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## **GROUND OPERATIONS**

### **FIRE DURING GROUND OPERATIONS**

#### **FIRE IN APU COMPARTMENT**

- 1. APU EMERGENCY FUEL - SHUT-OFF.**
- 2. APU FIRE EXTINGUISHER - (ON).**
3. Master Switch - OFF.
4. Fire in APU Compartment checklist completed.

#### **ENGINE COMPARTMENT FIRE**

- 1. SPEED SELECTORS - SHUTOFF.**
- 2. T-HANDLE (AFFECTED ENGINE) PULL.**
- 3. FIRE EXTINGUISHER - MAIN/RESERVE.**
4. Fuel management system - OFF.
5. APU - OFF.
6. Battery - OFF.
7. Engine Compartment Fire checklist completed.

## **INFLIGHT OPERATIONS**

### **SINGLE ENGINE FAILURE**

- 1. SPEED SELECTORS - MAXIMUM.**
- 2. LANDING GEAR - AS REQUIRED.**
- Weight - REDUCE AS NECESSARY.
- Accomplish Engine Shutdown or Restart checklist.

### **ENGINE SHUTDOWN IN FLIGHT**

- Speed selector - SHUT-OFF.
- Ignition switch - OFF.
- Fuel shut-off valve - CLOSED.
- Boost pumps - AS REQUIRED.
- Fuel crossfeed valve - AS REQUIRED.
- Engine Shutdown checklist completed.

#### **CAUTION**

If an engine fire should occur and the corresponding engine fire warning light illuminates during or after engine shutdown, proceed with steps 3 through 6 of ENGINE COMPARTMENT FIRE IN FLIGHT checklist.

## **ENGINE RESTART DURING FLIGHT**

1. Ignition switch - NORMAL.
2. Speed selector (inoperative engine) - SHUT-OFF.
3. Emergency fuel control lever - CLOSED.
4. Fuel shut-off valve - OPEN.
5. Boost pumps - AS REQUIRED.
6. Fuel crossfeed valve - AS REQUIRED.
7. Engine - START.
8. Engine Restart During Flight checklist completed.

## **TWO-ENGINE FAILURE DURING FLIGHT (AUTOROTATIVE LANDING)**

### **Maintain Helicopter Control and Initiate Autorotation**

1. **LANDING GEAR- AS REQUIRED**
2. Speed selectors - SHUT-OFF.
3. Ignition switches - OFF.
4. Fuel shut-off valves - CLOSED.
5. Boost pumps - OFF.
6. Battery - OFF.
7. Autorotation checklist completed.

## MAIN ROTOR BLADE IBIS PRES— SURE WARNING

1. Airspeed - Attain 70 to 90 KIAS.
2. Land as soon as practical and visually check the IBIS indicators.

## FIRE IN FLIGHT

### ENGINE COMPARTMENT FIRE IN FLIGHT

1. **SPEED SELECTORS - MAXIMUM.**
2. **SPEED SELECTOR (AFFECTED ENGINE) SHUTOFF.**
3. **T-HANDLE (AFFECTED ENGINE) - PULL.**
4. **FIRE EXTINGUISHER - MAIN/  
RESERVE.**
5. **LANDING GEAR - AS REQUIRED.**
6. Weight - REDUCE AS NECESSARY.
7. Accomplish Engine Shutdown in Flight checklist.

**FUSELAGE/ELECTRICAL FIRE**

1. Discharge fire extinguisher at fire or jettison burning items.
2. Windows and doors - CLOSED.
3. Vent fan switch - OFF.
4. Land as soon as possible if fire persists.

**BAILOUT**

1. IFF - EMERGENCY.
2. Radio call - MAYDAY (Give position report).
3. Cabin occupants -ALERTED (warn occupants via interphone, loud-speaker or alarm bell).
4. Personnel door - OPEN (Jettison if necessary).
5. Cabin occupants - BAIL OUT.
6. Pilot and copilot - BAIL OUT.

## **LANDING GEAR FAILURE**

1. Landing gear handle - "DOWN. "
2. Alternate gear handle -  
"PULLED. "

## **EMERGENCY WATER LANDING PROCEDURES**

### **Planned Ditching**

1. Crew/cabin occupants - ALERT-  
ED FOR DITCHING.
2. IFF - EMERGENCY.
3. Distress call - COMPLETED  
(give position report).
4. Tip tanks - AS REQUIRED.
5. Ramp - CLOSED.
6. Search and landing lights - AS  
REQUIRED.
7. Cockpit windows and personnel  
door - OPEN.

