

EC155 B

GAM/WR/20/18/6583

REVISION 0

WEIGHT AND BALANCE REPORT

IMPORTANT NOTE

This report contains of Weighing Schedule and Weighing Record.

This Weight and Balance Report is approved under GAM privilege and can be used for flight operation.

The superseded report shall be removed from the flight manual prior to insert the latest Weight and Balance report.

The information contained herein supersedes the information given in the previous weight and balance report.

The effectivity of the report at the latest revision is specified on the List of Effective Pages.

Approval Signature

Prepared by	Verified by	Approved by
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	Weight and Balance Report	
	Doc. Ref. No.	GAM/WR/20/18/6583
	Rev. Date	02/09/2020
	Rev. No.	0

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SECTION 1 - WEIGHT AND CENTRE OF GRAVITY SCHEDULE

Aircraft designation	: EC155 B
Nationality	: Malaysia
Registration number	: 9M-SAS
Aircraft manufacturer/constructor	: Airbus Helicopters
Aircraft serial number	: 6583
Weight limitations – maximum authorised weight in flight	: 4,800 kg

CENTRE OF GRAVITY LIMITATIONS

For Longitudinal Forward and Aft CG Limit at various gross weight, refer Figure 1 in section 2.2, paragraph 2.1 of EC155 B Flight Manual

For Lateral LH and RH Limit and Aft CG Limit at various gross weight, refer to section 2.2 of EC155 B Flight Manual

DATUM REFERENCES

Longitudinal datum is located 4.0 m (157.5 in) approx. forward of the centre of the main rotor head.
Lateral datum is located in the plane of symmetry of the helicopter.

PART A – BASIC WEIGHT

The Basic Weight of the aircraft as calculated in Section 2 is : 3396.320 kg

The aircraft was weighted on (date) : 02/09/2020

The C.G of the aircraft in the same condition at this weight is : LONGITUDINAL 4.016 m
: LATERAL 0.013 m

The total moment about the datum in this condition is : LONGITUDINAL 13638.685 kg.m
: LATERAL 43.043 kg.m

The Basic Weight includes the weight of the total quantity of unusable fuel, oil & fluids in the normal condition and the list of equipment as specified in Section 3 – Basic Equipment List.

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PART B – VARIABLE LOAD

The Weights, Lever Arms (Measured Forward or Aft of the Datum defined in Part A) of the Variable Load, which includes the weight of the crew and those items of the equipment including usable fluids other than fuel, which do not form part of the Basic Equipment are shown below:

The Variable Load depends upon the equipment carried for the particular role.

ITEM	DESCRIPTION	WEIGHT (KG)	ARM (MM)		MOMENT (KG.MM)	
			LONG.	LAT.	LONG.	LAT.
1	Pilot	+Actual	1720.00	397.00	-	-
2	Co-Pilot	+Actual	1720.00	-397.00	-	-
3	PASSENGER SEATING CONFIGURATION					
	1) 3 Place AFT Facing Divan Seat Passenger (A, B, C) + VVIP Club Seat-Passenger (D, E)					
NO	ITEM	WEIGHT (KG)	ARM (M)			
			LONG.			
1	Passenger A + B + C	+Actual	2.580			
2	Passenger D + E	+Actual	4.180			

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PART C – LOADING INFORMATION (DISPOSABLE LOAD)

It is MANDATORY for the Commander of the aircraft to satisfy himself before take-off that the load carried is of such weight and is distributed and secured that it may safely be carried on the intended flight.

Information below is given to enable Disposable Load (Fuel and Pay-Load) to be distributed so that the Maximum Weight and Centre of Gravity Limitations given in the Flight Manual are NOT exceeded.

The appropriate Lever Arms of the Disposable Loads are: -

Item	Miscellaneous Loading Data	ARM (M)		
		LONG.	LAT.	
1	<u>FUEL IN TANKS</u> <u>MAIN TANKS</u> Total Usable1 256 litres Unusable24 litres Maximum Total Capacity of fuel tanks (Plus Unusable Fuel) is 1 280 litres.	3.85	-	
Item	Miscellaneous Loading Data	MAXIMUM WEIGHT (KG)	ARM (M)	
			LONG.	LAT.
2	<u>BAGGAGE COMPARTMENT</u> Baggage/load in main baggage compartment Maximum load concentration 295 daN/m ² (14750 kg/ m ²)	300	5.53	0

NOTE

To obtain the total loaded weight of aircraft, add to the basic weight, the weights of the items of variable and disposable load to be carried for the particular role.

