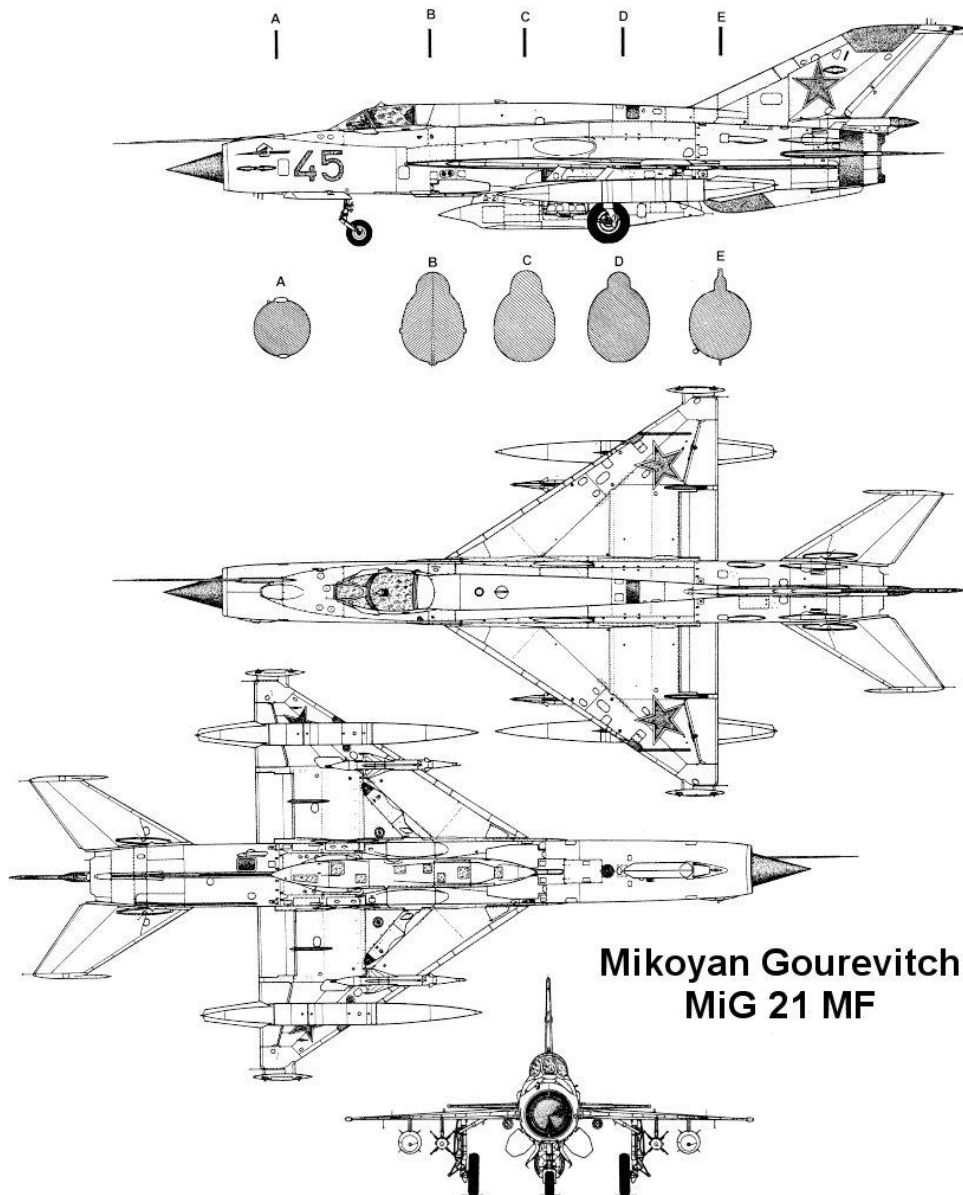


PERFORMANCE ANALYSIS



Mikoyan Gourevitch
MiG 21 MF

Mig-21MF-izd.96F / L-16 Mikoyan-Gourevitch Corporation (Tumanskiy R-13-200)

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

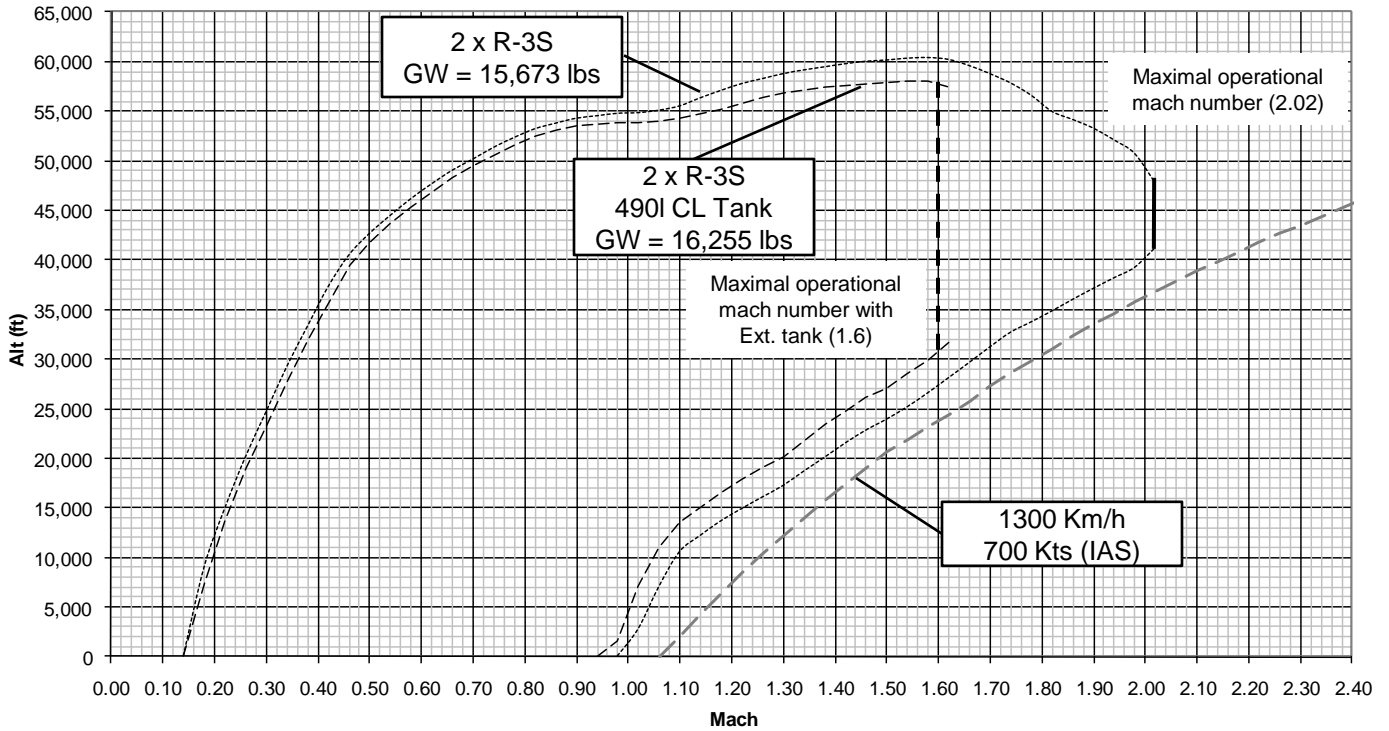
CONDITIONS:

- Standard Day
- Max AB

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

**Level Flight Envelope
Full AB**



DATA BASIS : ESTIMATED

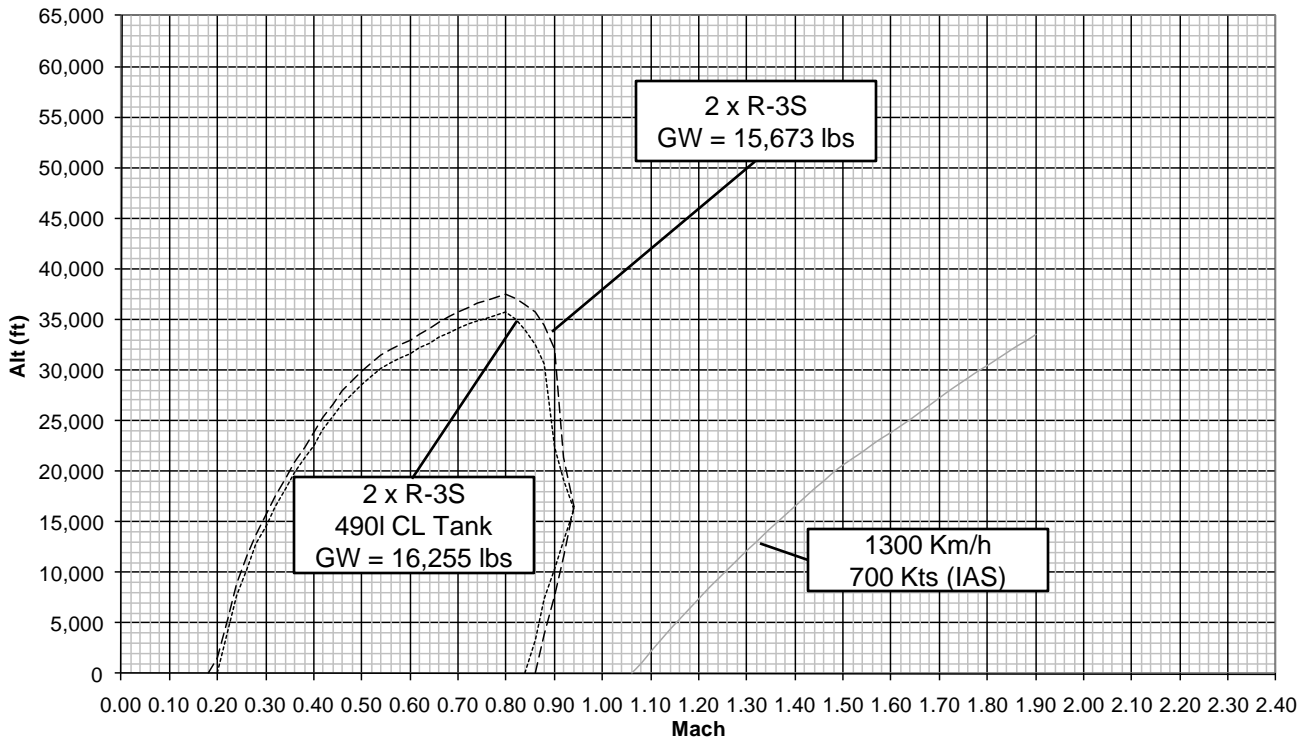
CONDITIONS:

- Standard Day
- MILL Power

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

**Level Flight Envelope
MIL Power**



Turn Performance

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

CONFIGURATIONS :

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

Turn Rate – Summary

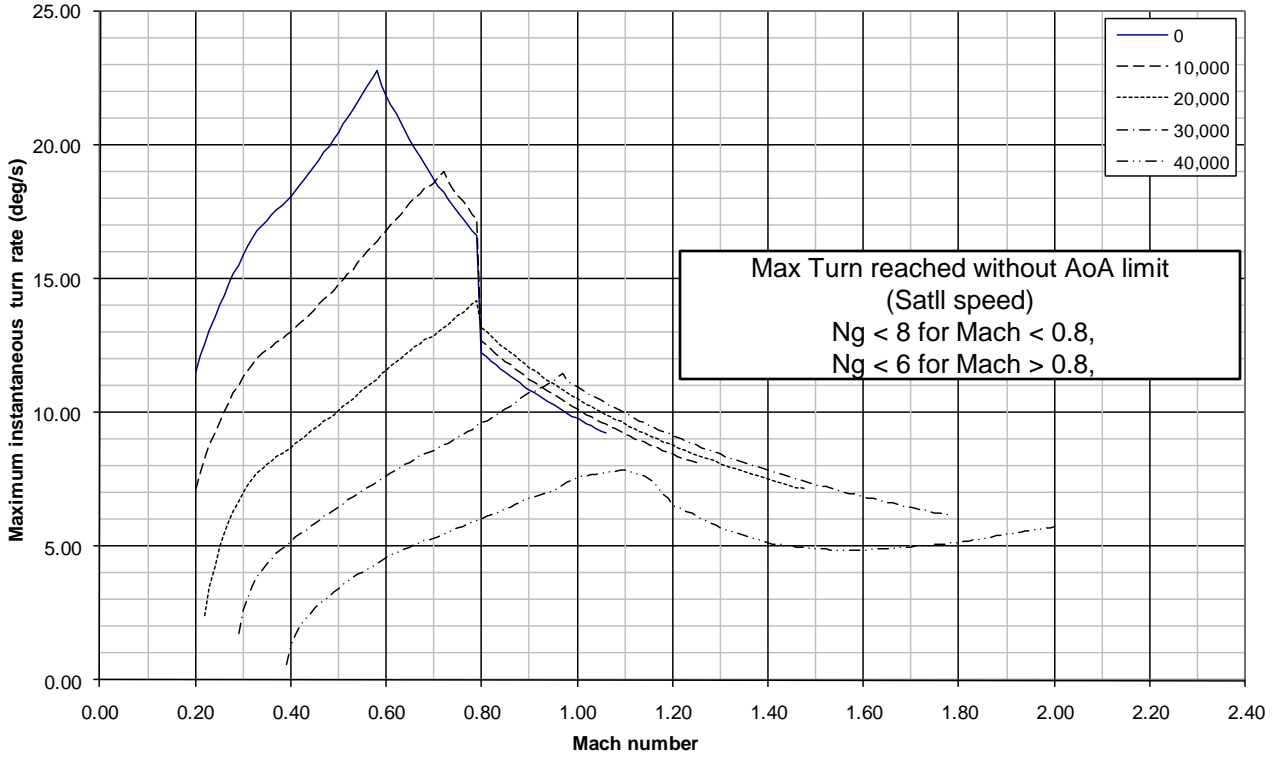
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine :Tumansky R-13-200

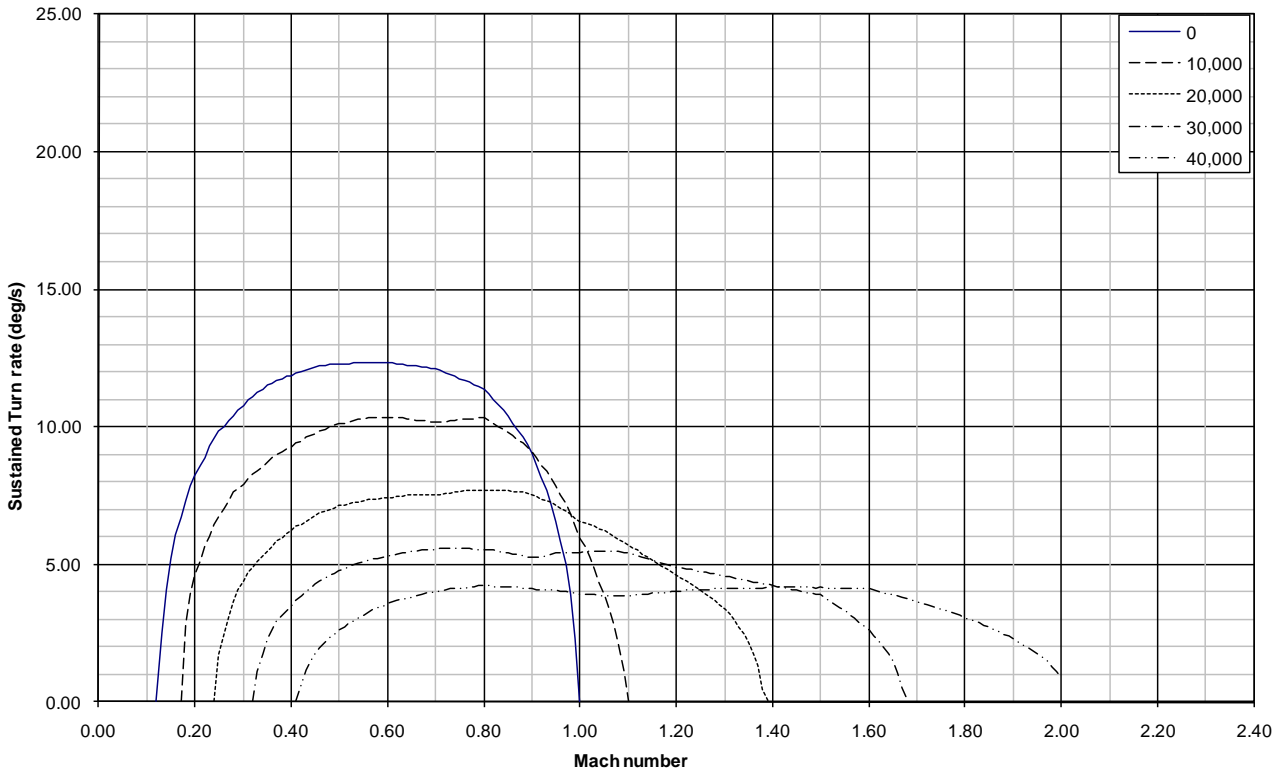
CONDITIONS:
 •Standard Day
 •Max AB

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

Maximum Available Turn Rate



Maximum Sustained Turn rate (deg/s)



