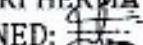


**AIRCRAFT WEIGHT AND C.G DETERMINATION**

REPORT NO : 040/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 : CARGO WITHOUT CORGOPOD  
PERFORMED BY : FEBRI HERMAWAN  
SIGNED:  DATE: 22/12/2019  
CHECKED BY : ILHAM CHAIRI  
SIGNED:  DATE: 22/12/2019

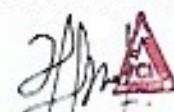
**RESULTS**

EMPTY WEIGHT	: 4681.76 LBS
C.G ARM OF AIRPLANE	: 171.61 INCH
CG PERCENT MAC %	: 21.15 (PERCENT MAC)
VALID UNTIL	: 22 DECEMBER 2024

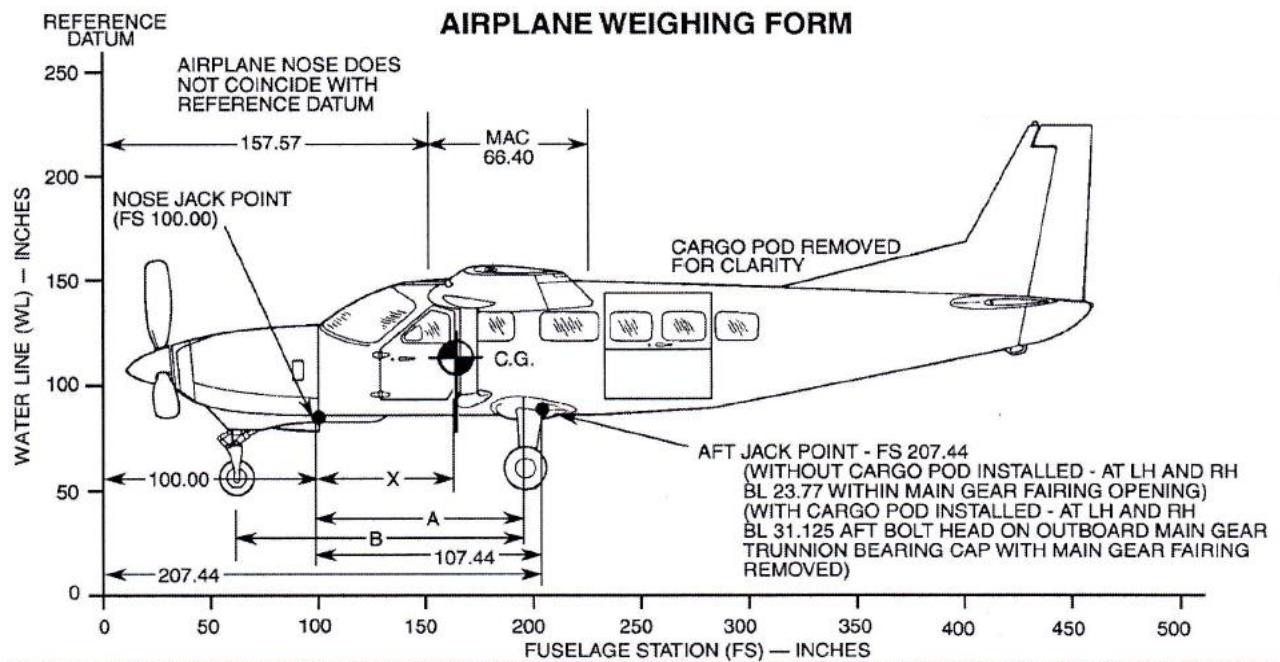
**WEIGHING EQUIPMENT**

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

APPROVED BY:



Ilham Chairi  
Chief Inspector



$$A = 96.75 \text{ Inches}$$

$$B = 137.75 \text{ Inches}$$

#### LOCATING CG WITH AIRPLANE ON LANDING GEAR

FORMULA for longitudinal CG

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

$$\text{CG Arm of Airplane} = 100 + (X) = (173.09) \text{ Inches Aft Datum}$$

#### **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

#### LOCATING PERCENT MAC

FORMULA for Percent MAC

$$\text{CG Percent MAC} = \frac{\text{CG Arm of Airplane (171.61) - 157.57}}{0.6640} = 21.15 \%$$

#### **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
<b>AIRPLANE TOTAL AS WEIGHT</b>				<b>4820</b>



## 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
Single Seat Assy 2 <sup>ND</sup> ROW – LH	25.10	167.5	4.20
Single Seat Assy 3 <sup>RD</sup> ROW – LH	25.10	199.5	5.01
Single Seat Assy 4 <sup>TH</sup> ROW - LH	25.10	231.5	5.81
Single Seat Assy 2 <sup>ND</sup> ROW – RH	25.10	167.5	4.20
Single Seat Assy 3 <sup>RD</sup> ROW – RH	25.10	199.5	5.01
Single Seat Assy 4 <sup>TH</sup> ROW - RH	25.10	231.5	5.81
Seat Assy – 3 PLC	36.44	294.4	10.73
<b>TOTAL</b>	<b>192.24</b>	<b>218.06</b>	<b>41.92</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 (+)	29.90	220.40	6.59
SUB TOTAL	4849.90	173.38	840.88
WEIGHT FROM TABLE 2 (-)	192.24	218.06	41.92
<b>TOTAL</b>	<b>4657.66</b>	<b>171.54</b>	<b>798.96</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)	4657.66	171.54	798.96
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>4681.76</b>	<b>171.61</b>	<b>803.45</b>



## AIRCRAFT WEIGHT & BALANCE

<b>PRIOR TO WEIGHT AND BALANCE CHECK</b>				
<b>AIRCRAFT TYPE : CESSNA C208 CARAVAN</b>				
<b>AIRCRAFT REGISTRATION : PK-SNN</b>				
<b>DATE OF WEIGHING : 4 APRIL 2019</b>				
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	-