### **After Landing**

1. Landing gear - DOWN.

2. Anchor/sea anchor - DEPLOYED.
3. Bilge pump - AS REQUIRED.

## **BEFORE LEAVING THE HELICOPTER**

1. Bilge covers - SECURED.
2. Anchor lights - ON.
3. Windows and hatches - CLOSED.

## **SYSTEMS EMERGENCIES**

### **GENERATOR FAILURE**

#### **FAILURE OF ONE GENERATOR**

1. No. 1 boost pumps ON, if required.
2. Generator switch - OFF/RESET, then ON.
3. Generator switch - OFF, if power is not restored.

### **FAILURE OF BOTH GENERATORS**

1. No. 1 generator switch - OFF/RESET, then ON.
2. No. 2 generator switch - OFF/RESET, then ON.
3. Generator switch(es) - OFF, if power is not restored.
4. If the No. 1 or No. 2 generator is not restored, turn off all unnecessary equipment, abort mission and land as soon as practical.

### **SERVO HYDRAULIC PRESSURE FAILURE**

1. Servo switch (affected system)-OFF. Land as soon as practical.

### **MAIN ROTOR DAMPER MALFUNCTION**

1. Airspeed - ADJUST to minimize vibration.
2. Land as soon as practical.
3. Engine and rotor - SHUTDOWN without using rotor brake.

### **ROTOR SHUTDOWN WITH AN INOPERATIVE ROTOR BRAKE**

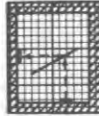
1. Head aircraft into wind if wind exceeds 10 knots.
2. APU - ON
3. Cyclic - Neutral. Maintain this position until rotor blades have come to a stop.

**SHUTDOWN WITH TAIL TAKEOFF FREE  
WHEEL UNIT INOPERATIVE**

1. APU - START.
2. Proceed with engine shutdown checklist (Section II) if APU is operative.
3. Pins and chocks - IN.
4. Speed selectors - GROUND IDLE.
5. Droop stops - IN.
6. No. 2 engine - SHUTDOWN.
7. Rotor brake - ON (45%  $N_R$  or less).
8. No. 1 engine - SHUTDOWN.
9. Continue with Engine Shutdown checklist.

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**DENSITY ALTITUDE**

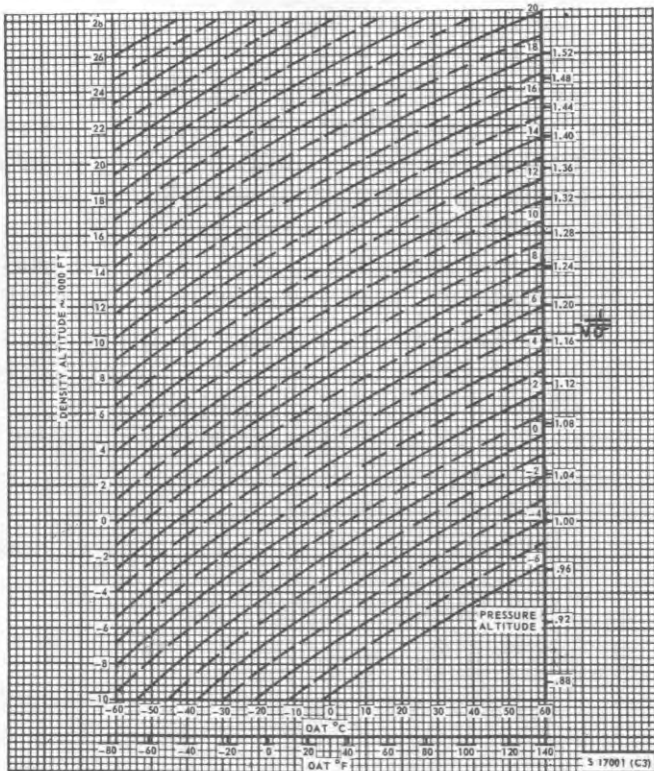
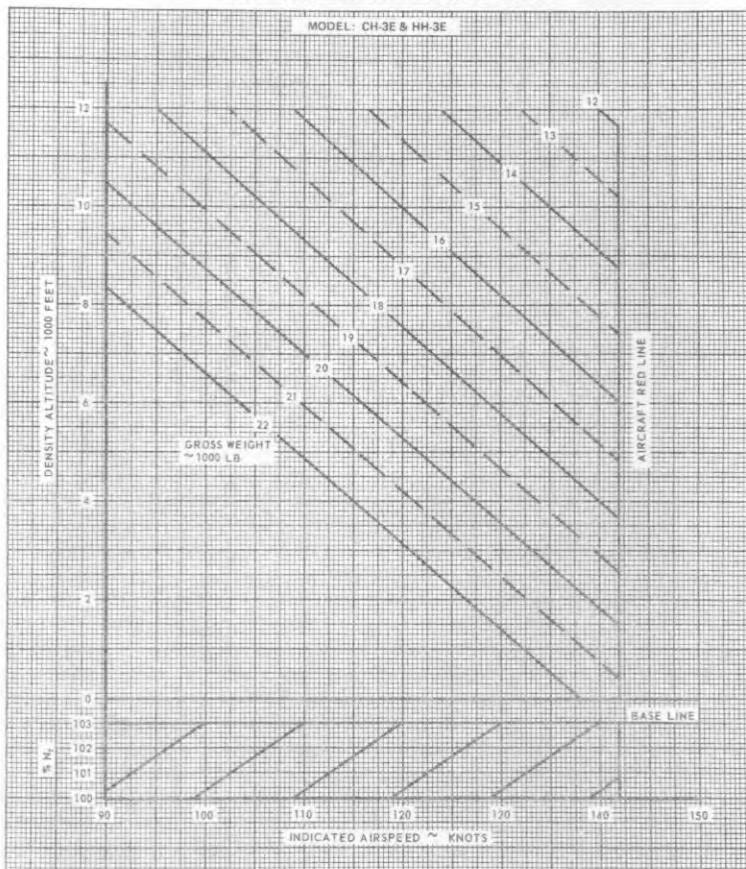


