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Hub and Blade Structural Loads Measurements of an SA349/2 Helicopter

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NOMENCLATURE

a	speed of sound (m/s)
A	rotor area (m ²)
A ₀	mean coefficient (harmonic analysis)
A _n	cosine coefficient (harmonic analysis); n = harmonic number
b	number of blades = 3
BL	buttlene (m)
B _n	sine coefficient (harmonic analysis); n = harmonic number
c	chord (m)
COLL	collective pitch, referenced to 75% radial station (deg)
C _T	thrust coefficient
C _{ZM}	thrust parameter
EI _f	blade flapwise bending stiffness (N-m ²)
EI _l	blade edgewise bending stiffness (N-m ²)
f _{tx}	total rotating in-plane force at hub in x _S -direction (N)
f _{ty}	total rotating in-plane force at hub in y _S -direction (N)
f _{tz}	total rotating out-of-plane hub force (N)
FS	fuselage station (m)
FX	total nonrotating in-plane force in X _S -direction (N)
FY	total nonrotating in-plane force in Y _S -direction (N)
FZ	total nonrotating out-of-plane force (N) (FZ is equivalent to f _{tz})
g	gravitational acceleration (m/s ²) = 9.8
GJ	torsional stiffness (N-m ²)
IAS	indicated air speed (m/s)

I_f	blade flap inertia ($\text{kg}\cdot\text{m}^2$)
I_l	blade lag inertia ($\text{kg}\cdot\text{m}^2$)
I_p, I_{pp}	blade polar moments of inertia ($\text{kg}\cdot\text{m}^2$) = $\iint (Y^2 + Z^2) dm, \iint (Z^2 - Y^2) dm$, respectively
I'_p, I'_{pp}	sectional polar moments of inertia ($\text{kg}\cdot\text{m}^2/\text{m}$) = $\iint (Y'^2 + Z'^2) dm, \iint (Z'^2 - Y'^2) dm$, respectively
I_{xx}, I_{yy}, I_{zz}	aircraft principal moments of inertia ($\text{kg}\cdot\text{m}^2$) = $\iint X^2 dm, \iint Y^2 dm, \iint Z^2 dm$, respectively
I_{xy}, I_{xz}, I_{yz}	aircraft products of inertia ($\text{kg}\cdot\text{m}^2$) = $\iint XY dm, \iint XZ dm, \iint YZ dm$, respectively
l	lag damper displacement (mm)
l_A	vertical distance from shaft strain gage at A to rotor hub center (m) = 0.394
l_B	vertical distance from shaft strain gage at B to rotor hub center (m) = 0.149
l_o	distance between lag hinge and lag damper line of action (m)
LAT	lateral blade cyclic pitch, positive roll to the right (deg)
LON	longitudinal blade cyclic pitch, positive nose up (deg)
m	helicopter mass (kg)
m_{RED}	reduced helicopter mass (kg)
m_{tAx}	total rotating in-plane moment at shaft section A in x_S -direction (N-m)
m_{tAy}	total rotating in-plane moment at shaft section A in y_S -direction (N-m)
m_{tBx}	total rotating in-plane moment at shaft section B in x_S -direction (N-m)
m_{tBy}	total rotating in-plane moment at shaft section B in y_S -direction (N-m)
m_{tx}	total rotating in-plane hub moment in x_S -direction (N-m)
m_{ty}	total rotating in-plane hub moment in y_S -direction (N-m)
m_{tz}	total rotating out-of-plane hub moment (N-m)
M	blade sectional mass (kg/m)
MR	main rotor
M_X	total nonrotating in-plane hub moment in X_S -direction (N-m)

M_Y	total nonrotating in-plane hub moment in Y_S -direction (N-m)
M_Z	total nonrotating out-of-plane hub moment (N-m) (M_Z is equivalent to m_{tZ})
n	harmonic number
N	load factor
p_0	standard atmospheric pressure (mbar) = 1013.25
p_s	static flight pressure (mbar)
r	blade radial location (m)
R	rotor radius (m)
STAT	static
TAS	true air speed (m/s)
T_0	standard atmospheric temperature ($^{\circ}\text{K}$) = 288.16
T_s	static flight temperature ($^{\circ}\text{C}$)
TR	tail rotor
V	velocity (m/s)
WL	water line (m)
x, y, z	aircraft c.g. axis system (origin at aircraft c.g., fig. 1a)
x_b, y_b, z_b	blade reference axis system (origin at one-quarter chord, fig. 5)
x_s, y_s, z_s	rotating-shaft reference axis system (origin at hub center, fig. 14)
x_v, y_v, z_v	wind axis system (origin at aircraft c.g., fig. 1c)
X, Y, Z	rotor axis system (origin at hub center, fig. 1b)
X_b, Y_b, Z_b	blade principal inertia axes (origin at chordwise c.g., fig. 5)
X_s, Y_s, Z_s	nonrotating-shaft reference axis system (origin at hub center, fig. 15)
Y_G	chordwise blade c.g. location in x_b, y_b, z_b axis system (m)
Y_N	Y_b -axis location in x_b, y_b, z_b axis system (neutral axis) (m)
Z_N	Z_b -axis location in x_b, y_b, z_b axis system (m)

α	angle of attack (deg)
γ	specific heat ratio for air = 1.4
δ	lag angle (deg)
θ	pitch angle (deg)
μ	advance ratio
ρ	air density (kg/m ³)
ρ_0	standard atmospheric density (kg/m ³) = 1.225
σ	solidity
σ_0	density ratio
ϕ	angle between Y_b, Z_b axes and y_b, z_b axes (deg)
ψ	azimuth angle, measured from tail boom toward advancing side of rotor disk (deg)
Ω	rotor rotational speed (rad/s)

SUMMARY

Data from 23 flight conditions, including level flights ranging from $\mu = 0.14$ to 0.37 and steady turning flights from $\mu = 0.26$ to 0.35 , are presented for an Aerospatiale SA349/2 Gazelle helicopter. The data include hub loads data (for 6 of the 23 conditions), blade structural data at eleven different blade radial stations, and fuselage structural data. All dynamic data are presented as harmonic analysis coefficients (ten harmonics per rotor revolution). This report also documents the data acquisition and reduction procedures. Blade structural and inertial properties are provided in addition to control system geometry and properties.

INTRODUCTION

Measuring and analyzing helicopter oscillatory hub loads is an important step toward the ultimate goal of minimizing vibration. One important purpose of the 1987 flight test of the SA349/2 helicopter was to measure rotor hub loads. This was accomplished by instrumenting the rotor shaft at two locations and determining the resulting rotating and nonrotating loads at the hub. Additional flight measurements acquired at two different blade chordwise c.g. locations, included blade moments at eleven radial stations, pitch link loads, blade flap and lag angles, shaft angle, seat accelerations, servo loads, gearbox strut loads, and lag damper force. Data for 23 flight conditions covering a wide range of thrust levels and speeds are documented in this report.

This flight test of the Aerospatiale SA349/2 helicopter initiated the second phase of joint work between the National Aeronautics and Space Administration and the French Ministry of Defense. The objective of this program is to gain a better understanding of rotor aerodynamic and dynamic phenomena by correlating flight test data from the SA349/2 with French and U.S. rotor analyses. The first phase of cooperative work also consisted of an extensive flight-test program, which was conducted in 1984 in France. The 1984 flight test produced blade airloads and structural loads data (ref. 1). The data documented in this report complement the data given in reference 1 since many of the 1984 flight conditions were duplicated during the 1987 flight program (also conducted in France).

AIRCRAFT AND ROTOR DESCRIPTION

Properties and characteristics of the aircraft and rotor are given in reference 1, but some are repeated here for convenience.

SA349/2 Aircraft

The SA349/2 aircraft consists of a three-bladed, fully-articulated main rotor and a Fenestron tail rotor. Basic aircraft information is given in table 1. Reference axes and sign conventions for aircraft loads are shown in figures 1 and 2, respectively.

Research Rotor

The rotor consists of the Non Articule en Trainee (NAT) hub and three, constant-chord Grande Vitesse (GV) blades. The GV blades are rectangular tipped and have OA209 airfoil profiles. Rotor characteristics and control system geometry are provided in table 2 and figure 3. Figure 4 shows the GV blade planform and twist distribution. Reference axes for the blade sectional properties are shown in figure 5. The sectional characteristics of the blade are tabulated in tables 3 and 4 for chordwise c.g. locations of 24.7% and 26.7%, respectively. The blade chordwise c.g. location is varied by removing or inserting weights in a tube that is part of the blade structure. The tube extends along the length of the blade and is located at the 25% chordwise station. The rotating frequencies of the GV blade for the two different chordwise c.g. locations are shown in figure 6a. The calculations were made using CAMRAD (ref. 2). Similar calculations were made using an Aerospatiale analysis, IAK40 (described in ref. 1), as shown in figure 6b. The CAMRAD results were computed in vacuo, while the IAK40 results include the effects of aerodynamics. Figures 7 and 8 show the IAK40 calculated blade damping ratio and modal frequencies for both c.g. locations. Note that figure 7 shows a calculated instability at the operating rpm for the 26.7% c.g. location, which did not occur during the flight test. This calculated instability may be the result of neglecting unsteady aerodynamics in the IAK40 analysis.

INSTRUMENTATION

The aircraft instrumentation and data acquisition processes are described in this section.

Flight Condition Parameters

The environmental conditions of the flight test were fully documented. Flight condition parameters recorded for each flight test included: helicopter mass; altitude; indicated airspeed; ground pressure and temperature; static flight pressure and temperature; collective-pitch stick position; lateral and longitudinal cyclic pitch stick position; tail rotor pedal position; aircraft pitch and roll angles; aircraft pitch, roll, and yaw rates; load factor; rotor rotational speed; and engine power. All stick positions were translated into the equivalent pitch angles. The collective pitch was referenced to the 75% radial station value.

Rotating Frame Instrumentation

The GV blades were instrumented with 31 strain gages to measure structural loads at eleven radial stations (fig. 9). Flapwise, edgewise, and torsion moments were measured at 9, 10, and 6 radial stations, respectively. Two of the blades were instrumented to measure blade flap angle and lag damper displacement. Figure 10 shows locations of the rotating NAT hub instrumentation. The flap angle was measured using an angular sensor located about the flap hinge. The sensor is composed of two components: one component is fixed relative to the blade flap motion and the other component rotates as the blade flaps about the hinge. The sensor delivers an induced sinusoidal tension. The linear part of this sinusoidal signal is proportional to the rotation angle of the sensor rotating component. The blade lag displacement was measured using a potentiometer. Properties of the lag damper are given in reference 1. All three pitch links were instrumented.

The rotor shaft instrumentation produced four measurements: shaft bending moments at two locations, shaft torque, and shaft vertical force. Figure 11 shows the gage locations. F1SHAFT and F3SHAFT each represent a gage couple (two gages located diametrically opposite each other). The direction of the bending moment is perpendicular to the diameter formed by the gage couple.

Fixed Frame Instrumentation

Fixed frame instrumentation included strain gages on two of the three primary control system servos and strain gages on each of the four main gearbox struts. In addition, pilot- and copilot-seat vertical vibration were measured using accelerometers. Locations of all nonrotating instrumentation are shown in figure 12.

On-Board Data Acquisition

A schematic of the data acquisition process is shown in figure 13. The flight condition parameters were digitized by an onboard modular acquisition unit (UAM). The resulting digitized data stream was recorded on magnetic tape. The flight parameter values presented in this report represent data averaged over one second (approximately seven consecutive rotor revolutions). The rotating frame signals were transferred to the nonrotating frame using 45 channels of a 50-channel slipring. The rotating and nonrotating frame signals were then relayed to seven frequency domain multiplexers. All multiplexing was performed according to the Inter Range Instrumentation Group standard.

DATA REDUCTION

The calculation of additional flight condition parameters and the reduction of strain gage data are presented. Also, the procedure for determining hub loads from shaft loads measurements is described.

Calculated Rotor Flight Parameters

In addition to the parameters discussed in the Flight Condition Parameters section, the following values were calculated:

$$A = \pi R^2 \tag{1}$$

$$\sigma = bc/\pi R \tag{2}$$

$$\sigma_o = (p_s/p_o) * (T_o/(273.16 + T_s)) \tag{3}$$

$$TAS = IAS/\sigma_o \tag{4}$$

$$\rho = \rho_o \sigma_o \tag{5}$$

$$a = (287 * \gamma * (273.16 + T_s))^{1/2} \tag{6}$$

$$\mu = TAS/\Omega R \quad (7)$$

$$C_T/\sigma = Nmg/(\rho A(\Omega R)^2\sigma) \quad (8)$$

$$C_{ZM} = 6*(C_T/\sigma) \quad (9)$$

$$m_{RED} = m/\sigma_0 \quad (10)$$

Strain Gage and Potentiometer Signals

Strain gage signals were recorded over many rotor revolutions; however, only seven consecutive revolutions were reduced. These seven revolutions correspond temporally to the seven revolutions used to acquire the flight condition parameters. A harmonic analysis of the gage signals was performed for each of the seven revolutions. The results were then averaged. The strain gage signals were converted to harmonic analysis coefficients, ten per rotor revolution, which were then converted into physical units. Although the strain gage data were acquired from all three blades, all data were referenced to the blade 1 azimuth position, starting at 0° azimuth (rear blade position). The lag angle was calculated from the lag displacement (potentiometer signal) using the following relationship.

$$\delta = 0.45l \quad (11)$$

Time histories of the strain gage and potentiometer signals can be reconstructed using the following formula.

$$X = A_0 + \sum_n^{10} [A_n \cos(n\Psi) + B_n \sin(n\Psi)] \quad (12)$$

where $\Psi = 0^\circ$ corresponds to the rear blade position.

Determination of Hub Loads from Shaft Loads

The hub loads were calculated from measured shaft bending moments. Bending moments in the x-direction, m_{tAx} and m_{tBx} , were measured at distances l_A and l_B from the rotor center (fig. 14). The rotating hub forces and moments are represented in figure 14 by (f_{tx}, f_{ty}) and (m_{tx}, m_{ty}) , respectively. The shaft is assumed to be a beam isolated from other external forces and moments. The relationships between the loads at the hub and the loads at sections A and B are:

$$m_{tAx} = m_{tx} - l_A f_{ty} \quad (13)$$

$$m_{tAy} = m_{ty} + l_A f_{tx} \quad (14)$$

$$m_{tBx} = m_{tx} - l_B f_{ty} \quad (15)$$

$$m_{tBy} = m_{ty} + l_B f_{tx} \quad (16)$$

Solving for m_{tx} , m_{ty} , f_{tx} , and f_{ty} gives

$$m_{tx} = (l_A m_{tBx} - l_B m_{tAx})/(l_A - l_B) \quad (17)$$

$$m_{ty} = (l_A m_{tBy} - l_B m_{tAy}) / (l_A - l_B) \quad (18)$$

$$f_{tx} = (m_{tAy} - m_{tBy}) / (l_A - l_B) \quad (19)$$

$$f_{ty} = (m_{tBx} - m_{tAx}) / (l_A - l_B) \quad (20)$$

The moments m_{tAx} and m_{tBx} are measured by the gage couples F1SHAFT and F3SHAFT, respectively. Through symmetry, $|m_{tAx}| = |m_{tAy}|$ and $|m_{tBx}| = |m_{tBy}|$. Also, the phases of m_{tAy} and m_{tBy} lag m_{tAx} and m_{tBx} by 90° . Therefore, all terms required to solve for the total rotating forces and moments at the hub are known. For a rotor with b equally spaced blades, only the $nb \pm 1$ harmonics exist for the rotating frame in-plane hub loads (f_{tx} , f_{ty} , m_{tx} , m_{ty}), and only the nb harmonics exist for the out-of-plane loads (f_{tz} , m_{tz}). A coordinate transformation is performed to obtain the fixed frame hub loads, F_X , F_Y , M_X , and M_Y (fig. 15). These loads can be expressed in terms of the rotating frame loads by

$$F_X = f_{tx} \cos(\Psi) + f_{ty} \sin(\Psi) \quad (21)$$

$$F_Y = -f_{tx} \sin(\Psi) + f_{ty} \cos(\Psi) \quad (22)$$

$$M_X = m_{tx} \cos(\Psi) + m_{ty} \sin(\Psi) \quad (23)$$

$$M_Y = -m_{tx} \sin(\Psi) + m_{ty} \cos(\Psi) \quad (24)$$

$$F_Z = f_{tz} \quad (25)$$

$$M_Z = m_{tz} \quad (26)$$

Through phase cancellation, only the nb harmonics exist for the fixed frame loads.

FLIGHT CONDITIONS

The flight envelope included advance ratios from 0.0078 to 0.371 and values of C_T/σ from 0.062 to 0.133 (fig. 16). A complete list of the 23 flight conditions is presented in Appendix A. This flight test attempted to duplicate selected flight conditions from the first test documented in reference 1. This was done by directing the pilot to an altitude such that a desired reduced-mass value was obtained. Once at the desired altitude, the aircraft forward speed was adjusted to obtain a desired true air speed (TAS).

DATA PRESENTATION

As shown in Appendix A, flight V31 consisted of 6 conditions, flight V32 consisted of 7 conditions, and flight V33 consisted of 10 conditions for a total of 23 flight conditions. A list of measured parameters and their sign conventions are provided in Appendix B. Flight V31 and V32 were performed with the blade chordwise c.g. located at 24.7%. The chordwise c.g. for flight V33 was located at 26.7%. Note that Appendix B also indicates which measurements were inoperable for the three flights.

Appendix C contains the following for each of the 23 flight conditions: a) flight test parameters, b) blade bending moments, and c) airframe loads.

Appendix D provides rotating and nonrotating hub loads derived from the measured shaft forces and moments. Only values for flight V31 are provided, since F3SHAFT and the shaft torque gage, CZSHAFT, were inoperable during flights V32 and V33.

The data were checked for consistency where possible. Redundant blade strain gage instrumentation provided blade-to-blade comparisons at 12%, 29%, and 87% radial stations. Also, pitch link loads, blade flap angle, and blade lag angle were redundantly measured. Discrepancies in mean values were noticed for the bending moments, pitch link loads, and lag angle for some of the flight conditions. However, the data are presented here without alteration.

Flight Test Parameters

A list of the environmental conditions and aircraft and rotor trim values precede the tabulated data for each of the flight conditions in Appendix C (for example, see Appendix C, page C1). The average, minimum, and maximum values over seven consecutive rotor revolutions are presented for each parameter. Also, the standard deviation (STD.DEV.) is provided.

Rotor and Aircraft Measurements

The blade structural moments, flap and lag angles, lag damper force, pitch link loads, servo loads, shaft loads, gearbox strut loads, and seat accelerations are all presented in harmonic coefficient form. The coefficients represent the average value over seven consecutive rotor revolutions (10 harmonics per revolution). Note that redundant instrumentation is available for several of the rotor measurements (for example, blade flap angle).

Hub Loads Data

Appendix D presents hub force and hub moment data. Hub load data were measured for flight V31 only. The mean value of the vertical force, F_Z , was not accurate because of signal drift. F_Z is identical to the parameter FZSHAFT in Appendix C. For convenience, the 3/rev and 6/rev values of FZSHAFT are repeated in Appendix D as F_Z .

Appendix D provides the 1/rev, 2/rev, 4/rev, 5/rev, and 7/rev harmonic coefficient values for f_{tx} (total, rotating in-plane force). Recall from the section Determination of Hub Loads from Shaft Loads that $|f_{tx}| = |f_{ty}|$; therefore, only values for f_{tx} are given. In addition, the hub forces in the fixed frame are given in terms of the mean, 3/rev and 6/rev for F_X and F_Y (in-plane forces) and in terms of 3/rev and 6/rev for F_Z . As discussed earlier, $f_{tz} = F_Z$.

Similar information is provided for the hub moments in Appendix D. M_Z is identical to the shaft torque parameter, CZSHAFT, presented in Appendix C. Again, the mean, 3/rev, and 6/rev values of CZSHAFT are repeated in Appendix D as M_Z for convenience.

REFERENCES

1. Heffernan, R.; and Gaubert, M.: Structural and Aerodynamic Loads and Performance Measurements of an SA349/2 Helicopter With an Advanced Geometry Rotor. NASA TM-88370, 1986.
2. Johnson, W.: A Comprehensive Analytical Model of Rotorcraft Aerodynamics and Dynamics. Part 1: Analysis Development. NASA TM-81182, 1980.

TABLE 1.- SA349/02 HELICOPTER DATA

Design aircraft gross weight (kg): 2000.0
 Design main-rotor rotational speed (rpm): 387.0
 Design tail-rotor rotational speed (rpm): 5919.0

Estimated aircraft moments of inertia ($\text{kg} \cdot \text{m}^2$):
 (for reference axis: see fig. 1)

$I_{xx} = 800.0$
 $I_{yy} = 4200.0$
 $I_{zz} = 3600.0$
 $I_{xy} = 0.0$
 $I_{xz} = 680.0$
 $I_{yz} = 0.0$

Shaft angle of attack (degrees): (Positive rearward)

Main rotor -4.0
 Tail rotor 0.0

Shaft cant angle (degrees):

Main rotor 0.0
 Tail rotor 0.0

Horizontal tail cant angle (degrees): -1.0
 (Relative to floor reference, positive rearward, see fig. 1)

Vertical tail cant angle (degrees): 0.0

Aircraft CG location (m): (for reference axis: see fig. 1)

FS (Fuselage station) X = -0.09
 BL (Butt line) Y = 0.0
 WL (Waterline) Z = -1.32

Tail rotor hub location (m): (for reference axis: see fig. 1)

FS X = 5.86
 BL Y = 0.0
 WL Z = -0.83

Horizontal tail aerodynamic center (m): (for reference axis: see fig. 1)

FS X = 4.82
 BL Y = 0.0
 WL Z = -1.10

Vertical tail center of action (m): (for reference axis: see fig. 1)

FS X = 5.89
 BL Y = 0.0
 WL Z = -0.13

Fixed swashplate azimuth lead angle (degrees): 34.0

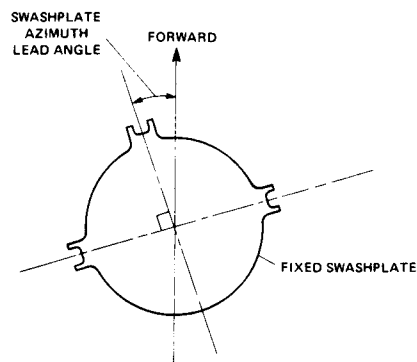


TABLE 2.- ADVANCED GEOMETRY ROTOR DATA

Number of blades	3
Airfoil	OA209
Chord (m)	0.35
Radius (m)	5.25
Rotor solidity	0.06366
Design tip speed (m/sec)	212.76
Rotation direction, viewed from top	clockwise
Blade mass (kg)	39.64
Blade flap mass (mass outboard of flap hinge) (kg)	74.67
Blade mass moment (m · kg) (Reference: flapping axis)	112.69
Blade polar inertia (m ² · kg) (Reference: flapping axis)	
$I_p = \iint (y^2 + z^2)dm =$	0.367
$I_{pp} = \iint (z^2 - y^2)dm =$	0.286
Blade flap inertia (m ² · kg) (Reference: flapping axis)	375.59
Lock number	4.5417
Flap hinge offset (m)	0.11
Lag hinge offset (m)	0.475
Distance between lag hinge and lag damper line of action (m)	0.177
Control system stiffness (N/m) (not measured)	3.0E4
Pitch bearing radial location (m)	0.250
Pitch horn arm length (m)	0.170
Pitch link length (m)	0.326
Pitch horn cant angle (degrees)	2.0
Pitch link cant angle (degrees)	7.05
Precone angle (degrees)	0.0
Droop angle (degrees)	0.0
Sweep angle (degrees)	0.0
Feathering axis droop angle (degrees)	0.0
Feathering axis sweep angle (degrees)	0.0

TABLE 3.- SECTIONAL BLADE PROPERTIES CG = 24.7%

Radial station, m	Y_N , m	Z_N , m	ϕ , deg	M, kg/m	EI_f , N-m ²	EI_l , N-m ²	$I'_{p'}$, kg-m ² /m	I'_{pp} , kg-m ² /m	GJ, N-m ² (min/max)	Y_G , m
0.445	0.	0.	0.	25.	4500000	1100000	0.479	0.3104	850000	0.
.475-	0.	0.	0.	25.	2500000	1000000	.4336	.285	800000	0.
.475+	0.	0.	0.	25.	400000	350000	.4336	.285	1000000	0.
.505-	0.	0.	0.	25.	840000	450000	.3572	.2526	1100000	0.
.505+	0.	0.	0.	15.	770000	490000	.1952	.1626	1250000	0.
.525-	0.	0.	0.	15.	935000	885000	.1228	.0751	2200000	0.
.525+	0.	0.	0.	105.	935000	885000	.2828	.1311	2200000	0.
.545-	0.	0.	0.	105.	575000	750000	.2951	.1393	2000000	0.
.545+	0.	0.	0.	100.	64000	320000	.2931	.1313	32000	0.
.565-	0.	0.	0.	100.	64000	320000	.2753	.1186	32000	0.
.565+	0.	0.	0.	38.648	66000	330000	.1745	.1169	34000	0.
.585-	0.	0.	0.	37.848	62000	280000	.1679	.1115	34000	0.
.585+	0.	0.	0.	16.148	55600	250000	.2347	.1985	27300	0.
.625-	0.	0.	0.	13.648	51600	186500	.1986	.1725	21700	0.
.625+	0.	0.	0.	8.548	51600	186500	.0141	.0072	18300/23200	0.
.665	0.	0.	0.	8.148	50700	134500	.0107	.0044	19300/24400	0.
.705	0.	0.	0.	7.748	52000	103200	.0085	.0026	20400/25800	0.
.745-	0.	0.	0.	7.598	52100	96900	.0079	.0023	21200/26800	0.
.745+	0.	0.	0.	10.098	52100	96900	.0079	.0023	21200/26800	0.
.795-	0.	0.	0.	9.648	47000	104500	.0077	.0028	22000/27800	0.
.795+	0.	0.	0.	7.148	47000	104500	.0077	.0028	22000/27800	0.
.815	-0.0015	0.000096	0.8251	6.802	48500	115360	.0086	.0033	22100/28000	-0.0017
.885	.0007	.000560	2.7903	6.247	38640	132940	.0099	.0053	18000/22800	-0.0021
.955	.0002	-.000218	2.1085	6.819	33570	218840	.0161	.0118	18600/23600	-0.0070
1.025	.0008	-.000392	1.5413	6.726	21770	329860	.0270	.0238	17900/22600	-0.0148
1.095	.0013	-.000705	.8881	6.747	14340	454670	.0432	.0409	12300/15600	-0.0245
1.165-	.0034	-.000757	.6818	6.886	10260	555220	.0600	.0583	8200/10400	-0.0314
1.165+	.0030	-.000741	.6704	8.502	10310	552780	.0677	.0659	8200/10400	-0.0134
1.235	.0027	-.000417	.5271	8.218	7720	646140	.0787	.0774	6800/8600	-0.0175
1.305-	.0018	-.000814	.4240	7.730	6490	703290	.0803	.0791	7900/10000	-0.0189

TABLE 3.- Continued.

Radial station, m	Y_N , m	Z_N , m	ϕ , deg	M, kg/m	EI_f , N-m ²	EI_l , N-m ²	I_p , kg-m ² /m	I_{pp} , kg-m ² /m	GJ, N-m ² (min/max)	Y_G , m
1.305+	.0013	-.000601	.3839	7.413	6550	705000	.0773	.0761	8400/10600	-.0174
1.375	.0088	-.000620	.4297	6.985	5920	585000	.0720	.0710	8800/11200	-.0144
1.515	.0096	-.000599	.4870	6.950	7810	560350	.0659	.0649	9800/12400	-.0067
1.605	.0160	-.000627	.5500	6.505	7710	447450	.0519	.0509	10600/13400	.0052
1.635	.0192	-.000648	.6016	6.410	7610	406160	.0450	.0440	11100/14000	.0102
3.276-	.0192	-.000648	.6016	6.410	7610	406160	.0450	.0440	11100/14000	.0102
3.276+	.0192	-.000648	.6016	6.671	7610	406160	.0450	.0440	11100/14000	.0102
3.396-	.0192	-.000648	.6016	6.671	7610	406160	.0450	.0440	11100/14000	.0102
3.396+	.0210	-.000736	.6417	4.895	7580	413240	.0377	.0367	11100/14000	-.0056
3.590-	.0210	-.000736	.6417	4.895	7580	413240	.0377	.0367	11100/14000	-.0056
3.590+	.0228	-.000803	.6704	5.015	7950	420520	.0382	.0373	11100/14000	-.0038
3.634-	.0228	-.000803	.6704	5.015	7950	420520	.0382	.0373	11100/14000	-.0038
3.634+	.0211	-.000720	.6360	6.675	7980	413990	.0456	.0445	11200/14200	.0112
3.754-	.0211	-.000720	.6360	6.675	7980	413990	.0456	.0445	11200/14200	.0112
3.754+	.0211	-.000720	.6360	6.577	7980	413990	.0456	.0445	11200/14200	.0112
4.173-	.0211	-.000720	.6360	6.577	7980	413990	.0456	.0445	11200/14200	.0112
4.173+	.0181	-.000548	.5329	7.586	7910	399560	.0519	.0508	11200/14200	.0204
4.350-	.0181	-.000348	.5329	7.586	7910	399560	.0519	.0508	11200/14200	.0204
4.350+	.0169	-.000377	.4641	8.356	7850	395630	.0543	.0532	12800/16200	.0237
4.390-	.0169	-.000377	.4641	8.356	7850	395630	.0543	.0532	12800/16200	.0237
4.390+	.0102	-.000362	.4240	8.673	8500	477430	.0614	.0602	12800/16200	.0181
4.410-	.0100	-.000388	.4240	8.587	7710	482340	.0615	.0603	12800/16200	.0183
4.410+	.0041	-.000330	.4125	9.152	10100	533810	.0633	.0619	12800/16200	.0154
4.440-	.0033	-.000328	.4125	9.082	10040	530760	.0632	.0618	12800/16200	.0152
4.440+	.0034	-.000321	.4125	9.637	10040	530760	.0731	.0716	12800/16200	.0093
4.490-	.0041	-.000312	.4068	9.527	9670	527890	.0731	.0715	12800/16200	.0096
4.490+	-.0021	-.000235	.3209	15.065	17750	623740	.0805	.0784	12800/16200	.0084
4.610-	-.0021	-.000235	.3209	15.065	17750	623740	.0805	.0784	12800/16200	.0084
4.610+	-.0021	-.000235	.3209	14.362	17750	623740	.0706	.0686	12800/16200	.0133
4.623-	-.0021	-.000235	.3209	14.362	17750	623740	.0706	.0686	12800/16200	.0133

TABLE 3.- Concluded.

Radial station, m	Y_N , m	Z_N , m	ϕ , deg	M, kg/m	EI_f , N-m ²	EI_l , N-m ²	Γ_p , kg-m ² /m	Γ_{pp} , kg-m ² /m	GJ, N-m ² (min/max)	Y_G , m
4.623+	-.0021	-.000235	.3209	14.917	17750	623740	.0805	.0784	12800/16200	.0096
4.640-	-.0021	-.000235	.3209	14.917	17750	623740	.0805	.0784	12800/16200	.0096
4.640+	-.0092	-.000198	.4354	20.164	21430	820680	.0866	.0842	19000/24000	-.0021
4.665-	-.0092	-.000198	.4354	20.164	21430	820680	.0866	.0842	19000/24000	-.0021
4.665+	-.0030	-.001247	.4011	21.260	13450	622520	.0776	.0757	19000/24000	.0033
4.705-	-.0030	-.001247	.4011	21.260	13450	622520	.0776	.0757	19000/24000	.0033
4.705+	-.0077	-.001219	.4412	21.087	14490	1020880	.0881	.0863	19000/24000	-.0020
4.770-	-.0077	-.001219	.4412	21.087	14490	1020880	.0881	.0863	19000/24000	-.0020
4.770+	-.0090	-.000375	.5844	17.742	22600	1288620	.0864	.0840	19000/24000	-.0172
4.800-	-.0090	-.000375	.5844	17.742	22600	1288620	.0864	.0840	19000/24000	-.0172
4.800+	-.0338	-.000131	.2406	19.596	23530	2301240	.1385	.1362	25700/32500	-.0215
4.855-	-.0338	-.000131	.2406	19.596	23530	2301240	.1385	.1362	25700/32500	-.0215
4.855+	-.0399	-.000723	.5443	6.108	7570	730420	.0582	.0573	9900/12500	.0054
4.875-	-.0399	-.000723	.5443	6.108	7570	730420	.0582	.0573	9900/12500	.0054
4.875+	-.0471	-.000670	.5329	11.547	7800	791680	.0611	.0601	9900/12500	.0026
4.890-	-.0471	-.000670	.5329	11.547	7800	791680	.0611	.0601	9900/12500	.0026
4.890+	-.0216	-.001017	.5844	5.328	8200	995340	.0539	.0530	6600/8300	-.0188
4.950-	-.0216	-.001017	.5844	5.328	8200	995340	.0539	.0530	6600/8300	-.0188
4.950+	-.0216	-.001017	.5844	5.481	8200	995340	.0539	.0530	6600/8300	-.0160
4.990-	-.0216	-.001017	.5844	5.481	8200	995340	.0539	.0530	6600/8300	-.0160
4.990+	-.0226	-.000990	.5901	6.053	8500	998720	.0541	.0532	6600/8300	-.0150
5.030-	-.0226	-.000990	.5901	6.053	8500	998720	.0541	.0532	6600/8300	-.0150
5.030+	-.0214	-.001018	.5959	4.199	8190	966000	.0507	.0499	5100/6400	-.0141
5.070-	-.0214	-.001018	.5959	4.199	8190	966000	.0507	.0499	5100/6400	-.0141
5.070+	-.0098	-.001219	.6245	3.843	6460	809460	.0457	.0449	4900/6200	-.0088
5.150-	-.0098	-.001219	.6245	3.843	6460	809460	.0457	.0449	4900/6200	-.0088
5.150+	-.0098	-.001219	.6245	3.690	6460	809460	.0457	.0449	4900/6200	-.0125
5.250	-.0098	-.001219	.6245	3.690	6460	809460	.0457	.0449	4900/6200	-.0125

TABLE 4.- SECTIONAL BLADE PROPERTIES CG = 26.7%

Radial station, m	M, kg/m	I'_p , kg-m ² /m	I'_{pp} , kg-m ² /m	Y_G , m
0.445	25.	0.479	0.3104	0.
0.475-	25.	0.4336	0.285	0.
0.475+	25.	0.4336	0.285	0.
0.505-	25.	0.3572	0.2526	0.
0.505+	15.	0.1952	0.1626	0.
0.525-	15.	0.1228	0.0751	0.
0.525+	105.	0.2828	0.1311	0.
0.545-	105.	0.2951	0.1393	0.
0.545+	100.	0.2931	0.1313	0.
0.565-	100.	0.2753	0.1186	0.
0.565+	38.648	0.1745	0.1169	0.
0.585-	37.848	0.1679	0.1115	0.
0.585+	16.148	0.2347	0.1985	0.
0.625-	13.648	0.1986	0.1725	0.
0.625+	8.548	0.0141	0.0072	0.
0.665	8.148	0.0107	0.0044	0.
0.705	7.748	0.0085	0.0026	0.
0.745-	7.598	0.0079	0.0023	0.
0.745+	10.098	0.0079	0.0023	0.
0.795-	9.648	0.0077	0.0028	0.
0.795+	7.148	0.0077	0.0028	0.
0.815	6.802	0.0086	0.0033	-0.0017
0.885	6.247	0.0099	0.0053	-0.0021
0.955	6.819	0.0161	0.0118	-0.0070
1.025	6.726	0.0270	0.0238	-0.0148
1.095	6.747	0.0432	0.0409	-0.0245
1.165-	6.886	0.0600	0.0583	-0.0314
1.165+	7.238	0.0612	0.0595	-0.0298
1.235	6.954	0.0723	0.0710	-0.0357
1.305-	6.466	0.0738	0.0727	-0.0408
1.305+	6.149	0.0708	0.0697	-0.0386
1.375	5.721	0.0656	0.0646	-0.0366
1.515	5.686	0.0594	0.0585	-0.0264
1.605	5.241	0.0454	0.0445	-0.0133
1.635	5.146	0.0385	0.0376	-0.0070
3.276-	5.146	0.0385	0.0376	-0.0070
3.276+	6.671	0.0450	0.0440	0.0102
3.396-	6.671	0.0450	0.0440	0.0102
3.396+	4.895	0.0377	0.0367	-0.0056
3.590-	4.895	0.0377	0.0367	-0.0056
3.590+	5.015	0.0382	0.0373	-0.0038
3.634-	5.015	0.0382	0.0373	-0.0038
3.634+	6.675	0.0456	0.0445	0.0112
3.754-	6.675	0.0456	0.0445	0.0112

TABLE 4.— Concluded.

Radial station, m	M, kg/m	I'_p , kg-m ² /m	I'_{pp} , kg-m ² /m	Y_G , m
3.754+	5.176	0.0391	0.0381	-0.0048
4.173-	5.176	0.0391	0.0381	-0.0048
4.173+	6.185	0.0454	0.0444	0.0093
4.350-	6.185	0.0454	0.0444	0.0093
4.350+	6.955	0.0478	0.0467	0.0145
4.390-	6.955	0.0478	0.0467	0.0145
4.390+	7.272	0.0549	0.0537	0.0082
4.410-	7.186	0.0550	0.0539	0.0082
4.410+	7.751	0.0568	0.0555	0.0055
4.440-	7.681	0.0567	0.0554	0.0052
4.440+	8.236	0.0666	0.0651	-0.0010
4.490-	8.126	0.0665	0.0651	-0.0008
4.490+	13.664	0.0740	0.0719	0.0022
4.610-	13.664	0.0740	0.0719	0.0022
4.610+	12.961	0.0640	0.0621	0.0073
4.623-	12.961	0.0640	0.0621	0.0073
4.623+	13.516	0.0740	0.0719	0.0035
4.640-	13.516	0.0740	0.0719	0.0035
4.640+	18.763	0.0801	0.0777	-0.0074
4.665-	18.763	0.0801	0.0777	-0.0074
4.665+	19.859	0.0711	0.0693	-0.0015
4.705-	19.859	0.0711	0.0693	-0.0015
4.705+	19.686	0.0816	0.0799	-0.0070
4.770-	19.686	0.0816	0.0799	-0.0070
4.770+	17.742	0.0864	0.0840	-0.0172
4.800-	17.742	0.0864	0.0840	-0.0172
4.800+	19.596	0.1385	0.1362	-0.0215
4.855-	19.596	0.1385	0.1362	-0.0215
4.855+	6.108	0.0582	0.0573	0.0054
4.875-	6.108	0.0582	0.0573	0.0054
4.875+	11.547	0.0611	0.0601	0.0026
4.890-	11.547	0.0611	0.0601	0.0026
4.890+	5.328	0.0539	0.0530	-0.0188
4.950-	5.328	0.0539	0.0530	-0.0188
4.950+	5.481	0.0539	0.0530	-0.0160
4.990-	5.481	0.0539	0.0530	-0.0160
4.990+	6.053	0.0541	0.0532	-0.0150
5.030-	6.053	0.0541	0.0532	-0.0150
5.030+	4.199	0.0507	0.0499	-0.0141
5.070-	4.199	0.0507	0.0499	-0.0141
5.070+	3.843	0.0457	0.0449	-0.0088
5.150-	3.843	0.0457	0.0449	-0.0088
5.150+	3.690	0.0457	0.0449	-0.0125
5.250	3.690	0.0457	0.0449	-0.0125

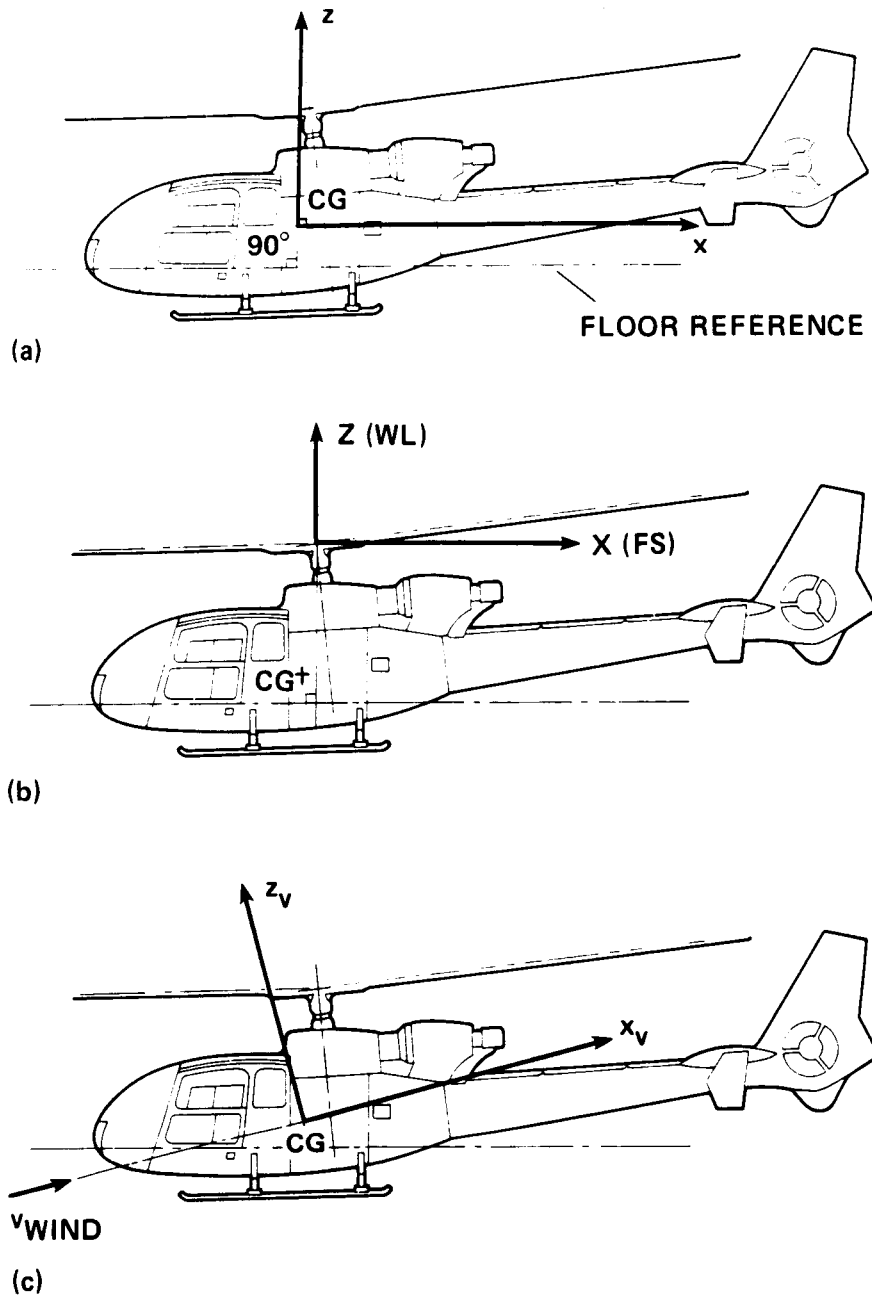


Figure 1.— Aircraft reference axis systems. (a) Aircraft c.g. axis system. (b) Rotor axis system. (c) Wind axis system.

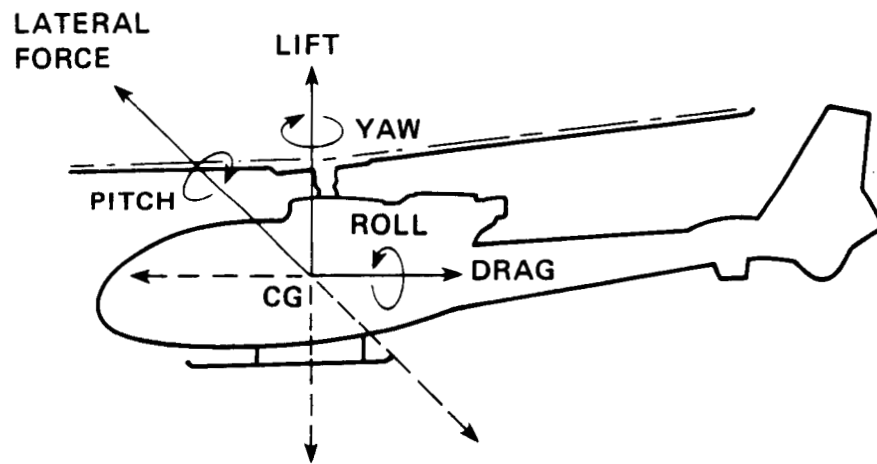


Figure 2.— Aircraft force and moment sign conventions.

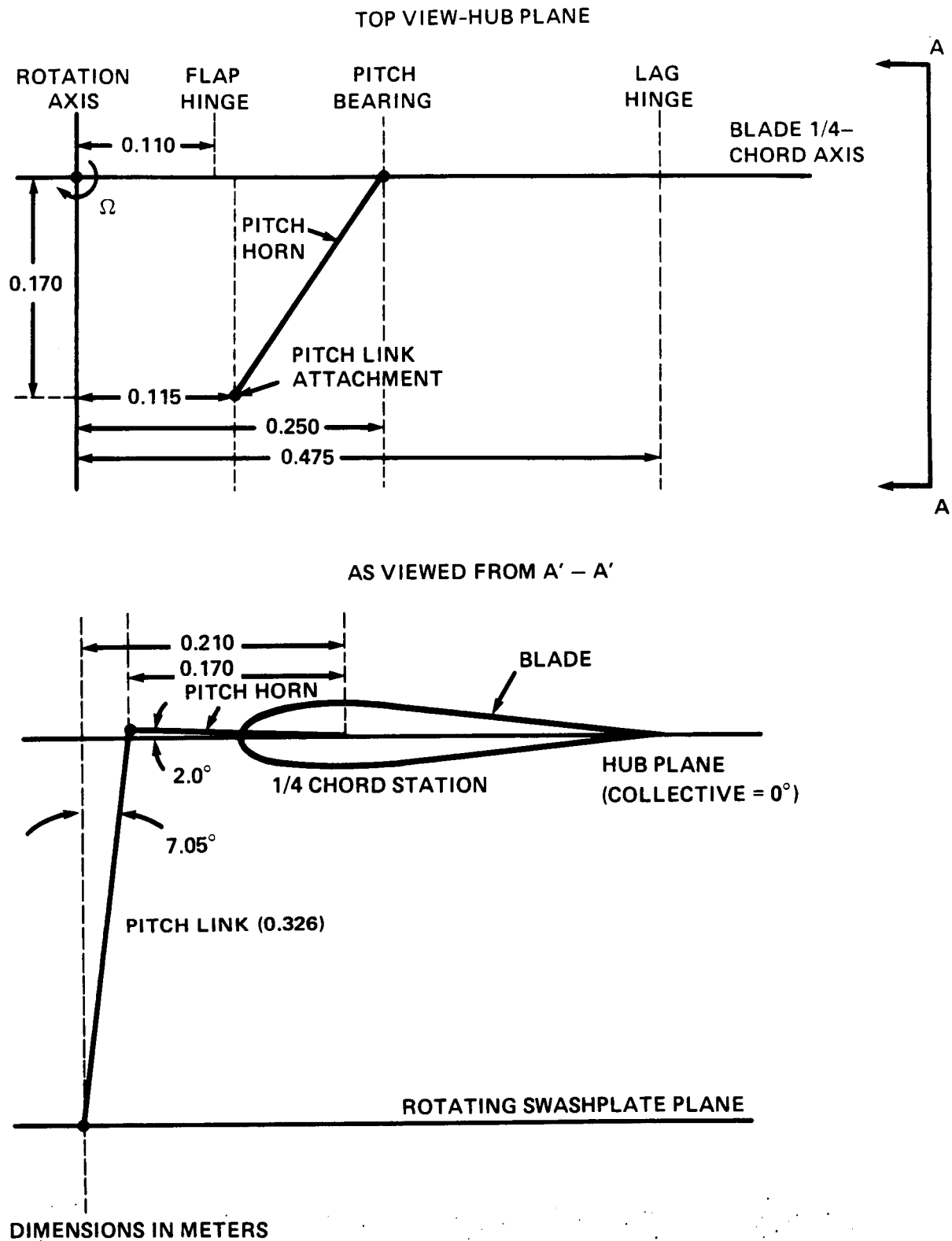


Figure 3.- Control system geometry.

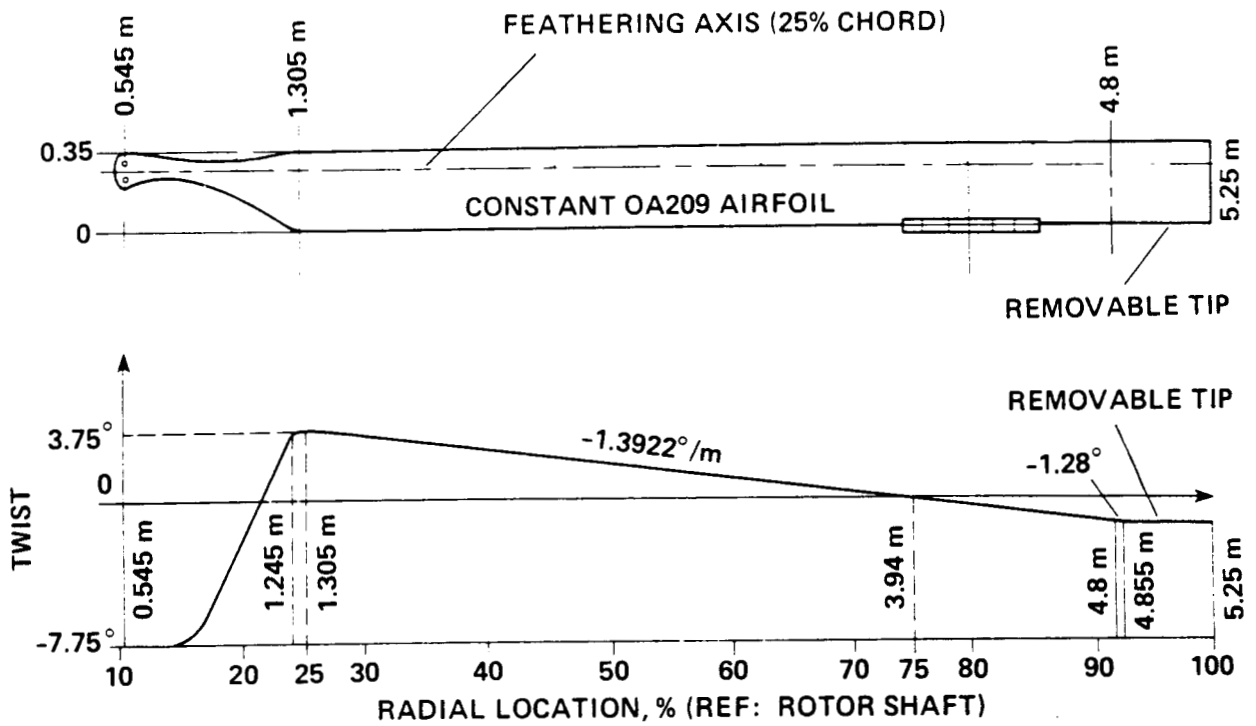


Figure 4.- Grande Vitesse blade planform and twist distribution.

