

FLIGHT MANUAL INDEX

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NOTE

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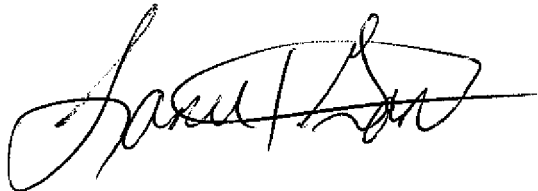
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MANAGER

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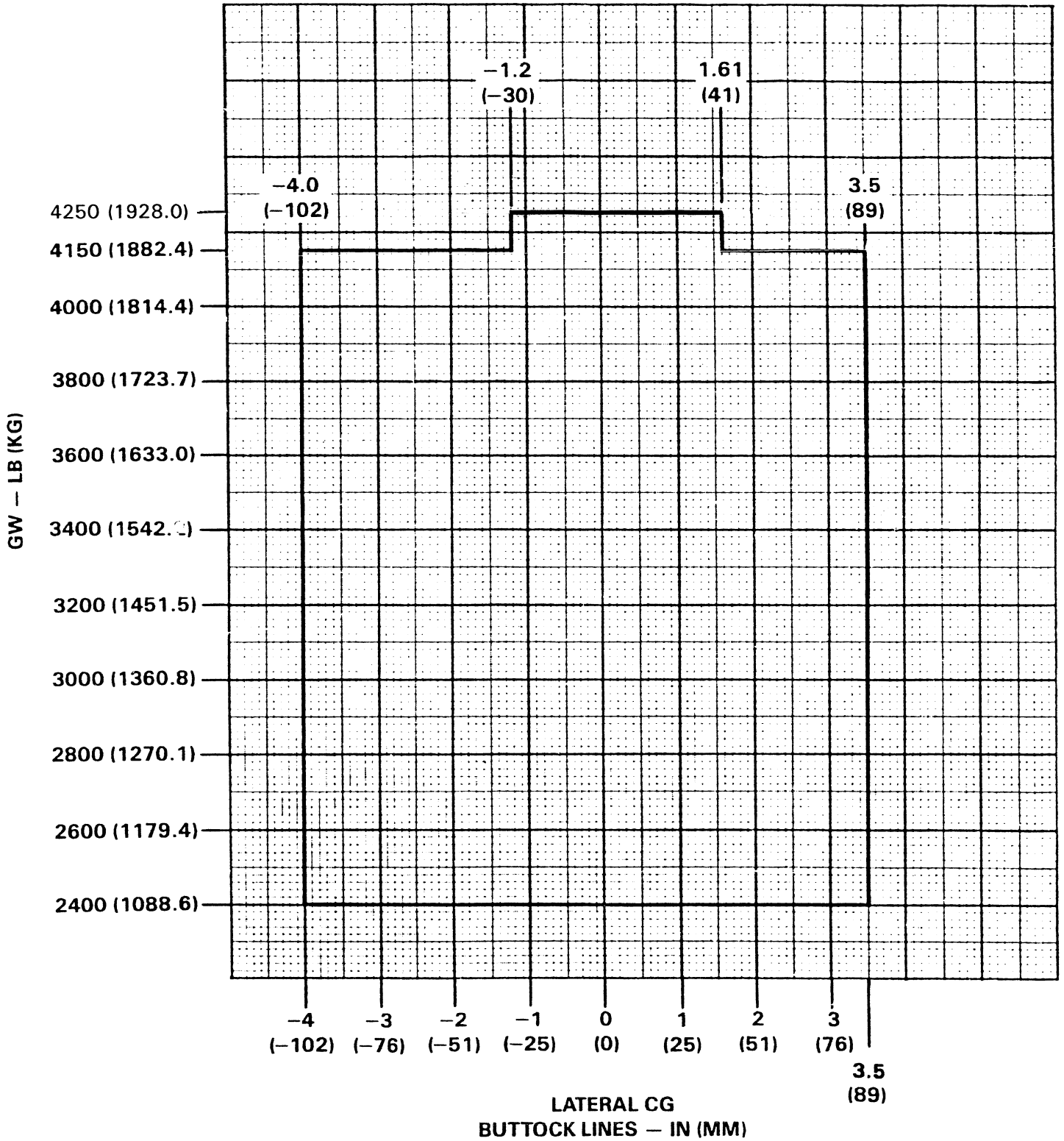


Figure 1-2. Gross Weight Lateral Center of Gravity Limits

POWER PLANT LIMITATIONS

Two Rolls-Royce Model 250-C20R turboshaft engines.

