

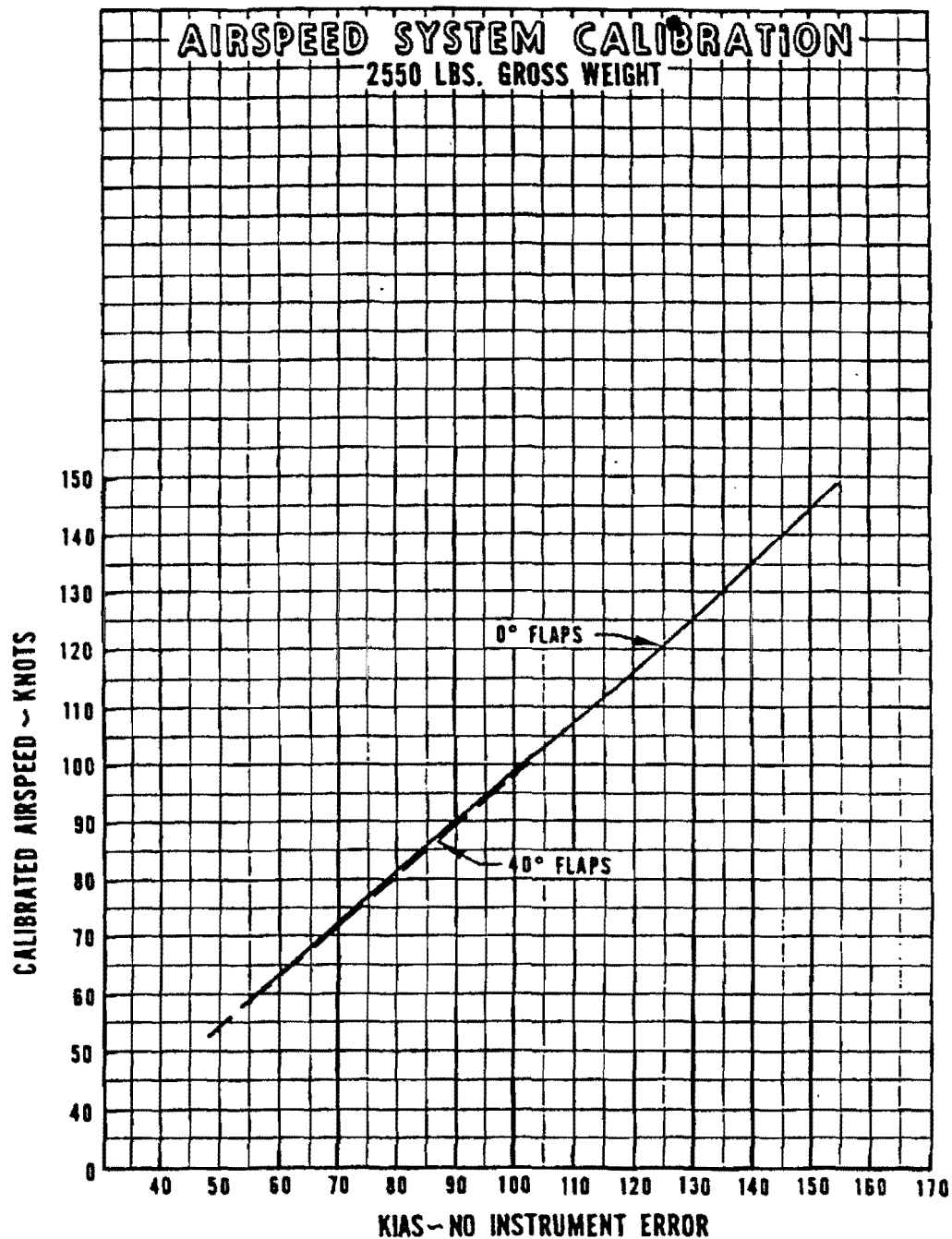
5.7 PERFORMANCE GRAPHS

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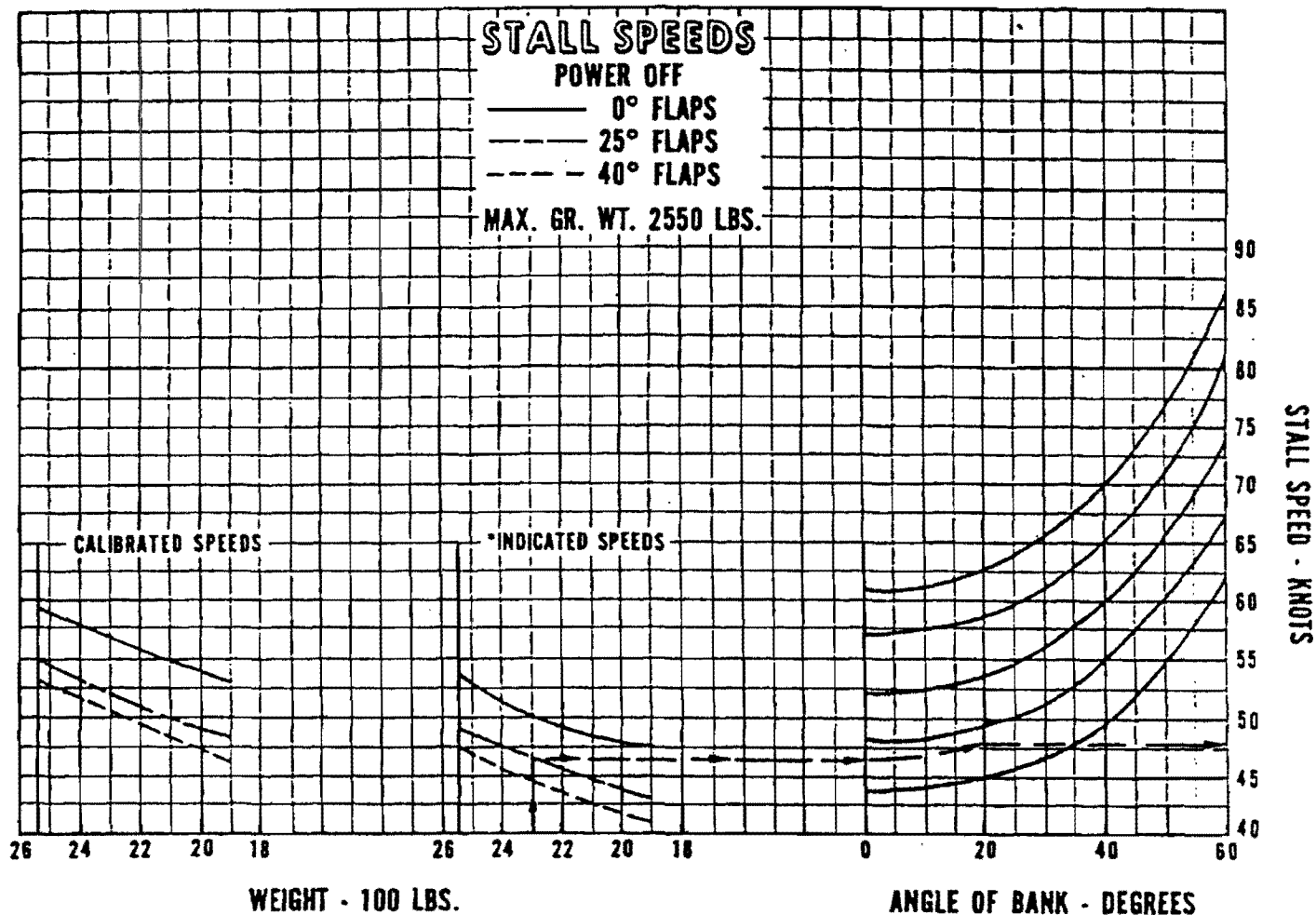
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AIRSPEED SYSTEM CALIBRATION

Figure 5-1

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Example:

Gross weight: 2300 lbs.

Angle of bank: 20°

Flap position: 25°

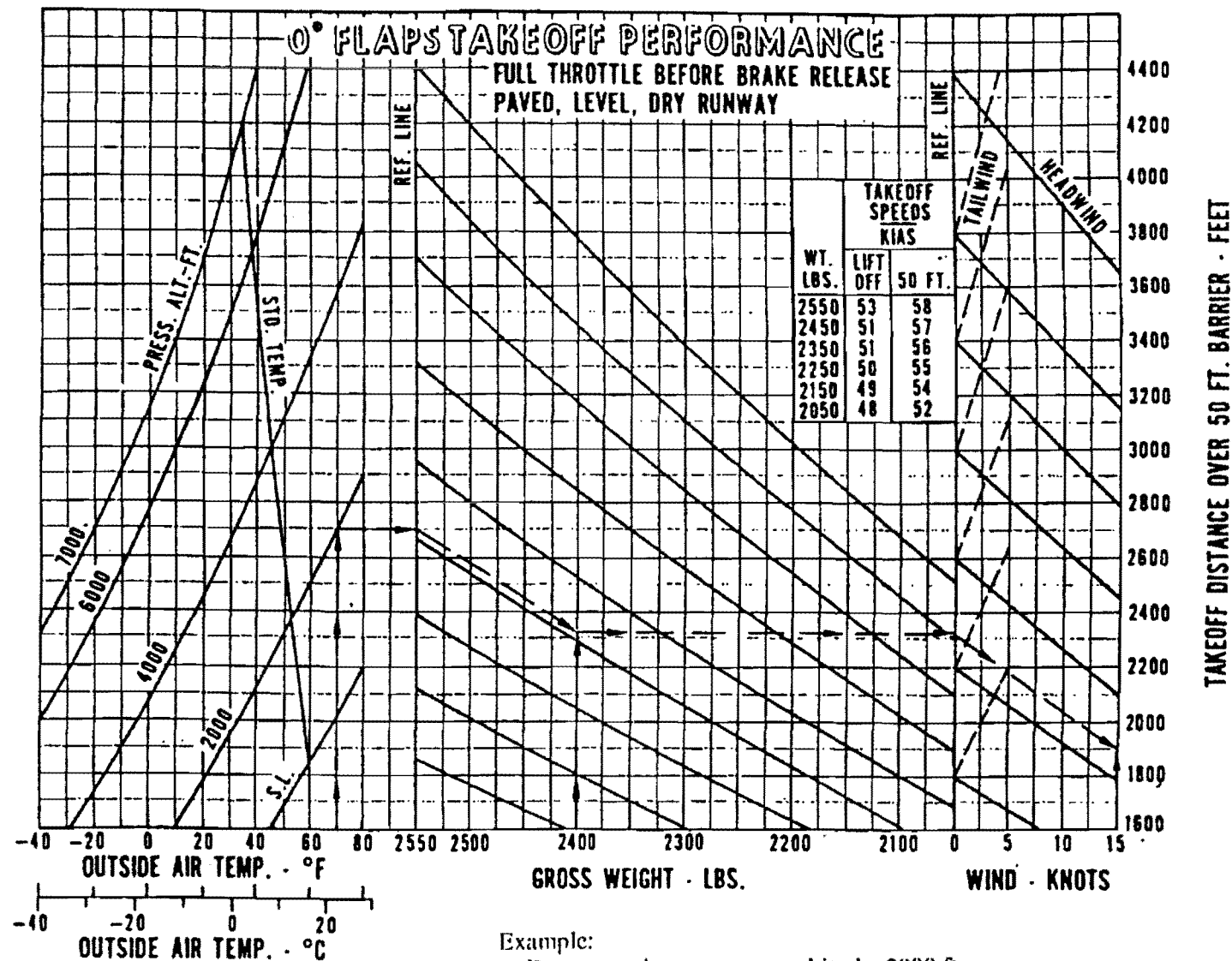
Stall speed: 46 knots (*indicated airspeed)

