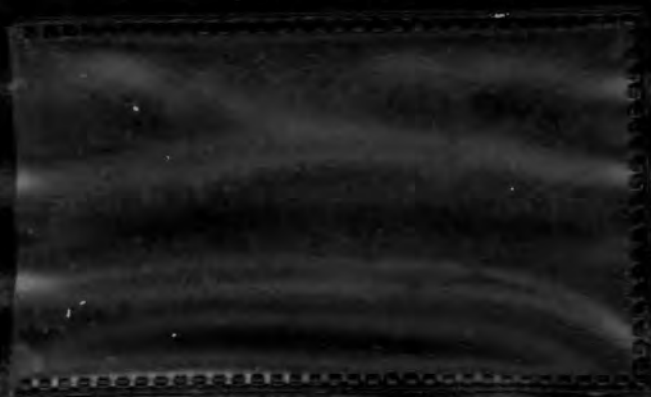


USAF
FLIGHT CREW
CHECK LISTS



PRIZE NUMBERED CALL-SIGNS

LT GEASLIN - 33
LT COLE - 34
LT HALL - 35
LT HUNT - 36
LT CONNER - 37
LT HOLLAND - 38
LT CREW - 39 (GROUP)
LT THRASHER - 40
LT CASNER - 41
LT HUGENBERG - 42
LT LOCKWOOD - 43
LT GRAHAM - 44
LT CLARK - 45
LT SYKES - 46
LT DAVIS - 47
LT LEAMING - 48
LT DUKELOW - 50
LT BOULTON - 51
LT BENNETT - 52
LT NORTH - 53
LT OLSHESKI - 54
LT RANDALL - 55
LT SCOTT, W. F. - 56
LT WATSON - 57
LT HINTON - 60
LT BOYER - 71
LT DUEMLING - 75
LT MILLER - 77
LT DUESING - 80
LT WORLEY - 99

AN HOA GCA	382.2/369.0
BALDY GCA	344.9/319.8
CHU LAI APP	383.1
CHU LAI DEP	316.0
DANANG APP	363.8
DANANG DEP	305.9
EVANS GCA	301.3
PHU BAI APP	274.1
PHU DEP	315.5
QUANG TRI APP (HUE APP)	274.1
QUANG TRI DEP & GCA	375.2

GCI/RADIO/METRO

PAMPER	298.0/269.6/278.4
PANAMA	376.7/376.9/278.4
VICE SQUAD	376.9/238.1/278.4
DANANG RADIO	38.9/339.2
HUE/PHU BAI RADIO	38.9/339.2
QUANG TRI RADIO	38.9/295.9
DANANG METRO	344.6

<u>AIR FIELDS</u>	<u>TWR</u>	<u>GND</u>	<u>TACAN</u>	<u>RSN/HOMER</u>
AN HOA	247.0/41.3		121	
BALDY	228.9/41.8		109	
CHU LAI	340.2	360.2	74	277.2/(CHU)
DANANG	236.6	275.8	77/91	295(SF)
DONG HA	260.2			248(XVJ)
EAGLE	299.9/61.4			488(MES)
EVANS	252.1/63.4	302.3		422(QF)
LIFT MASTER	225.6			
MAI LOC	44.2			
MARBLE MT	281.2	290.3		515
PHU BAI/HUE	241.0/41.3		69	408/393
QUANG TRI	360.2/40.5		103	439(KMK)
RED BEACH	262.2/39.2			
SALLY	368.4			
HILL 55				340(HVR)
LZ ROSS				517(NVB)

DASC

DANANG

313.9/46.2

BASES

10.2

ALPHA PROVIDE
BRAVO PROVIDE
CHARLIE PROVIDE

42 CE SQUAD
PANTMA

271.3/308.1
362.0/308.1

8 SQUADRONS

BASKETBALL

309.2

BARGEY

382.9/360.8/46.5

BIK

263.1/68.3/45.4

CAT KILLERS

319.1(N)/311.3(S)

CATTLE CALL

270.6

CHATTERBOX

268.6

COACHMAN

242.3

COMPRISE

269.5

COVEY

300.1

DINNER

313.5

DUST OFF (DMZ DUST OFF 47.4/46.9) 41.4

GRIFFIN

HOSTAGE

348.0

MAIL (FAT CAPPERS)

51.7

PEACH BUSH

317.4

SPAD (FIRE FLIES 45.5)

70.35

SOYD

30.30

SCAR FACE

327.0

SWIFT

336.6

TRAIL

37.7

TADC/ABCCC/HOSP SHIPS

JOYRIDE

366.4

HILLSBORO

266.9/258.9/63.95/68.95

MOONBEAM

266.9/258.9/63.95/68.95

REPOSE N46.9 TACAN CH 1

312.2

SANCTUARY S35.5 CH 62

312.2

ARTY

BANJO

49.1

RED DEVIL

39.7

SLA

39.5/36.4

CALV

64.7

SKULLS 11

55.9

1st MAR

BLACK MERE

40.1

5th MAR

Joy STICK

51.8

7th MAR

Red

21.2

26th MAR

1. President of the U. S.
2. Heads of Foreign States
3. Reigning Royalty

CODE 2

1. Vice President of the U.S.
2. Speaker of the House of Representatives
3. Chief Justice of U.S.
4. Former Presidents of U.S.
5. Secretary of State
6. Secretary General of the United Nations
7. Foreign Prime Minister or Cabinet Officer
8. Foreign Ambassador, High Commissioner or Special Diplomatic Representative whose credentials give him authority equal to or greater than that of an Ambassador
9. Widows of Former Presidents
10. Ministers of Foreign Powers
11. Associate Justices of the Supreme Court
12. The Cabinet
 - Secretary of Treasury
 - Secretary of Defense
 - Attorney General
 - Postmaster General
 - Secretary of Interior
 - Secretary of Agriculture
 - Secretary of Commerce
 - Secretary of Labor
 - Secretary of Health, Education and Welfare
 - Secretary of Transportation
13. Director Bureau of the Budget
14. United States Representative to the U. N.
15. United States Senators
16. Governors of States
17. Former Vice Presidents of the United States
18. Members of the House of Representatives of the United States
19. Counsellor to the President
20. Assistant to the President
21. Charges D'Affaires of Foreign Powers
22. Under Secretaries or Deputy Secretaries of Executive Departments (see Cabinet above for Executive Depts.)

