

Airplane Serial Number 4636453Registration Number N963MADate 2/12/2020

BASIC EMPTY WEIGHT & CG ARM & MOMENT

Basic Empty Weight = 3142 lbsC.G. Arm = 138.1 inches Aft of DatumMoment = 433992 inch - lbsAIRPLANE USEFUL LOAD - NORMAL CATEGORY
OPERATION

(Ramp Weight) - (Basic Empty Weight) = Useful Load

(4318 lbs) - (lbs) = lbs.

(4357 lbs) - (3142 lbs) = 1215 lbs. (S/N 4636196 & up)

THIS BASIC EMPTY WEIGHT, C.G. AND USEFUL LOAD
ARE FOR THE AIRPLANE AS MODIFIED TO THE JETPROP
CONFIGURATION. REFER TO APPROPRIATE AIRCRAFT
RECORD WHEN ALTERATIONS HAVE BEEN MADE.

WEIGHT AND BALANCE DATA FORM

Figure 6-5

6.7 GENERAL LOADING RECOMMENDATIONS

For all airplane configurations, it is the responsibility of the pilot in command to make sure that the airplane always remains within the allowable weight vs. center of gravity while in flight.

The following general loading recommendation is intended only as a guide. The charts, graphs, instructions and plotter should be checked to assure that the airplane is within the allowable weight vs. center of gravity envelope.

(a) Pilot Only. Load rear baggage compartment first.

(b) 2 Occupants - Pilot and Passenger in Front. Load rear baggage compartment first. Without aft baggage, fuel load may be limited by forward envelope for some combinations of optional equipment.

(c) 3 Occupants - 2 in front. 1 in rear. Baggage in nose may be limited by forward envelope.

(d) 4 Occupants - 2 in front, 2 in rear. Fuel may be limited for some combinations of optional equipment.

(e) 5 Occupants 2 in front, 1 in middle, 2 in rear. Investigation is required to determine optimum baggage load.

(f) 6 Occupants - 2 in front, 2 in middle, 2 in rear. With six occupants fuel and/or baggage may be limited by envelope.

For all airplane configurations, it is the responsibility of the pilot in command to make sure that the airplane always remains within the allowable weight vs. center of gravity while in flight.

Weight at takeoff w no usable fuel (zero fuel weight)

ITEM	WT. (LBS.)	ARM (IN.)	MOMENT (IN. LBS.)
BASIC AIRPLANE	3142.0	138.13	433992.00
Seat #1	188.0	135.50	25474.00
Seat #2	173.0	135.50	23441.50
Seat #3			0.00
Seat #4	202.0	177.00	35754.00
Seat #5	197.0	218.75	43093.75
Seat #6	175.0	218.75	38281.25
Nose Baggage	22.0	88.60	1949.20
Header Fuel	66.6	88.60	5900.76
Aft Baggage	30.0	248.23	7446.90
Fuel		150.31	0.00
TOTAL WEIGHT	4195.6	CG 146.66	TOTAL MOMENT 615333.36

Weights:

- Basic Empty Weight reported by Rocket Engineering after alteration
- Coroner reported weights of decedents + 7 lbs for clothes
- Self reported clothed weight of survivor
- Estimated 30 lbs of personal effects
- 22 lbs for RedBox battery

1.11 MAXIMUM WEIGHTS

(a) Maximum Ramp Weight.....	4318 LB (4358 LB)
(b) Maximum Takeoff Weight.....	4300 LB (4340 LB)
(c) Maximum Landing Weight.....	4100 LB (4123 LB)
(d) Maximum Zero Fuel Weight	4100 LB (4123 LB)
(e) Maximum Baggage	
Forward Baggage Compartment.....	30 LB
Rear Baggage Compartment.....	100 LB

(Weight values in parentheses apply to S/N 4636196 and higher)

