PERFORMANCE DATA

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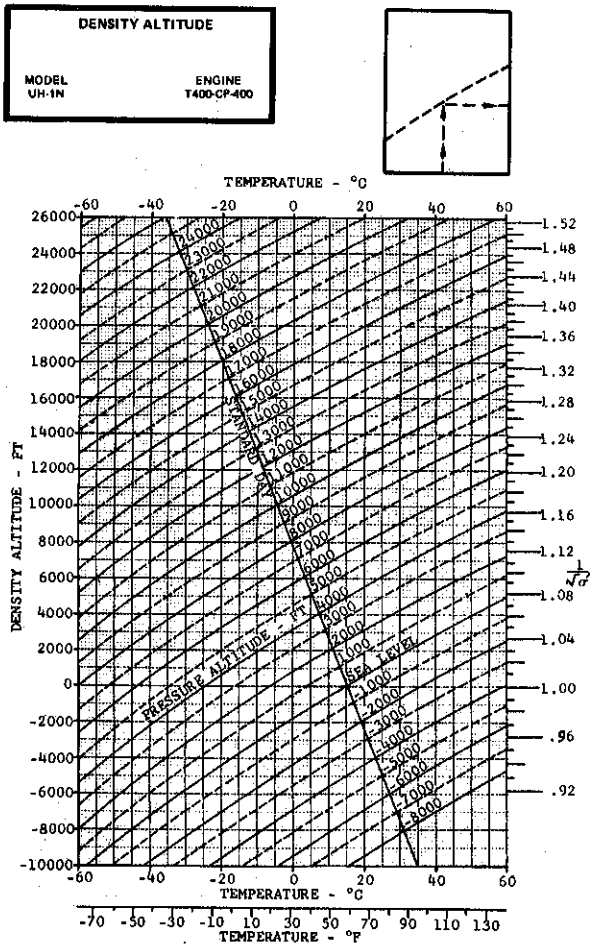

DENSITY ALTITUDE
MODEL
UH-1N
ENGINE
T400-CP-400
TEMPERATURE - °C
DENSITY ALTITUDE - FT
PRESSURE ALTITUDE - FT
SEA LEVEL
TEMPERATURE - °C
TEMPERATURE - °F
1/√σ

Figure A-1

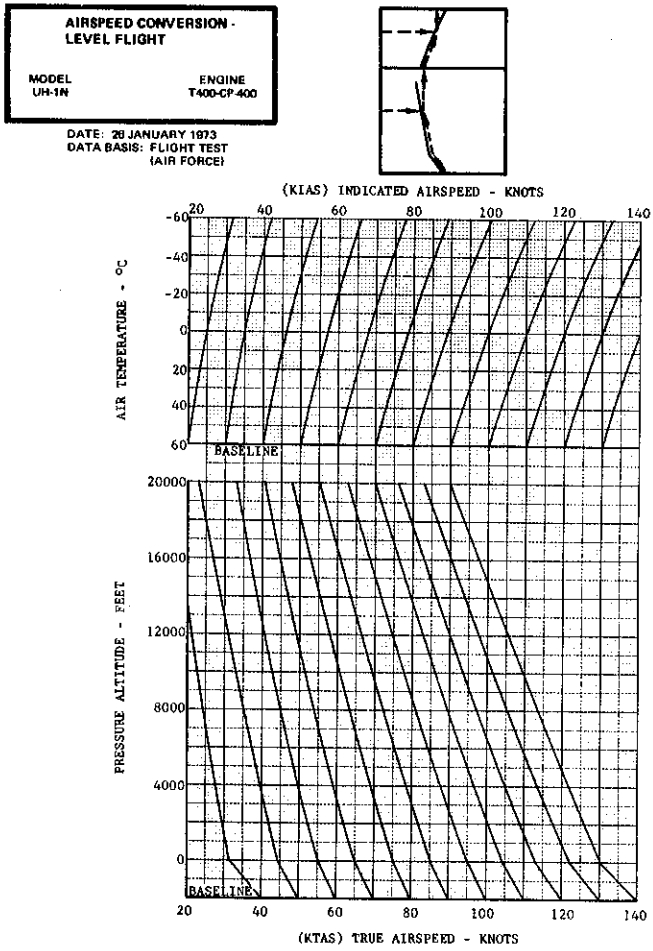
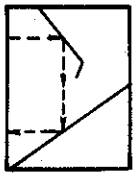

AIRSPEED CONVERSION - LEVEL FLIGHT
MODEL UH-1N
ENGINE T400-CP-400
DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)
(KIAS) INDICATED AIRSPEED - KNOTS
20 40 60 80 100 120 140
AIR TEMPERATURE - °C
-60 -40 -20 0 20 40 60
BASELINE
PRESSURE ALTITUDE - FEET
20000 16000 12000 8000 4000 0
BASELINE
20 40 60 80 100 120 140
(KTAS) TRUE AIRSPEED - KNOTS

Figure A-3

MILITARY POWER AVAILABLE

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: UACL SPEC 712C



WARNING

WHEN TEMPERATURE IS BELOW 0°C AND PRESSURE ALTITUDE IS BELOW 4000 FEET, SINGLE ENGINE MILITARY POWER AVAILABLE MAY BE AS MUCH AS 10% TORQUE LESS THAN COMPUTED FROM THIS CHART BECAUSE OF INADEQUATE FUEL FLOW.

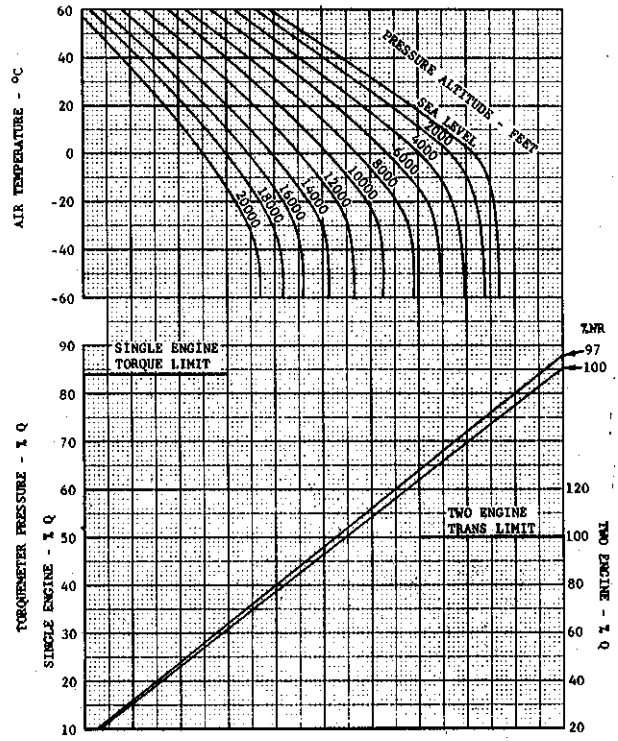


Figure A-5

MAXIMUM GROSS WEIGHT FOR HOVERING (ZERO WIND)

MODEL UH-1N

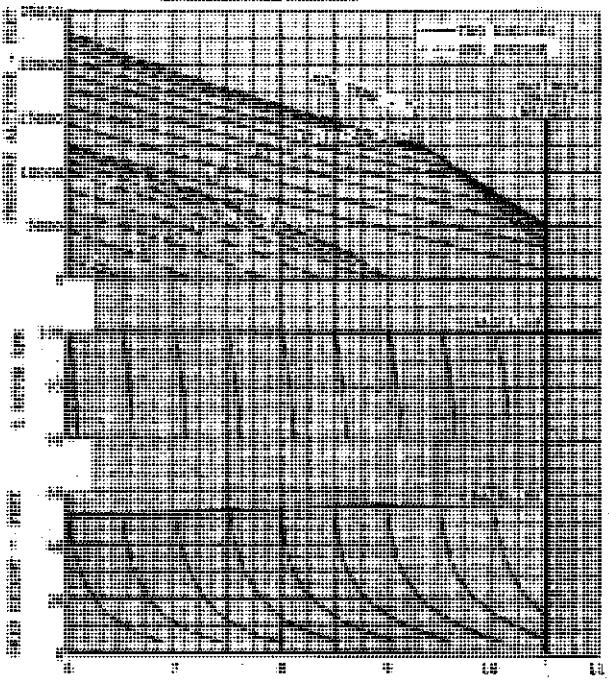
ENGINE T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST
(AIR FORCE)

