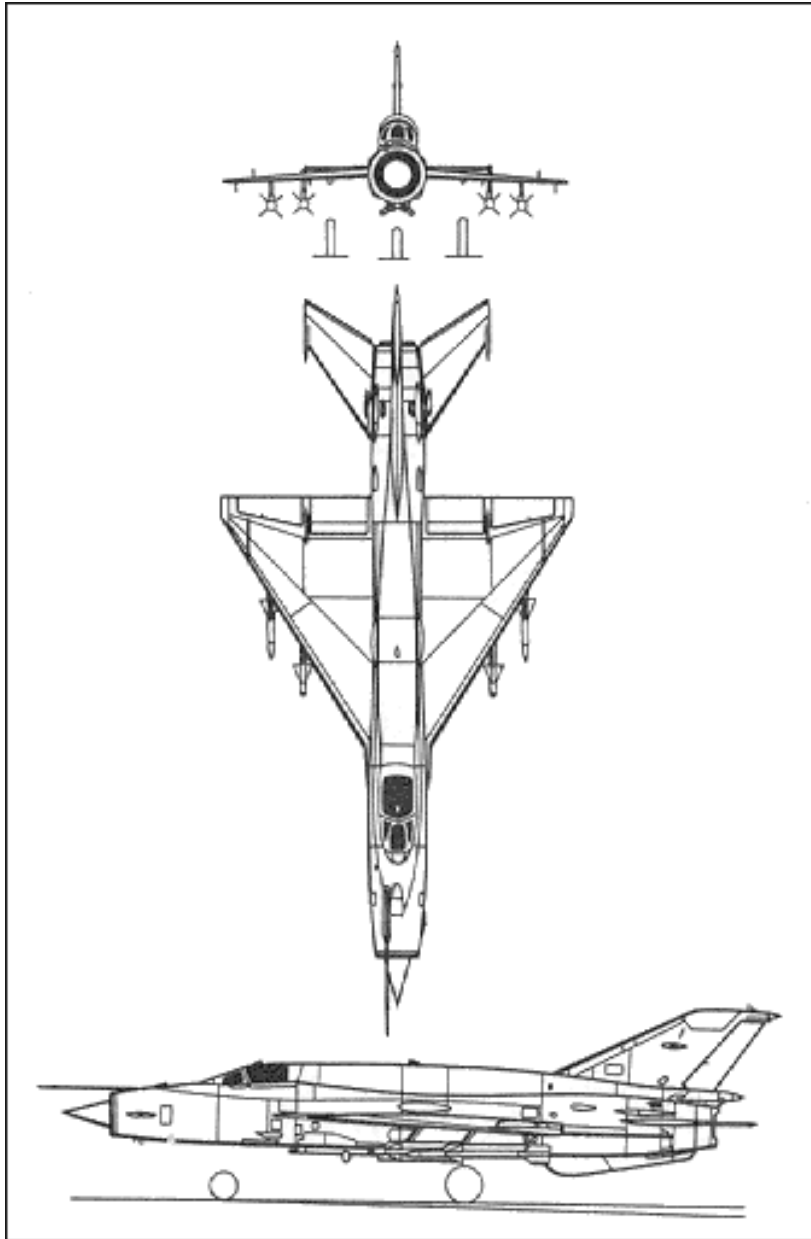


# PERFORMANCE ANALYSIS



## **Mig-21M iz.96A / L-15 Mikoyan-Gourevitch Corporation (Tumanskiy R-11F2SK-200)**

CAUTION STATEMENT : This document is to be use only for simulation. Do not try to apply the procedures and or advices contained in it if you have the opportunity to fly this plane in real life. By the way, if you had (or still have) flew this aircraft, your comments, criticism and more are welcome

LICENSE : This document has been created by J.M. LANGERON / TOPOLO, (<http://topolo.free.fr/>) all the values used to model the aircraft behavior have been computed by him, like all performance charts presented here. If you want to use these data, or part of it, please contact the author by personal message to TOPOLO on check-six forum: (<http://www.checksix-forums.com/>)

# Level Flight Envelope

# Level Flight Envelope

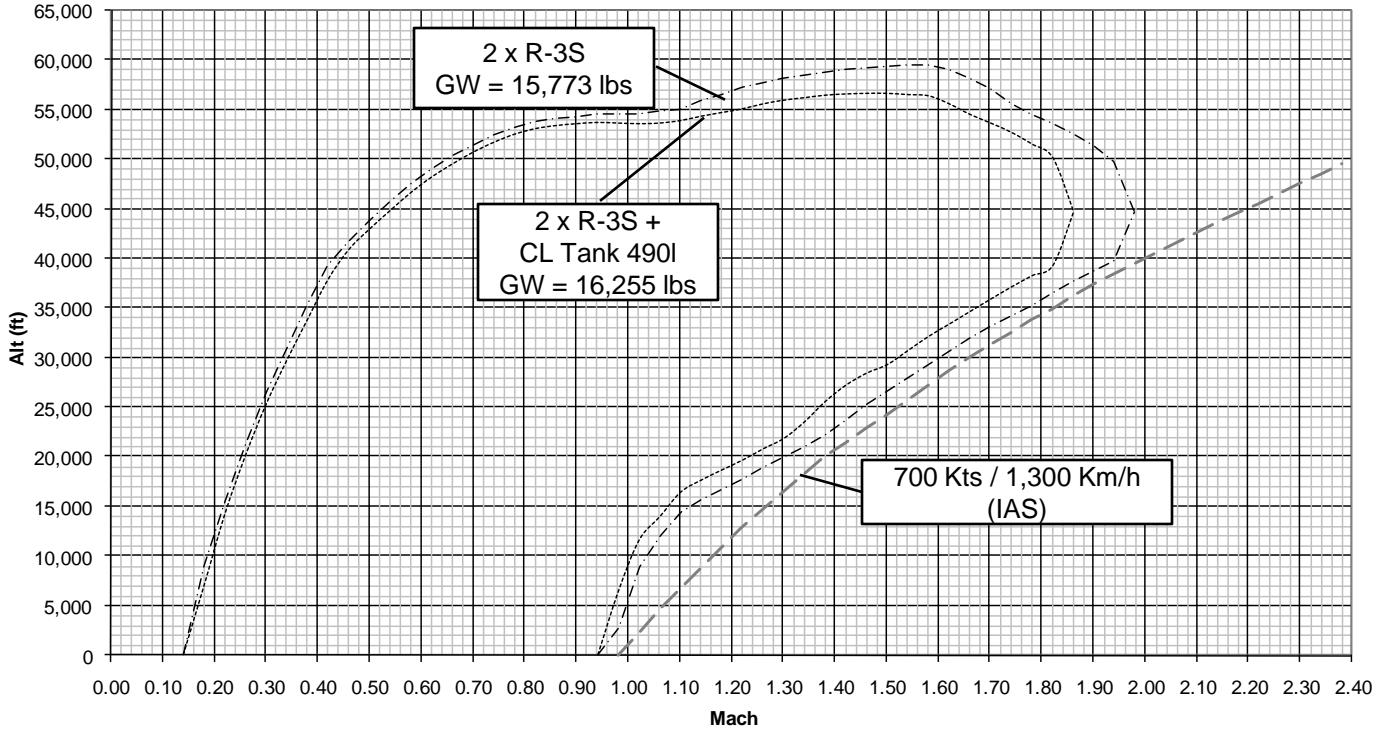
**DATA BASIS : ESTIMATED**

**CONDITIONS:**

- Standard Day
- Max AB

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**



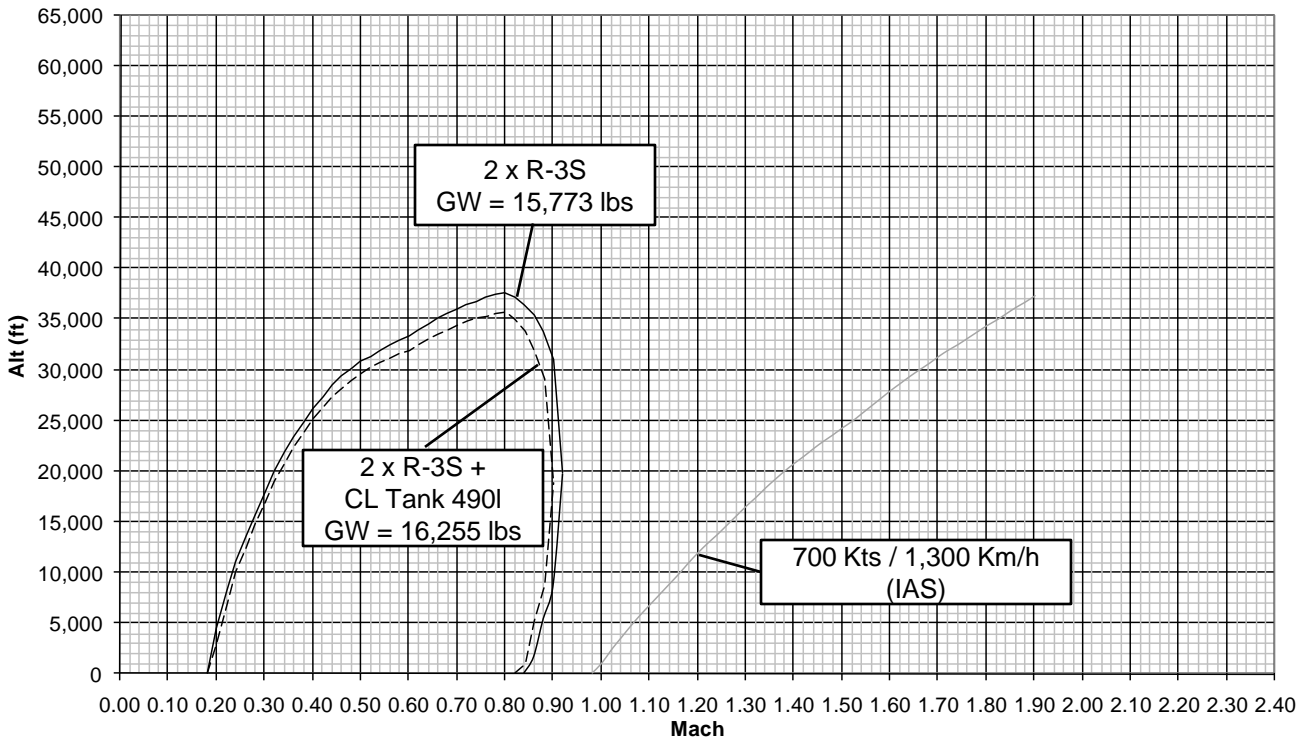
**DATA BASIS : ESTIMATED**

**CONDITIONS:**

- Standard Day
- MILL Power

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**



# Turn Performance

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**

## **CONFIGURATIONS :**

- DRAG INDEX = 12 (2xR-3S)**
- 50% internal fuel**
- GW= 15,673 lbs / 7,100 kg**

# Turn Rate – Summary

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine :Tumanskiy R-11F2SK-200**

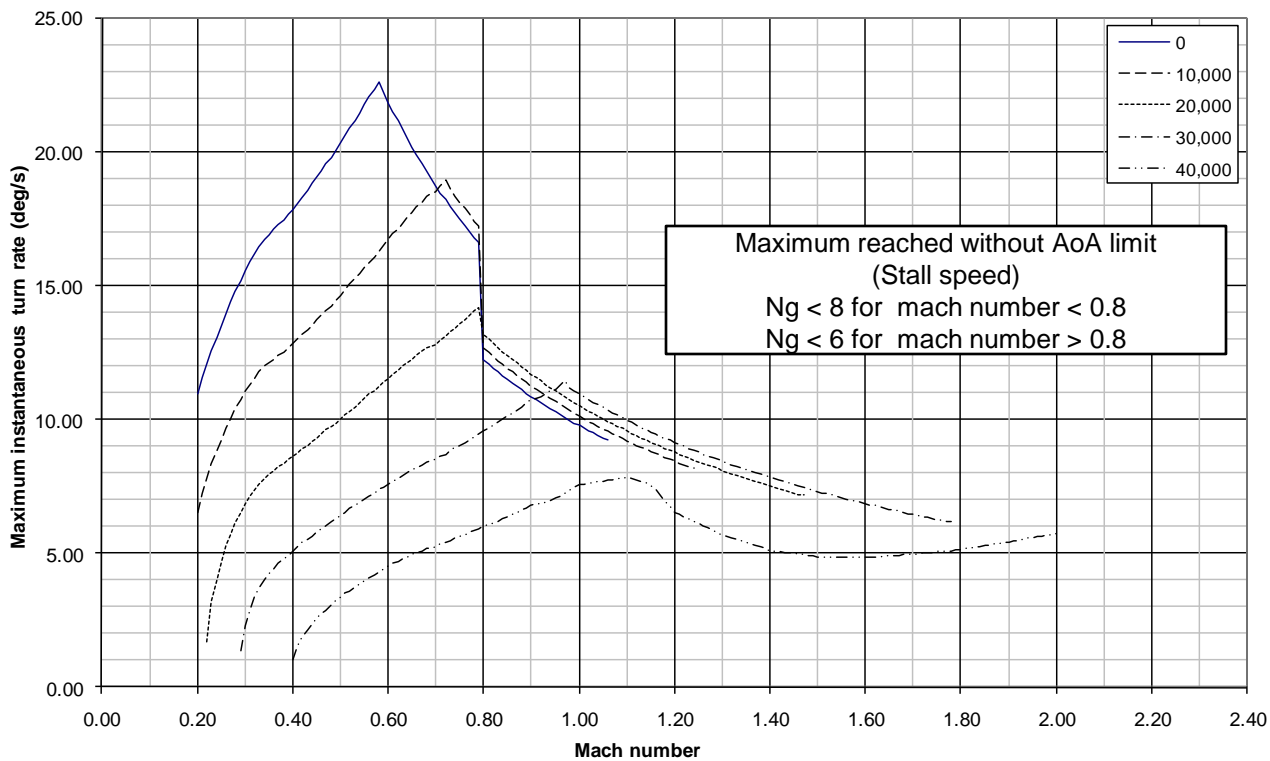
**CONDITIONS:**

- Standard Day
- Max AB

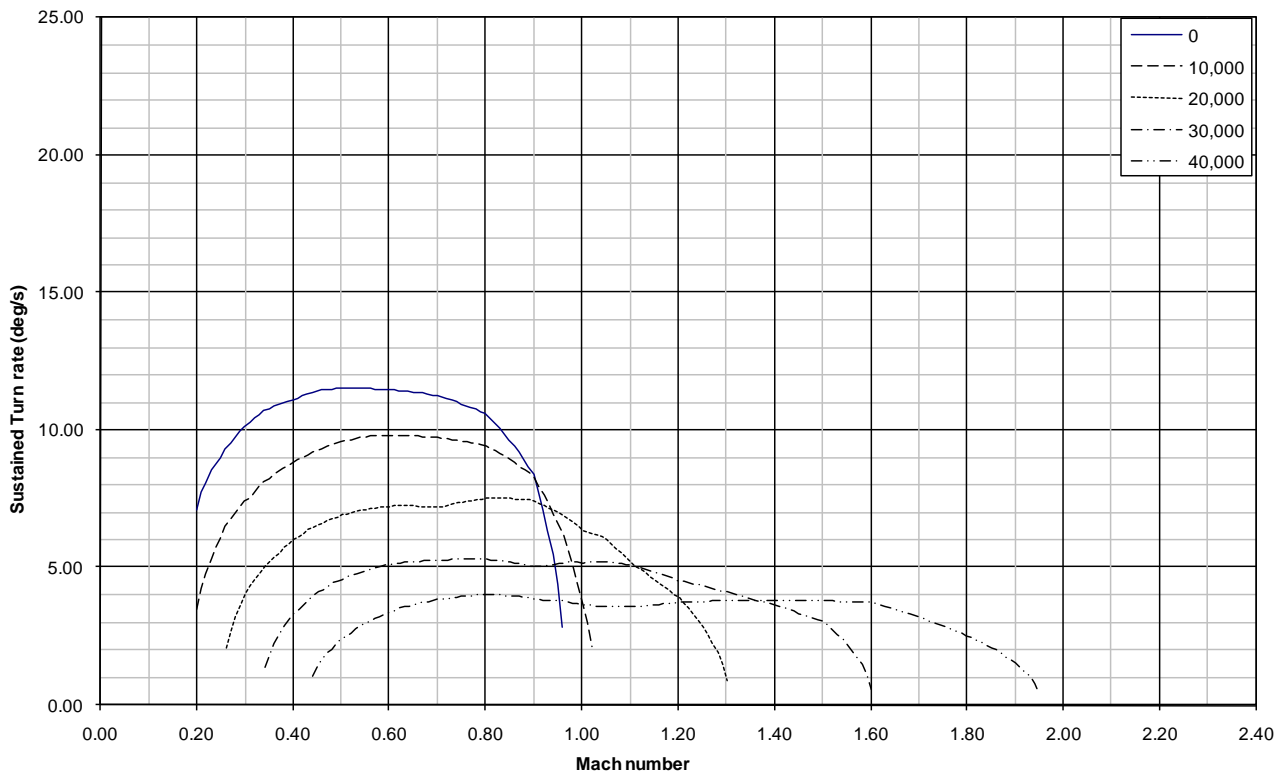
**CONFIGURATIONS :**

- DRAG INDEX = 12 (2xR-3S)
- GW=15,673 lbs / 7,100 kg

**Maximum Available Turn Rate**



**Maximum Sustained Turn rate (deg/s)**



# Load Factor – Summary

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine :Tumanskiy R-11F2SK-200**