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SECTION 2 – WEIGHING RECORD

Location	: Airbus Helicopter Malaysia, Subang Hangar
Equipment	: Electronic Weighing Scale Platform
Model / Part number	: INTERCOMP AC125LP-4C
Serial number	: 25702886 (#1), 25702887 (#2), 25702888 (#3)
Calibration due date	: 22/04/2021

MEASUREMENT (See Basic Aircraft Weighing Dimensions on page 10)

All station arms measured from datum, located 0 mm.

Distance from datum point to forward RH & LH jack point is 1.677 m.

Distance from datum point to aft jack points station is 5.919 m

Data recorded from the weighing equipment is in kg.

In lateral calculations: Left is negative (-), Right is positive (+).

Weight of fuel: 1 litre @ 0.8 kg.

FIRST WEIGHING (All Units in kg)

JACK POINT			CELL READING	ZERO RTN.	CALIBRATION	ACTUAL WEIGHT
RHD	FWD	(#2)	736.00	0.00	0.00	736.00
LHD	FWD	(#3)	780.00	0.00	0.00	780.00
AFT	AFT	(#1)	1869.00	0.00	0.00	1869.00
					TOTAL	3385.00

SECOND WEIGHING (All Units in kg)

JACK POINT			CELL READING	ZERO RTN.	CALIBRATION	ACTUAL WEIGHT
RHD	FWD	(#3)	738.00	0.00	0.00	738.00
LHD	FWD	(#1)	785.00	0.00	0.00	785.00
AFT	FWD	(#2)	1864.00	0.00	0.00	1864.00
					TOTAL	3387.00

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AVERAGE AIRCRAFT WEIGHT

JACK POINT		AVERAGE CELL READING (KG)	ARM (M)		MOMENT (KG.M)	
			LONG.	LAT.	LONG.	LAT.
RHD	AFT	737.00	1.677	-0.946	1235.949	-697.202
LHD	AFT	782.50	1.677	0.946	1312.253	740.245
NOSE	FWD	1866.50	5.919	0.000	11047.814	0.000
TOTAL		3386.00	4.015	0.0127	13596.015	43.043

APPENDIX A – ADD THE FOLLOWING ITEM

ITEM	DESCRIPTION OF ITEM	WEIGHT (KG)	ARM (M)		MOMENT (KG.M)	
			LONG.	LAT.	LONG.	LAT.
1.	UNUSABLE FUEL	19.00	3.850	0.00	73.150	0.00
TOTAL		19.00	3.850	0.00	73.150	0.00

APPENDIX B – SUBSTRACT THE FOLLOWING ITEM

ITEM	DESCRIPTION OF ITEM	WEIGHT (KG)	ARM (M)		MOMENT (KG.M)	
			LONG.	LAT.	LONG.	LAT.
1.	LANDING GEAR LOCK STRUT	8.68	3.512	0.000	30.480	0.000
TOTAL		8.68	3.512	0.000	30.480	0.000

CORRECTED CG LOCATION WITH RESPECT TO DATUM LINE

ITEM ADDED AND SUBTRACTED	WEIGHT (KG)	ARM (M)		MOMENT (KG.M)	
		LONG.	LAT.	LONG.	LAT.
AIRCRAFT BASIC WEIGHT	3386.00	4.015	0.0127	13596.015	43.043
PLUS – APPENDIX A	19.00	3.850	0.00	73.150	0.00
MINUS – APPENDIX B	8.68	3.512	0.000	30.480	0.000
CORRECTED BASIC WEIGHT	3396.320	4.016	0.013	13638.685	43.043

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REMARKS:

Reason for weighing	: Interval 4-years weighing due.
Weighing condition	: Inside Hangar
Hangar doors	: Closed
Main rotor blades	: Position 1 rotor blade align with the tail cone.
Aircraft doors	: Closed
Aircraft attitude	: Level longitudinally and laterally
Fuel tanks	: Drained
Fluids	: Serviced to normal flight condition.
Rotor Brake	: Rotor brake was applied and parking brake was released.
Configuration	: 3 Place AFT Facing Divan Seat Passenger + VVIP Club Seat-Passenger

