

MDEXPLORER

PERFORMANCE

5.3.1 Speed for Best Range

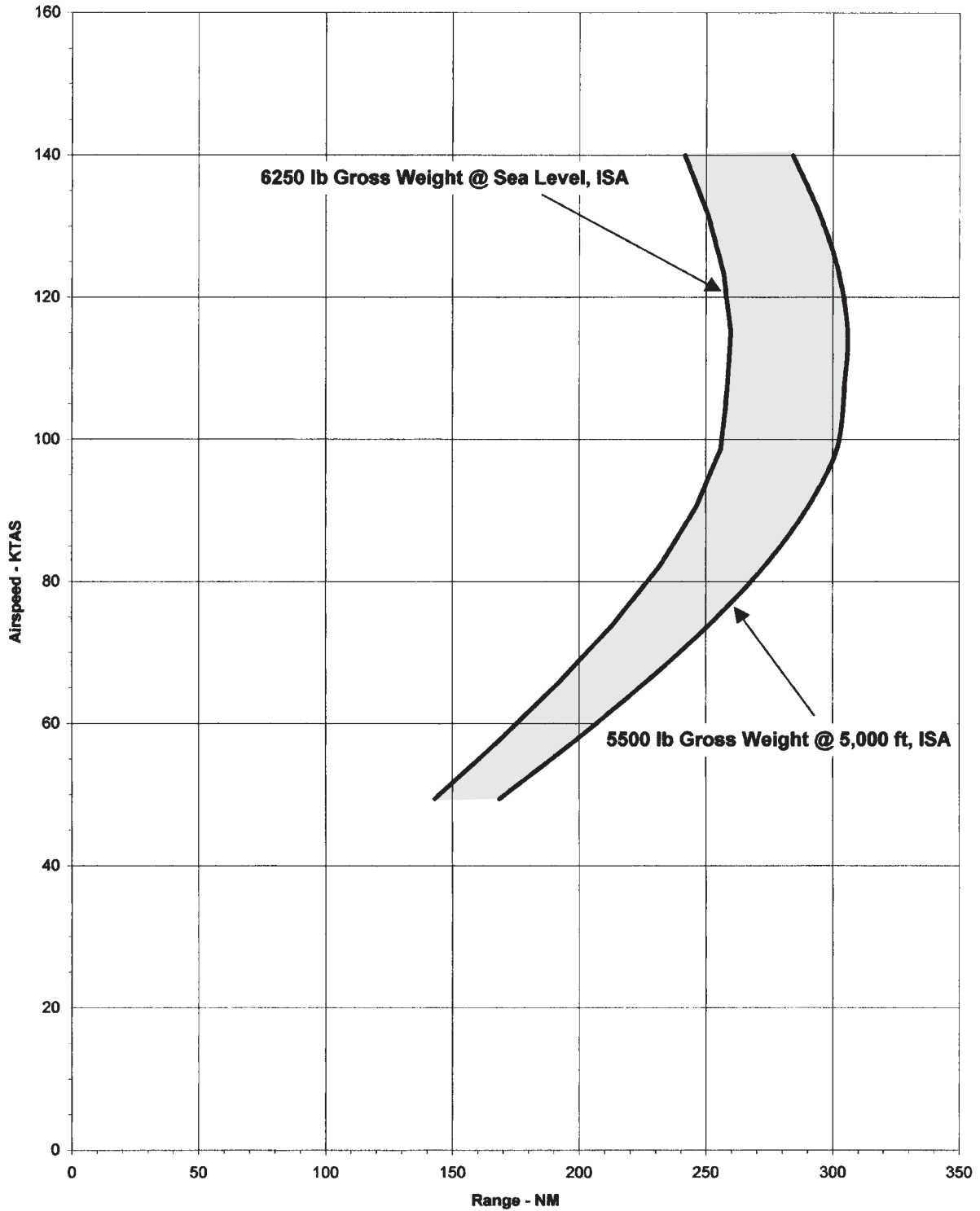


Figure 26, Speed for Best Range

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5.3.2 Speed for Best Endurance