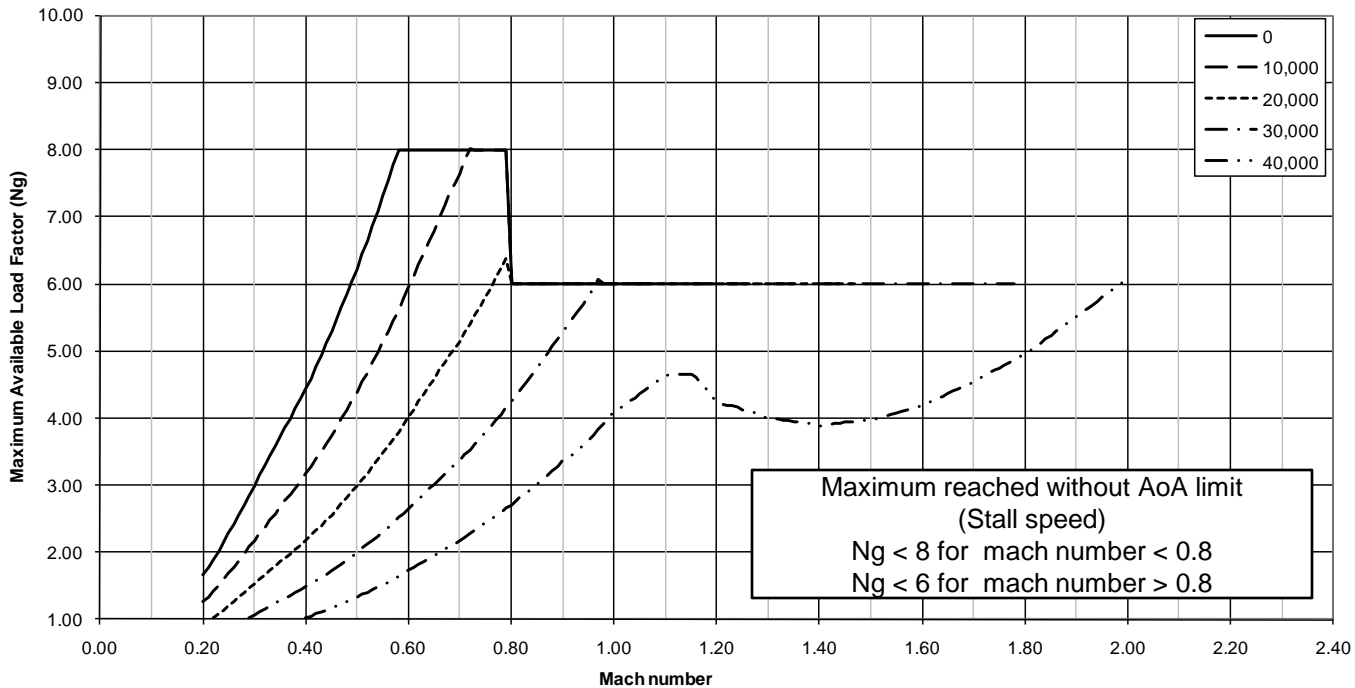
**CONDITIONS:**

- Standard Day
- Max AB

**CONFIGURATIONS :**

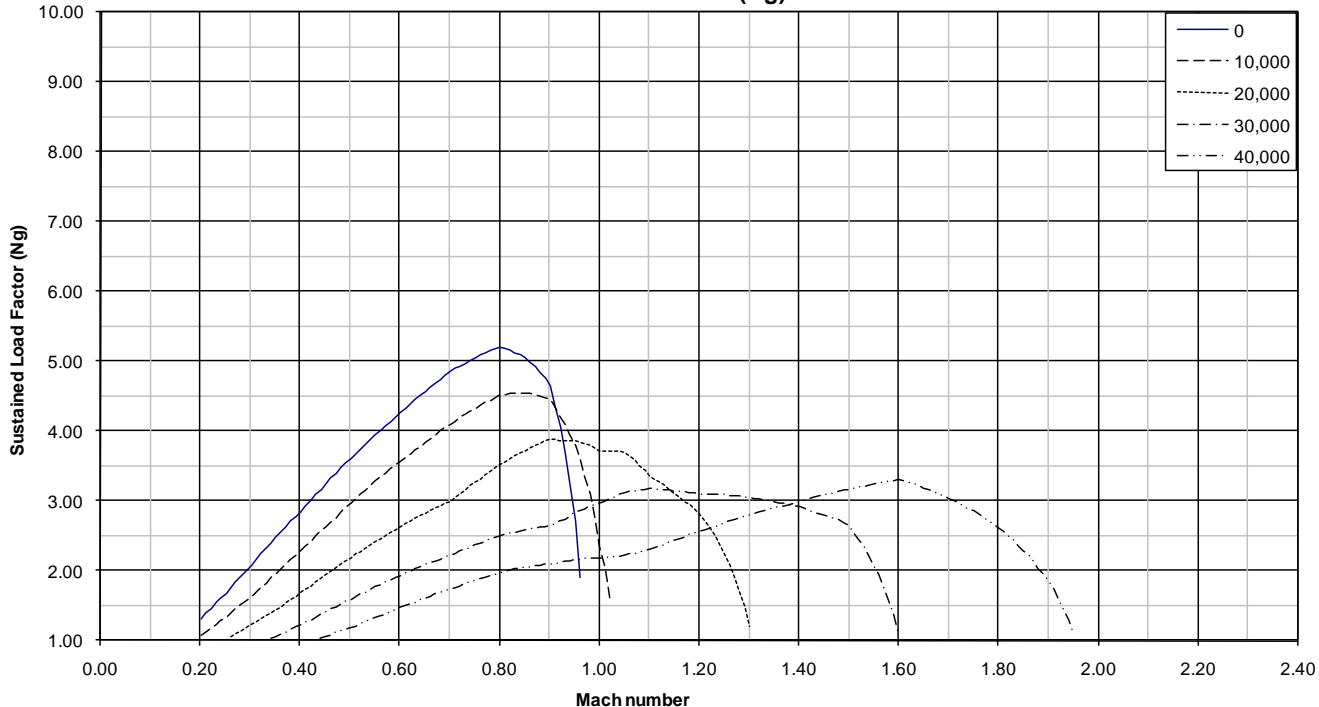
- DRAG INDEX = 12 (2xR-3S)
- GW=15,673 lbs / 7,100 kg

**Maximum Available Load Factor**



Maximum reached without AoA limit  
 (Stall speed)  
 Ng < 8 for mach number < 0.8  
 Ng < 6 for mach number > 0.8

**Maximum Sustained Load Factor (Ng)**



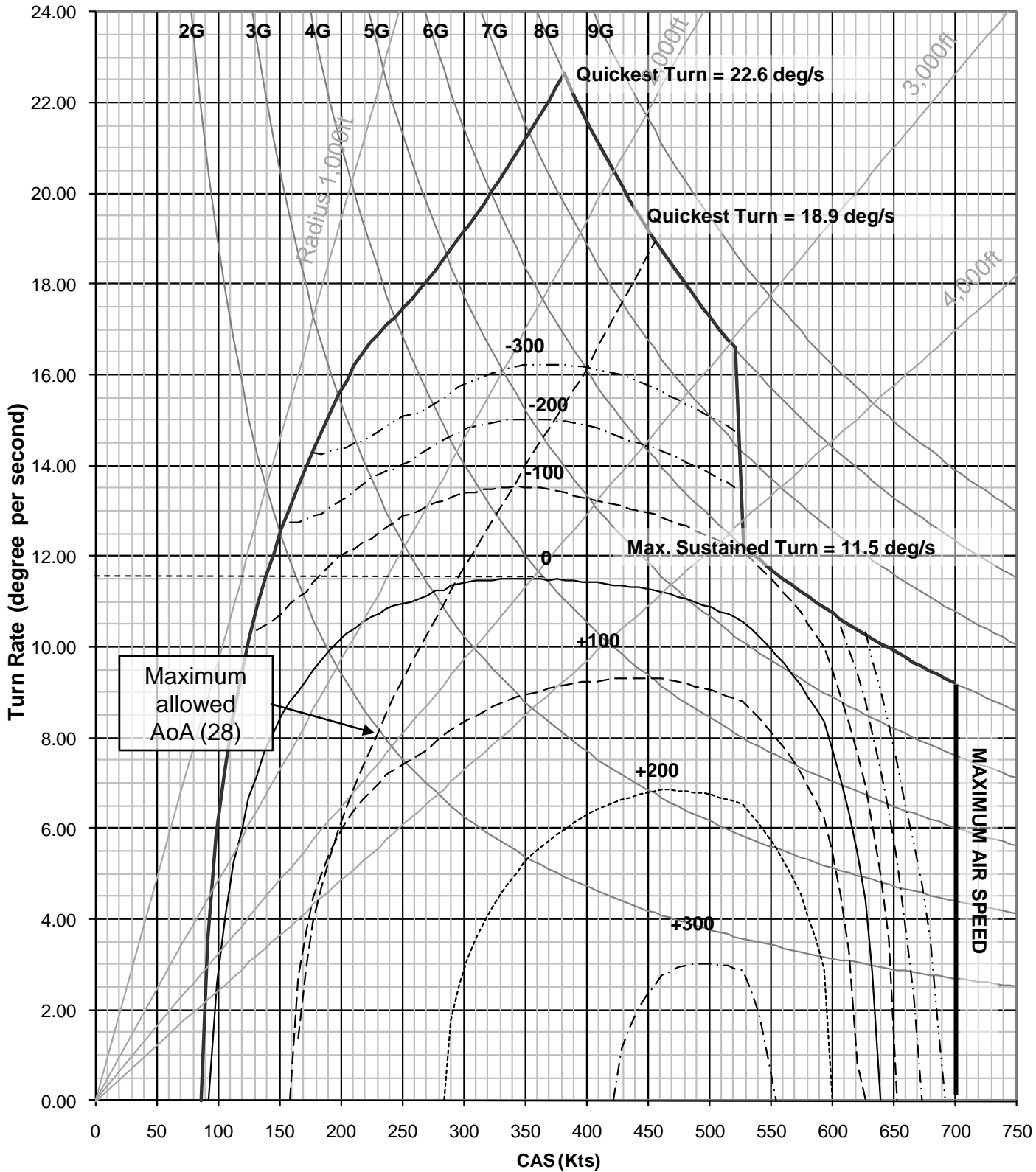
# Turn Performance – Sea Level

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg



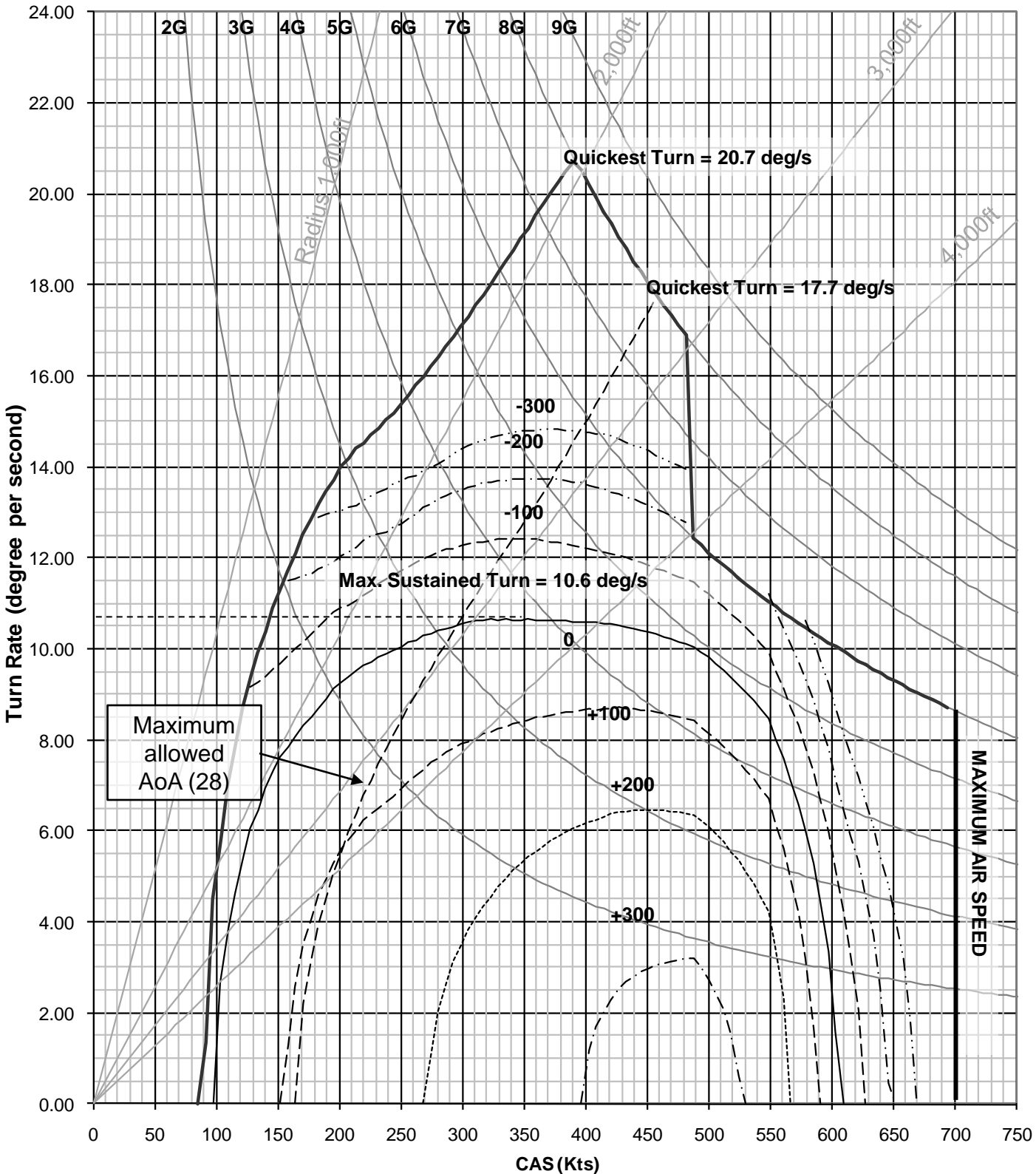
# Turn Performance – 5,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg





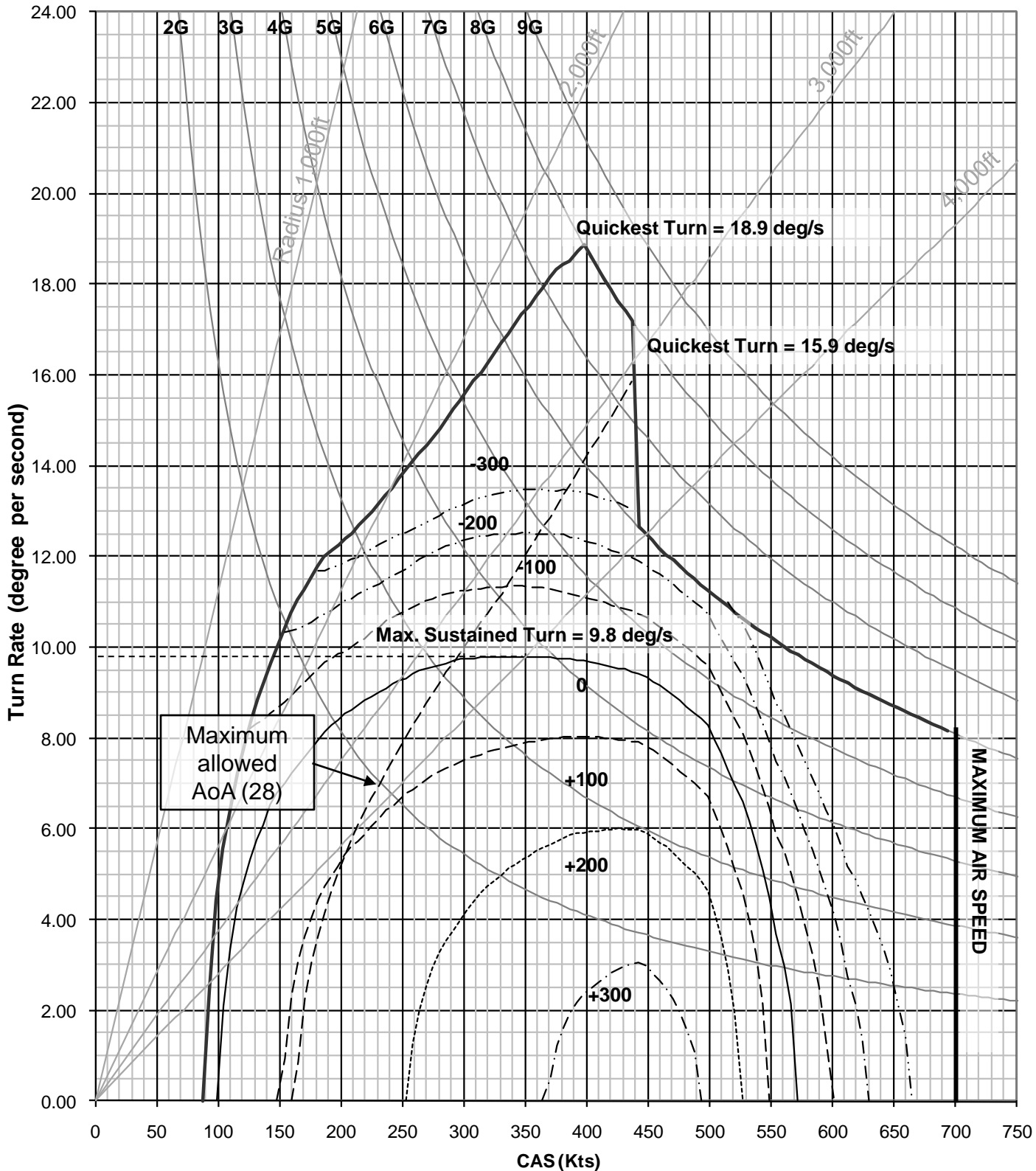
# Turn Performance – 10,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg



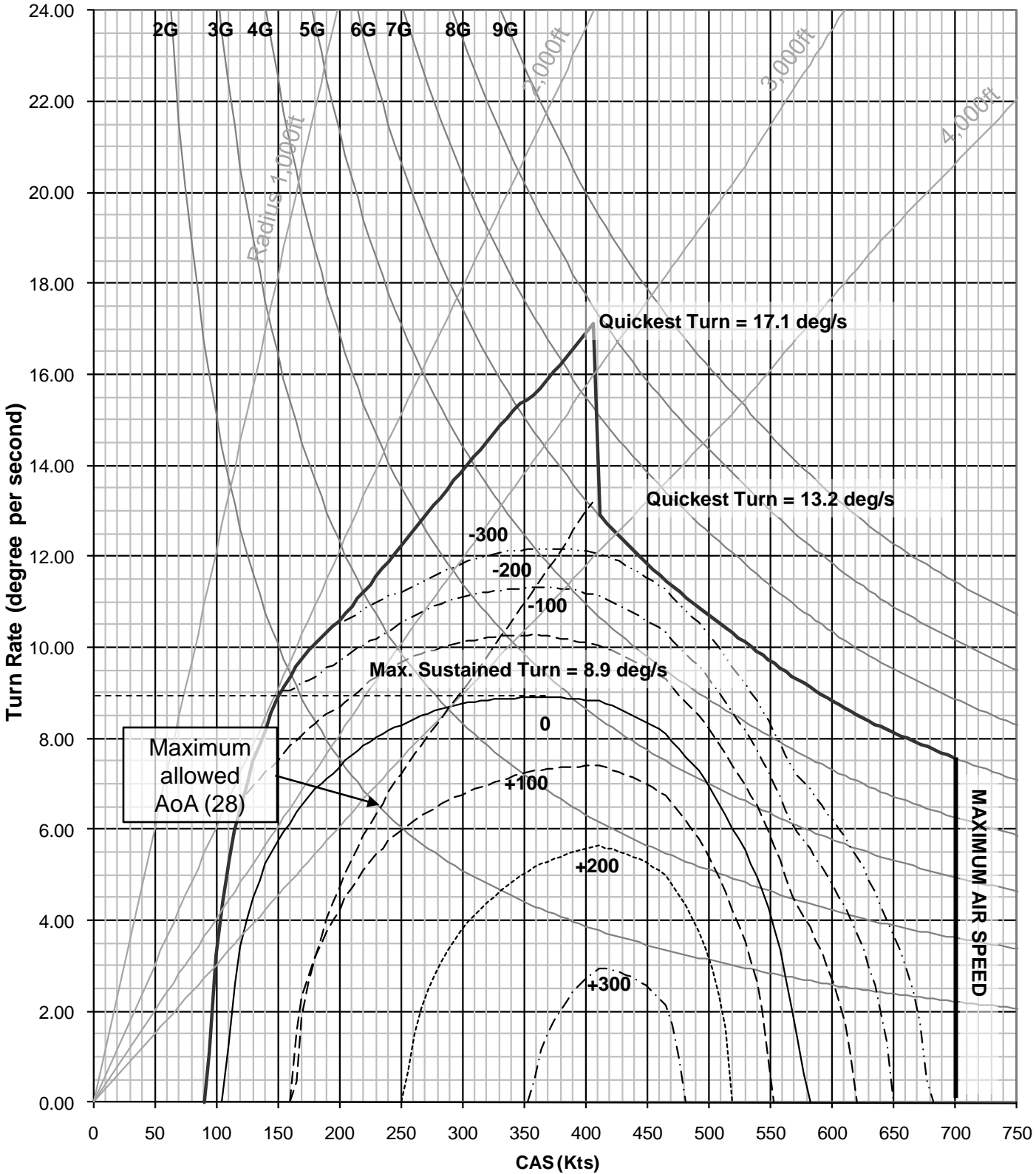
# Turn Performance – 15,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg



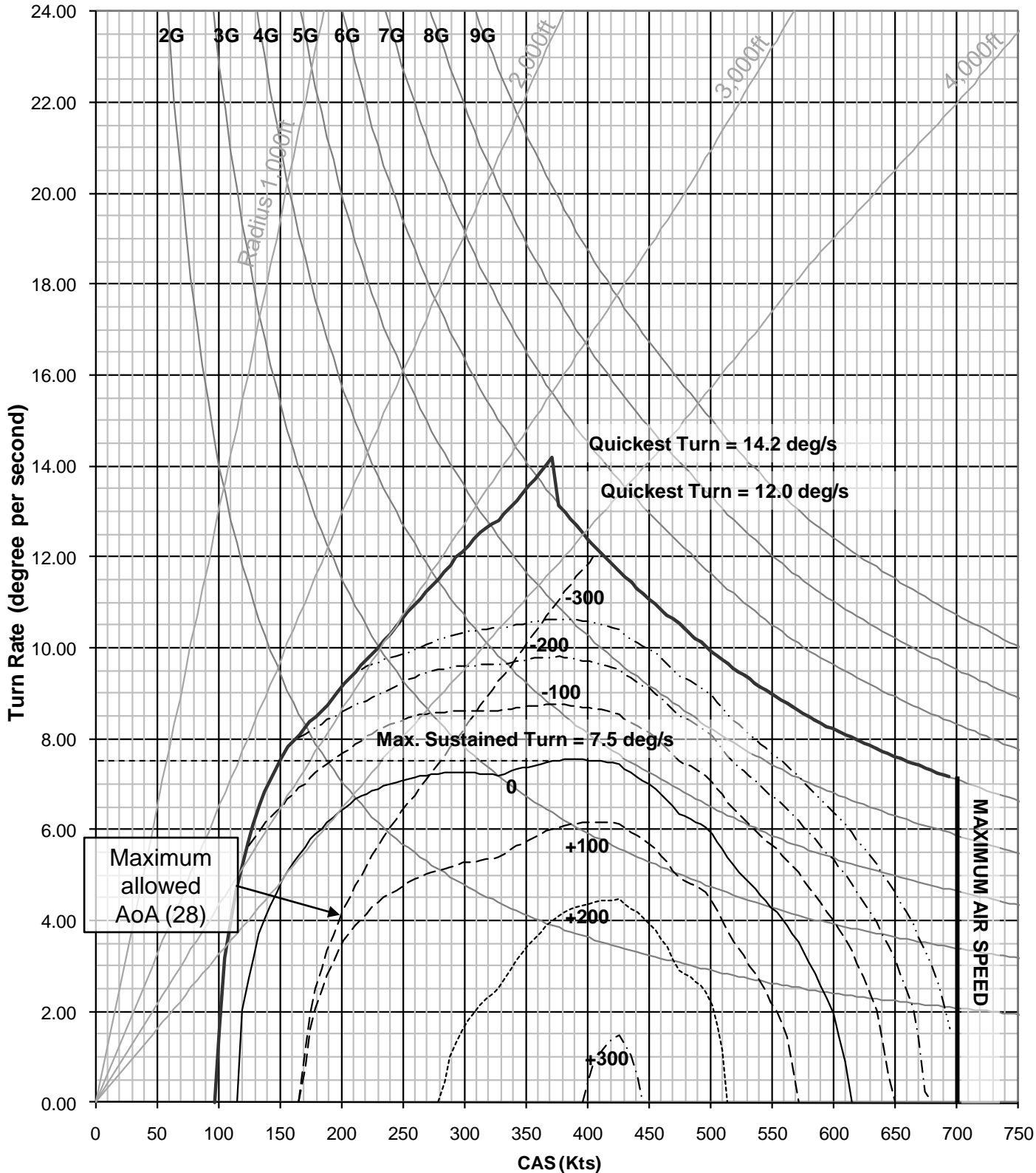
# Turn Performance – 20,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg



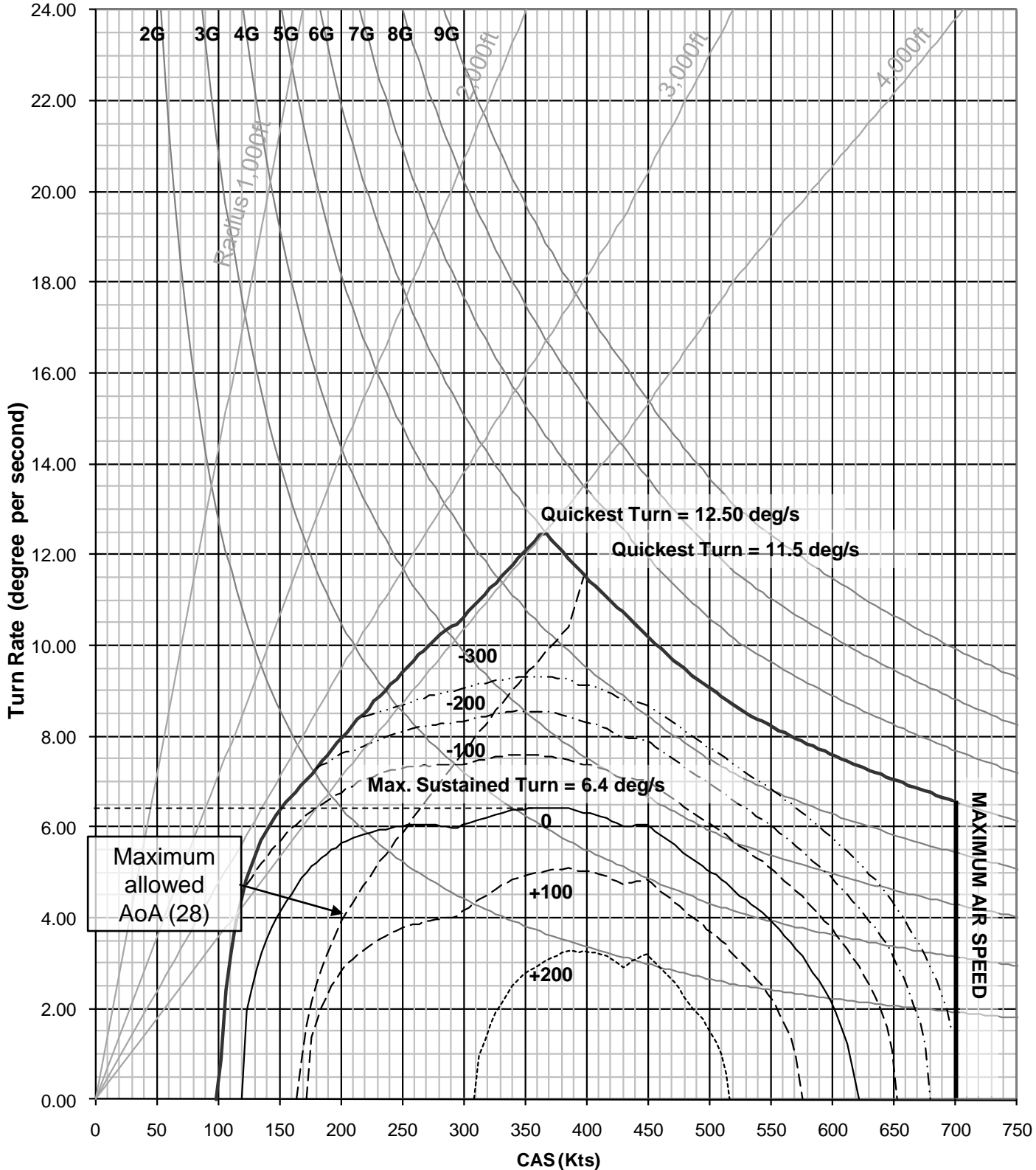
# Turn Performance – 25,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg



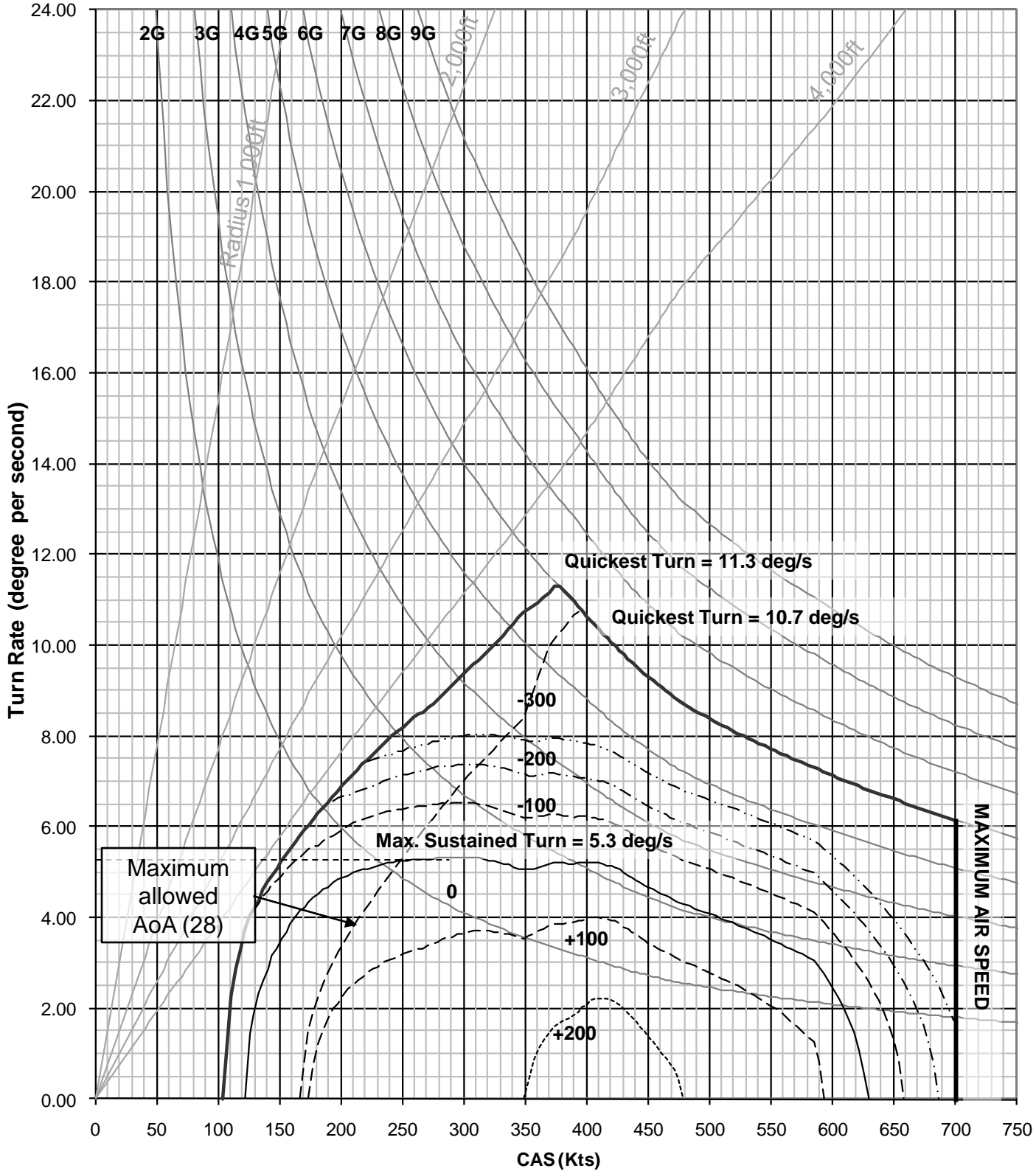
# Turn Performance – 30,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg



# Turn Performance – 35,000 ft

**DATA BASIS : ESTIMATED**

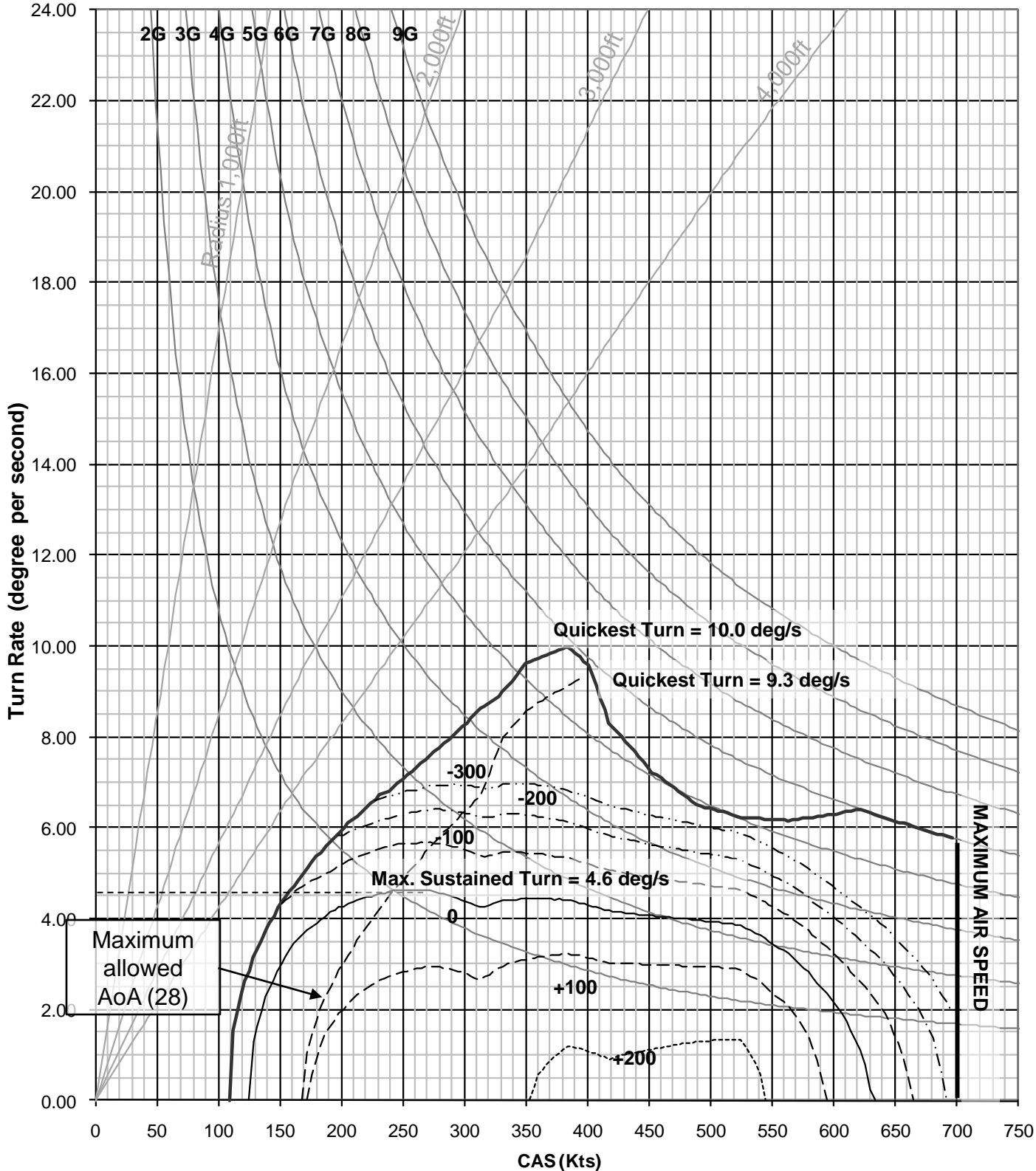
**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**

