

AIRCRAFT WEIGHT AND C.G DETERMINATION
REPORT NO : 030/WB/X/2019
DATE : 05 October 2019

AIRCRAFT REGISTRATION	:	PK-SNM	
AIRCRAFT TYPE	:	CESSNA C208 CARAVAN	
AIRCRAFT SERIAL NUMBER	:	20800655	
PROPERTY OF	:	PT. SMART CAKRAWALA AVIATION	
PLACE OF WEIGHING	:	WICHITA, USA	
REASON OF WEIGHING	:	RECALCULATION STC CAMERA HOLE	
CONFIGURATION	:	Cargo without Cargo Pod	
PERFORMED BY	:	FEBRI HERMAWAN	
		SIGNED: 	DATE: 05/10/2019
CHECKED BY	:	ILHAM CHAIRI	
		SIGNED: 	DATE: 05/10/2019

RESULTS

EMPTY WEIGHT	:	4593.91 LBS
C.G ARM OF AIRPLANE	:	172.69 IN
CG PERCENT MAC %	:	22.77 (PERCENT MAC)
VALID UNTIL	:	05 OCTOBER 2024

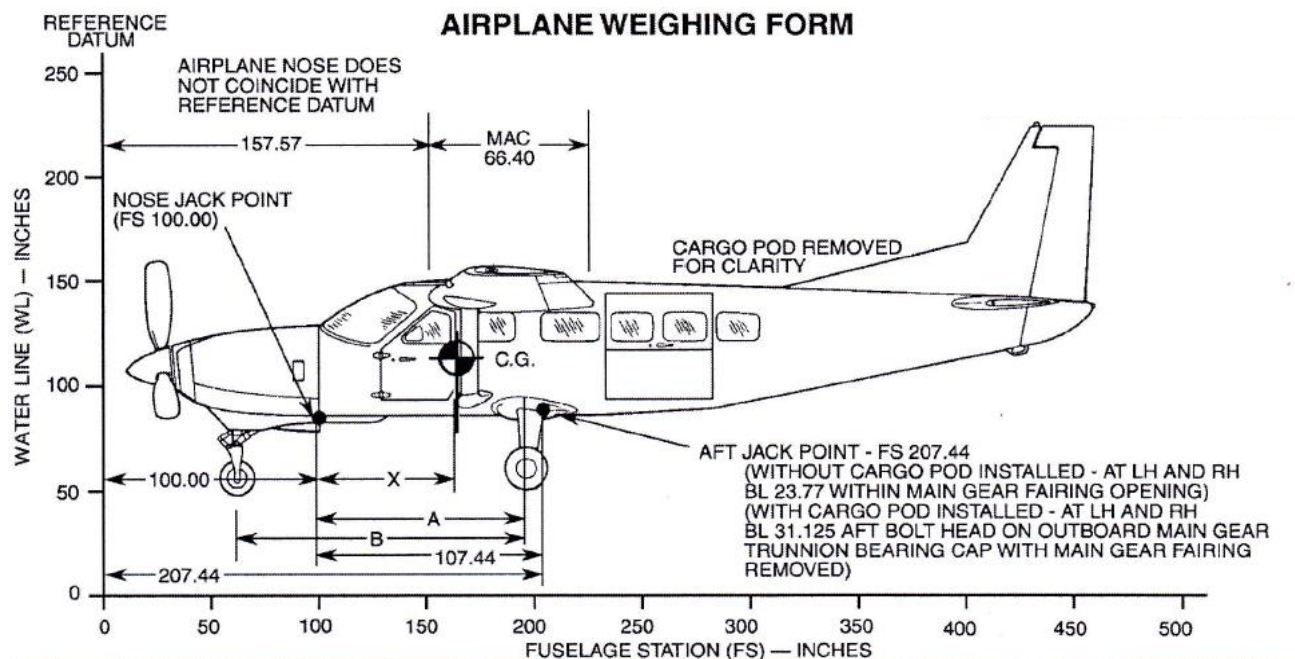
WEIGHING EQUIPMENT

PART NUMBER	:	N/A
SERIAL NUMBER	:	N/A
VALIDATION	:	N/A

APPROVED BY:

Ilham Chairi
Chief Inspector

AIRCRAFT WEIGHT & BALANCE



A = 96.75 Inches

B = 137.75 Inches

AIRPLANE AS WEIGHED TABLE

POSITION	SCALE READING	SCALE DRIFT	TARE	NET WEIGHT
LEFT SIDE	2014	-	-	2009
RIGHT SIDE	2068	-	-	2075
NOSE	795	-	-	784
AIRPLANE TOTAL AS WEIGHT				4868

LOCATING CG WITH AIRPLANE ON LANDING GEAR

FORMULA for longitudinal CG

$$(X) = \frac{(A)}{96.75} \times \frac{(\text{Nose Gear Net Weight}) (784) \times (B) 137.75}{\text{Nose and Main Landing Gear Weight Totalled (4868)}} = (74.57) \text{ Inches}$$

