

**LOAD DATA SHEET - PAGE 1 OF 3 - AEROPLANE WEIGHT**

Aeroplane Type:..... CESSNA 172S

Registration Marking:..... **VH-PRJ**      Serial No: 172S10642

ISSUE:.... ONE	DATE:..... 17.1.08	EXPIRY:..... INDEFINITE
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**AEROPLANE WEIGHT AND CENTRE OF GRAVITY DATA:**

ITEM	WEIGHT (Kg)	ARM (mm aft of datum)	MOMENT (Kg.mm)	CABIN CONFIGURATION
EMPTY	<b>797.4</b>	<b>1058</b>	<b>843528</b>	FOUR SEATS TOTAL
STANDARD CABIN CONFIGURATION				
THE FOLLOWING IMPERIAL UNITS ARE FOR USE WITH THE PILOTS HANDBOOK SECTION SIX				
	(lb)	(in)	(in.lb/1000)	
EMPTY	<b>1757.9</b>	<b>41.6</b>	<b>73.22</b>	FOUR SEATS TOTAL

NOTE: The above empty weights include:-

EMPTY - unusable fuel and full oil

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**LOAD DATA SHEET - PAGE 3 OF 3 - LOADING SYSTEM**

Aeroplane Type:..... CESSNA 172S

Registration Marking:..... **VH-PRJ** Serial No: 172S10642

ISSUE:.... ONE	DATE:..... 17.1.08
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The following is valid only for the Empty Weight specified in page 1 - Aeroplane Weight dated.. 17.1.08 and is based on calculations using Occupant Weights of 60 to 90 Kg each.

**A...NORMAL CATEGORY OPERATIONS:-**

**1. OCCUPANTS:-**

Load Front to Rear (i.e. Front seats first)  
Load Heaviest Passengers in front row

**2. BAGGAGE COMPARTMENT LIMITATIONS:-**

<u>Number of Occupants</u>	<u>Maximum Baggage</u>
One (pilot)	54.4 Kg
Two	54.4 Kg
Three	54.4 Kg
Four	12.7 Kg