- Standard Day
- Max AB

**CONFIGURATIONS :**

- DRAG INDEX = 12 (2xR-3S)
- GW=15,673 lbs / 7,100 kg



# Climb Performance

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**

**CONFIGURATIONS :**

**•DRAG INDEX = 12 (2xR-3S)**

**•50% internal fuel**

**•GW= 15,673 lbs / 7,100 kg**

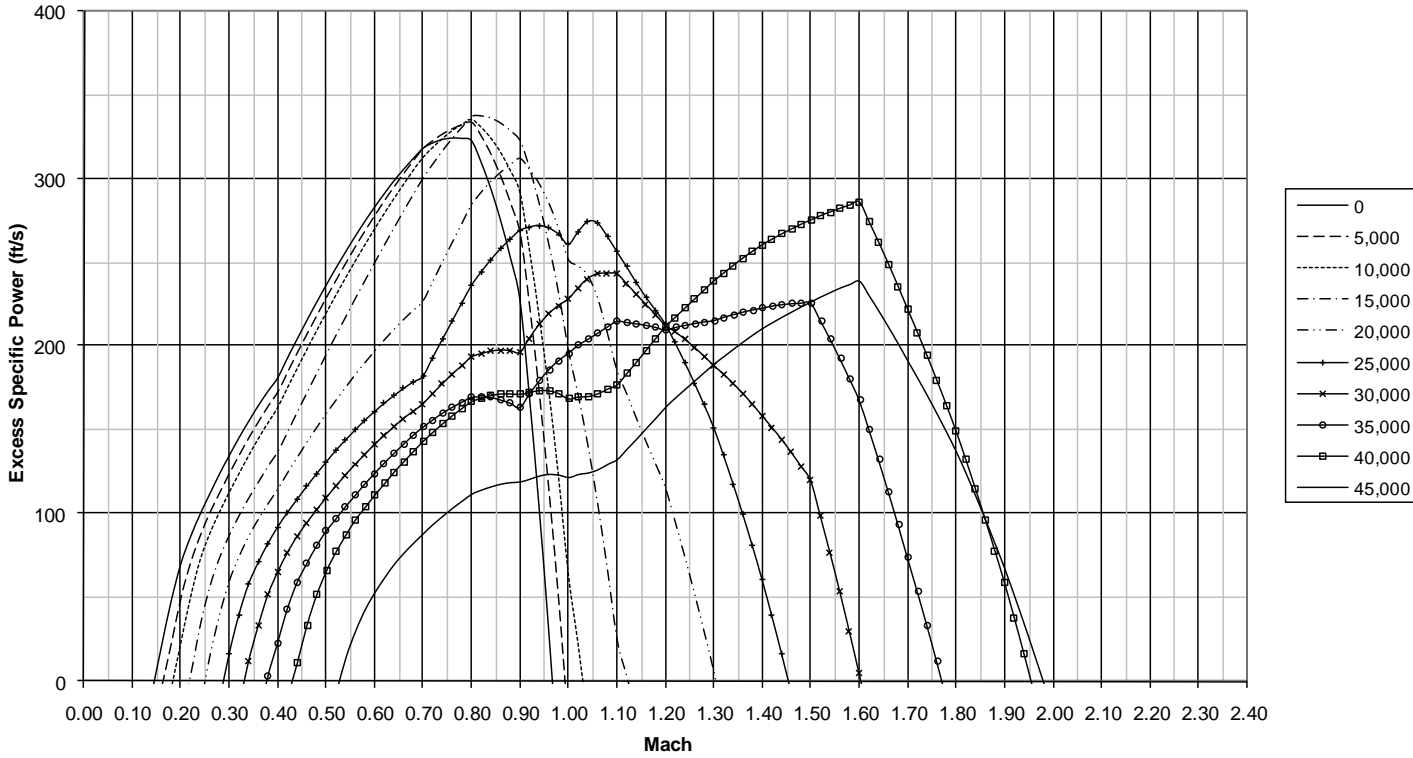
DATA BASIS : ESTIMATED

Aircraft : MIG-21M iz.96A  
 Engine : Tumanskiy R-11F2SK-200

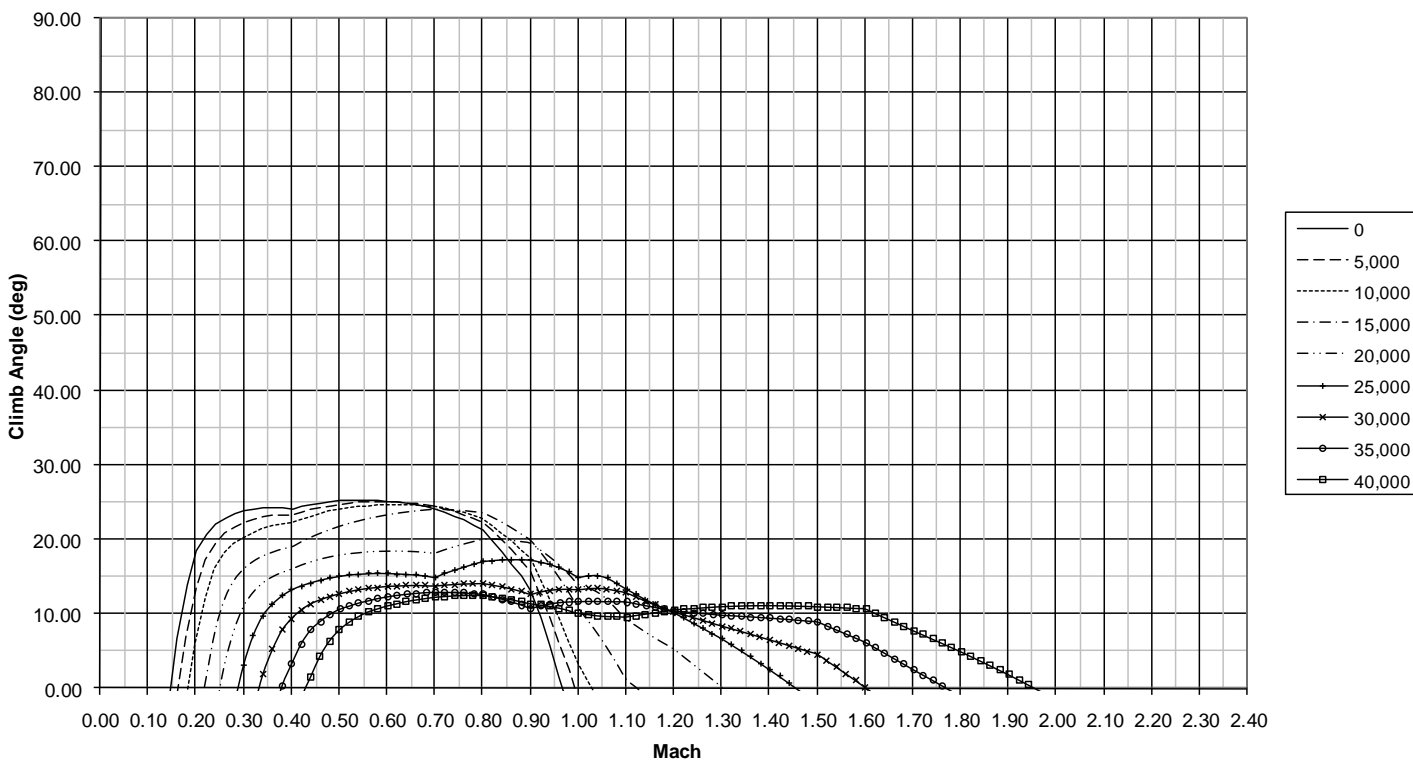
CONDITIONS:  
 •Standard Day  
 •Max AB

CONFIGURATIONS :  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle





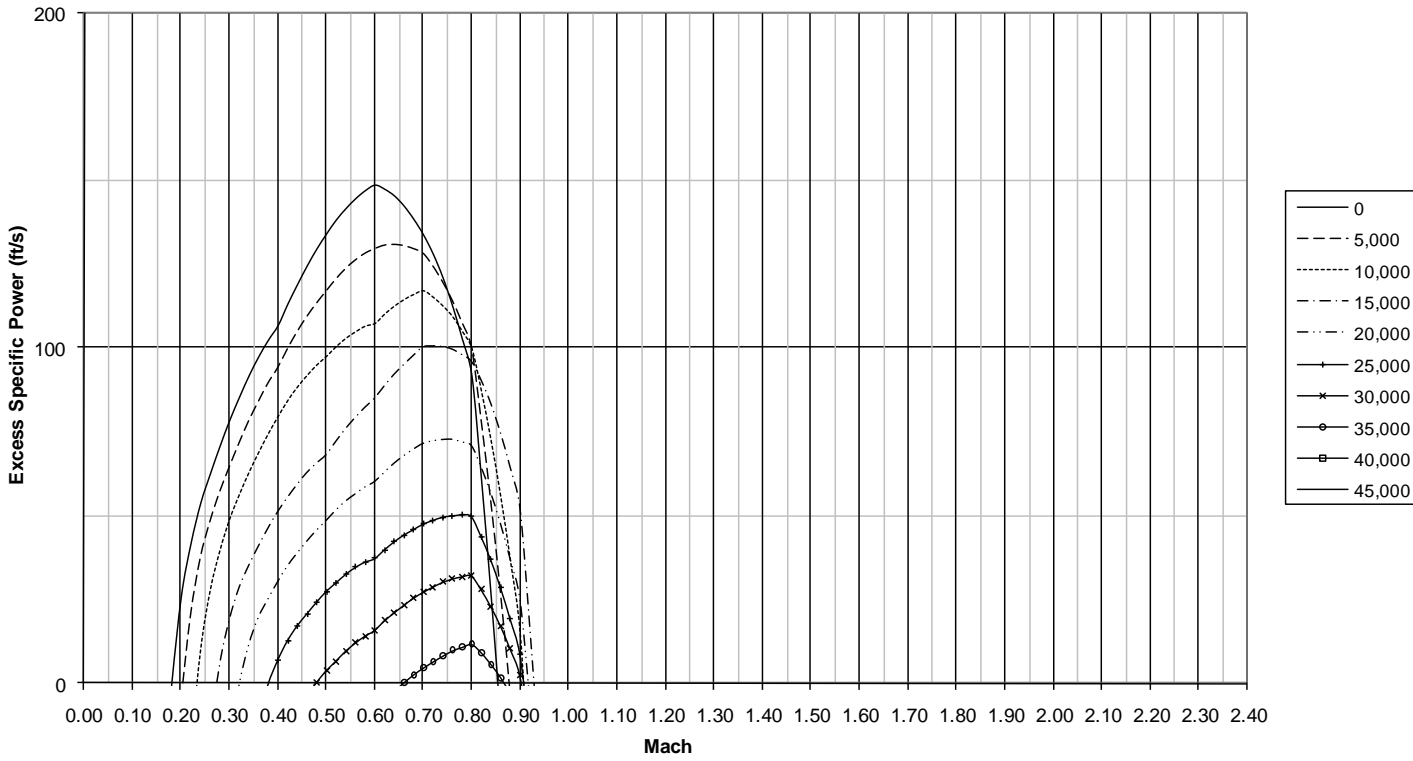
DATA BASIS : ESTIMATED

Aircraft : MIG-21M iz.96A  
 Engine :Tumanskiy R-11F2SK-200

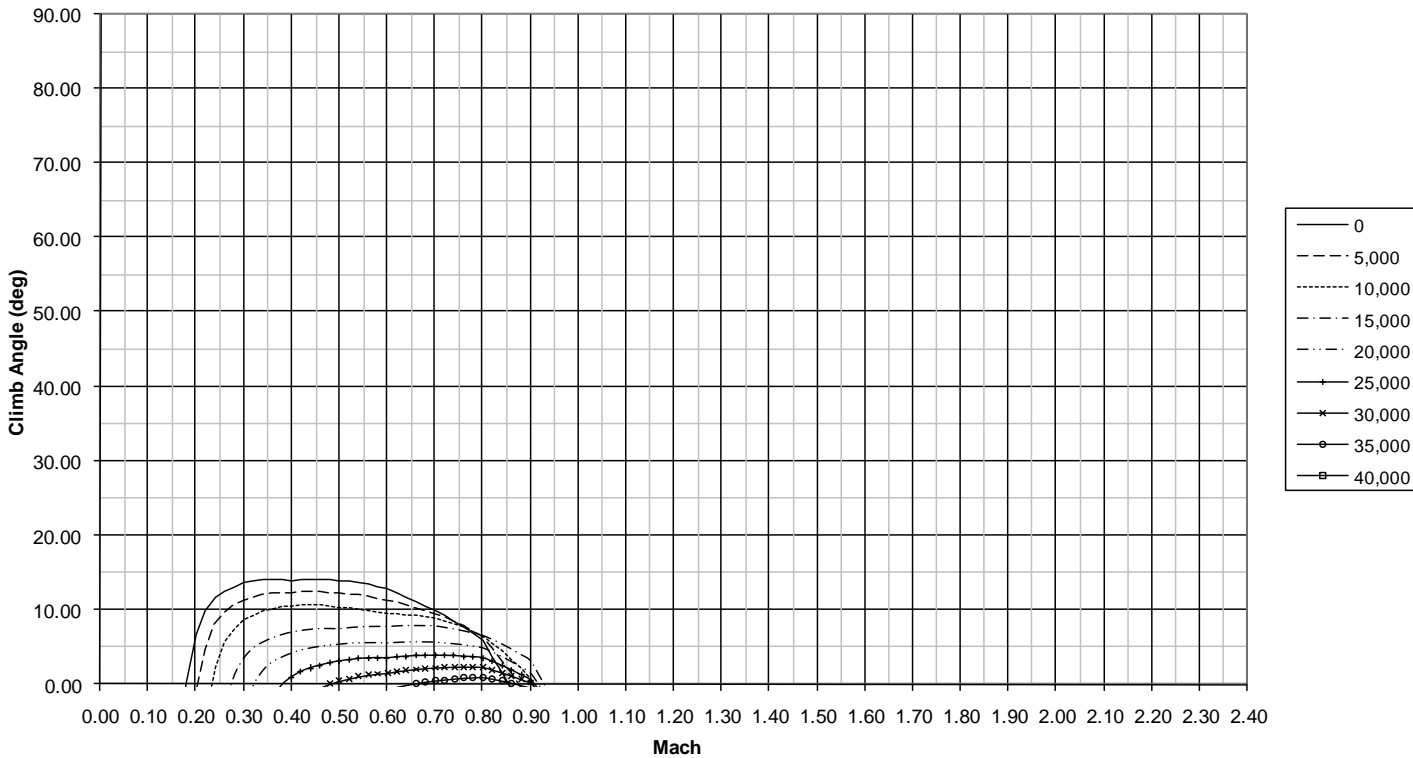
CONDITIONS:  
 •Standard Day  
 •MIL Power