*INDICATED AIRSPEED, NO INDICATOR ERROR

STALL SPEEDS

Figure 5-3

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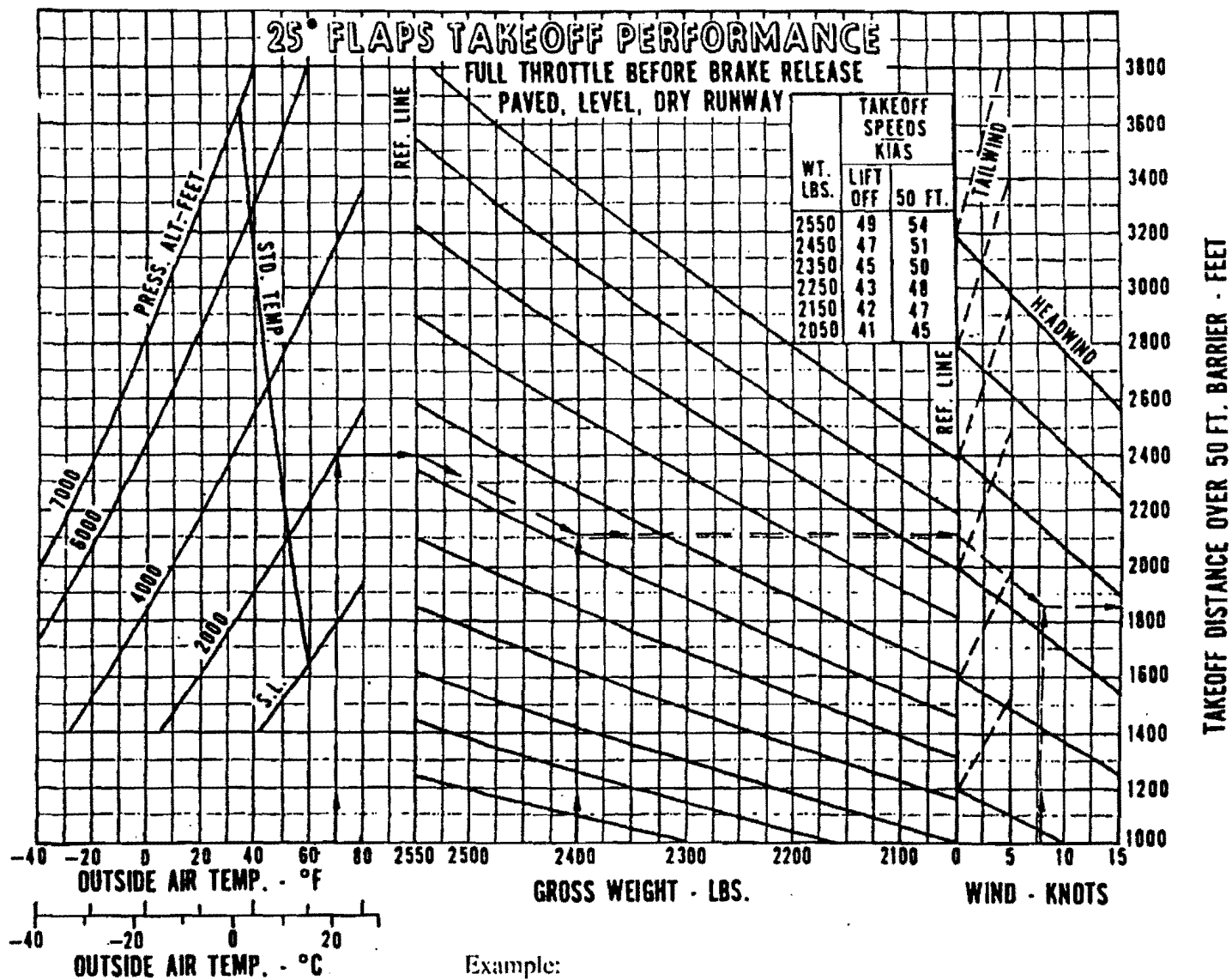


FLAPS UP TAKEOFF PERFORMANCE
Figure 5-5

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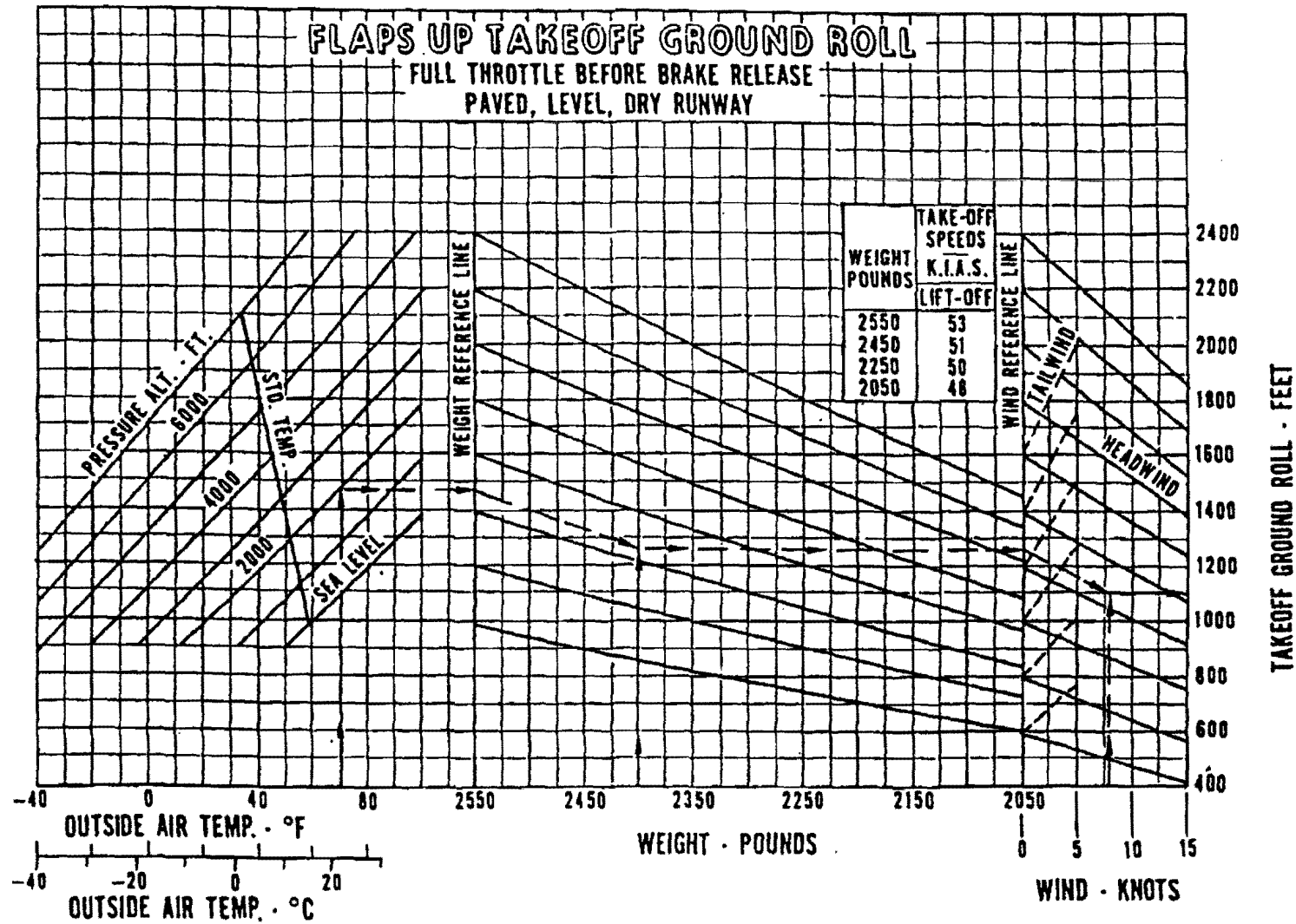
Example:

Departure airport pressure altitude: 2000 ft.
Temperature: 70° F
Gross weight: 2400 lbs.
Wind: 8 knots (headwind)
Takeoff distance: 1860 ft.

25° FLAPS TAKEOFF PERFORMANCE

Figure 5-7

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Example:

Departure airport pressure altitude: 2000 ft.
Temperature: 70° F
Gross weight: 2400 lbs.
Wind: 8 knots (headwind)
Takeoff ground roll: 1100 ft.

FLAPS UP TAKEOFF GROUND ROLL

Figure 5-9

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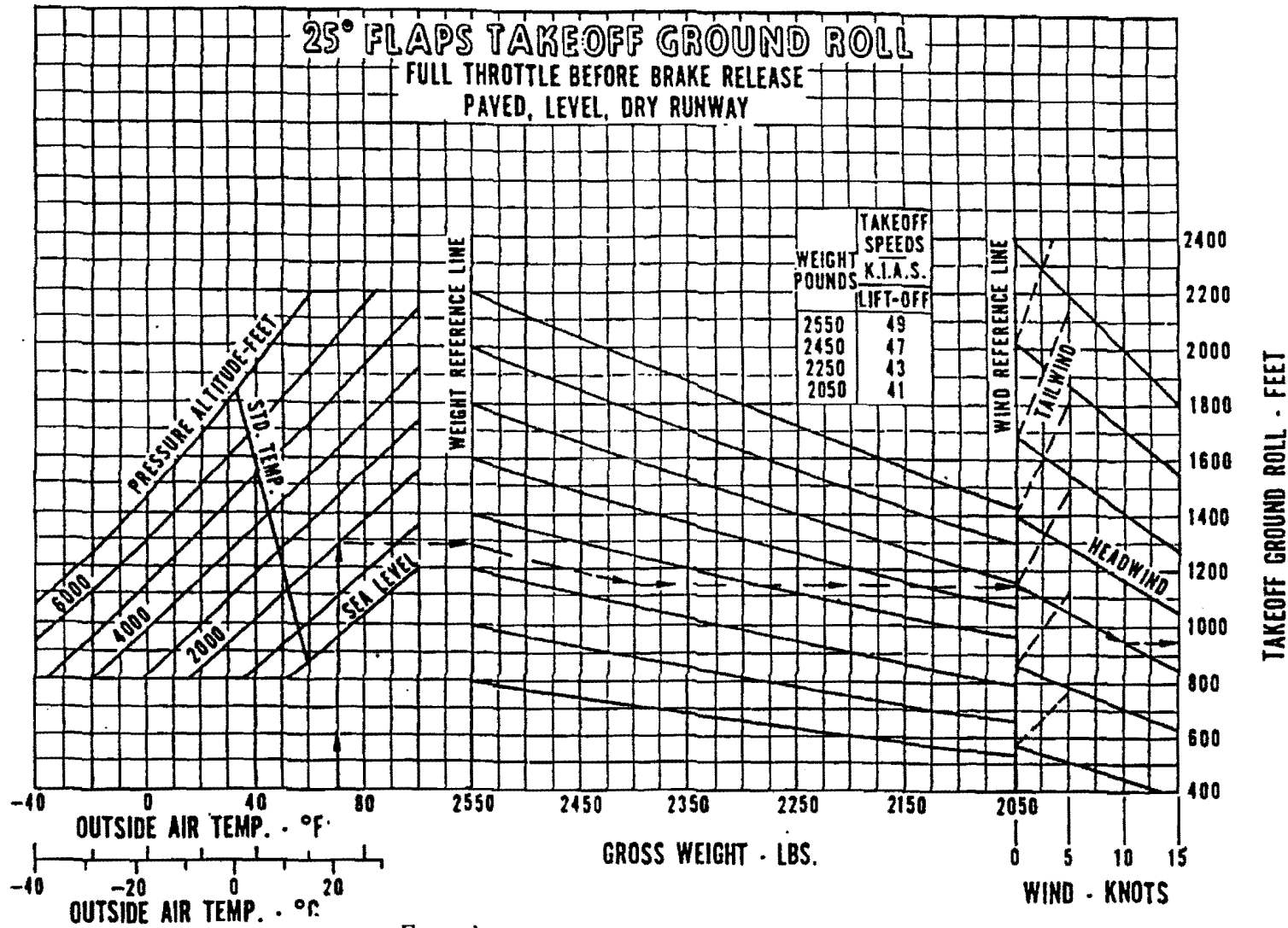
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25° FLAPS TAKEOFF GROUND ROLL