GAS PRODUCER RPM (N_1) LIMITS

Continuous operation	62 to 105%
Maximum	105%
Maximum transient (Do not exceed 15 seconds above 105%)	106%
Idle operation	62 to 64%

POWER TURBINE RPM (N_2) LIMITS

WARNING

USE OF THROTTLE TO CONTROL RPM IS NOT AUTHORIZED. REFER TO SECTION 3, EMERGENCY PROCEDURES — ENGINE OVERSPEED FOR EXCEPTION.

Steady-state operation	75 to 88% N_2 and engine torque greater than 20% is prohibited. Transient operation through the range is permissible.
Minimum	99%
Continuous operation	99 to 101%
Maximum continuous	101%
Transient overspeed range (5 minutes maximum)	101 to 104%

NOTE

Refer to Rolls-Royce Operations and Maintenance Manual No. GTP 5232-2 for operation in the N_2 speed avoidance range and for transient overspeed limits.

AIRSPED LIMITATIONS INTERNAL LOADING											
Hp $\frac{\text{FT}}{1000}$	0	2	4	6	8	10	12	14	16	18	20
OAT °C	VNE IAS KTS										
ABOVE 4150 LB											
52	125	-	-	-	-	-	-	-	-	-	-
46	128	117	-	-	-	-	-	-	-	-	-
40	130	120	109	-	-	-	-	-	-	-	-
20	130	129	119	108	-	-	-	-	-	-	-
0	130	130	128	118	107	-	-	-	-	-	-
-20	130	130	130	129	118	107	-	-	-	-	-
-40	129	124	120	117	112	108	104	-	-	-	-
-50	118	114	110	106	102	98	95	91	-	-	-
FROM 4050 LB TO 4150 LB											
52	130	-	-	-	-	-	-	-	-	-	-
46	130	125	-	-	-	-	-	-	-	-	-
40	130	127	120	-	-	-	-	-	-	-	-
20	130	130	127	119	111	104	96	89	-	-	-
0	130	130	130	126	119	110	103	95	88	81	78
-20	130	130	130	130	126	118	110	103	95	88	80
-40	129	124	120	117	112	108	104	100	96	92	87
-50	118	114	110	106	102	98	95	91	88	84	82
BELOW 4050 LB											
52	130	-	-	-	-	-	-	-	-	-	-
46	130	126	-	-	-	-	-	-	-	-	-
40	130	128	122	-	-	-	-	-	-	-	-
20	130	130	127	121	115	108	102	96	-	-	-
0	130	130	130	127	121	114	108	101	95	89	82
-20	130	130	130	130	127	121	114	108	101	95	88
-40	129	124	120	117	112	108	104	100	96	92	89
-50	118	114	110	106	102	98	95	91	88	84	82

Placards and Decals (Sheet 1 of 2)

THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED HELICOPTER FLIGHT MANUAL.

Location: On compass trim panel.

SELECTED PASSENGER LOADING

WHEN BOTH CREW SEATS ARE OCCUPIED ONLY ONE (1) MID-PASSENGER IS PERMITTED UNLESS THERE ARE TWO (2) AFT PASSENGERS.

WHEN ONLY ONE (1) CREW SEAT IS OCCUPIED NO MORE THAN ONE (1) AFT PASSENGER IS PERMITTED UNLESS THERE IS ONE (1) MID-PASSENGER.

ABOVE 4150 LB GW ALTERNATE PASSENGER LOADING FROM SIDE TO SIDE.

MINIMUM COCKPIT WEIGHT FOR SINGLE PILOT OPERATIONS IS 200 LBS.

REFER TO RFM WEIGHT AND BALANCE FOR ADDITIONAL LOADING INFORMATION.

Location: On center post trim.