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BASIC AIRPLANE	3142.0	138.13	433992.00
Seat #1	188.0	135.50	25474.00
Seat #2	173.0	135.50	23441.50
Seat #3			0.00
Seat #4	202.0	177.00	35754.00
Seat #5	197.0	218.75	43093.75
Seat #6	175.0	218.75	38281.25
Nose Baggage	22.0	88.60	1949.20
Header Fuel	66.6	88.60	5900.76
Aft Baggage	30.0	248.23	7446.90
Fuel	834	150.31	125358.54
TOTAL WEIGHT	5029.6	CG 147.27	TOTAL MOMENT 740691.90

Fuel:

Wing tanks= 142 gal usable

852 lbs

-18 lbs start/taxi

834 lbs

* For S/N 4636196 & up, 4358 lbs max ramp weight & 4340 lbs max takeoff weight

Extrapolated

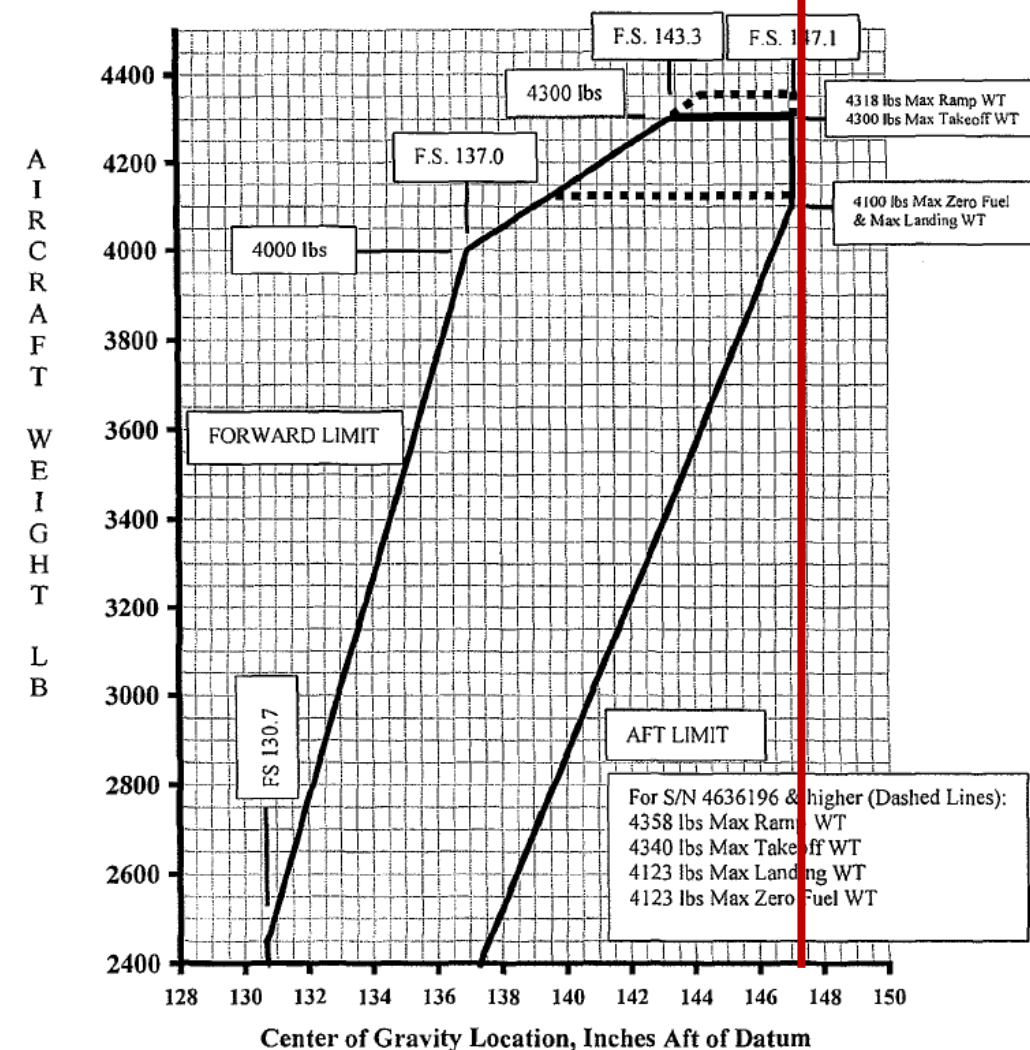


Figure 6-15

Example:

Departure PA=6000 ft, OAT= +25C

Cruise PA=24000 ft, OAT= -29C

Time to Climb = 12-3 = 9 min

Distance to Climb = 38-7 = 31 nm

Fuel to Climb = 10-2 = 8 gal

Time, Fuel, Distance to Climb

JetProp Cruise Climb Performance

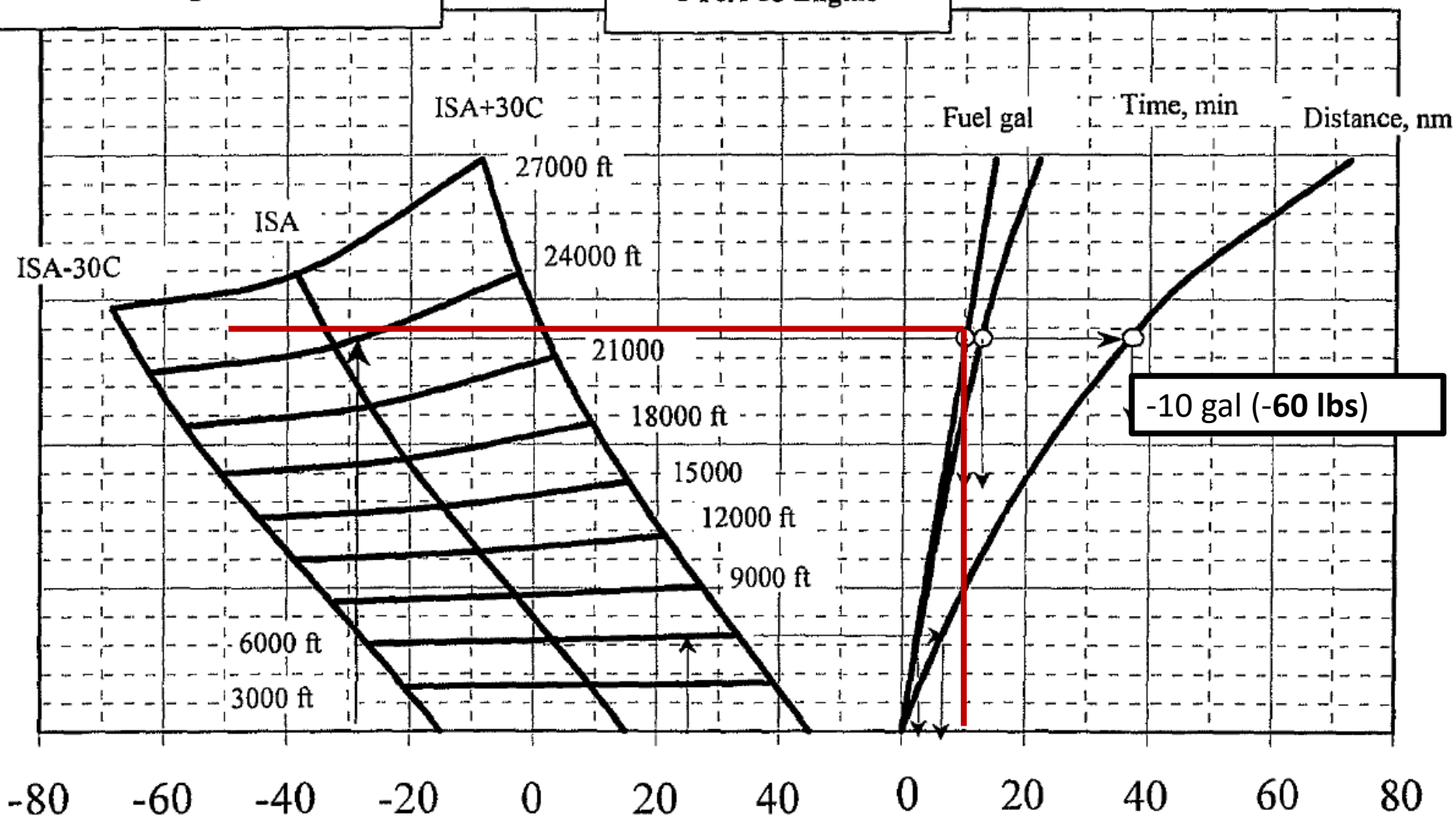
PT6A-35 Engine

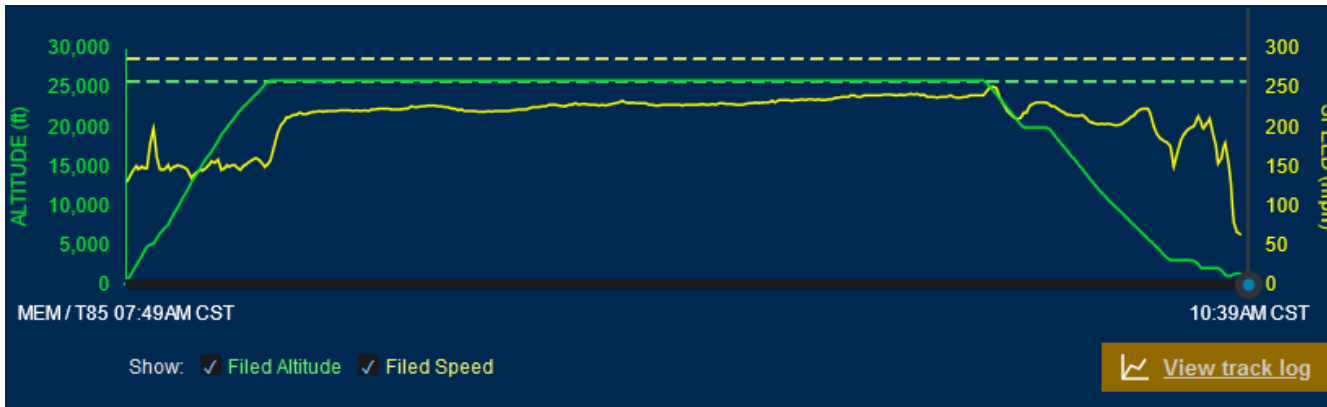
Max Climb Power

4300 lbs

2190 RPM

140 KIAS





Cruise Altitude 26000 ft
 Cruise Speed ~200-240 kts ground speed
 Witness states pilot(s) mentioned headwinds
 Likely power setting 800 ft lb
 Est. Cruise Fuel Burn 203 pph
 2.5 hrs @ 26k ft= **507.5 lbs**

PT6A-35 Engine

Pressure Altitude = 27000 ft

Torque ft-lb	ISA-30° C (-68.5° C)			ISA (-38.5° C)			ISA+30° C (-8.5° C)		
	KTAS	FF, lb/hr	FF, gal/hr	KTAS	FF, lb/hr	FF, gal/hr	KTAS	FF, lb/hr	FF, gal/hr
400	168	118	17.6	172	121	18.1	172	123	18.4
500	195	135	20.1	202	138	20.6	206	142	21.2
600	213	155	23.1	222	158	23.6	229	160	23.9
700	227	176	26.3	237	179	26.7	245	182	27.2
800	240	198	29.6	250	203	30.3	259	205	30.6
900	250	220	32.8	262	224	33.4	272	230	34.3
805*							259	206	30.7
952*				268	240	35.8	-	-	-
952*	258	237	35.4	-	-	-	-	-	-

Example:

Initial Altitude = 27000 ft

Final Altitude = 7000 ft

Time = (18-5) = 13 min

Fuel = (8-2) = 6 gal

Distance = (67-15) = 52 nm

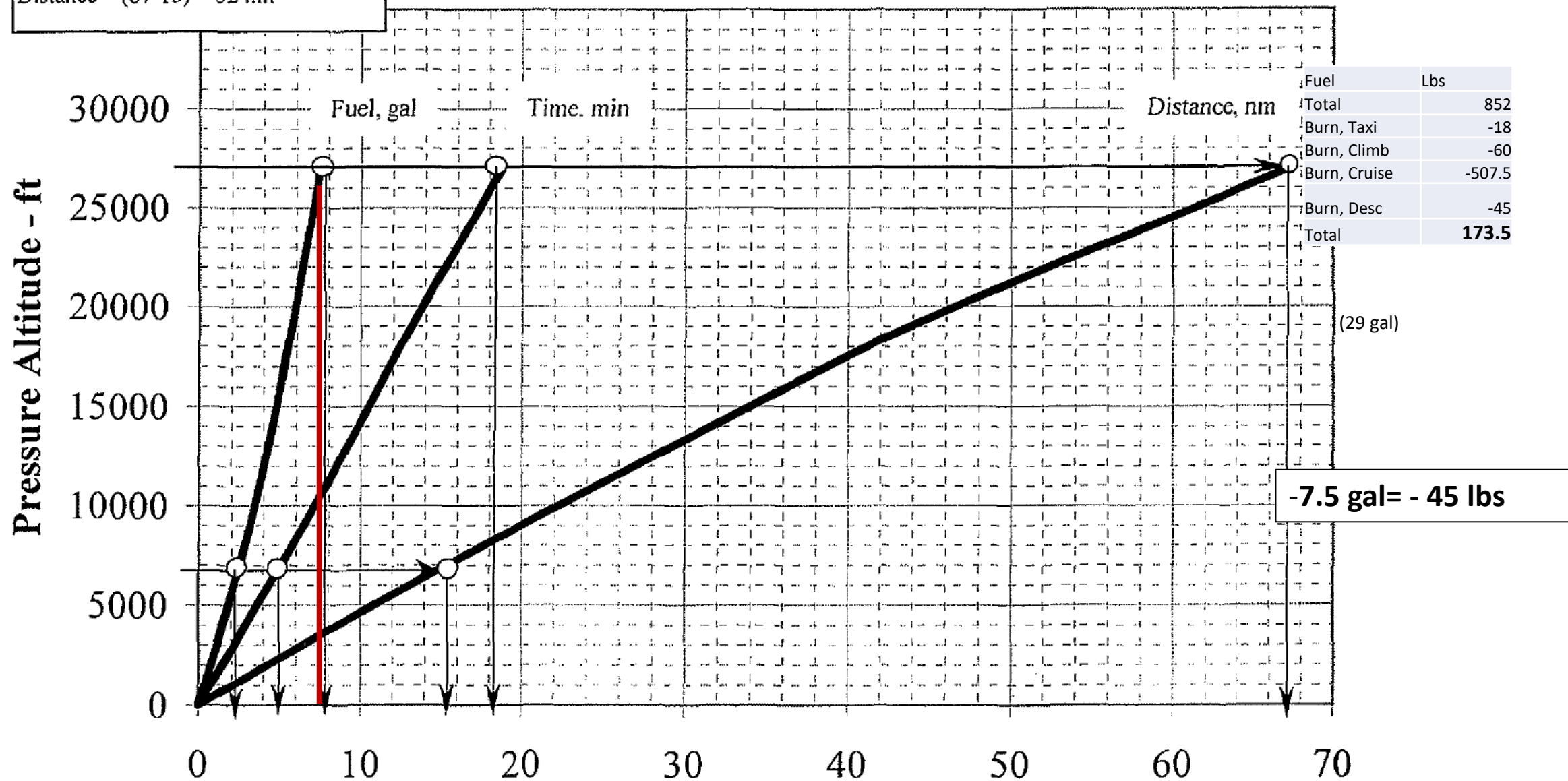
Time, Fuel, Distance to Descend

JetProp
PT6A-35 Engine

172 KIAS

400 FT-LBS

2190 RPM



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Seat #5	197.0		218.75		43093.75
Seat #6	175.0		218.75		38281.25
Header Fuel	66.6		88.60		5900.76
Nose Baggage	22.0		88.60		1949.20
Aft Baggage	30.0		248.23		7446.90
Fuel	221.5		150.31		33293.67
TOTAL WEIGHT	4417.1	CG	146.84	TOTAL MOMENT	648627.03