CONDITIONS:

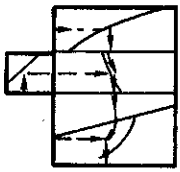
MILITARY POWER

WARNING



GROSS WEIGHT - 1000 POUNDS

Figure A-9



POWER REQUIRED TO HOVER
(ZERO WIND)

MODEL
UH-1N

ENGINE
T400-CP-400

DATE: 28 JANUARY 1973
DATA BASIS: FLIGHT TEST
(AIR FORCE)

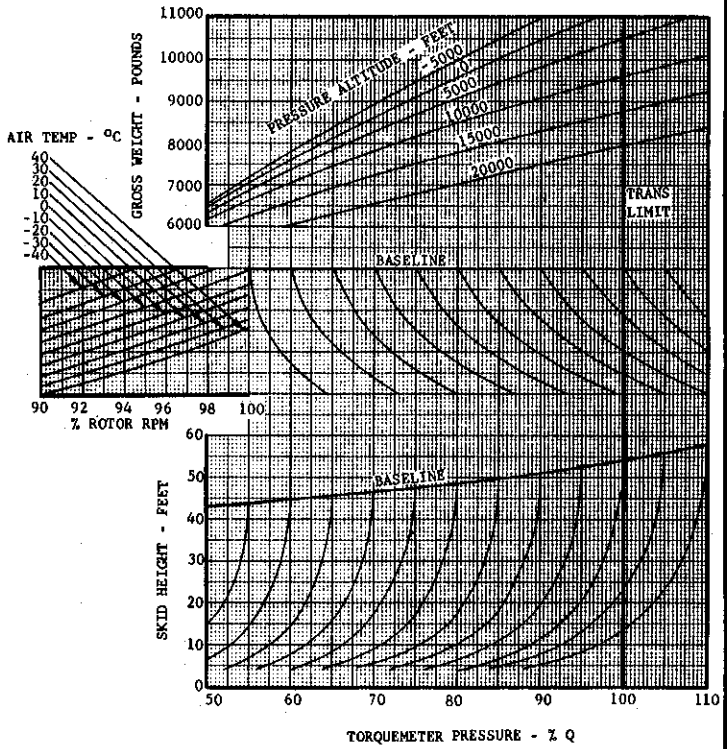


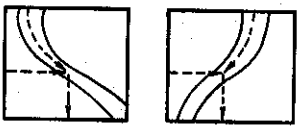
Figure A-10

HEADWIND INFLUENCE ON HOVER

MODEL UH-1N

ENGINE T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIC: ESTIMATED



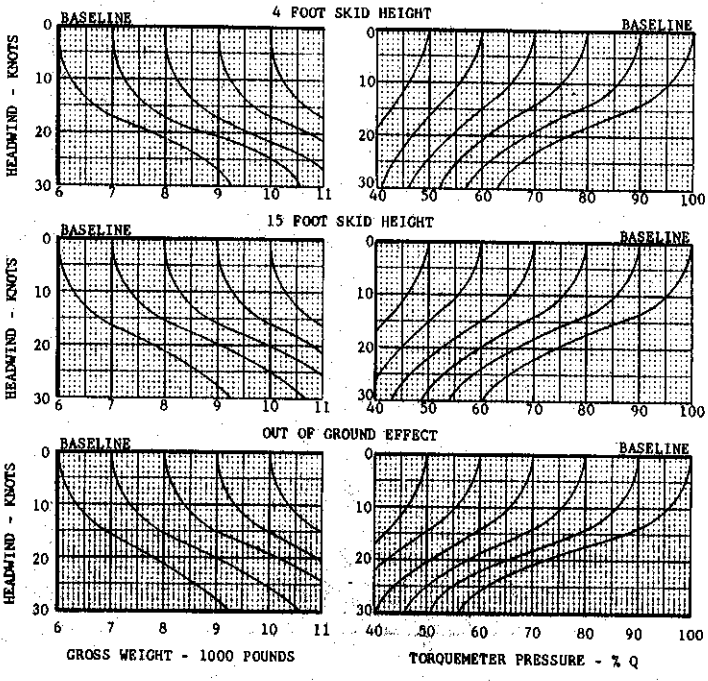


Figure A-11

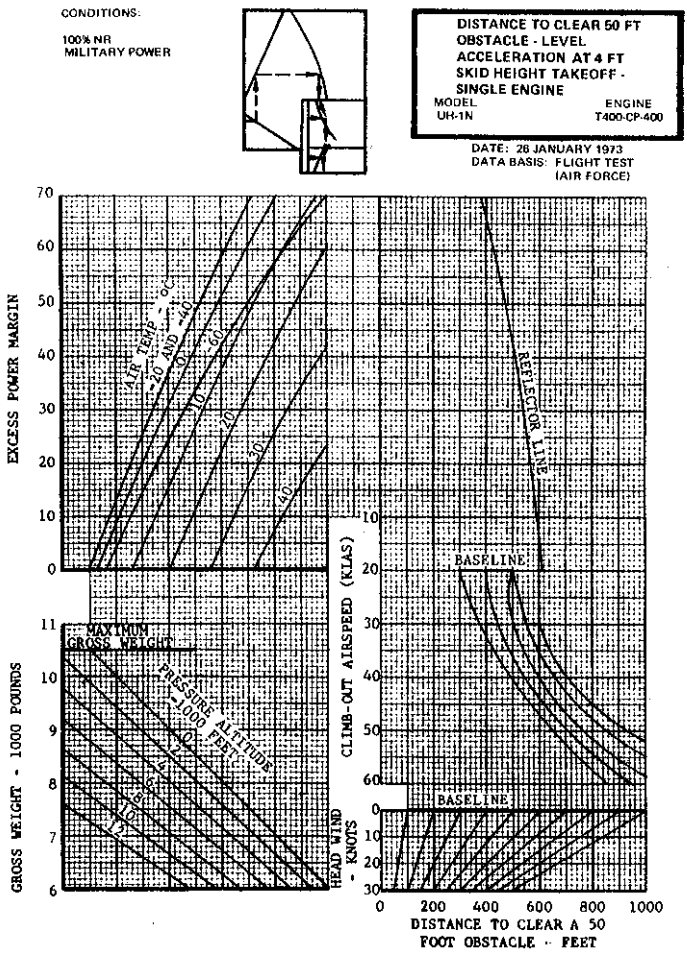

CONDITIONS:
100% NR
MILITARY POWER
DISTANCE TO CLEAR 50 FT
OBSTACLE - LEVEL
ACCELERATION AT 4 FT
SKID HEIGHT TAKEOFF -
SINGLE ENGINE
MODEL
UH-1N
ENGINE
T400-CP-400
DATE: 28 JANUARY 1973
DATA BASIS: FLIGHT TEST
(AIR FORCE)
EXCESS POWER MARGIN
AIR TEMP - °C
-20 AND -40
-30
-10
0
10
20
30
40
REFLECTOR LINE
BASELINE
MAXIMUM
GROSS WEIGHT
PRESSURE ALTITUDE
1000 FEET
SL
2
4
6
8
10
12
GROSS WEIGHT - 1000 POUNDS
CLIMB-OUT AIRSPEED (KIAS)
HEAD WIND
- KNOTS
BASELINE
0
200
400
600
800
1000
DISTANCE TO CLEAR A 50
FOOT OBSTACLE - FEET