CARGO MUST BE SECURED IN ACCORDANCE WITH FLIGHT MANUAL INSTRUCTION

MAX ALLOWABLE WEIGHT 250 LBS.
MAX ALLOWABLE WEIGHT PER SQ. FT. 86 LBS.

Location: On the inside of the baggage compartment door.

ENGAGE ROTOR BRAKE BETWEEN 38% & 30% ROTOR RPM

Location (if installed): On rotor brake handle.

DEVIATION UP TO 20°E WILL BE PRESENT WITH BOTH LANDING LIGHTS ON

Location: Adjacent to standby compass.

AVOID 75% TO 88% N2 ABOVE 20% TQ

Location: Instrument panel.

NOTE

For information on optimized starts and operation characteristics, refer to Rolls-Royce 250-C20R CSL4031 and CSL4050.

- h. TOT — Monitor. (Do not exceed 10 seconds between 810 and 927°C.)

WARNING

IF THE MAIN ROTOR IS NOT ROTATING BY 25% GAS PRODUCER RPM (N_1), ABORT THE START. A SECOND OR THIRD ATTEMPT MAY BE MADE; IF THE CONDITION STILL EXISTS, REFER TO ROLLS-ROYCE OPERATION AND MAINTENANCE MANUAL.

NOTE

ENG OUT light extinguished at 52 +1% gas producer RPM (N_1).

- i. Starter — Release at 58% gas producer RPM (N_1).
- j. ENG OIL, XSMN OIL, and COBOX OIL PRESSURE — Check.

NOTE

During cold temperature operations, stabilize at idle until ENG OIL temperature reaches 0°C.

- k. IDLE RELEASE switch — Activate.

NOTE

Excessive throttle pressure against idle release stop will prevent plunger release and throttle advancement.

- l. Throttle — Open to approximately 70% gas producer RPM (N_1). Hold for 4 seconds to allow idle release solenoid to complete cycle.
- m. Throttle — Close to idle position. (Check N_1 idle RPM, then open to 70% N_1 .)
- n. APU — Disconnect (as required),
- o. Generator switch — On (as required), check amp meter.

WARNING

AVOID CONTINUOUS OPERATION WHEN BETWEEN 75 TO 88% N_2 AND ENGINE TORQUE GREATER THAN 20%. |

NOTE

During initial charge of a low battery, the red light will illuminate and volt/amp meter display will flash.

Second engine start — Repeat start sequence step e to step l.

Throttle — Close throttle to idle. (Check N_1 idle RPM, then open to 70% N_1 .)

APU — Disconnect prior to activating either generator switch.

Generator switch(es) — ON.

VDC/Amp meter — Check L, R, L + R amperage readings and red LEDs out for flight.

Throttles — Idle. Check 62 to 64% gas producer RPM (N_1) after amperage is stabilized.



IF THE ENGINE HAS BEEN SHUT DOWN FOR MORE THAN 15 MINUTES, STABILIZE AT IDLE FOR 1 MINUTE BEFORE INCREASING POWER.

DRY MOTORING RUN

The following procedure is used to reduce residual TOT to recommended levels for engine start.

1. Throttle — Closed position.
2. STARTER button — Press to engage for 15 seconds, then release.

Follow ENGINE STARTING procedure, once 0% N_1 is indicated.

PRELIMINARY HYDRAULIC SYSTEMS CHECK**NOTE**

Uncommanded control movement or motoring with hydraulic system switch off may indicate hydraulic system malfunction.

HYDRAULIC SYSTEM switch — OFF, then ON.

ENGINE RUNUP CHECK

Attitude gyro — Pull and hold knob to cage.

Directional gyro and attitude switch — ON. Release attitude knob smoothly.

Pitot heat — As required.

Fuel boost pumps — Check as follows:

Crossfeed switch — CROSSFEED OVERRIDE. Check CROSSFEED light on. Indication of fuel pressure on gauge confirms respective forward fuel transfer pump operation.

Crossfeed switch — NORMAL. Check CROSSFEED light out.

NO. 1 aft pump circuit breaker — Pull OFF. AFT PRESS light remains off. This confirms No. 2 aft transfer pump operation.