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AUTHORITY

affdl ltr, 31 may 1973

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**AFFDL TR-66-57  
VOLUME II**

806913

**KC-135 POWER SPECTRAL  
VERTICAL GUST LOAD  
ANALYSIS**

**SUPPLEMENT RESULTS VOLUME II**

*ROBERT N. LATZ  
THE BOEING COMPANY*

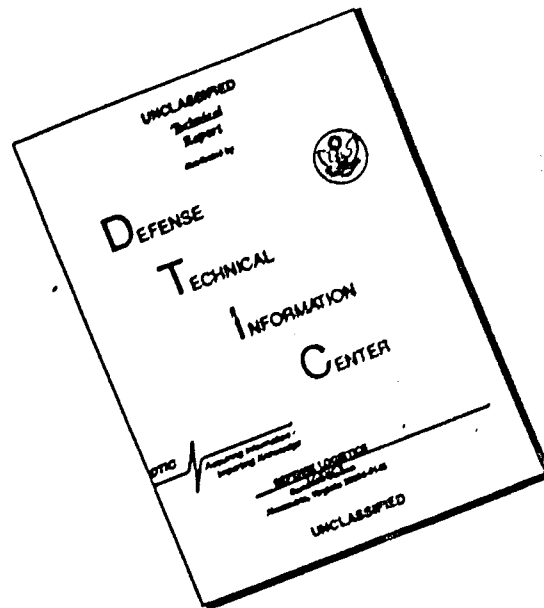
**TECHNICAL REPORT AFFDL-TR-66-57, VOLUME II  
JULY, 1966**

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**AIR FORCE FLIGHT DYNAMICS LABORATORY  
RESEARCH AND TECHNOLOGY DIVISION  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AIR FORCE BASE, OHIO**

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**VOLUME II**

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**AIR FORCE FLIGHT DYNAMICS LABORATORY  
RESEARCH AND TECHNOLOGY DIVISION  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AIR FORCE BASE, OHIO**

## FOREWORD

The program described in this report was conducted the the Structural Dynamics Unit, Structures Staff, Commercial Airplane Division, The Boeing Company, Renton, Washington. The program was monitored by Mr. Paul Hasty (FDTR), Air Force Flight Dynamics Laboratory, Research and Technology Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio, under contract number AF33(615)-2454, "Investigation to Obtain Specific Design Calculations on Proven Transport Aircraft for the Verification of a Gust Design Procedure Based on Proven Spectral Techniques." The program was accomplished under system number 5(611367 62405334), project number 1367, "Structural Design Criteria", task number 136702, "Aerospace Vehicle Structural Loads Criteria." The time period covered by this final technical report is 1 July 1965 to 1 June 1966. The manuscript was released by the author on 1 April 1966 for publication as an RTD technical report.

Supervising consultant was Dr. John C. Houbolt of Aeronautical Research Associates of Princeton. Robert N. Latz conducted the analysis under the supervision of Arthur J. Kamm, Supervisor of the Structural Dynamics Unit.

This report has been given The Boeing Company document number D6-18252.

This technical report has been reviewed and is approved.



FRANCIS J. JANIK, JR.  
Chief, Theoretical Mechanics Branch  
Structures Division

## ABSTRACT

This document presents frequency response functions, power spectra, and response parameters of bending moments, shears, and torsions at two wing stations and two body stations for five conditions of speed, gross weight, and altitude. Volume I presents frequency response functions and response parameters for stresses at the same wing and body stations. Also presented in volume I are ratios of incremental allowable limit stress to stress response parameter.

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### ABBREVIATIONS AND SYMBOLS

A	load response parameter (rms value of incremental load for a 1 fps rms random gust)
$N_0$	zero-crossing rate (average number of times per second that the incremental load crosses the 1g mean value with positive slope)
LB** 2/CPS	pounds squared per cycle per second
(IN-LB)** 2/CPS	inch-pounds squared per cycle per second
(LB-IN)** 2/CPS	pound-inches squared per cycle per second
KTAS	knots true airspeed

SECTION I  
INTRODUCTION

This document presents frequency response functions, power spectra, and response parameters of bending moment, shear, and torsion at two wing stations and two body stations. Five speed, altitude, and gross weight conditions were investigated.

Figure 1 shows the locations on the airplane where the loads are measured. The wing loads are about wing stations normal to the elastic axis as shown by sections A-A and B-B in the figure. Tables I and II summarize the analysis and weight conditions of the airplane.

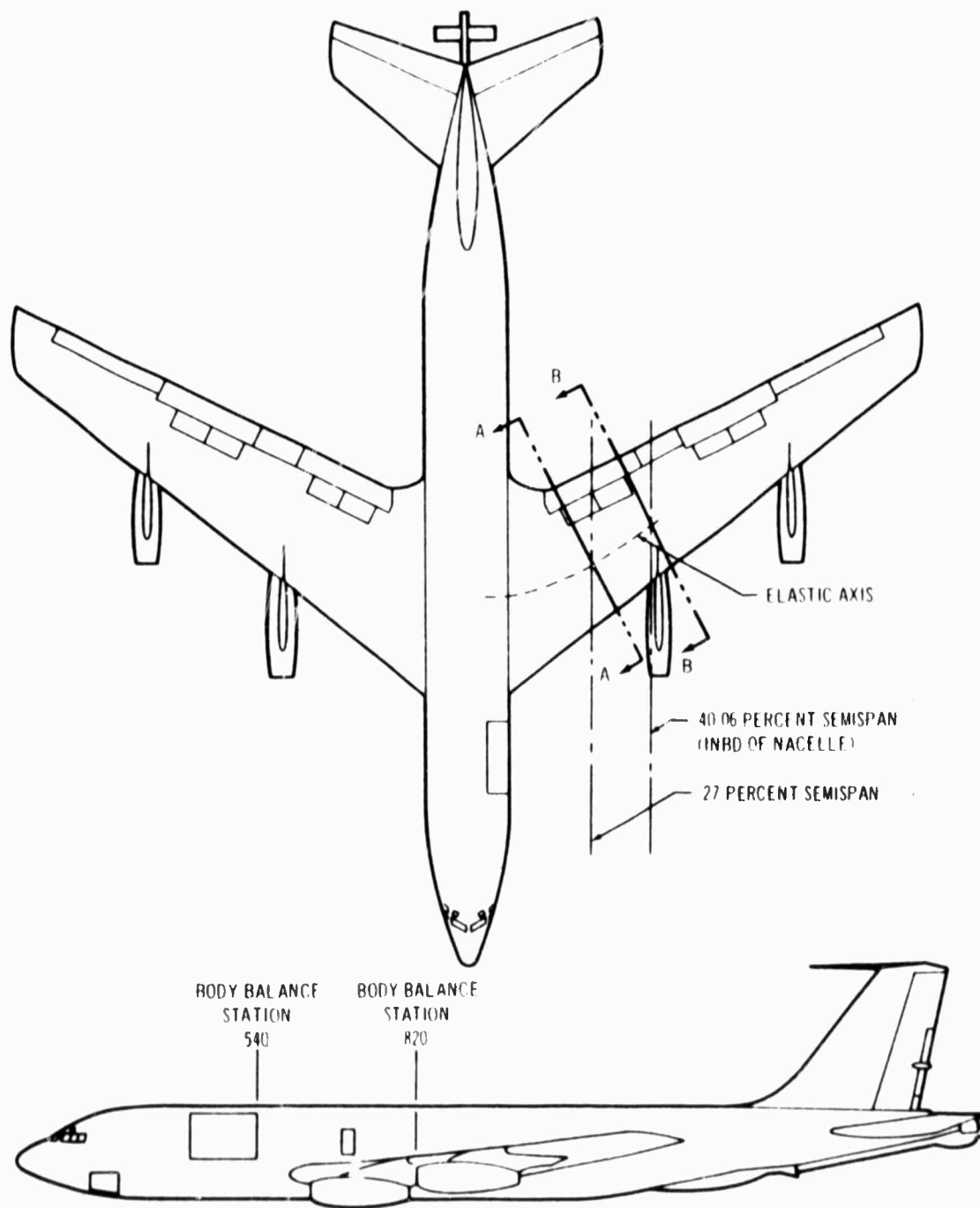


Figure 1. Locations at Which Stresses Are Obtained



**Table I. Summary of Analysis Conditions**

Analysis condition number	Weight condition	Gross weight (lb)	Altitude (ft)	Equivalent airspeed (kn)	Mach number	Body fuel (lb)	Wing fuel (lb)
1	A	297,000	24,000	350	0.85	83,328	109,512
2	B	268,000	24,000	350	0.85	87,927	75,913
3	C	190,590	24,000	350	0.85	83,323	3,100
4	D	107,260	24,000	350	0.85	0	3,100
5	A	297,000	24,000	207	0.50	83,328	109,512

**Table II. Summary of Weight Conditions**

Weight condition	Gross weight (lb)	CG (percent mac)	Fuel (lb)						
			Wing				Body		
			Outboard mains 1 & 4	Inboard mains 2 & 3	Center section	Outboard reserves	Forward	Aft	Upper
A	297,000	21.4	26,806	29,575	47,489	5,642	37,700	41,457	4,171
B	268,000	23.0	14,212	14,212	47,489	---	37,700	41,457	8,770
C	190,590	28.3	1,550	1,550	---	---	37,700	41,457	4,173
D	107,260	35.1	1,550	1,550	---	---	---	---	---
Capacity of tanks			26,806	29,575	47,489	5,642	37,700	41,457	14,131

Note: Fuel density at 6.5 pounds per gallon

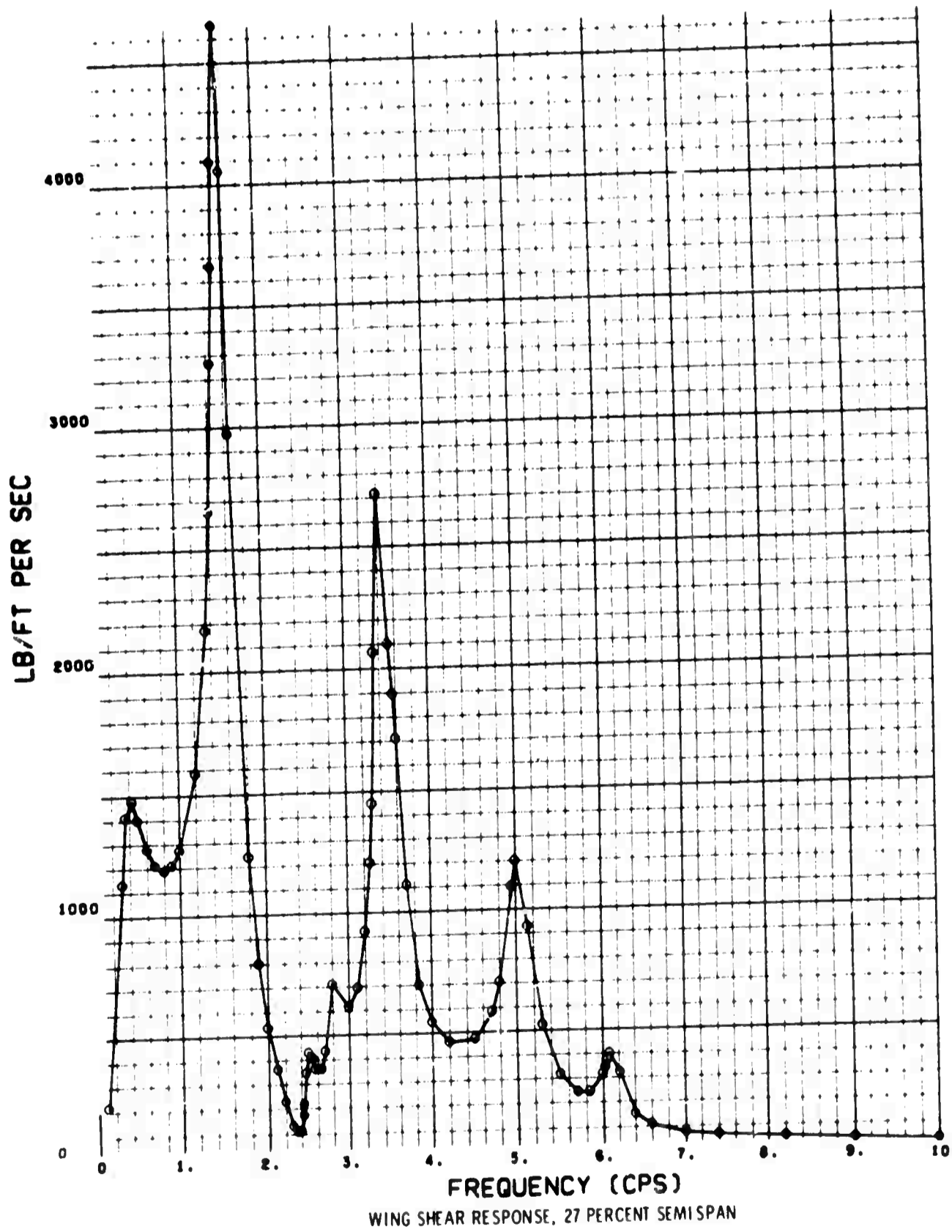
SECTION II

LOAD FREQUENCY RESPONSE FUNCTIONS

ANALYSIS CONDITION 1

WEIGHT CONDITION A

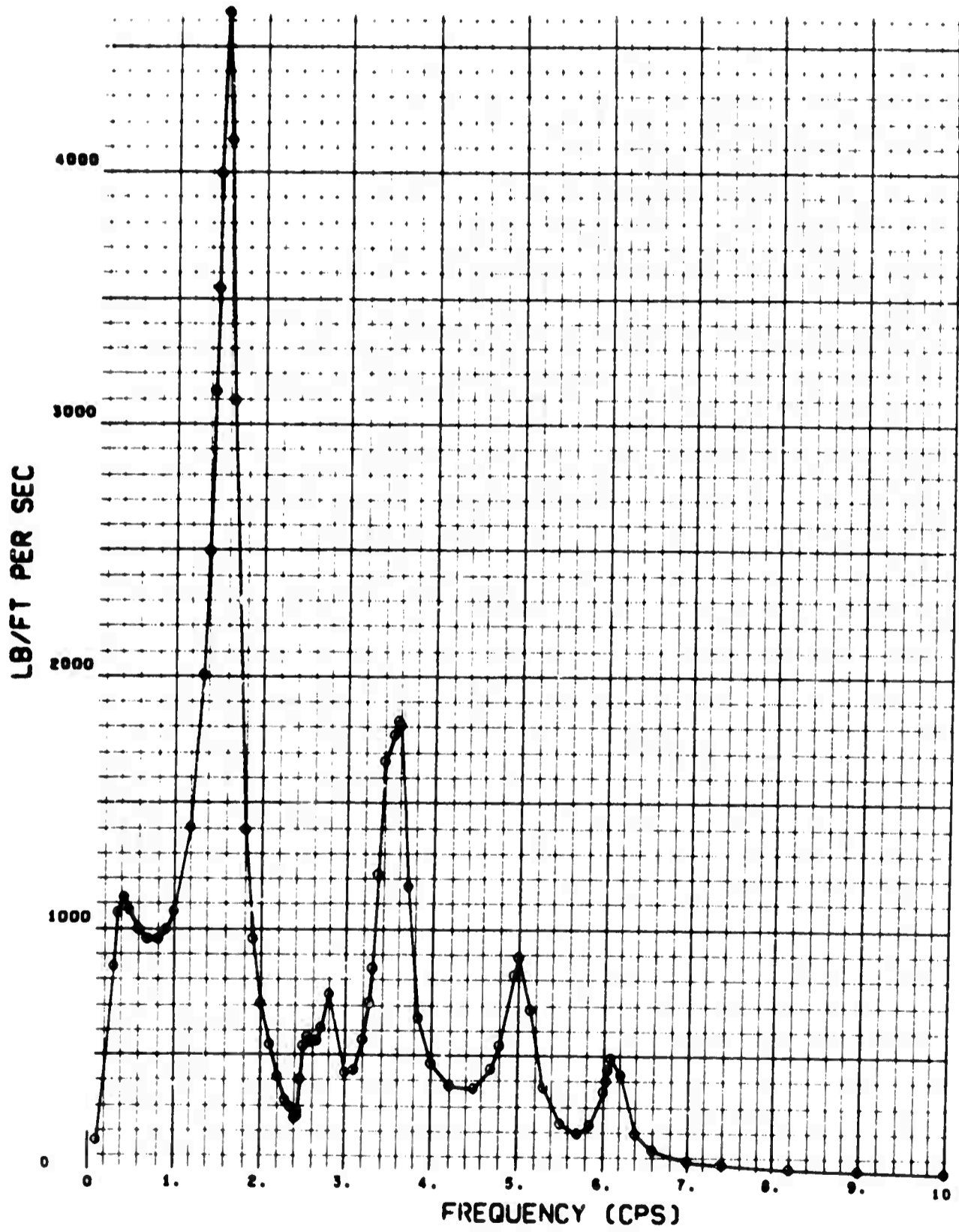
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

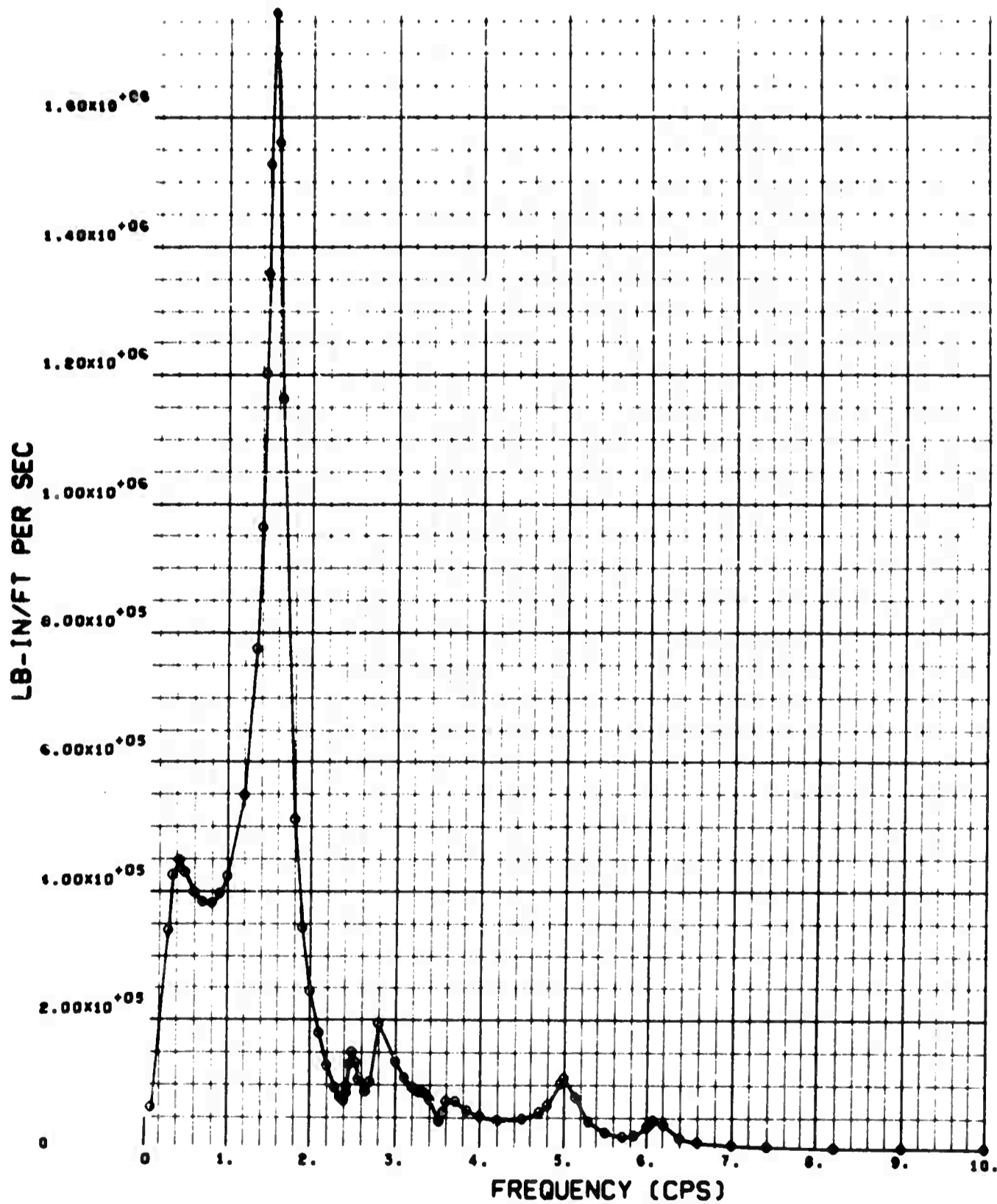


WING SHEAR RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

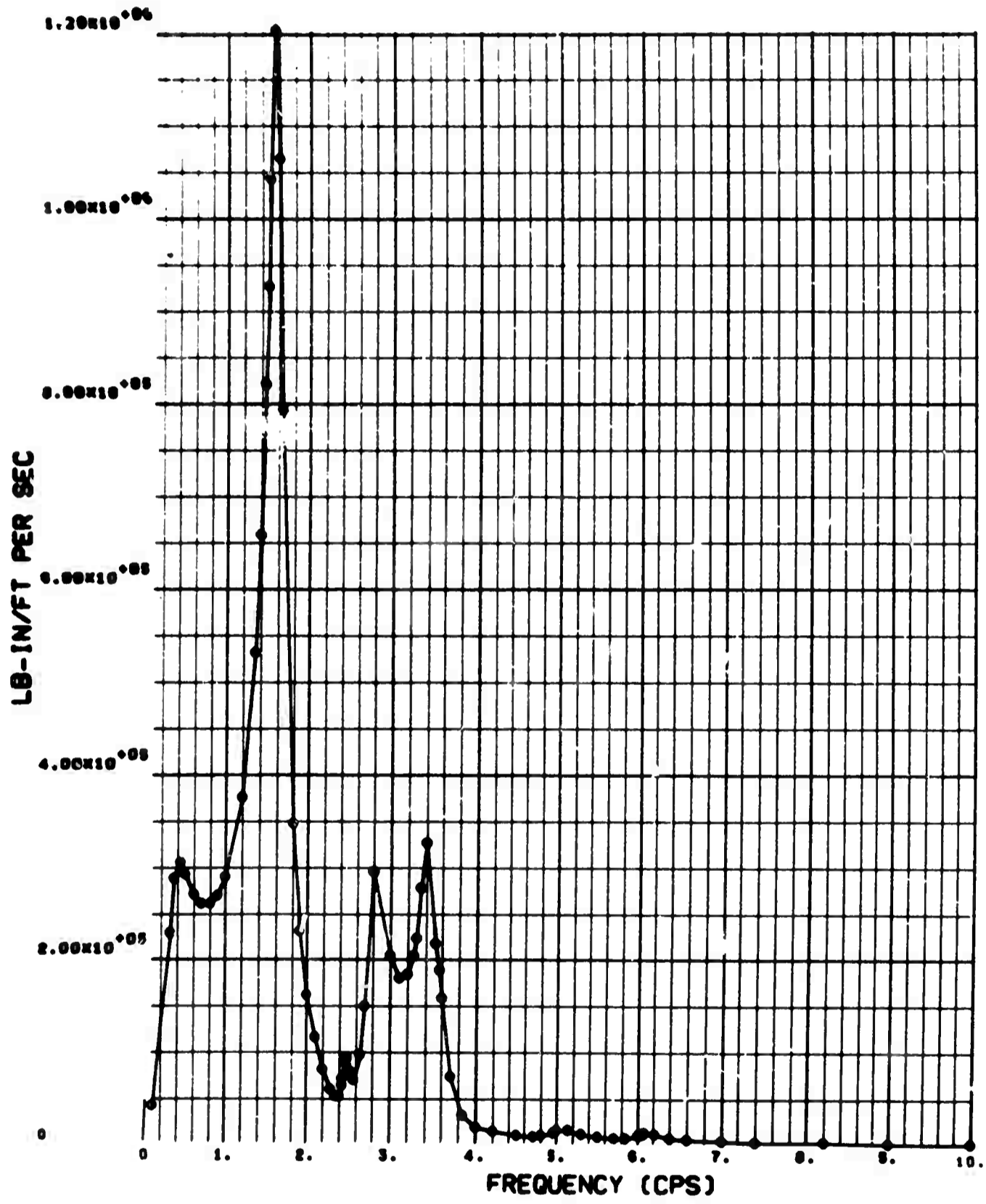


WING BENDING MOMENT RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

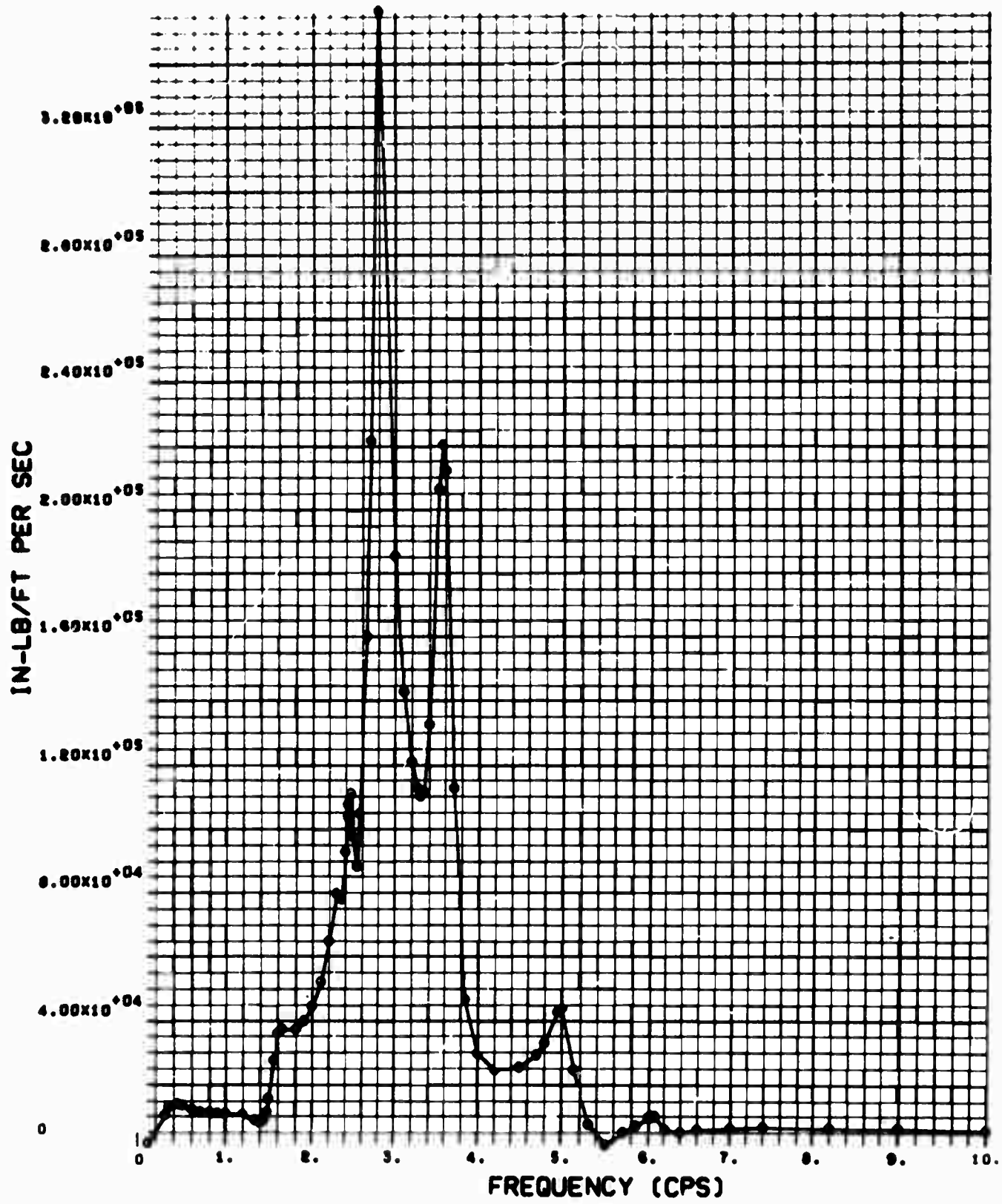


WING BENDING MOMENT RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

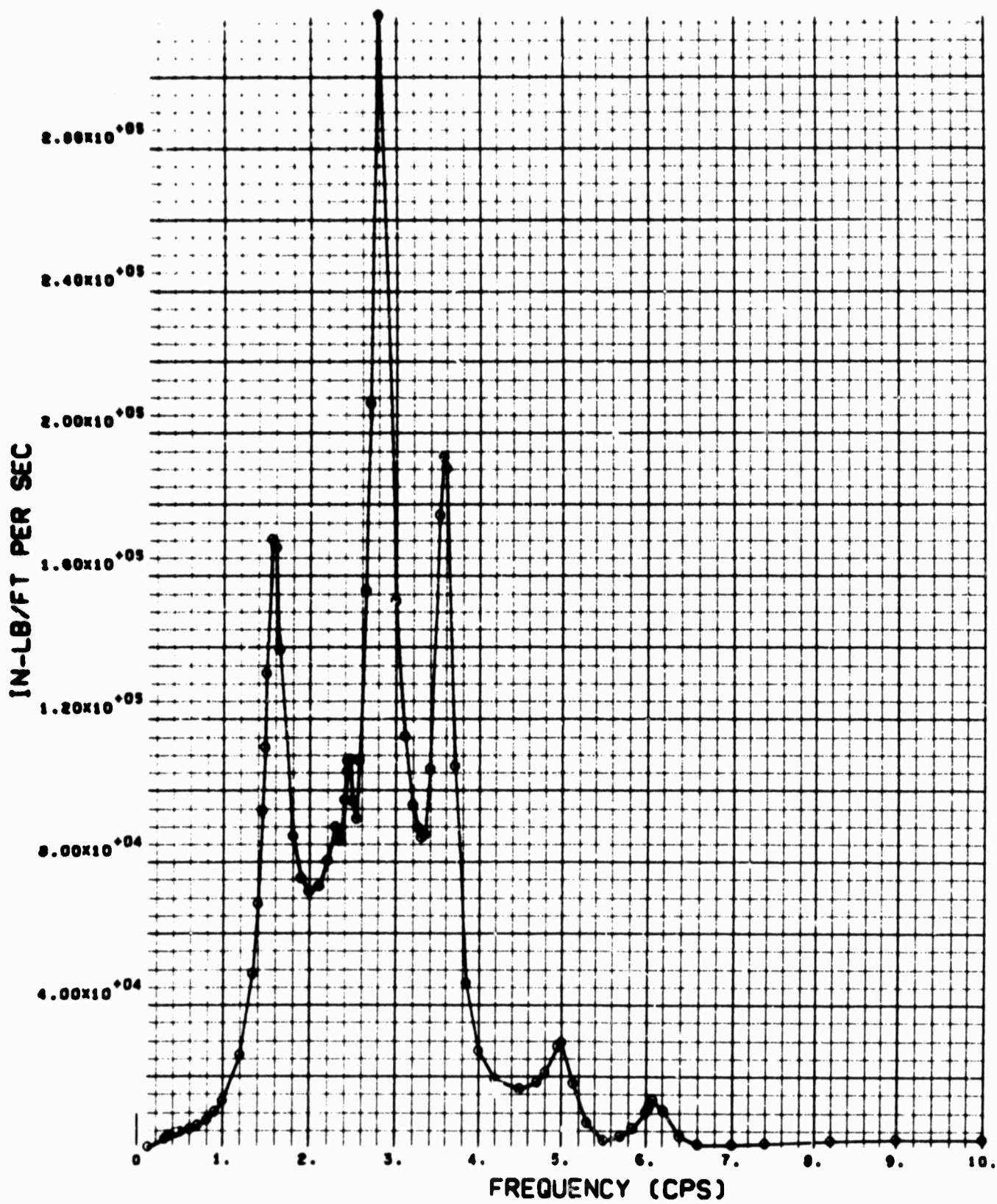


WING TORQUE RESPONSE, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

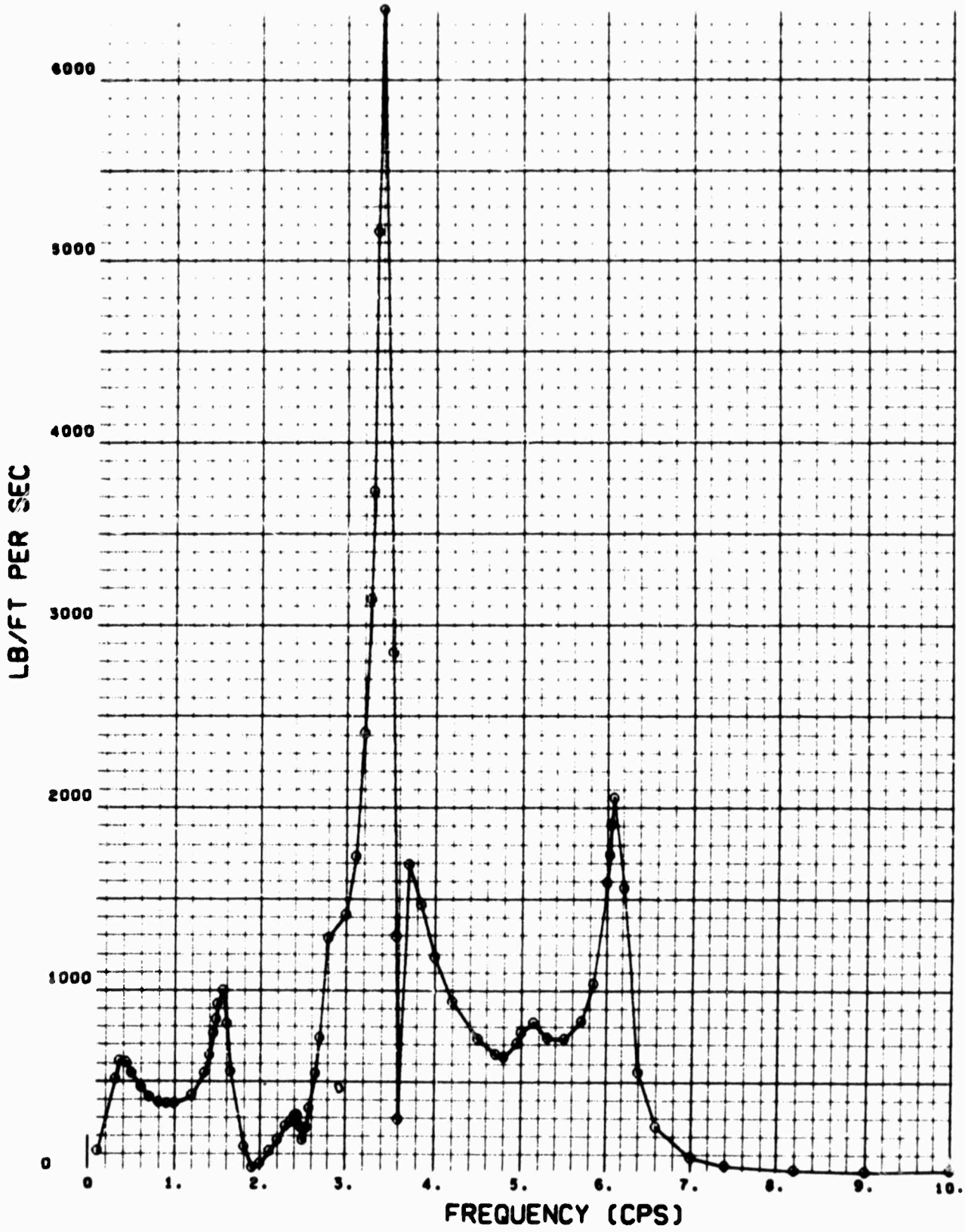


WING TORQUE RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



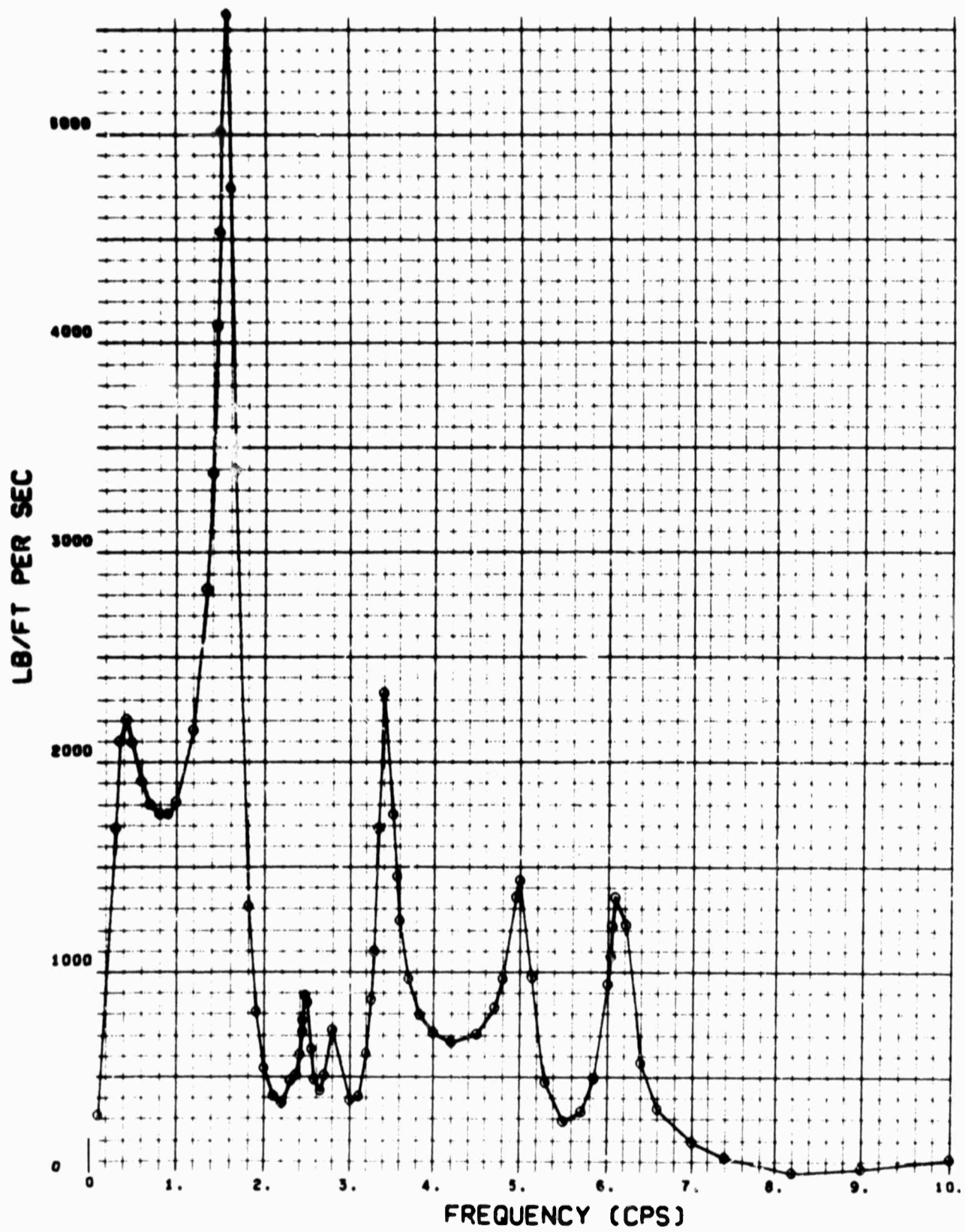
BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