CONFIGURATIONS :  
 •DRAG INDEX = 12 (2xR-3S)  
 •GW=15,673 lbs / 7,100 kg

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle



# Acceleration Performances

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**

**CONFIGURATIONS :**

**•DRAG INDEX = 12 (2xR-3S)**

**•50% internal fuel**

**•GW= 15,673 lbs / 7,100 kg**

# Acceleration Diagram

**DATA BASIS : ESTIMATED**

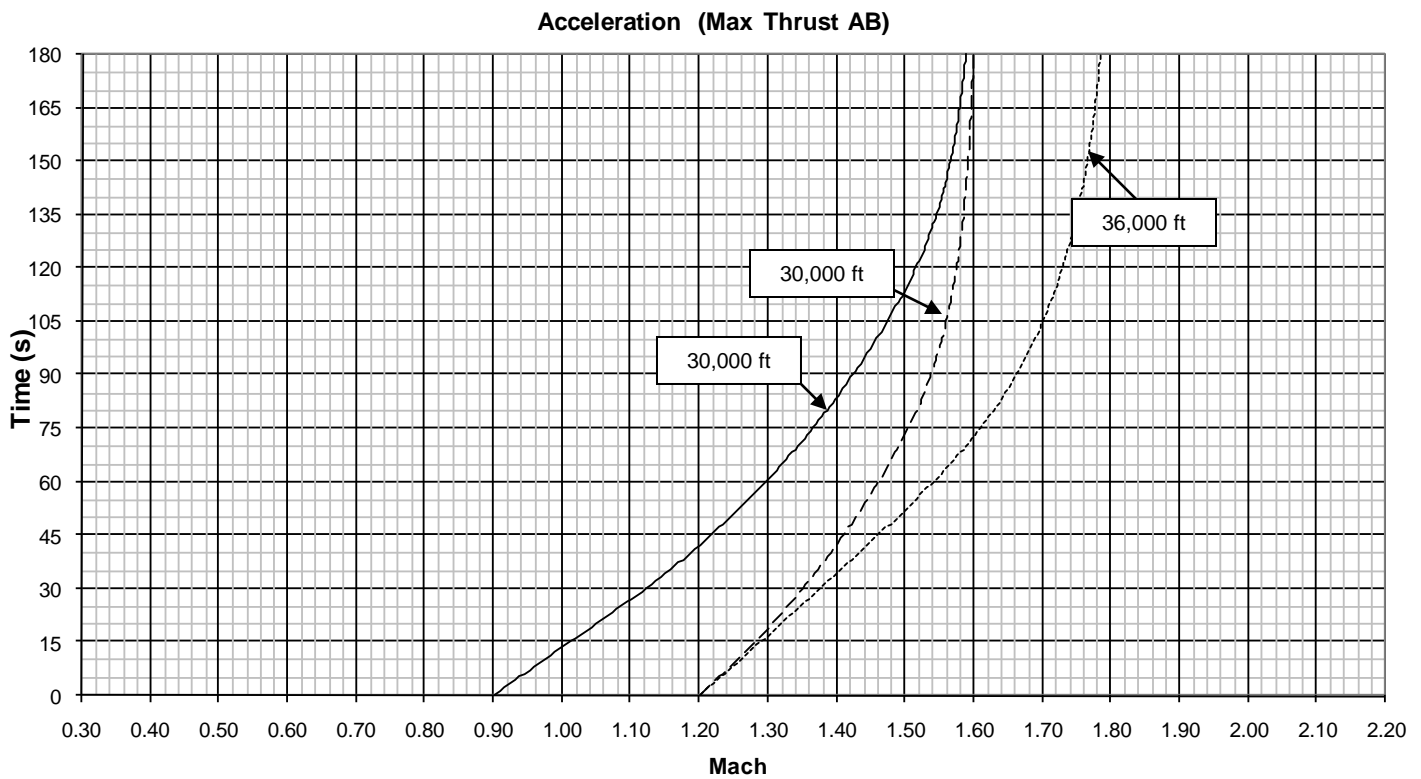
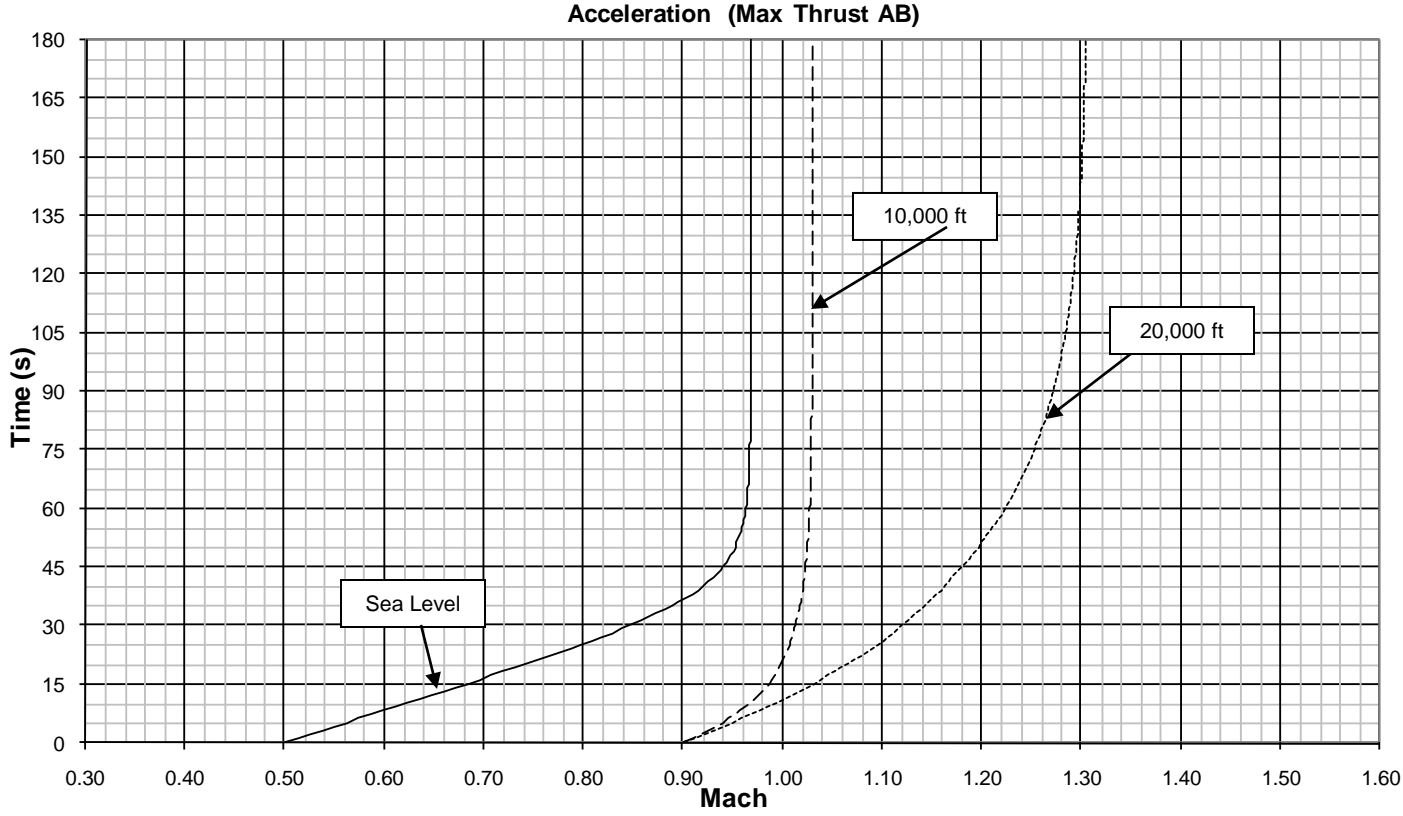
**Aircraft : MIG-21M iz.96A**  
**Engine :Tumanskiy R-11F2SK-200**

**CONDITIONS:**

- Standard Day
- Max AB

**CONFIGURATIONS :**

- DRAG INDEX = 12 (2xR-3S)
- GW=15,673 lbs / 7,100 kg



# Turn Performance

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**

## **CONFIGURATIONS :**

- DRAG INDEX = 13 (4xR-3S)**
- 50% internal fuel**
- GW= 16,194 lbs / 7,336 kg**

# Turn Rate – Summary

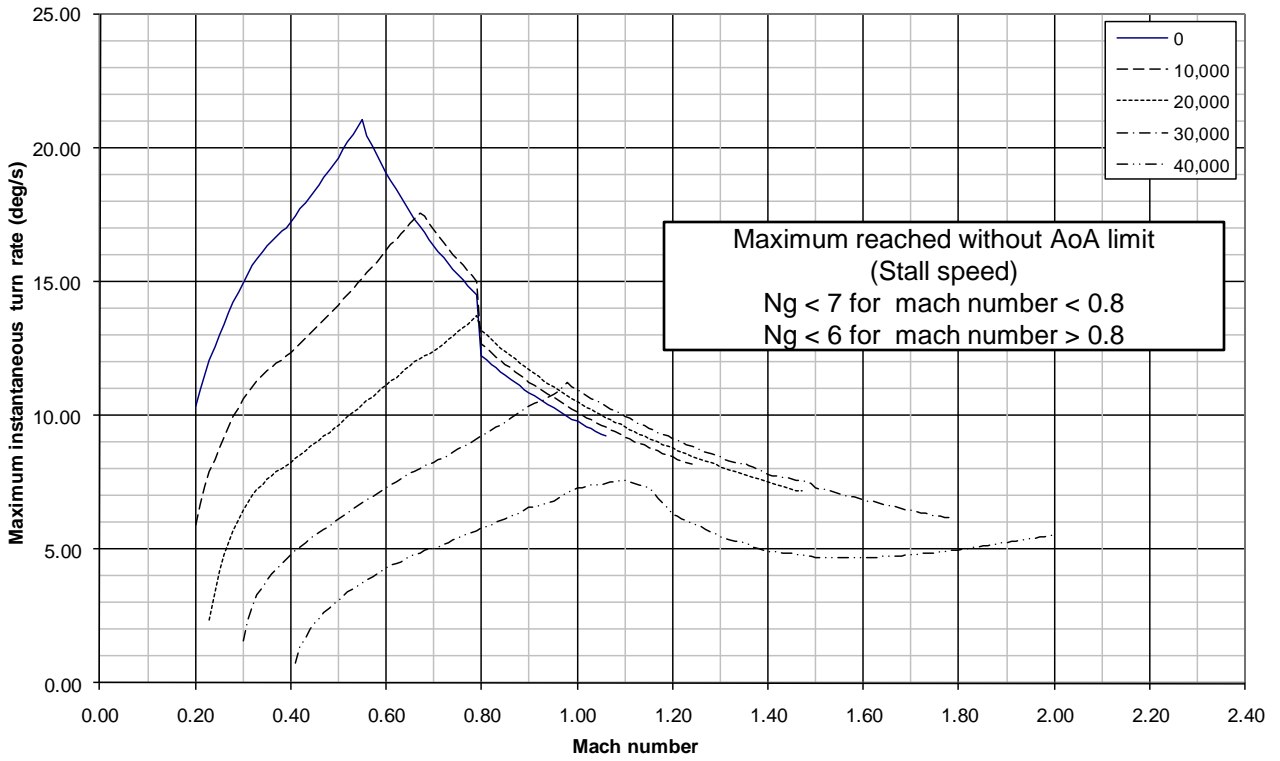
**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine :Tumanskiy R-11F2SK-200**

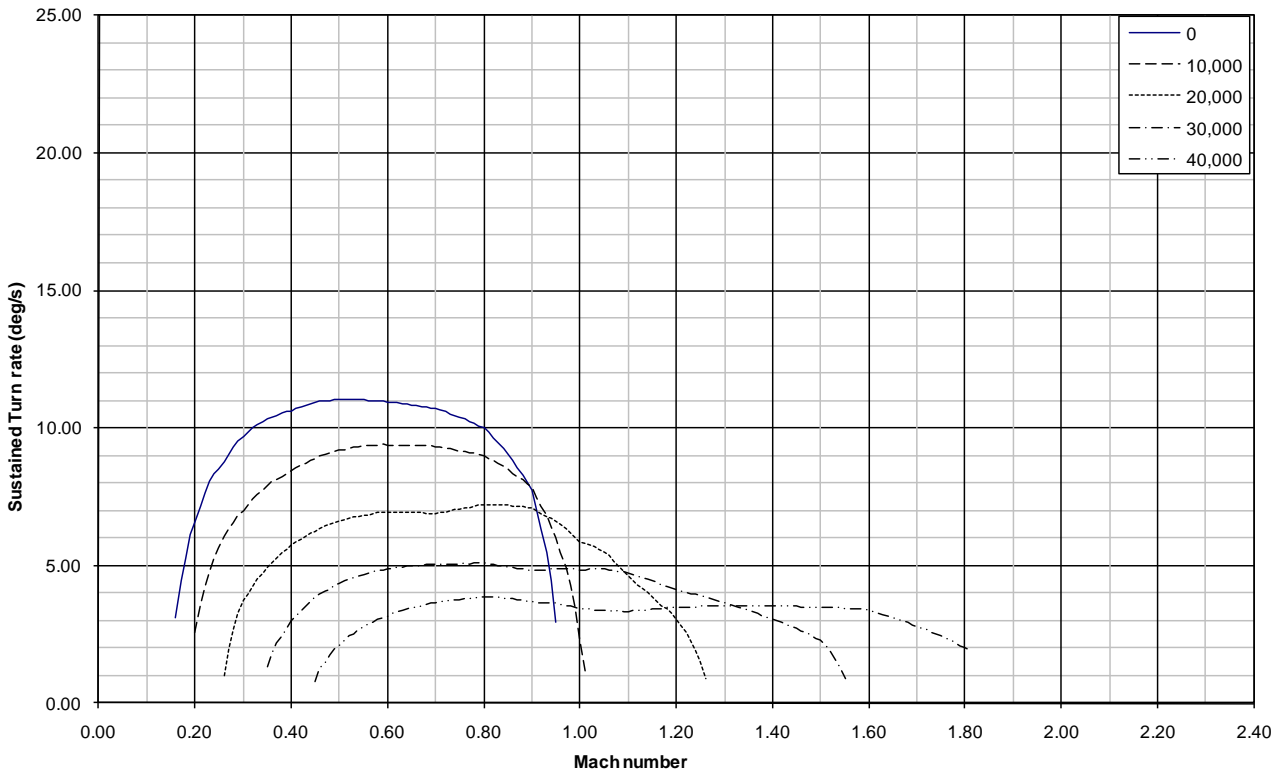
**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg

**Maximum Available Turn Rate**



**Maximum Sustained Turn rate (deg/s)**



# Load Factor – Summary

**DATA BASIS : ESTIMATED**

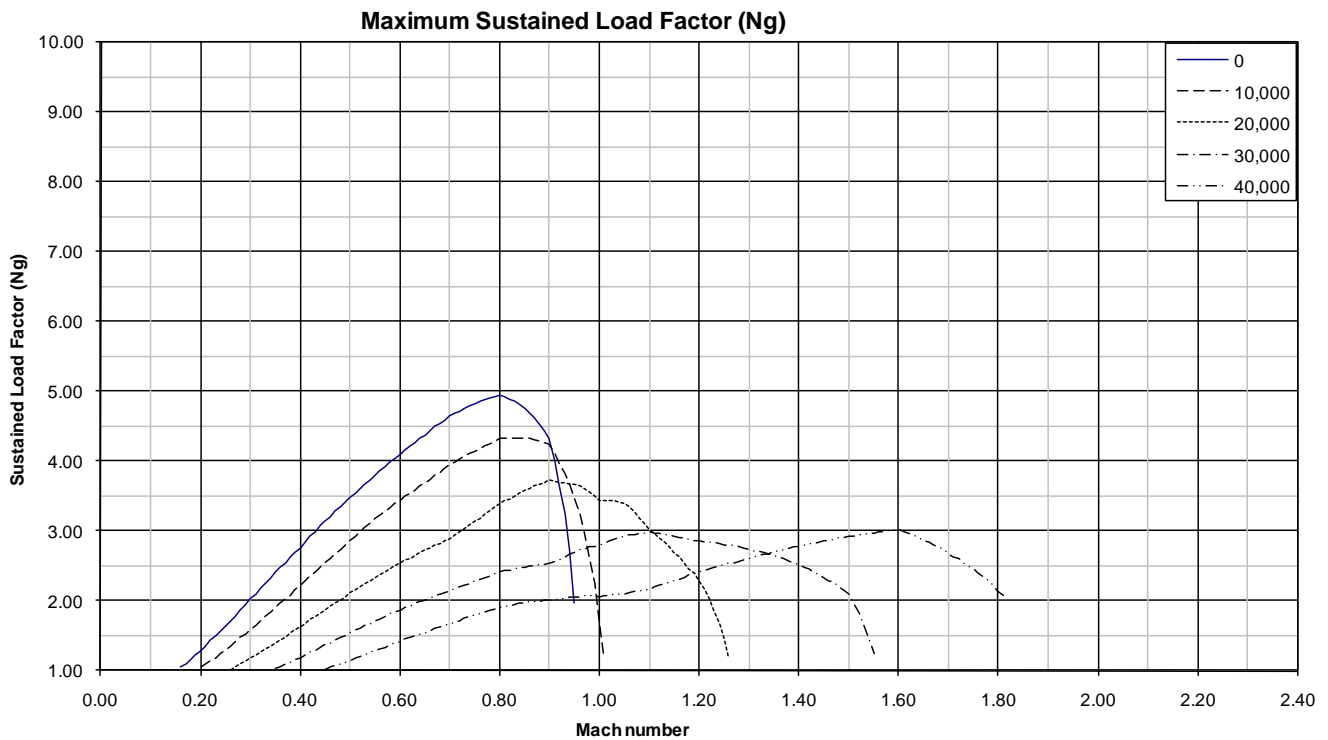
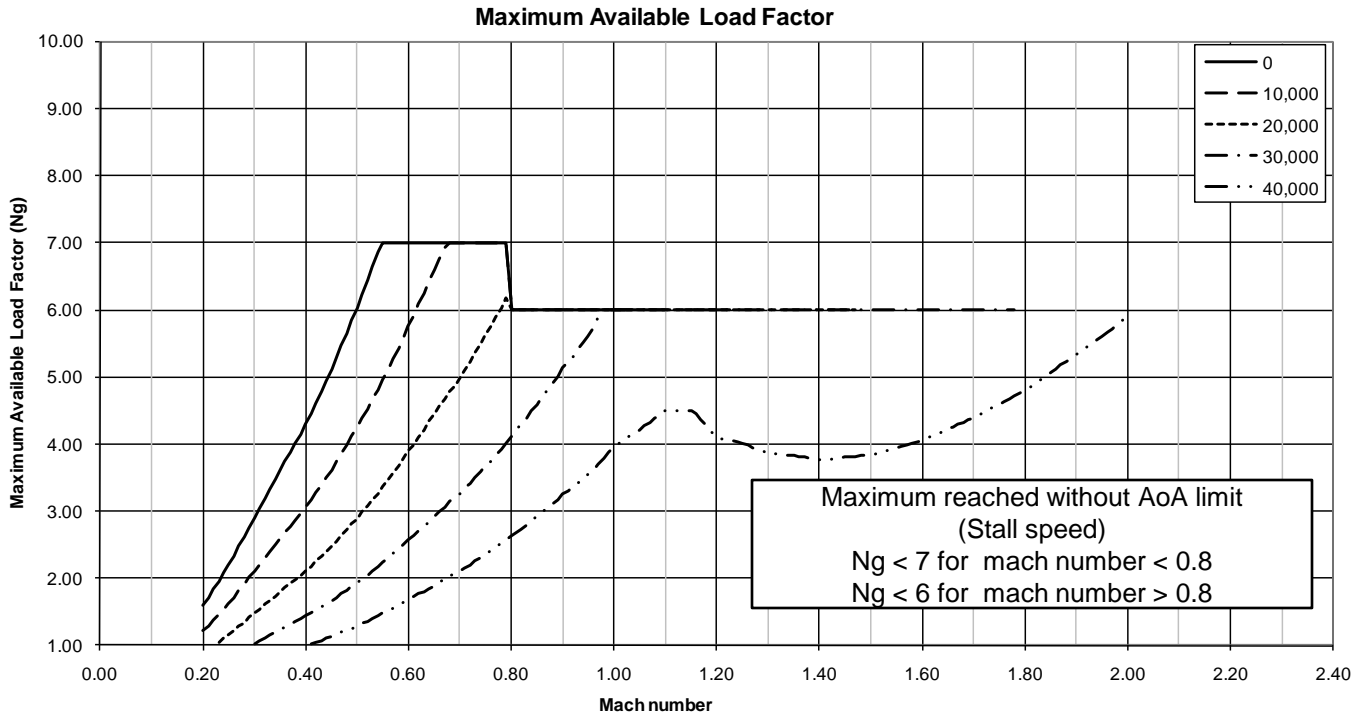
**Aircraft : MIG-21M iz.96A**  
**Engine :Tumanskiy R-11F2SK-200**