Figure A-17

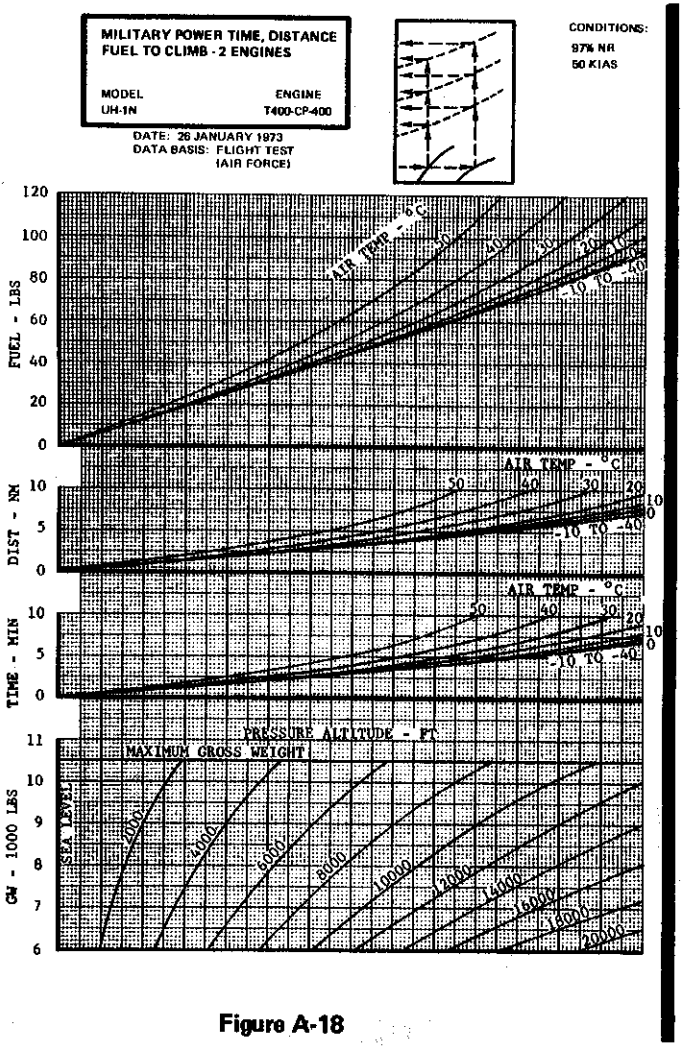

MILITARY POWER TIME, DISTANCE FUEL TO CLIMB - 2 ENGINES
MODEL
UH-1N
ENGINE
T400-CP-400
DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)
CONDITIONS:
97% NR
50 KIAS
FUEL - LBS
AIR TEMP - °C
50
40
30
20
10
0
-10 TO -40
DIST - NM
TIME - MIN
PRESSURE ALTITUDE - FT
MAXIMUM GROSS WEIGHT
GW - 1000 LBS
SEA LEVEL
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000

Figure A-18

CONDITIONS:

97% NR
50 KIAS

SERVICE CEILING - MAXIMUM CONTINUOUS POWER - 2 ENGINES

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)

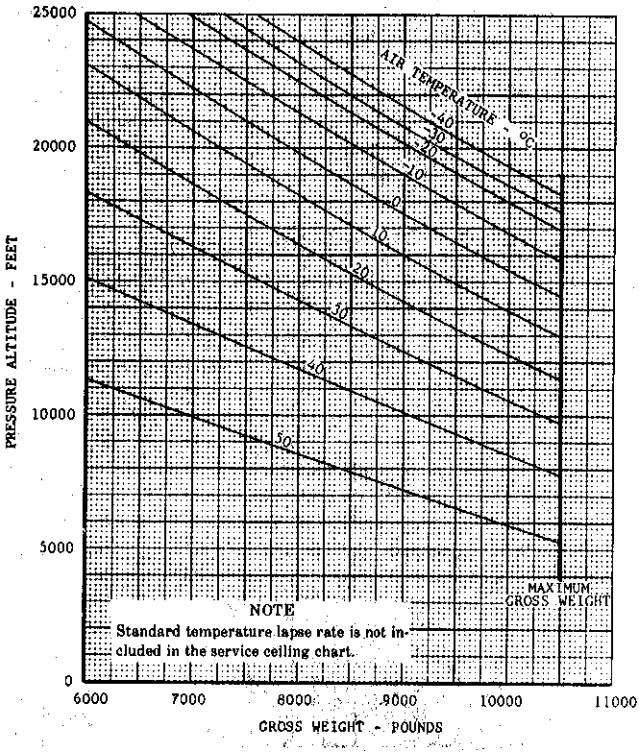
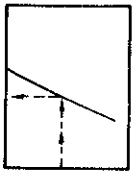


Figure A-23

CONDITIONS:

97% NR
90 KIAS



SERVICE CEILING - MILITARY POWER - SINGLE ENGINE

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)

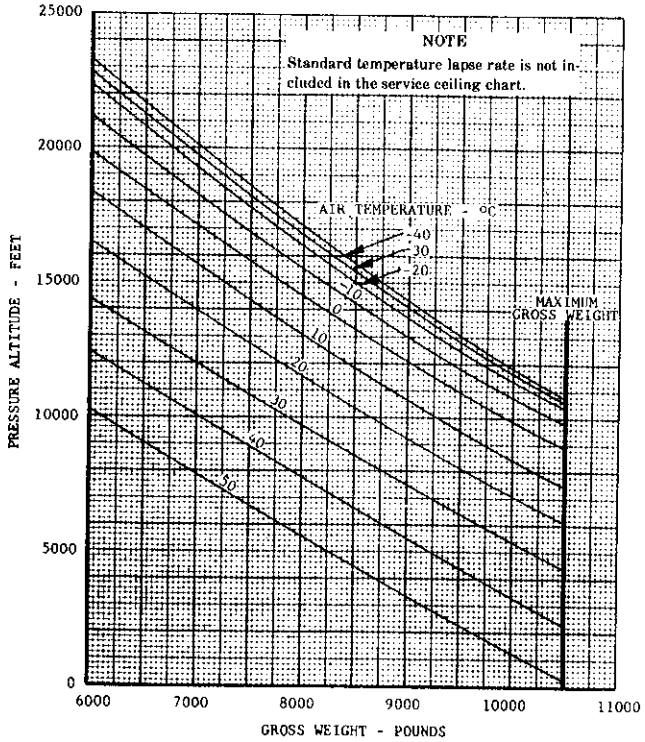


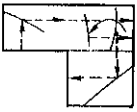
Figure A-24

CRUISE - 2 ENGINES - AIR TEMPERATURE WARMER THAN +30°C

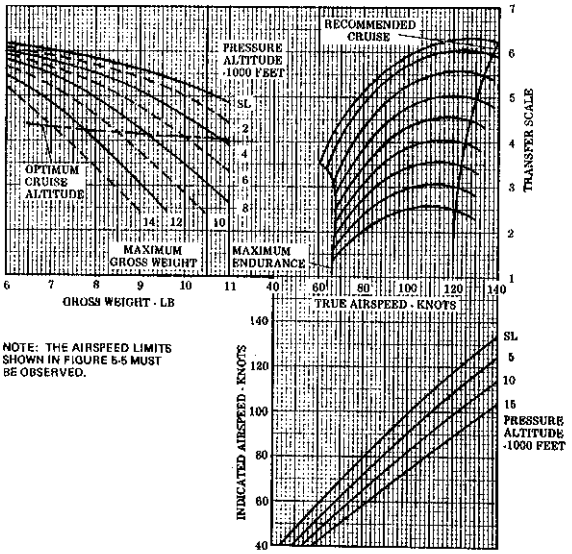
MODEL UH-1N

ENGINE T400-CP-400

DATE: 19 APRIL 1974
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:
97% NR



NOTE: THE AIRSPEED LIMITS SHOWN IN FIGURE 5-5 MUST BE OBSERVED.