* For S/N 4636196 & up, 4358 lbs max ramp weight & 4340 lbs max takeoff weight

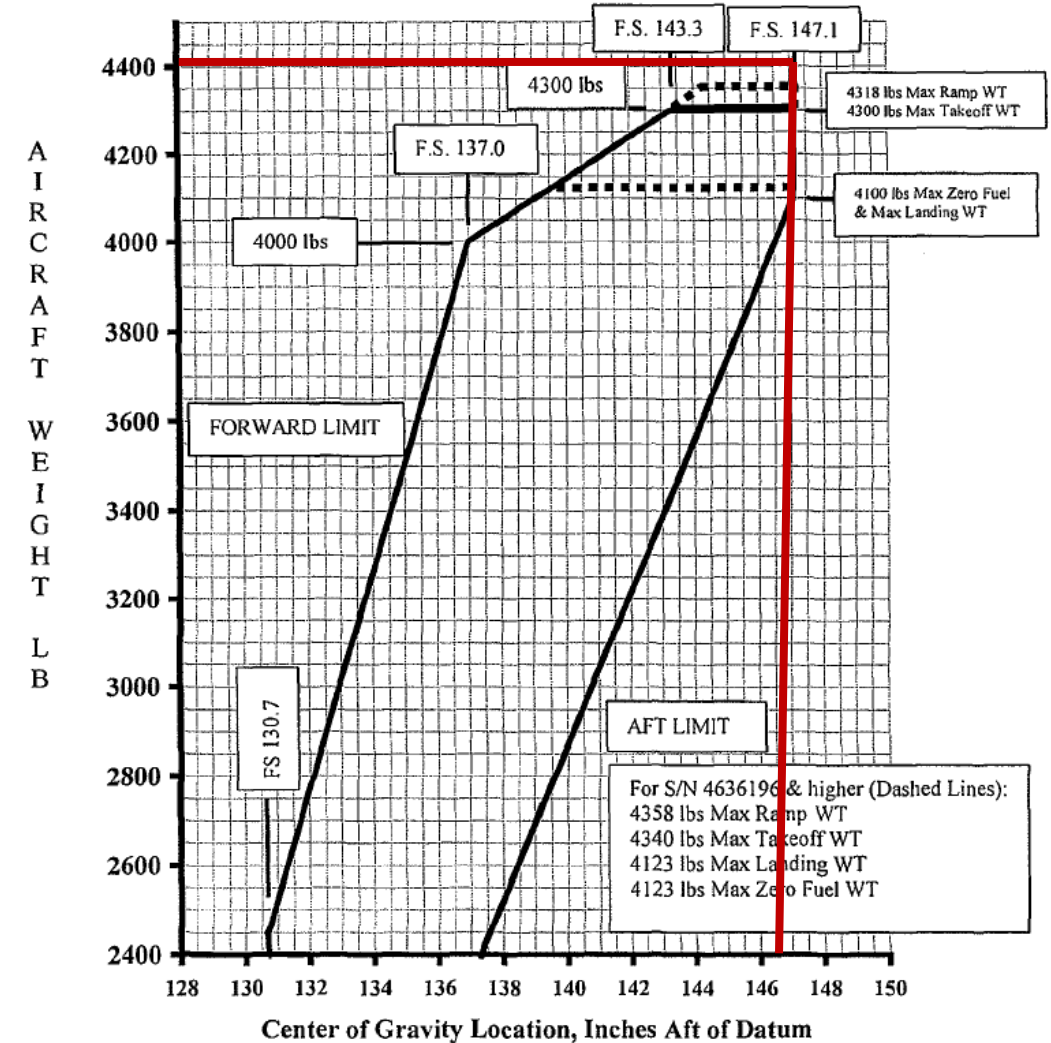


Figure 6-15