Figure PA-1. Density Altitude

## MAXIMUM AIRSPEED CHART

VARIATION OF MAXIMUM SPEED (KNOTS, IAS) WITH DENSITY ALTITUDE, GROSS WEIGHT AND ROTOR SPEED

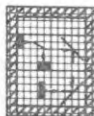


S 17065 (R1)

Figure PA-2. Maximum Airspeed Chart

# T.O. 1H-3(C)E-1CL-1

**MAXIMUM POWER AVAILABLE**  
**ONE ENGINE**  
 MODEL CH/MH-3E ENGINE T58-GE-5



CONDITIONS:  
 HOVER ZERO WIND  
 ZERO AIRSPEED  
 FOD SHIELD ON OR OFF  
 MAXIMUM POWER

DATE: 15 APRIL 1971  
 DATA BASIS: ENG MFG SPEC E1096-A

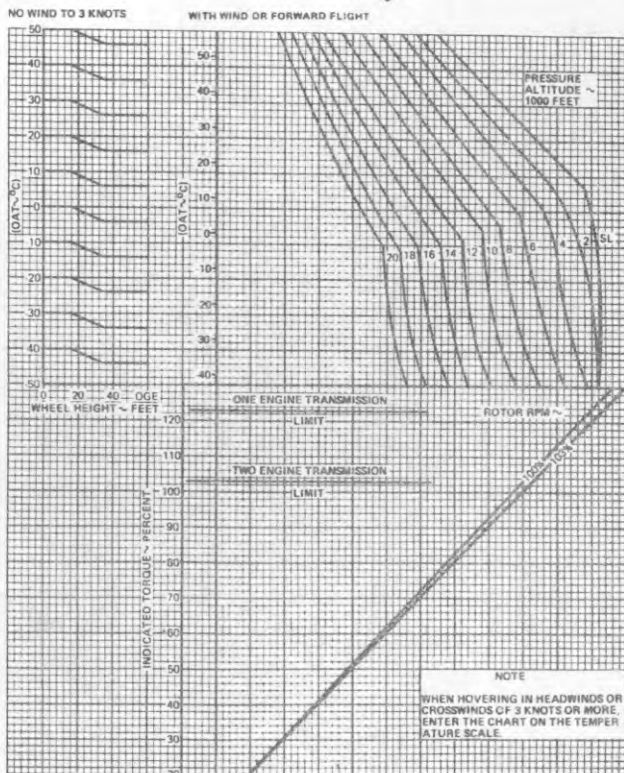
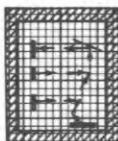


Figure PA-3. Maximum Power Available - 5 Minute Limit - One Engine

PA-4      Change 9

CONDITIONS:  
FORWARD FLIGHT  
FOD SHIELD ON OR OFF



AIRSPEED EFFECTS ON POWER AVAILABLE AND FUEL FLOW		
MODEL	ONE ENGINE	ENGINE
CH/HH-3E		T58-GE-5

DATE: 15 APRIL 1971  
DATE BASIS: FLIGHT TEST (AIR FORCE)

