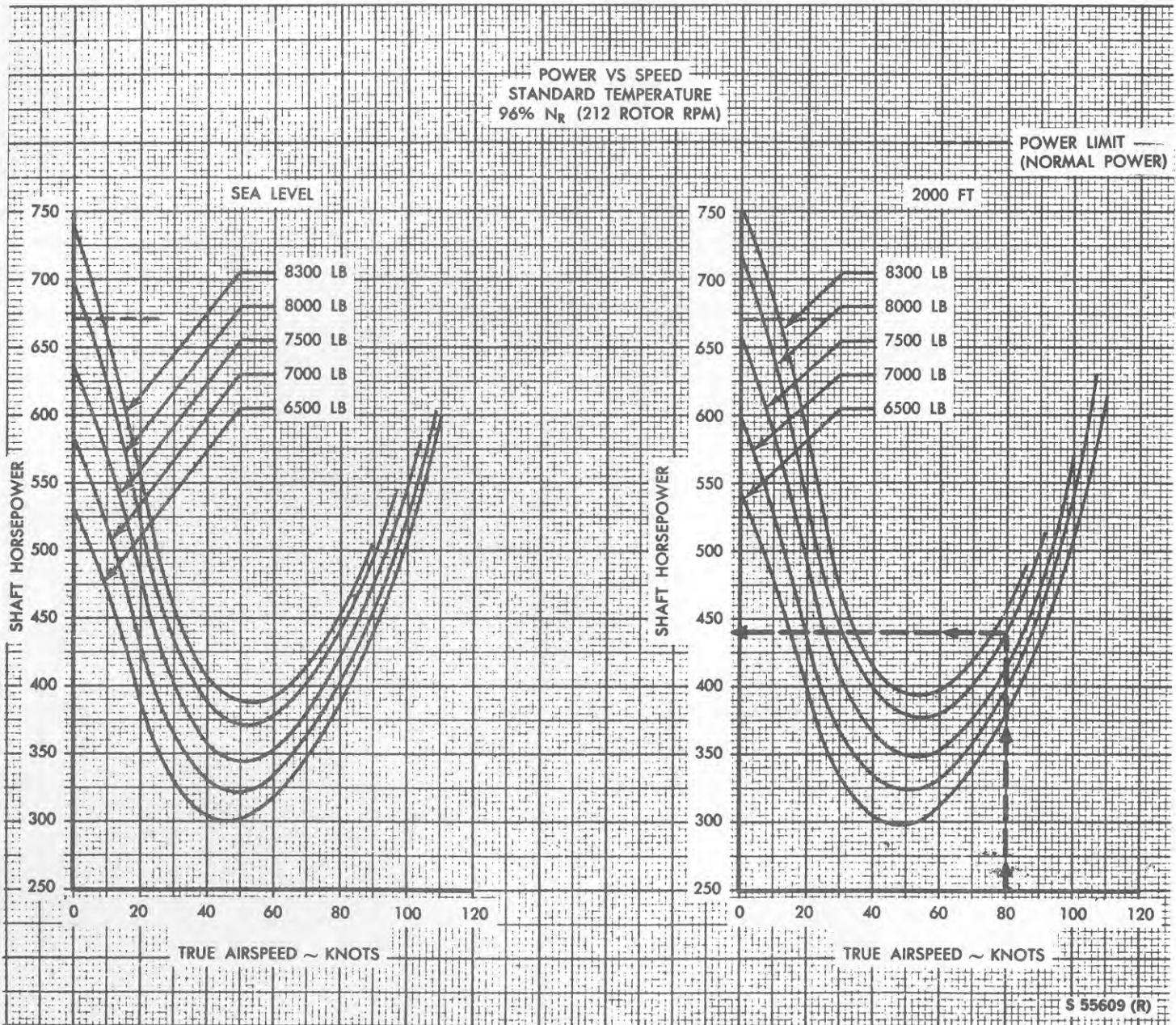
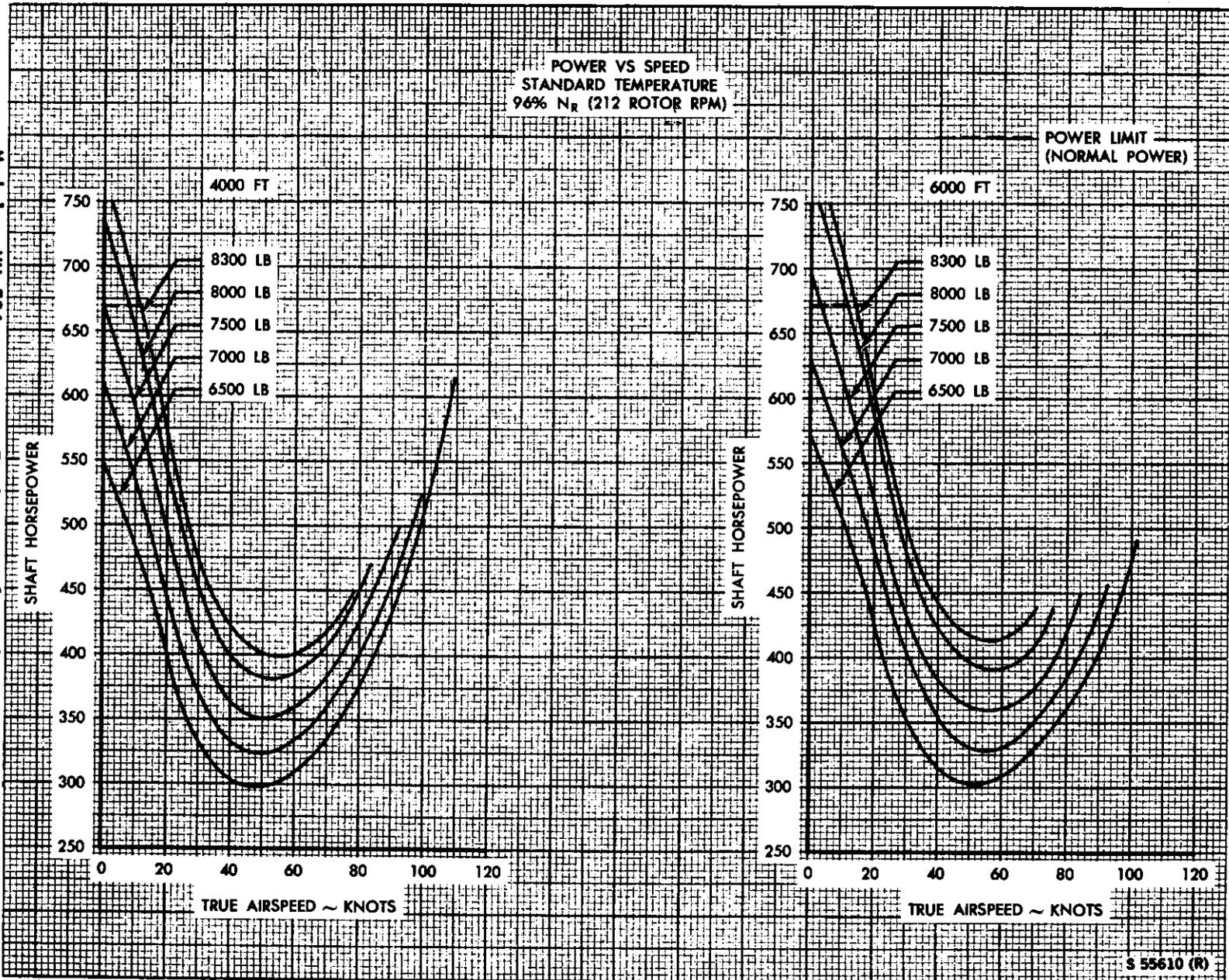


Model: HH-52A
 Date: 1960
 Data Basis: Estimated
 Fuel Density: 6.5-6.8 lb/gal.
 Engine: T58-GE-8B
 Fuel Grade: JP-4/JP-5

Figure A-16. Power VS Speed S.L. and 2000 Ft



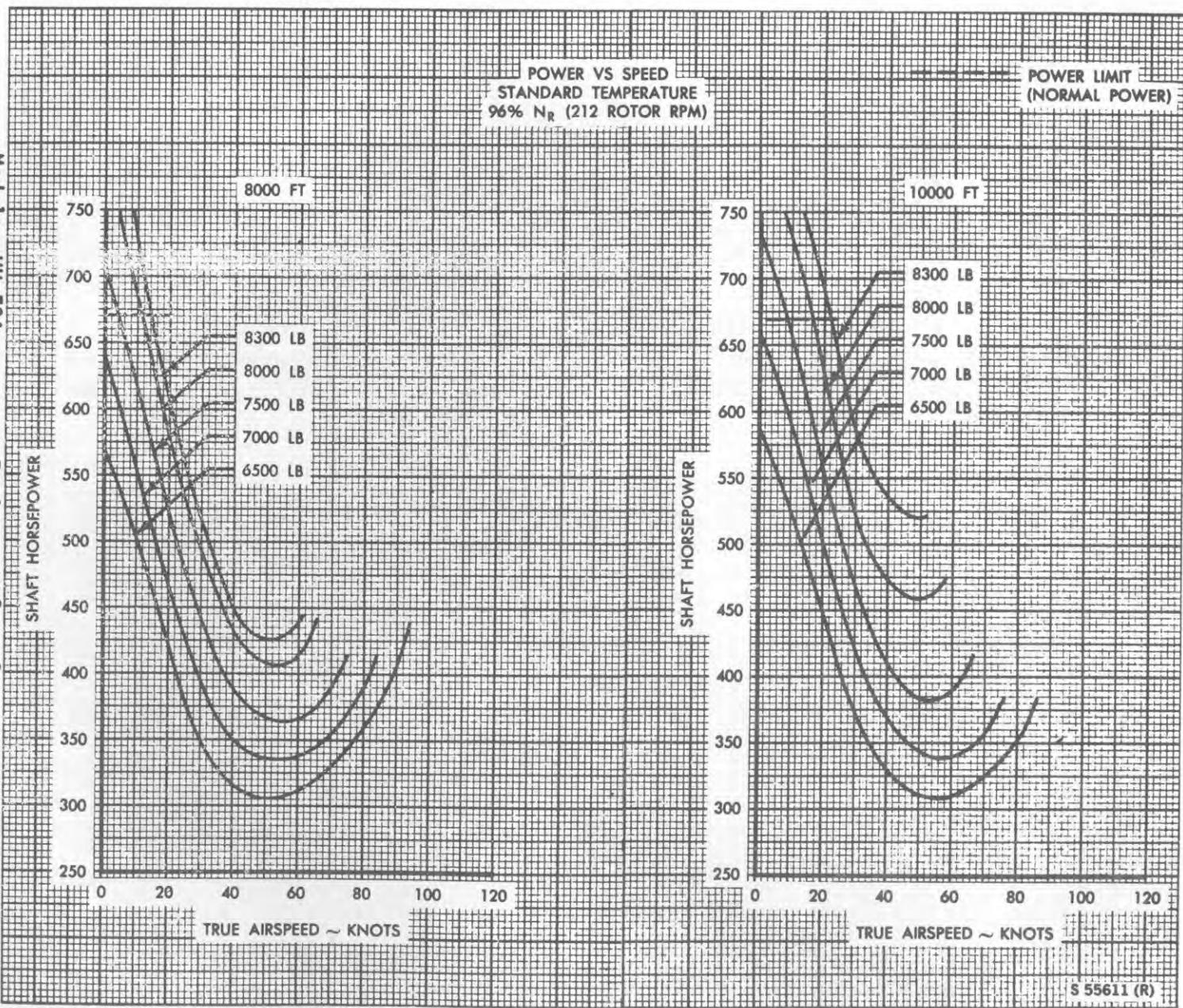
POWER VS SPEED
STANDARD TEMPERATURE
96% N_R (212 ROTOR RPM)



Model: HH-52A
 Date: 1960
 Data Basis: Estimated
 Engine: T58-GE-8B
 Fuel Grade: JP-4/JP-5
 Fuel Density: 6.5-6.8 lb/gal.
 Figure A-17. Power VS Speed 4000 Ft and 6000 Ft

Model: HH-52A
 Date: 1960
 Data Basis: Estimated
 Engine: T58-GE-8B
 Fuel Grade: JP-4/JP-5
 Fuel Density: 6.5-6.8 lb/gal.