**CONDITIONS:**

- Standard Day
- Max AB

**CONFIGURATIONS :**

- DRAG INDEX = 13 (4xR-3S)
- GW= 16,194 lbs / 7,336 kg



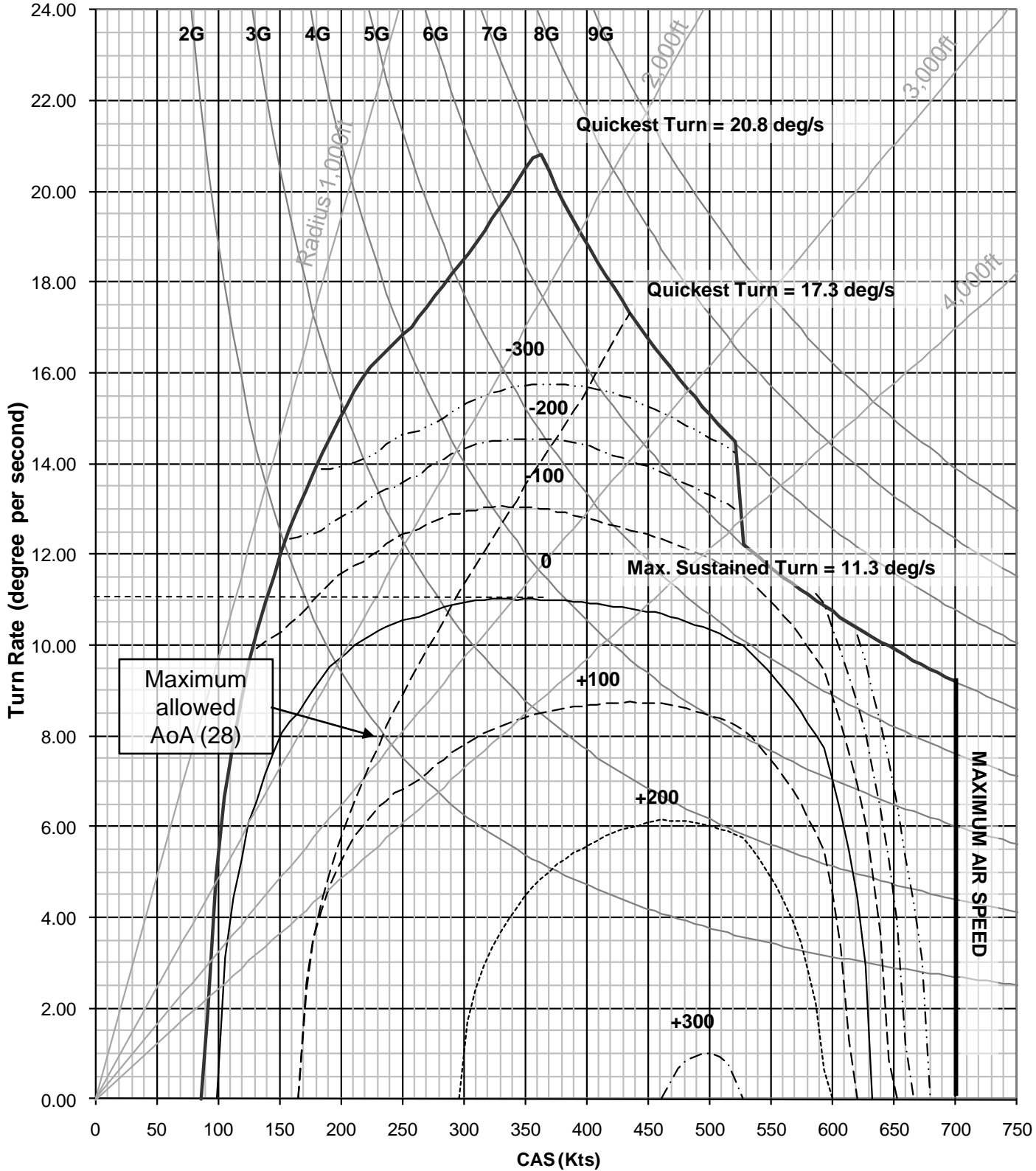
# Turn Performance – Sea Level

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



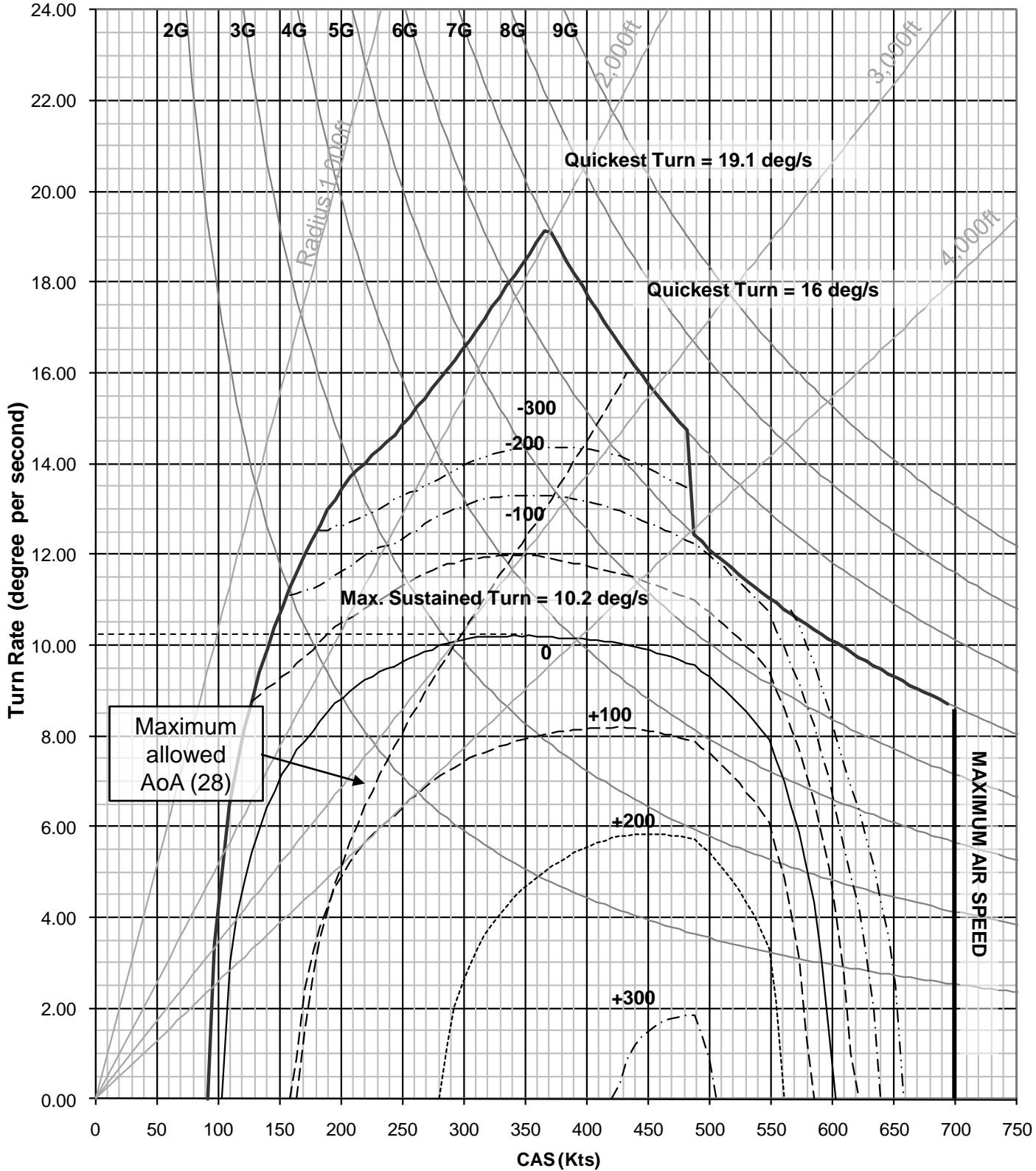
# Turn Performance – 5,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg





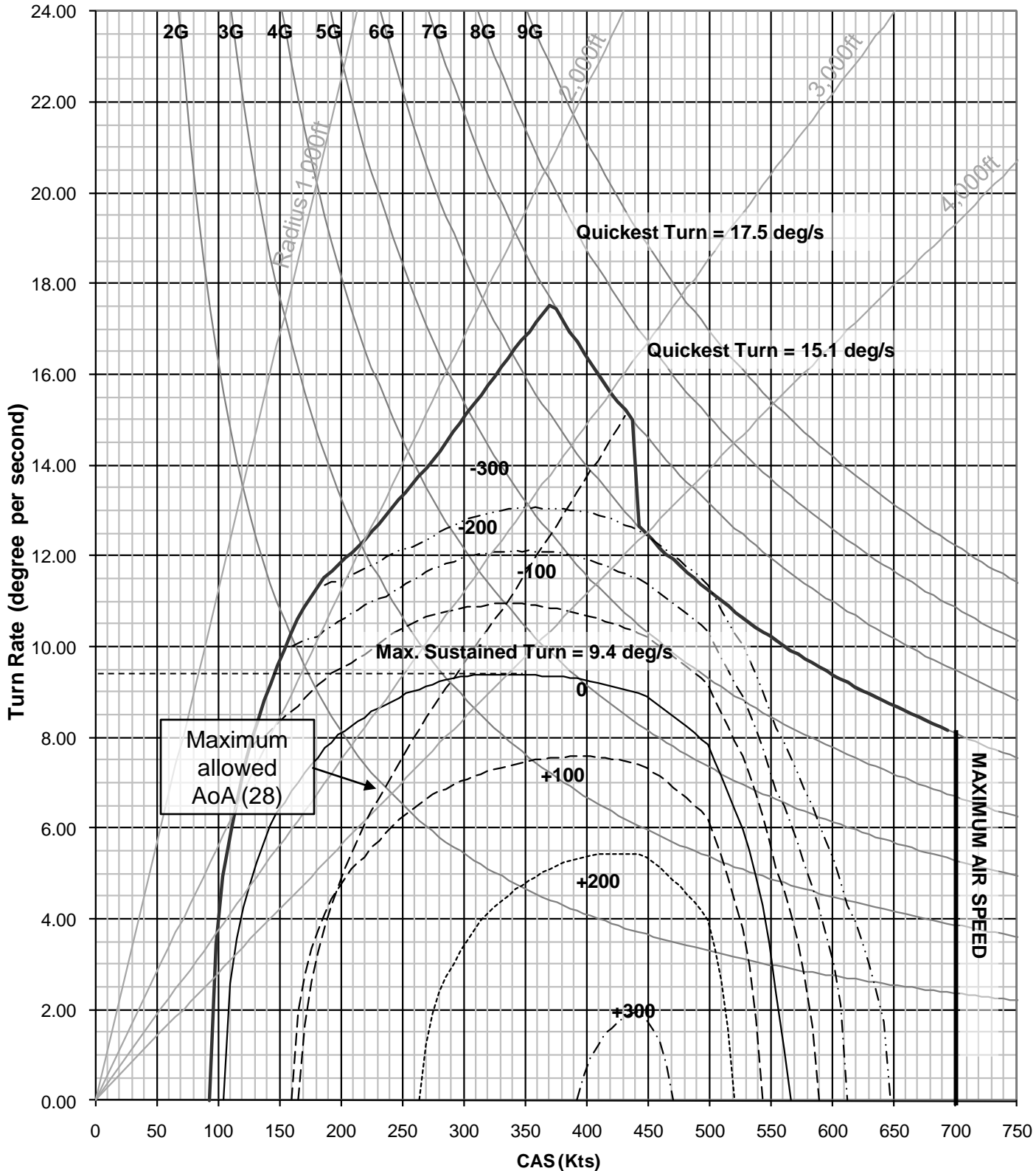
# Turn Performance – 10,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



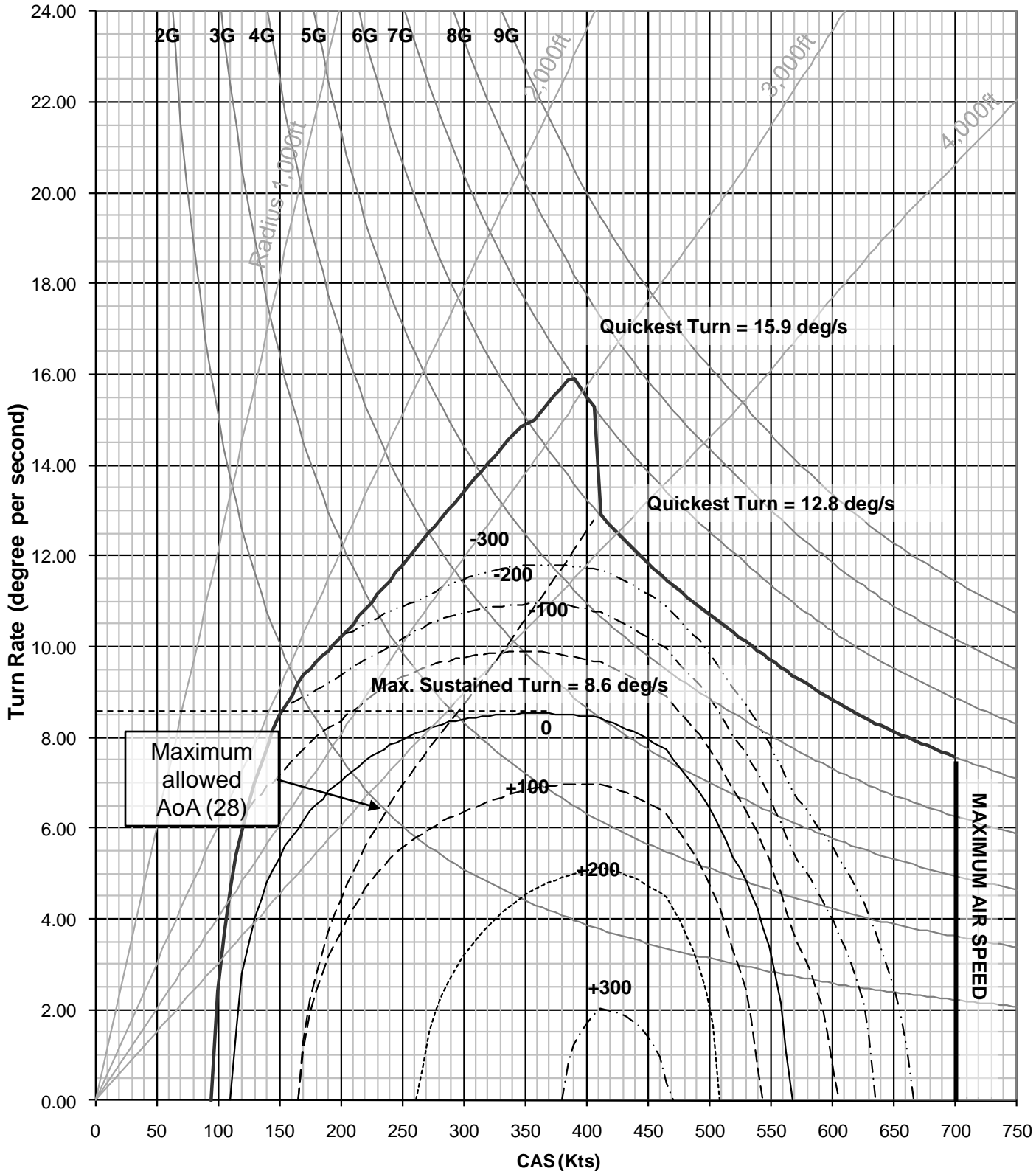
# Turn Performance – 15,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