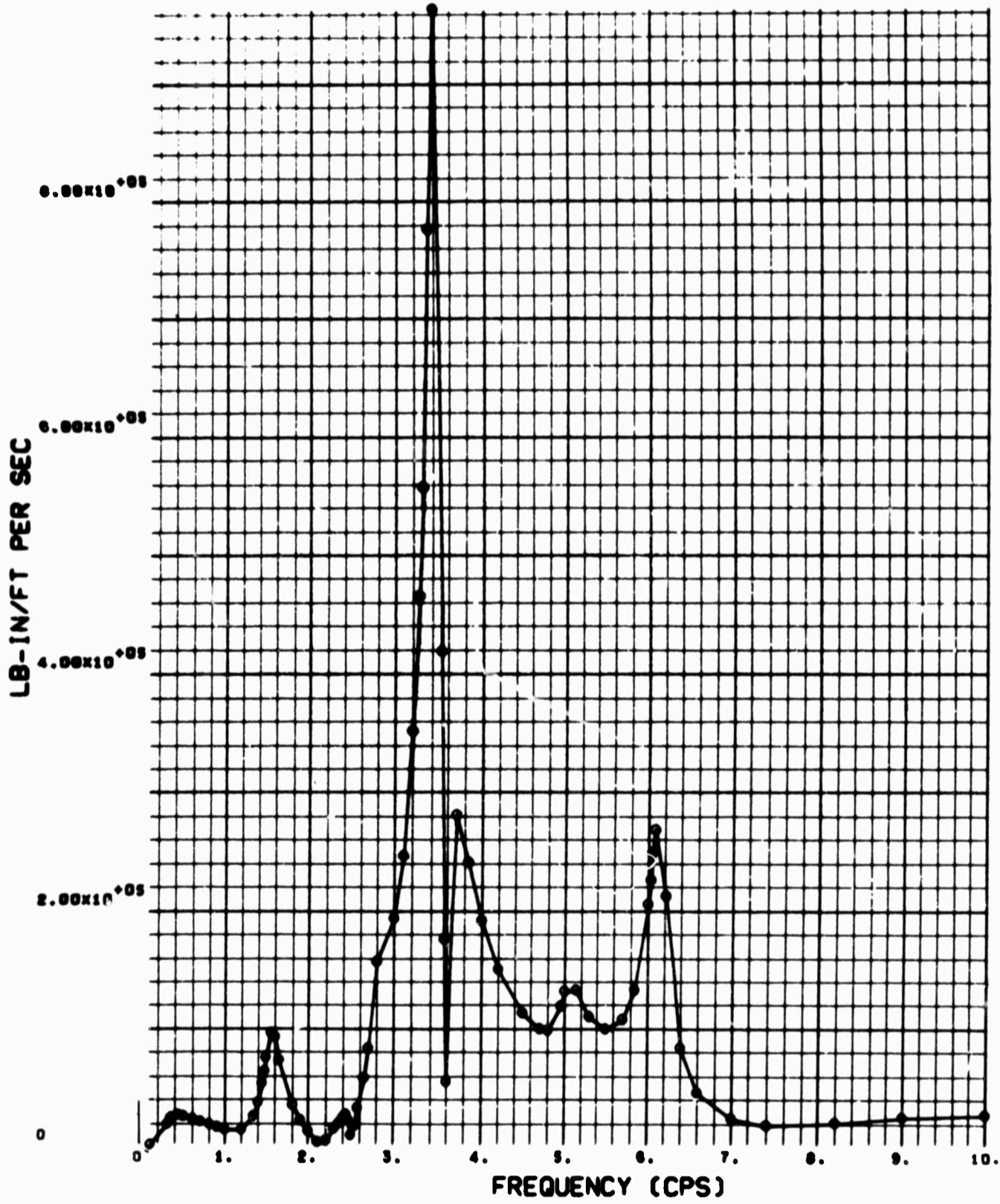


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

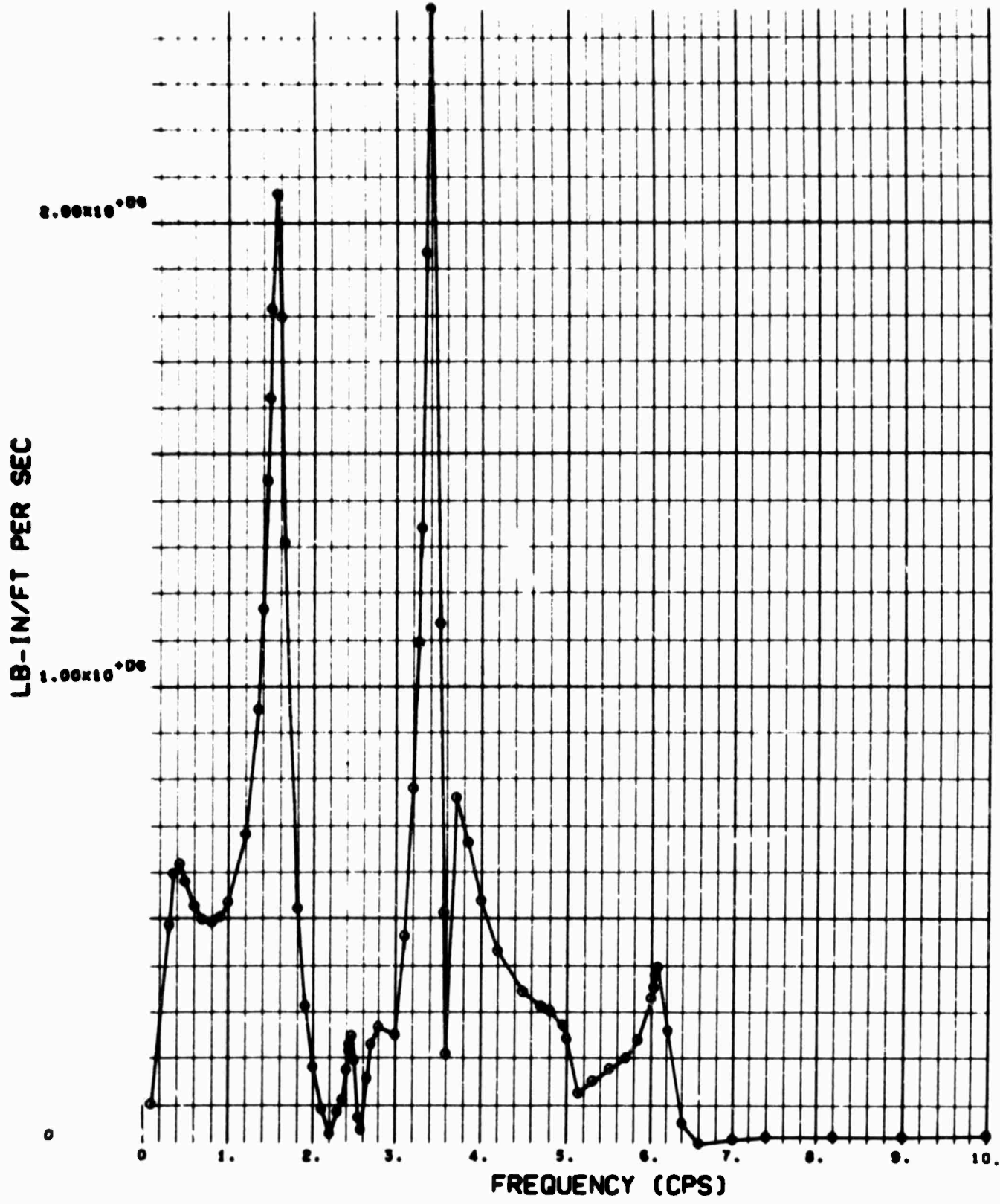


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

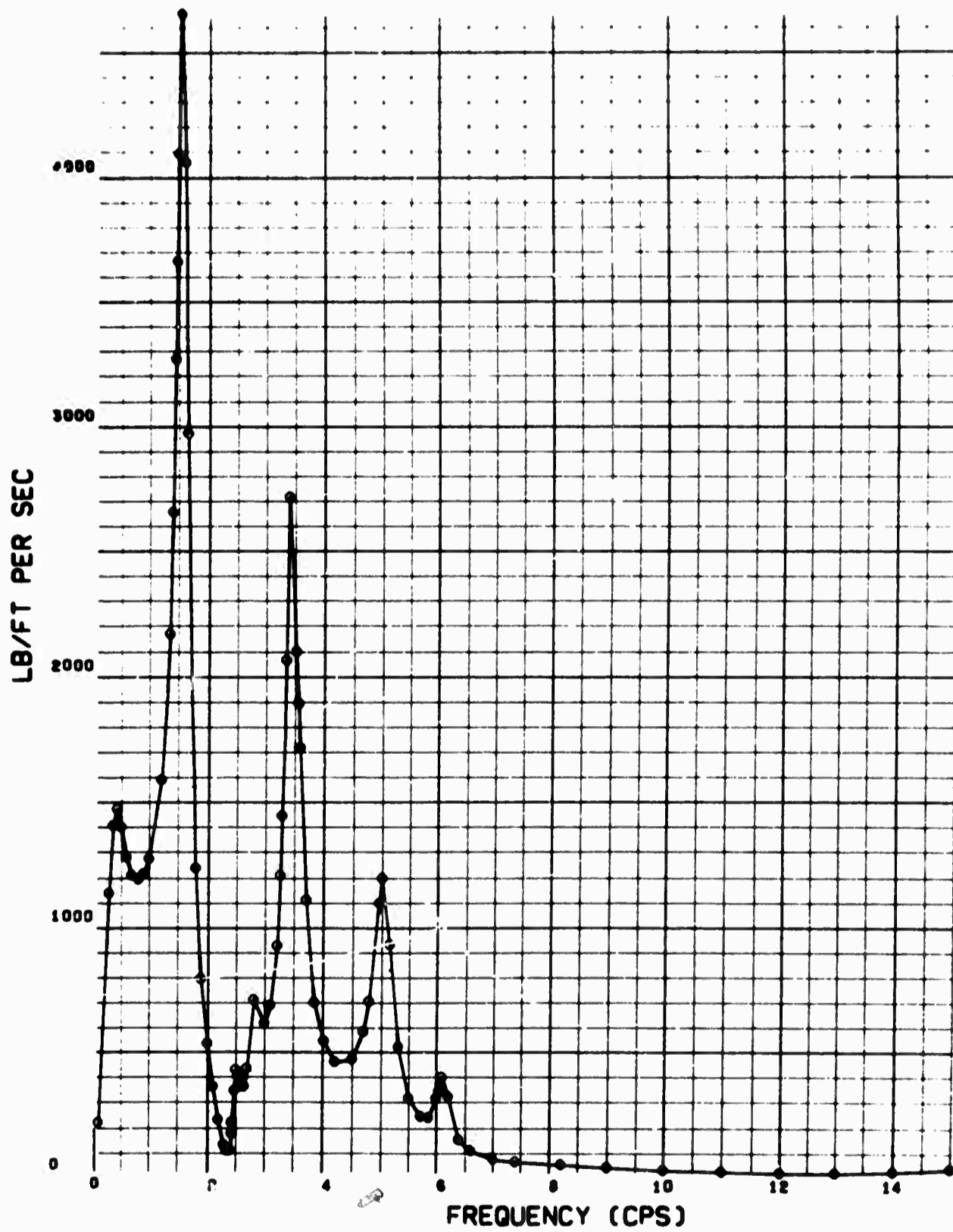


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

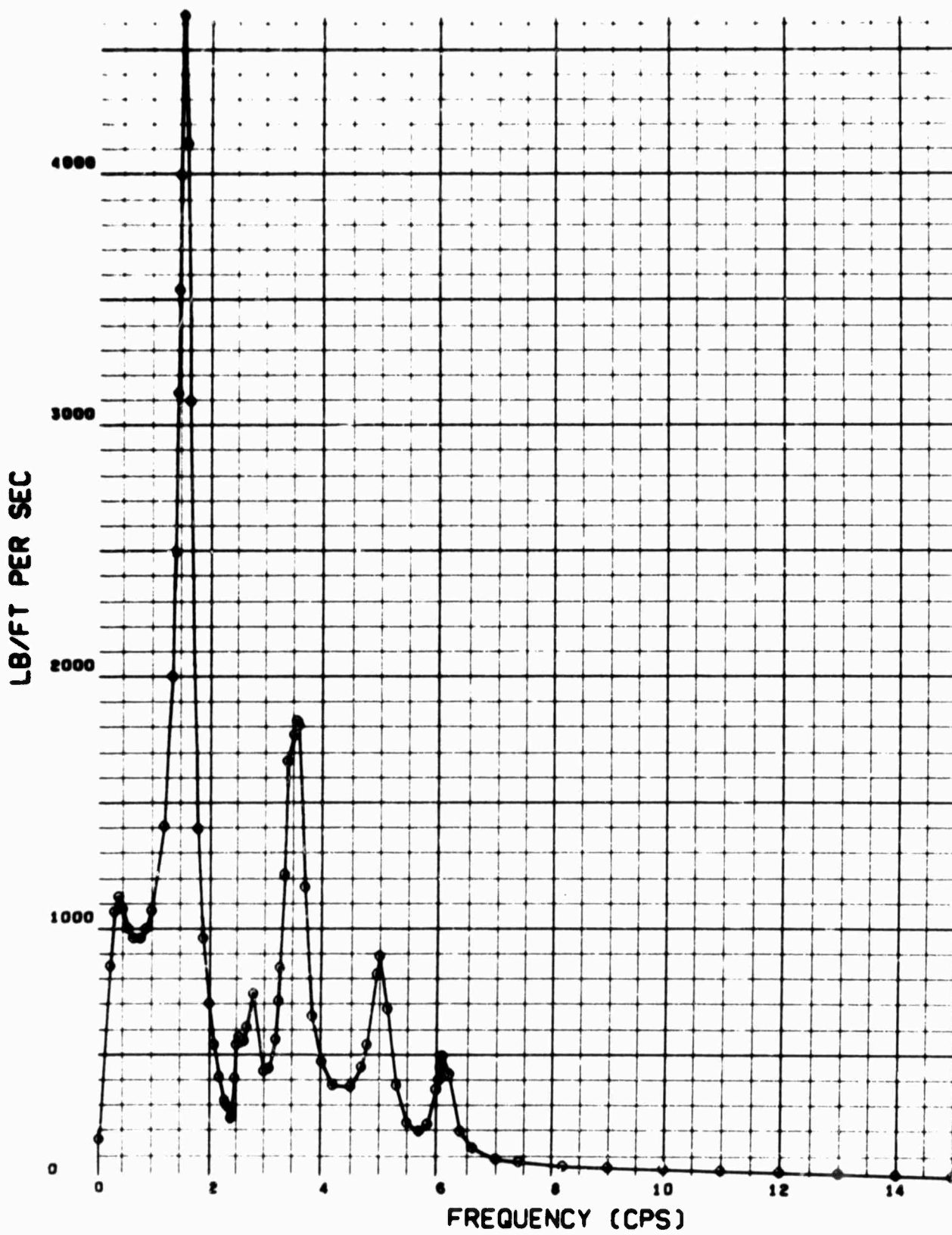


WING SHEAR RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

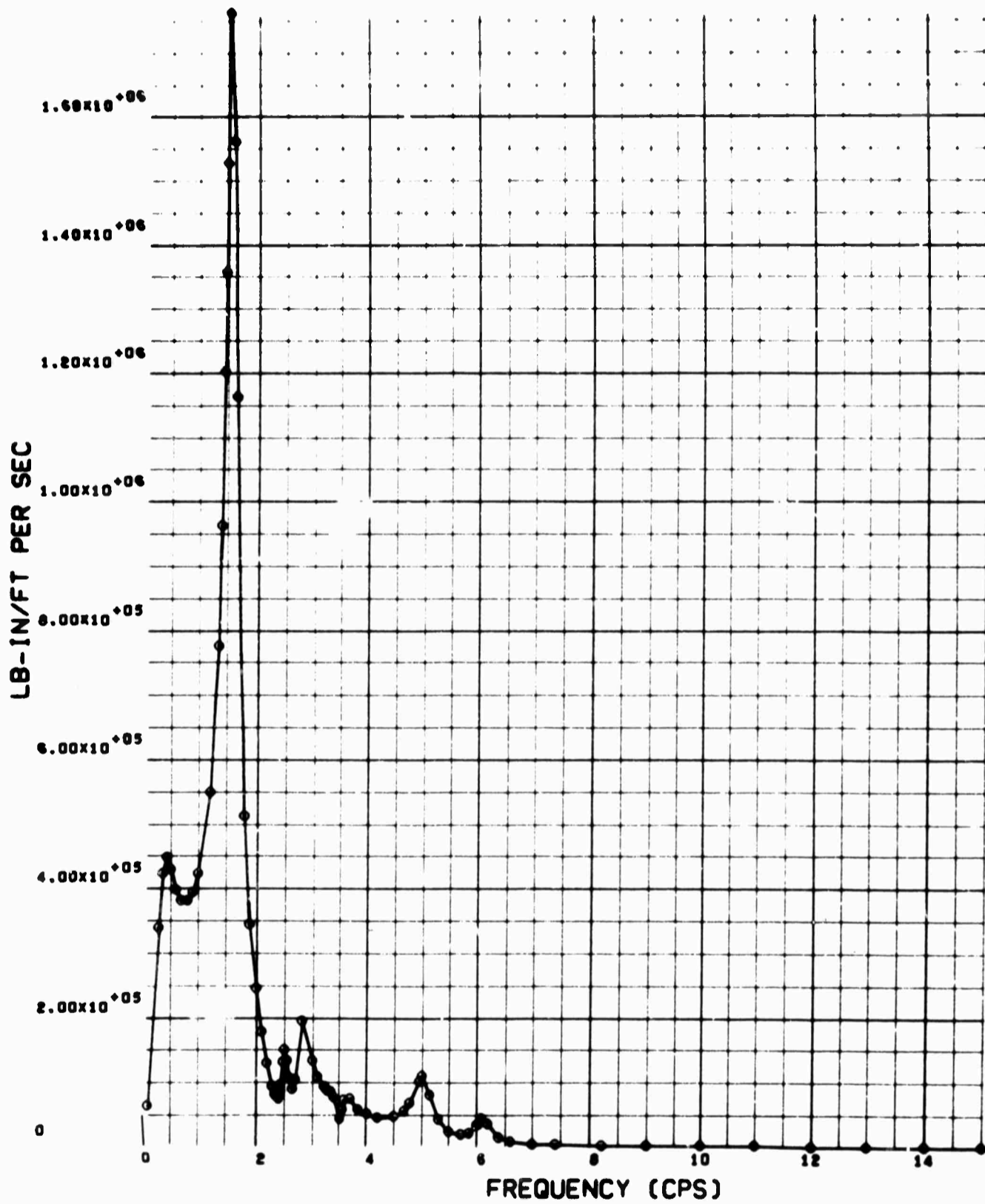


WING SHEAR RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

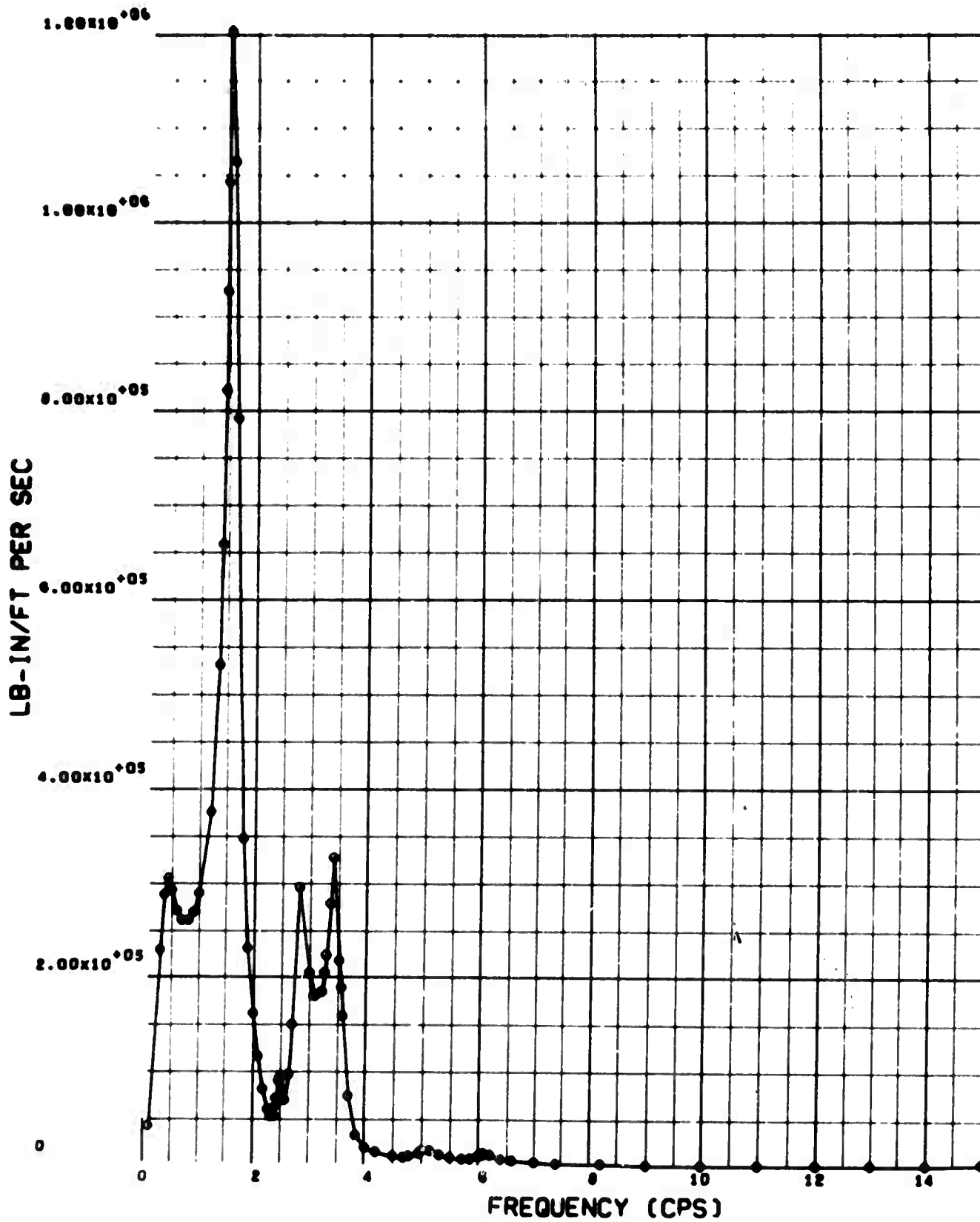


WING BENDING MOMENT RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

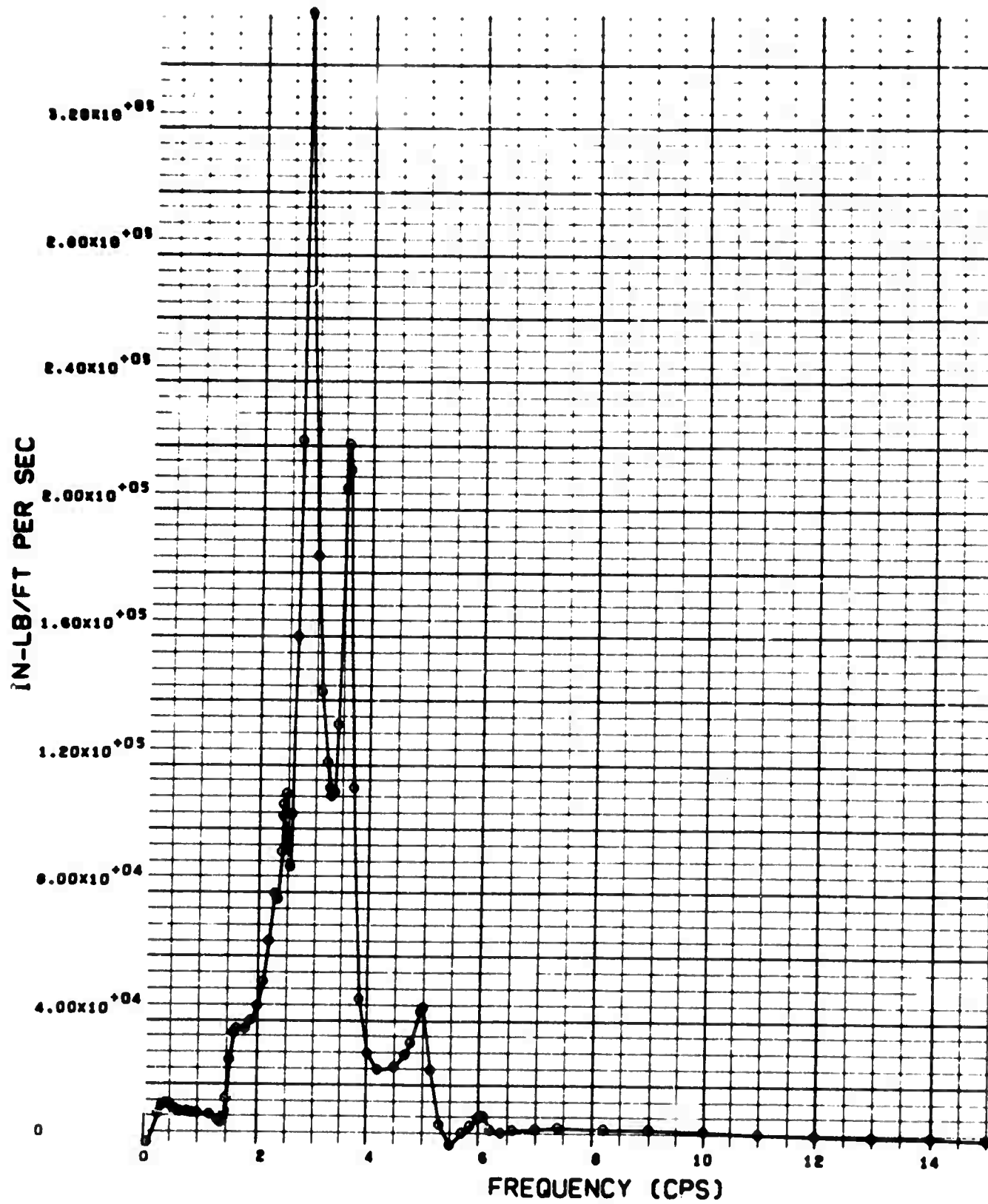


WING BENDING MOMENT RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

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MACH NUMBER: 0.85



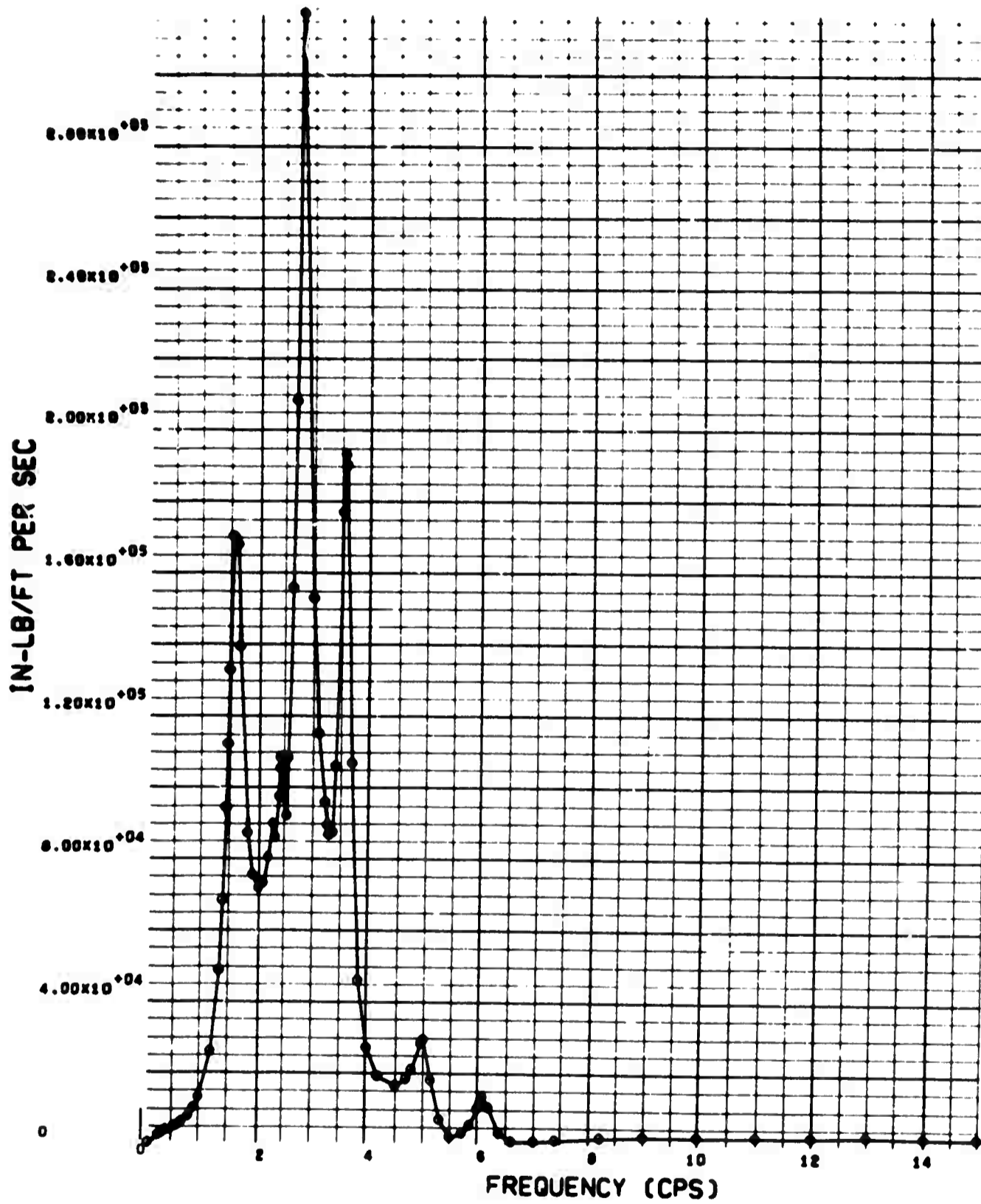
WING TORQUE RESPONSE, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 1

WEIGHT CONDITION A

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MACH NUMBER: 0.85

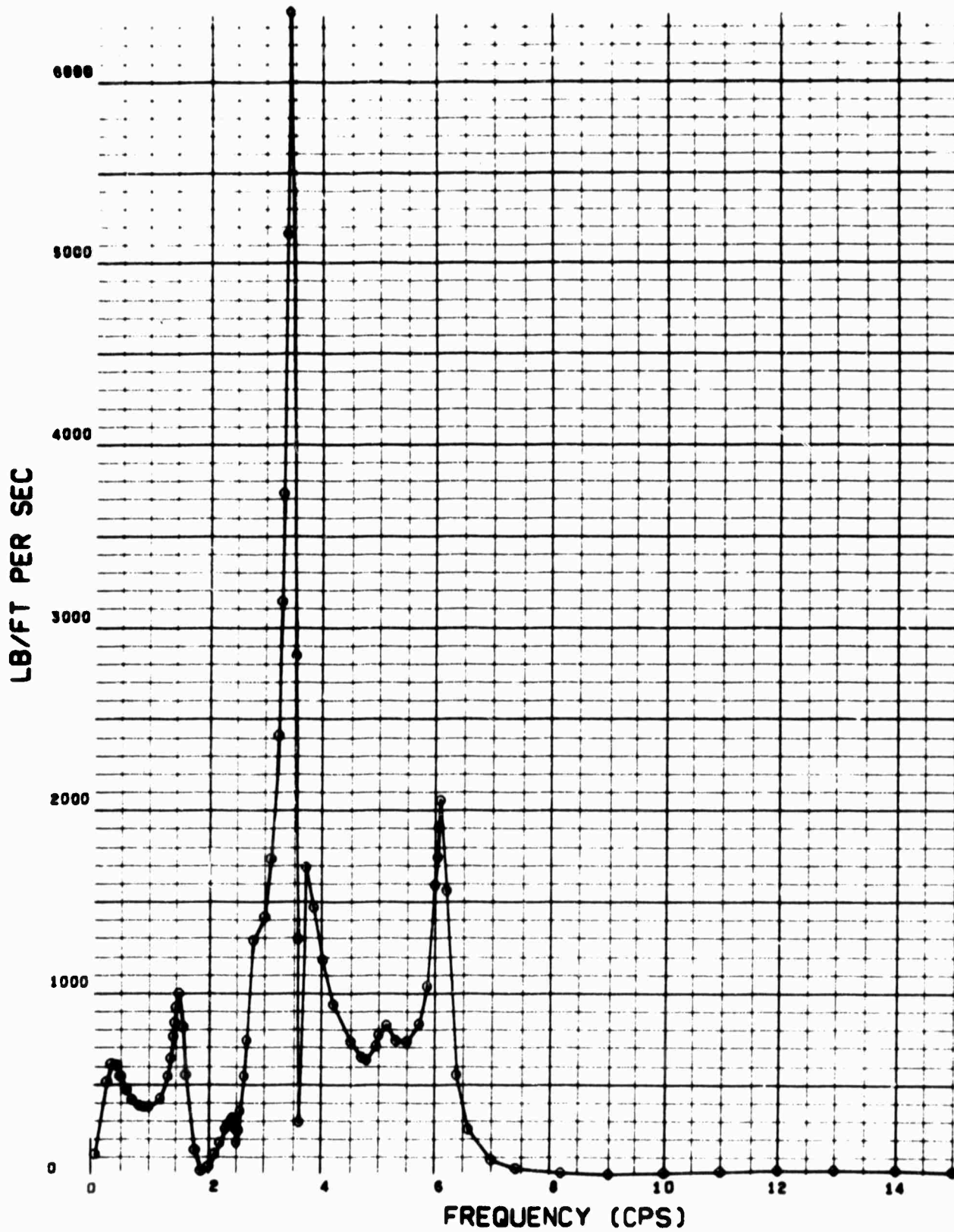


WING TORQUE RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

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ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

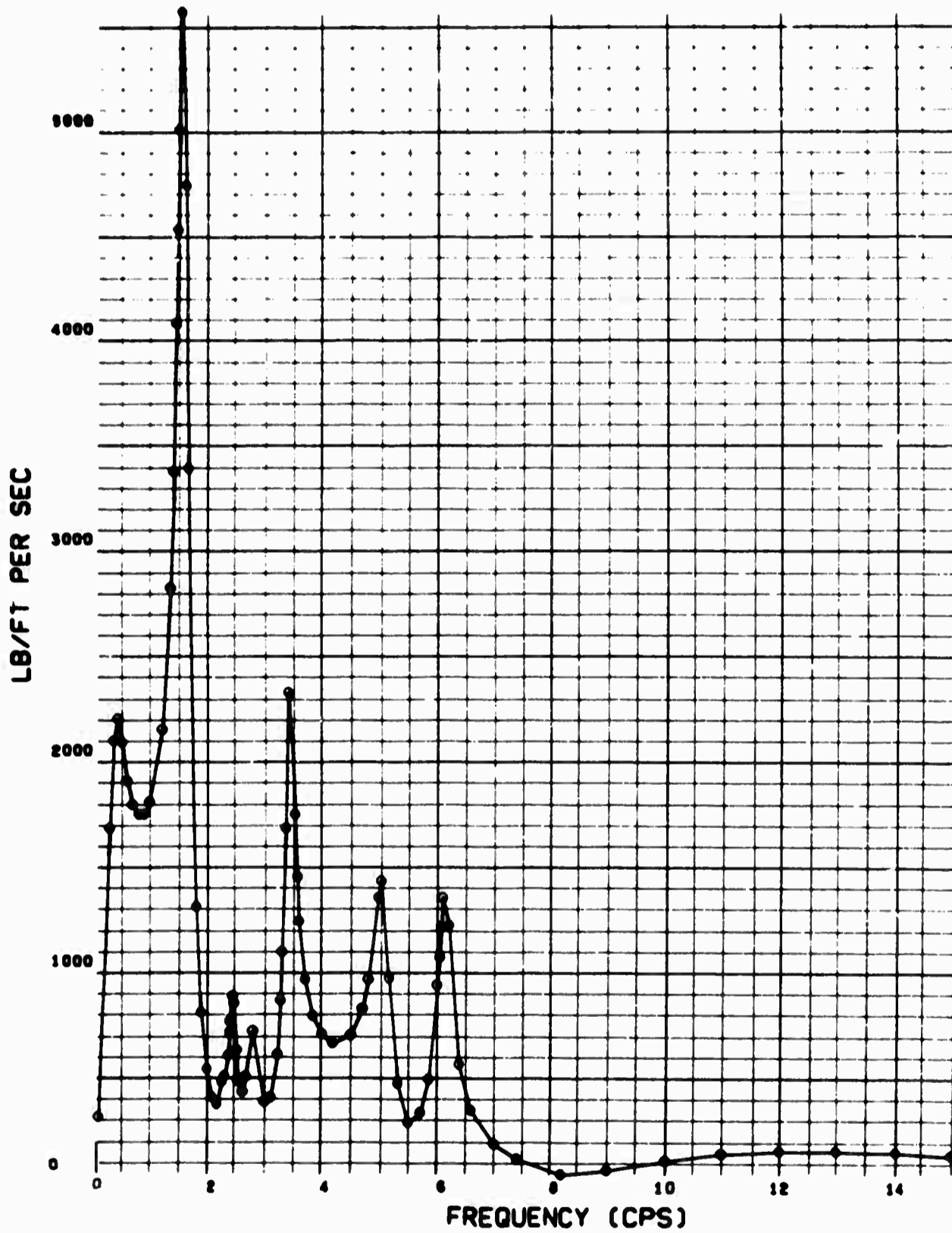


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

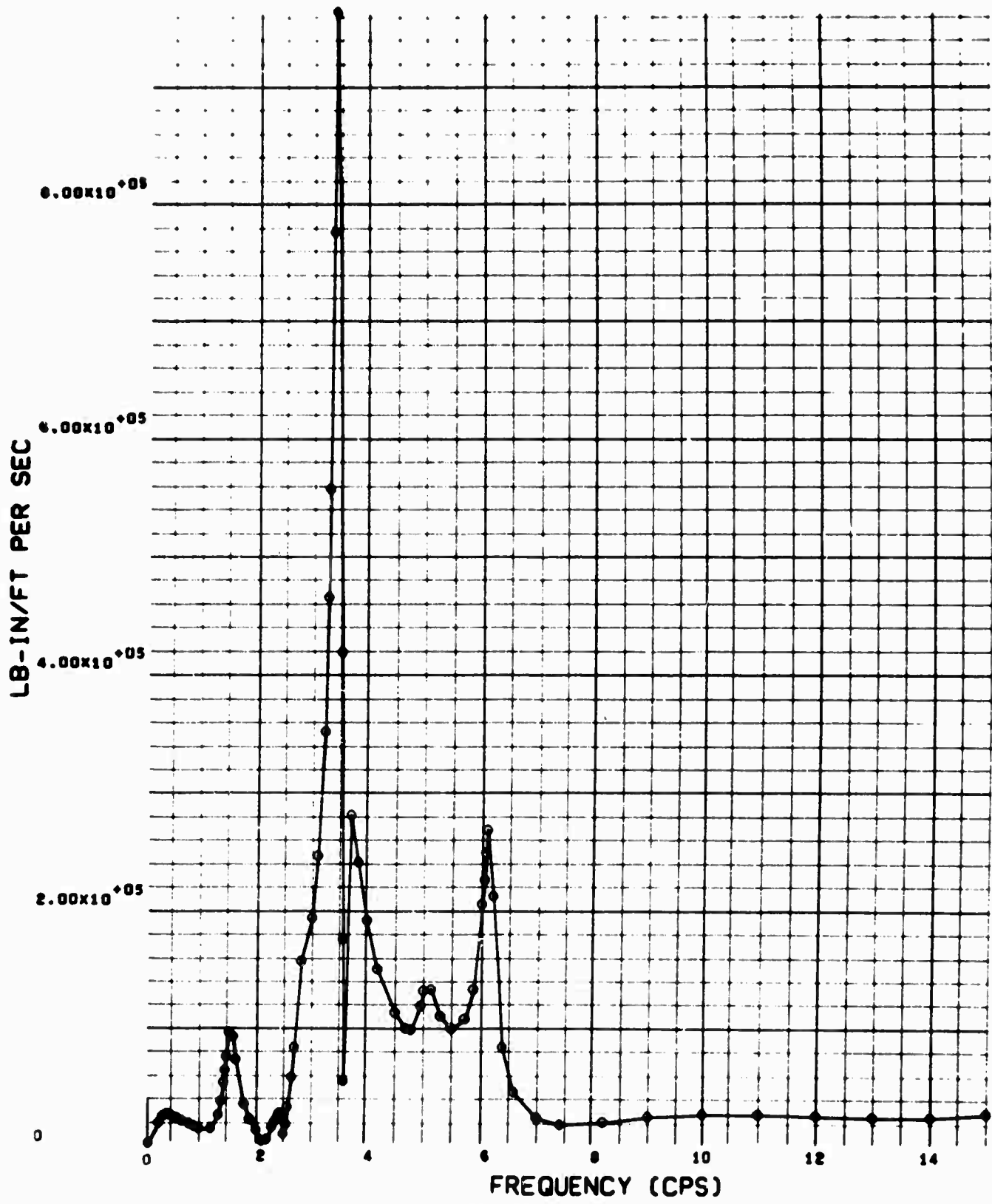


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

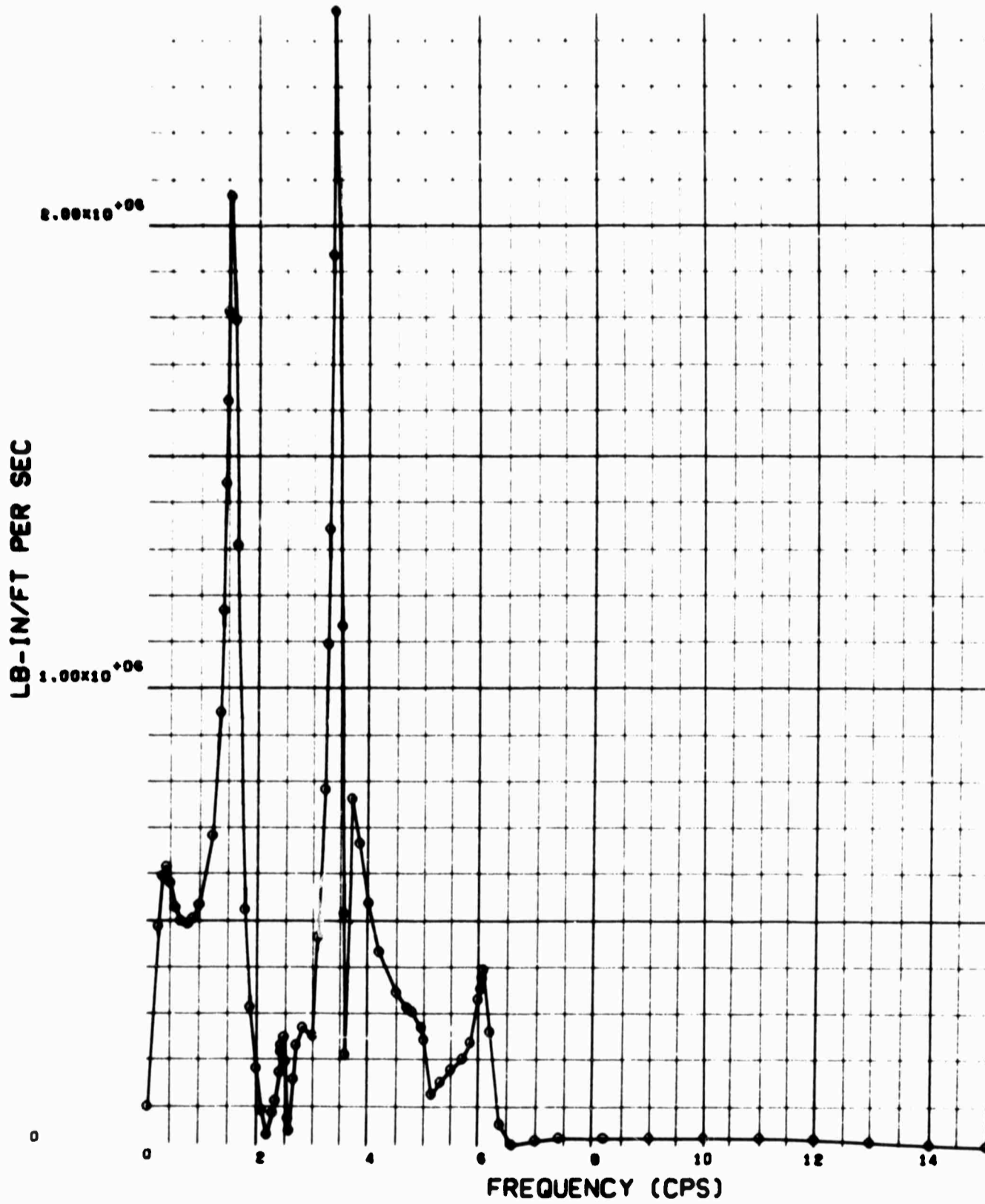
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ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

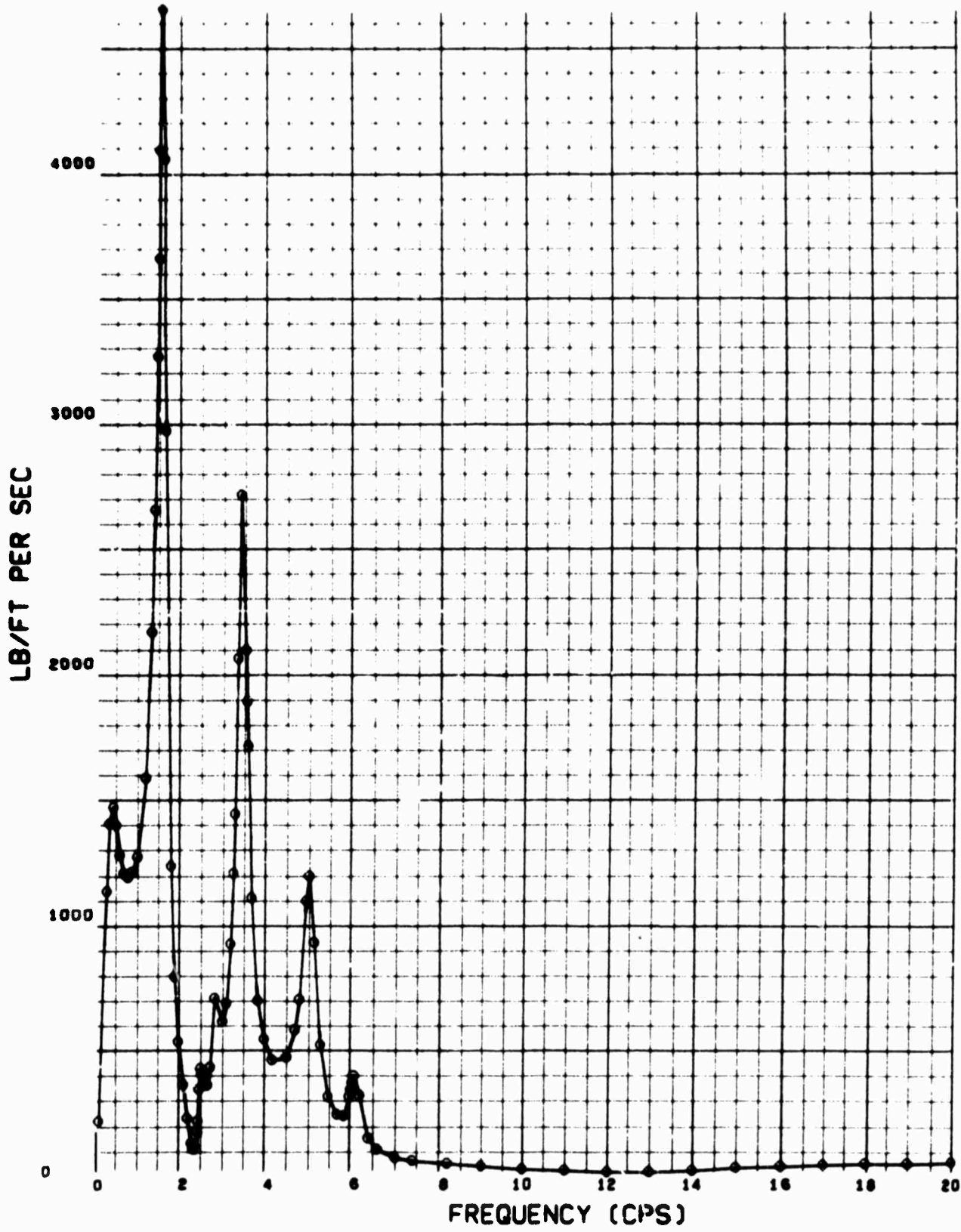


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

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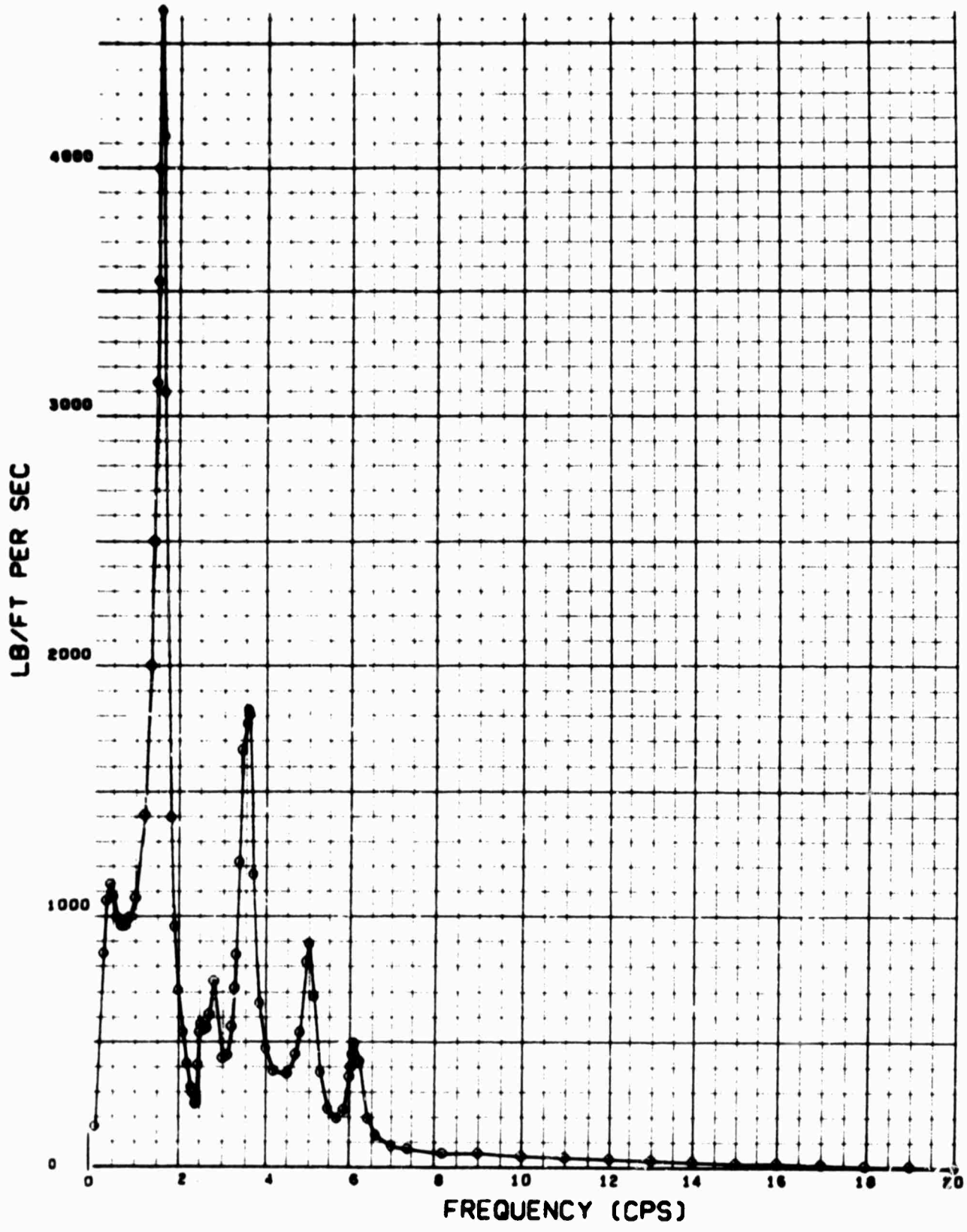


WING SHEAR RESPONSE, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

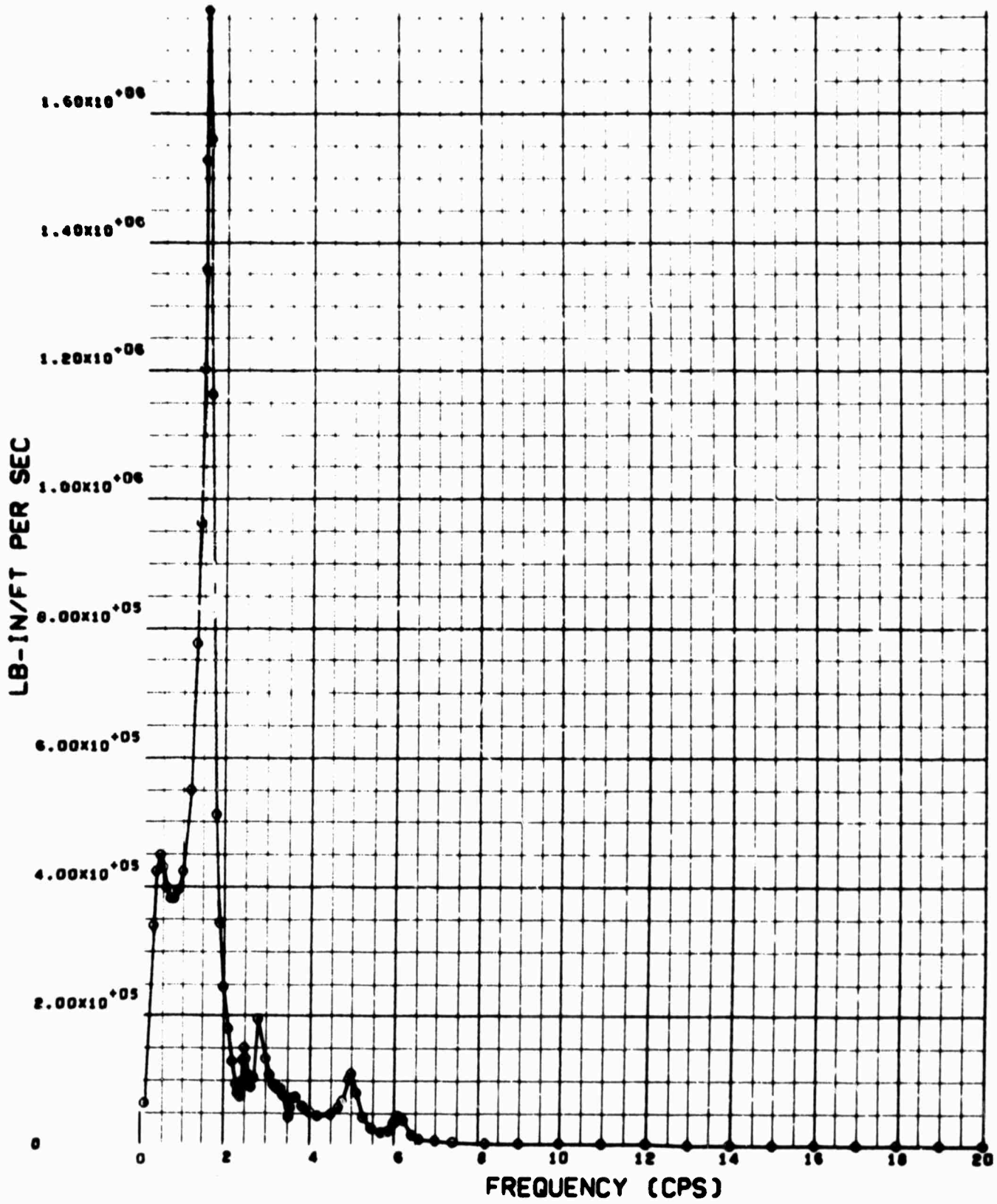


WING SHEAR RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

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ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



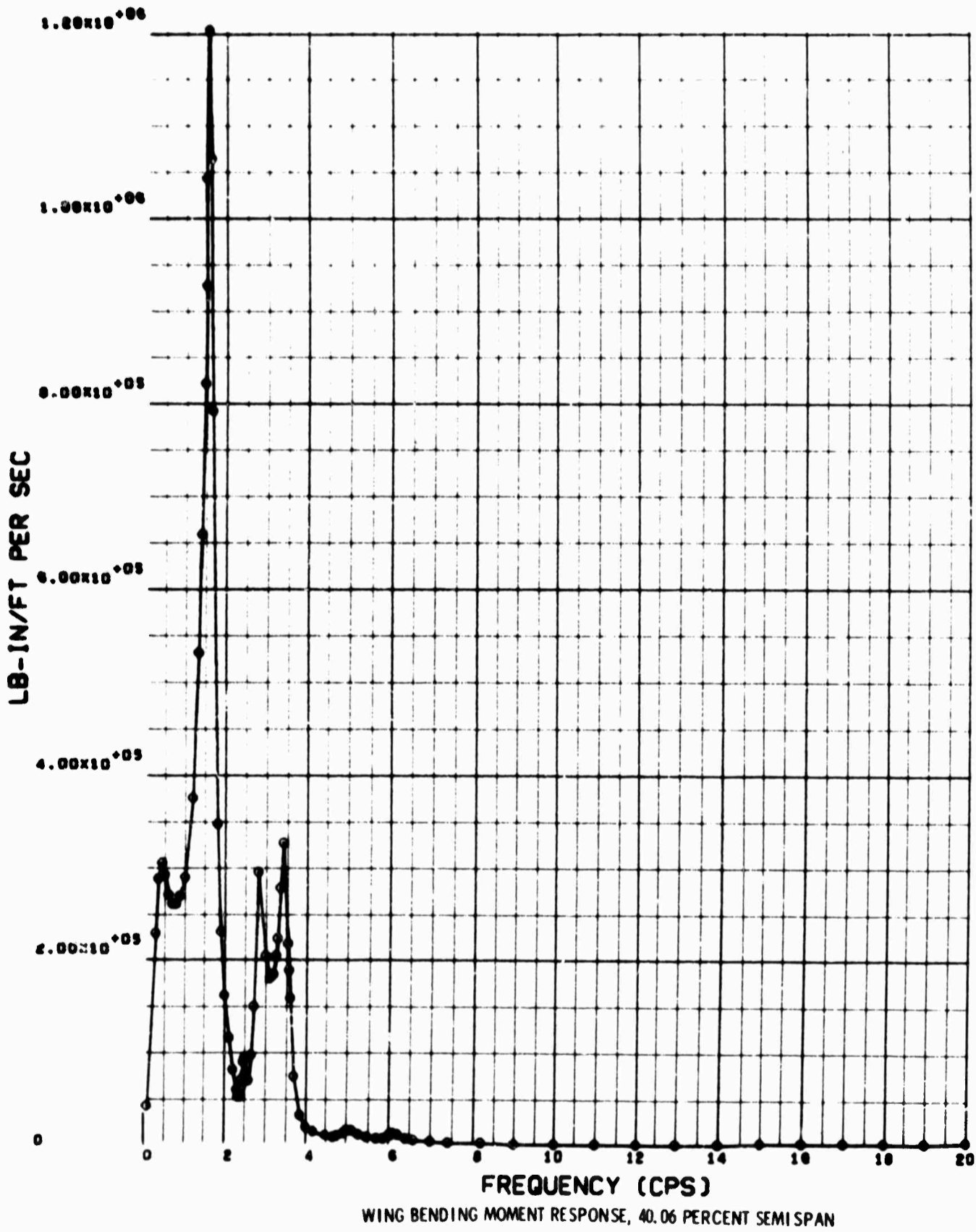
WING BENDING MOMENT RESPONSE, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 1