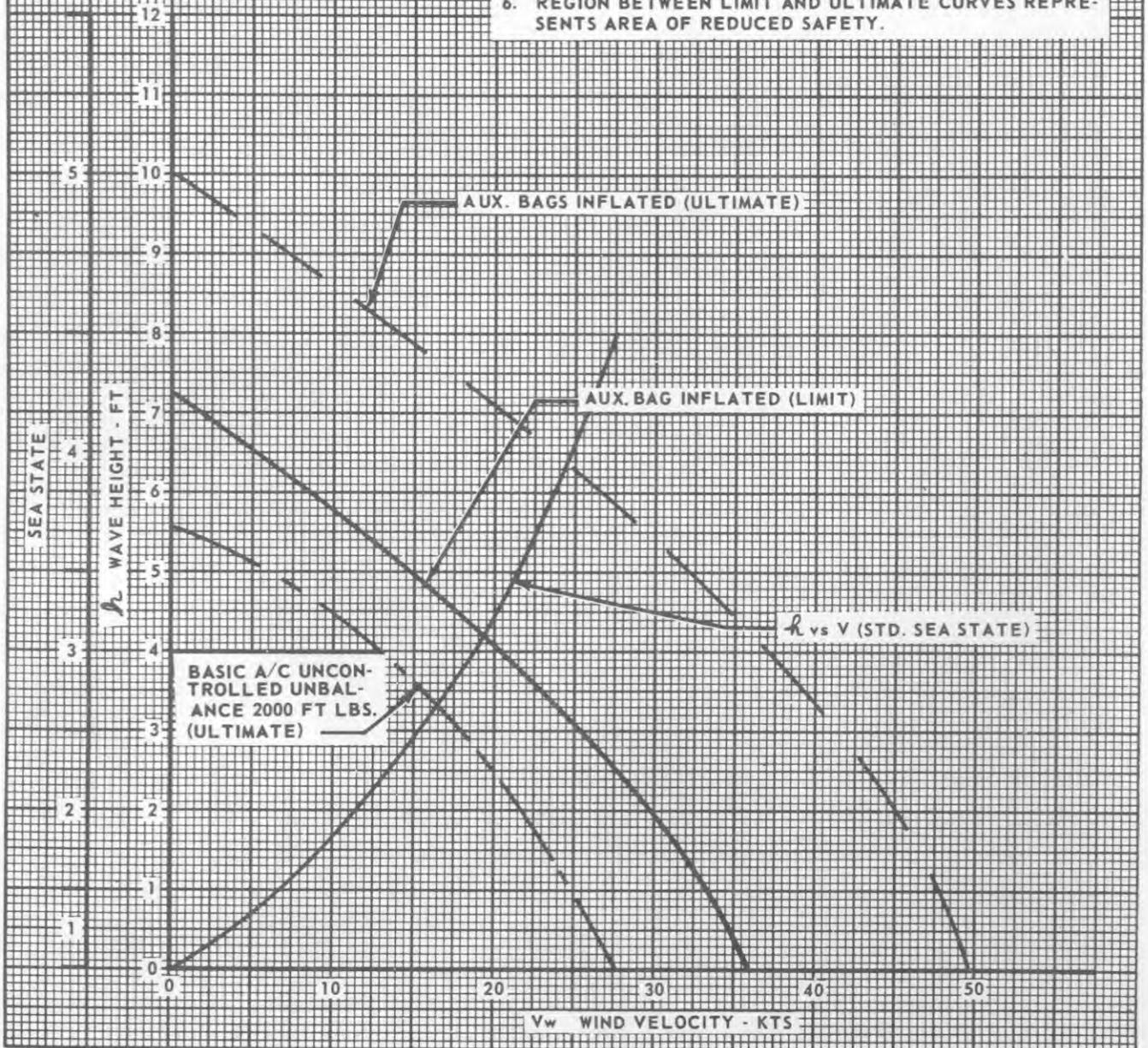
Figure A-18. Power VS Speed 8000 Ft and 10,000 Ft



EMERGENCY SEA STATE CAPABILITIES

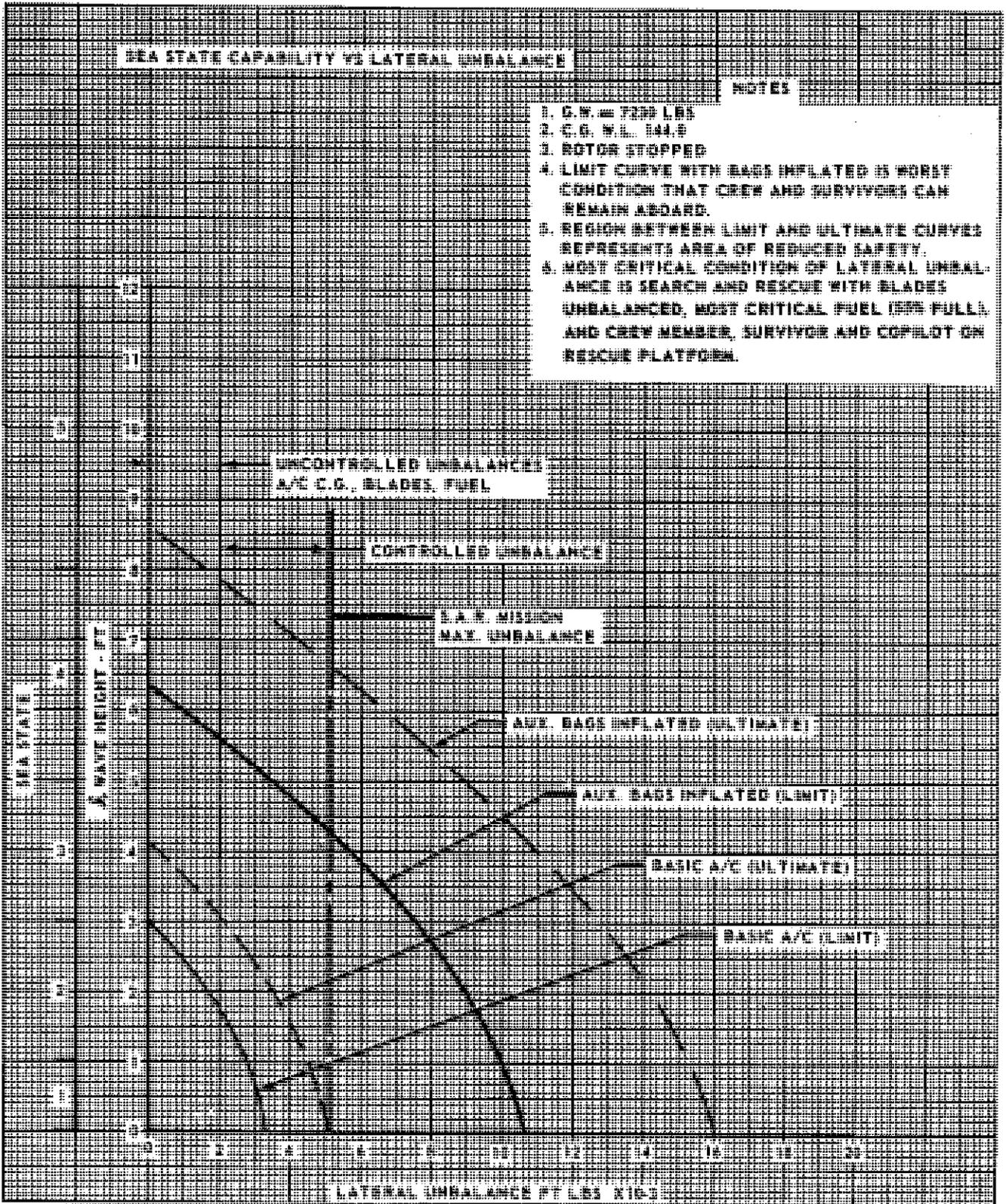
NOTES

1. G.W. = 7230 LBS
2. C.G.W.L. 144.0
3. LATERAL UNBALANCE - SAR
4. ROTOR STOPPED
5. LIMIT CURVE WITH BAGS INFLATED IS WORST CONDITION THAT CREW AND SURVIVORS CAN REMAIN ABOARD.
6. REGION BETWEEN LIMIT AND ULTIMATE CURVES REPRESENTS AREA OF REDUCED SAFETY.



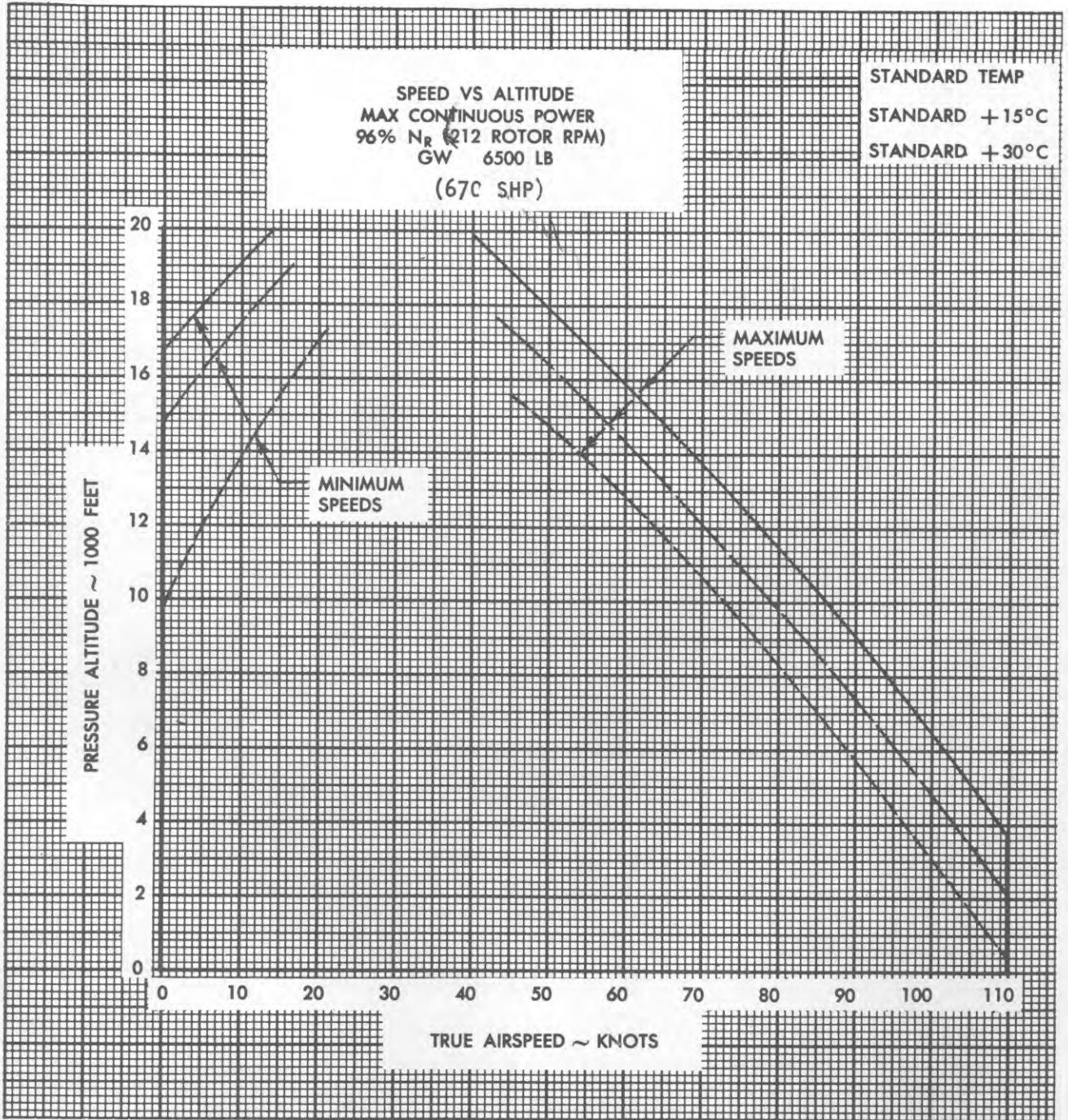
S 55612 (R)