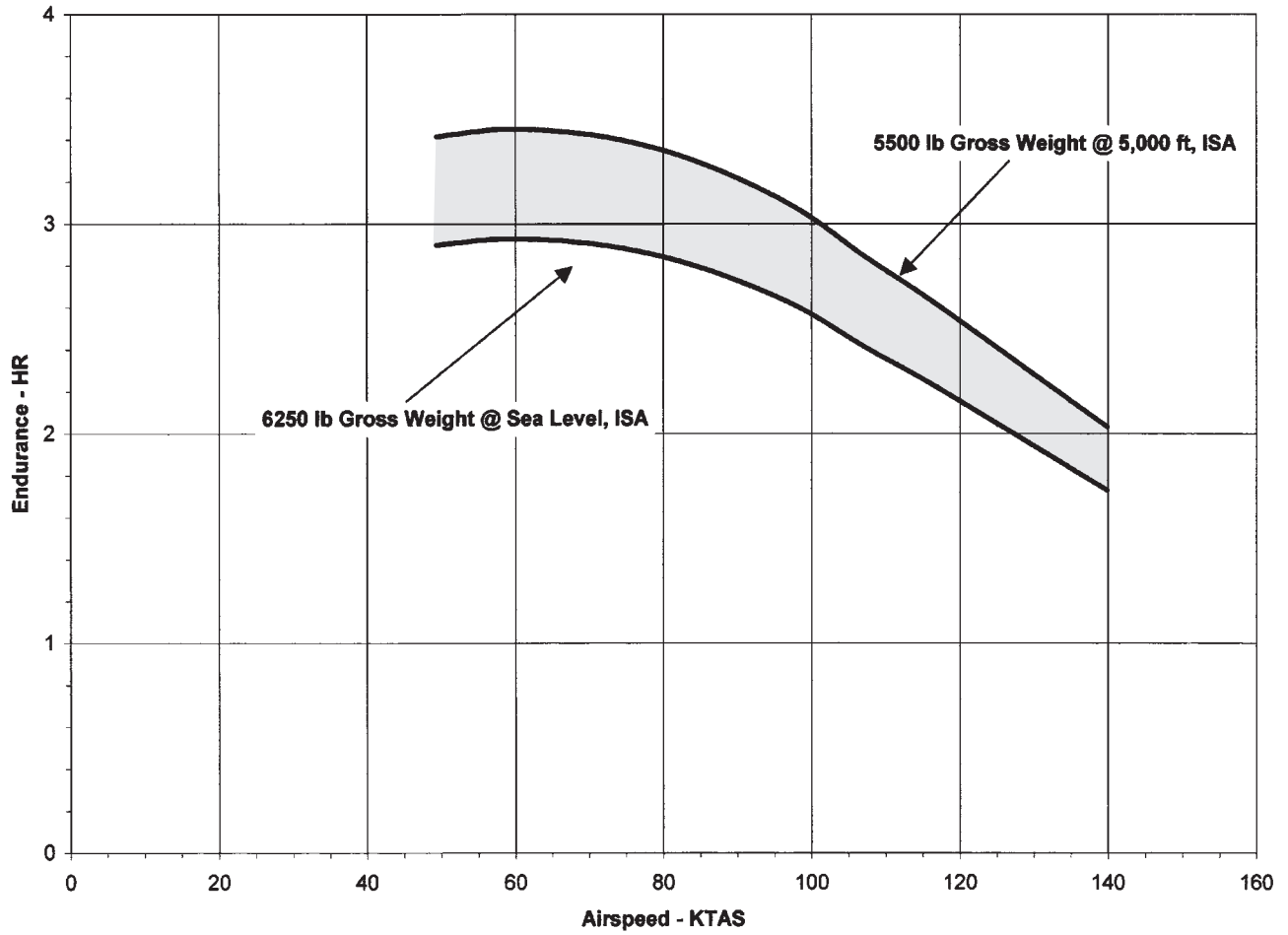


Figure 27, Speed for Best Endurance

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5.3.3 Fuel Flow, AEO, Sea Level, ISA (15°C)

