CURRENT PROJECTS

F-106
- (SEVERE STORMS) 804-8643862 BRUCE FISHER
- VORTEX FLAP 43871 RON SMITH
- VORTEX FLOW VISUALIZATION 42851 JOHN LAMAR
- (ACTIVE LANDING GEAR) 41299 W. EDWARD HOWELL

B-737
- EXPERIMENTAL SYSTEM BASELINE VALIDATION
- RNAV/MLS TRANSITION
- LARGE EDDY BREAKUP (LEBU) DEVICE 45542 MIKE WALSH
- RIBLETS
- TAKEOFF PERFORMANCE MONITORING SYSTEM (TOPMS) 44034 DAVE MIDDLETON
- SHUTTLE RUNWAY TIRE WEAR TESTS 41302 JOHN TANNER
- ROLL OUT & TURN OFF (ROTO)
- AIR DATA COMPUTER/INERTIAL REFERENCE SYSTEM (ADIRS)
- MAJOR DISTRACTOR ALLEVIATOR (MADAL)
- SIDE ARM CONTROLLER + SYSTEMS UPGRADE

LI-28
- NLF FLOW VIZ 43865 CINDY LEE

204B
- FIGHTER MODEL DROPS 41146 DAVE FRATELLO
- TAIL BOOM STRAKES 45088 HENRY KEMBLE

T-34
- (INSECT ACCRETION) CINDY LEE
- (LIQUID CRYSTAL FLOW VIZ) 43941 CLIFF OKAARA
- (IR FLOW VIZ) 43844 GREG MANUEL
- (SHUTTLE EXHAUST PLUME EXPERIMENT-SEPX) RANDY COOPER 45835

PROJECT PILOTS

Brown/Wunschel
Brown/Phillips
Brown/Phillips
Not yet assigned

Yenni/Person
""
""
""
""

Phillips/Brown
Yenni/Person
Yenni
""

Person
Brown
Brown
Brown
CURRENT PROJECTS

C-402
- RIDE QUALITY AUGMENTATION SYSTEM (RQAS)
- BIOMASS AIR SAMPLING

C-172
* STALL/SPIN
- PARAMETER ID

C-23
* (STALL/SPIN) not begun
- IR FLOW VIZ not begun

PA-28
* (STALL/SPIN) not begun
- (WING TIP TURBINES)
- (WAKE VORTEX SENSOR)

T-210
- NLF STABILITY & CONTROL

S1-36
* HIGH A/R STALL/SPIN

PROJECT PILOTS
43866
EARL HASTINGS
RANDY COFER
Yenn/Person
Yenni/Verstynen

44057
VLADISLAV KLEIN
Brown
Brown

44860
PAUL STOUGH
Greg Manuel
Brown
Phillips/Verstynen

46399
CLAUDE PATTISON
EARL HASTINGS
Brown
Wunschel
Verstynen/Yenni

43860, PAUL STOUGH GOOD FIRST CONTACT RE ALL STALL-SPIN FLIGHT WORK.

NON-CURRENT PROJECTS

OV-1B
- LAMINAR ENGINE NOISE
- ACOUSTIC AFFECTS ON LAM, FLOW

EARL HASTINGS
FUTURE PROJECTS

FLIGHT

F-106 - VORTEX FLOW VISUALIZATION
       - ACTIVE LANDING GEAR?
B-737 - LATERAL CWS EVALUATION
       - NEW FMS ALGORITHMS
       - 4-D PROFILE DISPLAY
       - TECHNOLOGY DEMONSTRATIONS (TIDE '89)
       - SIDE-ARM CONTROLLER EVALUATION
LEAR  - AIRBORNE FIELD MILLS (CODE M)
C-23  - CO₂ FLOW VIZ
PA-28 - WAKE VORTEX SENSOR
C-402 - DECOUPLED CONTROLS?

SIMULATOR

DMS   - HIGH-α/PVI
TSRV  - TRANSPORT MLS UTILIZATION STUDY
CURRENT AOB INTERNAL PROJECTS

- FLIGHT TEST USER'S GUIDE
- PASSENGER APPROVAL GUIDELINES (PROPOSED LMI)
- REWRITE OF 1710.1, "OPERATIONS GUIDE AND MANUAL"
- AUTOMATION OF PARTS & STOCK INVENTORY
- RASS MAINTENANCE MANUAL (COMPLETE)
- 5-YEAR BUDGET PLAN (SORT OF COMPLETE)
- FLEET UPGRADING:
  - OH-58 TO VH-1N OR UH-1H
  - T-38 TO F-5F
  - G-I TO G-III (COMPLETE)
  - ACQUIRE BE-200 ADMIN A/C
  - REPLACE U-3A
  - F-106B TO F-15B?