Figure A-19. Emergency Sea State Capabilities



8 55613 (R)

Figure A-20. Sea State Capability VS Lateral Unbalance



Model: HH-52A

Engine: T58-GE-8B

Date: 1960

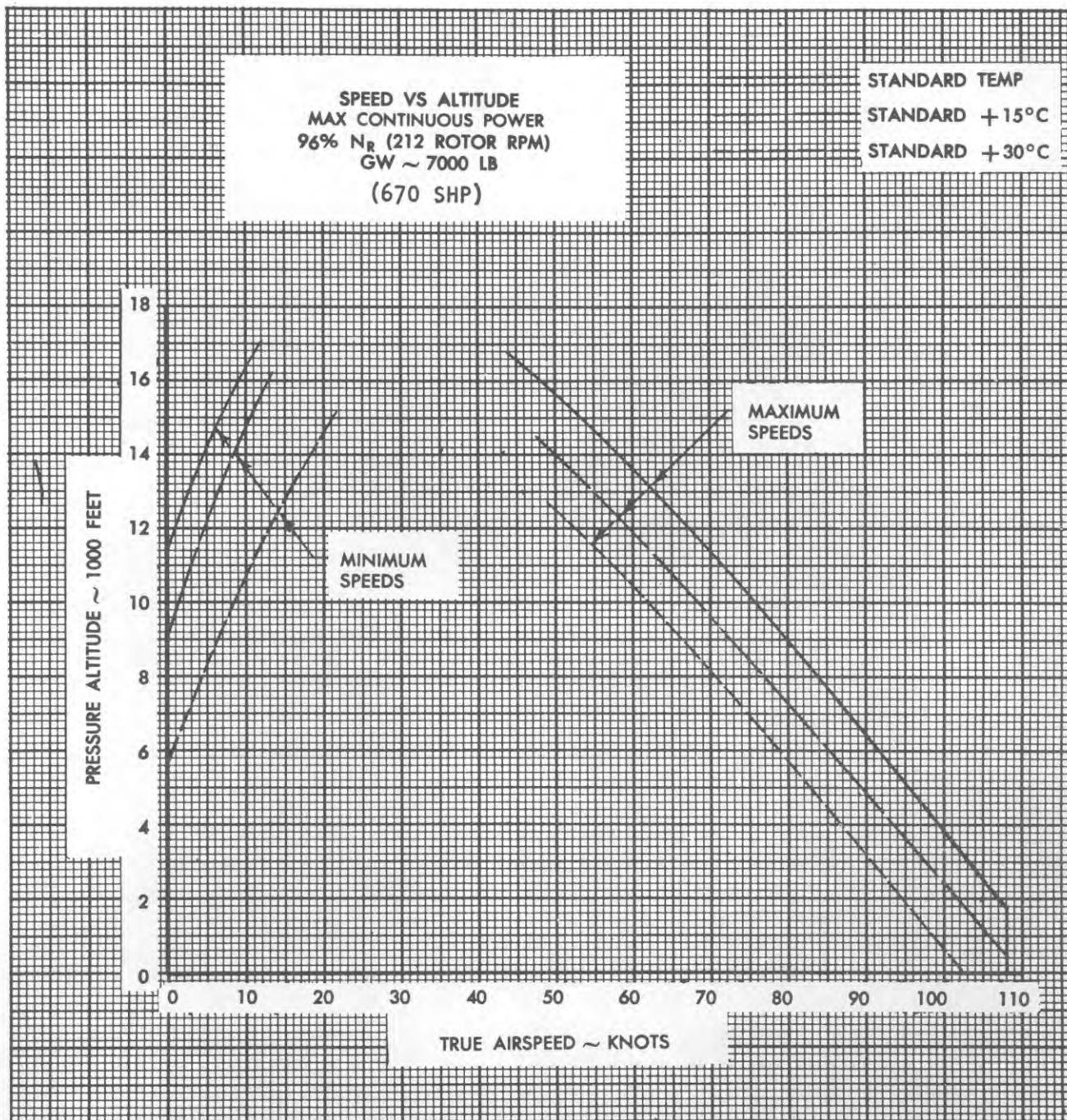
Fuel Grade: JP-4/JP-5

Data Basis: Estimated

Fuel Density: 6.5-6.8 lb/gal.

S 55614 (R)

Figure A-21. Speed VS Altitude G.W. 6500 Lbs 96% Nr/Nr



Model: HH-52A

Engine: T58-GE-8B

Date: 1960

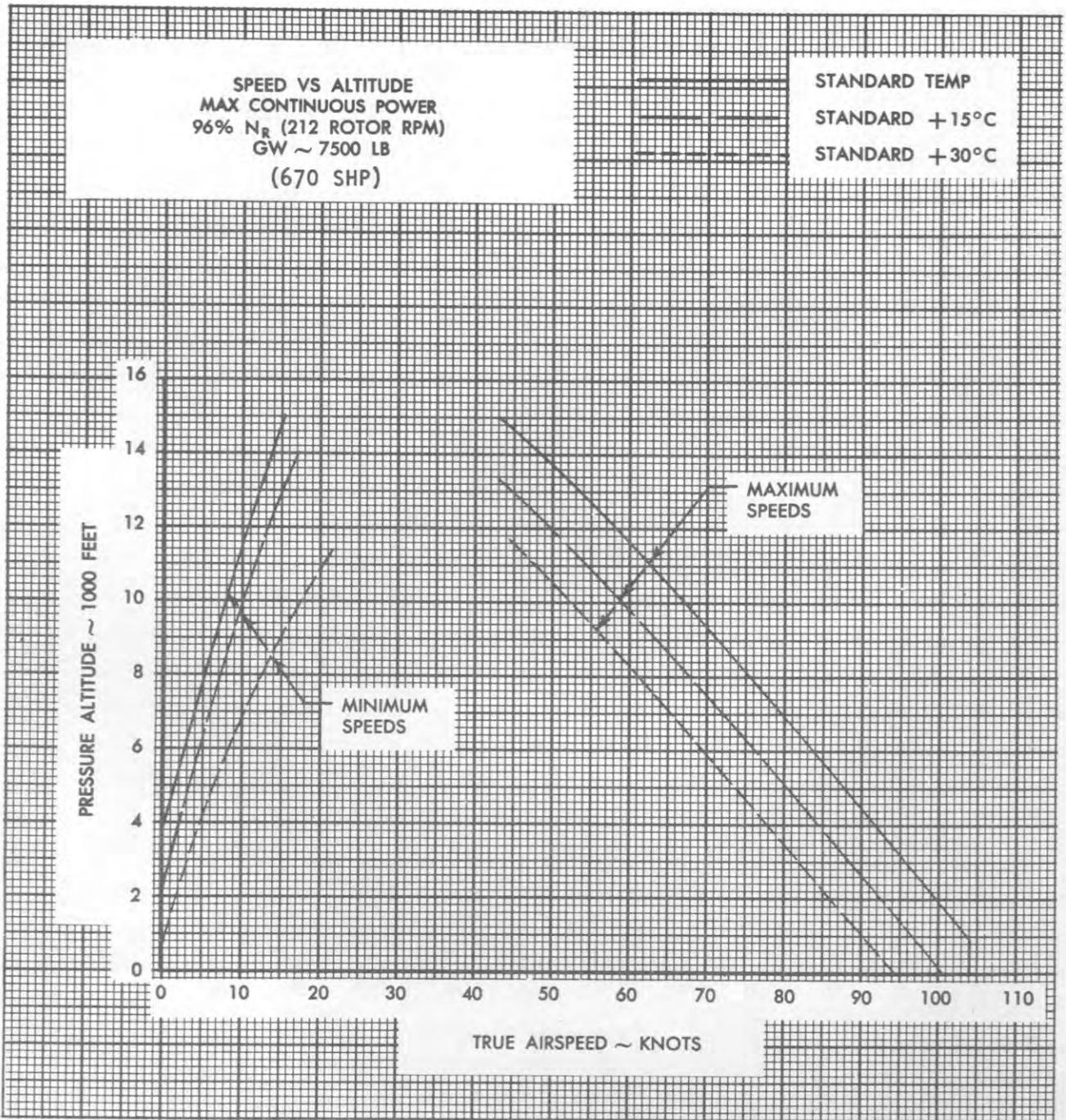
Fuel Grade: JP-4/JP-5

Data Basis: Estimated

Fuel Density: 6.5-6.8 lb/gal.