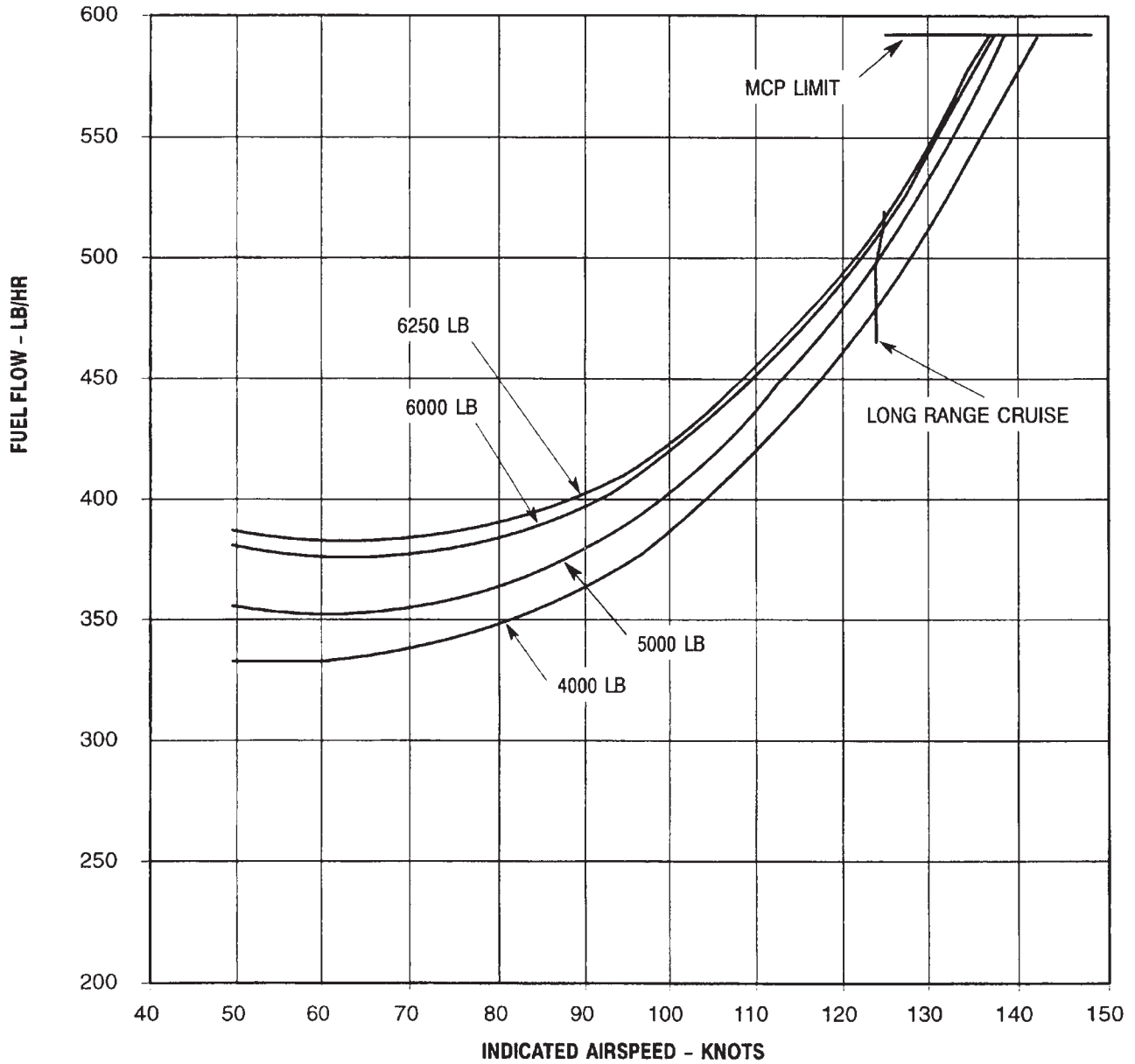


Figure 28. Fuel Flow, AEO, Sea Level, ISA (15°C)

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5.3.4 Fuel Flow, AEO, 4000 Feet H_P, ISA (7°C)