23. Administrator, Agency for International Development
24. Director, U. S. Arms Control and Disarmament Agency
25. Secretary of the Army
26. Secretary of the Navy
27. Secretary of the Air Force
28. Chairman, Council of Economic Advisers
29. Chairman, Board of Governors, Federal Reserve
30. Chairman, Joint Chiefs of Staff
31. Chief of Staff, United States Army
32. Chief of Naval Operations
33. Chief of Staff, United States Air Force
34. Commandant of the Marine Corps
35. Retired Chief of Staff
36. General of the Army
37. Fleet Admiral (5Star Rank)
38. General of the Air Force
39. Secretary General & Representatives to Organization to American States
40. Director of Central Intelligence Agency
41. Administrator, General Service Administration
42. Director, U. S. Information Agency
43. Administrator, National Aeronautics & Space Administration
44. Chairman, Civil Service Commission
45. Chairman, The Atomic Energy Commission
46. Director, Defense Research & Engineering
47. Director, Office of Emergency Planning
48. Director, The Peace Corps
49. Director, Office of Economic Opportunity

CODE 3

1. Special Consultant to the President
2. Special Assistant to the President*
3. Director of Communications for the Executive Branch
4. Science Advisor to the President
5. Press Secretary to the President
6. Deputy Under Secretaries of Other Executive Departments
7. Assistant Secretaries of the Executive Departments

8. Assistant Secretaries of Defense & General Counsel (by date of appointment)
9. Chief of Protocol
10. Members of the Council of Economic Advisors
11. Active or Designate U.S. Ambassadors and Ministers (Career rank when in the U.S.)
12. Under Secretaries of the Army, The Navy & The Air Force
13. Governors of Territories
14. Commandant of the Coast Guard
15. Vice Chief of Staff U.S. Army, Vice Chief of Naval Operations, and Vice Chief of Staff U.S. Air Force
16. General & Admirals (4 Star Rank)
17. Retired Four-Star Generals & Admirals
18. Assistant Secretaries of the Army, The Navy & The Air Force (by date of appointment within each service)
19. Special Assistant to the Secretary of Defense
20. Assistants to the Secretary of Defense
Legislative Affairs
Atomic Energy
-

CODE A

1. Special Consultant to the President for Systems Analysis
2. Deputy Assistant to the President
3. Special Counsel to the President
4. Deputy Press Secretary to the President
5. Special Assistant to the President
6. Lieutenant Generals & Vice Admirals (3 Star Rank)
7. Retired Lieutenant Generals & Vice Admirals
8. Chief, Scientists, Department of Defense, Air Force, etc.
9. General Counsels of the Military Departments
10. Deputy Directors, Defense Research & Engineering & Deputy General Counsel (by date of appointment)
11. Deputy Assistant Secretaries of the Executive Departments
12. Chairman of Statutory Boards & Committees, Independent Agencies, Mayors

CODE 4 CONT

13. Former U.S. Ambassadors and Ministers to Foreign Countries
14. Deputy Under Secretaries of the Army, The Navy & The Air Force (by date of appointment within each service)
15. Deputy Chief of Protocol
16. Counselors of Foreign Powers
17. P.L. 313 (Appointed Civilians)
18. GS-18 (Civilians)

CODE 5

1. Major Generals, Rear Admirals (Upper Half) (2 Star Rank)
2. Deputy Assistant Secretaries of the Army, The Navy, & The Air Force (by date of appointment within each service)
3. Surgeon General, Public Health Service
4. GS-17 (Civilian)

CODE 6

1. Brigadier Generals, Rear Admirals (Lower Half) (2 Stars)
2. Assistant Chiefs of Protocol
3. Secretary of the Senate
4. GS-16 (Civilian)

CODE 7.

1. Captains USN or USCG, Colonels USAF, USA or USMC or comparable rank officers of friendly nations
2. Counsels in charge of Consulates of Foreign Powers
3. Second and Third Secretaries of Foreign Embassies and Legations
4. GS-15 (Civilians)

HONORS CODE LETTERS

- H. Accord honors under AFR 900-6, AR 600-25 or Navy Regulations Chapter 21 as appropriate
- N. Accord no honors: request informal visit with the Commander
- O. Request nothing

NOTES:

* When Directed by the White House



1. Ambassadors who minister to
Foreign Countries

2. Deputy Under Secretaries of the Army, The Navy & The Air Force (by date of appointment within each service)
3. Deputy Chief of Protocol
4. Counselors of Foreign Powers
5. P.L. 913 (Appointed Civilians)
6. GS-18 (Civilians)

CODE 5

1. Major Generals, Rear Admirals (Upper Half) (2 Star Rank)
2. Deputy Assistant Secretaries of the Army, The Navy, & The Air Force (by date of appointment within each service)
3. Surgeon General, Public Health Service
4. GS-17 (Civilian)

CODE 6

1. Brigadier Generals, Rear Admirals (Lower Half) (2 Stars)
2. Assistant Chiefs of Protocol
3. Secretary of the Senate
4. GS-16 (Civilian)

CODE 7

1. Captains USN or USCG, Colonels USAF, USA or USMC or comparable rank officers of friendly nations
2. Consuls in charge of Consulates of Foreign Powers
3. Second and Third Secretaries of Foreign Embassies and Legations
4. GS-15 (Civilians)

