

TAKEOFF AND LANDING OPERATIONAL LIMITS

TEMPERATURE LIMITS

Refer to AMBIENT TEMPERATURE LIMITS, Figure 1-4A.



Refer to FUEL TEMPERATURE LIMITS, this section.

MAXIMUM ALTITUDE

Pressure Altitude..... 10,000 Feet

WIND COMPONENTS

MAXIMUM TAILWIND COMPONENT 10 Knots

DEMONSTRATED CROSSWIND COMPONENT

Refer to METEOROLOGICAL DEFINITIONS in Section V — PERFORMANCE.

RUNWAY CONDITIONS

Takeoff and landing is limited to paved runways.

Do not operate if water and/or slush accumulation on the runway exceeds 3/4 inch (19 mm).

MAXIMUM NOSE WHEEL STEERING SPEED

Maximum 45 KNOTS GROUND SPEED

With any two of the following
three Anti-Skid System lights
illuminated: Two inboard and right
outboard 10 KNOTS GROUND SPEED

TIRE LIMITING SPEED

Main Tires 182 KNOTS GROUND SPEED

TIP TANK FUEL

Maximum tip tank fuel for landing is 925 pounds (420 kg) each tip tank.

MINIMUM FUEL

Fuel Load — Minimum 600 pounds (272 kg) in each wing required for take-off and intentional go-around.

USE OF APPROACH AND LANDING CHARTS

The charts on the following pages present approach and landing climb gradients, maximum landing weights as limited by approach and landing climb performance, and landing weights as limited by maximum brake energy.

MAXIMUM LANDING WEIGHT

Landings must be made within the limitations of the maximum landing weight as governed by the LANDING WEIGHT LIMITS Chart and by the performance determined from the ACTUAL LANDING DISTANCE and FACTORED LANDING DISTANCE (if applicable) charts. The heaviest weight at which the aircraft can land is the **lowest** of the following weights:

1. The maximum landing weight (design structural limit for landing) is 14,300 pounds (6,486 Kg) or 15,300 pounds (6,940 Kg).
2. The landing weight limit for airport altitude and temperature as determined from the LANDING WEIGHT LIMITS Chart.
3. The maximum landing weight for the runway and ambient conditions as determined from the ACTUAL LANDING DISTANCE and FACTORED LANDING DISTANCE (if applicable) charts.

NOTE

If the aircraft weight over the destination is greater than the lowest of the above weights, fuel must be burned off until the proper weight is achieved.

LANDING DISTANCE CHART

The ACTUAL LANDING DISTANCE Chart shows demonstrated landing distance in terms of altitude, outside air temperature, weight, wind, runway gradient, and anti-skid on or off. The FACTORED LANDING DISTANCE chart shows the operational landing field length when a factored landing distance is required by applicable regulations. The Factored Landing Distance determined from this chart is equal to the Actual Landing Distance divided by 0.60 (multiplied by 1.67). These charts may be used to determine either of the following:

1. The landing field length required given the airplane weight, runway gradient, pressure altitude, temperature, and wind.
2. The maximum landing weight corresponding to a specific runway length, runway gradient, pressure altitude, temperature, and wind. Landing weight for runway length available may be determined by working through the chart in the opposite manner as finding landing distance. Landing weight determined in this manner may not be the limiting landing weight, refer to MAXIMUM LANDING WEIGHT.

USE OF APPROACH AND LANDING CHARTS (CONT)**LANDING PROCEDURE**

The landing distances on the ACTUAL LANDING DISTANCE Chart can be realized when the following procedure is used.

1. Approach through the 50-foot point over the end of the runway at VREF with flaps and gear down, using a 2.5° to 3° glideslope.
2. After passing the 50-foot point, progressively reduce thrust until the thrust levers are at IDLE prior to touchdown.
3. After touchdown, Spoilers — EXT immediately.
4. Wheel Brakes — Apply as soon as practical and continue maximum braking action until the airplane stops.
5. Elevator — Nose up to shift weight to main gear.

LANDING ON WET OR CONTAMINATED RUNWAY

Refer to the WET/CONTAMINATED RUNWAY DATA Addendum for guidance material pertaining to landing on a wet or contaminated runway.

APPROACH CLIMB AND LANDING CLIMB GRADIENT CHARTS

The APPROACH CLIMB GRADIENT and LANDING CLIMB GRADIENT Charts are read at the airport temperature and pressure altitude. The gradients will be achieved using the speeds shown in the APPROACH CLIMB SPEED and LANDING CLIMB SPEED Chart.