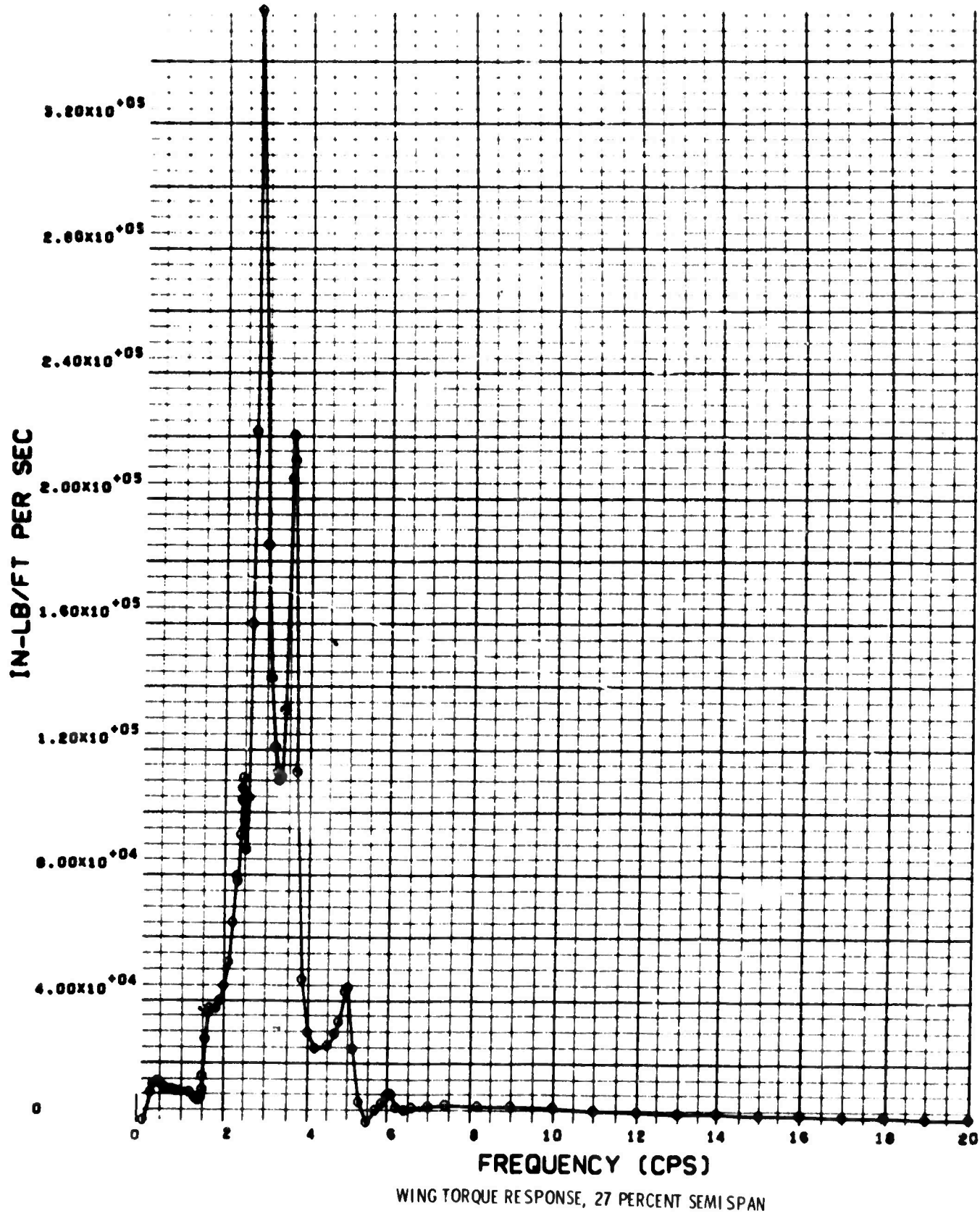
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ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1  
WEIGHT CONDITION A

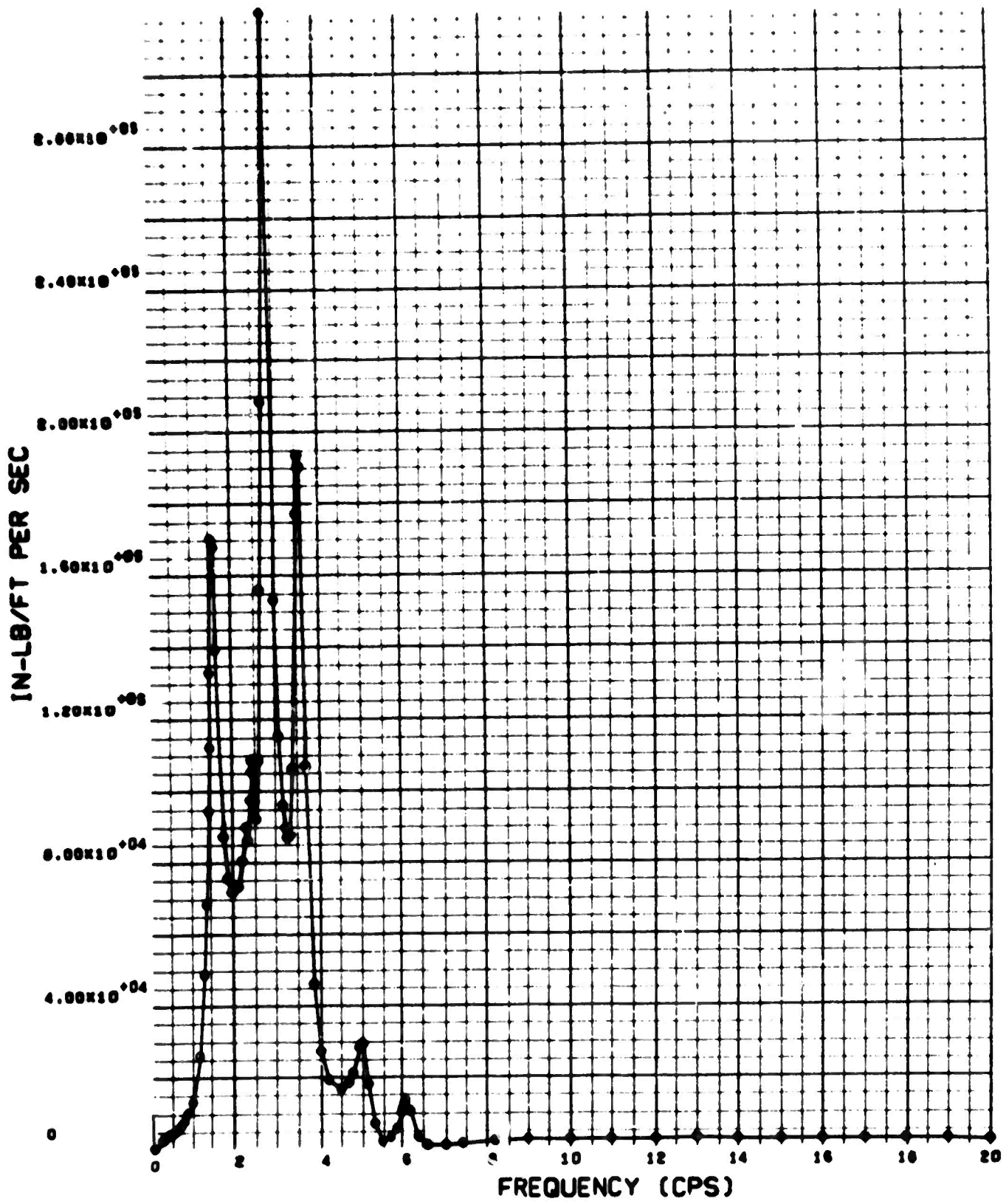
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ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1

WEIGHT CONDITION A

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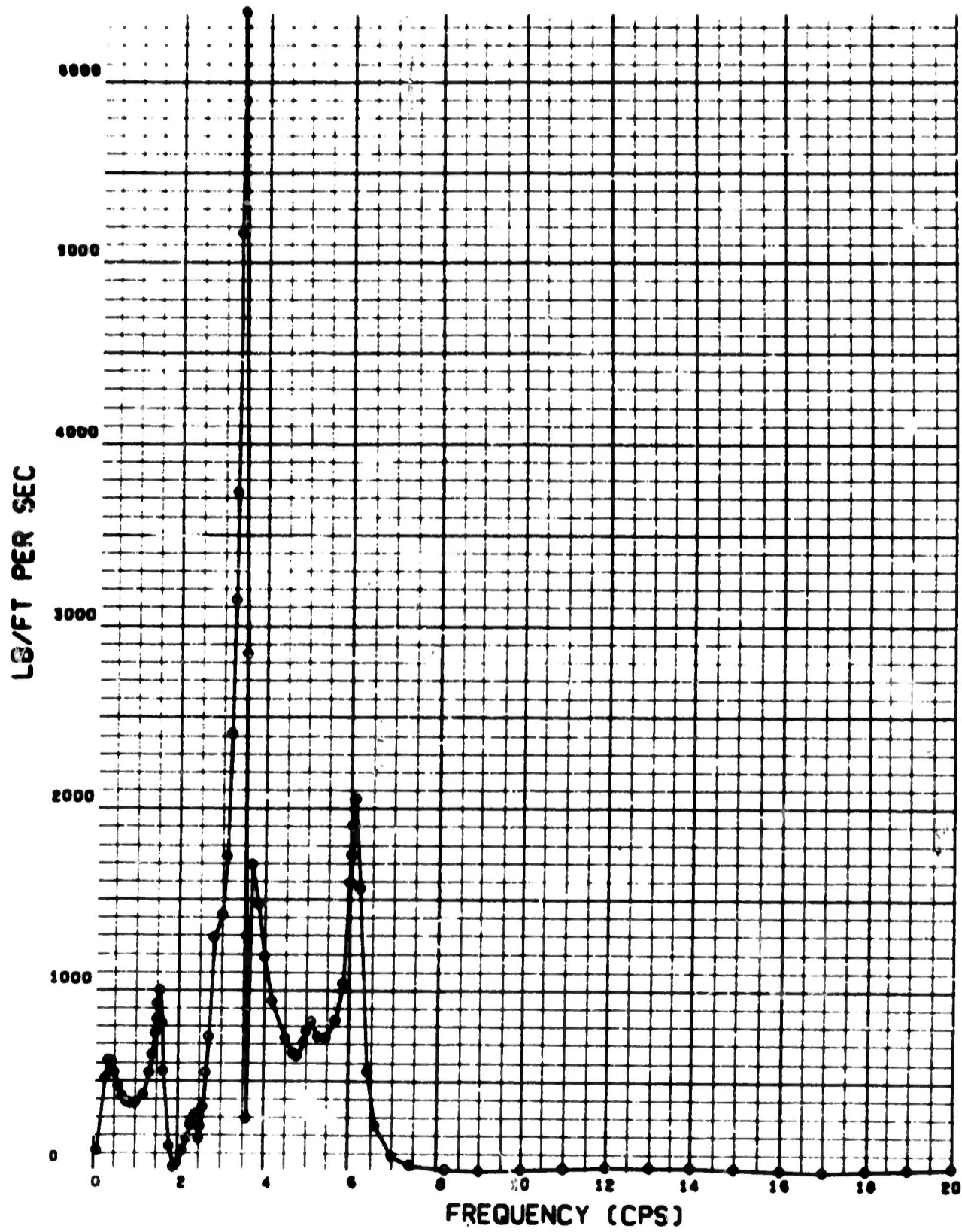


WING TORQUE RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

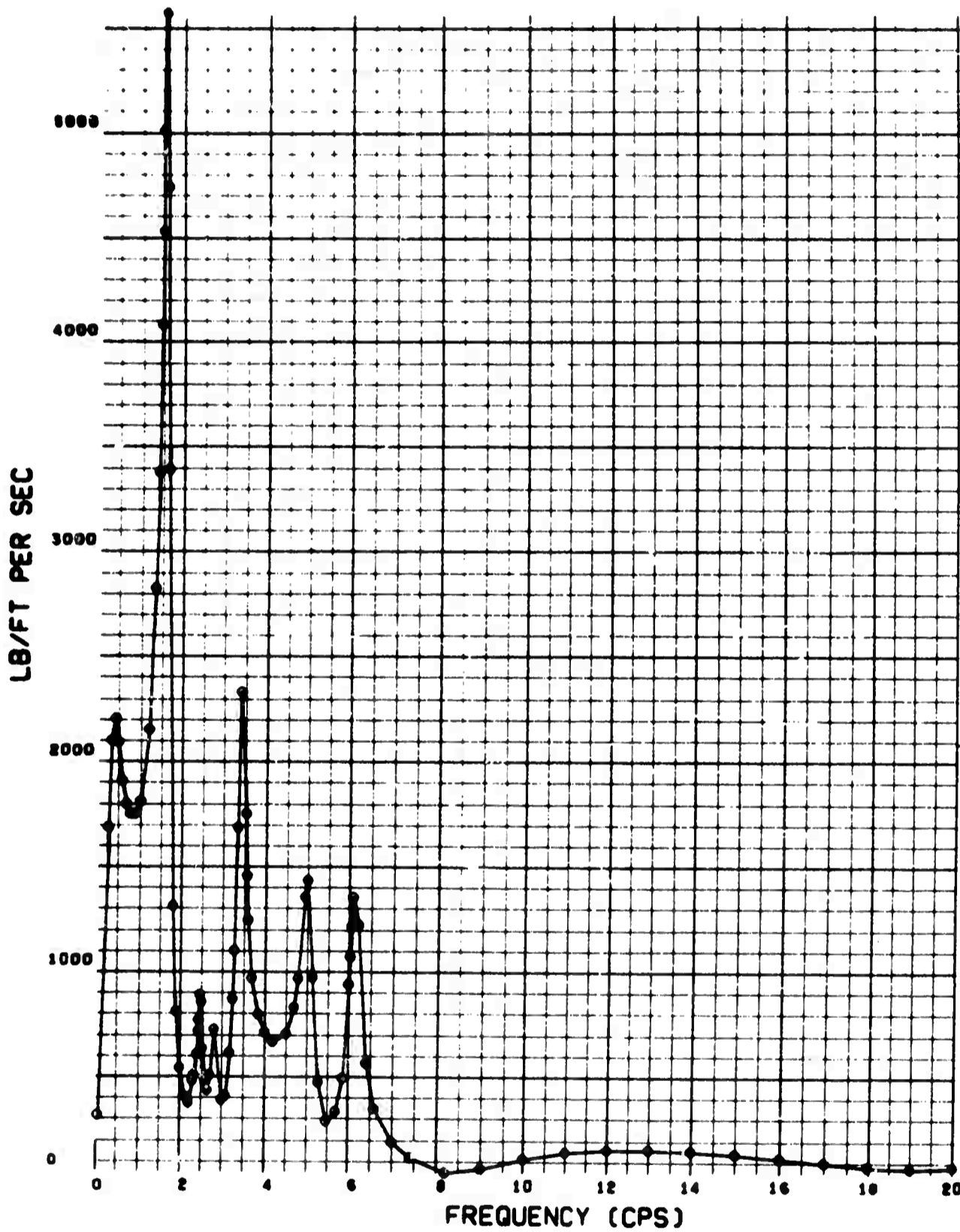


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

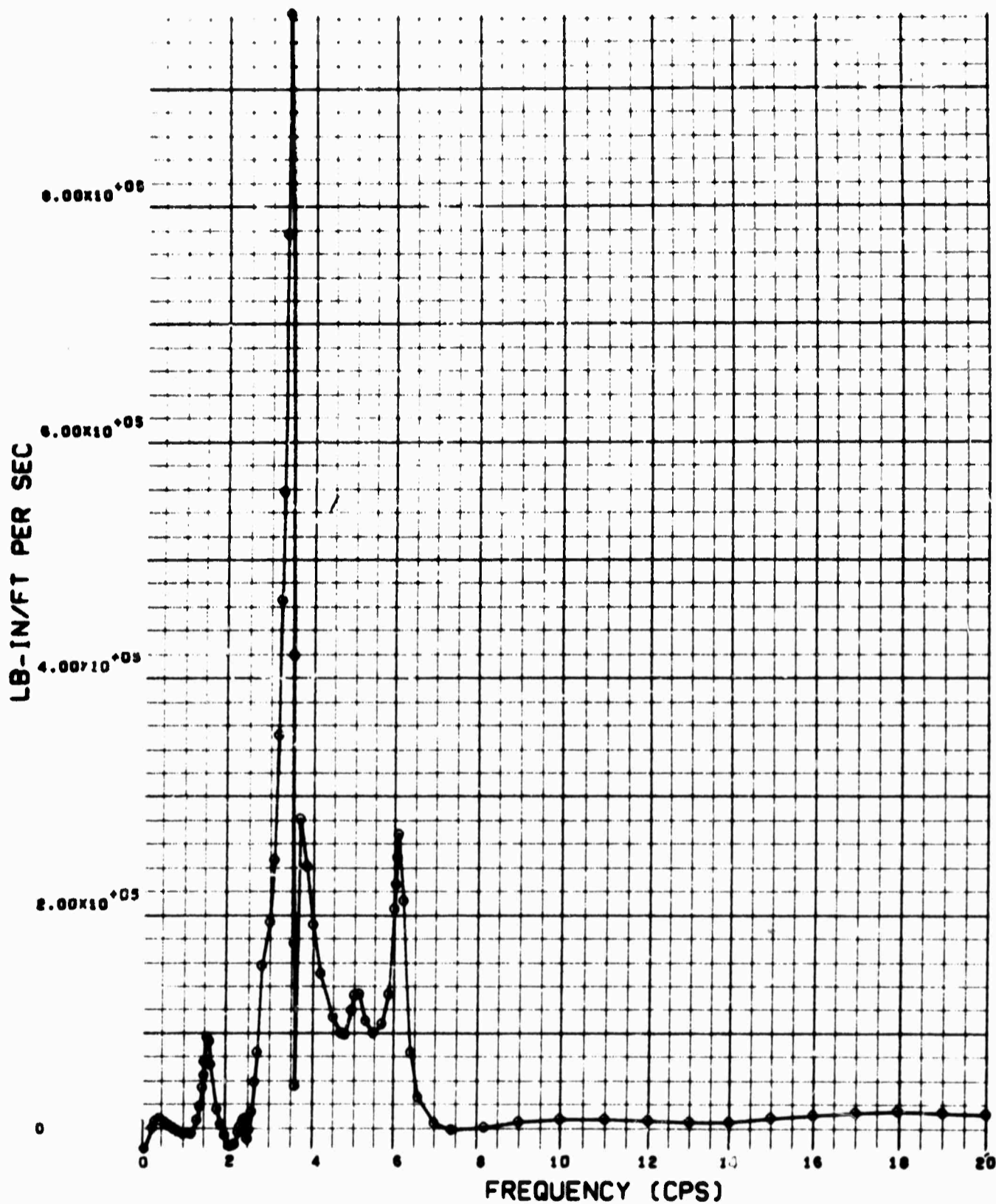


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

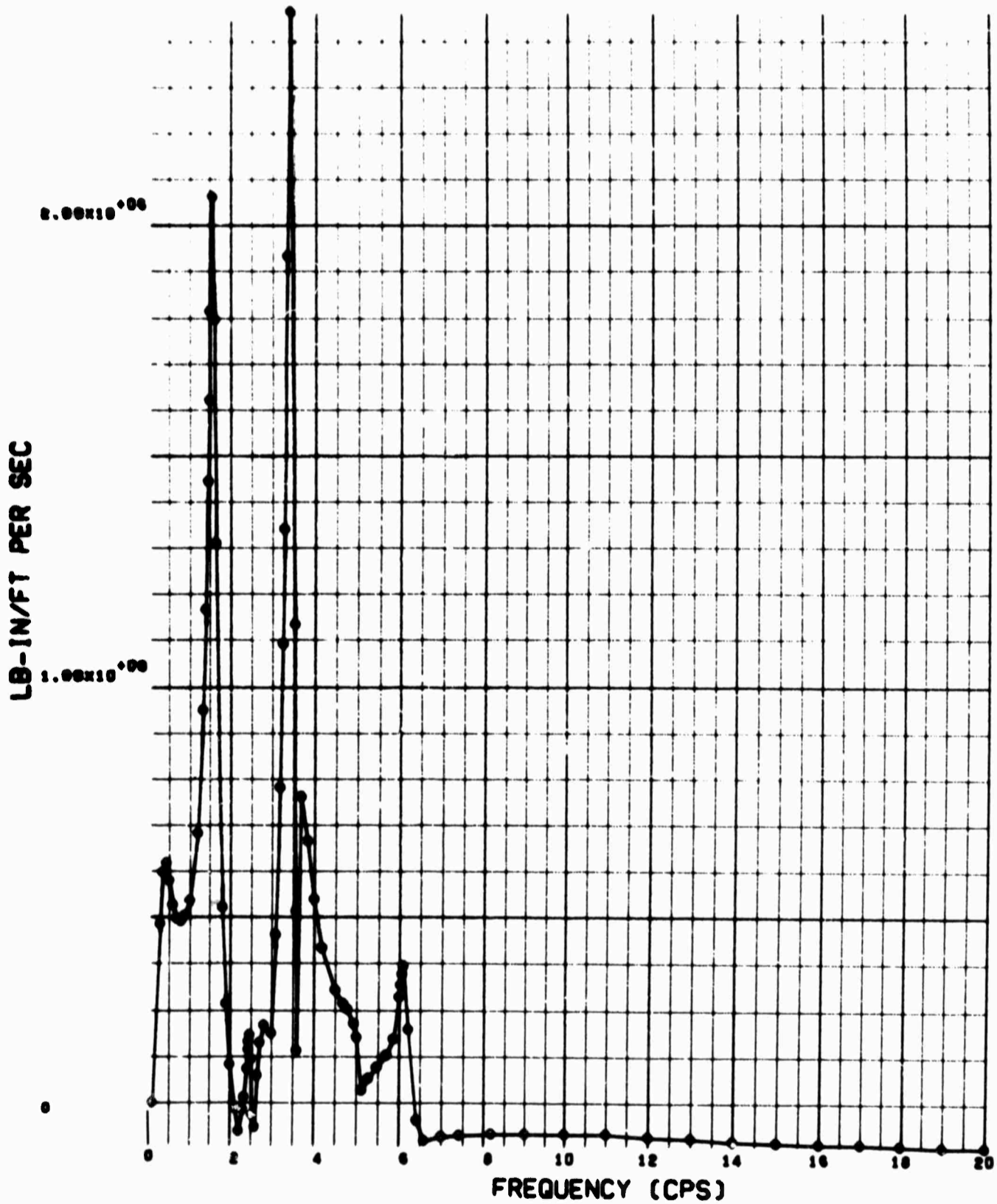


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

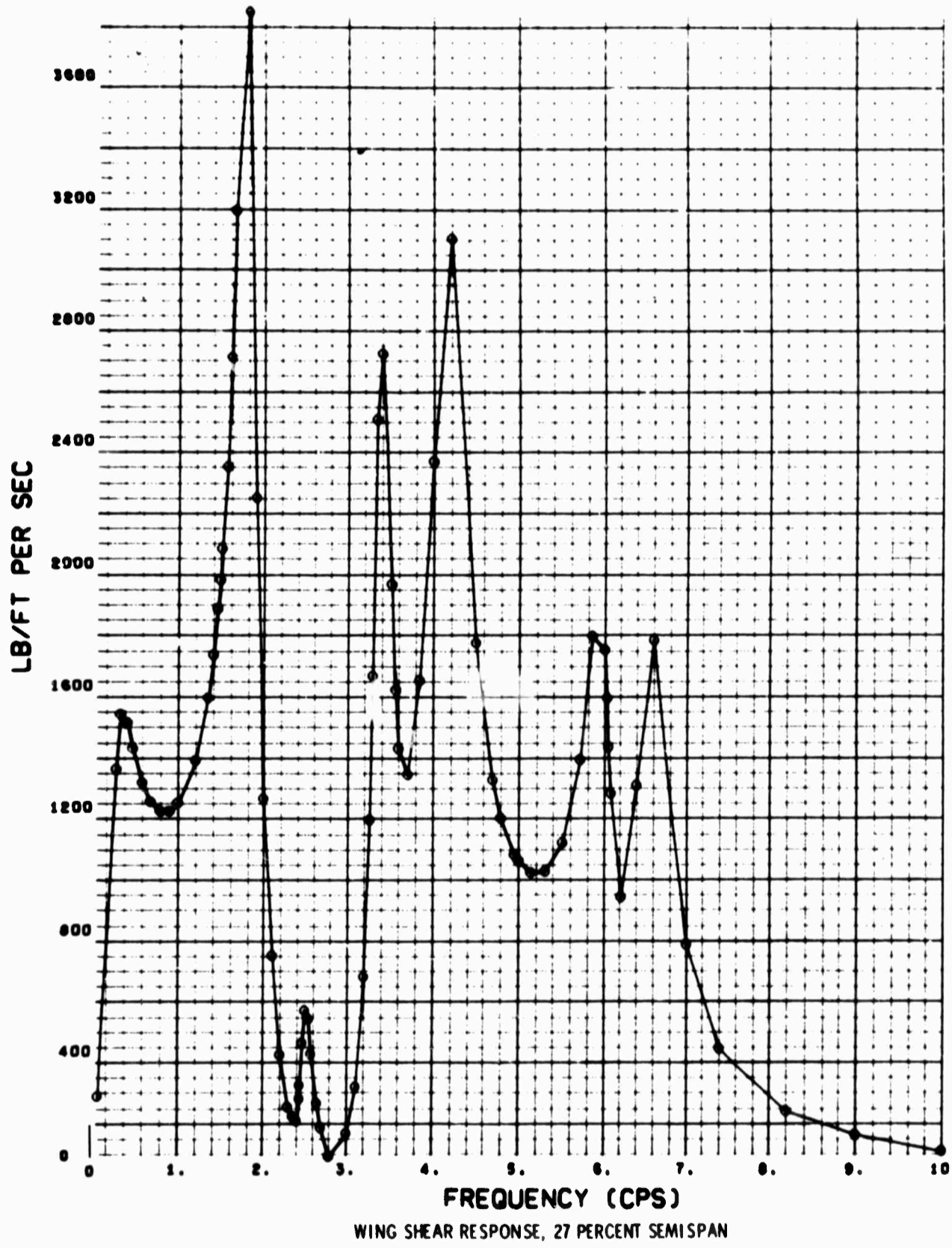


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

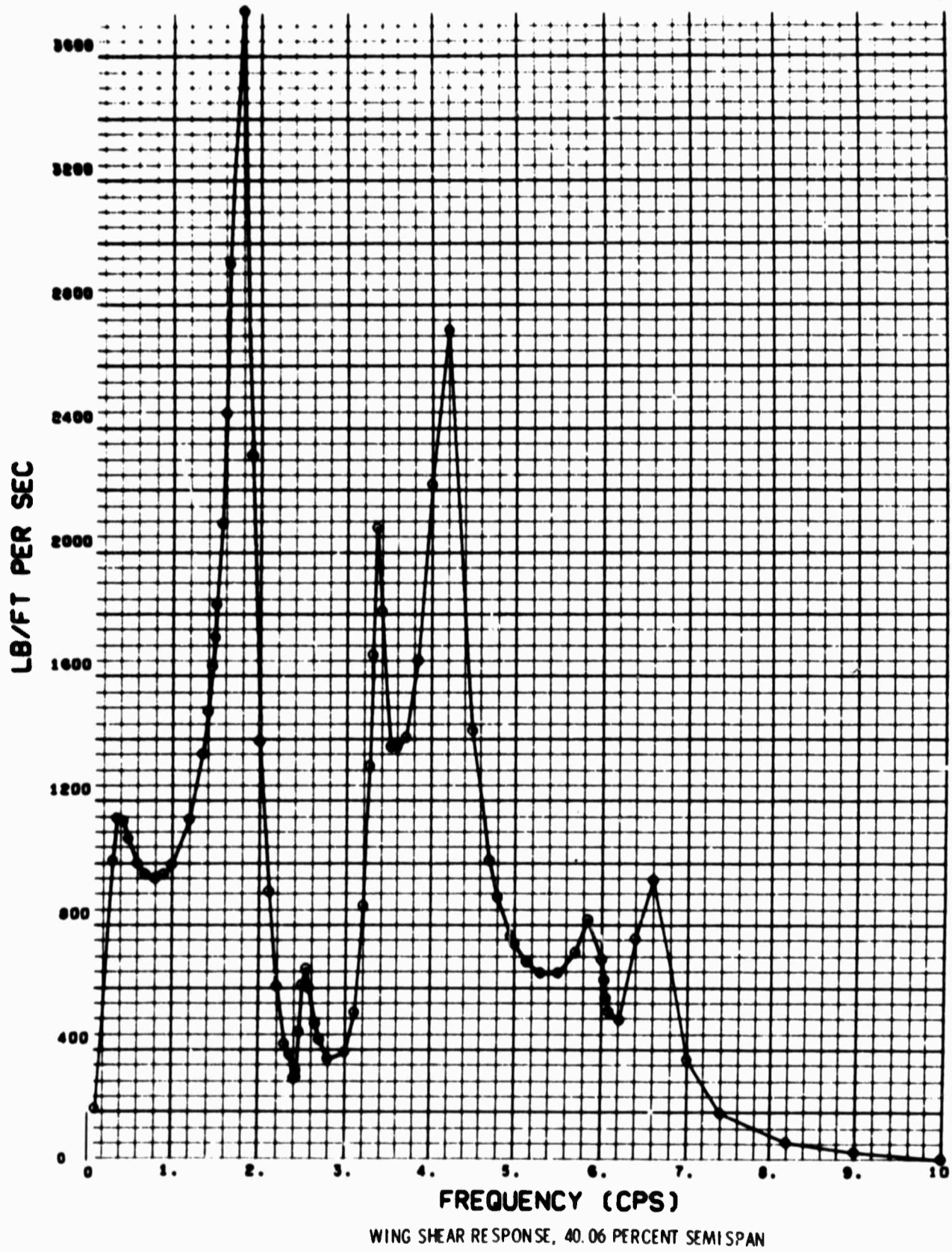




ANALYSIS CONDITION 2

WEIGHT CONDITION B

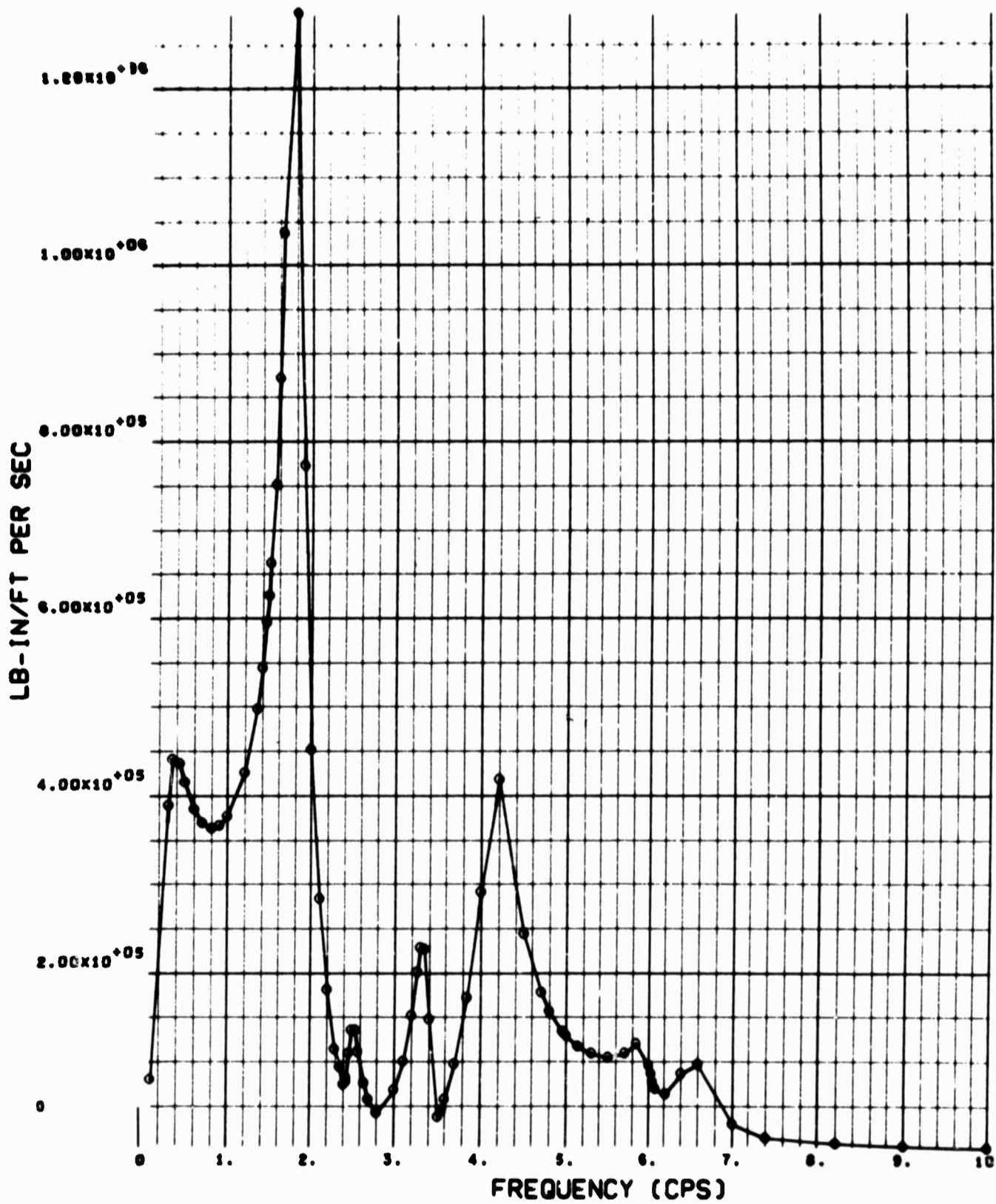
GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

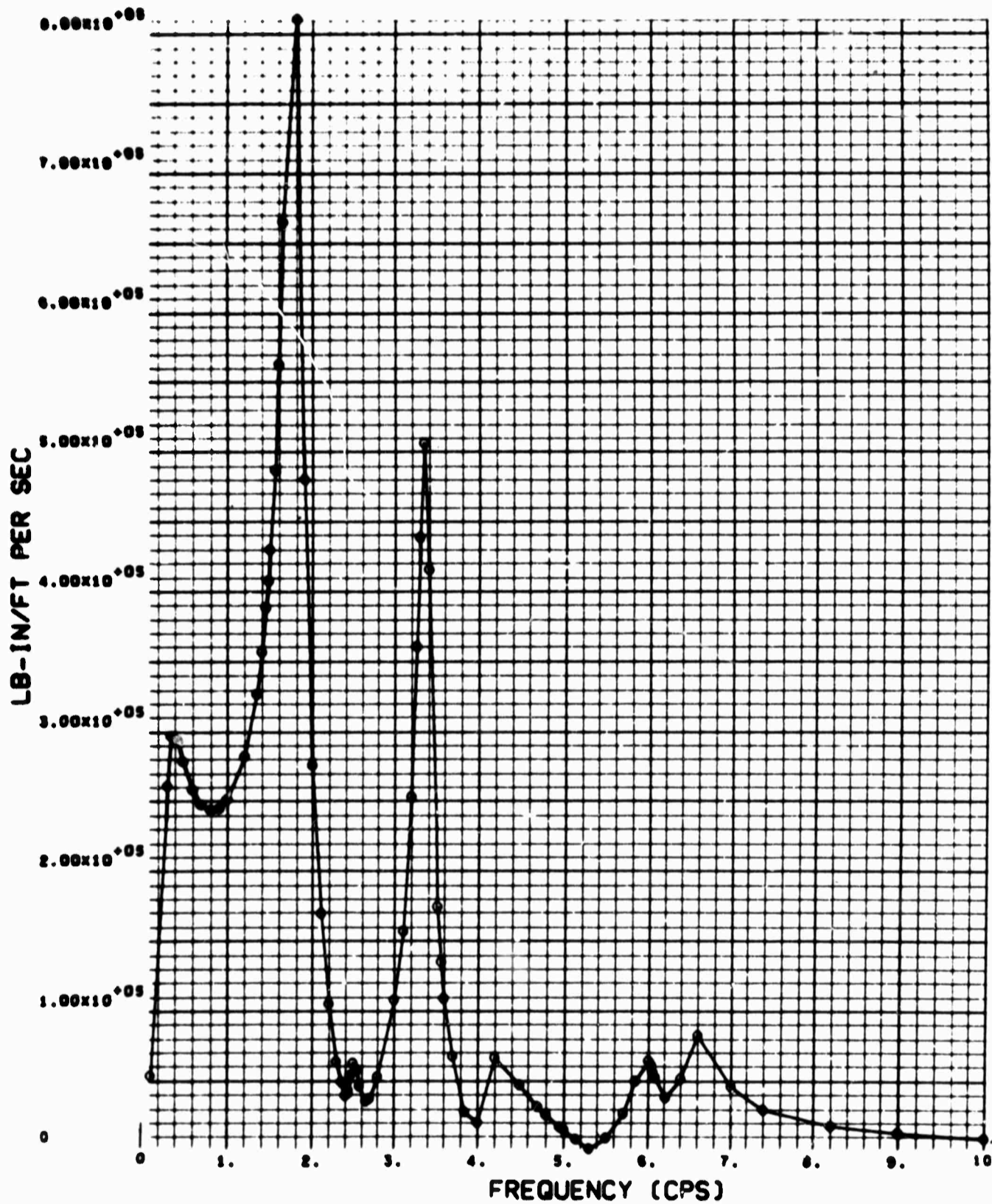


WING BENDING MOMENT RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

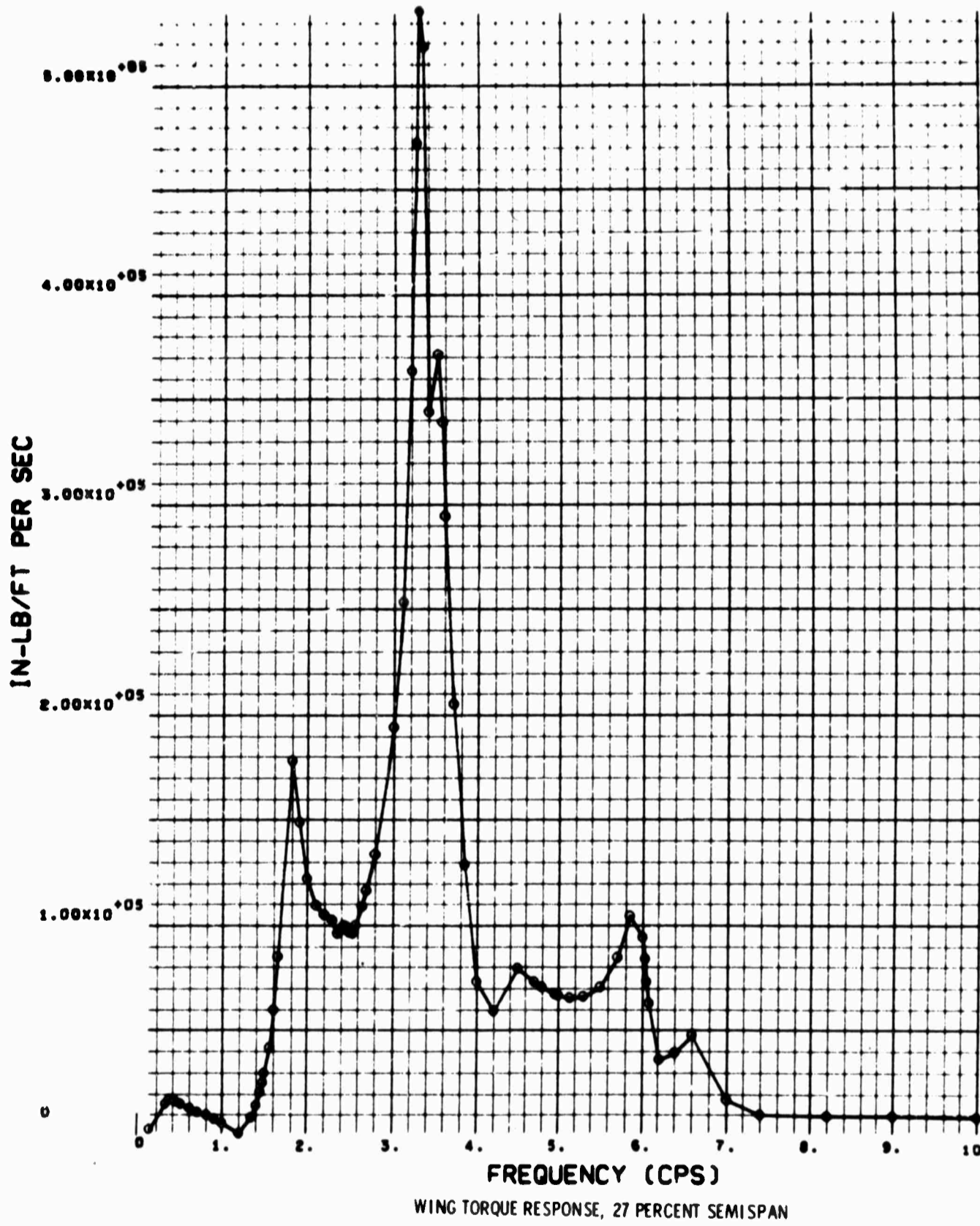


WING BENDING MOMENT RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

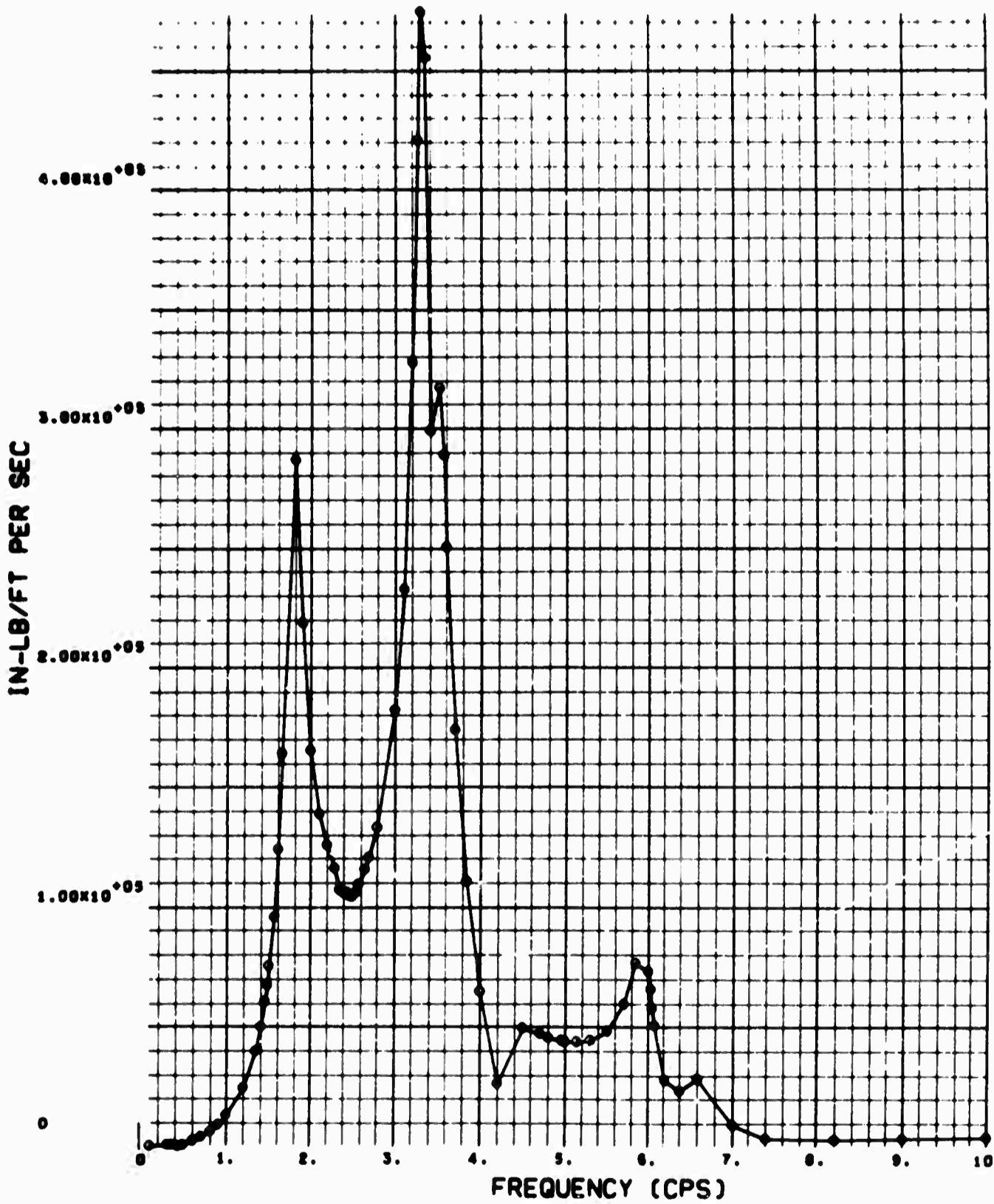
GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