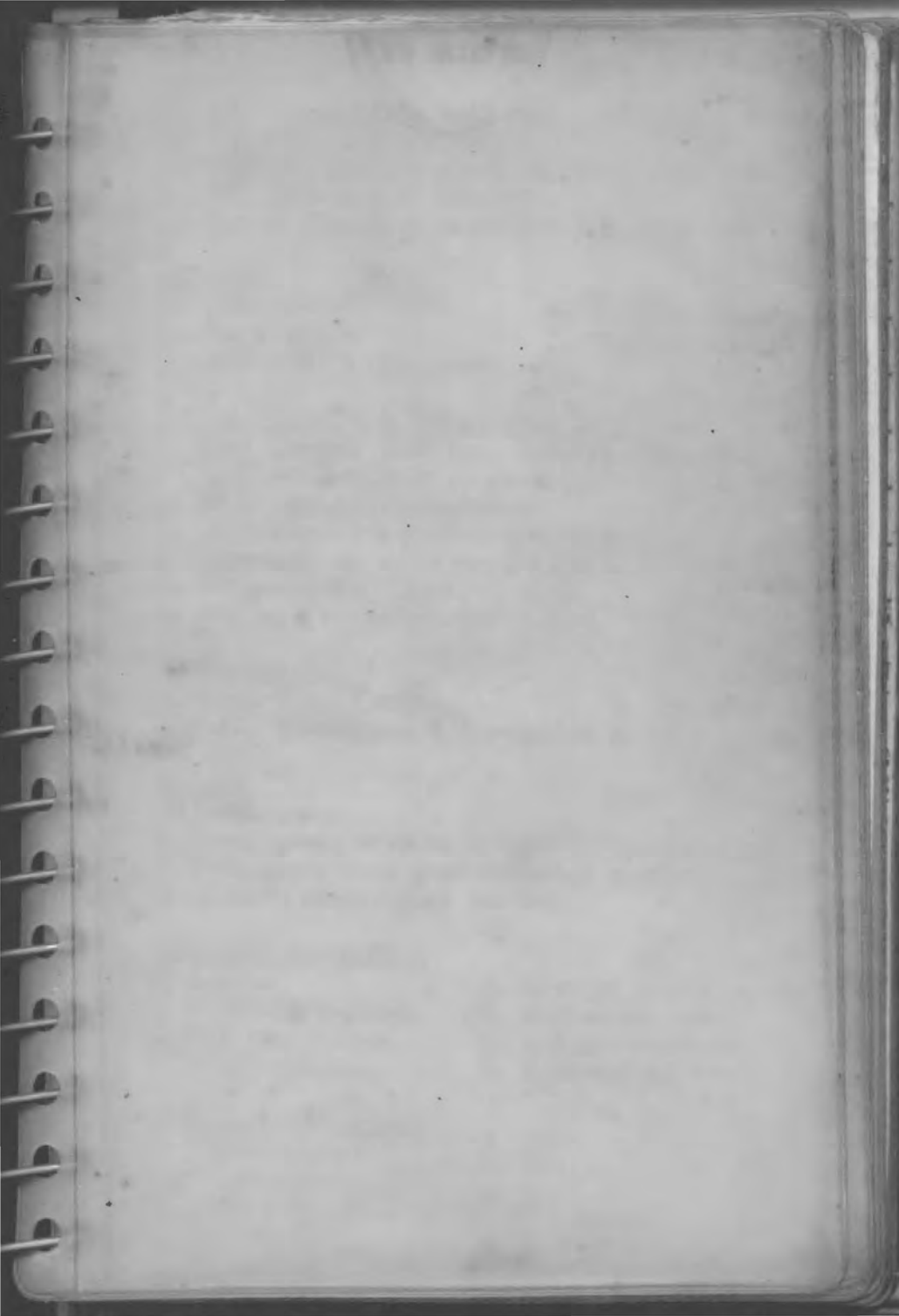
HOW TO CODE LETTERS

1. Award honors under AFR 900-6, AR 600-25 or Navy Regulations Chapter 21 as appropriate
2. Award no honors: request informal visit with the Commander
3. Request nothing

NOTE:

* When Directed by the White House







1. Visual signals, call signs, and radio codes.
2. Time for landing, fuel, and engine status.
3. The last and/or take-off.
4. Visual signals & formation, take-off.

MISSION

1. Primary.
2. Secondary.
3. Operating & load areas.
4. General mission.
5. Mission status.

FLIGHT PLANNING & OPERATIONAL DATA

1. Fuel aboard, fuel req. for alt., time, fuel status.
2. Fuel availability at dest.
3. Weight limitations.
4. Load distribution and completed.
5. Approach and retirement routes.
6. Details to flight.
7. Starts & cross-country points.

COMMUNICATIONS

1. Signs & call signs.
2. Radio procedures & discipline.
3. Radio status.
4. In & out.

WEATHER

1. Local area.
2. Local area, enroute & destination forecast.
3. Procedures when inadvertently encountering IFR.
4. Minimum operational weather.

EMERGENCY PROCEDURES

1. Starts.
2. Downed A/C-pilot.
3. A/C facilities.
4. Radio failure.
5. Loss of visual contact.
6. System failure.
7. A/C emergencies.
8. Wave-off patterns.

GENERAL INSTRUCTIONS

1. Intelligence.
2. Fire plans.
3. A/C & in, fighting for the flight.

OPS BRIEFING

GENERAL

1. Info assignment, call sign, and post spot
2. Fit Ldr & alternate.
3. Time for manning helm, engine & radio start.
4. Air taxi and/or take-off.
5. Visual signals & formation instructions.

MISSION

1. Primary.
2. Secondary.
3. Operating & lndg areas.
4. Control agency
5. Time on station

FLIGHT PLANNING & OPERATIONAL DATA

1. Fuel aboard, fuel req. for flt, min. fuel at. Fuel availability at dest.
2. Gross weight limitations.
3. Load computation card completed.
4. Approach and retirement routes.
5. Obstacles to flight.
6. Charts & cross-country packet.

COMMUNICATIONS

1. Freqs & call signs.
2. Radio procedures & discipline
3. Nav aids.
4. ID & recog.

WEATHER

1. Local area.
2. Local area, enroute & destination forecast.
3. Procedures when inadvertently encountering IFR
4. Minimum operational weather.

EMERGENCY PROCEDURES

1. Aborts.
2. Downed A/C-pilot.
3. SAR facilities.
4. Radio failure.
5. Loss of visual contact.
6. System failure.
7. A/C emergencies.
8. Wave-off patterns.

SPECIAL INSTRUCTIONS

1. Intelligence
2. Fire plans
3. A/C & LD lighting for nite flights.

CODES CON

GENERAL

1. Helo assignment, call sign, and deck spot
2. Flt Ldr & alternate.
3. Time for manning helo, engine & rotor start air taxi and/or take-off.
4. Visual signals & formation instructions.

MISSION

- | | |
|----------------------------|--------------------|
| 1. Primary. | 4. Control agency |
| 2. Secondary. | 5. Time on station |
| 3. Operating & Indg areas. | |

FLIGHT PLANNING & OPERATIONAL DATA

1. Fuel aboard, fuel req. for flt, min. fuel st. fuel availability at dest.
2. Gross weight limitations.
3. Load computation card completed.
4. Approach and retirement routes.
5. Obstacles to flight.
6. Charts & cross-country packet.