CALCULATION OF CORRECTION FOR RUNWAYS WITH A GRADIENT GREATER THAN 2.0% AND LESS THAN OR EQUAL TO 2.4%

The information provided here is used to calculate landing corrections for dry conditions with runway gradients >2.0% and ≤2.4%.

DOWNHILL (NEGATIVE) GRADIENT

Landing Weight Limit

Determine Climb Weight Limit using the appropriate chart in this section. Additional correction is not required.

Determine Brake Energy Weight Limit using the appropriate chart in this section and assume runway has a -2.0% gradient. If necessary, adjust the Brake Energy Weight Limit by subtracting the appropriate weight from the table below.

Landing Weight Limit	
Downhill Gradient	Brake Energy Weight Correction
-2.1%	Subtract 25 pounds (11.3 kg)
-2.2%	Subtract 50 pounds (22.7 kg)
-2.3%	Subtract 75 pounds (34.0 kg)
-2.4%	Subtract 100 pounds (45.4 kg)

Landing Distance

Determine Landing Distance using the appropriate chart in this section and assume runway has a -2.0% gradient. Add 100 feet (30.48 m) to the Landing Distance for runway gradients -2.0% to -2.4%.

UPHILL (POSITIVE) GRADIENT

Landing Weight Limit

Determine Climb Weight Limit using the appropriate chart in this section. Adjust the Climb Weight Limit by subtracting the appropriate weight from the table below.

Landing Weight Limit	
Uphill Gradient	Climb Weight Correction
+2.1%	Subtract 125 pounds (56.7kg)
+2.2%	Subtract 250 pounds (113.4kg)
+2.3%	Subtract 375 pounds (170.1 kg)
+2.4%	Subtract 500 pounds (226.8 kg)

Determine the Brake Energy Weight Limit using the appropriate chart in this section and assume runway has a +2.0% gradient. Additional correction is not required.

Landing Distance

Determine Landing Distance using the appropriate chart in this section and assume runway has a +2.0% gradient. Additional correction is not required.