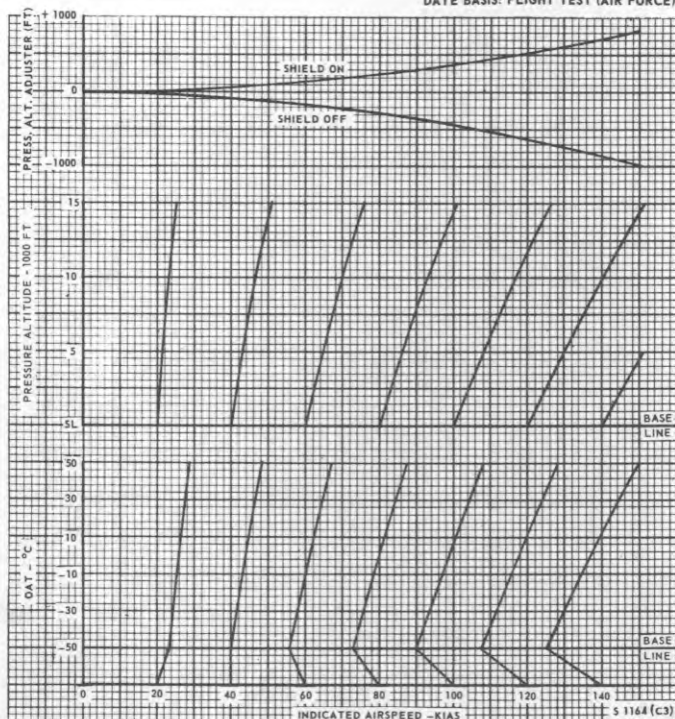


Figure PA-4. Airspeed Effects on Power Available and Fuel Flow

# T.O. 1H-3(C)E-1CL-1

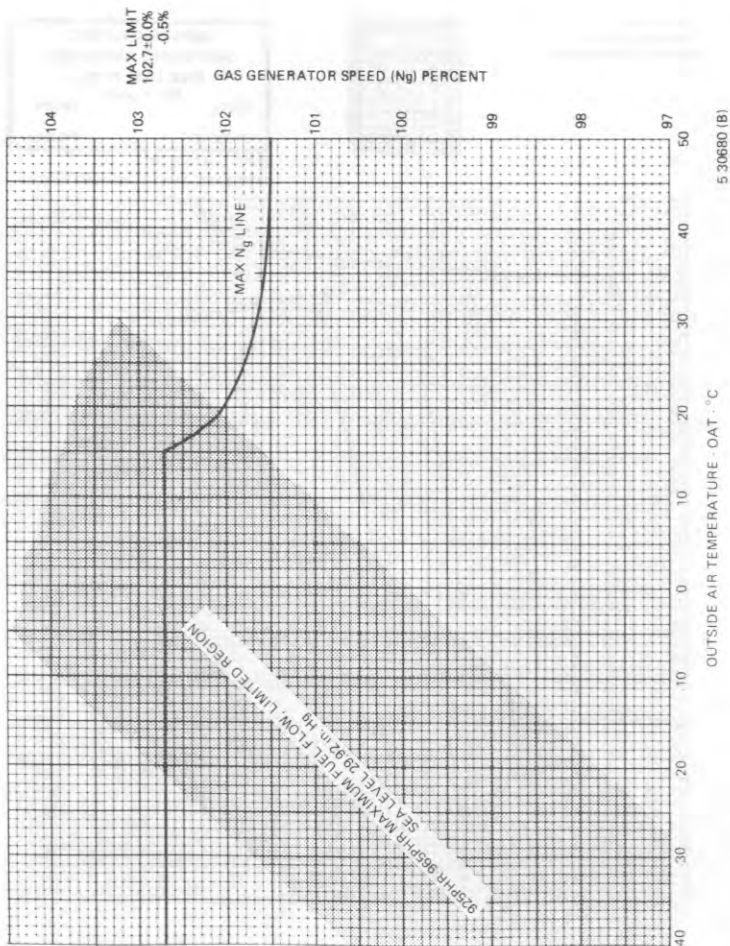
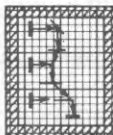


Figure PA-5. Topping Chart (T58-GE-5)

**MAXIMUM GROSS WEIGHT FOR HOVERING**

TWO ENGINES

MODEL  
CH/HH-3EENGINE  
T58-GE-5

CONDITIONS:  
 MAXIMUM POWER  
 ZERO AIRSPEED  
 FOD SHIELD ON OR OFF

DATE: 15 APRIL 1971

DATA BASIS: FLIGHT TEST (AIR FORCE)