**3. WING MAIN FUEL:-**

Fuel is limited only by All Up Weight

**MAXIMUM TAKE-OFF WEIGHT.....1156 Kg**

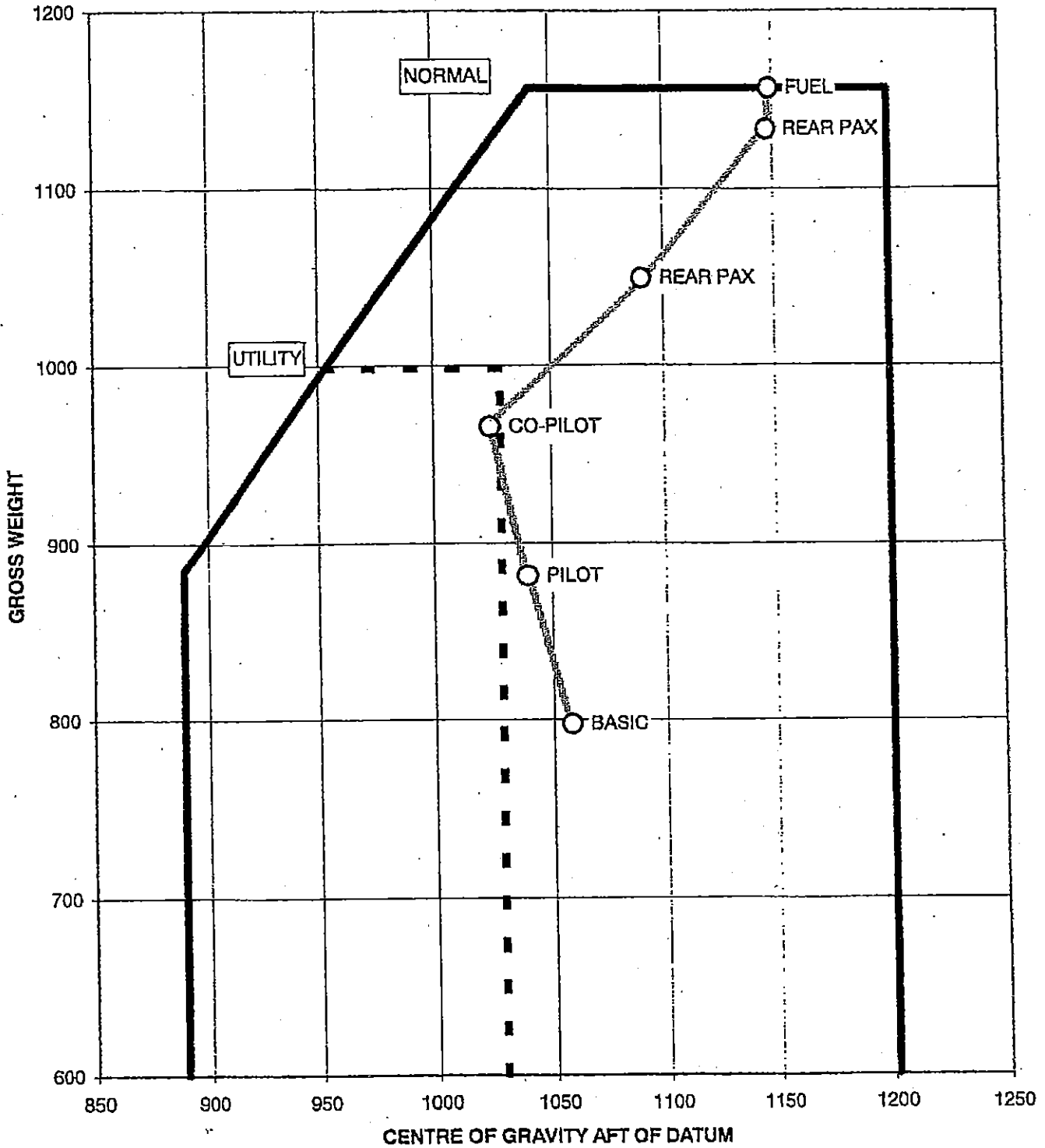
**B...UTILITY CATEGORY OPERATIONS:-**

Due to an Aft C of G problem, this aircraft can not be Operated in Utility Category.

**NOTE: If a full Loading Check is required, refer to Loading Instructions and Tables in the Pilots Handbook Section Six.**

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CESSNA 172S



MAIN PLOT - BASIC AIRCRAFT PLUS FOUR OCCUPANTS @ 84 Kg EACH WITH FUEL TO TAKE-OFF WEIGHT

## LOAD CHECK CALCULATIONS FOR....

CESSNA 172S

REGO.....

VH-PRJ

ITEM	WEIGHT	ARM	TOTAL	C.G.	CG LIMITS	
					LIMITS	
<b>***NORMAL CATEGORY FORWARD CASES</b>						
EMPTY.....			797	1058	FWD OK	AFT OK
PILOT.....	90	864	887	1038	OK	OK
FUEL MAINS	142	1219	1030	1063	OK	OK
EMPTY.....			797	1058	OK	OK
PILOT/PASS	180	864	977	1022	OK	OK
FUEL MAINS	142	1219	1120	1047	OK	OK
EMPTY.....			797	1058	OK	OK
PILOT/PASS	180	864	977	1022	OK	OK
PASS ROW 2	60	1854	1037	1070	OK	OK
FUEL MAINS	119	1219	1157	1086	OK	OK
EMPTY.....			797	1058	OK	OK
PILOT	84	864	881	1039	OK	OK
PASS	84	864	965	1024	OK	OK
PASS ROW 2	84	1854	1049	1091	OK	OK
PASS ROW 2	84	1854	1133	1147	OK	OK
FUEL MAINS	23	1219	1157	1149	OK	OK

**\*\*\*NORMAL CATEGORY AFT LIMIT CHECKS \*LOAD FRONT TO REAR\***

EMPTY.....			797	1058	OK	OK
PILOT AFT	60	965	857	1051	OK	OK
BAG AREA 2	23	3124	880	1105	OK	OK
BAG AREA 1	32	2413	912	1150	OK	OK
FUEL MAINS	142	1219	1054	1160	OK	OK
PASS AFT	60	965	1114	1149	OK	OK
RMVE FUEL	-48	1219	1066	1146	OK	OK
PASS ROW 2	90	1854	1156	1201	OK	OK
<b>BAG AREA 1</b>	<b>0.0</b>	<b>2413</b>	<b>1156</b>	<b>1201</b>	<b>OK</b>	<b>OK</b>
ADD FUEL	0	1219	1156	1201	OK	OK
RMVE FUEL	-90	1219	1066	1200	OK	OK
PASS ROW 2	90	1854	1156	1251	OK	OUT AFT
<b>BAG AREA 1</b>	<b>-31.7</b>	<b>2413</b>	<b>1124</b>	<b>1218</b>	<b>OK</b>	<b>OUT AFT</b>
<b>BAG AREA 2</b>	<b>-9.97</b>	<b>3124</b>	<b>1114</b>	<b>1201</b>	<b>OK</b>	<b>OK</b>
ADD FUEL	42	1219	1157	1201	OK	OK