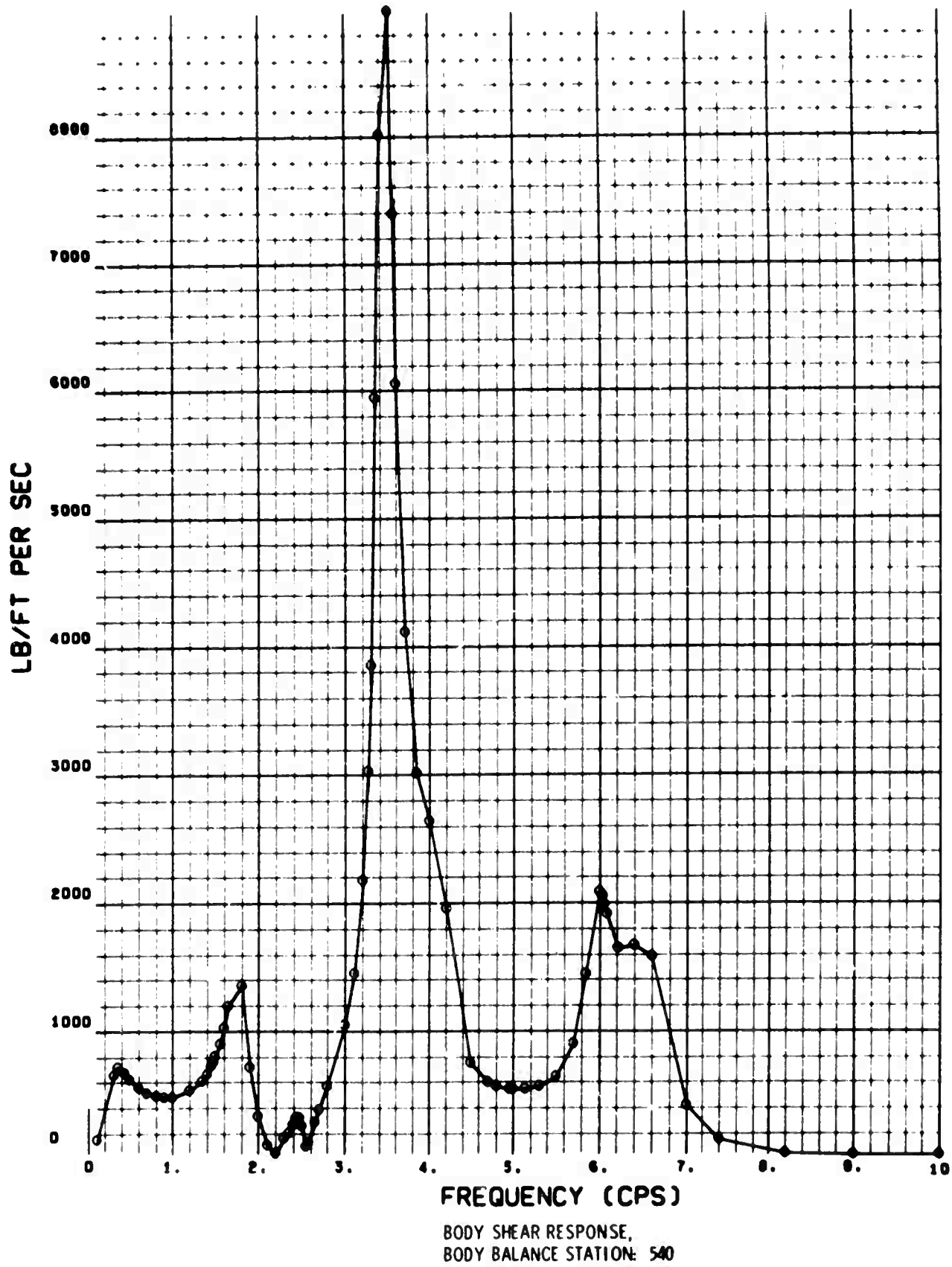


WING TORQUE RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

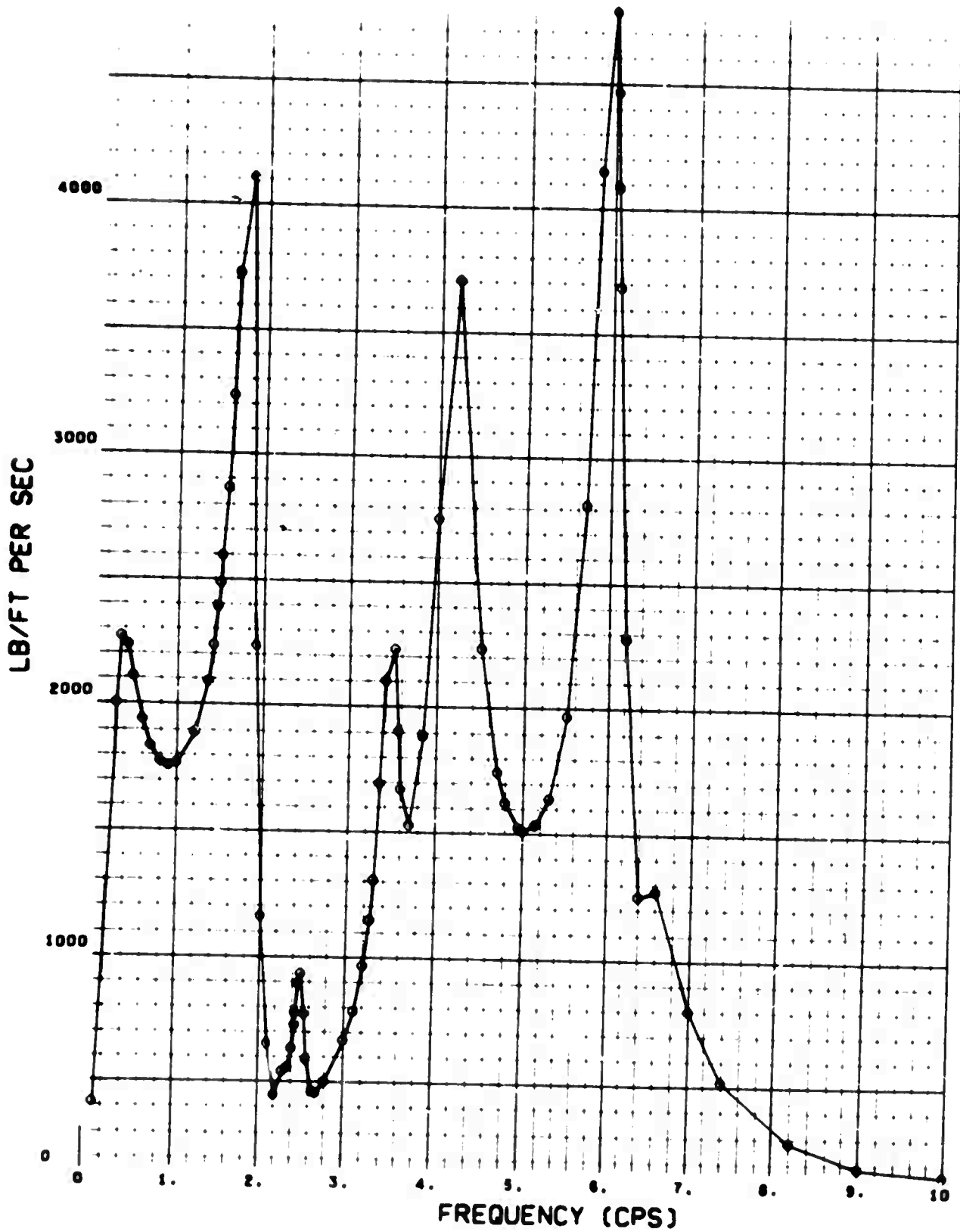
GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

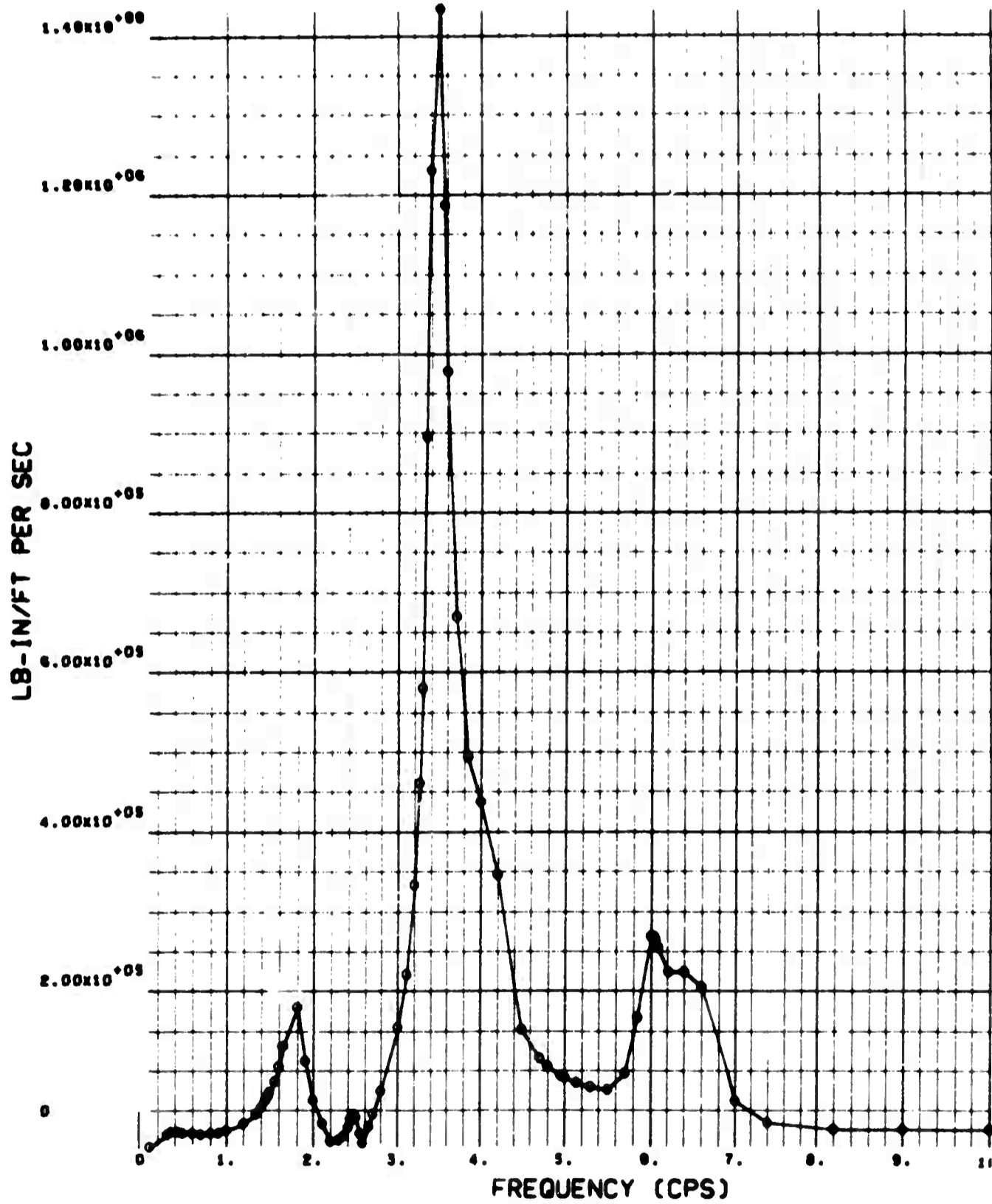


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

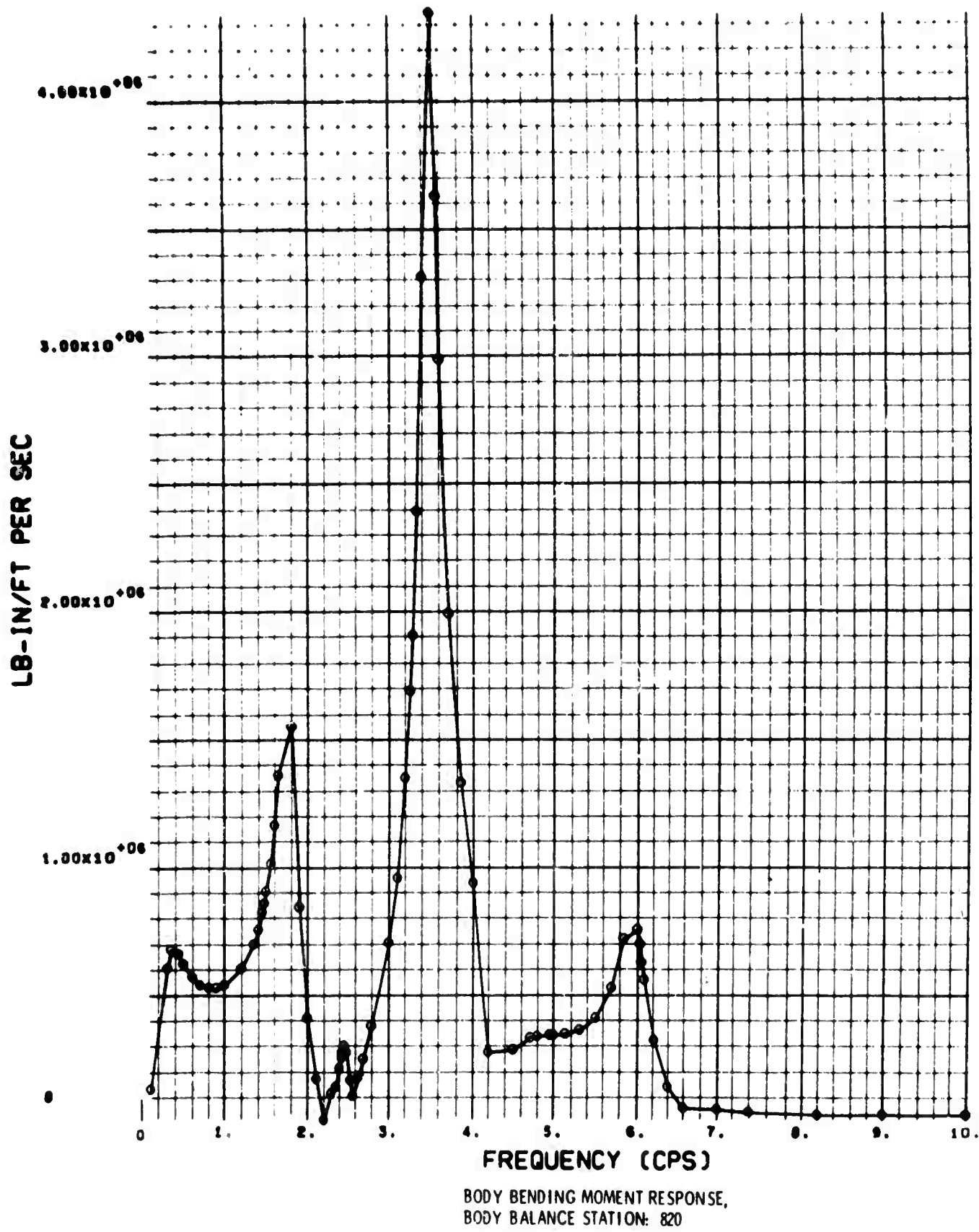


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 2  
WEIGHT CONDITION B

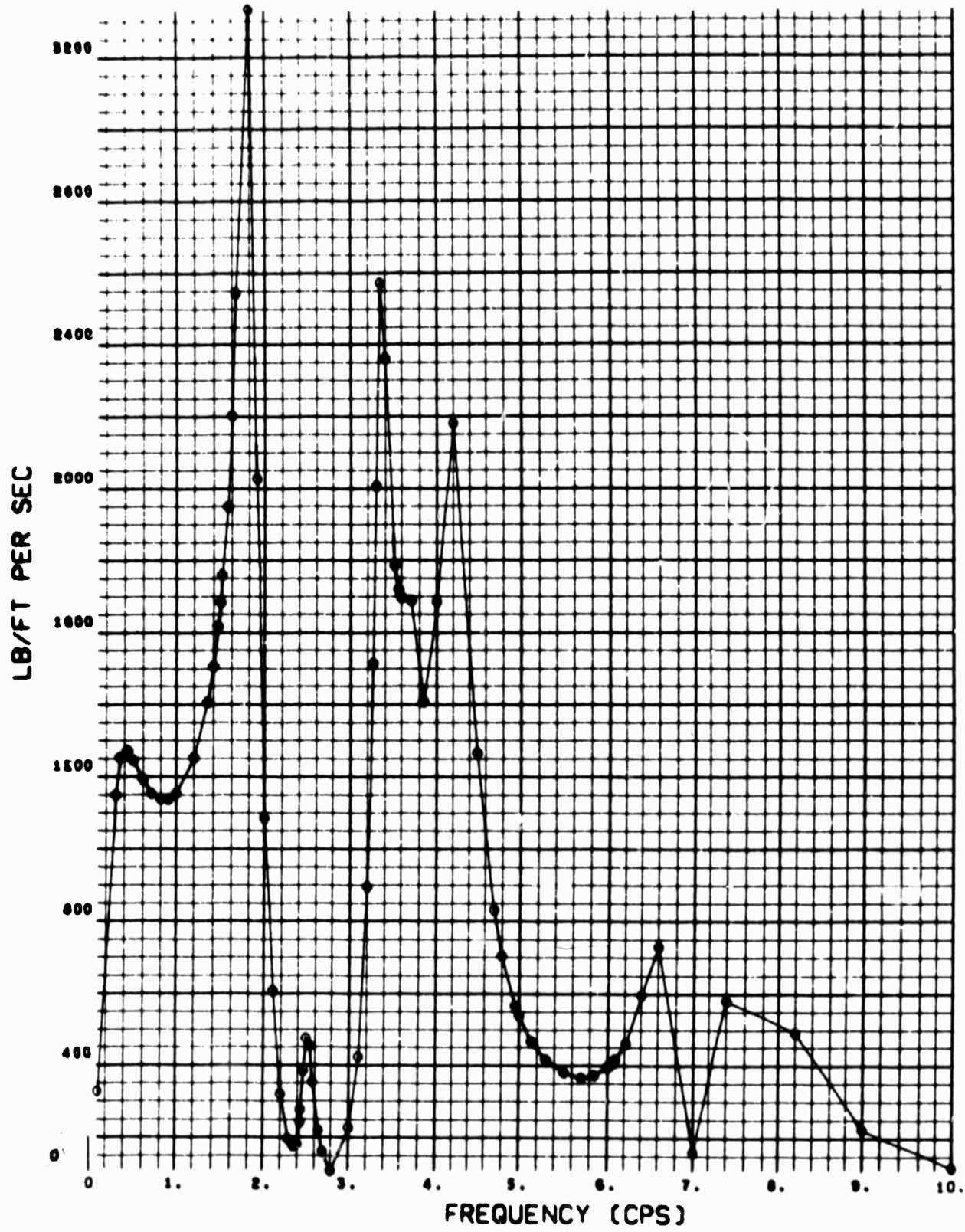
GROSS WEIGHT: 768,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 3

WEIGHT CONDITION C

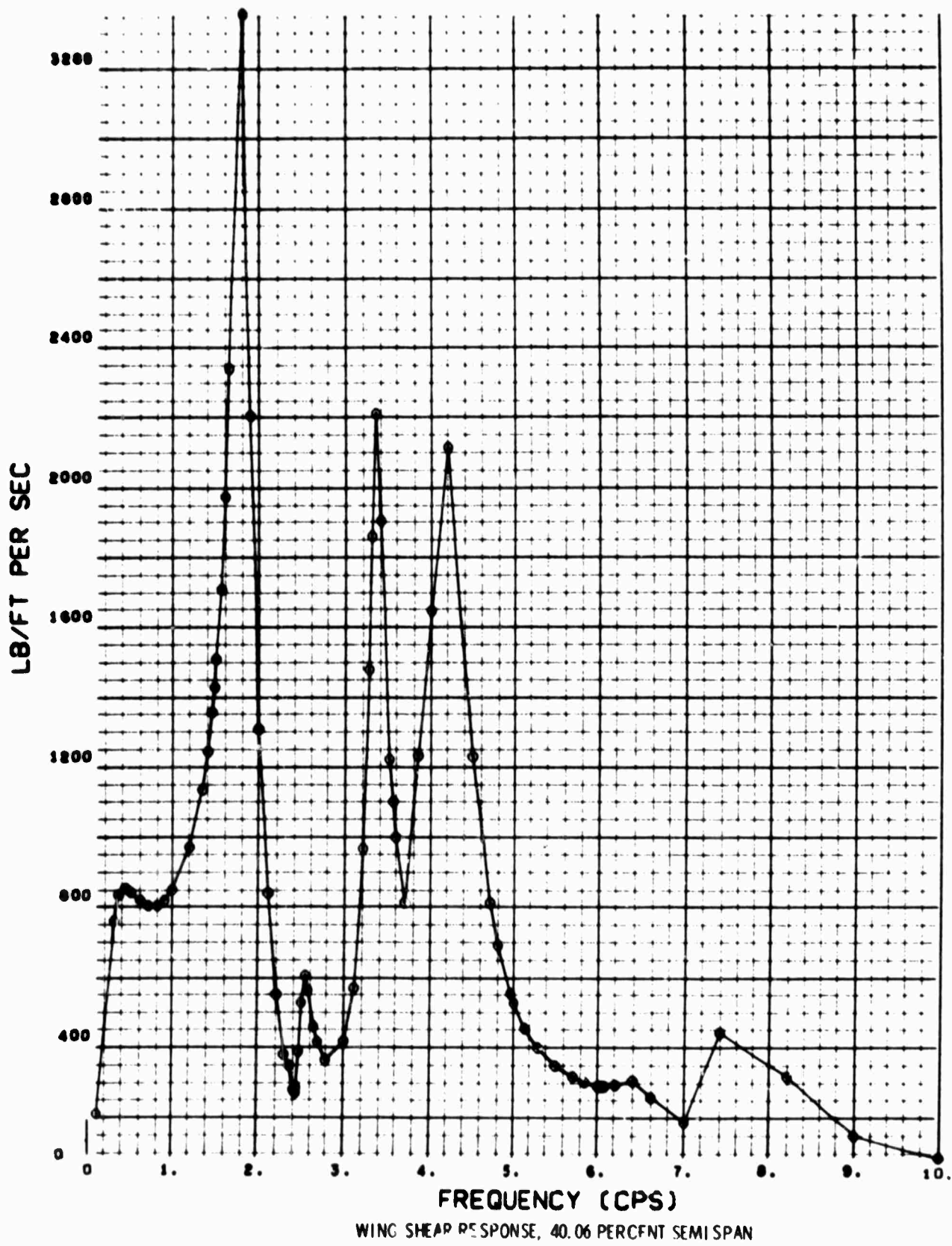
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



WING SHEAR RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

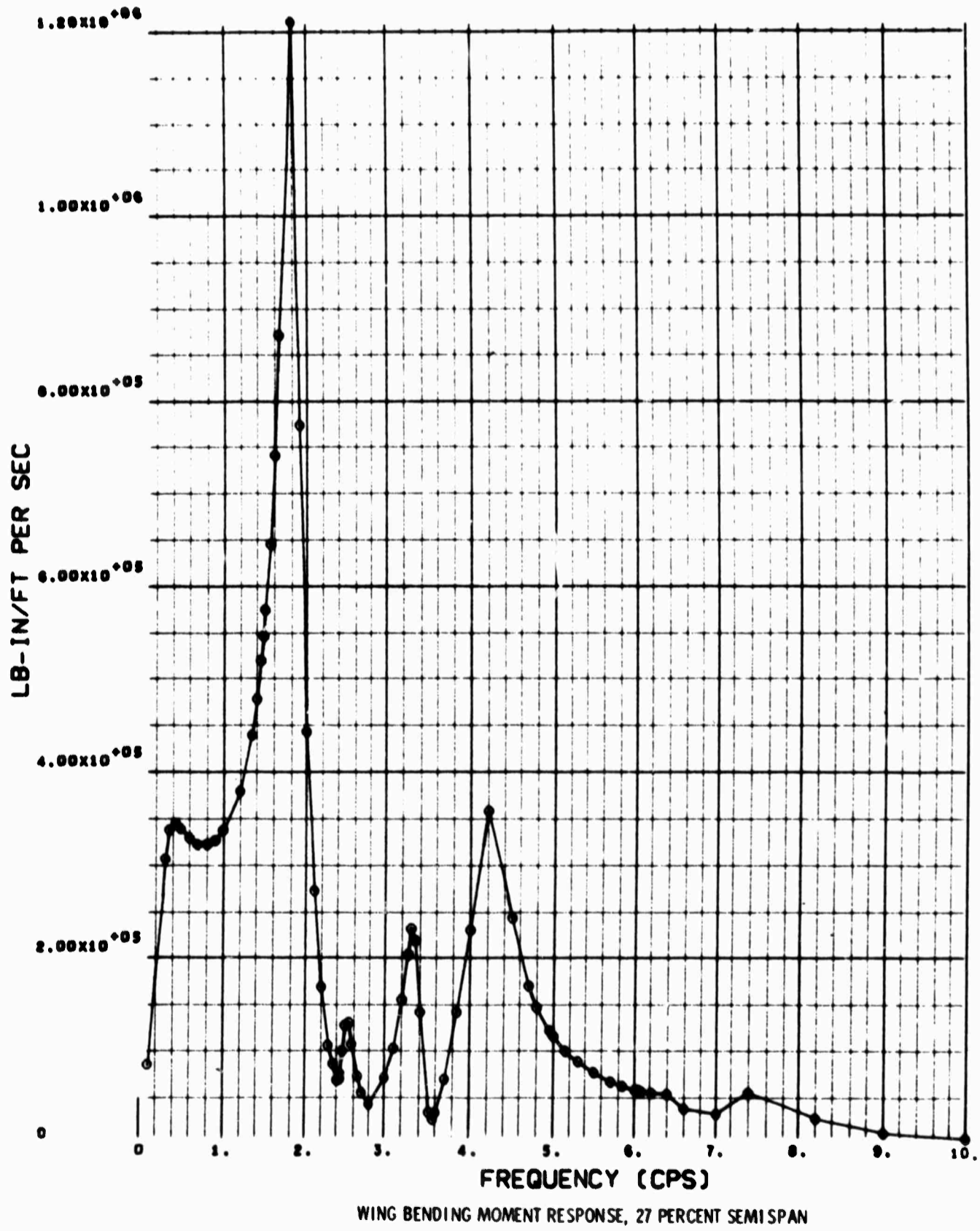
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 3

WEIGHT CONDITION C

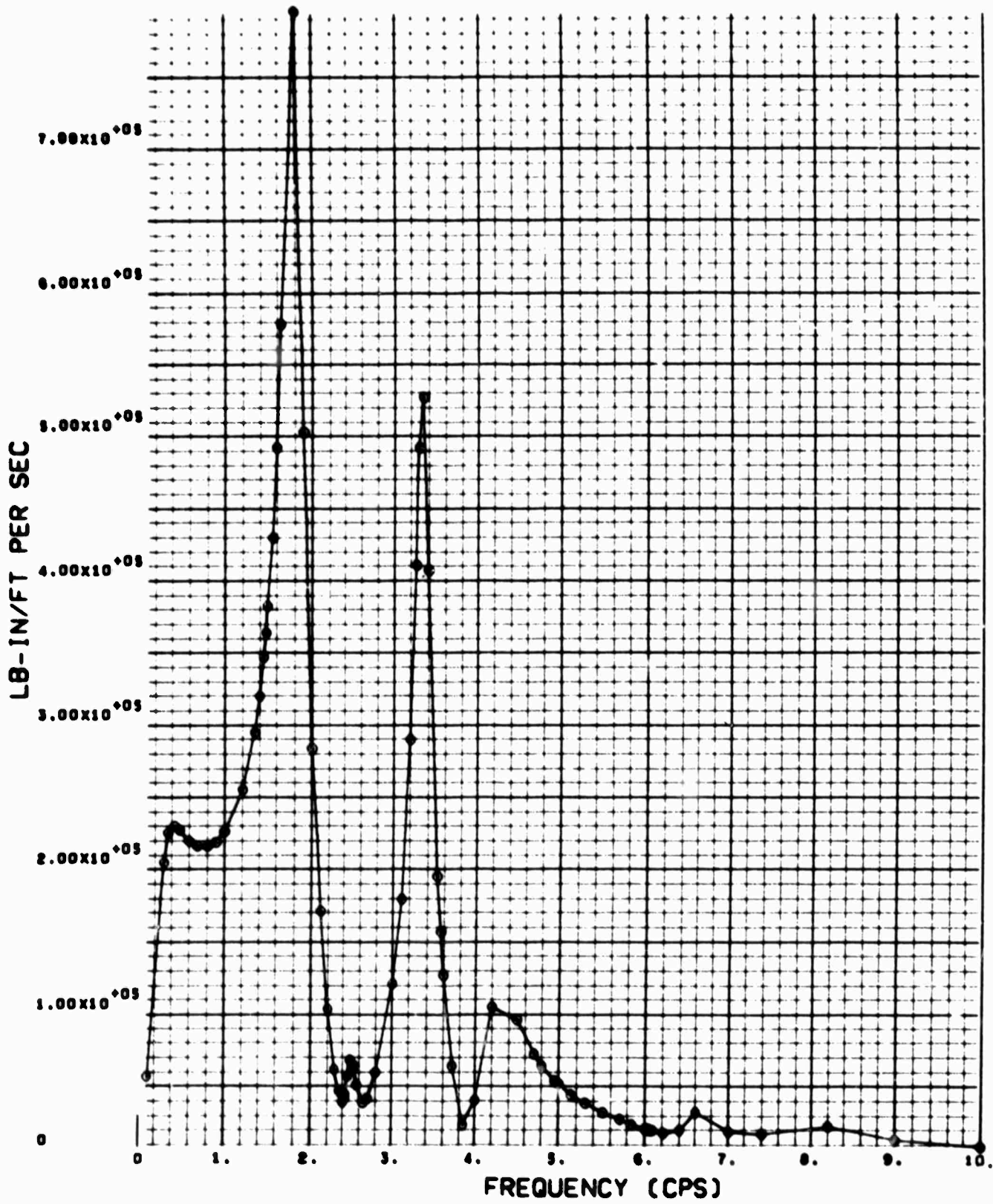
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

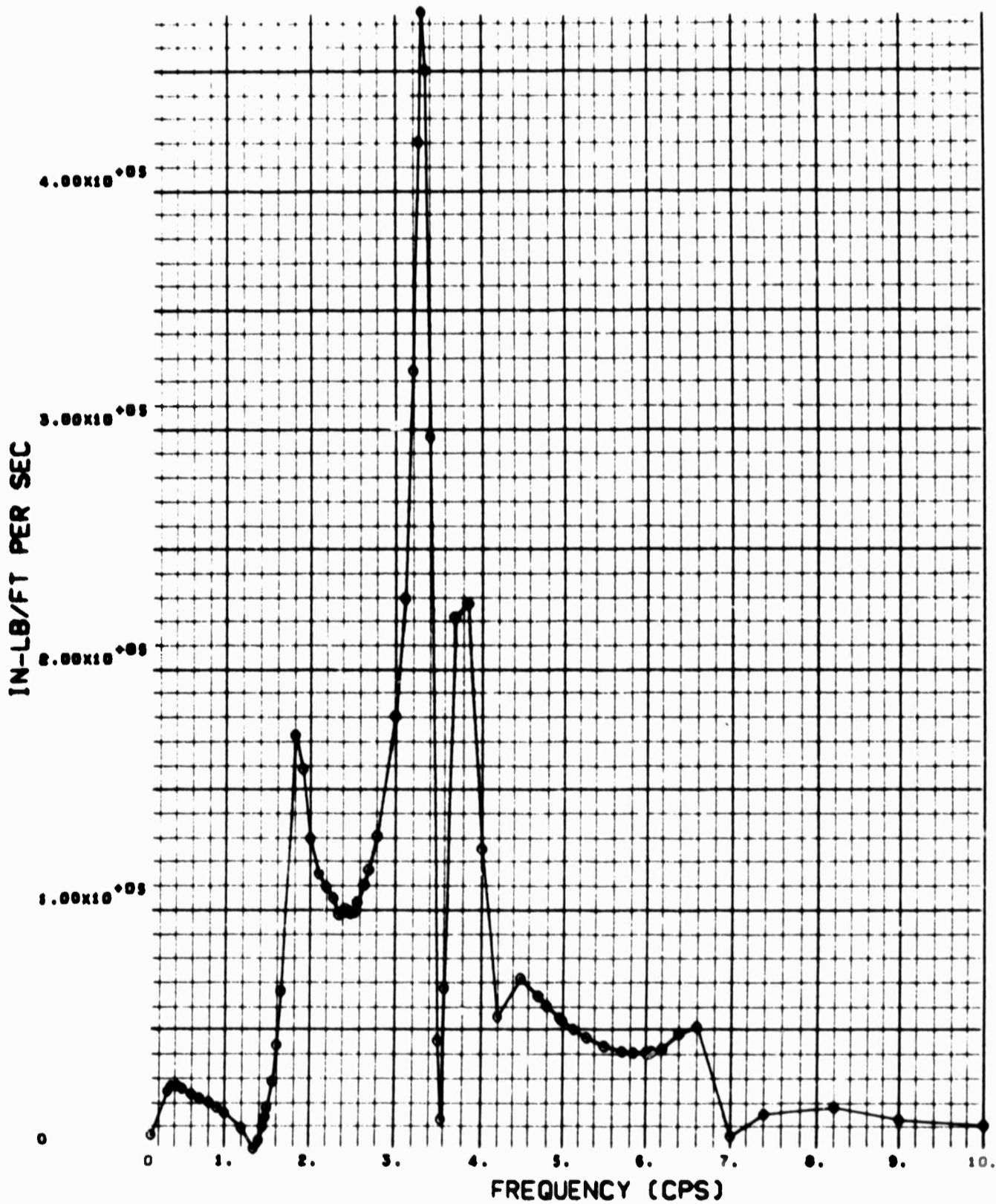


WING BENDING MOMENT RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

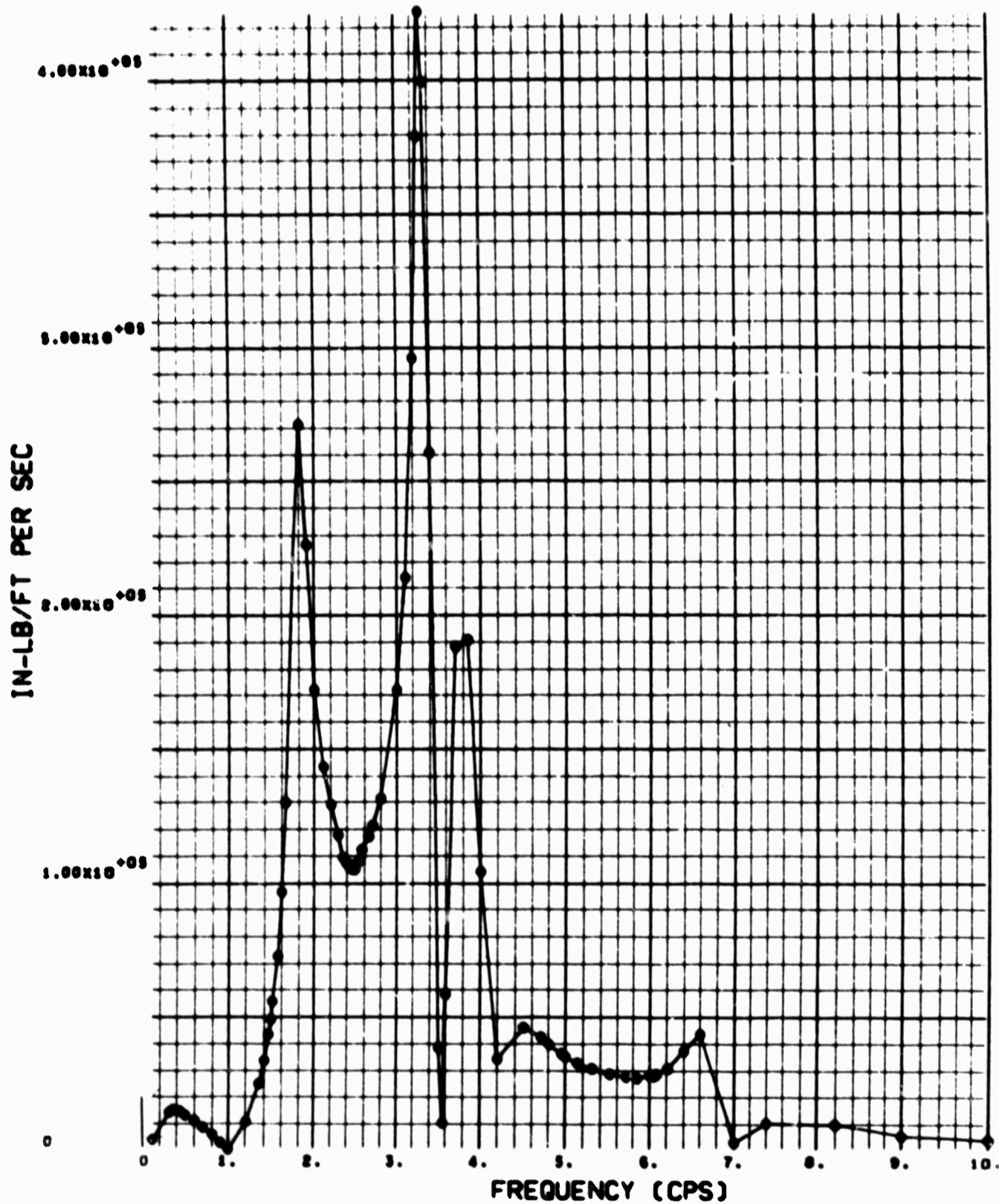


WING TORQUE RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

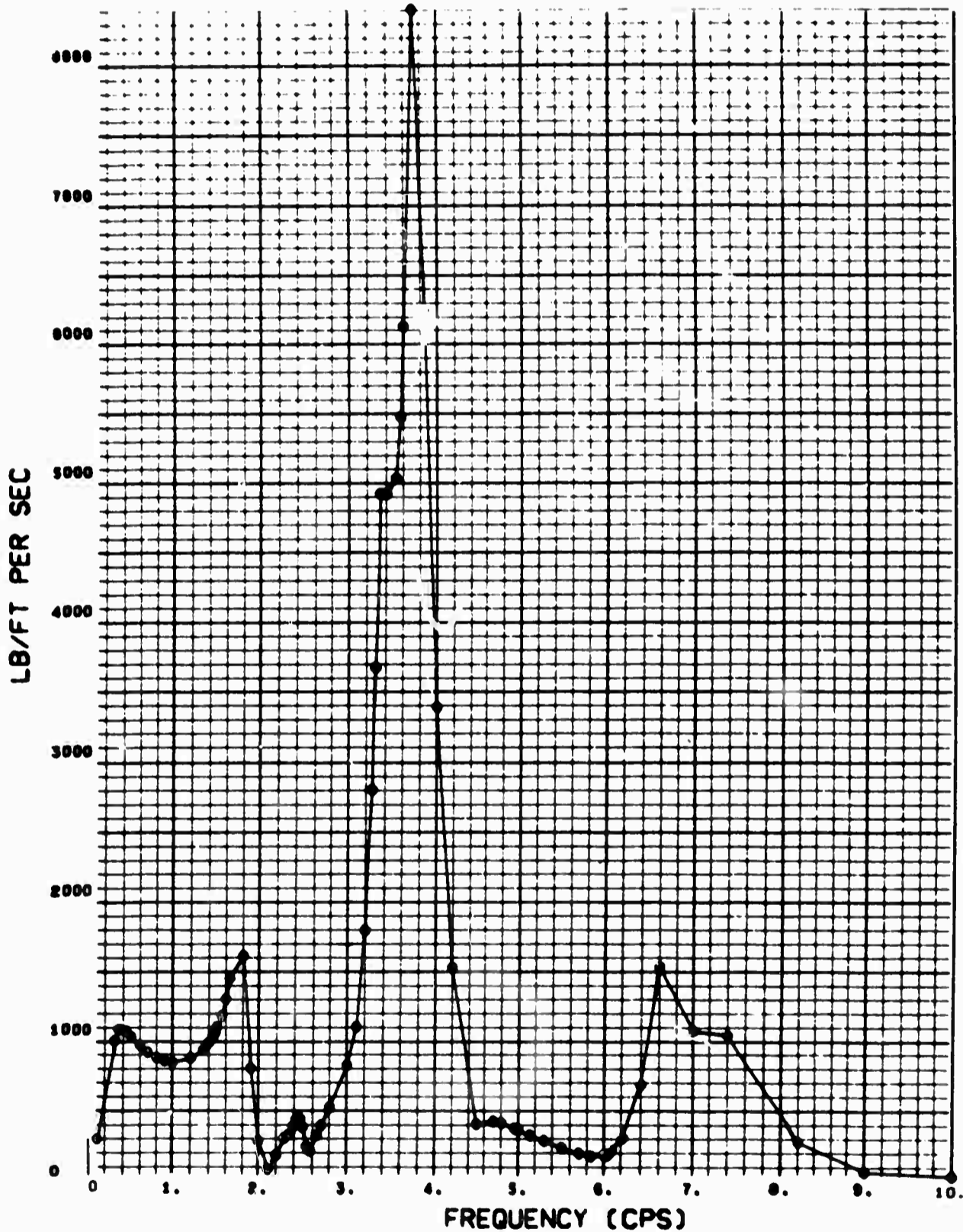


WING TORQUE RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



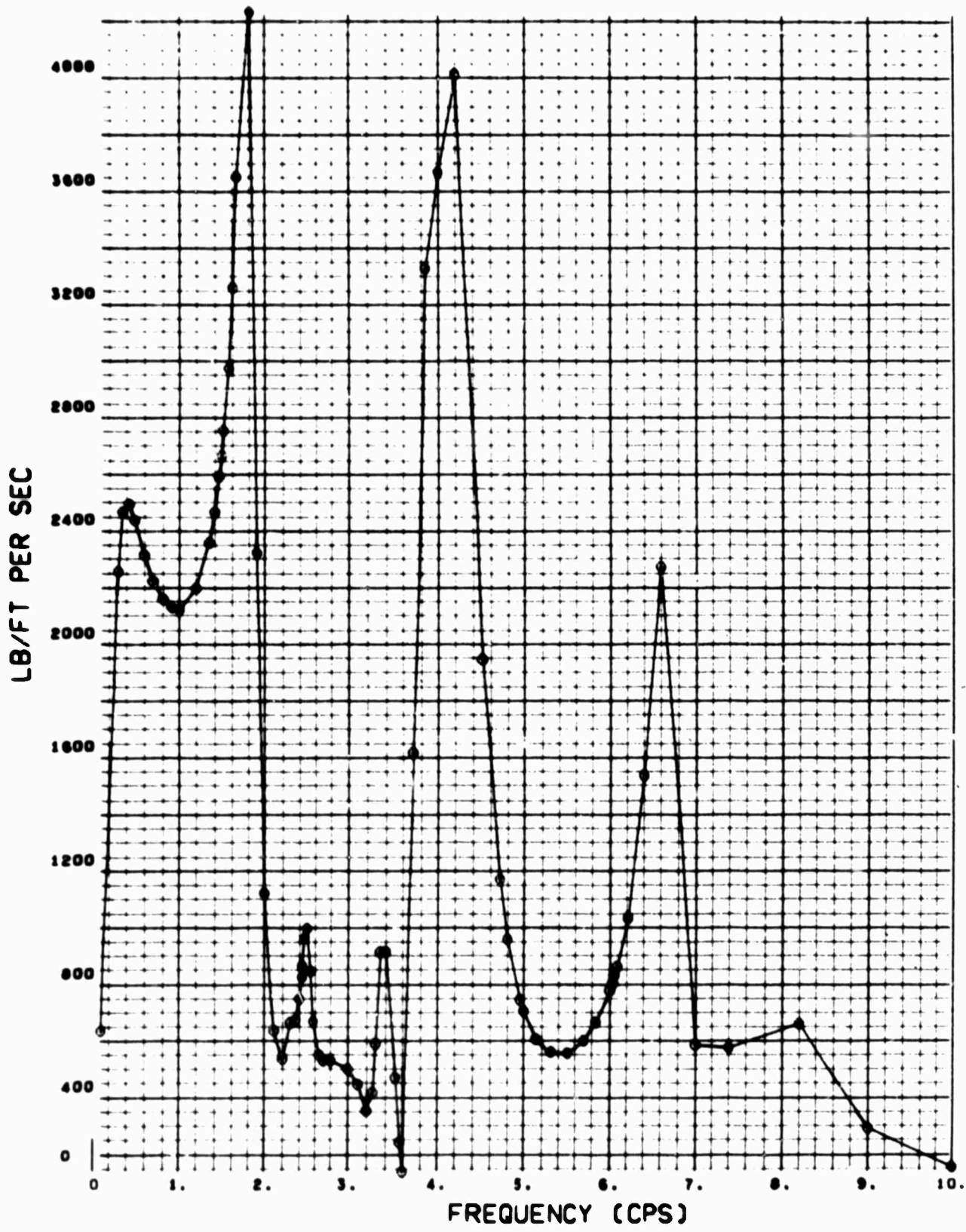
BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