S 55615 (R)

Figure A-22. Speed VS Altitude G.W. 7000 Lbs 96% N_f/N_r



Model: HH-52A

Engine: T58-GE-8B

Date: 1960

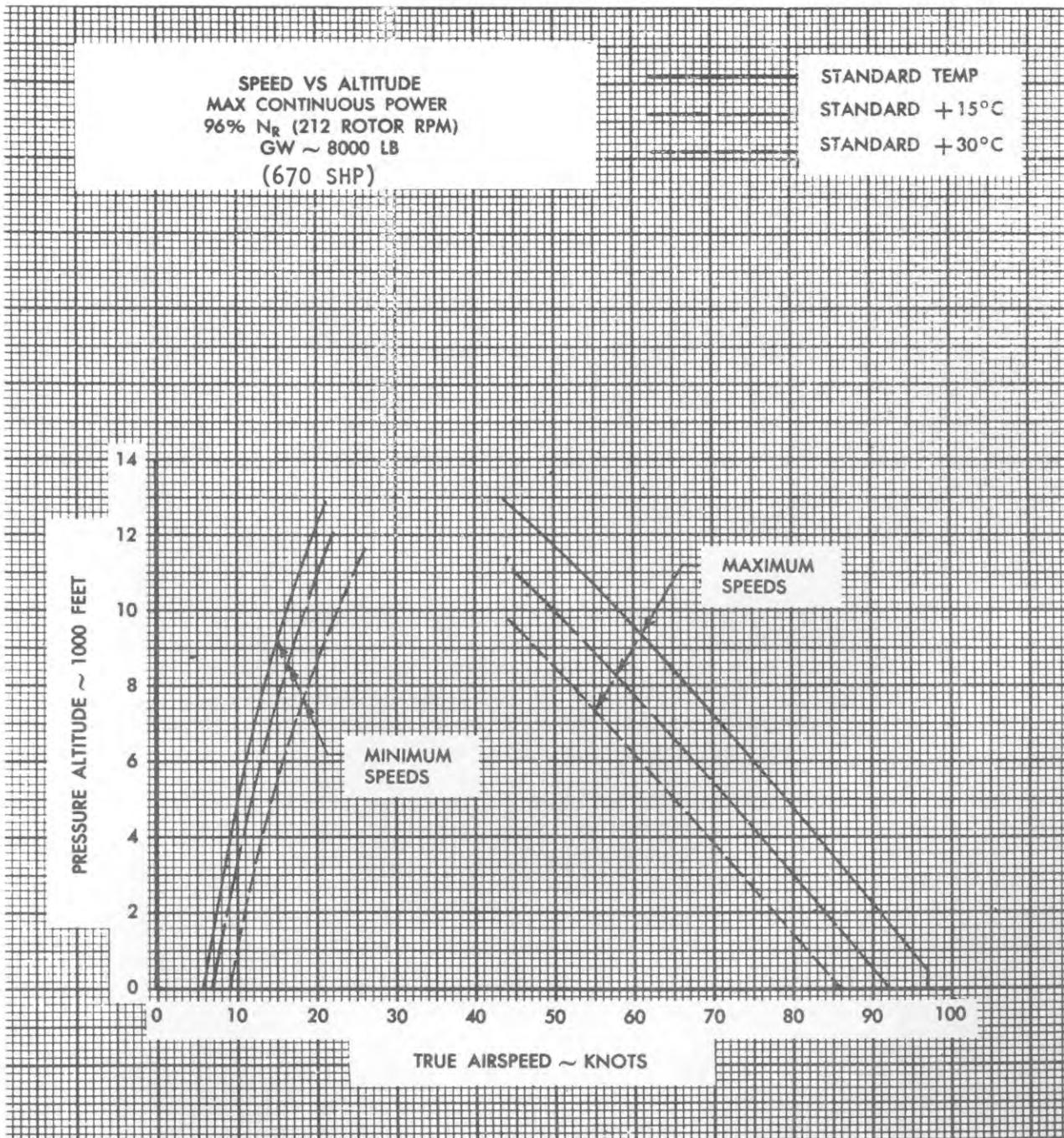
Fuel Grade: JP-4/JP-5

Data Basis: Estimated

Fuel Density: 6.5-6.8 lb/gal.

S 55616 (R)

Figure A-23. Speed VS Altitude G.W. 7500 lbs 96% N_f/N_r



Model: HH-52A Engine: T58-GE-8B
 Date: 1960 Fuel Grade: JP-4/JP-5
 Data Basis: Estimated Fuel Density: 6.5-6.8 lb/gal. S 55617 (R)

Figure A-24. Speed VS Altitude G.W. 8000 lbs 96% N_r/N_r

SPEED VS ALTITUDE CHART**EXAMPLE PROBLEM****Given**

Maneuver	Level flight
Power	Maximum continuous at 96% Nr
Pressure altitude	2000 feet
OAT	Standard +15°C
Gross weight	8300 pounds

Determine

The airspeed range.

Solution

1. For 96% Nr and a gross weight of 8300 pounds use figure A-25.
2. On the left side of the chart locate the 2000 feet pressure altitude line, read to the right and note that it intersects the standard +15°C line twice.
3. Move down from each of these points and read 10 KTAS and 80 KTAS. These airspeeds are the lower and upper limits for maintaining level flight for the conditions given.

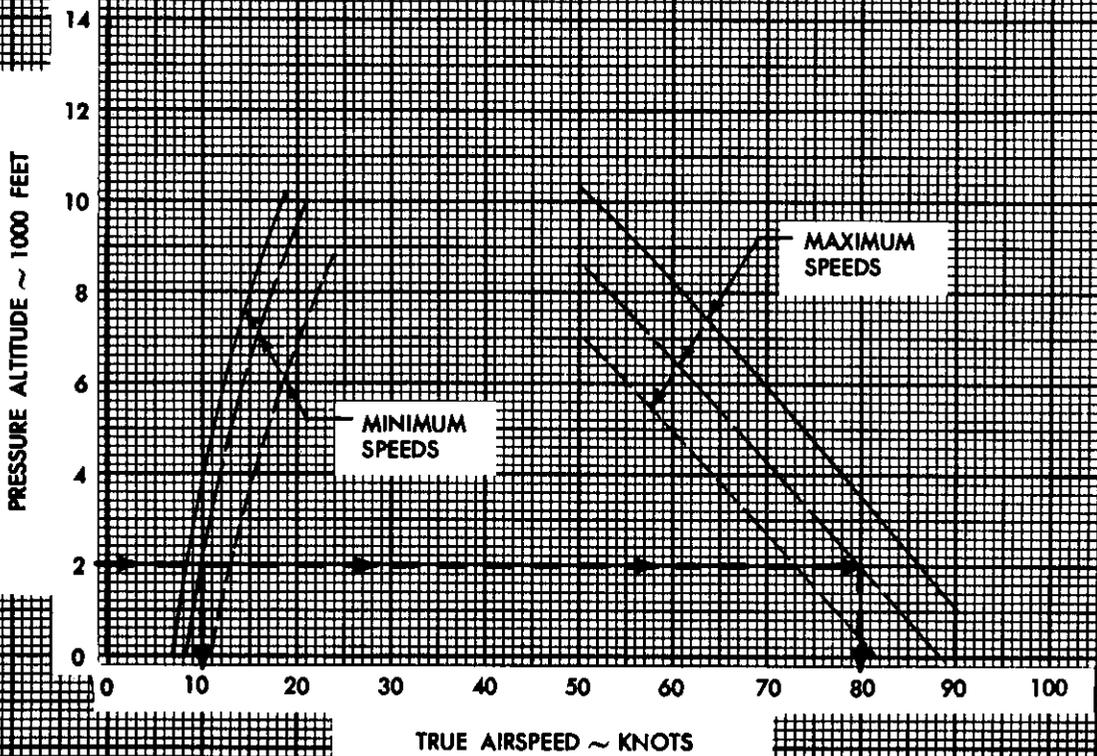
SPEED VS ALTITUDE
 MAX CONTINUOUS POWER
 96% N_R (212 ROTOR RPM)
 GW ~ 8300 LB

(670 SHP)

STANDARD TEMP

STANDARD +15°C

STANDARD +30°C



Model: HH-52A

Engine: T58-GE-8B

Date: 1960

Fuel Grade: JP-4/JP-5

Data Basis: Estimated

Fuel Density: 6.5-6.8 lb/gal.

S 55618 (R)

Figure A-25. Speed VS Altitude G.W. 8300 lbs 96% N_R

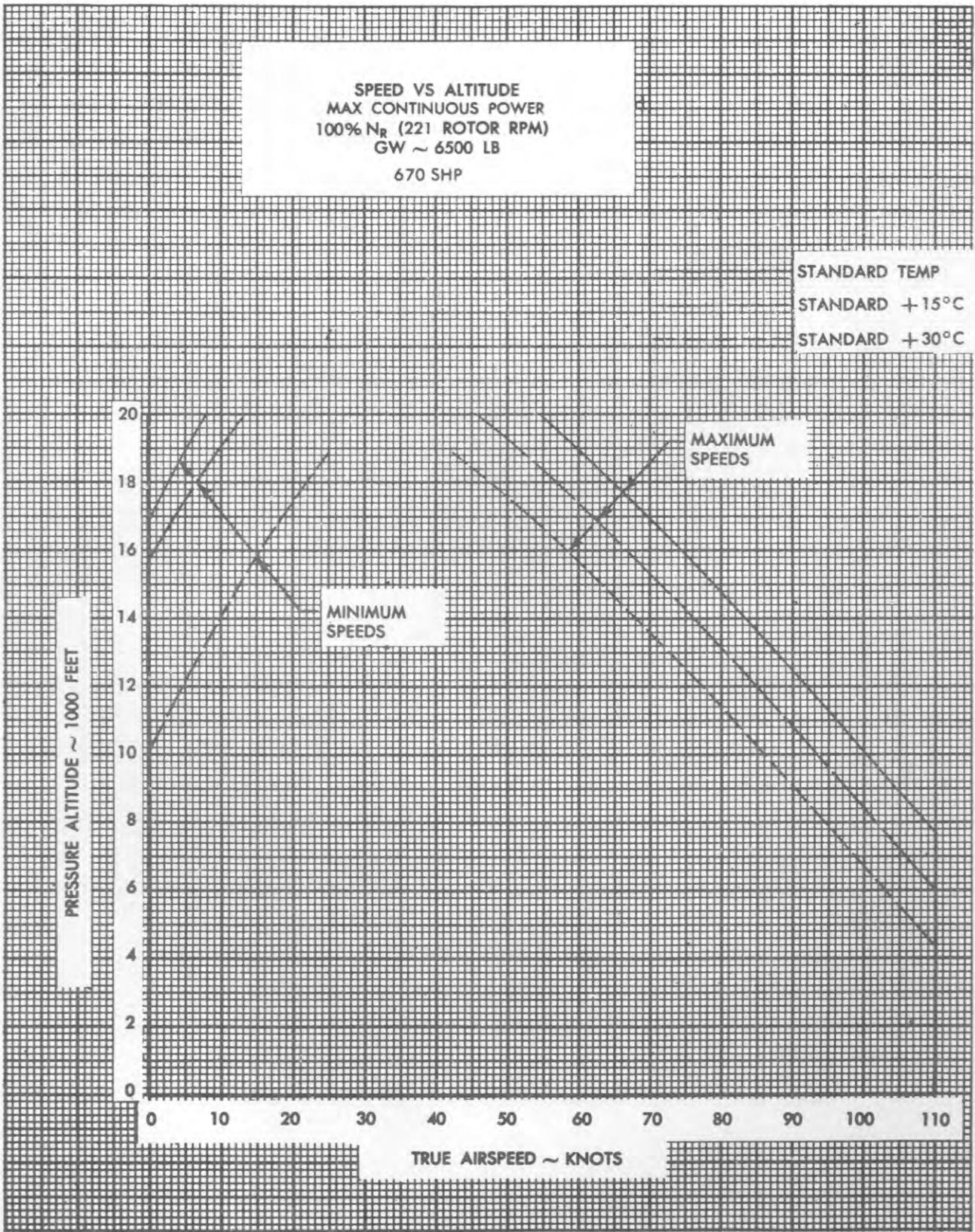


Figure A-26. Speed VS Altitude G.W. 6500 lbs 100% N_R/N_R

S 55619 (R)