Figure A-25 (Sheet 1 of 2)

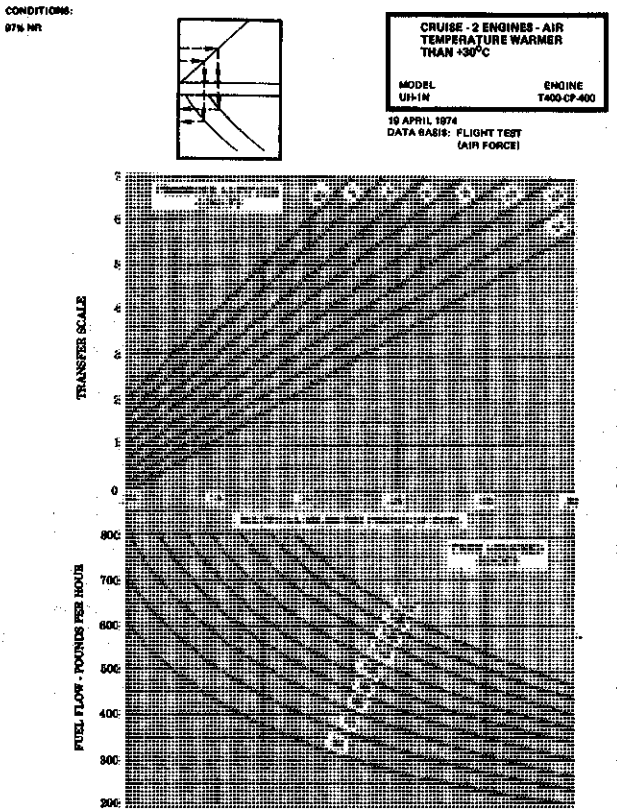
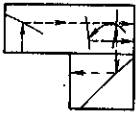


Figure A-25 (Sheet 2 of 2)

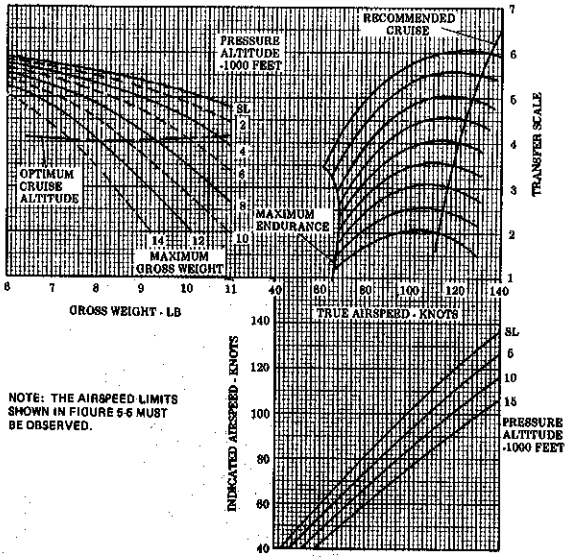
CRUISE - 2 ENGINES -
AIR TEMPERATURE BETWEEN
+10°C AND +30°C

MODEL: UH-1N
ENGINE: T400-CP-400

DATE: 19 APRIL 1974
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:
97% NR



NOTE: THE AIRSPEED LIMITS SHOWN IN FIGURE 5-5 MUST BE OBSERVED.

Figure A-26 (Sheet 1 of 2)

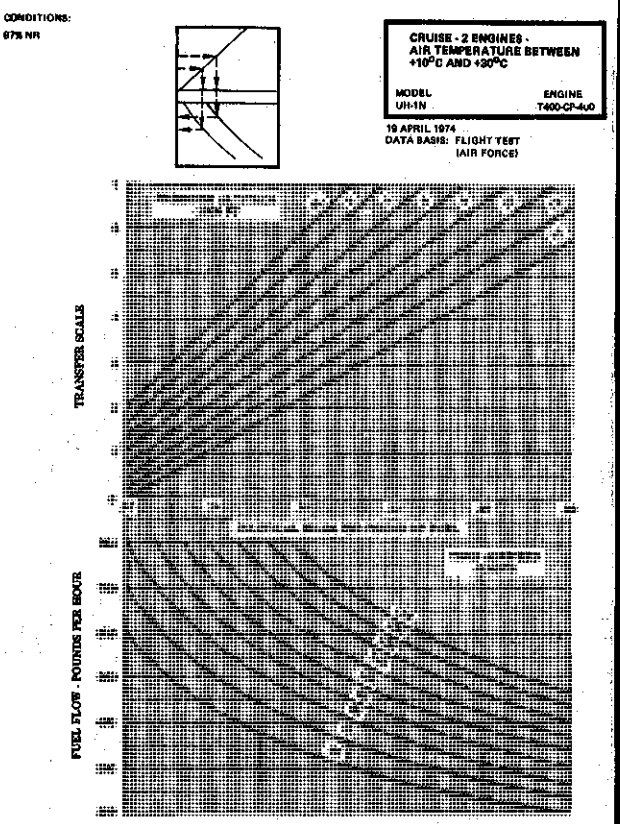
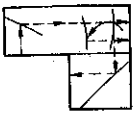


Figure A-26 (Sheet 2 of 2)

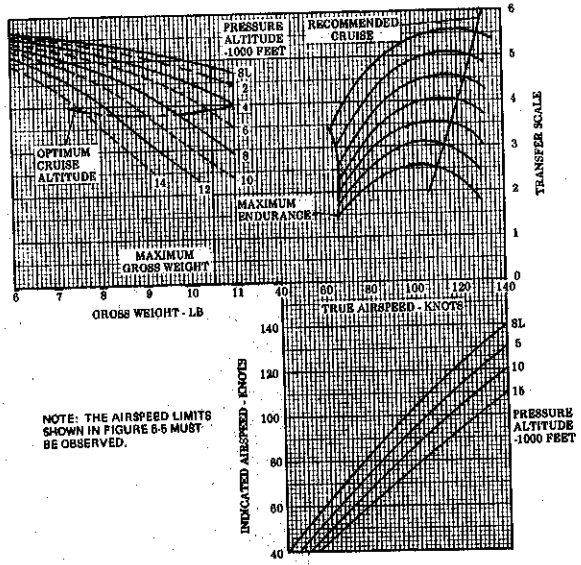
CRUISE - 2 ENGINES - AIR TEMPERATURE BETWEEN -10°C AND +10°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 19 APRIL 1974
DATA BASIS: FLIGHT TEST (AIR FORCE)



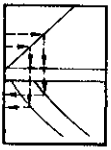
CONDITIONS:
97% NR



NOTE: THE AIRSPEED LIMITS SHOWN IN FIGURE 6-5 MUST BE OBSERVED.

