‑ APPROACH (BEGINNING BELOW FL180 & PRIOR TO GEAR DOWN, FLAP

OR SLAT EXTENSION),

‑ LANDING (BEGINNING AFTER GEAR DOWN & LANDING FLAPS

SELECTED).

‑ ALL COCKPIT SWITCH POSITIONS ARE LISTED FOR TAKEOFF

--IF/WHEN THEY ARE CHANGED FOR EACH REGIME THAT IS

NOTED.

-- "BOXED" ITEMS ARE FLIGHT TEST UNIQUE SYSTEM SWITCHES.

-- BASIC CONTROL LEVERS/CONTROLS ARE NOT LISTED (I.E.,

WHEEL, FLAP/SLAT, LANDING GEAR, THROTTLES).

\* FLIGHT CARDS STATE "NORMAL FOR TAKEOFF, CLIMB,

ETC. EXCEPT" &

‑ THEN LIST DEVIATIONS FROM THE MATRIX FOR

TAKEOFF, ETC. AS APPROPRIATE TO THE TEST

\* TEST REQUIREMENTS ARE OFTEN DIFFERENT THAN THE

MATRIX "NORMAL" CONFIGURATION.

\* WHERE TEST RESULTS ARE HIGHLY DEPENDENT ON

CERTAIN SYSTEM CONFIGURATIONS THE FLIGHT CARD

STATES

‑ "NORMAL FOR TAKEOFF, CLIMB, ETC. WITH" &

‑ THEN LISTS ITEMS IN THE MATRIX TO EMPHASIZE

THEIR IMPORTANCE & PROVIDE A LAST SECOND

COCKPIT CHECKLIST.

A flowchart summary looks like:

-Prepare Preliminary Test Card

-Discussion with R & A Engineer

-OHA

-IFRs/ADRs

-Discussion with P.I.C.

-Structural Placards Document

-FTE Handbook

-Test Planning Meetings

|

|

- Test Conductors Finalize Individual Cards

|

|

- Test Conductors:Assemble Individual Cards into Deck for Each Flight and Review Test Aircraft Configuration Report/Records for Impact on Tests

|

|

- Preflight Meeting Chaired by Test Coordinator and Conducted Per Checklist

|

|

-Test Conductor Makes Agreed To Changes During Meeting

|

|

- Chief Experimental Test Pilot assigns OHA Category tests

|

|

- Approval signed by Test Conductor, Test Coordinator, P.I.C. and Chief Experimental Test Pilot (or designee)

An example of this company's test card is shown below:

MATRIX RUN #\_\_\_\_\_\_\_ TEST RUN\_\_\_\_\_\_\_\_ CARD \_\_\_\_\_\_\_\_\_\_

TEST: LANDING PERFORMANCE AIR/GND DISTANCE:

MMEL CASE: 1 HYD SYS INOP IN ONE WHEEL INOP

TEST NO. 04‑510.00, 04‑520.09 FUSELAGE NO.\_\_\_\_\_\_\_\_ FLIGHT NO.\_\_\_\_\_\_\_\_

TEST REFERENCE: FAR 25.125c, 25.1309,

TEST PURPOSE: Demonstrate landing air/ground distance performance with 6002 brakes, ‑306 A/S & ‑3 wheel speed transducers for the MMEL case of 1 HYD SYS INOP IN ONE WHEEL INOP.

TEST CONDITIONS SYSTEM CONFIGURATION NORMAL FOR LANDING WITH :

ALTITUDE : APPR A/P : ON/OFF ANTI‑SKID:ARM

AIRSPEED : 1.3VS ATS : ON/:F APS : DISARM

FLAP/SLAT: /LND # WHEEL‑LH / RH SPOILERS : ARMED

THRUST : NOTED (3 o FPA) BRAKE SYS INOP CAPT A/S : PROD

LDG GEAR : DN

WEIGHT/CG: HVY/FWD LIM HVY = WT < MLW/FWD LIM = ‑7.5 to‑5.1%+0.5‑0.0%

INSTRUMENTATION DATA RATE: 400 SPS

OTHER: WIND KIT, RADIO CAR, PHOTO, FANS

NOTE: 3 GOOD RUNS REQUIRED @ EACH LANDING FLAP ‑‑‑> 6 RUNS TOTAL

PROCEDURE

1.During final approach: ‑ Confirm Arresting Gear Removed

(a) Verify brake temps are less than \_\_\_\_\_\_

(b) Complete FUEL/WEIGHT log entry

(c) Verify FTDS sample rate ‑‑‑> set

2. Conduct a stabilized approach and landing at the following target values;

EPR:\_\_\_\_\_\_ V/S:\_\_\_\_\_ FT/SEC / \_\_\_\_\_\_FT/MIN

1.3VS(+/‑2): \_\_\_\_ KTS THROTTLE RETARD HT: \_\_\_\_\_ FT

‑ Monitor Airspeed: VREF +/‑2 KTS from 500 ‑ 50 ft AGL

‑ Minimize Thrust Changes Below 200 ft, EPR at or Above Target

‑ Monitor Winds/Air Quality & T/D Pitch Attitude

‑ Target T/D Sink Rate; 2 ‑ 6 FPS, Do Not Exceed 8 FPS for Data Quality

3. Approximately 1.0 seconds after MLG T/D, apply STEP, FULL PEDAL BRAKING to a FULL STOP.

Verify/backup auto‑spoiler deployment. DO NOT USE REVERSE THRUST.

NOTE: USE ELEVATOR TO CONTROL DE‑ROTATION AS REQUIRED max NLG SINK RATE = 10 FPS).

4 After coming to a full stop: (a) Complete FUEL/WEIGHT log entry.

(b) Verify INS TARES have been obtained.

(c) Inspect Gear, Tires, Brakes & Dampers As Req'd.

5. FOR BRAKE COOLING: Perform STOP & GO OR Taxi clear of RWY, chock nose wheel (DO NOT USE PARKING BRAKE), advise ground crew reference cooling fans. Monitor brake temps.

STOP & CO TAKEOFF DATA: GW: FLAPS: / FE: ' OAT:

V1: VR: V2:

TOFL: '2nd SEG: %

‑ MAX BRAKE TEMP ALLOWABLE FOR TAKEOFF =

‑ EST BRAKE TEMP RISE FOR LDG PERF RUN =