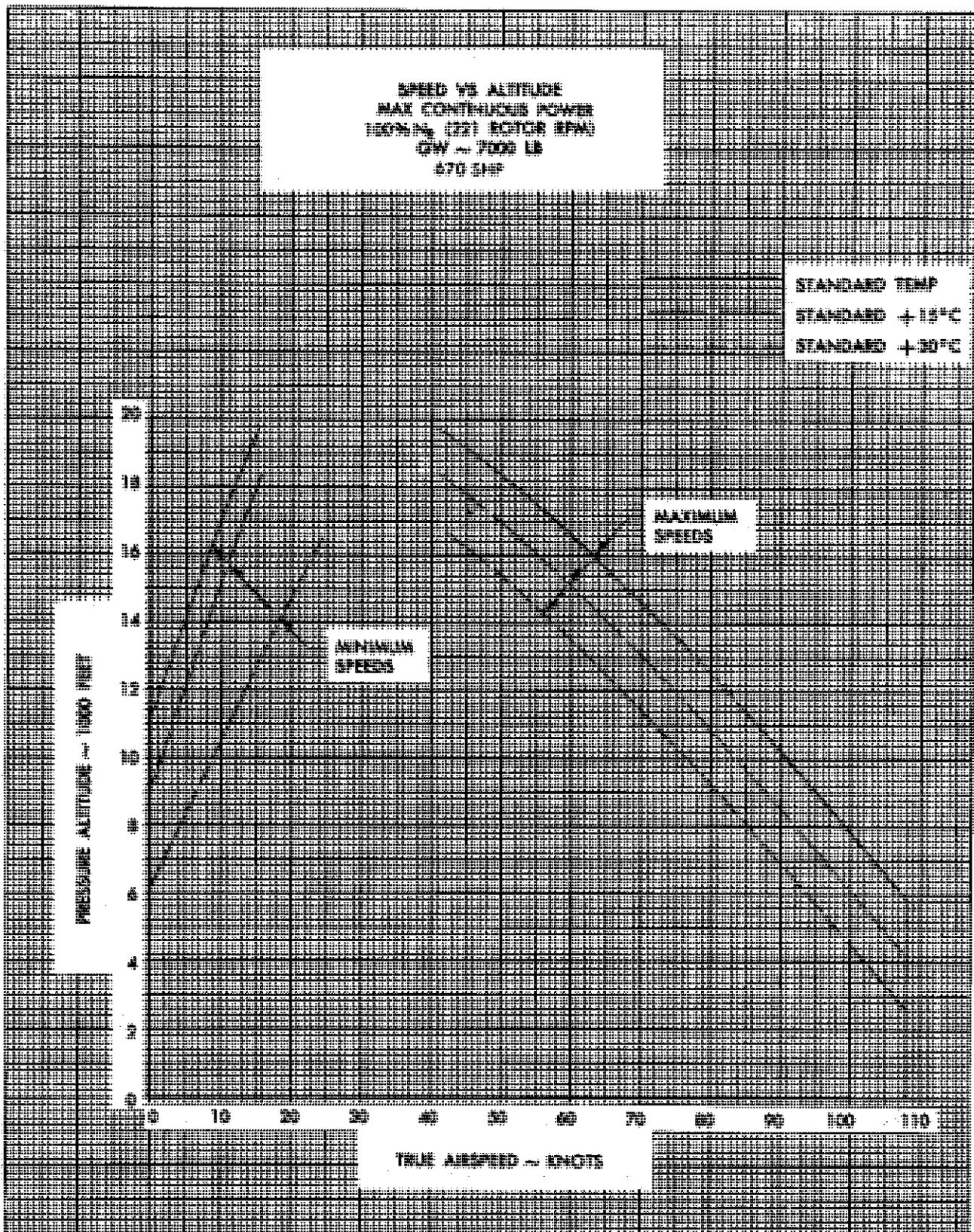
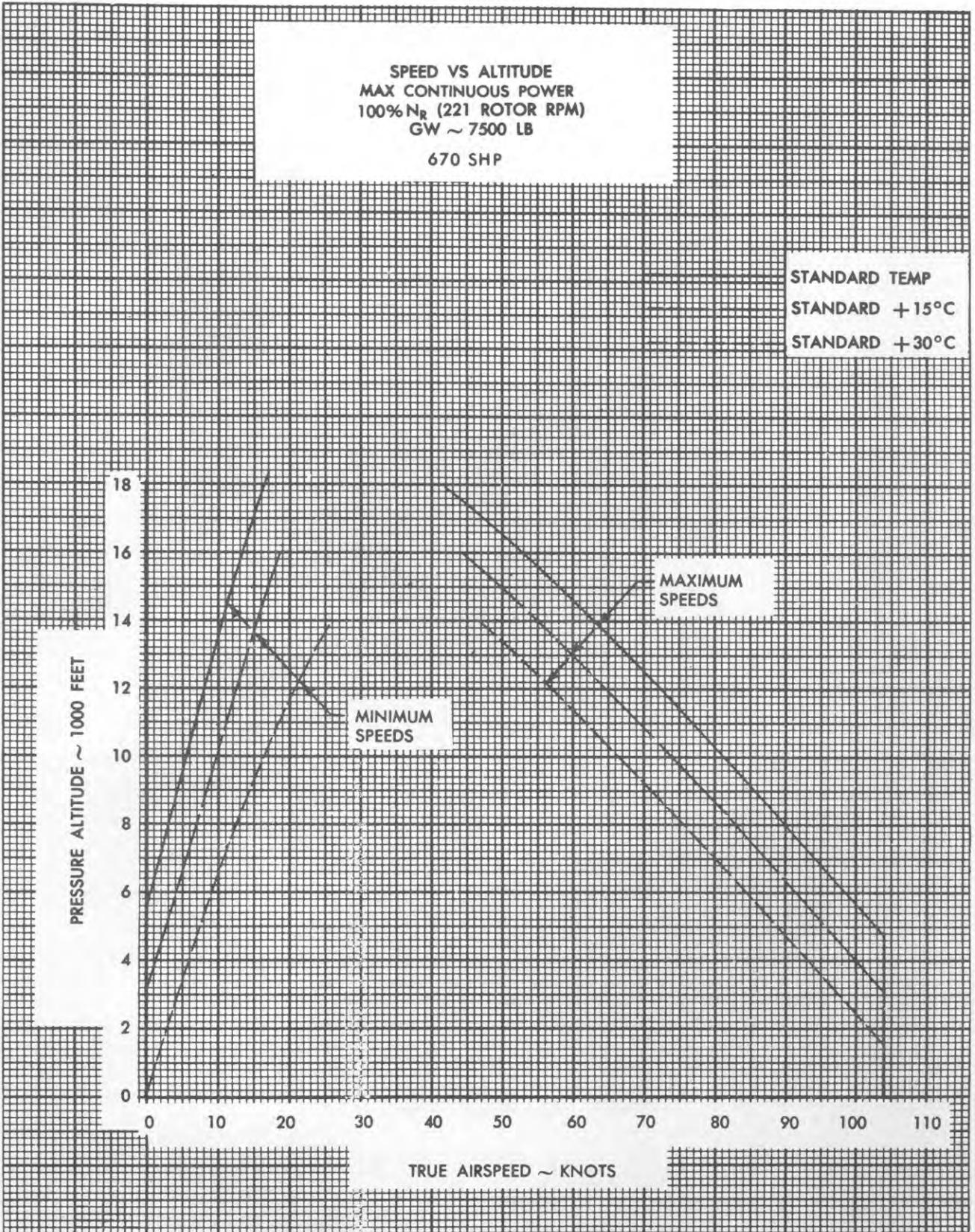


Figure A-27. Speed VS Altitude G.W. 7000 lbs 100% Nt/Nr

8 55620 (R)



S 55621 (R)