- $Y_N > 0$ FORWARD OF 25% CHORD
- $Z_N > 0$ TOWARD UPPER SURFACE
- $Y_G > 0$ FORWARD OF 25% CHORD

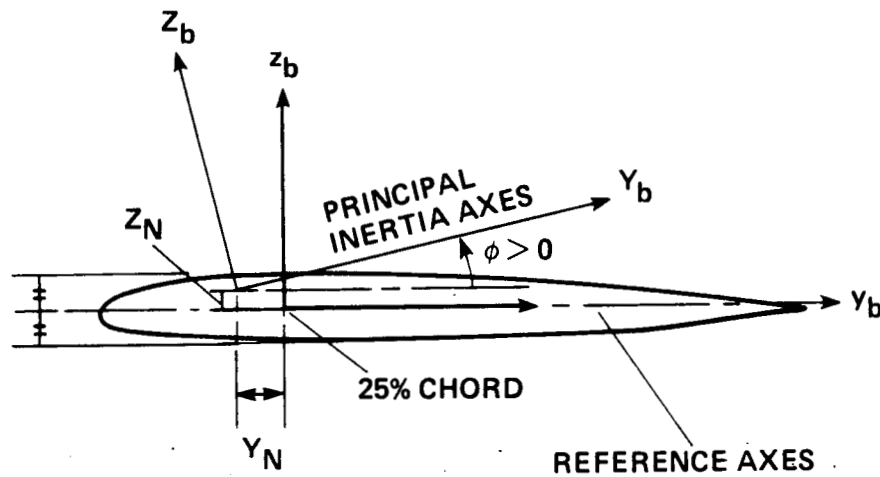
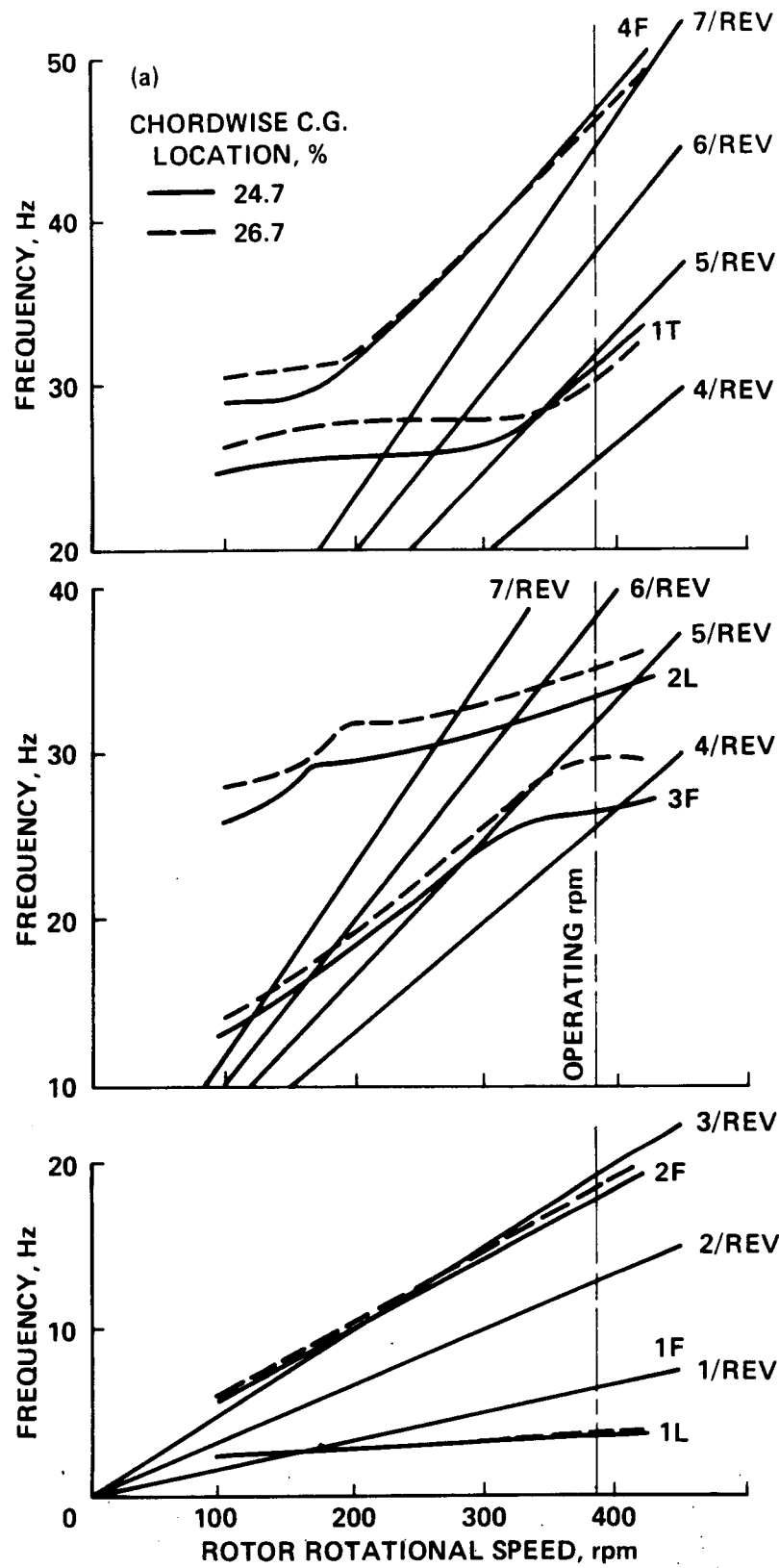
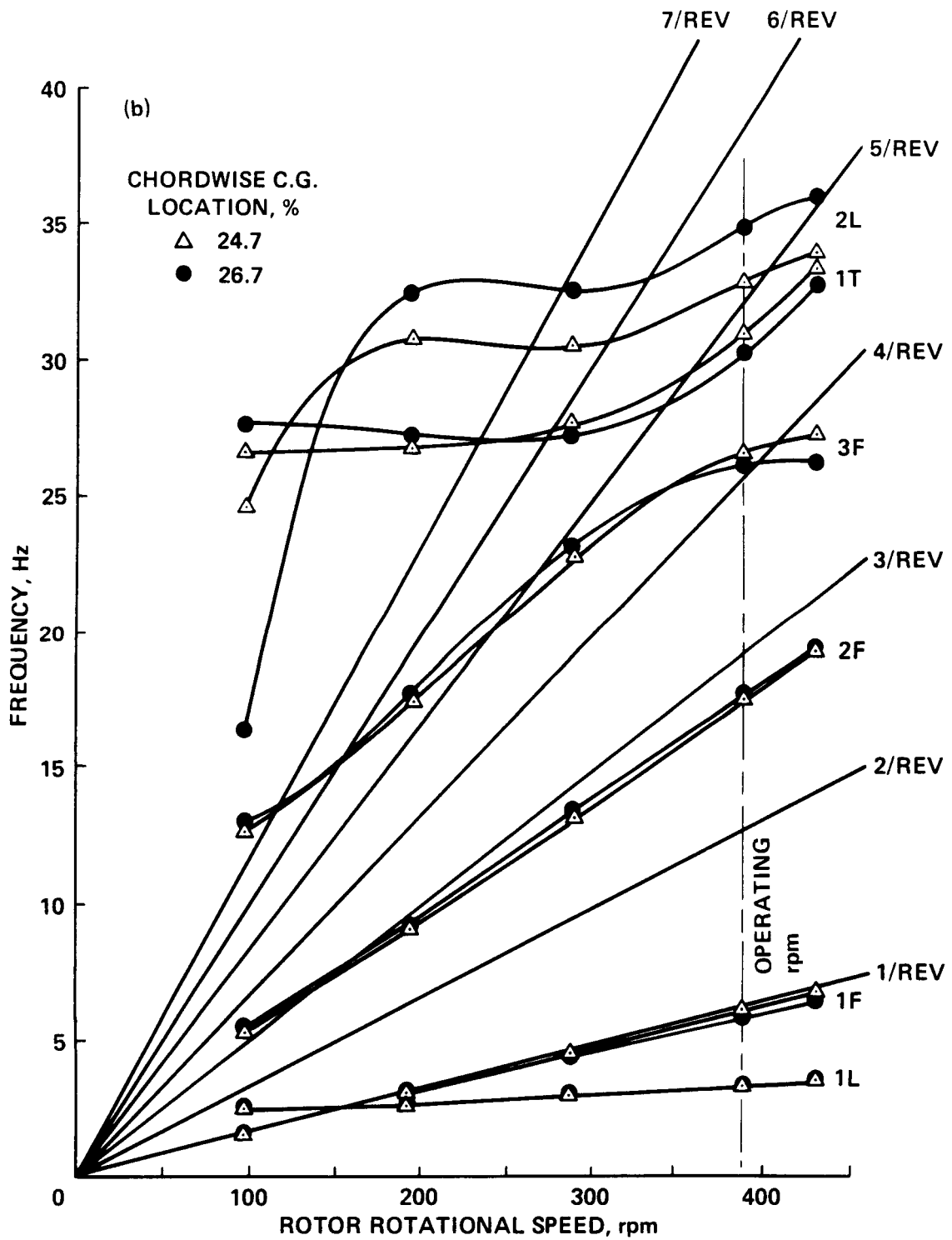


Figure 5.- Grande Vitesse blade sectional axis systems.



(a) Rotating blade modal frequency vs rpm: CAMRAD calculated.

Figure 6.- Grande Vitesse rotating blade properties.



(b) Rotating blade modal frequency vs rpm: IAK40 calculated.

Figure 6.- Concluded.

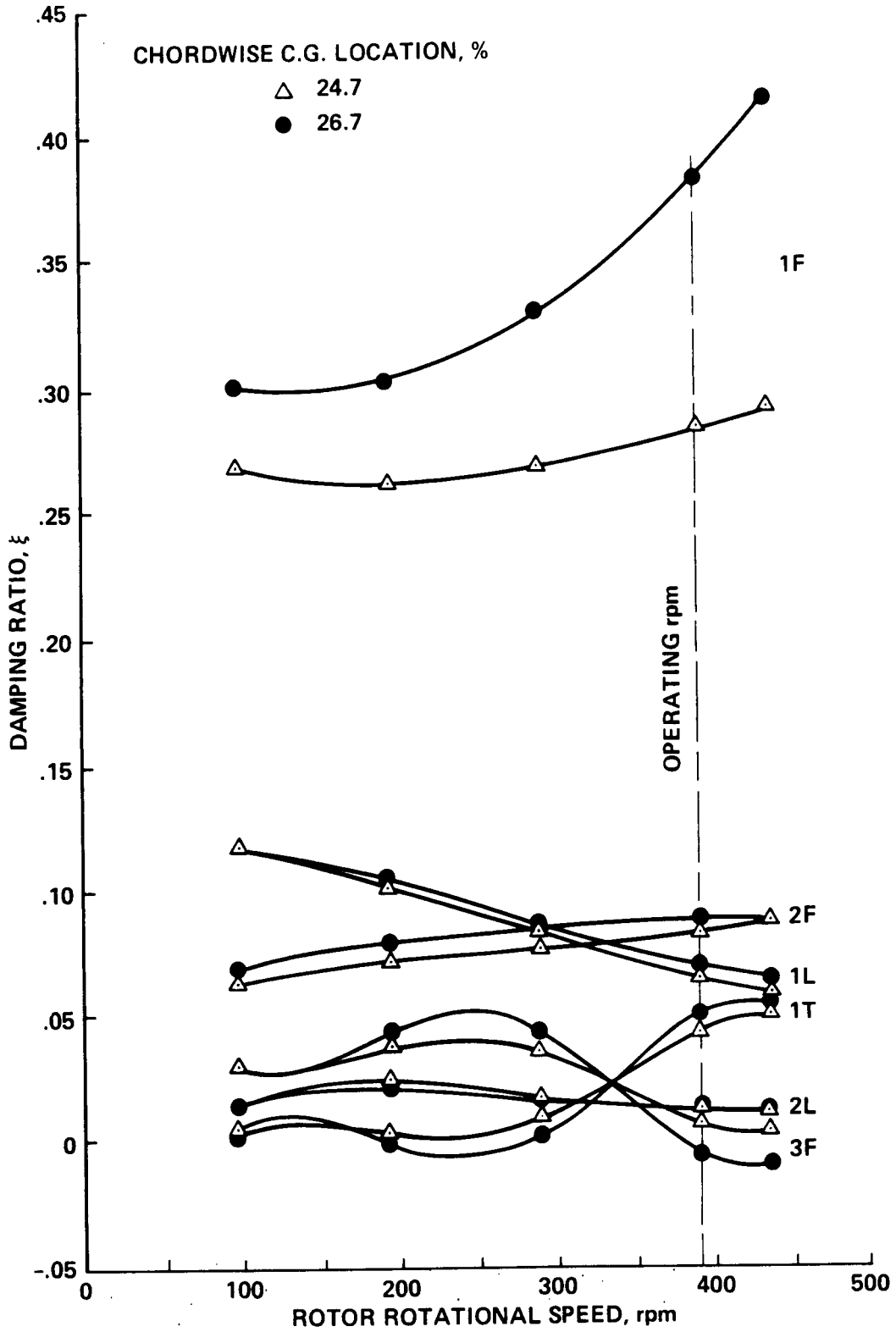


Figure 7.- Blade damping ratio vs rpm: IAK40 calculated.

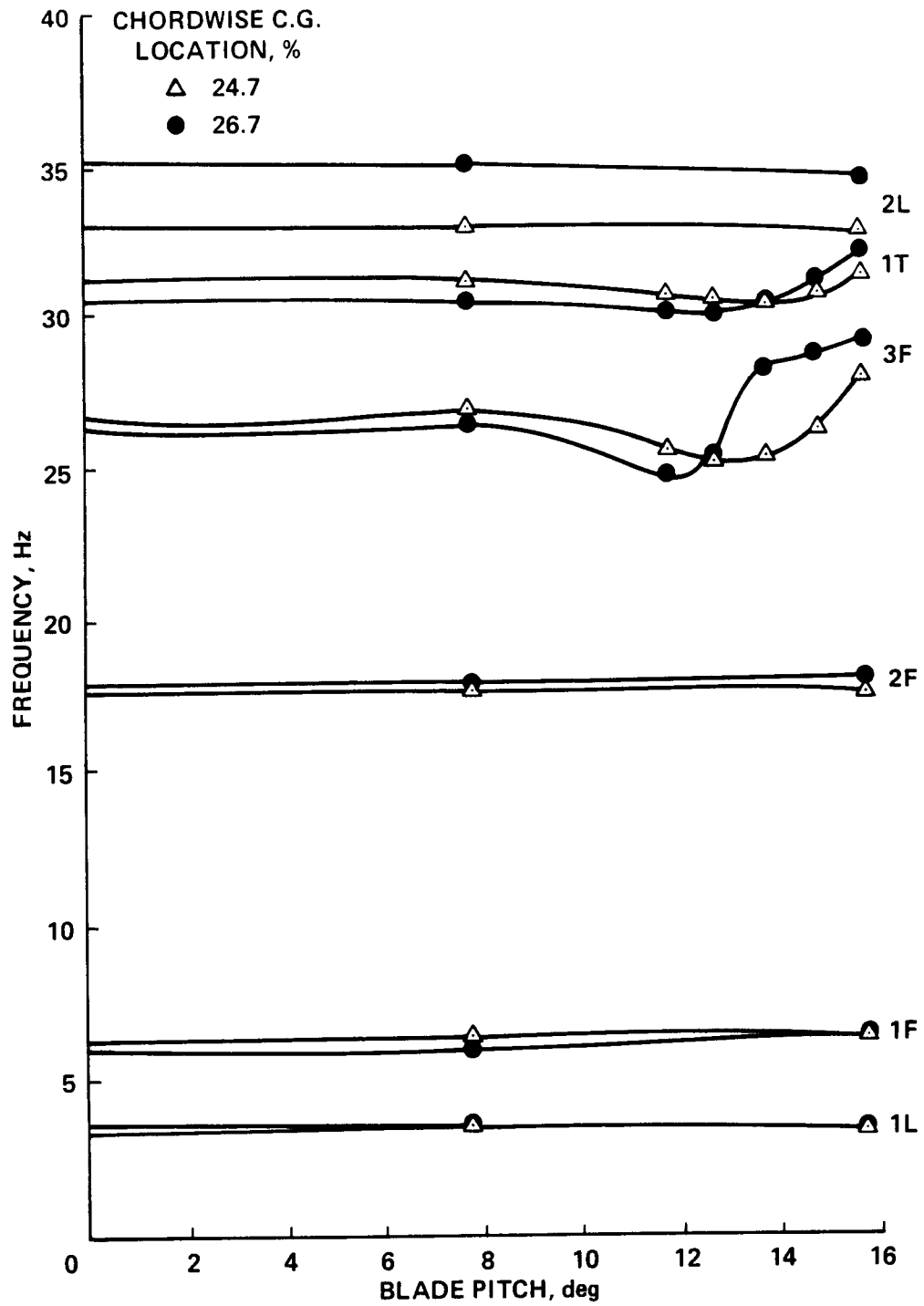


Figure 8.— Blade modal frequency vs blade pitch: IAK40 calculated (at 387 rpm).

F: FLAP BENDING
 L: LAG BENDING
 T: TORSION

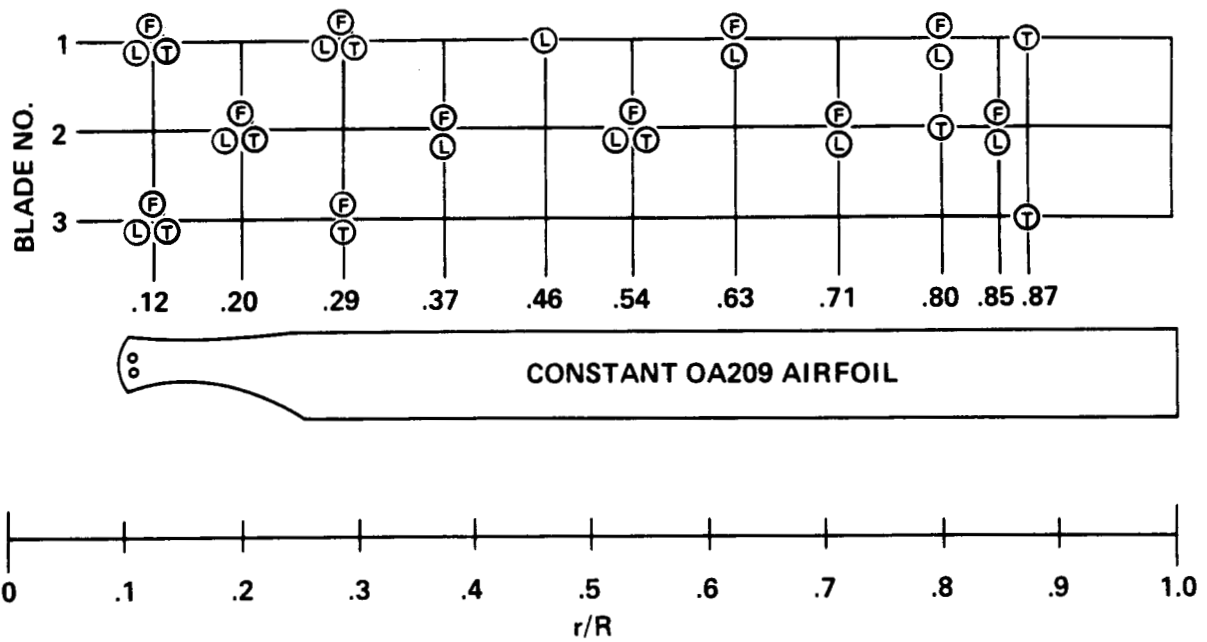


Figure 9.- Blade instrumentation.

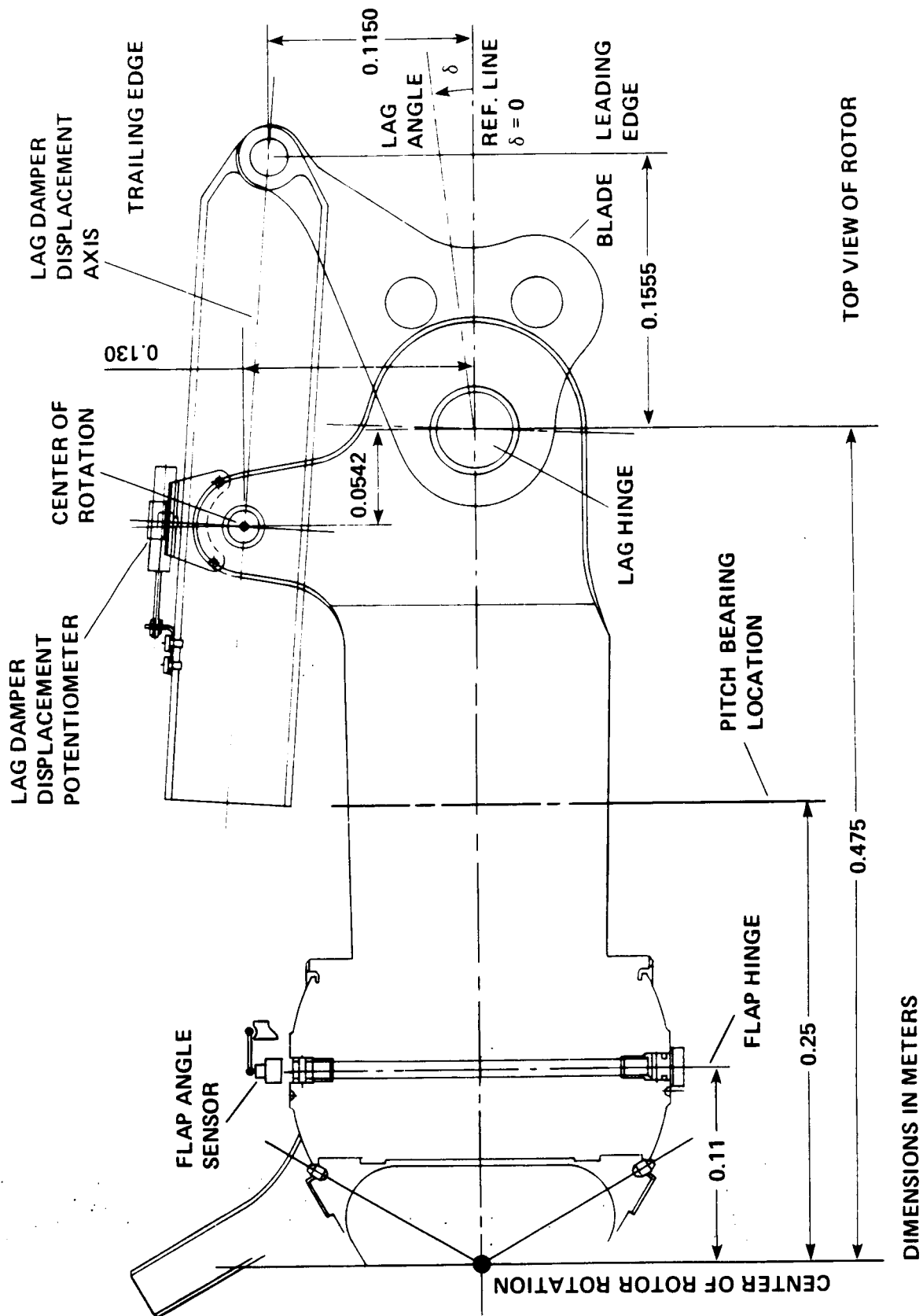


Figure 10. - NAT hub instrumentation.

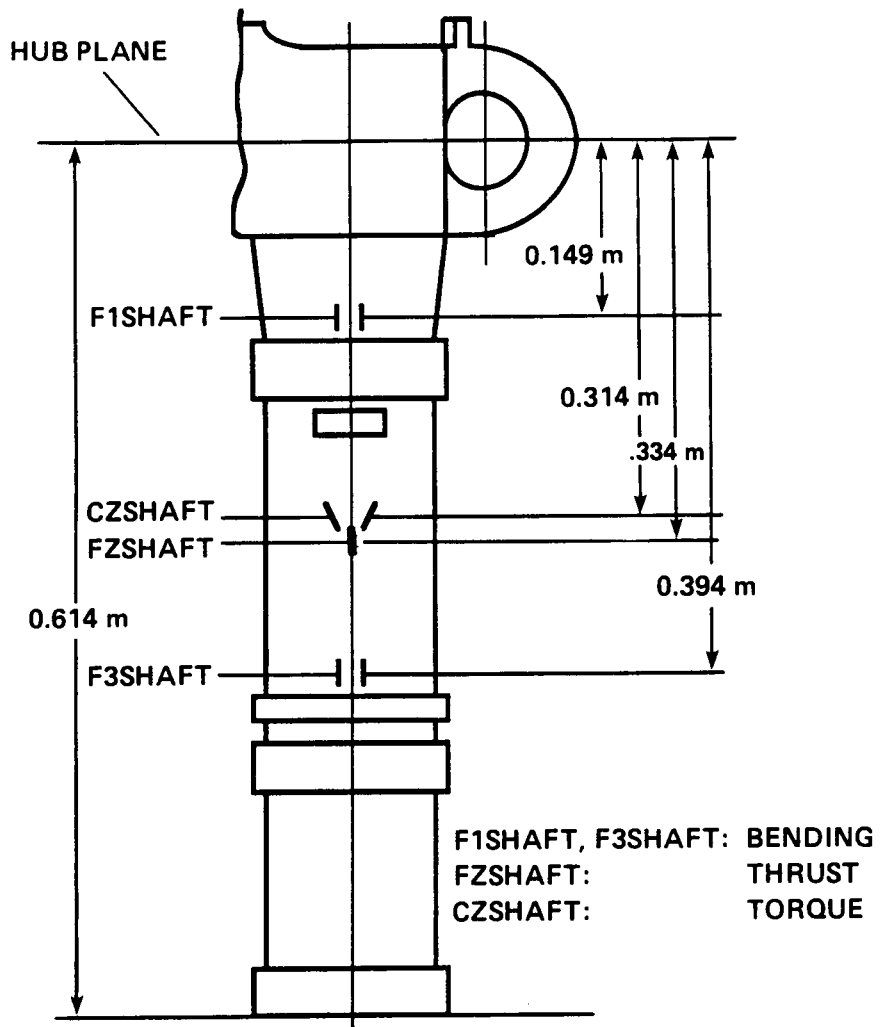


Figure 11.- Rotor shaft instrumentation.

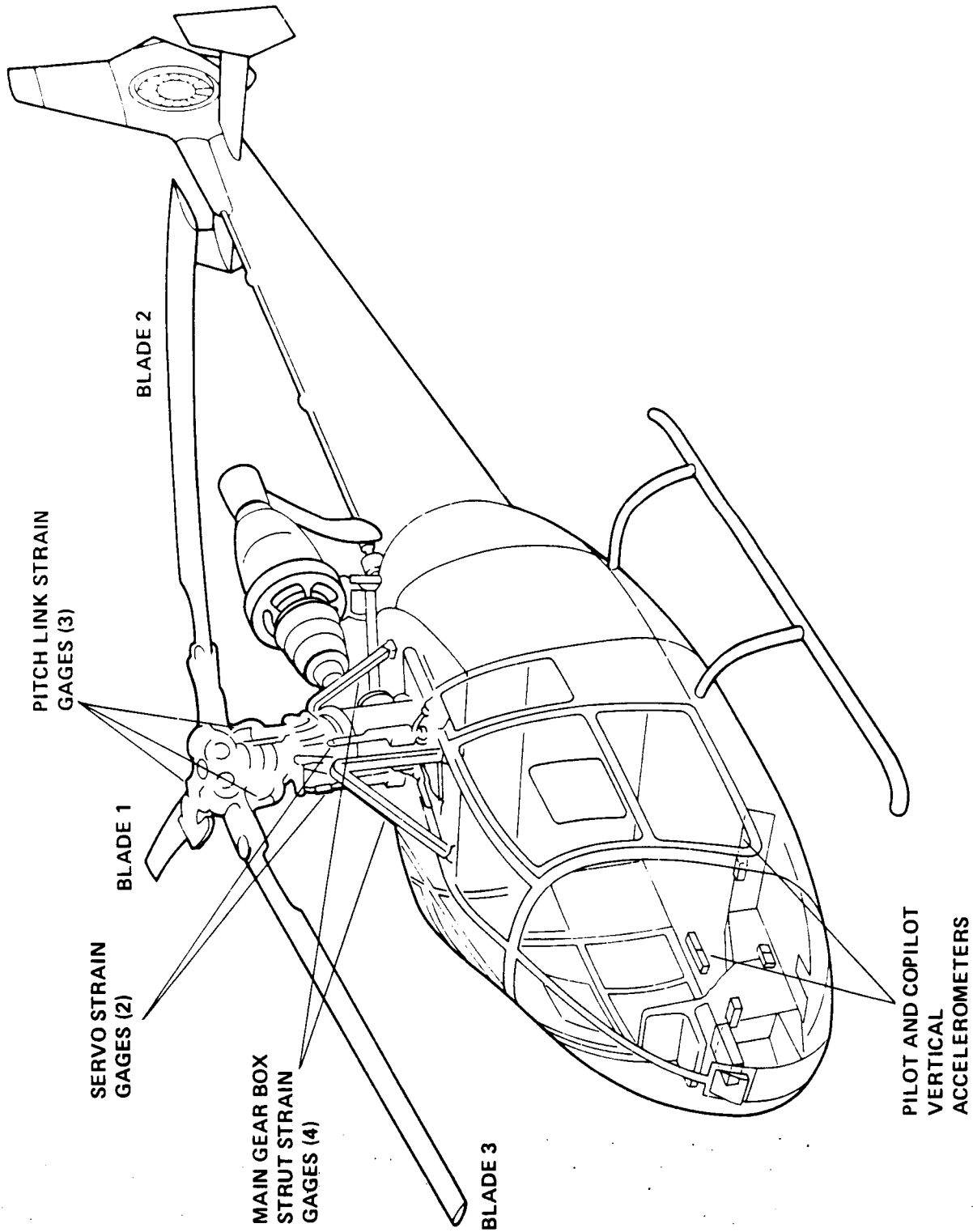


Figure 12.- Aircraft instrumentation.

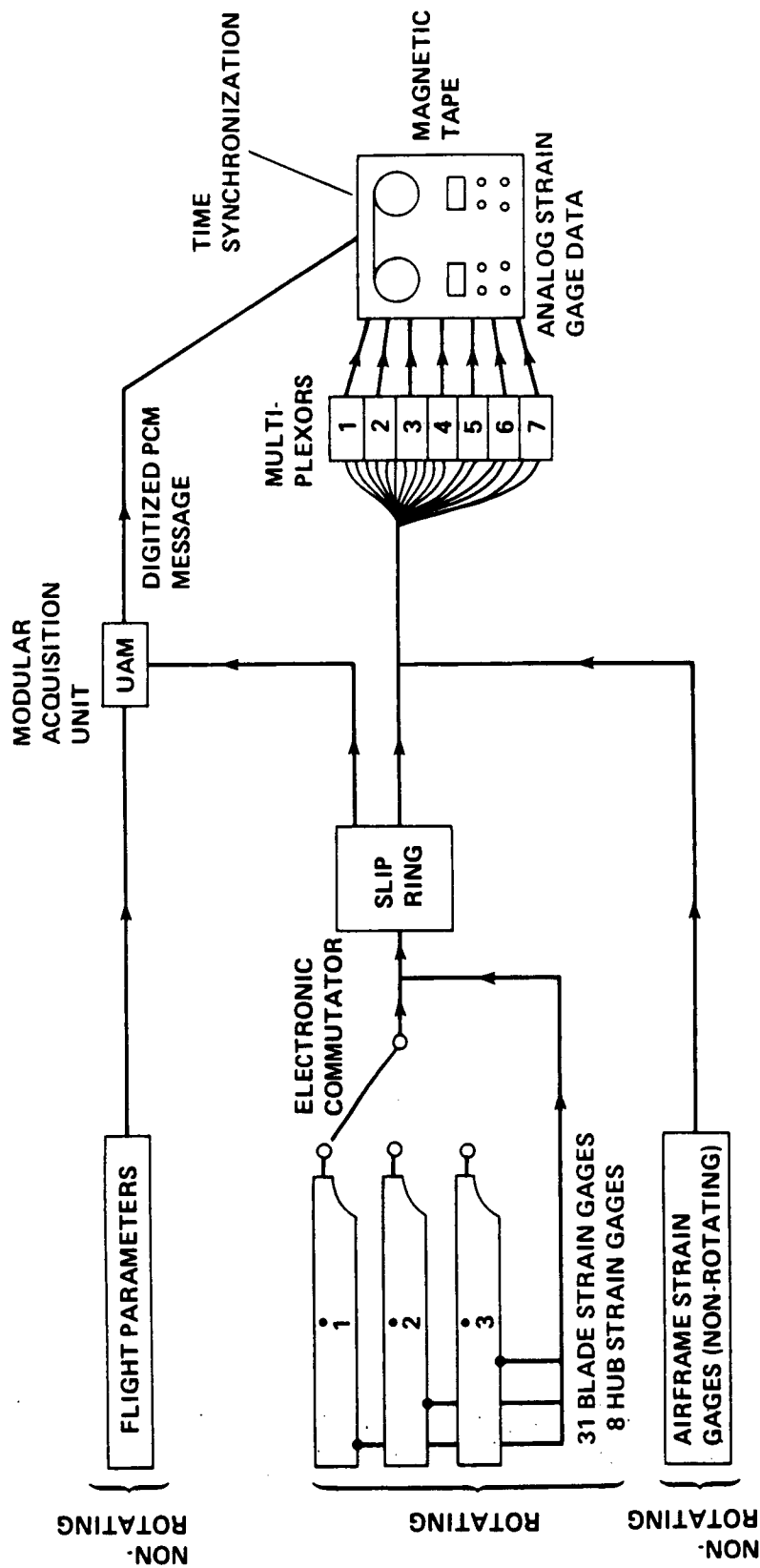


Figure 13.- On-board data acquisition process.

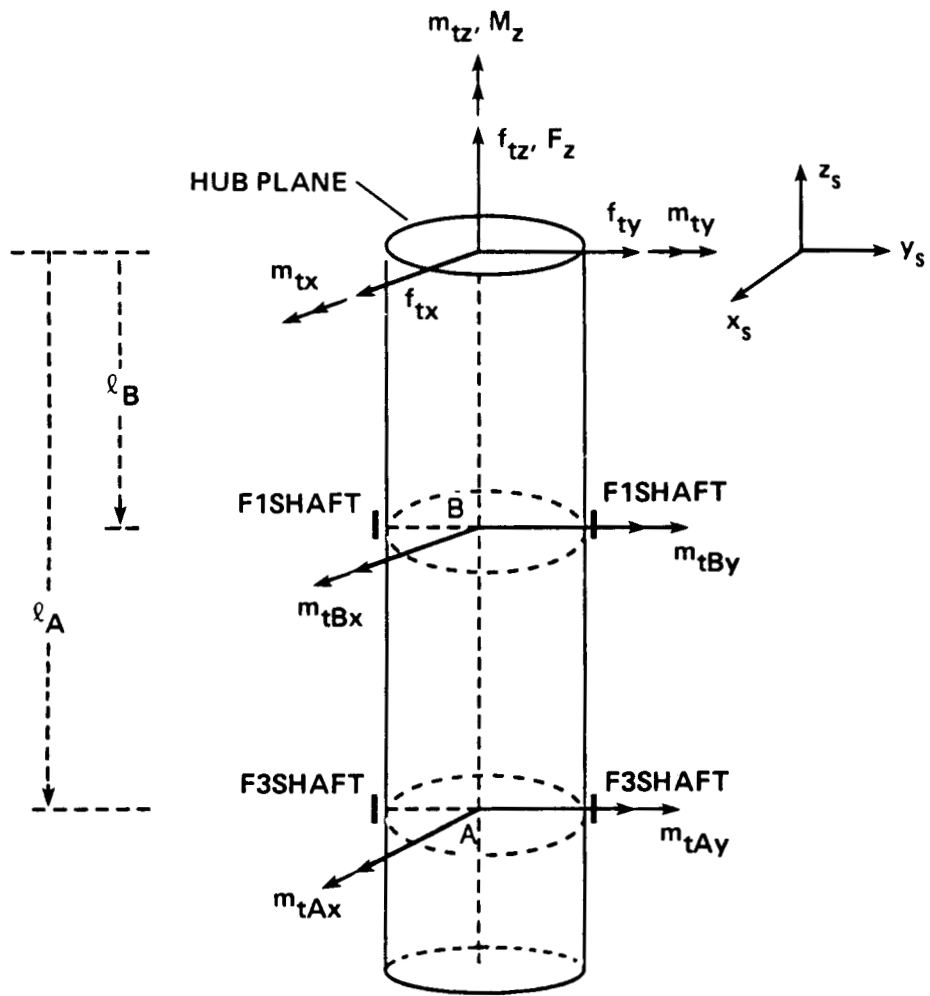
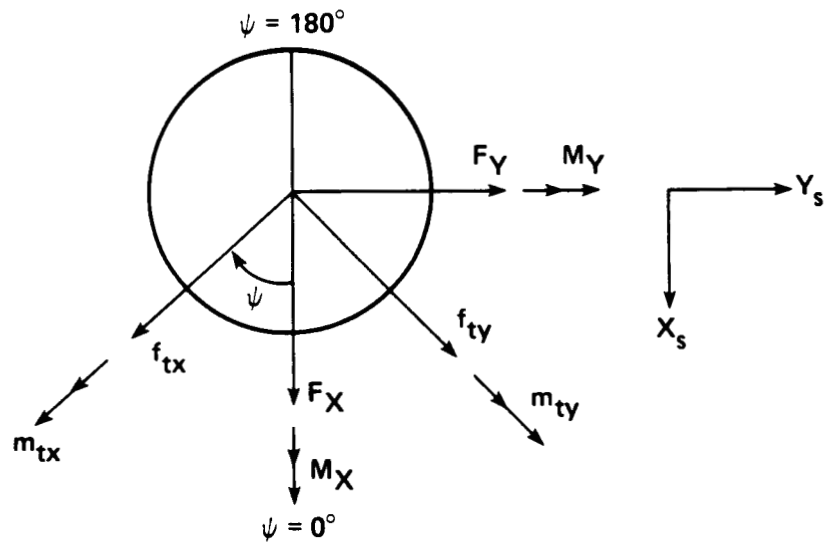


Figure 14.— Hub and shaft loads reference system.



NONROTATING LOADS: F_X, F_Y, M_X, M_Y
 ROTATING LOADS: $f_{tx}, f_{ty}, m_{tx}, m_{ty}$

Figure 15.— Relationship between rotating and nonrotating frame hub loads.

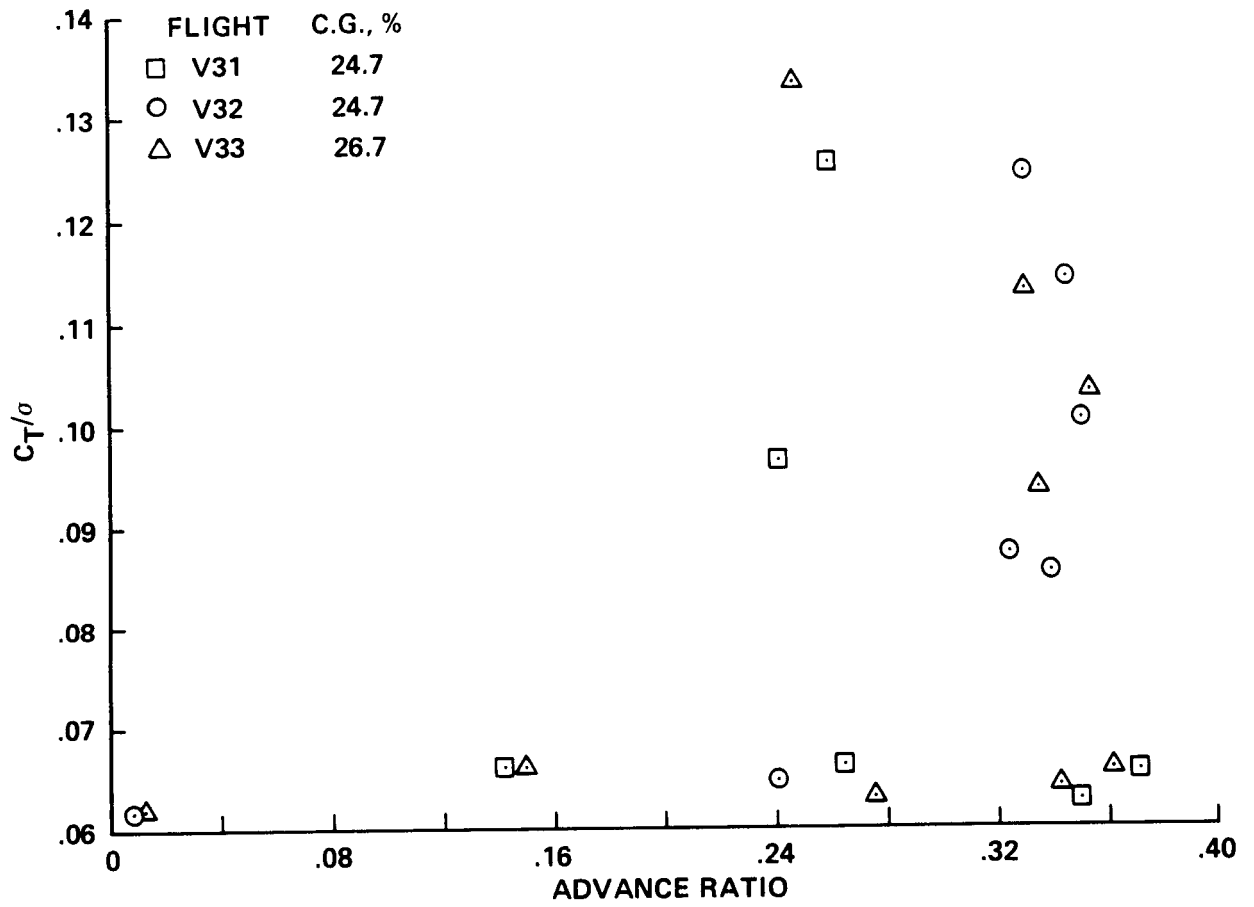


Figure 16.— Flight envelope.

APPENDIX A
FLIGHT CONDITIONS

The following list summarizes the flight test conditions presented in this report.

Flight	Condition	TAS (m/s)	Load Factor	C_T/σ	μ
V3101	LEVEL FLIGHT	30	1.012	0.06615	0.1422
V3103	LEVEL FLIGHT	56	1.023	0.06622	0.2647
V3105	LEVEL FLIGHT	74	0.964	0.06277	0.3498
V3106	LEVEL FLIGHT	79	1.006	0.06552	0.3712
V3109	STEADY TURN	51	1.474	0.09619	0.2418
V3111	STEADY TURN	55	1.937	0.12510	0.2602
V3202	STEADY TURN	74	1.761	0.11390	0.3459
V3204	STEADY TURN	75	1.533	0.10020	0.3509
V3207	LEVEL FLIGHT	51	0.991	0.06470	0.2406
V3208	LEVEL FLIGHT	69	1.013	0.08708	0.3250
V3209	LEVEL FLIGHT	72	0.989	0.08513	0.3395
V3211	STEADY TURN	70	1.480	0.12400	0.3310
V3218	HOVER O.G.E.	2	1.007	0.06182	0.0078
V3301	LEVEL FLIGHT	32	1.014	0.66280	0.1498
V3303	LEVEL FLIGHT	59	0.978	0.06318	0.2752
V3304	LEVEL FLIGHT	73	0.986	0.06426	0.3424
V3305	LEVEL FLIGHT	76	0.999	0.06592	0.3614
V3308	STEADY TURN	51	1.524	0.09617	0.2403
V3310	STEADY TURN	53	2.115	0.13300	0.2479
V3312	STEADY TURN	71	1.475	0.09355	0.3354
V3313	STEADY TURN	75	1.587	0.10320	0.3543
V3314	STEADY TURN	70	1.855	0.11300	0.3310
V3315	HOVER O.G.E.	3	1.016	0.06225	0.0119

APPENDIX B

MEASURED PARAMETERS AND SIGN CONVENTIONS

Appendix B lists all measured flight test parameters for the 23 flight conditions. Given for each parameter is the parameter name as used in Appendix C, the physical description, the units, and the sign convention.

Parameter Name	Description	Units	Sign Convention
FLAP BEND	flap bending moment 12% R; blades 1,3 20% R; blade 2 29% R; blades 1,3 37% R; blade 2 54% R; blade 2 63% R; blade 1 a 71% R; blade 2 80% R; blade 1 b 85% R; blade 2	N-m	positive moment created by downward force on blade at tip
EDGE BEND	edgewise bending moment 12% R; blades 1,3 20% R; blade 2 29% R; blade 1 37% R; blade 2 46% R; blade 1 54% R; blade 2 63% R; blade 1 71% R; blade 2 80% R; blade 1 85% R; blade 2	N-m	positive moment created by force at blade tip directed from trailing to leading edge
TORSION	torsion moment 12% R; blades 1,3 20% R; blade 2 29% R; blades 1,3 54% R; blade 2 80% R; blade 2 87% R; blades 1,3	N-m	positive moment created by blade nose-up deflection at tip
FLAP	flap angle blade 1 blade 2	deg	positive angle created by blade flapping upwards
LAG	lag angle blade 1 blade 2	deg	positive, deflection in the direction against rotation

FLAGDAMP	lag damper force	N	positive, lag damper in tension
PTCH LNK LD	pitch link load blade 1 blade 2 blade 3	N	positive, pitch link in tension
SERVO	servos left right	N	positive, upwards force
GEAR BOX STRUT	gear box strut load rear left rear right front left front right	N	positive, strut compressed positive, strut compressed positive, strut in tension positive, strut in tension
VERT ACCEL	seat acceleration front right seat front left seat	g	
F1SHAFT	longitudinal shaft bending moment	N-m	positive, bending toward front of aircraft
F2SHAFT	lateral shaft bending moment	N-m	positive, bending toward left side of aircraft (facing forward)
F3SHAFT ^c	longitudinal shaft bending moment	N-m	positive, bending toward front of aircraft
FZSHAFT	shaft vertical force	N	positive, upwards force
CZSHAFT ^d	shaft torque	N-m	positive, counterclockwise as viewed from above

a not functioning for conditions V3101, V3103

b not functioning for V3109, V32 (all conditions), and V33 (all conditions)

c not functioning for V32 (all conditions) and V33 (all conditions)

d not functioning for V32 (all conditions) and V33 (all conditions)

APPENDIX C

SA349/2 HELICOPTER FLIGHT TEST DATA

Flight test data for each of the 23 flight conditions are listed. A list of flight parameters precedes the data for each condition.

FLIGHT NUMBER V3101

FLIGHT PARAMETERS	NO	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T. A. S. (M/S)	1	30.120001	30.280001	30.190001	0.045730
LOAD FACTOR	2	0.997000	1.028000	1.012000	0.008910
ALTITUDE (M)	3	304.799988	307.100006	306.200012	1.189000
AIR DENSITY (KG/M3)	4	1.206000	1.207000	1.207000	0.000417
SOUND SPEED (M/S)	5	336.799988	336.899994	336.799988	0.052980
ADVANCE RATIO	6	0.141900	0.142700	0.142200	0.000236
CT/SIGMA	7	0.065200	0.067290	0.066150	0.000590
CZM	8	0.391200	0.403700	0.396900	0.003540
REDUCED MASS (KG)	9	2028.000000	2030.000000	2029.000000	0.701700
I. A. S. (M/S)	10	29.900000	30.040001	29.959999	0.041990
STAT FLT PRES (MB)	11	977.799988	978.099976	978.000000	0.136200
STAT FLT TEMP (DEG C)	12	9.128000	9.317000	9.184000	0.088770
HELICOPTER MASS (KG)	13	1999.000000	1999.000000	1999.000000	0.000000
COLL PITCH (DEG)	14	6.038500	6.043500	6.043500	0.001210
LAT CYC PITCH (DEG)	15	-1.496000	-1.390000	-1.451000	0.047760
LON CYC PITCH (DEG)	16	-1.482000	-1.303000	-1.400000	0.069050
TR PITCH (DEG)	17	2.462000	2.569000	2.518000	0.034320
AIRCRAFT PITCH (DEG)	18	-2.212000	-2.036000	-2.140000	0.083690
AIRCRAFT ROLL (DEG)	19	0.834000	0.834000	0.834000	0.000000
PITCH RATE (DEG/S)	20	-1.323000	-0.004000	-0.495600	0.466000
ROLL RATE (DEG/S)	21	-3.141000	5.243000	0.159500	2.632000
YAW RATE (DEG/S)	22	-1.441000	0.494000	-0.387000	0.468700
MR ROT SPEED (RD/S)	23	40.419998	40.490002	40.439999	0.032550
ENGINE POWER (KW)	24	158.899994	163.199997	161.199997	1.092000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-46.43		-136.71		65.00		-115.86		-63.43		-88.86	
1	13.86	3.77	12.47	2.83	6.51	2.72	7.37	8.04	4.60	10.80	1.59	13.97
2	9.92	10.83	11.02	10.61	7.90	5.67	5.94	5.82	7.19	5.87	10.58	4.14
3	32.36	-38.88	40.43	-37.65	20.09	-21.14	10.82	-10.47	13.63	-10.06	13.88	-10.13
4	11.27	22.75	15.68	32.54	5.73	11.62	2.62	7.02	3.87	9.81	3.29	6.71
5	37.52	-65.40	45.55	-39.93	27.30	-24.93	6.26	-13.72	9.33	-8.22	5.73	-5.90
6	-26.70	0.00	-29.09	0.00	-12.57	0.00	5.42	1.50	5.03	2.92	1.94	0.13
7	18.31	0.00	-11.72	20.30	-1.69	-2.93	-2.36	0.76	-3.62	-0.84	0.29	-0.21
8	-4.19	0.00	2.23	3.87	0.80	-1.39	-0.07	-0.11	0.76	-0.25	-1.74	-1.28
9	1.75	0.00	2.19	0.00	-0.52	0.00	-0.68	-0.64	-0.33	-0.78	0.83	0.69
10	-3.94	0.00	1.89	-3.28	1.07	1.86	-0.52	1.95	-1.17	1.23	-2.99	9.69

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 80%R, blade 1		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-11.86		46.0		5.80		-14.30		-309.43		1045.70	
1	3.79	19.21	-1.12	17.50	-2.50	10.50	2.21	18.86	68.45	-240.70	12.91	-72.56
2	18.09	3.72	32.51	7.83	37.13	8.65	32.11	9.67	-27.83	37.75	-52.12	4.98
3	20.31	-14.34	16.63	-18.74	18.07	-12.17	7.94	-11.87	11.07	-1.77	36.51	1.28
4	4.23	-2.50	-1.70	-10.53	-12.28	-16.26	-18.13	-19.48	-12.17	12.12	-8.58	-13.60
5	-6.23	2.07	-15.91	13.05	-11.55	22.56	-17.49	23.38	7.61	10.47	-34.25	-32.15
6	-4.72	-4.09	-6.42	0.37	1.22	3.48	4.43	10.94	8.73	3.36	-13.11	0.84
7	2.98	1.79	-1.22	0.86	-11.71	1.77	-3.64	-7.62	3.95	0.00	-17.30	-4.96
8	-1.59	0.44	4.85	2.59	-0.85	-0.44	-2.63	-3.51	-5.54	0.00	-0.63	0.28
9	-0.94	-0.35	1.29	-0.42	-0.16	1.56	-1.62	2.42	5.49	0.00	-5.78	12.78
10	3.72	-4.66	-1.15	-4.68	-0.39	8.09	-5.30	18.31	-1.31	0.00	1.70	-10.74

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-156.71		-1907.10		742.43		1107.10		1154.30		1045.70	
1	69.32	-239.08	58.95	-171.70	36.82	-146.70	20.89	-88.80	20.00	-96.85	12.91	-72.56
2	-28.95	33.59	-38.64	18.22	-43.80	13.30	-37.87	6.03	-53.68	5.58	-52.12	4.98
3	8.53	-5.17	29.50	-8.25	34.67	0.67	28.74	0.31	39.79	1.45	36.51	1.28
4	-15.83	14.22	-10.79	2.55	-4.07	-8.17	-10.28	-12.06	0.93	-11.46	-8.58	-13.60
5	7.65	9.01	-1.52	-9.34	-22.13	-8.77	-22.89	-16.11	-35.60	-24.47	-34.25	-32.15
6	6.62	-1.07	7.11	1.06	0.15	-2.18	-4.50	1.70	-6.80	-6.28	-13.11	0.84
7	-3.84	6.66	-2.17	-3.75	-6.67	-0.65	-7.88	-5.13	-14.24	2.26	-17.30	-4.96
8	2.19	3.79	1.90	-3.29	-1.36	-2.78	-0.07	-1.16	-1.97	-2.62	-0.63	0.28
9	5.77	0.00	3.89	0.00	-0.47	-1.34	-1.72	3.62	-2.61	10.32	-5.78	12.78
10	0.83	-1.43	1.15	2.00	-0.82	2.19	-0.12	-2.67	-3.27	-6.66	1.70	-10.74

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	692.57		1560.00		853.00		415.57		-19.69		-25.34	
1	11.43	-49.00	9.51	-29.59	9.46	-19.07	7.10	-11.34	12.39	8.59	12.04	7.20
2	-46.42	2.35	-35.76	3.27	-26.30	-1.24	-13.10	-0.42	-4.27	-2.62	-4.12	-2.79
3	30.52	1.88	25.82	0.57	12.51	1.74	6.76	0.03	6.55	6.34	4.02	3.94
4	4.16	-6.82	-0.94	-8.74	7.52	-0.95	2.18	-2.04	3.18	0.16	2.54	-1.46
5	-30.83	-23.31	-25.81	-21.61	-16.89	-13.81	-9.56	-8.56	3.69	-2.97	4.50	-2.38
6	-6.36	-6.16	-11.64	0.88	-7.21	-3.46	-6.39	-0.47	0.83	-1.83	1.62	-2.22
7	-12.84	2.80	-12.25	-1.93	-5.28	2.39	-4.63	0.76	1.14	0.00	0.41	-0.72
8	-3.06	0.15	0.08	0.36	-0.38	0.86	0.94	1.30	-1.65	0.00	1.34	2.33
9	-2.22	14.20	-4.18	11.16	-1.86	8.06	-0.82	3.32	-0.44	0.00	-0.42	0.00
10	-2.80	-11.86	2.28	-12.87	-2.94	-9.35	-0.26	-5.20	-1.62	0.00	0.59	-1.03

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-385.14		116.29		111.29		-43.51		28.46		51.33	
1	12.46	9.91	10.89	7.52	12.83	7.46	15.18	8.54	11.29	10.23	8.81	3.09
2	-4.11	-2.18	-3.45	-1.81	-2.95	-1.43	-1.97	-1.31	2.27	-1.39	1.98	-3.53
3	3.43	0.59	8.41	2.78	8.14	-0.53	8.12	-2.14	9.58	-1.87	12.64	-0.73
4	3.98	-0.82	3.22	1.65	3.76	1.43	4.23	-0.01	0.42	-2.42	2.99	0.67
5	4.06	-4.93	4.18	-4.79	6.95	-4.99	3.92	-6.07	-0.61	-1.12	-1.91	-2.62
6	1.86	-0.93	1.74	-0.94	3.36	-0.38	1.67	0.41	2.18	2.22	0.21	-1.15
7	0.26	0.45	0.86	0.48	-1.84	-1.05	-1.06	-1.19	-0.61	-1.87	-1.65	1.70
8	0.84	-1.45	0.22	0.22	-1.50	-0.66	0.83	-0.72	0.27	-1.48	1.97	0.36
9	-0.57	0.00	-0.03	-0.22	-0.29	0.59	-1.02	0.12	0.78	-0.47	0.43	-0.56
10	0.69	1.19	1.21	0.12	0.87	0.95	2.44	0.38	0.02	5.36	0.11	2.91

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	42.83		1.6714		1.5157		-0.4211		-0.3663		-3175.70	
1	8.76	6.01	-2.6021	-0.5407	-2.4486	-0.4888	0.0271	-0.0137	0.0268	-0.0152	995.74	-1252.27
2	3.00	-2.42	0.0330	0.0820	0.0106	0.0665	-0.0034	0.0031	-0.0040	0.0032	-103.87	198.61
3	12.16	-1.88	0.1472	-0.0496	0.1486	-0.0484	-0.0002	0.0012	-0.0005	0.0017	87.93	65.51
4	1.90	-1.08	-0.0095	0.0396	-0.0079	0.0354	-0.0001	-0.0005	-0.0011	-0.0014	-65.02	6.48
5	-2.93	-1.55	0.0817	-0.0103	0.0705	0.0112	-0.0002	0.0009	-0.0004	0.0008	29.58	82.30
6	-0.82	0.39	0.0058	0.0292	0.0041	0.0228	0.0007	0.0000	0.0012	0.0003	1.74	23.25
7	-2.44	-0.60	-0.0154	0.0000	0.0047	-0.0070	-0.0007	0.0000	0.0004	0.0006	-16.62	3.92
8	-0.66	-0.61	0.0121	0.0000	-0.0023	0.0009	0.0006	0.0000	-0.0007	0.0012	11.13	-15.81
9	-2.06	0.64	-0.0070	0.0000	-0.0001	0.0033	0.0000	0.0000	-0.0004	0.0000	10.23	-31.06
10	-0.95	3.58	0.0071	0.0000	0.0037	0.0060	0.0000	0.0000	-0.0001	-0.0001	11.13	-15.88

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MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK, LD,N blade 2		PTCH LNK, LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-272.29		-381.00		-171.14		-125.43		-499.29	
1	32.23	22.07	36.97	20.78	33.42	24.04	-19.95	31.68	27.14	16.95
2	-27.68	-16.94	-33.28	-15.03	-25.55	-20.35	-9.92	18.72	-14.18	3.77
3	20.40	50.80	-4.38	21.96	4.87	34.51	21.49	-54.02	-32.26	-110.84
4	11.44	-3.77	10.71	-17.42	3.55	-17.09	18.09	5.24	-11.14	-4.87
5	3.23	12.03	-2.65	0.84	3.12	5.83	-10.14	-1.39	-8.00	2.01
6	-11.07	-10.11	-6.06	-17.08	-11.70	-13.89	10.58	33.96	-67.25	18.21
7	39.98	-14.50	10.78	11.50	46.13	14.92	-1.24	46.91	-24.59	48.71
8	-30.28	-1.43	-18.00	10.38	-12.32	-2.07	-3.03	1.54	-10.49	-4.96
9	-2.97	-14.89	4.10	0.93	14.93	-21.57	19.82	41.46	-78.13	20.72
10	-27.37	-7.10	-29.23	-12.82	-14.18	-18.65	-28.96	-10.22	9.76	9.82

n	FZSHAFT, N		CZSHAFT, Nm		F1SHAFT, N		F2SHAFT, N		F3SHAFT, N	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0			-3754.30		-148.57		-81.71		582.14	
1	898.75	260.24	-4.24	36.52	-13.22	-1431.54	1386.44	31.54	-73.07	-1693.83
2	453.78	-462.95	-18.21	3.60	-45.16	-6.83	-4.37	50.30	-69.92	-63.60
3	-1305.69	1081.31	167.55	-38.92	2.67	8.97	10.90	2.23	1.45	6.23
4	646.81	59.76	3.65	32.27	40.75	-8.80	-1.42	36.71	46.10	6.96
5	189.18	453.54	-24.19	-7.77	-45.50	-44.31	-33.39	59.47	-18.73	-41.86
6	212.84	366.73	25.97	0.00	6.76	4.13	5.47	0.80	6.69	4.15
7	680.00	0.00	23.00	0.00	20.88	0.00	20.37	10.18	19.50	7.06
8	307.97	0.00	5.94	0.00	13.53	0.00	11.92	1.73	0.35	16.58
9	42.69	0.00	6.53	0.00	7.37	0.00	-5.51	-1.80	1.18	-1.95
10	46.18	0.00	4.85	0.00	15.10	0.00	-1.45	-14.57	4.48	-7.97