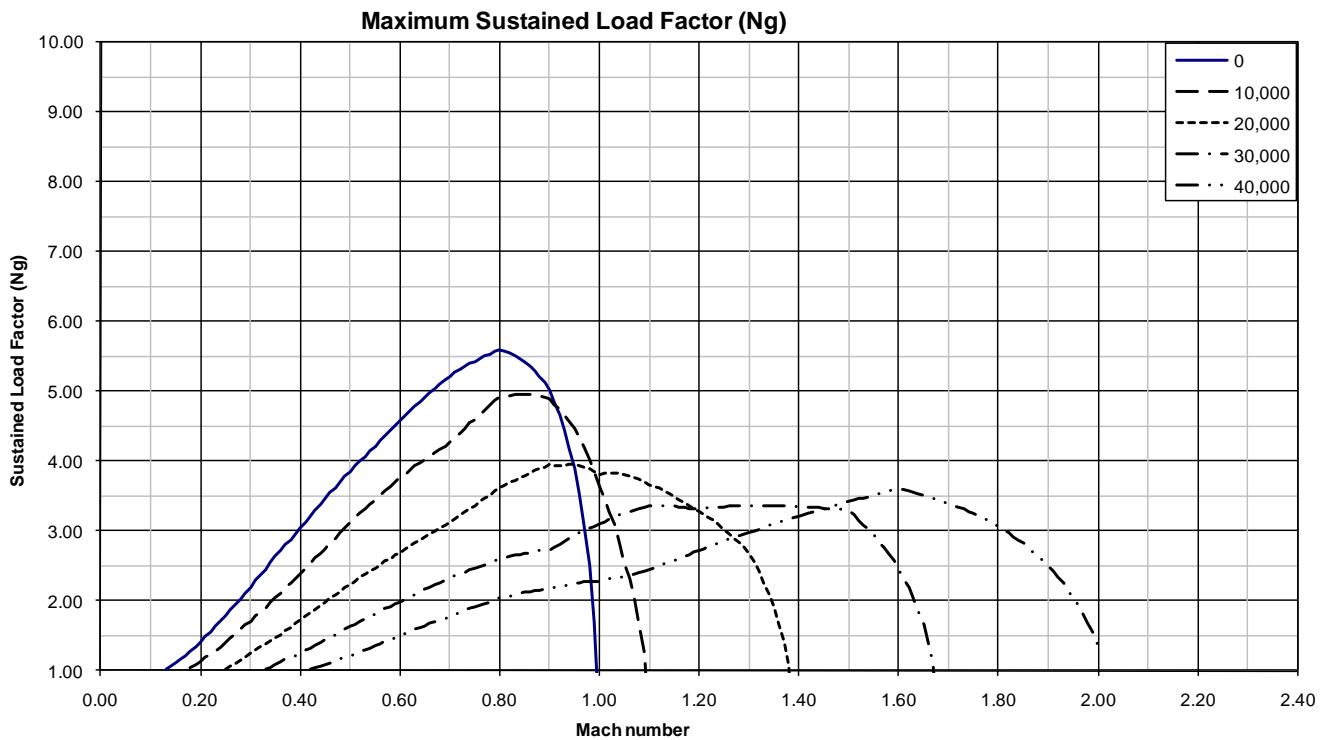
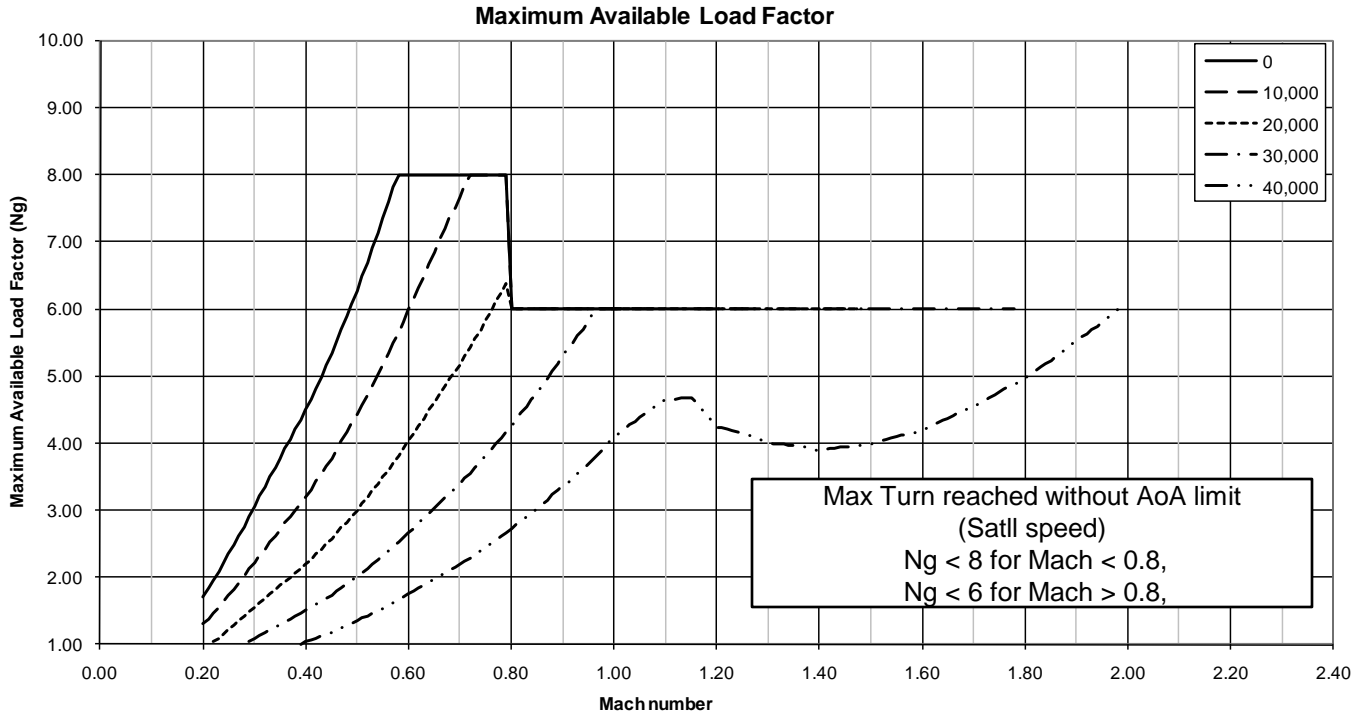
Load Factor – Summary

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine :Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



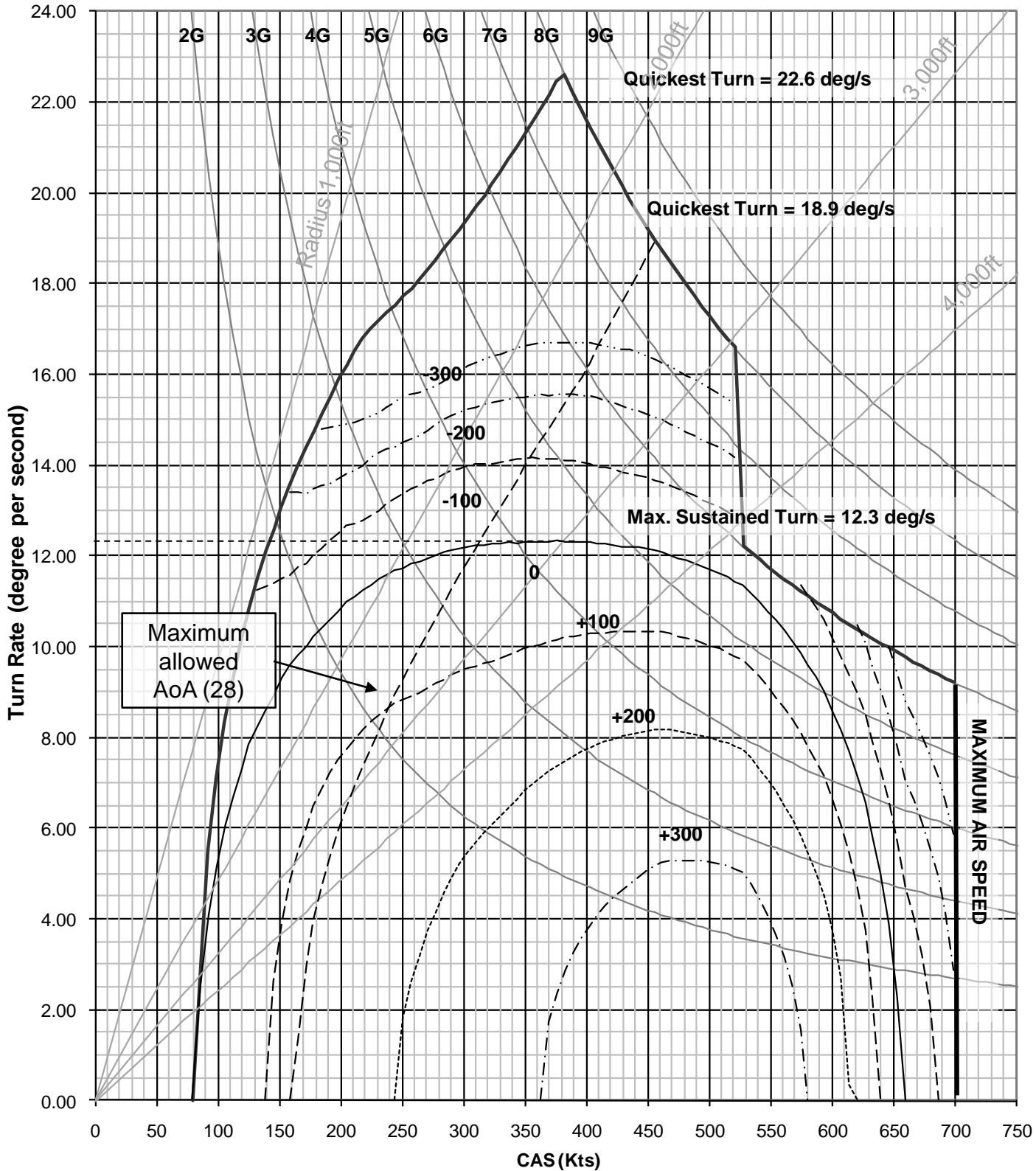
Turn Performance – Sea Level

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



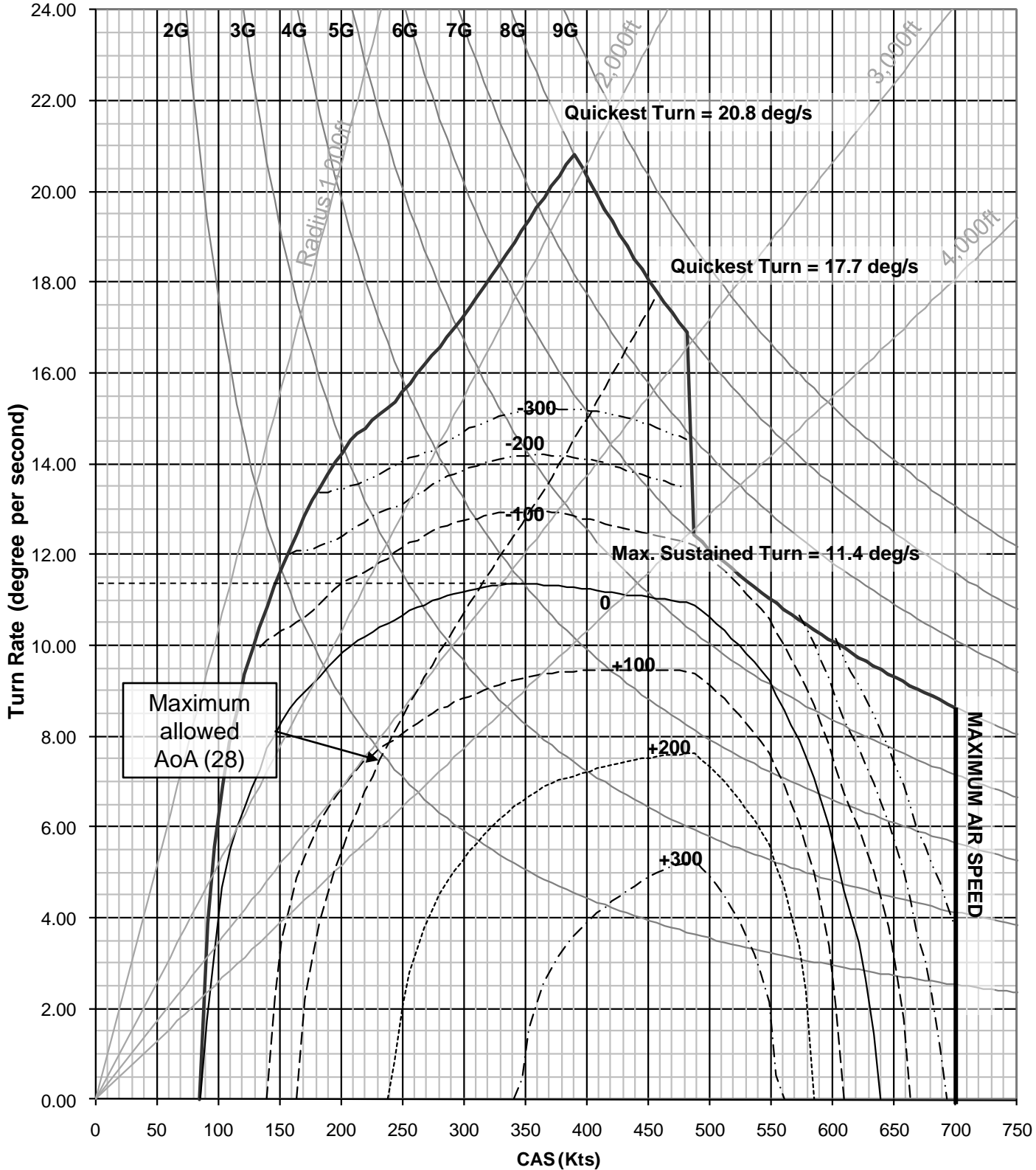
Turn Performance – 5,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



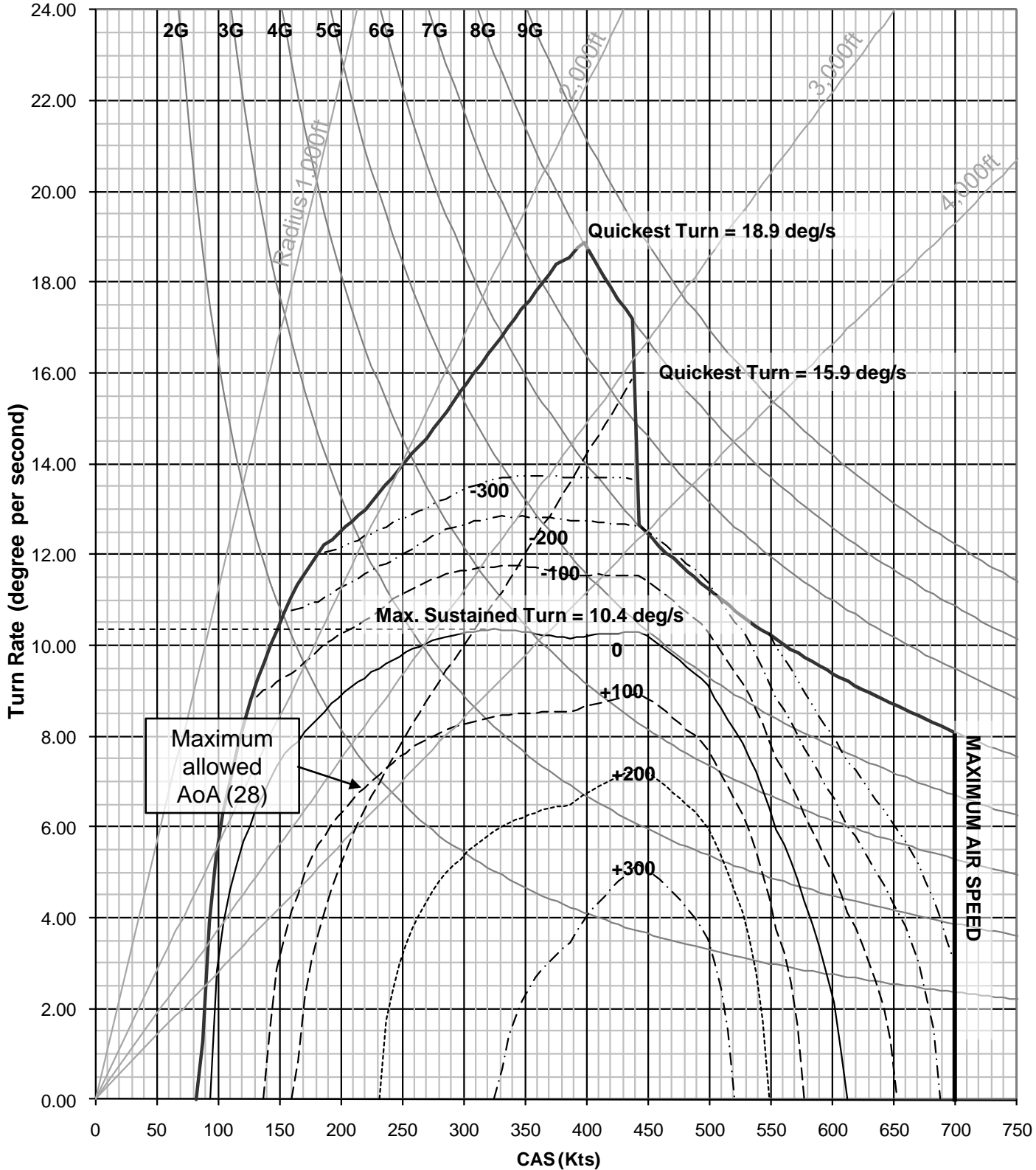
Turn Performance – 10,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