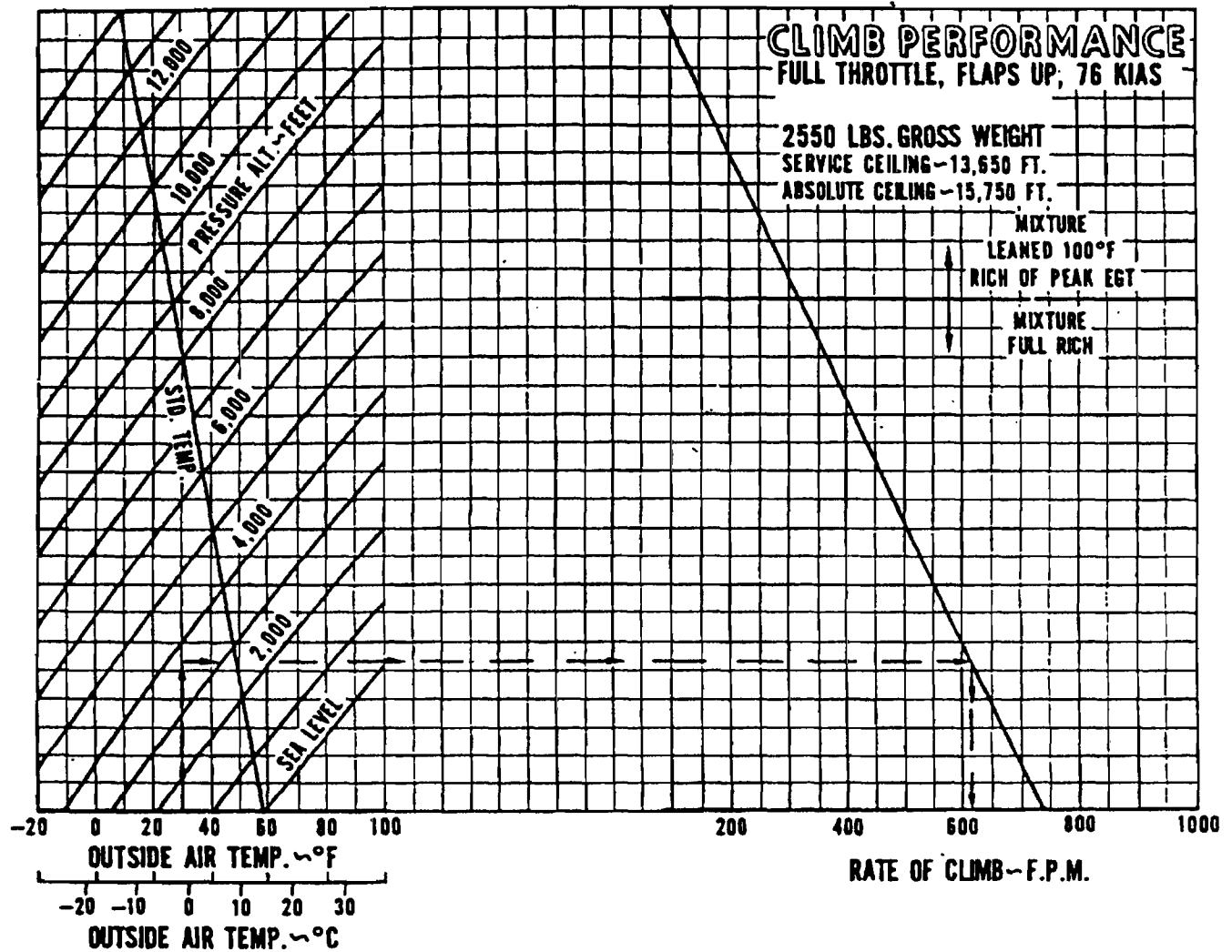
Figure 5-11



Example:

Departure airport pressure altitude: 2000 ft.
Temperature: 70° F
Gross weight: 2400 lbs.
Wind: 10 knots (headwind)
Takeoff ground roll: 950 ft.

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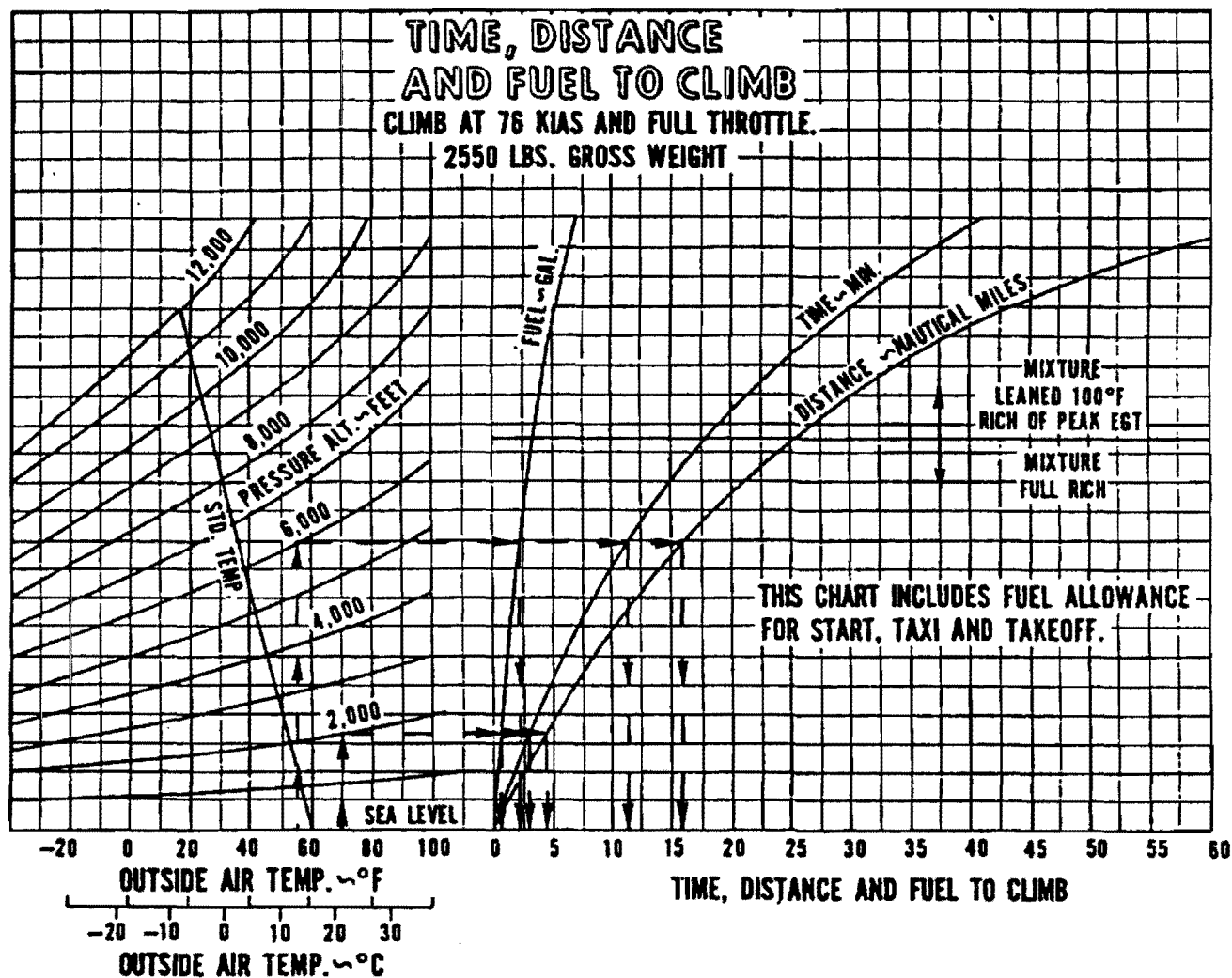
Example:

Climb pressure altitude: 3600 ft.
OAT: 30° F
Rate of climb: 620 F.P.M.