LANDING WEIGHT LIMIT ANTI-ICE - OFF

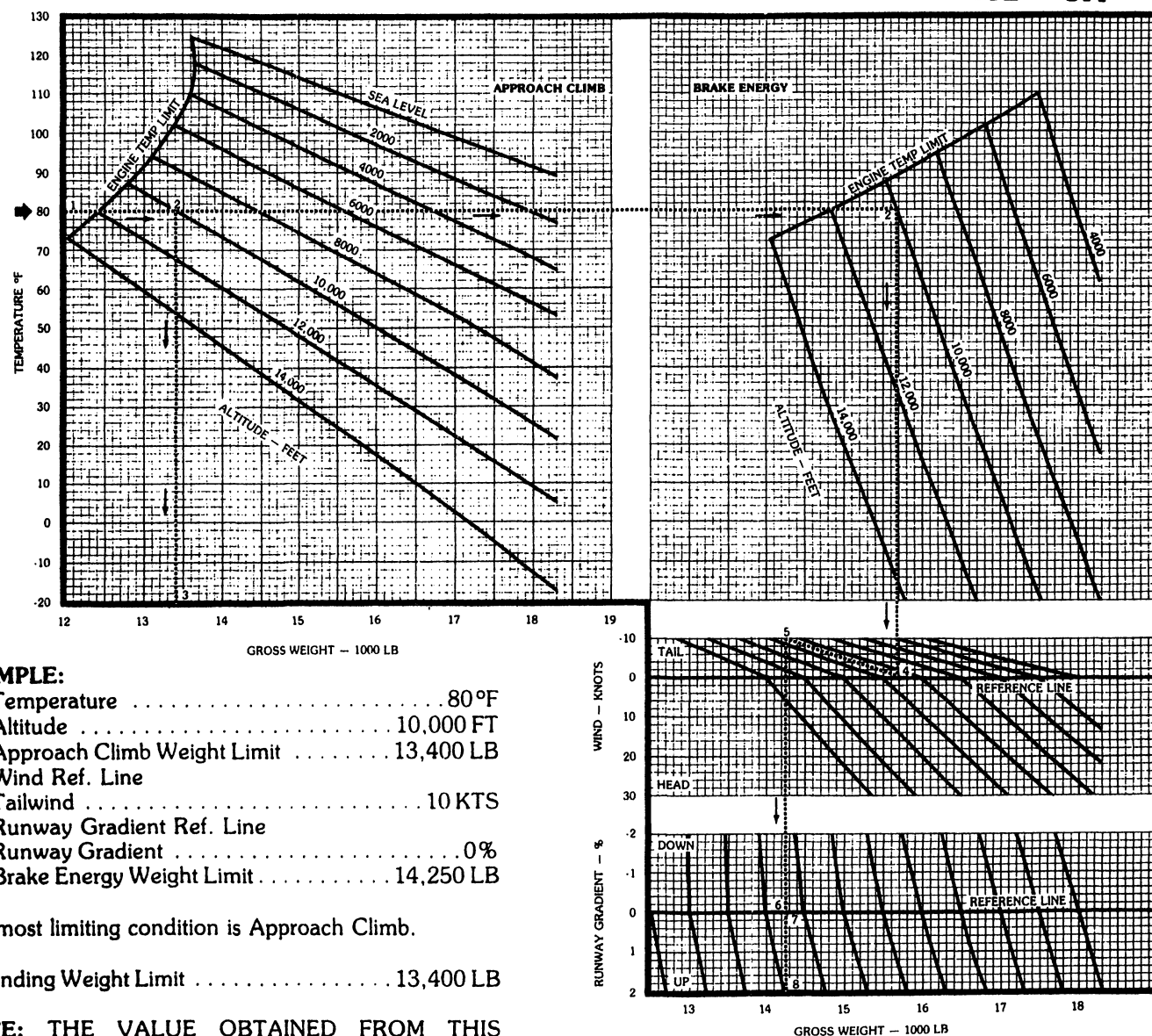
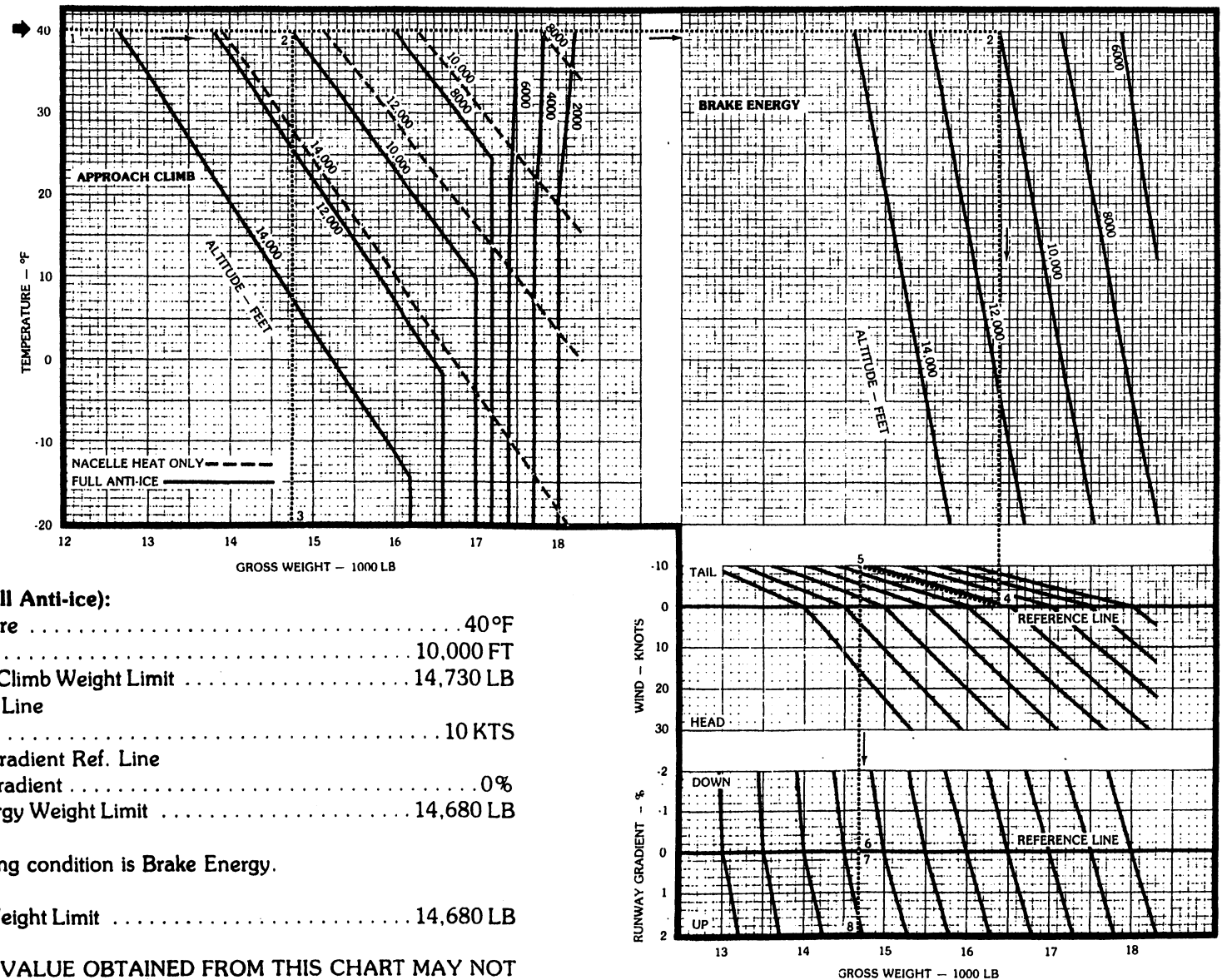