Figure A-27 (Sheet 1 of 2)

CONDITIONS:
97% NR



CRUISE - 2 ENGINES - AIR
TEMPERATURE BETWEEN -10°C AND +10°C

MODEL UH-1N
ENGINE T400-CP-400

19 APRIL 1974
DATA BASIS: FLIGHT TEST (AIR FORCE)

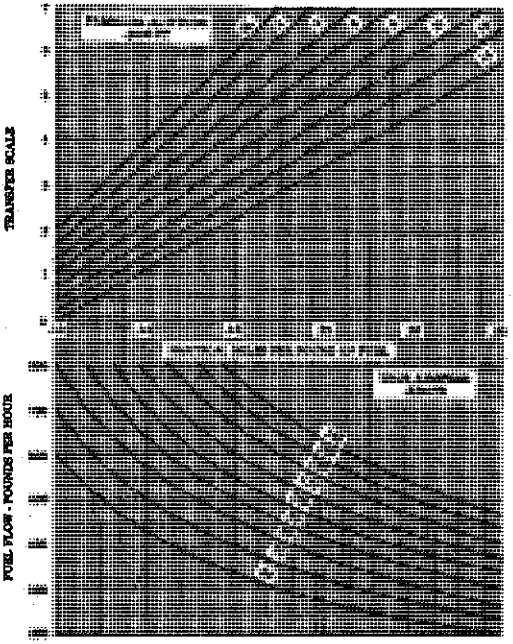
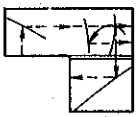


Figure A-27 (Sheet 2 of 2)

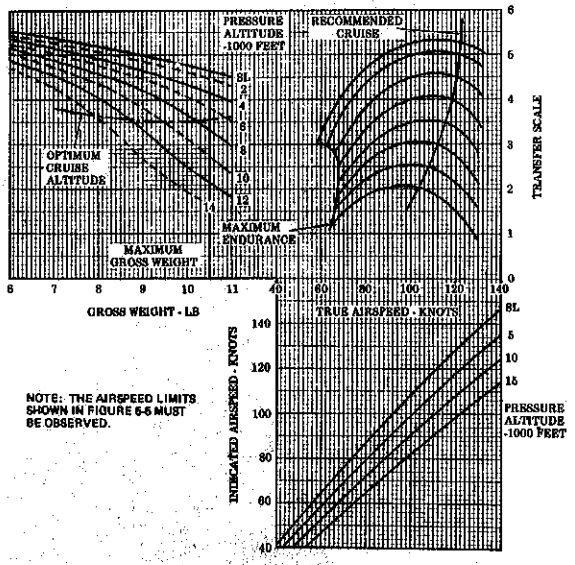
CRUISE - 2 ENGINES - AIR TEMPERATURE BETWEEN -30°C AND -10°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 19 APRIL 1974
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:
97% NR



NOTE: THE AIRSPEED LIMITS SHOWN IN FIGURE 6-5 MUST BE OBSERVED.

Figure A-28 (Sheet 1 of 2)

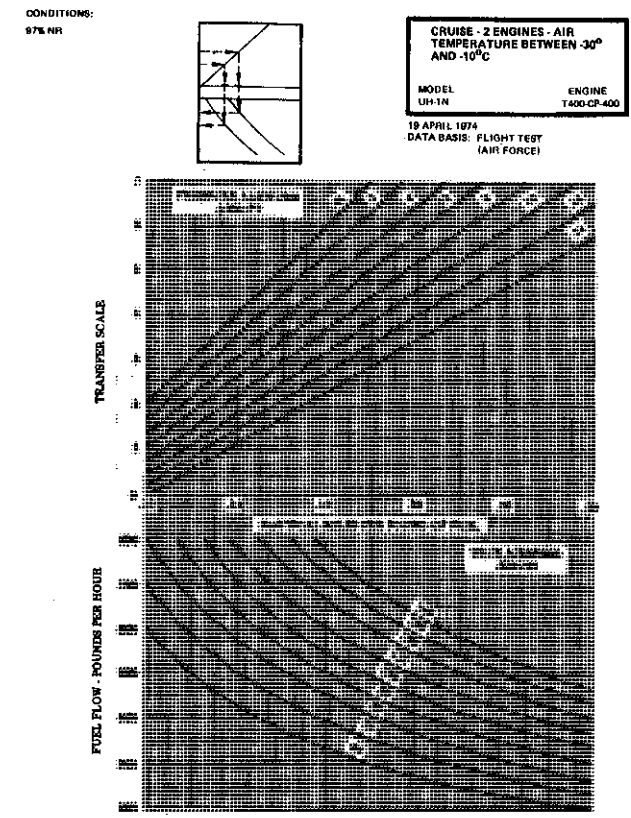
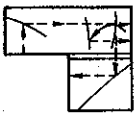


Figure A-28 (Sheet 2 of 2)

CRUISE - 2 ENGINES - AIR TEMPERATURE COLDER THAN -30°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 19 APRIL 1974
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:
97% NR

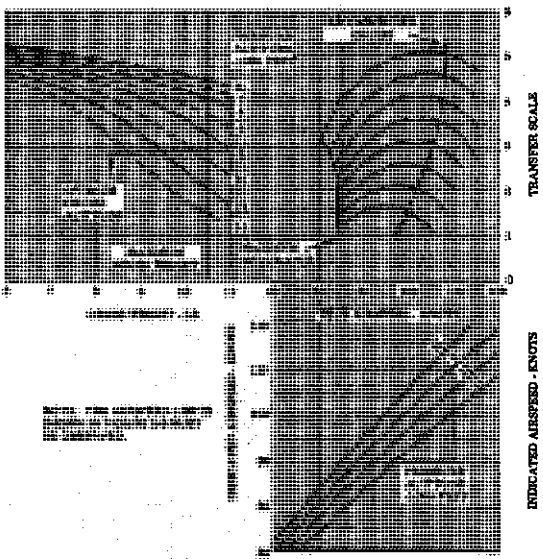


Figure A-29 (Sheet 1 of 2)

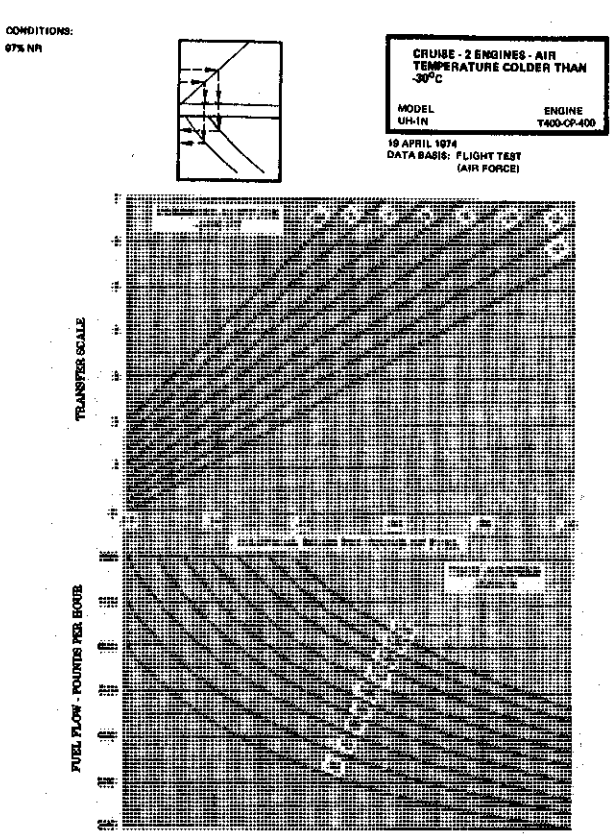
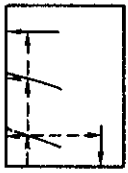


Figure A-29 (Sheet 2 of 2)

CRUISE - SINGLE ENGINE, MILITARY
POWER - AIR TEMPERATURE
WARMER THAN +30°C

MODEL: UH-1N
ENGINE: T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:

97% NR

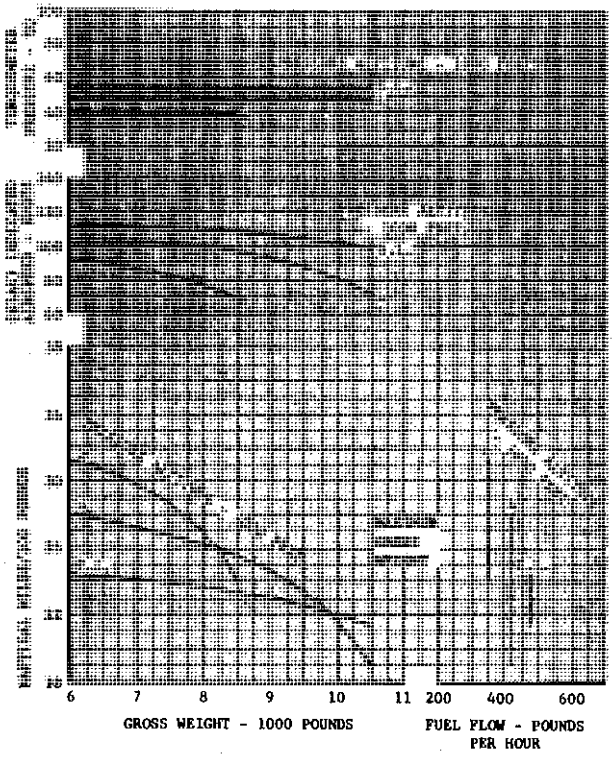
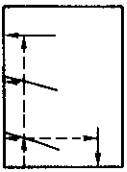