CLIMB PERFORMANCE

Figure 5- 13

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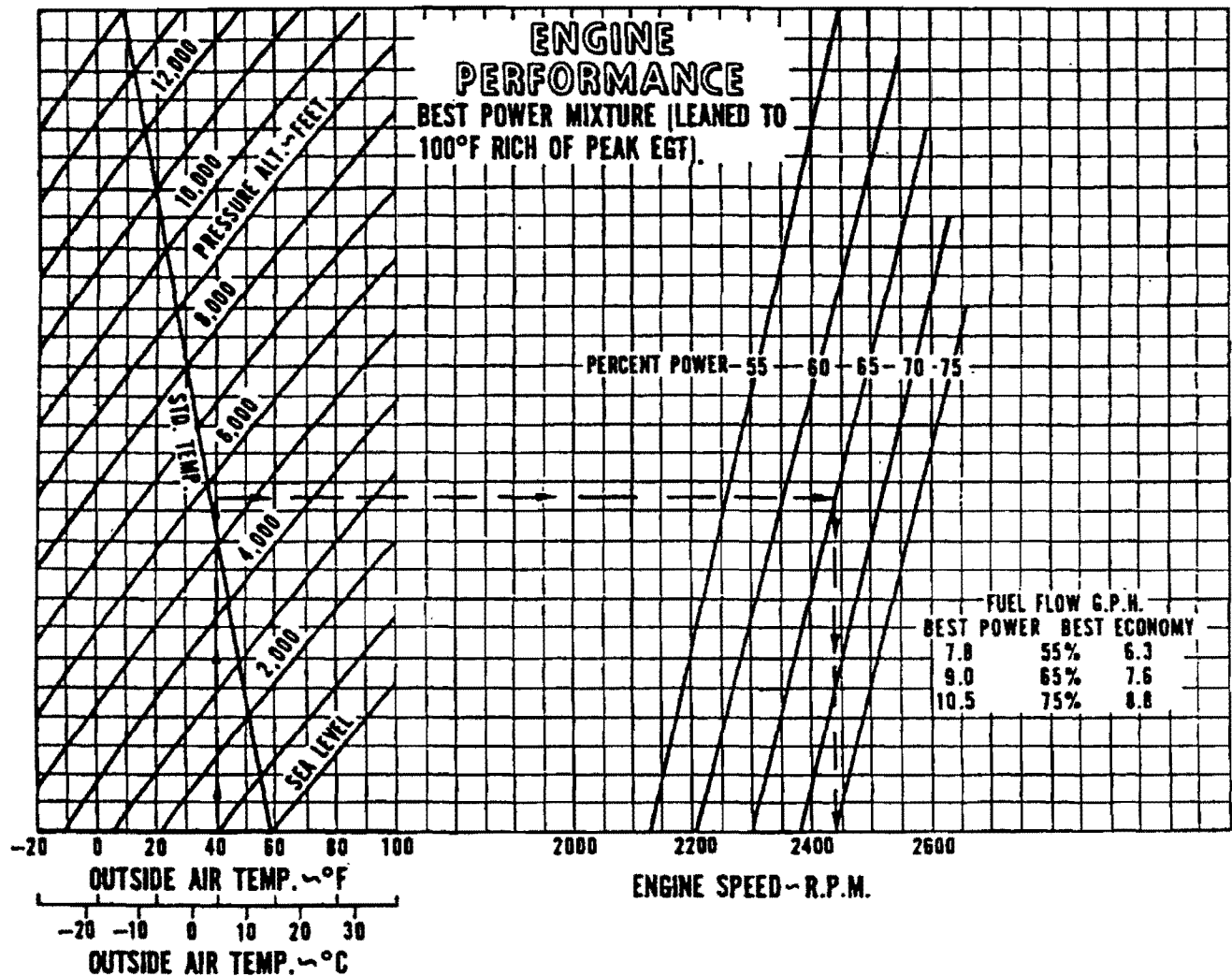
Example:

Departure airport pressure altitude: 2000 ft.
Departure airport temperature: 70° F
Cruise pressure altitude: 6000 ft.
Cruise OAT: 55° F
Time to climb: 11.5 min. minus 3 min. = 8.5 min.
Distance to climb: 16 miles minus 4.5 miles = 11.5 nautical miles
Fuel to climb: 2 gal. minus 1 gal. = 1 gal.

TIME, DISTANCE AND FUEL TO CLIMB

Figure 5-15

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Example:

Cruise pressure altitude: 5500 ft.
Cruise OAT: 40° F
Percent power: 65%
Engine RPM: 2440 RPM

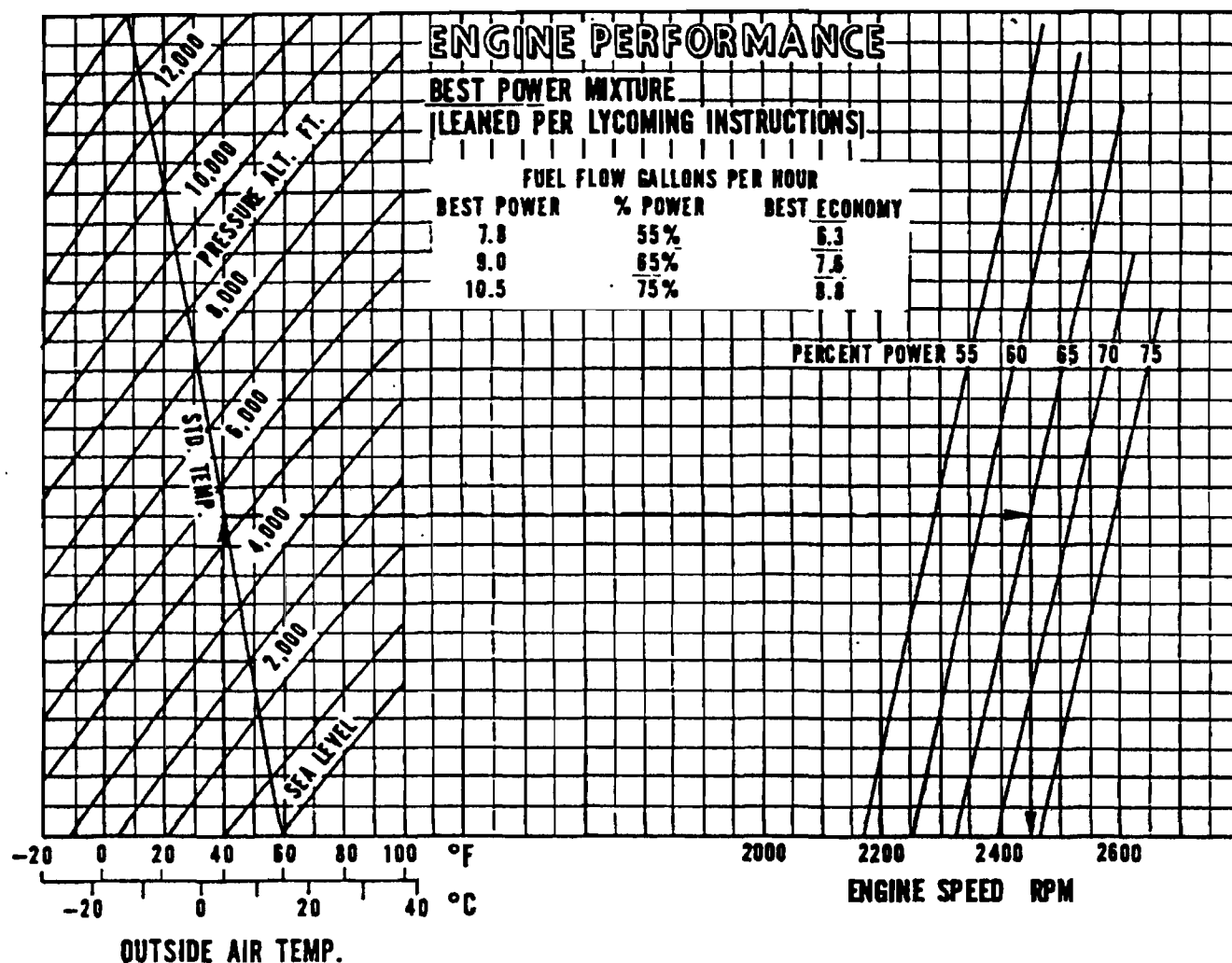
ENGINE PERFORMANCE (SERIAL NOS. 28-7790001 THROUGH 7790607)

Figure 5-17

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Example:

Cruise pressure altitude: 5500 ft.

Cruise OAT: 40° F

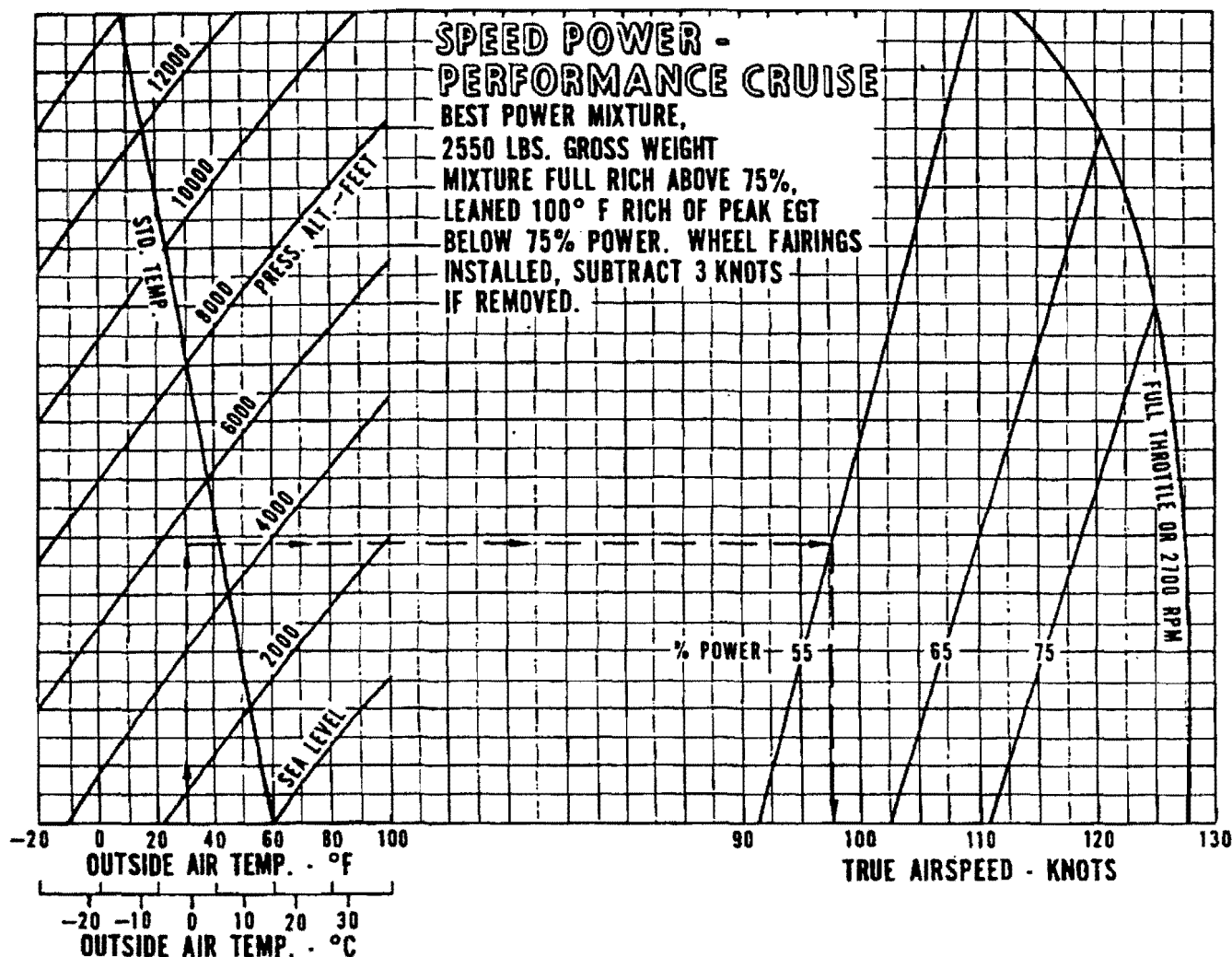
Percent power: 65%

Engine RPM: 2440 RPM

ENGINE PERFORMANCE (SERIAL NOS. 28-7890001 AND UP)

Figure 5-18

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Example:

Cruise pressure altitude: 5500 ft.