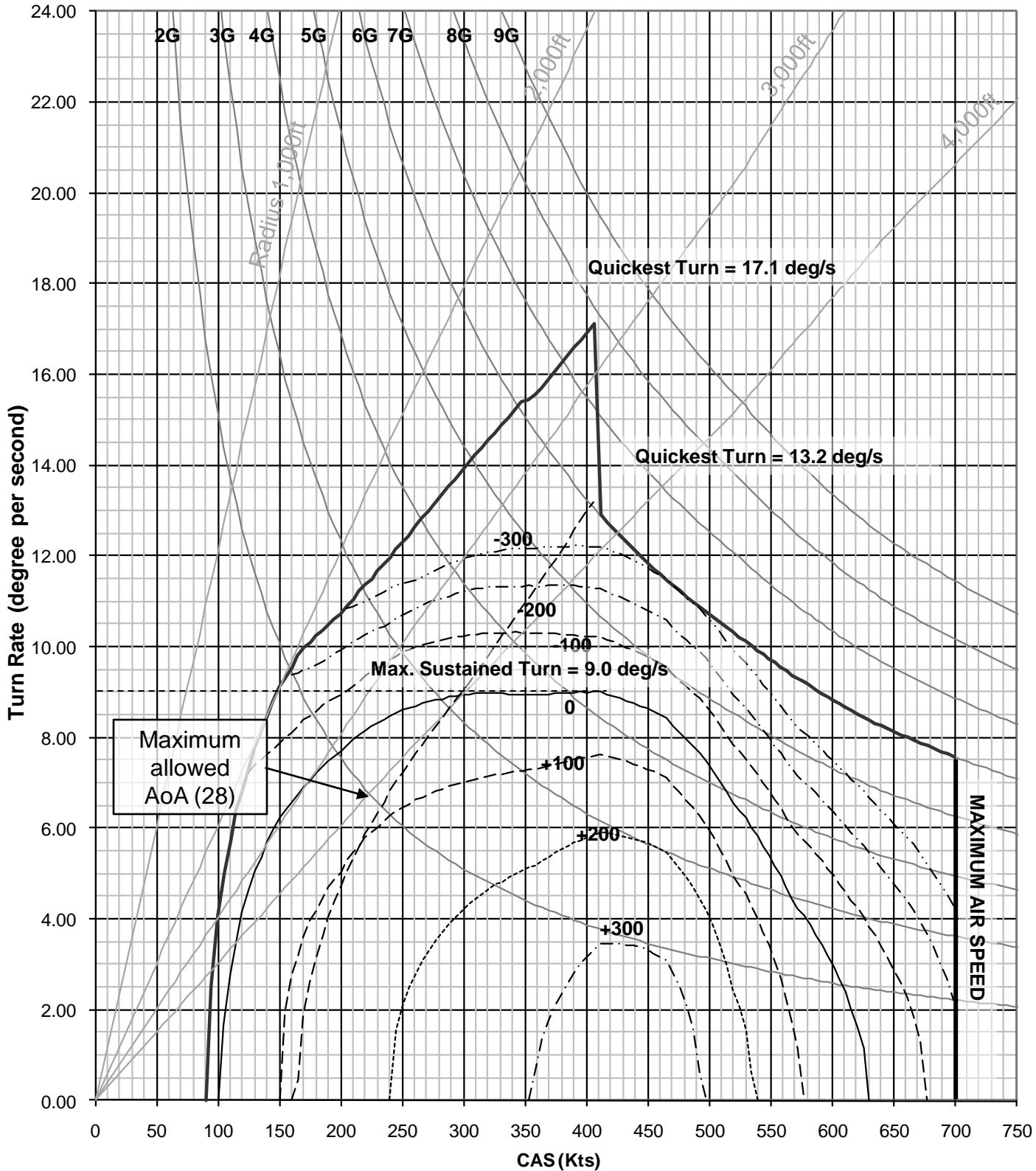
Turn Performance – 15,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



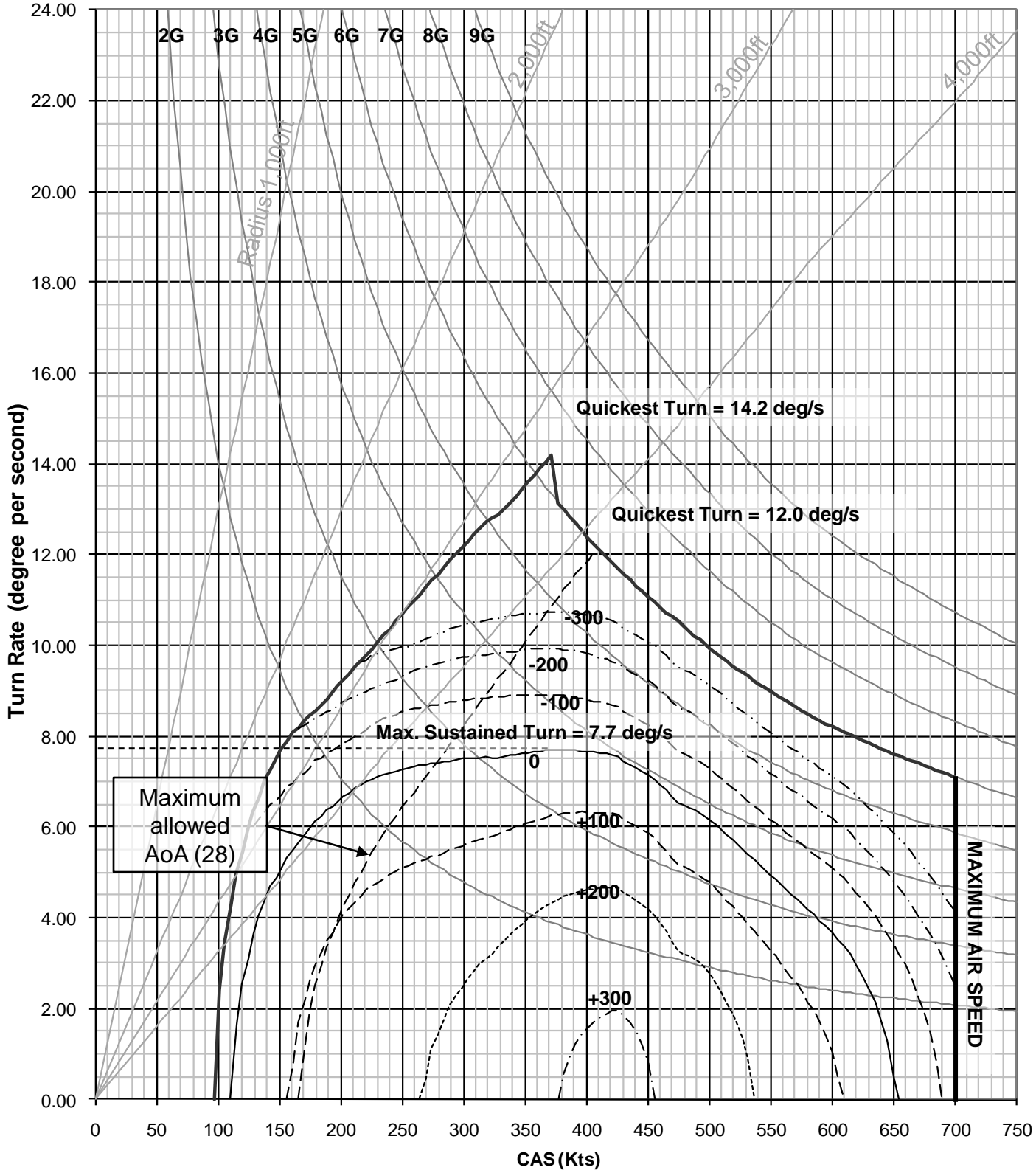
Turn Performance – 20,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



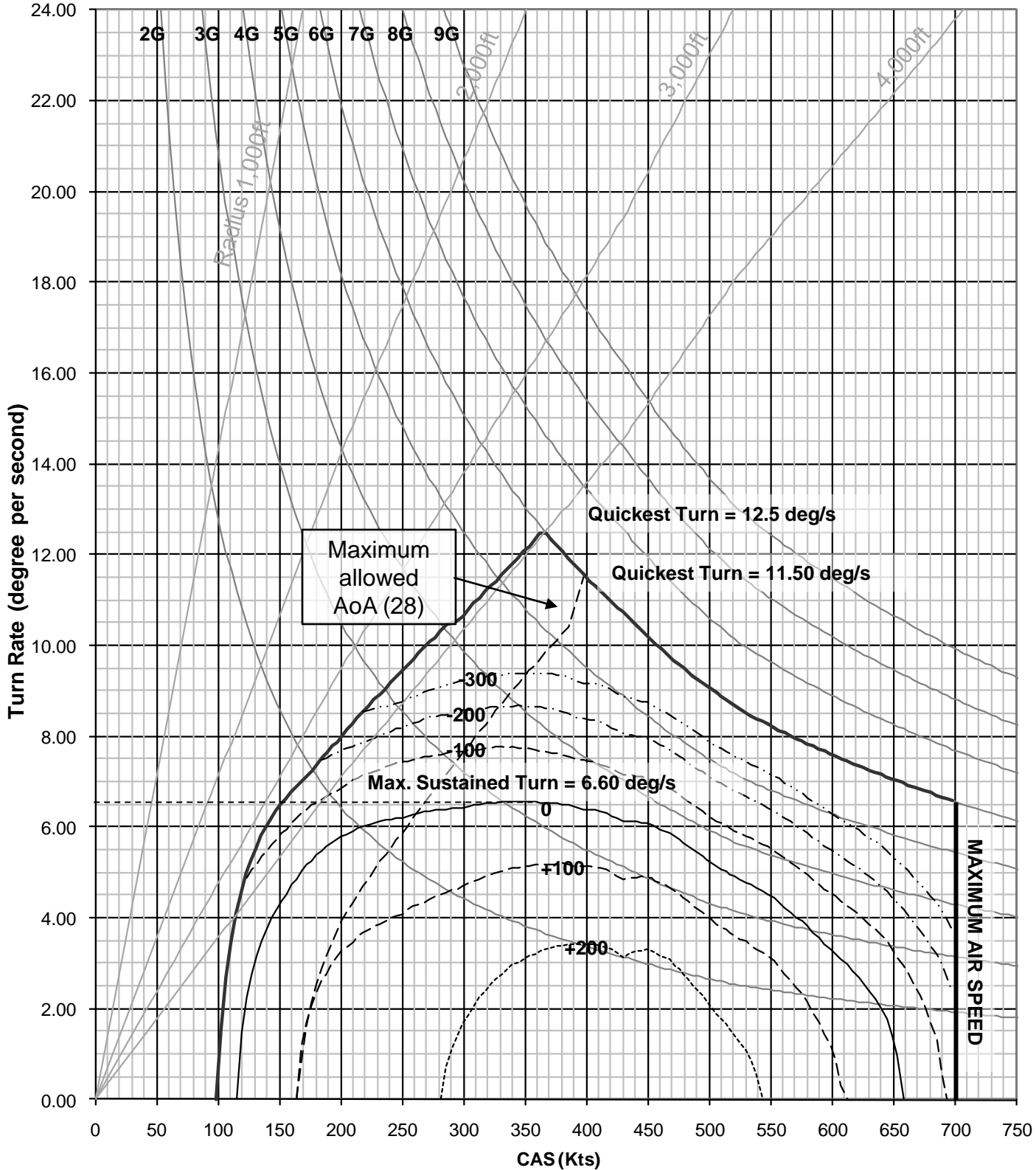
Turn Performance – 25,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



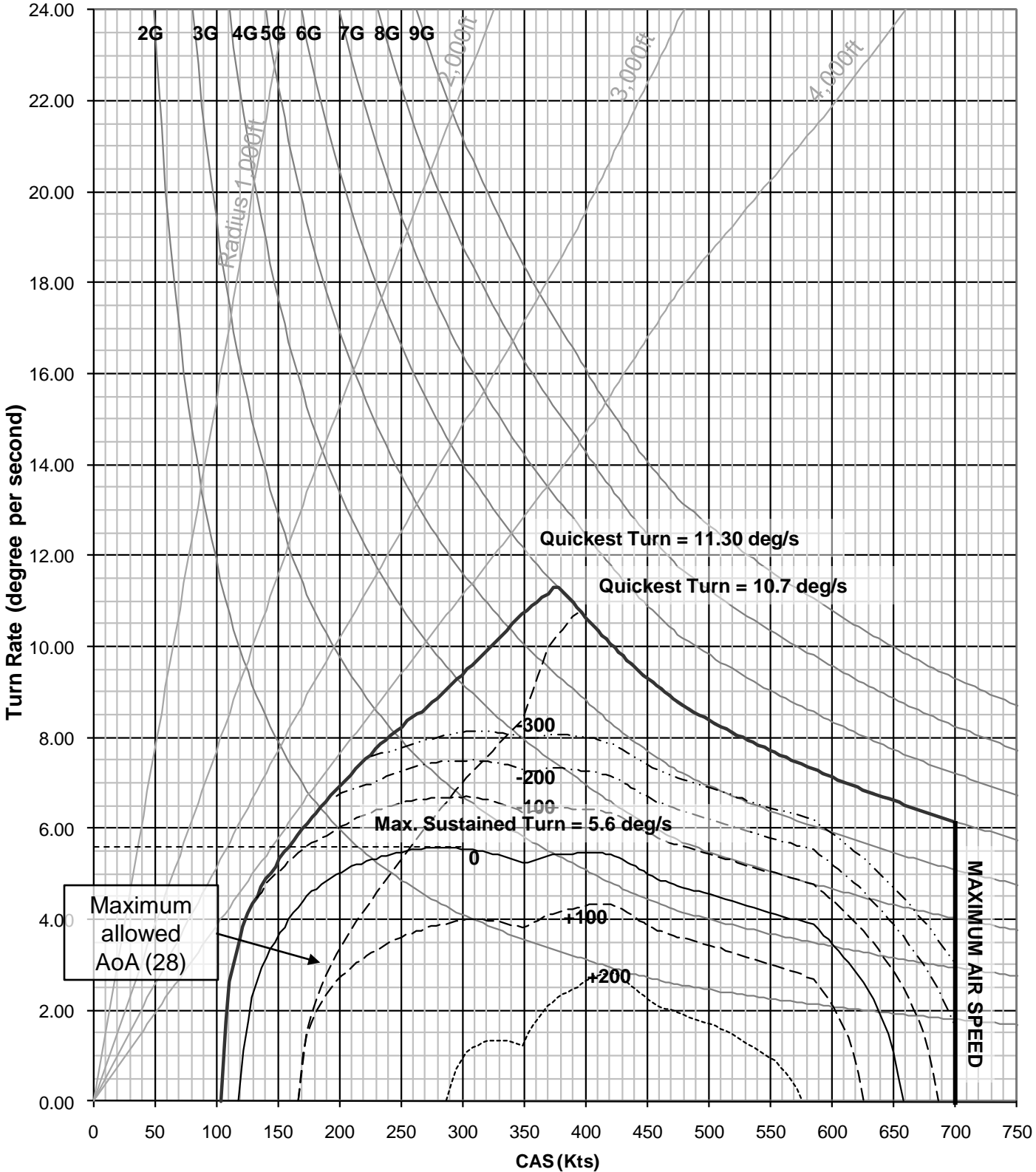
Turn Performance – 30,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