Figure A-30

CONDITIONS:
97% NR



CRUISE- SINGLE ENGINE, MILITARY POWER - AIR TEMPERATURE BETWEEN +10°C AND +30°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATE BASIS: FLIGHT TEST (AIR FORCE)

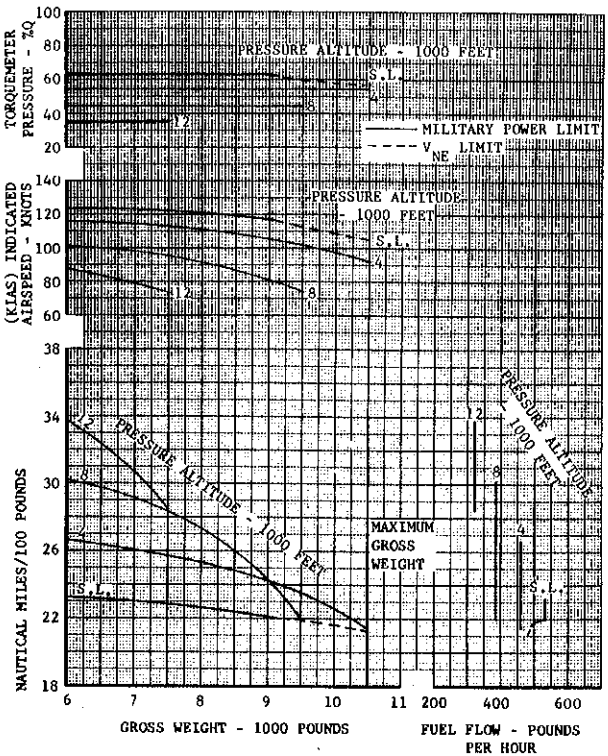


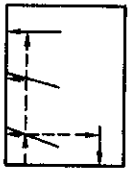
Figure A-31

CRUISE - SINGLE ENGINE, MILITARY
POWER-AIR TEMPERATURE
BETWEEN -10°C AND +10°C

MODEL
UH-1N

ENGINE
T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST
(AIR FORCE)



CONDITIONS:
97% NR

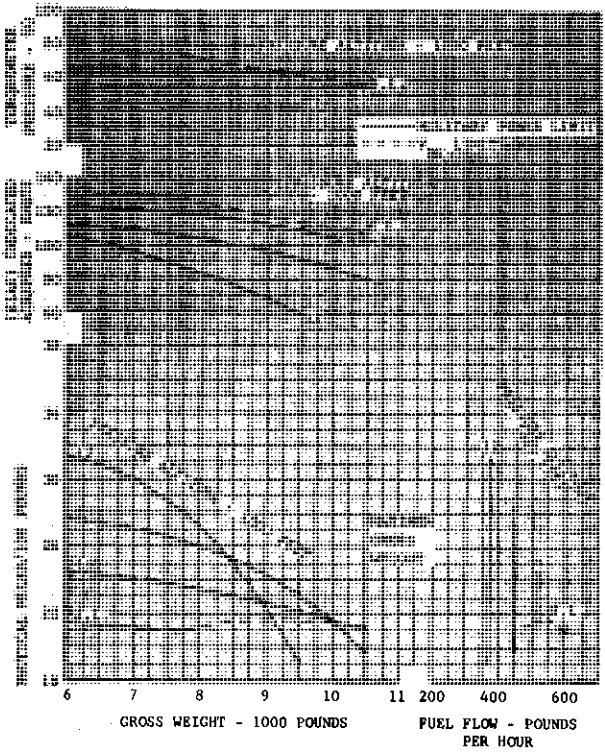


Figure A-32

CONDITIONS:

97% NR

CRUISE- SINGLE ENGINE, MILITARY POWER - AIR TEMPERATURE BETWEEN -30°C AND -10°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)

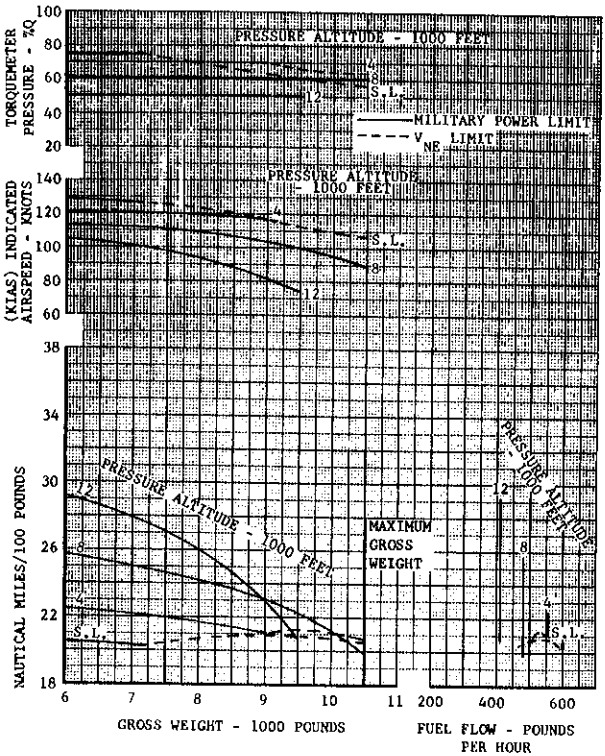
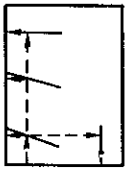


Figure A-33

CRUISE - SINGLE ENGINE, MILITARY POWER - AIR TEMPERATURE COLDER THAN -30°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:

97% NR

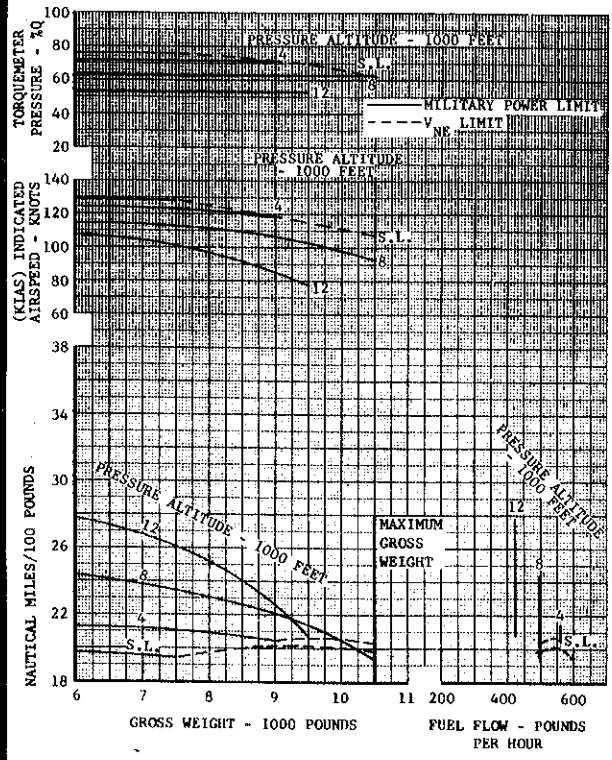
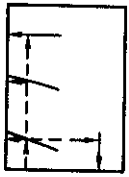