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT		VERT ACCEL, g FRONT LEFT SEAT		VERT ACCEL, g FRONT RIGHT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-6965.7		-2535.7		6077.10		8564.30		-0.3706		0.2184	
1	-139.4	-57.6	-156.7	-52.7	-25.44	90.28	58.59	9.16	-0.0149	-0.0325	-0.0149	-0.0325
2	-4.6	-10.7	-34.6	-23.2	-77.83	-28.51	17.37	9.56	-0.0036	-0.0003	0.0216	0.0018
3	281.9	-402.8	152.0	-216.8	-482.40	731.04	-753.93	373.93	0.0774	0.0374	0.0957	-0.0600
4	-33.6	18.5	-28.5	9.2	34.10	-5.12	52.94	8.73	-0.0020	0.0120	-0.0049	-0.0085
5	45.8	-97.5	18.0	-77.5	-35.79	95.73	1.69	79.80	0.0062	-0.0515	0.0192	-0.0077
6	-27.3	-156.7	-42.8	-170.8	-52.23	122.50	-20.31	174.02	0.1096	0.0424	0.0064	-0.0054
7	-51.7	37.1	-43.4	23.2	63.15	-1.52	28.20	-1.97	0.0116	0.0000	0.0051	-0.0249
8	11.1	-0.5	16.0	-4.4	6.52	-11.81	2.00	8.14	0.0053	0.0000	-0.0017	-0.0005
9	-7.0	13.5	-12.8	11.6	-14.69	-24.66	-18.01	35.24	0.0179	0.0000	-0.0108	0.0016
10	11.7	5.7	11.9	2.2	-13.66	-2.35	-9.48	3.78	0.0050	0.0000	0.0037	-0.0005

FLIGHT NUMBER V3103

FLIGHT PARAMETERS	NØ	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	56.080002	56.869999	56.360001	0.252500
LOAD FACTOR	2	0.980000	1.073000	1.023000	0.026210
ALTITUDE (M)	3	276.700012	276.700012	276.700012	0.000000
AIR DENSITY (KG/M3)	4	1.207000	1.207000	1.207000	0.000209
SOUND SPEED (M/S)	5	337.299988	337.299988	337.299988	0.029140
ADVANCE RATIO	6	0.263300	0.267500	0.264700	0.001430
CT/SIGMA	7	0.063630	0.069270	0.066220	0.001590
CZM	8	0.381800	0.415600	0.397300	0.009520
REDUCED MASS (KG)	9	2020.000000	2021.000000	2020.000000	0.348700
I.A.S. (M/S)	10	55.660000	56.470001	55.950001	0.254500
STAT FLT PRES (MB)	11	981.299988	981.299988	981.299988	0.000000
STAT FLT TEMP (DEG C)	12	9.976000	10.070000	10.030000	0.048880
HELICOPTER MASS (KG)	13	1991.000000	1991.000000	1991.000000	0.000000
COLL PITCH (DEG)	14	8.258500	8.269500	8.266200	0.003180
LAT CYC PITCH (DEG)	15	-1.378000	-1.276000	-1.337000	0.034590
LON CYC PITCH (DEG)	16	2.018000	2.156000	2.083000	0.044790
TR PITCH (DEG)	17	0.572400	0.636300	0.613700	0.015870
AIRCRAFT PITCH (DEG)	18	-4.414000	-4.150000	-4.228000	0.097810
AIRCRAFT ROLL (DEG)	19	-0.485000	0.834000	-0.019410	0.485300
PITCH RATE (DEG/S)	20	-4.503000	0.758000	0.275500	0.336200
ROLL RATE (DEG/S)	21	-4.900000	2.282000	-1.591000	2.012000
YAW RATE (DEG/S)	22	-0.678000	2.341000	1.150000	0.928700
MR ROT SPEED (RD/S)	23	40.490002	40.619999	40.560001	0.045140
ENGINE POWER (KW)	24	250.000000	259.000000	254.699997	2.591000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-56.14		-166.40		56.71		-126.29		-73.00		-98.29	
1	-6.95	28.10	-6.24	27.78	-9.51	15.61	-5.83	16.62	-7.05	18.06	-14.64	26.78
2	3.65	-7.66	4.25	-10.00	5.17	-8.39	3.16	-5.86	4.66	-5.06	5.83	-7.70
3	-15.96	-71.58	-7.35	-74.26	-7.84	-39.41	-5.15	-18.94	-2.18	-19.20	-3.45	-20.90
4	-3.86	-9.42	-1.57	0.18	-2.41	-3.96	-2.44	-0.08	-0.22	1.72	-1.13	2.46
5	-3.33	-24.80	5.00	-35.21	4.07	-15.89	-2.48	-4.09	-0.63	-6.59	-1.13	-1.52
6	-9.51	0.00	-12.25	0.00	-6.31	0.00	1.70	0.68	1.94	0.35	0.05	-0.75
7	19.58	0.00	-10.77	18.66	-4.67	-8.09	-2.78	1.62	-3.40	1.30	1.82	1.60
8	-2.52	0.00	0.71	1.23	0.66	-1.15	0.03	0.12	0.24	0.00	-1.23	-0.60
9	2.47	0.00	2.11	0.00	1.19	0.00	0.61	-0.52	0.35	-0.19	1.01	-2.48
10	-1.48	0.00	-0.48	0.83	-0.22	-0.38	0.94	-0.24	0.45	-0.29	1.57	0.59

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 80%R, blade 1		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-13.86		50.30		2.57		-23.67		-488.00		1012.90	
1	-27.65	34.77	-23.89	39.02	-10.78	31.64	-6.45	47.53	-70.32	-295.21	92.78	-98.38
2	20.08	-1.99	24.44	-4.31	18.44	-6.82	6.29	-7.20	-27.18	41.74	-45.14	2.56
3	-3.09	-28.65	5.51	-21.31	6.25	-19.94	3.46	-14.59	18.10	-13.27	36.62	-28.16
4	6.13	-1.19	2.66	-6.24	0.79	-1.95	-3.16	-4.05	13.77	6.83	-21.54	7.28
5	-1.84	4.42	4.43	1.39	6.87	-0.88	1.82	0.83	2.66	5.22	-0.54	8.71
6	-0.41	-3.73	-2.62	0.50	-1.75	0.77	0.77	-0.57	2.73	3.59	5.80	4.78
7	9.13	0.74	-7.65	-2.54	-18.38	7.21	-21.04	-0.50	4.23	0.00	-21.64	2.92
8	0.92	-1.37	1.78	1.20	-5.35	2.31	-8.33	3.45	-5.31	0.00	-1.89	3.41
9	-0.07	-0.34	-0.10	2.91	-0.32	-0.97	-1.15	-3.47	1.83	0.00	-1.03	4.30
10	0.40	0.25	-1.58	-0.68	3.03	-1.00	3.65	0.63	-1.65	0.00	-2.84	-0.68

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-337.29		-2032.90		673.86		1048.60		1114.30		1012.90	
1	80.48	-288.84	105.39	-222.99	84.57	-186.09	69.58	-126.10	99.05	-124.83	92.78	-98.38
2	-31.93	33.48	-49.59	36.29	-41.90	26.97	-32.42	13.01	-50.28	10.81	-45.14	2.56
3	8.99	-13.36	26.75	-30.86	38.57	-27.92	34.90	-20.27	39.76	-32.46	36.62	-28.16
4	15.92	3.81	-2.48	17.83	-11.57	0.30	-9.12	6.92	-25.35	-3.91	-21.54	7.28
5	3.30	5.98	2.17	8.18	4.05	10.13	-1.04	9.86	5.37	10.30	-0.54	8.71
6	7.07	5.47	6.76	5.92	7.16	7.11	5.64	4.17	7.95	5.92	5.80	4.78
7	-2.52	4.36	-1.95	-3.38	-6.67	3.49	-10.79	1.09	-13.75	8.45	-21.64	2.92
8	2.38	4.13	2.25	-3.90	0.67	-0.02	0.82	0.54	0.24	2.69	-1.89	3.41
9	2.47	0.00	2.05	0.00	-1.11	-0.61	-0.95	1.26	-0.12	2.26	-1.03	4.30
10	0.88	-1.52	0.66	1.15	-1.09	1.07	-2.51	-0.02	-3.54	0.32	-2.84	-0.68

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	663.29	-60.61	1560.00	-39.05	861.43	-24.20	432.14	-17.50	-29.36	37.30	-37.30	
1	79.84	2.77	54.46	0.16	35.75	1.51	20.02	0.07	34.96	33.93	33.93	
2	-41.11	-30.89	-25.45	-28.17	-15.71	4.53	-6.79	-9.20	-18.50	7.65	7.63	
3	21.15	-0.52	13.74	5.84	13.74	-0.71	2.76	1.28	0.51	-4.60	-2.55	
4	-26.13	7.73	-16.08	7.13	-12.19	5.04	-5.05	2.51	-11.08	6.76	5.37	
5	3.26	3.02	-1.23	1.20	1.22	0.68	-0.37	0.31	-0.25	2.24	1.63	
6	7.27	6.52	5.40	1.55	3.98	1.23	1.60	-0.08	0.57	0.33	0.16	
7	-14.52	5.76	-15.97	3.35	-5.11	3.36	-5.30	1.83	1.83	0.00	1.07	
8	-2.85	4.30	-4.00	5.83	-1.48	3.87	-1.79	1.83	0.91	0.00	0.58	
9	-0.55	0.38	-1.05	-0.52	-0.37	0.39	-0.01	2.52	-0.26	0.00	0.00	
10	-4.41		-2.07		-2.79		-0.38	0.15	0.61	0.00	0.60	

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-393.00	7.24	108.57	4.47	103.00	5.86	-49.29	10.66	25.93	19.64	50.66	6.28
1	31.24	5.57	32.01	6.98	31.67	6.44	31.53	3.01	24.94	-1.06	23.49	-1.83
2	-18.21	-3.10	-16.43	-10.34	-17.34	-11.09	-13.61	-9.32	-8.42	-8.61	-1.85	-8.03
3	-0.80	5.83	0.26	4.95	-3.58	4.77	0.52	1.80	1.03	0.97	0.99	0.14
4	-8.73	-0.59	-9.15	1.07	-7.23	-0.63	-5.26	0.24	-2.14	0.97	0.19	-0.82
5	-0.25	0.65	-0.58	0.06	-0.23	-0.31	-0.93	0.94	-0.02	-0.82	-0.19	0.43
6	-0.18	0.85	0.14	0.50	0.27	0.77	-0.14	-0.66	0.35	-1.11	-0.62	-1.21
7	0.49	0.63	0.27	0.09	-1.75	0.05	-3.52	-0.56	-5.80	-0.52	-3.93	0.68
8	-0.36	0.00	-0.01	-0.01	-0.74	0.05	0.45	-0.56	-2.49	0.95	-1.13	1.32
9	-0.43	0.00	-0.12	-0.01	0.47	-0.13	-1.16	1.04	-1.56	-0.56	-0.87	0.52
10	-0.20	-0.35	-0.05	-0.49	0.33	0.53	0.88	-0.29	-0.53	0.12	0.69	-0.78

n	TORSTION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	38.64	12.24	1.8014	0.1317	1.6729	0.1444	-0.6289	-0.0249	-0.5696	-0.0295	-4718.60	-1681.15
1	23.33	-1.17	-1.7886	-0.0537	-1.6706	-0.0691	0.0400	0.0032	0.0396	-0.0028	1083.02	147.98
2	-3.36	-7.94	-0.0209	-0.2374	-0.0403	-0.2232	-0.0032	0.0028	-0.0028	0.0033	-127.55	-1.48
3	-0.02	-0.07	0.0726	-0.0187	0.0963	-0.0077	0.0021	0.0007	0.0028	0.0013	197.46	18.42
4	-0.12	0.31	0.0068	0.0175	0.0023	-0.0077	0.0013	0.0007	0.0016	0.0005	69.63	37.23
5	-0.34	-1.56	0.0186	-0.0048	0.0259	-0.0077	-0.0007	0.0005	-0.0006	0.0004	13.29	0.21
6	-0.70	0.14	0.0001	0.0000	-0.0021	0.0097	0.0004	0.0000	-0.0010	0.0003	-20.44	0.19
7	-4.98	1.39	-0.0160	0.0000	0.0012	-0.0138	-0.0007	0.0000	0.0006	0.0010	23.25	-16.92
8	-1.26	0.46	0.0124	0.0000	-0.0022	-0.0001	0.0009	0.0000	-0.0009	0.0015	12.20	15.86
9	-1.00	-1.28	-0.0053	0.0000	-0.0035	-0.0026	-0.0004	0.0000	-0.0006	0.0000	1.72	-5.87
10	-0.35		0.0046	0.0000	0.0008	0.0012	0.0003	0.0000	-0.0002	-0.0004	-0.69	-7.03

ORIGINAL PAGE IS
OF POOR QUALITY

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD, N		PTCH LNK, LD, N		PTCH LNK, LD, N		SERVO, N		SERVO, N		
	An	Bn	blade 1	blade 2	blade 3	LEFT	RIGHT	An	Bn	An	Bn
0	-400.57										
1	192.37	36.11	-524.57	198.41	184.48	40.44	43.42	-299.86	-87.37	-855.86	1.86
2	-106.90	42.52	-113.59	37.55	-112.92	44.33	44.33	184.48	-20.84	34.66	36.40
3	7.49	4.30	5.03	22.59	-25.48	12.88	12.88	-112.92	12.90	2.34	39.25
4	-61.67	51.38	-55.77	49.81	-55.65	43.88	43.88	-25.48	199.25	-131.25	-11.29
5	-9.32	26.32	-12.08	21.47	-10.60	25.11	25.11	-55.65	-1.16	-13.68	-0.76
6	-3.81	5.62	-5.92	0.86	-5.65	5.93	5.93	-10.60	-0.75	0.21	67.71
7	52.98	-6.67	50.04	16.65	55.80	1.62	1.62	5.65	50.74	-41.44	0.51
8	11.71	-7.94	8.31	-7.17	8.24	-0.98	-0.98	1.62	1.24	11.16	5.79
9	13.09	-21.26	20.47	-14.95	3.17	-15.31	-15.31	8.24	12.62	5.88	15.77
10	8.06	-5.65	12.25	-1.86	18.81	-5.71	-5.71	3.17	-41.08	4.71	-8.15
n	FZSHAFT, N		CZSHAFT, Nm		F1SHAFT, N		F2SHAFT, N		F3SHAFT, N		
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	
0											
1	847.16	617.46	-5852.90	3.17	44.74	44.74	-72.36	-72.36	579.57	579.57	
2	584.25	-386.86	-18.64	6.47	-255.80	-996.28	973.73	973.73	-341.44	-1251.35	
3	800.98	2292.50	51.35	-175.64	9.83	9.86	-6.58	-6.58	2.06	2.06	
4	603.38	68.42	28.37	32.06	-0.78	-9.88	-1.68	-1.68	0.19	23.20	
5	138.70	298.30	-13.61	-0.81	-31.61	-6.64	4.88	4.88	21.65	-16.38	
6	-155.71	230.15	34.73	0.00	0.42	-5.78	5.34	5.34	-10.00	-17.81	
7	590.18	0.00	15.93	0.00	31.24	0.00	-0.34	-0.34	10.38	4.28	
8	328.85	0.00	7.06	0.00	11.55	0.00	30.11	30.11	22.56	-9.50	
9	158.51	0.00	5.43	0.00	4.57	0.00	-1.09	-1.09	-4.71	3.57	
10	47.44	0.00	5.62	0.00	6.65	0.00	-1.69	-1.69	0.06	1.94	
n	GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N		VERT ACCEL, g		
	An	Bn	REAR LEFT	REAR RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT	FRONT RIGHT SEAT	FRONT LEFT SEAT	
0											
1	-8801.4		-1944.3		5945.70		8627.10		-0.4423	-0.1160	
2	-133.8	-51.9	-142.5	-76.4	8.56	62.99	71.16	49.03	-0.0205	-0.0175	
3	-73.5	14.4	-129.7	-91.5	-158.03	-140.06	-15.35	146.82	0.0322	0.0085	
4	-104.6	-753.5	-124.7	-571.7	187.73	829.77	126.59	1128.72	0.0157	0.0572	
5	-24.3	38.0	-46.3	28.9	13.22	-12.09	49.05	-24.97	-0.0035	-0.0104	
6	-35.3	-8.8	-24.5	-6.9	33.33	-12.37	5.64	-5.23	-0.0098	-0.0044	
7	-44.7	-68.8	-67.5	-108.0	-51.48	-12.53	-0.09	130.51	-0.0618	-0.0156	
8	-6.1	32.9	-0.3	26.0	24.85	-31.18	-8.41	-9.45	-0.0139	-0.0057	
9	11.4	-5.3	11.3	-2.0	12.77	-2.16	19.70	4.23	0.0110	0.0039	
10	-27.0	-0.9	-20.3	6.6	37.44	-14.39	7.89	-41.30	0.0169	-0.0090	
	2.6	-5.9	1.9	-7.5	-1.09	4.15	-2.22	6.63	0.0111	-0.0016	

FLIGHT NUMBER V3105

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	74.190002	74.489998	74.379997	0.101600
LOAD FACTOR	2	0.922000	1.031000	0.964400	0.027620
ALTITUDE (M)	3	316.500000	318.899994	317.200012	1.101000
AIR DENSITY (KG/M3)	4	1.196000	1.197000	1.197000	0.000275
SOUND SPEED (M/S)	5	338.000000	338.000000	338.000000	0.028760
ADVANCE RATIO	6	0.349200	0.350800	0.349800	0.000469
CT/SIGMA	7	0.059810	0.067280	0.062770	0.001860
CZM	8	0.358800	0.403700	0.376600	0.011160
REDUCED MASS (KG)	9	2025.000000	2027.000000	2026.000000	0.466100
I.A.S. (M/S)	10	73.320000	73.639999	73.519997	0.103500
STAT FLT PRES (MB)	11	976.500000	976.799988	976.700012	0.126000
STAT FLT TEMP (DEG C)	12	11.110000	11.200000	11.150000	0.048360
HELICOPTER MASS (KG)	13	1979.000000	1979.000000	1979.000000	0.000000
COLL PITCH (DEG)	14	11.963000	11.974000	11.968000	0.002970
LAT CYC PITCH (DEG)	15	-2.257000	-2.172000	-2.190000	0.019890
LON CYC PITCH (DEG)	16	5.834000	6.153000	5.958000	0.110700
TR PITCH (DEG)	17	9.618000	9.853000	9.745000	0.063110
AIRCRAFT PITCH (DEG)	18	-6.881000	-6.441000	-6.783000	0.127800
AIRCRAFT ROLL (DEG)	19	-0.660000	-0.309000	-0.469200	0.108400
PITCH RATE (DEG/S)	20	-1.265000	1.755000	0.288900	0.889300
ROLL RATE (DEG/S)	21	-6.834000	7.647000	-0.069650	4.826000
YAW RATE (DEG/S)	22	-1.529000	2.487000	0.418100	1.521000
MR ROT SPEED (RD/S)	23	40.419998	40.570000	40.500000	0.057960
ENGINE POWER (KW)	24	454.299988	461.200012	457.500000	1.848000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-113.00	-233.60	-58.58	119.65	29.00	44.70	-143.00	18.79	-91.00	19.93	-108.57	25.33
1	-61.48	118.11	-58.58	119.65	-35.34	44.70	-15.26	18.79	-17.41	19.93	-27.13	25.33
2	-10.49	-42.01	-11.54	-43.98	2.60	-29.14	2.13	-16.29	4.15	-16.00	7.94	-21.63
3	17.20	-109.36	15.86	-106.00	5.99	-64.19	-0.33	-35.55	1.03	-34.24	-4.25	-35.68
4	7.61	-12.78	12.67	-10.32	3.36	-8.33	-0.02	-1.58	2.68	-1.63	1.96	-0.74
5	29.06	-9.09	25.62	-18.19	17.12	-9.02	3.45	-1.18	1.43	-2.79	-0.65	-0.62
6	-11.37	0.00	-8.87	0.00	-5.54	0.00	1.58	-0.70	1.75	-1.02	1.01	0.23
7	15.00	0.00	-7.56	13.09	-2.39	-4.13	-0.31	1.08	-0.13	1.71	-0.69	0.55
8	-1.53	0.00	0.91	1.58	0.70	-1.21	0.92	0.56	1.25	-0.57	-0.66	0.70
9	1.35	0.00	1.42	0.00	-0.60	0.00	1.13	-0.46	0.94	-0.19	0.55	-1.84
10	-2.68	0.00	1.57	-2.73	0.59	1.01	1.15	0.54	1.78	0.16	4.94	1.51

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 80%R, blade 1		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-25.29	0.29	0.29	43.80	39.90	52.46	-9.94	45.05	-41.13	68.61	-944.29	-370.76
1	-37.47	41.57	-31.18	43.80	-24.82	52.46	-5.48	45.05	-3.85	68.61	118.75	-370.76
2	20.09	-23.29	28.68	-17.78	26.99	-15.97	18.49	-14.19	-5.23	-23.54	-44.83	95.85
3	-4.99	-41.11	-3.54	-39.58	1.02	-39.72	-0.08	-35.29	4.48	-31.35	25.55	5.35
4	1.40	-2.36	0.17	-1.09	0.64	0.67	-1.25	2.13	-2.68	-0.03	60.27	-2.43
5	-0.67	2.64	0.23	-1.35	-1.19	-3.20	0.44	-4.62	-1.77	-3.19	-8.08	-1.41
6	-2.50	-0.10	-1.14	1.09	-0.79	-0.16	1.49	-0.17	1.28	-0.82	-3.67	5.34
7	3.08	-2.01	-0.26	-1.90	-2.27	1.00	0.42	7.92	-4.10	3.46	10.92	0.00
8	-0.87	0.63	0.43	0.87	0.86	-0.52	1.27	0.43	2.44	1.25	-6.73	0.00
9	-1.40	0.27	-1.13	0.98	-0.08	-0.26	0.67	-1.46	1.67	-2.12	4.01	0.00
10	-2.26	-0.97	-4.20	-1.37	-2.00	-0.91	4.64	1.01	9.01	3.67	-2.06	0.00

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2			
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn		
0	-791.14	-2341.40	432.29	-234.42	912.57	-19.84	979.86	128.32	918.71	116.80	-157.62	
1	129.77	-372.04	120.01	-234.42	95.43	-169.98	128.32	-175.20	116.80	-157.62	116.80	-157.62
2	-47.36	92.69	-82.40	113.37	-49.21	81.68	-36.46	59.03	-55.76	65.81	-45.33	53.45
3	16.41	-7.47	31.24	-32.63	47.05	-35.92	45.36	-36.09	55.85	-60.42	52.83	-59.65
4	66.64	16.31	-4.46	36.33	-7.74	-12.91	-37.80	9.58	-42.44	-22.86	-67.53	5.40
5	-1.93	-1.37	-10.63	9.35	-15.08	11.79	-19.84	17.90	-17.15	17.67	-27.24	23.88
6	1.34	-3.05	2.50	3.48	8.16	-6.86	6.44	-3.00	13.61	-3.50	10.15	-0.32
7	-3.27	5.66	-4.14	-7.18	-10.44	6.70	-9.93	4.55	-12.89	18.66	-12.22	10.00
8	3.74	6.48	3.08	-5.34	0.08	4.64	-2.53	1.62	1.10	6.74	-0.19	1.24
9	3.62	0.00	3.00	0.00	1.34	1.43	1.16	1.83	-1.04	-0.47	-0.19	1.17
10	1.20	-2.08	0.75	1.29	-0.50	1.09	-2.49	0.32	-7.26	-1.69	-9.97	-3.23

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	593.43	1518.60	819.86	-42.70	421.00	-31.32	-36.87	-9.99	-47.33			
1	98.07	66.57	41.39	-18.23	24.34	-6.68	54.31	30.59	52.99		-8.06	
2	-45.67	-26.04	23.37	-48.85	-6.68	4.60	-36.02	0.55	-38.37		28.38	
3	33.84	-54.09	21.41	-47.13	9.82	-24.19	-13.59	18.02	-8.30		3.65	
4	-42.44	-18.50	-47.13	-17.51	-21.14	-9.82	-15.41	0.56	-14.54		14.62	
5	-13.73	16.53	-17.51	17.96	-6.68	8.74	-5.72	5.91	0.44		2.94	
6	13.39	-1.56	7.37	0.37	2.80	-0.73	-2.80	-0.22	-1.37		1.05	
7	-11.19	19.38	-7.26	6.87	-5.04	8.87	-2.36	2.49	0.30		-0.52	
8	1.39	-7.76	-0.26	0.87	-1.17	4.72	-0.54	0.62	1.02		1.76	
9	0.06	-0.39	0.22	0.69	-0.40	-0.20	1.09	0.26	1.57		0.00	
10	-9.98	-3.92	-9.46	-2.95	-6.90	-2.82	-3.48	-1.04	-1.16		-1.06	

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-394.43	100.57	92.63	3.72	-56.41	17.24	24.37	30.88	51.00			
1	45.94	48.93	46.11	-32.45	45.41	12.49	37.57	2.83	39.28		10.88	
2	-38.47	-29.72	-9.81	-11.98	-26.59	-16.59	-16.58	-13.28	-0.81		5.31	
3	-4.86	-2.19	-12.56	13.69	-5.41	-13.88	-0.08	8.85	-6.40		-7.28	
4	-15.03	15.89	1.80	0.40	-10.88	11.32	-10.78	2.19	-3.83		2.03	
5	1.08	2.65	0.40	3.86	2.57	2.42	2.57	1.30	0.56		0.95	
6	-0.99	1.10	-0.33	1.48	0.08	0.21	0.51	2.10	0.70		1.49	
7	0.33	0.57	-1.41	0.43	-1.30	1.40	-1.97	1.07	-0.50		1.54	
8	0.62	-1.08	0.92	0.27	-0.66	0.38	0.36	-0.76	-0.04		0.00	
9	1.10	0.00	0.36	-0.05	0.77	-0.12	-1.17	0.88	0.47		-0.77	
10	-0.44	-0.76	-0.27	0.37	0.61	-0.50	0.15	-0.27	2.46		0.47	

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	35.43	1.9214	1.8214	0.9033	-1.0414	-0.0281	-1.0014	-0.392	-8562.90	
1	38.76	-0.5955	-0.6059	-0.2744	0.0465	-0.0012	0.0505	-0.0024	1551.74	-2235.16
2	-5.25	-0.1078	-0.0926	-0.3322	-0.0073	0.0031	-0.0085	0.0044	-427.65	340.17
3	-3.77	-0.2163	0.2149	-0.0034	-0.0004	0.0037	0.0006	0.0035	158.34	82.21
4	-3.08	0.0316	0.0343	0.0351	0.0040	-0.0011	0.0050	0.0010	269.76	119.44
5	2.44	0.0285	0.0239	-0.0129	0.0006	0.0000	-0.0004	0.0019	33.43	-4.54
6	-0.63	0.0003	-0.0004	-0.0072	0.0029	0.0000	-0.0013	0.0011	-40.71	-21.63
7	-0.90	-0.0107	-0.0057	-0.0013	-0.0013	0.0000	-0.0006	0.0019	62.23	-70.41
8	-0.52	0.0194	-0.0151	0.0013	0.0013	0.0000	-0.0011	0.0019	5.81	30.17
9	-0.71	-0.0156	0.0158	0.0068	-0.0007	0.0000	-0.0014	0.0000	52.87	36.09
10	2.63	0.0067	0.0065	0.0037	0.0006	0.0000	-0.0004	-0.0006	-21.42	11.39

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-594.29		-700.00		-490.14		-457.00		-1244.30	
1	311.44	38.13	321.20	63.53	300.07	59.05	-19.14	21.25	39.56	-17.72
2	-199.76	169.83	-232.44	148.02	-218.03	168.81	-14.29	-17.07	26.31	20.94
3	-85.77	52.33	-28.18	53.66	-51.72	56.76	366.83	-458.04	-222.52	141.93
4	-85.69	122.61	-91.70	128.18	-84.39	100.29	-31.51	8.65	0.97	-3.29
5	-22.74	26.49	-24.92	34.08	-21.80	22.68	-19.74	0.61	-3.33	16.08
6	-1.28	-6.82	-4.02	-12.66	-2.29	-6.13	13.89	56.87	26.18	47.75
7	11.89	-23.63	20.58	-9.96	16.61	-25.61	12.24	10.43	4.50	5.65
8	2.21	-2.80	1.55	-0.55	11.27	-13.22	19.20	-25.39	15.15	15.56
9	2.36	-26.22	8.84	-13.04	-18.57	-8.52	20.58	66.68	5.76	44.30
10	-20.24	1.72	1.80	-5.16	-11.57	-5.96	-0.53	16.15	-8.62	-0.40

n	FZSHAFT, N		CZSHAFT, Nm		F1SHAFT, N		F2SHAFT, N		F3SHAFT, N	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0			-10343.00		-177.00		-48.14		575.14	
1	786.30	231.94	6.36	18.02	-517.24	-368.13	366.81	-549.09	-686.57	-529.11
2	407.89	-455.19	-21.02	8.88	179.89	-70.19	-84.10	-179.86	241.59	-26.12
3	114.57	4592.77	46.54	-430.46	-5.21	6.01	-9.10	18.45	12.86	-8.39
4	526.61	115.31	10.44	54.14	-27.90	-9.58	-1.02	-17.22	12.16	4.59
5	62.88	401.90	-29.62	4.52	-37.07	-23.34	-36.03	20.13	-11.24	-33.18
6	-210.81	243.96	55.83	0.00	9.06	-23.78	2.69	-24.49	3.53	18.13
7	549.96	0.00	16.37	0.00	18.15	0.00	13.64	-19.19	3.57	-11.32
8	309.42	0.00	12.28	0.00	18.97	0.00	12.18	23.05	-14.38	-12.49
9	126.28	0.00	10.10	0.00	25.05	0.00	-15.45	-12.87	11.33	-0.84
10	60.26	0.00	9.63	0.00	15.04	0.00	-20.47	-2.92	6.94	15.40

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT		VERT ACCEL, 9 FRONT LEFT SEAT		VERT ACCEL, 9 FRONT RIGHT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-11886.0		-334.0		4921.40		8580.00		-0.5053		0.3242	
1	-94.6	-94.1	-38.9	-96.9	55.79	118.49	-50.81	107.93	0.0019	-0.0187	-0.0042	-0.0337
2	-65.7	-9.5	-117.3	-20.2	-169.94	-59.81	-8.13	48.81	0.0036	-0.0484	0.0243	0.0207
3	398.5	-1275.9	60.8	-1146.2	-393.63	483.67	418.07	1983.52	-0.0978	-0.0812	0.1052	0.0542
4	-11.7	43.9	-20.6	13.0	-33.80	3.20	3.49	-65.40	0.0015	0.0251	0.0016	-0.0062
5	-23.5	9.7	-23.9	8.0	-33.24	11.81	-59.93	-31.49	0.0061	0.0210	-0.0018	-0.0107
6	41.2	-73.9	38.5	-129.3	11.06	-14.40	42.99	109.48	0.0702	0.0096	-0.0498	0.0283
7	10.3	22.0	2.2	7.4	-5.19	-33.19	-8.44	-6.67	0.0154	0.0000	-0.0143	0.0001
8	22.4	31.6	24.8	39.2	23.82	40.95	9.00	21.28	0.0190	0.0000	-0.0029	0.0001
9	-40.1	5.5	-47.5	19.3	-40.15	-20.55	-4.89	-71.86	0.0201	0.0000	-0.0133	0.0025
10	-10.9	-7.1	-10.6	-11.1	14.30	-3.63	-14.89	15.93	0.0117	0.0000	-0.0076	-0.0088

FLIGHT NUMBER V3106

FLIGHT PARAMETERS	N0	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	78.910004	79.050003	78.959999	0.054800
LOAD FACTOR	2	0.950000	1.048000	1.006000	0.027770
ALTITUDE (M)	3	340.000000	342.299988	342.200012	0.568600
AIR DENSITY (KG/M3)	4	1.192000	1.193000	1.192000	0.000199
SOUND SPEED (M/S)	5	338.100006	338.100006	338.100006	0.028760
ADVANCE RATIO	6	0.370300	0.372300	0.371300	0.000477
CT/SIGMA	7	0.061670	0.068280	0.065520	0.001880
CZM	8	0.370000	0.409700	0.393100	0.011290
REDUCED MASS (KG)	9	2026.000000	2027.000000	2027.000000	0.339200
I.A.S. (M/S)	10	77.860001	78.000000	77.900002	0.052520
STAT FLT PRES (MB)	11	973.799988	974.099976	973.799988	0.065070
STAT FLT TEMP (DEG C)	12	11.300000	11.390000	11.350000	0.048360
HELICOPTER MASS (KG)	13	1973.000000	1973.000000	1973.000000	0.000000
COLL PITCH (DEG)	14	13.122000	13.140000	13.132000	0.006320
LAT CYC PITCH (DEG)	15	-2.481000	-2.392000	-2.450000	0.024160
LON CYC PITCH (DEG)	16	7.436000	7.649000	7.563000	0.063210
TR PITCH (DEG)	17	12.880000	13.220000	13.040000	0.094990
AIRCRAFT PITCH (DEG)	18	-6.617000	-6.176000	-6.373000	0.144800
AIRCRAFT ROLL (DEG)	19	0.219000	0.570000	0.394400	0.138700
PITCH RATE (DEG/S)	20	-1.675000	0.846000	-0.393900	0.802800
ROLL RATE (DEG/S)	21	-12.990000	14.070000	-0.421400	9.272000
YAW RATE (DEG/S)	22	-2.408000	1.843000	-0.180000	1.179000
MR ROT SPEED (RD/S)	23	40.450001	40.590000	40.500000	0.051590
ENGINE POWER (KW)	24	539.799988	543.400024	541.900024	1.487000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-147.10	-267.90	-78.00	173.41	16.43	-43.12	63.09	-17.89	21.81	-96.00	-20.47	23.70
1	-81.28	176.38	-23.45	-54.76	-0.13	-36.25	2.86	-20.16	4.47	-19.60	9.35	-26.53
2	21.22	-124.70	17.92	-119.70	6.91	-74.73	-1.42	-42.12	-1.00	-40.21	-6.34	-40.36
3	18.13	-7.55	22.31	-9.07	9.26	-6.51	1.92	-1.37	4.59	-1.43	2.90	-1.19
4	34.69	-13.27	29.25	-25.19	19.20	-11.48	4.52	-0.51	0.76	-2.98	0.75	1.96
5	-15.38	0.00	-8.95	0.00	-8.51	0.00	2.32	-0.70	2.71	-1.30	0.15	0.15
6	11.01	0.00	-3.11	5.39	-2.92	-5.06	-1.88	0.10	-1.00	0.27	1.14	0.45
7	-1.29	0.00	0.89	1.55	0.61	-1.05	0.85	0.54	1.11	-0.66	-0.08	0.85
8	1.62	0.00	1.22	0.00	-0.65	0.00	0.54	0.37	0.50	0.87	0.36	-2.58
9	-2.48	0.00	1.35	-2.33	0.55	0.95	1.10	-0.12	1.87	0.21	4.87	-0.29
10												
n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 80%R, blade 1		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-26.86	-4.43	39.79	11.36	11.36	-21.55	92.69	-47.36	-0.22	77.82	-1080.00	-412.66
1	-40.75	44.88	-34.53	47.20	-25.76	56.95	-21.55	92.69	-0.22	77.82	139.55	-58.20
2	22.13	-28.64	33.85	-22.08	31.85	-19.48	-11.03	-50.00	-9.39	-28.67	-58.20	123.39
3	-8.46	-46.07	-8.20	-45.41	-4.31	-45.48	35.20	-58.22	2.37	-38.63	40.12	11.19
4	-0.08	-2.05	-2.08	-0.91	-3.27	0.26	-4.58	42.12	-5.41	-0.47	81.39	-12.25
5	-0.48	2.18	-1.61	-2.56	-2.86	-4.88	-37.45	-20.94	-3.37	-5.53	-11.44	-3.26
6	-2.60	0.12	-1.28	1.15	-0.71	0.19	24.49	-25.82	0.98	-1.30	-10.17	11.71
7	4.47	-0.49	-0.02	0.79	-3.29	-0.08	9.14	30.51	-6.72	-0.66	8.13	0.00
8	-0.44	1.02	0.49	0.85	-0.65	0.69	-22.87	-0.50	1.77	0.24	-6.81	0.00
9	-1.12	0.23	0.67	-0.73	-0.14	0.07	8.87	-20.19	0.92	-3.10	7.77	0.00
10	-2.00	-0.31	-4.19	-0.05	-1.95	-0.22	14.46	11.97	9.09	0.21	-3.13	0.00
n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-932.43	-2437.10	169.36	-346.14	365.29	837.29	108.07	-215.62	949.00	143.91	-205.06	899.43
1	143.13	-427.04	-95.84	147.53	-55.73	106.47	-42.58	80.45	-61.27	85.43	-51.35	124.73
2	53.34	121.18	35.78	-35.03	57.59	-51.19	54.43	-55.43	65.44	-83.49	57.76	-190.90
3	28.48	-12.39	-7.23	35.03	-12.17	-25.88	-66.43	4.37	-57.56	-36.89	-106.83	68.30
4	86.59	15.12	-13.18	17.89	-21.49	21.20	-28.76	36.38	-28.06	31.89	-39.16	-85.16
5	-2.93	-2.09	-5.04	6.60	7.44	-11.22	4.62	-12.10	-28.06	-6.66	8.31	-1.21
6	-2.72	1.72	-5.37	-9.31	-16.11	4.87	-21.82	0.48	-24.59	13.18	-33.23	46.55
7	-2.60	4.50	2.15	-3.72	-3.04	5.15	-1.88	3.00	-1.59	5.59	-1.01	-7.00
8	3.16	5.47	5.11	0.00	2.27	4.58	1.38	7.78	-0.51	9.00	1.32	4.86
9	6.59	0.00	1.02	1.76	-0.91	-0.94	-4.28	2.50	-8.48	0.00	-10.96	4.30
10	1.06	-1.84										13.24
												3.37

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	579.00	1510.00	808.71	413.86	47.58	52.70	25.61	38.02	64.17	39.40	62.48	50.21
1	111.50	-116.10	47.58	25.61	-22.01	14.75	-8.28	5.03	40.00	-40.00	-43.86	62.48
2	-52.19	47.57	-22.01	-8.28	12.22	-31.81	3.66	-21.03	-21.38	42.57	42.57	-15.49
3	41.33	-72.33	12.22	3.66	-27.85	-13.66	-23.54	0.08	12.38	23.82	-12.11	38.90
4	-57.19	-28.76	-27.85	-23.54	-9.13	15.01	-7.86	11.44	-12.38	23.82	-14.05	10.38
5	-21.84	-27.82	-9.13	-7.86	7.15	-0.42	3.85	-1.66	-1.07	5.93	1.66	18.58
6	13.72	-4.70	7.15	3.85	-9.83	6.87	-7.07	1.52	-1.96	1.11	-2.15	4.88
7	-21.14	13.57	-9.83	-7.07	-0.26	3.17	0.63	1.14	-0.94	0.00	-0.61	1.43
8	-0.31	5.66	-0.26	0.63	-7.89	0.08	-4.09	1.49	-1.67	0.00	0.71	1.05
9	0.56	10.87	0.63	-7.89	1.37	6.07	1.37	4.93	2.16	0.00	1.98	1.23
10	-10.90	0.21	-7.89	1.37	-4.09	1.49	-4.09	1.49	1.00	0.00	0.70	0.00
n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-395.14	97.50	89.54	-59.30	89.54	0.13	54.43	17.41	22.84	46.05	50.96	50.96
1	56.44	-3.07	54.43	17.41	-36.67	30.66	-29.67	17.65	-17.40	4.83	46.20	46.20
2	-44.96	29.47	-36.67	-29.67	-9.47	-12.48	-4.35	-16.42	-4.73	-12.99	3.40	3.40
3	-10.75	2.75	-9.47	-4.35	-9.77	15.25	-11.01	12.26	-6.54	4.72	-8.92	-8.92
4	-13.71	20.71	-9.77	-11.01	3.03	3.41	3.59	3.73	1.57	1.49	-4.73	3.10
5	2.69	4.19	3.03	3.59	0.81	-0.60	0.42	2.38	0.71	1.27	0.18	0.18
6	-1.26	1.74	0.81	0.42	-1.36	1.81	-3.00	0.40	-2.61	-0.47	-0.35	-0.35
7	-0.61	-1.05	-1.36	-3.00	0.43	0.64	-0.79	1.65	0.42	1.05	-1.56	-1.56
8	0.58	-1.01	0.43	-0.79	0.34	0.10	0.34	0.12	-0.13	0.84	-0.16	-0.16
9	1.47	0.00	0.34	0.34	0.24	-0.42	-0.88	0.25	3.50	0.20	-0.20	0.16
10	0.53	0.91	0.24	-0.88	0.24	-0.42	-0.88	0.25	3.50	0.20	2.83	0.80
n	TORSTION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	33.59	2.0600	1.9886	-1.2157	-1.2157	0.0534	-0.337	0.0576	-0.0506	-9731.40	1795.47	-2621.24
1	45.73	-0.1967	-0.3051	0.0534	0.0534	-0.123	-0.0023	-0.0138	-0.0034	-641.13	-641.13	451.43
2	-3.73	0.1634	0.1332	-0.1332	-0.3568	0.3568	-0.0018	0.0040	-0.0009	0.0061	150.93	131.21
3	-5.44	-0.2377	0.2337	0.2337	-0.4134	0.4134	0.0060	0.0049	0.0072	0.0048	444.75	137.23
4	-4.95	0.0430	0.0368	0.0368	0.0171	0.0171	0.0014	-0.0019	0.0001	0.0013	75.99	-69.75
5	2.91	0.0305	0.0262	0.0262	0.0439	0.0439	0.0046	0.0000	0.0004	-0.0031	21.26	-42.66
6	-0.14	-0.0193	0.0171	-0.0171	-0.0228	0.0228	-0.0049	0.0000	0.0010	0.0017	71.74	-63.83
7	-1.29	0.0094	0.0005	0.0005	-0.0108	0.0108	0.0011	0.0000	-0.0011	0.0020	-43.09	93.51
8	-0.50	0.0144	-0.0130	-0.0130	-0.0055	0.0055	-0.0010	0.0000	-0.0020	0.0000	38.17	56.44
9	0.65	-0.0259	0.0168	0.0168	0.0236	0.0236	-0.0010	0.0000	-0.0004	0.0000	-14.88	-13.65
10	2.33	0.0120	-0.0030	-0.0030	0.0037	0.0037	0.0003	0.0000	0.0004	-0.0006		

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK,LD,N blade 2		PTCH LNK,LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT		SERVO, N	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-655.71		-754.43		-547.43		-462.00		-1365.70			
1	375.27	18.16	377.65	52.33	358.92	45.34	-16.22	15.05	42.36			-27.39
2	-222.13	231.96	-269.34	195.44	-247.41	223.16	-23.75	2.81	17.93			16.79
3	-129.46	109.79	-68.46	95.90	-73.35	93.39	424.55	-650.32	-191.07			137.10
4	-65.15	156.60	-80.48	168.04	-78.32	125.19	-41.98	27.09	7.94			10.29
5	-15.25	37.79	-17.09	48.24	-19.71	31.09	-29.63	11.99	5.94			21.02
6	13.12	-12.85	8.51	-18.53	8.87	-11.06	51.77	100.19	17.90			43.96
7	28.46	-8.13	32.06	2.15	20.95	-13.64	-0.66	-8.60	2.83			0.04
8	1.36	-5.11	-6.16	-9.10	1.16	-18.79	18.86	-40.99	29.11			5.20
9	-10.01	-26.14	1.81	-1.58	-17.29	16.97	43.99	35.92	6.88			20.75
10	-22.45	-5.69	-14.90	-1.12	-5.51	10.56	8.05	-20.02	-18.58			-0.77

n	FZSHAFT, N		CZSHAFT, Nm		F1SHAFT, N		F2SHAFT, N		F3SHAFT, N	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0			-11957.00		-184.29		-47.03		594.71	
1	228.35	931.37	-25.14	11.36	-648.42	-178.61	174.13	-692.71	-842.38	-312.01
2	615.27	-406.03	-41.40	6.49	232.76	-123.44	-139.74	-222.33	338.04	-80.53
3	290.02	5593.59	-0.39	-564.79	2.59	10.02	1.64	33.27	-0.42	-28.74
4	574.71	76.16	-1.48	65.11	-30.57	-17.54	9.60	-26.52	4.41	12.57
5	10.49	367.36	-28.16	4.34	-45.27	-25.31	-40.60	26.56	-6.03	-37.99
6	-103.29	292.01	72.23	0.00	33.22	-41.59	32.84	-32.61	-11.97	19.10
7	541.47	0.00	19.24	0.00	18.27	0.00	20.47	-17.15	9.38	-5.91
8	301.31	0.00	12.29	0.00	24.72	0.00	13.18	19.20	-9.88	6.61
9	178.89	0.00	14.29	0.00	37.83	0.00	-10.99	-35.39	12.40	10.96
10	53.55	0.00	6.00	0.00	9.58	0.00	-9.85	-8.72	15.13	-1.54

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT		VERT ACCEL, g FRONT LEFT SEAT		VERT ACCEL, g FRONT RIGHT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-13214.0		146.6		4822.90		8721.40		-0.2951		0.7140	
1	-23.4	-133.2	26.2	-159.5	-36.79	139.82	-43.88	224.09	0.0089	-0.0292	0.0157	-0.0477
2	-76.0	-36.1	-73.9	-52.5	-119.41	-77.84	-28.66	-6.85	-0.0187	-0.0264	0.0284	0.0162
3	478.3	-1561.2	25.8	-1385.8	-645.09	399.19	669.69	2195.95	-0.1747	-0.0605	0.1608	0.0687
4	7.2	19.6	-3.1	-4.9	-28.38	25.28	-28.22	-61.07	0.0033	0.0087	-0.0005	0.0014
5	-28.4	3.5	-21.2	-4.4	-13.41	-10.66	43.36	-15.34	0.0104	0.0097	-0.0109	-0.0094
6	54.1	-103.2	44.5	-198.3	39.18	-27.72	98.38	123.40	0.0790	-0.0210	-0.0653	0.0362
7	7.7	7.1	3.1	10.5	-7.59	-3.78	2.52	-7.37	0.0184	0.0000	-0.0096	0.0027
8	18.4	62.1	9.5	61.8	23.49	38.11	13.69	40.05	0.0267	0.0000	-0.0039	-0.0006
9	-22.2	-47.2	-23.7	-44.7	-28.65	-56.29	-54.32	-60.16	0.0326	0.0000	-0.0154	-0.0215
10	-24.4	-14.9	-23.2	-5.2	17.53	-6.35	10.54	-2.08	0.0144	0.0000	0.0024	0.0001

FLIGHT NUMBER V3109

FLIGHT PARAMETERS	N0	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T. A. S. (M/S)	1	51.000000	51.759998	51.419998	0.207200
LOAD FACTOR	2	1.437000	1.516000	1.474000	0.019880
ALTITUDE (M)	3	525.200012	529.900024	527.500000	1.436000
AIR DENSITY (KG/M3)	4	1.178000	1.180000	1.178000	0.000517
SOUND SPEED (M/S)	5	336.200012	336.399994	336.399994	0.057250
ADVANCE RATIO	6	0.240000	0.243600	0.241800	0.001070
CT/SIGMA	7	0.093830	0.099170	0.096190	0.001330
CZM	8	0.563000	0.595000	0.577200	0.007970
REDUCED MASS (KG)	9	2030.000000	2033.000000	2032.000000	0.891800
I. A. S. (M/S)	10	50.049999	50.759998	50.430000	0.194300
STAT FLT PRES (MB)	11	952.400024	952.900024	952.599976	0.164300
STAT FLT TEMP (DEG C)	12	8.186000	8.563000	8.452000	0.095750
HELICOPTER MASS (KG)	13	1955.000000	1955.000000	1955.000000	0.000000
COLL PITCH (DEG)	14	7.455500	7.476500	7.464000	0.005110
LAT CYC PITCH (DEG)	15	-0.820000	-0.621000	-0.749700	0.075130
LON CYC PITCH (DEG)	16	-1.095000	-0.679000	-0.931900	0.151100
TR PITCH (DEG)	17	-0.680100	-0.594800	-0.623800	0.022570
AIRCRAFT PITCH (DEG)	18	-2.036000	-1.155000	-1.616000	0.284600
AIRCRAFT ROLL (DEG)	19	-52.259998	-49.099998	-50.939999	0.992100
PITCH RATE (DEG/S)	20	7.383000	10.370000	8.645000	0.867700
ROLL RATE (DEG/S)	21	-13.640000	6.386000	-2.368000	7.148000
YAW RATE (DEG/S)	22	-9.853000	-7.245000	-8.259000	0.703300
MR ROT SPEED (RD/S)	23	40.470001	40.590000	40.509998	0.048200
ENGINE POWER (KW)	24	138.899994	151.300003	145.899994	3.213000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-109.29		-216.40		38.57		-124.14		-71.00		-93.00	
1	32.85	-9.97	30.98	-10.00	6.49	4.14	-0.46	15.49	-2.56	17.06	-9.92	26.39
2	17.16	16.77	17.30	17.24	12.13	7.79	7.01	2.42	8.46	3.47	11.72	-1.15
3	-36.14	-66.59	-23.14	-71.33	-16.36	-38.46	-8.89	-16.94	-4.76	-18.90	-3.89	-20.97
4	16.26	18.10	24.40	23.75	8.75	11.88	2.84	8.67	7.23	9.47	5.14	8.08
5	-37.75	-60.84	-23.20	-53.50	-13.75	-29.18	-11.21	-9.83	-7.26	-9.22	-4.98	-4.10
6	-26.76	0.00	-22.28	0.00	-15.73	0.00	4.32	3.68	3.77	3.17	1.30	0.99
7	82.34	0.00	-35.72	61.86	-20.42	-35.37	-11.90	3.66	-10.90	0.43	11.93	4.04
8	-3.64	0.00	0.89	1.53	0.92	-1.59	-0.59	-0.68	-0.80	-0.07	-2.94	-0.99
9	5.46	0.00	6.33	0.00	2.84	0.00	-0.10	-1.92	-0.31	-1.64	-2.90	-6.38
10	-10.12	0.00	6.62	-11.47	1.81	3.13	0.52	-5.94	1.03	-7.61	-2.63	-15.77

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-4.00		23.57		70.41		-25.49		-280.14		1027.10	
1	-19.17	33.94	-22.04	36.29	-22.42	39.71	0.18	34.19	21.35	-373.42	88.97	-120.11
2	30.02	1.28	39.77	-5.40	34.87	-8.75	19.86	-0.52	-24.79	76.37	-91.61	7.01
3	-0.19	-28.81	6.72	-23.79	13.07	-17.54	3.61	-8.09	22.60	-21.88	35.28	-22.38
4	6.93	-5.79	1.52	-14.28	-7.54	-15.39	-18.09	-8.47	-9.41	2.34	-13.54	20.68
5	5.00	4.11	13.58	9.02	7.83	8.13	0.94	11.53	7.41	6.07	6.44	8.98
6	-1.03	-11.18	-5.94	-3.49	-8.50	5.52	-8.97	11.09	9.54	13.45	0.11	13.16
7	34.72	-0.02	8.80	-6.93	-30.80	-2.79	-79.56	-2.59	20.43	0.00	-96.57	8.79
8	3.66	0.50	4.30	0.89	1.23	-0.19	-15.30	0.73	-6.01	0.00	-10.29	-2.06
9	0.73	2.47	1.92	8.26	2.40	4.70	-4.36	-18.51	7.44	0.00	17.33	16.94
10	0.89	8.09	-3.69	18.82	-1.93	7.44	4.28	-37.36	-1.44	0.00	5.11	25.14

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-118.97		-1900.00		765.14		1050.00		1141.40		1027.10	
1	26.67	-369.30	56.81	-277.06	62.85	-233.76	63.88	-170.05	85.65	-155.92	88.97	-120.11
2	-29.03	67.33	-53.73	41.32	-68.05	34.33	-68.25	17.33	-92.18	15.94	-91.61	7.01
3	7.02	-18.68	36.01	-18.59	48.19	-31.73	37.95	-22.99	46.07	-30.83	35.28	-22.38
4	5.34	6.96	-7.37	20.11	-20.26	-9.75	-10.24	11.56	-25.62	-9.31	-13.54	20.68
5	4.67	8.01	13.12	8.39	14.40	15.82	10.63	12.69	12.43	17.18	6.44	8.98
6	12.05	9.76	12.38	5.97	4.51	1.67	6.82	12.92	0.37	-7.87	0.11	13.16
7	-6.88	11.91	-10.69	-18.51	-34.45	10.01	-58.19	-1.30	-72.88	31.23	-96.57	8.79
8	2.77	4.00	2.05	-3.54	-2.11	-3.67	-4.84	-2.06	-10.46	-3.05	-10.29	-2.06
9	6.06	0.00	3.24	0.00	-2.15	0.72	4.40	6.74	12.82	8.02	17.33	16.94
10	0.72	-1.25	1.80	3.12	4.00	0.87	5.87	8.04	2.41	16.19	5.11	25.14

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	647.00		1550.00		836.71		426.57		-20.41		-28.03	
1	79.81	-72.82	61.10	-47.79	40.58	-28.40	24.66	-20.26	20.46	2.12	20.15	1.85
2	-79.19	10.80	-53.32	6.75	-32.17	8.73	-14.14	3.42	-9.81	-8.28	-9.65	-7.71
3	20.80	-24.61	9.39	-23.75	0.84	-17.03	0.73	-10.15	17.95	17.20	12.30	18.59
4	-16.79	5.97	-2.64	18.40	-3.47	1.95	0.86	4.03	-6.25	2.61	-7.77	3.05
5	7.24	14.67	6.19	6.22	6.66	8.79	3.76	3.03	5.65	2.55	6.19	1.45
6	-3.84	-15.00	-1.85	-1.58	-2.53	-12.48	-1.89	-0.70	1.46	-5.41	1.31	-4.14
7	-72.42	32.28	-69.27	5.54	-32.73	9.77	-26.99	-0.92	6.67	0.00	-1.97	3.41
8	-14.51	2.74	-10.57	4.38	-9.54	5.26	-5.31	2.73	-1.99	0.00	0.83	1.44
9	18.54	9.19	18.29	13.82	12.30	8.96	7.24	6.80	1.66	0.00	1.08	0.00
10	-2.42	22.46	5.67	22.07	-0.43	15.33	3.52	6.40	-3.51	0.00	1.67	-2.89