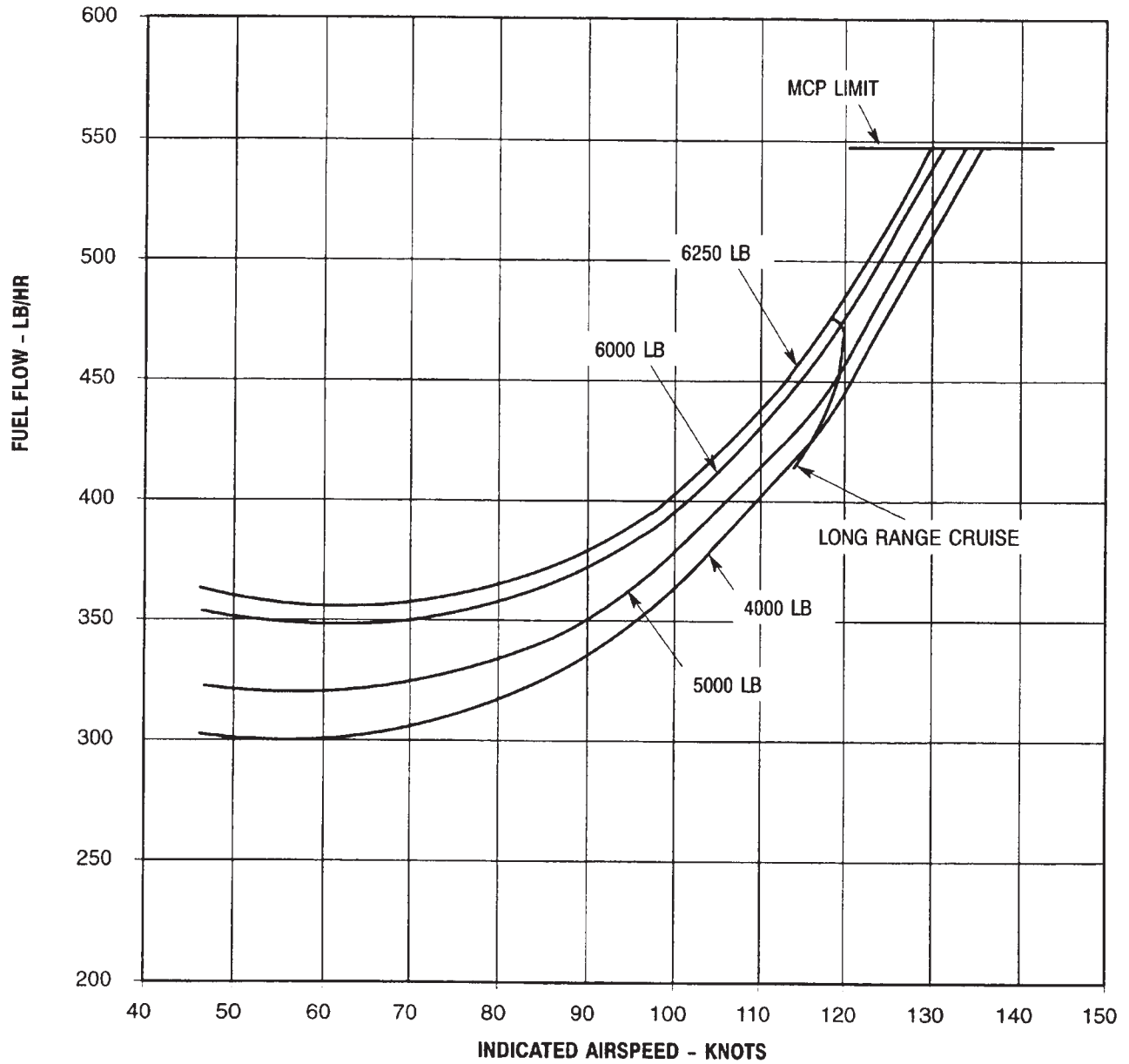


Figure 29. Fuel Flow, AEO, 4000 Feet H_P, ISA (7°C)

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5.3.5 Fuel Flow, AEO, Sea Level, ISA +20°C (35°C)