Cruise OAT: 30° F

Power: 55%

True airspeed: 97.5 knots

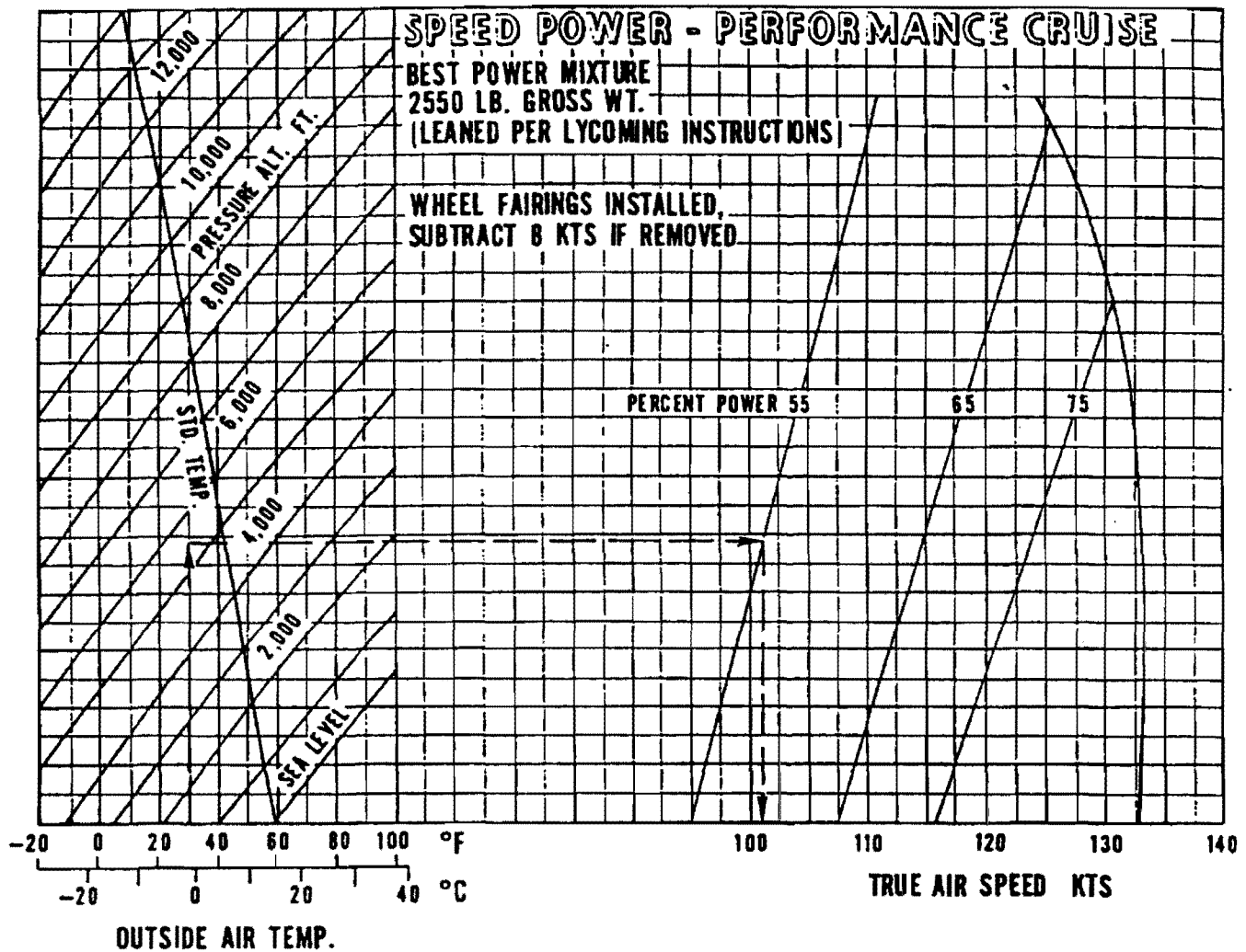
SPEED POWER - PERFORMANCE CRUISE (SERIAL NOS. 28-7790001 THROUGH 7790607)

Figure 5-19

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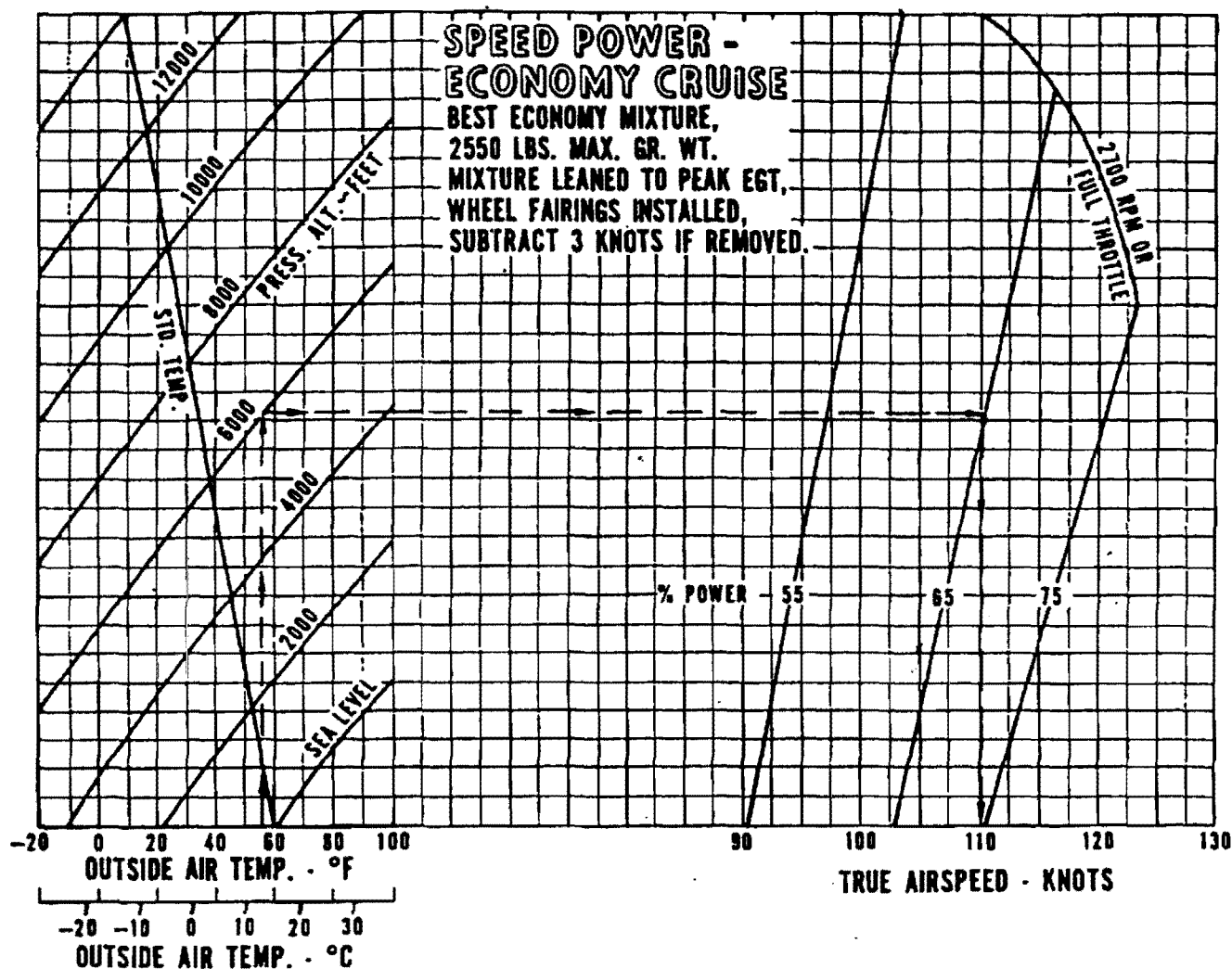
Example:

Cruise pressure altitude: 5500 ft.
Cruise OAT: 30° F
Power setting: 55%
True airspeed: 101 knots

SPEED POWER - PERFORMANCE CRUISE (SERIAL NOS. 28-7890001 AND UP)

Figure 5-20

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Example:

Cruise pressure altitude: 6000 ft.

Cruise OAT: 55° F

Power: 65%

True airspeed: 110 knots

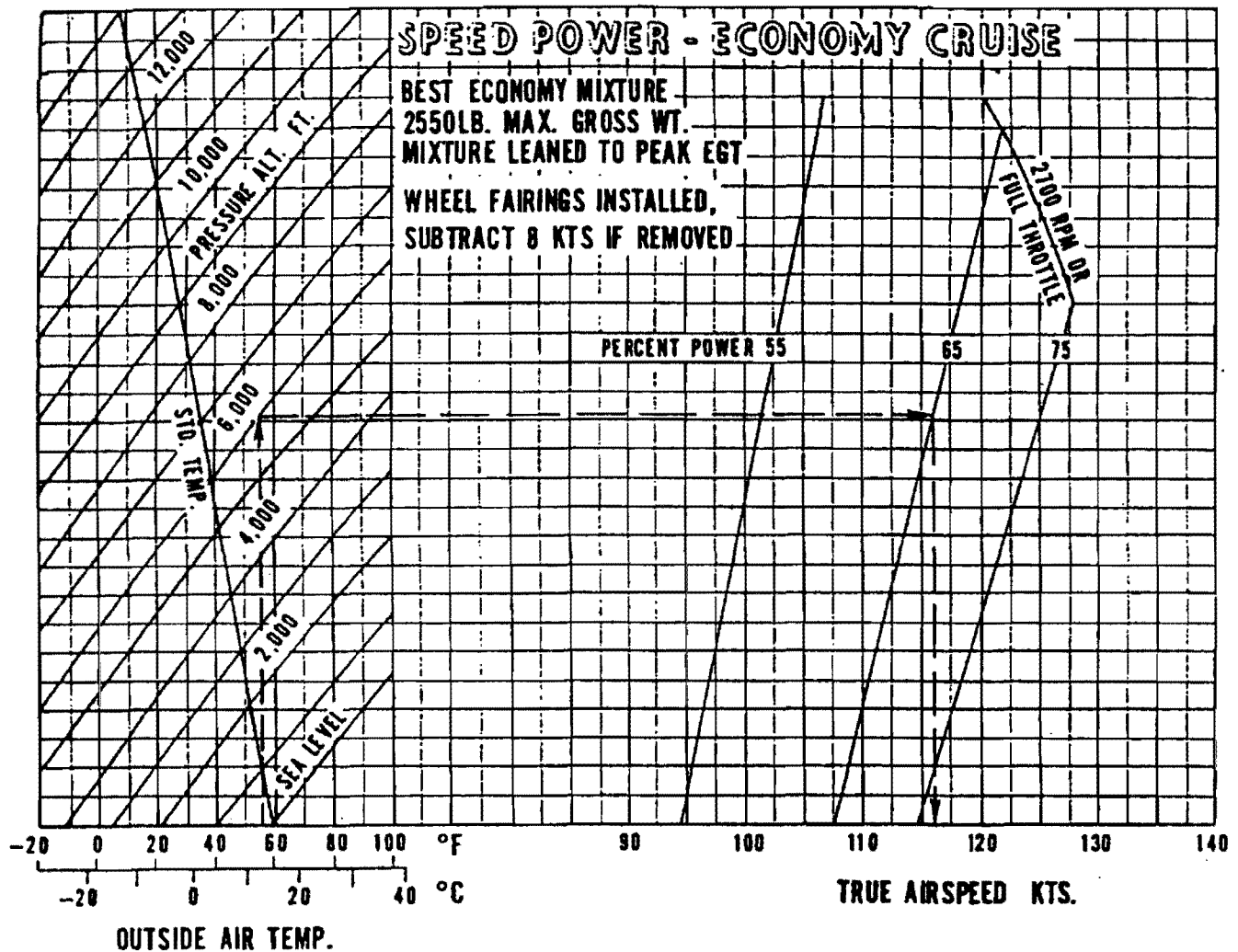
SPEED POWER - ECONOMY CRUISE (SERIAL NOS. 28-7790001 THROUGH 7790607)

Figure 5-21

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Example:

Cruise pressure altitude: 6000 ft.