COMMUNICATIONS

- | | |
|----------------------------------|----------------|
| 1. Freqs & call signs. | 3. Nav aids. |
| 2. Radio procedures & discipline | 4. ID & recog. |

WEATHER

1. Local area.
2. Local area, enroute & destination forecast.
3. Procedures when inadvertently encountering IFR
4. Minimum operational weather.

EMERGENCY PROCEDURES

- | | |
|----------------------|----------------------------|
| 1. Aborts. | 5. Loss of visual contact. |
| 2. Downed A/C-pilot. | 6. System failure. |
| 3. SAR facilities. | 7. A/C emergencies. |
| 4. Radio failure. | 8. Wave-off patterns. |

SPECIAL INSTRUCTIONS

1. Intelligence
2. Fire plans
3. A/G & LZ lighting for nite flights.

TACTICAL LOADING UH-1E SLICK

Description	Weight
Crew, Two or Three as desired	(400) 600
Oil, NonTrapped	41
Water, one thermos	20
Tool Box	40
Spare Engine Oil (1qt)	2
Spare Hydraulic Oil (1qt)	2
Smoke Grenades, 4(2 Yellow, 2 Red)	4
Flotation Vests, eight	24
Life Rafts, eight (LR-1)	56
Rescue Collar	4
Survival Kit	20
Machine Gun (M-60)/600rds	71
Armored Seat Cushions/Two	76
Total UH-1E Slick Tactical Load Weight	930

*NOTE

For A/C equipped with VIP Kits add 42 pounds

TACTICAL LOADING for DETECTOR CONCEALED PERSONNEL

Description	Weight
Equipment Listed for Slick UH-1E	930
Crew Two additional (APD operator and Aerial Gunner	400
DCP Equipment	50
Machine Gun (M-60)/600rds	71
Mount, M-60/Door (2)	46
Total Weight Tactical Load DCP Mission	1497

77A HELICOPTER CONTROL LANES

1. Contact Dajiang DASC for clearance.
2. Request route change from Dajiang DASC.
3. Request clearance from ASUT when off prescribed routes.
4. CALIFORNIA Route is primary Helo Route.



TACTICAL LOADING
UH-1B SLICK

Description	Weight
Man, One or Three as desired	(400) 600
Oil, GasTrapped	41
Water, one thermos	20
Food Box	40
Engine Oil (1qt)	2
Hydraulic Oil (1qt)	2
Smoke Grenades, 4(2 Yellow, 2 Red)	4
Life Rafts, eight	24
Life Rafts, eight (LB-1)	56
Engine Cooler	4
Approved Kit	20
Machine Gun (M-60)/500rds	71
Approved Seat Cushions/Two	76
Total UH-1B Slick Tactical Load Weight	930

For A/C equipped with VIP Kits add 42 pounds

TACTICAL LOADING for DETECTOR CONCEALED PERSONNEL

Description	Weight
Equipment Listed for Slick UH-1B	930
One Two additional (APD operator and Aerial Camera	400
DUF Equipment	50
Machine Gun (M-60)/500rds	71
Mount, M-60/Door (2)	46
Total Weight Tactical Load DUF Mission	1497

VFR HELICOPTER CONTROL LANES

1. Contact DaNang DASC for clearance.
2. Request route change from DaNang DASC.
3. Request clearance from REGT when off prescribed routes.
4. CALIFORNIA Route is primary Helo Route.



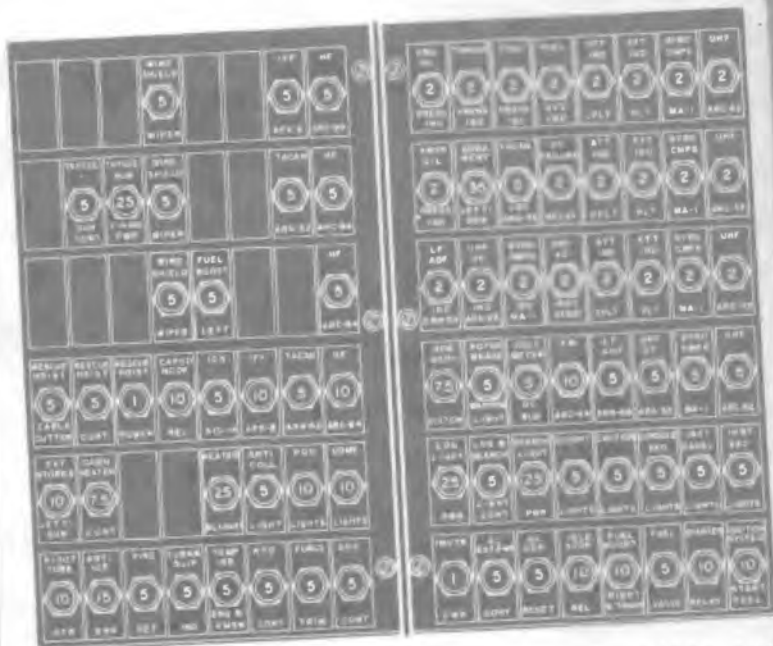
PILOTS WILL CONTACT DINING DASC ON 16.2 FM
313.9 UHF FOR CLEARANCE.