Figure A-28. Speed VS Altitude G.W. 7500 lbs 100% N_f/N_r

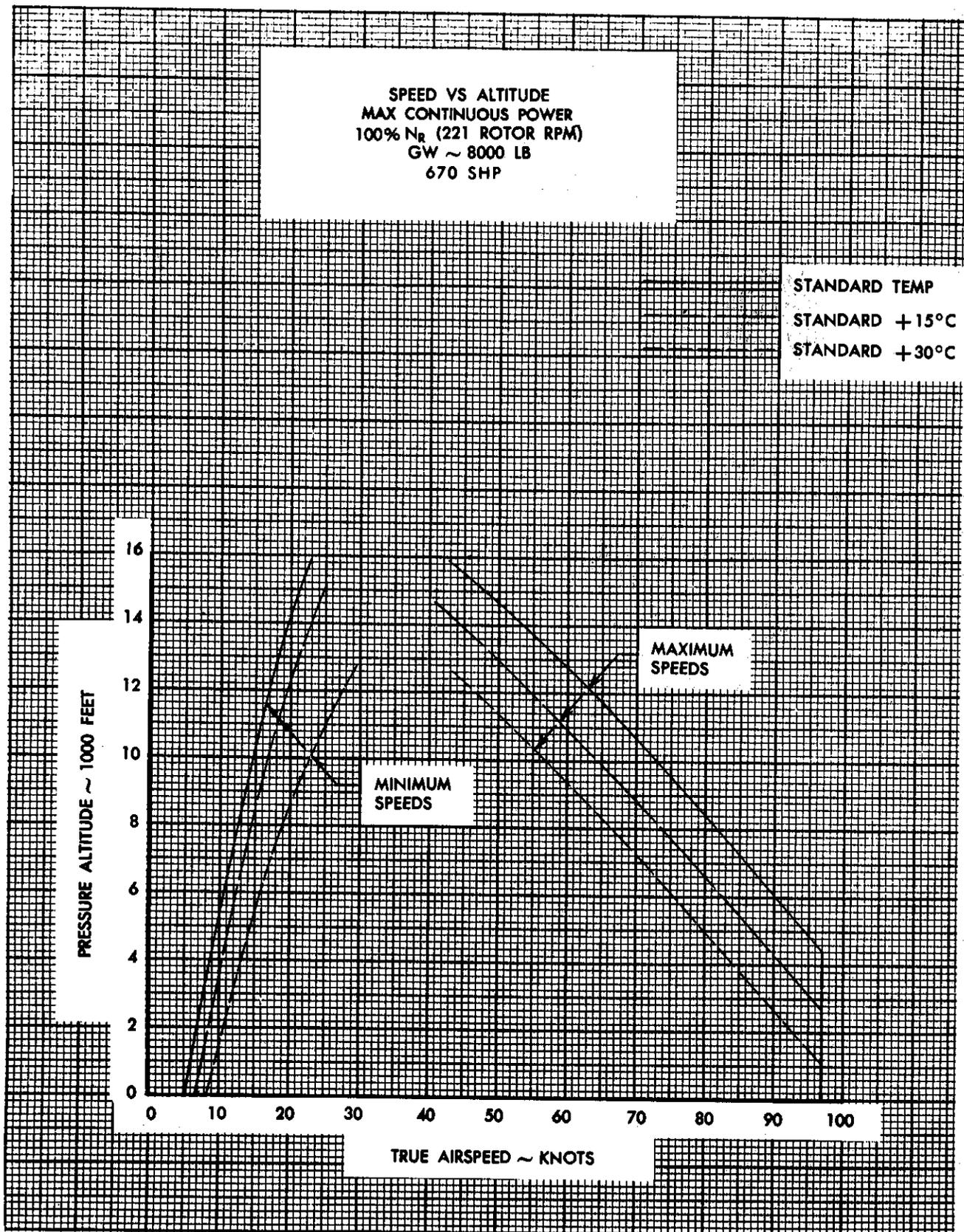


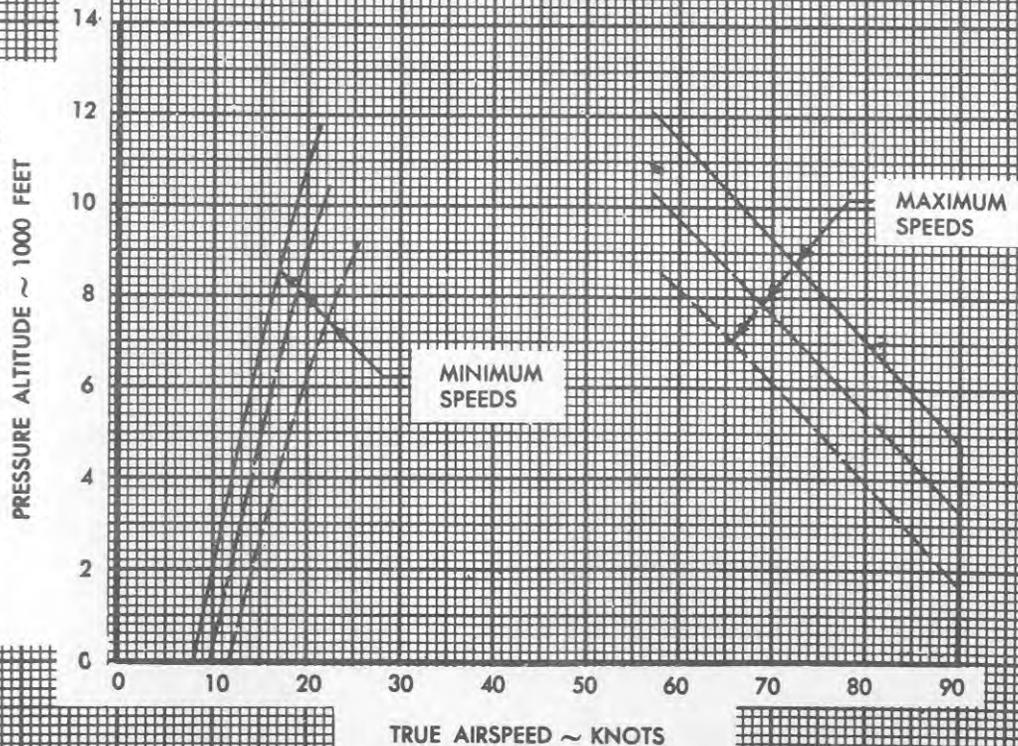
Figure A-29. Speed VS Altitude G.W. 8000 Lbs 100% N_r/N_r

8 55622 (R)

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SPEED VS ALTITUDE
 MAX CONTINUOUS POWER
 100% N_r (221 ROTOR RPM)
 GW ~ 8300 LB
 670 SHP

STANDARD TEMP
 STANDARD +15°C
 STANDARD +30°C



S 55623 (R)

Figure A-30. Speed VS Altitude G.W. 8300 lbs 100% N_r/N_r

ENGINE HORSEPOWER VS INDICATED TORQUE CHART

EXAMPLE PROBLEM

Given

Shaft horsepower 300 SHP

Nr 100%

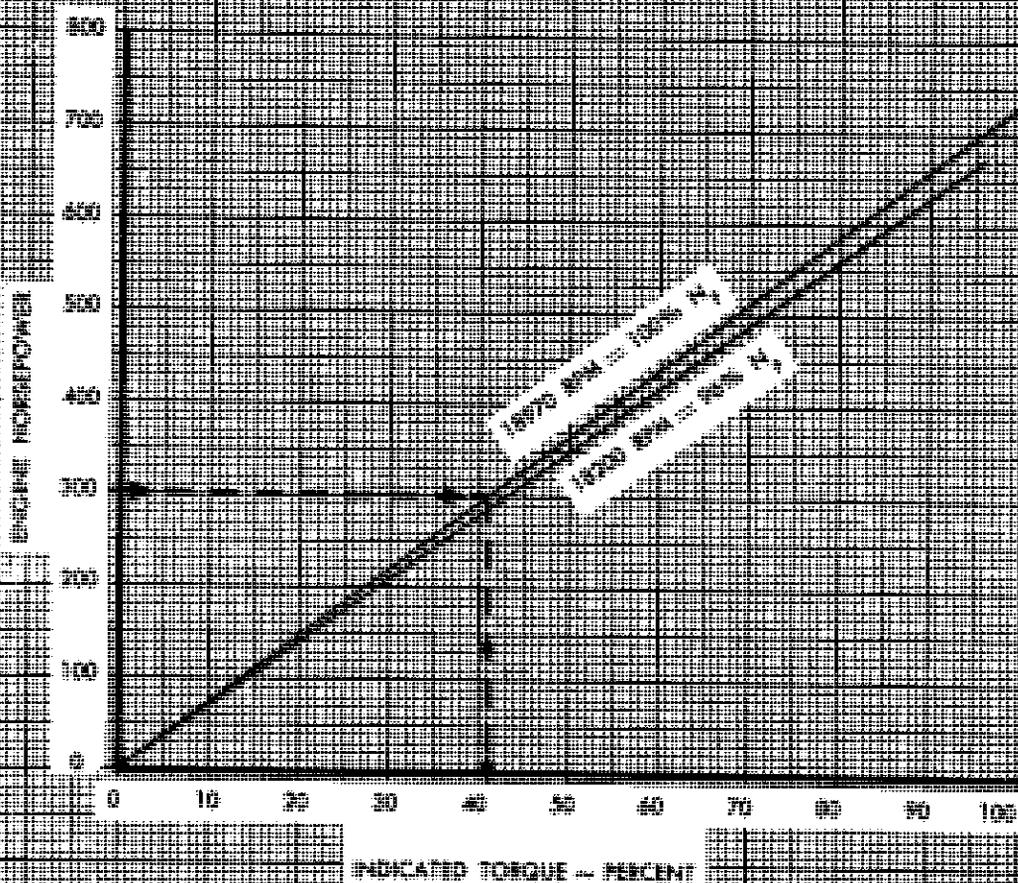
Determine

The indicated torque.

Solution

1. Enter the chart at left.
2. Follow 300 shaft horsepower line horizontally to intersection with the 100% Nr line.
3. Move vertically down and read 41% torque.

ENGINE INPUT HORSEPOWER
VS
INDICATED TORQUE



Model: HH-52A Engine: T58-GE-8B
 Date: 1963 Fuel Grade: JP-4/JP-5
 Data Basis: Estimated Fuel Density: 6.5-6.8 lb/gal. S 55624 (R)

Figure A-31. Engine Horsepower VS Indicated Torque

POWER CHECK CHART**EXAMPLE PROBLEM****Given**

Pressure altitude	3000 feet
OAT	20°C
Gross weight	7300 pounds
Headwind	8 knots
Nr	96%

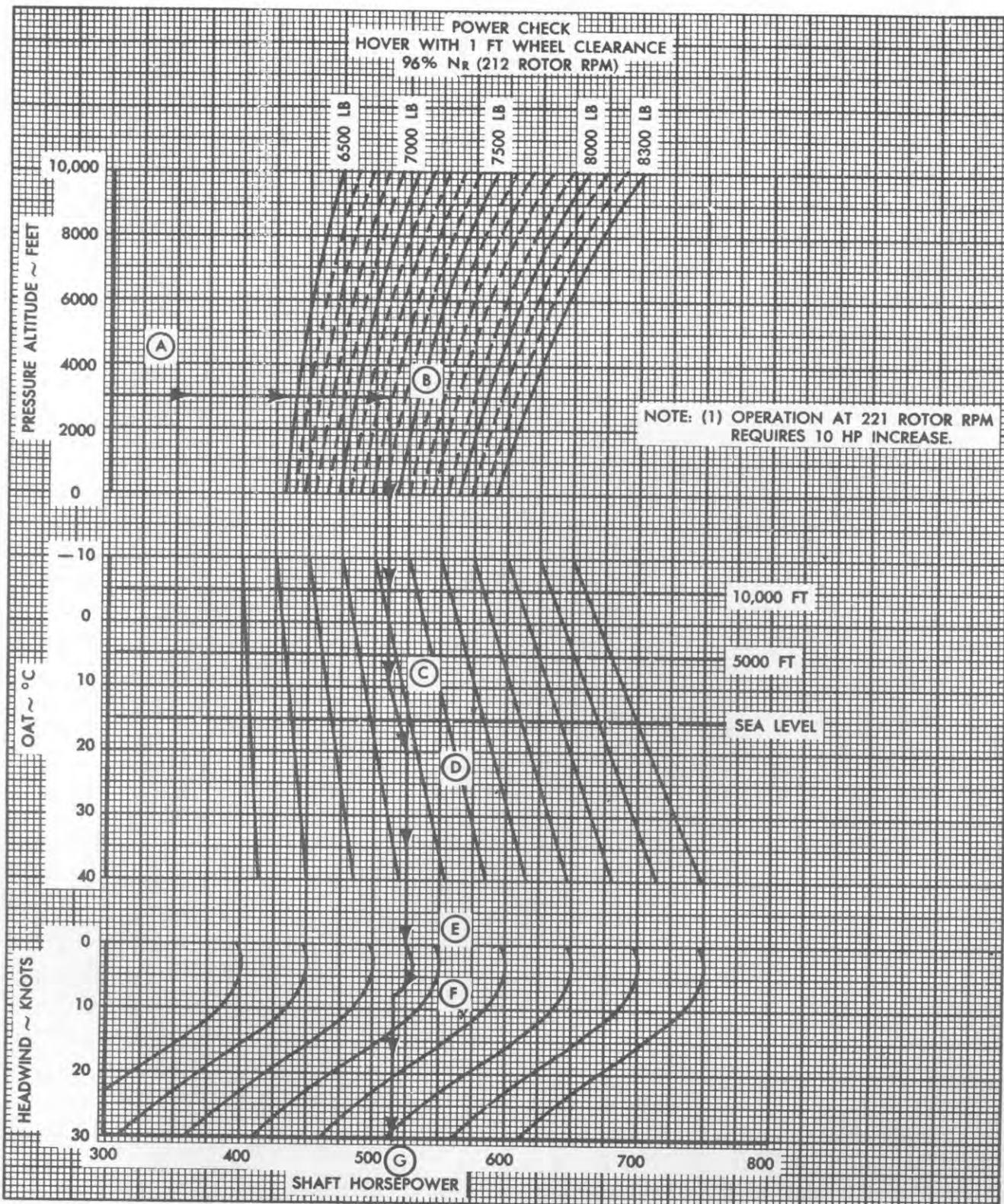
Determine

Power required to hover.

Solution

(Refer to figure A-32)

1. Enter the chart at 3000 feet, (A).
2. From (A), proceed horizontally to 7300 pounds, (B).
3. From (B) move vertically down to 3000 feet, (C).
4. From (C), follow the temperature influence lines to 20°C (D).
5. From point (D) proceed vertically down to zero headwind, (E).
6. From (E), follow the wind influence curve to 8 Knots, (F).
7. From (F), move vertically down to read 515 shp at (G).



Model: HH-52A Engine: T58-GE-8B
 Date: 1960 Fuel Grade: JP-4/JP-5
 Data Basis: Estimated Fuel Density: 6.5-6.8 lb/gal.