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-388.14		111.00		106.00		-43.36		29.60		59.57	
1	18.01	7.02	21.10	0.41	20.45	0.73	21.58	6.14	20.27	17.76	19.72	9.56
2	-9.13	-5.48	-8.54	-5.47	-8.04	-4.51	-6.70	-5.61	-5.41	-6.73	-2.63	-9.21
3	11.25	12.15	13.85	7.99	8.80	6.39	9.71	2.54	8.41	-1.54	9.98	-3.09
4	-5.22	3.18	-4.28	3.70	-3.89	5.45	-1.93	2.03	-0.93	2.91	2.83	1.86
5	4.74	-0.04	2.87	-0.15	2.87	-2.15	3.41	-2.23	-0.07	0.78	-0.69	-0.01
6	1.46	-4.14	2.07	-4.48	2.34	-3.36	1.86	-2.90	-1.11	-2.73	-1.95	-3.56
7	-1.31	-2.28	-1.57	-2.06	-4.57	0.82	-13.62	-4.62	-21.96	-4.62	-16.57	-0.28
8	0.89	-1.53	-1.33	1.74	-0.94	0.44	0.28	2.42	-2.99	1.68	-2.50	1.90
9	1.82	0.00	0.52	1.66	0.86	0.09	0.70	2.93	-0.95	-4.45	-0.29	0.51
10	1.61	2.78	0.55	1.71	0.69	0.30	-1.85	2.18	-1.30	-10.98	-0.46	-8.02

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	45.86		2.5857		2.4129		-0.3941		-0.3434		-2990.00	
1	20.91	13.88	-3.7055	-0.6052	-3.4375	-0.5321	0.0711	-0.0522	0.0653	-0.0544	959.39	-2167.03
2	-2.29	-7.13	0.0453	0.1636	0.0226	0.1330	-0.1018	0.0095	-0.0089	0.0107	-135.62	408.16
3	8.11	-2.96	0.0079	-0.2590	0.0493	-0.2285	0.0040	0.0044	0.0036	0.0028	126.97	-93.75
4	1.70	1.41	0.0086	0.0328	0.0029	0.0424	-0.0001	-0.0017	-0.0024	-0.0005	-57.31	4.99
5	-0.52	-0.38	0.0237	-0.0717	0.0296	-0.0512	-0.0012	0.0005	-0.0009	0.0001	24.72	0.90
6	-3.21	-3.97	0.0018	0.0270	-0.0086	0.0292	0.0007	0.0000	-0.0003	-0.0004	-26.95	76.83
7	-16.67	-4.08	-0.0626	0.0000	-0.0013	-0.0631	-0.0007	0.0000	0.0009	0.0015	88.34	-83.74
8	0.37	-0.29	0.0133	0.0000	-0.0001	0.0007	-0.0007	0.0000	-0.0008	0.0014	-9.25	56.74
9	1.46	-2.24	-0.0079	0.0000	-0.0097	0.0004	-0.0007	0.0000	-0.0009	0.0000	-20.84	-7.87
10	-1.74	-13.41	0.0124	0.0000	-0.0107	-0.0018	0.0003	0.0000	-0.0004	-0.0006	-14.35	39.76

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD, N		PTCH LNK, LD, N		PTCH LNK, LD, N		SERVO, N		SERVO, N	
	An	Bn	An	Bn	An	Bn	LEFT	RIGHT	An	Bn
0	-304.71		-410.86		-194.71		-249.57		-565.71	
1	78.94	-5.74	86.23	-14.30	73.47	-10.66	-16.50	45.25	24.17	4.94
2	-68.35	-51.71	-73.00	-37.70	-61.51	-49.53	12.74	11.30	-1.19	16.16
3	115.36	126.78	80.76	120.96	74.01	136.19	41.55	-200.38	-186.94	-259.87
4	-39.83	8.20	-44.56	9.84	-51.91	15.97	21.45	-12.38	-11.57	-26.06
5	38.80	-41.06	32.14	35.83	34.93	36.24	7.18	6.25	3.93	11.89
6	-9.10	-2.93	-3.25	-19.33	-3.49	-1.05	254.99	256.02	-261.68	163.65
7	223.04	-10.87	202.15	54.23	172.51	38.09	-46.57	-7.84	-8.10	-16.07
8	32.37	-14.29	-3.80	-5.55	-5.89	8.87	35.95	-83.59	0.60	13.84
9	-35.25	-36.81	-13.28	-12.33	-59.56	-23.39	8.77	67.05	84.03	-12.70
10	11.71	-31.99	30.45	-24.18	46.34	-37.30	-24.87	-3.32	-9.90	-12.65

n	FZSHAFT, N		CZSHAFT, Nm		F1SHAFT, N		F2SHAFT, N		F3SHAFT, N	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1267.71	-480.45	-3497.10		-106.10		-64.07		593.71	
1	-46.05	-589.95	22.95	8.75	-100.34	-2095.80	2036.95	-24.69	-185.99	-2575.79
2	1835.76	2305.38	93.62	-142.84	7.11	12.52	17.78	-4.45	-6.41	14.62
3	500.09	75.99	29.81	44.37	56.50	-29.63	21.03	55.04	115.94	-19.61
4	144.73	193.89	-18.19	-1.73	-49.06	23.96	38.50	49.16	-18.80	-11.87
5	105.57	430.43	39.37	0.00	1.63	-6.57	2.71	5.76	15.51	-1.28
6	554.86	0.00	19.41	0.00	121.27	0.00	115.08	8.17	92.75	-45.21
7	294.99	0.00	10.15	0.00	8.12	0.00	-7.14	4.36	-11.19	10.43
8	240.08	0.00	9.40	0.00	5.06	0.00	6.18	5.56	1.95	-12.89
9	68.15	0.00	5.40	0.00	43.78	0.00	-19.39	47.99	32.18	37.99

n	GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR ACCEL, g		GEAR ACCEL, g	
	An	Bn	An	Bn	An	Bn	FRONT LEFT SEAT	FRONT RIGHT SEAT	An	Bn
0	-8080.0		-3495.7		9521.40		11457.00		-0.4787	
1	-185.3	-57.5	-209.1	-63.3	51.96	110.40	166.59	15.52	-0.0406	0.0074
2	-36.7	-23.7	-25.2	-64.6	2.29	-80.42	-60.47	26.04	0.0214	0.0064
3	-543.4	-670.1	-533.9	-147.3	32.39	1547.36	-102.91	679.47	0.1227	0.0179
4	-13.6	55.0	-41.6	29.4	-9.34	-46.17	49.43	-50.92	-0.0023	0.0070
5	-38.4	-65.0	-29.5	-50.1	25.40	45.50	-189.73	31.73	-0.0138	-0.0422
6	-83.9	-154.3	-146.6	-237.0	-283.42	11.48	-189.73	289.17	0.0017	0.0302
7	-8.1	27.5	-14.5	24.5	29.83	-29.07	33.69	-32.77	0.0170	0.0000
8	-21.3	32.7	-23.2	26.8	26.21	32.99	25.41	18.82	0.0139	0.0000
9	-38.1	36.2	6.8	47.6	32.92	-116.49	-49.57	-169.51	0.0509	0.0000
10	-9.1	-18.5	-10.8	-21.8	-5.21	14.58	16.63	1.48	0.0089	0.0000

FLIGHT NUMBER V3111

FLIGHT PARAMETERS	N0	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	54.750000	55.840000	55.410000	0.357500
LOAD FACTOR	2	1.887000	1.991000	1.937000	0.029760
ALTITUDE (M)	3	494.700012	511.100006	503.399994	4.745000
AIR DENSITY (KG/M3)	4	1.181000	1.183000	1.182000	0.000523
SOUND SPEED (M/S)	5	336.399994	336.399994	336.399994	0.028890
ADVANCE RATIO	6	0.257200	0.262500	0.260200	0.001750
CT/SIGMA	7	0.121900	0.128600	0.125100	0.001850
CZM	8	0.731100	0.771400	0.750600	0.011110
REDUCED MASS (KG)	9	2015.000000	2018.000000	2017.000000	0.893500
I.A.S. (M/S)	10	53.790001	54.820000	54.419998	0.340400
STAT FLT PRES (MB)	11	954.500000	956.400024	955.400024	0.543100
STAT FLT TEMP (DEG C)	12	8.469000	8.563000	8.519000	0.048360
HELICOPTER MASS (KG)	13	1945.000000	1945.000000	1945.000000	0.000000
COLL PITCH (DEG)	14	7.551500	7.593500	7.572800	0.011640
LAT CYC PITCH (DEG)	15	-0.266000	-0.249000	-0.257800	0.005760
LON CYC PITCH (DEG)	16	-2.136000	-1.551000	-1.802000	0.197000
TR PITCH (DEG)	17	-1.465000	-1.338000	-1.401000	0.045830
AIRCRAFT PITCH (DEG)	18	-8.643000	-8.115000	-8.317000	0.183400
AIRCRAFT ROLL (DEG)	19	-63.160000	-62.540001	-62.880001	0.207200
PITCH RATE (DEG/S)	20	13.740000	17.820000	15.750000	1.050000
ROLL RATE (DEG/S)	21	-20.490000	9.757000	-4.929000	10.660000
YAW RATE (DEG/S)	22	-10.230000	-6.834000	-8.619000	1.032000
MR ROT SPEED (RD/S)	23	40.520000	40.590000	40.570000	0.030630
ENGINE POWER (KW)	24	66.000000	70.699997	68.279999	1.210000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-168.60		-279.30		14.43		-124.43		-69.29		-90.57	
1	49.80	-17.92	48.16	-17.38	9.82	1.53	0.56	15.97	-1.99	16.46	-10.31	31.47
2	20.45	36.93	19.33	39.85	11.35	22.46	7.50	8.91	7.68	11.46	15.02	4.08
3	-88.23	-61.53	-92.64	-64.46	-50.87	-35.25	-24.08	-16.28	-23.67	-17.20	-21.75	-22.09
4	2.60	8.01	1.50	18.86	2.60	3.88	-1.13	6.96	0.75	8.75	2.77	6.27
5	-11.80	-107.45	-12.11	-89.94	0.04	-52.88	-7.32	-18.65	-6.20	-14.85	-2.39	-5.72
6	-42.55	0.00	-28.91	0.00	-20.08	0.00	6.84	4.49	4.49	-1.34	-0.19	-0.78
7	45.10	0.00	-17.46	30.23	-7.87	-13.64	-2.18	6.82	-4.12	4.44	3.96	0.18
8	-9.03	0.00	3.20	5.54	2.37	-4.11	-0.58	-0.28	-0.32	-0.45	-5.78	0.85
9	8.00	0.00	6.87	0.00	3.26	0.00	-2.59	-2.09	-1.97	-1.78	-7.96	-3.88
10	-5.81	0.00	1.94	-3.36	0.90	1.55	2.98	-1.82	1.08	-2.63	6.22	-4.67

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 80%R, blade 1		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-2.71		-16.29		82.66		417.00		-38.33		-135.14	
1	-20.61	48.11	-32.93	68.43	-25.34	56.90	-1.34	0.12	3.24	39.32	-12.35	-598.68
2	38.31	0.28	66.03	-12.44	44.03	-13.77	-0.25	0.05	21.49	8.28	-66.29	111.31
3	-19.76	-27.76	-8.12	-30.45	0.94	-23.74	0.14	-0.04	-4.93	-13.96	-22.86	-36.26
4	5.49	-6.81	-2.73	-19.71	-7.58	-16.23	-0.12	0.05	-7.60	-9.33	23.48	6.09
5	5.68	11.53	9.96	21.23	-3.82	11.89	0.08	-0.04	-15.52	16.41	-0.53	4.64
6	-6.72	-1.46	-7.48	3.47	-1.79	2.90	-0.07	0.05	-1.84	1.09	22.86	2.90
7	12.25	-9.80	-0.08	-12.44	-11.19	6.61	0.05	-0.04	-25.94	23.04	8.99	0.00
8	2.55	-1.88	5.64	-4.92	2.07	-0.39	-0.02	0.02	-7.15	13.86	-6.25	0.00
9	4.57	1.08	14.99	5.01	4.92	1.98	0.02	-0.03	-21.37	-1.48	4.85	0.00
10	-1.88	2.18	-9.71	7.76	-2.30	2.38	-0.01	0.03	6.36	-10.10	-1.42	0.00

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	49.01		-1795.70		850.57		1100.00		1192.90		1067.10	
1	-8.52	-587.81	54.11	-435.43	53.39	-418.78	51.46	-330.49	78.94	-332.62	80.42	-282.14
2	-73.42	95.93	-77.29	50.23	-132.79	93.26	-132.40	83.81	-175.15	107.75	-174.20	99.09
3	16.66	-36.80	42.88	-69.41	85.54	-97.48	89.63	-85.06	101.42	-111.46	95.12	-94.52
4	28.70	5.99	-4.95	28.68	-24.05	1.20	-32.95	8.30	-52.91	3.49	-44.07	11.87
5	-0.55	-3.12	-5.73	31.69	-18.12	59.27	-37.35	52.39	-39.14	78.15	-66.02	58.76
6	20.33	-7.60	20.24	-7.55	13.51	-19.14	15.46	-2.69	11.46	-33.22	16.15	-0.33
7	-4.98	8.62	-5.69	-9.85	-10.98	10.50	-23.05	3.46	-14.22	29.30	-35.82	15.21
8	2.75	4.75	2.16	-3.74	0.76	-3.65	2.08	-3.23	-0.98	3.54	1.44	5.49
9	5.41	0.00	2.96	0.00	-5.25	-0.60	-5.36	3.66	-8.50	7.42	-7.41	12.39
10	1.02	-1.77	1.19	2.05	-2.32	-1.02	-5.14	2.08	-10.47	5.88	-11.26	6.49

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3		
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	
0	655.57	-192.52	1551.40	-129.37	830.57	47.87	-74.65	419.57	-24.74	38.86	-31.46	40.39	37.41
1	89.12	84.64	65.80	61.12	47.87	-62.06	38.91	27.86	41.83	-47.53	27.58	27.58	-46.40
2	-152.45	-76.37	-99.92	-32.68	-62.06	9.46	-36.10	-3.75	6.53	6.02	7.74	7.74	-0.84
3	58.03	7.24	-17.32	9.85	-9.43	3.59	2.82	-4.25	-14.60	10.80	-13.68	6.68	6.68
4	-31.36	65.60	-45.72	44.26	-21.21	32.79	14.18	-14.75	0.28	3.98	3.70	5.66	5.66
5	-48.15	-26.60	5.56	0.13	-1.65	-12.22	1.03	0.73	-5.16	-0.68	-2.41	-1.95	-1.95
6	5.30	31.96	-24.65	12.38	-8.26	11.80	3.98	-9.75	1.87	0.00	-1.07	1.86	1.86
7	-13.33	16.00	0.31	12.19	-0.90	11.73	5.37	0.53	-2.94	0.00	1.04	1.79	1.79
8	-2.92	14.59	-3.97	13.76	-1.76	11.02	5.40	-1.29	1.32	0.00	1.94	0.00	0.00
9	-8.45	10.19	-10.07	7.08	-11.54	7.49	2.06	-3.91	-1.10	0.00	1.06	-1.84	-1.84
10	-15.35												

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-396.00	104.43	104.43	27.02	99.69	-37.41	36.81	36.81	29.06	19.42	71.70	12.23
1	39.15	40.71	40.39	-37.01	38.26	26.35	32.18	14.81	0.17	-12.06	29.20	12.23
2	18.50	-41.54	18.74	-1.58	23.55	-34.40	10.16	-22.91	5.37	-11.89	2.79	-14.90
3	-2.82	1.51	0.87	8.41	-1.91	-10.90	2.69	-12.64	-5.19	-2.94	6.74	-9.87
4	-11.35	13.23	-10.46	0.23	-8.99	6.41	-13.69	3.09	-1.58	2.46	-2.25	-3.32
5	3.51	2.39	0.81	0.60	1.75	0.24	5.71	-0.47	-1.29	-3.34	-0.72	2.92
6	-1.38	-0.60	-2.74	1.06	-0.71	-2.67	0.87	-4.96	-11.26	5.35	-2.26	-1.59
7	-0.99	-1.71	-4.04	1.69	-3.41	3.44	-9.72	2.11	-2.53	6.58	-7.95	8.41
8	1.07	-1.86	-2.55	0.94	-2.22	1.55	1.51	0.47	-3.72	4.13	0.87	5.74
9	-0.54	0.00	0.88	0.78	-0.69	-0.86	3.03	4.50	-0.52	-0.43	1.19	4.31
10	-0.40	-0.69	1.78	-0.78	1.66	-0.83	-0.58	3.98			-0.62	-0.16

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	54.73	3.3957	3.3957	-0.9961	3.1571	-4.6196	-0.8871	-0.2470	-0.1793	-1761.40	955.32	-3942.82
1	31.25	15.30	-5.0160	0.3183	-4.6196	0.3074	0.1267	0.1427	0.1114	-0.1471	955.32	-3942.82
2	2.90	-11.47	-0.0062	0.3340	-0.0147	0.3405	-0.0202	0.0137	-0.0166	0.0143	-495.52	496.55
3	5.29	-11.73	-0.1549	-0.0230	-0.1171	-0.0061	0.0177	0.0005	-0.0172	-0.0013	122.38	-210.69
4	-0.93	-6.54	0.0212	-0.0736	0.0223	-0.0507	0.0000	-0.0023	-0.0018	0.0003	40.94	24.29
5	-1.50	2.83	0.0827	0.0300	0.0739	0.0303	0.0027	0.0036	0.0027	0.0029	20.44	-18.65
6	-2.91	-2.08	0.0170	0.0000	0.0092	0.0061	0.0030	0.0000	-0.0005	0.0018	57.79	138.30
7	-10.19	5.77	-0.0296	0.0000	-0.0164	-0.0255	-0.0016	0.0000	-0.0009	0.0015	2.53	-52.51
8	-1.38	6.40	0.0133	0.0000	-0.0033	0.0070	0.0009	0.0000	-0.0006	0.0010	25.87	6.31
9	-1.39	3.43	-0.0120	0.0000	-0.0136	-0.0016	-0.0009	0.0000	-0.0006	0.0000	14.05	-46.53
10	-2.36	-0.37	0.0063	0.0000	0.0018	-0.0061	0.0006	0.0000	-0.0002	-0.0004	17.81	10.52

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N		PTCH LNK,LD,N		PTCH LNK,LD,N		SERVO, N		SERVO, N		SERVO, N	
	An	Bn	blade 1	blade 2	blade 3	An	Bn	LEFT	RIGHT	RIGHT	An	Bn
0	-307.86		-420.14	-194.14	-194.14	-339.29		-339.29	-872.43		-872.43	
1	184.73	170.88	194.38	146.72	178.78	158.01	61.87	-23.98	16.65	61.87	16.65	-18.02
2	114.88	-281.25	97.47	-271.32	149.45	-277.14	51.35	-4.07	-28.29	51.35	-28.29	13.54
3	63.95	47.88	31.80	34.66	66.67	6.30	353.04	223.17	298.46	353.04	298.46	-7.11
4	-101.93	69.71	-102.79	92.81	-100.89	49.19	-10.33	-34.16	-15.58	-10.33	-15.58	-5.27
5	-3.55	94.35	9.04	105.84	10.66	98.08	20.85	-8.87	-0.49	20.85	-0.49	28.16
6	-43.76	28.28	-17.57	22.33	-11.28	27.02	239.51	239.51	27.31	239.51	27.31	150.83
7	84.40	-83.99	103.10	-19.43	107.76	-37.84	34.98	34.98	-15.86	34.98	-15.86	20.59
8	-20.70	-43.20	-14.50	-17.37	-2.84	-37.12	-19.58	-19.58	40.28	-19.58	40.28	-7.84
9	-82.24	-73.47	-19.45	-67.30	-59.42	-47.49	86.22	86.22	96.92	86.22	96.92	-1.53
10	8.40	-39.41	28.31	-49.37	39.38	-60.22	-33.59	-33.59	-0.32	39.38	-0.32	0.66

n	FZSHAFT, N		CZSHAFT, Nm		F1SHAFT, N		F2SHAFT, N		F3SHAFT, N		VERT ACCEL, g	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	FRONT RIGHT SEAT	FRONT LEFT SEAT
0			-1884.30		-94.97		-55.80		619.57		-0.9490	-0.9463
1	2074.98	-1176.07	-8.47	52.56	-35.01	-2954.19	2847.85	55.91	-129.05	-3649.72	0.0134	-0.0319
2	-1299.77	-690.52	-22.81	3.27	-269.86	-100.84	-65.58	264.02	-358.09	-223.81	0.0126	-0.0054
3	4084.79	1616.46	67.70	-249.03	18.74	12.59	-2.34	10.57	8.85	32.27	0.0135	-0.2417
4	748.81	145.35	24.05	30.26	80.88	-25.54	4.47	74.02	227.44	-13.11	-0.0041	-0.0035
5	98.96	25.39	-24.70	-4.38	-108.06	6.46	13.93	96.33	-75.84	-7.26	0.0283	-0.0170
6	264.05	-139.24	24.45	0.00	-8.43	-3.33	4.28	1.69	20.21	6.07	-0.0097	0.0170
7	779.07	0.00	19.61	0.00	48.70	0.00	25.93	-37.87	24.88	-20.63	0.1083	-0.0178
8	331.98	0.00	8.33	0.00	24.28	0.00	25.27	17.07	-13.71	19.48	-0.0212	-0.0281
9	282.28	0.00	7.50	0.00	10.87	0.00	10.61	8.59	-16.48	-8.92	0.0130	0.0146
10	57.89	0.00	2.38	0.00	24.58	0.00	-35.31	17.21	-0.58	46.09	0.0354	-0.0025

n	GEAR BOX STRUT,N		GEAR BOX STRUT,N		GEAR BOX STRUT,N		GEAR BOX STRUT,N		GEAR BOX STRUT,N		VERT ACCEL, g	
	An	Bn	REAR LEFT	REAR RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT	FRONT RIGHT SEAT	FRONT LEFT SEAT
0	-8097.1		-5157.1		13557.00		14100.00		-0.9490		-0.9490	-0.9463
1	-245.2	-98.0	-312.4	-136.9	177.16	63.82	421.82	-50.20	-0.0898	0.0134	0.0134	-0.0319
2	-74.9	43.2	-86.3	-21.1	-66.17	-145.61	-54.40	7.15	0.0126	0.0103	0.0103	-0.0054
3	-1235.8	-544.5	-1466.5	289.8	-55.80	2145.17	875.51	593.66	0.0135	-0.0210	-0.0210	0.3087
4	-23.8	5.7	-44.9	-15.4	35.27	-27.07	49.50	-40.24	-0.0041	0.0452	0.0452	-0.0035
5	34.4	-30.4	18.2	-43.7	-44.25	64.10	-13.37	119.94	0.0283	-0.0731	-0.0731	-0.0097
6	-150.3	-107.3	-221.9	-168.7	-143.23	25.31	93.79	244.91	0.1083	-0.0480	-0.0480	0.0178
7	-22.3	60.3	-13.9	49.2	22.90	-66.55	-1.71	-43.22	0.0206	0.0000	0.0000	-0.0212
8	-8.4	15.1	-1.7	15.4	27.13	9.19	36.50	-14.82	0.0130	0.0000	0.0000	0.0146
9	-5.0	62.3	-3.5	88.5	12.19	-67.88	-78.39	-141.37	0.0354	0.0000	0.0000	0.0156
10	-0.9	6.7	0.9	6.5	-8.52	-19.40	13.77	-25.27	0.0157	0.0000	0.0000	-0.0011

FLIGHT NUMBER V3202

FLIGHT PARAMETERS	NØ	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	73.680000	74.129997	73.809998	0.130600
LOAD FACTOR	2	1.700000	1.801000	1.761000	0.029900
ALTITUDE (M)	3	65.650002	79.720001	72.410004	4.135000
AIR DENSITY (KG/M3)	4	1.205000	1.207000	1.206000	0.000410
SOUND SPEED (M/S)	5	341.500000	341.600006	341.500000	0.057150
ADVANCE RATIO	6	0.345100	0.347800	0.345900	0.000798
CT/SIGMA	7	0.109900	0.116900	0.113900	0.002020
CZM	8	0.659600	0.701100	0.683600	0.012110
REDUCED MASS (KG)	9	2026.000000	2028.000000	2027.000000	0.688900
I.A.S. (M/S)	10	73.089996	73.519997	73.230003	0.125200
STAT FLT PRES (MB)	11	1004.000000	1005.000000	1005.000000	0.473400
STAT FLT TEMP (DEG C)	12	17.040001	17.230000	17.129999	0.097240
HELICOPTER MASS (KG)	13	1996.000000	1996.000000	1996.000000	0.000000
COLL PITCH (DEG)	14	11.224000	11.472000	11.333000	0.080440
LAT CYC PITCH (DEG)	15	-1.141000	-0.913000	-1.081000	0.072290
LON CYC PITCH (DEG)	16	4.023000	4.248000	4.154000	0.062560
TR PITCH (DEG)	17	6.772000	6.984000	6.849000	0.053560
AIRCRAFT PITCH (DEG)	18	-8.995000	-7.234000	-7.918000	0.592000
AIRCRAFT ROLL (DEG)	19	-53.840000	-50.410000	-52.330002	1.083000
PITCH RATE (DEG/S)	20	4.862000	12.860000	8.128000	2.219000
ROLL RATE (DEG/S)	21	-9.560000	10.870000	1.075000	6.241000
YAW RATE (DEG/S)	22	-5.398000	-2.173000	-3.724000	0.867400
MR ROT SPEED (RD/S)	23	40.590000	40.669998	40.639999	0.030770
ENGINE POWER (KW)	24	381.899994	411.500000	395.899994	10.150000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 2		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-140.10		-259.30		20.14		-128.14		-67.86		-79.86	
1	-14.09	48.96	-13.64	46.34	-28.51	16.86	-19.94	19.25	-22.87	19.07	-33.14	35.70
2	-35.47	-75.08	-36.57	-77.33	-2.74	-46.61	10.04	-22.13	9.53	-23.92	17.72	-32.90
3	26.07	-123.16	8.93	-105.22	4.92	-62.13	5.57	-33.65	3.71	-27.72	-0.86	-28.62
4	42.04	-33.10	53.88	-22.39	17.05	-15.78	8.55	-7.36	12.63	-2.57	8.19	-3.55
5	125.64	-79.72	91.52	-25.66	65.56	-30.99	18.21	-18.41	12.37	-4.09	11.96	-7.09
6	-78.70	0.00	-64.68	0.00	-38.81	0.00	14.36	-5.10	12.31	-3.97	1.59	-4.91
7	80.35	0.00	-41.42	71.74	-14.59	-25.27	2.95	7.50	1.48	9.39	-2.78	-10.45
8	-8.40	0.00	3.68	6.37	2.58	-4.47	2.63	-1.26	2.61	-1.08	-3.83	-3.76
9	4.42	0.00	5.30	0.00	2.61	0.00	1.19	-2.03	0.56	-1.85	-3.45	-4.05
10	-4.51	0.00	3.72	-6.44	1.20	2.08	2.71	-2.97	2.78	-4.23	4.41	-6.59

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	11.71		56.57		90.61		-44.07		-818.00		1078.60	
1	-33.72	57.47	-21.16	63.49	-24.10	77.90	-3.22	93.51	-7.63	-900.66	28.46	-480.38
2	44.76	-49.03	62.27	-44.29	52.91	-35.21	-9.37	-39.17	55.52	246.37	-105.47	285.49
3	-4.03	-34.51	-5.57	-32.56	-5.54	-28.89	-6.08	-26.26	1.20	-47.03	133.09	-236.01
4	3.45	-3.47	-5.39	6.60	-9.77	5.09	-19.44	6.52	25.87	-17.61	-261.62	-0.40
5	-3.80	3.62	-16.21	8.39	-35.11	9.38	-57.65	22.82	7.26	29.89	-84.02	-112.95
6	-15.40	2.07	-7.97	2.66	-0.94	-0.06	-0.94	4.76	10.08	-21.78	-41.17	30.71
7	-5.51	-15.33	-2.29	-4.28	3.57	13.39	5.49	40.12	21.89	0.00	20.74	114.82
8	-3.05	-0.37	1.88	-0.81	2.83	1.02	2.61	11.19	-11.54	0.00	38.39	14.79
9	-1.46	2.64	4.31	1.61	3.45	-1.30	-5.42	4.21	17.10	0.00	47.81	-7.86
10	-2.63	3.89	-3.55	5.47	-1.54	0.59	6.85	-7.65	-5.24	0.00	-6.39	1.63

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 2		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-739.86		-2381.40		607.29		1077.10		1114.30		1078.60	
1	5.51	-901.28	138.91	-590.91	29.50	-633.10	22.49	-555.07	30.35	-512.28	28.46	-480.38
2	44.25	235.80	27.32	272.28	-27.46	301.42	-47.04	289.84	-86.87	313.46	-105.47	285.49
3	-3.53	-69.59	17.63	-103.40	85.25	-182.91	110.06	-206.74	120.50	-255.95	133.09	-236.01
4	52.85	42.20	-79.52	70.73	-100.06	-41.16	-214.87	14.28	-163.03	-52.72	-261.62	-0.40
5	0.82	23.59	-9.60	-30.91	-82.06	-66.92	-73.76	-82.41	-113.79	-119.23	-84.02	-112.95
6	4.60	-35.56	-1.34	-25.11	-29.35	-30.82	-26.07	21.05	-53.12	-35.42	-41.17	30.71
7	-10.10	17.49	-9.61	-16.64	-6.94	54.73	8.52	73.36	2.93	108.40	20.74	114.82
8	7.36	12.75	3.99	-6.92	10.76	21.62	23.56	20.71	29.12	26.46	38.39	14.79
9	14.24	0.00	12.97	0.00	8.17	11.53	19.54	6.44	37.76	-2.28	47.81	-7.86
10	1.71	-2.97	1.73	3.00	8.34	7.59	3.59	7.25	-3.45	4.83	-6.39	1.63

ORIGINAL PAGE IS
OF POOR QUALITY

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	679.57	1628.60	21.88	-251.10	20.96	-155.59	482.86	17.63	-124.43	121.23	134.81	-133.86
1	35.32	-332.06	82.83	139.43	59.14	70.88	-27.69	31.05	92.09	121.23	134.81	116.50
2	-115.34	214.66	76.17	-134.25	44.83	-80.87	-20.94	-36.38	22.41	9.15	22.41	29.30
3	101.91	-201.14	-153.82	-8.03	55.77	-32.67	-41.25	-1.98	-53.82	53.82	59.11	-37.20
4	-143.19	-55.57	-56.49	-71.28	-42.18	-48.75	-17.70	-26.49	26.95	26.95	65.47	5.21
5	-94.29	-100.59	-30.04	23.94	-25.70	-12.56	-10.56	8.63	-13.41	26.65	-13.41	24.69
6	-57.53	-28.21	16.38	79.38	2.15	48.57	3.83	27.27	-0.28	-0.28	-19.16	2.80
7	5.77	107.49	32.03	4.71	19.61	6.44	13.18	2.72	14.31	14.31	0.00	-7.13
8	25.21	18.21	39.41	-13.79	27.21	-7.64	16.04	-6.53	0.00	0.00	0.00	4.14
9	45.29	-8.12	-7.73	0.95	-8.00	-1.28	-2.30	-0.81	4.93	4.93	0.00	7.21
10	-13.46	0.37							-1.71	-1.71	0.00	1.36
												-2.35

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-478.43	23.93	31.80	-82.77	61.30	93.43	13.40	48.86	57.80	57.80
1	109.89	139.25	95.75	110.22	18.20	33.88	18.20	33.88	58.85	58.85
2	3.03	9.26	12.56	25.81	16.30	-7.05	16.30	-7.05	23.16	23.16
3	-28.34	39.31	-27.21	22.75	-10.43	29.68	-10.43	29.68	-13.75	-13.75
4	21.80	41.93	9.20	42.18	6.36	-21.20	6.36	-21.20	4.84	4.84
5	27.14	-13.88	24.68	-15.21	22.25	-0.32	22.25	-0.32	-5.96	-5.96
6	3.01	-18.98	1.89	-12.51	-1.59	15.60	-1.59	15.60	7.19	7.19
7	-5.01	-8.67	4.08	-0.37	3.81	0.93	4.50	0.93	-1.18	-1.18
8	4.85	-8.40	-1.22	-5.49	-2.58	5.28	-2.58	5.28	4.66	4.66
9	4.31	0.00	-2.15	0.10	2.84	1.21	2.84	1.21	2.16	2.16
10	1.29	2.24	3.52	1.46	-3.25	8.88	-3.25	8.88	-1.49	-1.49
									-0.68	-0.68

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	3.2586	-5.1228	3.2686	-4.8046	-0.9267	0.2016	-0.7979	0.1909	-7514.30	1135.69
1	-5.1228	3.2586	-4.8046	3.2686	0.2016	-0.9267	0.1909	-0.7979	1135.69	-6758.34
2	0.1635	-0.5411	-0.1432	0.5344	-0.0449	0.0194	-0.0357	0.0303	217.75	1516.65
3	-0.5411	0.1635	0.2188	-0.2877	0.0339	-0.0124	0.0408	-0.0039	-47.18	-184.85
4	0.0691	-0.2571	0.0372	0.2258	0.0036	-0.0020	-0.0058	0.0022	378.73	193.48
5	0.1276	0.0564	0.1334	0.0794	-0.0006	0.0125	-0.0004	0.0138	62.13	229.79
6	-0.0292	0.0658	0.0203	-0.0680	0.0064	-0.0000	0.0020	-0.0021	160.77	58.47
7	0.0613	-0.0000	-0.0414	0.0106	-0.0020	0.0000	0.0021	0.0037	-62.79	-107.91
8	0.0167	0.0000	-0.0138	0.0025	0.0016	-0.0000	-0.0019	0.0033	-30.71	-42.08
9	-0.0130	0.0000	0.0062	-0.0022	-0.0009	0.0000	-0.0036	0.0000	-106.35	40.93
10	0.0057	0.0000	0.0028	-0.0014	0.0009	0.0000	-0.0013	-0.0022	-35.29	-5.67

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD, N blade 1		PTCH LNK, LD, N blade 2		PTCH LNK, LD, N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-932.43		-1030.30		-822.71		-1380.00		-2867.10	
1	665.31	744.64	657.39	751.64	640.31	716.65	20.70	22.59	55.64	-128.80
2	55.13	131.08	27.54	101.12	72.33	179.55	-84.74	-1.76	-5.85	-58.45
3	-323.29	403.29	-178.25	311.47	-217.11	330.82	470.82	-1113.12	888.91	55.19
4	143.23	465.08	106.14	348.92	1.18	385.21	76.98	180.87	114.92	137.02
5	164.79	-7.89	139.34	0.36	130.18	53.44	-38.12	59.49	-43.00	67.10
6	6.67	-143.57	40.57	-142.64	38.55	-111.08	608.77	-636.68	352.86	6.48
7	-11.77	-315.72	16.07	-276.24	26.31	-303.32	3.87	71.11	-19.22	16.62
8	20.67	-135.38	13.76	-105.64	42.48	-113.81	45.46	-19.79	-1.40	47.34
9	-36.98	-62.77	-52.92	-41.53	-107.38	-63.15	41.34	478.92	122.05	-103.23
10	9.71	-108.88	48.17	-137.08	-9.09	-146.05	-6.90	66.74	-11.31	12.64

n	FZSHAFT, N		F2SHAFT, N		VERT ACCEL, 9 FRONT RIGHT SEAT		VERT ACCEL, 9 FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn
0								
1	-44.40	-372.51	-44.94	6.95	-0.0481	-0.0076	-0.7717	-0.0480
2	-2144.99	-567.93	260.06	-169.95	0.0280	-0.0278	0.0139	-0.0055
3	-611.54	5236.51	-11.26	-1.44	0.0090	-0.2391	-0.2790	-0.0004
4	609.29	-381.75	-154.79	-73.70	-0.0042	0.0271	0.0059	0.0053
5	140.60	1094.71	-66.31	-58.72	0.1304	-0.0725	0.0346	0.0066
6	1039.80	526.50	-10.14	10.64	0.3110	-0.1510	-0.1210	-0.0712
7	804.57	0.00	116.22	0.00	0.0251	0.0000	-0.0206	0.0017
8	280.24	0.00	26.84	0.00	0.0214	0.0000	0.0136	-0.0225
9	272.57	0.00	19.83	0.00	0.0559	0.0000	-0.0169	-0.0424
10	112.94	0.00	44.25	0.00	0.0347	0.0000	-0.0177	-0.0301

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-11529.0		-1480.0		11814.00		15243.00	
1	-96.1	-202.1	-222.6	-161.1	-181.30	173.19	280.10	75.89
2	-201.4	-18.7	-126.8	-16.2	-19.42	-48.99	-184.55	2.22
3	922.5	-1147.1	798.0	-1129.9	1452.86	-26.67	-2.39	2740.10
4	-78.8	71.9	-54.1	5.6	-36.64	29.88	112.21	-114.37
5	167.2	-133.6	81.7	-121.9	-216.43	176.77	-100.55	179.18
6	-245.2	-150.5	-286.3	-210.0	41.74	582.65	248.15	677.43
7	35.6	65.6	23.8	71.8	-11.00	-90.67	22.31	-36.01
8	-24.4	35.4	-13.5	31.9	-10.02	25.42	-34.41	24.92
9	5.0	12.1	27.4	11.7	-61.14	-71.46	-55.08	-115.74
10	-31.8	-31.7	-44.9	-35.5	52.83	35.48	60.87	89.72

FLIGHT NUMBER V3204

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	74.37997	74.76997	74.63999	0.120300
LOAD FACTOR	2	1.498000	1.570000	1.533000	0.016530
ALTITUDE (M)	3	182.899994	189.899994	186.199997	2.495000
AIR DENSITY (KG/M3)	4	1.194000	1.195000	1.195000	0.000236
SOUND SPEED (M/S)	5	340.799988	341.000000	340.899994	0.059180
ADVANCE RATIO	6	0.348600	0.351800	0.350900	0.000770
CT/SIGMA	7	0.097360	0.103000	0.100200	0.001170
CZM	8	0.584200	0.617900	0.601500	0.007020
REDUCED MASS (KG)	9	2035.000000	2037.000000	2036.000000	0.402800
I.A.S. (M/S)	10	73.440002	73.839996	73.709999	0.118900
STAT FLT PRES (MB)	11	991.299988	992.099976	991.700012	0.285600
STAT FLT TEMP (DEG C)	12	15.910000	16.290001	16.049999	0.100500
HELICOPTER MASS (KG)	13	1985.000000	1985.000000	1985.000000	0.000000
COLL PITCH (DEG)	14	11.832000	11.851000	11.844000	0.006310
LAT CYC PITCH (DEG)	15	-1.268000	-1.175000	-1.222000	0.029270
LON CYC PITCH (DEG)	16	4.342000	4.520000	4.405000	0.047690
TR PITCH (DEG)	17	6.602000	6.814000	6.701000	0.057170
AIRCRAFT PITCH (DEG)	18	-6.441000	-6.176000	-6.358000	0.110300
AIRCRAFT ROLL (DEG)	19	-49.889999	-49.009998	-49.430000	0.280700
PITCH RATE (DEG/S)	20	4.334000	7.090000	5.739000	0.798800
ROLL RATE (DEG/S)	21	-6.512000	3.601000	-2.291000	3.128000
YAW RATE (DEG/S)	22	-6.219000	-3.405000	-4.644000	0.699600
MR ROT SPEED (RD/S)	23	40.450001	40.639999	40.509998	0.060140
ENGINE POWER (KW)	24	424.100006	433.700012	429.299988	2.861000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-151.40		-265.00		8.43		-132.14		-71.14		-89.14	
1	-16.29	68.32	-13.91	67.59	-24.87	27.10	-17.10	18.47	-20.12	20.08	-31.17	29.89
2	-31.69	-71.11	-23.51	-67.59	-2.69	-44.68	8.20	-21.26	10.95	-21.41	15.36	-29.79
3	28.59	-107.65	15.56	-94.63	12.25	-62.43	5.09	-31.39	2.74	-27.67	-0.09	-28.51
4	59.07	11.09	57.51	27.76	23.85	6.22	11.71	8.06	11.56	10.97	11.14	5.54
5	68.52	-22.18	39.38	-30.13	36.26	-16.81	6.64	-5.27	1.79	-4.52	4.84	0.26
6	-59.23	0.00	-45.47	0.00	-28.78	0.00	10.67	3.81	8.69	3.28	2.47	-2.94
7	63.97	0.00	-32.69	56.61	-15.26	-26.43	-6.77	3.47	-9.03	2.33	9.73	0.54
8	-4.00	0.00	2.20	3.81	1.02	-1.77	3.39	-1.12	2.18	-0.30	-0.52	-3.14
9	6.22	0.00	6.70	0.00	2.81	0.00	0.78	-1.14	0.21	-0.77	3.63	-6.48
10	-15.72	0.00	8.63	-14.95	3.34	5.78	9.09	4.61	9.82	3.77	24.27	14.50

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	0.29		45.43		80.51		-43.09		-868.71	
1	-34.90	51.01	-22.56	54.76	-22.89	68.26	4.87	85.69	-22.80	-708.20
2	45.00	-42.61	61.59	-40.26	55.01	-33.23	-5.05	-36.48	47.54	206.59
3	4.56	-29.71	2.22	-29.71	9.32	-19.31	6.27	-18.33	20.91	-29.10
4	3.79	-8.08	-6.39	-7.92	-7.99	0.86	-11.65	4.79	2.58	0.09
5	2.87	2.93	-2.74	-4.93	-16.77	-3.09	-25.91	3.21	-7.59	28.13
6	-8.86	-5.37	-6.28	-2.84	0.54	-0.07	3.05	2.11	-2.37	3.15
7	18.29	-1.86	-2.54	-4.27	-17.26	1.15	-31.58	-2.83	22.21	0.00
8	-1.35	0.88	-3.12	-1.22	0.73	-0.06	10.11	3.57	-7.83	0.00
9	-3.74	0.93	-1.61	4.73	0.60	3.26	9.00	-8.05	15.36	0.00
10	-11.25	-9.97	-23.20	-13.98	-9.25	-4.95	44.11	27.40	-4.44	0.00

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-789.00		-2404.30		582.71		1054.30		1104.30		1067.10	
1	0.97	-693.05	99.72	-492.77	33.06	-492.29	39.31	-424.54	57.72	-396.21	58.31	-356.07
2	38.41	195.40	14.48	243.09	-13.83	242.49	-37.28	222.27	-73.14	245.18	-94.78	209.88
3	15.70	-52.36	32.37	-51.57	91.34	-124.98	104.59	-131.63	126.27	-169.41	120.19	-146.32
4	-2.70	-4.03	-36.51	28.45	-100.27	9.97	-106.33	-18.32	-144.81	11.78	-124.51	-28.01
5	-10.15	27.18	4.41	13.96	-8.97	-30.17	-10.29	-21.83	-1.90	-55.80	-9.61	-31.33
6	1.00	0.15	-9.55	-5.82	-4.57	-21.46	-20.57	-2.13	-3.65	-39.06	-24.32	-9.74
7	-9.55	16.53	-7.26	-12.57	-32.35	14.82	-64.11	24.96	-65.38	48.37	-96.38	44.87
8	4.45	7.71	2.89	-5.00	4.67	10.18	1.34	15.98	3.59	12.72	1.24	8.42
9	11.23	0.00	9.87	0.00	-2.37	5.21	8.33	8.17	26.58	-0.28	27.41	7.20
10	1.33	-2.31	1.46	2.53	3.08	8.81	-12.13	-0.33	-26.38	-14.18	-38.97	-34.66

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm		EDGE BEND, Nm		EDGE BEND, Nm		EDGE BEND, Nm		EDGE BEND, Nm		TORSION, Nm		TORSION, Nm		
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	
0	676.71	1625.70	41.46	-173.62	917.14	35.03	-112.52	477.57	-66.94	-94.50	93.85	73.88	-101.71	83.61	56.65
1	59.44	-247.95	-68.88	96.95	-52.42	48.44	22.36	-21.42	19.59	3.33	43.09	44.43	-7.16	-7.16	44.43
2	-102.46	164.80	58.79	-83.50	33.89	-47.24	13.12	-25.79	-43.53	36.16	36.16	27.76	-27.08	-27.08	27.76
3	98.01	-123.66	-69.09	20.96	-46.90	4.88	-18.69	-5.85	-15.73	40.63	40.63	21.33	-13.60	-13.60	21.33
4	-116.41	-2.19	-3.08	-39.61	0.15	-20.31	1.12	-8.53	6.04	12.53	12.53	7.01	5.47	5.47	7.01
5	-3.08	-39.61	-17.99	-6.75	-2.87	-15.04	-4.92	-1.51	0.76	-7.86	-7.86	-5.47	-0.72	-0.72	-5.47
6	-60.80	49.83	-65.92	32.78	-29.57	20.78	-22.37	10.23	8.37	0.00	0.00	6.45	-3.72	-3.72	6.45
7	-0.79	12.25	-1.35	6.99	-2.39	6.83	-2.76	3.07	-3.81	0.00	0.00	2.56	1.48	1.48	2.56
8	35.86	1.13	21.26	4.06	18.32	1.34	8.52	0.88	6.10	0.00	0.00	0.00	6.44	6.44	0.00
9	-40.04	-30.62	-42.58	-37.78	-30.05	-22.87	-15.48	-14.20	-5.96	0.00	0.00	-3.33	1.92	1.92	-3.33
10															

n	TORSION, Nm		TORSION, Nm		TORSION, Nm		TORSION, Nm		TORSION, Nm		TORSION, Nm		TORSION, Nm	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-443.29	48.51	80.83	68.81	58.76	70.37	55.84	-66.01	13.81	47.92	45.66	52.23	49.04	21.32
1	86.12	72.01	32.39	37.50	-2.18	36.30	36.30	9.70	0.80	20.23	20.23	13.16	13.16	16.91
2	-6.58	39.47	-32.85	13.95	-20.20	4.69	4.69	0.17	1.67	6.41	-0.59	-4.99	-4.99	1.08
3	-16.74	35.00	-10.02	33.33	-7.20	20.42	20.42	-2.17	26.10	-2.59	7.19	-7.84	-7.84	4.59
4	2.94	5.95	9.92	8.69	10.08	4.50	4.50	17.05	-0.55	1.31	0.77	1.42	1.42	2.18
5	15.40	-10.52	3.21	2.89	-4.16	-1.71	-1.71	-0.24	0.47	-3.56	-0.27	-1.76	-1.76	-0.67
6	-1.54	-2.67	-1.51	0.11	-2.21	2.54	2.54	-13.81	0.06	-14.93	0.71	-11.16	-11.16	3.13
7	1.82	-3.16	-2.71	-1.63	-1.65	-3.07	-3.07	-0.59	3.74	2.25	5.63	-1.78	-1.78	3.84
8	3.95	0.00	-2.58	-0.66	-2.50	-1.27	-1.27	2.19	6.44	4.78	3.08	2.03	2.03	3.35
9	1.76	3.04	-1.69	-0.33	0.90	0.52	0.52	-3.13	1.84	10.34	9.89	7.29	7.29	8.54
10														

n	TORSION, Nm		FLAP, DEG		FLAP, DEG		LAG, DEG		LAG, DEG		FLAGDAMP	
	An	Bn	blade 1	blade 2	blade 1	blade 2	blade 1	blade 2	blade 1	blade 2	An	Bn
0	32.49	29.70	2.9671	2.8500	-1.0586	-0.2086	-0.9354	-0.2322	-0.9354	-0.2322	-7678.60	-5230.35
1	48.29	11.85	-3.9660	-3.7139	0.1440	-0.4854	0.1440	-0.4854	0.1440	-0.4854	915.66	1174.23
2	4.11	-0.44	-0.1705	-0.1539	-0.0312	0.0134	-0.0312	0.0134	-0.0312	0.0134	29.50	1174.23
3	-3.11	-0.31	0.2353	0.2405	0.0178	-0.0112	0.0178	-0.0112	0.0178	-0.0112	41.80	-87.98
4	-4.89	-0.31	0.0408	0.0299	-0.0008	0.0044	-0.0008	0.0044	-0.0008	0.0044	188.07	229.26
5	1.15	-0.54	0.0443	0.0712	-0.0041	0.0031	-0.0041	0.0031	-0.0041	0.0031	-83.99	100.87
6	-4.52	-1.03	0.0009	-0.0066	0.0031	0.0000	0.0031	0.0000	0.0031	0.0000	79.32	47.16
7	-12.43	0.90	-0.0463	-0.0158	-0.0013	0.0000	-0.0013	0.0000	-0.0013	0.0000	66.64	-105.17
8	1.19	2.51	0.0104	-0.0046	0.0013	-0.0000	0.0013	-0.0000	0.0013	-0.0000	24.70	-16.15
9	4.70	3.43	-0.0160	-0.0138	-0.0011	0.0000	-0.0011	0.0000	-0.0011	0.0000	-179.88	49.93
10	10.52	7.65	0.0134	0.0221	0.0004	0.0000	0.0004	0.0000	0.0004	0.0000	-48.27	-30.98

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-776.29		-846.71		-659.43		-1021.70		-2075.70	
1	500.54	400.86	518.48	379.46	459.28	342.64	29.09	-34.89	68.67	-129.12
2	24.28	240.45	-26.78	235.46	-37.23	263.21	69.36	-27.03	49.78	16.85
3	-230.70	220.08	-105.01	314.31	-157.04	192.49	323.15	-752.38	160.53	248.97
4	-123.23	229.24	-23.83	254.43	-122.94	146.48	-195.14	142.09	-33.53	77.85
5	-19.19	102.98	52.26	83.02	-19.20	77.98	33.73	74.34	16.15	44.14
6	-0.52	-32.85	35.62	-76.85	8.82	-23.17	323.61	187.89	-39.25	160.28
7	171.06	-80.13	166.00	-38.14	158.65	-41.48	-71.97	-12.95	-17.90	-38.74
8	35.40	-66.40	-22.71	-50.98	12.60	-21.19	2.83	-25.04	-5.42	12.30
9	-50.22	-90.91	-61.82	-94.67	-68.92	-88.37	22.30	298.64	102.98	84.34
10	9.50	-43.24	29.12	-24.88	37.86	-56.73	5.61	-23.41	-31.00	2.77

n	FZSHAFT, N		F2SHAFT, N		VERT ACCEL, 9 FRONT LEFT SEAT		VERT ACCEL, 9 FRONT LEFT SEAT			
	An	Bn	An	Bn	An	Bn	An	Bn		
0					-0.5321		-0.5446			
1	761.55	15.18	-153.89	-2332.33	2286.72	-122.61	-0.0548	-0.0042	-0.0183	-0.0220
2	-1185.32	-151.00	254.67	-140.59	-165.37	-254.85	0.0151	-0.0032	0.0207	-0.0155
3	-645.11	4678.43	-1.60	-16.70	-22.37	18.69	-0.0237	-0.1563	-0.1643	0.0888
4	954.49	-104.52	-39.70	-90.91	84.99	-30.33	-0.0199	-0.0059	0.0010	0.0087
5	31.89	584.78	-46.90	-46.07	-49.05	55.63	0.0674	-0.0410	0.0037	0.0164
6	585.23	1013.69	22.24	-4.00	28.58	13.53	0.2758	0.0359	-0.0570	0.0239
7	692.42	0.00	89.43	0.00	83.80	-14.96	0.0171	0.0000	-0.0462	-0.0135
8	278.15	0.00	17.50	0.00	10.12	11.00	0.0229	0.0000	0.0131	-0.0040
9	376.86	0.00	18.87	0.00	18.26	-11.10	0.0733	0.0000	-0.0404	0.0239
10	153.47	0.00	65.50	0.00	-90.52	-32.02	0.0234	0.0000	-0.0022	-0.0158

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-11714.0		-880.0		9751.40		13500.00	
1	-136.6	-126.7	-199.6	-190.1	-0.89	-56.77	229.57	43.83
2	-147.2	-25.5	-74.5	1.2	-73.62	78.15	-147.73	16.91
3	819.4	-1171.8	586.6	-1222.8	668.49	-217.04	168.26	2285.31
4	-35.4	21.3	-35.9	25.6	36.55	-18.98	93.44	15.31
5	65.8	-18.6	32.2	-46.9	-110.20	18.64	-73.23	92.16
6	22.4	-195.4	-66.7	-369.2	-367.11	136.67	-143.31	541.26
7	-15.0	83.6	-12.0	83.0	43.29	-77.33	7.73	-39.02
8	-8.1	13.2	9.9	22.0	16.12	51.04	17.12	-19.61
9	20.0	37.9	-11.7	60.4	-17.55	-51.72	277.13	-38.74
10	-10.7	-62.6	-28.6	-55.7	9.63	78.56	47.92	67.95

FLIGHT NUMBER V3207

FLIGHT PARAMETERS	NO	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	51.070000	51.250000	51.130001	0.056550
LOAD FACTOR	2	0.962000	1.025000	0.990600	0.016420
ALTITUDE (M)	3	358.700012	361.100006	360.799988	0.778600
AIR DENSITY (KG/M3)	4	1.198000	1.199000	1.198000	0.000492
SOUND SPEED (M/S)	5	336.799988	337.000000	336.899994	0.065700
ADVANCE RATIO	6	0.240400	0.241400	0.240600	0.000306
CT/SIGMA	7	0.062240	0.066460	0.064070	0.001090
CZM	8	0.373400	0.398800	0.384400	0.006540
REDUCED MASS (KG)	9	2010.000000	2012.000000	2011.000000	0.826100
I.A.S. (M/S)	10	50.500000	50.669998	50.570000	0.051750
STAT FLT PRES (MB)	11	971.700012	971.900024	971.700012	0.089110
STAT FLT TEMP (DEG C)	12	9.222000	9.505000	9.350000	0.110200
HELICOPTER MASS (KG)	13	1967.000000	1967.000000	1967.000000	0.000000
COLL PITCH (DEG)	14	7.460500	7.466500	7.463300	0.003090
LAT CYC PITCH (DEG)	15	-1.386000	-1.196000	-1.332000	0.067920
LON CYC PITCH (DEG)	16	1.066000	1.304000	1.173000	0.085240
TR PITCH (DEG)	17	0.339100	0.423900	0.387900	0.022200
AIRCRAFT PITCH (DEG)	18	-4.679000	-4.414000	-4.575000	0.084130
AIRCRAFT ROLL (DEG)	19	-0.221000	0.834000	0.146300	0.321800
PITCH RATE (DEG/S)	20	-1.353000	0.787000	-0.240500	0.650700
ROLL RATE (DEG/S)	21	-6.189000	5.683000	0.599400	2.794000
YAW RATE (DEG/S)	22	-1.118000	0.289000	-0.409400	0.356200
MR ROT SPEED (RD/S)	23	40.450001	40.540001	40.490002	0.031090
ENGINE POWER (KW)	24	214.600006	219.300003	217.100006	1.471000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-82.29		-165.00		37.86		-105.29		-48.57		-85.00	
1	4.33	14.61	3.80	14.50	-4.07	8.52	-0.50	10.33	-3.11	11.83	-6.89	19.65
2	-3.82	-1.65	-3.24	-2.57	0.54	-1.64	2.07	0.11	3.27	0.67	5.47	-2.71
3	-31.66	-35.09	34.13	-35.19	21.37	-16.16	9.47	-8.87	10.63	-8.60	12.92	-8.54
4	-11.77	21.11	7.84	27.41	5.38	15.05	1.11	5.59	2.01	7.28	1.55	6.06
5	8.39	-9.04	10.15	-14.06	8.53	-2.55	0.82	-1.85	1.01	-2.61	1.67	-1.06
6	-20.01	0.00	-18.06	0.00	-12.35	0.00	1.20	3.90	0.81	3.61	0.95	0.94
7	25.51	0.00	-16.12	27.92	-5.43	-9.40	-2.79	1.43	-4.83	1.45	2.37	-0.29
8	-7.26	0.00	2.75	4.77	1.49	-2.58	0.23	0.51	0.24	0.25	0.69	-3.49
9	3.06	0.00	3.87	0.00	1.23	0.00	0.41	-0.75	0.38	-0.62	1.11	-3.00
10	-7.72	0.00	3.22	-5.59	1.06	1.84	0.80	-4.83	0.62	-3.76	-1.50	-9.66