B. ENROUTE ALTITUDE

1. HEADING 001-180 MAGNETIC 2000-3000-MSL
2. HEADING 181-360 MAGNETIC 1500-2500-MSL-
3500

C. PERMISSION TO DEVIATE FROM ROUTE OR APPROPRIATE
ALTITUDE WILL BE REQUESTED FROM DASC

D. FLIGHTS MUST OBTAIN SAV-A-PLANE INFORMATION
FROM REGT. TACP'S WHEN OPERATING BELOW
ABOVE OR OUTSIDE HELICOPTER LINES.



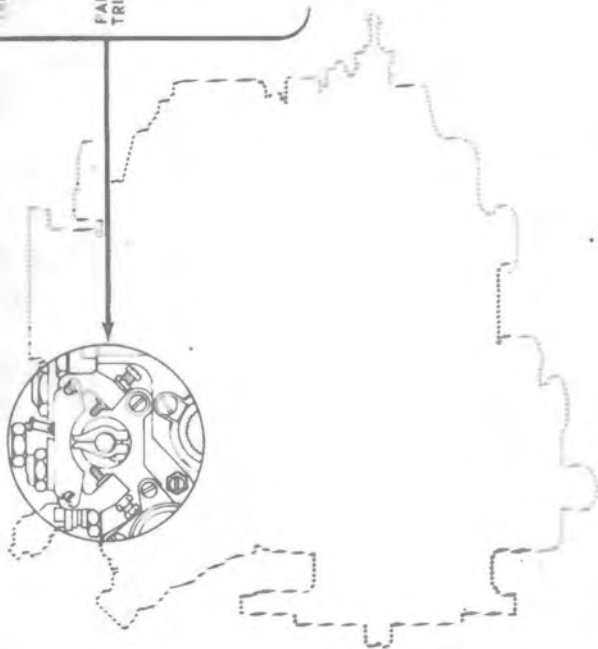
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CIRCUIT BREAKER PANEL



1.8 TURN OR ONE HOLE EQUAL
APPROXIMATELY 1.0

SUBTRACT 16.6 WHEN USING PART POWER
TRIM PLUNGER



FUEL CONTROL ADJUSTMENT

Changed 1 May 1967

2-23

20 40 60-379B

UH-1E MAX GROSS GUNSHIP WEIGHT
 12000 LBS. AIRCRAFT (MILITARY)

SEA LEVEL	1000'	2000'	3000'	4000'
PA	PA	PA	PA	PA
20	9100	9100	8750	8500
25	9100	9100	8550	8250
30	9100	8900	8300	8000
35	8950	8620	8010	7700
40	8760	8400	7800	7500
45	8450	8200	7600	7300

(1) THESE FIGURES ARE BASED ON FIG. 11-12 (GHE 31516) OF THE UH-1E NATOPS MANUAL AND INCLUDE A REDUCTION OF 400 LBS TO PROVIDE FOR POWER LOSS UPON INSTALLATION OF APC 43.

(2) SUBTRACT THE WEIGHT PLACARDED IN THE A/C FROM THE WEIGHT DERIVED FROM THE TEMP/ALT CHART ABOVE TO FIGURE YOUR FUEL LOAD.

(3) HW CONFIGURED A/C WILL ADD 250 LBS. TO THE ABOVE PLACARD WEIGHT.



1.8 TURN OR ONE HOLE EQUALS
APPROXIMATELY 10%

SUBTRACT 14.5 WHEN USING PART POWER
FROM PLUGGER



FUEL CONTROL ADJUSTMENT

Revised 1 May 1967

2-23

**UH-1E MAX GROSS GUNSHIP WEIGHT
TEMP VS. ALTITUDE (HIG)**

	SEA LEVEL	1000' PA	2000' PA	3000' PA	4000' PA
20	9100	9100	9100	8750	8500
25	9100	9100	8800	8550	8250
30	9100	8900	8600	8300	8000
35	8950	8620	8320	8010	7700
40	8700	8400	8100	7800	7500
45	8450	8200	7900	7600	7300

(1) THESE FIGURES ARE BASED ON FIG. 11-15 (CHG 31JUL) OF THE UH-1E NATOPS MANUAL AND INCLUDE A REDUCTION OF 400 LBS TO PROVIDE FOR POWER LOSS UPON INSTALLATION OF AFC 43

(2) SUBTRACT THE WEIGHT PLACARDED IN THE A/C FROM THE WEIGHT DERIVED FROM THE TEMP/ALT CHART ABOVE TO FIGURE YOUR FUEL LOAD.

(3) HTW CONFIGURED A/C WILL ADD 250 LBS TO THE ABOVE PLACARD WEIGHT.

HMI-167 COMPUTATION FOR MAX ALLOWABLE PAX LOADING

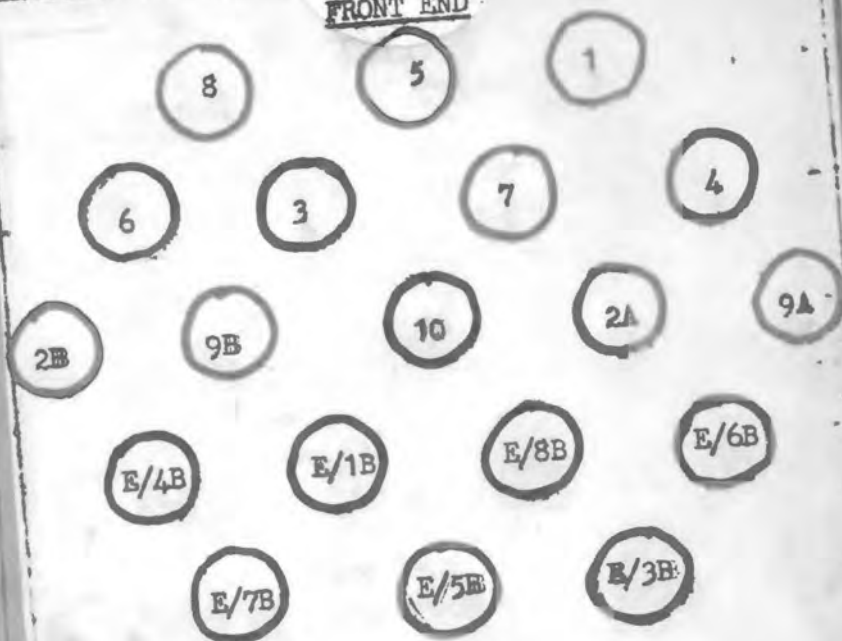
UH-1E MAX GROSS SLICK WEIGHT TEMP VS ALTITUDE (HOGE)

SEA	1000'	2000'	3000'	4000'
540 LEVEL	PA	PA	PA	PA
20	8100	7850	7550	7300
25	7850	7600	7300	7050
30	7600	7350	7050	6800
35	7350	7100	6800	6550
40	7150	6900	6600	6350
45	6950	6700	6400	6150

1. ENTER MAX GROSS WT AS COMPUTED ABOVE _____ LBS
2. SUBTRACT A/C TACTICAL WT FOR A/C _____ LBS
3. SUB TOTAL _____ LBS
4. SUBTRACT FUEL REMAINING _____ LBS
5. NET MAX ALLOWABLE PAX LOAD _____ LBS
6. NET PAX LOAD
AVERAGE PAX WT _____ NO OF PAX ALLOWED