## NOTE: BAGGAGE LIMITATIONS AS FOLLOWS

MAX BAGG AREA 2 22.7 Kg AT 3124 MM

MAX BAGG AREA 1 54.4 Kg AT 2413 MM

MAXIMUM COMBINED TOTAL BOTH AREAS IS 54.4 Kg

BAGS 3 = 54.4  
BAGS 4 = 12.7

PILOTS SEAT RANGE FROM 863.6 TO 965.2 MM USED ABOVE

**\*\*\*UTILITY CATEGORY FORWARD CASES**

EMPTY.....			797	1058	FWD OK	AFT OUT AFT
PILOT.....	90	864	887	1038	OK	OUT AFT
FUEL MAINS	111	1219	998	1058	OK	OUT AFT
RMVE FUEL	-90	1219	908	1042	OK	OUT AFT
PASS	90	864	998	1026	OK	OK

**\*\*\*UTILITY CATEGORY AFT CASES**

EMPTY.....			797	1058	OK	OUT AFT
PILOT AFT	90	965	887	1048	OK	OUT AFT
FUEL MAINS	111	1219	998	1067	OK	OUT AFT
RMVE FUEL	-111	1219	887	1048	OK	OUT AFT
PASS AFT	90	965	977	1041	OK	OUT AFT
FUEL MAINS	21	1219	998	1045	OK	OUT AFT

RECORD OF WEIGHT ALTERATIONS

NUMBER... BC/PRJ/1

BRUCE CLISSOLD AN-9 AeroWeigh Pty Ltd Bankstown Airport PH: (02) 9755-7104	Reg: <b>VH-PRJ</b>	Type/Serial No: CESSNA 172S 172S10642	Datum: Front face of firewall
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Reweigh Aircraft on or before..... INDEFINITE

LIMIT DATA:-

Maximum Take-off Weight(Kg).....	1156.66
1/2 % Max. Take-off Weight(Kg) OR 10 Kg.....	10.00
Maximum C.G. Range.....	312.42
2 % Max C.G. Range OR 5 mm.....	6.25

REVISE LOADING SYSTEM/LOAD DATA SHEET:-

Empty Weight Less Than(Kg).....	787.4
Empty Weight Greater Than(Kg).....	807.4
Empty C.G. Forward of(mm).....	1051.6
Empty C.G. Aft of (mm).....	1064.1

DATE:	DESCRIPTION/ALTERATION/ETC	(Kg)	(mm)	(Kg.mm)
17.1.08	Initial Australian Weight FOUR Seats Total Empty (unusable fuel and FULL engine oil).....	797.37	1057.9	843528

FLIGHT MANUAL LOAD DATA ISSUE..... ONE

NOTE: This Empty weight is based upon the validation of Running Totals of changes contained in the U.S. history records and the Australian Validation report dated..... 17.1.08



## WEIGHT AND BALANCE

The following information will enable you to operate your Cessna within the prescribed weight and center-of-gravity limitations. To determine weight and balance, use the Sample Loading Problem (Figure 6-3), Loading Graph (Figure 6-4), and Center-of-Gravity Moment Envelope (Figure 6-7) as follows:

Enter the appropriate basic empty weight and moment/1000 from the weight and balance records for your airplane in the YOUR AIRPLANE column of the Sample Loading Problem.

### NOTE

In addition to the basic empty weight and moment noted on these records, the C.G. arm (FS) is also shown, but need not be used on the Sample Loading Problem. The moment which is shown must be divided by 1000 and this value used as the moment/1000 on the loading problem.

Use the Loading Graph to determine the moment/1000 for each additional item to be carried; then list these on the loading problem.

### NOTE

Loading Graph information for the pilot, passengers and baggage is based on seats positioned for average occupants and baggage loaded in the center of the baggage areas as shown on the Loading Arrangements diagram. For loadings which may differ from these, the Sample Loading Problem lists fuselage stations (FS) for these items to indicate their forward and aft C.G. range limitations (seat travel and baggage area limitation). Refer to Figures 6-5 and 6-6 for additional loading information. Additional moment calculations, based on the actual weight and C.G. arm (FS) of the item being loaded, must be made if the position of the load is different from that shown on the Loading Graph.