- GROUND EQUIPMENT UPGRADING:
  - TUGS
  - GENERATORS
  - FUEL TRUCKS
  - START VANS, ETC.
AOB - DISTRIBUTION OF OPERATIONAL DUTIES
(* = SHARED RESPONSIBILITY)

HEAD, AOB
(VERSTYNEN)
- OVERALL MANAGEMENT & DIRECTION OF FLIGHT OPS.
- LONG RANGE PLANNING FOR FLIGHT OPS.
- EST. & IMPLEMENT POLICIES & PROC'S RE: PILOT QUALIFICATIONS, CURRENCY, & TRAINING.
* - TRACK PILOT QUAL, CURRENCY, & TRAINING (DELEGATED TO TRAINING OFFICER)
* - EST. & IMPLEMENT SAFE OPERATING PRACTICES & STDS (SHARED WITH ASO).
- APPROVE FLIGHT REQUESTS.
* - APPROVE PAX ON NASA A/C (SHARED WITH ASO).
* - APPROVE NEW FLIGHT PROGRAMS.
- PILOT ASSIGNMENTS.
* - APPROVE "FLIGHT TEST OPS & SAFETY REPORTS".
- APPROVE WORK ORDERS AFFECTING OPERATIONS.
* - FLIGHT SCHEDULING (DELEGATED TO SEC/ADMIN).

SEC/ADMIN
(TRIPPE)
- ADMIN/SECRETARIAL DUTIES.
- LONG RANGE (8-WEEK) SCHEDULE.
* - WEEKLY OPERATIONS SCHEDULE (SHARED WITH HEAD, AOB).
* - PIF UPDATING & SIGNOFFS (ITEMS SELECTED BY HEAD, AOB).
- UPDATING PILOT CURRENCY RECORD.
- TRACKING TRAVEL STATUS & SURVIVAL TRAINING FOR ALL PASSENGERS ON NASA AIRCRAFT.
AOB - DISTRIBUTION OF OPERATIONAL DUTIES
( * = SHARED RESPONSIBILITY)

TRAINING OFFICER
(YENNI)
- Maintain pilot qualification & currency board.
- Review pilot record jackets.
- Review pilot currency records.
- Track pilot initial qual & recurrency training req'ts.
- Administer annual instrument checks (when requested by head, AOB).
- Monitor NASA 1 contract.

AVIATION SAFETY OFFICER
(PERSON)
- Review operational & maintenance safety procedures.
- Recommend safety requirements for all flight related activities.
  * - Assist proj. eng's. in preparation of "system safety program plans".
  * - Review & approve "flight test operations & safety reports".
  * - Review & approve non-nasa pax on nasa aircraft.
- Serve on aviation safety review board.
- Assist branch head & t/o with initial & recurrency quals when requested.
- Stop any operation considered unsafe.

SAFETY EQUIPMENT OFFICER
(BROWN)
- Recommend requirements for safety/survival equip.
  * - Coordinate with P.E. contractor re: currency & adequacy of safety/survival equipment.
  * - Coordinate with t/o to assure timely safety/survival training for all crewmembers.
AOB - DISTRIBUTION OF OPERATIONAL DUTIES
(*) = SHARED RESPONSIBILITY

AIRWORTHINESS ASSURANCE OFFICERS

- ASSIST PROJECT ENGINEERS IN MEETING REQ'TS. OF LHB 7910.1.
- ENGINEERING DESIGN REVIEW OF FLIGHT PROJECTS, A/C MODS, EQUIPMENT INSTALLATIONS. REFER TASKS TO SYSTEMS ENGINEERING OR OTHER PARTIES WHEN REQUIRED.

(GIFFORD, MECH)

- COORDINATE WITH ASRB ON AIRWORTHINESS & DESIGN MATTERS.
- CONFIGURATION CONTROL OF LARC A/C.
- REVIEW & APPROVE ALL AIRCRAFT WORK ORDERS.
* - ASSIST P/E'S IN CONDUCTING HAZARD ANALYSES & RISK MANAGEMENT ASSESSMENTS.
* - REVIEW "FLIGHT TEST OPERATIONS & SAFETY REPORTS".