- NOTE (1) THE CHART FIGURES ARE BASED ON FIG 11-16 SHEET 1 OF 2) (CHG 31JUL68) OF THE UH-1E NATOPS MANUAL AND INCLUDES A 400 LB REDUCED LIFT CAPABILITY RESULTING FROM THE INSTALLATION OF APC 43.
- (2) 1°C TEMP CHANGE = 50 LBS
 - (3) 500' ALT CHANGE = 125 LBS

FRONT END



19 SHOT POD FIRING SEQUENCE

WITH 12 ROCKETS

1 SINGLE

2A PAIR

2B

3 SINGLE

4 SINGLE

5 SINGLE

6 SINGLE

7 SINGLE

8 SINGLE

9A

9B PAIR

10 SINGLE

HML

54

20

25

30

35

40

45

50

55

60

65

70

75

80

85

90

95

100

E/AB

WITH

11

#1. FLIGHT IDLE CHECK

This check is made by rolling throttle against flight idle stop. By rolling the throttle to the right, removing the cushion, N1 speed should be 56 to 58%. Upon releasing the throttle the N1 speed will increase to 62 to 66%.

#2. ACCELERATION CHECK

1. Beep turns to 6400 RPM.
2. Increase collective pitch until 85% N1 speed is obtained and hold collective.
3. Roll throttle off until N1 speed stabilizes at 60%.
4. Do a throttle jam and time between 60 and 85%.
5. Time limits on acceleration checks are:

10 Degrees C	-	3.5 Secs.
16 "	"	- 3.5 Secs.
21 "	"	- 3.7 Secs.
27 "	"	- 3.9 Secs.
32 "	"	- 4.0 Secs.
38 "	"	- 4.2 Secs.

#3. MANUAL FUEL CONTROL CHECK

1. Roll throttle out of governor range.
2. Roll throttle off until 60% N1 speed is obtained.
3. Switch to emergency fuel.
4. Note drop in RPM (There will be a definite decrease in N2 RPM reading if working correct lyl).
5. Hover in emergency.

~~#4. EGT CAL TESTER~~

1. This tester is used to check correct readings on N1 Tach Indicator and EGT gauges. This test is done on the ground with the pilot setting up different power settings.

#5. HI HUNTING AND STABILITY

When checking for HI hunting and stability there are three indicators to check. HI Tach indicator, EGT gage, and Torque pressure gage. Torque pressure will usually fluctuate 2 to 5 PSI and EGT gage 20 to 40 °F.

#6. CONTROL RESPONSE FOR "20" AIRCRAFT

At approximately 70 kts. turn hydraulic boost off. Collective pitch control - One person should be able to decrease pitch to 10 PSI torque pressure and increase pitch until 32 PSI is obtained. Between 15 and 18 PSI the collective pressure should be about normal, below or above this range the pressure should start getting excessive. This is set so if the aircraft lost hydraulic boost the pilot would be able to make an emergency landing without the loss of the aircraft. If you are unable to obtain these torque pressure settings 10 to 32 PSI there are improper amount of counter weights on rotor head.

#7. ENGINE VIBRATION METER CHECK

This check is made in flight using different HI and H2 speed, as requested by the crew. These settings will have to be obtained for approximately one minute each. This check is used for the purpose of High Frequency Vibrations of engine, airframes, and main drive shaft installation. There could be a number of causes for excessive vibrations.

Engine vibration Meter Check (Cont.)

Power Settings that are required:

6200 RPM	90%
6400 RPM	75%
6400 RPM	85%
6400 RPM	90%
6400 RPM	95%
6400 RPM	Max Power
6600 RPM	90%

#8. RE-FLIGHT TRACK AND BALANCE

There are various ways to check for a 1:1 Vertical and Lateral Beat. The first method is by the use of the tracking stick. Both lateral and vertical can be distinguished by the hits of the stick. If there is a lateral beat it can very easily be distinguished by the heaviest hit on the tracking stick which is the lightest blade. This is checked during the high RPM track.

A vertical beat can be seen easily on a tracking stick. The one thing to remember is the separation of the hits on the stick, between the two blades on low and high track. If there is a climbing blade the hits will come together or separate more depending on which blade is climbing. If top blade is climbing they will separate and opposite for the bottom blade.

To check for a 1:1 beat in flight, check what airspeed the beat starts and if the beat increases with airspeed, which would be an out of track condition and usually a climbing blade.

If a lateral beat is suspected hover aircraft at 1000ft. and it would be very noticeable. Also if aircraft has a beat between 75 and 85 kts., it is usually a lateral beat.

Track and Balance next page

MANIFEST ENGINE AND BALANCE UNIT

What to check for a full boost

1. What airspeed did boost start and stop
2. Was aircraft climbing, descending, or in level flight.
3. Increasing or decreasing power or in cruise flight
4. Boost gets extremely bad in right or left turns.

99 POWER CHECK

1. Note altitude and QAT and obtain trim factor
2. Note engine rating in % on standard day
3. Smoothly pull in collective from 50 to 100 rpm until N2 speed drops to 6400 RPM (Note: Monitor EGT at all times, a power check is no good if WOT limits are exceeded) (650 deg C 5 sec max.)
4. Note N1 speed at this time.
5. Drop N2 RPM to 6200. There shouldn't be an increase in N1 speed when turps are dropped from 6400 to 6200 RPM. If there is an increase it means an incorrect rigging of the fuel control.
6. You are allowed $\pm .7\%$ N1 from the corrected N1 for the QAT. Remember an engine developing too much power is as bad as an under powered one. If the engine is developing the required $\pm$ N1 and a $\pm .5\%$ and the EGT is too high then take off the .5% to bring the EGT into limits if possible. Any time the EGT is from 540 to 650 on a power check note on yellow sheet so it can be watched by the maintenance department.

Set turns at 6600 RPM. Then smoothly add and take off power as in a normal takeoff and landing. Turns should remain within $\pm$ 50 of 6600 RPM. If you are getting a drop to 6400 or an increase then obviously something is wrong.