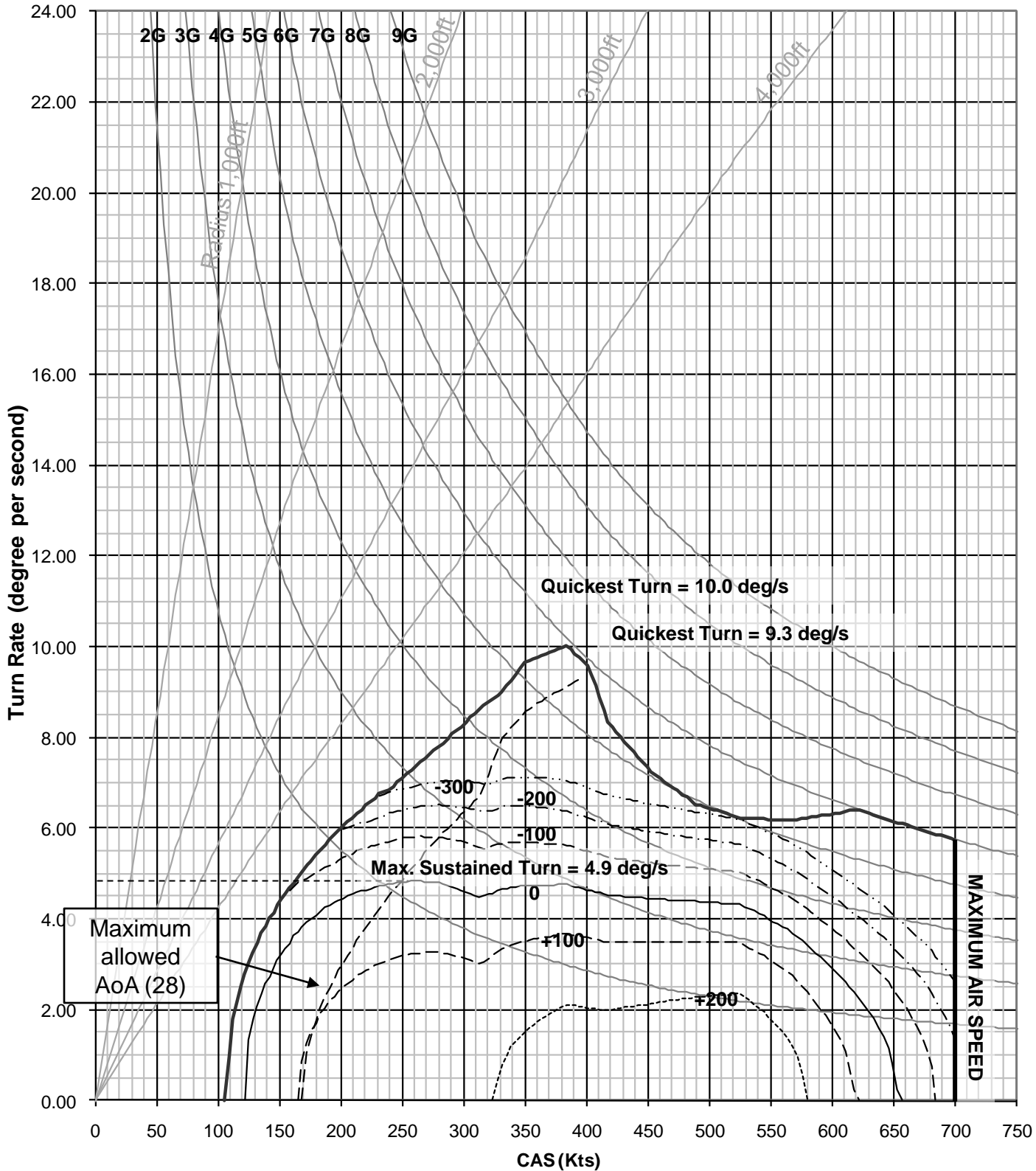
Turn Performance – 35,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs



Climb Performance

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

CONFIGURATIONS :

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

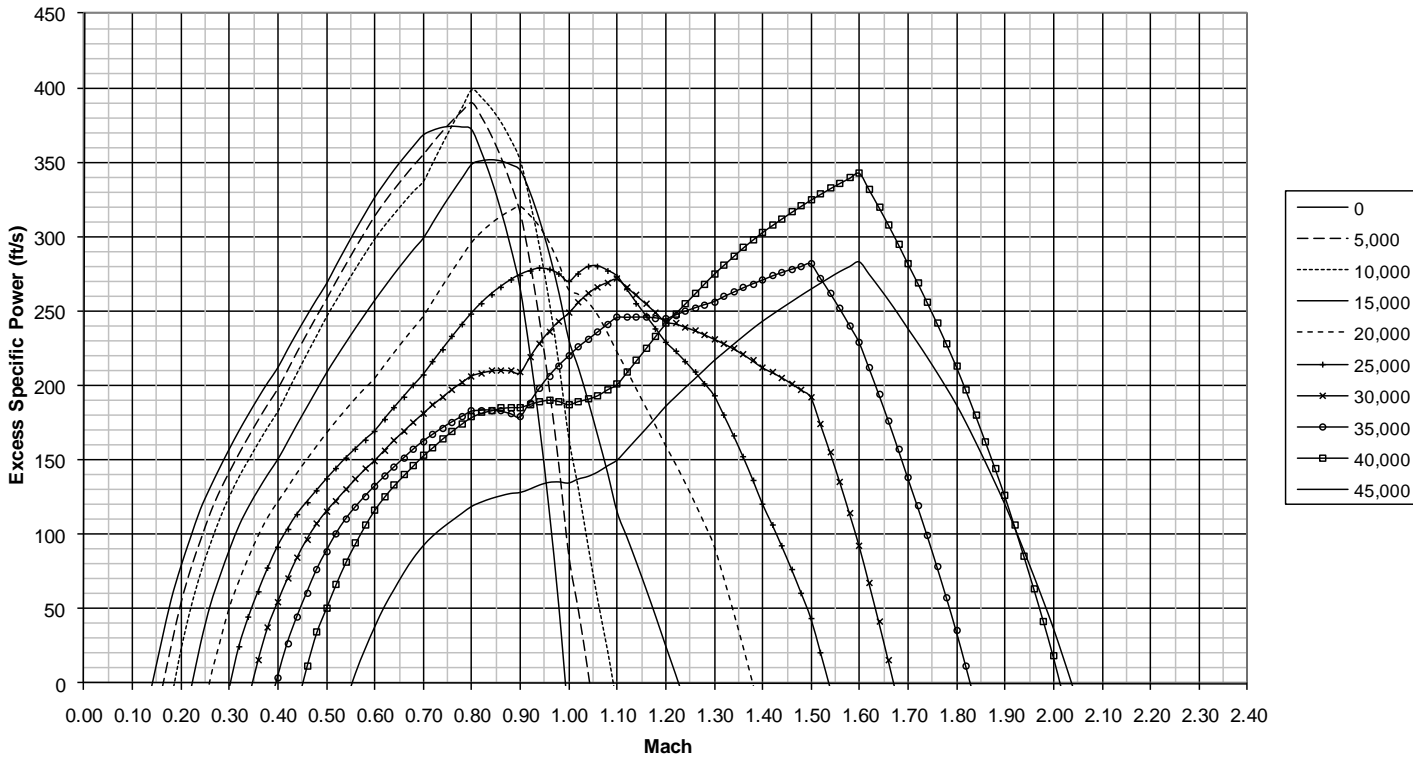
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine :Tumansky R-13-200

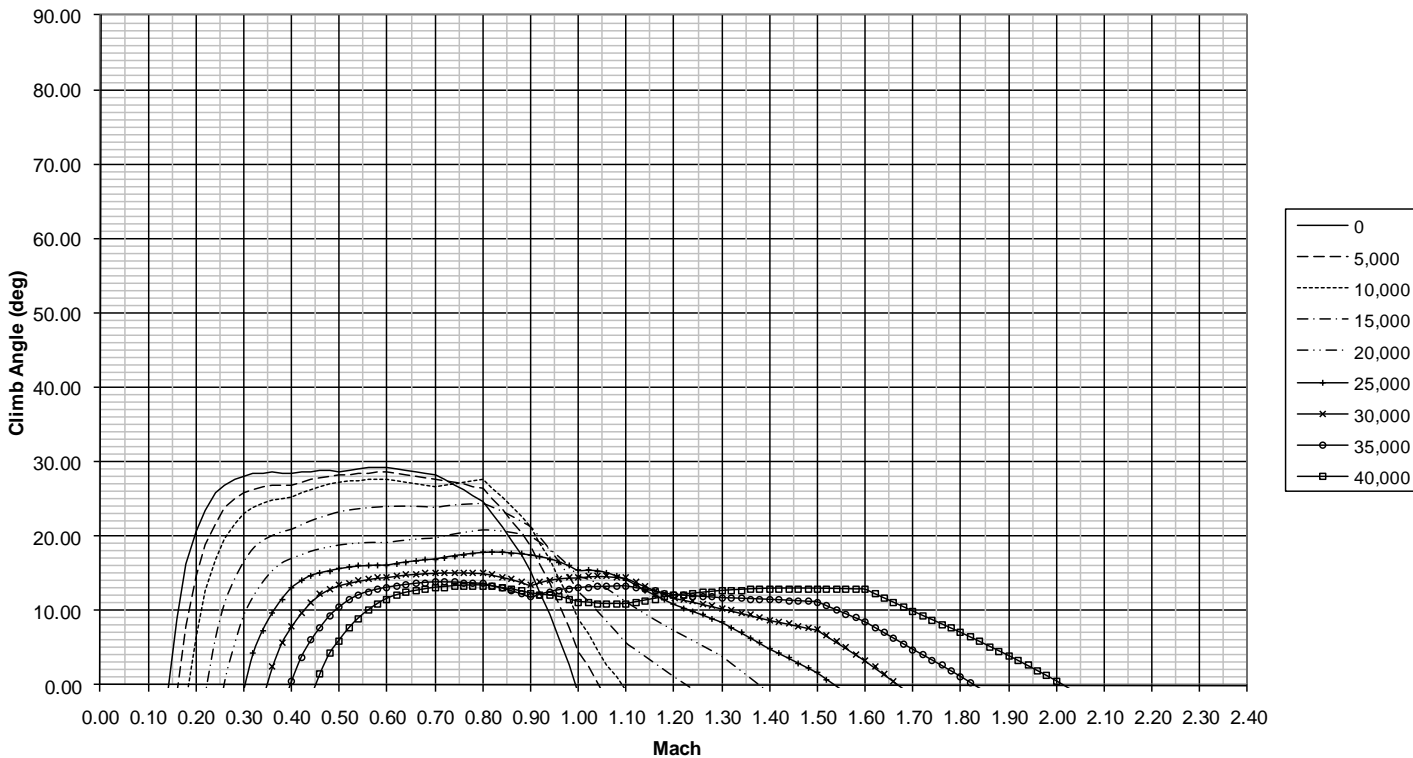
CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle



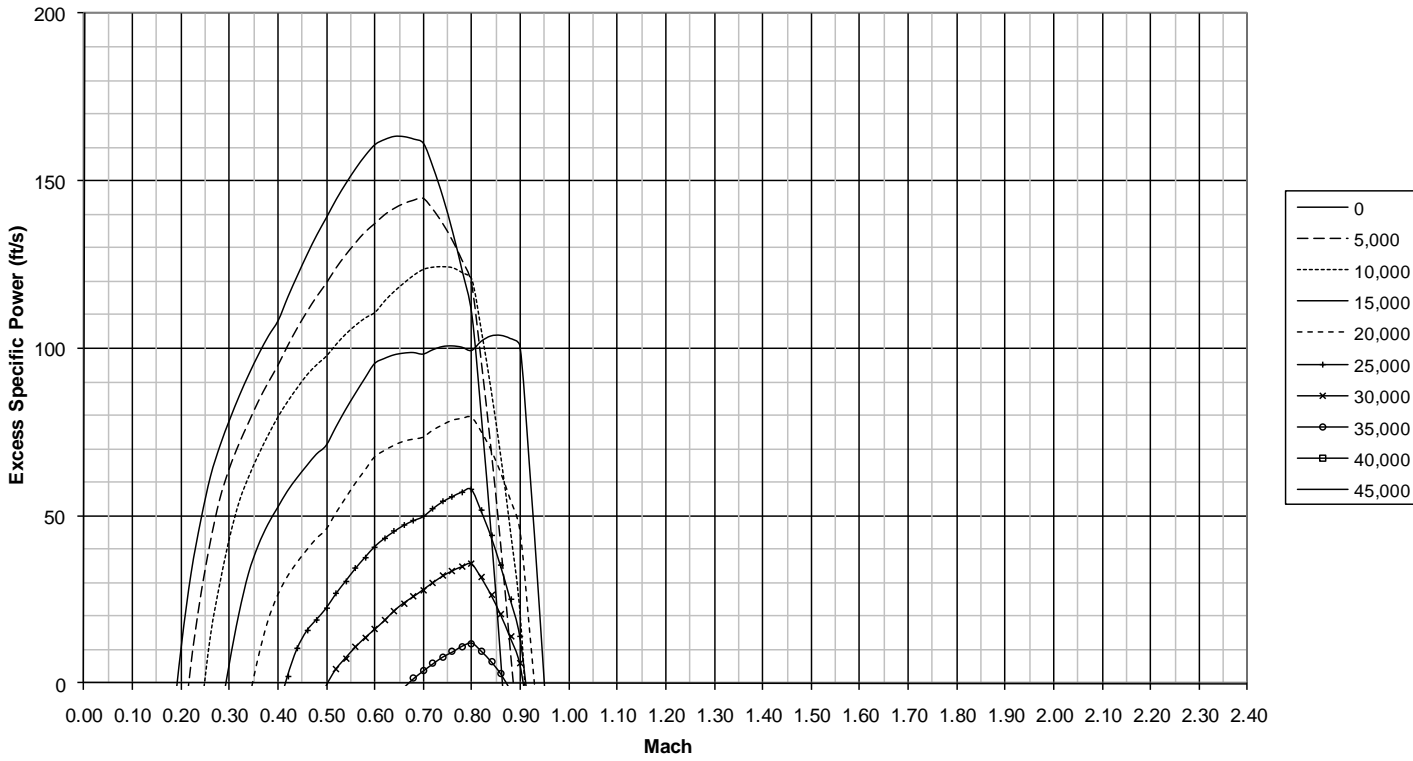
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

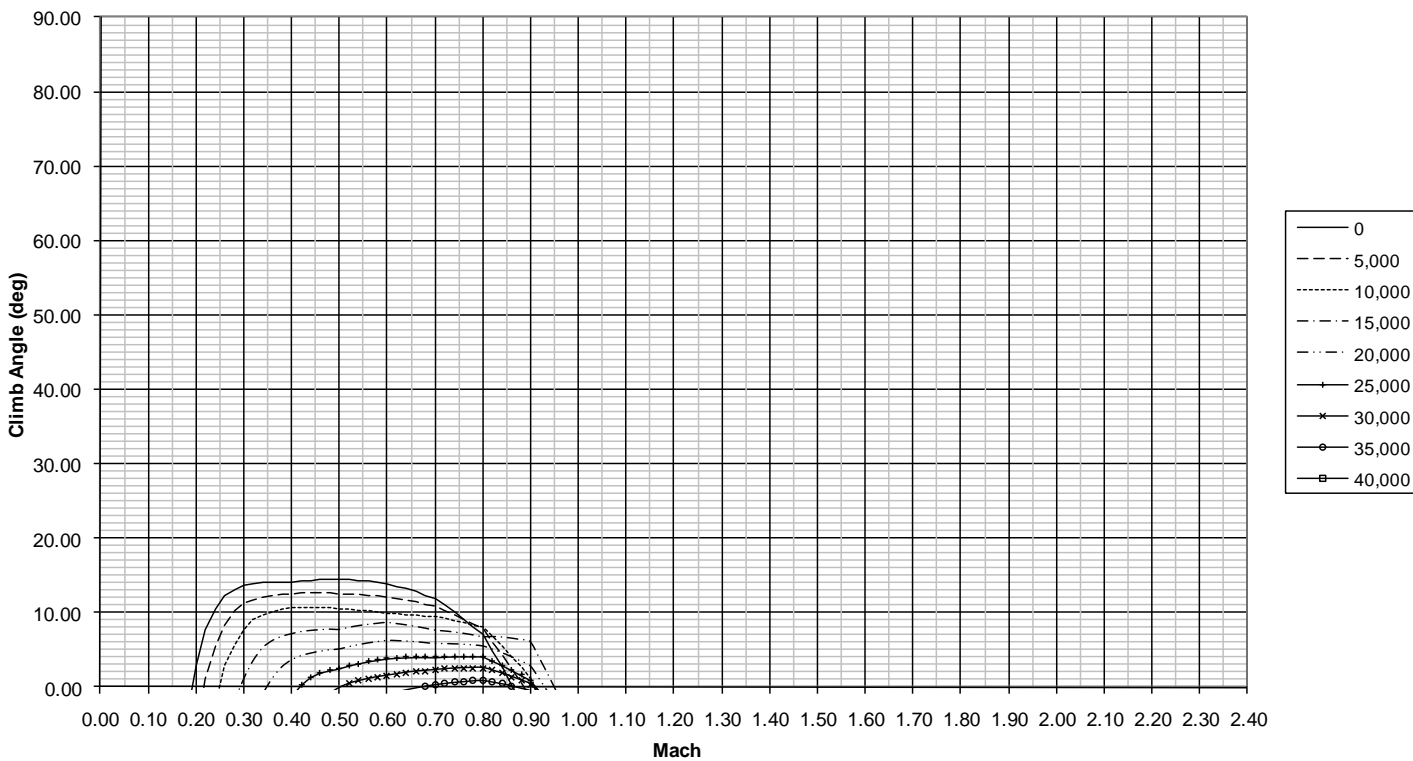
CONDITIONS:
 •Standard Day
 •MIL Power

CONFIGURATIONS :
 •DRAG INDEX = 12 (2xR-3S)
 •GW=15,673lbslbs

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle



Acceleration Performances

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

CONFIGURATIONS :

•DRAG INDEX = 12 (2xR-3S)