Figure 5-55

LANDING WEIGHT LIMIT ANTI-ICE - ON



EXAMPLE (Full Anti-ice):

1. Temperature 40°F
2. Altitude 10,000 FT
3. Approach Climb Weight Limit 14,730 LB
4. Wind Ref. Line
5. Tailwind 10 KTS
6. Runway Gradient Ref. Line
7. Runway Gradient 0%
8. Brake Energy Weight Limit 14,680 LB

The most limiting condition is Brake Energy.

- Landing Weight Limit 14,680 LB

NOTE: THE VALUE OBTAINED FROM THIS CHART MAY NOT BE THE LIMITING WEIGHT. LANDING WEIGHT IS ALSO LIMITED BY THE MAXIMUM CERTIFIED LANDING WEIGHT AND THE LANDING WEIGHT FOR THE RUNWAY LENGTH AVAILABLE.

Figure 5-56

LANDING APPROACH SPEED V_{REF}

EXAMPLE:

1. Weight 14,000 LB
2. V_{REF} 123.2 KIAS

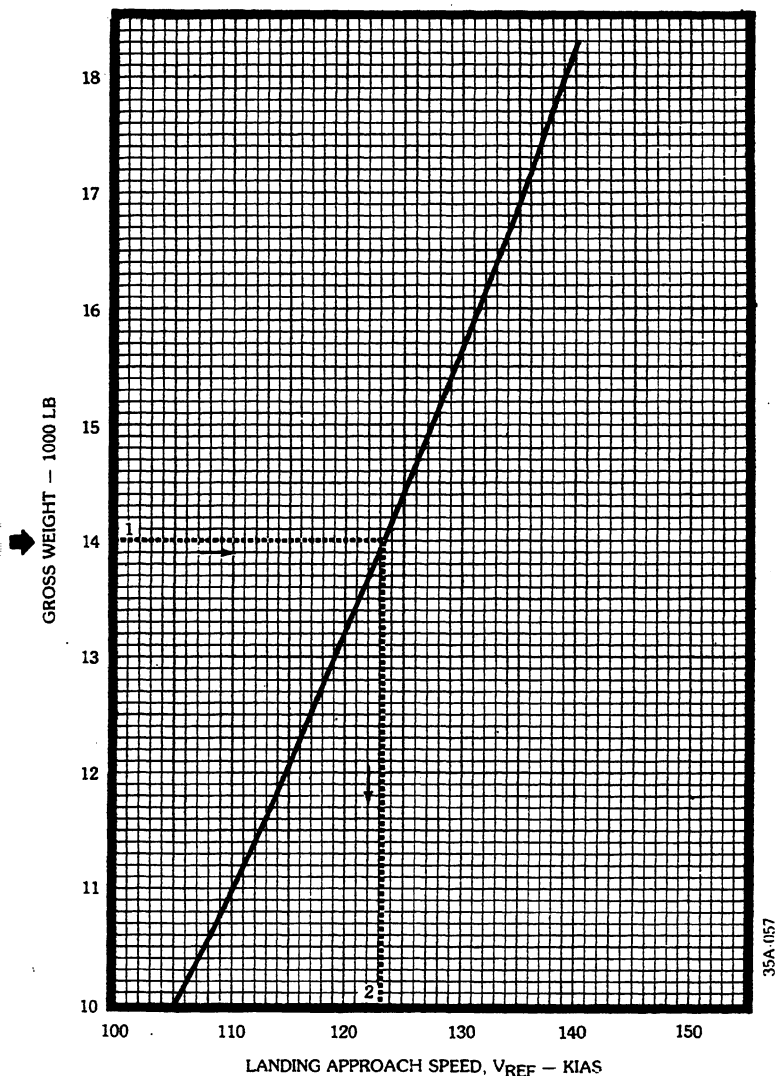


Figure 5-57

flight manual

LEARJET 35A
36A

EXAMPLE:

1. Temperature

2. Altitude

3. Weight Ref. Line

4. Weight
5. Wind Ref. Line

6. Headwind

7. Runway Gradient Ref. Line

8. Runway Gradient

9. Anti-skid Ref. Line
10. Anti-skid

11. Altitude Ref. Line

12. Altitude

13. Actual Landing Distance
- 40°F

8000 FT

13,000 LB

10 KT

2% UP

OFF

8000 FT

4480 FT

ACTUAL LANDING DISTANCE

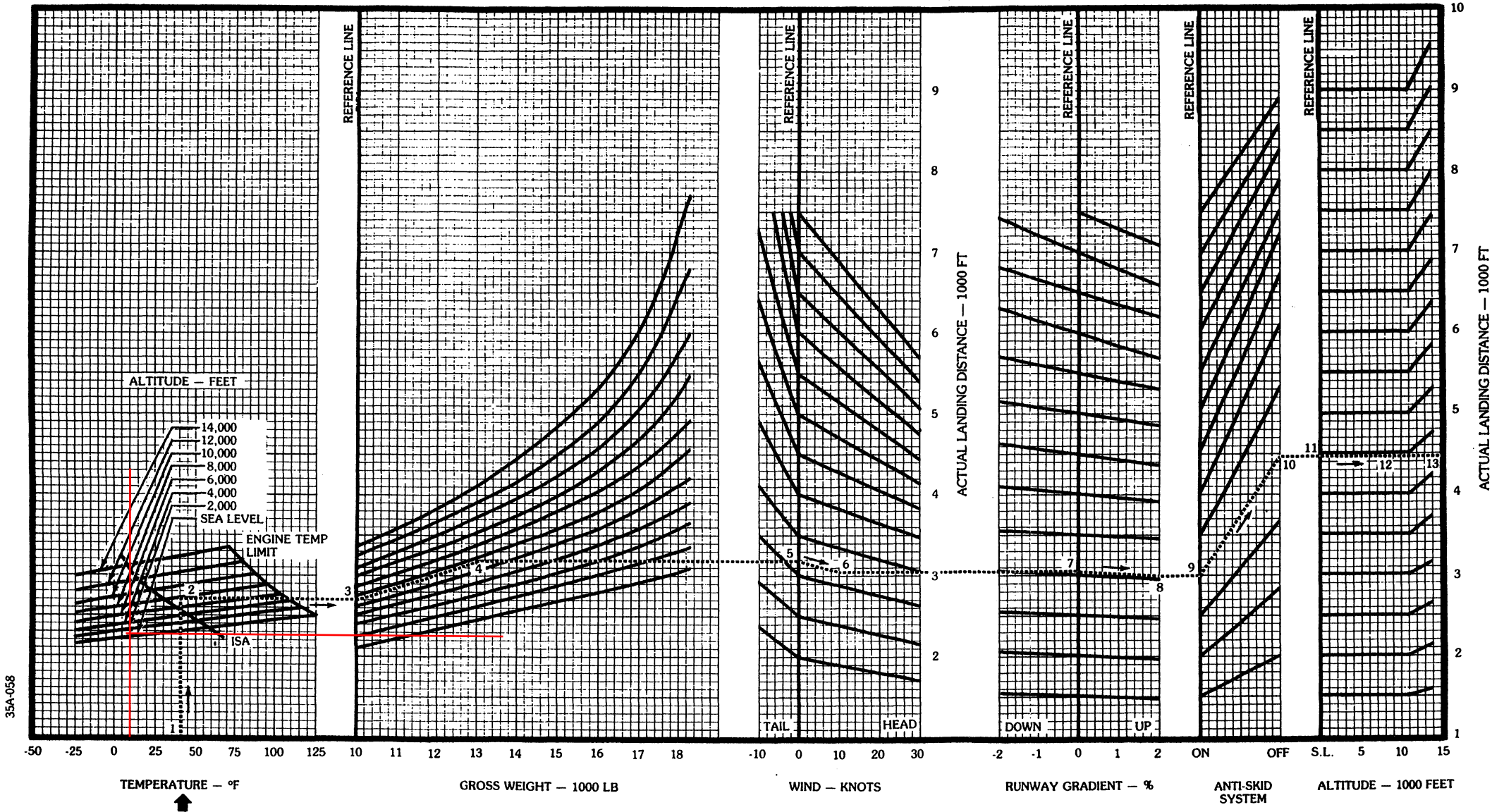


Figure 5-58

EXAMPLE:

1. Actual Landing
Distance 3,000 FT (914 M)
2. Factored Landing
Distance 5,000 FT (1,524 M)

NOTE: The Factored Landing Distance determined from this chart is equal to the Actual Landing Distance divided by 0.60.