11. STABILIZER BAR CHECK

In straight and level flight, roll into a 30° bank and then smoothly back to level. As the aircraft is rolled into level flight relax cyclic pressure. There should be a tendency for the aircraft to roll back a few degrees into the roll. If however the aircraft continues to roll past the level position the stabilizer bar is out of rig.

12. TAIL ROTOR SERVO CHECK

In level flight at 100 kts relax pressure on the rudder pedals. Then push forward trim button. If rudders creep or jump to full limits the tail rotor servo is either set wrong or has an internal leak.

13. RUDDER CHECK

1. Left rudder check-enter a 0 airspeed climb at max power (watch EOT) drop turns to 6000 RPM if EOT allows. Then the aircraft should be able to turn to the left. It doesn't have to whip around but it should turn.
2. Right rudder check-Two correct ways:
 - a) Navy Way - Enter 0 airspeed auto and aircraft should be able to turn to the right
 - b) Army Way - Enter 60 kts. auto and ball should be in the center and there should be two inches of right rudder left. A gun bird will begin a flat turn only and a slick will complete a flat turn.

Pylon Rocking continues abnormally long or present in normal flight.

- a. Faulty transmission mount dampers
wrong dampers installed
- b. Pylon mounts worn
- c. Defective fifth mount
- d. Mount bolts bottomed, loose, or stripped.

2. One per rev vibration in hover

- a. Blade balance (lateral felt as vertical)
- b. Severe out of track
- c. Stabilizer bar balance
- d. Excessively worn dynamic components
- e. Grip bearings binding
- f. Grip spacing incorrect
- g. Internal leaking blade grip (204)

3. One per rev Vertical in forward flight

- a. Blade out of track
- b. Tension torsion straps not set equally (204)
- c. Hitch change rod end bearings worn
- d. Grip bearings sticking
- e. Grip seal (540)

Radius rings worn (540)

Car on insert missing (540)

Stabilizer bar pivot bearings

Mixing lever bearings

Swashplate unibal torque incorrect (540)

Scissors bearings or bushings

Trunion bearings

Under-torqued pillow block bolts

Loose power cylinder mounting.

4. One per rev vibration, intermittent (540)

Collective friction (mast) loose

Collective-sleeve bearings worn

Collective lever pivot bearing worn

Collective lever idler pivot bearings worn

Swash plate unibal torque incorrect

Grip bearings worn or sticking

Blade out of track

Excessive tab differential

transmission mounts deteriorated
Loose, worn or improperly shimmed drag
Brass bolts
Worn rod end bearings
Excessive play in swashplate assembly
Airframe component loose
Lift link bushing worn or missing
Under tor-used pillow block bolts
B model - Main lift beam to fuselage shackles
too tight
Pillow block bearings binding
une-ually adjusted tension/torsion wires
(UH-1D, UH-1F)

6. MEDIUM FREQUENCY VIBRATION FELT IN
AIRFRAME

Skids loose
Radio or electronic gear loose
Unstowed loose equipment
Excessive elevator play
Airframe component loose

7. Excessive High Frequency Vibration

Tail rotor out of balance
Tail rotor out of track
Loose tail rotor pitch change link bearings
Shaft hanger bearings worn, bearing assembly
loose, or dry of lubricant
Airframe (doors, windows, etc.)
Worn or loose tail rotor pitch change rod
duplex bearings
Engine malfunction
Generator(s) bearing failure
Tail rotor drive shaft balance
Tail rotor drive shaft bent
Tail rotor drive shaft alignment
Worn or loose Tail rotor trunnions
Starter generator colling fan (D M dals)
Oil cooler fan or mount
Hydraulic pumps
Hydraulic modules (540)
Oil pump
Loose equipment in-cabin

High freq trouble shooting continued.

Main transmission malfunction
Loose tail rotor grip bearing
Loose tail rotor retaining nut
Bent tail rotor pitch change link
Worn or loose tail rotor pitch change slider
Engine alignment or mounts
Engine coupling shaft balance
Drive shaft clamps not matched properly
Drive shaft clamps out of balance
Drive shaft clamps not installed at 90 deg.
42 deg gear box alignment, skidding
Excessive lubrication at drive shaft coupling
Starter solenoid stuck in (running)
Bad bearings in any mill assembly.

8. ABNORMAL NOISES

Low pitch roar
Engine vibration
Other high frequency vibrations.
Grinding noises
Hydraulic pump failure
540 faulty hydraulic module
Transmission drive quill(s) failing
Internal gear box failure.

9. Normal noises

Blade taps
oilcanning
Window vibration
Inverters
Fuel quantity gage
Air ducts
Kick doors vibrating

Oil pump
Inlet equipment in cabin

HTW CHECKLIST
APPROACHING TARGET

ARMAMENT PANEL

1. MASTER ARM..... OFF
2. WEAPONS, LH, RH..... AS DESIRED
3. GUNS/PODS... .. AS DESIRED
4. ORDNANCE CONTROL..... SAFE

NOTE

WITH ORDNANCE CONTROL SWITCH IN SAFE GUNS OR ROCKETS MAY BE FIRED PRIOR TO HTW RELEASE USING NORMAL PROCEDURES. PLACING ORDNANCE CONTROL IN READY BYPASSES THE GUN/ROCKET FIRING CIRCUITS AND SUBSEQUENTLY DEPRESSING THE ARMAMENT FIRE CONTROL SWITCH WILL RELEASE THE HTW.