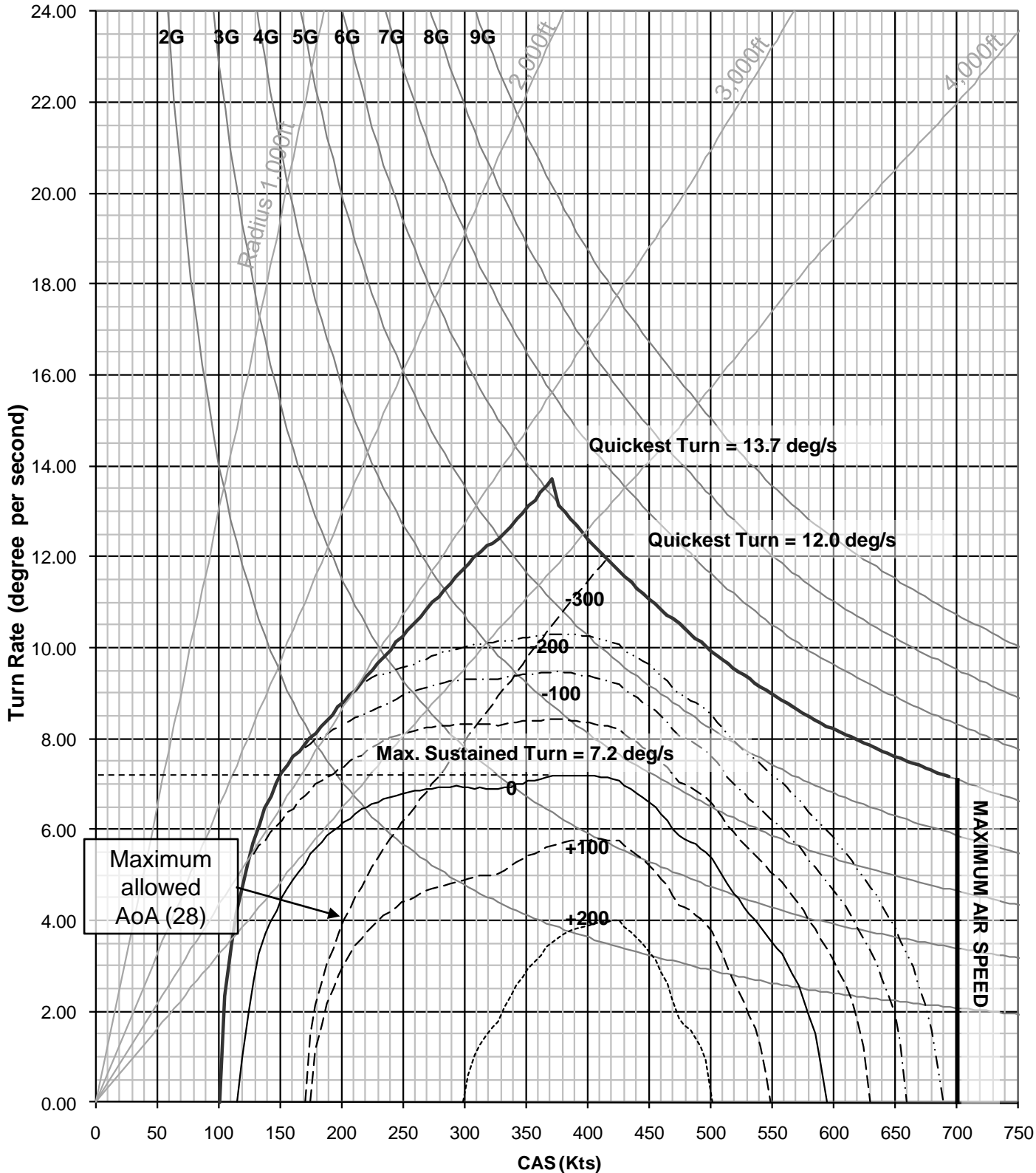
# Turn Performance – 20,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



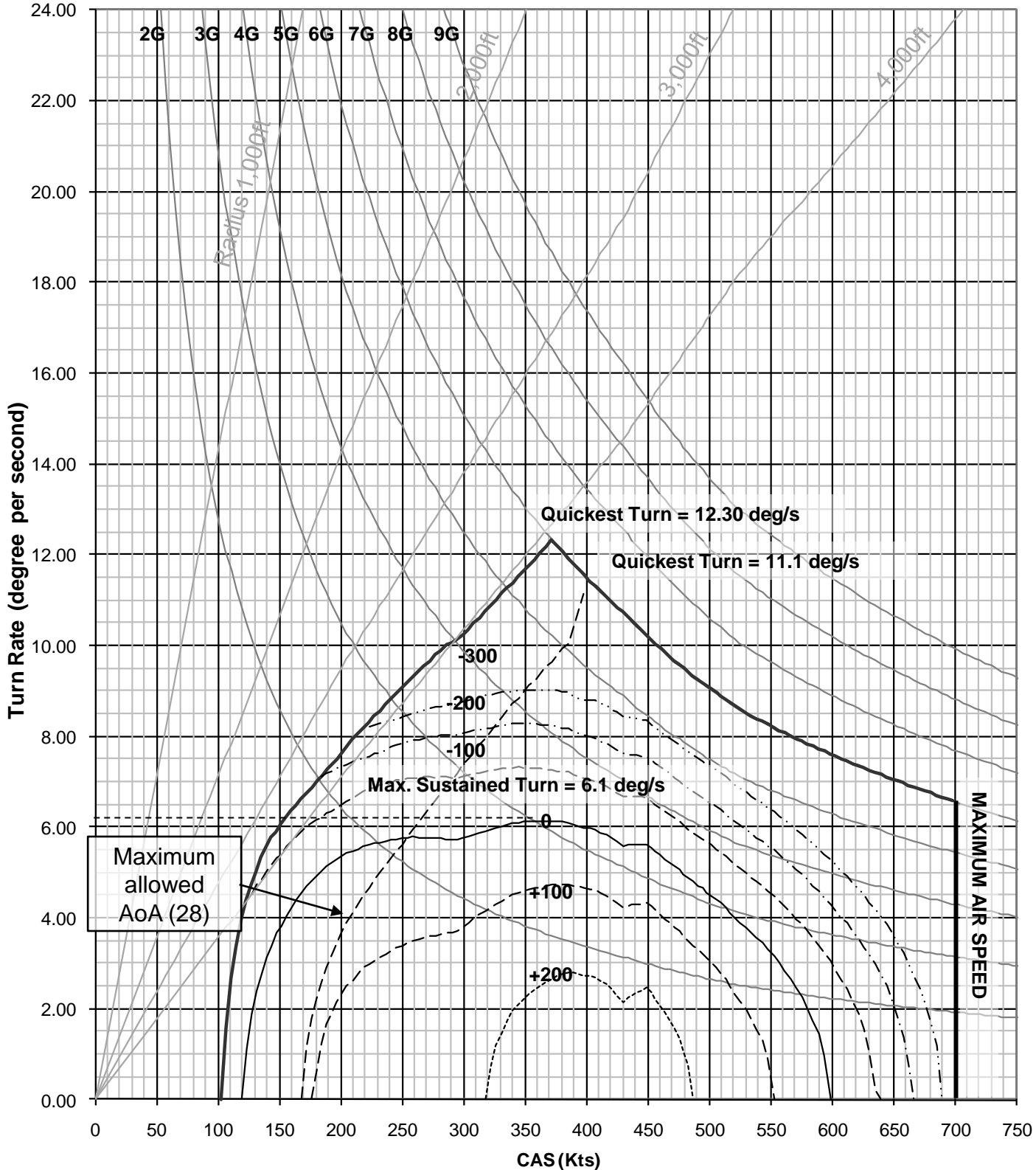
# Turn Performance – 25,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