Figure A-34

CONDITIONS:

97% NR



CRUISE - SINGLE ENGINE, MAXIMUM CONTINUOUS-AIR TEMPERATURE WARMER THAN +30° C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)

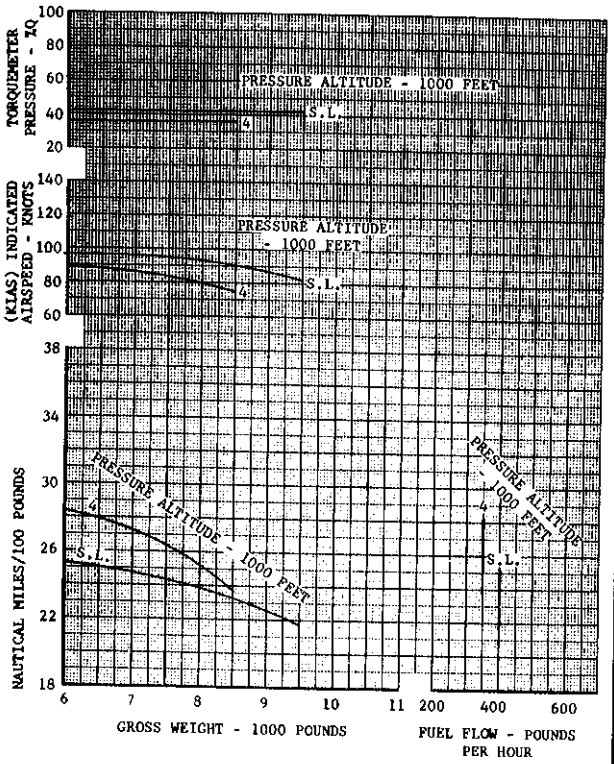
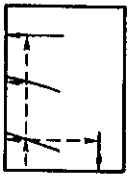


Figure A-35

CRUISE - SINGLE ENGINE, MAXIMUM CONTINUOUS - AIR TEMPERATURE BETWEEEN +10°C AND +30°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:

97% NR

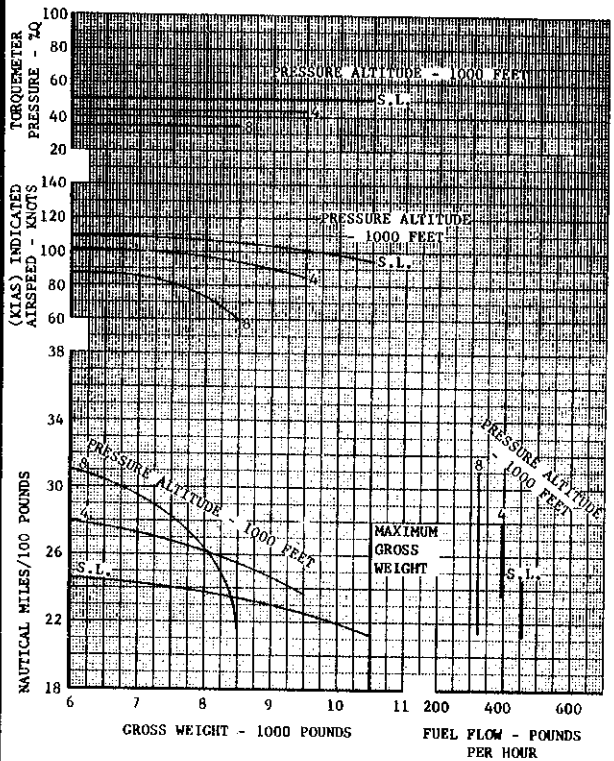
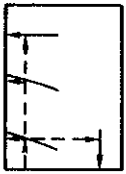


Figure A-36

CONDITIONS:

97% NR



CRUISE – SINGLE ENGINE MAXIMUM CONTINUOUS – AIR TEMPERATURE BETWEEN -10°C AND +10°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)

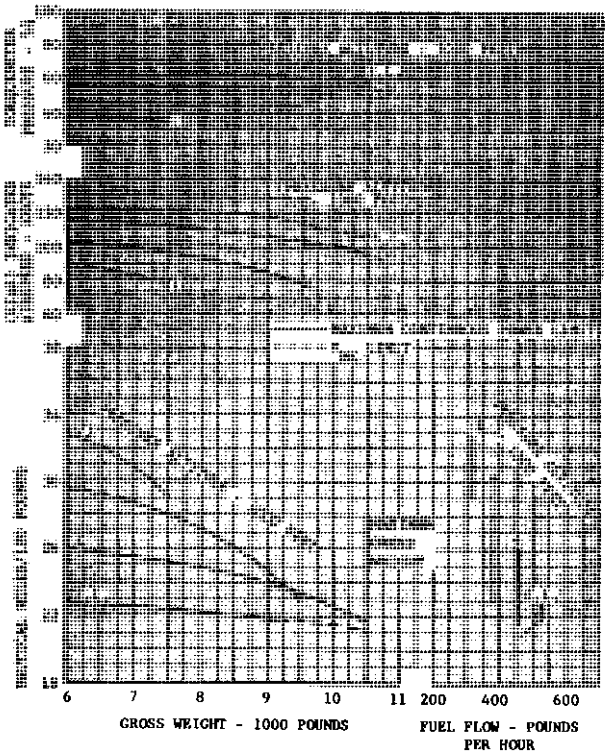
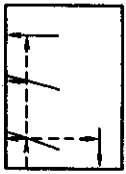


Figure A-37

CRUISE - SINGLE ENGINE, MAXIMUM CONTINUOUS - AIR TEMPERATURE BETWEEN -30°C AND -10°C

MODEL	ENGINE
UH-1N	T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:

97% NR

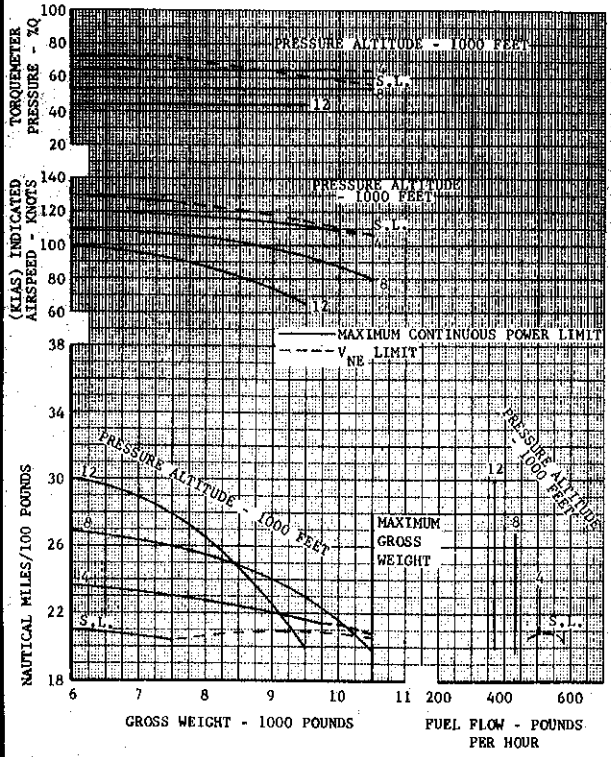
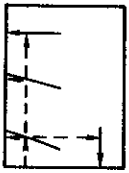


Figure A-38

CONDITIONS:

97% NR



CRUISE - SINGLE ENGINE,
MAXIMUM CONTINUOUS -
AIR TEMPERATURE COLDER THAN
-30°C

MODEL
UH-1N

ENGINE
T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST
(AIR FORCE)