ORDNANCE CONTROL SET PANEL

1. RACK SELECTALT, LH, or RH.

NOTE

IF RACK SELECT IS SET TO PRI DEPRESSING THE ARMAMENT FIRE CONTROL MAY RESULT IN JETTISONING OF MSBRs

2. SEQUENCE..... 1st "L" READING CLOCKWISE
3. QUANTITY AS DESIRED
4. INTERVAL..... AS DESIRED**
5. ARMING SWITCH..... NOSE AND TAIL

** FOR SINGLE DROPS SET INTERVAL TO OFF

HTW CHECKLIST
ON BOMB RUN

ARMAMENT PANEL

- Ready*
ON
1. ORDNANCE CONTROL SWITCH....READY
 2. MASTER ARM.....ON

AFTER DROP

1. MASTER ARM.....OFF
2. ORDNANCE CONTROL SWITCH..SAFE
3. RECEIVE NUMBER OF BOMBS AWAY AND PARACHUTE
REPORT FROM CREW OR WINGMAN

JETTISONING PROCEDURES

1. EMERGENCY JETTISONING HANDLE..MANUALLY RELEASE
BOTH MSBR's WITH WEAPONS SAFE.
2. POD JETTISON SWITCHES, LH, RH,..ELECTRICALLY
RELEASES CORRESPONDING MSBR WITH HTW SAFE
3. RACK SELECT SWITCH TO PRI..SET SEQUENCE SWITCH
TO DESIRED RACK. USE NORMAL HTW RELEASE PROCEDURE
MSBR WILL JETTISON WITH HTW SAFE.
4. NORMAL HTW DROP ARM SWITCH OFF..USE NORMAL
DROP PROCEDURE. HTW DROPS SAFE WITH ARMING W
THROUGH FUSE VANES. MSBR RETAINED. DROP SEQUENCE
AFT LEFT, AFT RIGHT, FORWARD LEFT, FORWARD RIGHT
FOR RACK SELECTED.
5. MANUAL RELEASE OF INDIVIDUAL HTW...CREW
RELEASES INDIVIDUAL HTW BY PULLING CORRESPONDING
RELEASE TAB ON MSBR. ALL SWITCHES MUST BE
TO PREVENT HTW FROM ARMING USING THIS PROCEDURE
USE GUNNER'S BELT. IF JETTISONING A FORWARD RACK
INSPECT HTW DIRECTLY AFT TO INSURE THAT FUSE
NOT ARMED PRIOR TO JETTISONING FRONT WEAPON

Danang Twr	236.6
DaNang Gnd	275.8
Camp HORN Ops (P)	68.10
(s)	45.25
LF Homer (M. Mt.)	525.0 AF
DaNang Radio	296.1/38.9
Panama Control mode 36300	376.9/278.4
Flight Following (emergency).....	366.0/367.8
Vice Squad (N).....	278.2/278.4
(S).....	271.9/278.4
(Return).....	278.3/278.4
BALDY LF Homer.....	540 NVM
Red Beach Twr.....	262.2/39.2
Single Parent	35.5/46.9
Chu Lai App & Dep mode 3700	
TACAN ch 74	
Twr.....	340.2
Departure Control.....	316.0
Approach Control	383.1
Ground Control.....	360.2
SANCTUARY.....	312.2
Flight Following.....	377.9

THROUGH FUSE VANES. MSBR RETAINED. DROP SMC
AFT LEFT, AFT RIGHT, FORWARD LEFT, FORWARD R
FOR BACK SELECTED.

5. MANUAL RELEASE OF INDIVIDUAL HTW...CREW 3
RELEASES INDIVIDUAL HTW BY PULLING CONNECTION
RELEASE TAB ON MSBR. ALL SWITCHES MUST BE OFF
TO PREVENT HTW FROM ARMING USING THIS PROC
USE GUNNER'S BELT. IF JETTISONING A FORWARD
INSPECT HTW DIRECTLY AFT TO INSURE THAT PU
NOT ARMED PRIOR TO JETTISONING FRONT WEAP

1. Main
2. Com
3. Lav
4. Chd
5. Hyd
6. VHS
7. ADP
8. DC
9. Arm
10. ICS
11. FM
12. HF
13. Com
14. TACAN
15. IF
16. SW
17. EL
18. Co
19. M
20. B
21. Anti-Collision Light--OFF

1. ICS Control Panel (Pilots) --SET
2. Armament Panel--OFF
3. ICS Control Panel (Ccpilots)--SET
4. FM--OFF
5. HF--OFF
6. Compass--SLAVED
7. TACAN--OFF
8. IFF--Off
9. EMER COLL HYD--OFF
10. Bleed Air/Defrost--OFF
11. Cargo Release--OFF
12. Windshield Wiper--OFF
13. Ext Lights--AS REQUIRED
14. Anti-Collision Light--OFF
15. Dome Light--OFF
16. Pitot Heater--OFF
17. Circuit Breakers--IN
18. Inst Lights--AS REQUIRED
19. AC & DC Gen--ON
20. Starter Bus--SELECT
21. DC Voltmeter--Check BATTERY VOLTAGE
22. Inverter--OFF

30. Security--ON
31. Rotor Break --OFF
32. Warning Lights-- PRESS TO TEST
33. Force Trim -- ON
34. Hydraulic Control--ON (540 BOTH)
35. Caution Panel--TEST-RESET
36. De-ice--OFF
37. Transfer Pump--OFF
38. GOV-AUTO
39. Oil Valve--ON (if applicable)
40. Main Fuel--ON RT Fuel Boost --Off
41. Start Fuel--ON
42. Throttle--FULL OPEN to CUT OFF to FLIGHT IDLE
43. RPM Increase/Decrease--DECREASE FOR FIVE SECONDS
44. Rotor Path--CHECK CLEAR

PRESTART/START CHECKLIST

1. Main rotor tie-down--REMOVED
2. Controls CHECK (540 not applicable)
3. Landing light and Search light --Off
4. Chip Detector --BOTH
5. Hoist Power --OFF (540)
6. UHF-- OFF
7. ADF--OFF
8. ICS Control Panel (Pilots) --SET
9. Armament Panel--OFF
10. ICS Control Panel (Ccpilots)--SET
11. FM--OFF
12. HF--OFF
13. Compass--SLAVED
14. TACAN--OFF
15. IFF--Off
16. EMER COLL HYD--OFF
17. Bleed Air/Defrost--OFF
18. Cargo Release--OFF
19. Windshield Wiper--OFF
20. Ext Lights--AS REQUIRED
21. Anti-Collision Light--OFF

22. Dome Light--OFF
23. Pitot Heater--OFF
24. Circuit Breakers--IN
25. Inst Lights--AS REQUIRED
26. AC & DC Gen--ON
27. Starter Bus--SELECT
28. DC Voltmeter--Check BATTERY VOLTAGE
29. Inverter--OFF
30. Battery--ON
31. Rotor Break --OFF
32. Warning Lights-- PRESS TO TEST
33. Force Trim -- ON
34. Hydraulic Contrdl--ON (540 BOTH)
35. Caution Panel--TEST-RESET
36. De-ice--OFF
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44. Rotor Path--CHECK CLEAR