Cruise OAT: 55° F

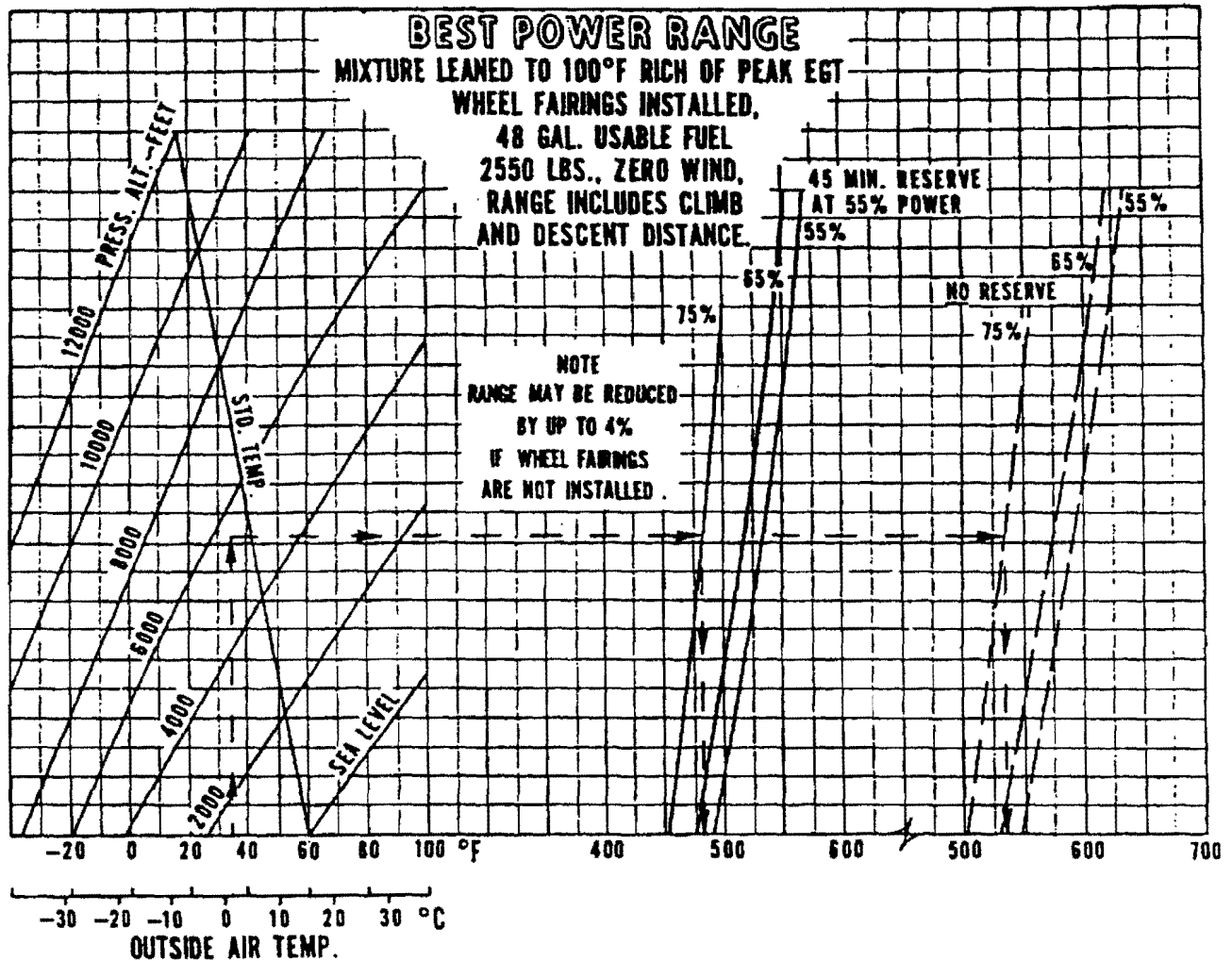
Power setting: 65%

True airspeed: 116 knots

SPEED POWER - ECONOMY CRUISE (SERIAL NOS. 28-7890001 AND UP)

Figure 5-22

PA-28-181



Example:

Cruise pressure altitude: 5500 ft.
Cruise OAT: 35° F
Power setting: 75%
Range (with reserve): 480 nautical miles
Range (no reserve): 535 nautical miles

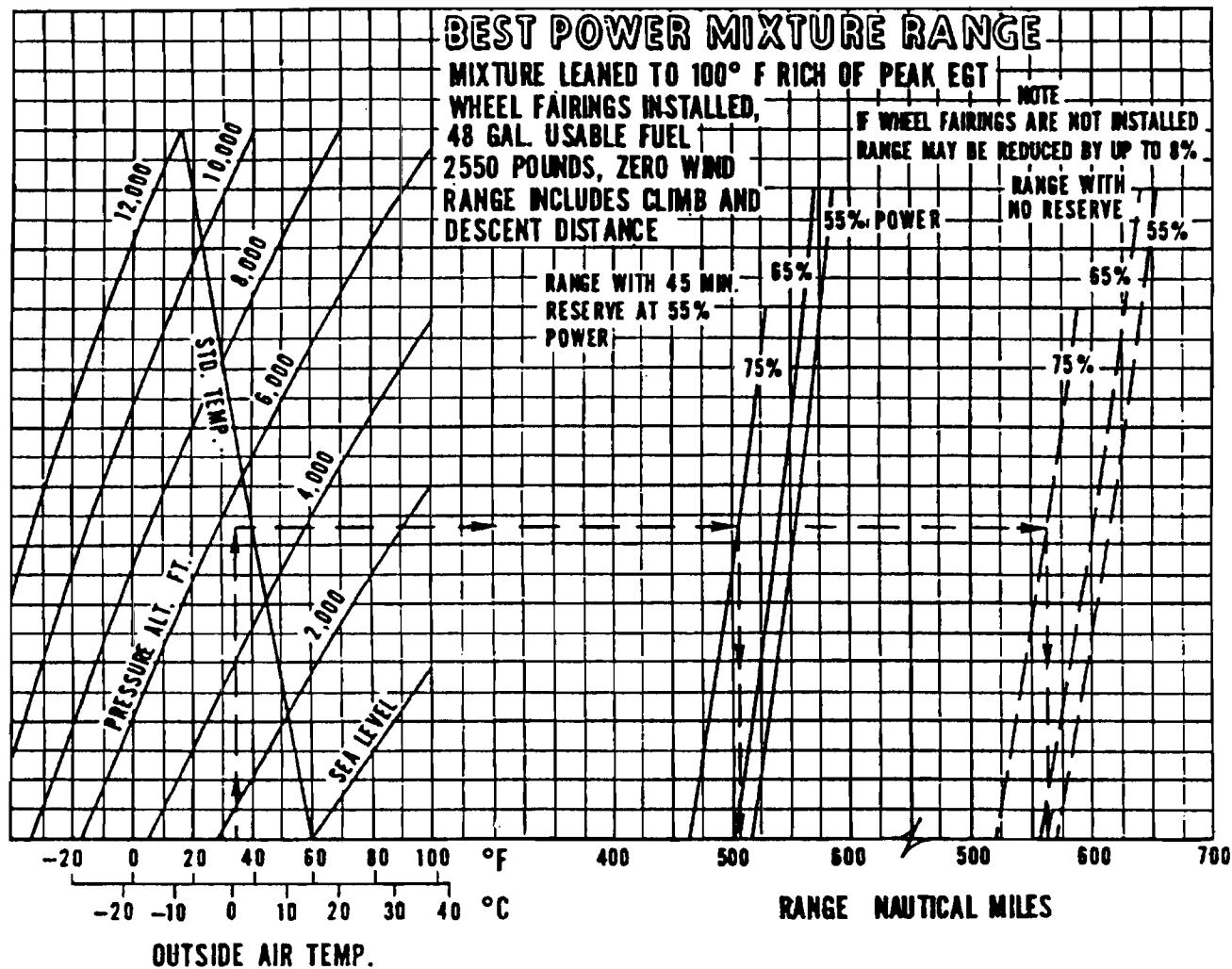
BEST POWER MIXTURE RANGE (SERIAL NOS. 28-7790001 THROUGH 7790607)

Figure 5-23

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Example:

Cruise pressure altitude: 5500 ft.

Cruise OAT: 35° F

Power setting: 75%

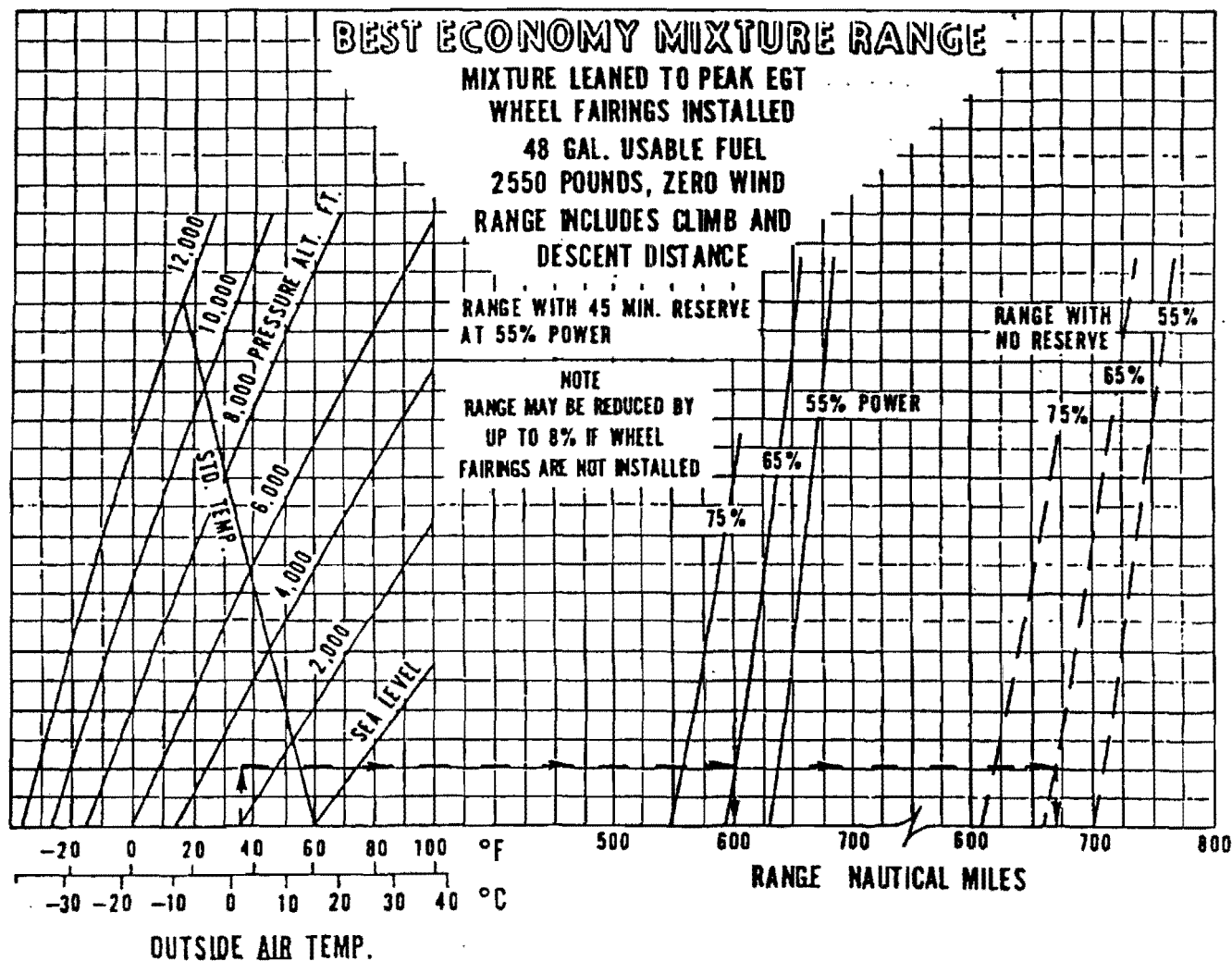
Range (with reserve): 505 nautical miles