(THOMAS, ELEC)

AIRCRAFT DADDY'S

(SEE LIST)

- MAINTAIN PILOT'S HANDBOOK UP-TO-DATE.
- MAINTAIN CHECKLISTS UP-TO-DATE.
- REVIEW & UPDATE QUESTIONNAIRES AS REQUIRED.
- PROVIDE AIRCRAFT-SPECIFIC CHECKOUTS.
- PROVIDE CONSULTATION TO RESEARCHERS RE: SYSTEMS & CAPABILITIES.

<table>
<thead>
<tr>
<th>PERSON</th>
<th>YENNI</th>
<th>BROWN</th>
<th>PHILLIPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-737</td>
<td>C-402</td>
<td>F-106</td>
<td>T-38</td>
</tr>
<tr>
<td>U-3A</td>
<td>204B</td>
<td>C-172</td>
<td>T-34</td>
</tr>
<tr>
<td>BE-800</td>
<td>OH-58</td>
<td>PA-28</td>
<td>LEAR</td>
</tr>
<tr>
<td></td>
<td>S-1G</td>
<td>C-23</td>
<td></td>
</tr>
<tr>
<td>Pilot</td>
<td>CY 85</td>
<td>CY86</td>
<td>CY87</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>VERSTYNNEN</td>
<td>-</td>
<td>-</td>
<td>56.8**</td>
</tr>
<tr>
<td>BROWN</td>
<td>238.3</td>
<td>168.7</td>
<td>195.4</td>
</tr>
<tr>
<td>PERSON</td>
<td>222.2</td>
<td>108.1</td>
<td>190.6</td>
</tr>
<tr>
<td>YENNI</td>
<td>321.5</td>
<td>228.8</td>
<td>208.2</td>
</tr>
<tr>
<td>Wunschel</td>
<td>246.1</td>
<td>107.2</td>
<td>140.4</td>
</tr>
<tr>
<td>PHILLIPS</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DONAHUE</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* Thru 7/88
** 8/87 thru 12/87
*** 7/88 Only
**** 3/88 thru 7/88
<table>
<thead>
<tr>
<th>A/C</th>
<th>DATE OF MANUFAC</th>
<th>AGE</th>
<th>DATE RECEIVED</th>
<th>TOTAL FLIGHT TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESEARCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-106</td>
<td>1957</td>
<td>31</td>
<td>1/79</td>
<td>1456</td>
</tr>
<tr>
<td>B-737</td>
<td>2/67</td>
<td>21</td>
<td>5/74</td>
<td>2432</td>
</tr>
<tr>
<td>LJ 28</td>
<td>11/72</td>
<td>16</td>
<td>12/88</td>
<td>1276</td>
</tr>
<tr>
<td>204B</td>
<td>9/64</td>
<td>24</td>
<td>9/64</td>
<td>1635</td>
</tr>
<tr>
<td>C-402</td>
<td>11/72</td>
<td>16</td>
<td>5/82</td>
<td>1857</td>
</tr>
<tr>
<td>C-172</td>
<td>1970</td>
<td>18</td>
<td>8/72</td>
<td>1261</td>
</tr>
<tr>
<td>C-23</td>
<td>11/74</td>
<td>14</td>
<td>1/75</td>
<td>607</td>
</tr>
<tr>
<td>PA-28</td>
<td>1976</td>
<td>12</td>
<td>8/78</td>
<td>593</td>
</tr>
<tr>
<td>S1-36</td>
<td>8/79</td>
<td>9</td>
<td>2/86</td>
<td>119</td>
</tr>
<tr>
<td>SUPPORT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE-800</td>
<td>5/76</td>
<td>12</td>
<td>6/77</td>
<td>2210</td>
</tr>
<tr>
<td>U-3A</td>
<td>1957</td>
<td>31</td>
<td>2/71</td>
<td>8486</td>
</tr>
<tr>
<td>T-38</td>
<td>1965</td>
<td>23</td>
<td>12/65</td>
<td>2863</td>
</tr>
<tr>
<td>T-34</td>
<td>1/78</td>
<td>10</td>
<td>6/78</td>
<td>995</td>
</tr>
<tr>
<td>OH-58</td>
<td>1971</td>
<td>17</td>
<td>9/72</td>
<td>995</td>
</tr>
</tbody>
</table>
RISK MANAGEMENT