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-14.43		22.14		58.27		-17.61		-461.71		1360.00	
1	-13.96	26.58	-16.46	24.14	-17.57	27.74	-2.78	36.44	69.29	-401.91	62.18	-132.08
2	18.28	6.64	27.73	8.97	27.58	6.79	11.33	0.95	-16.00	58.90	-48.97	-1.41
3	16.41	-19.60	15.32	-15.95	17.91	-10.19	14.37	-3.52	16.81	-0.25	45.64	9.71
4	3.35	2.64	4.76	-7.23	1.68	-17.49	-5.14	-17.73	-11.54	13.18	-15.19	-20.10
5	-2.01	0.01	-2.32	4.02	-3.54	-0.53	-3.89	-7.46	0.81	10.34	2.45	-21.49
6	2.93	-6.95	-1.59	-5.43	-7.53	0.38	-7.36	7.42	6.22	9.13	2.45	-2.43
7	8.81	-0.19	4.78	-1.71	-5.80	-1.19	-25.80	4.87	6.11	0.00	-26.40	9.49
8	0.28	-1.05	-1.17	2.15	0.35	4.78	-3.47	1.94	-5.59	0.00	-3.63	7.50
9	0.54	-0.60	-1.99	2.56	-2.75	2.44	6.21	-6.28	2.97	0.00	0.07	5.11
10	-0.09	5.86	0.92	12.63	0.64	2.27	0.97	-17.88	-1.35	0.00	1.31	14.46

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-392.86		-2370.00		857.43		1308.60		1360.00		1340.00	
1	70.67	-400.77	71.42	-292.83	65.82	-239.62	53.47	-189.35	62.10	-164.35	62.18	-132.08
2	-19.06	52.61	-29.43	34.37	-33.56	28.79	-33.36	17.09	-47.41	10.48	-48.97	-1.41
3	12.30	-5.38	20.66	-13.04	49.57	0.12	42.39	2.24	53.77	4.10	45.64	9.71
4	-10.32	15.92	-22.90	5.38	-17.81	-15.26	-15.96	-13.94	-17.28	-26.61	-15.19	-20.10
5	0.33	11.56	2.38	1.39	3.46	-8.96	1.54	-13.82	4.79	-18.54	2.45	-21.49
6	7.55	5.93	6.58	7.59	2.67	1.37	4.17	1.56	-0.21	-4.04	1.03	-2.43
7	-4.58	7.94	-1.34	-2.31	-3.27	4.91	-13.72	4.23	-12.43	10.30	-26.40	9.49
8	2.78	4.81	1.75	-3.03	-1.57	1.12	-1.44	2.86	-4.54	6.72	-3.63	7.50
9	1.98	0.00	2.99	0.00	-1.72	0.03	-0.49	1.40	-0.41	3.28	0.07	5.11
10	0.67	-1.15	0.96	1.66	-0.43	0.86	1.31	4.15	0.81	11.84	1.31	14.46

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R; blade 1		EDGE BEND, Nm 71%R; blade 2		EDGE BEND, Nm 80%R; blade 1		EDGE BEND, Nm 85%R; blade 2		TORSION, Nm 12%R; blade 1		TORSION, Nm 12%R; blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	861.86	1824.30	1150.00	561.57	19.33	-44.13	7.28	-59.01	28.20	-44.13	26.98	8.39
1	56.73	44.59	26.18	16.45	-19.33	16.45	-1.82	19.33	7.28	28.20	-8.42	0.55
2	45.92	-32.13	-19.87	-8.50	-3.98	-8.50	6.65	-1.82	0.79	-7.65	-4.02	-1.55
3	36.50	3.11	10.97	6.65	-2.25	6.65	-2.39	-2.18	-0.18	-5.09	-7.10	-2.72
4	-13.54	-16.25	-5.01	-2.39	-4.23	-2.39	-5.10	-1.58	-2.61	-7.62	1.21	2.53
5	5.63	-18.69	2.62	-6.78	-6.78	-6.78	-0.71	-5.10	2.71	1.14	0.13	0.80
6	-2.03	-7.76	0.49	-7.14	-7.14	-7.14	-0.71	-2.62	0.50	-0.25	-1.06	1.83
7	-15.20	9.90	-5.03	7.54	7.54	7.54	-7.77	1.59	0.00	1.56	-0.49	-0.84
8	-7.35	10.07	-5.49	7.77	7.77	7.77	-2.78	4.60	0.00	-1.83	1.05	0.00
9	0.88	5.15	-0.10	5.53	5.53	5.53	0.53	3.76	0.00	-0.72	0.81	-1.41
10	-0.10	14.10	2.48	14.40	14.40	14.40	2.92	5.69	-1.55	-1.55	0.00	0.00

n	TORSION, Nm 20%R; blade 2		TORSION, Nm 29%R; blade 1		TORSION, Nm 29%R; blade 3		TORSION, Nm 54%R; blade 2		TORSION, Nm 80%R; blade 2		TORSION, Nm 87%R; blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-408.00	101.71	113.43	-32.93	10.30	10.30	17.07	10.30	17.07	34.01	20.14	6.95
1	24.35	26.18	24.38	23.46	10.57	23.46	0.64	19.93	17.07	2.25	-1.79	-2.94
2	-8.54	-7.82	-8.74	-5.26	0.53	-5.26	-7.24	0.64	-1.54	4.78	5.47	-2.94
3	-6.07	-4.37	1.11	-4.50	-0.03	1.11	-1.10	-1.12	-4.69	-2.57	-0.50	-1.35
4	-7.12	-1.61	-4.57	-4.50	0.51	-4.50	1.58	-4.50	-1.68	-0.18	-0.68	-1.05
5	1.83	2.00	1.54	1.12	0.26	1.12	0.13	1.55	1.28	0.76	0.19	0.06
6	-0.21	0.43	0.26	0.34	0.34	0.34	-0.29	1.86	1.34	-4.25	-4.25	2.28
7	0.26	0.45	-1.53	0.79	-0.08	-1.53	2.83	-5.10	1.66	-7.21	-1.26	2.56
8	-0.36	0.62	0.21	0.45	0.45	0.45	-0.50	-1.63	1.66	-1.69	-0.39	0.42
9	-0.60	0.00	0.25	0.00	0.64	0.25	1.33	-0.50	-1.19	1.59	-0.61	-4.41
10	0.77	1.34	-0.75	-0.32	-0.32	-0.32	1.21	-2.23	-1.48	-1.48	-0.61	-4.41

n	TORSION, Nm 87%R; blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	14.56	1.9600	2.1186	-0.5697	-0.0479	-0.0479	-0.4506	-0.4506	-0.0481	-0.0481	-3332.90	-1836.77
1	20.02	-2.9351	-2.7559	0.0479	0.4276	0.0479	0.0261	0.0481	0.0057	0.0057	1280.39	290.43
2	0.81	-0.0505	-0.0720	-0.0290	-0.0290	-0.0290	0.0052	-0.0481	0.0041	0.0041	-16.55	89.98
3	6.12	0.1580	0.1653	-0.0499	-0.0273	0.1653	0.0046	0.0052	0.0041	0.0041	184.32	24.16
4	-0.08	-0.0041	-0.0148	0.0387	0.0477	-0.0148	-0.0015	-0.0046	0.0000	0.0000	-69.50	53.55
5	-1.18	0.0136	0.0161	-0.0017	0.0080	0.0161	0.0004	-0.0046	0.0000	0.0000	32.59	6.62
6	0.40	-0.0126	-0.0167	0.0107	0.0073	-0.0167	0.0000	0.0012	-0.0007	-0.0007	14.72	-14.29
7	-5.31	0.0179	0.0053	0.0000	-0.0173	0.0053	0.0004	-0.0011	0.0000	0.0000	41.74	-25.97
8	-1.37	0.0109	-0.0059	0.0000	-0.0001	-0.0059	0.0000	0.0005	0.0000	0.0000	4.64	10.80
9	0.22	-0.0079	0.0038	0.0000	0.0014	0.0038	-0.0001	-0.0001	0.0000	0.0000	-10.86	20.71
10	-0.90	0.0109	-0.0027	0.0000	-0.0015	-0.0027	0.0000	0.0001	-0.0002	-0.0002		

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N		PTCH LNK,LD,N		PTCH LNK,LD,N		SERVO, N		SERVO, N	
	An	Bn	An	Bn	An	Bn	LEFT	RIGHT	An	Bn
0	-351.00		-407.43		-294.43		-501.57		-736.14	
1	146.49	56.35	157.53	65.73	138.98	61.54	-5.03	25.18	44.46	-9.24
2	-42.44	0.01	-52.45	-6.09	-51.00	0.64	-26.89	15.17	-15.90	4.25
3	-40.34	11.86	-58.19	-12.18	-32.53	-2.09	173.71	37.00	-75.09	7.99
4	-55.76	-18.67	-61.08	-19.92	-47.37	-22.72	2.59	-15.28	-9.73	-13.03
5	-5.95	24.24	-8.73	19.86	-4.60	24.38	-5.23	-7.17	-5.86	1.28
6	-1.68	-10.13	-2.21	-15.55	-3.17	-7.16	76.21	60.94	-34.93	51.07
7	58.28	-22.78	54.12	-2.16	65.04	-10.39	2.54	13.44	7.94	12.41
8	16.76	-35.02	16.02	-26.41	12.53	-25.92	5.76	-21.49	9.68	-4.45
9	-4.80	-23.78	7.20	-16.56	-1.96	-12.65	-45.16	76.45	74.91	-55.04
10	32.23	-33.60	33.07	-17.33	48.73	-27.63	-11.37	-16.80	-15.82	-6.69

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g		VERT ACCEL, g	
	An	Bn	An	Bn	An	Bn	FRONT	RIGHT	An	Bn
0			427.86		241.57		0.1256		-0.1615	
1	941.92	-66.75	-51.34	-1600.88	1578.68	-19.70	-0.0228	0.0056	-0.0129	-0.0309
2	731.05	-683.94	-4.42	-54.12	-53.13	5.32	0.0001	-0.0072	0.0133	0.0069
3	-1537.77	883.90	6.23	13.90	0.53	3.15	0.0736	0.0036	0.0837	0.0344
4	551.54	108.66	43.35	-2.87	0.60	30.70	0.0093	0.0191	-0.0094	-0.0113
5	76.81	331.13	-11.99	-16.44	-4.12	14.96	-0.0037	-0.0011	0.0052	-0.0001
6	-167.09	547.88	2.70	-10.80	3.09	-4.40	0.0817	0.0407	0.0288	-0.0059
7	626.17	0.00	37.25	0.00	33.13	-6.19	0.0080	0.0000	-0.0199	-0.0119
8	295.54	0.00	26.12	0.00	-12.84	25.02	0.0074	0.0000	-0.0050	-0.0059
9	188.29	0.00	8.63	0.00	-4.68	0.12	0.0597	0.0000	0.0026	-0.0106
10	66.21	0.00	27.10	0.00	-14.12	38.51	0.0090	0.0000	0.0001	0.0069

n	GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N	
	An	Bn	An	Bn	An	Bn
0	-7204.3		-1374.3		6394.30	
1	-140.5	-66.8	-170.7	-102.4	-25.06	45.85
2	-26.8	-23.7	-12.2	-55.0	-18.28	-63.45
3	314.0	-361.5	94.5	-322.7	-583.72	310.89
4	-17.5	16.5	-17.5	17.2	44.16	6.94
5	7.6	-15.3	3.6	-5.4	-20.46	15.39
6	12.9	-68.9	-10.5	-112.0	-142.86	48.00
7	-19.0	45.8	-20.9	41.8	42.59	-43.05
8	-2.0	9.0	6.3	14.2	28.03	7.05
9	-58.5	-16.0	-41.7	-9.9	47.16	-60.08
10	11.4	-4.3	6.0	-4.3	-33.37	15.37

FLIGHT NUMBER V3208

FLIGHT PARAMETERS	NO	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	69.199997	69.320000	69.250000	0.037170
LOAD FACTOR	2	0.998000	1.042000	1.013000	0.014350
ALTITUDE (M)	3	3109.000000	3112.000000	3111.000000	1.506000
AIR DENSITY (KG/M3)	4	0.890400	0.891300	0.890800	0.000345
SOUND SPEED (M/S)	5	329.899994	330.000000	329.899994	0.043000
ADVANCE RATIO	6	0.324600	0.325200	0.325000	0.000190
CT/SIGMA	7	0.085680	0.089620	0.087080	0.001240
CZM	8	0.514100	0.537700	0.522500	0.007440
REDUCED MASS (KG)	9	2685.000000	2687.000000	2687.000000	0.797000
I.A.S. (M/S)	10	59.009998	59.099998	59.049999	0.031650
STAT FLT PRES (MB)	11	692.500000	692.799988	692.700012	0.136100
STAT FLT TEMP (DEG C)	12	-2.369000	-2.180000	-2.280000	0.070620
HELICOPTER MASS (KG)	13	1953.000000	1954.000000	1954.000000	0.368600
COLL PITCH (DEG)	14	12.559000	12.569000	12.564000	0.004610
LAT CYC PITCH (DEG)	15	-1.974000	-1.889000	-1.956000	0.022160
LON CYC PITCH (DEG)	16	5.421000	5.506000	5.466000	0.024300
TR PITCH (DEG)	17	13.400000	14.940000	14.520000	0.396100
AIRCRAFT PITCH (DEG)	18	-4.150000	-4.062000	-4.145000	0.021340
AIRCRAFT ROLL (DEG)	19	-1.627000	-0.660000	-1.188000	0.346200
PITCH RATE (DEG/S)	20	-0.825000	0.934000	0.151100	0.589500
ROLL RATE (DEG/S)	21	-7.772000	9.552000	1.325000	6.206000
YAW RATE (DEG/S)	22	-1.646000	1.051000	-0.117900	0.692900
MR ROT SPEED (RD/S)	23	40.570000	40.619999	40.590000	0.021730
ENGINE POWER (KW)	24	386.000000	393.100006	388.600006	2.153000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 2		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-120.71		-213.60		20.29		-114.86		-59.00		-90.00	
1	-34.00	85.14	-34.46	81.07	-20.73	31.64	-6.54	12.57	-8.61	13.95	-15.66	19.39
2	-35.84	-39.60	-31.46	-40.99	-11.41	-23.84	-3.20	-10.58	-1.44	-10.44	2.33	-12.94
3	29.36	-101.20	31.66	-90.09	12.51	-53.25	8.08	-34.44	9.09	-30.58	2.06	-32.04
4	0.59	0.67	0.35	3.42	-2.50	4.52	-2.03	0.00	0.85	2.06	1.06	4.82
5	45.97	-26.84	34.38	-17.50	15.35	-11.45	8.18	-6.83	4.26	-3.81	0.69	-1.80
6	-12.79	0.00	-12.68	0.00	-5.94	0.00	2.51	-0.53	3.09	-0.67	0.80	1.13
7	11.95	0.00	-9.83	17.03	-1.31	-2.28	1.50	0.76	2.15	2.09	0.60	-0.18
8	-4.08	0.00	2.63	4.55	1.42	-2.46	0.89	0.61	0.73	-0.93	0.33	-1.67
9	2.88	0.00	3.14	0.00	1.63	0.00	0.69	0.08	0.70	0.10	1.27	-4.97
10	-7.35	0.00	3.38	-5.85	1.63	2.83	3.99	0.49	4.04	-0.08	14.84	1.66

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-16.29		14.43		53.04		-28.96		-783.71		1285.70	
1	-24.42	33.88	-20.27	36.28	-17.20	46.01	3.32	60.21	56.44	-529.64	84.57	-201.49
2	17.66	-14.77	27.96	-12.18	27.45	-8.03	-5.56	-16.89	-1.34	83.97	-57.95	46.75
3	0.97	-34.16	8.29	-29.50	9.30	-28.17	9.73	-23.34	23.81	19.31	80.31	-36.99
4	4.78	-5.77	4.61	-2.68	4.44	-6.48	0.27	-3.94	35.87	5.96	-66.15	8.99
5	-1.32	4.34	-2.89	3.34	-1.38	-1.74	-3.91	-1.27	-10.39	20.96	-4.07	-11.31
6	-5.53	-1.25	-2.67	1.70	1.91	-0.78	5.90	-4.12	5.02	4.14	39.97	15.79
7	-0.53	-1.36	-1.41	-2.65	-0.11	0.43	5.11	1.39	8.83	0.00	9.87	14.83
8	-1.83	0.19	0.91	-0.66	1.60	-0.24	2.06	2.71	-5.39	0.00	7.17	7.82
9	-1.55	0.24	-0.63	1.98	0.60	1.56	1.82	-5.27	4.72	0.00	0.31	0.25
10	-6.88	-1.53	-12.41	-1.86	-6.22	-1.24	27.15	6.22	-3.48	0.00	-25.48	-3.04

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-714.00		-2620.00		708.14		1232.90		1274.30		1285.70	
1	65.52	-523.79	96.27	-391.16	73.85	-321.95	67.99	-252.86	86.41	-228.20	84.57	-201.49
2	-5.51	78.00	-18.31	94.31	-21.02	72.92	-30.26	58.72	-47.28	57.19	-57.95	46.75
3	16.67	-8.31	50.55	-38.73	62.83	-23.02	71.80	-29.95	80.58	-40.40	80.31	-36.99
4	67.87	12.17	1.80	34.47	-37.45	-38.79	-48.99	15.43	-70.51	-59.10	-66.15	8.99
5	-5.57	10.71	-8.03	3.30	-12.54	11.10	-3.95	-1.18	-8.92	3.93	-4.07	-11.31
6	2.27	2.72	7.73	8.83	-2.07	1.22	28.15	9.22	-8.96	3.00	39.97	15.79
7	-5.22	9.05	-1.84	-3.19	-0.57	14.28	6.32	9.19	1.20	22.37	9.87	14.83
8	2.12	3.68	1.93	-3.33	2.57	7.72	1.34	6.51	6.29	10.84	7.17	7.82
9	4.05	0.00	4.58	0.00	-0.95	7.03	-0.92	4.75	2.19	1.07	0.31	0.25
10	0.94	-1.62	1.13	1.96	1.21	1.36	-10.01	2.95	-16.63	1.47	-25.48	-3.04

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	838.86	1830.00	1150.00	574.57	1150.00	574.57	1150.00	574.57	-59.34	48.44	-73.29	47.57
1	70.82	-122.76	29.81	17.76	29.81	17.76	29.81	17.76	48.44	11.96	47.57	6.04
2	-49.60	27.04	-26.66	-11.24	-26.66	-11.24	-26.66	-11.24	5.15	38.32	-6.28	32.66
3	-52.50	-40.23	13.90	9.62	13.90	9.62	13.90	9.62	12.32	6.78	4.57	5.72
4	-58.46	-48.16	-28.28	-14.23	-28.28	-14.23	-28.28	-14.23	12.73	13.78	2.61	10.26
5	-7.00	-0.48	-1.85	-1.18	-1.85	-1.18	-1.85	-1.18	6.04	-2.10	4.43	-0.04
6	-5.50	1.62	-2.95	10.11	-2.95	10.11	-2.95	10.11	-1.76	-1.18	-1.09	-0.95
7	0.57	19.37	7.26	2.11	7.26	2.11	7.26	2.11	3.43	0.00	-1.38	2.40
8	8.22	8.85	4.85	1.28	4.85	1.28	4.85	1.28	-2.19	0.00	0.88	1.52
9	3.92	-0.58	1.94	0.53	1.94	0.53	1.94	0.53	1.27	0.00	1.92	0.00
10	-23.94	-0.18	-18.15	-8.89	-18.15	-8.89	-18.15	-8.89	-1.87	0.00	0.54	-0.94

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-417.86	88.66	102.57	-45.00	102.57	-45.00	102.57	-45.00	9.02	27.60	27.60	9.38
1	45.75	15.08	42.74	43.91	42.74	43.91	42.74	43.91	38.11	36.42	36.42	9.38
2	-5.83	21.22	-6.41	-2.88	-6.41	-2.88	-6.41	-2.88	-3.73	11.06	11.06	7.24
3	1.77	-9.66	7.89	7.32	7.89	7.32	7.89	7.32	4.77	-9.75	7.27	-1.79
4	0.19	3.44	3.47	-0.14	3.47	-0.14	3.47	-0.14	2.08	0.78	6.21	3.35
5	0.47	-2.28	4.17	1.83	4.17	1.83	4.17	1.83	2.08	-2.95	2.28	-0.39
6	-2.17	0.89	1.40	-1.02	1.40	-1.02	1.40	-1.02	0.60	0.14	0.41	0.03
7	0.28	0.49	-0.60	1.04	-0.60	1.04	-0.60	1.04	2.12	2.02	1.58	0.60
8	0.66	-1.14	-1.15	-1.45	-1.15	-1.45	-1.15	-1.45	0.86	1.30	0.64	-0.24
9	1.37	0.00	-0.02	-0.71	-0.02	-0.71	-0.02	-0.71	-0.08	0.47	0.49	0.25
10	0.91	1.58	1.47	0.68	1.47	0.68	1.47	0.68	8.54	1.06	5.06	-0.14

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	11.76	2.1314	2.3386	-0.9269	-0.9269	-0.8064	-0.8064	-0.8064	-6041.40	-6041.40
1	36.60	-1.8284	-1.7444	0.0703	0.0703	0.0691	0.0691	0.0691	1465.93	-2908.34
2	3.34	-0.1930	-0.1734	-0.0033	-0.0033	-0.0008	-0.0008	-0.0008	-52.63	312.58
3	4.06	0.2529	0.2257	0.0021	0.0021	0.0064	0.0064	0.0064	209.63	99.40
4	2.82	0.0198	-0.0034	0.0032	0.0032	0.0013	0.0013	0.0013	150.79	88.16
5	2.77	-0.81	0.0555	-0.0016	-0.0016	-0.0008	-0.0008	-0.0008	-40.48	14.33
6	0.52	-0.176	0.0174	0.0026	0.0026	-0.0004	-0.0004	-0.0004	69.61	7.95
7	3.20	-0.0150	-0.0031	-0.0013	-0.0013	0.0008	0.0008	0.0008	15.32	-25.06
8	0.35	0.0163	-0.0168	0.0009	0.0009	-0.0011	-0.0011	-0.0011	4.06	35.60
9	-0.56	-0.0149	0.0007	-0.0004	-0.0004	-0.0016	-0.0016	-0.0016	-5.69	60.63
10	5.56	0.0084	0.0059	0.0007	0.0007	-0.0003	-0.0003	-0.0003	-1.85	-9.88

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PITCH_LNK_LD,N blade 1		PITCH_LNK_LD,N blade 2		PITCH_LNK_LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-529.57		-567.71		-454.00		-651.71		-1225.70	
1	297.27	139.63	327.99	135.72	297.70	120.34	15.18	-38.23	93.95	-62.99
2	31.86	215.77	-23.72	142.31	-31.65	190.15	-12.80	45.65	1.57	11.31
3	57.59	72.09	2.24	-12.55	16.49	54.13	-168.50	-354.22	-112.39	159.09
4	81.41	84.33	-0.20	26.98	20.21	74.16	136.30	-3.53	33.21	-4.23
5	28.13	-13.31	-15.95	9.22	9.61	13.16	-56.44	-25.88	-21.25	10.34
6	2.03	-30.08	-9.58	-6.81	1.56	15.15	-1.81	-72.10	51.13	-16.50
7	-35.20	-23.38	-11.61	-11.47	-35.06	-46.69	49.65	5.29	32.80	8.77
8	-2.00	-2.98	2.08	-21.69	-0.80	-39.92	17.08	-9.24	-7.18	7.40
9	1.96	-17.40	-0.69	-22.11	-11.02	-26.62	38.38	103.57	10.67	68.35
10	-11.24	14.72	-16.59	7.17	-6.60	-5.77	2.94	20.76	-13.26	0.01

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0			449.71		275.57		-0.2053		-0.8947	
1	541.16	675.24	-331.70	-993.07	995.04	-325.40	-0.0265	-0.0070	0.0001	-0.0339
2	694.95	-710.51	133.25	-148.28	-175.57	-141.32	-0.0040	-0.0260	0.0241	0.0134
3	-419.06	3906.39	-1.96	23.11	-1.06	34.35	-0.0223	-0.0468	0.1022	0.1149
4	324.35	-32.97	-9.93	26.85	-32.03	-24.34	-0.0167	0.0157	0.0149	0.0080
5	118.15	540.25	-36.57	-9.59	-32.11	47.42	0.0086	-0.0026	0.0031	0.0008
6	-28.17	195.54	22.43	-17.30	21.27	-15.33	0.0393	0.0128	0.0044	-0.0049
7	570.62	0.00	19.38	0.00	-14.36	-20.61	0.0130	0.0000	-0.0150	0.0098
8	326.42	0.00	22.15	0.00	16.66	20.53	0.0161	0.0000	0.0019	0.0032
9	208.49	0.00	26.46	0.00	-2.81	-14.47	0.0369	0.0000	-0.0262	0.0208
10	69.54	0.00	27.05	0.00	-45.40	-2.02	0.0137	0.0000	-0.0134	-0.0080

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-9991.4		-275.6		5798.60		8758.60	
1	-105.0	-116.0	-128.3	-194.1	-61.66	48.38	113.63	128.25
2	-56.2	-7.0	-103.3	-47.4	-177.37	-81.47	31.33	49.89
3	493.4	-1207.5	101.1	-1134.0	-585.83	229.82	-37.76	1546.04
4	14.0	44.3	-30.5	4.1	-21.88	12.02	30.61	-97.34
5	32.7	19.1	28.3	21.5	-41.02	51.07	-38.86	20.91
6	50.9	-58.7	4.5	-58.9	20.21	106.76	137.42	70.94
7	14.3	-20.3	17.6	-28.1	-43.95	-28.31	-37.93	-8.61
8	13.3	22.8	3.1	25.5	-22.18	32.05	30.58	17.74
9	-22.8	-32.7	-34.9	-4.0	-22.18	-30.47	80.42	-142.97
10	-24.4	-20.8	-21.7	-21.3	18.11	-1.21	19.70	15.78

FLIGHT NUMBER V3209

FLIGHT PARAMETERS	NO	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	72.250000	72.349998	72.290001	0.030500
LOAD FACTOR	2	0.950000	1.019000	0.988800	0.016750
ALTITUDE (M)	3	3130.000000	3133.000000	3131.000000	1.298000
AIR DENSITY (KG/M3)	4	0.889200	0.889800	0.889400	0.000239
SOUND SPEED (M/S)	5	329.700012	329.799988	329.700012	0.040480
ADVANCE RATIO	6	0.339100	0.340300	0.339500	0.000417
CT/SIGMA	7	0.081770	0.088030	0.085130	0.001480
CZM	8	0.490600	0.528200	0.510800	0.008900
REDUCED MASS (KG)	9	2686.000000	2688.000000	2687.000000	0.722500
I.A.S. (M/S)	10	61.570000	61.639999	61.599998	0.022770
STAT FLT PRES (MB)	11	690.700012	690.900024	690.900024	0.117400
STAT FLT TEMP (DEG C)	12	-2.651000	-2.463000	-2.557000	0.066470
HELICOPTER MASS (KG)	13	1951.000000	1951.000000	1951.000000	0.000000
COLL PITCH (DEG)	14	13.003000	13.021000	13.012000	0.005830
LAT CYC PITCH (DEG)	15	-2.206000	-1.881000	-2.137000	0.093960
LON CYC PITCH (DEG)	16	6.087000	6.435000	6.196000	0.105500
TR PITCH (DEG)	17	14.390000	15.640000	14.940000	0.324300
AIRCRAFT PITCH (DEG)	18	-5.119000	-5.031000	-5.093000	0.041330
AIRCRAFT ROLL (DEG)	19	-0.836000	0.834000	-0.184600	0.588800
PITCH RATE (DEG/S)	20	-0.678000	1.315000	0.449200	0.637900
ROLL RATE (DEG/S)	21	-12.870000	14.300000	0.385400	8.497000
YAW RATE (DEG/S)	22	-1.030000	1.080000	0.019880	0.586200
MR ROT SPEED (RD/S)	23	40.470001	40.619999	40.560001	0.049160
ENGINE POWER (KW)	24	411.000000	417.799988	414.700012	1.846000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-130.43	-223.60	16.86	-116.00	-116.00	-116.00	-116.00	-116.00	-116.00	-116.00	-116.00	-116.00
1	-44.98	-43.59	-24.75	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46	-8.46
2	-37.33	-34.37	-12.14	-26.48	-26.48	-26.48	-26.48	-26.48	-26.48	-26.48	-26.48	-26.48
3	36.66	-105.75	15.93	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74
4	10.00	9.23	1.45	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
5	39.68	-20.62	14.53	-10.04	-10.04	-10.04	-10.04	-10.04	-10.04	-10.04	-10.04	-10.04
6	-12.22	0.00	-6.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	9.48	0.00	-1.57	-2.71	-2.71	-2.71	-2.71	-2.71	-2.71	-2.71	-2.71	-2.71
8	-3.83	0.00	1.08	-1.87	-1.87	-1.87	-1.87	-1.87	-1.87	-1.87	-1.87	-1.87
9	2.29	0.00	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	-7.07	0.00	1.54	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66	2.66

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-17.43	14.14	52.67	-28.93	-28.93	-28.93	-28.93	-28.93	-28.93	-28.93	-28.93	-28.93
1	-25.09	34.51	-15.67	46.29	46.29	46.29	46.29	46.29	46.29	46.29	46.29	46.29
2	17.08	-17.69	28.01	-10.86	-10.86	-10.86	-10.86	-10.86	-10.86	-10.86	-10.86	-10.86
3	2.52	-35.13	9.24	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46
4	3.61	-5.12	1.83	-2.77	-2.77	-2.77	-2.77	-2.77	-2.77	-2.77	-2.77	-2.77
5	0.12	3.65	-2.28	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
6	-4.63	-0.41	-2.60	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41
7	1.23	-1.84	-1.35	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
8	-1.55	0.78	-0.28	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
9	-1.38	0.17	-1.18	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
10	-5.93	-2.42	-11.60	-4.91	-4.91	-4.91	-4.91	-4.91	-4.91	-4.91	-4.91	-4.91

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-758.29	-2648.60	691.71	-2648.60	-2648.60	-2648.60	-2648.60	-2648.60	-2648.60	-2648.60	-2648.60	-2648.60
1	73.93	-508.61	88.76	-309.74	-309.74	-309.74	-309.74	-309.74	-309.74	-309.74	-309.74	-309.74
2	-9.42	81.12	-21.29	74.20	74.20	74.20	74.20	74.20	74.20	74.20	74.20	74.20
3	22.14	-8.11	52.87	-25.06	-25.06	-25.06	-25.06	-25.06	-25.06	-25.06	-25.06	-25.06
4	69.21	22.09	-4.14	37.83	37.83	37.83	37.83	37.83	37.83	37.83	37.83	37.83
5	-8.34	12.45	-2.68	10.14	10.14	10.14	10.14	10.14	10.14	10.14	10.14	10.14
6	-0.47	7.13	3.18	10.54	10.54	10.54	10.54	10.54	10.54	10.54	10.54	10.54
7	-4.37	7.57	-2.05	-3.55	-3.55	-3.55	-3.55	-3.55	-3.55	-3.55	-3.55	-3.55
8	2.71	4.70	2.48	-4.30	-4.30	-4.30	-4.30	-4.30	-4.30	-4.30	-4.30	-4.30
9	5.99	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	1.21	-2.10	1.06	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	835.43		1831.40		1155.70		579.00		-59.23		-75.13	
1	73.30	-117.94	51.93	-86.64	30.22	-54.70	18.33	-34.30	48.74	5.75	48.99	1.02
2	-49.30	30.35	-38.88	16.98	-25.16	4.42	-10.83	1.22	-0.77	43.11	-10.34	35.76
3	53.27	-40.27	37.66	-33.94	15.15	-19.76	9.10	-14.38	4.87	13.42	-0.95	11.26
4	-57.12	-49.15	-48.21	-1.64	-27.85	-23.81	-16.00	-0.75	7.38	17.61	-1.13	13.67
5	-2.30	8.76	-4.16	0.29	-0.39	4.42	-1.82	-0.56	5.39	0.86	3.44	1.94
6	3.81	6.06	25.31	8.62	1.64	2.92	9.88	1.61	-1.60	-0.36	-1.74	0.18
7	-4.17	12.86	-3.79	10.66	-3.57	5.07	-1.77	2.99	2.08	0.00	-0.90	1.56
8	5.13	9.97	4.48	4.37	2.46	4.97	0.86	1.56	-2.45	0.00	1.02	1.76
9	2.37	4.66	1.52	6.80	1.28	2.83	0.73	3.25	2.12	0.00	1.57	0.00
10	-21.87	-4.74	-24.06	-7.59	-16.48	-4.70	-8.45	-2.33	-1.81	0.00	0.77	-1.33

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-417.57		102.29		-45.11		6.56		26.09	
1	45.07	11.00	43.20	7.12	44.53	16.49	39.07	23.33	37.66	8.98
2	-8.67	27.53	-9.85	29.34	-3.74	18.86	-3.06	7.97	11.32	9.01
3	1.52	-0.44	7.71	-0.67	2.93	-6.36	7.60	-12.06	4.94	0.87
4	0.40	9.62	6.68	13.46	0.98	11.27	0.18	5.96	3.53	4.06
5	3.63	0.35	5.52	0.35	4.10	0.13	3.86	-1.11	1.91	-0.61
6	-1.63	0.67	0.73	-0.68	1.57	-0.44	-0.79	2.06	0.41	-0.31
7	0.46	0.79	-1.46	-0.11	-0.13	0.32	0.66	-0.49	0.20	0.45
8	0.99	-1.72	-1.76	-0.49	-1.03	-0.29	-1.83	1.95	0.01	-0.43
9	1.85	0.00	0.01	0.71	-0.31	1.33	-1.26	2.19	-0.35	0.51
10	0.85	1.48	-0.81	-0.02	1.58	0.44	-0.48	-0.22	7.76	4.27

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	10.70		2.1071		2.3414		-0.9886		-0.8726		-6357.10	
1	38.78	15.17	-1.4939	0.5217	-1.4216	0.5006	0.0669	-0.0436	0.0684	-0.0587	1547.93	-2753.88
2	4.13	4.65	-0.1960	-0.3075	-0.1956	-0.2916	-0.0029	-0.0006	0.0009	-0.0020	-76.04	303.61
3	2.73	-1.23	0.2732	-0.3047	0.2495	-0.2907	-0.0001	0.0068	0.0040	0.0069	172.49	105.83
4	0.08	2.66	0.0273	0.0223	0.0112	0.0286	0.0032	0.0036	0.0021	0.0051	166.23	104.46
5	2.11	-0.09	0.0448	0.0325	0.0258	0.0256	-0.0011	-0.0001	-0.0024	0.0018	-36.63	29.84
6	-0.24	0.22	0.0244	-0.0062	0.0254	-0.0067	0.0040	0.0000	0.0005	-0.0030	71.53	-23.58
7	2.31	2.10	-0.0086	0.0000	-0.0014	-0.0024	-0.0007	0.0000	0.0006	0.0011	13.99	-20.10
8	0.09	1.06	0.0149	0.0000	-0.0043	-0.0021	0.0007	0.0000	-0.0008	0.0014	-65.97	22.97
9	-0.69	0.38	-0.0234	0.0000	-0.0025	0.0284	-0.0011	0.0000	-0.0024	0.0000	-19.60	96.62
10	5.85	2.00	0.0066	0.0000	0.0046	-0.0066	0.0003	0.0000	-0.0001	-0.0002	-0.52	-27.12

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-557.86		-597.43		-477.71		-628.29		-1251.40	
1	310.66	122.81	336.30	123.08	306.05	111.06	26.40	-21.56	83.93	-43.68
2	0.90	239.06	-38.97	183.22	-55.01	207.16	6.00	27.47	18.98	18.30
3	12.53	110.64	2.97	43.59	-18.97	84.50	-75.59	-480.47	-102.31	155.22
4	46.10	115.51	3.44	68.68	-3.75	87.49	83.87	33.71	24.87	2.17
5	30.05	17.22	-3.92	24.77	8.15	21.11	-40.83	-12.65	-12.15	6.73
6	9.46	-23.91	4.52	-8.94	6.11	-11.32	46.70	-25.02	53.02	-2.65
7	-14.27	-25.33	5.80	-14.01	-18.33	-39.30	23.02	-9.75	22.36	-7.87
8	-3.01	-9.00	5.96	-21.09	-2.13	-19.58	-3.68	-34.28	2.49	-4.84
9	-12.53	-18.67	5.80	-27.39	-10.31	-13.69	23.15	107.41	-8.58	58.82
10	-10.30	8.23	-14.00	-5.07	-13.16	-9.96	7.52	22.89	-1.50	6.60

n	FZSHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	430.07	967.31	289.71		0.2667		0.1506	
1	717.68	-742.29	813.63	-405.13	-0.0214	-0.0136	0.0077	-0.0352
2	-700.85	4330.55	-170.58	-168.21	0.0057	-0.0141	0.0187	0.0052
3	347.62	-85.40	-3.89	18.64	-0.0410	-0.0426	0.1157	0.1360
4	115.89	484.74	-16.76	17.44	0.0002	0.0090	-0.0012	0.0117
5	-9.05	219.67	-39.57	-21.86	0.0101	0.0036	-0.0011	0.0008
6	491.36	0.00	32.11	-24.79	0.0717	0.0412	-0.0276	0.0095
7	274.11	0.00	11.64	0.00	0.0097	0.0000	-0.0095	0.0183
8	238.01	0.00	26.26	0.00	0.0264	0.0000	-0.0004	-0.0025
9	79.16	0.00	29.49	0.00	0.0224	0.0000	-0.0257	0.0195
10			27.47	0.00	0.0143	0.0000	-0.0084	-0.0079

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-10443.0		-64.3		5494.30		8515.70	
1	-82.6	-138.4	-106.3	-171.2	-64.96	55.97	117.68	84.49
2	-81.2	-37.8	-86.0	-60.3	-108.94	-81.76	-56.18	-3.77
3	585.0	-1295.2	165.3	-1217.7	-687.28	148.72	-20.99	1625.46
4	-7.1	48.8	-38.7	-8.1	-31.08	-13.47	18.23	-65.59
5	12.6	6.6	3.1	-6.6	-35.88	-19.48	-46.47	-17.17
6	78.3	-55.5	57.5	-64.3	43.55	52.64	108.12	89.16
7	25.0	-7.6	21.5	8.4	-46.16	-27.14	-15.51	-7.39
8	-0.5	22.6	-1.6	24.7	14.83	15.01	-8.71	27.74
9	-18.6	-45.2	-36.8	-13.5	-15.37	-64.53	81.94	-110.91
10	-17.0	-26.8	-18.9	-25.0	23.53	-2.47	30.66	19.70

FLIGHT NUMBER V3211

FLIGHT PARAMETERS	NØ	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	70.290001	70.529999	70.430000	0.082400
LOAD FACTOR	2	1.432000	1.528000	1.480000	0.024820
ALTITUDE (M)	3	2931.000000	2943.000000	2938.000000	3.716000
AIR DENSITY (KG/M3)	4	0.909800	0.911100	0.910300	0.000403
SOUND SPEED (M/S)	5	330.000000	330.200012	330.000000	0.100300
ADVANCE RATIO	6	0.330600	0.331500	0.331000	0.000303
CT/SIGMA	7	0.120200	0.127600	0.124000	0.001960
CZM	8	0.721400	0.765400	0.744100	0.011730
REDUCED MASS (KG)	9	2609.000000	2613.000000	2611.000000	1.155000
I.A.S. (M/S)	10	60.580002	60.790001	60.709999	0.072150
STAT FLT PRES (MB)	11	707.799988	708.900024	708.299988	0.335900
STAT FLT TEMP (DEG C)	12	-2.180000	-1.803000	-2.080000	0.164800
HELICOPTER MASS (KG)	13	1941.000000	1941.000000	1941.000000	0.000000
COLL PITCH (DEG)	14	12.864000	12.882000	12.873000	0.007120
LAT CYC PITCH (DEG)	15	-1.733000	-1.534000	-1.649000	0.062460
LON CYC PITCH (DEG)	16	4.567000	4.877000	4.680000	0.092500
TR PITCH (DEG)	17	11.420000	12.070000	11.750000	0.200100
AIRCRAFT PITCH (DEG)	18	-11.110000	-10.230000	-10.590000	0.288700
AIRCRAFT ROLL (DEG)	19	-54.900002	-54.369999	-54.639999	0.174300
PITCH RATE (DEG/S)	20	5.976000	10.430000	7.929000	1.165000
ROLL RATE (DEG/S)	21	-14.460000	5.917000	-1.611000	6.509000
YAW RATE (DEG/S)	22	-7.831000	-5.339000	-6.344000	0.818600
MR ROT SPEED (RD/S)	23	40.490002	40.590000	40.529999	0.039660
ENGINE POWER (KW)	24	437.899994	444.799988	441.399994	2.025000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-150.00		-245.00		16.00		-108.57		-53.57		-80.43	
1	-9.98	44.72	-11.91	40.06	-15.93	7.79	-7.99	7.65	-11.53	6.89	-13.21	23.10
2	-42.54	-51.50	-41.51	-49.48	-10.20	-30.84	6.56	-13.13	7.43	-12.21	13.83	-26.29
3	60.65	-129.14	47.34	-108.30	28.47	-74.92	12.71	-48.12	12.08	-41.90	6.01	-42.17
4	-17.09	-4.52	-11.69	-19.44	-12.41	-7.38	-6.40	-1.95	-1.54	-4.48	-0.74	-2.68
5	151.28	-108.83	137.05	-62.72	81.22	-48.26	22.29	-27.67	22.50	-18.00	8.72	-12.10
6	-59.73	0.00	-51.58	0.00	-25.62	0.00	10.28	-3.00	9.51	-2.51	-0.42	-4.59
7	89.78	0.00	-38.76	67.13	-17.79	-30.81	13.33	-2.86	12.13	4.87	-11.77	-0.87
8	-11.60	0.00	4.24	7.35	2.59	-4.49	2.77	-2.32	2.91	-0.17	-2.32	-5.86
9	4.18	0.00	4.96	0.00	2.89	0.00	0.28	-2.43	0.90	-2.57	0.33	-4.81
10	-20.90	0.00	8.70	-15.07	3.66	6.34	10.13	7.36	7.61	6.04	29.03	14.62

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1.29		37.29		73.24		-35.21		-982.00	
1	-15.43	42.57	-17.52	53.59	-19.51	68.29	13.86	78.47	-133.42	-1036.15
2	33.72	-42.30	44.12	-36.15	41.37	-33.04	-1.15	-39.00	78.03	295.74
3	-0.11	-42.91	-4.82	-34.82	-4.89	-34.95	4.93	-37.13	-17.87	-12.52
4	5.61	-6.68	4.39	0.06	0.29	1.70	-7.85	8.51	46.27	-12.18
5	-9.91	10.93	-20.87	18.88	-32.27	19.88	-40.45	35.88	1.22	12.60
6	-10.89	5.85	-8.80	5.52	-1.48	-3.40	2.62	-16.59	-21.49	-43.86
7	-22.81	-3.86	-9.03	1.44	17.54	2.69	53.63	9.96	35.72	0.00
8	-5.07	-0.12	-0.96	2.02	2.09	2.00	16.91	2.08	-15.06	0.00
9	-0.31	1.64	0.60	4.25	-0.55	4.59	2.37	-8.56	8.83	0.00
10	-13.70	-10.65	-29.49	-17.03	-11.64	-3.45	53.27	29.06	-6.82	0.00

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-907.57		-2821.40		635.86		1211.40		1221.40		1257.10	
1	-141.77	-1034.94	-19.00	-662.82	-69.29	-644.79	-67.85	-507.19	-58.21	-502.09	-48.10	-448.62
2	70.56	286.88	31.75	266.64	2.12	269.66	-4.40	240.02	-38.72	261.82	-44.24	242.45
3	-24.45	-43.17	-11.23	-69.03	33.81	-170.77	51.64	-195.31	50.02	-254.71	67.53	-259.61
4	103.87	-3.28	11.83	58.82	-137.00	-50.43	-149.83	56.61	-224.04	-53.54	-210.97	63.41
5	4.68	15.58	-71.64	-41.32	-158.68	-18.53	-176.09	-47.71	-238.90	-66.11	-221.81	-90.39
6	-31.58	-43.28	-28.58	-29.85	-48.82	-14.84	-26.63	51.38	-60.73	3.88	-30.06	86.85
7	-18.56	32.15	-16.58	-28.71	48.78	41.12	74.80	57.92	103.73	40.55	123.79	75.66
8	6.72	11.64	3.97	-6.88	18.64	8.95	32.08	7.03	46.76	11.62	44.28	-5.80
9	7.46	0.00	11.06	0.00	6.06	-1.85	1.84	0.57	4.75	5.78	-1.97	10.42
10	2.98	-5.17	2.15	3.72	5.13	5.17	-16.40	-8.36	-38.97	-19.16	-53.58	-37.07

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	806.86	1830.00	-24.14	-235.66	1170.00	-158.12	596.29	-83.70	-145.57	84.32	129.80	-162.14
1	-21.74	-332.08	-44.13	134.78	-13.91	77.90	-0.03	36.43	84.32	7.84	129.80	84.44
2	-66.05	183.67	49.01	-166.42	-41.61	-100.49	-17.88	-52.83	-8.51	7.84	6.40	-0.24
3	54.23	-226.39	-131.74	32.82	33.57	-26.90	20.88	5.62	-45.22	71.59	67.28	-31.89
4	-194.16	-46.22	-140.84	-56.06	-90.23	-33.73	-40.76	-17.14	64.57	18.38	28.68	63.54
5	-199.30	-70.61	-16.95	65.83	-91.28	11.08	-52.00	25.39	12.82	-46.81	-36.53	25.02
6	-52.08	14.45	88.65	47.89	-25.69	13.52	4.53	18.70	2.25	-14.31	5.87	-14.59
7	106.35	28.06	29.57	-14.37	49.73	-9.47	32.27	-7.42	12.88	0.00	0.00	-9.11
8	43.82	-2.17	1.35	9.57	24.13	2.17	14.03	0.48	-12.59	0.00	0.00	5.84
9	4.76	4.98	-53.53	-36.00	4.68	-25.16	1.48	-12.68	5.34	0.00	0.00	4.28
10	-61.75	-33.38			-43.68		-17.73		-5.75			1.88
												-3.25

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-492.71	13.37	72.21	106.77	29.93	69.68	108.08	42.93	97.94	-12.37	21.47	31.56
1	77.25	129.29	-8.50	9.74	-1.68	7.67	7.67	9.65	12.56	29.28	60.59	15.53
2	-10.60	0.25	-29.98	43.71	-17.18	34.77	8.38	-24.26	8.38	9.74	13.49	14.24
3	-28.39	51.56	49.11	10.14	51.71	17.64	10.54	28.99	10.54	-10.61	-12.90	-11.23
4	48.37	8.98	13.18	-39.90	25.97	-35.35	-38.39	6.28	-38.39	9.34	8.03	10.45
5	14.80	-45.11	3.11	-10.81	9.17	-7.23	7.33	4.94	7.33	3.02	-16.57	2.90
6	2.88	-11.98	7.43	-7.21	12.66	-8.53	-8.53	15.19	-5.79	2.90	3.81	2.63
7	-7.57	-13.11	-5.91	-6.49	-5.32	-5.27	-5.27	2.17	7.00	25.12	-1.98	23.04
8	7.42	-12.85	-2.77	4.66	-2.28	3.09	3.09	-7.75	6.20	-2.88	6.14	-1.24
9	5.45	0.00	4.04	-0.22	5.68	0.88	0.88	3.11	7.49	7.17	4.56	5.64
10	2.40	4.15								17.64	12.86	12.56
												5.91

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP		
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	
0	4.39	2.9000	2.9871	0.9890	-0.9890	-0.8769	-7578.60	-0.3071	-7578.60	-0.3071	
1	34.13	-5.5408	-5.1946	0.1568	0.1568	0.2867	797.60	-0.3071	797.60	-7373.19	
2	12.54	-0.1488	-0.1348	-0.3646	-0.0430	0.0210	266.41	0.0258	266.41	1711.59	
3	-4.14	0.3861	0.3508	-0.3669	0.0316	0.0025	-36.59	-0.0032	-36.59	-319.94	
4	8.38	-0.0178	-0.0110	0.0071	-0.0012	0.0024	414.09	0.0105	414.09	270.01	
5	3.73	0.1896	0.1533	0.0532	0.0044	0.0176	187.89	0.0138	187.89	251.88	
6	2.60	-0.0397	0.0369	0.0869	0.0096	0.0000	201.47	0.0040	201.47	177.53	
7	19.94	-0.0656	-0.0064	0.0625	-0.0033	0.0000	0.0024	0.0041	0.0024	-233.44	
8	-2.31	0.0211	0.0150	0.0126	0.0014	0.0000	-0.0011	0.0020	-0.0011	-111.53	
9	3.46	-0.0341	-0.0087	-0.0414	-0.0016	0.0000	-0.0041	0.0000	-0.0041	-102.28	
10	15.78	0.0186	0.0262	-0.0193	0.0001	0.0000	-0.0006	-0.0010	-0.0006	22.28	
											4.59

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N		PTCH LNK LD,N		PTCH LNK LD,N		SERVO, N		SERVO, N		SERVO, N	
	blade 1	Bn	blade 2	Bn	blade 3	Bn	LEFT	An	RIGHT	An	FRONT	Bn
0	-976.57		-1027.10		-901.14		-1674.30		-2680.00		-0.4899	
1	475.75	724.54	479.62	737.05	481.56	749.82	18.22	58.79	-11.72	58.79	-0.0274	-0.0174
2	-57.99	45.95	-62.90	43.54	-14.41	46.05	-72.55	35.21	10.52	35.21	0.0096	0.0092
3	-268.34	449.33	-198.03	392.08	-178.96	409.96	123.31	-1311.62	958.10	-1311.62	-0.0659	0.1882
4	419.31	162.42	363.32	131.74	418.01	236.07	80.21	-25.32	135.42	-25.32	0.0164	0.0131
5	86.60	-254.37	52.04	-276.50	174.69	-228.90	44.55	-87.70	2.85	-87.70	-0.0296	0.0122
6	-4.45	-78.27	-10.96	-95.84	21.38	-84.50	-93.78	-845.39	-77.22	-845.39	-0.0470	0.0150
7	-139.39	-108.93	-95.70	-120.58	-57.94	-155.33	78.98	83.63	0.42	83.63	0.0132	-0.0158
8	-24.54	-152.91	10.74	-126.61	69.22	-152.39	-29.40	54.89	1.24	54.89	-0.0228	0.0143
9	-41.83	-76.49	-44.54	-94.18	-19.40	-90.28	150.39	562.46	86.05	562.46	-0.0106	0.0082
10	-25.63	-56.72	-30.38	-81.72	-45.69	-45.88	35.81	10.02	7.10	10.02		

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, 9		VERT ACCEL, 9	
	An	Bn	An	Bn	An	Bn	FRONT	Bn	FRONT	Bn
0	480.00		480.00		289.57		-0.4634		-0.4899	
1	599.45	-799.56	75.28	-3093.59	3037.20	120.71	-0.0512	0.0134	-0.0274	-0.0174
2	-1069.94	-1016.76	174.17	-196.47	-169.78	-177.98	0.0193	-0.0313	0.0096	0.0092
3	-1894.91	6823.58	-9.17	28.30	-52.46	55.11	0.0139	-0.1864	-0.0659	0.1882
4	399.21	207.34	-108.96	117.17	-109.44	-111.17	-0.0109	-0.0109	0.0164	0.0131
5	539.59	862.99	-66.05	-113.58	-110.85	35.21	0.0292	-0.1108	0.0083	0.0122
6	961.48	415.95	12.08	73.43	20.64	49.86	0.0810	-0.2147	-0.0296	0.0150
7	814.05	0.00	107.19	0.00	-75.95	-6.72	0.0344	0.0000	-0.0470	0.0150
8	399.77	0.00	47.43	0.00	32.96	21.52	0.0196	0.0000	0.0132	-0.0158
9	157.02	0.00	44.21	0.00	3.52	49.82	0.0357	0.0000	-0.0228	0.0143
10	84.36	0.00	72.62	0.00	-77.53	-24.79	0.0204	0.0000	-0.0106	0.0082

n	GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N	
	REAR LEFT	Bn	REAR RIGHT	Bn	FRONT LEFT	FRONT RIGHT
0	-10143.0		407.7		9200.00	
1	-147.4	-80.9	-202.1	-94.3	78.51	-4.14
2	-120.9	9.6	-100.6	-72.0	-65.25	-163.63
3	930.0	-1477.4	567.1	-1263.2	-46.09	-209.62
4	36.5	-14.5	-54.2	-90.9	-73.26	1.32
5	16.4	-166.6	4.6	-138.4	-66.81	103.58
6	-53.2	87.4	-124.4	64.2	313.02	525.52
7	99.2	22.9	120.5	3.2	-53.32	-90.67
8	-30.9	-40.5	-48.3	-33.2	-59.07	16.86
9	23.2	111.6	-35.3	154.7	-75.85	42.72
10	-18.9	29.1	-27.1	33.9	24.05	-28.42