•50% internal fuel

•GW= 15,673 lbs / 7,100 Kg

Acceleration Diagram

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine :Tumansky R-13-200

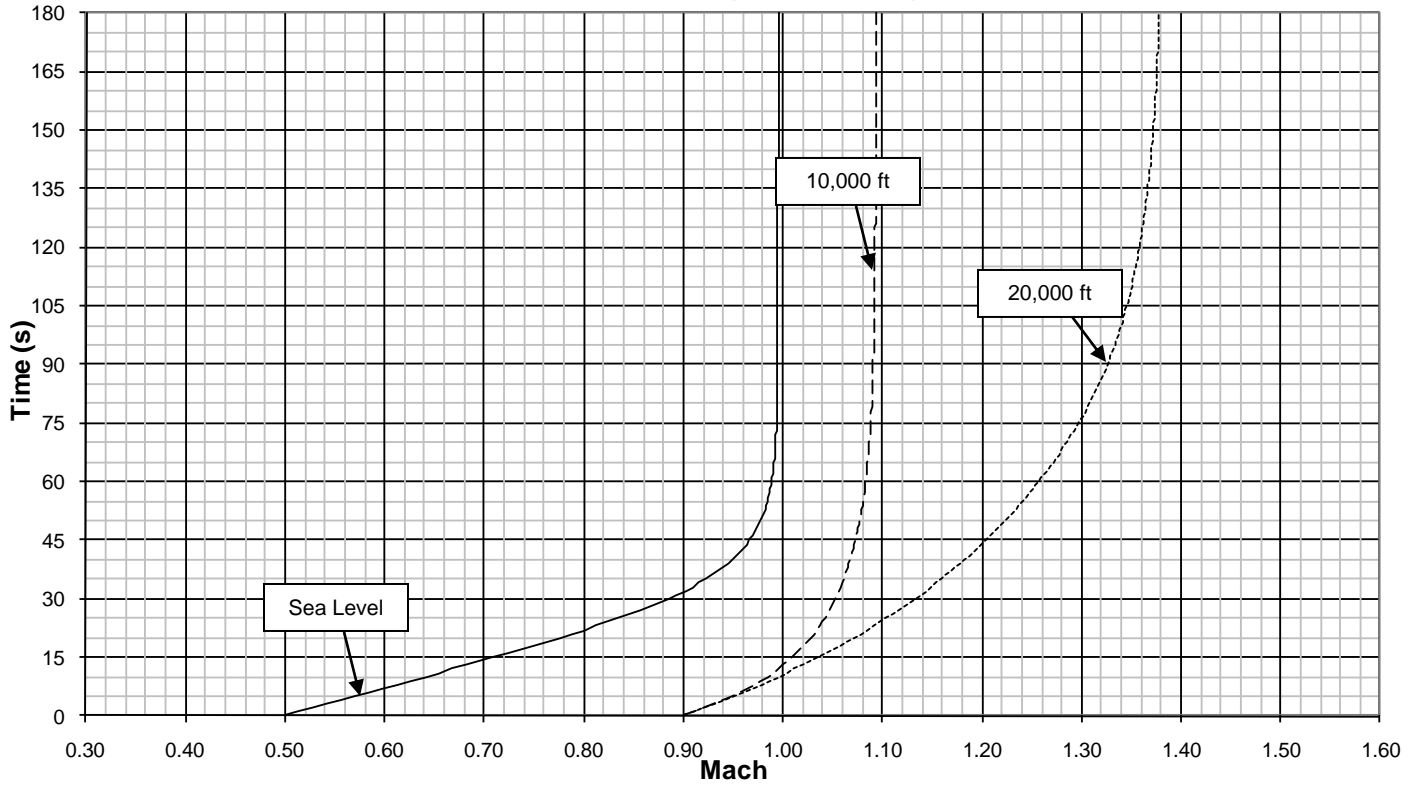
CONDITIONS:

- Standard Day
- Max AB

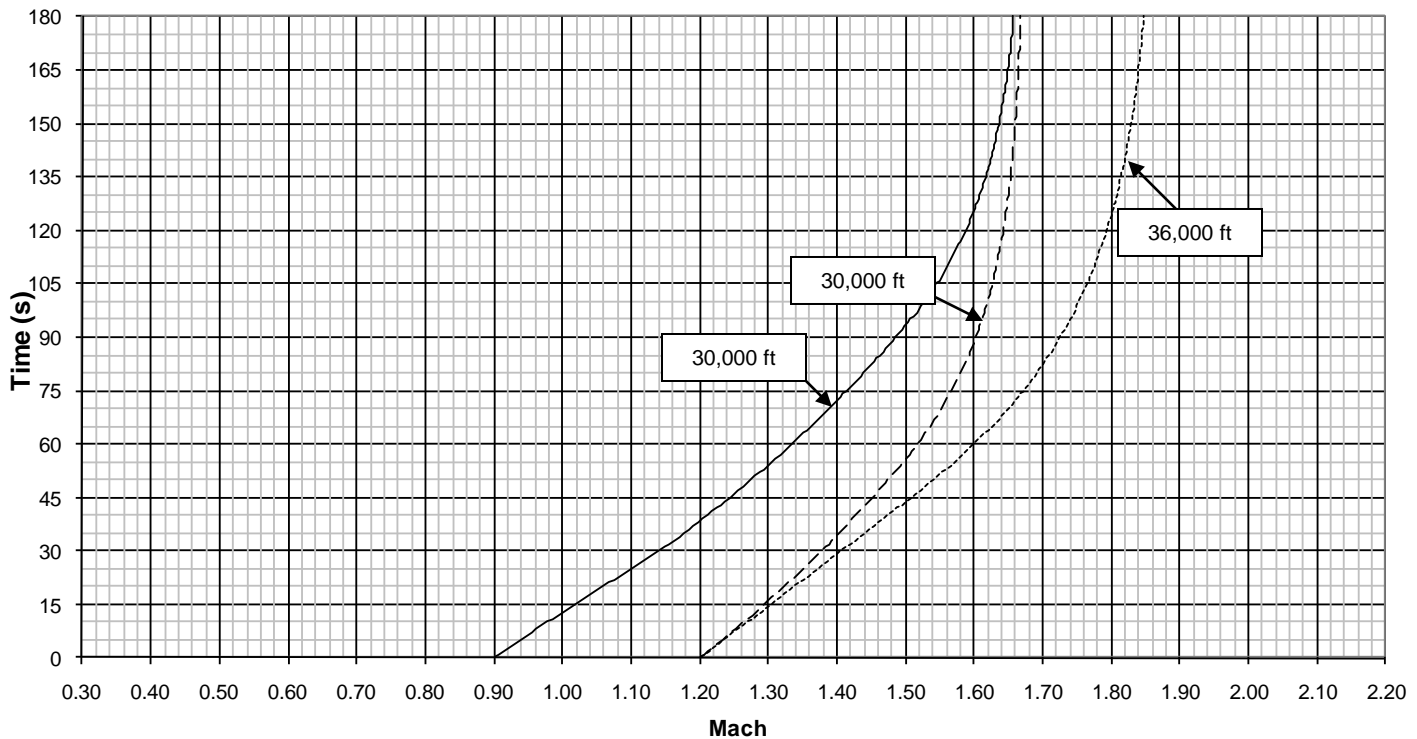
CONFIGURATIONS :

- DRAG INDEX = 12 (2xR-3S)
- GW=15,673lbslbs

Acceleration (Max Thrust AB)



Acceleration (Max Thrust AB)



Turn Performance

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

CONFIGURATIONS :

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

Turn Rate – Summary

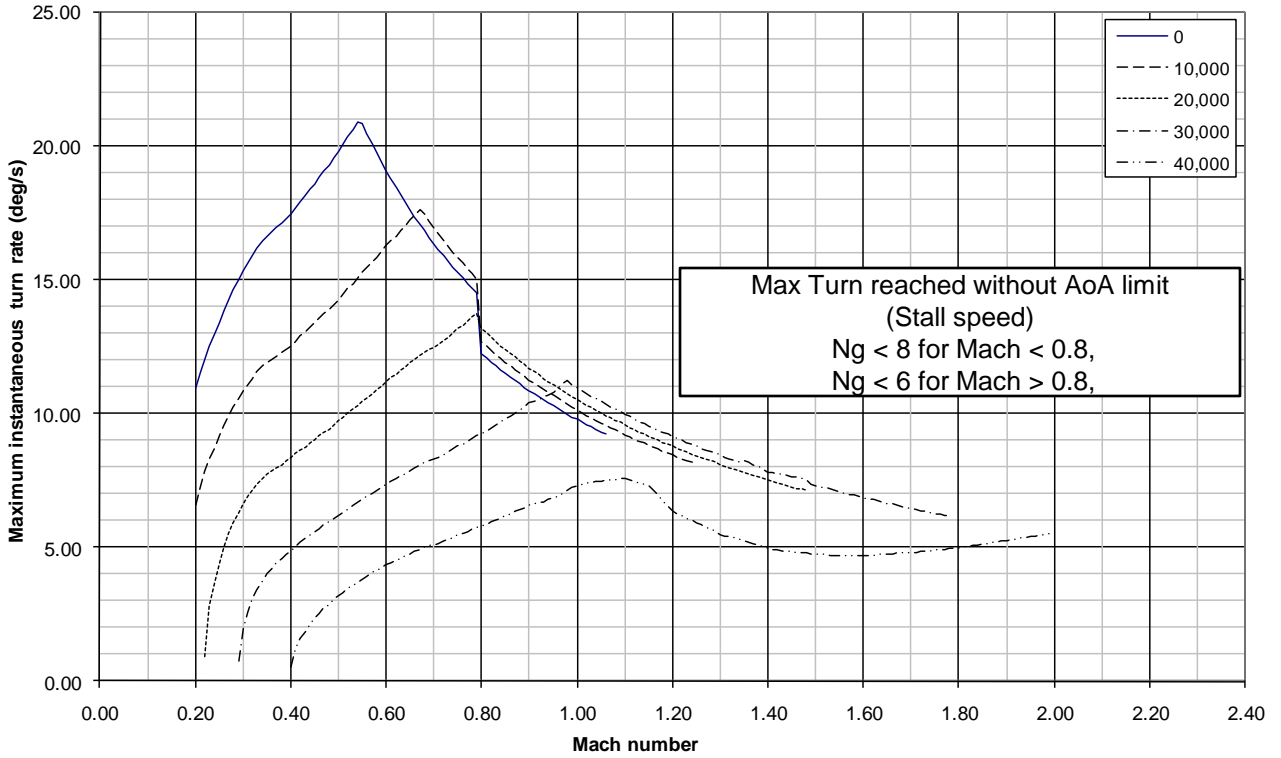
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine :Tumansky R-13-200

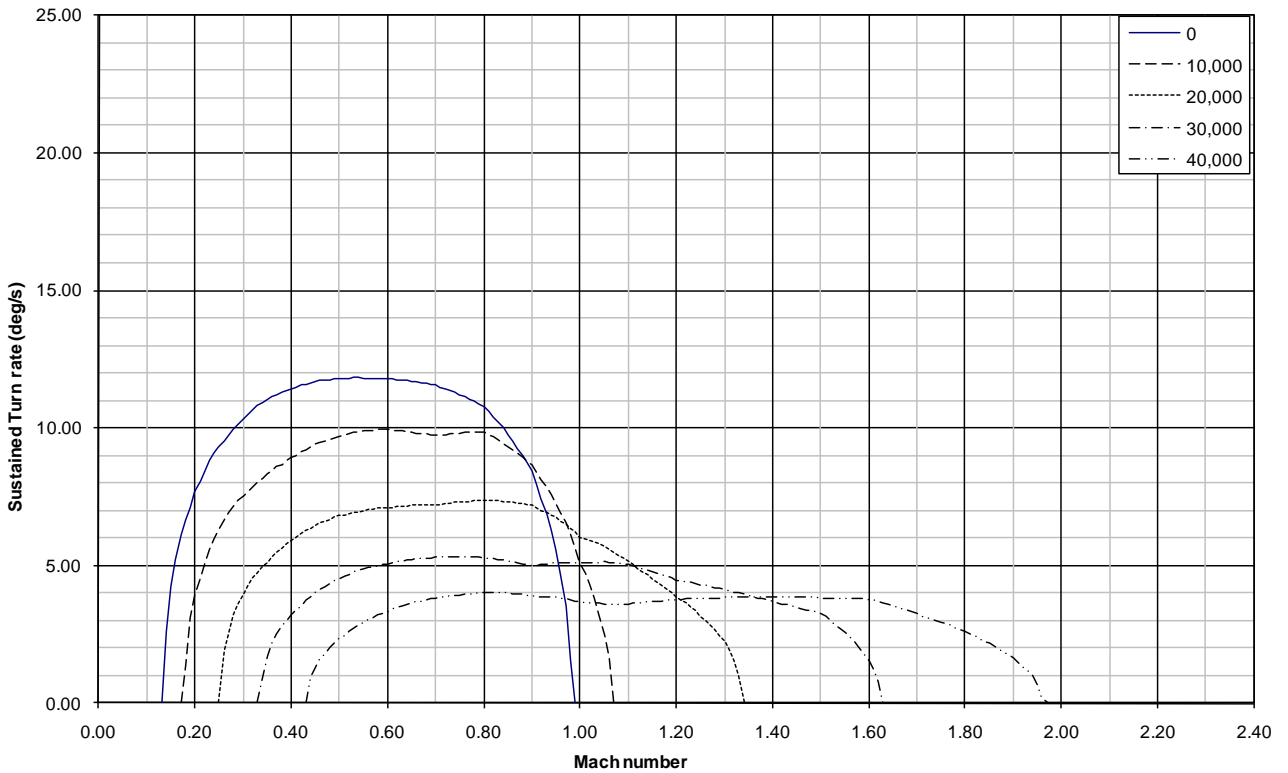
CONDITIONS:
 •Standard Day
 •Max AB

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

Maximum Available Turn Rate



Maximum Sustained Turn rate (deg/s)



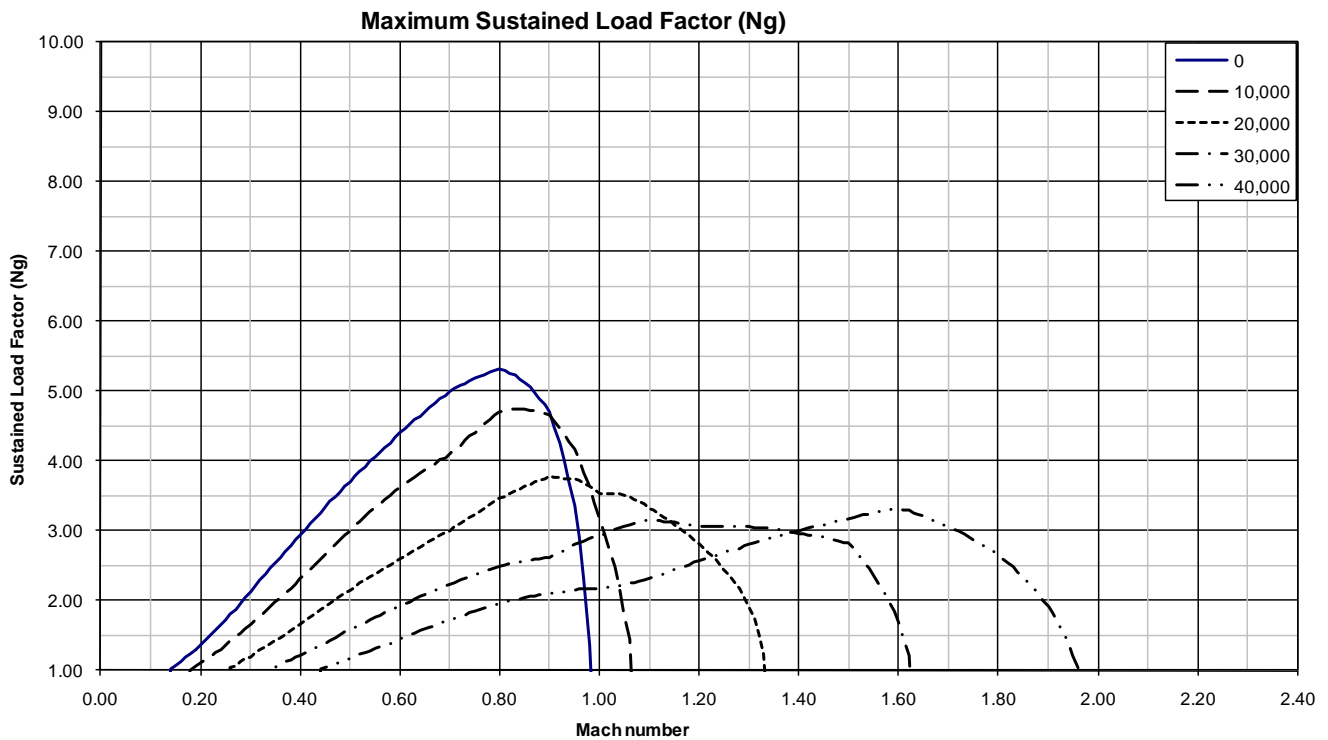
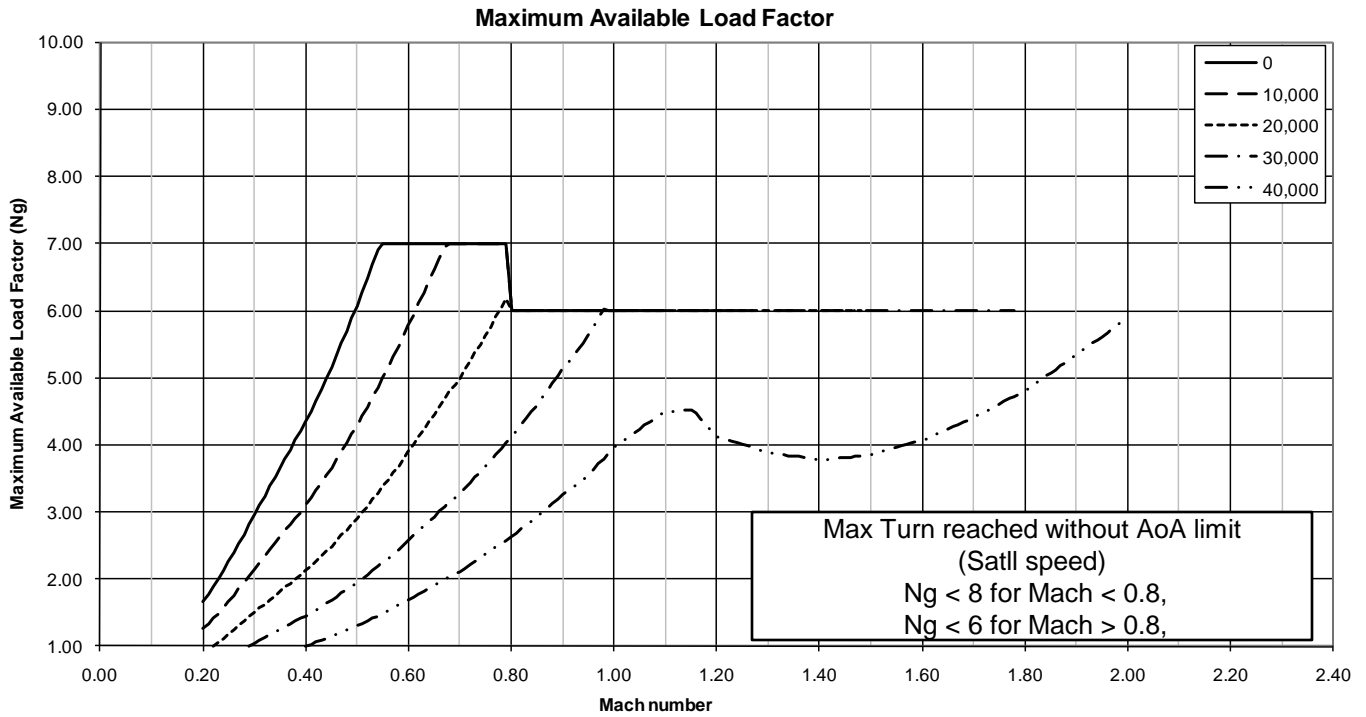
Load Factor – Summary