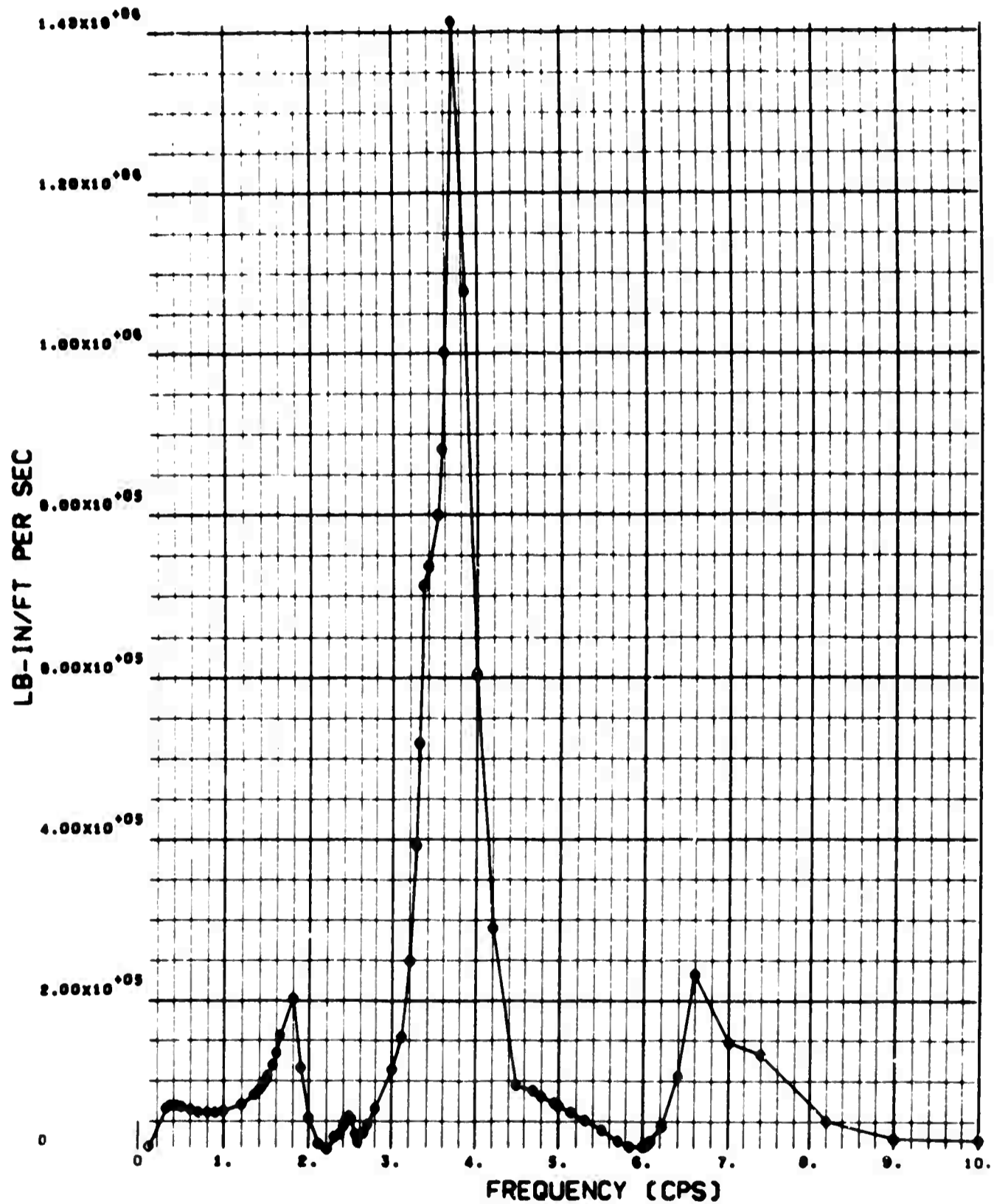


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

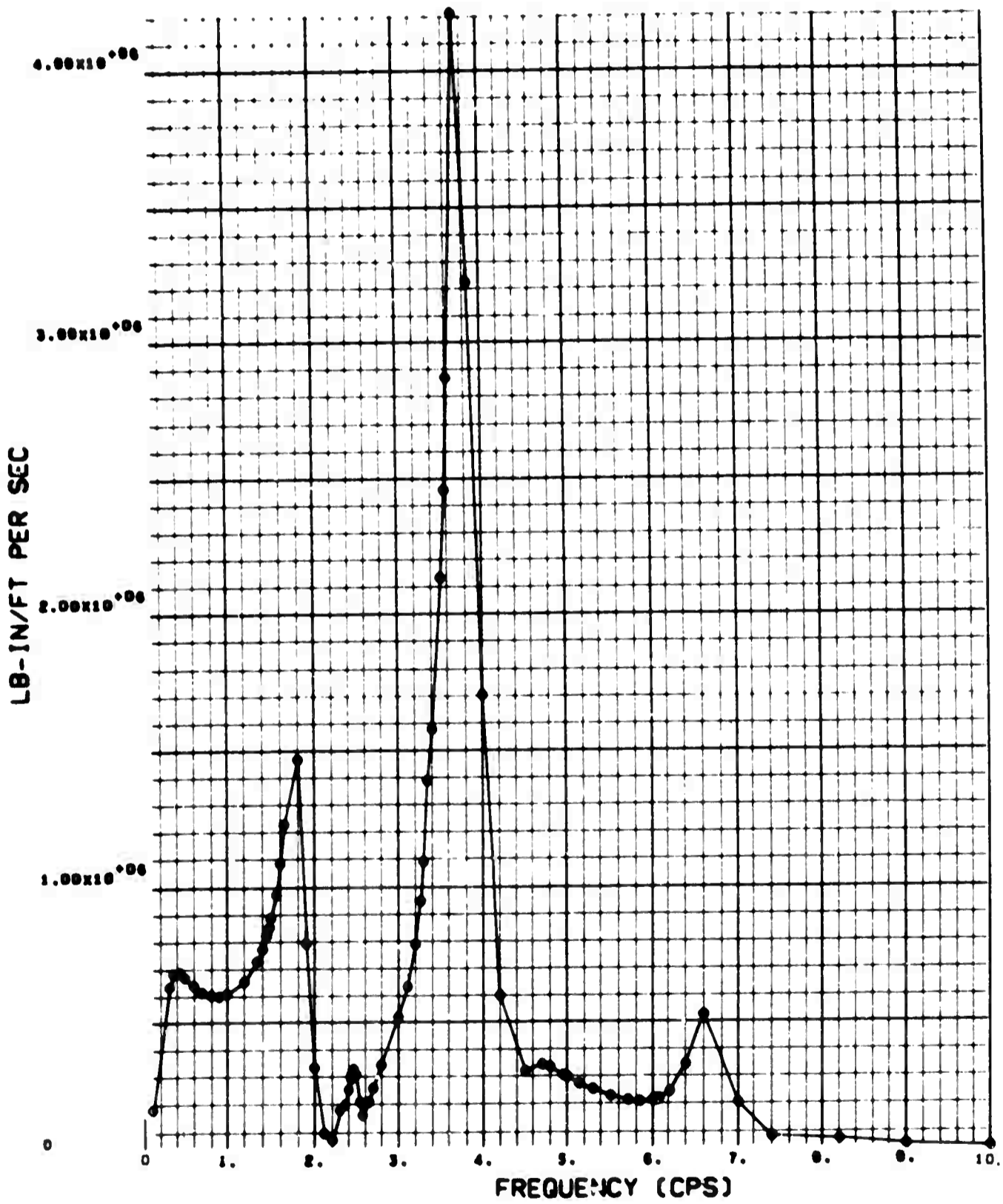


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

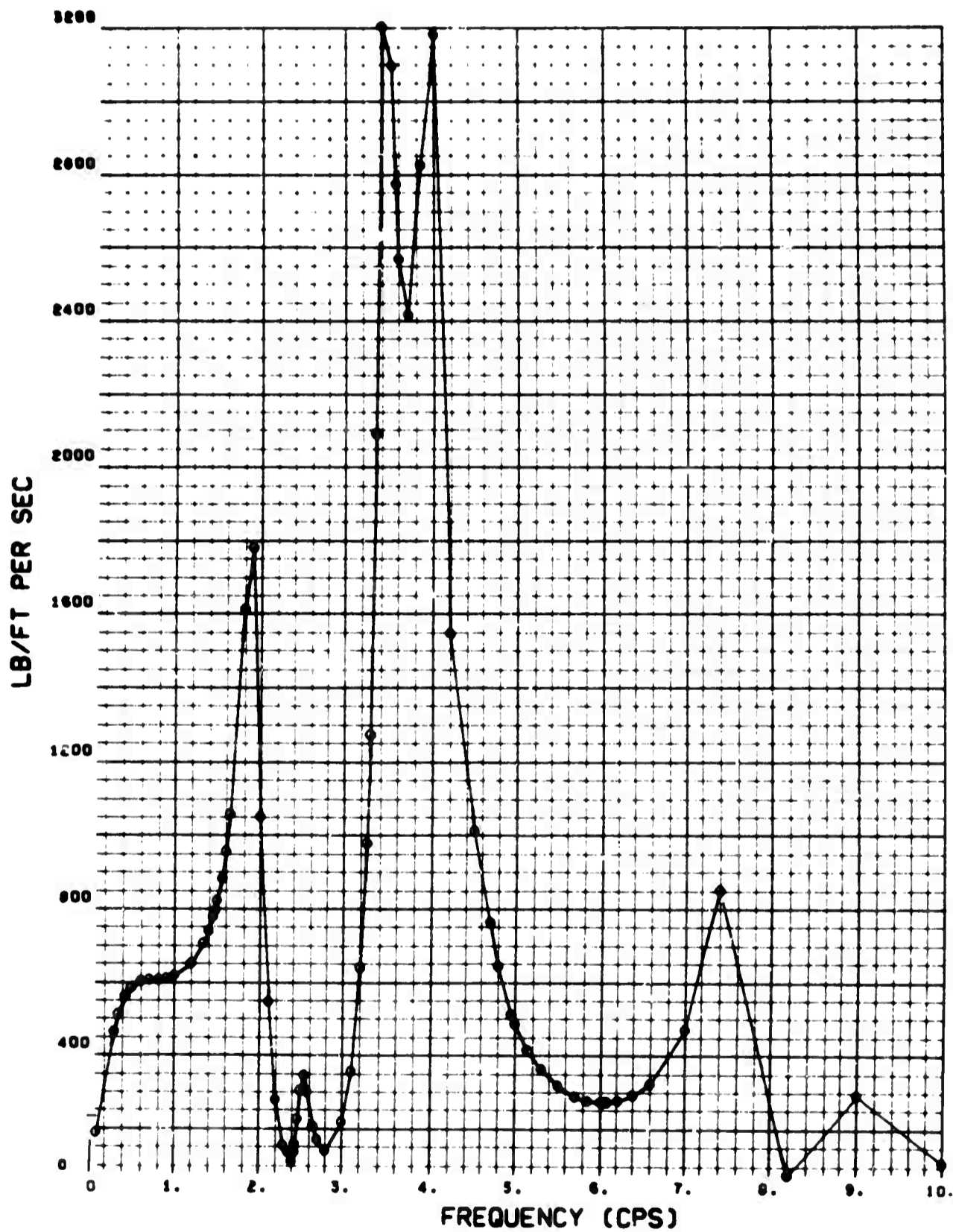


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

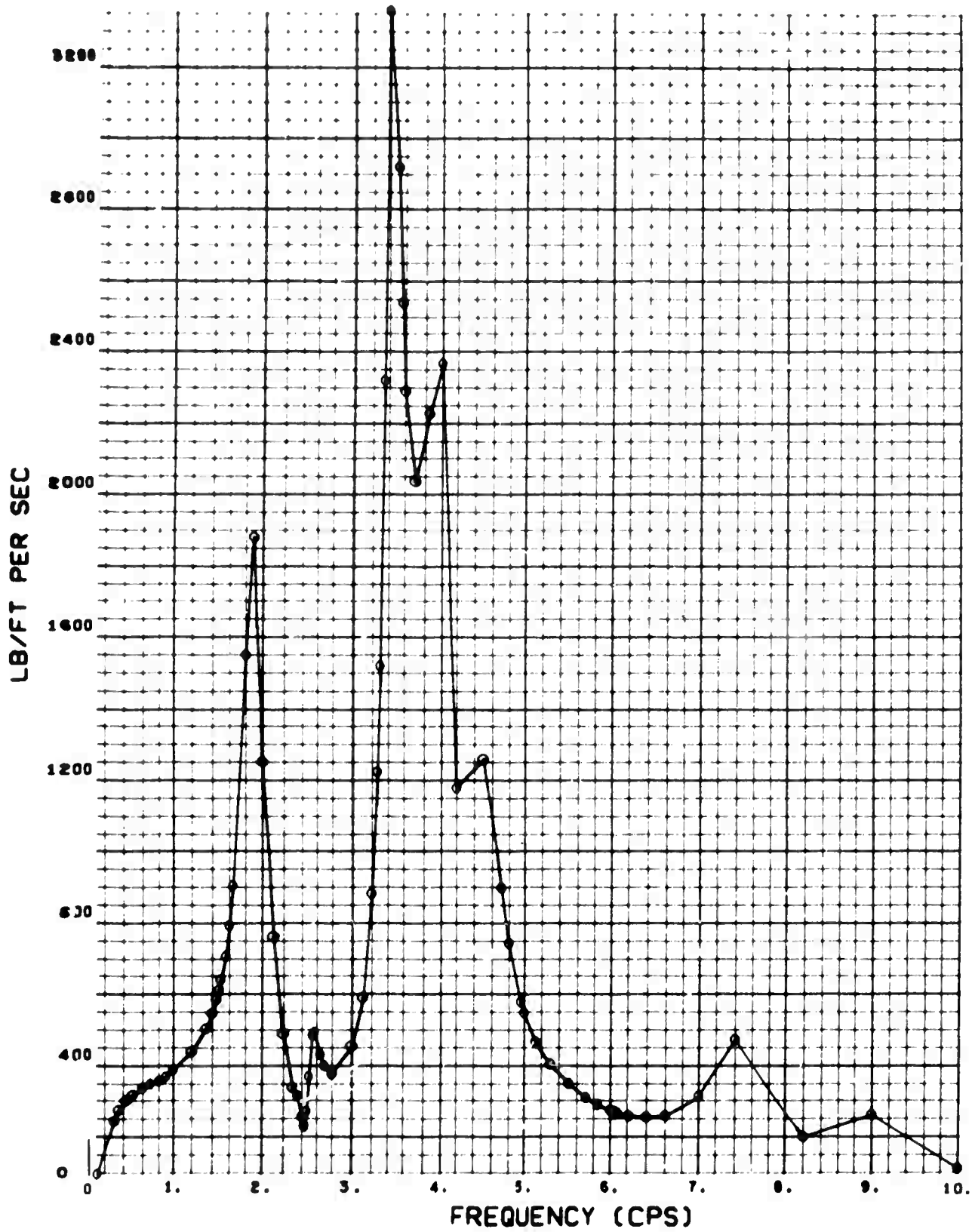


WING SHEAR RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

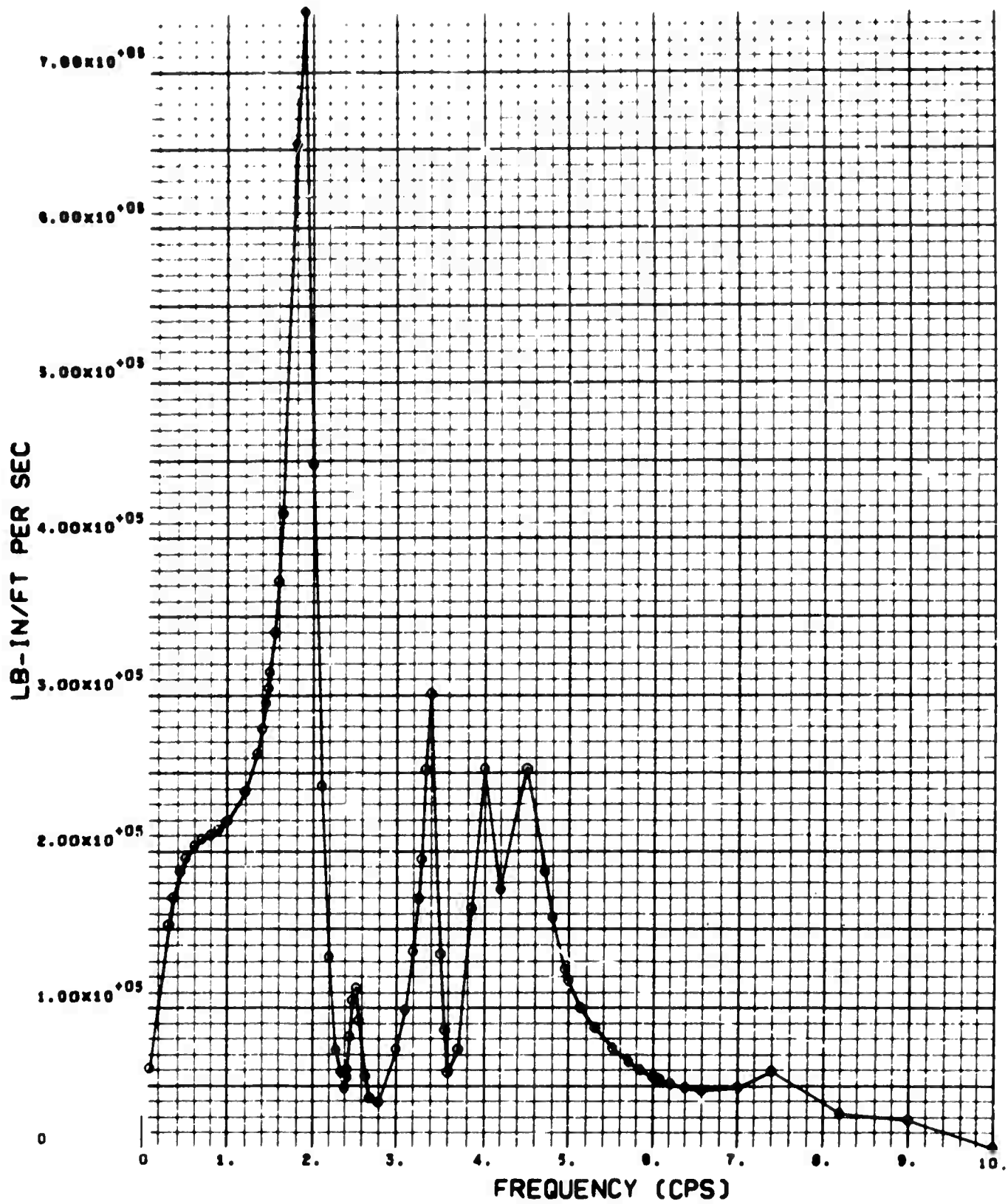


WING SHEAR RESPONSE, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

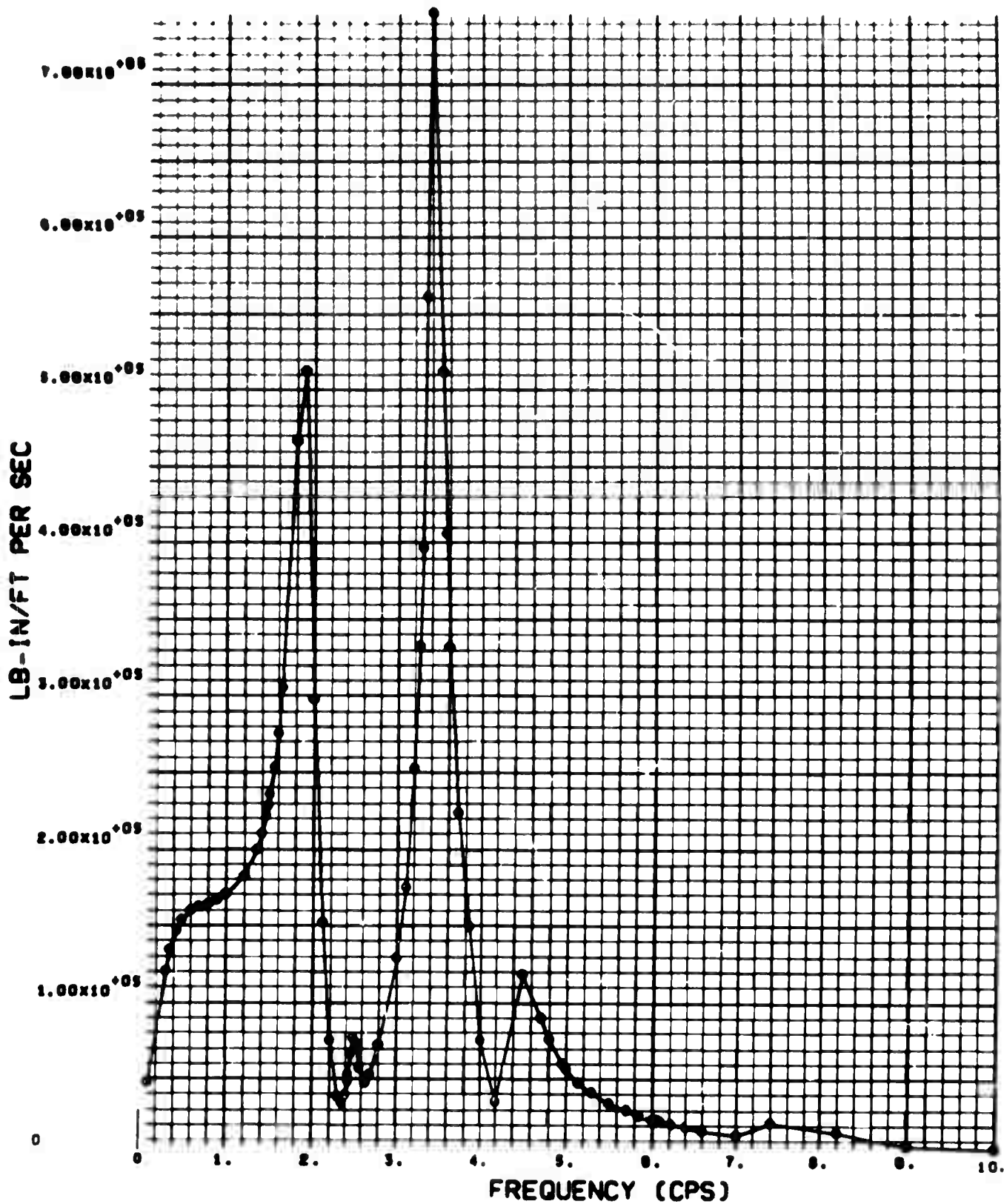


WING BENDING MOMENT RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

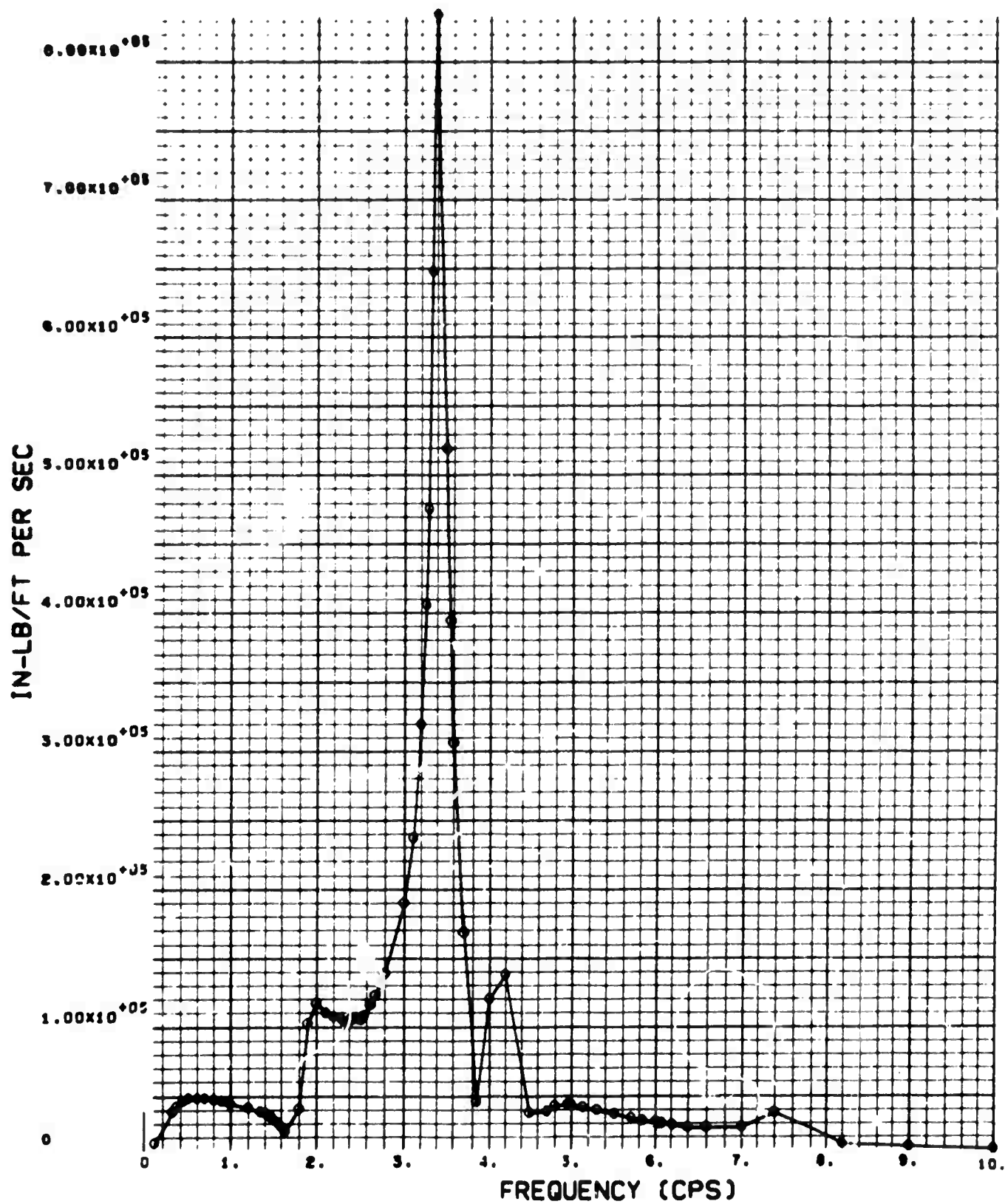


WING BENDING MOMENT RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



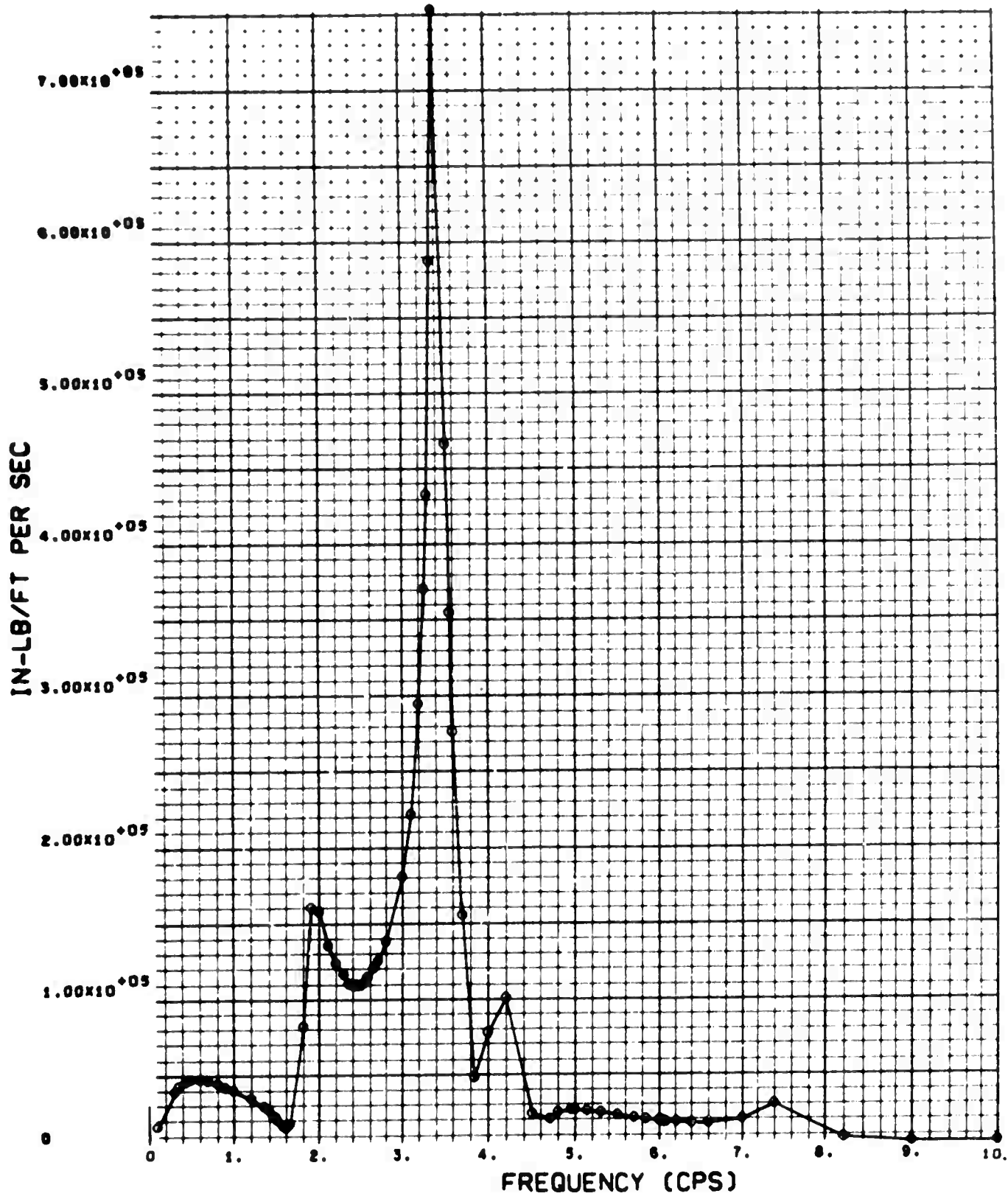
WING TORQUE RESPONSE, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

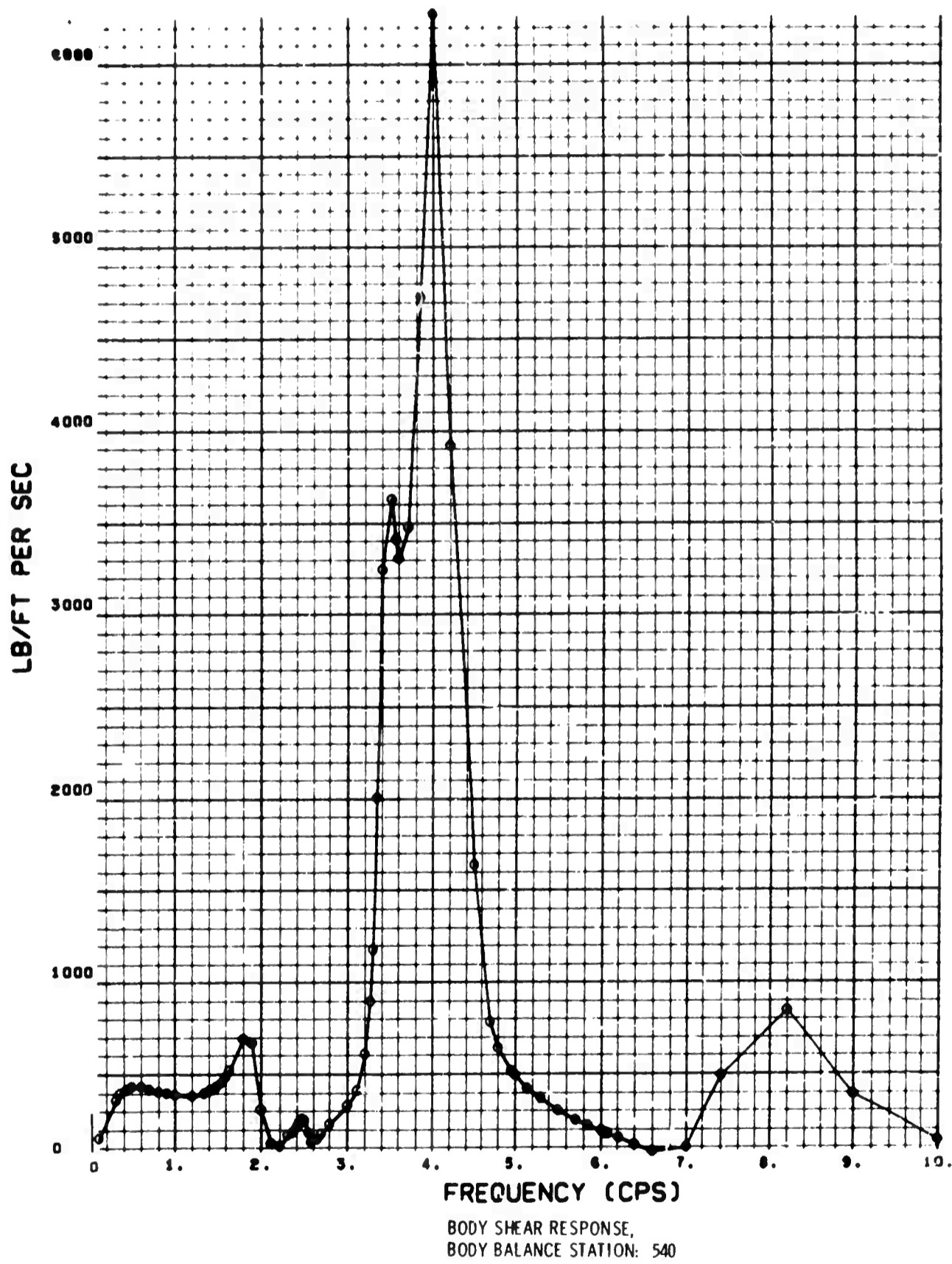


WING TORQUE RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION G

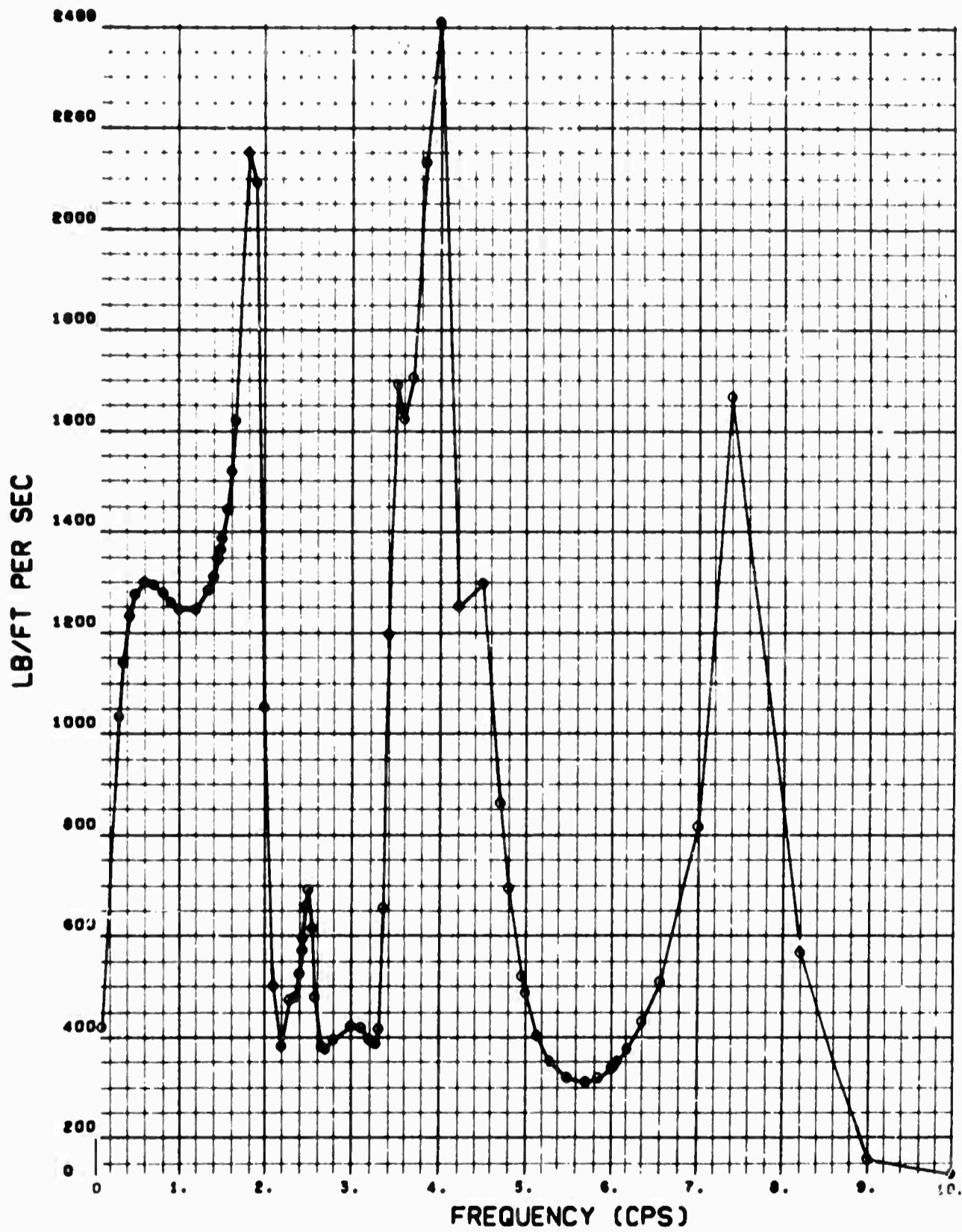
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

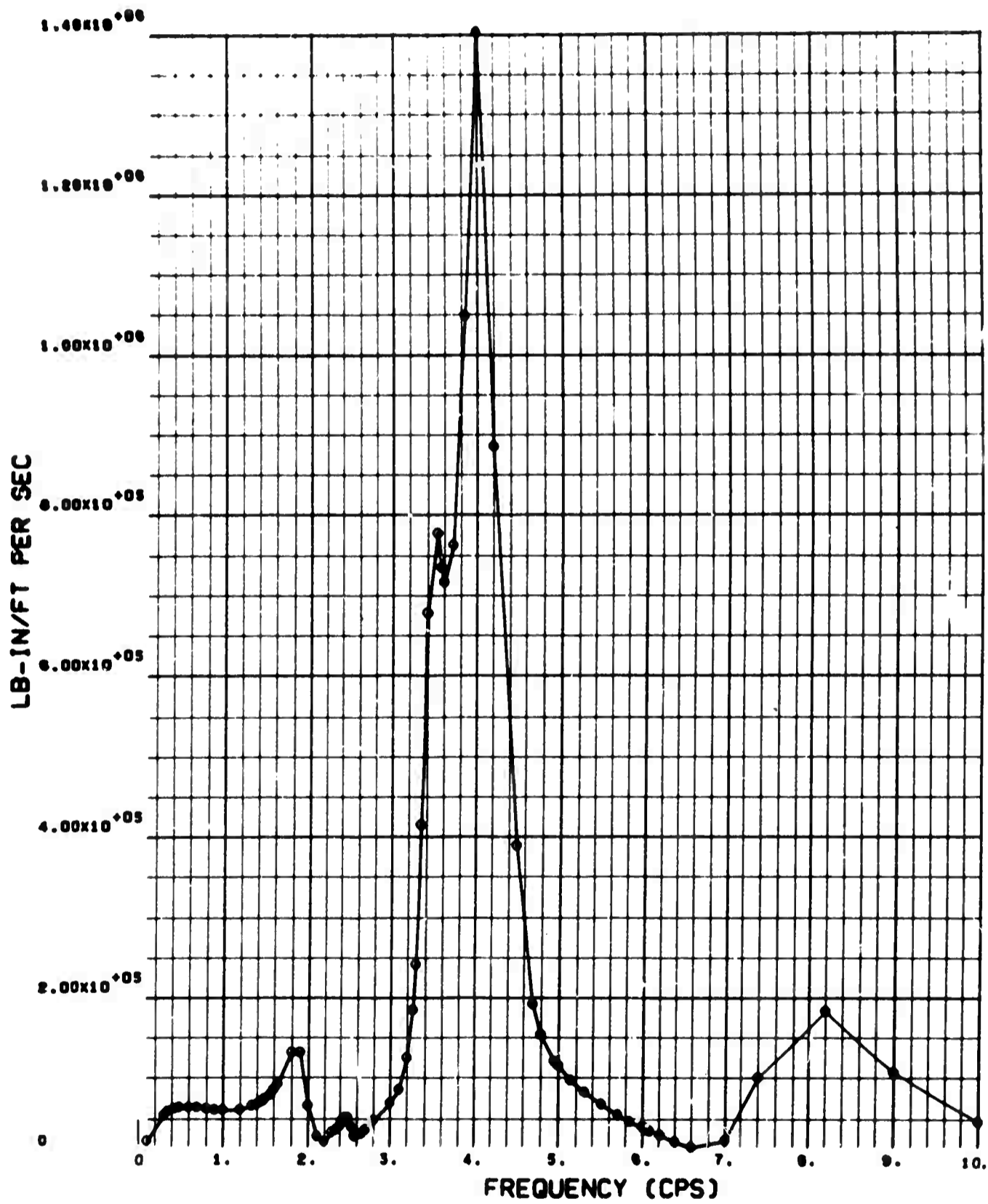


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

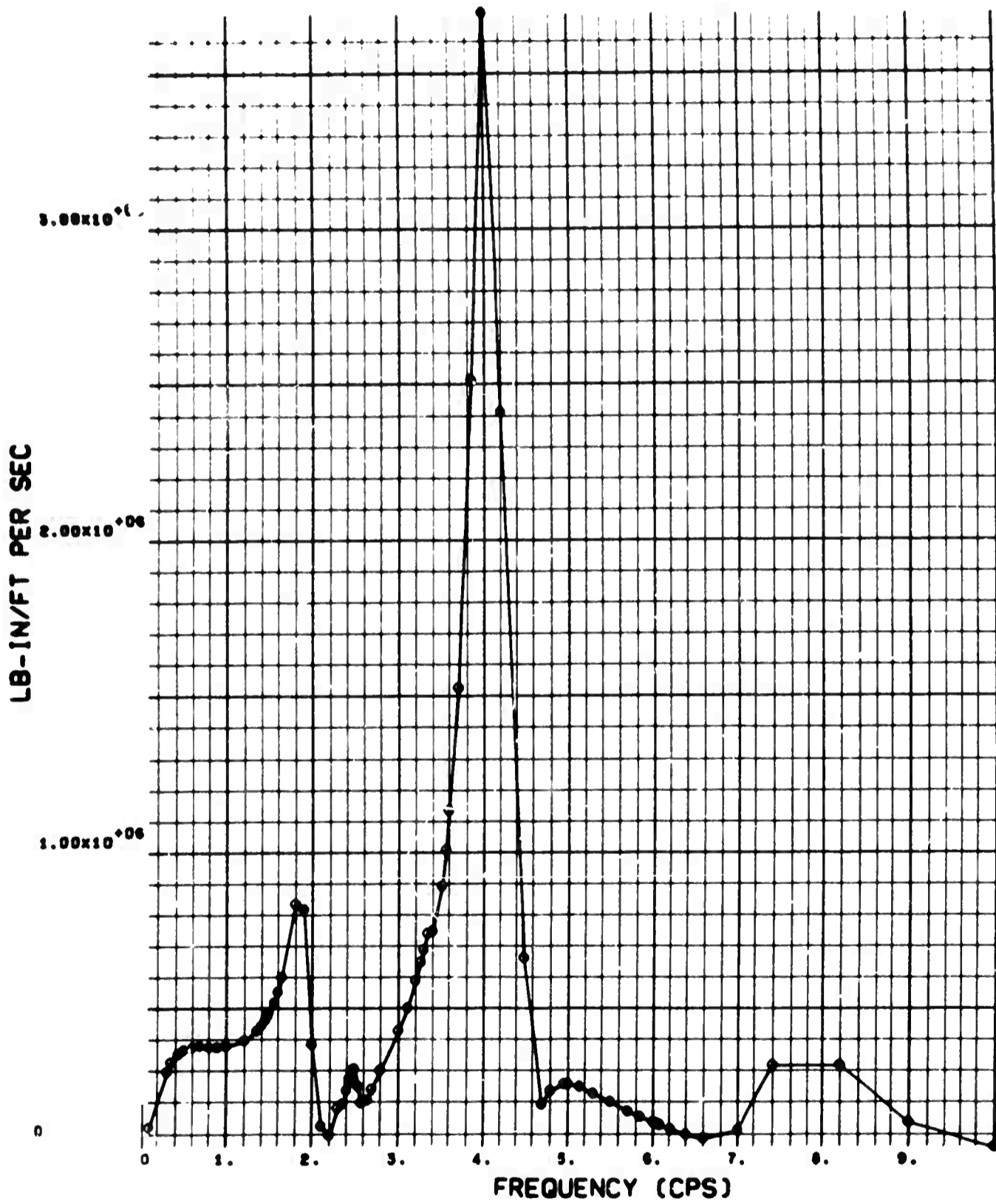


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.95

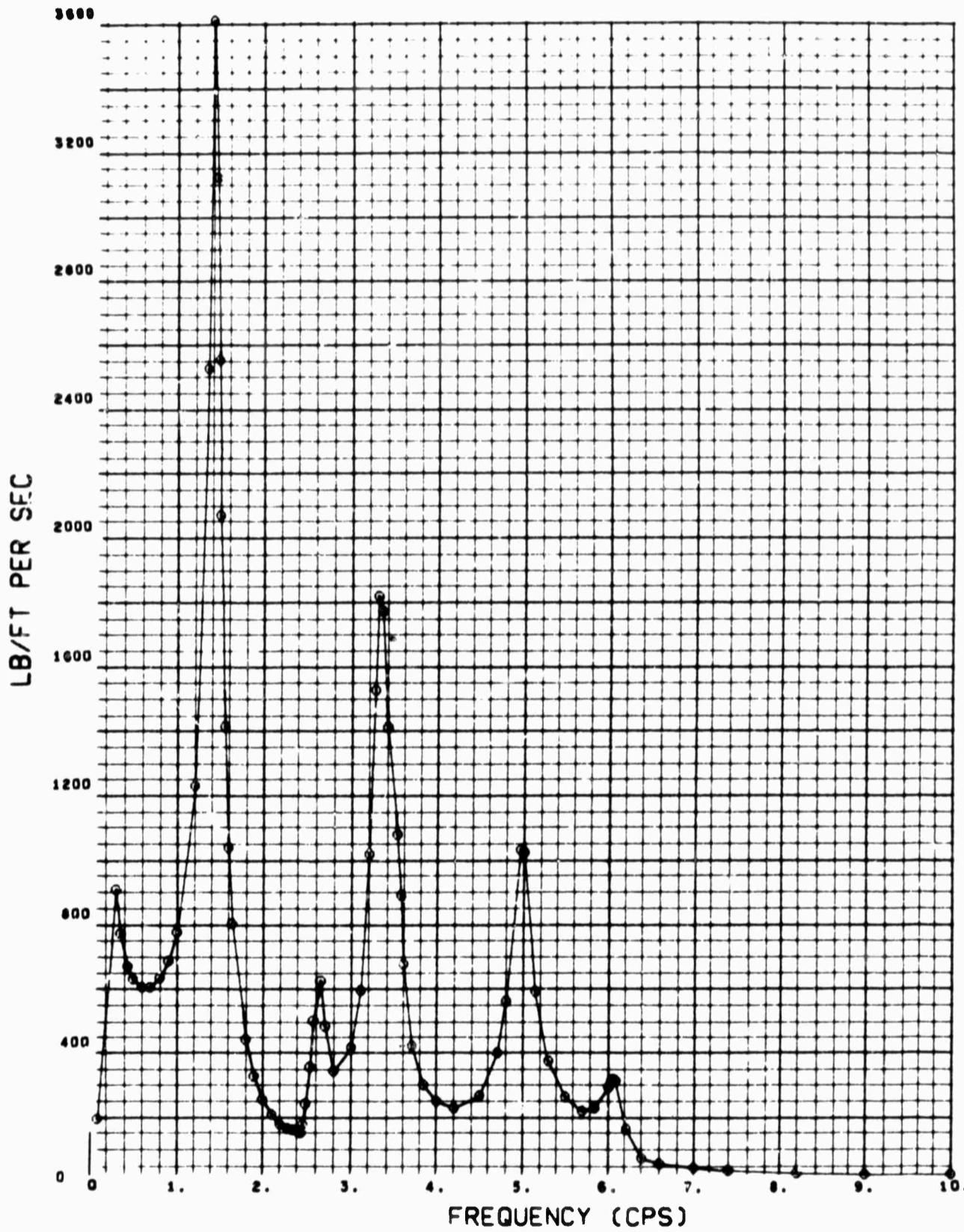


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

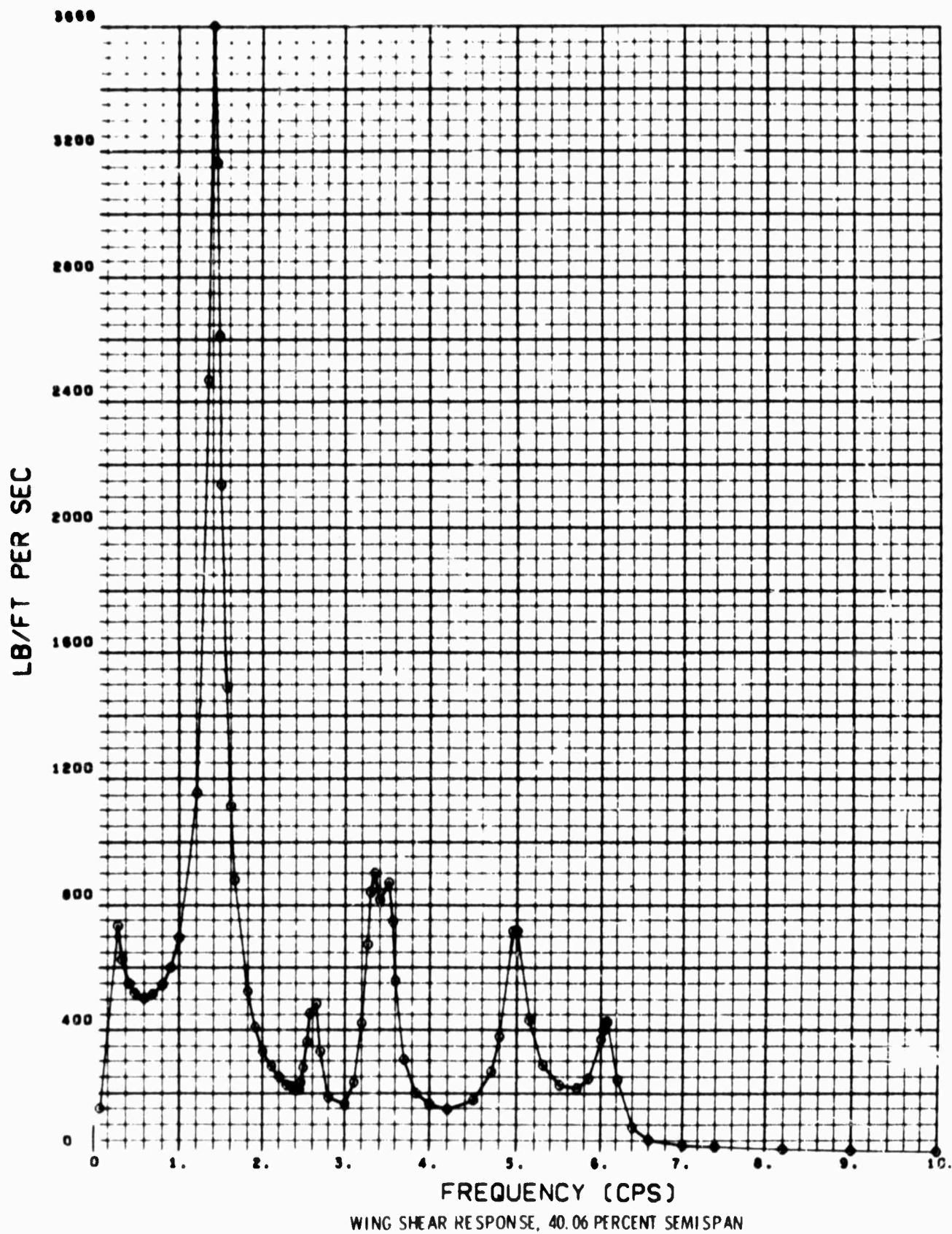


WING SHEAR RESPONSE, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

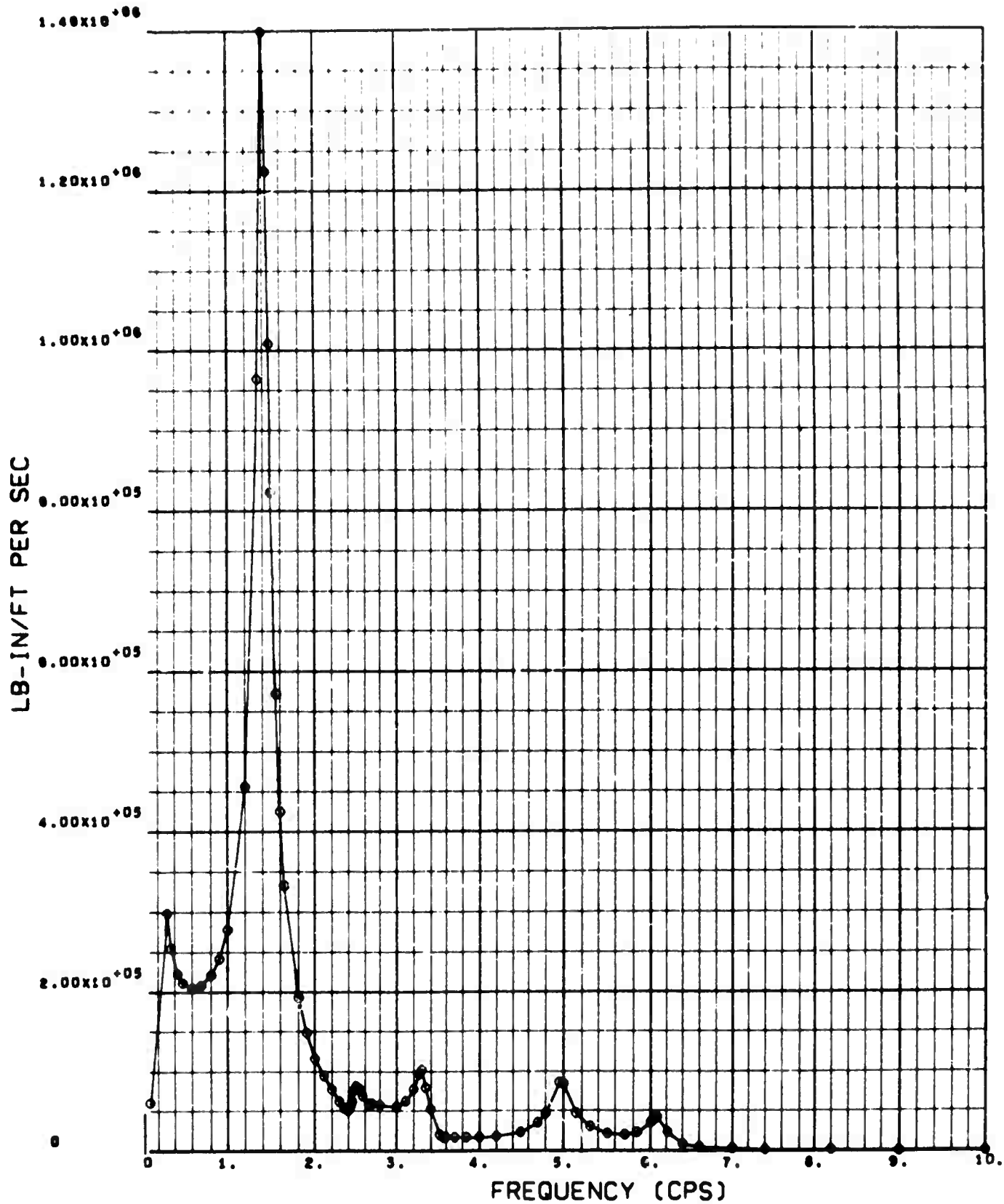
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50



ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50



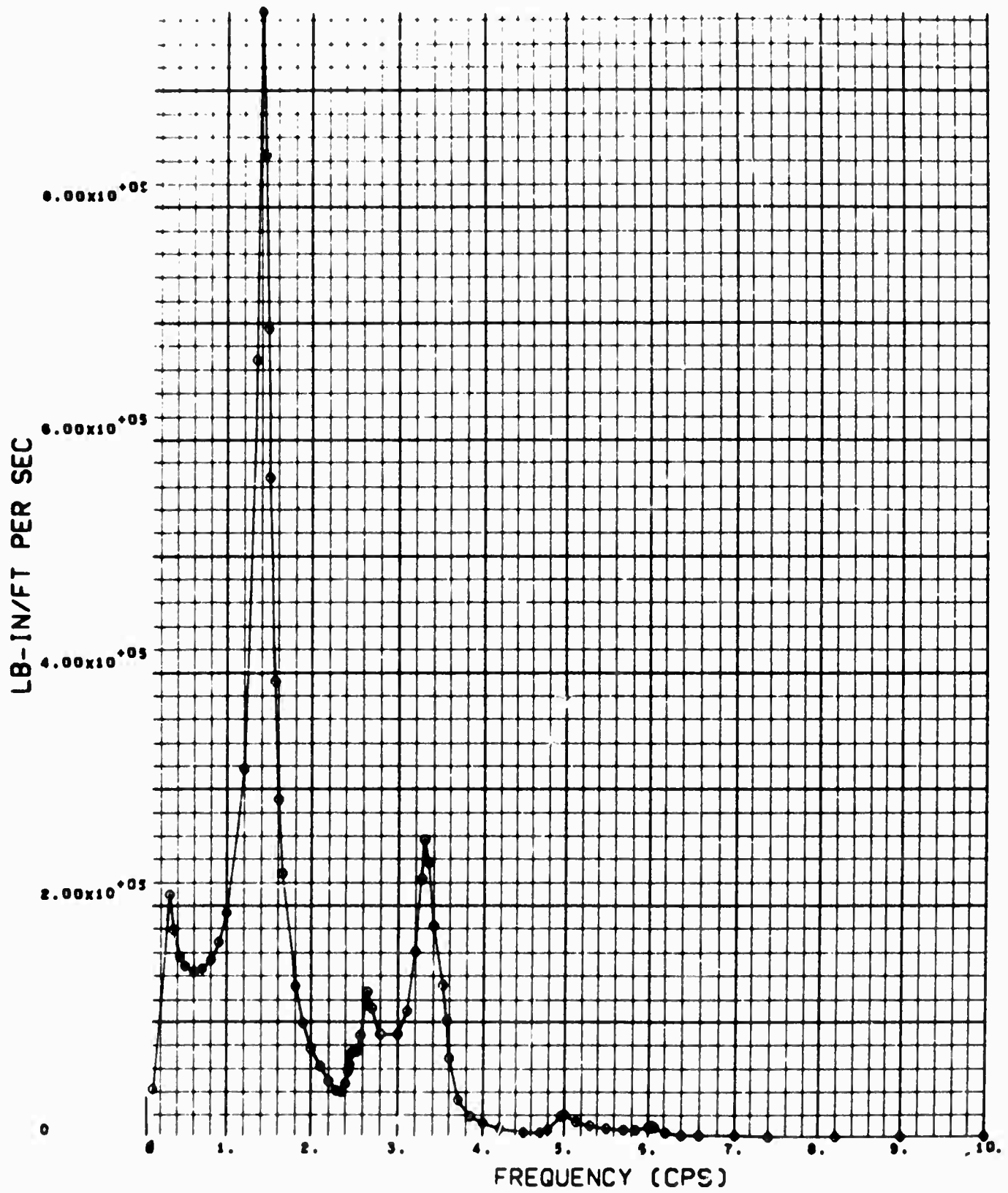
WING BENDING MOMENT RESPONSE, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

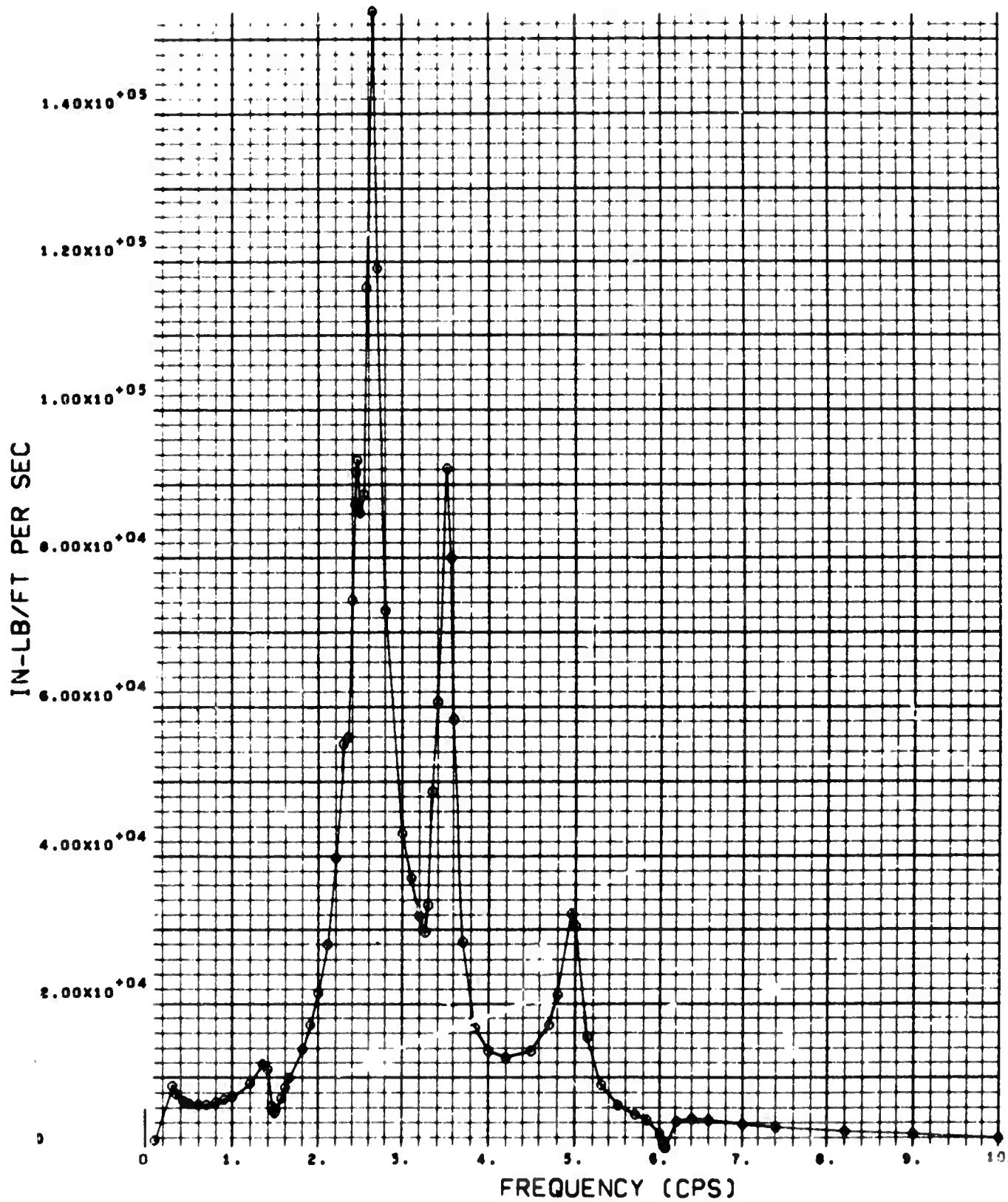


WING BENDING MOMENT RESPONSE, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

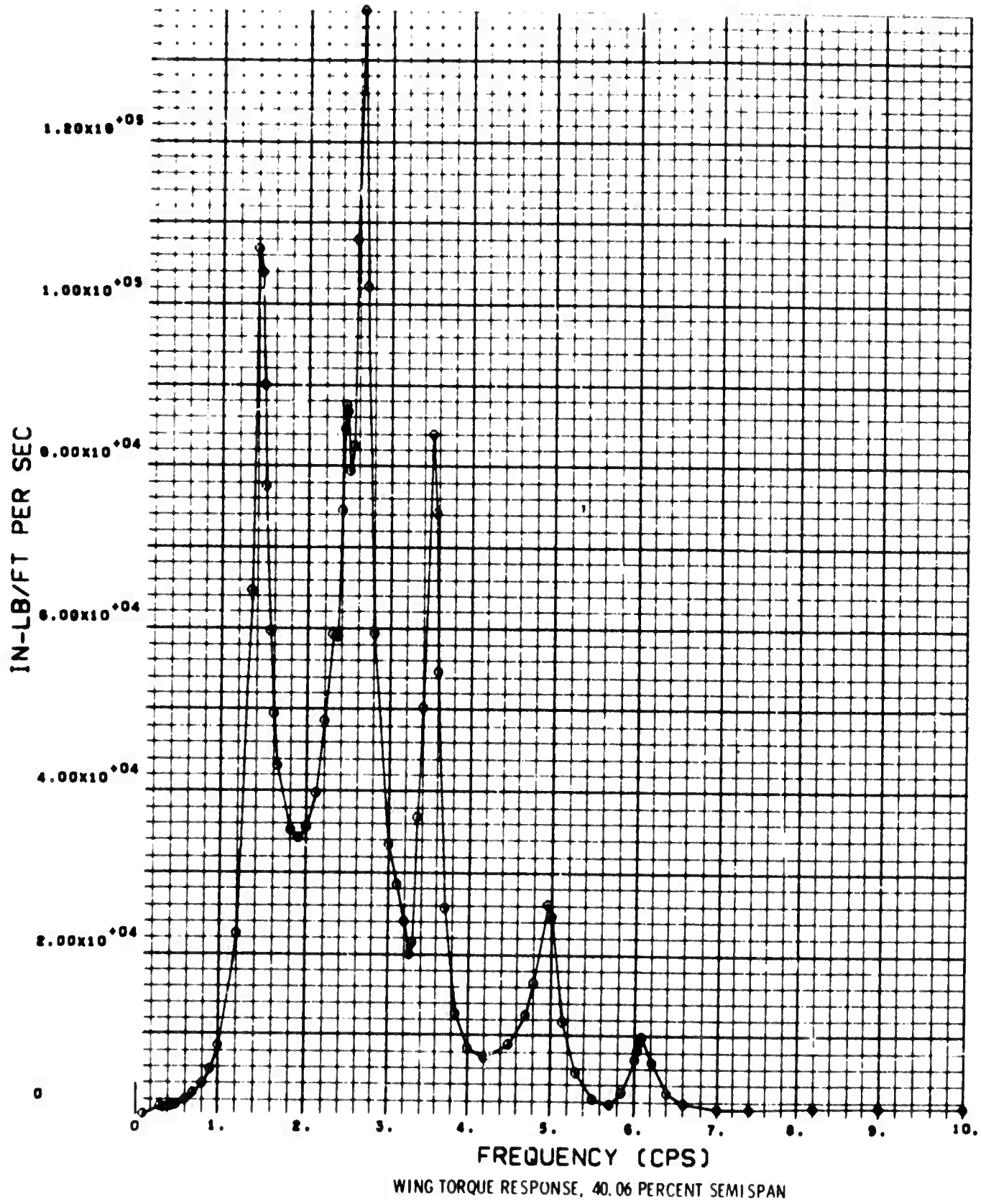


WING TORQUE RESPONSE, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 5

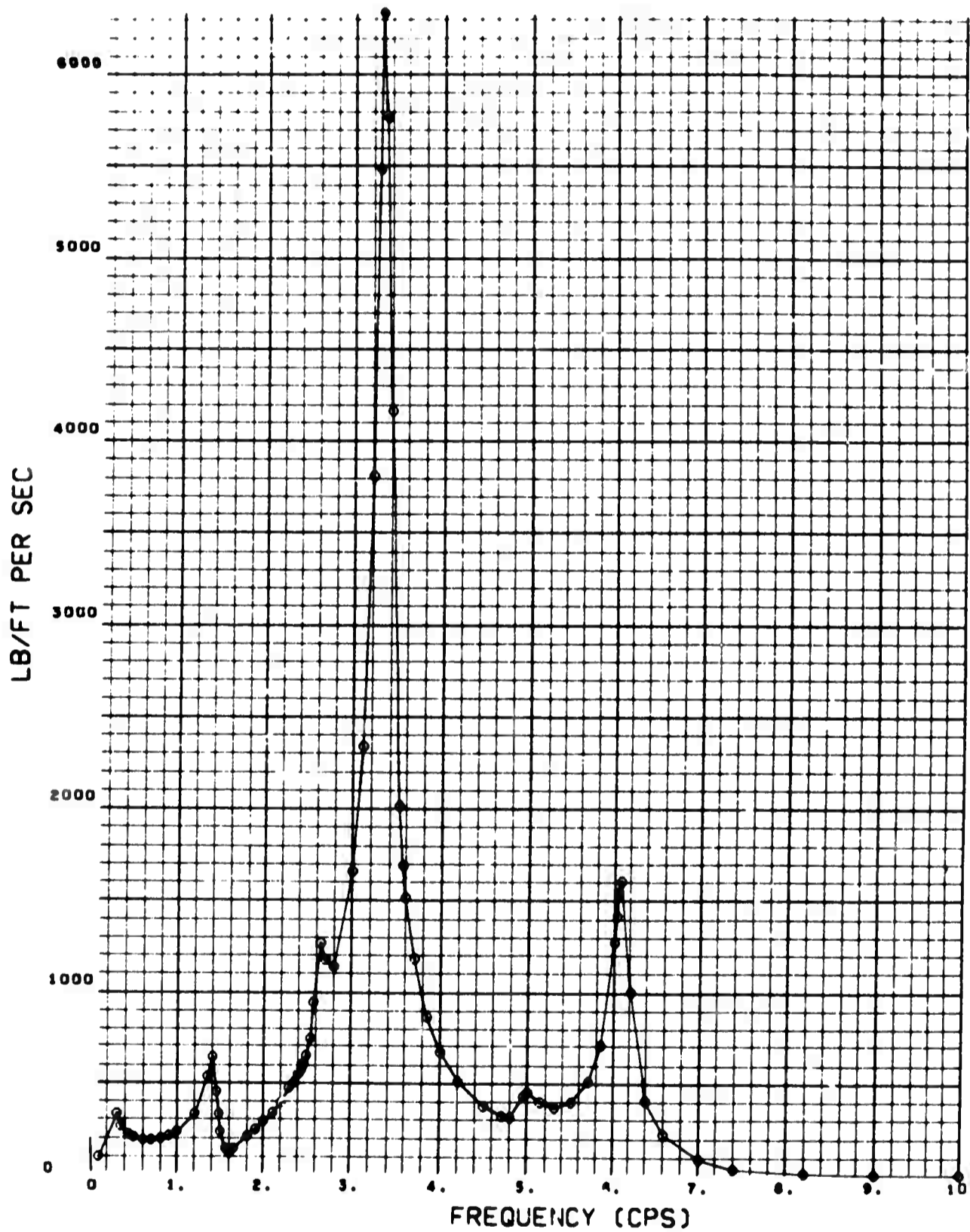
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50



ANALYSIS CONDITION 5  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

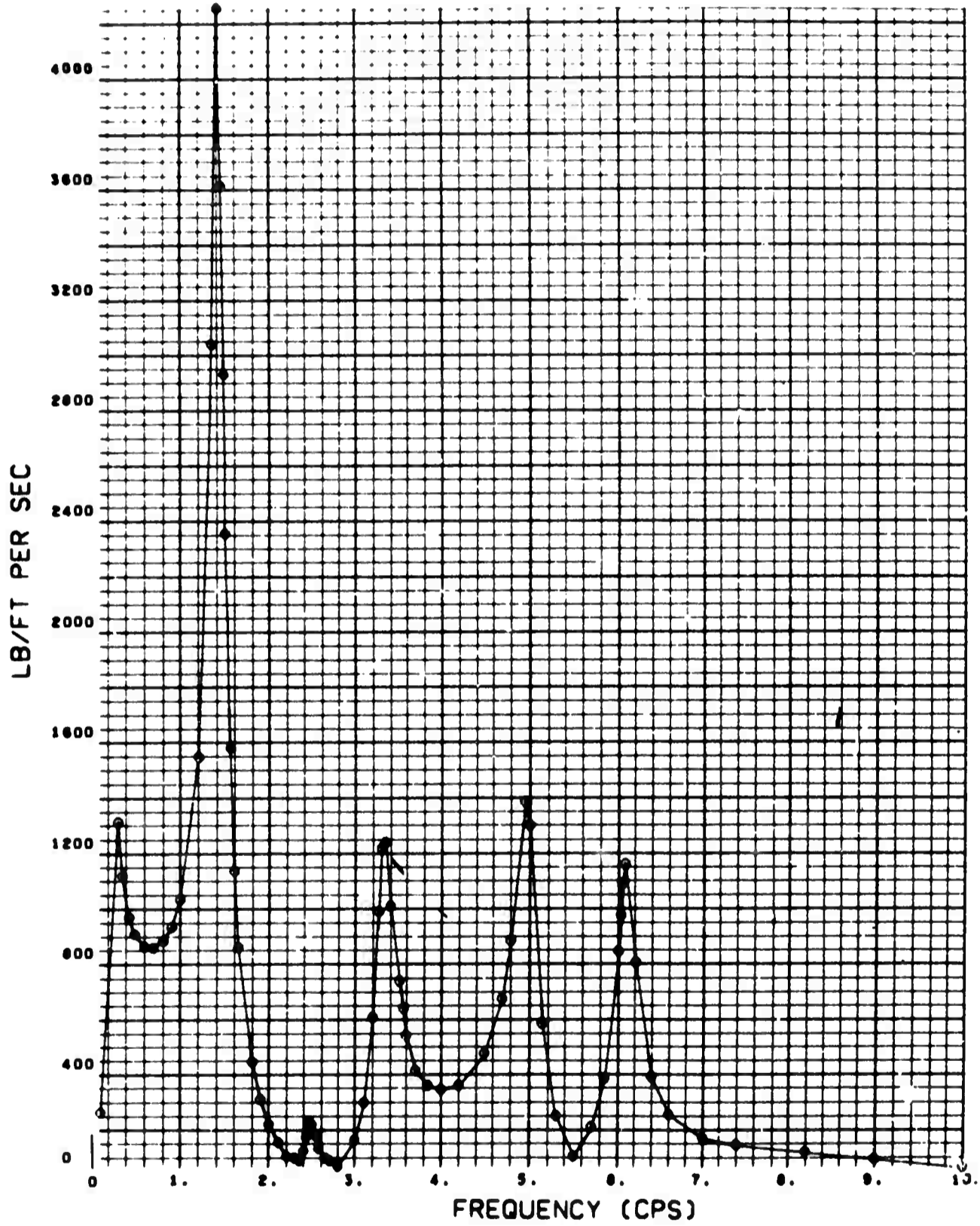


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

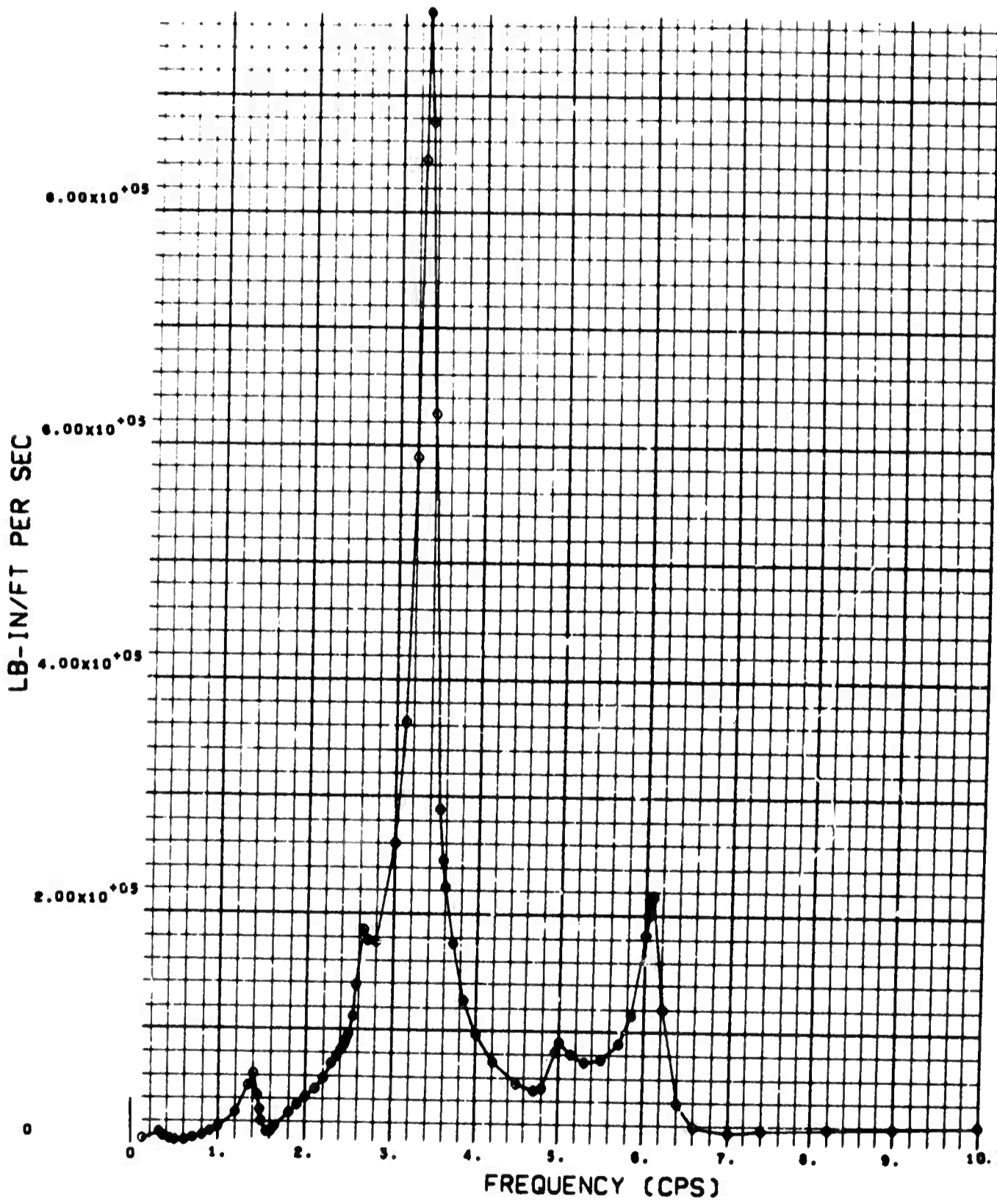


BODY SHEAR RESPONSE,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

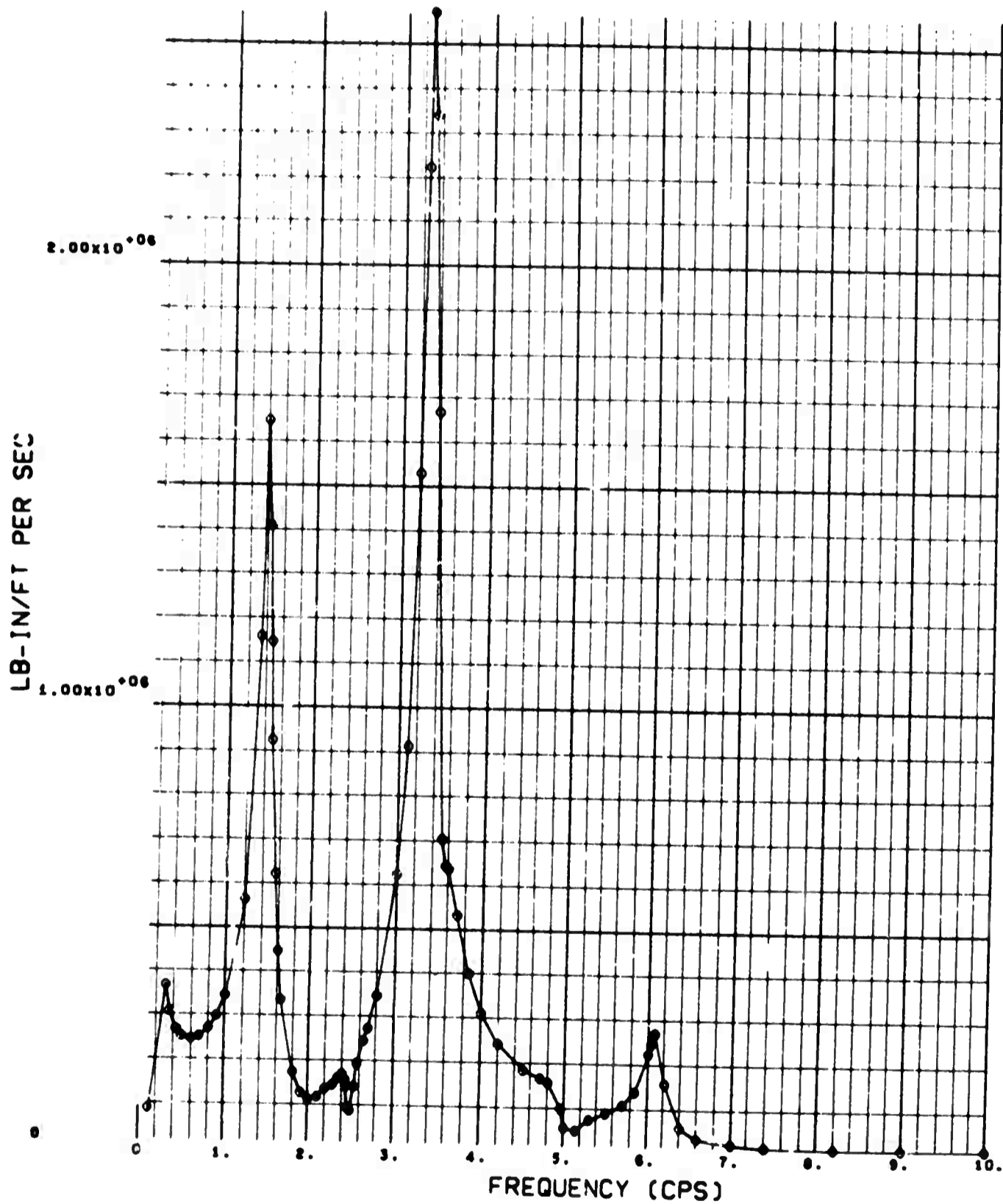


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.50

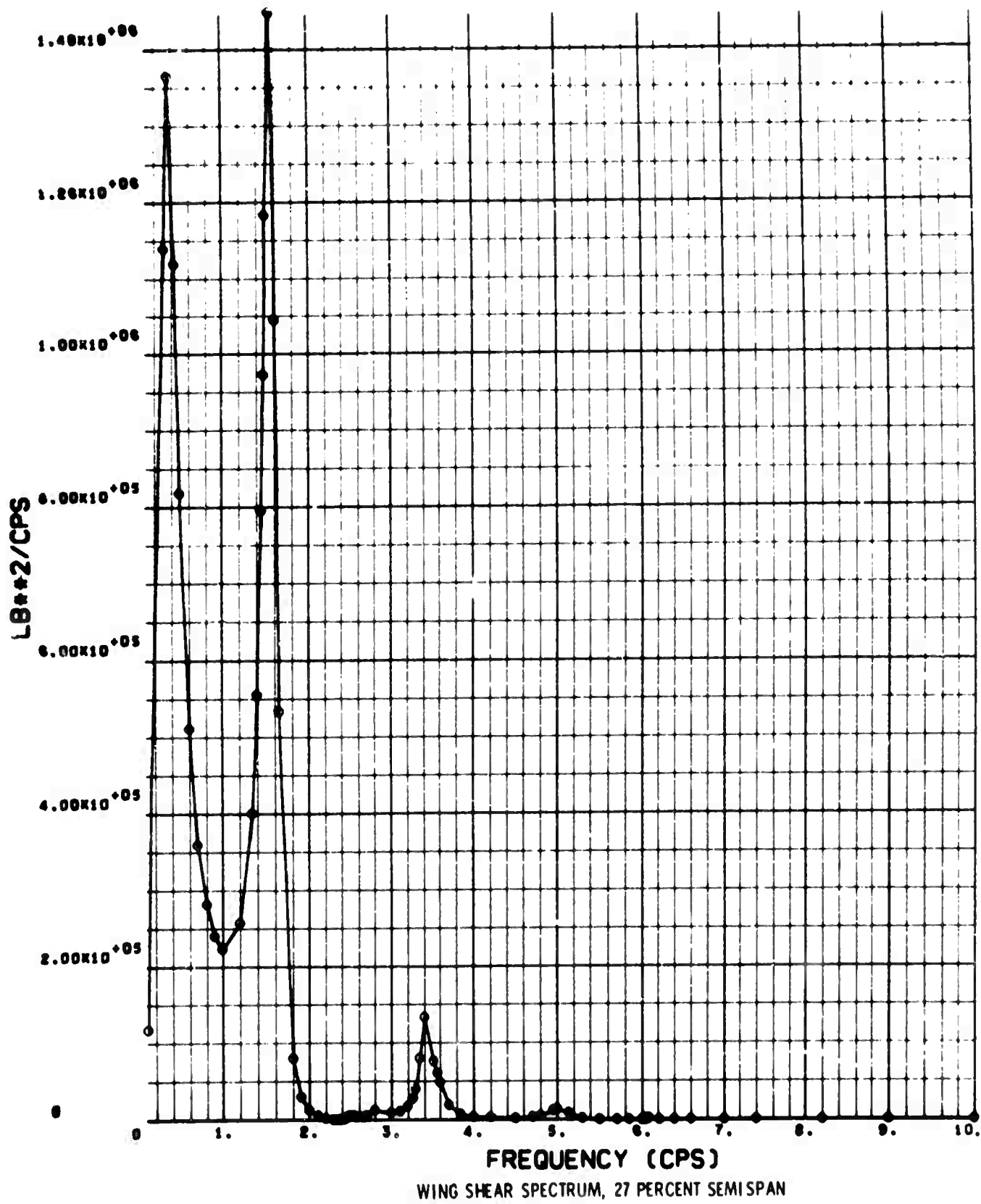


BODY BENDING MOMENT RESPONSE,  
BODY BALANCE STATION: 820

SECTION III  
LOAD POWER SPECTRA

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT:	297,000 LB	CUTOFF FREQUENCY:	10 CPS
ALTITUDE:	24,000 FT	SCALE OF TURBULENCE:	1,000 FT
MACH NUMBER:	0.85		

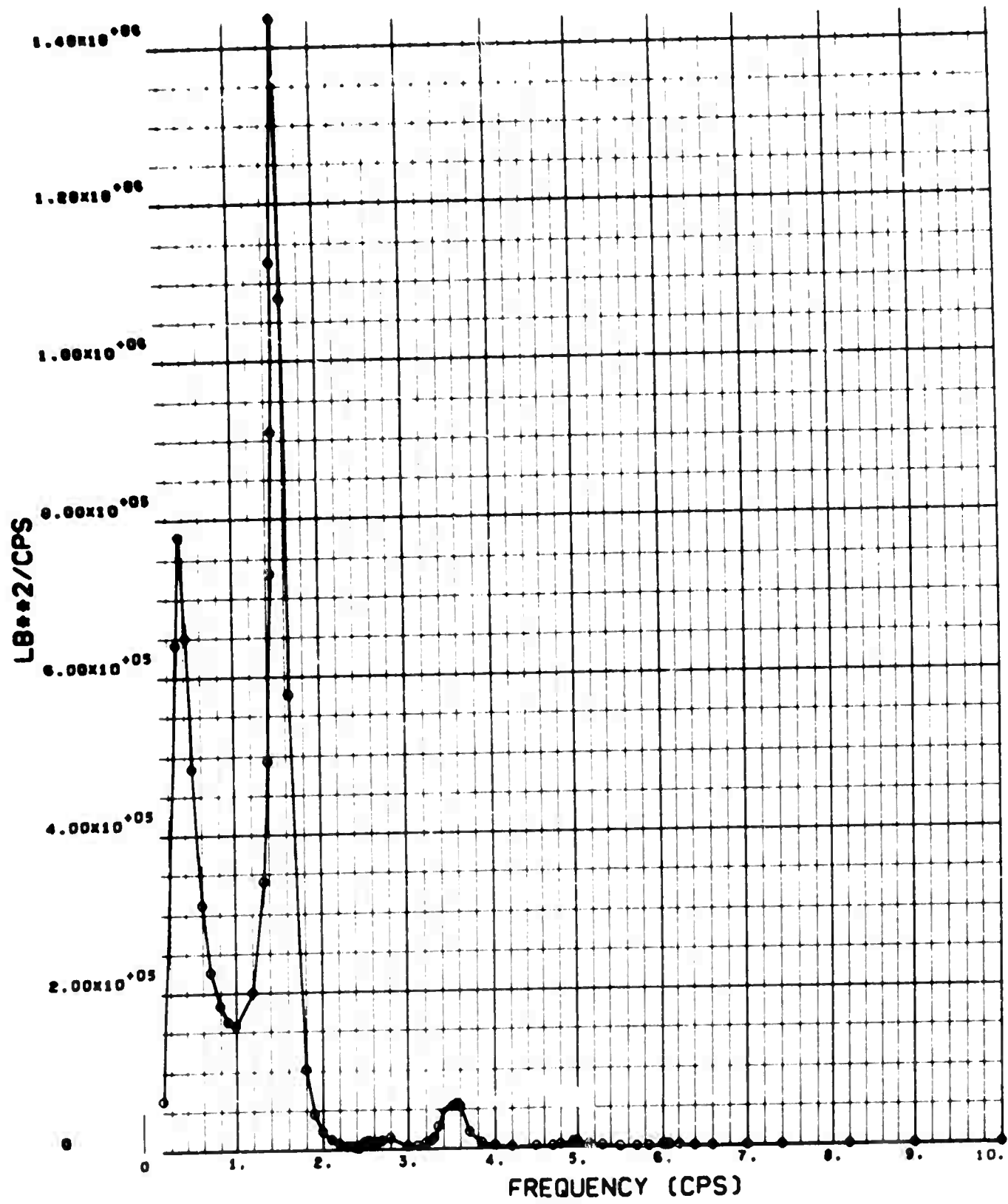




ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

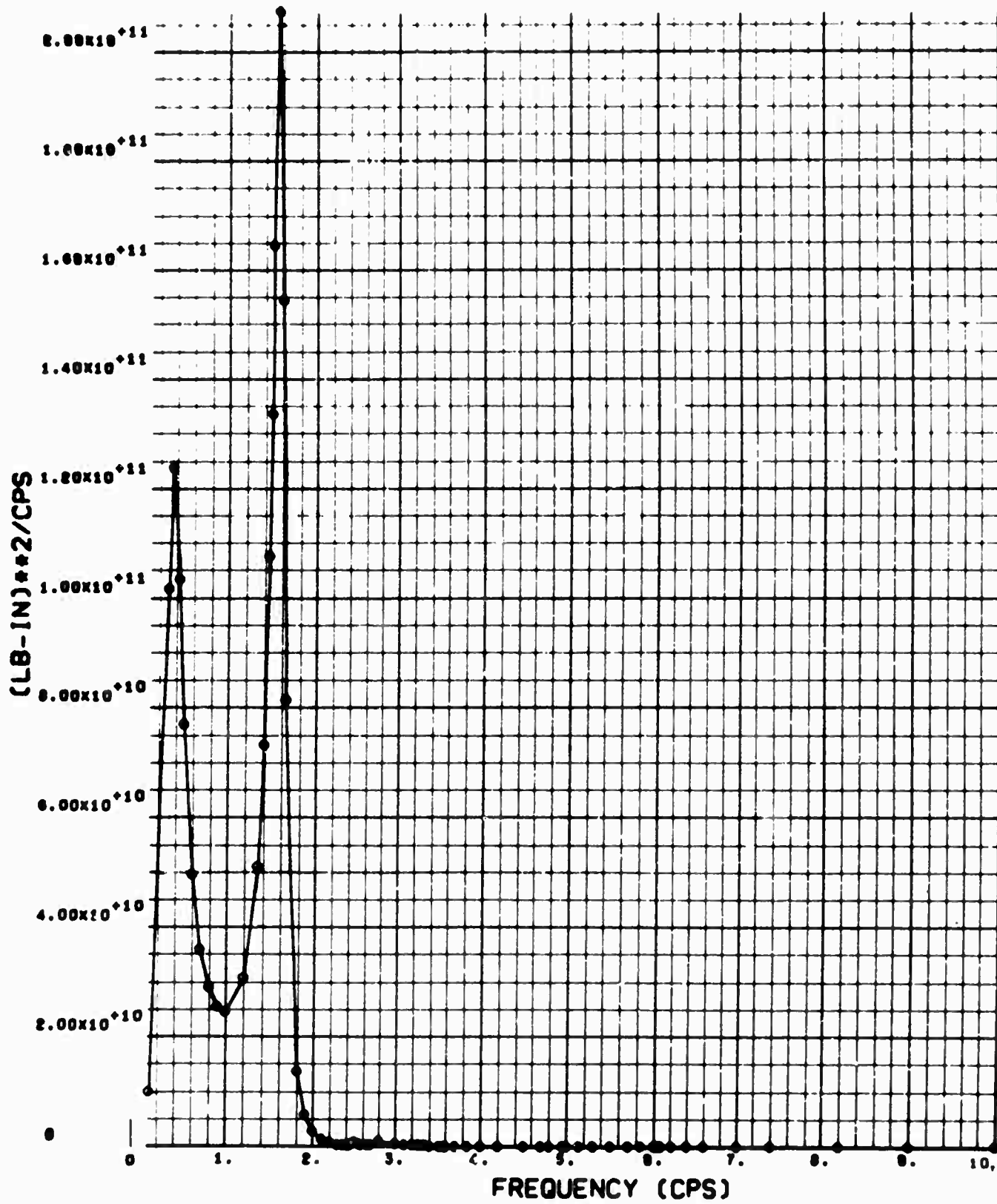


WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

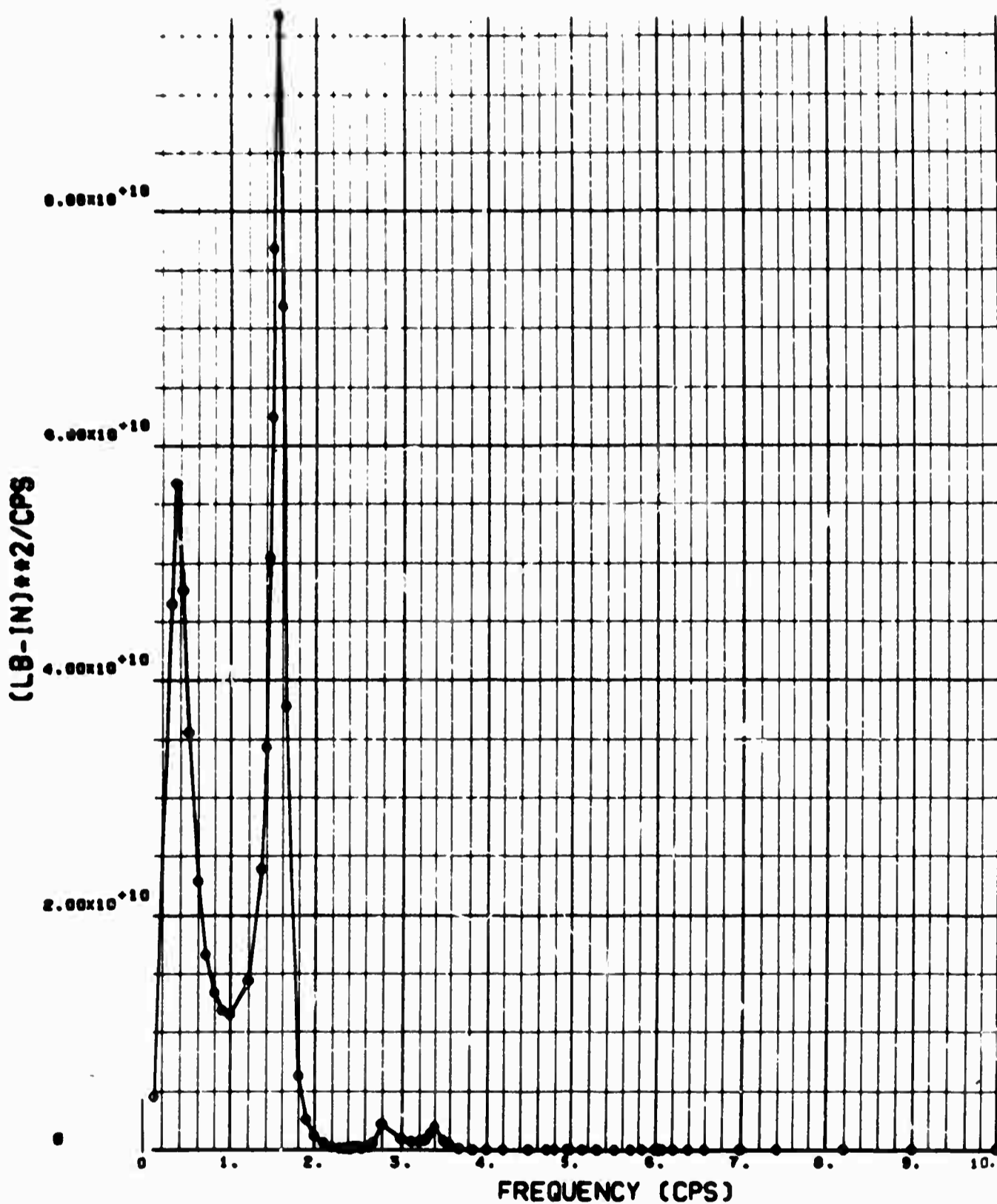


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

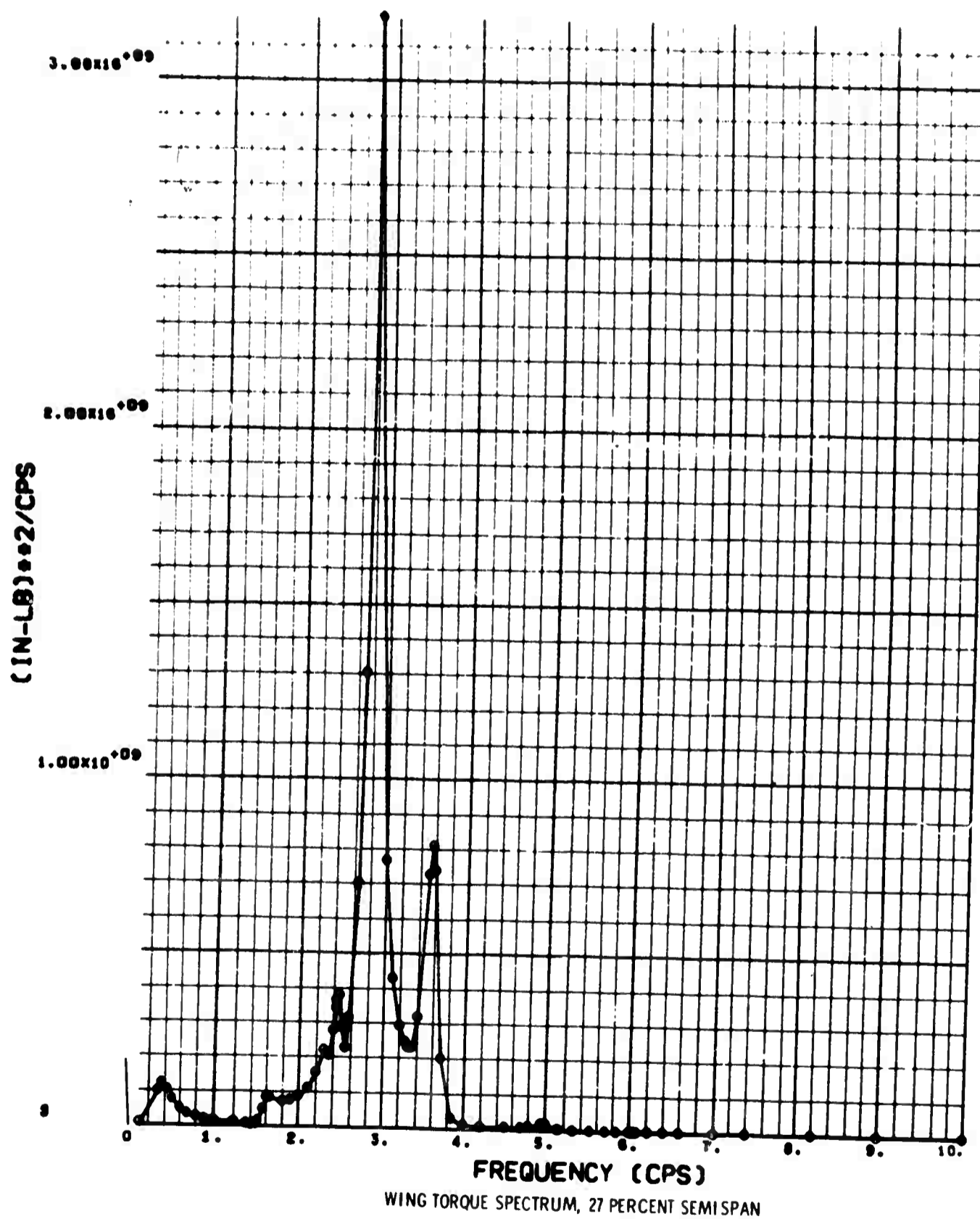


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

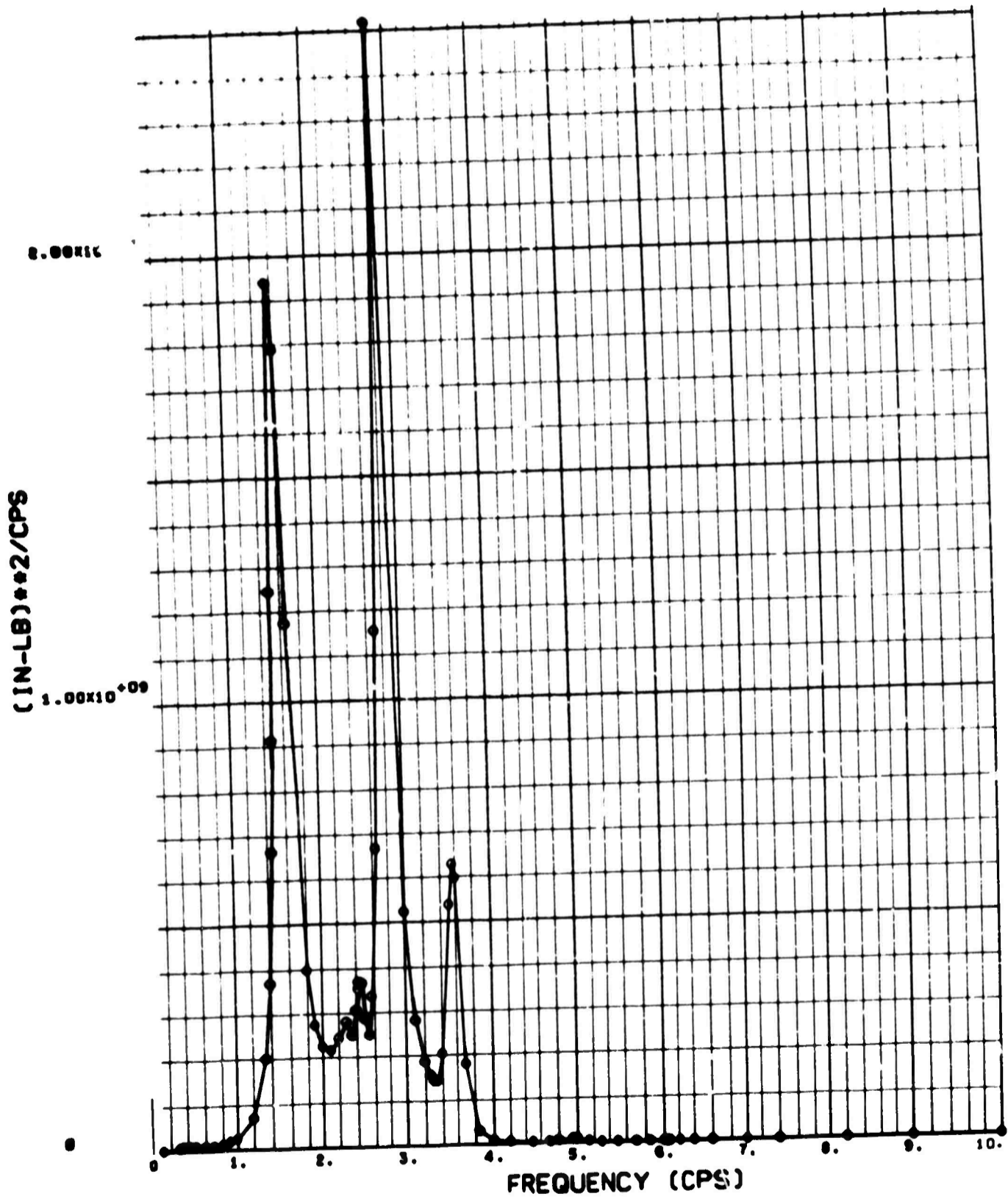
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