FLIGHT NUMBER V321B

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	0.985500	2.533000	1.668000	0.443800
LOAD FACTOR	2	1.001000	1.017000	1.007000	0.003520
ALTITUDE (M)	3	121.900002	124.300003	123.599998	1.101000
AIR DENSITY (KG/M3)	4	1.204000	1.205000	1.205000	0.000262
SOUND SPEED (M/S)	5	340.700012	340.799988	340.700012	0.026880
ADVANCE RATIO	6	0.004640	0.011920	0.007860	0.002090
CT/SIGMA	7	0.061340	0.062460	0.061820	0.000244
CZM	8	0.368000	0.374700	0.370900	0.001470
REDUCED MASS (KG)	9	1904.000000	1905.000000	1904.000000	0.276200
I.A.S. (M/S)	10	0.977400	2.511000	1.654000	0.440000
STAT FLT PRES (MB)	11	998.799988	999.099976	998.900024	0.126000
STAT FLT TEMP (DEG C)	12	15.730000	15.910000	15.740000	0.045600
HELICOPTER MASS (KG)	13	1871.000000	1872.000000	1872.000000	0.190400
COLL PITCH (DEG)	14	8.030500	8.040500	8.036100	0.003000
LAT CYC PITCH (DEG)	15	-1.302000	-1.221000	-1.250000	0.026700
LON CYC PITCH (DEG)	16	-1.472000	-0.738000	-1.123000	0.242400
TR PITCH (DEG)	17	20.049999	22.230000	21.469999	0.739800
AIRCRAFT PITCH (DEG)	18	1.753000	2.634000	2.126000	0.319900
AIRCRAFT ROLL (DEG)	19	3.207000	4.526000	3.973000	0.456600
PITCH RATE (DEG/S)	20	-1.353000	0.113000	-0.611100	0.414500
ROLL RATE (DEG/S)	21	-3.698000	-0.444000	-1.584000	0.825100
YAW RATE (DEG/S)	22	0.172000	1.168000	0.661300	0.273200
MR ROT SPEED (RD/S)	23	40.419998	40.490002	40.439999	0.025790
ENGINE POWER (KW)	24	299.799988	302.500000	300.899994	0.722100

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 2		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-88.14	-155.00	-0.79	-3.53	50.43	-1.57	-105.71	7.71	2.97	-57.00	7.43	4.02
1	-2.04	-0.79	7.70	5.27	3.04	2.02	10.45	4.28	3.48	7.43	2.96	1.40
2	4.96	5.27	9.13	-0.67	5.80	-0.85	1.34	0.03	-0.96	4.28	3.19	-0.31
3	10.15	-0.46	1.96	2.40	-1.64	1.80	3.54	0.81	0.18	0.43	0.06	-1.00
4	-3.41	1.96	-21.13	-18.30	-5.51	-10.34	-0.49	-4.08	-0.04	-1.62	-1.67	-1.61
5	-7.81	0.00	-4.21	0.00	-1.62	0.00	0.68	0.49	0.74	0.19	-0.24	-0.03
6	-3.31	0.00	-3.17	28.38	-8.10	-14.03	-4.60	0.92	0.04	-4.49	4.96	1.33
7	33.27	0.00	1.23	2.12	-0.36	0.62	-0.17	-0.06	-0.11	0.14	0.06	-0.55
8	-1.87	0.00	1.24	0.00	-0.63	0.00	0.10	-0.15	-0.11	0.13	0.89	-1.24
9	-0.98	0.00	1.72	-2.98	0.55	0.96	1.52	1.78	0.26	2.37	0.89	-1.24
10	-3.48	0.00									4.13	3.82

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-39.00	-27.57	35.06	13.85	-16.86	18.54	-123.71	15.94	-600.00	171.26	1248.60	1248.60
1	19.23	9.50	9.45	6.91	49.42	17.91	43.82	28.54	171.26	-114.12	-7.01	-48.97
2	5.90	4.25	4.90	0.68	17.91	11.71	51.44	5.32	-26.46	-5.42	-23.17	-6.01
3	4.60	0.02	4.90	0.68	5.81	0.31	8.18	5.32	1.59	1.61	8.62	9.98
4	-0.43	-0.32	-0.60	0.08	0.55	-2.09	5.39	-8.27	-2.47	-0.93	8.62	9.98
5	1.35	2.42	2.70	4.72	4.19	4.43	2.04	0.81	1.33	-1.33	0.16	-5.03
6	0.01	0.47	0.58	0.38	-1.03	-0.02	-2.35	0.95	-2.79	1.74	-0.16	-5.03
7	11.36	1.51	2.77	-1.47	-9.80	-2.99	-25.07	-3.43	11.83	0.00	10.95	22.94
8	0.07	-0.18	-0.13	0.52	0.03	1.00	0.41	0.21	-4.17	0.00	-2.68	3.71
9	0.34	0.05	-0.48	1.12	-0.43	1.12	1.21	-2.40	1.68	0.00	-48.03	3.74
10	-1.65	-2.53	-4.35	-4.54	-1.96	-1.01	6.92	7.51	-1.20	0.00	-1.04	0.41

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-509.29	-2124.30	98.53	-82.46	844.00	-71.25	1248.60	36.10	1305.70	11.65	1248.60	1248.60
1	170.07	-113.90	-25.31	-6.71	-22.73	-6.88	-21.52	-5.40	-21.35	-6.29	-7.01	-48.97
2	-28.11	-2.73	7.41	4.76	6.03	6.84	7.51	9.26	7.08	8.51	-23.17	-6.01
3	6.26	2.48	-0.85	-6.24	1.79	19.10	-2.51	-6.51	2.84	-4.75	8.62	9.98
4	-2.46	-4.05	7.69	4.47	7.12	19.10	11.66	20.00	7.23	25.69	0.16	-5.03
5	-0.62	-1.01	0.31	0.66	2.31	0.29	-1.90	3.57	5.02	0.08	10.95	22.94
6	1.71	1.95	-3.71	-6.42	-17.22	5.53	-30.88	2.20	-34.55	11.59	-2.68	3.71
7	-6.20	10.74	1.99	-3.44	-1.01	-0.50	-0.33	0.54	-1.23	-2.15	-1.04	0.41
8	2.04	3.53	2.10	0.00	1.46	-0.04	-0.76	1.21	-1.46	1.70	-2.89	2.88
9	1.89	0.00	0.62	1.08	0.39	0.29	-2.40	-1.27	-4.10	-4.59	-6.75	-5.78
10	0.81	-1.41										

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	847.14		1801.40		1040.00		550.57		-23.83		-60.61	
1	-24.74	-41.13	-23.34	-28.94	-26.06	-25.10	-13.06	-16.12	-4.66	9.93	-3.32	9.74
2	-20.56	-6.31	-21.31	-5.12	-21.84	-9.91	-15.61	-6.03	0.10	-0.29	0.33	0.82
3	5.72	7.45	6.38	7.31	3.06	5.35	1.68	2.14	0.80	1.75	-0.67	1.07
4	2.73	-2.70	0.10	-2.52	1.88	-0.30	0.89	1.43	3.06	0.61	2.19	-0.38
5	5.36	20.96	8.52	15.73	3.03	11.01	2.46	5.39	1.45	0.08	1.68	-0.21
6	4.70	0.02	-1.00	2.39	2.23	-0.36	-0.40	0.06	0.34	-1.83	0.66	-1.36
7	-31.28	10.71	-32.40	0.82	-12.63	3.64	-9.47	-0.57	2.59	0.00	-1.02	1.77
8	-1.11	-1.81	-2.50	-0.01	-1.10	-1.43	-0.98	-0.13	0.98	0.00	0.61	1.06
9	-2.95	2.38	-3.60	3.31	-1.84	2.05	-1.27	1.51	-0.60	0.00	-0.56	0.00
10	-6.59	-6.87	-8.12	-6.45	-5.70	-5.60	-3.76	-2.52	0.66	0.00	-0.40	0.70

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-397.57		102.00		115.86		-44.56		6.17		42.84	
1	-4.52	9.96	-5.22	8.04	-2.42	7.52	1.44	8.16	-0.15	6.16	-7.22	2.67
2	-0.43	0.19	-0.06	-0.48	-0.06	-0.21	0.95	0.90	9.10	5.22	3.46	1.62
3	1.53	0.40	1.43	1.68	0.66	1.08	2.33	0.58	2.48	1.28	3.71	1.59
4	2.67	-0.12	2.48	0.57	1.85	0.54	1.76	-0.05	0.34	-1.63	-0.63	0.17
5	1.20	-0.56	1.13	-0.30	1.29	-1.19	1.03	-0.32	-0.78	0.27	-0.02	0.63
6	0.78	-1.36	0.60	-1.53	0.76	-1.30	0.49	-1.04	0.25	0.35	-0.01	0.78
7	0.45	0.78	0.23	0.79	-1.90	-0.24	-5.33	-2.34	-7.76	-2.25	-5.26	1.54
8	-0.38	0.67	0.28	-0.43	-0.57	0.09	0.15	0.88	0.51	0.43	0.62	-0.04
9	-0.48	0.00	-0.29	-0.21	0.37	0.09	0.66	-0.35	-1.14	0.03	-0.32	-0.65
10	-0.30	-0.52	-0.35	-0.10	0.63	0.29	-0.02	0.82	1.92	1.37	2.12	0.17

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	31.20		1.8714		1.4800		-0.6521		-0.5347		-4588.60	
1	-5.60	3.72	-0.7976	-0.2709	-0.7187	-0.2295	0.0257	0.0010	0.0243	-0.0006	1262.82	-445.20
2	5.91	2.83	0.0576	0.0636	0.0436	0.0401	-0.0022	-0.0010	-0.0017	-0.0019	-173.69	-42.63
3	3.24	2.83	0.0134	-0.0002	0.0274	-0.0014	-0.0007	-0.0003	-0.0009	0.0001	-33.00	66.19
4	-0.24	-1.13	-0.0028	0.0009	-0.0057	0.0046	0.0005	0.0008	0.0005	0.0000	13.10	-9.18
5	-0.44	0.60	-0.0006	-0.0123	0.0025	-0.0116	-0.0003	-0.0001	-0.0001	-0.0002	-29.81	-16.31
6	0.41	-1.00	0.0050	0.0007	-0.0020	0.0032	0.0007	0.0000	0.0004	0.0001	-7.94	13.70
7	-5.54	-2.11	-0.0234	0.0000	-0.0111	-0.0026	-0.0009	0.0000	0.0006	0.0011	42.58	-46.97
8	0.12	0.36	0.0134	0.0000	0.0015	-0.0024	0.0010	0.0000	-0.0006	0.0011	2.49	-32.98
9	0.13	0.40	-0.0054	0.0000	-0.0002	-0.0009	-0.0003	0.0000	-0.0007	0.0000	-10.27	2.82
10	1.88	1.45	0.0059	0.0000	0.0029	-0.0067	0.0001	0.0000	-0.0001	-0.0002	-10.69	4.90

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD, N blade 1		PTCH LNK LD, N blade 2		PTCH LNK LD, N blade 3		SERVO, N LEFT		SERVO, N RIGHT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-297.86		-370.57		-251.43		-691.00		-425.00		-0.2476	
1	-57.71	59.50	-50.26	57.57	-53.68	58.31	-11.83	43.62	48.76	29.62	0.0104	-0.0108
2	-7.40	1.07	-5.25	-3.81	-9.78	-11.15	-4.73	-2.52	6.35	9.16	-0.0074	0.0142
3	0.24	11.99	8.00	5.80	-2.66	12.47	-9.67	-30.11	13.00	-37.03	0.0067	-0.0293
4	14.07	-0.48	7.81	-1.68	7.59	-0.18	5.70	7.64	-1.25	-1.57	0.0036	0.0027
5	12.23	0.99	8.98	-1.61	7.16	0.05	0.22	1.49	1.70	2.82	-0.0012	0.0171
6	-1.85	0.71	-0.51	-7.55	1.51	0.27	92.38	64.43	-87.31	88.66	-0.0053	-0.0144
7	73.84	-21.42	76.19	-1.38	68.91	5.47	-8.66	7.12	-3.35	4.42	-0.0002	-0.0122
8	19.20	0.12	2.04	6.93	7.01	10.84	-12.16	-32.25	14.15	4.21	0.0074	0.0000
9	-8.60	-22.94	15.03	-21.88	-2.91	-9.98	-17.75	23.15	26.44	67.48	-0.0129	0.0000
10	14.74	7.37	11.56	10.22	2.39	14.32	3.54	6.39	6.55	-2.30	0.0041	0.0000

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0			13.01		31.81		-0.5944		-0.2476	
1	762.67	114.12	23.67	-434.42	438.74	52.56	-0.0120	0.0065	0.0104	-0.0108
2	1035.66	-497.14	-25.20	28.58	35.90	26.79	0.0163	-0.0181	-0.0074	0.0142
3	-211.64	-657.98	3.69	0.98	-1.47	2.43	0.0377	0.0247	0.0067	-0.0293
4	569.62	87.68	-1.66	-4.95	3.89	2.99	-0.0041	0.0027	0.0036	0.0027
5	60.40	207.55	-5.73	5.19	13.29	9.92	0.0048	0.0069	-0.0053	-0.0144
6	-326.06	179.99	2.12	-1.74	5.50	3.09	0.0374	-0.0067	-0.0012	0.0171
7	528.02	0.00	52.42	0.00	43.42	-9.92	0.0051	0.0000	-0.0002	-0.0122
8	290.70	0.00	12.22	0.00	-3.59	-2.02	0.0074	0.0000	0.0048	0.0035
9	92.08	0.00	6.06	0.00	1.37	-3.16	0.0129	0.0000	-0.0105	0.0007
10	38.36	0.00	15.71	0.00	-22.81	-3.35	0.0041	0.0000	-0.0031	0.0000

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-8695.7		-2012.9		4047.10		8140.00	
1	-52.1	-32.8	-76.2	-82.7	-60.17	-95.73	71.77	19.96
2	-10.4	29.1	-45.5	-1.3	-74.07	-33.83	42.80	85.72
3	0.7	12.2	92.7	73.4	93.87	205.08	-215.79	19.11
4	5.1	7.2	10.7	9.2	8.62	-7.87	9.19	-2.96
5	-12.0	31.2	1.6	29.3	10.31	-0.47	-17.63	18.96
6	-10.1	-11.3	-21.2	-35.6	-59.72	-17.38	-19.07	79.26
7	-22.3	16.2	-15.8	20.5	20.94	7.01	4.02	0.90
8	10.0	3.0	11.1	1.7	9.65	-1.94	16.73	4.25
9	2.2	5.2	3.5	10.4	26.30	4.32	37.10	-15.80
10	-6.0	-1.4	-10.5	1.4	-0.14	0.49	12.95	-10.32

FLIGHT NUMBER V3301

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	31.200001	32.270000	31.809999	0.375300
LOAD FACTOR	2	0.995000	1.034000	1.014000	0.009380
ALTITUDE (M)	3	447.799988	450.200012	450.000000	0.568600
AIR DENSITY (KG/M3)	4	1.188000	1.189000	1.189000	0.000434
SOUND SPEED (M/S)	5	336.399994	336.600006	336.500000	0.057650
ADVANCE RATIO	6	0.146900	0.152000	0.149800	0.001780
CT/SIGMA	7	0.065040	0.067670	0.066280	0.000619
CZM	8	0.390200	0.406000	0.397700	0.003720
REDUCED MASS (KG)	9	2029.000000	2031.000000	2030.000000	0.741400
I.A.S. (M/S)	10	30.740000	31.790001	31.340000	0.369100
STAT FLT PRES (MB)	11	961.500000	961.700012	961.500000	0.065070
STAT FLT TEMP (DEG C)	12	8.563000	8.751000	8.651000	0.096730
HELICOPTER MASS (KG)	13	1970.000000	1970.000000	1970.000000	0.000000
COLL PITCH (DEG)	14	5.597500	5.602500	5.598500	0.001660
LAT CYC PITCH (DEG)	15	-1.543000	-1.509000	-1.523000	0.013540
LON CYC PITCH (DEG)	16	-1.006000	-0.897000	-0.957500	0.029350
TR PITCH (DEG)	17	5.647000	5.774000	5.725000	0.037400
AIRCRAFT PITCH (DEG)	18	-2.212000	-1.859000	-1.973000	0.123900
AIRCRAFT ROLL (DEG)	19	-0.397000	0.570000	0.110000	0.345400
PITCH RATE (DEG/S)	20	-0.268000	0.758000	0.352800	0.367500
ROLL RATE (DEG/S)	21	-2.173000	7.822000	1.986000	3.544000
YAW RATE (DEG/S)	22	-1.646000	0.611000	-0.469900	0.745400
MR ROT SPEED (RD/S)	23	40.450001	40.470001	40.459999	0.012560
ENGINE POWER (KW)	24	166.399994	171.100006	168.199997	1.284000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-175.86		-36.43		-143.43		-97.57	
1	7.07	5.81	3.61	4.01	6.04	8.38	3.99	10.42
2	12.38	13.08	9.21	8.18	7.81	6.15	9.23	6.55
3	31.30	-63.11	23.00	-35.84	9.76	-16.74	12.85	-15.37
4	23.76	19.88	10.80	9.84	5.29	5.92	7.17	8.06
5	23.63	-62.79	28.87	-28.34	2.86	-13.42	6.62	-9.66
6	-28.72	0.00	-11.91	0.00	5.24	-2.15	4.99	-1.19
7	7.91	0.00	-4.96	-8.60	-0.57	-1.35	-1.20	-0.55
8	-8.01	0.00	1.71	-2.96	0.20	-0.76	0.46	-0.68
9	1.82	0.00	1.20	0.00	-0.22	0.72	-0.34	0.62
10	-5.93	0.00	1.34	2.32	2.37	0.96	1.70	1.11

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-29.57		47.39		-0.67		-282.00		1592.90		1582.90	
1	2.96	20.04	-0.89	18.17	2.12	18.09	65.37	-268.67	22.71	-103.80	16.13	-79.40
2	19.03	3.43	37.04	6.28	32.29	5.63	-30.42	32.85	-54.42	7.48	-54.34	7.12
3	15.11	-17.89	11.90	-23.17	8.57	-14.34	15.24	-3.17	34.96	-1.61	32.93	-0.34
4	3.24	-3.20	-4.20	-9.30	-21.19	-13.10	-9.86	17.57	-9.42	-5.13	-13.06	-2.99
5	-6.77	3.54	-13.91	13.67	-12.99	19.34	4.21	0.96	-35.41	-3.86	-38.69	-8.90
6	-5.93	0.70	-5.33	0.10	9.84	4.97	10.11	-9.08	-29.41	10.11	5.09	-4.22
7	1.55	4.77	0.25	-2.90	-0.72	-17.48	5.31	0.00	-10.10	-17.94	-17.35	-23.63
8	-1.24	1.39	5.97	-1.26	-1.28	-5.63	-4.72	0.00	7.41	0.00	5.09	-6.50
9	-1.06	0.84	1.06	-2.68	-1.76	3.74	7.41	0.00	1.80	0.00	1.83	15.77
10	-3.33	-2.18	-7.01	-1.39	20.84	8.24	-1.78	0.00	-10.26	1.58	-17.10	-8.06

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn
0	-167.71		891.29		1157.10	
1	76.73	-267.23	39.14	-152.23	22.05	-103.83
2	-34.44	29.47	-43.45	11.00	-43.45	5.32
3	10.04	-6.78	30.32	0.00	24.23	1.39
4	-9.17	19.42	-10.06	-0.92	-13.98	-1.32
5	4.98	1.89	-20.25	2.49	-25.60	-2.90
6	6.95	-3.84	10.35	-7.43	6.46	-4.89
7	-2.11	3.66	-3.17	-10.78	-9.18	-18.74
8	2.53	4.39	1.03	-4.57	1.07	-4.43
9	7.19	0.00	-1.18	-0.06	-3.56	6.21
10	0.80	-1.38	-0.97	1.02	-6.30	-1.12

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1362.90		1870.00		1360.00		901.57		26.51		35.93	
1	13.37	-52.77	13.80	-29.16	9.45	-20.22	7.74	-12.08	12.58	6.51	13.13	4.99
2	-48.16	6.20	-38.82	4.26	-27.31	1.89	-14.30	1.59	-4.44	-6.80	-3.54	-8.48
3	28.25	-1.02	23.20	0.59	10.28	0.76	5.75	-0.50	-1.44	22.82	-6.61	16.45
4	-4.90	-4.58	-4.24	-3.74	3.75	-0.31	1.02	-1.12	-3.88	-1.02	-3.10	-1.97
5	-33.43	-3.16	-28.97	-6.90	-17.85	-3.86	-11.10	-2.55	3.84	0.87	3.59	-0.09
6	-30.08	11.29	0.49	-0.23	-18.04	6.96	-1.81	-0.02	0.66	0.13	-0.43	-1.08
7	-9.22	-15.96	-11.30	-14.80	-4.31	-5.39	-3.87	-4.50	1.09	0.00	-0.85	1.46
8	1.20	-3.23	5.45	-5.10	2.34	-2.26	3.38	-1.81	-1.37	0.00	1.02	1.77
9	8.45	15.82	2.39	12.51	4.58	7.44	0.72	3.36	-0.66	0.00	-0.84	0.00
10	-14.98	0.08	-17.63	-8.16	-12.37	0.26	-7.30	-3.49	-2.74	0.00	1.10	-1.91

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-310.29		142.57		150.71		-8.22		35.29		46.76	
1	12.98	10.05	11.57	5.29	13.20	5.06	16.64	7.12	13.03	9.93	10.77	2.26
2	-2.63	-5.27	-3.39	-5.55	-2.08	-6.40	-0.59	-3.39	2.14	-2.90	2.00	-4.48
3	-4.82	12.26	1.50	15.82	-1.50	9.02	3.47	1.51	7.54	-2.05	9.64	-0.02
4	0.13	0.47	-1.95	-0.08	-0.34	0.17	2.42	0.40	-0.91	-1.71	1.29	0.07
5	4.10	-2.38	3.11	-1.15	4.84	-3.24	4.58	-5.76	-0.80	-0.76	-2.48	-0.04
6	1.02	-0.75	-0.41	0.19	1.90	-1.70	1.87	-1.02	2.08	0.62	-0.83	-0.63
7	0.36	0.63	-0.79	0.62	-1.32	-0.30	0.68	-0.93	1.64	-2.95	2.42	0.12
8	-0.48	0.82	0.04	-0.26	-0.83	0.91	-0.67	0.02	0.93	-1.48	3.31	-0.42
9	-0.42	0.00	0.03	-0.02	0.55	0.43	1.53	-0.71	0.99	0.28	0.23	0.08
10	1.24	2.15	-0.26	0.92	0.96	-0.52	4.22	0.00	7.71	1.80	4.36	1.49

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	37.30		2.3400		-0.3621		-0.3006		-3048.60	
1	11.19	5.02	-2.4396	-0.4020	0.0353	-0.0213	0.0337	-0.0203	1008.74	-1467.18
2	2.66	-3.63	0.0422	0.1108	-0.0034	0.0028	-0.0026	0.0017	-101.64	165.61
3	8.70	-3.00	0.1612	-0.1179	0.0002	0.0024	-0.0001	0.0024	102.61	33.40
4	0.68	-0.74	0.0152	0.0474	-0.0011	-0.0008	-0.0014	-0.0006	-89.35	43.50
5	-3.47	0.37	0.0606	-0.0172	0.0004	0.0006	0.0001	0.0004	50.92	27.75
6	-0.53	-0.93	0.0157	0.0125	0.0013	0.0000	0.0004	-0.0003	68.15	-7.94
7	2.01	-0.07	-0.0081	0.0000	-0.0009	0.0000	0.0006	0.0010	12.28	56.78
8	2.26	0.30	0.0131	0.0000	0.0007	0.0000	-0.0007	0.0012	12.95	10.33
9	0.00	-0.38	-0.0071	0.0000	-0.0003	0.0000	-0.0010	0.0000	-7.99	-36.80
10	4.88	1.81	0.0076	0.0000	0.0001	0.0000	-0.0001	-0.0002	-5.94	-12.64

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD, N		PTCH LNK, LD, N		PTCH LNK, LD, N		SERVO, N		SERVO, N		SERVO, N	
	An	Bn	blade 1	blade 2	blade 3	An	Bn	LEFT	RIGHT	LEFT	RIGHT	RIGHT
0	101.79		-41.33	-133.14	166.00	171.57	215.29	215.29	120.43	120.43	120.43	120.43
1	41.39	22.92	49.26	-46.66	38.79	1134.29	0.01	0.01	17.02	14.45	14.45	22.35
2	-31.19	-43.87	-27.37	-65.15	-26.09	-1.87	-0.01	-0.01	26.21	-23.00	-23.00	9.31
3	-26.07	153.75	-61.95	3.36	-61.63	17.29	174.73	174.73	-134.16	71.93	71.93	-223.48
4	-33.79	-1.68	-19.67	35.97	-33.66	17.50	28.22	28.22	16.53	-9.97	-9.97	-12.50
5	15.53	39.97	-9.60	-54.36	5.66	-3.57	-16.34	-16.34	-4.63	-11.63	-11.63	-12.17
6	-15.45	9.52	-17.24	3.91	-19.57	7.08	-20.40	-20.40	54.84	4.01	4.01	-36.21
7	-14.24	4.34	-12.33	19.87	-7.31	0.13	35.31	35.31	21.14	9.83	9.83	38.11
8	-38.78	9.61	-17.09	20.52	-21.36	10.79	13.56	13.56	3.17	-16.75	-16.75	12.45
9	-3.12	9.20	-13.00	4.89	-19.31	16.94	97.87	97.87	-0.24	-46.10	-46.10	8.77
10	-29.24	-3.58	-38.74	15.72	-36.48	-20.33	2.97	2.97	-0.19	-4.52	-4.52	-3.58

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g		VERT ACCEL, g		VERT ACCEL, g	
	An	Bn	An	Bn	An	Bn	FRONT	RIGHT	FRONT	RIGHT	FRONT	LEFT SEAT
0			-133.14	171.57	171.57	171.57	-0.2060	-0.2060	0.1868	0.1868	0.1868	0.1868
1	284.26	166.57	-46.66	1134.29	1134.29	1134.29	-0.0088	-0.0088	0.0131	0.0131	0.0131	-0.0366
2	691.68	-458.33	-65.15	-10.31	60.19	60.19	0.0030	0.0030	-0.0020	-0.0020	-0.0020	0.0065
3	-1222.94	1977.03	3.36	6.30	8.14	8.14	0.0592	0.0592	0.0161	0.0161	0.0161	-0.0921
4	620.96	118.02	35.97	-22.37	40.74	40.74	-0.0159	-0.0159	0.0096	0.0096	0.0096	-0.0059
5	184.41	466.78	-54.36	-34.79	-14.11	-14.11	0.0130	0.0130	-0.0728	-0.0728	-0.0728	0.0061
6	139.52	-68.28	3.91	-1.00	-3.57	-3.57	0.0957	0.0957	-0.0087	-0.0087	-0.0087	-0.0187
7	600.16	0.00	19.87	0.00	0.13	0.13	0.0061	0.0061	0.0000	0.0000	0.0000	0.0041
8	297.81	0.00	20.52	0.00	16.94	16.94	0.0083	0.0083	0.0000	0.0000	0.0000	0.0006
9	90.98	0.00	4.89	0.00	0.37	0.37	0.0146	0.0146	0.0000	0.0000	0.0000	-0.0044
10	58.04	0.00	15.72	0.00	-20.33	-20.33	0.0096	0.0096	0.0000	0.0000	0.0000	0.0005

n	GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N		GEAR BOX STRUT, N	
	An	Bn	REAR LEFT	REAR RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT
0	-7077.1		-2395.7	-133.14	6255.70	8305.70	8305.70	8305.70
1	-134.6	-72.3	-151.0	-41.1	-78.91	1.62	1.62	-46.84
2	-11.9	12.2	-29.1	-20.6	-61.99	6.41	6.41	41.95
3	282.2	-536.6	129.6	-310.5	-462.14	-686.55	-686.55	634.64
4	-16.9	22.3	-23.2	12.1	48.52	78.53	78.53	24.07
5	44.6	-98.8	25.1	-88.6	-26.16	92.51	92.51	93.62
6	-69.1	-104.9	-68.0	-101.0	72.06	70.31	70.31	68.46
7	2.4	30.6	0.4	23.8	3.28	-11.67	-11.67	-7.11
8	-0.8	6.0	0.1	9.8	8.64	-3.82	-3.82	1.88
9	9.2	-32.0	7.3	-13.2	-22.30	30.82	30.82	44.10
10	-11.0	-7.9	-16.3	-4.4	4.83	25.52	25.52	-2.38

FLIGHT NUMBER V3303

FLIGHT PARAMETERS	NØ	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	58.259998	58.950001	58.560001	0.278600
LOAD FACTOR	2	0.945000	1.018000	0.977900	0.021110
ALTITUDE (M)	3	436.100006	438.399994	438.299988	0.568600
AIR DENSITY (KG/M3)	4	1.192000	1.193000	1.193000	0.000397
SOUND SPEED (M/S)	5	336.100006	336.200012	336.100006	0.052980
ADVANCE RATIO	6	0.273700	0.277100	0.275200	0.001320
CT/SIGMA	7	0.061050	0.065690	0.063180	0.001340
CZM	8	0.366300	0.394100	0.379100	0.008060
REDUCED MASS (KG)	9	2012.000000	2014.000000	2013.000000	0.679900
I.A.S. (M/S)	10	57.490002	58.160000	57.779999	0.273900
STAT FLT PRES (MB)	11	962.799988	963.099976	962.799988	0.065070
STAT FLT TEMP (DEG C)	12	7.997000	8.186000	8.053000	0.088770
HELICOPTER MASS (KG)	13	1960.000000	1960.000000	1960.000000	0.000000
COLL PITCH (DEG)	14	7.354500	7.359500	7.357400	0.002540
LAT CYC PITCH (DEG)	15	-1.298000	-1.276000	-1.294000	0.005930
LON CYC PITCH (DEG)	16	1.720000	1.879000	1.805000	0.066310
TR PITCH (DEG)	17	-0.786400	-0.743300	-0.759800	0.012090
AIRCRAFT PITCH (DEG)	18	-4.150000	-3.974000	-4.114000	0.054410
AIRCRAFT ROLL (DEG)	19	0.219000	0.658000	0.420200	0.127000
PITCH RATE (DEG/S)	20	-0.444000	1.344000	0.264800	0.460600
ROLL RATE (DEG/S)	21	-4.049000	2.077000	-0.381800	1.879000
YAW RATE (DEG/S)	22	-0.766000	1.608000	0.856400	0.684800
MR ROT SPEED (RD/S)	23	40.520000	40.540001	40.520000	0.010710
ENGINE POWER (KW)	24	237.300003	243.199997	240.600006	1.775000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-182.29		-241.71		-43.57		-153.00		-109.71		-139.29	
1	-9.05	29.59	-10.92	27.90	-13.35	14.11	-7.73	14.88	-9.08	16.74	-20.75	24.06
2	0.72	-17.91	1.78	-20.38	6.06	-16.60	3.85	-7.54	5.78	-7.29	7.96	-8.84
3	-26.35	-90.47	-13.51	-87.71	-8.69	-51.58	-9.30	-21.98	-5.13	-21.08	-5.33	-20.49
4	-13.11	-13.81	-8.63	-2.27	-9.38	-4.81	-4.69	-1.18	-2.00	1.24	-3.46	2.49
5	14.40	-3.05	6.34	-19.96	14.51	-5.90	1.18	-0.04	-0.39	-3.30	-0.34	-0.35
6	-3.82	0.00	-11.26	0.00	-4.74	0.00	0.31	0.48	1.36	-0.28	0.61	-0.65
7	16.52	0.00	-11.63	20.14	-2.92	-5.06	1.85	0.93	2.35	2.79	-2.50	-0.07
8	-4.18	0.00	2.12	3.67	0.83	-1.43	-0.30	0.14	-0.59	-0.09	0.12	-1.17
9	1.56	0.00	1.39	0.00	-0.89	0.00	0.25	-0.20	0.19	-0.02	0.84	-0.78
10	-1.43	0.00	0.61	-1.06	-0.15	-0.27	-0.32	-0.53	-0.31	-0.50	-0.36	-1.19

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-30.14		10.00		49.86		-5.23		-439.43		1544.30		1548.60	
1	-34.00	33.80	-29.18	32.76	-26.98	40.90	-7.28	46.63	99.13	-294.11	111.11	-115.30	106.61	-89.61
2	24.52	-2.00	28.62	-0.78	28.77	-1.69	7.88	-6.55	-16.07	54.99	-42.71	20.15	-42.22	12.12
3	-8.35	-22.35	-9.82	-17.11	-3.91	-16.29	-0.84	-14.46	-23.50	-8.88	35.08	-18.23	29.11	-18.52
4	7.39	-1.32	5.67	-4.25	5.58	-4.70	0.96	-0.90	21.64	3.32	-11.63	-5.07	-23.46	-3.74
5	-3.86	3.12	3.53	0.24	2.90	-2.66	0.05	-4.42	-0.35	-3.12	-0.56	4.86	-3.84	4.05
6	0.03	-3.51	-1.74	-0.90	0.85	-0.46	1.92	0.27	-2.07	5.88	-0.56	4.86	-3.84	4.05
7	-0.19	-1.58	0.68	-2.70	-0.08	0.44	0.40	6.55	6.85	0.00	12.37	2.81	19.31	-0.57
8	1.93	-1.24	2.11	0.54	0.07	-0.97	-11.18	1.25	-5.69	0.00	19.95	6.68	22.00	11.87
9	1.19	-0.25	-0.46	-0.06	-0.39	1.94	-4.27	-1.11	2.66	0.00	-1.89	1.15	-2.28	2.16
10	-0.24	-0.72	1.48	1.52	0.40	-0.01	-0.90	-1.93	-1.87	0.00	-8.38	-1.61	-12.31	-0.05

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-321.57		-1755.70		834.29		1127.10		1544.30		1548.60	
1	99.59	-296.10	119.42	-229.02	95.33	-170.43	80.60	-119.05	111.11	-115.30	106.61	-89.61
2	-15.82	48.09	-34.92	64.20	-29.71	37.14	-28.58	24.10	-42.71	20.15	-42.22	12.12
3	8.25	-11.17	4.37	-2.70	34.34	-12.38	26.27	-8.43	35.08	-18.23	29.11	-18.52
4	15.51	4.94	0.76	10.96	1.90	-2.25	-8.36	-4.26	-11.63	-5.07	-23.46	-3.74
5	-1.28	0.61	-3.27	4.69	-2.22	2.97	-4.48	0.79	-0.56	4.86	-3.84	4.05
6	4.83	-1.71	5.23	2.97	6.10	3.64	11.44	0.68	12.37	2.81	19.31	-0.57
7	-4.29	7.44	-2.12	-3.67	10.29	5.27	12.75	8.30	19.95	6.68	22.00	11.87
8	2.37	4.10	1.92	-3.32	-0.71	0.28	-0.58	0.44	-1.89	1.15	-2.28	2.16
9	3.26	0.00	1.47	0.00	-1.12	-1.13	-4.24	-0.91	-8.38	-1.61	-12.31	-0.05
10	0.78	-1.35	0.65	1.12	-1.71	0.10	-1.67	0.44	0.24	0.05	-1.44	0.82

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1338.60	1860.00	1370.00	217.71	916.43	20.30	29.53	22.86	37.84	20.30	29.53	29.53
1	88.67	-55.15	65.68	-28.98	36.86	-21.71	22.86	-13.60	-0.83	37.84	36.58	-0.86
2	-35.65	9.24	-22.89	6.33	-13.66	3.55	-6.37	1.97	20.93	-9.90	-24.56	22.03
3	19.69	-24.98	10.40	-19.39	5.90	-12.19	2.80	-7.52	21.32	-17.81	-24.41	17.09
4	-17.79	-0.70	-18.22	-0.90	-9.06	-0.82	-7.11	-0.53	12.71	-8.14	-8.09	11.22
5	-2.40	5.00	-4.04	3.56	-1.63	3.41	-1.82	0.81	3.70	-1.05	-1.12	3.16
6	12.81	1.79	14.60	-1.85	6.66	-0.06	5.37	-0.97	1.30	0.25	-0.28	1.18
7	16.98	3.93	15.33	7.12	8.27	0.81	5.61	2.60	0.00	-0.82	-0.72	1.25
8	-3.52	-0.24	-3.45	1.49	-1.84	-0.77	-1.65	0.30	0.00	-1.20	0.59	1.02
9	-11.71	-0.42	-11.26	1.31	-6.80	0.14	-4.81	0.77	-0.63	0.00	-0.60	0.00
10	1.31	1.53	-0.71	2.06	1.53	1.53	-0.51	0.55	0.71	0.00	-0.37	0.65

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-314.43	138.29	146.14	3.28	-7.81	32.47	45.33	27.75	18.40	26.65	3.99	3.99
1	32.44	7.06	34.06	3.28	34.26	8.87	34.26	8.87	18.40	26.65	3.99	3.99
2	-13.43	16.78	-11.56	19.19	-10.50	11.96	-10.50	11.96	5.27	1.05	4.81	4.81
3	-17.34	15.58	-20.94	6.62	-14.29	0.66	-14.29	0.66	-9.71	-4.30	-9.33	-1.01
4	-5.46	11.16	-6.62	9.80	-3.53	4.83	-3.53	4.83	-1.00	2.18	-1.00	1.37
5	0.53	1.53	-1.36	1.91	2.69	0.80	2.69	0.80	1.23	-1.03	-0.93	0.10
6	0.40	-0.03	-0.07	-0.84	0.34	0.92	0.34	0.92	0.60	-1.16	0.24	0.92
7	0.26	0.46	0.03	-0.06	1.56	0.62	1.56	0.62	0.82	1.46	-0.94	0.23
8	-0.41	0.71	-0.75	-0.69	0.02	-0.33	0.02	-0.33	-1.63	1.20	-1.17	0.34
9	-0.57	0.00	-0.03	-0.05	0.03	0.83	0.03	0.83	0.51	0.77	0.50	-0.77
10	-0.18	-0.31	-0.37	0.73	-1.39	1.31	-1.39	1.31	-1.12	0.16	-0.95	-0.40

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	34.76	2.4057	2.3500	0.0511	-0.5531	-0.0249	-0.4917	-0.0308	-4504.30	1224.89	-1682.82	1224.89
1	26.11	-1.8967	-1.9256	0.0511	0.0514	-0.0249	0.0509	-0.0308	1224.89	-1682.82	-89.35	212.65
2	-2.18	0.0449	-0.0386	-0.1407	-0.0042	0.0025	-0.0044	0.0034	-89.35	212.65	198.55	12.67
3	-10.57	-0.0629	0.1016	-0.2494	0.0014	0.0036	0.0014	0.0035	198.55	12.67	79.68	37.05
4	-1.25	0.0016	-0.0274	-0.0158	0.0012	0.0013	0.0014	0.0008	79.68	37.05	27.39	32.88
5	-0.86	0.0075	0.0154	0.0169	-0.0006	0.0006	-0.0012	0.0000	27.39	32.88	-33.46	21.21
6	-0.24	-0.0024	-0.0023	0.0026	0.0010	0.0000	-0.0017	0.0002	-33.46	21.21	-27.57	3.36
7	1.49	-0.0133	-0.0066	0.0066	0.0004	0.0000	0.0006	0.0010	-27.57	3.36	-19.25	-3.44
8	0.25	0.0101	-0.0005	-0.0009	0.0009	0.0000	-0.0005	0.0009	-19.25	-3.44	32.54	1.49
9	-0.56	-0.0043	0.0014	-0.0004	-0.0003	0.0000	-0.0006	0.0000	32.54	1.49	-15.38	21.14
10	-1.11	0.0051	0.0004	0.0003	0.0001	0.0000	-0.0001	-0.0001	-15.38	21.14		

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK, LD,N blade 2		PTCH LNK, LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-20.75	10.17	-163.86	27.10	41.50	18.66	282.14	1.82	-161.00	-13.18
1	206.50	117.70	217.65	113.31	204.53	128.25	-26.77	10.66	18.26	36.00
2	-54.61	156.78	-81.64	150.52	-70.60	129.83	19.23	-466.79	-9.78	-23.31
3	-94.34	92.89	-103.86	93.78	-144.07	89.47	274.25	21.21	83.88	-8.00
4	-35.60	26.94	-26.64	22.35	-42.02	35.72	18.54	-5.64	6.46	-12.07
5	-14.90	11.08	-18.72	5.45	-12.32	14.19	5.51	41.78	9.55	-4.54
6	0.27	0.68	-5.97	-9.23	-2.77	-17.65	-19.44	-22.98	69.08	-16.05
7	-26.53	-4.04	-17.18	-13.80	-23.20	-5.41	-0.12	6.90	18.38	12.93
8	9.89	-7.24	2.05	0.56	-0.79	-12.17	16.45	34.87	3.95	-19.66
9	-8.88	-13.24	3.76	-15.73	-4.62	-12.17	-27.59	2.22	12.42	8.59
10	13.01		22.35		13.28		-5.50			

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	835.64	386.37	-117.71	30.50	971.17	-162.65	0.1037	-0.0224	0.2688	-0.0600
1	697.13	-424.99	-182.55	-1022.74	-31.27	-58.62	-0.0026	-0.0052	0.0068	0.0023
2	812.04	2947.69	81.26	-20.73	9.58	2.25	-0.0169	-0.0230	0.0076	0.0526
3	599.39	13.89	-5.49	6.94	-5.00	-20.03	-0.0198	0.0309	0.0071	-0.0174
4	53.59	365.95	-13.89	-1.91	-0.93	7.59	0.0211	-0.0080	0.0083	0.0196
5	-228.12	161.57	-20.91	-18.75	-0.93	-4.11	0.0130	-0.0143	-0.0104	0.0051
6	463.44	0.00	6.75	-4.72	-2.38	-11.61	0.0123	0.0000	-0.0256	0.0052
7	324.57	0.00	25.77	0.00	-10.98	4.16	0.0101	0.0000	0.0000	0.0026
8	106.83	0.00	15.06	0.00	-7.07	0.16	0.0224	0.0000	-0.0007	-0.0161
9	43.86	0.00	6.19	0.00	1.92	3.52	0.0079	0.0000	-0.0279	-0.0018
10			6.50	0.00	-4.65					

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-8294.3		-1665.7		6122.90		8428.60	
1	-92.3	-163.7	-99.3	-133.3	-118.14	213.56	0.82	85.01
2	-56.6	1.6	-61.5	-84.6	-76.33	-130.73	-62.23	96.08
3	-72.9	-838.0	-84.8	-719.9	359.70	706.72	329.63	1261.96
4	-23.4	30.5	-23.6	42.1	44.13	-3.59	96.63	-53.63
5	-12.8	21.2	-10.7	0.1	-30.72	-39.19	-50.01	8.20
6	-3.9	-27.1	-27.6	-37.3	12.94	24.28	63.58	46.83
7	25.8	-2.9	30.9	10.7	-10.72	-6.39	-17.40	-7.18
8	-8.8	-0.3	-8.1	1.5	-11.43	23.18	-5.92	3.23
9	-12.4	-28.4	-15.7	-29.3	39.84	8.22	13.36	-7.35
10	-0.3	-8.4	1.3	-8.4	-4.98	6.94	-7.60	13.85

FLIGHT NUMBER V3304

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	72.339996	73.129997	72.779999	0.293900
LOAD FACTOR	2	0.941000	1.032000	0.986100	0.024380
ALTITUDE (M)	3	506.399994	511.100006	508.500000	1.137000
AIR DENSITY (KG/M3)	4	1.180000	1.181000	1.180000	0.000402
SOUND SPEED (M/S)	5	336.399994	336.600006	336.500000	0.049000
ADVANCE RATIO	6	0.340400	0.344600	0.342400	0.001730
CT/SIGMA	7	0.061290	0.067560	0.064260	0.001650
CZM	8	0.367800	0.405400	0.385600	0.009880
REDUCED MASS (KG)	9	2026.000000	2028.000000	2027.000000	0.690800
I.A.S. (M/S)	10	71.000000	71.790001	71.449997	0.296800
STAT FLT PRES (MB)	11	954.500000	955.000000	954.799988	0.130100
STAT FLT TEMP (DEG C)	12	8.563000	8.751000	8.613000	0.082200
HELICOPTER MASS (KG)	13	1954.000000	1954.000000	1954.000000	0.000000
COLL PITCH (DEG)	14	10.628000	10.647000	10.641000	0.006070
LAT CYC PITCH (DEG)	15	-1.936000	-1.809000	-1.874000	0.041790
LON CYC PITCH (DEG)	16	5.750000	5.787000	5.773000	0.010550
TR PITCH (DEG)	17	9.018000	9.305000	9.149000	0.082950
AIRCRAFT PITCH (DEG)	18	-5.383000	-5.207000	-5.311000	0.064030
AIRCRAFT ROLL (DEG)	19	0.043000	0.834000	0.332500	0.287700
PITCH RATE (DEG/S)	20	-0.913000	1.080000	0.325100	0.583100
ROLL RATE (DEG/S)	21	-5.075000	4.246000	-0.607700	3.103000
YAW RATE (DEG/S)	22	-1.499000	1.637000	0.288900	0.998100
MR ROT SPEED (RD/S)	23	40.400002	40.590000	40.490002	0.074390
ENGINE POWER (KW)	24	417.799988	428.899994	423.600006	3.076000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-229.14		-295.90		-70.00		-167.71		-122.00		-148.57	
1	-57.15	116.25	-54.92	111.56	-34.44	42.98	-16.70	17.46	-17.57	18.19	-29.65	24.46
2	-10.63	-65.59	-10.72	-66.35	1.49	-45.08	3.80	-20.38	5.80	-20.14	10.41	-24.46
3	19.54	-124.28	16.49	-116.02	10.25	-74.26	-2.47	-35.44	-2.00	-33.51	-8.88	-30.29
4	-10.99	-2.00	-0.71	3.32	-6.80	-1.69	-3.34	2.93	-0.42	3.04	0.01	2.72
5	49.85	24.94	0.71	1.14	32.77	4.80	7.54	4.86	3.54	1.01	1.45	3.01
6	-15.46	0.00	-6.71	0.00	-9.63	0.00	-0.18	0.80	0.59	0.20	1.01	-0.21
7	13.18	0.00	-9.18	15.90	-2.73	-4.73	1.29	-1.81	2.76	-1.35	-1.87	1.48
8	-3.04	0.00	2.00	3.47	0.99	-1.71	0.57	0.59	0.47	-0.26	0.65	-1.99
9	1.27	0.00	1.51	0.00	-0.79	0.00	0.61	0.20	0.63	-0.16	1.21	-1.60
10	-1.47	0.00	0.63	-1.09	-0.32	-0.55	0.44	-0.61	0.44	-1.16	2.62	-1.99

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-37.71		2.86		46.43		-18.00		-853.86		1457.10	
1	-40.13	41.66	-32.19	41.93	-26.35	55.59	2.66	66.87	98.34	-324.36	116.17	-127.76
2	26.21	-22.22	31.47	-13.50	32.18	-9.73	-2.97	-18.76	-21.69	124.94	-44.04	65.24
3	-17.65	-30.78	-22.53	-33.10	-21.15	-34.37	-6.50	-30.06	33.90	10.36	52.56	-32.02
4	2.56	-2.71	2.52	-3.63	3.35	-3.67	0.24	-3.40	62.56	-23.24	-48.14	-13.38
5	-3.58	0.93	-2.05	-8.15	-4.49	-10.35	-2.78	-12.71	-16.15	-7.72	-31.86	-2.52
6	-2.01	-1.51	-0.45	-0.71	2.35	0.87	3.57	2.09	-6.01	2.41	7.50	-13.68
7	-1.93	1.95	-1.47	-0.27	2.15	-1.95	7.58	-3.44	7.22	0.00	0.79	-6.60
8	0.27	-0.46	0.39	0.39	-0.17	0.03	-0.18	1.00	-6.65	0.00	-9.44	4.17
9	0.96	-0.27	-1.12	0.09	0.15	-0.06	1.92	-2.53	6.04	0.00	0.87	9.27
10	-1.17	1.10	-2.14	1.46	-1.30	0.32	6.54	-3.03	-3.39	0.00	1.09	1.17

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-738.57		-2052.90		619.00		1030.00		1415.70		1457.10	
1	112.47	-340.07	130.33	-272.53	107.94	-193.69	83.96	-141.35	129.90	-143.82	116.17	-127.76
2	-20.18	119.95	-49.86	170.40	-35.21	104.38	-29.47	71.25	-50.16	85.77	-44.04	65.24
3	26.35	-5.30	-5.38	-3.46	41.29	-11.20	42.54	-14.04	51.32	-29.75	52.56	-32.02
4	53.31	-6.37	12.19	11.73	9.46	-22.27	-21.65	-13.28	-21.63	-22.86	-48.14	-13.38
5	-7.74	-7.52	-25.21	-2.29	-24.35	-14.57	-25.90	-1.43	-26.23	-16.21	-31.86	-2.52
6	-13.87	-9.60	-4.74	-2.19	-11.94	-16.99	1.87	-13.28	-14.11	-17.70	7.50	-13.68
7	-4.26	7.38	-2.97	-5.14	-6.80	0.10	-2.47	-2.83	-7.61	-3.05	0.79	-6.60
8	2.84	4.93	2.84	-4.91	-2.51	2.08	-6.31	2.24	-6.42	4.60	-9.44	4.17
9	3.39	0.00	4.07	0.00	-0.55	1.97	-0.46	4.33	-0.99	7.03	0.87	9.27
10	1.16	-2.01	1.10	1.91	-1.36	-0.90	-0.35	0.49	-1.23	4.40	1.09	1.17

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1271.40	1827.10	1341.40	1471.40	1341.40	1471.40	910.00	25.88	18.50	56.15	24.91	56.15
1	106.76	-78.11	45.69	-51.13	45.69	-51.13	25.88	-22.61	56.90	-13.13	56.15	-11.03
2	-43.24	50.64	-17.32	29.73	-17.32	29.73	7.07	6.09	-20.88	64.89	-24.97	63.73
3	33.22	-32.14	21.64	-28.01	13.57	-11.98	5.77	-9.64	-59.82	16.18	-54.67	13.58
4	-27.74	-13.41	-35.00	-6.01	-15.35	-6.87	-12.95	-1.17	-1.87	31.68	-5.33	25.97
5	-20.83	-12.64	-20.69	0.26	-9.90	-4.15	-7.33	-0.38	-3.61	3.05	-2.98	2.55
6	-10.83	-13.70	5.78	-7.85	-5.80	-6.56	2.12	-3.10	-0.40	-0.13	0.98	-1.04
7	-5.60	-2.36	2.14	-5.11	-3.03	-0.82	1.64	-2.22	1.42	0.00	0.38	-0.66
8	-5.83	4.50	-6.65	3.70	-3.20	2.51	-3.26	0.89	-1.38	0.00	0.77	1.33
9	0.61	9.09	1.97	7.99	0.30	4.75	1.17	3.11	1.44	0.00	1.24	0.00
10	-1.92	7.83	1.06	1.43	-1.47	5.01	1.28	0.60	0.88	0.00	0.51	-0.88

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-309.43	137.43	144.29	137.43	144.29	137.43	-7.90	34.90	34.90	47.40	47.40	7.49
1	50.16	-0.61	50.75	-2.44	50.75	0.11	51.12	13.54	43.55	27.17	41.73	7.49
2	-26.24	51.56	-21.13	56.12	-21.13	53.25	-19.68	36.21	-13.60	17.84	1.25	18.14
3	-44.79	12.18	-46.38	3.99	-46.38	-2.26	-33.71	-11.57	-24.11	-11.98	-26.41	-4.87
4	-3.55	26.64	-1.39	24.98	-3.20	21.48	-3.26	14.83	-1.74	4.73	-2.20	4.07
5	-0.22	2.95	-0.22	4.60	-0.69	3.44	4.33	3.32	2.61	0.46	1.69	0.65
6	-0.73	0.22	-0.37	-0.68	1.04	-0.90	1.54	1.04	1.90	0.71	1.17	1.67
7	0.47	0.82	0.34	0.04	0.71	-0.37	1.00	-1.81	2.07	-1.65	1.30	-1.13
8	-0.48	0.84	-1.26	-0.01	0.34	-0.21	-0.19	-0.78	0.77	0.98	-0.07	0.16
9	-0.82	0.00	0.10	0.32	0.52	0.16	-1.35	0.92	0.60	-0.30	-0.61	-0.51
10	-0.16	-0.27	0.23	-0.63	-0.12	-0.20	-1.73	1.02	0.15	-0.28	0.22	0.22

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	37.70	17.07	2.6629	0.9964	2.6471	0.9418	-0.9966	-0.9476	-0.9476	-0.9476	-7727.10	-7727.10
1	41.35	17.07	-0.5362	0.9964	-0.7035	0.9418	0.0424	-0.0250	0.0424	-0.0368	1278.17	-2025.77
2	-5.18	14.72	-0.1140	-0.4504	-0.1058	-0.4349	-0.0095	0.0026	-0.0101	0.0026	-395.44	520.22
3	-22.67	-8.46	0.2072	-0.3518	0.2145	-0.3355	-0.0003	0.0043	0.0005	0.0052	137.17	137.17
4	-3.25	1.80	-0.0174	0.0069	-0.0189	0.0083	0.0044	0.0026	0.0045	0.0013	327.51	62.94
5	3.00	-0.06	0.0030	0.0578	0.0201	0.0695	0.0003	-0.0009	-0.0005	0.0003	5.35	-26.00
6	1.64	0.38	-0.0044	-0.0125	-0.0115	-0.0102	-0.0023	0.0000	-0.0015	-0.0018	-17.74	-4.11
7	3.22	-1.49	-0.0133	0.0000	0.0017	0.0008	-0.0011	0.0000	0.0005	0.0009	-18.51	-2.29
8	1.00	0.54	0.0127	0.0000	-0.0129	-0.0016	0.0009	0.0000	-0.0007	0.0012	-6.76	53.99
9	0.64	1.29	-0.0119	0.0000	0.0073	0.0050	-0.0010	0.0000	-0.0010	0.0000	11.12	4.42
10	0.20	-0.51	0.0077	0.0000	0.0036	0.0008	0.0004	0.0000	-0.0002	-0.0004	-24.19	2.62

