

DAILY/INITIAL FLIGHT TEST REPORT		1. AIRCRAFT TYPE	2. SERIAL NUMBER
		C-5A	80211
3. CONDITIONS RELATIVE TO TEST			
A. PROJECT/MISSION NO	B. FLIGHT NO/DATA POINTS	C. DATE	
	QUAL	30 SEP 88	
D. FRONT COCKPIT (Left Seat)	E. FUEL LOAD	F. JON	
BASS GRADY	175,000 lbs	996 TPS	
G. REAR COCKPIT (Right Seat)	H. START UP GR WT/CG	I. WEATHER	
Dimmick	545,000 lbs 38%	VMC	
J. TO TIME/SORTIE TIME	K. CONFIGURATION/LOADING	L. SURFACE CONDITIONS	
1130/1240	CLEAN	CALM WINDS	
M. CHASE ACFT/SERIAL NO	N. CHASE CREW	O. CHASE TO TIME/SORTIE TIME	
N/A	N/A	N/A	
4. PURPOSE OF FLIGHT/TEST POINTS			
<p>TO EVALUATE THE C-5 AS A LONG RANGE CARGO AIRCRAFT ¹⁵⁵¹⁰⁰. AREAS OF OBSERVATION: TAKEOFF AND LANDING, DYNAMICS, LATERAL DIRECTIONAL QUALITIES AND PENETRATIONS.</p>			
5. RESULTS OF TESTS (Continue on reverse if needed)			
<p>The cockpit was very roomy. All gauges were easy to read, and therefore assisted in a good instrument cross check. The vertical instruments allow for very precise control, though they took some time to get used to them. The absence of fuel gauges on the front panel was objectionable. The only way for the pilots to know the fuel state was to ask the engineer. Not a good feature for high crew coordination task load periods on intercom failure. The aircraft was easy to taxi, with a rear wheel track centering or centering feature to provide the ability to negotiate tight turns. The range of motion and forces on the steering wheel were adequate and comfortable.</p> <p>TAKEOFF AND LANDING Light forces were required to rotate to and maintain the climbout attitude. A slight pitch up was noted when the flaps were retracted. The climb schedule was easy to maintain within $\pm 2k$. Trim response</p>			
6. RECOMMENDATIONS			
<p>① put a fuel gauge on the front console. ✓ ② INCREASE RATE IN LONGITUDINAL TRIM SYSTEM</p>			
COMPLETED BY	SIGNATURE	DATE	
BASS	Dimmick / Grady	5 OCT 88	

WAS SLOW. PITCH CONTROL BECAME MORE SENSITIVE AT HIGHER AIRSPEEDS. FOR LANDING THE AIRCRAFT WAS VERY SPEED STABLE WITH GOOD POWERED RESPONSE. THE LANDING ATTITUDE WAS EASILY MAINTAINABLE, BUT THERE WAS A SLIGHT TENDENCY TO UNDER FLARE BECAUSE OF THE HEIGHT ABOVE THE RUNWAY AT WHICH THE PILOT SITS. THERE WAS A LARGE POWER INCREASE REQUIRED DUE TO ADDITIONAL DRAG WHEN THE FLAPS WERE EXTENDED FROM 40° TO FULL FOR LANDING.

ROLL PERF - $YAS_A \rightarrow 10^\circ$ per second roll rate built slowly but almost no adverse yaw was present. Roll rate was smooth with no tendency to ratchet. A slow, but predictable A/C in roll. This was a plus in the tactical type approach.

PENT DESC - 2 Eng to REVERSE IDLE \approx 300KTS
A/C took about 15lb push to nose over \approx accelerate from 250 \rightarrow 300KTS. Trim system seemed slow to respond, but once the A/C was trimmed, it stayed right at 300KTS without further adjustment. Very stable during the descent.

NAV STATION - consisted of 8 $4" \times 4"$ plain metal plates and 5 $4" \times 7"$ plain blue metal plates. In all, the NAV station was not functional \approx if the A/C was to add a navigator for special missions, the station would be unsuitable.