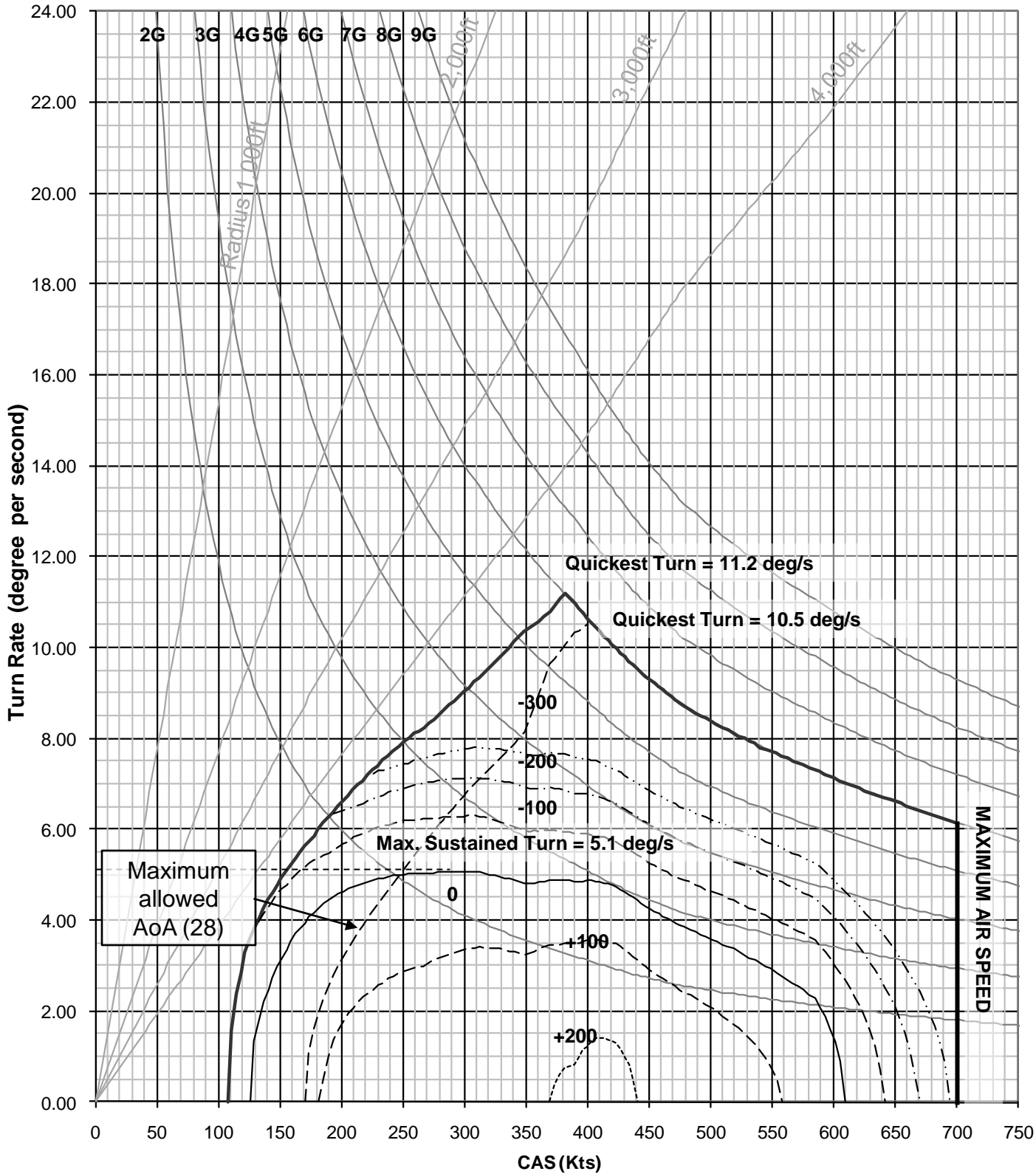
# Turn Performance – 30,000 ft

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

**CONDITIONS:**  
 •Standard Day  
 •Max AB

**CONFIGURATIONS :**  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



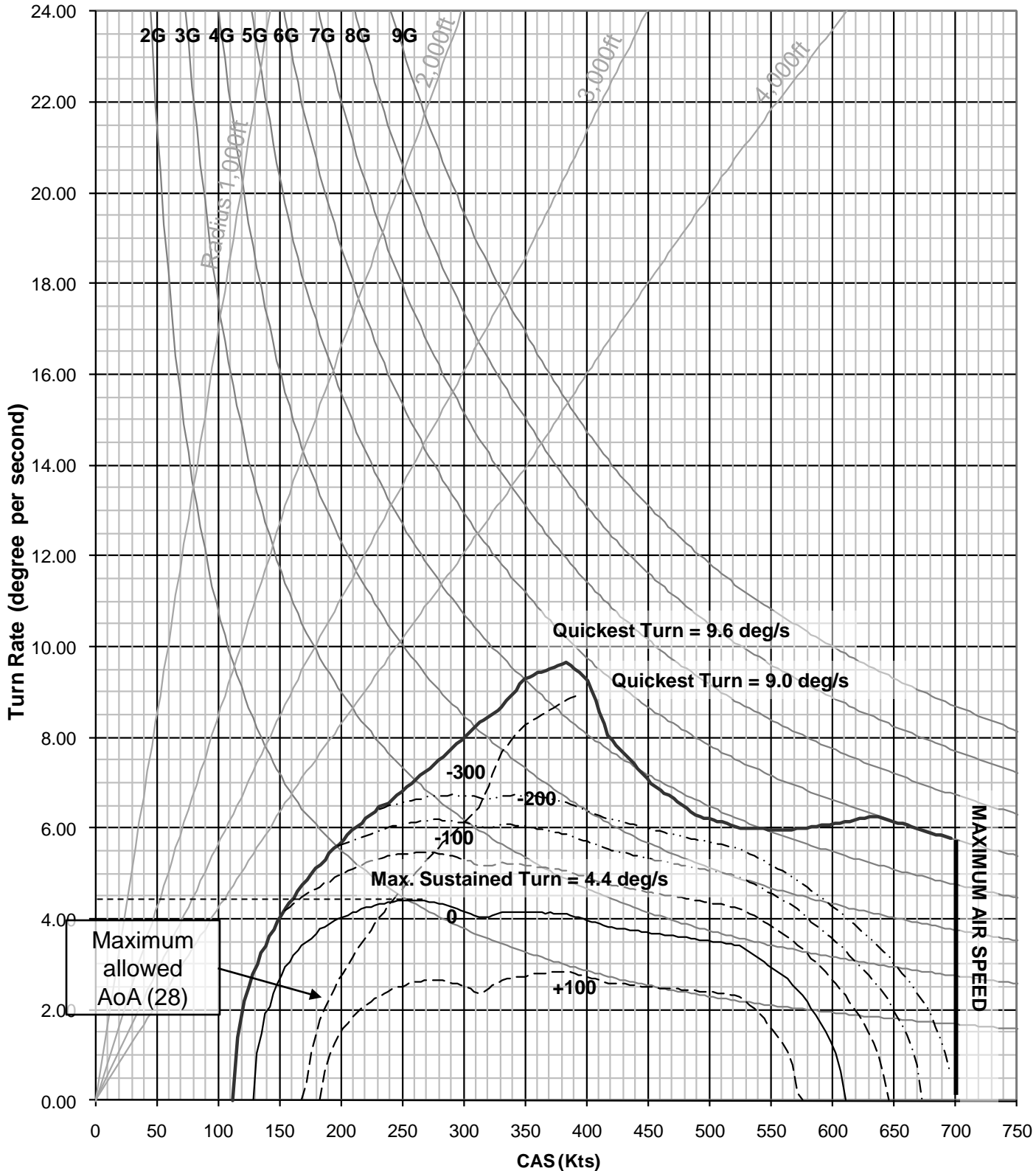
# Turn Performance – 35,000 ft

DATA BASIS : ESTIMATED

Aircraft : MIG-21M iz.96A  
 Engine : Tumanskiy R-11F2SK-200

CONDITIONS:  
 •Standard Day  
 •Max AB

CONFIGURATIONS :  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg



# Climb Performance

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**

**CONFIGURATIONS :**

**•DRAG INDEX = 13 (4xR-3S)**

**•50% internal fuel**

**•GW= 16,194 lbs / 7,336 kg**

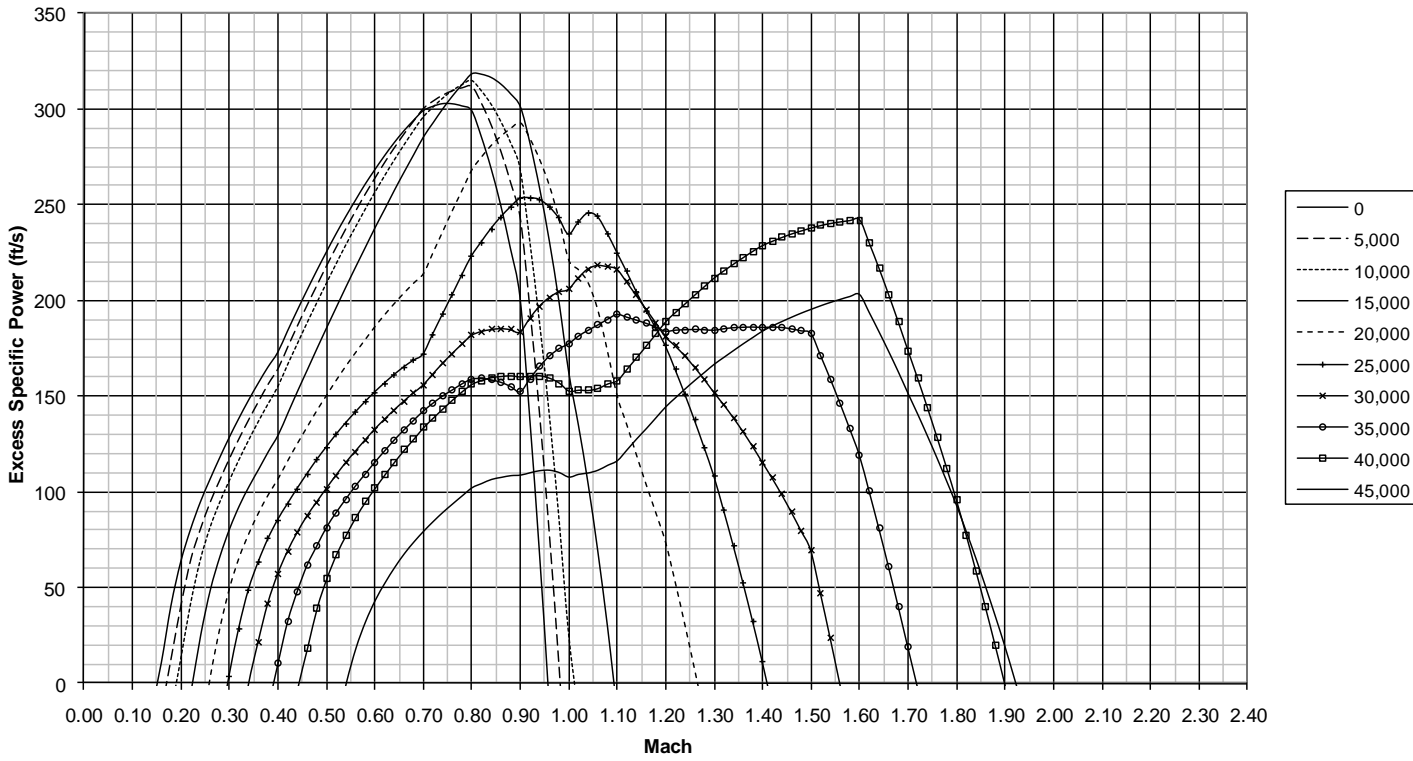
DATA BASIS : ESTIMATED

Aircraft : MIG-21M iz.96A  
 Engine : Tumanskiy R-11F2SK-200

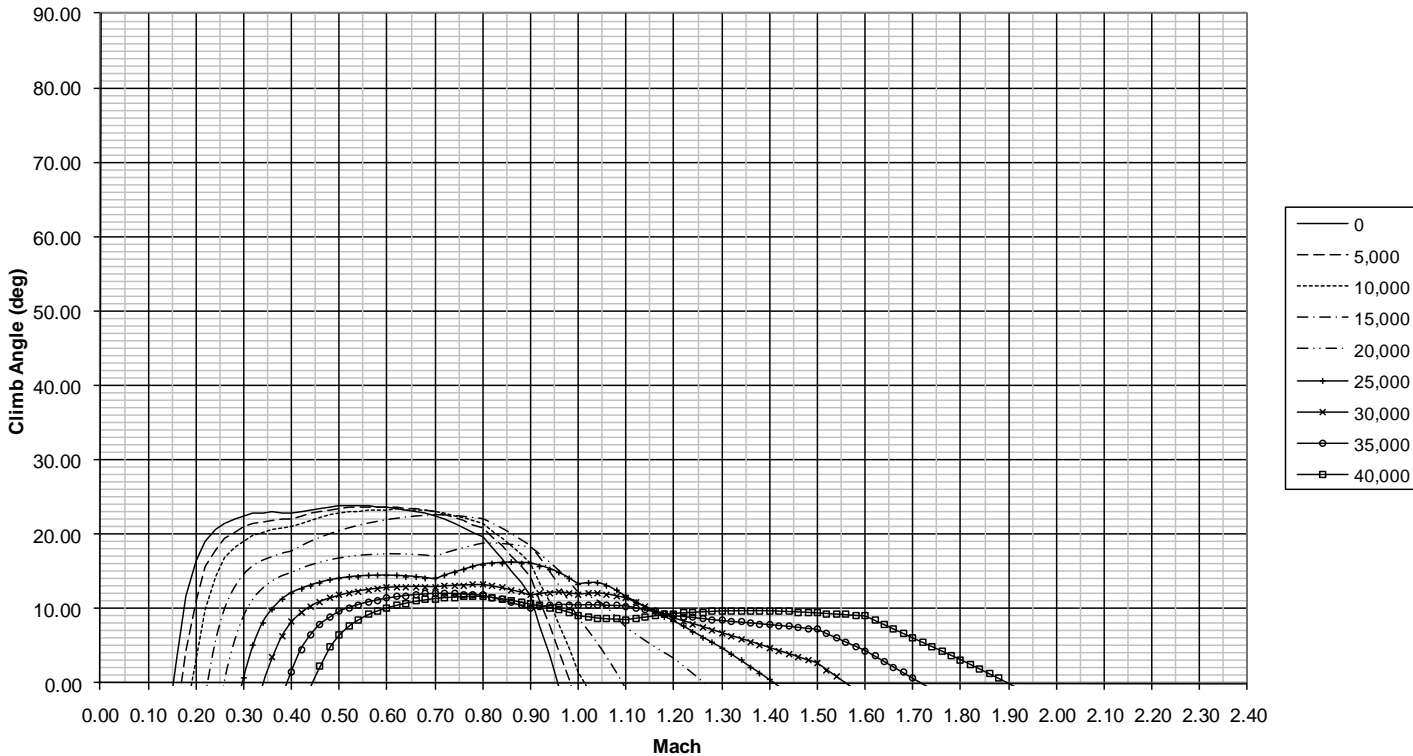
CONDITIONS:  
 •Standard Day  
 •Max AB

CONFIGURATIONS :  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle





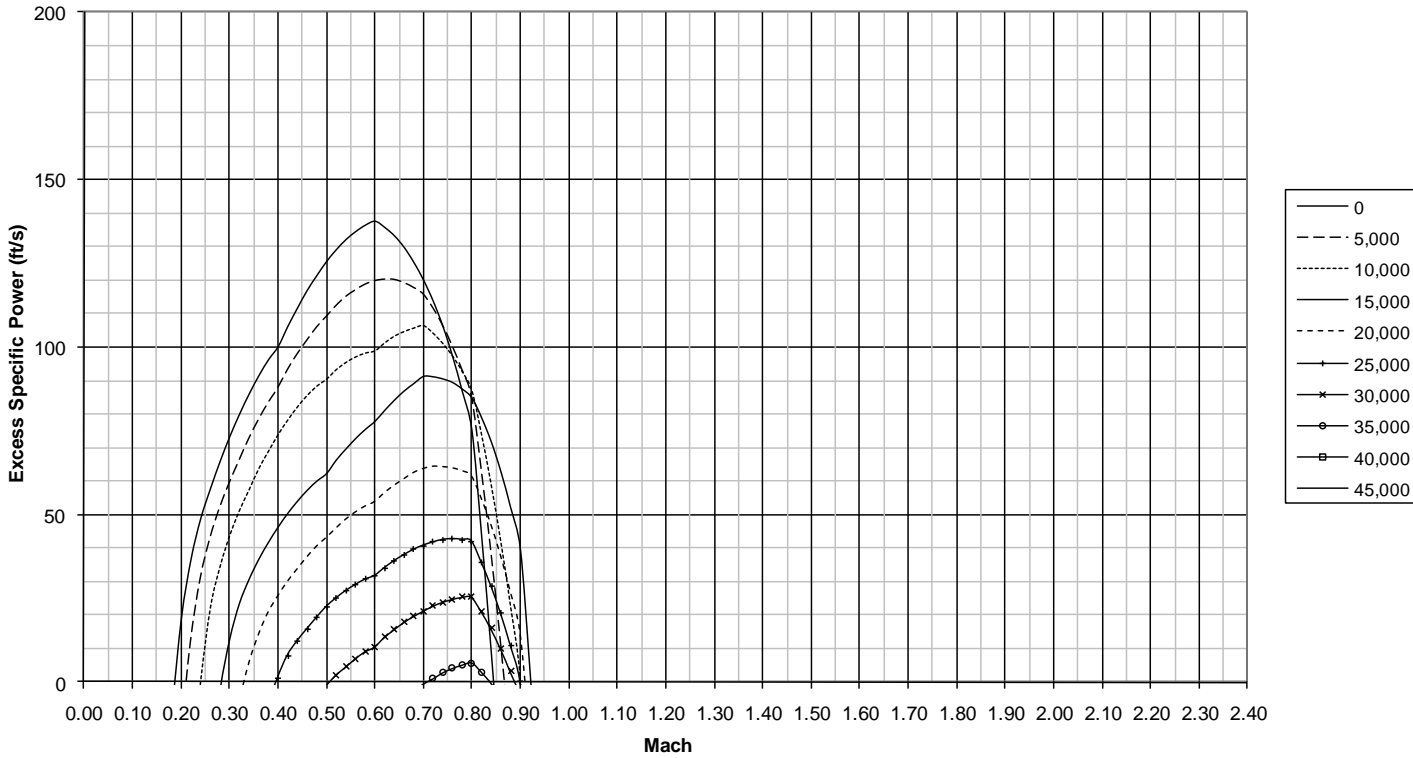
DATA BASIS : ESTIMATED

Aircraft : MIG-21M iz.96A  
 Engine : Tumanskiy R-11F2SK-200

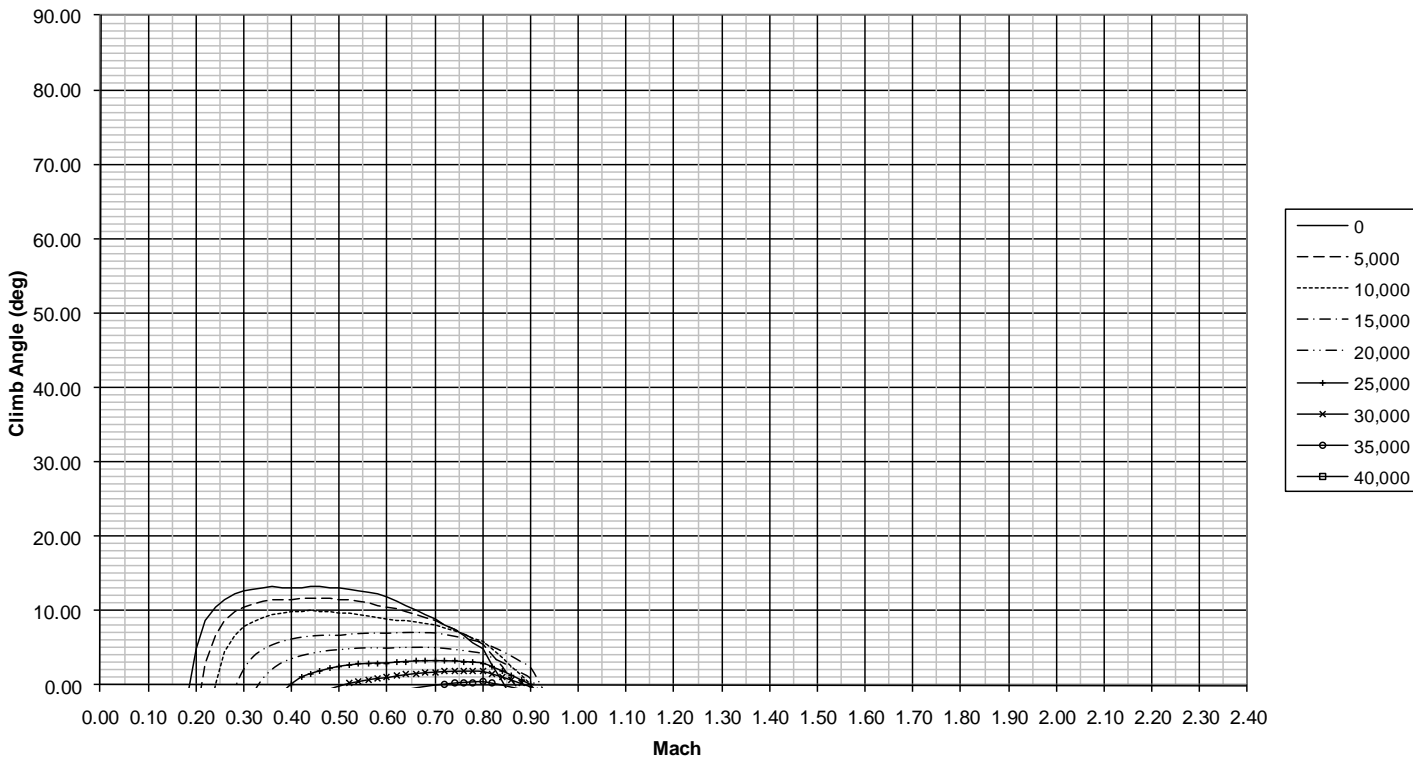
CONDITIONS:  
 •Standard Day  
 •MIL Power

CONFIGURATIONS :  
 •DRAG INDEX = 13 (4xR-3S)  
 •GW= 16,194 lbs / 7,336 kg

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle



# Acceleration Performances

**Aircraft : MIG-21M iz.96A**

**Engine :Tumanskiy R-11F2SK-200**

**CONFIGURATIONS :**

**•DRAG INDEX = 13 (4xR-3S)**

**•50% internal fuel**

**•GW= 16,194 lbs / 7,336 kg**

# Acceleration Diagram

**DATA BASIS : ESTIMATED**

**Aircraft : MIG-21M iz.96A**  
**Engine : Tumanskiy R-11F2SK-200**

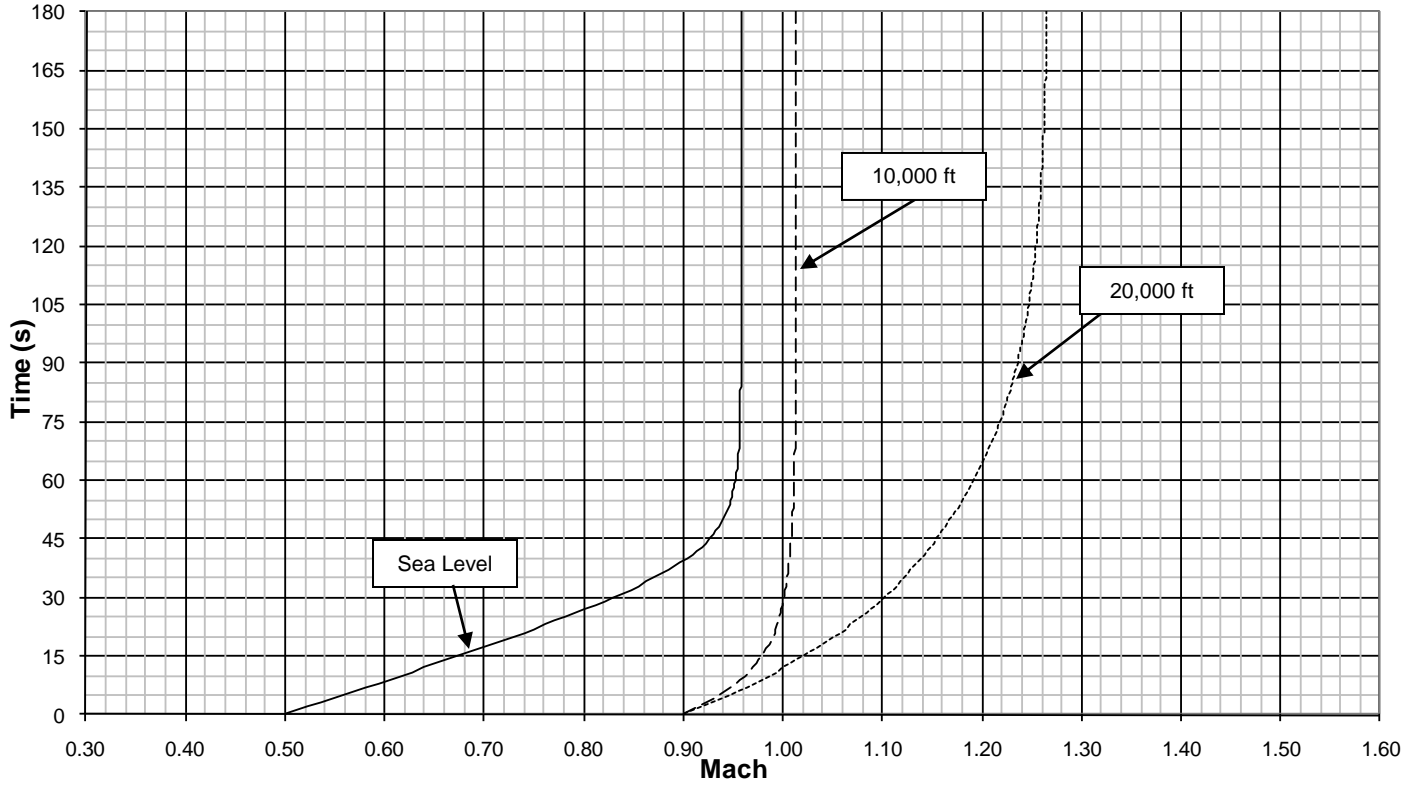
**CONDITIONS:**

- Standard Day
- Max AB

**CONFIGURATIONS :**

- DRAG INDEX = 13 (4xR-3S)
- GW= 16,194 lbs / 7,336 kg

**Acceleration (Max Thrust AB)**



**Acceleration (Max Thrust AB)**