CG Arm of Airplane = 100 + (X) = **(174.57)** Inches Aft Datum

LOCATING PERCENT MAC

FORMULA for Percent MAC

$$\text{CG Percent MAC} = \frac{\text{CG Arm of Airplane (172.69)} - 157.57}{0.6640}$$

= 22.77 %

MEASURING A AND B

MEASURE A AND B PER PILOT'S OPERATING HANDBOOK INSTRUCTIONS TO ASSIST IN LOCATING CG WITH AIRPLANE WEIGHED ON LANDING GEAR

LEVELING PROVISIONS

LONGITUDINAL - LEFT SIDE OF FUSELAGE AT FS 239.00 & 272.00
LATERAL - SEAT RAILS AFT OF PILOT AND FRONT PASSENGER SEATS

AIRCRAFT WEIGHT & BALANCE

TABLE 1

BASIC ITEMS NOT INCLUDED WHEN WEIGHING	WEIGHT (POUNDS)	CG ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)
14392 Strain Insulator	0.43	186.20	0.08
S1971-1 Wire	0.57	290.73	0.17
AB-CES37 Restrain (QTY 2)	0.57	296.27	0.79
AB-CES36 Restrain	1.34	296.27	0.40
2612100-1 (Belt Fitting Instl)	3.88	316.49	1.23
SARM300-6LV (Tension Unit)	0.20	420.74	0.08
1270080-2 (Antenna Bracket)	0.02	472.98	0.01
1270080-1 (Antenna Bracket)	0.02	472.98	0.01
Skin Doubler	5.1	221	1.13
Cover Hole	2.1	221	0.46
Reinforcement Flange Skin	3.0	221	0.66
Camera Box	13.0	221	2.87
Flange Box	2.5	221	0.55
New Upper Covers	2.6	221	0.57
Center Seat Rail	1.6	221	0.35
TOTAL	36.93	253.45	9.36

TABLE 2

DESCRIPTION OF ACTION PERFORMED	WEIGHT (POUNDS)	CG ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)
Cargo Pod	142.85	196.62	28.09
Single Seat Assy 2 nd Row – LH	25.10	173.55	4.36
Single Seat Assy 3 rd Row – LH	25.10	205.55	5.16
Single Seat Assy 4 th Row – LH	25.10	237.55	5.96
Single Seat Assy 2 nd Row – RH	25.10	173.55	4.36
Single Seat Assy 3 rd Row – RH	25.10	205.55	5.16
Single Seat Assy 4 th Row – RH	25.10	237.55	5.96
Seat Assy – 3 PLC	36.44	296.27	10.8
Outer Skin	0.5	221	0.11
Center Longeron	1.0	221	0.22
Lateral Longeron	0.8	221	0.18
Upper Cover	1.3	221	0.29
Center Seat Rail	1.6	221	0.35
TOTAL	335.12	211.86	71.00

TABLE 3

AIRCRAFT WEIGHING REPORT	WEIGHT (POUNDS)	CG ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)
AIRPLANE (CALCULATED OR AS WEIGHED) (INCLUDES ALL UNDRAINABLE FLUIDS AND FULL OIL)	4868	174.57	849.81
WEIGHT FROM TABLE 1 (+)	36.93	253.45	9.36
SUB TOTAL	4904.93	175.16	859.17
WEIGHT FROM TABLE 2 (-)	335.12	211.86	71.00
TOTAL	4569.81	172.61	788.81

AIRCRAFT WEIGHT & BALANCE

BASIC EMPTY WEIGHT AND CENTER OF GRAVITY TABLE

ITEM	WEIGHT (POUNDS)	CG ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)
AIRPLANE (CALCULATED OR AS WEIGHED) (INCLUDES ALL UNDRAINABLE FLUIDS AND FULL OIL)	4569.81	172.61	788.81
DRAINABLE UNUSABLE FUEL AT 6.75 POUNDS PER GALLON	24.1	186.4	4.49
BASIC EMPTY WEIGHT	4593.91	172.69	793.3

PRIOR TO WEIGHT AND BALANCE CHECK

AIRCRAFT TYPE : CESSNA C208 CARAVAN

AIRCRAFT REGISTRATION : PK-SNM

DATE OF WEIGHING : 05 October 2019

NO.	DESCRIPTION	APPL	CHECK	REMARKS
A	STANDARD ITEMS			
1	All fuel tank EMPTY or recorded / FULL	√	Empty	-
2	All engine oil tanks EMPTY or recorded / FULL	√	Full	-
3	All others oil tanks FULL (included Propeller, Starters, Gearbox and Air Cycle)	√	Full	-
4	Hydraulic tanks FULL	√	Full	-
B	STANDARD EQUIPMENTS			
1	Technical supply or Flight Kits	x	N/A	-
2	Aircraft Books, Manuals and Papers	√	1 Bag	-
3	AXE	√	1 EA	-
4	Fire Extinguisher	√	1 EA	-
5	First Aid Kit	√	1 Box	-
6	Life Vests	√	11 EA	-
7	Life Raft	x	N/A	-
8	Survival Kit	x	N/A	-



AIRCRAFT WEIGHT & BALANCE