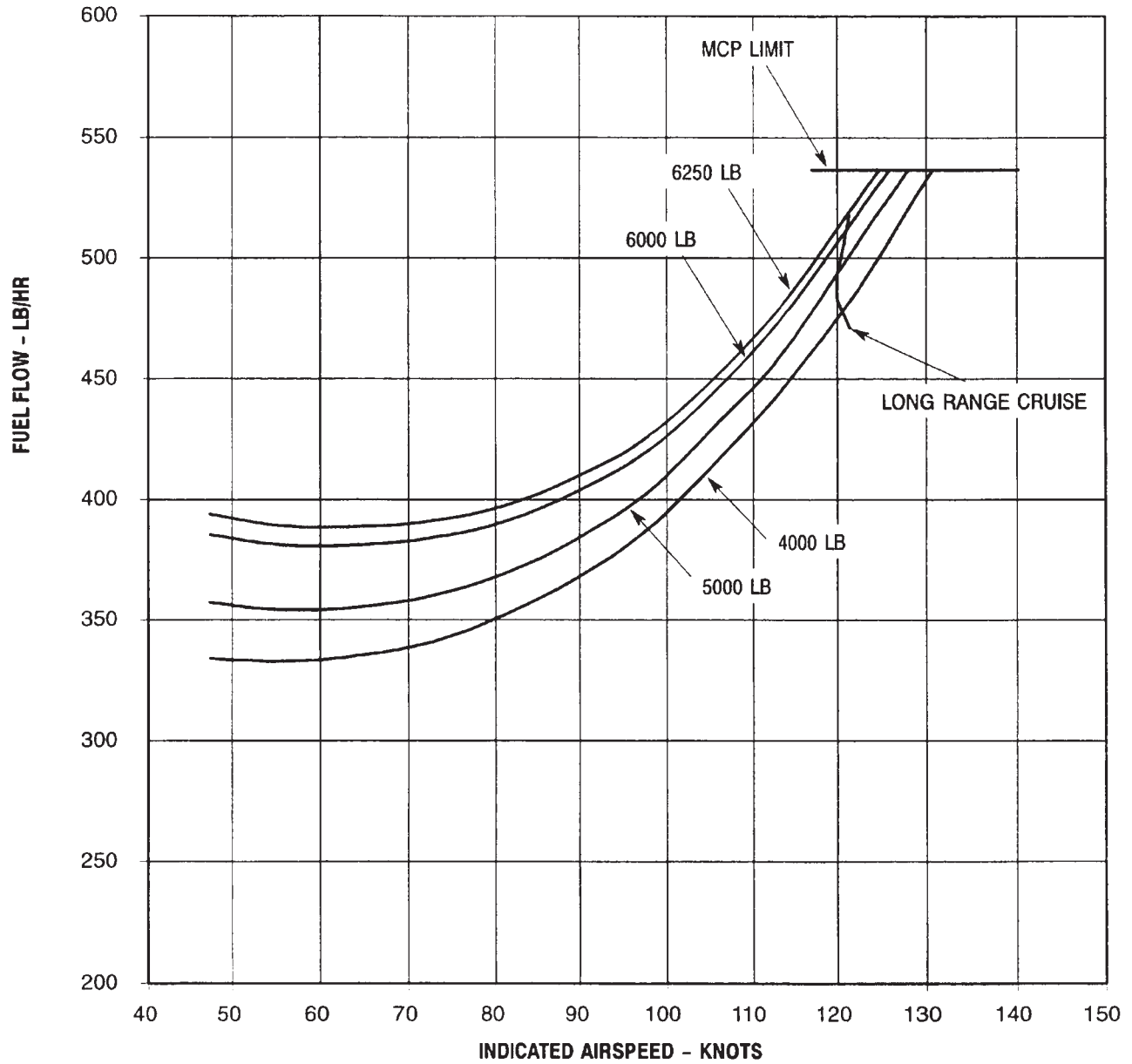


Figure 30. Fuel Flow, AEO, Sea Level, ISA +20°C (35°C)

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5.3.6 Fuel Flow, AEO, 4000 Feet H_P, ISA +20°C (27°C)