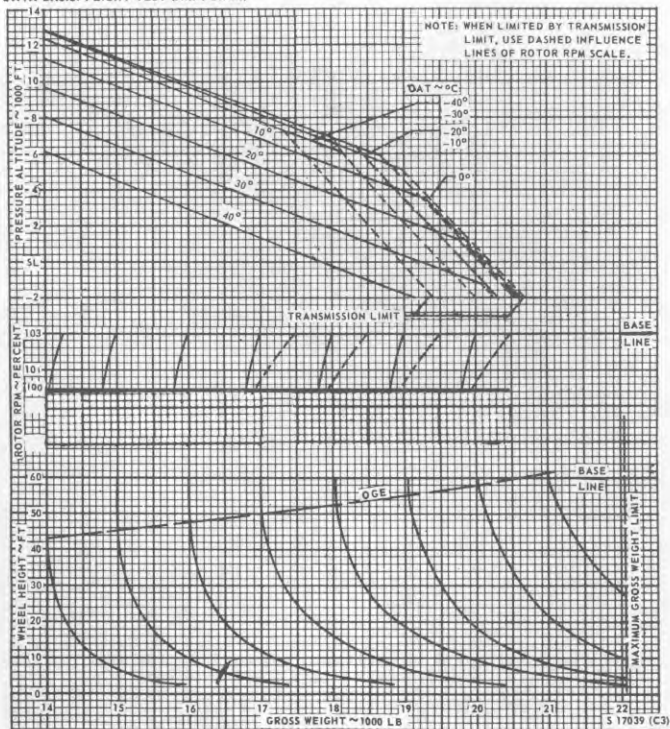
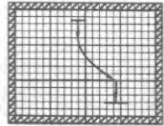