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-118.19		-257.57		-51.09		235.71		-438.29	
1	328.96	-7.98	342.18	32.48	333.06	19.96	-17.35	-11.85	25.10	-26.85
2	-112.88	368.54	-147.30	341.72	-133.85	368.95	-0.06	0.36	22.75	39.56
3	-348.24	145.43	-286.61	155.18	-324.22	119.77	510.57	-885.33	248.30	266.00
4	-5.30	212.17	-18.55	198.84	-35.91	177.94	-16.93	52.88	38.87	38.36
5	-37.28	9.38	-43.83	18.73	-36.07	16.83	-16.31	6.26	14.09	13.40
6	7.31	-12.67	4.25	-16.17	1.47	-11.51	-73.79	49.08	60.25	-13.13
7	-16.65	22.37	-17.30	21.12	-24.95	18.40	-7.61	-7.92	2.09	-7.64
8	-2.49	-10.86	-11.57	-15.86	-7.23	-15.08	5.50	-14.28	6.22	5.16
9	-11.88	-22.89	13.88	-15.79	-3.28	-26.14	-29.09	53.68	21.19	-27.06
10	32.61	-9.64	32.58	-16.00	24.95	-20.84	-12.84	15.57	15.61	0.05

n	F2SHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn
0					-0.1764		0.1404	
1	70.64	996.42	-129.86	42.27	0.0107	-0.0287	0.0119	-0.0654
2	790.16	-546.99	-522.13	347.50	-0.0005	-0.0573	0.0105	0.0393
3	-486.25	4650.55	283.19	-109.26	-0.1370	14.81	-0.0457	0.0873
4	544.02	-7.81	1.83	3.67	-0.0054	-0.0097	0.0012	0.0195
5	31.02	468.44	-50.53	-9.13	0.0217	0.0112	-0.0058	0.0050
6	-249.65	396.28	-14.99	-43.45	-51.54	-3.13	-0.0644	-0.0025
7	451.31	0.00	6.86	-28.12	-2.35	-17.80	0.0018	0.0090
8	319.57	0.00	24.74	0.00	-18.90	8.17	0.0120	-0.0033
9	101.99	0.00	15.59	0.00	6.08	10.61	-0.0408	-0.0070
10	41.97	0.00	13.14	0.00	-8.18	-2.04	-0.0100	0.0055

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-11557.0		-380.9		5392.90		8368.60	
1	-41.5	-173.4	-24.0	-165.5	-128.77	211.46	-130.97	99.74
2	-67.4	62.2	-92.5	-9.6	-118.84	-84.71	14.57	169.44
3	569.2	-1340.9	363.4	-1338.0	183.70	88.66	642.64	1979.71
4	-20.0	43.4	-32.0	5.7	-39.01	-37.83	38.74	-43.31
5	6.4	44.9	0.1	36.1	-63.58	11.57	-56.58	-1.32
6	97.1	-27.6	101.3	-90.8	70.20	-10.63	35.16	54.78
7	19.4	-10.3	24.2	-17.7	-14.40	-16.93	10.45	18.70
8	9.6	33.8	13.4	8.5	25.17	55.50	20.21	-9.92
9	-36.8	-17.4	-60.5	-12.2	-15.97	-27.41	55.51	-29.44
10	-2.8	8.0	-3.9	6.0	-8.36	-16.87	7.96	-3.88

FLIGHT NUMBER V3305

FLIGHT PARAMETERS	NØ	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T. A. S. (M/S)	1	75.980003	76.820000	76.419998	0.328000
LOAD FACTOR	2	0.924000	1.051000	0.998500	0.037660
ALTITUDE (M)	3	494.700012	501.700012	498.299988	1.682000
AIR DENSITY (KG/M3)	4	1.175000	1.176000	1.175000	0.000237
SOUND SPEED (M/S)	5	337.500000	337.500000	337.500000	0.000000
ADVANCE RATIO	6	0.359100	0.364200	0.361400	0.001920
CT/SIGMA	7	0.060960	0.069620	0.065920	0.002570
CZM	8	0.365800	0.417700	0.395500	0.015440
REDUCED MASS (KG)	9	2032.000000	2033.000000	2033.000000	0.409400
I. A. S. (M/S)	10	74.410004	75.230003	74.849998	0.326500
STAT FLT PRES (MB)	11	955.599976	956.400024	956.000000	0.192600
STAT FLT TEMP (DEG C)	12	10.260000	10.260000	10.260000	0.000000
HELICOPTER MASS (KG)	13	1950.000000	1950.000000	1950.000000	0.000000
COLL PITCH (DEG)	14	12.395000	12.428000	12.407000	0.010480
LAT CYC PITCH (DEG)	15	-2.426000	-2.071000	-2.269000	0.122400
LON CYC PITCH (DEG)	16	7.298000	7.502000	7.398000	0.067480
TR PITCH (DEG)	17	10.530000	11.390000	10.980000	0.211500
AIRCRAFT PITCH (DEG)	18	-6.088000	-5.560000	-5.881000	0.178600
AIRCRAFT ROLL (DEG)	19	0.834000	4.438000	3.083000	1.250000
PITCH RATE (DEG/S)	20	-1.235000	1.696000	0.023410	0.895200
ROLL RATE (DEG/S)	21	-4.460000	12.920000	3.448000	5.209000
YAW RATE (DEG/S)	22	-1.177000	3.396000	0.604500	1.353000
MR ROT SPEED (RD/S)	23	40.150002	40.349998	40.279999	0.075300
ENGINE POWER (KW)	24	541.000000	555.500000	549.900024	3.906000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-278.40		-348.70		-92.57		-179.71		-134.00		-155.14	
1	-98.53	191.30	-94.09	186.05	-52.01	66.62	-20.87	20.02	-22.85	20.93	-33.88	24.82
2	-19.04	-100.36	-18.75	-100.26	-2.47	-64.33	5.01	-26.75	6.25	-26.67	11.55	-29.49
3	49.70	-138.93	36.58	-119.94	22.95	-81.94	1.35	-41.56	-1.37	-36.86	-7.73	-32.93
4	-13.57	10.85	-3.91	2.60	-9.54	2.48	-3.86	4.53	-1.02	2.29	-0.86	3.08
5	50.66	45.19	41.02	14.20	35.48	17.81	8.27	8.91	3.13	4.05	1.88	5.28
6	-21.93	0.00	-14.29	0.00	-12.88	0.00	-0.89	0.10	0.56	-0.47	-0.73	0.11
7	13.46	0.00	-7.09	12.28	-2.63	-4.55	0.80	-2.08	1.33	-1.94	-1.20	1.14
8	-3.61	0.00	2.34	4.05	1.14	-1.98	0.56	0.94	1.21	-0.50	0.77	-1.82
9	1.91	0.00	1.36	0.00	-0.85	0.00	0.51	-0.01	0.70	0.61	1.28	-1.53
10	0.79	0.00	-0.41	0.72	-0.22	-0.39	0.18	-0.78	0.22	-0.97	1.15	-1.60

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-43.00		-0.29		44.47		-25.23		-1160.00		264.21		1378.60	
1	-42.88	44.01	-32.42	44.22	-23.64	61.17	4.05	76.49	264.21	-386.36	163.57	-161.08		
2	26.80	-23.26	35.26	-9.32	34.52	-4.38	-7.66	-22.48	-4.51	177.83	-22.67	89.50		
3	-20.55	-34.59	-28.24	-39.30	-30.43	-40.59	-8.16	-36.05	49.22	30.07	61.12	-38.37		
4	2.23	-1.82	3.14	-3.42	4.25	-5.66	-1.39	-7.30	91.67	-30.35	-55.68	-17.43		
5	-4.03	-2.39	-3.33	-12.23	-5.05	-16.87	-0.77	-20.15	-25.00	-13.43	-45.86	-26.60		
6	-0.39	-1.23	1.10	1.08	1.61	1.03	1.94	3.50	-4.21	6.08	-6.70	-12.54		
7	-1.12	2.09	-1.10	0.19	1.45	-1.40	4.68	-2.39	2.57	1.39	-17.47	0.27		
8	-0.51	-0.42	0.23	0.26	0.32	-0.65	-1.55	0.74	-9.35	0.00	-16.71	12.61		
9	0.66	-0.29	-1.33	0.06	0.53	0.40	1.27	-2.83	11.19	0.00	-16.71	12.61		
10	-0.52	1.12	-0.84	1.27	0.53	-0.32	4.32	-2.99	-2.84	0.00	2.69	-0.26		

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-1055.70		-2235.70		465.57		909.71		1311.40		1378.60	
1	259.91	-425.79	263.36	-325.90	201.75	-230.30	144.75	-178.75	197.58	-176.53	163.57	-161.08
2	2.39	171.11	-27.18	238.54	-18.66	147.22	-9.08	105.98	-33.24	117.95	-22.67	89.50
3	42.35	-4.92	-9.86	-0.49	48.37	-7.70	49.76	-17.12	62.61	-32.51	61.12	-38.37
4	83.90	-4.17	28.49	21.91	18.75	-38.91	-24.05	-14.58	-20.54	-47.50	-55.68	-17.43
5	-10.31	-11.66	-37.19	-15.30	-25.96	-33.17	-38.09	-18.32	-27.83	-39.23	-45.86	-26.60
6	-22.67	-2.75	-12.48	0.44	-26.34	-33.52	-5.88	-16.25	-40.99	-35.84	-6.70	-12.54
7	-2.41	5.29	-6.51	-2.97	-15.12	0.14	-14.23	-6.14	-18.19	-3.58	-17.47	0.27
8	4.41	7.63	3.08	-5.34	-4.38	2.08	-10.18	-1.21	-8.18	1.63	-16.71	12.61
9	10.34	0.00	7.12	0.00	-0.11	1.10	2.50	6.65	8.16	8.29	-16.71	12.61
10	1.90	-3.30	1.52	2.64	-0.62	-1.13	-0.43	-0.67	-1.60	1.32	2.69	-0.26

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1208.60		1780.00		1300.00		897.86		20.29		25.46	
1	147.58	-101.35	94.90	-70.66	59.33	-46.29	32.75	-30.38	75.27	-16.84	73.90	-15.55
2	-36.30	65.46	-15.44	38.97	-15.13	16.24	-4.29	6.27	-23.84	93.01	-30.00	88.57
3	43.19	-37.50	25.16	-32.15	19.90	-13.43	7.61	-10.71	-83.39	16.25	-67.66	9.36
4	-30.85	-33.90	-41.31	-7.87	-17.03	-15.70	-16.40	-3.54	4.56	42.75	-4.43	34.95
5	-19.78	-30.47	-29.00	-14.75	-9.15	-12.10	-10.21	-5.16	-5.07	2.59	-1.95	0.48
6	-35.07	-29.00	-2.96	-7.42	-17.18	-13.41	-0.83	-3.18	1.84	-0.51	1.54	-1.98
7	-13.93	-3.67	-9.91	-9.40	-6.11	-1.39	-2.39	-2.97	1.34	0.35	-0.11	1.01
8	-6.58	4.18	-12.41	1.15	-3.14	2.14	-4.93	0.20	-2.06	0.00	1.27	2.19
9	12.92	10.80	9.97	10.66	7.43	6.40	4.54	3.69	2.06	0.00	1.81	0.00
10	-2.47	3.46	2.89	0.36	-1.24	2.36	0.79	0.40	-1.31	0.00	0.50	-0.87

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-300.71		138.00		143.14		-8.15		35.16		48.69	
1	63.57	-2.50	67.38	-4.10	64.78	-1.16	63.62	15.65	53.38	31.00	52.42	10.22
2	-31.40	72.62	-19.73	79.50	-25.37	73.61	-22.05	52.21	-14.61	26.25	4.20	28.47
3	-63.35	9.28	-68.31	2.44	-57.03	-7.92	-46.63	-16.82	-31.26	-15.51	-34.04	-4.92
4	-1.59	36.24	3.81	34.85	-2.84	29.07	-2.29	22.40	-2.29	8.14	-1.22	5.93
5	0.36	3.02	-2.16	5.09	-0.14	2.91	4.66	5.38	2.99	1.10	0.81	1.09
6	0.98	-0.83	-0.95	0.05	2.38	-2.51	0.66	0.86	0.95	1.34	0.52	2.52
7	-0.10	-0.09	0.22	-0.09	-0.35	-0.96	0.04	-1.10	0.91	-1.45	1.04	-1.29
8	0.72	-1.25	0.36	0.14	-0.34	0.96	1.82	1.42	1.04	1.30	-0.39	0.49
9	1.23	0.00	0.62	0.09	1.06	0.14	0.38	1.12	-0.58	-0.65	-0.10	-0.56
10	-0.36	-0.62	0.12	1.02	0.11	0.73	-1.33	3.12	-0.36	2.01	-0.52	1.19

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	40.24		2.8786		2.8643		-1.1971		-1.1700		-10443.00	
1	51.15	20.52	0.0393	1.1410	-0.2167	1.0374	0.0520	-0.0212	0.0597	-0.0346	2452.01	-2279.35
2	-4.60	20.75	-0.1665	-0.6508	-0.1419	-0.6136	-0.0109	0.0041	-0.0100	0.0038	-460.78	813.10
3	-26.91	-10.37	0.2898	-0.3822	0.2736	-0.3610	-0.0031	0.0045	-0.0025	0.0070	66.70	279.98
4	-3.96	2.85	-0.0415	0.0253	-0.0325	0.0208	0.0050	0.0027	0.0051	0.0026	417.92	27.76
5	3.88	0.20	-0.0030	0.0708	0.0017	0.0970	0.0013	-0.0019	-0.0009	0.0007	-13.91	-51.40
6	0.68	1.62	-0.0062	-0.0252	-0.0093	-0.0247	0.0050	0.0000	-0.0022	-0.0037	15.13	-66.94
7	1.67	-2.15	-0.0057	0.0044	0.0112	0.0042	-0.0011	0.0000	0.0008	0.0006	16.20	-31.75
8	0.42	-0.53	0.0161	0.0000	-0.0205	-0.0051	0.0014	0.0000	-0.0011	0.0020	-23.78	92.94
9	0.97	0.56	-0.0266	0.0000	0.0082	0.0111	-0.0011	0.0000	-0.0020	0.0000	3.88	0.78
10	-1.09	0.31	0.0091	0.0000	0.0016	0.0054	0.0004	0.0000	-0.0004	-0.0007	-2.02	22.39

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-184.14		-323.14		-113.00		236.14		-636.43	
1	437.24	6.49	448.68	39.31	427.42	33.06	-13.71	-25.73	36.63	-42.07
2	-115.21	518.40	-169.99	478.35	-158.11	510.76	-26.90	27.42	6.68	24.02
3	-490.50	156.54	-415.94	144.82	-402.75	97.42	594.18	-1118.58	363.68	417.07
4	32.07	276.39	-1.27	270.10	-20.30	233.66	-40.66	70.46	56.38	72.07
5	-30.63	-1.63	-40.06	10.51	-37.91	1.35	-34.43	11.23	25.33	16.50
6	22.90	-27.88	22.49	-31.72	16.41	-29.37	-60.08	56.75	56.03	-21.81
7	-7.35	25.55	-4.32	23.68	-11.35	30.42	-16.80	1.50	-10.93	-3.51
8	-10.34	-8.45	-16.03	-21.36	0.35	-16.29	6.91	6.83	4.67	32.31
9	4.76	-24.72	-5.67	-18.09	-17.40	-18.21	-15.64	92.85	22.93	-44.60
10	30.60	-39.23	25.83	-50.45	31.97	-26.36	19.13	-2.07	0.23	-15.27

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0										
1	-335.92	1272.30	-136.00		50.09		-0.1870		-0.3786	
2	815.05	-661.97	-562.68	-141.02	108.90	-580.93	0.0410	-0.0283	0.0388	-0.0599
3	-1281.93	5191.68	402.30	-162.03	-190.67	-394.78	-0.0136	-0.0373	0.0077	0.0325
4	517.45	-75.36	7.89	7.42	-23.71	33.83	-0.2270	-0.0360	-0.0015	0.1756
5	12.36	478.66	-81.56	11.88	-23.71	-61.31	0.0064	0.0001	0.0146	0.0062
6	-334.92	442.36	-17.85	-45.31	-60.72	-22.92	0.0194	0.0331	-0.0017	0.0111
7	34.53	-45.90	16.36	-46.35	8.38	-34.20	-0.0073	0.0996	-0.0238	-0.0166
8	278.73	0.00	15.68	2.39	-19.10	20.11	0.0138	0.0016	-0.0072	-0.0091
9	133.67	0.00	34.19	0.00	6.62	28.95	0.0276	0.0000	0.0223	0.0025
10	51.07	0.00	31.36	0.00	-7.70	-16.73	0.0480	0.0000	-0.0256	-0.0004

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-13314.0		393.4		4908.60		8721.40	
1	9.4	-153.0	105.6	-104.8	-72.93	222.08	-307.35	164.04
2	-70.3	41.6	-24.7	-39.0	-31.83	-112.47	-24.64	161.31
3	875.2	-1668.0	464.7	-1710.7	-204.16	-501.54	847.68	2091.77
4	21.8	2.5	21.0	-33.0	-41.06	-9.60	-20.50	-73.73
5	20.4	82.5	-8.6	62.3	-120.03	9.78	-72.74	-1.13
6	130.2	-69.6	131.6	-95.5	35.40	-5.73	-23.86	9.23
7	-14.3	1.9	-25.4	-17.6	-24.06	-26.23	3.85	-2.83
8	0.6	19.0	-2.3	24.1	-12.91	34.98	17.08	6.93
9	-29.7	-50.2	-51.1	-23.4	-44.74	-0.41	17.79	-143.25
10	-21.2	8.5	-24.4	10.2	-10.98	2.44	15.89	6.41

FLIGHT NUMBER V3308

FLIGHT PARAMETERS	NO	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	50.639999	51.520000	51.029999	0.314200
LOAD FACTOR	2	1.447000	1.626000	1.524000	0.050280
ALTITUDE (M)	3	269.600006	274.299988	271.799988	1.939000
AIR DENSITY (KG/M3)	4	1.214000	1.215000	1.214000	0.000306
SOUND SPEED (M/S)	5	336.399994	336.500000	336.500000	0.024550
ADVANCE RATIO	6	0.238700	0.242600	0.240300	0.001470
CT/SIGMA	7	0.091280	0.102900	0.096170	0.003270
CZM	8	0.547700	0.617200	0.577000	0.019620
REDUCED MASS (KG)	9	1958.000000	1959.000000	1958.000000	0.494000
I.A.S. (M/S)	10	50.410000	51.299999	50.799999	0.317400
STAT FLT PRES (MB)	11	981.599976	982.099976	981.900024	0.221900
STAT FLT TEMP (DEG C)	12	8.563000	8.657000	8.585000	0.041100
HELICOPTER MASS (KG)	13	1941.000000	1941.000000	1941.000000	0.000000
COLL PITCH (DEG)	14	7.152500	7.163500	7.160100	0.003760
LAT CYC PITCH (DEG)	15	-1.281000	-1.230000	-1.253000	0.017760
LON CYC PITCH (DEG)	16	-1.442000	-0.837000	-1.007000	0.201600
TR PITCH (DEG)	17	-2.612000	-2.485000	-2.537000	0.035320
AIRCRAFT PITCH (DEG)	18	-12.170000	-9.260000	-10.720000	0.947300
AIRCRAFT ROLL (DEG)	19	-55.950001	-54.810001	-55.450001	0.363100
PITCH RATE (DEG/S)	20	7.910000	10.580000	9.188000	0.791800
ROLL RATE (DEG/S)	21	-11.140000	5.888000	-3.558000	5.598000
YAW RATE (DEG/S)	22	-10.850000	-8.271000	-9.586000	0.689400
MR ROT SPEED (RD/S)	23	40.400002	40.470001	40.439999	0.030460
ENGINE POWER (KW)	24	181.199997	198.699997	191.000000	5.979000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-267.00	-320.10	-71.14	-1.93	-154.14	11.00	-108.00	-4.88	12.22	-135.86
1	26.97	23.13	4.80	-1.93	-3.18	11.00	-4.88	9.64	8.74	-14.52
2	10.85	9.45	10.54	17.98	8.53	6.58	9.64	5.25	8.74	13.51
3	-2.90	13.66	4.33	-65.26	-0.01	-27.63	5.25	-26.55	4.97	-24.91
4	22.60	28.03	9.12	32.27	2.94	14.98	5.82	17.43	2.08	12.72
5	-7.77	0.61	4.00	-26.49	-4.44	-10.38	-2.01	-9.68	-1.33	-5.07
6	-28.39	-23.06	-18.67	0.00	1.07	5.86	1.12	4.94	-0.46	-0.39
7	65.16	-38.98	-16.09	-27.87	-3.52	8.08	-6.27	9.93	3.86	-8.56
8	-10.46	6.00	1.67	-2.90	-0.74	-0.34	-1.11	-0.63	2.60	-3.51
9	3.21	2.94	-0.73	0.00	0.46	-0.46	0.14	-0.08	2.09	-1.48
10	-11.17	5.45	2.14	3.71	-5.65	-3.75	-4.56	-3.84	-15.57	-6.47

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-16.86	32.43	78.23	37.80	-4.79	-335.86	69.03	-439.46	1522.90	-122.89
1	-25.80	-24.85	-27.58	37.80	-3.73	-3.73	34.05	-8.78	107.66	-8.78
2	34.80	46.35	47.57	0.87	23.90	5.40	-35.24	58.83	-96.55	-8.78
3	9.58	11.27	16.54	-9.76	8.70	-8.41	30.78	-8.75	54.75	-0.16
4	9.71	6.13	-17.47	-26.55	-14.63	-18.55	-17.40	18.10	-18.63	21.27
5	-0.84	5.96	3.63	9.30	-3.16	3.39	9.33	1.27	-17.64	-17.64
6	5.03	-3.86	-11.30	3.24	-6.62	9.24	7.04	8.86	11.59	5.43
7	20.06	6.88	-16.32	10.66	-50.74	38.95	18.74	0.00	10.90	5.43
8	2.68	1.29	-0.17	3.57	-14.23	-9.68	-3.04	0.00	-37.89	94.89
9	0.88	-5.94	-3.04	4.48	12.87	-8.07	5.89	0.00	-14.42	0.73
10	6.90	12.96	4.26	1.39	-18.07	-9.85	-2.36	0.00	4.58	-2.47

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-234.57	-1650.00	888.43	-241.46	1157.10	-164.72	1534.30	-161.61	1522.90	-122.89
1	69.91	82.31	88.89	-241.46	75.73	-164.72	109.66	-161.61	107.66	-122.89
2	-29.10	-43.25	-62.36	10.09	-58.86	0.74	-91.50	-6.51	-96.55	-8.78
3	15.95	38.86	58.26	3.21	49.04	1.32	63.08	-2.95	54.75	-0.16
4	-7.58	-14.69	-30.85	1.83	-12.91	11.43	-35.40	3.46	-18.63	21.27
5	8.80	15.60	10.95	4.04	10.86	-6.07	8.23	-2.27	-17.64	-17.64
6	9.02	8.90	-21.53	10.48	11.37	6.01	-20.44	14.78	10.90	5.43
7	-8.88	-12.75	-8.29	38.25	-19.85	52.77	-18.60	81.40	-37.89	94.89
8	2.08	2.41	-4.89	-1.24	-5.82	-0.07	-12.58	1.41	-14.42	0.73
9	4.73	3.59	-1.30	-0.70	1.35	-0.92	2.45	-2.94	4.58	-2.47
10	1.64	2.32	2.39	4.71	8.10	5.16	16.27	9.88	21.84	15.58

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1288.60		1822.90		1320.00		890.57		54.87		60.86	
1	95.82	-74.11	72.93	-43.23	45.49	-30.33	28.96	-19.49	17.89	16.19	15.88	15.71
2	-87.79	-3.68	-61.65	0.39	-38.10	5.36	-18.75	2.95	3.42	-24.53	5.32	-24.72
3	40.19	-11.44	26.67	-12.71	12.13	-14.27	7.07	-9.54	-4.27	57.74	-17.39	53.70
4	-29.35	16.56	-8.00	20.55	-8.39	9.64	-2.09	5.67	-5.48	-6.12	-8.81	-5.38
5	5.11	-6.00	7.17	-12.93	3.78	0.74	3.19	-1.91	4.12	2.68	3.73	2.20
6	-19.19	5.83	11.73	-6.60	-7.14	-3.18	4.28	-3.17	-2.70	-0.76	-4.03	-1.35
7	-24.28	76.64	-29.03	64.54	-9.85	29.84	-6.85	2.78	2.93	0.00	-1.62	2.81
8	-14.59	2.55	-15.06	3.76	-10.84	4.92	-6.85	2.62	-1.28	0.00	0.81	1.41
9	7.50	-6.00	5.89	-1.38	1.81	0.67	2.62	1.89	2.55	0.00	1.71	0.00
10	23.74	11.52	23.84	12.45	19.41	8.13	10.24	3.81	-5.03	0.00	2.28	-3.95

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-286.86		161.71		171.14		9.83		43.21		59.89	
1	13.56	22.60	18.80	13.30	18.33	13.38	20.65	16.85	20.55	23.72	21.74	13.32
2	1.94	-20.07	1.75	-18.85	3.44	-18.62	3.17	-14.55	-0.13	-10.64	2.34	-11.22
3	-8.40	40.48	-0.82	41.86	-11.35	35.41	-2.21	17.55	3.56	5.18	5.43	5.45
4	-5.00	-4.65	-4.24	-2.99	-5.64	-0.12	-0.17	-1.05	0.00	-0.52	2.20	0.94
5	3.82	-1.39	2.56	-0.69	2.49	-2.43	4.60	-5.23	1.36	-5.63	0.63	-1.76
6	-3.57	-1.19	-1.53	-0.38	-3.06	-0.59	-0.05	-1.16	-0.81	-2.32	-1.99	-4.23
7	-1.78	-3.08	-4.02	3.14	-6.22	5.54	-4.23	6.50	-9.64	9.66	-4.05	6.03
8	0.52	-0.89	-0.03	-1.28	-0.58	-0.60	-0.90	1.11	-3.03	-0.62	0.81	0.16
9	1.73	0.00	-0.52	0.88	-0.38	0.14	-2.28	-0.25	1.80	-4.64	1.54	-2.83
10	2.03	3.51	0.25	3.23	-0.60	2.61	-1.75	0.06	-5.57	-4.42	-4.10	-5.01

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	49.06		3.6043		3.4714		-0.4194		-0.3591		-3532.90	
1	22.06	17.39	-3.7795	-0.7863	-3.6607	-0.7248	0.1050	-0.0785	0.1027	-0.0886	1241.37	-2676.76
2	3.35	-8.01	-0.0344	0.2448	-0.0676	0.2240	-0.0103	0.0082	-0.0081	0.0104	-146.85	363.82
3	2.74	3.46	0.1811	-0.2850	0.1849	-0.2743	0.0073	0.0091	0.0091	0.0070	195.29	-134.17
4	1.12	-0.49	-0.0160	0.0824	-0.0310	0.0888	-0.0005	-0.0028	-0.0027	0.0007	-79.16	16.44
5	0.31	-2.22	0.0421	-0.0324	0.0454	-0.0233	-0.0026	0.0015	-0.0036	0.0016	22.86	6.57
6	-2.30	-5.13	-0.0139	0.0204	-0.0173	0.0213	0.0009	0.0000	-0.0024	0.0006	-38.59	30.36
7	-7.29	7.33	-0.0494	0.0000	-0.0421	-0.0193	-0.0014	0.0000	0.0017	0.0030	39.61	-103.41
8	-1.05	0.12	0.0153	0.0000	-0.0023	-0.0049	0.0004	0.0000	-0.0007	0.0012	5.08	-5.88
9	1.41	-2.70	-0.0070	0.0000	-0.0009	-0.0050	-0.0003	0.0000	-0.0009	0.0000	14.69	-1.07
10	-4.76	-6.02	0.0121	0.0000	-0.0105	0.0050	0.0001	0.0000	-0.0004	-0.0007	29.44	31.97

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	234.14	66.40	86.44	73.54	301.00	68.15	361.71	10.37	263.71	6.04
1	50.04	-149.95	54.70	-140.86	57.24	-155.93	10.37	5.83	12.28	20.86
2	-6.82	355.59	0.96	318.98	19.76	342.84	5.83	299.60	2.30	-637.23
3	-57.41	-33.16	-38.26	-37.65	-118.55	-18.33	299.60	64.14	246.87	-26.71
4	-38.06	52.56	5.40	36.46	-57.16	57.48	64.14	18.15	9.63	-9.08
5	18.90	3.11	-26.12	-13.09	12.96	9.01	18.63	-2.92	9.28	145.22
6	-14.56	-107.59	76.38	-94.86	-18.11	-105.37	212.18	19.94	74.14	10.25
7	43.91	-3.66	18.03	-9.02	2.62	-12.30	19.94	-7.41	35.29	8.24
8	9.21	16.72	14.46	12.89	-2.82	16.33	-7.41	13.50	3.04	-41.72
9	5.34	-14.80	-8.02	-16.98	4.82	-23.25	-32.26	-0.66	-22.36	-7.66
10	-4.63						-0.66	-0.73	6.17	

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1458.87	-354.82	-72.54	26.19	1946.80	90.40	-0.5276	0.0074	-0.5389	-0.0454
1	-59.90	-813.40	31.71	-2029.85	-45.21	140.23	-0.0231	0.0066	-0.0036	0.0031
2	-20.15	4339.45	-135.78	-68.14	11.69	9.56	-0.0033	-0.0066	-0.0065	0.0326
3	474.49	10.31	-4.56	17.90	-8.17	82.16	0.1116	0.0082	0.2087	-0.0326
4	177.80	258.60	85.11	5.58	-8.17	82.16	0.0120	0.0127	-0.0263	0.0029
5	45.93	558.66	-57.25	-5.03	15.02	51.75	0.0078	-0.0221	0.0021	0.0009
6	590.77	0.00	-1.98	-10.63	-2.72	3.03	0.0855	0.0595	0.0355	0.0011
7	255.51	0.00	103.10	0.00	44.60	-73.45	0.0194	0.0000	-0.0370	0.0141
8	94.03	0.00	32.51	0.00	-25.43	10.94	0.0097	0.0000	0.0015	0.0047
9	66.30	0.00	10.20	0.00	6.43	3.39	0.0177	0.0000	-0.0147	0.0056
10			33.77	0.00	35.32	27.33	0.0119	0.0000	0.0087	0.0006

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-8622.9	-115.2	-3005.7	-100.8	10067.00	134.15	12329.00	-30.34
1	-114.2	26.0	-146.2	2.5	-85.00	-21.51	80.71	24.02
2	-37.3	-1186.8	-42.5	-741.7	-31.48	1293.82	3.37	1029.08
3	-207.0	60.4	-488.1	25.9	-737.39	-56.19	-400.60	-20.45
4	-14.8	-40.2	-35.0	-24.4	48.75	48.15	73.92	49.36
5	6.5	-115.9	0.3	-165.1	-30.42	135.80	-15.21	248.47
6	27.1	28.8	-60.6	29.8	-27.09	-69.56	-42.89	-27.55
7	38.3	-20.1	37.7	-25.2	-27.09	-14.98	-31.83	15.05
8	-10.9	-21.4	-19.0	-34.6	-21.13	-66.66	27.96	-19.51
9	-15.4	-22.3	-2.4	-14.0	3.31	32.57	-25.19	16.24
10	9.3		1.0		-3.82		24.83	

FLIGHT NUMBER V3310

FLIGHT PARAMETERS	N0	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T. A. S. (M/S)	1	52.340000	53.520000	52.919998	0.400600
LOAD FACTOR	2	2.020000	2.169000	2.115000	0.048530
ALTITUDE (M)	3	410.299988	429.100006	418.899994	5.679000
AIR DENSITY (KG/M3)	4	1.197000	1.199000	1.198000	0.000807
SOUND SPEED (M/S)	5	335.799988	335.799988	335.799988	0.000000
ADVANCE RATIO	6	0.244700	0.251200	0.247900	0.002150
CT/SIGMA	7	0.127700	0.136400	0.133000	0.002720
CZM	8	0.765900	0.818300	0.798300	0.016320
REDUCED MASS (KG)	9	1971.000000	1976.000000	1973.000000	1.329000
I. A. S. (M/S)	10	51.790001	52.900002	52.330002	0.379200
STAT FLT PRES (MB)	11	963.900024	966.000000	965.099976	0.650100
STAT FLT TEMP (DEG C)	12	7.432000	7.432000	7.432000	0.000000
HELICOPTER MASS (KG)	13	1930.000000	1930.000000	1930.000000	0.000000
COLL PITCH (DEG)	14	7.089500	7.115500	7.105400	0.007990
LAT CYC PITCH (DEG)	15	-1.221000	-1.074000	-1.166000	0.047230
LON CYC PITCH (DEG)	16	-2.186000	-1.819000	-1.980000	0.108200
TR PITCH (DEG)	17	-3.589000	-3.461000	-3.532000	0.039050
AIRCRAFT PITCH (DEG)	18	-22.740000	-22.559999	-22.700001	0.054930
AIRCRAFT ROLL (DEG)	19	-65.879997	-59.290001	-62.790001	2.101000
PITCH RATE (DEG/S)	20	17.120001	19.780001	18.290001	0.810800
ROLL RATE (DEG/S)	21	-11.580000	6.562000	-1.725000	6.283000
YAW RATE (DEG/S)	22	-10.410000	-8.095000	-9.317000	0.595500
MR ROT SPEED (RD/S)	23	40.590000	40.740002	40.660000	0.048130
ENGINE POWER (KW)	24	114.199997	144.800003	129.300003	9.743000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 2		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-342.70	0.00	-400.10	0.00	-104.29	0.00	-153.71	0.00	-107.71	0.00	-131.14	0.00
1	41.40	-22.56	39.04	-21.51	7.90	-9.21	-1.63	8.27	-4.58	8.31	-4.58	27.24
2	21.11	40.64	6.44	37.95	9.20	30.08	9.68	15.09	6.56	16.14	17.53	12.38
3	-48.14	-95.09	-42.98	-101.89	-31.58	-54.48	-12.47	-21.30	-9.97	-23.53	-7.08	-20.25
4	-18.71	66.06	-9.05	58.75	-2.54	31.43	-7.31	17.04	-4.60	17.95	-2.04	12.40
5	32.21	-95.58	34.59	-86.48	26.29	-47.16	0.89	-20.16	2.47	-17.77	-0.56	-5.36
6	-24.80	0.00	-21.15	0.00	-10.80	0.00	0.09	3.17	0.89	2.50	0.82	0.21
7	28.58	0.00	-18.51	32.06	-4.76	-8.25	-1.35	2.26	-5.06	3.85	-3.14	-2.42
8	-12.25	0.00	4.35	7.53	1.89	-3.27	-0.36	-0.10	-0.93	-0.93	-0.82	-5.40
9	4.20	0.00	3.27	0.00	1.02	0.00	0.91	-2.27	0.55	-0.91	0.74	-4.40
10	-4.83	0.00	1.79	-3.10	1.38	2.39	-1.53	-0.34	-0.80	-1.04	-0.78	-4.17

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-9.29	45.18	44.43	42.61	-12.40	43.41	-249.43	118.83	-249.43	118.83	-249.43	118.83
1	-27.48	13.74	-29.73	13.03	34.40	56.78	-5.28	121.91	-61.96	121.91	-61.96	121.91
2	43.52	-22.95	50.70	-18.82	55.06	4.80	27.75	16.26	21.90	-13.58	21.90	-13.58
3	-1.62	-4.92	2.06	-25.35	9.02	-12.95	4.94	-11.45	32.76	3.05	32.76	3.05
4	10.00	12.85	10.44	16.03	2.65	-34.52	-0.45	-24.56	-2.81	-2.07	-2.81	-2.07
5	-2.90	-6.45	0.63	-3.55	-7.15	8.47	-14.12	2.49	8.56	10.19	8.56	10.19
6	1.03	-5.01	-2.36	-5.07	-7.27	3.51	-7.82	10.80	9.78	0.00	9.78	0.00
7	7.98	1.85	5.84	3.63	-5.13	2.77	-22.30	23.19	-3.57	0.00	-3.57	0.00
8	3.19	3.36	-1.88	7.24	-0.15	3.06	-16.74	-1.92	7.13	0.00	7.13	0.00
9	-0.43	3.59	4.81	1.89	-0.06	4.11	-0.70	-17.41	-2.54	0.00	-2.54	0.00
10	2.23	3.59	4.81	1.89	4.10	2.11	-9.88	-12.63	-2.54	0.00	-2.54	0.00

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-107.76	-773.55	-1577.10	-525.33	924.57	-474.98	1194.30	-355.85	1554.30	-385.05	1541.40	-339.36
1	123.90	104.47	130.73	40.50	134.49	56.94	103.52	47.88	146.73	46.59	133.74	61.00
2	-69.66	-12.17	-62.85	3.98	-139.66	-11.37	-140.58	-7.17	-207.90	-4.14	-215.95	-4.58
3	24.21	33.87	60.43	-0.29	96.96	-49.82	94.25	-19.60	121.59	-74.82	114.42	-23.50
4	28.90	-4.12	-35.80	3.91	17.41	9.50	-38.73	8.12	9.33	-0.13	-51.22	-5.18
5	-3.78	14.88	-36.09	11.14	-49.11	23.24	-50.81	11.03	-82.13	32.58	-84.03	16.00
6	20.68	16.84	14.72	-5.57	13.24	15.54	18.78	16.33	15.49	28.12	20.13	16.00
7	-9.73	6.02	-3.22	-2.74	10.35	5.39	4.88	10.11	18.50	10.11	-1.38	26.44
8	3.48	0.00	1.58	0.00	3.92	-1.30	2.29	-0.05	0.17	-13.53	-7.16	0.09
9	7.24	0.00	4.25	0.00	1.39	-0.61	-1.57	-0.03	-2.99	-13.53	-1.90	-21.62
10	1.74	-3.01	1.44	2.50	0.92	0.61	4.85	-0.03	11.01	-4.49	11.59	2.22

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1290.00		1828.60		1317.10		891.43		60.41		77.86	
1	126.64	-230.17	91.49	-159.94	64.60	-102.23	37.56	-57.40	10.57	93.68	15.15	84.05
2	-189.52	35.43	-133.96	37.42	-86.81	16.89	-39.71	12.03	41.55	-32.68	60.29	-31.39
3	85.86	3.13	54.08	-8.46	27.11	-4.18	13.06	-10.22	3.51	25.49	-7.88	48.43
4	18.26	-46.70	-19.59	-4.46	18.87	-13.19	-4.54	-2.15	-1.13	-34.58	-2.04	-14.10
5	-79.51	-17.77	-59.18	-7.74	-34.33	-12.75	-19.00	-3.17	-13.77	-11.80	-9.80	-2.95
6	5.20	25.31	9.54	2.58	-1.42	1.47	1.73	-1.49	-10.24	-8.43	-9.66	-7.45
7	13.95	26.89	-5.64	21.12	4.59	9.80	-5.44	7.37	5.42	0.00	-3.12	5.41
8	-8.52	5.27	-12.14	1.47	-5.26	4.30	-6.25	2.22	-5.48	0.00	1.58	2.73
9	-6.65	-20.61	-1.21	-17.80	-4.41	-12.14	-0.59	-7.29	5.38	0.00	3.13	0.00
10	16.40	-10.04	14.39	0.51	12.09	-8.14	6.79	-1.68	-3.34	0.00	1.74	-3.01

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-279.29		164.86		183.14		23.56		56.26		74.37	
1	15.18	89.86	14.43	75.28	16.09	66.61	18.68	48.74	22.39	36.25	28.03	24.33
2	39.49	-38.57	33.73	-24.89	50.19	-21.90	23.54	-19.00	4.60	-9.61	4.85	-9.82
3	-10.01	27.58	3.66	14.55	-6.00	31.43	-1.66	10.72	3.30	5.12	6.87	-0.56
4	-11.41	-15.19	-1.83	-25.49	-2.21	-7.62	-10.33	-16.36	-0.24	-10.65	7.63	-15.30
5	-10.73	-5.18	-11.29	-11.50	-8.63	-5.69	-7.43	-5.13	-7.40	0.27	-4.46	-8.66
6	-7.71	-4.62	-7.08	-4.75	-7.13	-5.32	-0.10	-2.21	0.54	0.27	-3.96	-2.77
7	-2.71	-4.69	-2.91	-1.86	-5.07	0.02	1.92	-1.53	0.05	3.68	-0.42	3.75
8	2.62	-4.54	-1.01	-3.08	-1.57	-0.97	-1.39	5.11	-4.09	2.38	-1.37	1.86
9	2.74	0.00	-1.19	-3.17	0.40	-2.27	0.47	6.25	1.99	1.91	-0.67	0.47
10	0.97	1.68	-1.44	-0.79	-0.35	0.08	-4.96	2.06	-2.85	-1.10	-2.77	-0.33

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	61.71		4.5386		-0.2913		-0.2080		-2618.60	
1	30.31	26.07	-5.6094	-1.7146	0.2255	-0.2233	0.2113	-0.2404	1970.74	-5330.46
2	9.80	-4.45	-0.0776	0.3078	-0.0250	0.0196	-0.0189	0.0216	-481.05	684.22
3	3.65	5.00	0.0427	-0.3073	0.0212	-0.3188	0.0266	0.0090	97.06	-167.70
4	7.05	-6.29	-0.0654	0.0452	-0.0257	0.0547	-0.0013	-0.0030	78.99	130.65
5	-4.79	-3.83	0.1068	-0.0312	0.0915	-0.0141	0.0026	0.0067	28.19	-36.38
6	-4.05	-4.88	-0.0228	0.0135	-0.0061	0.0093	0.0041	0.0000	-6.32	157.97
7	-5.72	4.59	-0.0147	0.0000	-0.0074	0.0000	-0.0014	0.0000	-0.0011	0.0019
8	-2.77	2.88	0.0170	0.0000	-0.0037	-0.0012	0.0013	0.0000	-0.0008	0.0014
9	-0.98	0.07	-0.0149	0.0000	-0.0019	-0.0052	-0.0009	0.0000	-0.0009	0.0000
10	-1.03	-1.62	0.0119	0.0000	0.0009	0.0000	0.0009	0.0000	-0.0003	-0.0005

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK,LD,N blade 2		PTCH LNK,LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	303.71	190.14	55.54	425.30	27.68	417.89	126.27	48.47	-1.74	-90.93
1	9.95	466.88	229.33	-249.92	339.35	-193.07	32.59	-11.25	20.72	96.82
2	219.60	-203.10	-43.01	219.44	-33.57	304.98	-25.78	308.57	51.23	-417.57
3	49.41	171.19	-82.36	-136.71	-8.42	-105.78	-169.47	5.89	290.71	-111.24
4	2.05	-234.51	-118.42	21.09	-73.43	2.15	89.22	1.01	-232.10	7.32
5	-109.35	-49.54	-61.97	-44.99	-67.79	-42.77	-217.51	79.65	-0.80	45.11
6	-78.94	-67.35	-38.30	-58.98	-14.48	-62.21	40.42	53.01	-115.99	5.12
7	-55.61	-66.73	8.16	-67.82	-4.42	-44.89	-13.72	20.74	0.22	0.39
8	9.60	-50.57	-4.11	-67.63	-1.19	-36.80	-60.13	80.58	166.55	-63.85
9	5.69	-69.06	29.50	-42.03	73.77	-32.11	54.38	-17.35	-35.80	-17.74
10	69.53	-51.26								

n	FZSHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	2298.81	-862.83	3027.85	393.42	-1.0630	-0.0042	-1.0886	-0.0898
1	-1627.57	-1574.48	-172.14	229.52	-0.0827	0.0072	-0.0174	-0.0050
2	1854.20	3134.66	-7.51	27.54	-0.0281	0.0263	-0.0221	-0.0050
3	441.42	558.28	134.39	49.19	0.1450	0.0263	0.3284	-0.0696
4	320.40	-87.57	-77.39	-52.89	-63.15	136.67	0.0091	0.0200
5	250.65	430.33	-2.82	-0.97	-40.90	60.81	-0.0120	-0.0087
6	760.06	0.00	68.33	0.00	-7.52	0.80	0.0015	-0.0043
7	304.33	0.00	29.62	0.00	3.44	-44.17	-0.0264	-0.0277
8	191.97	0.00	15.48	0.00	-17.13	35.82	-0.0053	-0.0038
9	61.36	0.00	11.31	0.00	-2.88	1.18	-0.0260	0.0095
10			2.08	-0.88	0.0127	0.0000	-0.0020	0.0037

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-8432.9	-4387.1	14457.00	16257.00	16257.00	16257.00	16257.00	16257.00
1	-244.1	-279.3	-64.43	232.31	379.42	-121.83	379.42	-121.83
2	-162.7	-22.2	-368.0	-229.2	54.41	-100.37	38.96	-203.70
3	-859.4	-977.2	-1265.1	-399.4	-772.81	1613.69	108.93	721.96
4	-17.7	20.6	22.0	-52.4	7.99	-34.91	2.88	52.19
5	27.5	-62.6	35.6	-44.0	-7.49	40.43	-49.26	20.35
6	15.0	-134.7	0.6	-104.1	-16.32	-10.20	25.14	-63.92
7	-8.6	36.5	-4.0	41.8	27.25	-38.65	-22.78	-85.60
8	9.1	-22.8	9.9	-22.5	-24.40	-21.71	4.33	10.90
9	-26.4	-34.1	-29.1	-41.2	27.69	-47.46	-0.90	-57.77
10	2.9	3.0	8.2	3.1	-17.27	-19.70	-25.71	13.43

FLIGHT NUMBER V3312

FLIGHT PARAMETERS	N0	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T. A. S. (M/S)	1	70.500000	72.010002	71.370003	0.443300
LOAD FACTOR	2	1.409000	1.523000	1.475000	0.031710
ALTITUDE (M)	3	419.700012	424.399994	421.200012	1.422000
AIR DENSITY (KG/M3)	4	1.192000	1.192000	1.192000	0.000201
SOUND SPEED (M/S)	5	336.600006	336.600006	336.600006	0.000000
ADVANCE RATIO	6	0.331600	0.338100	0.335400	0.001970
CT/SIGMA	7	0.089180	0.096540	0.093550	0.002070
CZM	8	0.535100	0.579200	0.561300	0.012450
REDUCED MASS (KG)	9	1976.000000	1977.000000	1977.000000	0.333400
I. A. S. (M/S)	10	69.559998	71.040001	70.410004	0.437300
STAT FLT PRES (MB)	11	964.400024	965.000000	964.799988	0.162700
STAT FLT TEMP (DEG C)	12	8.751000	8.751000	8.751000	0.000000
HELICOPTER MASS (KG)	13	1924.000000	1924.000000	1924.000000	0.000000
COLL PITCH (DEG)	14	10.901000	10.928000	10.913000	0.008700
LAT CYC PITCH (DEG)	15	-1.775000	-1.454000	-1.534000	0.084180
LON CYC PITCH (DEG)	16	4.314000	4.520000	4.389000	0.056670
TR PITCH (DEG)	17	5.222000	5.349000	5.304000	0.038090
AIRCRAFT PITCH (DEG)	18	-3.798000	-3.533000	-3.673000	0.103900
AIRCRAFT ROLL (DEG)	19	-50.590000	-45.669998	-47.779999	1.528000
PITCH RATE (DEG/S)	20	3.660000	7.265000	5.624000	1.004000
ROLL RATE (DEG/S)	21	-15.450000	3.132000	-5.953000	5.532000
YAW RATE (DEG/S)	22	-6.512000	-3.668000	-4.612000	0.876000
MR ROT SPEED (RD/S)	23	40.490002	40.570000	40.529999	0.022820
ENGINE POWER (KW)	24	470.200012	488.700012	478.100006	6.332000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-288.40		-95.57	28.16	-170.86	8.85	-125.43	8.92	-148.00	21.16
1	-27.01	93.46	-26.26	-51.90	-16.08	8.85	-19.09	8.92	-30.32	-28.40
2	-32.43	-81.22	-7.54	-92.66	6.89	-20.19	9.57	-20.40	18.93	-38.89
3	63.07	-154.93	37.87	20.55	14.17	-47.93	12.04	-40.19	1.45	11.99
4	12.10	29.00	6.05	4.47	1.43	14.27	6.84	18.32	6.22	0.35
5	125.47	11.86	74.57	0.00	18.78	-3.05	13.30	-1.51	4.44	-2.68
6	-37.70	0.00	-21.13	0.00	5.12	5.55	6.32	5.48	2.66	0.04
7	10.17	0.00	-3.16	-5.48	0.06	-1.53	1.06	2.90	-3.55	0.04
8	-9.17	0.00	2.08	-3.60	0.90	2.03	1.04	2.27	2.17	-4.70
9	6.00	0.00	2.23	0.00	0.40	-0.91	0.48	-1.05	4.58	-3.56
10	-10.12	0.00	1.49	2.59	5.55	-0.36	4.66	0.81	14.49	0.75

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-26.29		67.76	68.59	-20.59	77.05	-1014.90	-737.04	1430.00	-309.13
1	-41.97	43.81	-35.26	-16.91	5.17	-24.41	74.96	173.87	81.62	172.93
2	54.11	-33.28	62.75	-20.53	5.00	8.79	11.84	4.89	-86.35	-100.19
3	-7.13	-31.42	-0.55	-8.68	8.79	-3.66	38.58	-20.71	130.86	-1.63
4	7.78	-10.19	1.08	-8.20	-6.39	-9.21	17.67	9.62	-115.61	-58.93
5	-7.06	4.44	-16.77	6.87	-23.90	9.21	-23.16	-28.41	-73.37	0.70
6	-10.98	-8.83	5.33	4.10	9.90	9.56	-17.33	0.00	4.29	45.41
7	-0.72	-5.44	1.55	2.19	11.38	17.02	13.48	0.00	-11.59	22.84
8	-2.13	-2.24	0.72	3.48	-1.69	15.38	-7.28	0.00	-8.83	19.17
9	-1.59	-1.68	0.64	-0.52	2.93	-5.03	15.37	0.00	22.95	-10.46
10	-5.09	-0.36	-6.81		28.89	1.61	-4.25		-27.48	

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-915.14		573.00	-446.25	959.86	-338.66	1380.00	-352.44	1430.00	-309.13
1	65.37	-756.31	85.53	180.54	50.49	163.15	102.86	185.54	81.62	172.93
2	18.75	178.61	-20.45	-56.40	-30.08	-68.00	-67.71	-99.64	-86.35	-100.19
3	31.03	-28.18	94.36	-22.67	96.65	-9.79	127.86	-11.41	130.86	-1.63
4	13.87	-9.19	-47.34	-37.99	-82.93	-37.05	-81.63	-68.77	-115.61	-58.93
5	-21.14	13.95	-59.94	-7.99	-61.93	-3.16	-68.30	12.74	-73.37	0.70
6	-27.24	-9.82	-61.20	16.26	-3.16	-6.63	-90.10	31.33	4.29	45.41
7	-6.34	10.99	-23.39	9.04	-12.16	25.66	-42.46	13.88	-11.59	22.84
8	4.57	7.92	-12.89	5.55	-11.61	18.26	-16.05	16.41	-8.83	19.17
9	13.43	0.00	-9.31	5.70	0.42	9.45	15.93	0.04	22.95	-10.46
10	2.00	-3.46	-2.22		-7.76	2.40	-15.57		-27.48	

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1230.00		1801.40		1308.60		897.71		15.50		20.30	
1	101.38	-213.51	62.58	-142.83	50.23	-90.02	27.19	-53.27	85.28	40.09	79.10	44.84
2	-89.09	121.50	-60.21	78.61	-45.67	29.33	-20.29	12.74	11.02	64.17	6.58	62.57
3	97.70	-85.77	66.14	-66.14	35.00	-39.25	18.09	-23.73	-77.81	62.90	-77.99	45.15
4	-67.91	-3.04	-70.98	-0.36	-32.38	0.05	-25.09	1.06	17.00	41.07	-2.30	37.57
5	-53.95	-56.93	-47.75	-34.62	-22.21	-23.26	-15.64	-10.95	8.20	0.46	6.98	6.08
6	-79.88	14.57	3.84	2.58	-38.21	6.34	4.60	0.76	2.64	-7.44	3.32	-4.48
7	-35.99	36.48	-5.38	33.83	-19.08	14.91	-1.05	10.66	1.41	0.00	-2.58	4.47
8	-15.05	8.70	-4.72	16.00	-8.59	3.30	-2.57	6.43	-3.65	0.00	2.58	4.46
9	30.19	19.09	22.58	14.42	16.20	11.39	7.55	5.00	2.83	0.00	3.86	0.00
10	-23.45	-4.06	-27.28	-8.97	-17.18	-1.98	-9.37	-3.11	-1.71	0.00	0.95	-1.64

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-314.71		131.29		140.29		-4.18		38.74		56.40	
1	79.11	57.71	74.33	38.62	67.36	44.48	56.39	40.00	46.26	41.70	47.61	17.67
2	4.07	50.86	10.09	58.73	5.86	55.59	13.67	50.61	3.40	29.19	14.19	23.18
3	-59.99	55.03	-58.09	39.48	-57.51	20.78	-33.32	7.81	-14.68	0.59	-19.10	5.48
4	18.96	35.30	15.84	31.58	3.25	33.83	14.87	26.83	9.51	10.89	5.84	11.05
5	13.22	2.14	8.89	1.69	9.53	4.56	17.45	-3.75	3.83	-1.90	4.95	0.50
6	5.60	-3.71	2.02	-3.25	4.48	0.51	-1.09	4.53	-1.79	4.02	0.43	1.07
7	-2.12	-3.67	-0.26	1.04	2.63	1.14	1.43	-0.37	3.98	6.93	3.38	2.66
8	2.47	-4.29	-2.80	-0.89	-2.46	-1.94	-3.07	2.13	-0.25	5.68	1.32	3.74
9	2.60	0.00	-1.41	1.62	-3.51	-0.20	1.49	5.50	3.80	3.26	1.93	2.54
10	1.20	2.08	-0.36	1.17	-1.18	1.75	0.35	3.23	7.21	2.32	4.03	2.39

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	45.14		3.6243		3.4043		-1.1029		-1.0514		-9062.90	
1	46.44	28.92	-2.9943	0.0330	-3.0668	-0.0236	0.1174	-0.1307	0.1119	-0.1615	1666.37	-5227.74
2	-15.97	-0.89	-0.1827	-0.5370	-0.1600	-0.5173	-0.0193	0.0003	-0.0231	0.0035	-134.58	948.09
3	0.37	5.86	0.3983	-0.3859	0.3766	-0.3551	0.0114	0.0122	0.0144	0.0087	260.97	-12.40
4	2.75	0.02	-0.0423	0.0933	-0.0504	0.1109	0.0047	-0.0019	-0.0001	-0.0015	164.95	43.47
5	-1.97	0.95	0.0588	0.1145	0.0588	0.1258	-0.0022	0.0017	-0.0033	0.0027	-47.65	88.66
6	3.08	5.81	-0.0029	0.0451	-0.0019	0.0539	0.0076	0.0000	0.0021	0.0003	207.82	-39.58
7	-0.36	5.66	-0.0107	0.0000	-0.0036	-0.0011	-0.0019	0.0000	0.0012	0.0021	84.40	-65.63
8	3.60	4.28	0.0163	0.0000	-0.0078	-0.0053	0.0014	0.0000	-0.0013	0.0022	47.99	7.40
9	5.82	2.80	-0.0213	0.0000	-0.0185	-0.0142	-0.0016	0.0000	-0.0026	0.0000	-210.55	-83.24
10			0.0074	0.0000	0.0093	-0.0064	0.0010	0.0000	-0.0007	-0.0012	-22.06	-11.79