S 55625 (R)

Figure A-32. Power Check

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**SPECIFIC RANGE CHART
962 NF/NA**

MODEL: HINDIA
DATE: 20 MAR 68 THE
DATA BASE: HANDBOOK
REVISION: T88-00-00
SEA LEVEL

800 LB
700 LB
600 LB

800 LB
700 LB
600 LB

V MAX RANGE

NOTE: NO AIRSPEED/TEMPERATURE CORRECTION
REQUIRED AT 800 LB
REDUCE TAIL 1 KNOT FOR EVERY 3°C ABOVE
+15°C AT 700 LB
REDUCE TAIL 1 KNOT FOR EVERY 1°C ABOVE
+15°C AT 600 LB

V MAX

800 LB
700 LB
600 LB

V MAX

800 LB

700 LB AND BELOW

TRUE AIRSPEED - KTS

Figure A-33. Specific Range Chart Sea Level

§ 55626 (R)

MAXIMUM RANGE CRUISE CHART**EXAMPLE PROBLEM****Given**

Gross weight	8000 pounds
OAT	Standard
Pressure altitude	2000 feet and flight altitude
Fuel quantity	1000 lbs. available for cruise

Determine

Maximum range.

Solution

(See figure A-34, Maximum Range Cruise for 2000 feet)

This sample problem is based upon the average gross weight for cruise. $8000 \text{ lbs} - (1000 \div 2) = 7500 \text{ lbs}$. Average gross weight for cruise.

1. Determine maximum specific range by referring to specific range section of chart. Locate curve for average gross weight for cruise (7500 lbs). Follow gross weight curve to the desired airspeed ($V_{\text{max range}}$), point A. Move horizontally to the left and read specific range 0.215 nautical miles per pound of fuel.

2. Determine approximate torque by moving vertically from point A up to approximate torque curve for 7500 pounds, point B. Move horizontally to left and read approximate torque required, 74%.

3. Determine fuel flow (optional procedure) by moving vertically down from point A to fuel flow curve for 7500 lbs, point C. Move horizontally to the left and read fuel flow 440 lbs/hr.

4. Determine maximum range by multiplying specific range by useable fuel. Specific range \times pounds of fuel available = no wind range $0.215 \times 1000 = 215 \text{ NM}$.

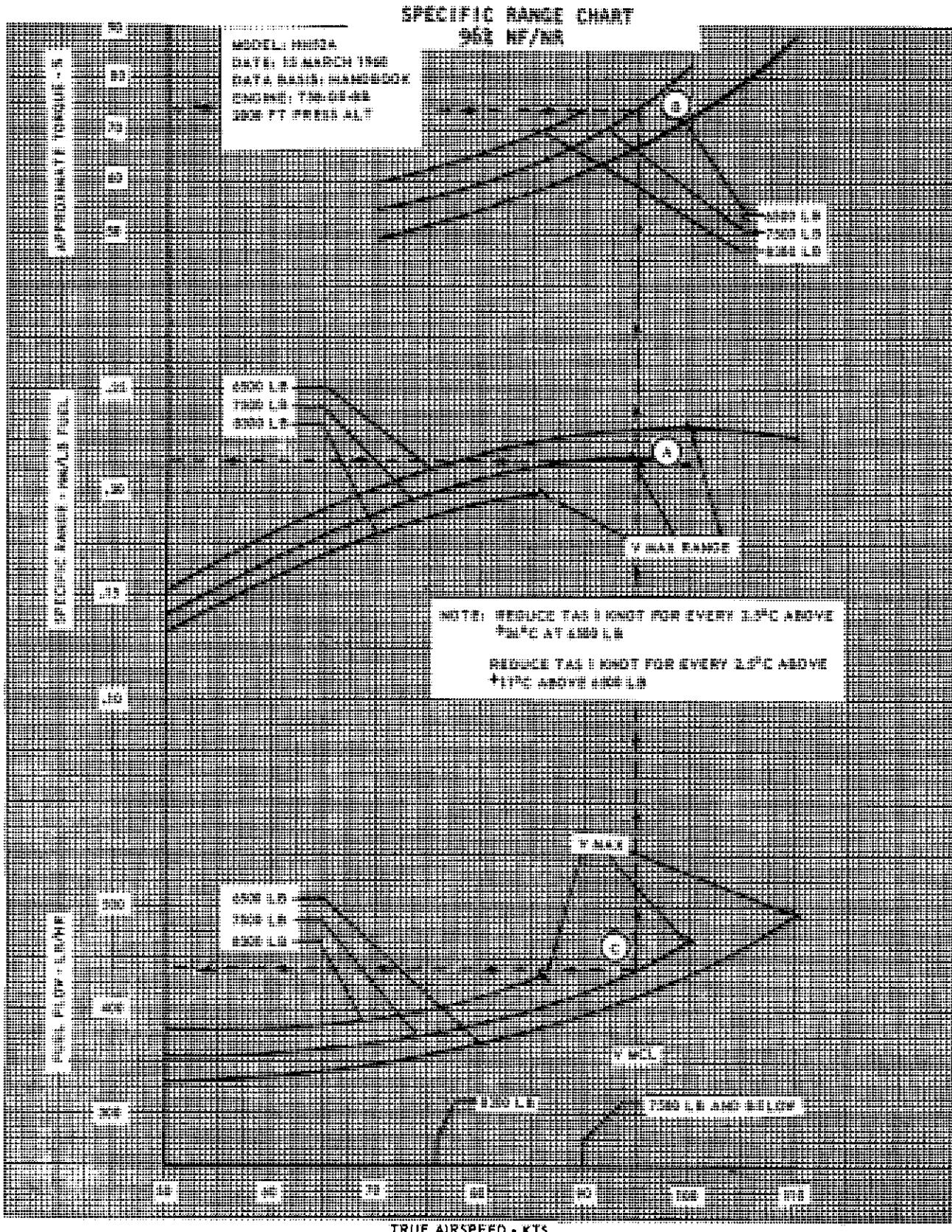


Figure A-34. Specific Range Chart—2000 Ft

8 55627 (R)

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SPECIFIC RANGE CHART
96% NF/NR

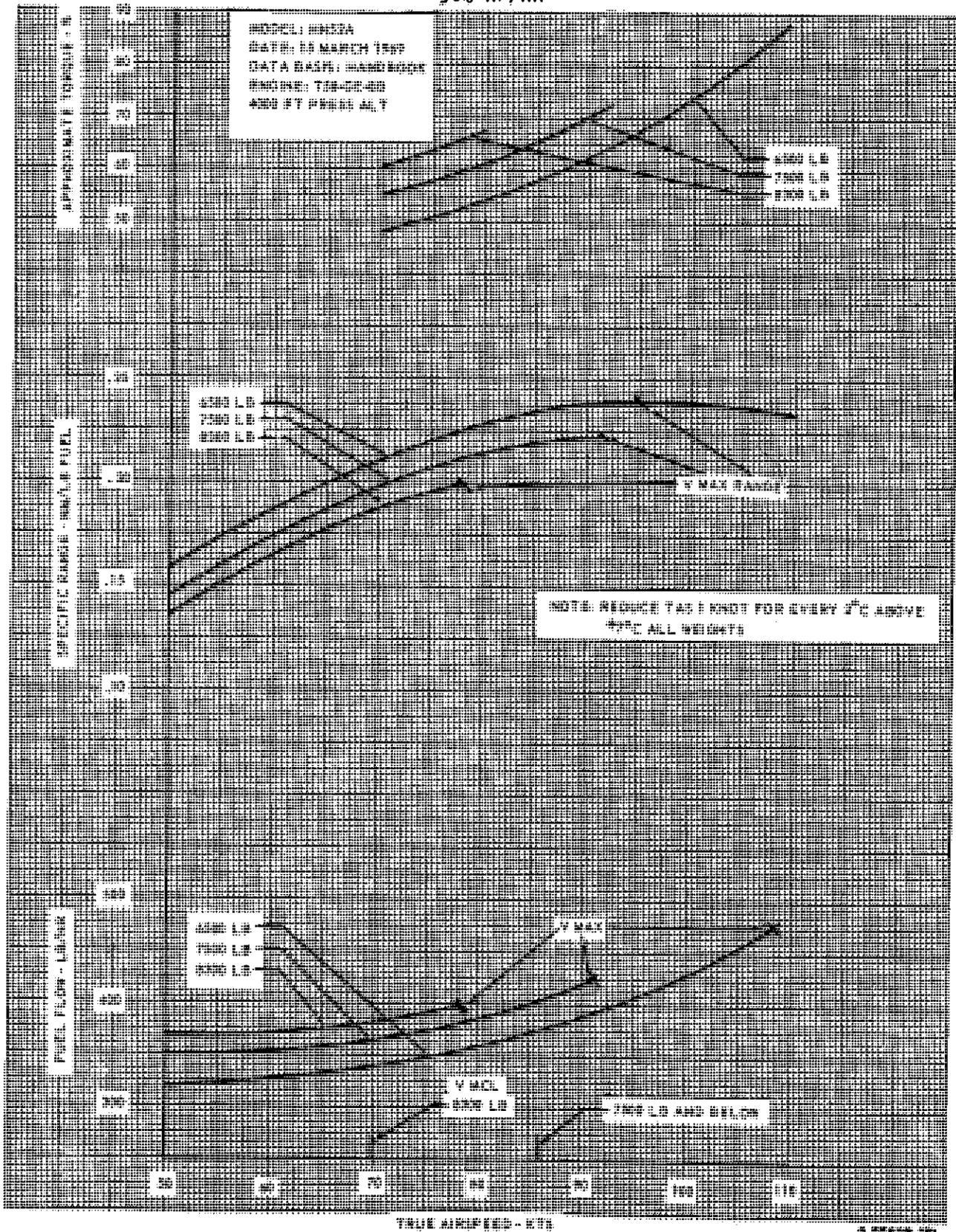


Figure A-35. Specific Range Chart—4000 Ft

BLADE STALL CHART**EXAMPLE PROBLEMS****Given**

Gross Weight	8000 lb
Angle of bank	20°
Pressure altitude	4000 feet
OAT	20°C
N _r	96%

Determine

Incipient blade stall speed.

Solution

1. Enter chart at 4000 feet pressure altitude (point A).
2. From point A, move horizontally to 20°C (68°F) OAT. (point B).
3. From point B, move downward to base line, 96% N_r (point C).
4. From point C, move parallel to the rotor speed influence lines to 98% N_r (point D).
5. From point D, proceed downward to point E on the gross weight influence graph.
6. From point E, move parallel to the gross weight influence lines to 8000 pounds (point F).
7. From point F, proceed downward to 0° angle of bank (point G).
8. From point G, move parallel to the angle of bank influence curves to a 20° angle of bank (point H).
9. From point H, move downward through the calibrated airspeed scale to the indicated airspeed scale (point I).
10. The indicated airspeed for the above conditions would be 68 knots.