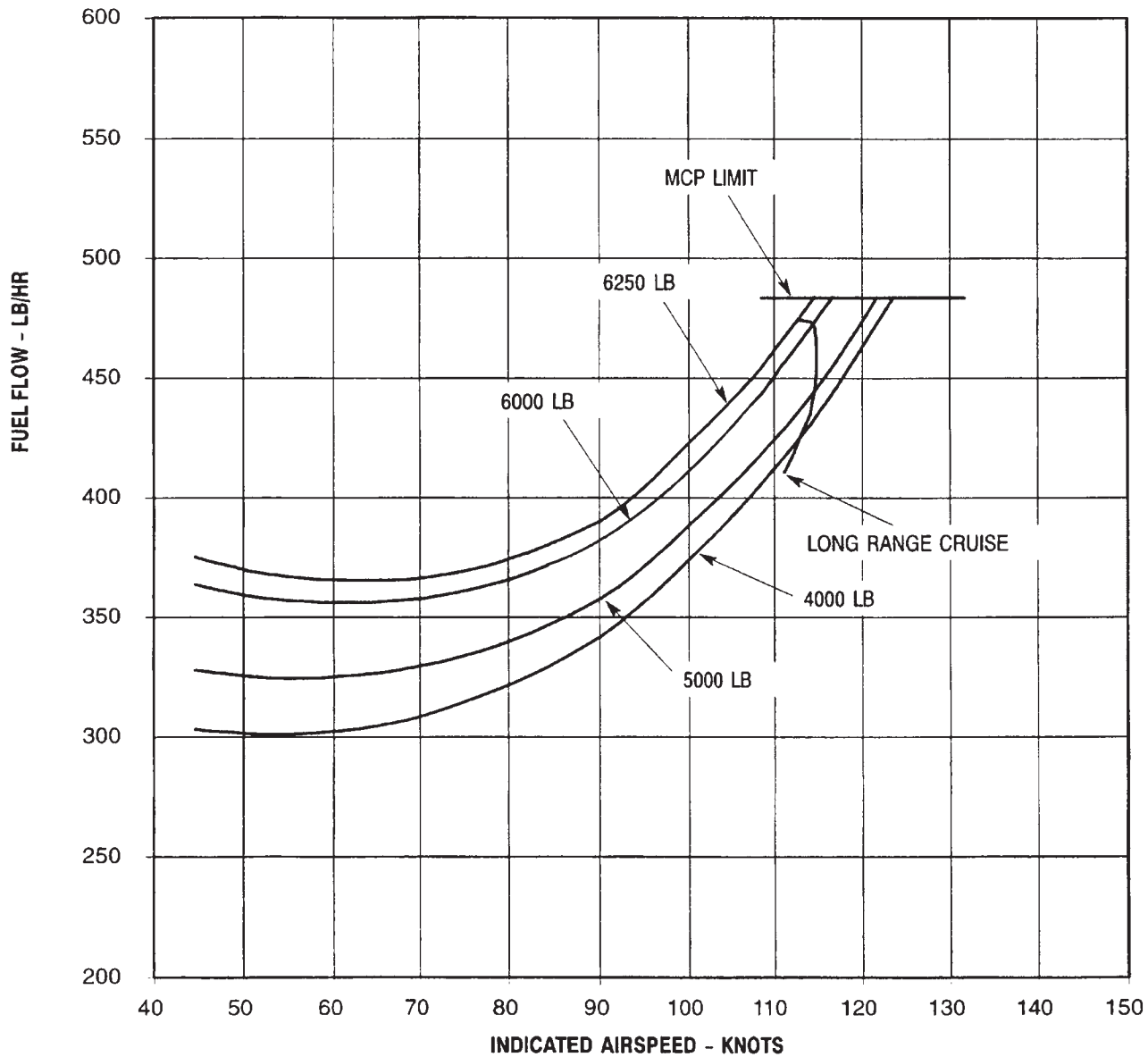


Figure 31. Fuel Flow, AEO, 4000 Feet H_P, ISA +20°C (27°C)

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5.4 Performance

Key performance estimates of the MD Explorer are summarized in the following figures. Based on standard configuration.

5.4.1 Payload - range.

Gross weight - (empty weight) - (pilot weight) - (fuel weight) = payload.