(Continued Next Page)

### SAMPLE LOADING PROBLEM

ITEM DESCRIPTION	WEIGHT AND MOMENT TABULATION			
	SAMPLE AIRPLANE		YOUR AIRPLANE	
	Weight (Lbs.)	Moment (Lb-ins. /1000)	Weight (Lbs.)	Moment (Lb-ins. /1000)
1. Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil)	1642	62.6		
2. Usable Fuel (At 6 Lbs./Gal.)				
Standard Fuel 53 Gallons Maximum				
Reduced Fuel (30 Gallons)	180	8.6		
3. Pilot and Front Passenger (FS 32 to 50)	340	12.6		
4. Rear Passengers (FS 74)	340	24.8		
5.* Baggage "A" (FS 82 to 108) 120 Pounds Maximum	56	4.6		
6.* Baggage "B" (FS 108 to 142) 50 Pounds Maximum				
7. <b>RAMP WEIGHT AND MOMENT</b>	2558	113.2		
8. Fuel allowance for engine start, taxi and runup	-8.0	-0.4		
9. <b>TAKEOFF WEIGHT AND MOMENT</b> (Subtract Step 8 from Step 7)	2550	112.8		

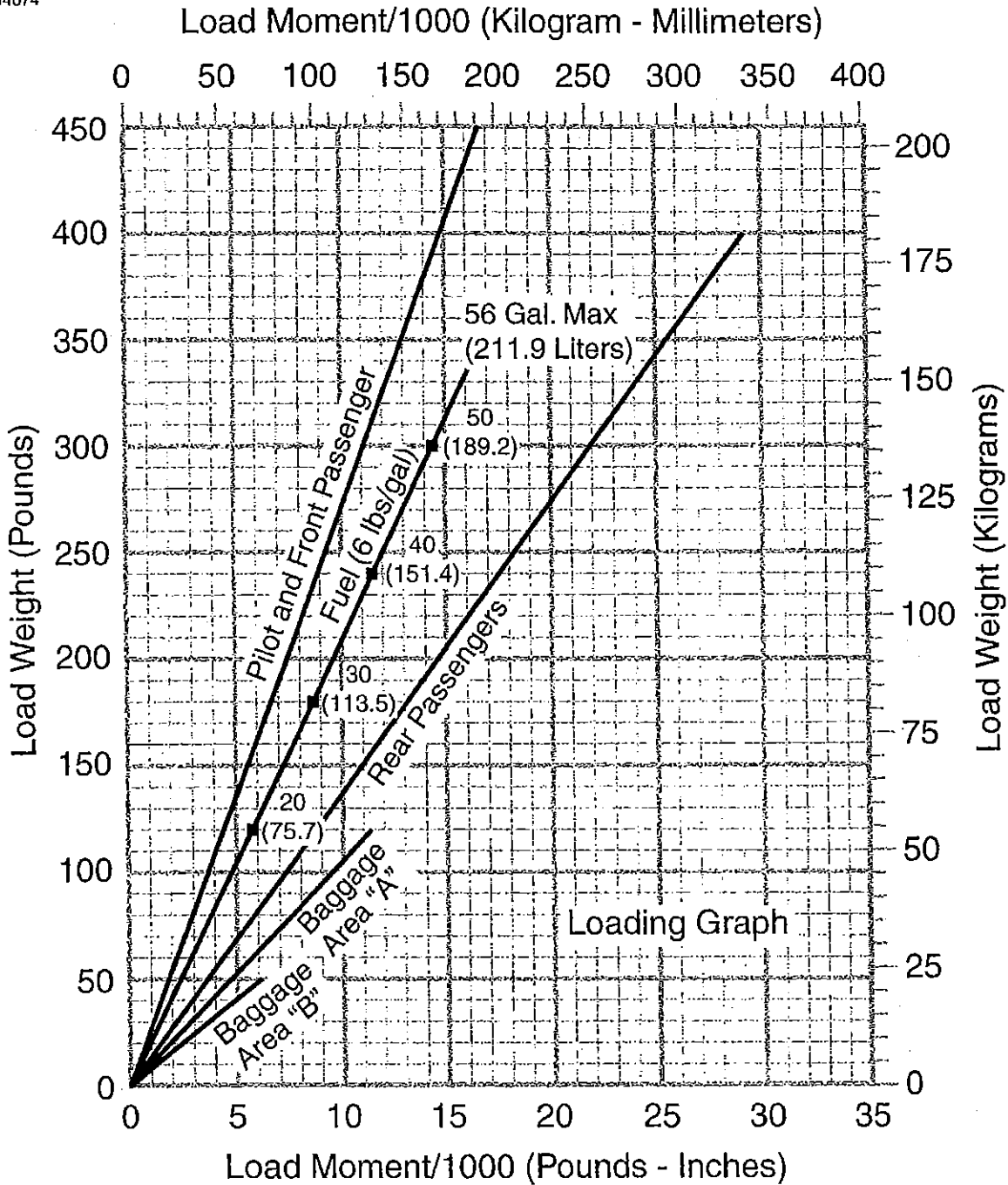
10. Locate this point (2550 at 112.8) on the Center-of-Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable.