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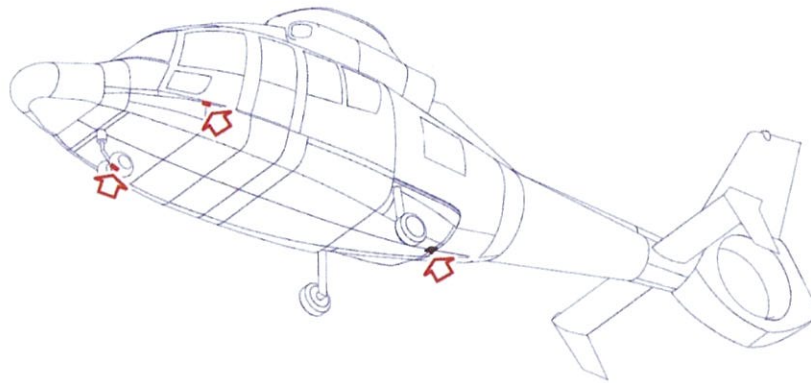
BASIC AIRCRAFT WEIGHING DIMENSIONS

Note 1

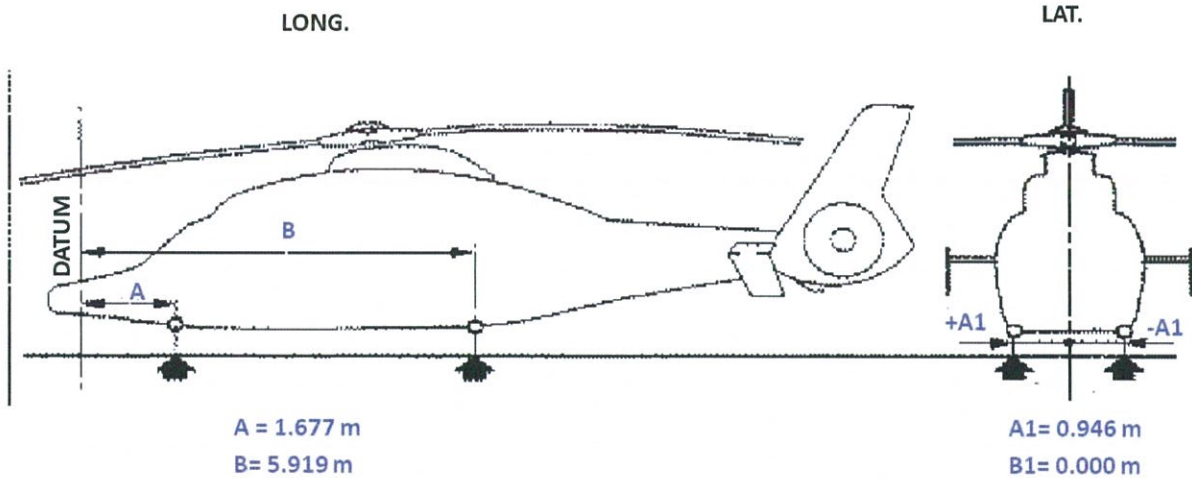
The Station Reference Datum (STA 0) is located 1.677 m forward the FWD jack points. Therefore, the STA are positive.

A = Distance from the reference datum (STA 0) to the LH & RH FWD jackpoint Station is 1.677 m. Lateral distance to the LH & RH FWD is 0.946 m from the fuselage Centre Line, which negative on the LH side and positive on the RH side.

B = Distance from the reference datum (STA 0) to the Aft jackpoints Station of 5.919 m.