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine :Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



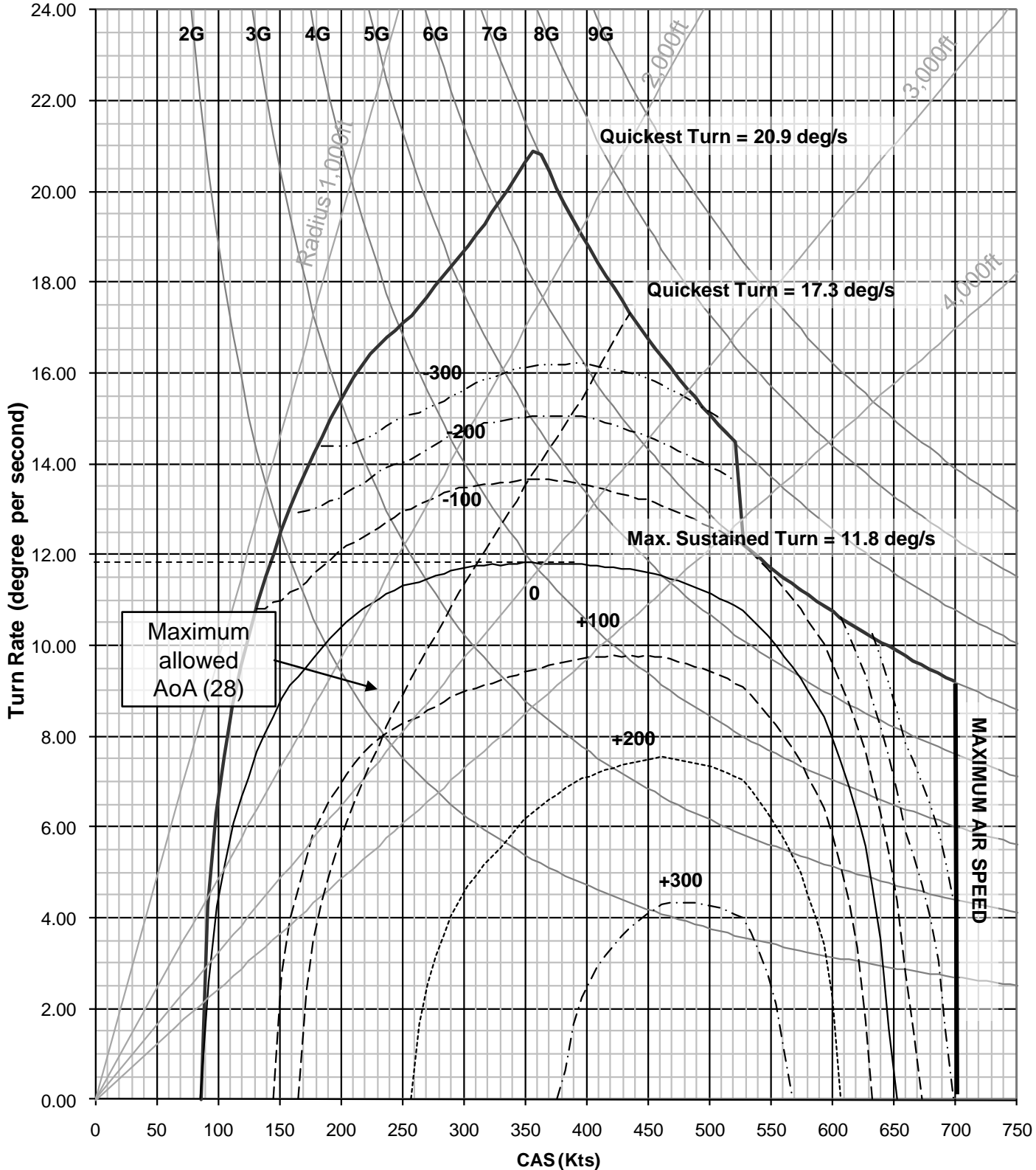
Turn Performance – Sea Level

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

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



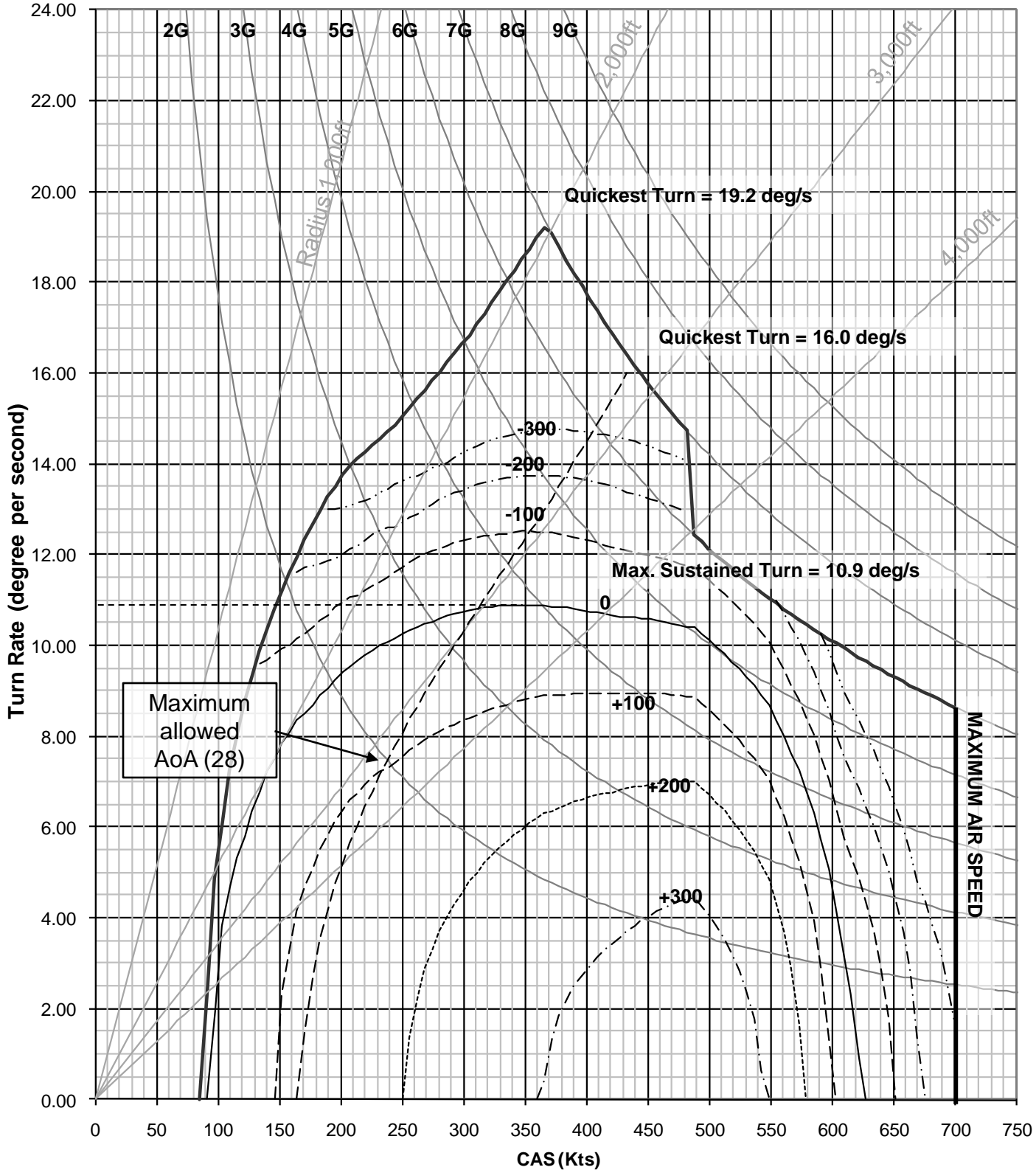
Turn Performance – 5,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



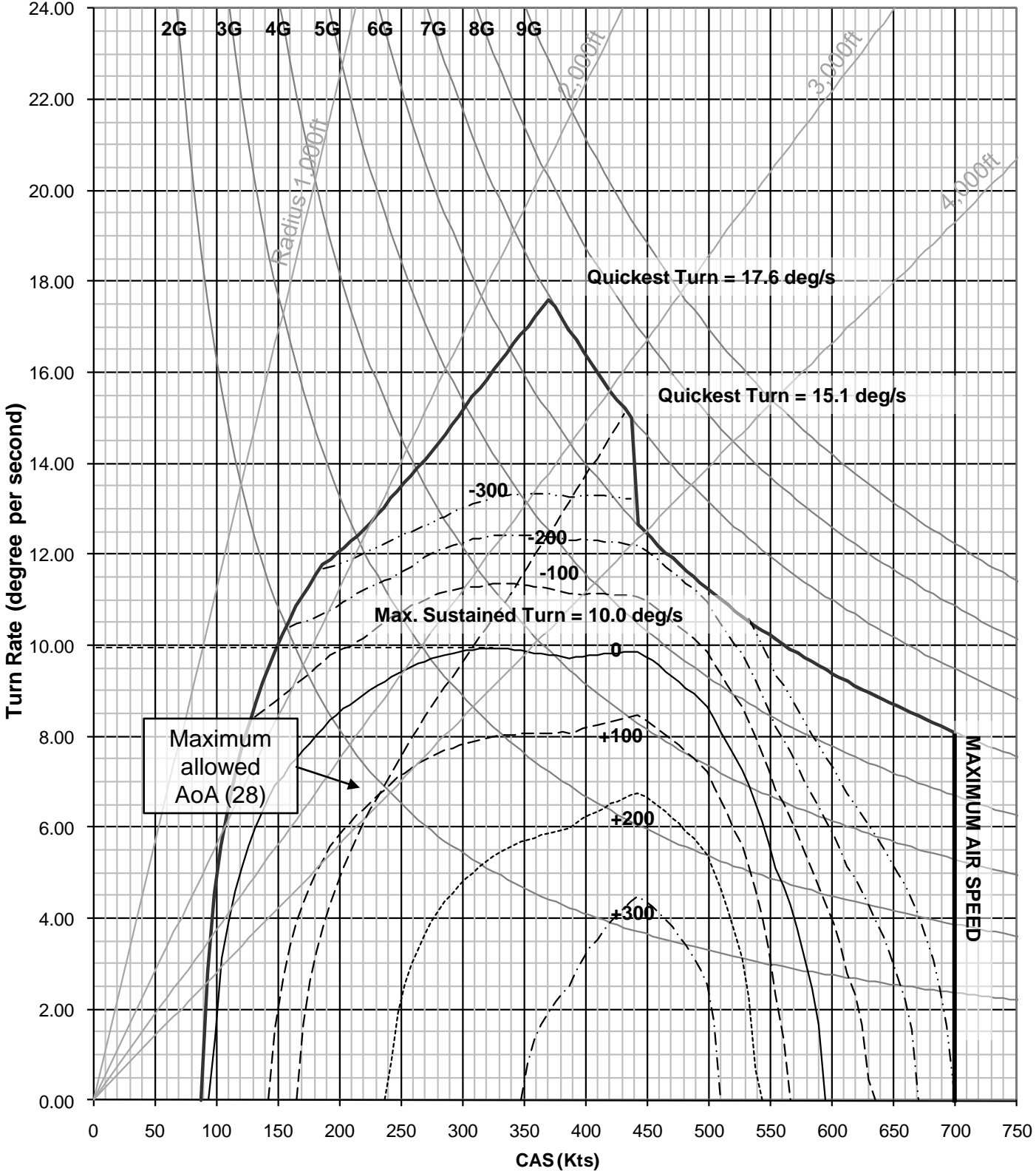
Turn Performance – 10,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



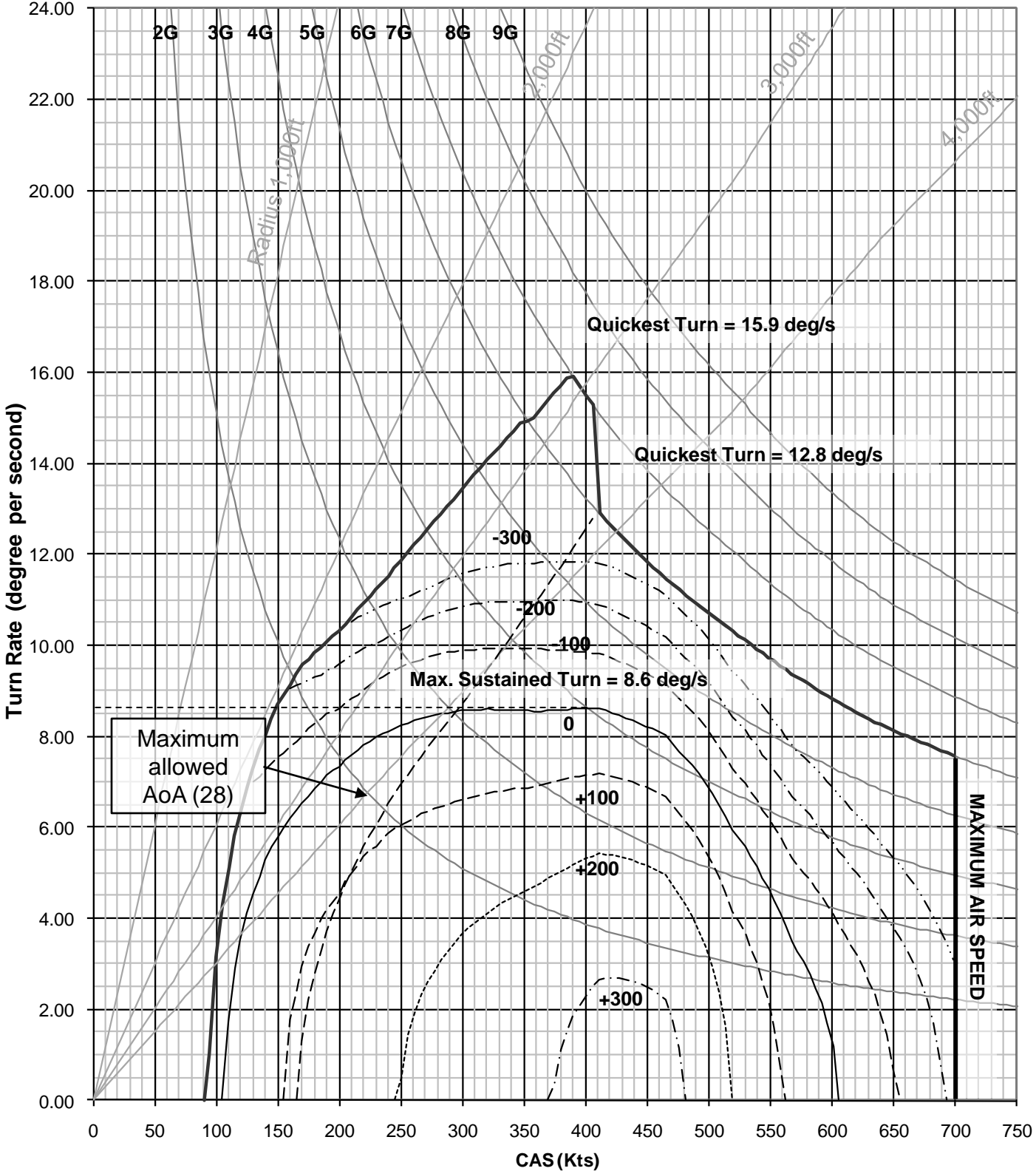
Turn Performance – 15,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