\* The maximum allowable combined weight capacity for baggage in areas A and B is 120 pounds.

Figure 6-3 (Sheet 1 of 2)

# LOADING GRAPH

B4074



## NOTE

Lines representing adjustable seats show the pilot or passenger center of gravity on adjustable seats positioned for an average occupant. Refer to the Loading Arrangements diagram for forward and aft limits of occupant C.G. range.

Figure 6-4

# CENTER-OF-GRAVITY MOMENT ENVELOPE

B4077

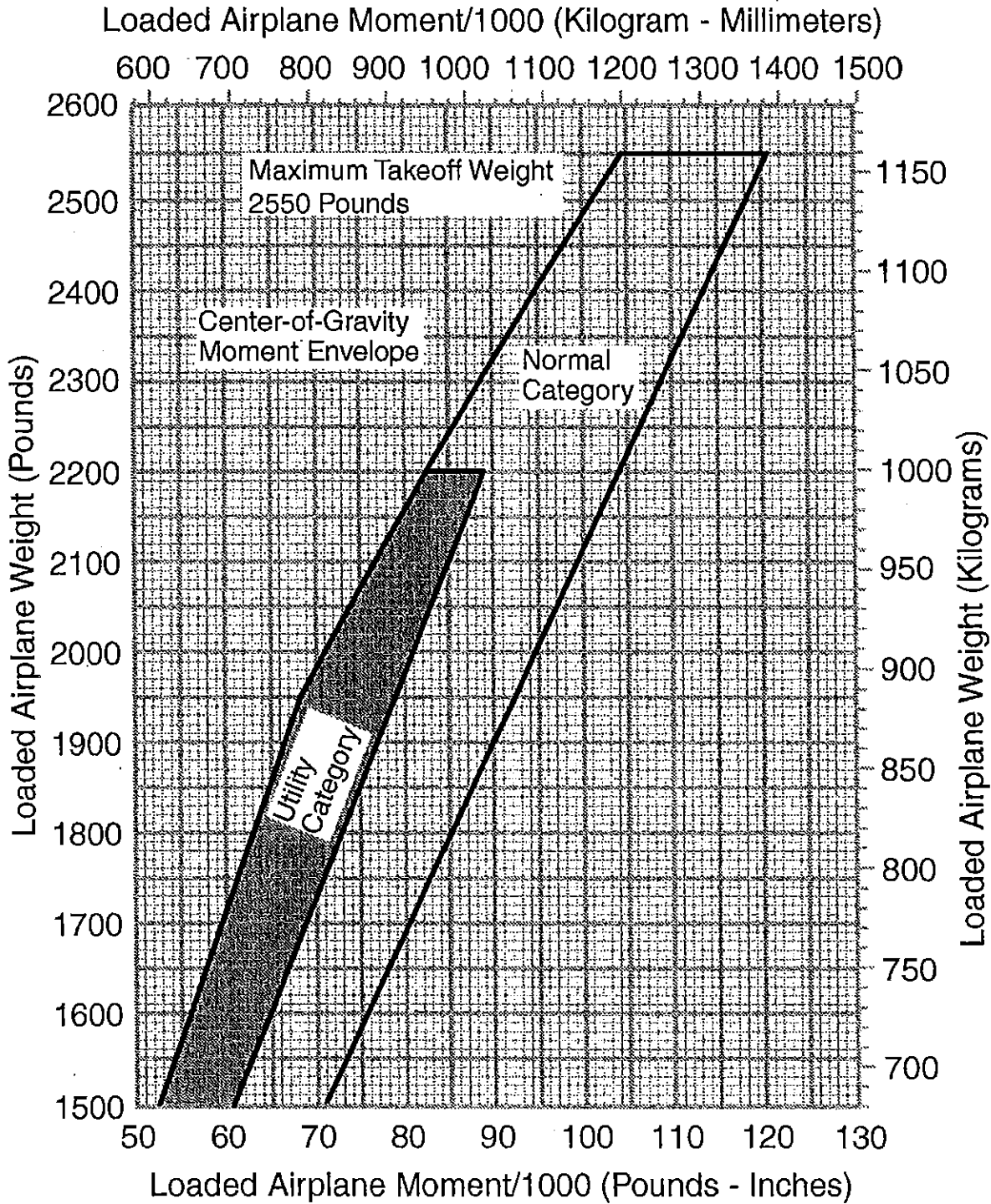


Figure 6-7