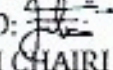



## AIRCRAFT WEIGHT AND C.G DETERMINATION

REPORT NO : 038/WB/XI/2019

DATE : 22 DECEMBER 2019

AIRCRAFT REGISTRATION : PK-SNN  
 AIRCRAFT TYPE : CESSNA C208 CARAVAN  
 AIRCRAFT SERIAL NUMBER : 20800556  
 PROPERTY OF : PT. SMART CAKRAWALA AVIATION  
 PLACE OF WEIGHING : JAKARTA  
 REASON OF WEIGHING : RECALCULATION STC CAMERA HOLE  
 CONFIGURATION : 9 PASSENGERS WITHOUT CORGOPOD  
 PERFORMED BY : FEBRI HERMAWAN  
 SIGNED:  DATE: 22/12/2019  
 CHECKED BY : ILHAM CHAIRI  
 SIGNED:  DATE: 22/12/2019

## RESULTS

EMPTY WEIGHT	: 4868.80 LBS
C.G ARM OF AIRPLANE	: 173.39 INCH
CG PERCENT MAC %	: 23.83 (PERCENT MAC)
VALID UNTIL	: 22 DECEMBER 2024

## WEIGHING EQUIPMENT

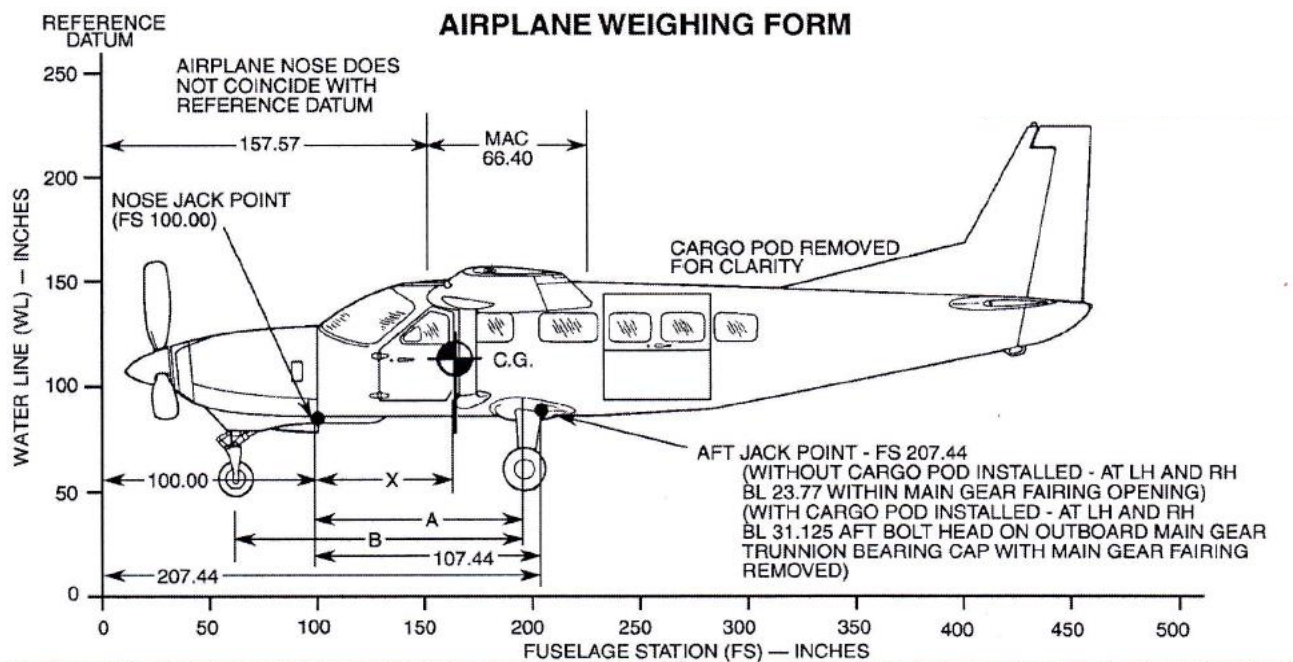
PART NUMBER	: M2000-3-10KP
SERIAL NUMBER	: 14-10138
VALIDATION	: 18 FEB 2020

APPROVED BY:



Ilham Chair  
 Chief Inspector

## AIRCRAFT WEIGHT & BALANCE



**A = 96.75 Inches**

**B = 137.75 Inches**

### LOCATING CG WITH AIRPLANE ON LANDING GEAR

FORMULA for longitudinal CG

$$(X) = \frac{(A)}{96.75} \times \frac{(\text{Nose Gear Net Weight}) (828) \times (B) 137.75}{\text{Nose and Main Landing Gear Weight Totalled (4820)}} = (73.09) \text{ Inches}$$

CG Arm of Airplane = 100 + (X) = **(173.09) Inches Aft Datum**

### LOCATING PERCENT MAC

FORMULA for Percent MAC

$$\text{CG Percent MAC} = \frac{\text{CG Arm of Airplane (173.39)} - 157.57}{0.6640} = \mathbf{23.83 \%}$$

### **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

**AIRPLANE AS WEIGHED TABLE**

POSITION	SCALE READING	SCALE DRIFT	TARE	NET WEIGHT
LEFT SIDE	1976	-	-	1976
RIGHT SIDE	2016	-	-	2016
NOSE	828	-	-	828
AIRPLANE TOTAL AS WEIGHT				4820



## AIRCRAFT WEIGHT & BALANCE

**TABLE 1**

BASIC ITEMS NOT INCLUDED WHEN WEIGHING	WEIGHT (POUNDS)	CG ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)
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
<b>TOTAL</b>	<b>29.9</b>	<b>220.40</b>	<b>6.59</b>

**TABEL 2**

DESCRIPTION OF ACTION PERFORMED	WEIGHT (POUNDS)	CG ARM (INCHES)	MOMENT/1000 (INCH-POUNDS)
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
<b>TOTAL</b>	<b>5.2</b>	<b>221.15</b>	<b>1.15</b>

**TABEL 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)	4820	173.09	834.29
WEIGHT FROM TABLE 1 (+)	29.9	220.40	6.59
<b>SUB TOTAL</b>	<b>4849.90</b>	<b>173.38</b>	<b>840.88</b>
WEIGHT FROM TABLE 2 (-)	5.2	221.15	1.15
<b>TOTAL</b>	<b>4844.70</b>	<b>173.33</b>	<b>839.73</b>

**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)	4844.70	173.33	839.73
DRAINABLE UNUSABLE FUEL AT 6.75 POUNDS PER GALLON S/N 208B0090 And On	24.1	186.4	4.49
<b>BASIC EMPTY WEIGHT</b>	<b>4868.80</b>	<b>173.39</b>	<b>844.22</b>

## AIRCRAFT WEIGHT & BALANCE

<b>PRIOR TO WEIGHT AND BALANCE CHECK</b>				
<b>AIRCRAFT TYPE</b> : CESSNA C208 CARAVAN <b>AIRCRAFT REGISTRATION</b> : PK-SNN <b>DATE OF WEIGHING</b> : 4 APRIL 2019				
NO.	DESCRIPTION	APPL	CHECK	REMARKS
<b>A</b>	<b>STANDARD ITEMS</b>			
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>B</b>	<b>STANDARD EQUIPMENTS</b>			
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	-