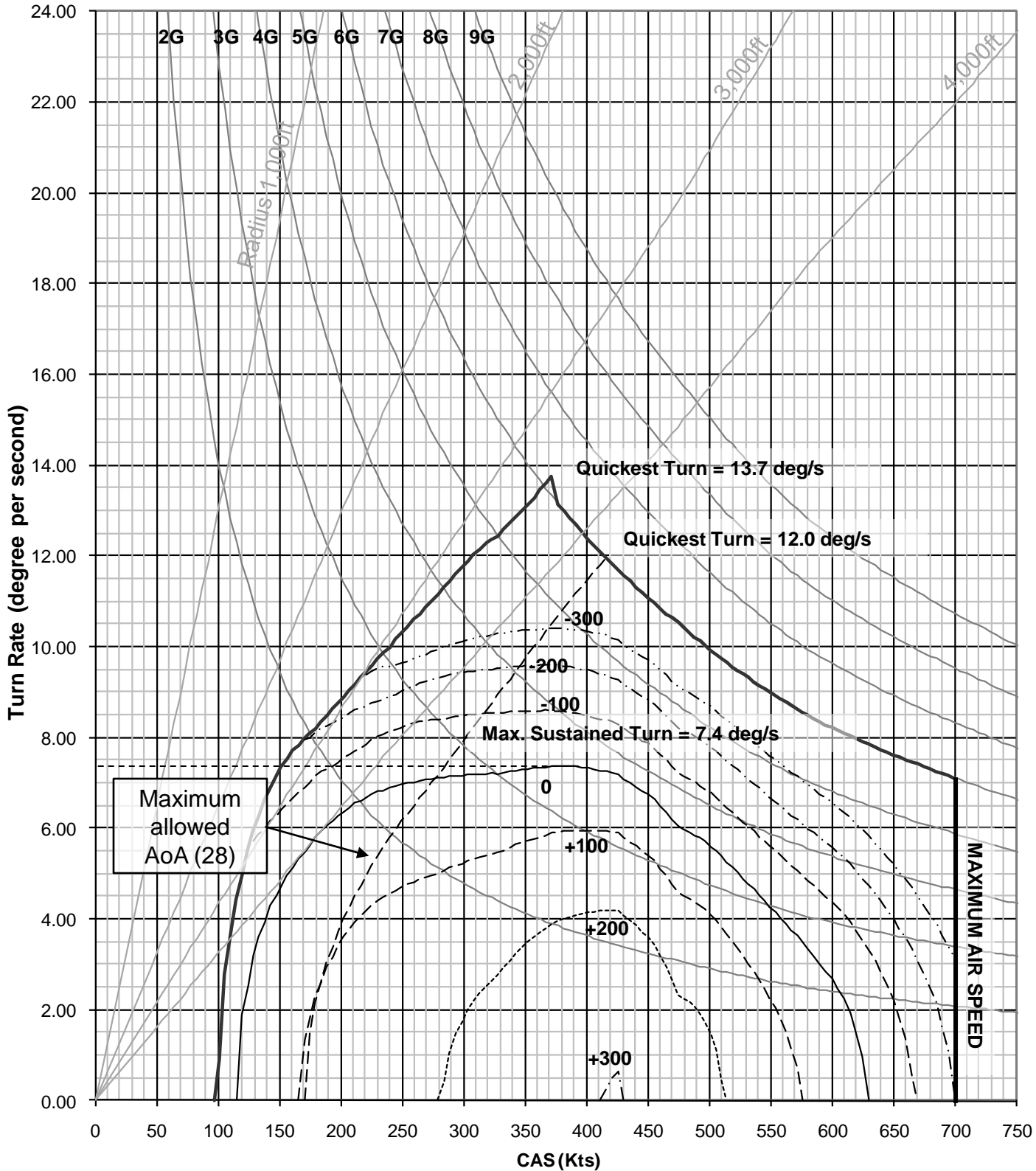
Turn Performance – 20,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



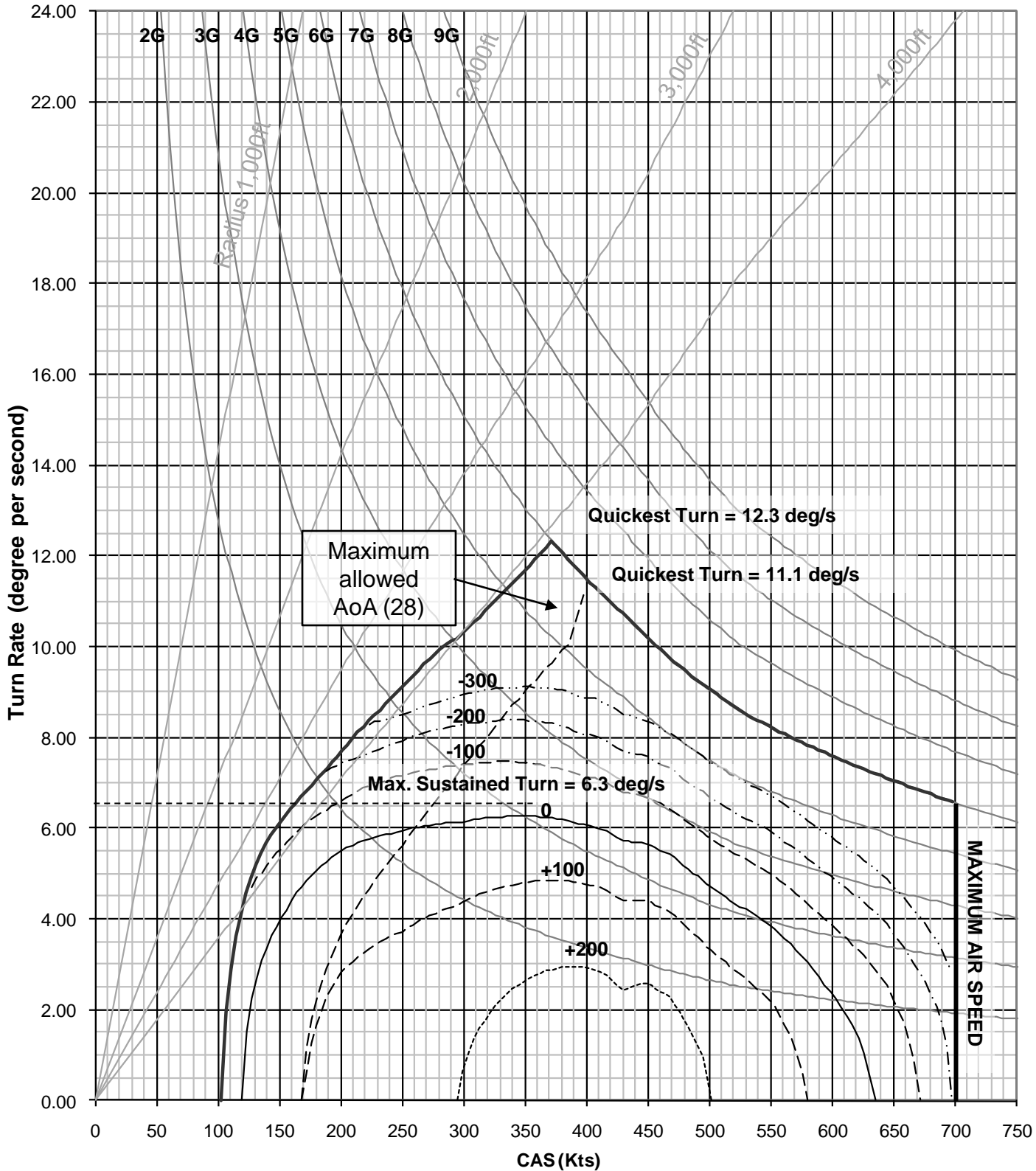
Turn Performance – 25,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



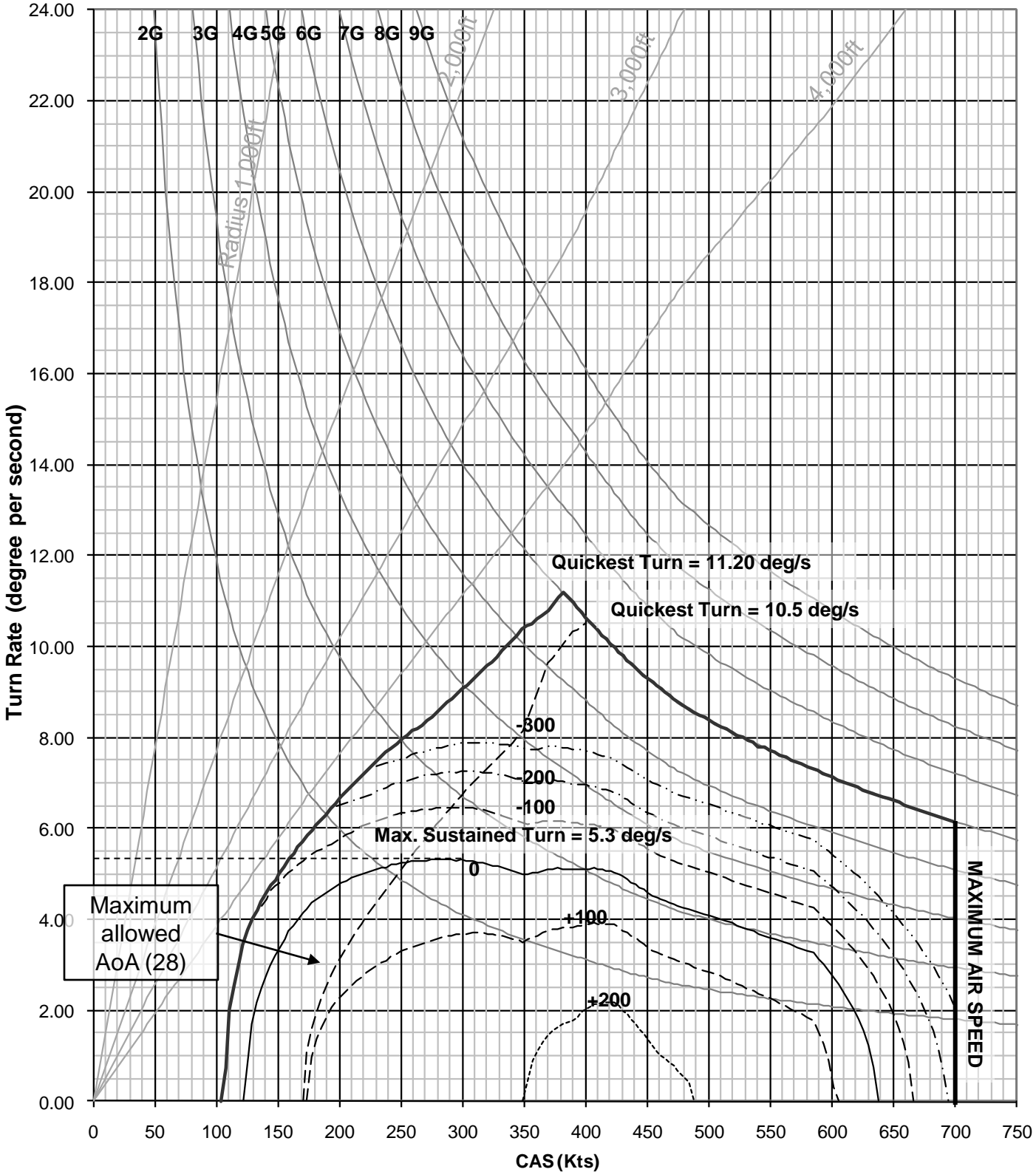
Turn Performance – 30,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



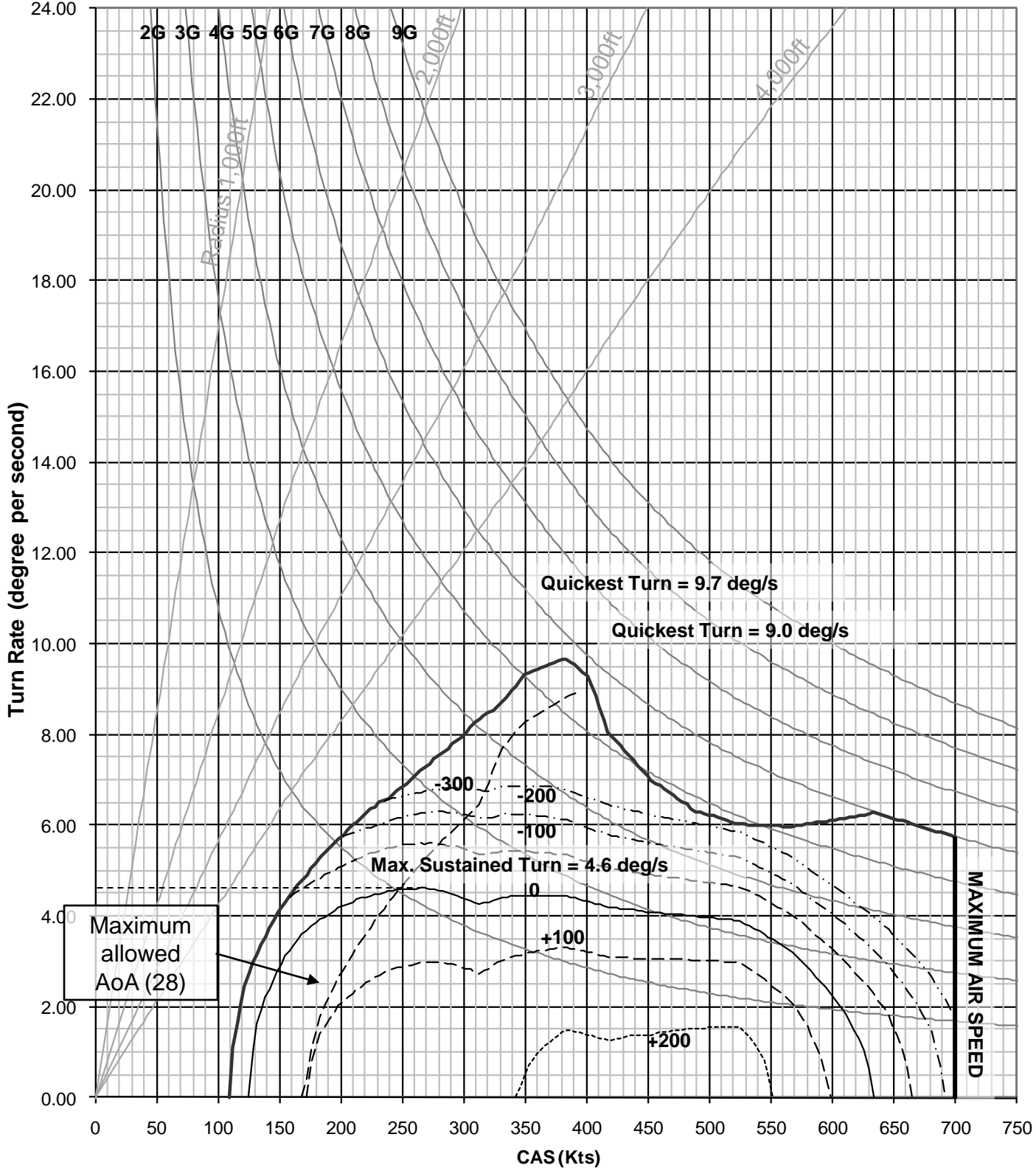
Turn Performance – 35,000 ft

DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine : Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs



Climb Performance

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

CONFIGURATIONS :