COCKPIT - LARGE BUT CONTROLS EASILY ACCESSIBLE. TAPE INDICATORS ARE EASY TO READ AND USE BUT I WOULD SWITCH THE TWO ALTIMETERS (THOUSANDS + HUNDREDS) AND MAKE VVI THE SAME LENGTH. SWITCHES TO SET DESIRED A/S AND ALTITUDE ARE ON CENTER CONSOLE AND WOULD BE BETTER PUT BELOW TAPES ON INSTRUMENT PANEL LIKE IN 141. CAN SEE WING TIP WITHOUT LEANING OUTBOARD AND GOOD FOV OVER NOSE. SINGLE SEAT CONTROL FOR L/R, FORE/AFT MOVEMENT IS A GOOD FEATURE.

ENGINE START IS SIMPLE QUICK AND EASY WITH NO THROTTLE MOVEMENT REQUIRED.

I CAN'T SEE HOW THEY COULD MAKE IT BETTER. AND IT ALLOWS FOR QUICK START UP. < 5 MINUTES FROM START OF PRESTART CHECKLIST TO TAXI CALL.

TAXI - NOT MUCH POWER REQUIRED TO GET IT ROLLING AND WILL KEEP GOING AT IDLE. $\pm 5^\circ$ PWS ELIMINATES NEED FOR CONTROL WHEEL ON $\&$ TAXI AND T.O. -RUPPER

T.O. - VERY LIGHT FORCE TO ROTATE ($< 4lb$) AND ONCE IT IS MOVING HAVE TO APPLY SLIGHT PWD STICK TO STOP IT AT $8-10^\circ$. NO TRIM REQUIRED THROUGH CLEAN UP AND CLIMB. A/C WAS LIGHT LOADED SO CLIMB + T.O. PERF NOT REPRESENTATIVE.

C-5A (cont.)

CROISE - LONGITUDINAL TRIM IS VERY SLOW. FWC + BREAKOUT ARE SMALL (~ 1 lb LONGITUDINAL). AIRCRAFT IS NOT EXTREMELY SPEED STABLE. ± 30 KTS FROM 220 KIAS WAS LINEAR IN STICL FORCE WITH A MAX OF 5 lbs. THIS COUPLED WITH THE SLOW TRIM RATE GIVES A BIG BOUCET WHERE YOU CAN FLY RELATIVELY HANDS OFF, BUT DIFFICULT TO TRIM UP EXACTLY. MINIMAL MISSION IMPACT; USE AUTO PILOT. SPIRAL MODE NEUTRAL CLEAN AND SLIGHTLY CONVERGENT CONFIGURED. MODERATE AILERON FORCES ARE NOT OBJECTIONABLE AND DO NOT AFFECT ROLL CONTROL NXL DOES ROLL MODE TIME CONSTANT OF ABOUT 1-1.5 SEC.

LANDING - SPEED CONTROL EASY ON FINAL EXCEPT MAJOR POWER ADDITION WITH FULL FLAPS. ONCE THE SIGHT PICTURE IS OBTAINED ADEQUATE FLARE AND TOUCHDOWN OBTAINABLE BY EVEN UNFAMILIAR PILOT. SLIGHT NWS LAG RESULTED IN SLIGHT, VERY LOW FREQUENCY LINEUP OSCILLATION ON ROLL ON FIRST LANDING, EASILY COMPENSATED FOR. IN LANDING PATTERN THE TRIM IS NOT MUCH HELP BECAUSE OF ITS SLOW SPEED. FORCES (≈ 10 lbs) AND DISPLACEMENT ($\approx 6''$) IN FLARE WERE MODERATE BUT NOT OBJECTIONABLE. 3 ENGINE REQ'D MODERATE RUDDER FORCES CONFIGURED DOWNWARD. ON CLIMBOUT WITH R ENG AT IDLE REQ'D 80 lbs TO KEEP BAL CENTERED

OVERALL: MODERATE STICL FORCES WERE REPRESENTATIVE OF A LARGE AIRPLANE BUT DID NOT RESULT IN OBJECTIONABLE FLYING QUALITIES. NO MANEUVERS NOTICEABLY EXCITED ANY DYNAMIC MODES WHILE COMMANDED ROLL + PITCH RATES WERE CONTROLLABLE AND ADEQUATE FOR THE MISSION. TACTICAL DESCENT APPROACH (ALA SFO) WAS IMPRESSIVE AND SHOWED THE AIRCRAFT TO BE EASILY CONTROLLABLE. WHILE REPRESENTATIVE PAYLOAD WAS NOT FLOWN, THERE WAS CONSIDERABLE PERFORMANCE MARGIN IN THIS CONFIGURATION.