Range (no reserve): 560 nautical miles

BEST POWER MIXTURE RANGE (SERIAL NOS. 28-7890001 AND UP)

Figure 5-24

PA-28-181



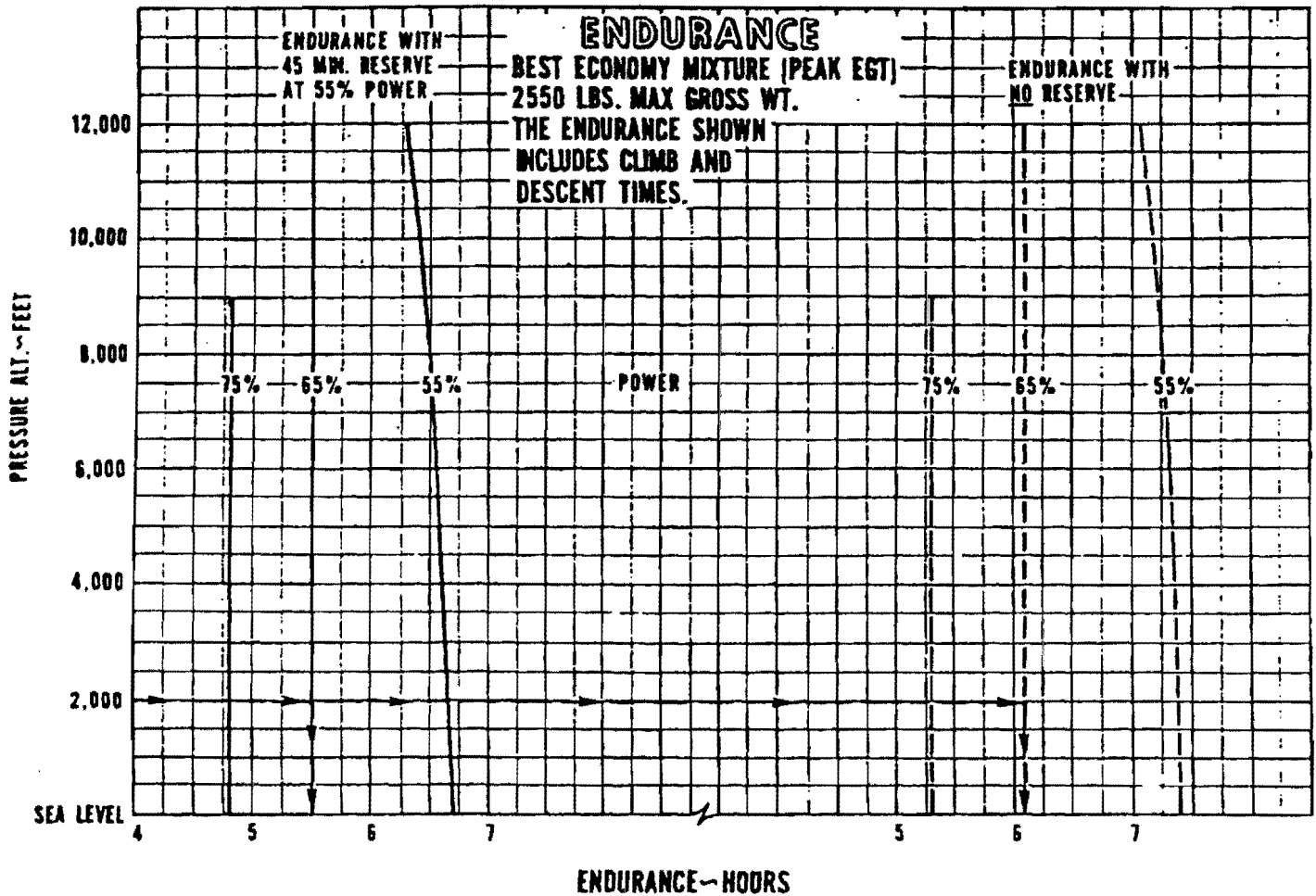
Example:

Cruise pressure altitude: 3000 ft.
Cruise OAT: 35° F.
Power setting: 65%
Range (with reserve): 600 nautical miles
Range (no reserve): 670 nautical miles

BEST ECONOMY MIXTURE RANGE (SERIAL NOS. 28-7890001 AND UP)

Figure 5-26

PA-28-181



Example:

Cruise pressure altitude: 2000 ft.
Power setting: 65%
Endurance (with reserve): 5.5 hrs.
Endurance (no reserve): 6.1 hrs.

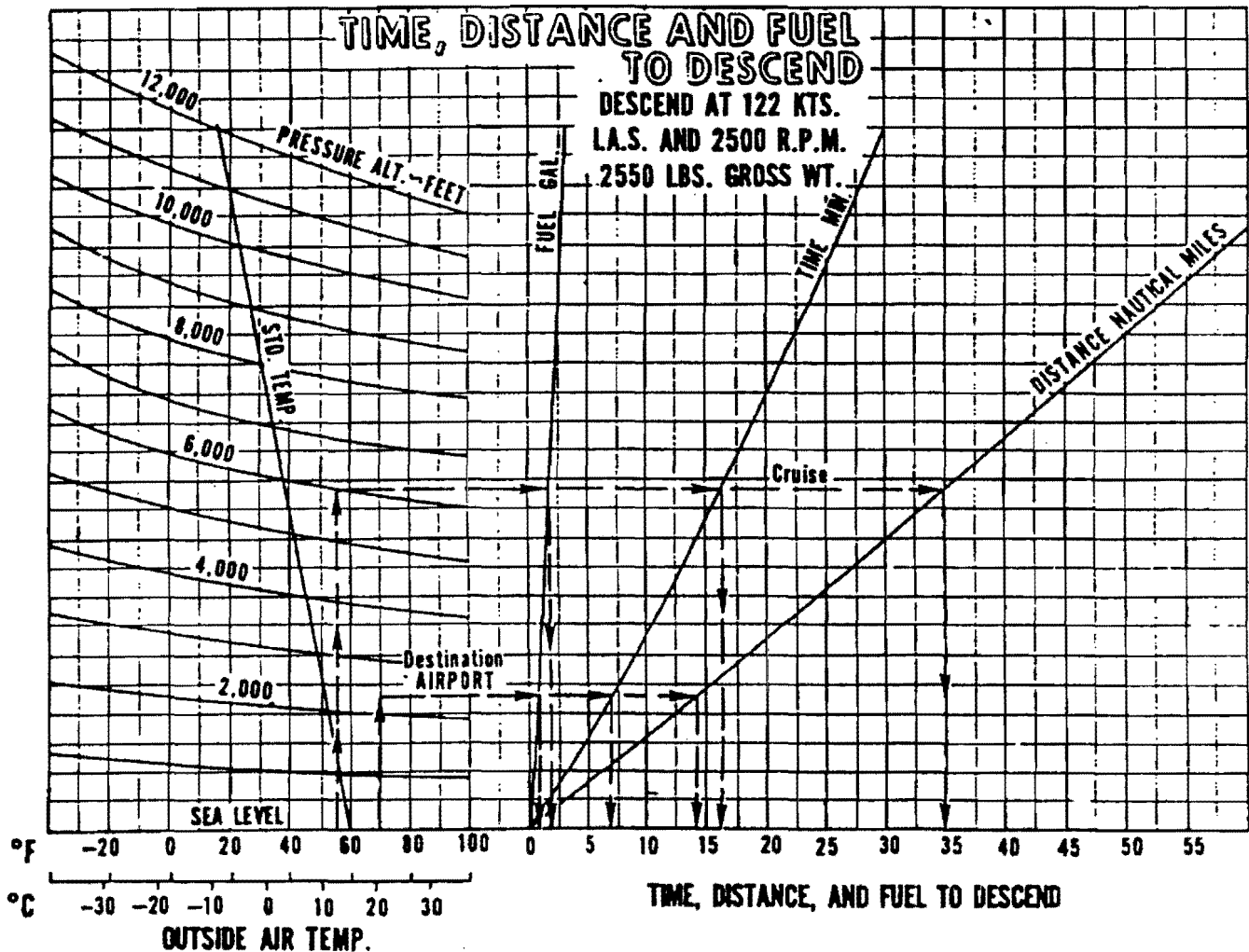
ENDURANCE

Figure 5-27

ISSUED: JULY 12, 1977
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5-29

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Example:

Cruise pressure altitude: 6000 ft.

Cruise OAT: 55° F

Destination airport pressure altitude: 2300 ft.

Destination airport temperature: 70° F

Fuel to descend: (2.0 gal. minus 1 gal.) = 1.0 gal.