Figure PA-6. Maximum Gross Weight for Hovering - Zero Wind - Two Engines

# T.O. 1H-3(C)E-1CL-1

HEADWIND INFLUENCE ON MAXIMUM GROSS WEIGHT FOR HOVERING		
TWO ENGINES		
MODEL		ENGINE
CH/HH-3E		T58-GE-5



DATE: 1 JULY 1974  
DATA BASIS: ESTIMATED

NOTE: WEIGHT CORRECTION FOR HEADWINDS LESS THAN 3 KNOTS IS NEGLIGIBLE

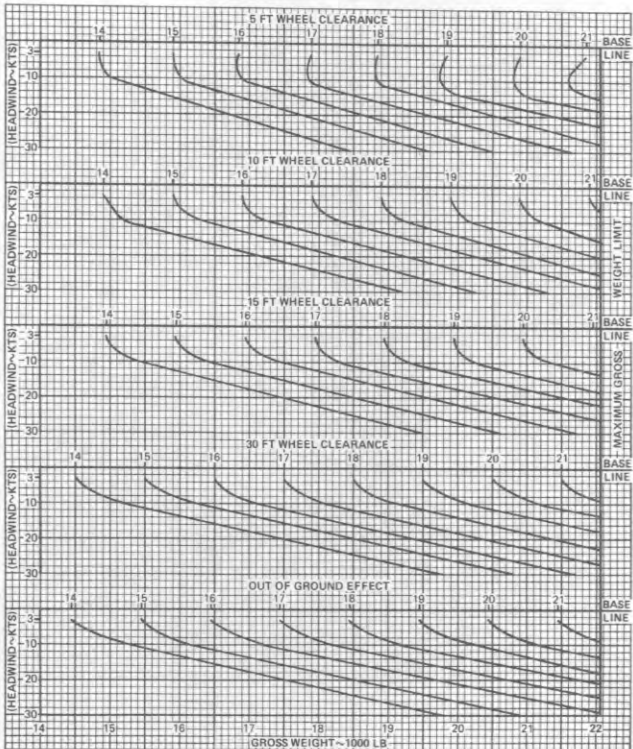


Figure PA-7. Headwind Influence on Maximum Gross Weight for Hovering

CONDITIONS:  
HOVER, ZERO AIRSPEED,  
FOD SHIELD ON OR OFF



DATE: 15 APRIL 1971  
DATA BASIS: FLIGHT TEST

## TORQUE REQUIRED TO HOVER

TWO ENGINES

MODEL:  
CH/HH-3E

ENGINE:  
T58-GE-5

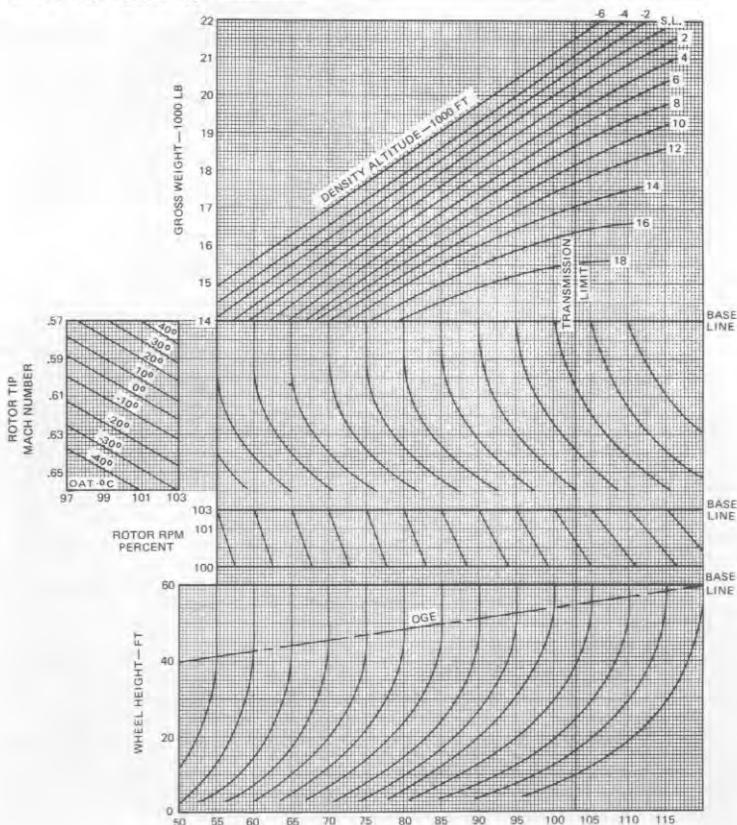


Figure PA-8. Torque Required to Hover - Zero Wind - Two Engines

CONDITIONS:  
HOVER WITH WIND

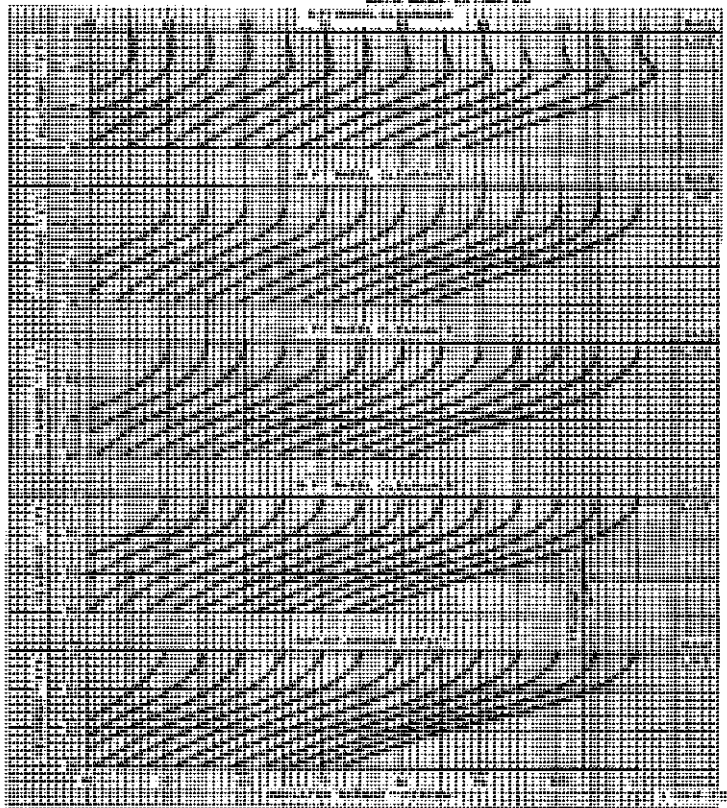


**HEADWIND INFLUENCE ON TORQUE  
REQUIRED FOR HOVERING**

MODEL	TWO ENGINES	ENGINE
CH/NH-3E		T58-GE-5

DATE: 15 APRIL 1971

IN THE HEADWIND - HOVERING



*Figure PA-9. Headwind Influence on Torque Required to Hover*

**SERVICE CEILING**

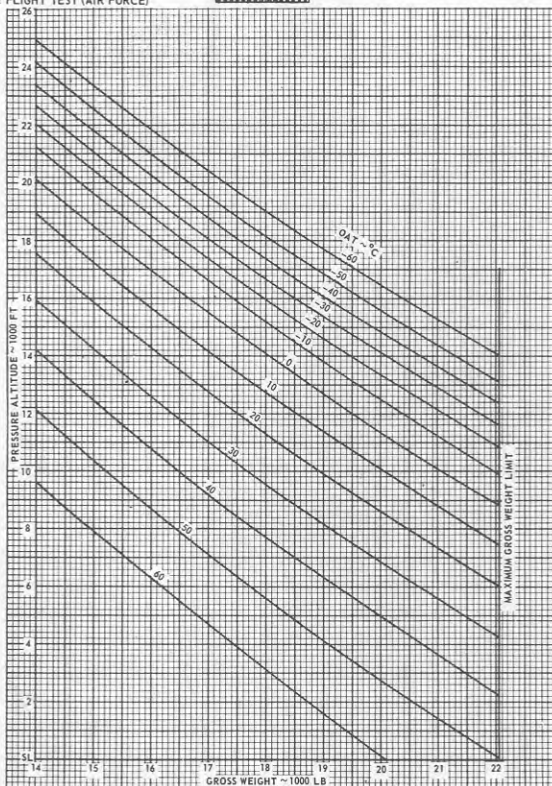
MODEL	TWO ENGINES	ENGINE
CH/HH-3E		T58-GE-5