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N		PTCH LNK,LD,N		PTCH LNK,LD,N		SERVO, N		SERVO, N	
	An	Bn	blade 1	blade 2	blade 3	LEFT	RIGHT	LEFT	RIGHT	
0	-122.96		-285.57	296.61	-43.19	86.73	-859.29	14.82	45.90	-47.61
1	471.22	244.78	496.96	346.17	439.29	-1.31	12.74	38.72	12.74	71.51
2	70.59	359.16	41.91	437.17	38.61	22.57	485.48	-1209.93	752.58	69.94
3	-455.38	417.87	-397.73	268.64	-458.24	294.44	19.19	152.38	108.71	115.75
4	92.75	271.64	98.25	14.80	-41.22	260.61	13.26	110.95	35.67	4.64
5	21.66	17.76	14.80	29.25	15.60	64.54	204.54	-91.16	174.08	-37.65
6	38.09	-61.82	66.72	-39.27	51.08	-14.01	5.14	26.25	-16.89	-13.50
7	0.38	-34.72	7.23	-64.99	18.25	-73.21	-23.48	49.42	-20.20	-15.21
8	-11.33	-60.68	-3.74	-63.44	34.32	-65.70	-34.14	328.96	84.08	2.43
9	-6.74	-62.45	-32.41	-91.16	-9.09	-84.16	23.74	-16.01	-23.60	-19.51
10	59.80	-79.25	33.21	-44.92	47.64	-68.75				

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g		VERT ACCEL, g	
	An	Bn	An	Bn	An	Bn	FRONT	RIGHT	FRONT	LEFT
0			-91.30		3.67		-0.4720		-0.4747	
1	108.33	-38.43	-119.68	-1758.63	1648.83	-97.39	0.0100	0.0202	0.0216	-0.0168
2	-145.63	-679.33	297.20	-173.81	-198.28	-284.12	0.0011	0.0013	0.0056	0.0089
3	-2418.97	6642.45	-7.09	-4.01	-18.76	44.17	0.0068	-0.0758	-0.0682	0.1236
4	463.66	-338.93	-54.18	-17.00	-4.18	-40.34	0.0036	-0.0079	-0.0058	0.0285
5	111.69	696.98	-26.02	-97.84	-86.88	5.33	0.0786	-0.0116	-0.0097	0.0058
6	251.74	978.13	16.83	16.94	21.78	24.98	0.1170	0.0681	-0.0461	-0.0133
7	543.86	0.00	32.00	0.00	7.80	1.57	0.0241	0.0000	-0.0175	0.0265
8	308.11	0.00	30.20	0.00	-8.02	25.36	0.0220	0.0000	-0.0032	0.0080
9	325.63	0.00	31.19	0.00	19.36	9.78	0.0560	0.0000	-0.0798	0.0358
10	72.21	0.00	49.47	0.00	-74.39	7.85	0.0147	0.0000	0.0099	-0.0018

n	GEAR BOX STRUT,N		GEAR BOX STRUT,N		GEAR BOX STRUT,N	
	REAR LEFT	REAR RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT
0	-12457.0		8262.90		12800.00	
1	-41.9	-36.2	-37.6	-38.5	-134.37	75.71
2	-11.2	7.1	23.1	-60.3	26.80	-98.23
3	996.3	-1665.1	642.9	-1580.5	135.52	-248.81
4	-31.4	69.3	-20.4	42.7	-19.72	-45.75
5	88.7	-70.1	33.7	-48.7	-148.73	53.20
6	152.4	-86.1	49.6	-190.3	-121.57	222.14
7	28.3	-10.5	42.5	-8.1	-64.71	-55.17
8	-27.0	9.8	-41.6	22.6	-52.61	2.28
9	17.8	-76.5	-15.8	-30.9	-9.07	-20.42
10	-17.4	1.1	-8.4	1.3	13.55	18.92

FLIGHT NUMBER V3313

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	75.120003	75.459999	75.290001	0.111100
LOAD FACTOR	2	1.526000	1.652000	1.587000	0.036220
ALTITUDE (M)	3	595.500000	604.900024	599.099976	2.886000
AIR DENSITY (KG/M3)	4	1.162000	1.164000	1.163000	0.000539
SOUND SPEED (M/S)	5	337.100006	337.200012	337.200012	0.049470
ADVANCE RATIO	6	0.353600	0.355100	0.354300	0.000530
CT/SIGMA	7	0.099350	0.107700	0.103200	0.002450
CZM	8	0.596100	0.646500	0.619300	0.014710
REDUCED MASS (KG)	9	2019.000000	2022.000000	2021.000000	0.937600
I.A.S. (M/S)	10	73.199997	73.550003	73.349998	0.117100
STAT FLT PRES (MB)	11	943.799988	944.799988	944.400024	0.330300
STAT FLT TEMP (DEG C)	12	9.694000	9.882000	9.771000	0.082990
HELICOPTER MASS (KG)	13	1918.000000	1918.000000	1918.000000	0.000000
COLL PITCH (DEG)	14	11.034000	11.071000	11.050000	0.011130
LAT CYC PITCH (DEG)	15	-1.648000	-1.454000	-1.547000	0.075890
LON CYC PITCH (DEG)	16	4.577000	4.736000	4.661000	0.046260
TR PITCH (DEG)	17	4.224000	4.436000	4.277000	0.064730
AIRCRAFT PITCH (DEG)	18	-11.550000	-11.200000	-11.460000	0.088000
AIRCRAFT ROLL (DEG)	19	-50.240002	-47.340000	-48.889999	0.910300
PITCH RATE (DEG/S)	20	2.839000	8.731000	5.919000	1.727000
ROLL RATE (DEG/S)	21	-6.424000	12.920000	1.996000	6.367000
YAW RATE (DEG/S)	22	-6.658000	-3.639000	-5.301000	0.858400
MR ROT SPEED (RD/S)	23	40.419998	40.540001	40.470001	0.049070
ENGINE POWER (KW)	24	503.799988	510.399994	506.799988	2.168000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-288.40		-363.00		-95.71		-169.29		-125.57		-145.86	
1	-47.10	99.19	-42.22	90.44	-39.92	23.57	-23.18	8.44	-27.61	8.41	-35.65	23.59
2	-42.12	-117.93	-40.40	-125.01	-8.49	-76.57	14.71	-28.21	11.84	-32.81	25.70	-38.80
3	97.14	-179.44	89.47	-141.75	60.17	-97.52	20.72	-56.42	20.89	-44.23	7.70	-36.16
4	7.31	30.29	35.04	37.24	11.05	22.60	0.00	16.50	7.91	15.46	8.29	11.27
5	134.57	28.86	112.54	5.39	82.47	25.56	14.72	-0.38	13.54	-0.55	3.76	5.36
6	-66.11	0.00	-59.23	0.00	-33.35	0.00	3.70	10.48	2.76	8.54	5.64	-6.62
7	14.99	0.00	-8.24	14.26	-2.13	-3.69	-1.26	0.50	-0.99	1.81	-2.79	1.87
8	-9.88	0.00	4.94	8.55	2.76	-4.78	5.67	1.58	3.19	1.17	1.26	-7.45
9	5.59	0.00	7.47	0.00	1.66	0.00	0.44	-1.11	0.43	-0.30	3.19	-1.38
10	-6.55	0.00	2.30	-3.99	1.44	2.50	4.00	1.84	3.79	0.70	9.38	6.14

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-20.71		30.29		76.69		-23.14		-1112.90		1411.40	
1	-37.91	49.35	-23.62	53.74	-21.16	75.59	6.58	88.96	71.07	-951.67	34.19	-419.37
2	65.58	-48.17	81.17	-37.13	78.76	-30.69	2.78	-37.40	54.91	276.56	-67.66	262.45
3	-1.90	-28.71	-1.33	-31.79	-3.87	-27.94	5.84	-28.74	27.66	14.93	132.00	-192.06
4	9.23	-8.06	8.34	-10.74	-5.07	-9.82	-19.80	-5.51	1.96	-25.96	-164.59	13.47
5	-3.66	-1.44	-4.02	-10.82	-23.75	-16.39	-28.46	-6.30	-8.01	1.35	-90.32	-88.37
6	-6.54	-11.87	-1.52	-4.80	3.41	5.57	9.51	15.59	-44.48	-48.14	-25.52	26.40
7	0.38	-4.91	-4.10	-5.19	0.37	3.22	11.24	15.00	27.15	0.00	25.52	122.97
8	-4.36	-5.03	-3.40	-2.41	1.76	4.68	10.22	19.50	-9.24	0.00	-0.31	32.41
9	-3.68	-3.91	-3.47	2.53	0.50	2.43	6.62	3.62	36.56	0.00	88.37	-8.63
10	-3.31	-4.04	-9.22	-6.06	-4.29	-3.82	19.71	20.18	-2.99	0.00	-8.75	-7.44

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-1015.30		-2224.30		517.43		938.71		1340.00		1411.40	
1	88.54	-958.08	149.76	-628.28	77.11	-579.96	28.65	-439.44	64.14	-465.02	34.19	-419.37
2	71.98	268.72	59.11	351.33	7.62	282.02	-4.29	241.44	-45.99	289.39	-67.66	262.45
3	20.87	-36.02	-9.61	10.70	102.26	-106.04	99.37	-134.84	133.35	-176.64	132.00	-192.06
4	15.62	-5.74	-20.46	55.53	-100.03	-37.72	-117.70	0.88	-150.37	-24.00	-164.59	13.47
5	-33.88	-0.82	-51.12	-14.28	-50.46	-53.86	-78.15	-59.61	-50.35	-97.03	-90.32	-88.37
6	-41.01	-47.98	-35.52	-31.46	-88.71	-27.80	0.04	9.84	-99.76	-12.11	25.52	26.40
7	-13.55	23.47	-13.72	-23.77	-50.09	67.18	-52.47	76.61	-72.20	126.85	-70.91	122.97
8	4.00	6.93	5.47	-9.47	3.77	18.94	-3.56	30.58	4.73	24.13	-0.31	32.41
9	35.22	0.00	23.70	0.00	2.16	11.23	28.36	5.23	65.01	-7.40	88.37	-8.63
10	2.29	-3.96	2.03	3.52	5.07	6.66	0.67	1.72	-6.63	-3.94	-8.75	-7.44

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1211.40	1801.40	1298.60	20.21	1298.60	901.57	16.53	901.57	-13.35	-6.32	114.26	91.96
1	46.59	23.29	20.21	-219.42	-138.51	16.53	-82.74	117.76	17.16	91.57	22.15	107.25
2	-84.26	62.14	-51.93	133.17	61.33	-26.10	24.48	24.48	17.16	98.89	22.15	107.25
3	107.54	76.72	46.17	-120.06	-68.57	22.20	-39.28	-39.28	-96.25	118.18	-91.05	115.50
4	-126.05	-98.73	-55.37	7.38	-8.19	-31.12	3.96	3.96	59.60	70.03	44.77	75.02
5	-32.32	-51.93	-10.31	-61.69	-44.41	-16.44	-23.33	-23.33	16.33	-14.83	15.25	-13.57
6	-87.25	15.45	-46.13	22.61	-2.85	4.46	9.90	9.90	1.68	-14.14	0.97	-17.76
7	-51.63	-39.11	-24.36	86.87	63.63	-13.42	32.18	32.18	9.08	0.00	-3.79	6.57
8	2.55	0.82	2.55	18.34	6.54	2.56	8.28	8.28	-3.15	0.00	1.44	2.49
9	93.58	75.03	53.50	-15.46	-10.45	30.36	-8.13	-8.13	2.13	0.00	2.44	0.00
10	-17.55	-13.45	-14.93	-8.69	-6.30	-5.17	-2.49	-2.49	-7.50	0.00	2.71	-4.69

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-340.43	106.57	118.14	80.68	83.35	-24.20	80.48	33.74	52.79	52.91	26.20	
1	107.19	100.60	92.50	80.68	83.35	69.00	80.48	50.79	57.55	52.91	26.20	
2	8.50	15.06	18.29	88.09	93.32	27.35	73.38	15.57	47.54	24.61	41.25	
3	-77.59	-69.96	-61.21	83.97	74.69	-44.00	27.08	-16.75	4.36	-21.99	17.36	
4	39.19	50.87	43.34	55.26	61.85	30.76	48.46	12.62	19.94	17.51	20.18	
5	14.23	16.75	18.86	-8.68	-8.05	17.70	-10.85	7.19	-6.30	12.88	-8.42	
6	1.55	1.54	-2.09	-6.89	-4.30	-0.31	8.29	-2.87	7.19	-1.76	3.50	
7	-5.69	4.54	4.18	-1.86	-0.44	7.77	-7.55	10.06	-0.37	7.01	2.62	
8	2.55	-4.41	0.83	-0.44	0.86	-1.77	2.85	-2.72	2.17	-2.36	4.58	
9	2.48	1.05	4.11	3.02	-0.47	0.21	0.87	0.69	-0.05	2.11	2.30	
10	3.08	-1.65	-1.55	-3.73	-5.57	-4.80	1.46	1.59	6.71	-0.23	2.81	

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	44.43	3.8186	3.5900	-0.3171	-1.1657	0.2158	-1.0971	0.2596	-9834.30	-7067.43
1	53.71	-4.0694	-4.1688	-0.7828	0.1594	0.0077	0.1556	0.0190	1862.02	1690.22
2	18.52	-0.1640	-0.1744	-0.3865	-0.0362	0.0132	-0.0360	0.0025	117.51	-196.10
3	-16.27	0.5471	0.5189	0.1521	0.0191	-0.0014	0.0248	0.0050	239.33	144.86
4	8.99	-0.0851	-0.0719	0.1210	0.0030	0.0033	-0.0046	-0.0030	199.28	96.58
5	7.96	0.0186	0.0655	0.1026	-0.0076	0.0000	-0.0005	-0.0030	-198.25	6.35
6	-1.18	-0.0682	-0.0823	0.0932	0.0064	0.0000	-0.0083	0.0020	-183.82	6.35
7	4.61	-0.0299	-0.0168	0.0006	-0.0037	0.0000	0.0021	0.0036	27.07	-299.39
8	0.93	0.0201	0.0156	0.0194	0.0020	0.0000	-0.0013	0.0022	72.29	20.35
9	5.27	-0.0134	0.0025	-0.0076	-0.0014	0.0000	-0.0040	0.0000	-296.64	42.71
10	2.49	0.0091	0.0097	-0.0110	0.0009	0.0000	-0.0006	-0.0011	-9.58	-0.99

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade.1		PTCH LNK,LD,N blade 2		PTCH LNK,LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-271.29		-442.43		-182.57		-200.29		-1538.60		-0.5989	
1	656.61	519.68	667.71	584.62	629.02	538.95	-22.37	41.07	47.16	-86.92	0.0512	-0.0852
2	108.99	549.06	70.14	523.78	117.57	600.92	-84.12	-3.92	-51.39	-4.73	-0.0237	0.0139
3	-548.40	713.38	-509.69	637.88	-522.98	680.34	313.90	-2276.76	1240.44	-231.72	-0.1999	0.1590
4	358.62	468.97	238.45	441.19	268.24	503.56	131.58	-8.61	143.46	5.07	-0.0096	0.0182
5	61.11	-128.47	38.95	-134.09	116.58	-81.35	-22.09	-14.74	15.49	9.88	-0.0229	0.0388
6	-41.84	-107.93	-23.76	-102.08	-25.74	-117.26	-64.40	-435.19	-214.12	-186.92	-0.0723	0.0332
7	6.34	-13.91	-6.93	-11.89	-0.51	-39.45	4.73	8.57	-10.16	-20.88	0.0003	0.0141
8	42.43	-82.20	10.70	-60.13	16.25	-74.79	100.82	-63.84	79.49	32.79	-0.0130	0.0091
9	-9.61	-106.78	-2.72	-43.45	-73.63	-32.01	53.63	250.30	250.92	-53.68	-0.0486	0.0414
10	63.93	-93.67	73.94	-51.44	53.52	-24.91	59.24	-14.79	-13.86	-27.09	-0.0158	-0.0205

n	FZSHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT	
	An	Bn	An	Bn	An	Bn	An	Bn
0			-76.73		-6.76		-0.5817	
1	103.12	471.70	21.35	-2343.30	2233.73	34.50	-0.0108	-0.0268
2	-554.50	-857.78	496.00	-257.05	-246.40	-420.82	0.0028	-0.0372
3	-2867.78	6034.09	-23.77	76.38	-44.28	117.19	0.0315	-0.1042
4	169.63	-61.98	-144.89	-8.71	-21.62	-142.43	0.0371	0.0024
5	237.40	953.02	59.92	-127.02	-49.67	-47.32	0.1242	-0.0022
6	295.47	2068.60	-35.80	78.34	-29.00	81.72	0.1587	0.1058
7	576.70	0.00	25.95	0.00	18.00	15.07	0.0180	0.0000
8	397.68	0.00	21.20	0.00	21.62	29.74	0.0551	0.0000
9	250.75	0.00	17.79	0.00	1.33	-1.15	0.0537	0.0000
10	130.82	0.00	46.97	0.00	-42.20	17.21	0.0229	0.0000

n	GEAR BOX STRUT,N REAR LEFT		GEAR BOX STRUT,N REAR RIGHT		GEAR BOX STRUT,N FRONT LEFT		GEAR BOX STRUT,N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-12471.0		169.4		9258.60		14043.00	
1	0.3	-246.8	-116.8	-227.9	-362.80	268.07	33.60	22.77
2	-39.2	92.4	122.6	-14.0	339.19	-67.06	-39.95	213.66
3	1642.8	-1823.4	1314.6	-1751.1	609.08	-701.50	-730.70	2852.09
4	29.9	96.2	-18.5	58.4	-107.20	9.89	-67.89	-124.10
5	172.0	32.1	106.1	-6.3	-122.07	6.53	-51.77	44.33
6	192.7	-16.5	54.4	-201.4	-365.84	317.57	-261.56	611.14
7	11.4	50.4	14.0	53.2	-24.06	19.59	-6.33	-14.42
8	-3.6	41.1	-21.4	25.8	19.34	39.19	71.34	47.60
9	-29.3	-7.0	-53.8	4.5	-229.88	-32.76	214.65	-65.28
10	-46.2	-17.5	-23.1	-12.5	108.42	28.26	82.25	30.98

FLIGHT NUMBER V3314

FLIGHT PARAMETERS	Nº	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	70.230003	70.910004	70.389999	0.180900
LOAD FACTOR	2	1.714000	1.956000	1.855000	0.073520
ALTITUDE (M)	3	110.199997	119.599998	114.500000	3.441000
AIR DENSITY (KG/M3)	4	1.221000	1.222000	1.221000	0.000346
SOUND SPEED (M/S)	5	338.500000	338.600006	338.600006	0.029520
ADVANCE RATIO	6	0.330100	0.333900	0.331000	0.001010
CT/SIGMA	7	0.104400	0.118900	0.113000	0.004390
CZM	8	0.626500	0.713200	0.678100	0.026330
REDUCED MASS (KG)	9	1895.000000	1898.000000	1897.000000	0.903000
I.A.S. (M/S)	10	70.110001	70.800003	70.279999	0.185700
STAT FLT PRES (MB)	11	999.299988	1000.000000	999.900024	0.393900
STAT FLT TEMP (DEG C)	12	12.050000	12.240000	12.130000	0.049690
HELICOPTER MASS (KG)	13	1890.000000	1891.000000	1890.000000	0.404000
COLL PITCH (DEG)	14	9.996500	10.684000	10.189000	0.222400
LAT CYC PITCH (DEG)	15	-2.553000	-1.834000	-2.331000	0.198300
LON CYC PITCH (DEG)	16	3.610000	3.863000	3.731000	0.086740
TR PITCH (DEG)	17	3.842000	4.097000	3.969000	0.070480
AIRCRAFT PITCH (DEG)	18	-11.460000	-9.876000	-10.440000	0.521000
AIRCRAFT ROLL (DEG)	19	-65.180000	-48.299999	-59.279999	5.725000
PITCH RATE (DEG/S)	20	6.327000	16.290001	10.720000	3.018000
ROLL RATE (DEG/S)	21	-11.090000	31.740000	14.710000	11.890000
YAW RATE (DEG/S)	22	-10.470000	-5.779000	-7.572000	1.259000
MR ROT SPEED (RD/S)	23	40.450001	40.570000	40.509998	0.035760
ENGINE POWER (KW)	24	472.899994	489.299988	481.600006	5.426000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-305.60		-360.10		-106.00		-167.29		-123.43		-141.71	
1	-59.66	59.86	-74.16	56.19	-45.59	5.33	-25.59	5.95	-26.38	4.54	-35.92	25.31
2	-28.28	-112.70	-24.56	-131.33	-6.62	-69.03	16.10	-25.26	14.65	-27.69	25.06	-34.20
3	72.26	-200.69	62.83	-150.82	31.48	-117.66	16.09	-63.16	16.27	-54.59	2.89	-48.57
4	-8.49	-25.73	25.40	-44.58	5.42	-20.96	-2.14	-0.96	4.32	-1.92	6.54	0.33
5	216.58	-4.99	171.12	23.01	131.36	5.55	38.79	-8.49	29.43	-5.18	12.68	-1.55
6	-69.25	0.00	-46.20	0.00	-27.37	0.00	9.99	3.36	8.91	3.85	4.27	-5.19
7	61.80	0.00	-33.19	57.48	-15.22	-26.35	7.43	-6.59	9.61	-2.16	-9.70	4.83
8	-20.75	0.00	7.40	12.82	3.97	-6.87	3.08	3.01	2.06	3.96	-2.06	-6.39
9	6.17	0.00	5.12	0.00	2.76	0.00	1.72	-1.23	1.34	0.15	3.13	-2.25
10	-9.52	0.00	3.65	-6.32	2.33	4.03	4.10	1.33	4.48	1.20	18.32	8.32

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		EDGE BEND, Nm 12%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-11.00		37.00		86.07		-17.60		-1061.40		1394.30	
1	-36.35	52.12	-29.49	62.65	-30.69	85.95	-1.50	90.53	162.64	-1089.43	65.45	-487.94
2	61.22	-41.92	71.23	-24.82	68.48	-17.10	6.92	-26.98	70.50	289.44	-102.04	249.64
3	-7.77	-44.21	-2.90	-40.51	-3.12	-33.70	8.25	-32.78	24.01	-12.28	170.11	-208.05
4	8.71	-4.01	6.34	-0.72	1.34	3.52	-5.36	4.40	20.27	20.28	-199.27	15.83
5	-16.19	3.81	-27.87	0.14	-44.46	-10.17	-56.68	-10.82	-23.60	8.20	-157.86	-124.84
6	-13.97	-5.55	-9.39	1.36	-2.14	-0.97	-0.81	0.27	-2.81	-36.08	60.71	82.16
7	-15.56	7.55	-6.83	0.97	11.31	-9.31	46.74	-10.68	9.76	0.00	28.91	70.71
8	-5.83	-6.88	-1.06	-2.27	3.04	5.11	12.97	21.78	-10.63	0.00	32.01	52.30
9	-1.58	-3.18	-1.43	2.12	-1.73	3.69	9.64	3.40	25.79	0.00	59.92	30.58
10	-5.82	-5.29	-13.62	-2.03	-10.16	-2.38	35.02	9.67	-5.47	0.00	-28.48	-14.33

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 46%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-972.00		-2144.30		547.00		927.14		1347.10		1394.30	
1	227.33	-1060.41	219.82	-714.28	126.04	-674.77	71.60	-514.00	87.02	-544.08	65.45	-487.94
2	65.73	262.35	61.69	328.71	-22.13	284.39	-27.41	238.76	-84.37	282.47	-102.04	249.64
3	20.52	-37.37	45.94	-24.59	120.90	-126.95	135.42	-142.90	160.40	-194.86	170.11	-208.05
4	42.26	42.87	-16.00	79.61	-92.86	-11.17	-142.10	14.48	-155.91	-15.20	-199.27	15.83
5	-27.83	17.12	-48.25	-27.35	-84.30	-62.68	-128.48	-74.24	-111.67	-128.27	-157.86	-124.84
6	-8.29	-41.41	13.41	-17.68	-86.97	-48.90	32.64	49.25	-126.18	-58.25	60.71	82.16
7	-6.69	11.58	-13.23	-22.91	-9.83	34.71	14.40	48.24	-4.81	53.36	28.91	70.71
8	4.23	7.33	9.33	-16.15	4.01	29.94	14.32	39.06	26.01	50.16	32.01	52.30
9	22.53	0.00	22.06	0.00	5.55	13.15	22.84	16.74	52.69	23.14	59.92	30.58
10	1.13	-1.96	3.50	6.06	0.57	3.93	-6.87	0.13	-19.16	-1.43	-28.48	-14.33

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1212.90		1785.70		1281.40		897.43		-2.05		7.26	
1	62.73	-357.29	42.42	-256.49	27.58	-165.01	23.58	-93.32	116.39	126.74	112.42	123.17
2	-115.00	187.44	-83.27	120.00	-60.60	46.50	-27.04	18.47	20.93	78.27	23.11	96.09
3	131.60	-171.82	95.88	-133.09	53.50	-64.42	29.32	-37.71	-68.94	93.65	-65.74	77.19
4	-132.17	-17.26	-117.02	5.58	-53.41	-18.96	-32.31	3.01	61.27	62.05	31.68	76.38
5	-90.75	-118.24	-103.02	-84.78	-29.97	-53.18	-27.43	-28.16	21.71	-16.83	27.57	-8.47
6	-121.53	-47.04	35.72	60.39	-64.15	-24.61	8.39	19.81	19.14	-15.18	15.98	-16.79
7	4.47	56.74	26.00	53.09	3.61	22.94	11.06	13.66	12.56	0.00	-3.83	6.64
8	29.88	36.58	27.34	32.25	18.70	15.61	10.06	11.24	-5.35	0.00	3.38	5.86
9	74.47	25.31	52.93	21.08	38.06	17.41	19.74	9.59	4.17	0.00	5.71	0.00
10	-32.84	-3.19	-30.37	-9.97	-20.03	4.33	-9.65	-0.08	-4.87	0.00	1.24	-2.16

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-331.29		113.00		126.14		-17.11		41.19		63.40	
1	99.48	140.24	102.09	106.91	93.23	105.94	65.63	95.56	51.61	64.65	55.74	36.03
2	18.50	55.35	15.38	70.01	19.24	82.47	27.71	62.76	8.23	45.52	20.94	37.42
3	-53.16	77.28	-47.53	62.33	-43.65	43.39	-27.92	11.46	-12.20	-6.29	-12.81	3.65
4	42.80	52.97	50.24	45.78	29.45	57.94	24.09	34.21	7.31	15.79	19.18	12.98
5	-29.90	-15.20	22.77	-12.78	31.85	-6.30	29.80	-13.64	7.48	-1.60	8.53	-9.17
6	12.96	-12.35	14.74	-8.10	11.09	-7.81	2.26	4.31	-2.66	1.48	0.03	-1.05
7	-7.48	-12.95	9.68	-3.74	9.37	-2.28	13.48	-6.29	14.64	0.75	12.09	-3.39
8	2.50	-4.33	-0.49	-1.85	-0.09	-0.84	-2.85	0.07	0.19	1.17	0.14	-0.96
9	4.01	0.00	-4.00	4.36	-0.32	1.92	0.18	-1.96	1.10	-1.92	-0.58	2.46
10	2.18	3.77	0.23	2.71	0.92	3.19	1.52	3.94	7.88	3.75	7.42	3.60

n	TORSION, Nm 87%R, blade 3		FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	51.34		4.2957		4.0343		-1.0914		-1.0386		-9480.00	
1	52.70	44.97	-4.8590	-0.3730	-4.7459	-0.3944	0.2213	-0.2832	0.2166	-0.3200	2422.23	-8007.67
2	13.00	33.83	-0.0909	-0.6371	-0.0986	-0.6760	-0.0382	0.0077	-0.0274	0.0172	290.94	1812.90
3	-8.06	0.13	0.5212	-0.5361	0.4550	-0.5207	0.0298	0.0190	0.0389	0.0099	207.96	-288.34
4	9.65	13.23	0.0129	0.0364	0.0136	0.0397	0.0040	0.0025	-0.0058	0.0075	271.81	394.26
5	8.33	-0.97	0.1288	0.1968	0.0974	0.2011	-0.0011	0.0134	-0.0031	0.0109	2.45	210.10
6	-0.82	-3.34	-0.0078	0.0898	-0.0253	0.0980	0.0093	0.0000	-0.0061	-0.0002	142.71	201.27
7	9.27	1.47	-0.0301	0.0000	0.0147	0.0396	-0.0024	0.0000	0.0030	0.0052	-73.69	-92.76
8	2.08	2.76	0.0313	0.0000	0.0032	0.0072	0.0021	0.0000	-0.0024	0.0041	-36.33	-48.35
9	2.63	2.64	-0.0180	0.0000	0.0127	-0.0159	-0.0017	0.0000	-0.0057	0.0000	-206.40	-77.23
10	7.68	3.04	0.0111	0.0000	0.0200	-0.0078	0.0004	0.0000	-0.0009	-0.0015	-13.51	-14.44

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N blade 1		PTCH LNK LD,N blade 2		PTCH LNK LD,N blade 3		SERVO, N LEFT		SERVO, N RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-191.86		-335.86		-94.19		-209.00		-1557.10	
1	629.74	706.80	615.36	764.05	566.94	716.32	0.91	20.73	11.63	-57.29
2	97.23	432.93	135.61	398.89	147.60	480.08	-75.62	-10.79	-110.44	-8.21
3	-382.51	604.21	-343.02	595.49	-337.82	559.75	108.36	-2025.00	1148.07	-253.41
4	392.25	451.09	274.41	436.77	279.86	474.08	67.24	11.24	139.85	49.66
5	120.37	-108.30	84.86	-123.64	183.42	-98.92	-18.88	-20.54	35.78	14.26
6	70.20	-99.66	76.40	-129.61	88.97	-125.43	132.75	-542.08	-33.09	-332.91
7	-40.36	20.10	-42.87	-15.76	-53.67	-28.71	-20.55	-50.58	13.09	-61.05
8	49.55	-60.96	27.19	-64.28	21.26	-31.44	88.01	-22.42	48.55	45.40
9	15.38	-90.44	10.56	-3.14	-23.59	-29.20	-34.85	261.44	54.57	22.14
10	-11.17	-74.57	25.97	-13.13	13.95	-46.72	-11.88	-63.91	-25.34	14.23

n	FZSHAFT, N		F2SHAFT, N		VERT ACCEL, g FRONT RIGHT SEAT		VERT ACCEL, g FRONT LEFT SEAT			
	An	Bn	An	Bn	An	Bn	An	Bn		
0			-181.14		-51.69		-0.8407		-0.9186	
1	960.50	32.76	106.04	-2761.57	2685.46	131.94	-0.0320	-0.0172	0.0158	-0.0765
2	-1603.16	-572.75	386.30	-273.59	-255.87	-340.54	-0.0136	-0.0577	0.0096	-0.0074
3	-1479.94	3166.53	-10.90	16.65	-36.57	79.32	0.0715	-0.1421	-0.0344	0.1285
4	245.30	141.94	-181.74	26.77	-43.88	-180.27	0.0157	0.0069	-0.0019	0.0061
5	222.01	1040.99	-27.84	-178.84	-158.91	-40.45	0.1416	-0.1149	-0.0135	0.0552
6	578.86	1399.51	-22.31	48.12	-0.81	52.12	0.1924	0.0022	-0.1246	-0.0470
7	364.94	0.00	97.45	0.00	-41.06	58.71	0.0263	0.0000	-0.0078	0.0184
8	438.77	0.00	57.85	0.00	2.16	22.39	0.0276	0.0000	-0.0178	-0.0116
9	202.78	0.00	27.32	0.00	-25.46	4.30	0.0531	0.0000	-0.0594	0.0527
10	156.11	0.00	53.61	0.00	-63.37	22.69	0.0313	0.0000	-0.0023	-0.0253

n	GEAR BOX STRUT, N REAR LEFT		GEAR BOX STRUT, N REAR RIGHT		GEAR BOX STRUT, N FRONT LEFT		GEAR BOX STRUT, N FRONT RIGHT	
	An	Bn	An	Bn	An	Bn	An	Bn
0	-12843.0		-574.9		11371.00		15443.00	
1	-97.6	-172.6	-166.4	-167.7	-154.85	341.37	192.26	22.73
2	-58.8	31.3	-16.6	-24.0	87.07	27.05	86.45	214.31
3	1175.9	-1994.2	732.3	-1711.6	302.80	-67.08	-524.73	2884.56
4	82.0	9.9	41.5	-40.4	-89.32	-17.77	-8.25	-76.86
5	86.1	-80.9	21.1	-123.0	-197.75	41.35	-165.45	143.07
6	48.7	-65.5	56.3	-189.0	124.77	363.91	81.07	589.45
7	25.2	-20.8	41.8	-12.7	-30.57	3.69	-18.11	-6.80
8	-27.7	-4.9	-41.2	-26.5	-43.13	20.19	-14.67	36.98
9	-19.4	-31.3	-71.2	-13.7	-256.49	-79.69	128.48	3.53
10	-39.6	-11.9	-38.0	-24.7	78.82	17.36	70.28	50.70

FLIGHT NUMBER V3315

FLIGHT PARAMETERS	NØ	MINIMUM	MAXIMUM	MEAN	STD. DEV.
T.A.S. (M/S)	1	0.597900	3.689000	2.530000	1.013000
LOAD FACTOR	2	1.008000	1.020000	1.016000	0.003230
ALTITUDE (M)	3	290.700012	293.100006	292.399994	1.101000
AIR DENSITY (KG/M3)	4	1.207000	1.207000	1.207000	0.000155
SOUND SPEED (M/S)	5	337.000000	337.000000	337.000000	0.000000
ADVANCE RATIO	6	0.002810	0.017320	0.011890	0.004760
CT/SIGMA	7	0.061740	0.062570	0.062250	0.000226
CZM	8	0.370500	0.375400	0.373500	0.001360
REDUCED MASS (KG)	9	1910.000000	1911.000000	1911.000000	0.245800
I.A.S. (M/S)	10	0.593600	3.662000	2.511000	1.006000
STAT FLT PRES (MB)	11	979.500000	979.700012	979.500000	0.126000
STAT FLT TEMP (DEG C)	12	9.505000	9.505000	9.505000	0.000000
HELICOPTER MASS (KG)	13	1883.000000	1883.000000	1883.000000	0.000000
COLL PITCH (DEG)	14	7.391500	7.397500	7.395700	0.002820
LAT CYC PITCH (DEG)	15	-0.854000	-0.769000	-0.834700	0.023260
LON CYC PITCH (DEG)	16	-1.085000	-0.897000	-0.987400	0.067030
TR PITCH (DEG)	17	22.840000	24.570000	23.870001	0.544500
AIRCRAFT PITCH (DEG)	18	2.017000	6.422000	4.147000	1.369000
AIRCRAFT ROLL (DEG)	19	0.307000	0.834000	0.575200	0.195400
PITCH RATE (DEG/S)	20	3.807000	4.598000	4.257000	0.252600
ROLL RATE (DEG/S)	21	-2.232000	2.282000	-0.099120	1.262000
YAW RATE (DEG/S)	22	-0.854000	3.748000	1.762000	1.381000
MR ROT SPEED (RD/S)	23	40.490002	40.570000	40.540001	0.026750
ENGINE POWER (KW)	24	334.600006	342.700012	338.500000	2.413000

MEASURED STRUCTURAL LOADS (AVERAGE)

n	FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3		FLAP BEND, Nm 20%R, blade 2		FLAP BEND, Nm 29%R, blade 1		FLAP BEND, Nm 29%R, blade 3		FLAP BEND, Nm 37%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-192.00	-17.87	-243.00	-15.30	-48.43	-11.10	-150.14	-5.40	-105.57	-4.17	-147.00	-3.20
1	6.70	2.60	7.00	1.35	7.63	1.16	9.79	0.94	7.62	1.36	7.34	-0.21
2	6.74	-8.47	11.08	-6.17	5.08	-4.16	2.23	-1.56	4.13	1.09	3.89	-1.73
3	-4.19	-13.22	-4.42	-15.86	-3.87	-8.56	-2.10	-2.98	-1.94	-3.60	-2.42	-2.38
4	-12.56	-2.43	-13.66	-1.13	-6.63	-0.03	-2.96	-0.54	-3.17	-0.20	-1.89	-0.22
5	5.80	0.00	4.15	0.00	3.19	0.00	1.13	0.31	0.77	0.00	-0.31	-0.10
6	-3.00	0.00	-3.60	0.00	-2.20	0.00	-0.61	-0.21	-0.70	0.35	-0.07	-0.32
7	10.92	0.00	-6.92	11.99	-3.16	-5.47	1.59	0.37	2.00	0.48	-1.79	0.55
8	-2.33	0.00	1.22	2.12	0.64	-1.11	-0.13	0.18	0.01	0.09	-0.63	-0.76
9	-0.66	0.00	1.23	0.00	-0.40	0.00	-0.05	0.18	0.00	0.09	-0.03	-0.03
10	-1.15	0.00	0.57	-0.99	-0.19	-0.34	-0.37	0.31	-0.31	0.11	-1.02	0.25

n	FLAP BEND, Nm 54%R, blade 2		FLAP BEND, Nm 63%R, blade 1		FLAP BEND, Nm 71%R, blade 2		FLAP BEND, Nm 85%R, blade 2		FLAP BEND, Nm 12%R, blade 1		FLAP BEND, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-62.00	-4.39	-40.43	-7.86	-27.43	-13.14	-124.71	-21.38	-531.86	-188.09	-105.57	-4.17
1	16.47	0.35	27.67	-0.58	40.78	-5.24	50.77	-31.03	66.25	20.83	7.62	1.36
2	6.77	-1.89	9.57	-1.04	16.00	0.14	34.37	2.99	-16.86	-2.98	4.13	-1.09
3	-1.89	0.15	-1.00	1.69	1.01	5.75	4.26	8.46	-0.63	5.05	-1.94	-3.60
4	0.78	-0.10	-0.17	-0.46	1.88	-0.06	8.16	-0.52	8.46	0.20	-3.17	-0.20
5	0.52	-0.41	0.81	0.12	-1.08	0.21	-3.83	-1.11	-1.11	0.00	0.77	0.00
6	-0.77	-0.11	-0.91	0.54	0.00	0.94	-3.54	-1.20	-0.79	0.00	-0.70	0.35
7	-4.26	0.54	-1.27	-0.23	2.86	0.71	9.05	-1.12	6.18	0.00	2.00	0.48
8	-0.82	-0.03	0.22	0.53	-1.43	-0.97	-2.20	0.16	-2.89	0.00	0.01	0.09
9	-0.24	-0.01	0.26	-0.74	-0.33	-0.28	0.67	-0.52	2.02	0.00	0.00	-0.03
10	-0.51	-0.01	0.87	-0.74	-0.71	0.28	-2.47	-0.37	-1.26	0.00	-0.31	0.11

n	EDGE BEND, Nm 12%R, blade 3		EDGE BEND, Nm 20%R, blade 2		EDGE BEND, Nm 29%R, blade 1		EDGE BEND, Nm 37%R, blade 2		EDGE BEND, Nm 45%R, blade 1		EDGE BEND, Nm 54%R, blade 2	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-438.14	-190.92	-1808.60	-114.37	813.86	-85.69	1130.00	-53.79	1598.60	-47.47	1607.10	-31.19
1	75.09	14.34	31.50	6.09	21.11	12.47	1.81	7.30	-11.42	12.73	-21.06	9.95
2	-23.06	-4.17	-19.24	-4.92	-13.98	-3.37	-14.05	-3.85	-14.88	-4.97	-16.21	0.94
3	-1.87	5.46	1.11	4.07	1.47	3.26	1.88	1.49	0.80	0.92	0.94	-6.71
4	8.74	-0.95	3.21	-0.70	5.22	-1.36	2.93	-0.53	1.72	0.92	-0.28	-0.32
5	-1.47	-0.95	-2.75	-0.40	-3.78	0.01	-2.62	-2.51	-4.34	-1.59	-3.53	-1.39
6	-2.15	4.24	0.57	-4.49	0.01	-1.62	-0.68	-4.08	0.78	-2.26	-0.65	-3.18
7	-2.45	3.64	-2.59	-3.03	8.24	0.80	14.17	-4.08	17.51	-4.19	23.73	-5.19
8	2.10	0.00	1.75	0.00	-0.31	0.89	-0.55	1.55	-1.66	1.90	-2.90	2.09
9	2.62	-1.57	1.71	1.08	-0.67	-0.24	-0.05	-1.26	-0.50	-2.35	0.11	-4.33
10	0.91	-1.57	0.62	1.08	-0.24	-0.07	0.29	-0.30	1.20	-1.03	1.23	-1.52

MEASURED STRUCTURAL LOADS (AVERAGE)

n	EDGE BEND, Nm 63%R, blade 1		EDGE BEND, Nm 71%R, blade 2		EDGE BEND, Nm 80%R, blade 1		EDGE BEND, Nm 85%R, blade 2		TORSION, Nm 12%R, blade 1		TORSION, Nm 12%R, blade 3	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	1418.60	-15.48	1921.40	-2.01	1410.00	0.29	930.00	-0.66	37.86	14.77	35.70	
1	-30.85	11.07	-27.58	9.40	-31.01	11.41	-16.19	6.95	-6.23	-3.57	-4.45	13.55
2	-13.22	-5.28	-13.03	-1.10	-11.95	-4.65	-7.52	-3.65	-1.07	2.02	-3.04	-3.47
3	-0.63	-1.74	-2.75	-2.33	-1.12	-3.24	-0.14	-1.86	-1.85	0.32	-0.94	2.51
4	-1.14	-1.42	-1.88	-0.54	-2.19	-0.24	-1.48	-0.05	-4.15	-0.55	-2.90	0.97
5	-3.52	-2.13	-1.42	-0.35	-1.15	-1.08	-0.20	0.11	-1.20	-0.11	-1.21	-0.47
6	1.06	-4.16	-0.35	-2.45	1.47	-1.75	0.11	-0.75	0.15	0.00	0.38	-0.10
7	15.96	1.39	15.71	-3.74	6.76	-1.75	5.71	0.84	-0.75	0.00	0.28	-0.48
8	-3.17	-4.26	-1.83	1.36	-1.83	0.89	-1.52	0.61	0.80	0.00	-0.47	-0.82
9	-0.59	-1.97	-0.39	-4.35	-0.46	-2.92	-0.29	-2.03	-0.57	0.00	-0.66	0.00
10	1.79	-0.22	1.15	-1.50	1.25	-1.32	0.25	-0.91	0.62	0.00	-0.18	0.32

n	TORSION, Nm 20%R, blade 2		TORSION, Nm 29%R, blade 1		TORSION, Nm 29%R, blade 3		TORSION, Nm 54%R, blade 2		TORSION, Nm 80%R, blade 2		TORSION, Nm 87%R, blade 1	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
0	-307.29	14.56	148.29	12.63	159.71	10.75	-6.27	9.64	27.21	49.61	49.61	
1	-3.89	-3.13	-6.44	-3.06	-4.60	-2.84	0.22	-1.80	3.27	6.53	-4.94	7.05
2	-1.51	1.61	-0.70	1.45	-2.25	1.68	-0.05	0.51	4.51	-6.34	2.61	-4.54
3	-0.77	-3.71	-1.78	-0.56	-0.76	-0.07	-1.33	0.31	0.55	-0.80	0.52	0.28
4	-3.52	0.01	-3.71	-0.69	-3.55	-0.45	-3.45	-0.35	-0.59	1.57	-0.71	0.77
5	0.82	-0.23	-0.88	-0.01	-0.66	-0.45	0.46	0.20	-0.99	-0.11	0.56	-0.01
6	0.57	0.66	0.44	-0.10	-0.51	0.00	0.67	-0.28	-1.16	0.31	0.54	-0.51
7	-0.36	0.62	-0.10	0.15	0.86	0.56	0.04	-0.89	1.64	0.50	1.07	0.29
8	-0.36	0.00	-0.14	-0.15	0.42	-0.38	-0.15	0.05	-0.15	0.39	0.43	-0.02
9	-0.36	0.00	0.23	-0.15	-0.09	-0.02	-0.19	0.54	-0.06	0.39	0.10	0.12
10	-0.11	-0.18	-0.05	0.07	0.02	0.00	-0.25	-0.32	0.14	-0.17	0.11	-0.24

n	FLAP, DEG blade 1		FLAP, DEG blade 2		LAG, DEG blade 1		LAG, DEG blade 2		FLAGDAMP		
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn	
0	2.2100	-0.2220	2.0043	-0.2077	-0.6756	-0.0096	-0.6200	-0.0110	-4805.70	838.16	-933.82
1	-0.9917	0.0341	-0.9252	0.0276	0.0195	0.0002	0.0155	-0.0010	838.16	-92.30	60.40
2	0.0435	-0.0052	0.0352	-0.0229	-0.0015	0.0006	-0.0012	0.0009	-92.30	57.18	47.19
3	-0.0052	-0.0357	-0.0066	-0.0314	-0.0003	0.0004	-0.0004	0.0008	57.18	34.00	34.36
4	0.0008	0.0045	-0.0029	0.0029	0.0004	0.0003	0.0006	-0.0001	34.00	-8.62	11.06
5	0.0023	-0.0043	0.0014	-0.0035	-0.0004	0.0000	-0.0002	0.0002	-8.62	-17.67	-14.70
6	-0.14	0.0000	0.0031	0.0084	0.0005	0.0000	0.0004	-0.0007	-17.67	-32.79	2.98
7	0.46	0.0123	0.0027	-0.0016	-0.0007	0.0000	0.0004	0.0007	-32.79	14.39	3.34
8	0.15	0.0120	-0.0016	-0.0043	0.0004	0.0000	-0.0006	0.0010	14.39	-12.81	0.54
9	-0.16	0.0047	0.0030	-0.0014	0.0000	0.0000	-0.0006	0.0000	-12.81	-0.35	-23.43
10	0.27	0.0046	-0.0006	0.0010	0.0000	0.0000	-0.0001	-0.0002	-0.35		

MEASURED STRUCTURAL LOADS (AVERAGE)

n	PTCH LNK LD,N		PTCH LNK, LD,N		PTCH LNK, LD,N		SERVO, N		SERVO, N	
	An	Bn	blade 1	blade 2	blade 3	LEFT	RIGHT	LEFT	RIGHT	
0	83.83		-67.99		156.14	82.01	135.86			
1	-55.55	84.93	-45.24	74.26	-57.16	-5.82	35.82	19.74	5.51	
2	-10.69	-19.36	-15.21	-17.97	-20.04	-7.85	6.22	-2.16	1.40	
3	-11.35	16.44	-6.17	14.02	-3.19	16.92	21.66	-19.73	-18.48	
4	-20.75	10.87	-17.15	16.79	-16.88	-10.19	-7.73	-3.73	-3.30	
5	-8.78	-5.74	-7.10	-2.01	-8.42	-1.75	4.12	0.51	-5.45	
6	3.99	-3.43	4.09	-4.75	1.67	-4.00	38.91	-28.29	-8.31	
7	-12.46	-5.31	-17.79	-6.18	-16.20	-8.66	-1.62	-0.39	-0.15	
8	1.79	1.05	1.87	1.47	-0.89	0.94	-3.35	0.05	-0.16	
9	4.78	5.26	-0.85	11.24	-1.22	3.97	-10.59	-5.49	-7.69	
10	-7.59	-1.99	-5.84	-2.00	-5.87	0.28	1.82	-1.75	0.84	

n	FZSHAFT, N		F1SHAFT, N		F2SHAFT, N		VERT ACCEL, g		VERT ACCEL, g	
	An	Bn	An	Bn	An	Bn	FRONT	SEAT	FRONT	SEAT
0	485.94	-80.95	-162.00		-40.03		-0.1249		-0.1496	
1	990.70	-521.98	-10.38	-498.63	472.85	28.30	-0.0003	0.0214	0.0061	-0.0064
2	207.19	-610.46	0.20	30.93	24.12	8.02	-0.0090	0.0034	0.0122	0.0064
3	558.80	185.94	-19.49	-5.96	3.38	-1.33	0.0171	-0.0016	0.0126	-0.0448
4	-3.34	230.30	-2.02	2.55	-3.14	-18.33	-0.0021	0.0068	0.0035	-0.0050
5	-379.93	202.61	-3.34	-2.38	-2.72	-0.26	-0.0006	-0.0098	-0.0078	0.0059
6	452.15	0.00	17.92	-1.36	-1.54	-3.92	0.0294	0.0053	0.0050	0.0084
7	292.06	0.00	12.12	0.00	-9.56	-6.44	0.0059	0.0000	0.0007	-0.0021
8	74.70	0.00	7.91	0.00	-2.57	3.05	0.0109	0.0000	-0.0005	-0.0037
9	27.67	0.00	6.64	0.00	2.10	0.58	0.0064	0.0000	-0.0065	-0.0038
10					2.72	-3.45	0.0069	0.0000	-0.0008	0.0009

n	GEAR BOX STRUT,N		GEAR BOX STRUT,N		GEAR BOX STRUT,N		GEAR BOX STRUT,N	
	REAR LEFT	REAR RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT	FRONT LEFT	FRONT RIGHT
0	-8887.1		-2127.1		4315.70		8288.60	
1	-67.0	7.5	-100.4	-23.7	-63.30	-18.50	46.99	-38.91
2	14.5	-1.5	23.7	11.9	8.57	31.12	35.97	-35.43
3	-36.7	-32.0	3.6	16.2	132.47	149.34	51.88	45.47
4	-4.4	-5.7	-7.7	-9.3	-12.70	10.89	-4.62	-5.93
5	-7.9	-0.5	-12.2	-7.9	-12.14	-15.84	-1.61	-1.21
6	19.5	10.5	16.1	20.0	12.32	0.39	35.44	-38.68
7	-3.4	-4.9	-1.3	-8.1	1.83	4.03	1.74	-0.70
8	3.0	15.2	6.4	14.7	17.78	8.19	-12.41	2.45
9	-4.9	-9.7	-4.5	-16.8	-6.01	1.84	1.04	10.25
10	0.2	0.6	2.7	1.5	-2.54	-1.89	-2.36	-7.38

APPENDIX D

FLIGHT TEST DATA – HUB LOADS

The measured hub forces and moments for six flight conditions, V3101, V3103, V3105, V3106, V3109, and V3111 are presented for both the rotating and nonrotating frame.

PRECEDING PAGE BLANK NOT FILMED

HUB FORCES (N) - ROTATING FRAME

Flt. No.	ftx - 1/rev		ftx - 2/rev		ftx - 4/rev		ftx - 5/rev		ftx - 7/rev	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
V3101	-245.1	-1070.3	-101.2	-231.7	21.9	64.4	109.2	9.9	-5.7	28.9
V3103	-350.2	-1040.6	-72.8	42.7	91.5	-26.6	88.2	-45.5	-35.2	-38.5
V3105	-690.6	-657.6	252.0	179.7	163.5	57.9	105.4	-40.2	-59.7	-45.9
V3106	-791.9	-544.3	429.6	175.3	142.8	122.9	160.2	-51.7	-36.3	-24.1
V3109	-349.0	-1959.2	-221.7	-318.9	242.7	41.0	123.5	-146.2	-116.6	-184.4
V3111	-383.9	-2839.2	-360.5	-501.6	598.2	50.2	131.4	-56.1	-97.2	-84.2

HUB FORCES (N) - NONROTATING FRAME

Flt. No.	Fx	Fy	Fx - 3/rev		Fy - 3/rev		Fx - 6/rev		Fy - 6/rev	
			mean	Bn	mean	Bn	An	Bn	An	Bn
V3101	1071.0	244.3	-296.2	122.7	79.1	167.3	-18.8	-114.9	-103.6	-38.7
V3103	1041.0	349.5	69.4	164.3	-18.7	-16.2	-6.7	-123.6	-52.9	84.3
V3105	657.1	691.1	122.0	-88.3	-415.3	-237.9	6.0	-164.9	-45.9	86.4
V3106	544.5	791.7	52.1	-286.9	-572.5	-298.0	-27.6	-196.5	-123.9	75.9
V3109	1959.0	349.6	-360.0	464.1	-21.4	278.2	38.4	-239.9	-6.9	330.8
V3111	2839.0	383.8	-553.0	957.8	-237.9	451.2	28.1	-228.8	-34.2	140.2

Flt. No.	Fz - 3/rev		Fz - 6/rev	
	An	Bn	An	Bn
V3101	-1305.7	1081.3	212.8	366.7
V3103	801.0	2292.5	-155.7	230.1
V3105	114.6	4592.8	-210.8	244.0
V3106	290.0	5593.6	-103.3	292.0
V3109	1835.8	2305.4	105.6	430.4
V3111	4084.8	1616.5	264.0	-139.2

HUB MOMENTS (N-m) - ROTATING FRAME

Flt. No.	mtx - 1/rev		mtx - 2/rev		mtx - 4/rev		mtx - 5/rev		mtx - 7/rev	
	An	Bn	An	Bn	An	Bn	An	Bn	An	Bn
V3101	22.2	-1271.8	-30.1	27.7	37.5	-18.4	-61.7	-45.8	21.8	-4.3
V3103	-203.5	-841.2	30.7	-15.9	-14.4	-5.9	-44.8	0.2	36.5	5.8
V3105	-414.3	-270.1	142.3	-97.1	-52.2	-18.2	-52.8	-17.4	27.0	6.9
V3106	-530.4	-97.4	168.6	-149.7	-51.8	-35.9	-69.1	-17.6	23.7	3.6
V3109	-47.2	-1804.4	-76.8	36.6	20.4	-35.7	-67.5	45.7	138.6	27.4
V3111	22.1	-2530.9	-216.2	-26.2	-8.2	-33.1	-127.6	14.8	63.2	12.5

HUB MOMENTS (N-m) - NONROTATING FRAME

Flt. No.	Mx	My	Mx - 3/rev		My - 3/rev		Mx - 6/rev		My - 6/rev	
			An	Bn	An	Bn	An	Bn	An	Bn
V3101	23.2	1272.0	7.4	9.3	46.1	67.6	-40.0	-50.1	-41.4	83.5
V3103	203.7	841.2	16.3	-21.9	-10.0	-45.2	-8.3	6.0	-5.7	81.3
V3105	414.3	270.2	90.0	-115.2	-78.7	-194.7	-25.8	-10.5	-24.2	79.8
V3106	530.5	97.5	116.8	-185.5	-113.8	-220.6	-45.5	-14.0	-21.3	92.8
V3109	48.3	1804.0	-56.5	0.9	72.4	97.1	71.2	73.2	18.4	206.1
V3111	22.2	2531.0	-224.4	-59.3	6.9	208.0	-64.4	27.4	2.3	190.9

Flt. No.	Mz	Mz - 3/rev		Mz - 6/rev	
		An	Bn	An	Bn
V3101	-3754.3	167.6	-38.9	26.0	0.0
V3103	-5852.9	51.3	-175.6	34.7	0.0
V3105	-10343.0	46.5	-430.5	55.8	0.0
V3106	-11957.0	-0.4	-564.8	72.2	0.0
V3109	-3497.1	93.6	-142.8	39.4	0.0
V3111	-1884.3	67.7	-249.0	24.5	0.0



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16. Abstract Data from 23 flight conditions, including level flights ranging from $\mu = 0.14$ to 0.37 and steady turning flights from $\mu = 0.26$ to 0.35, are presented for an Aerospatiale SA349/2 Gazelle helicopter. The data include hub loads data (for 6 of the 23 conditions), blade structural data at eleven different blade radial stations, and fuselage structural data. All dynamic data are presented as harmonic analysis coefficients (ten harmonics per rotor revolution). This report also documents the data acquisition and reduction procedures. Blade structural and inertial properties are provided in addition to control system geometry and properties.					
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