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

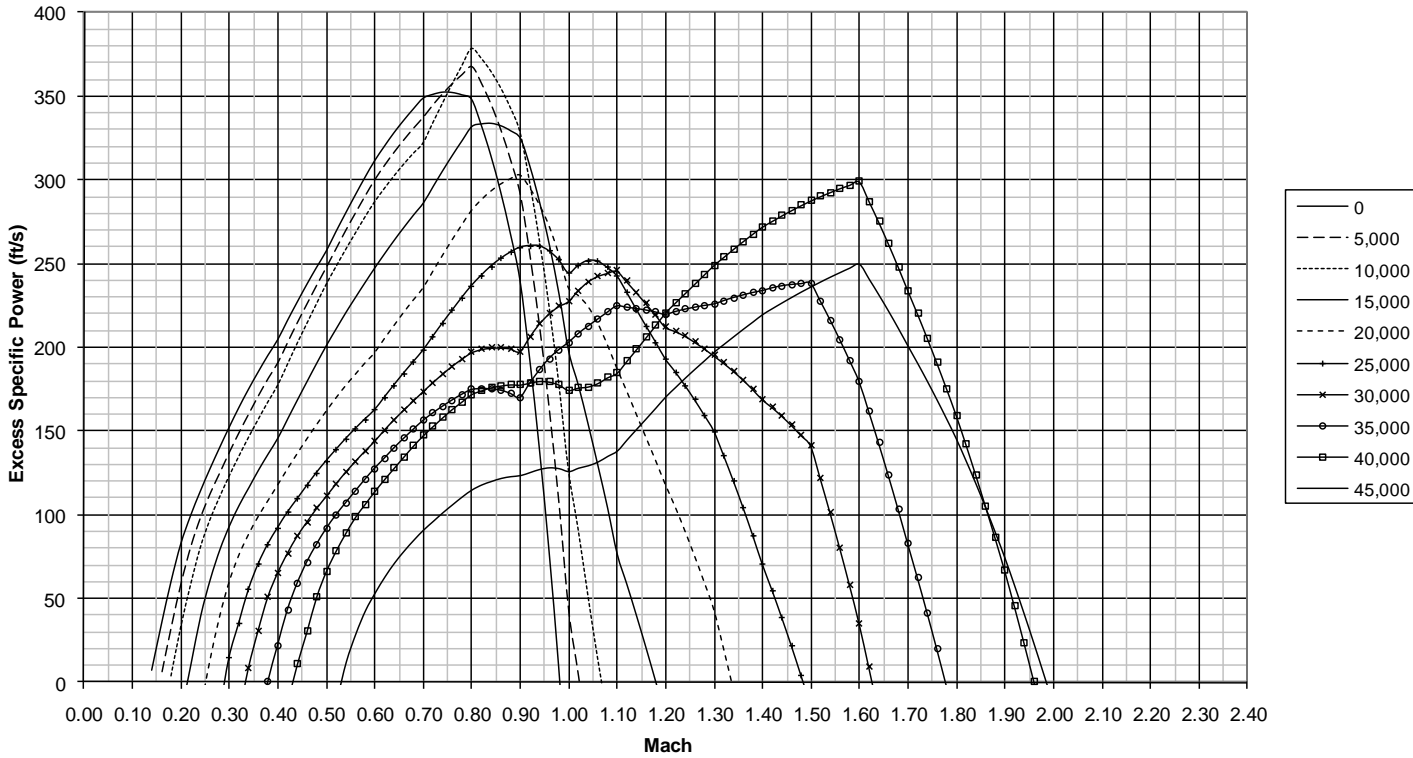
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine :Tumansky R-13-200

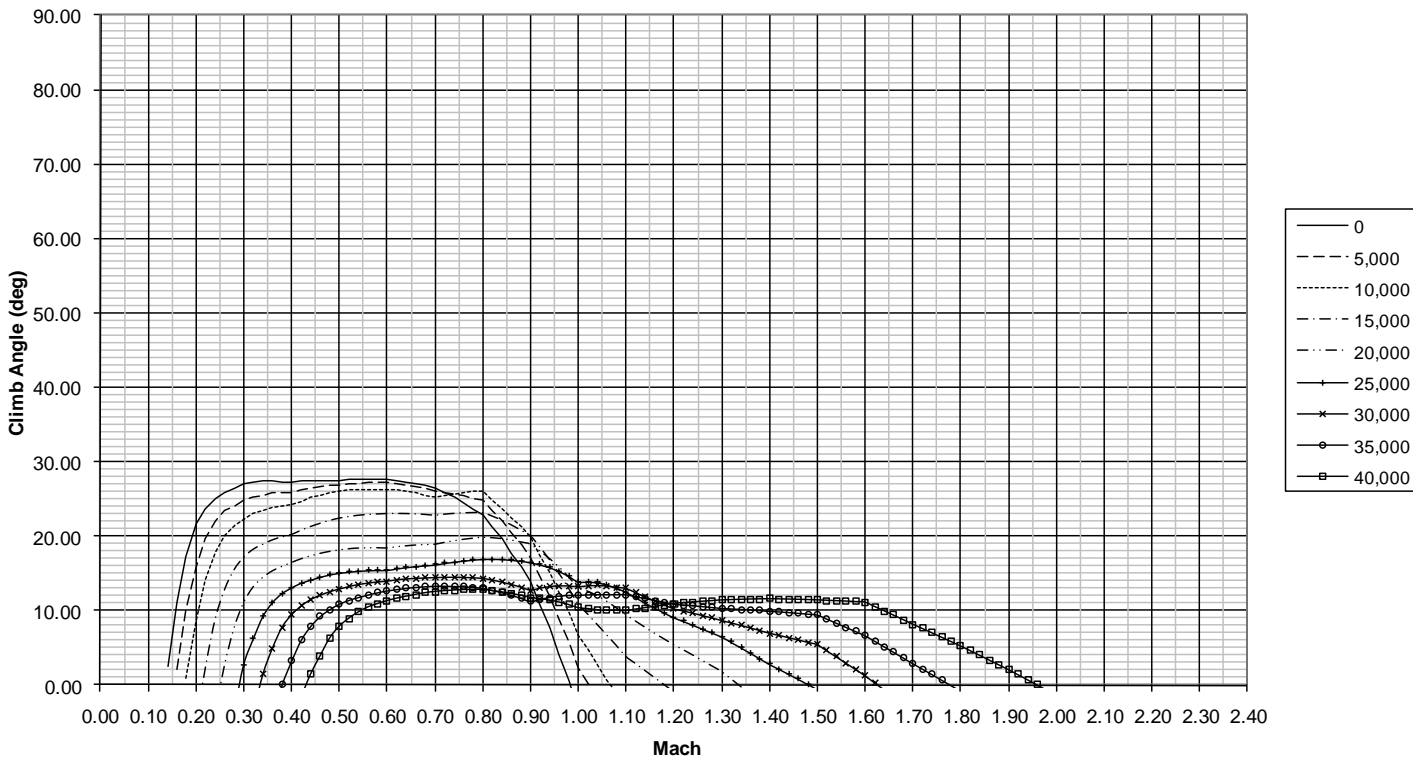
CONDITIONS:
 •Standard Day
 •Max AB

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle



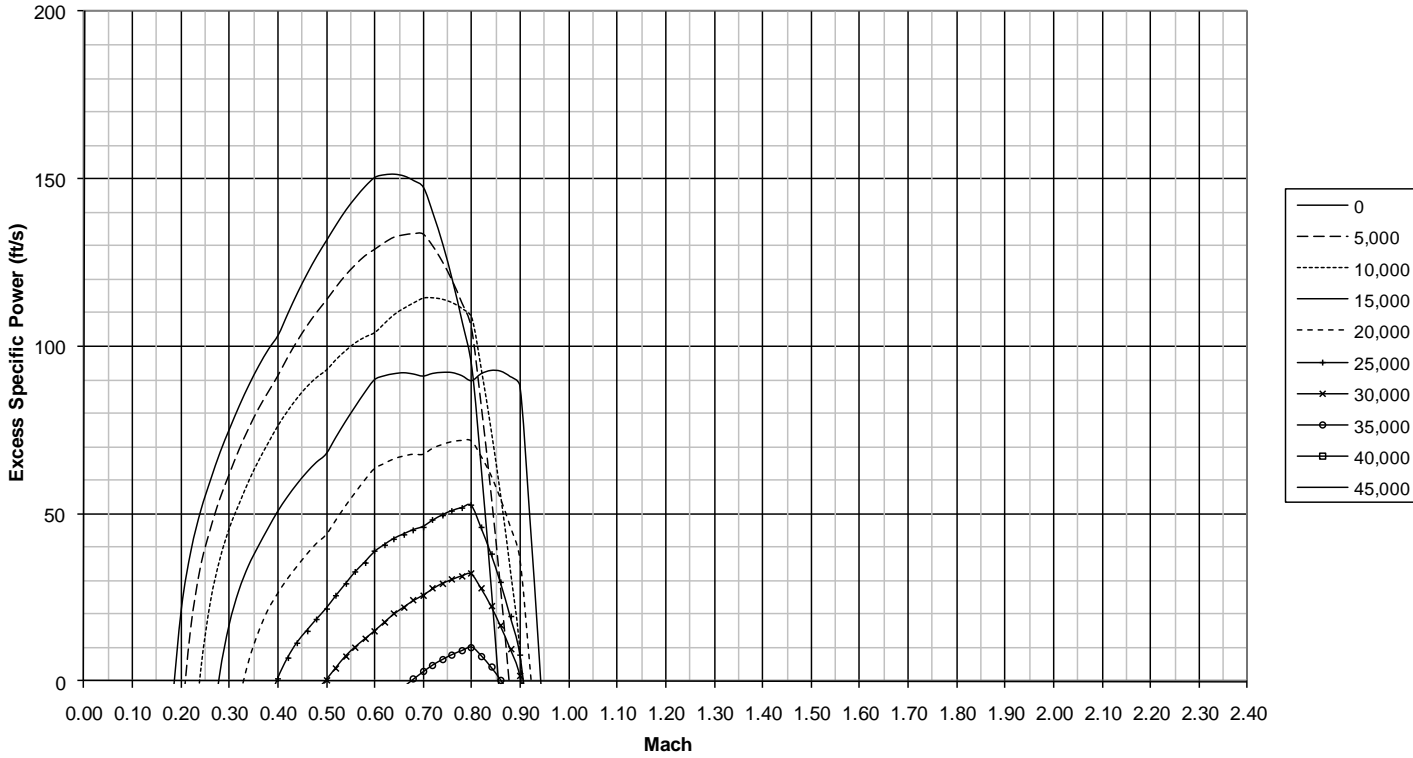
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
 Engine : Tumansky R-13-200

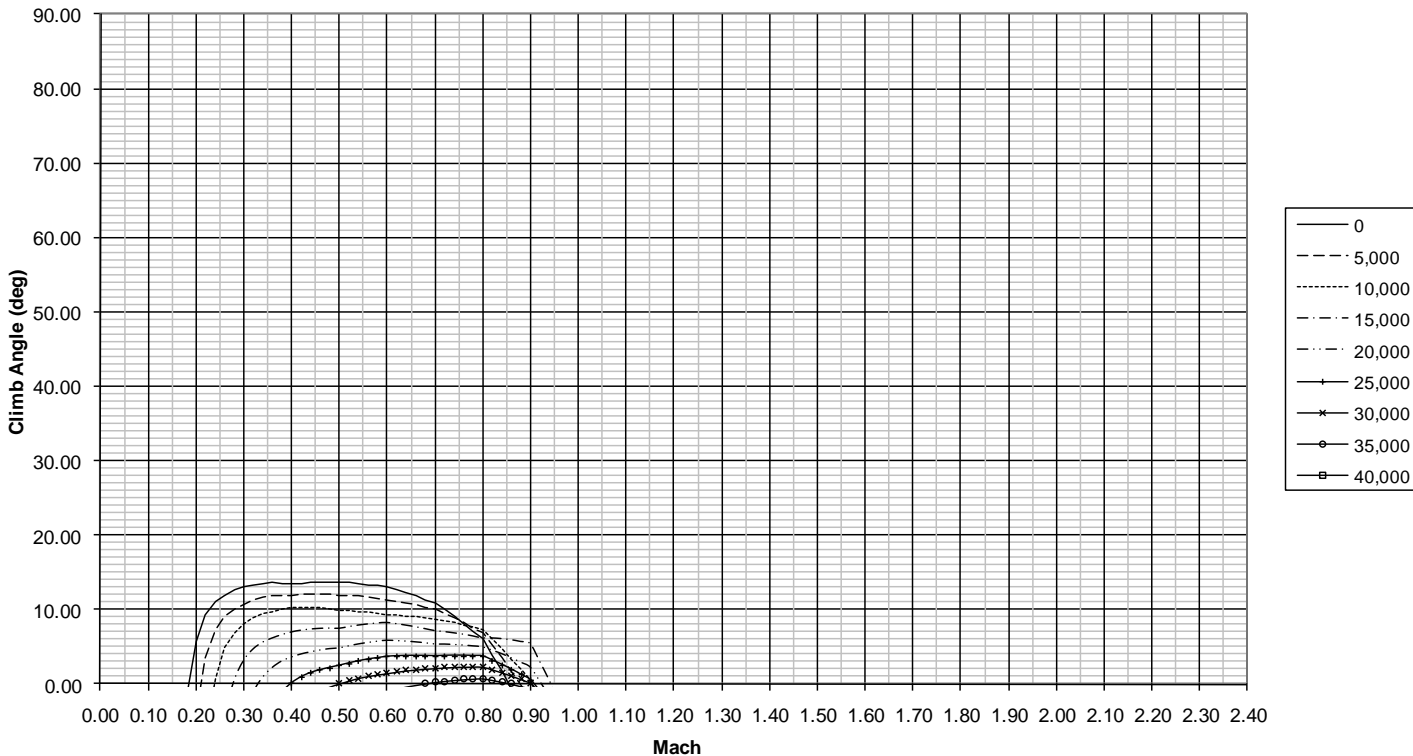
CONDITIONS:
 •Standard Day
 •MIL Power

CONFIGURATIONS :
 •DRAG INDEX = 13 (4xR-3S)
 •GW=16,194lbslbs

Instantaneous Constant Speed Climb Rate



Constant Speed Climb Angle



Acceleration Performances

Aircraft : Mig-21 MF

Engine :Tumansky R-13-200

CONFIGURATIONS :

•DRAG INDEX = 13 (4xR-3S)

•50% internal fuel

•GW= 16,194 lbs / 7,336 Kg

Acceleration Diagram

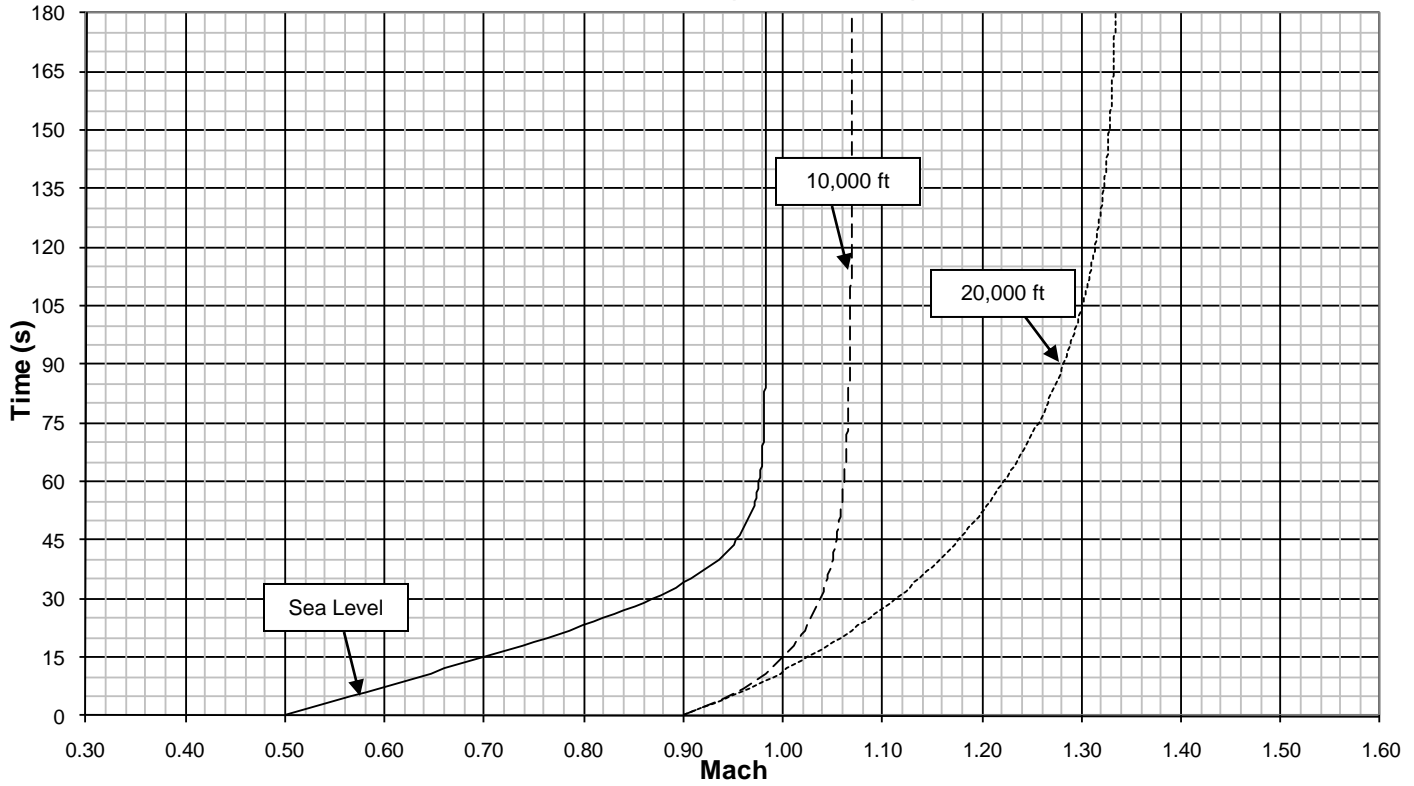
DATA BASIS : ESTIMATED

Aircraft : Mig-21 MF
Engine :Tumansky R-13-200

CONDITIONS:
 •Standard Day
 •Max AB

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

Acceleration (Max Thrust AB)



Acceleration (Max Thrust AB)