DATE: 15 APRIL 1971

DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:  
 MAXIMUM CONTINUOUS POWER  
 103%  $N_1$   
 BEST CLIMB SPEED  
 FOD SHIELD ON OR OFF  
 100 FT/MIN RATE OF CLIMB

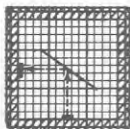


S17054(C3)

Figure PA-10. Service Ceiling - Maximum Continuous Power -  
Two Engines

# T.O. 1H-3(C)C-1CL-1

CONDITIONS:  
MILITARY POWER  
103% N<sub>1</sub>  
BEST CLIMB SPEED  
FOD SHIELD ON OR OFF  
100 FT/MIN RATE OF CLIMB



## SERVICE CEILING

ONE ENGINE

MODEL  
CH/HH-3E

ENGINE  
T58-GE-5

DATE: 15 APRIL 1971

DATA BASIS: FLIGHT TEST (AIR FORCE)

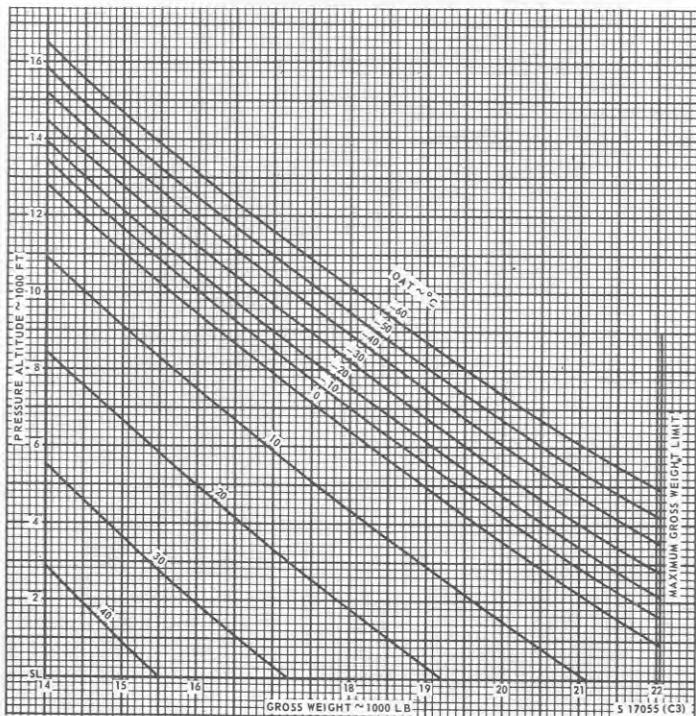


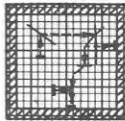
Figure PA-11. Service Ceiling - Military Power - One Engine

## CRUISE

OAT BETWEEN 20°C AND 40°C  
ONE ENGINE

MODEL  
CH/HH-3E

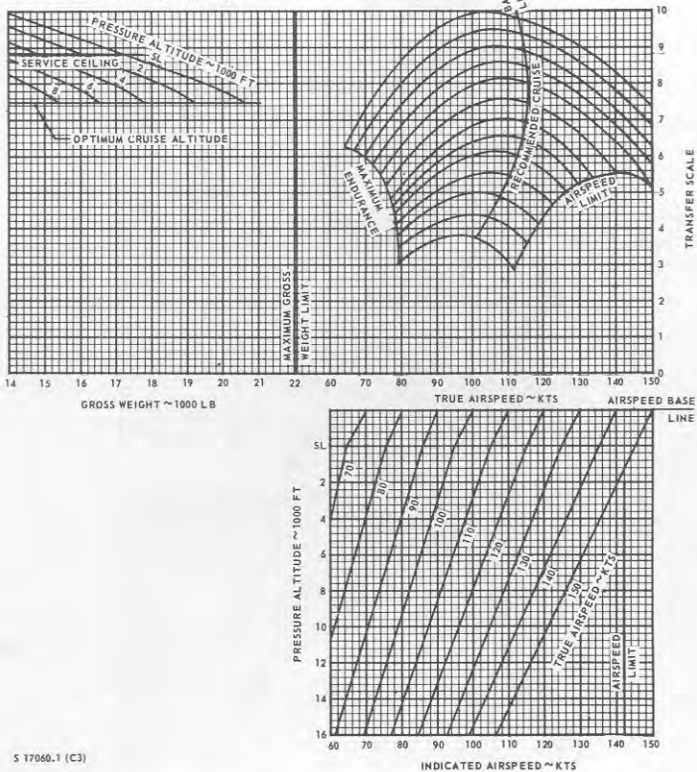
ENGINE  
T58-GE-5



CONDITIONS:  
103% N<sub>1</sub>  
ZERO WIND  
FOD SHIELD ON OR OFF

DATE: 15 APRIL 1971

DATA BASIS: FLIGHT TEST (AIR FORCE)