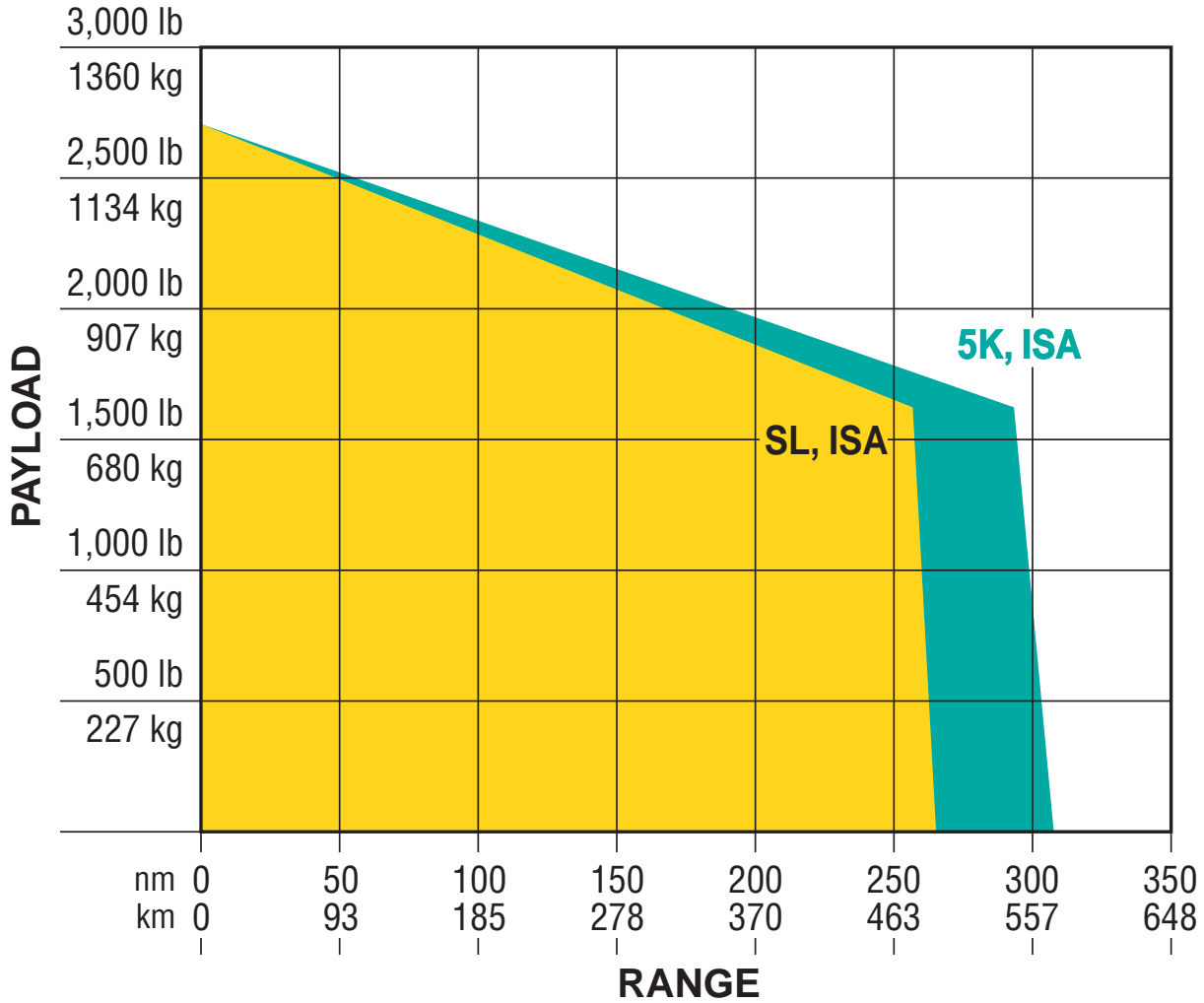


Figure 32. Payload - Range Capability

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5.4.2 Longitudinal center of gravity range.

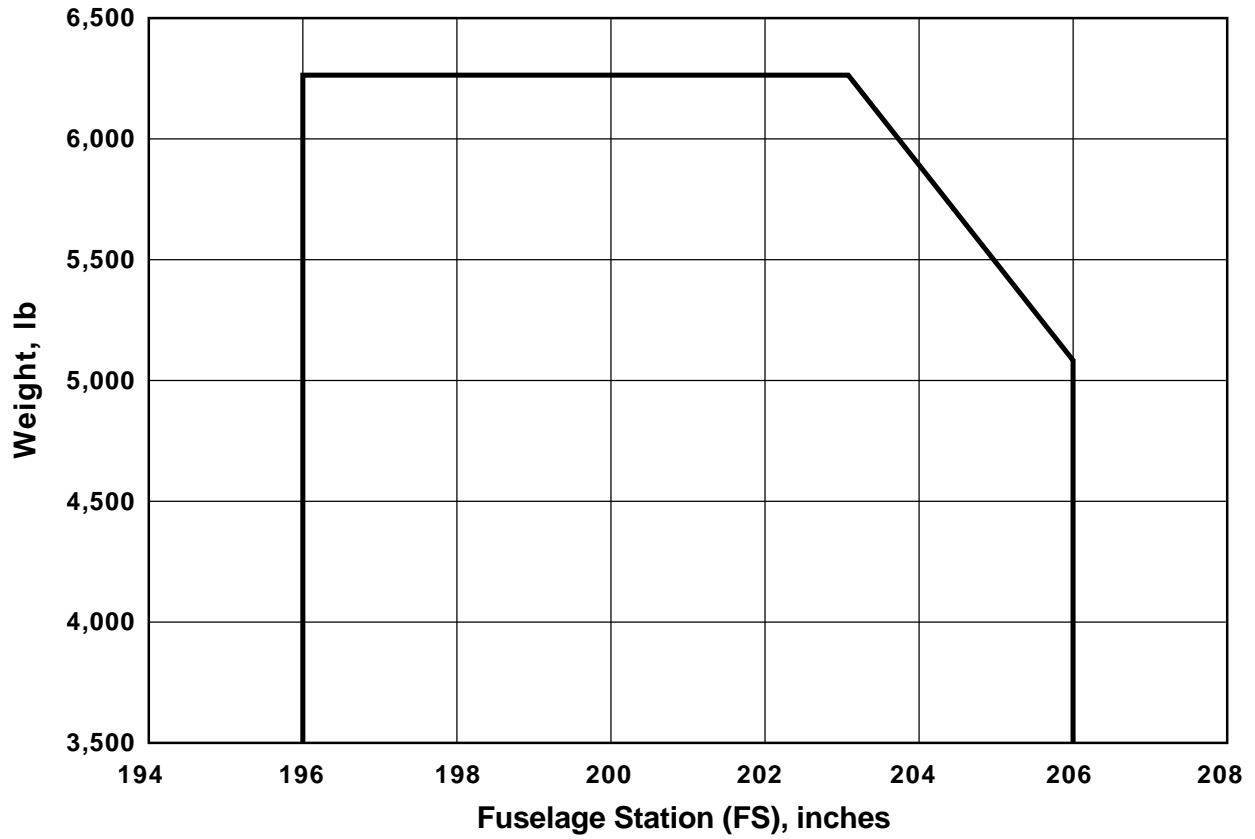


Figure 33. Longitudinal Center of Gravity Limits

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5.4.3 Height velocity diagram.