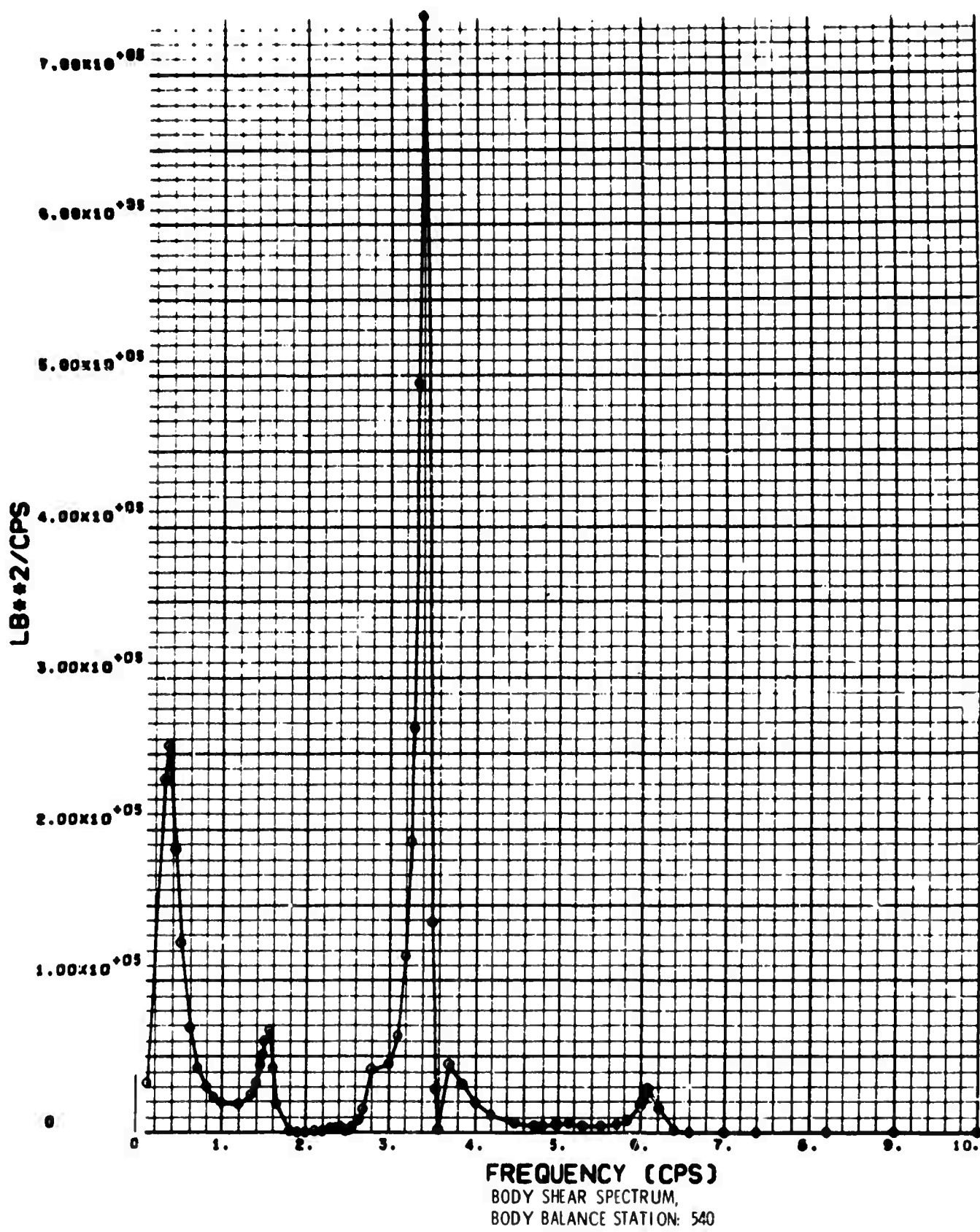


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

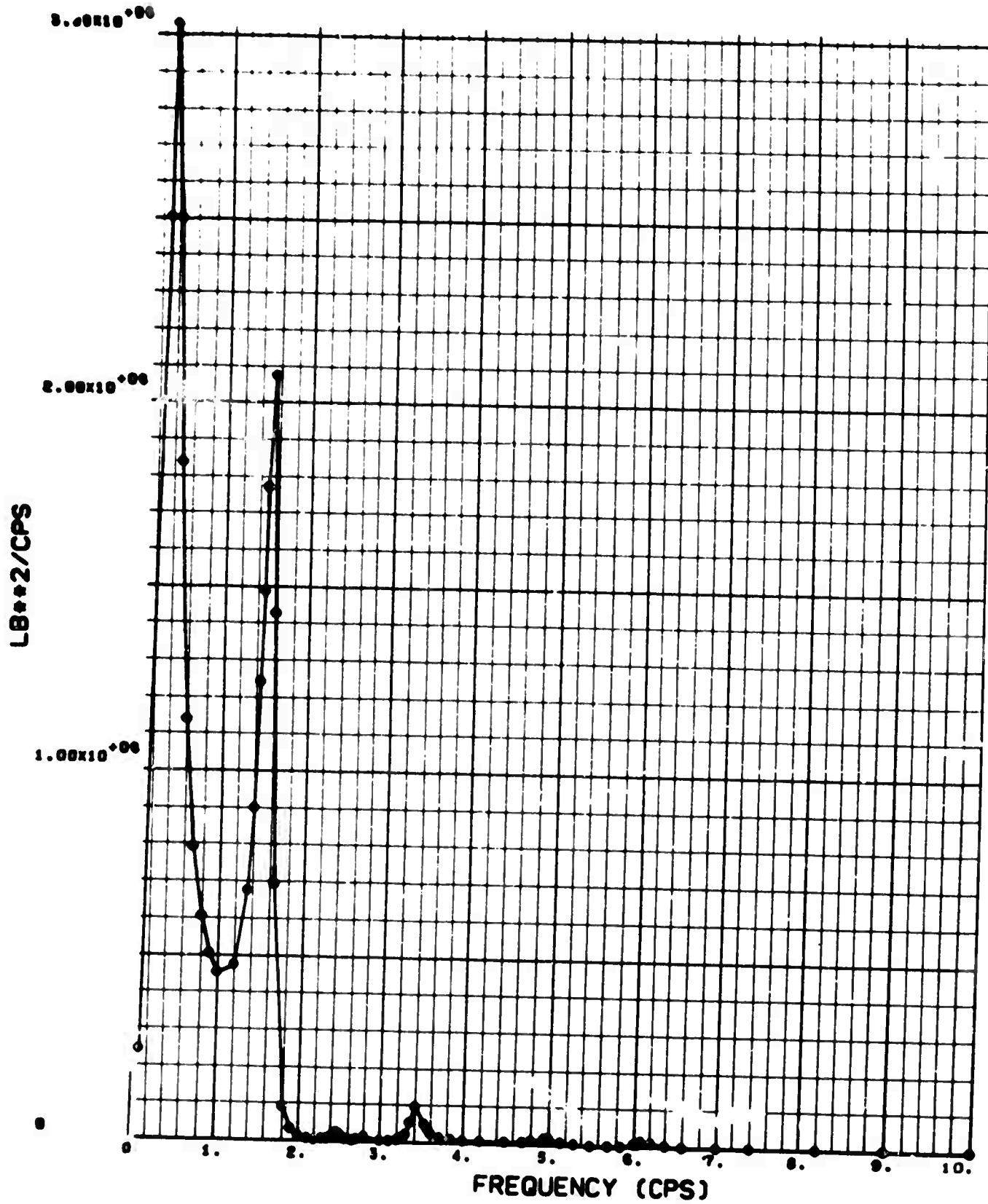
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

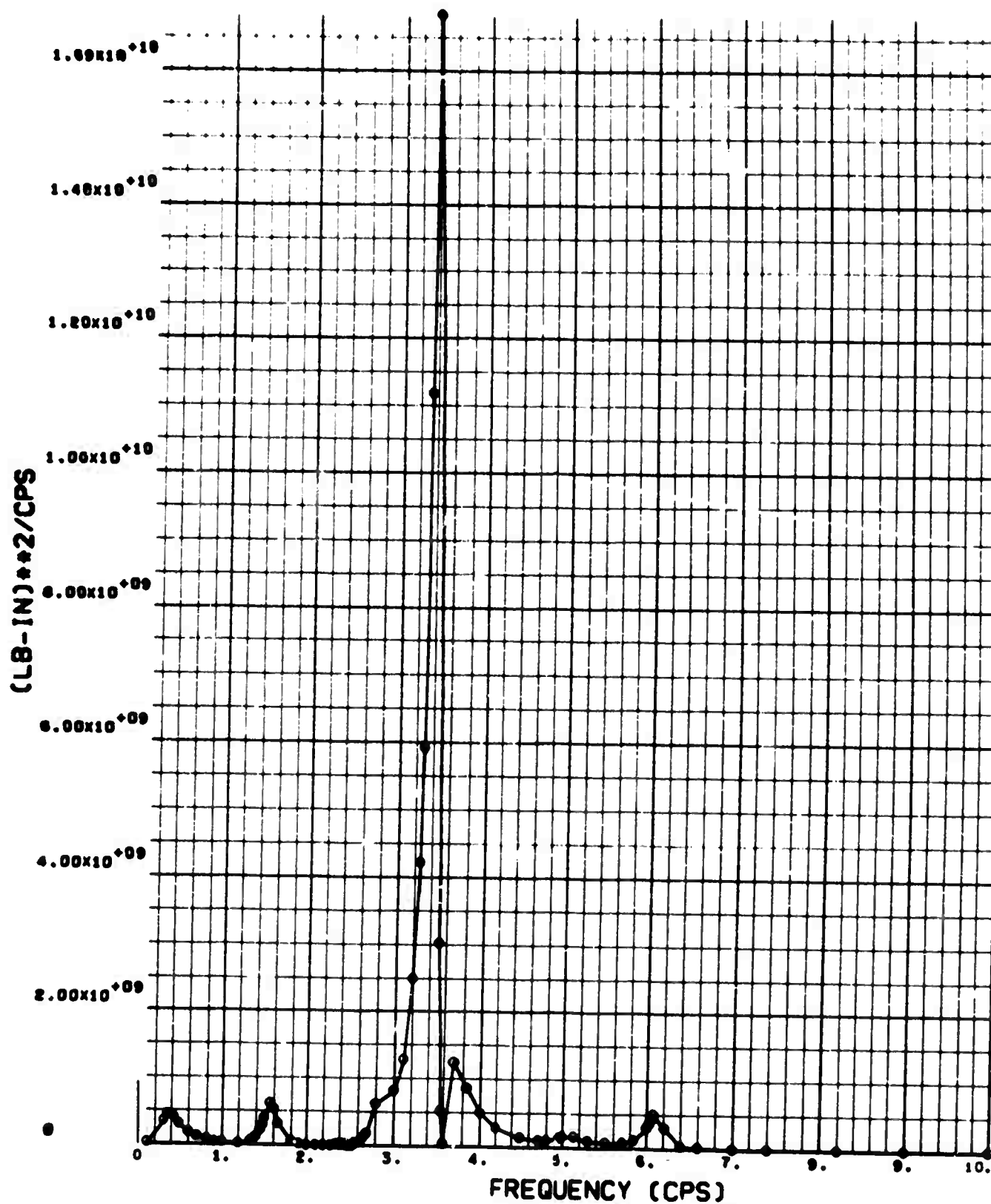


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



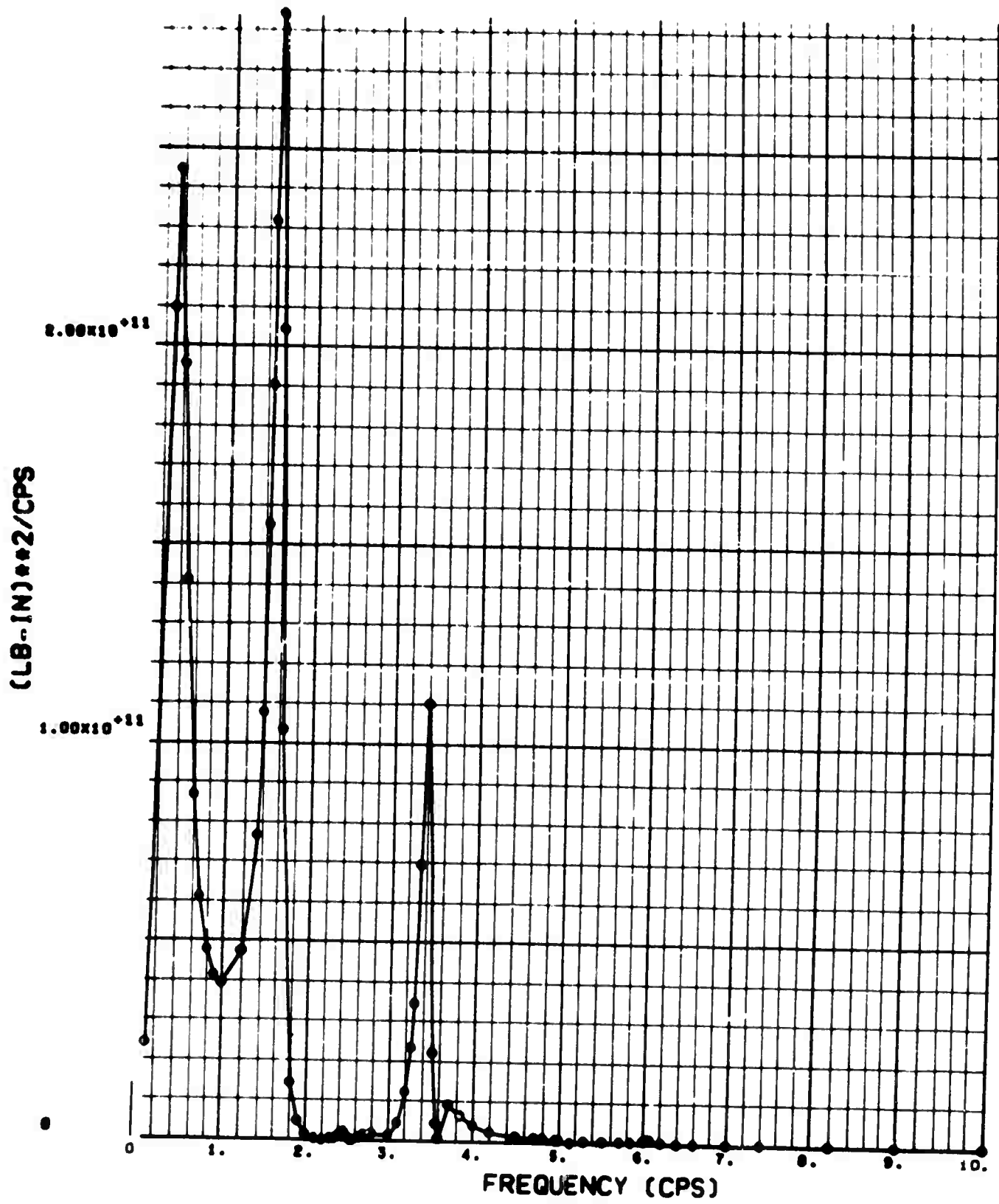
BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

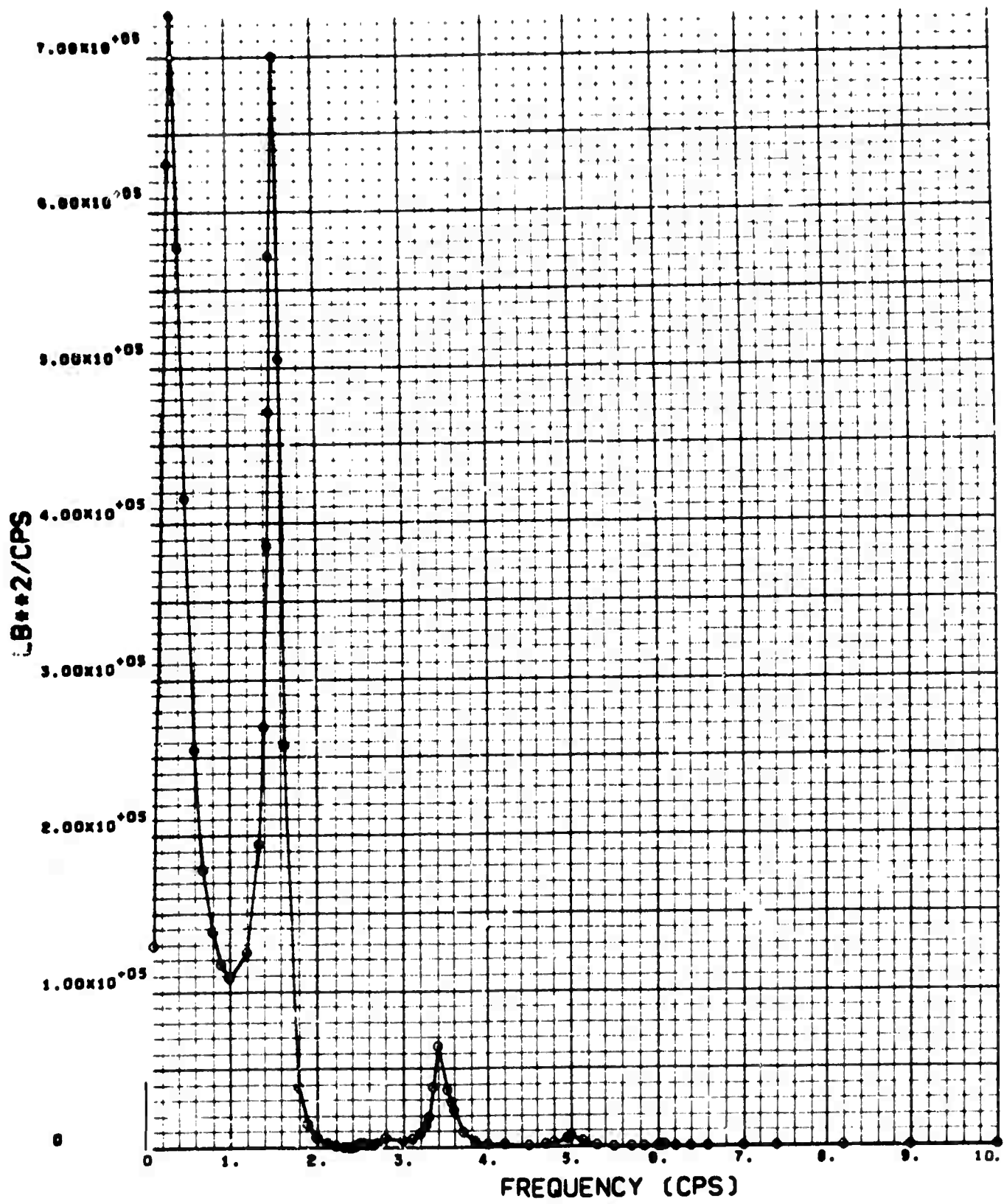


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

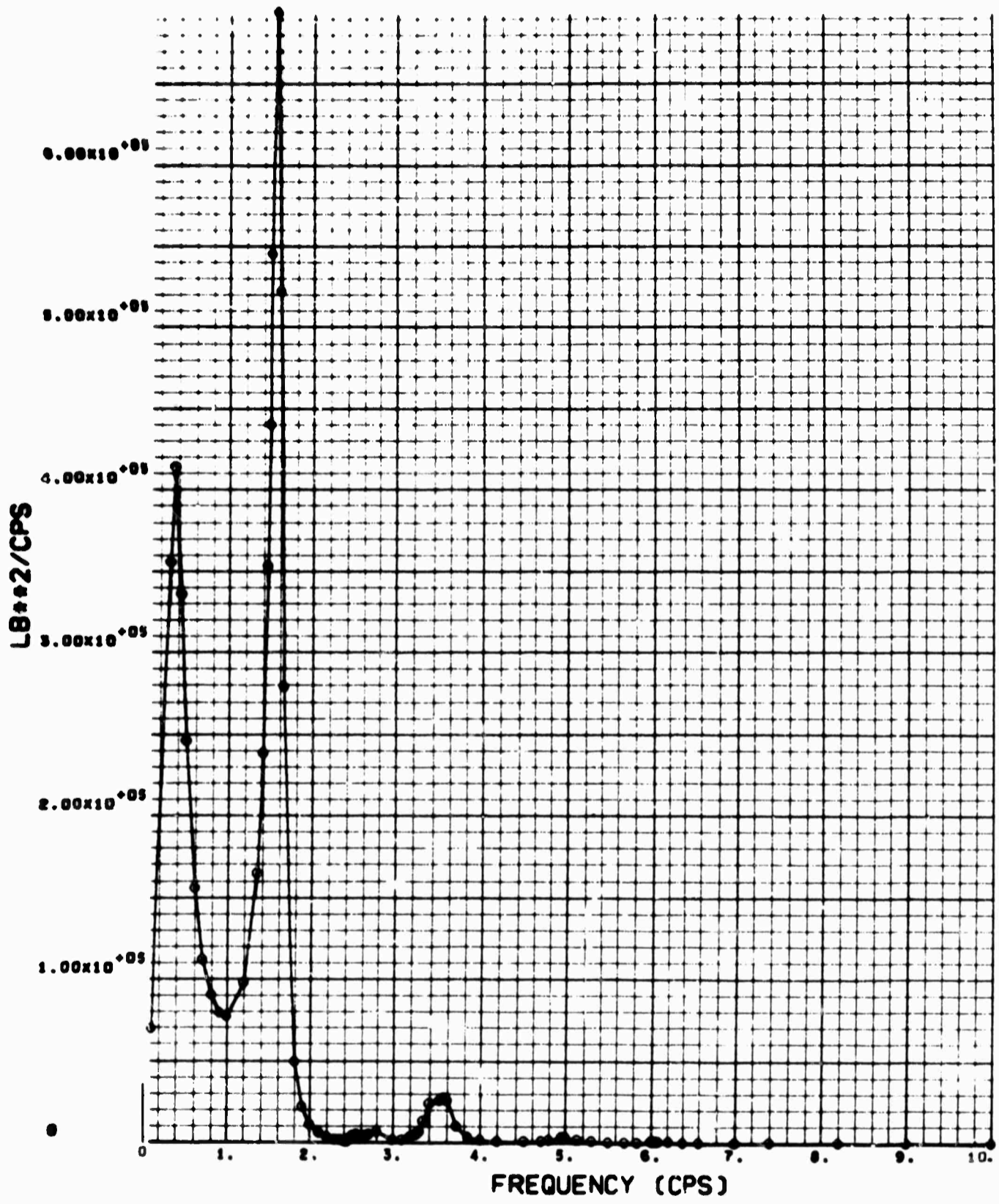


WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

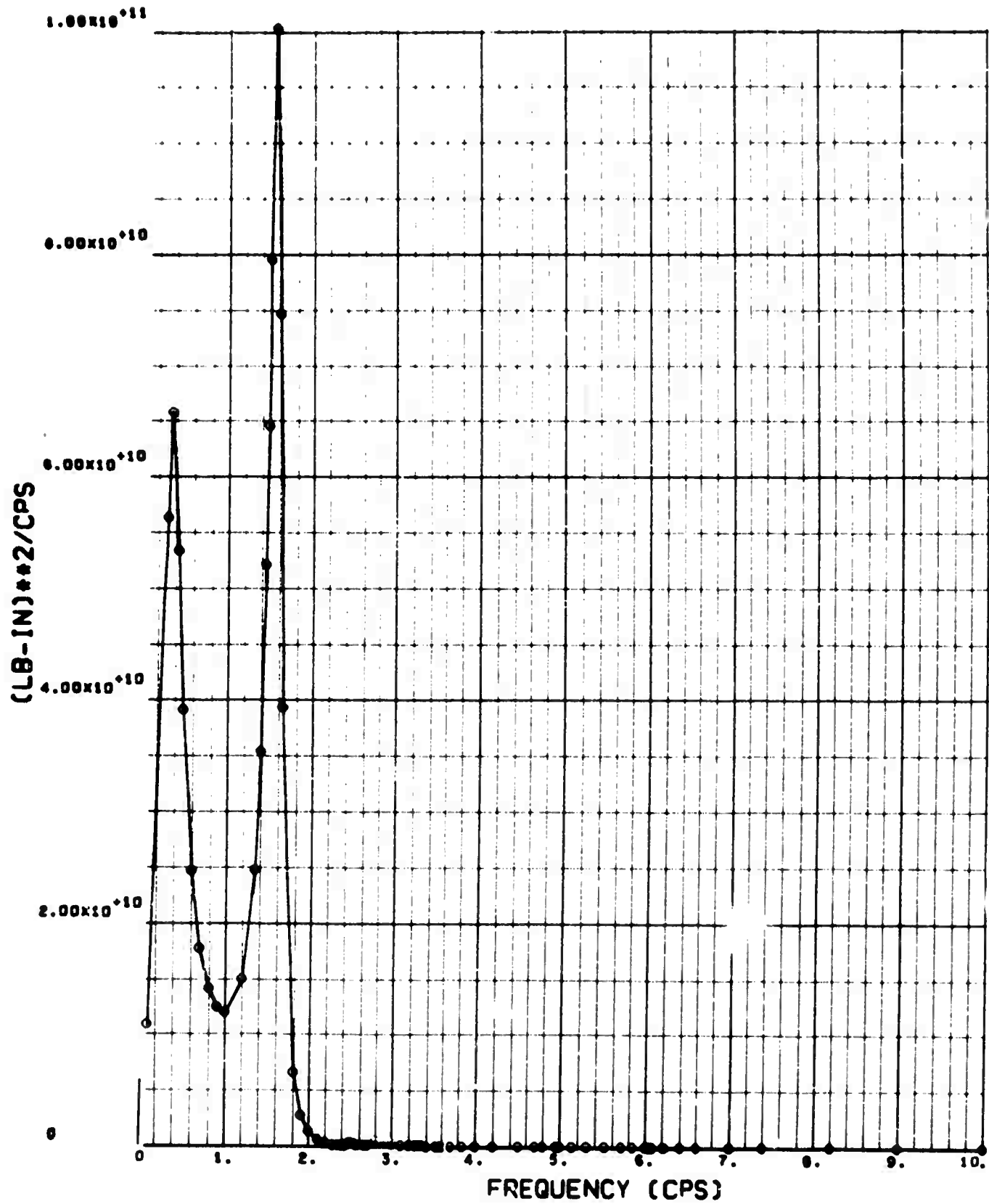


WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

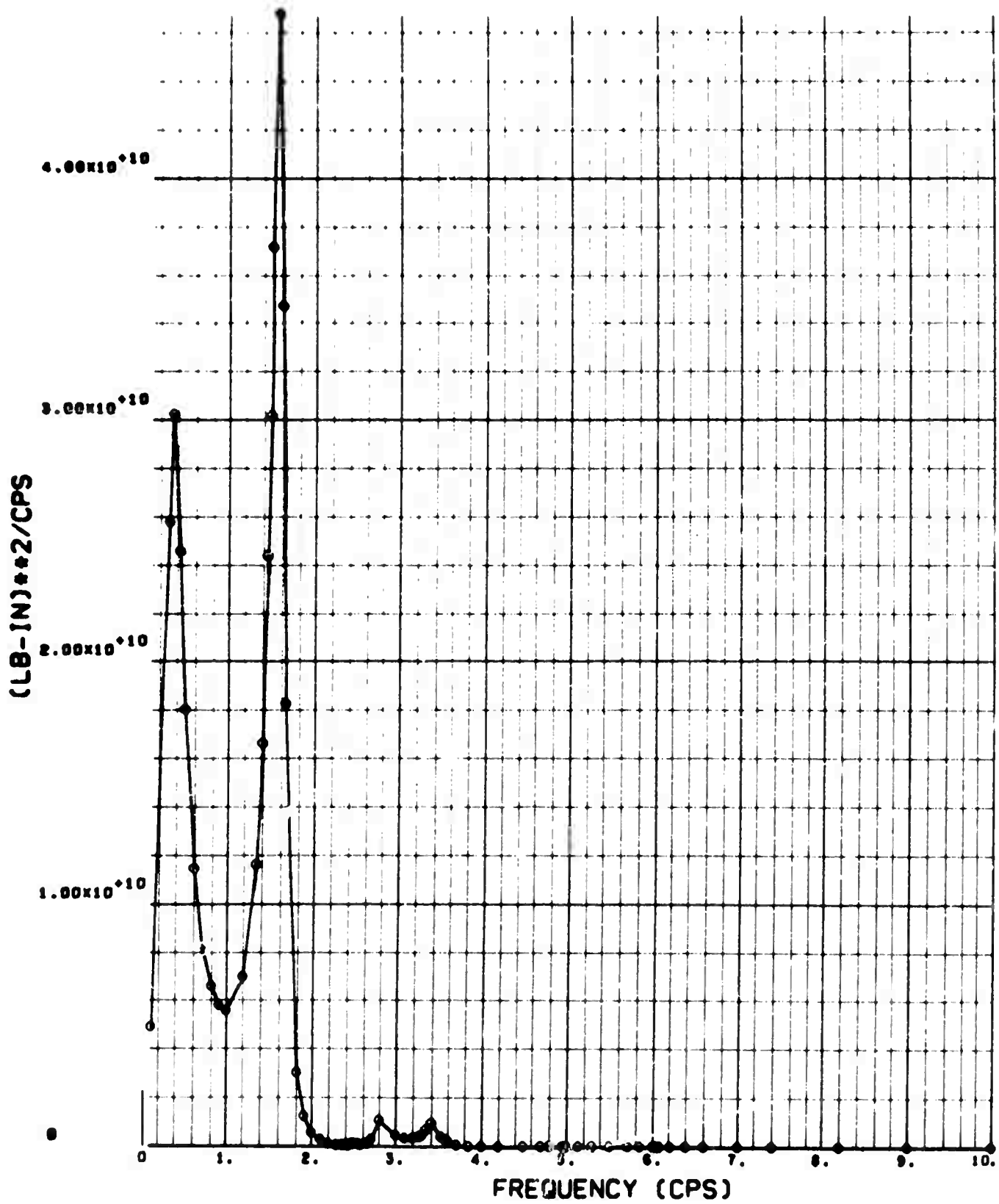


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT:	297,000 LB	CUTOFF FREQUENCY:	10 CPS
ALTITUDE:	24,000 FT	SCALE OF TURBULENCE:	3,000 FT
MACH NUMBER:	0.85		

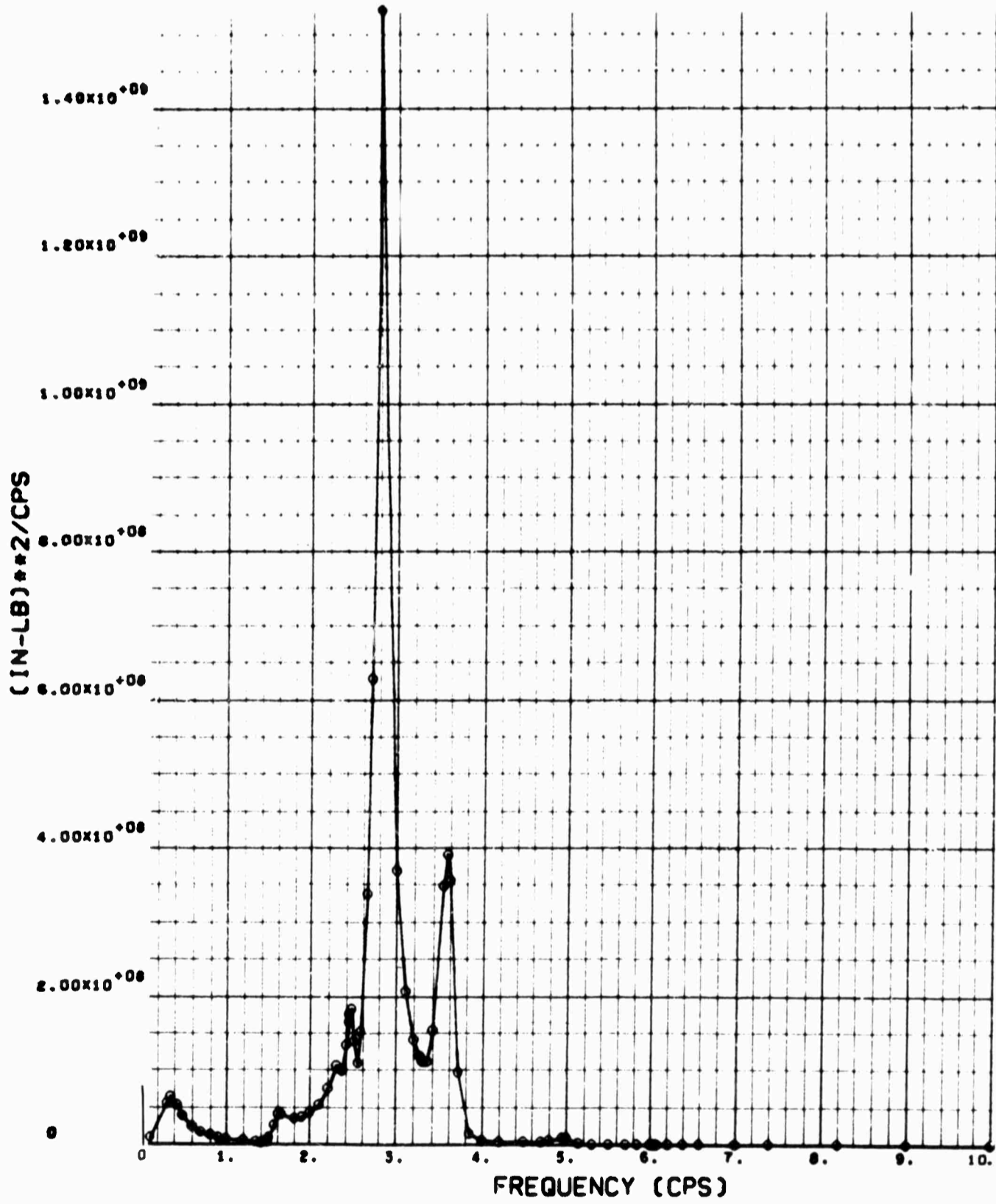


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

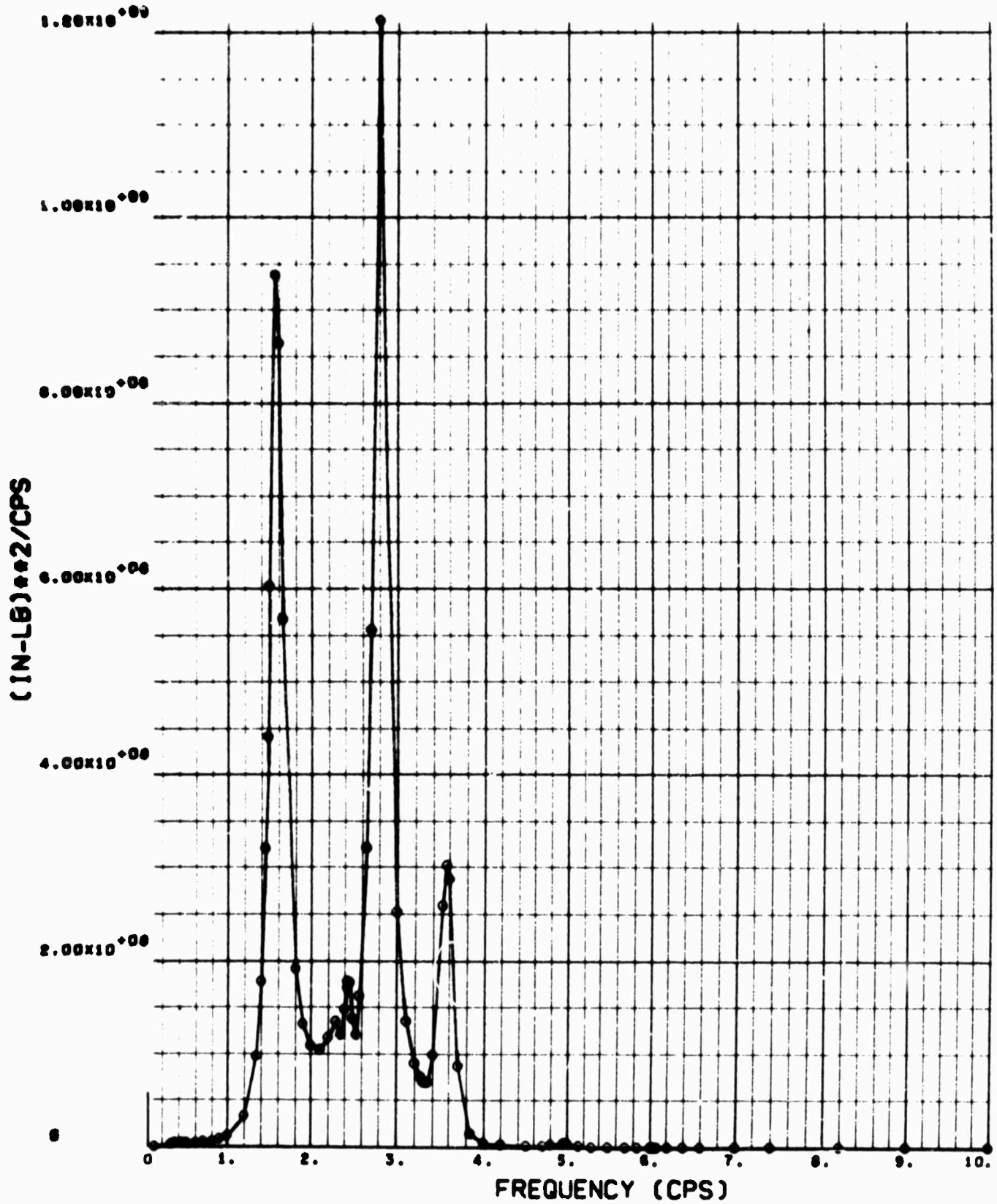
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

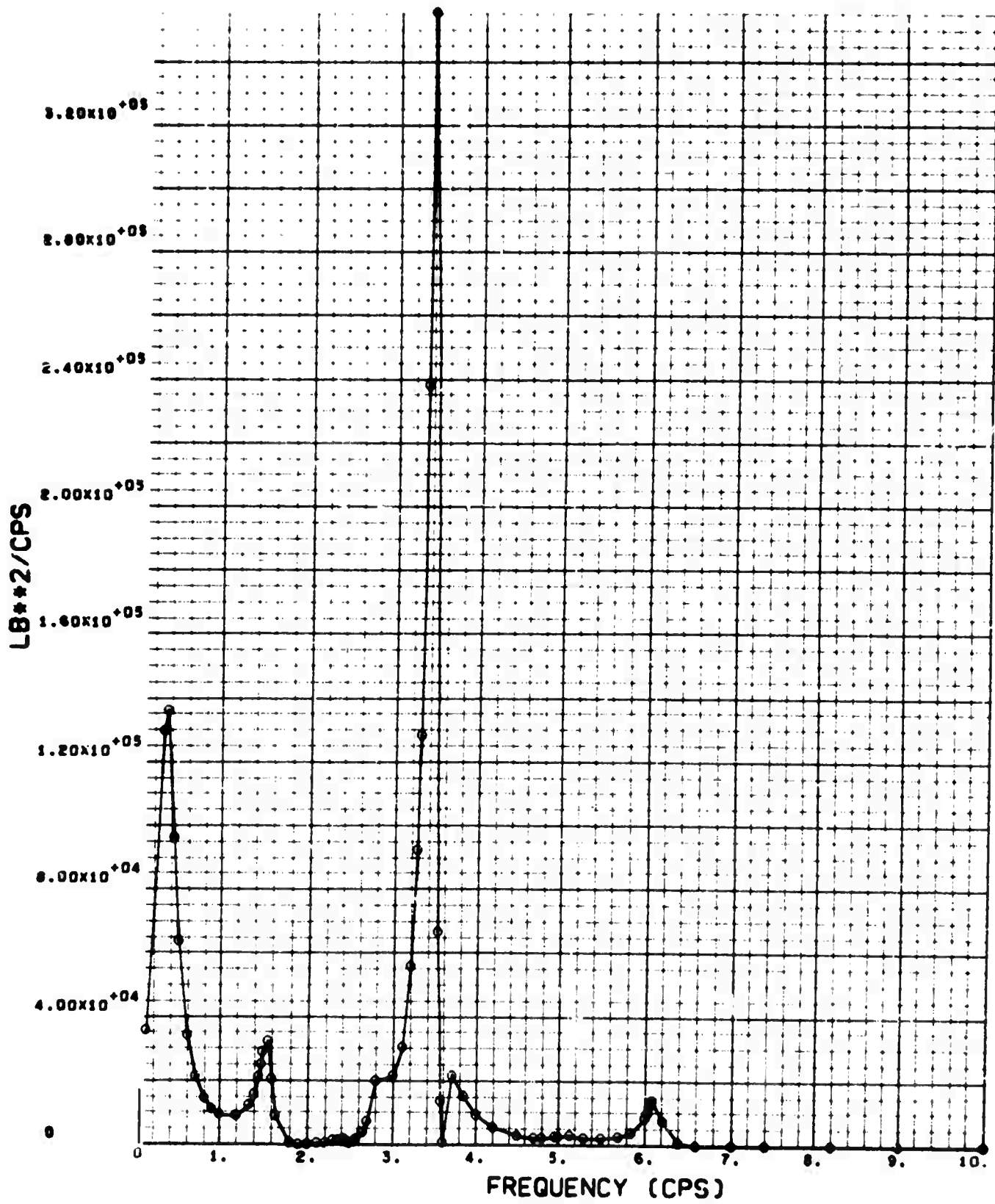


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



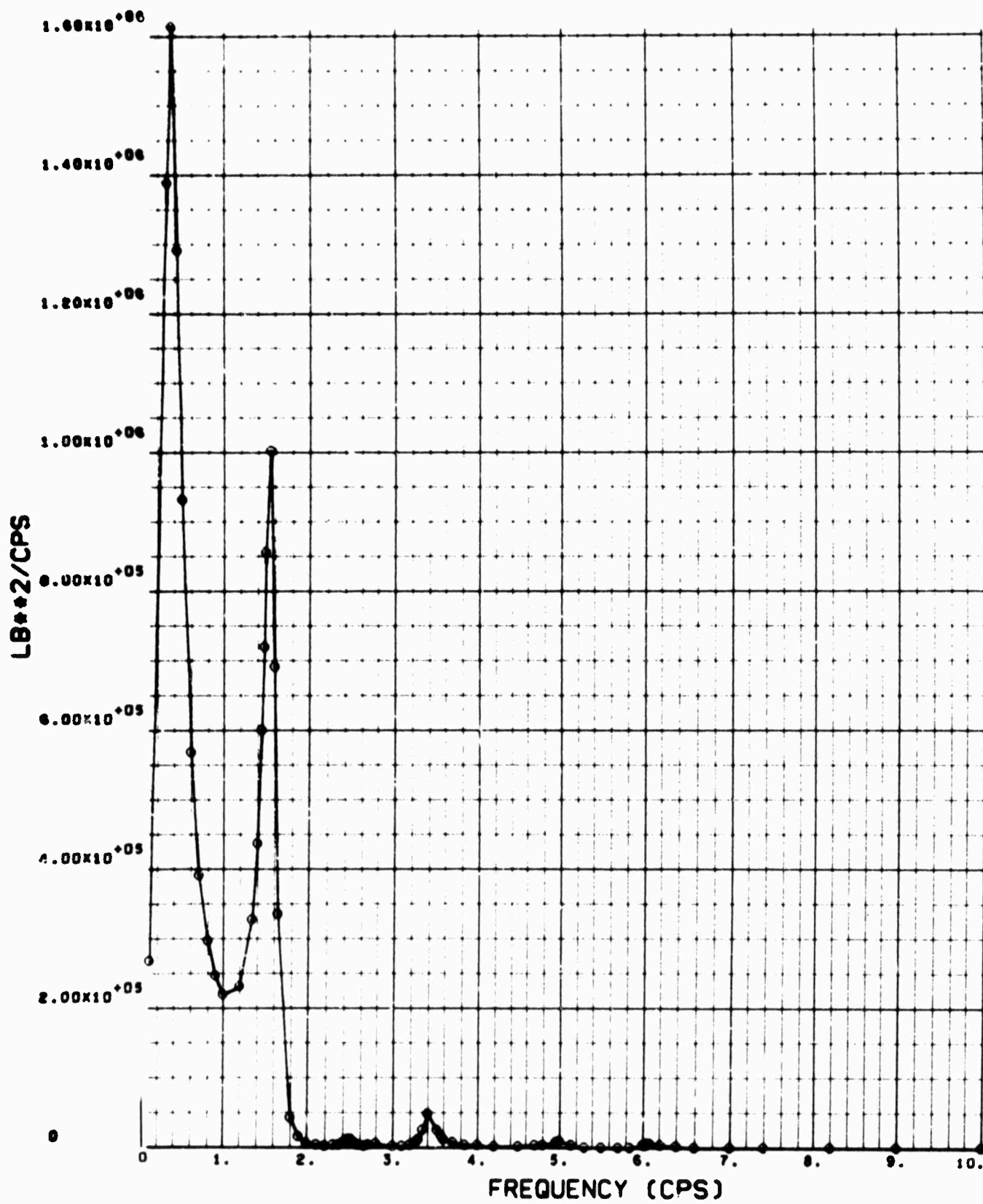
BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 1