- AVIATION SAFETY OFFICER WITH STOP AUTHORITY
- LOCALLY-GIVEN STOP AUTHORITY TO ALL EMPLOYEES
- MONTHLY SAFETY MEETINGS
- CONTINUOUS MANAGEMENT EMPHASIS ON SAFETY
- STRICT PASSENGER APPROVAL GUIDELINES
- CONTINUOUS RECURRENT TRAINING
- SHORTER THAN REQUIRED INSPECTION INTERVALS
- FREQUENT ENGINE OIL ANALYSIS
- THOROUGH PRE- & POST-FLIGHT CHECKS
- GROUND FACILITY CHECKOUTS OF MODS
- AIRWORTHINESS ASSURANCE OFFICE
- FORMAL SAFETY REVIEW PROCESS
1. PRIMARILY ORIENTED TOWARDS BASIC RESEARCH.

2. IN-HOUSE CAPABILITY FOR DESIGN, FAB, GROUND TESTING, AND FLIGHT TESTING PROVIDES UNIQUE END-TO-END CAPABILITY NOT AVAILABLE AT OTHER CENTERS.

3. LANGLEY HAS A MODEL PROCESS FOR MANAGING FLIGHT RESEARCH PROJECT RISK.

4. DIRECT INTERACTION BETWEEN FLIGHT ACTIVITY AND RESEARCHERS PROVIDES MANY BENEFITS.

5. GEOGRAPHICAL & ENVIRONMENTAL FACTORS MAKE LANGLEY AN IDEAL PLACE TO CONDUCT FLIGHT RESEARCH.
BASIC RESEARCH ORIENTATION

- MANY DIFFERENT AIRCRAFT TYPES REQUIRED TO PROVIDE LARGE TEST ENVELOPES.

- LOW ANNUAL FLIGHT HOURS.

- MANY PROJECTS PER AIRCRAFT.

- DIRECT INVOLVEMENT OF RESEARCHERS.

- MANY UNUSUAL SENSOR, INSTRUMENTATION, AND OPERATIONAL REQUIREMENTS.
DIRECT RESEARCHER INVOLVEMENT

1. Provides high levels of individual incentive due to opportunity for involvement from concept formulation to flight validation.

2. Promotes cross-fertilization of ideas, skills, and test techniques across projects.

3. Enables direct observation and recording of qualitative results.

4. Promotes efficient use of unique instrumentation & aircraft assets.

5. Promotes appreciation for real-world factors in technology development and refinement.

6. Provides a direct path for feedback of flight results into other projects and ground facilities.
AOB MISSIONS

1. OPERATE & MAINTAIN LARC RESEARCH AIRCRAFT.

2. OPERATE & MAINTAIN LARC PROGRAM SUPPORT AIRCRAFT.

3. MONITOR CONTRACT OPERATION & MAINTENANCE OF NASA 1.

4. PROVIDE PILOT SUPPORT TO LARC SIMULATOR PROGRAMS.

5. PARTICIPATE TECHNICALLY IN ALL ASPECTS OF LARC FLIGHT PROJECTS.

6. OPERATE & MAINTAIN A FLIGHT DISPATCH/METEOROLOGY OFFICE.

7. PROVIDE AIRWORTHINESS & QUALITY ASSURANCE FUNCTION FOR ALL AIRCRAFT & MODIFICATIONS.

8. PROVIDE PHOTOGRAPHIC AND OTHER AERIAL SERVICES TO LARC.
SKILL MIX

- 6 SUPERVISORY
- 4 ADMINISTRATIVE
- 2 ENGINEERING
- 1 METEOROLOGIST
- 1 SURVIVAL EQUIPMENT SPECIALIST
- 4 RESEARCH PILOTS
- 4 SUPPORT PILOTS
- 12 CIVIL SERVICE MECHANICS
- 9 CONTRACT MECHANICS
- 1 GROUND SUPPORT EQUIPMENT MECHANIC
- 1 PROCUREMENT SPECIALIST
- 1 STOCKROOM CLERK
- 5 ELECTRONICS TECHNICIANS
- 1 NICAD BATTERY TECHNICIAN
- 3 QUALITY ASSURANCE INSPECTORS

55 TOTAL EMPLOYEES