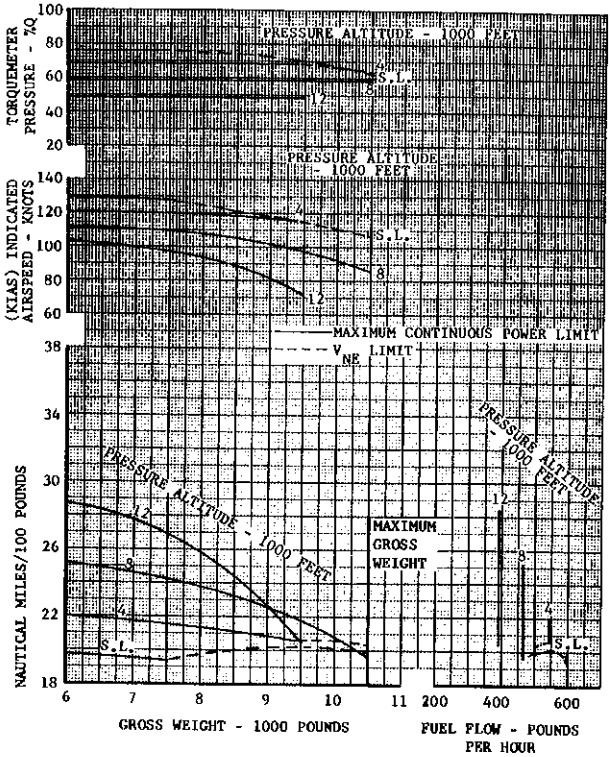


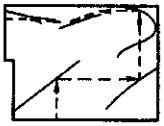
Figure A-39

SINGLE ENGINE CAPABILITY - MILITARY POWER

MODEL UH-1N

ENGINE T400-CP-400

DATE: 26 JANUARY 1973
DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:

97% NR

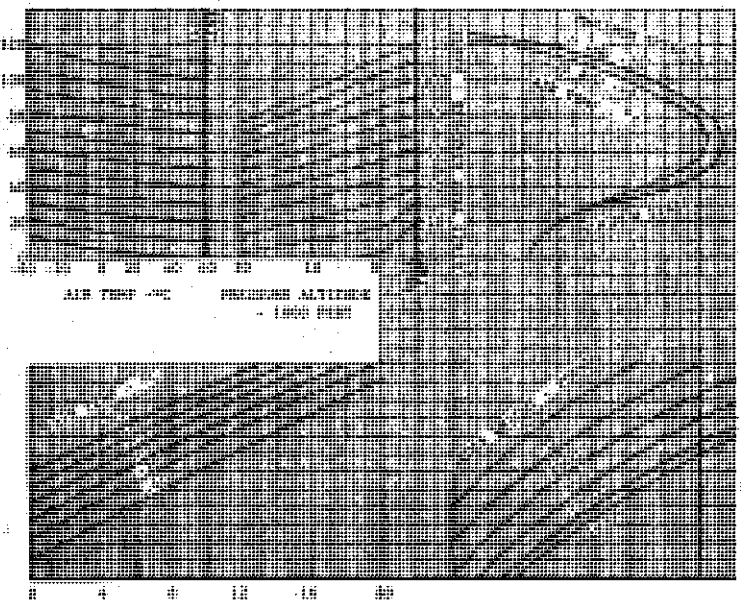


Figure A-40

SPECIAL PROCEDURES

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HOT REFUELING PROCEDURES (C) (ENGINE RUNNING)

1. Collective – "FLAT PITCH" (P)
2. Throttles – "AS REQUIRED" (P)
3. Crossfeed – "OFF" (P)
4. Non-Essential Com/Nav Equipment (W) – "OFF" (P)
5. Doors/Windows – "AS REQUIRED" (P) (CP) (FM)
6. Refueling Unit – "POSITIONED" (FM)
7. Ground Static Wires – "ATTACHED" (FM)
8. Fire Guard – "POSTED" (FM)
9. Protective Cap – "REMOVED" (FM)
10. Refueling Nozzle – "CONNECTED" (FM)
11. "CLEARED TO REFUEL" (P)
12. Fuel Flow – "ESTABLISHED" (FM)
13. Fuel Flow – "STOPPED" (FM)

14. Refueling Nozzle – "DISCONNECTED" (FM)
15. Protective Cap – "INSTALLED" (FM)
16. Ground Static Wires – "REMOVED" (FM)
17. Proceed and accomplish the BEFORE TAKE OFF checklist.

ALERT PROCEDURES

To place the helicopter in an alert or cocked posture and to launch in the shortest possible time consistent with safety, accomplish the Acceptance, Cocking and Scramble procedures.

ACCEPTANCE: Complete the following checks:

1. Before Exterior Inspection.
2. Exterior Inspection.
3. Interior and Before Start.
4. Starting Engines.
5. Engine Run-Up.
6. Before Take-off.
7. After Landing.
8. Engine Shut-Down.
9. Before Leaving the Helicopter.

COCKING

The following checks must be completed to establish a cocked (scramble) status:

1. External Power Unit — POSITIONED AND CONNECTED (if applicable)
2. Rotor Brake — OFF
3. Main Fuel Switches — ON

COCKING (Cont)

4. Essential Radios – AS REQUIRED
5. IFF/SIF – AS REQUIRED
6. Anti-Collision Light – AS REQUIRED
7. Navigation Light – AS REQUIRED
8. Inverter Switch – MAIN (OFF if battery start is to be made).

SCRAMBLE (Cocked Aircraft)

1. All Covers, Tiedowns and Ground Wires – REMOVED.

1A. Safety Belt, Shoulder Harness, Seat and Rotor Pedals – FASTENED and CHECKED.

2. Ignition Keylock Switch – ON.

3. External Power – ON.

3A. Battery Switch – ON (If external power is not utilized, Battery Switch – START).

SCRAMBLE (Cocked Aircraft) (Cont)

4. Engine (C) – START.

5. Inverter Switch – MAIN (if battery start was made)

6. Combining Gearbox Oil Pressure – INDICATING.

7. Transmission Oil Pressure – INDICATING.

8. Engine Oil Pressure – WITHIN LIMITS.

9. Throttle Sequence – COMPLETED.

SCRAMBLE (Cocked Aircraft) (Cont)

10. Generator – ON (if battery start was made turn operating engine generator ON and accomplish the following:)

    a. Battery Switch – ON.
    b. Anti-collision Light – AS REQUIRED.
    c. Navigation Lights – AS REQUIRED.
    d. IFF/SIF – AS REQUIRED.
    e. Essential Radios – ON.
    f. Check Generator Voltage 27-28.5.

11. Second Engine (C) – START.

12. Engine Oil Pressure – WITHIN LIMITS.

13. Throttle Sequence – COMPLETED.

14. External Power – DISCONNECTED. Check Battery and Generators ON.

15. Non-Essential Bus Switch – AS REQUIRED.

16. Throttles – FULL OPEN.

17. Beep Switch – 100% Nf.

18. Auxiliary Fuel Transfer Pump Switch – AFT or FWD (if auxiliary fuel tanks installed) OFF (if auxiliary tanks not installed).

19. COMM/NAV Radios – AS REQUIRED.

19A. IFF/SIF – AS REQUIRED.

20. Instruments – CHECKED.

SCRAMBLE (Cocked Aircraft) (Cont)

21. Doors – SECURED.

22. Crew, Passengers, and Cargo Compartment – PREPARED FOR TAKE-OFF.

23. Area – CLEAR.

24. Hover Check – COMPLETED.

COCKED AIRCRAFT SECURITY

Access to a "cocked" aircraft should be restricted to the assigned aircrew only. However, if maintenance is performed that required electrical power, the aircraft must be "uncocked" utilizing the uncocking procedures. Upon completion of said maintenance "recock" the aircraft by completing the Acceptance check (steps 3 thru 7 only) and Cocking Procedures. Unless the maintenance performed affected the engine(s) and/or related system, engine starting and running checks may be omitted.

UNCOCKING

Complete the ENGINE SHUT-DOWN and BEFORE LEAVING THE HELICOPTER checks.

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