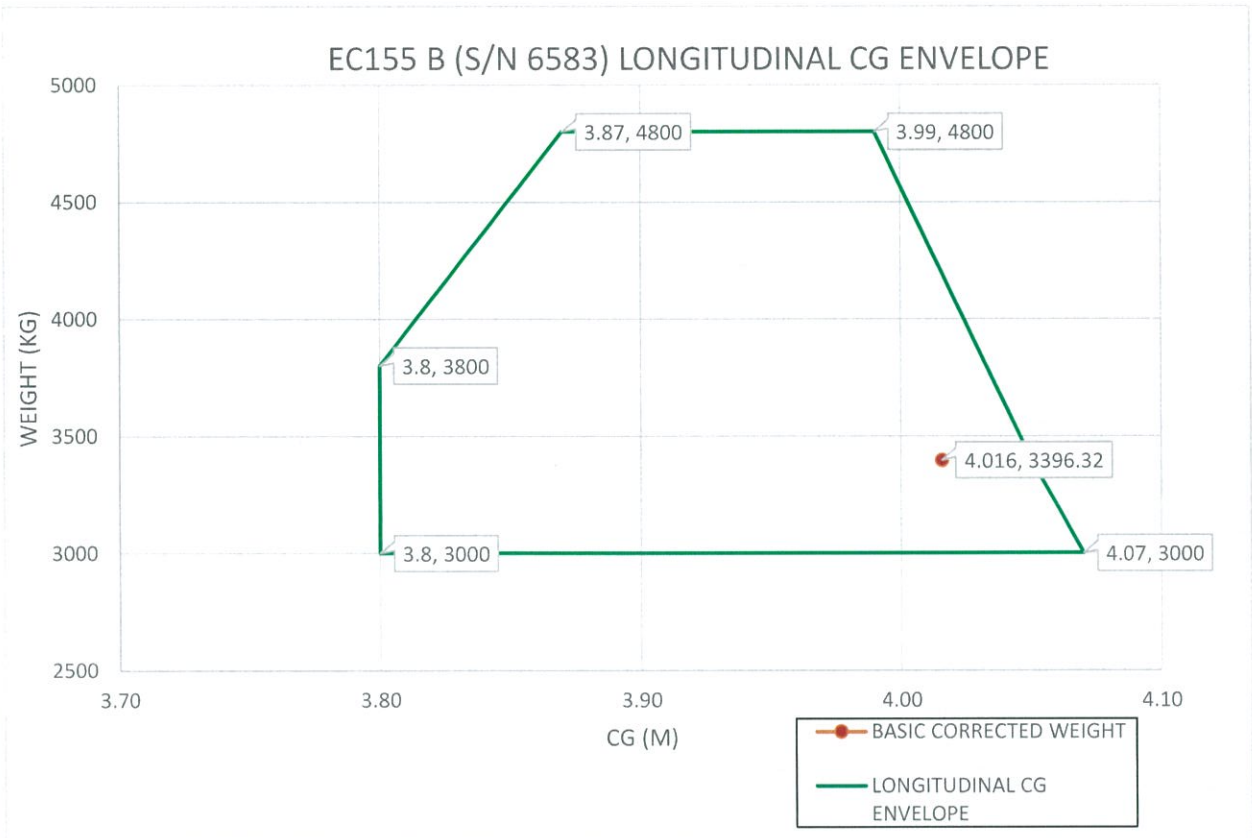
Aircraft Jack Station



[AIRCRAFT & JACK STATION FIGURE]

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LONGITUDINAL AND LATERAL CG ENVELOPE CHART



[LONGITUDINAL CG ENVELOPE CHART]

SECTION 3 – EQUIPMENT LIST

NO	EQUIPMENT	QTY	WEIGHT (KG)	LONG ARM (M)
1.	Customised External Paint	1	-	-
2.	Flight Manual	3	-	-
3.	First Aid Kit	2	-	-
4.	Cabin Fire Extinguisher	1	-	-
5.	2 nd Landing Light	1	-	-
6.	43 Amp/Hr Ni Cad Battery	1	-	-
7.	Emergency Axe	1	-	-
8.	Headsets	7	-	-
9.	VHF/AM #1 COLLINS 422A	1	-	-
10.	VHF/AM #2 COLLINS 422A	1	-	-
11.	VOR/ILS #1 COLLINS VIR 432	1	-	-
12.	VOR/ILS #2 COLLINS VIR 432	1	-	-
13.	ADF #1 Radio Compass COLLINS 462	1	-	-
14.	Transponder COLLINS TDR94	1	-	-
15.	ICS 5 Lanes	2	-	-
16.	Radio Altimeter THOMSON CNI AHV 16	1	-	-
17.	Public Address NAT AA20-431	1	-	-
18.	Emergency Locator POINTER 3000-10	1	-	-
19.	Weather Radar BENDIX RDR 2000	1	-	-
20.	SKYWATCH BF GOODRICH	1	-	-
21.	Stormscope BF GOODRICH WX-1000E	1	-	-
22.	System Navigation EURONAV III	1	-	-
23.	SSCVR ALLIED SIGNAL	1	-	-
24.	FMS UNIVERSAL UNS-1K	1	-	-
25.	Single Pilot IFR Kit	1	-	-
26.	DME COLLINS DME 442	1	-	-
27.	AVAD RACAL Type V694	1	-	-
28.	4 Axis Autopilot	1	-	-
29.	VVIP Cocoon Interior (STC SR00530NY)	1	-	-
30.	Air-conditioning System	1	-	-
31.	VVIP Steps	1	-	-
32.	Crew Steps	1	-	-

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NO	EQUIPMENT	QTY	WEIGHT (KG)	LONG ARM (M)
33.	Cabin Hinged Doors	1	-	-
34.	Approach Plate Holder	1	-	-
35.	Avionique Nouvelle	1	-	-
36.	Nose Wheel Steering Lock	1	-	-
37.	Pilot Seat	1	-	-
38.	Copilot Seat	1	-	-
39.	VVIP Club Seat	2	-	-
40.	3 Place Facing Divan Seat (STC SR00529NY)	1	-	-
41.	Lifejacket	5	-	-