There is no height-velocity diagram for operating the MD Explorer® between sea level and 7,000 feet density altitude for gross weights of 6,000 lb. or less. For weights above 6,000 pounds, refer to the Rotorcraft Flight Manual, figure 5-19.

5.5 Miscellaneous.

5.5.1 Vibrations.

Uniquely low vibration levels in all flight conditions are the result of a five-bladed flexbeam rotor system tuned to the fuselage and an elastomeric acoustic isolator mount between the transmission and support structure. In addition, independent control systems for the vertical stabilizers provide extremely smooth transitions to/from hover and forward flight.

5.5.2 Temperature.

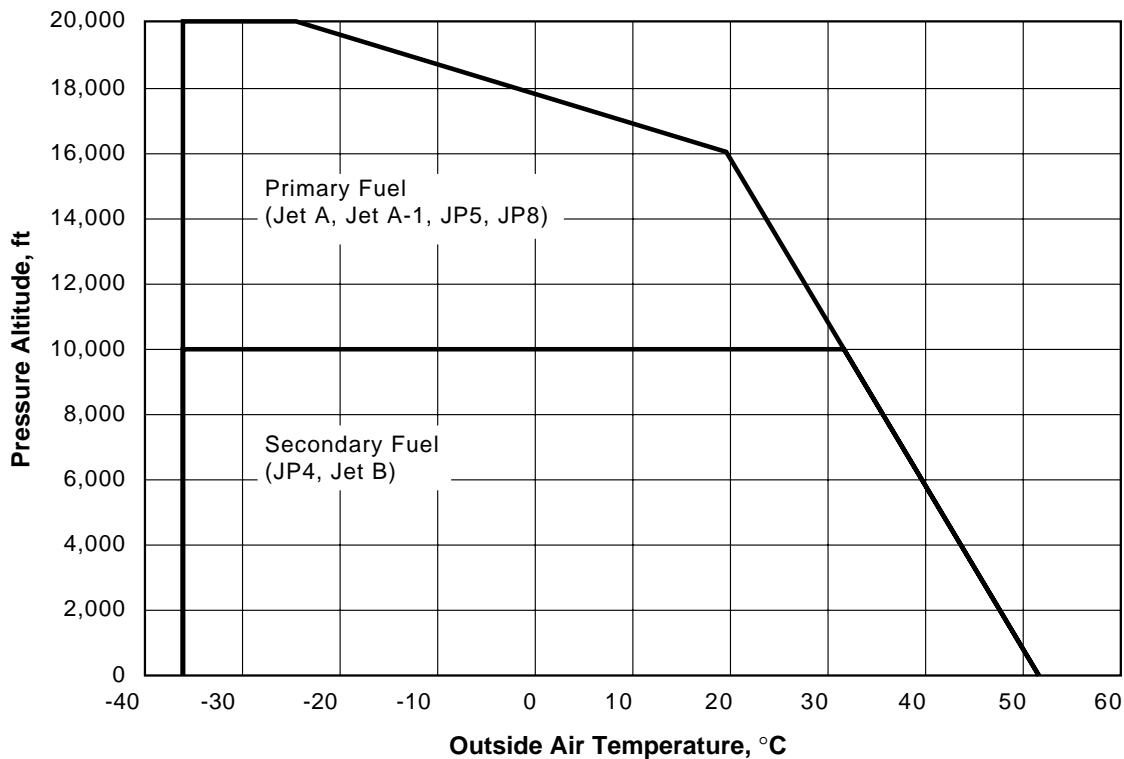


Figure 34. Ambient Temperature Envelope

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5.5.3 Noise.

The FAR Part 36 Appendix H noise levels for the MD Explorer® clearly show that the MD Explorer® has the greatest compliance margin of any helicopter yet tested to both the ICAO and the FAA Stage II noise requirements.

Flight Regime	Measured Value	ICAO Requirement	Compliance Margin
Take-off	86.2 EPNdB	94.3	8.1
Level flyover	83.6 EPNdB	93.3	9.7
Approach/land	90.7 EPNdB	95.3	4.6
		Average =	7.5

By surpassing the stringent Appendix H requirement, the MD Explorer® maintains low sound levels in the aircraft's entire surrounding environment which are the result of flight conditions most noticeable to the public. Previous Appendix J requirement tests only measured limited spectrum sound levels only directly under the aircraft's flight path during the singular level flyover flight condition.