Given

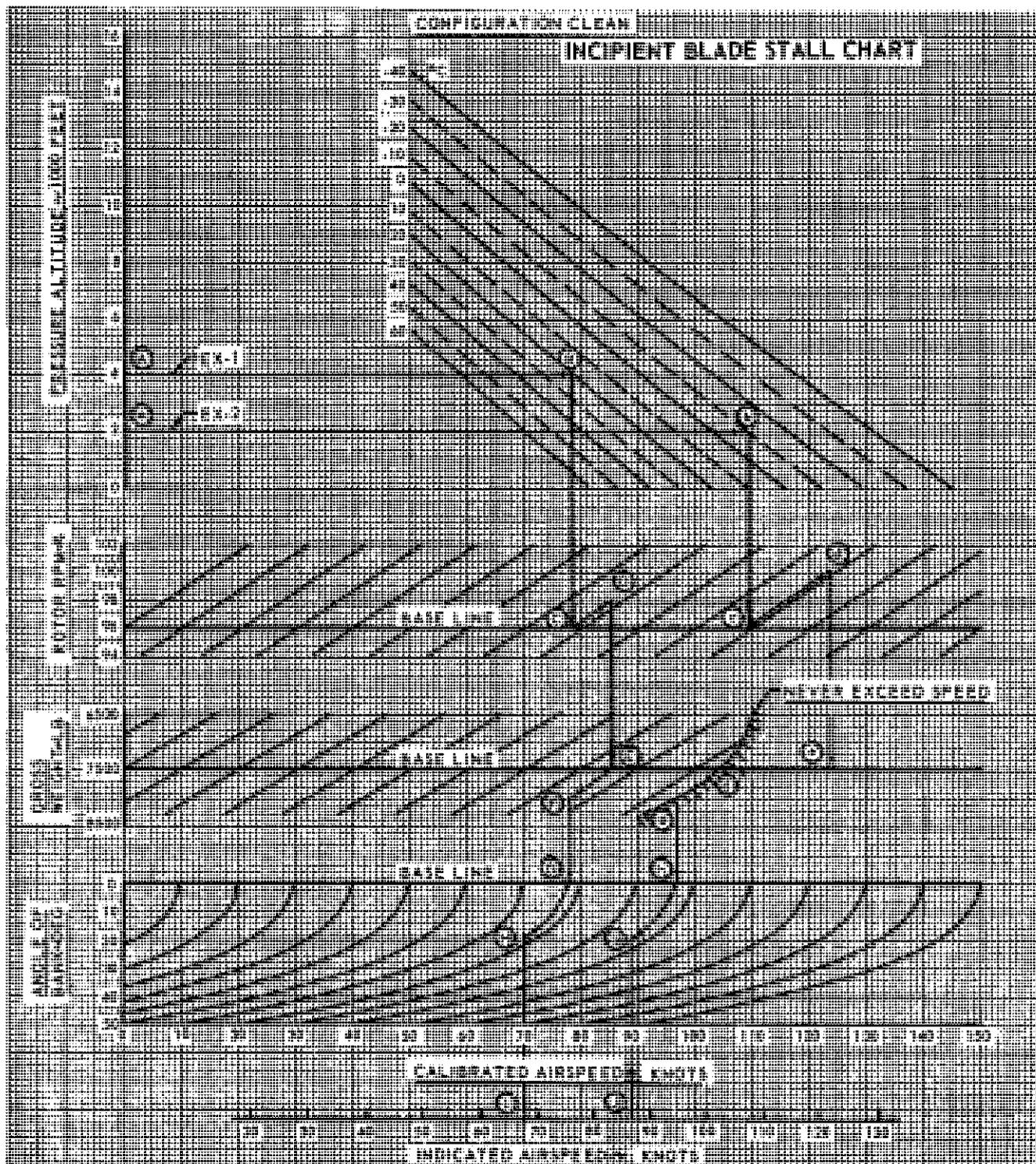
Gross weight	8000 lbs.
Angle of Bank	20°
Pressure Altitude	2000 feet
OAT	-10°C
N _r	100%

Determine

Incipient blade stall speed.

Solution

1. Enter chart at 2000 feet pressure altitude (point A).
2. From point A, move horizontally to -10°C (14°F) OAT (point B).
3. From point B, move downward to base line, 96% N_r (point C).
4. From point C, move parallel to the rotor speed influence lines to 100% N_r (point D).
5. From point D, proceed downward to point E on the gross weight influence graph.
6. Follow the gross weight base line back from point E to "never exceed speed" curve at point F.
7. From point F, follow "never exceed speed" curve to desired gross weight 8000 lbs (point G).
8. From point G, proceed downward to 0° angle of bank (point H).
9. From point H, move parallel to the angle of bank influence curves to a 20° angle of bank (point I).
10. From point I, move downward through the calibrated airspeed scale to the indicated airspeed scale (point J).
11. The indicated airspeed for the above conditions would be 87 knots.



Model: HH-52A

Engine: T58-GE-8B

Date: 1963

Fuel Grade: JP-4/JP-5

Data Basis: Estimated Fuel Density: 6.5-6.8 lb/gal.

S 55629 (R)

There is a 40 knot range from start of drag divergence (on retreating blade tip) to loss of control. The speeds shown were computed at 10 knots above drag divergence.

"G" LIMITATION-AT DESIGN GROSS WEIGHT OF 7500 LBS, THE DESIGN LIMIT LOAD FACTOR IS 2.28.

Figure A-36. Incipient Blade Stall Chart

HEIGHT VELOCITY DIAGRAM

GROSS WEIGHT 7900 POUNDS

GROSS WEIGHT 8300 POUNDS

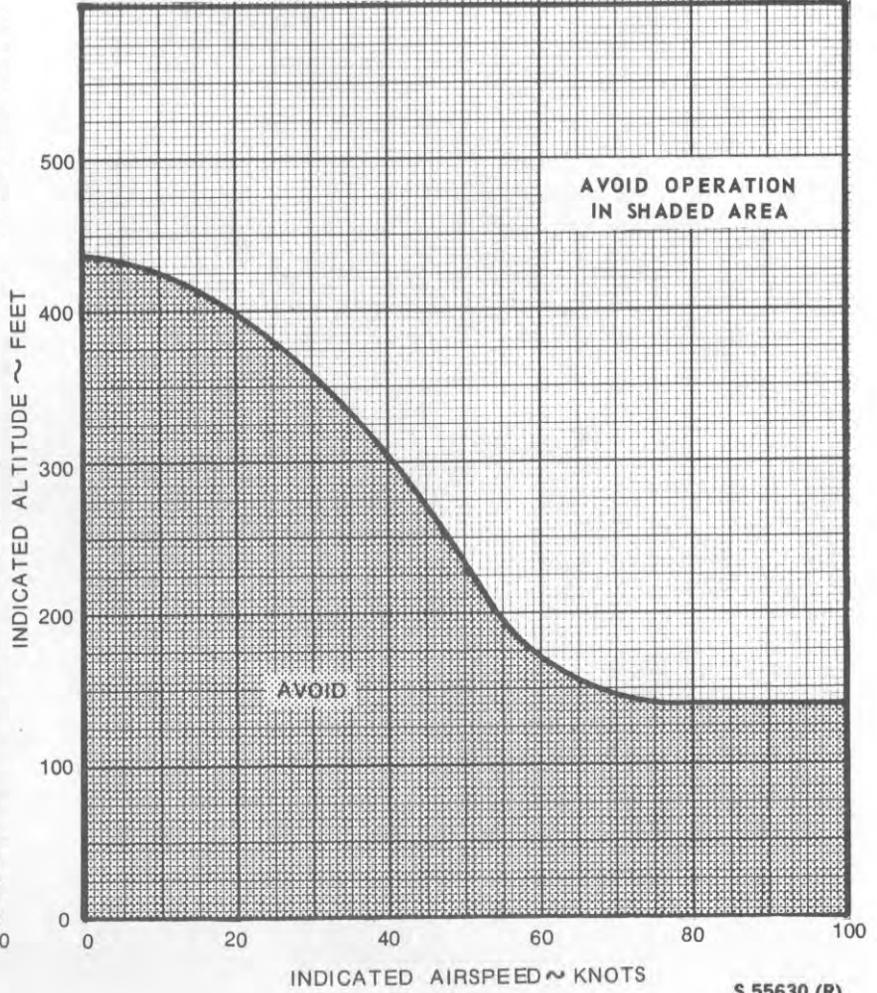
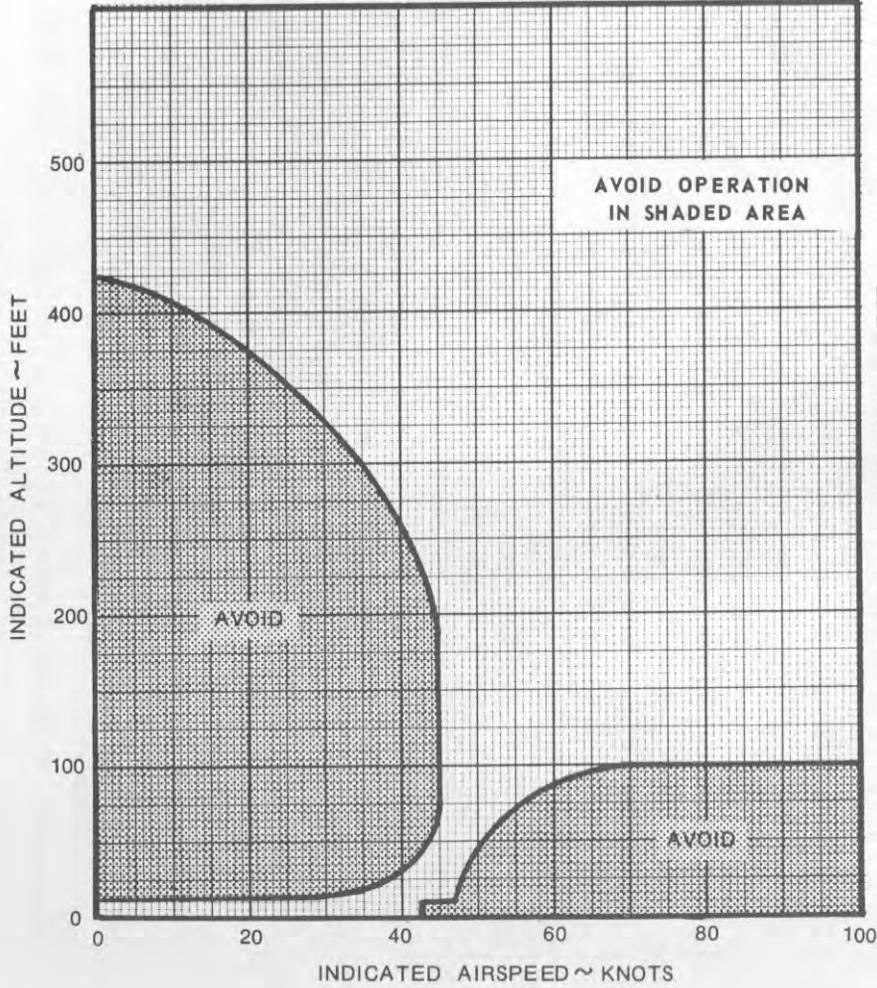


Figure A-37. Height Velocity Diagram

MAXIMUM AIRSPEED (V_{max}) at 96%/100% Nr**Max Continuous Power (V_{ne} limited)**

Pressure Altitude	Temp	7000 lbs	7500 lbs	8000 lbs	8300 lbs
S.L.	STD	108/108	104/104	97/97	90/90
	+15	105/105	97/101	90/95	86/86
	+30	98/103	89/99	82/92	78/86
1000	STD	106/106	102/102	93/95	88/88
	+15	102/105	94/101	86/94	82/88
	+30	88/101	84/97	76/90	72/84
2000	STD	103/104	96/100	88/93	83/87
	+15	96/101	87/98	84/91	75/84
	+30	86/99	79/94	71/85	67/82
3000	STD	97/102	91/98	82/92	77/85
	+15	89/99	81/96	74/87	69/83
	+30	81/95	74/87	67/80	62/76

DATA BASIS: Speed vs Altitude Charts A-21 thru A-30

Figure A-38. Maximum Airspeed (V_{max}) (IAS)