S 17060.1 (C3)

Figure PA-12. Cruise (20° C to 40° C OAT) - One Engine  
(Sheet 1 of 2)

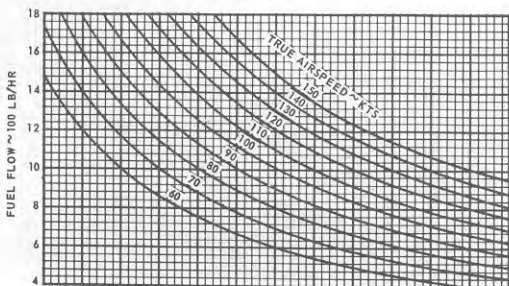
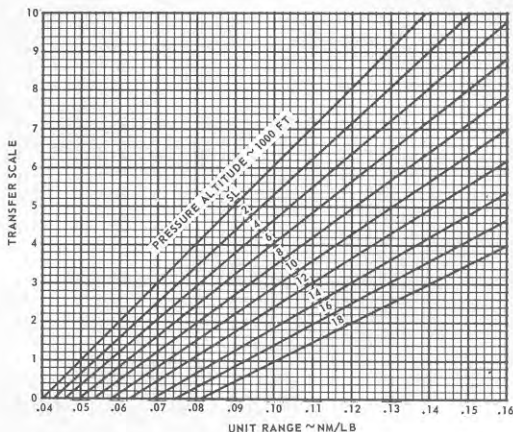
# T.O. 1H-3(C)C-1CL-1

CONDITIONS:  
103%  $N_r$   
ZERO WIND  
FOD SHIELD ON OR OFF



**CRUISE**  
OAT BETWEEN 20°C AND 40°C  
ONE ENGINE  
MODEL CH/HH-3E ENGINE T58-GE-5

DATE: 15 APRIL 1971  
DATA BASIS: FLIGHT TEST (AIR FORCE)



S 17060.2 (C3)

Figure PA-12. Cruise (20°C to 40°C OAT) - One Engine  
(Sheet 2 of 2)

## SINGLE ENGINE CAPABILITY

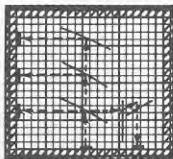
ONE ENGINE

MODEL  
CH/HH-3E

ENGINE  
T58-GE-5

DATE: 15 APRIL 1971

DATA BASIS: FLIGHT TEST (AIR FORCE)



CONDITIONS:  
70 KTS IAS  
MILITARY POWER  
103% Nr  
FOD SHIELD  
ON OR OFF  
LANDING GEAR UP

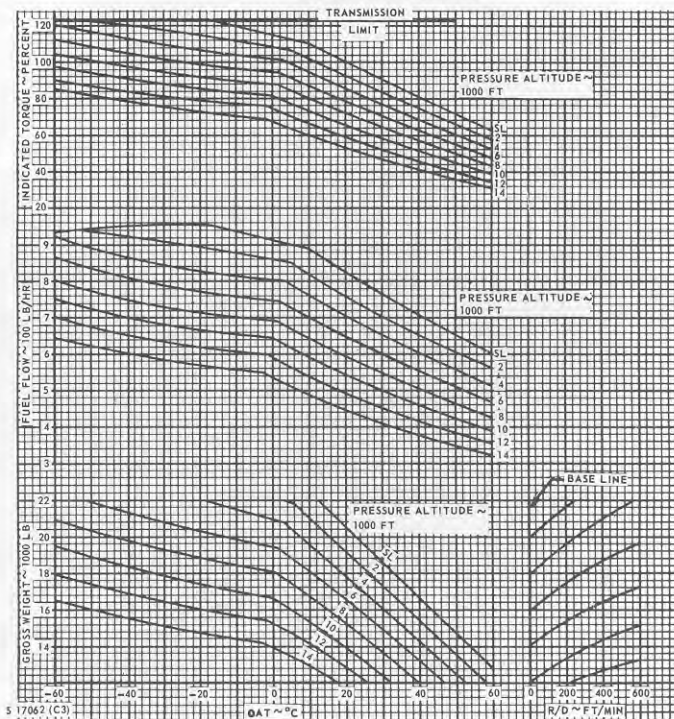


Figure PA-13. Single Engine Capability - Military Power - One Engine