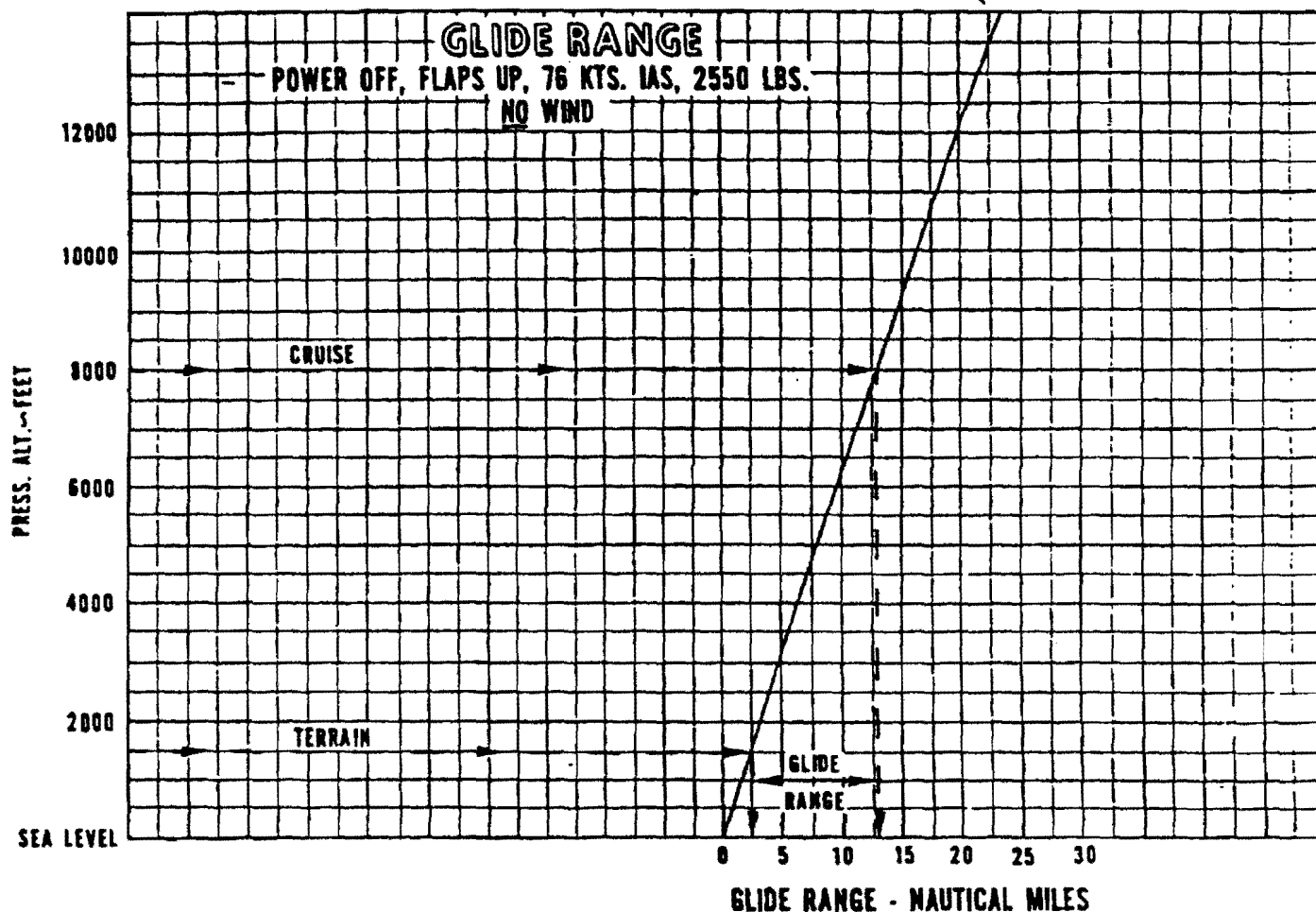
Time to descend: (16 min. minus 7.5 min.) = 8.5 min.

Distance to descend (35 miles minus 14.5 miles) = 20.5 nautical miles

TIME, DISTANCE AND FUEL TO DESCEND

Figure 5-29

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Example:

Cruise pressure altitude: 8000 ft.

Terrain pressure altitude: 1500 ft.

Glide Range: 18 miles minus 7.5 miles = 10.5 nautical miles

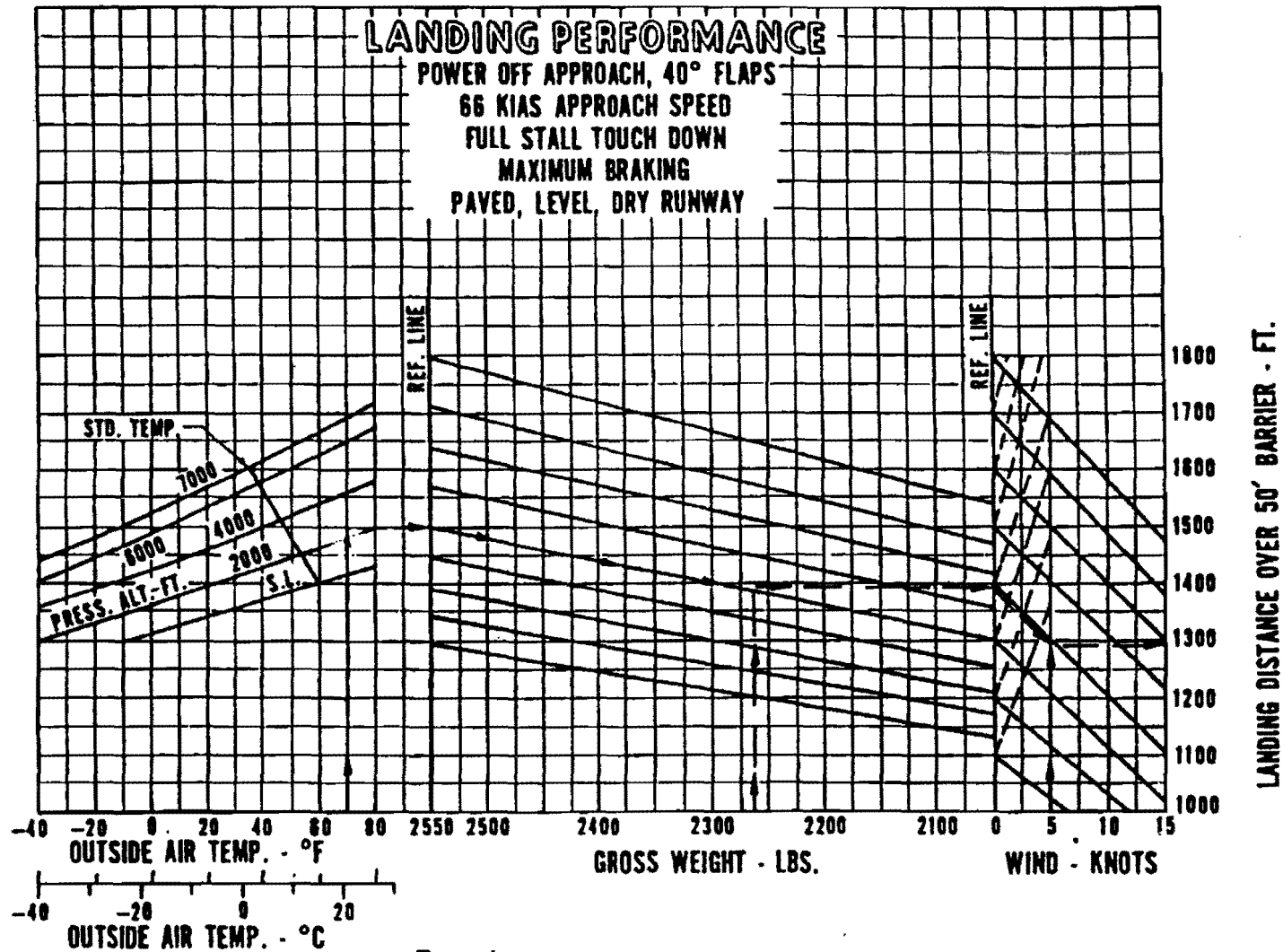
GLIDE RANGE

Figure 5-31

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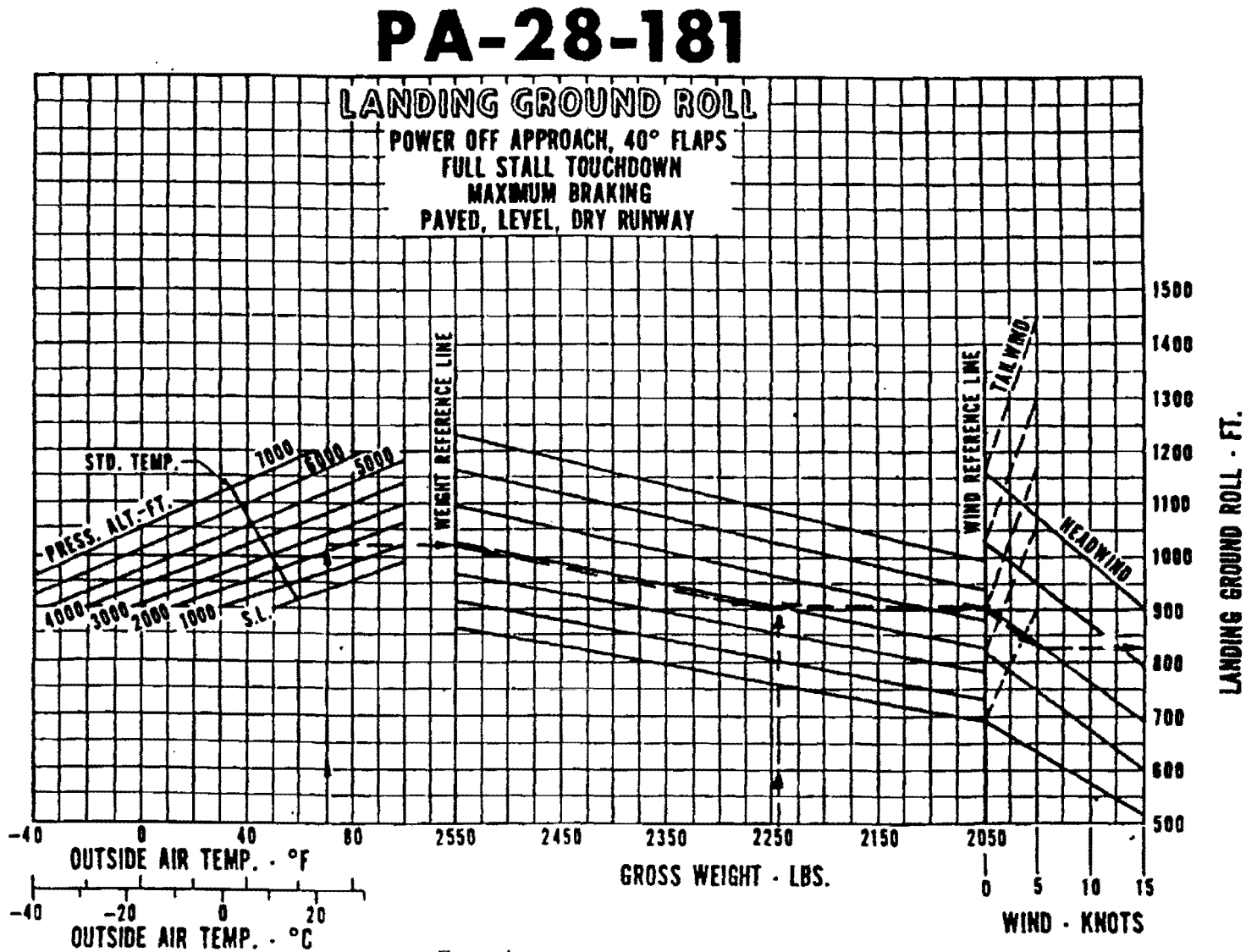
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Example:
Airport pressure altitude: 2300 ft.
Gross weight: 2264
Temperature: 70° F
Wind: 5 knots (headwind)
Landing distance: 1290 ft.

LANDING PERFORMANCE

Figure 5-33



LANDING GROUND ROLL
Figure 5-35

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REPORT: VB-790
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