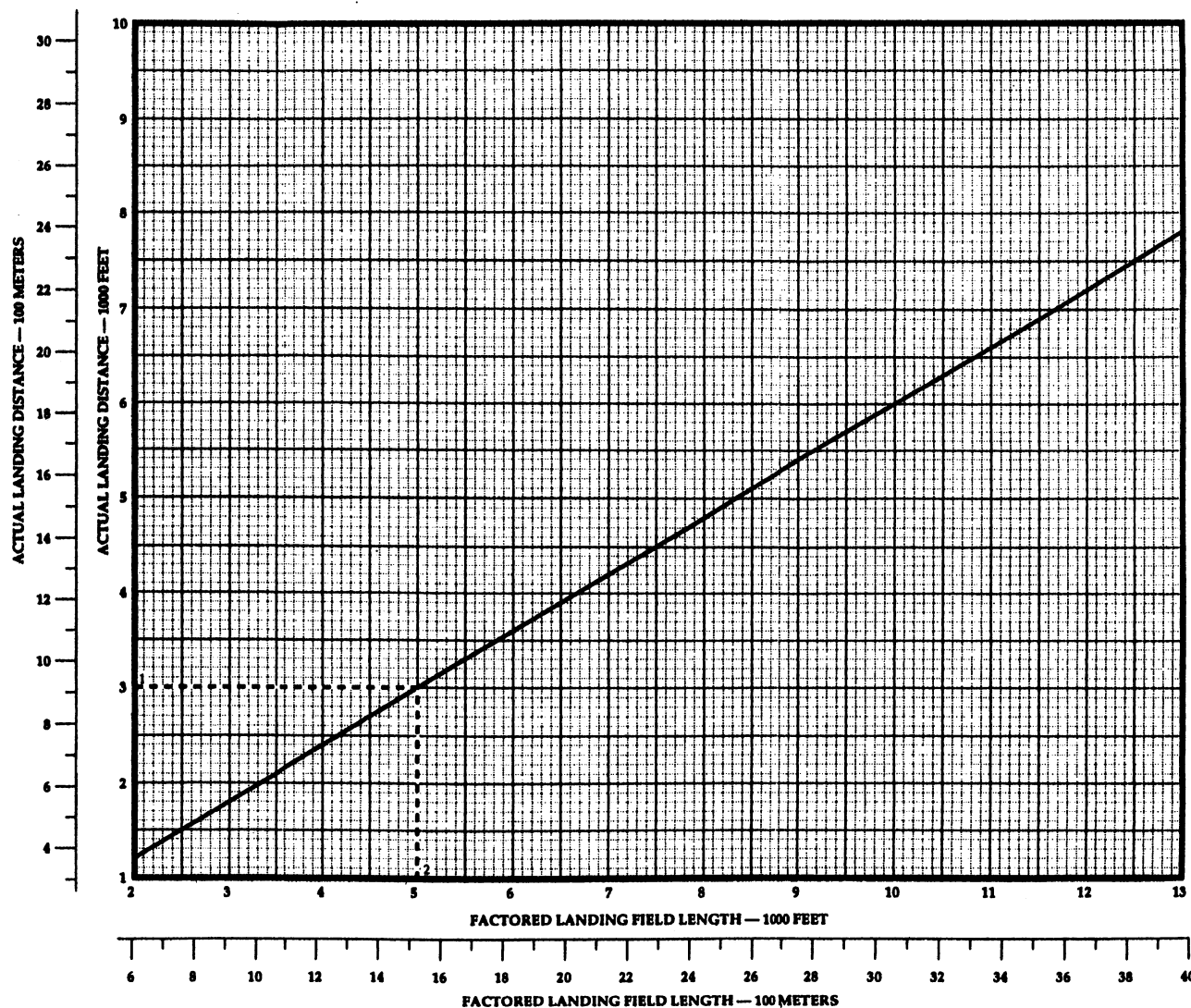


Figure 5-59