WEIGHT CONDITION A

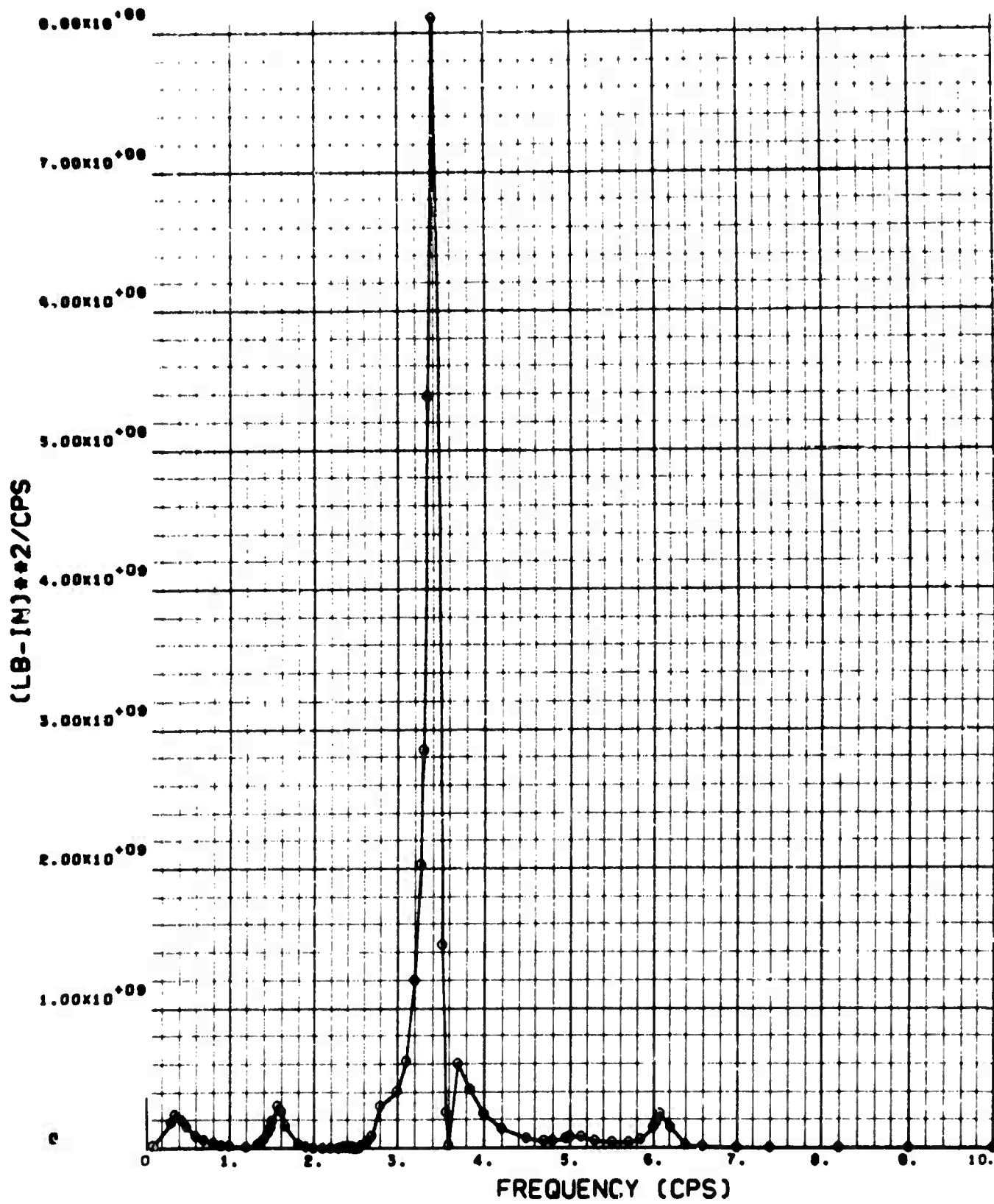
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

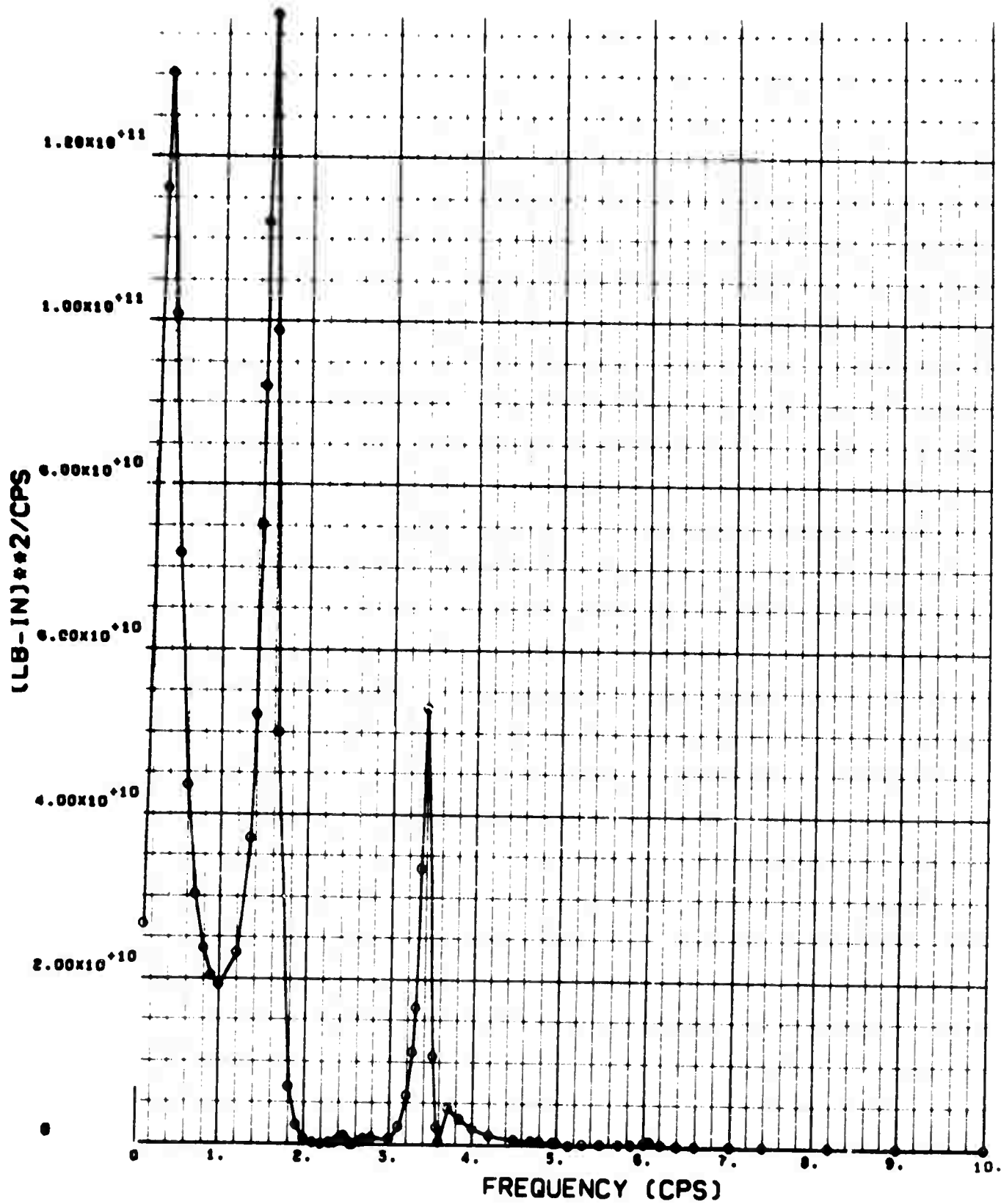


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

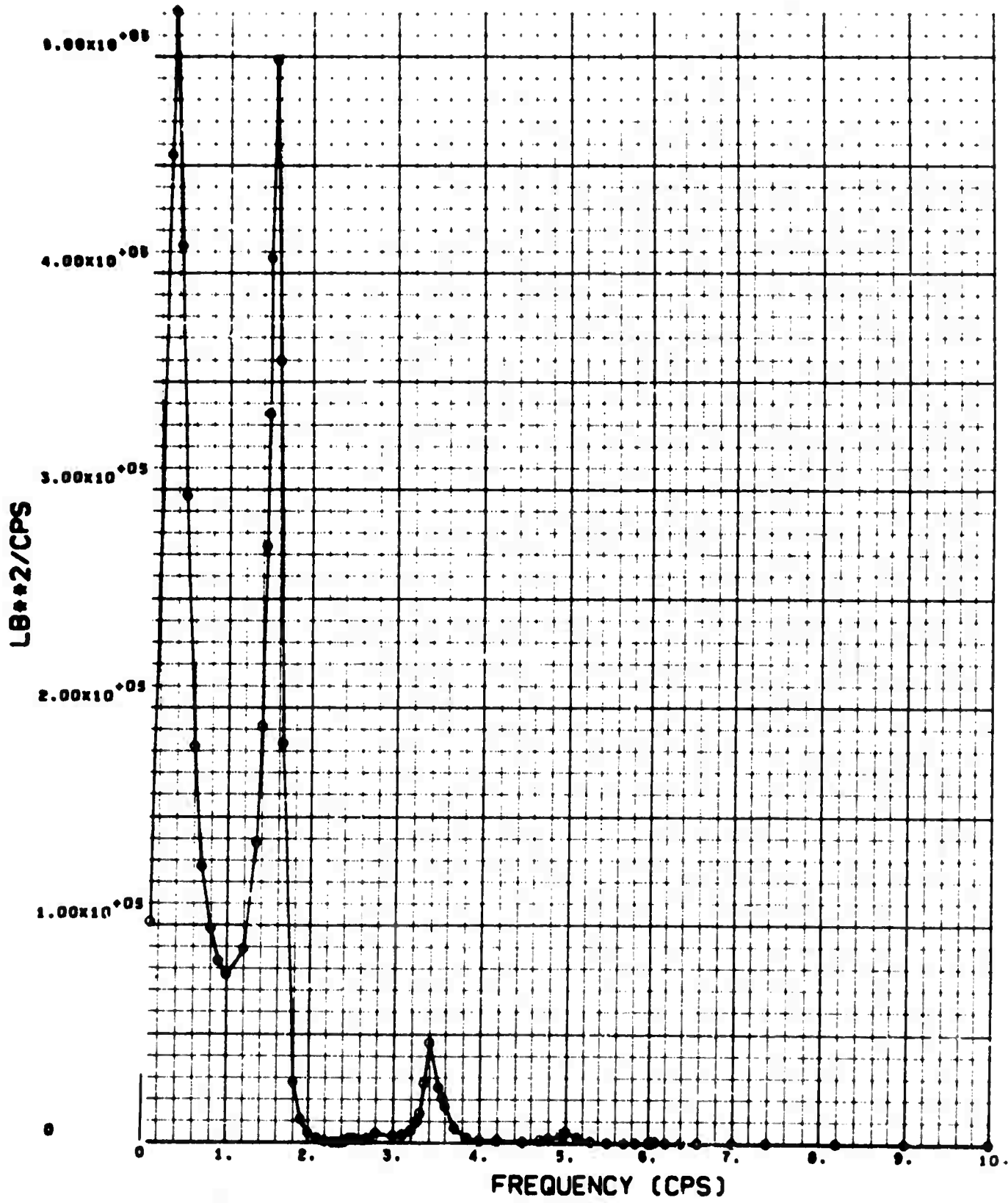


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT          SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

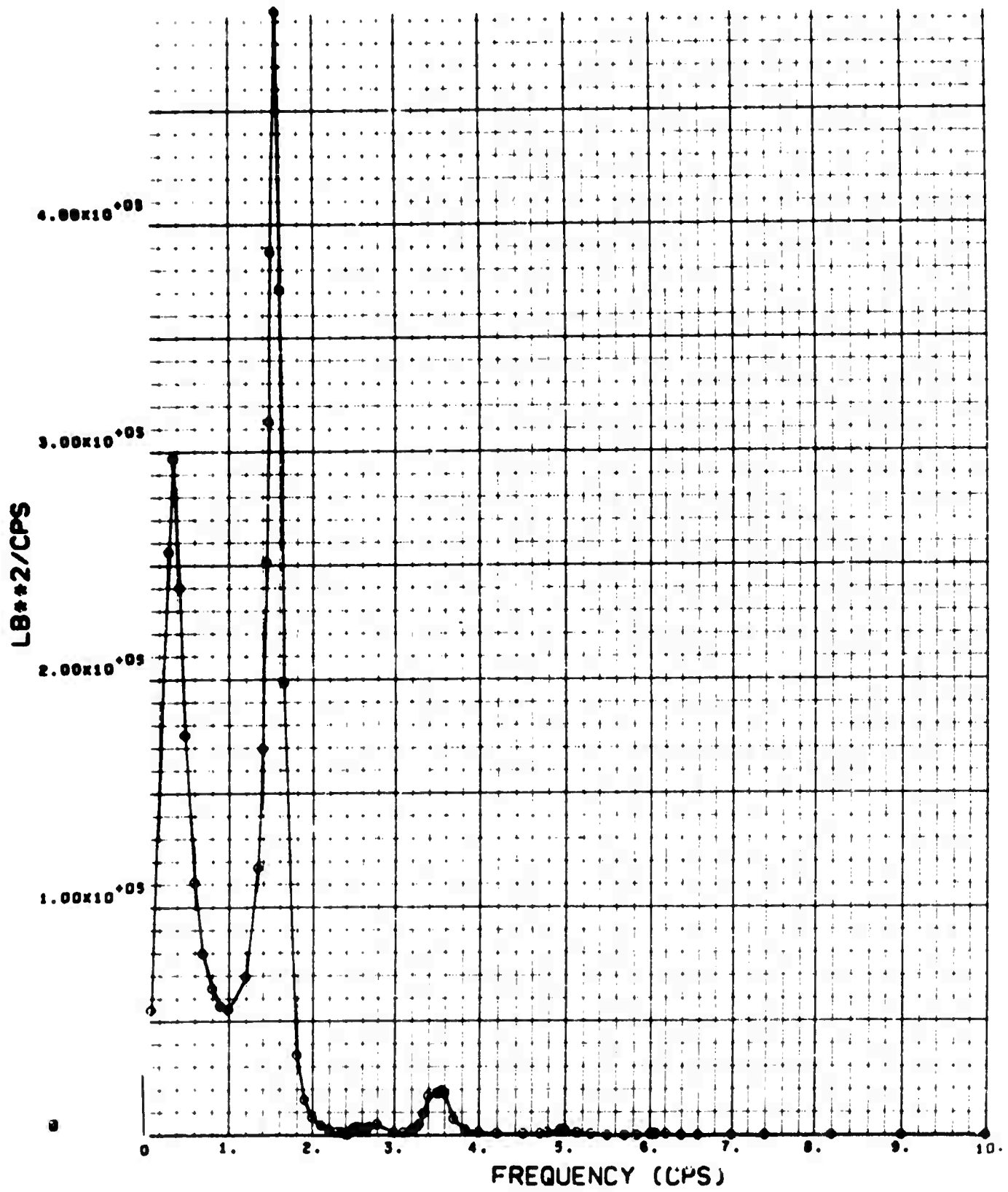


WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

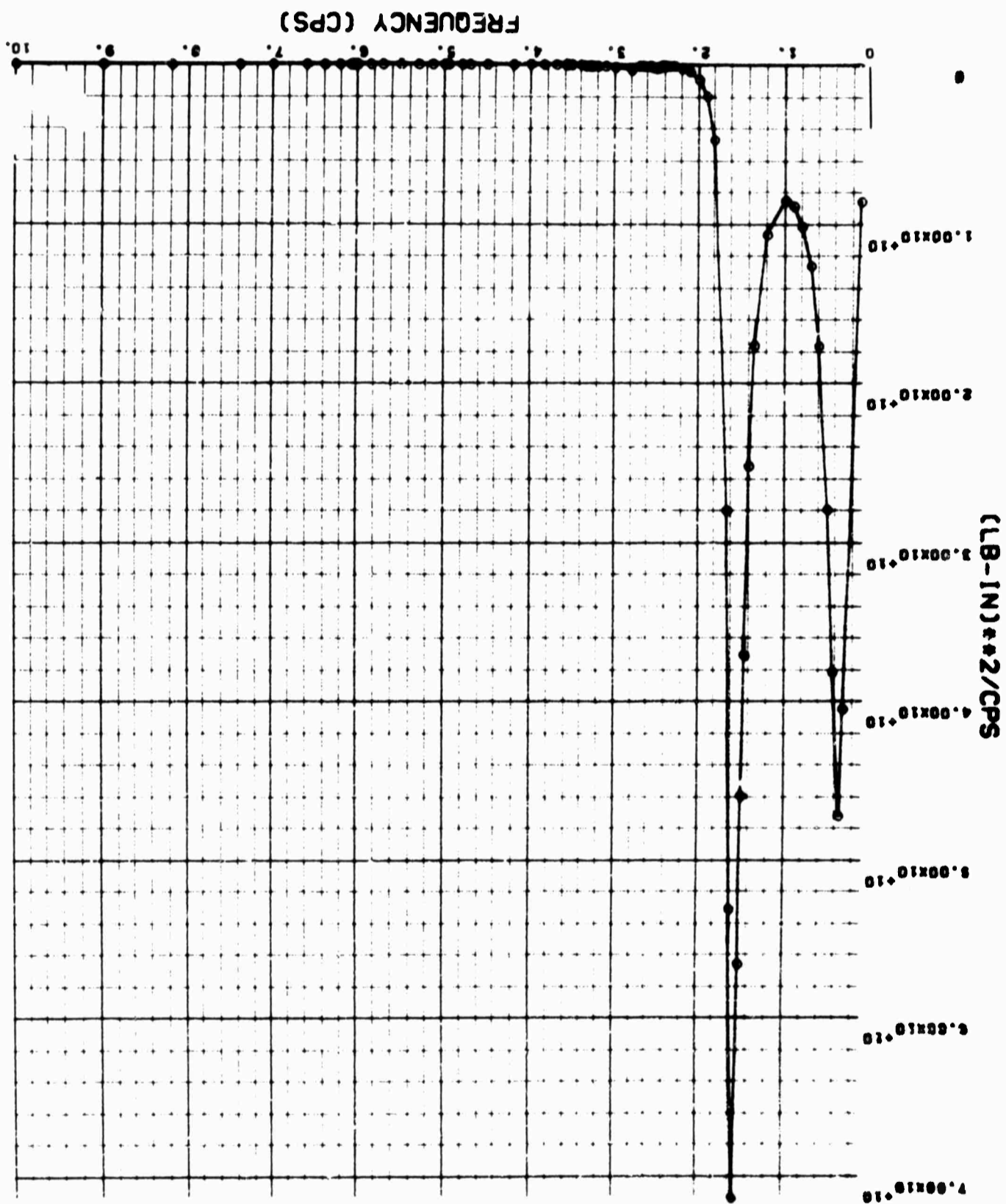
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

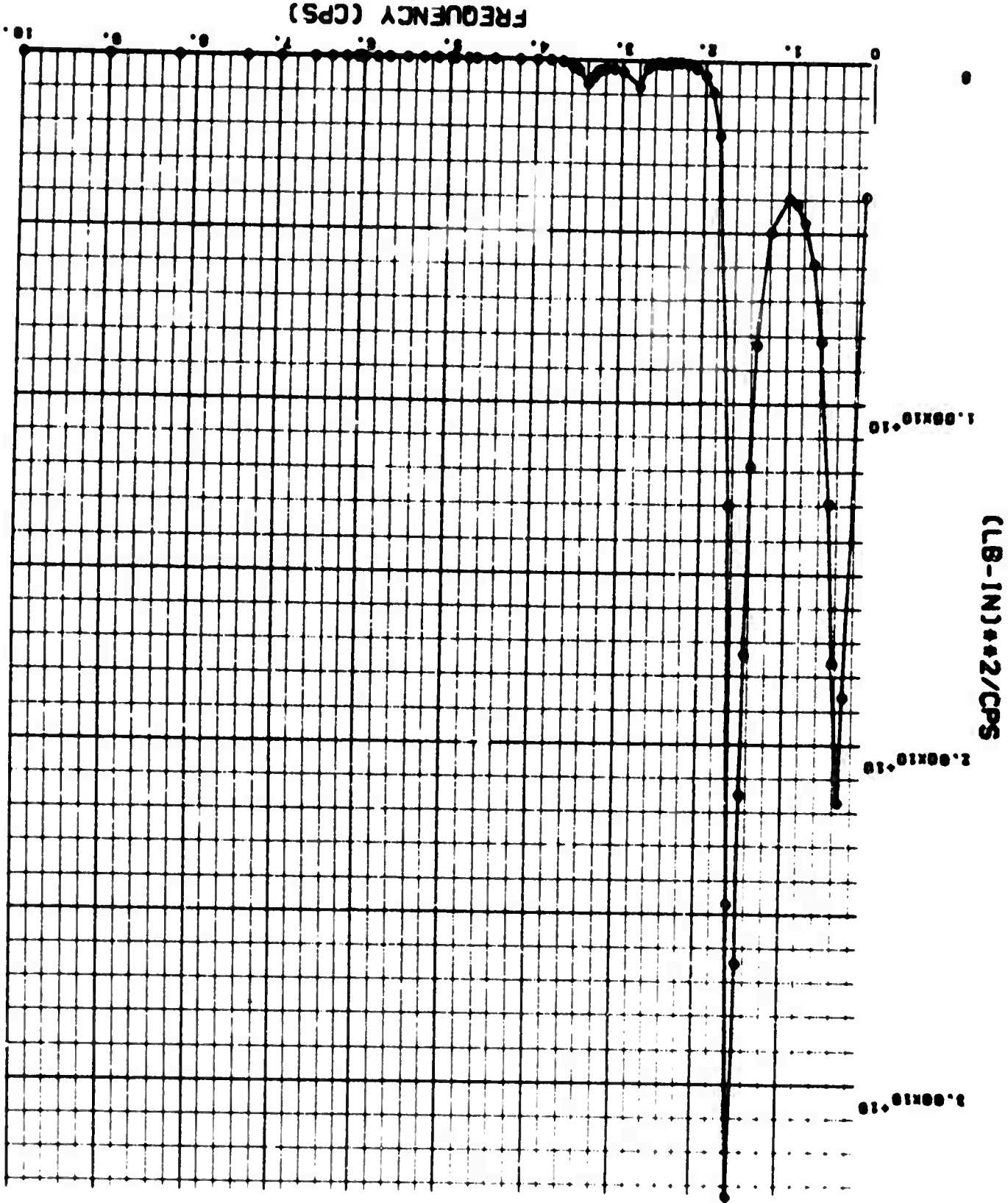
WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN



GROSS WEIGHT: 297,000 LB  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85  
 CUTOFF FREQUENCY: 10 CPS  
 SCALE OF TURBULENCE: 5,000 FT

ANALYSIS CONDITION 1  
 WEIGHT CONDITION A

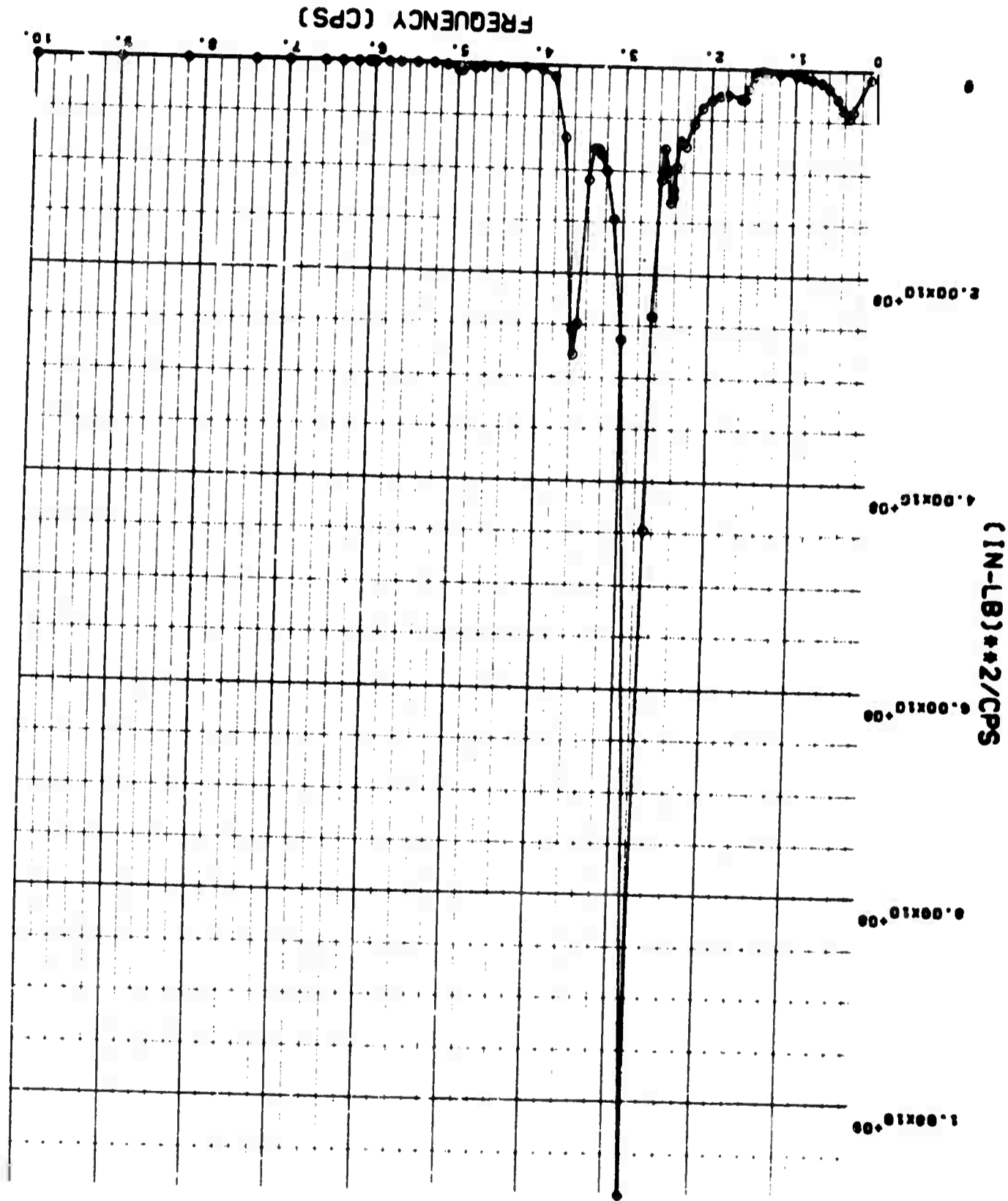
WING BENDING MOMENT SPECTRUM 40.06 PERCENT SEMISPAN



GROSS WEIGHT: 297,000 LB  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85  
CUTOFF FREQUENCY: 10 CPS  
SCALE OF TURBULENCE: 5,000 FT

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN

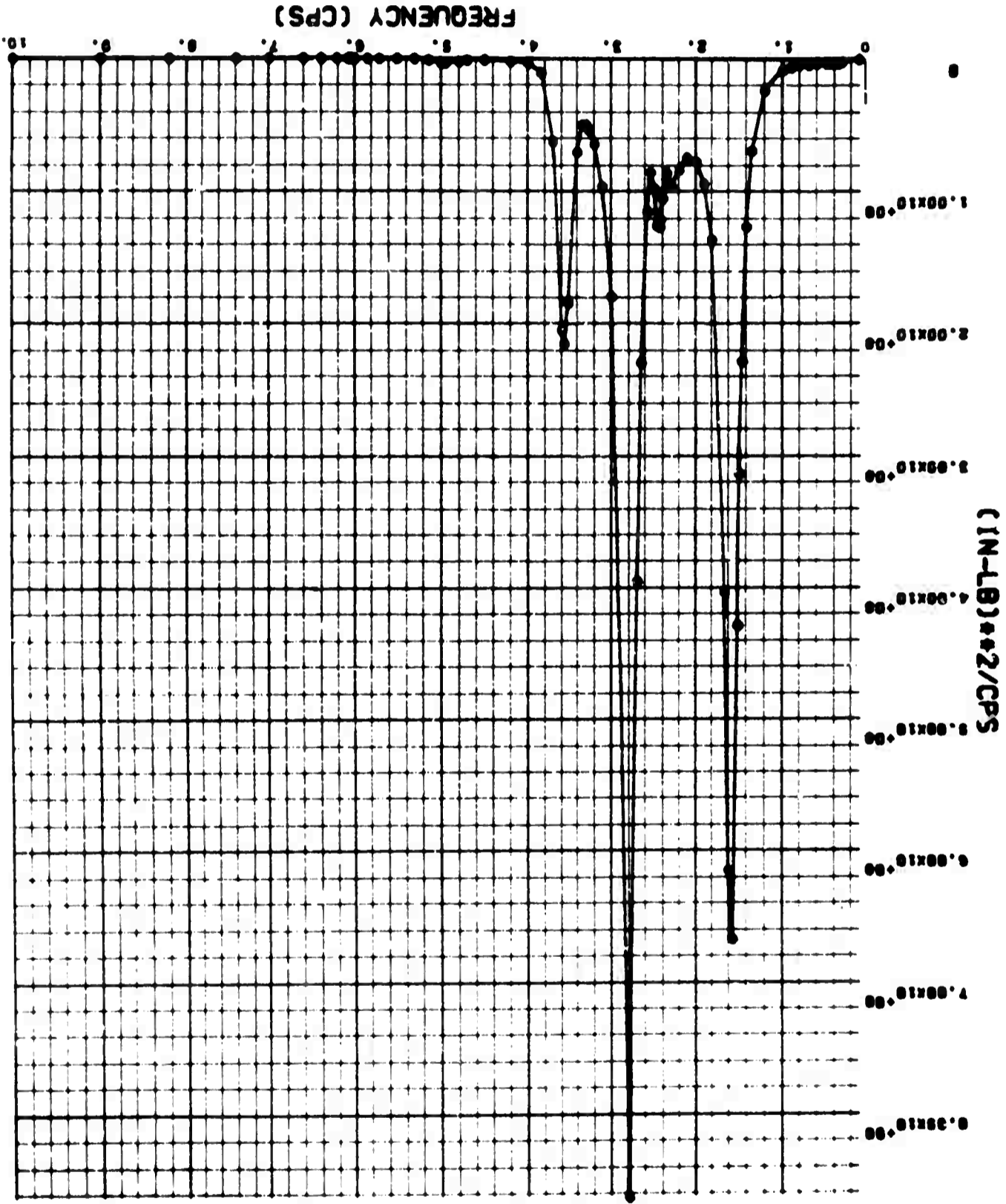


GROSS WEIGHT: 297,000 LB  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85  
 CUTOFF FREQUENCY: 10 CPS  
 SCALE OF TURBULENCE: 5,000 FT

ANALYSIS CONDITION 1  
 WEIGHT CONDITION A



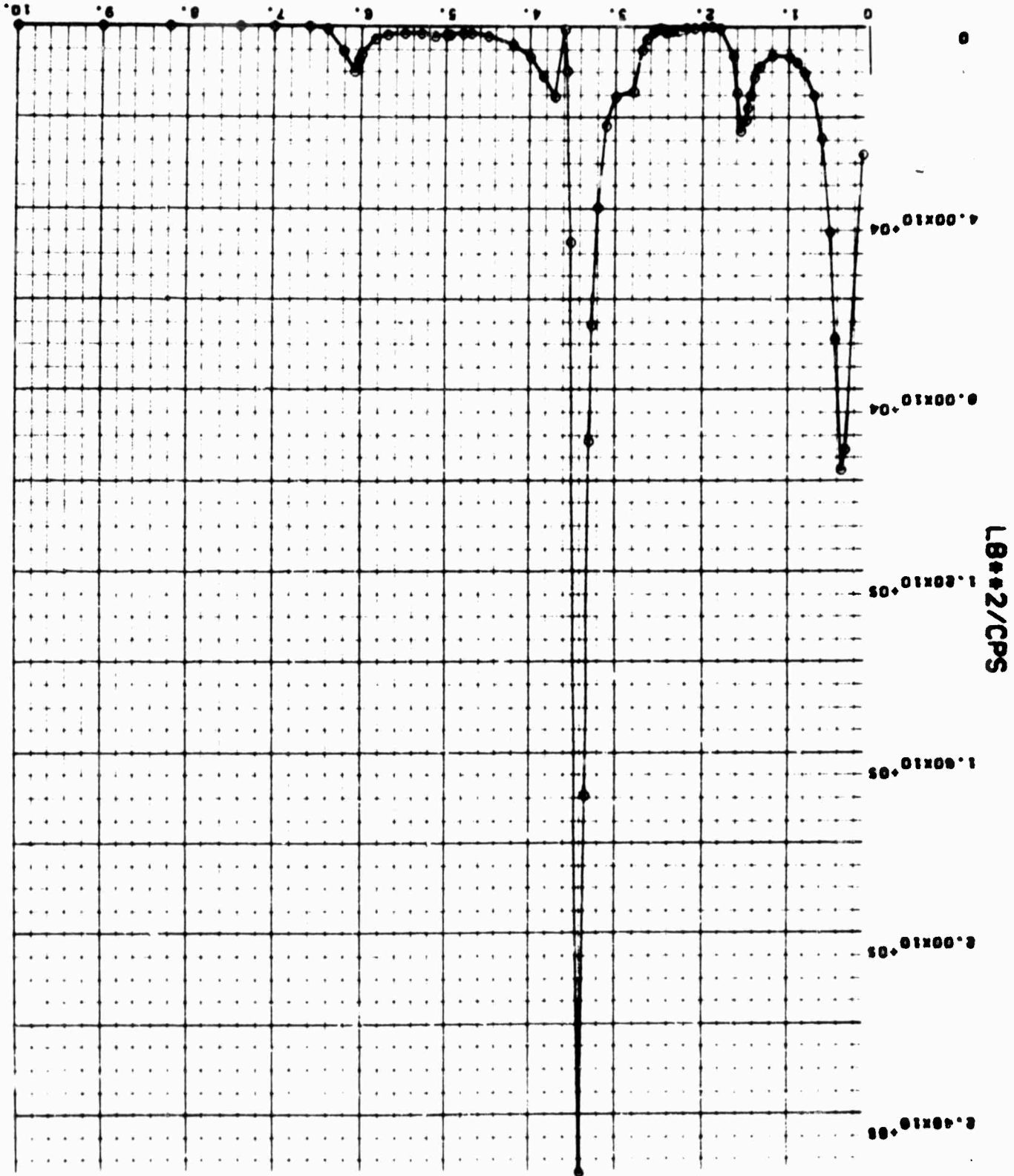
WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN



GROSS WEIGHT: 297,000 LB  
 ALTITUDE: 24,000 FT  
 MACH NUMBER: 0.85  
 CUTOFF FREQUENCY: 10 CPS  
 SCALE OF TURBULENCE: 5,000 FT

ANALYSIS CONDITION 1  
 WEIGHT CONDITION A

BODY SHAR SPECTRUM,  
BODY BALANCE STATION, 540



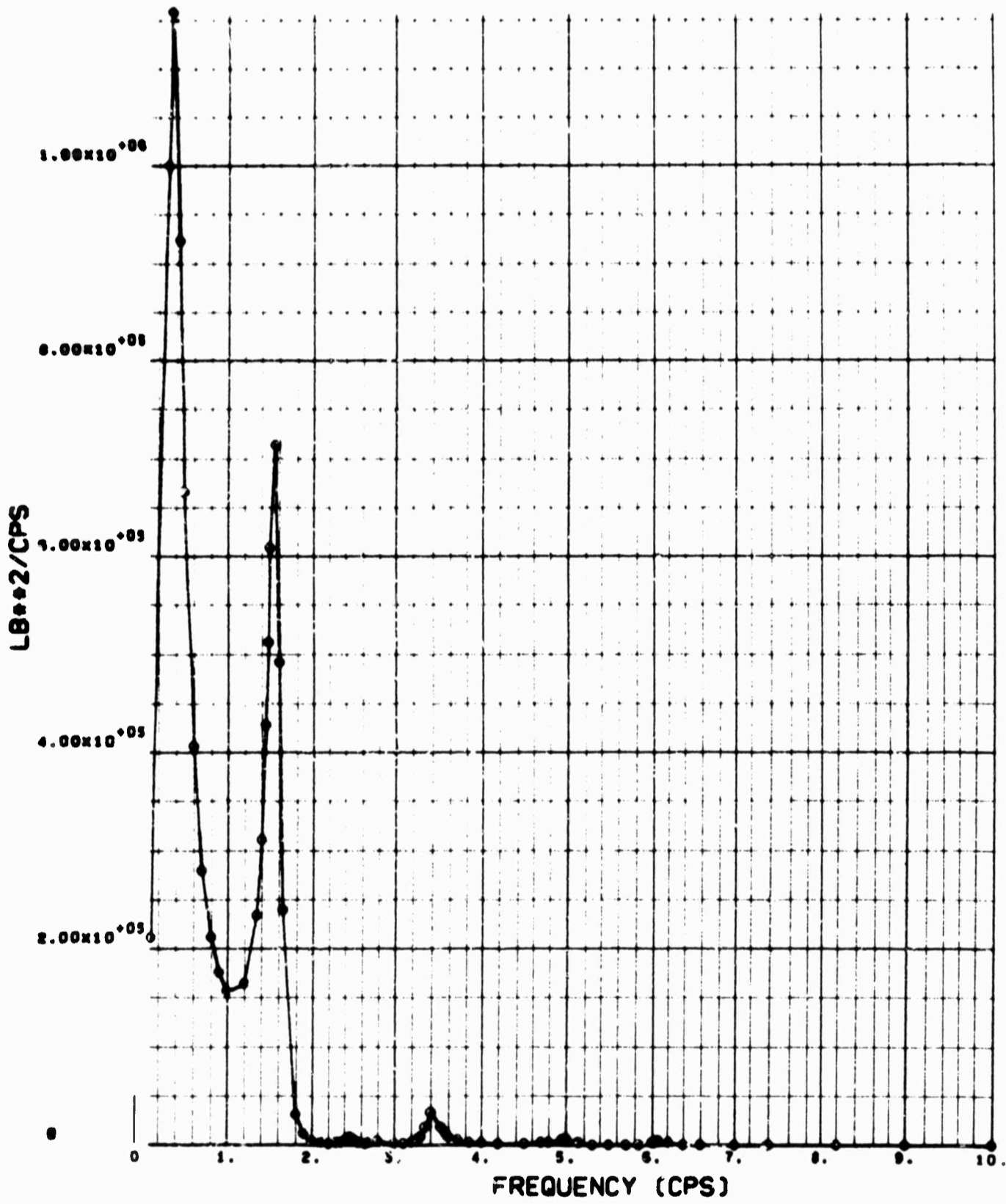
GROSS WEIGHT: 297,000 LB  
 ALTITUDE: 24,000 FT  
 MAC# NUMBER: 0.85  
 CUTOFF FREQUENCY: 10 CPS  
 SCALE OF TURBULENCE: 5,000 FT

ANALYSIS CONDITION 1  
 WEIGHT CONDITION A

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

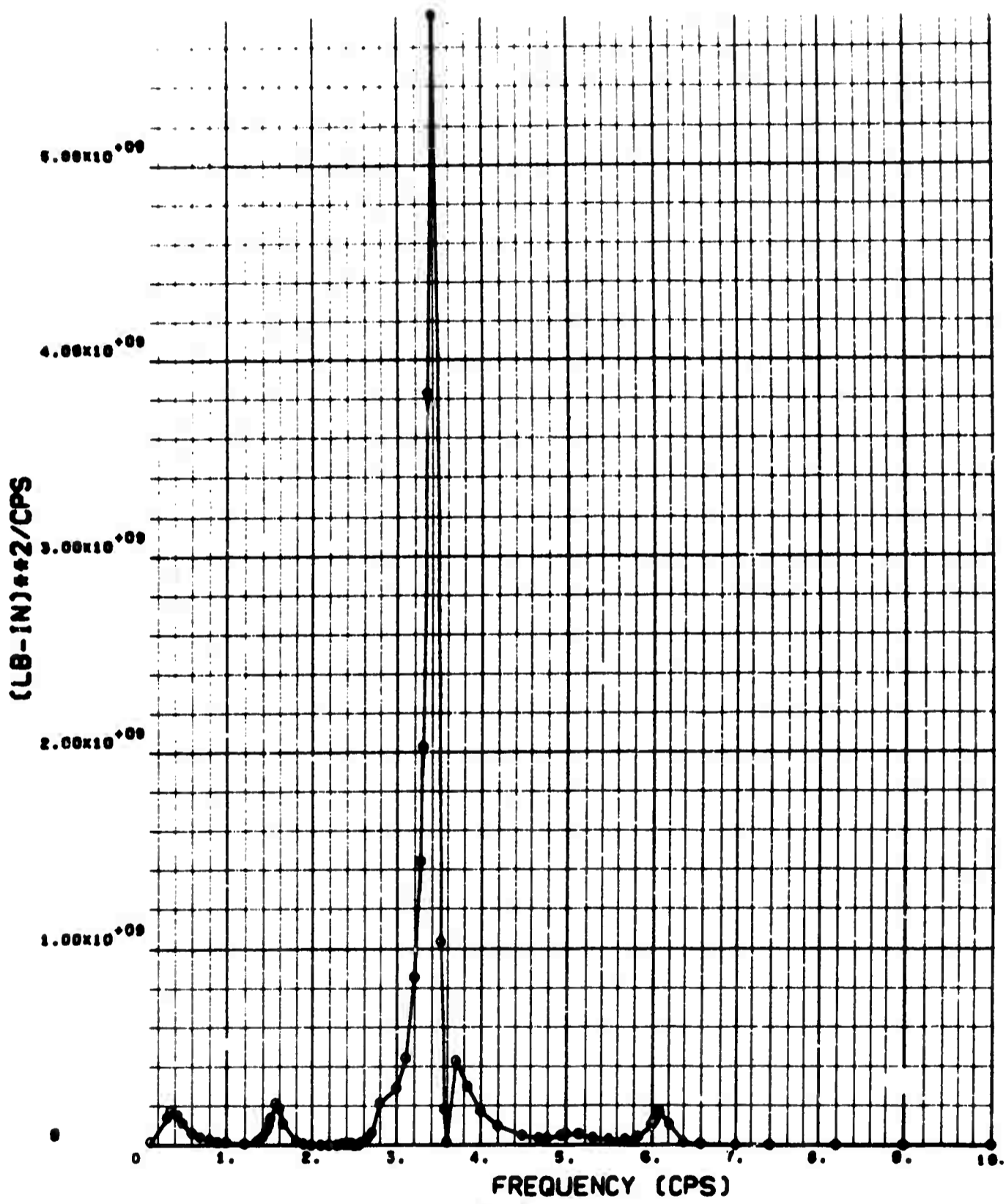


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

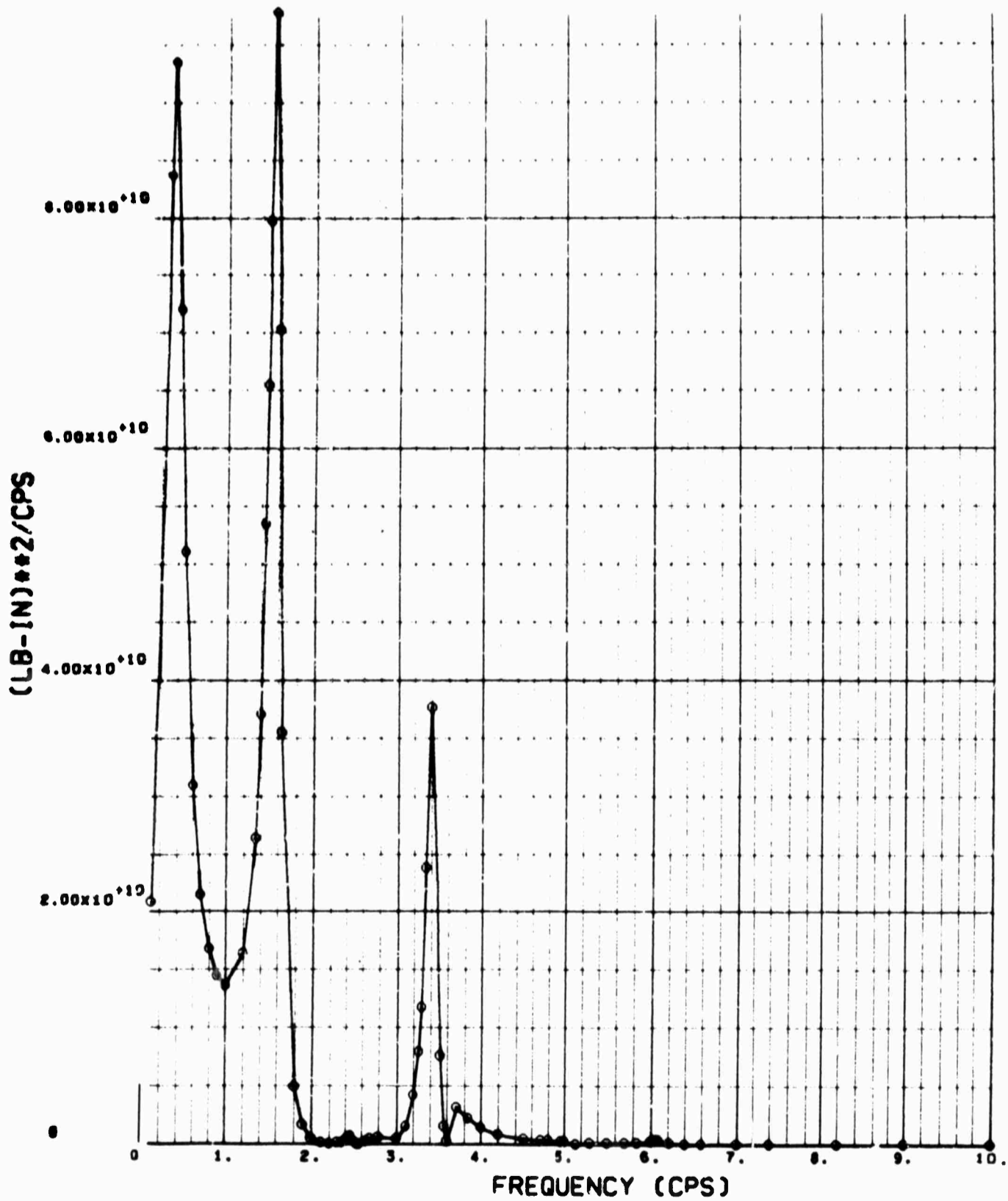


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

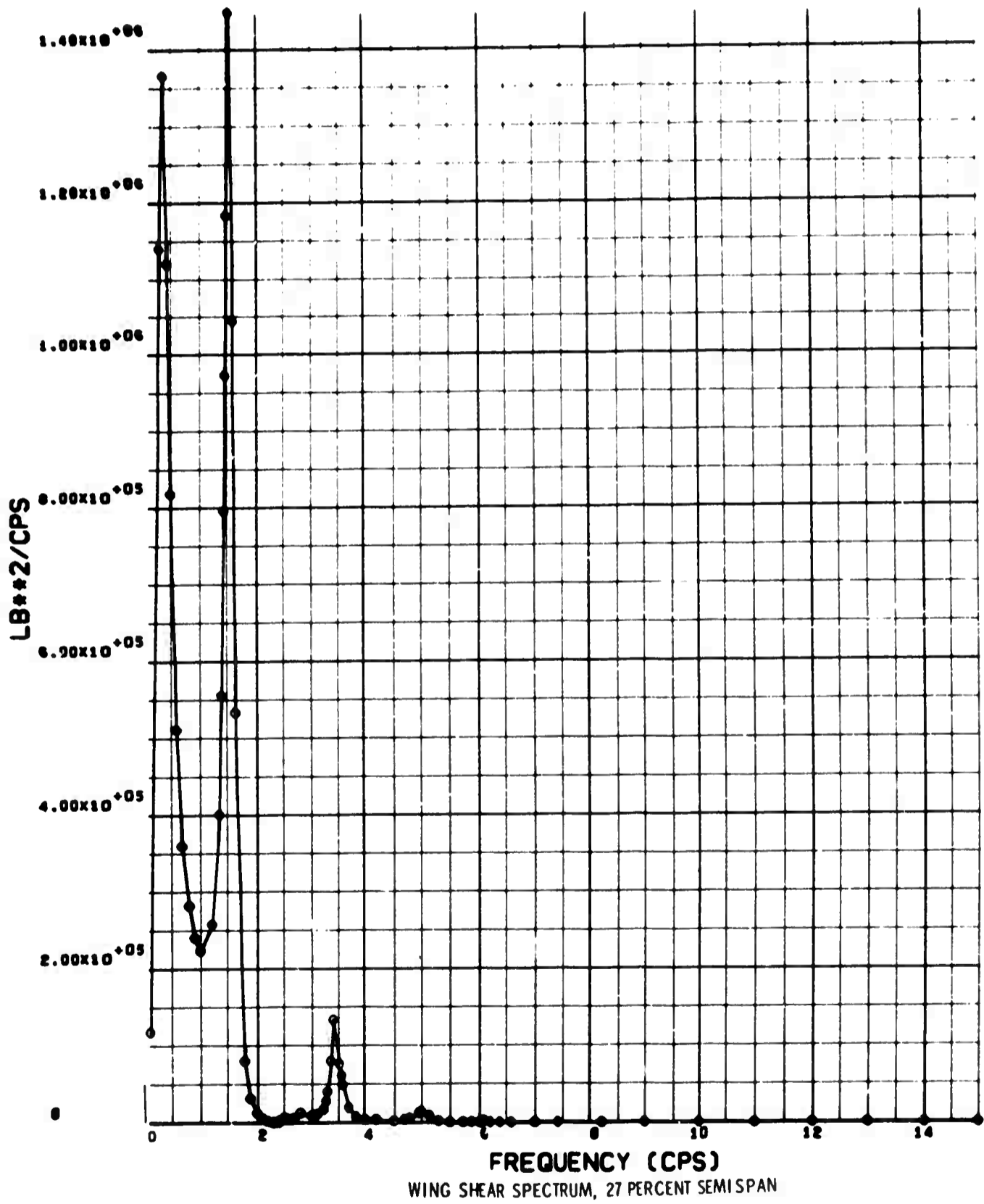


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

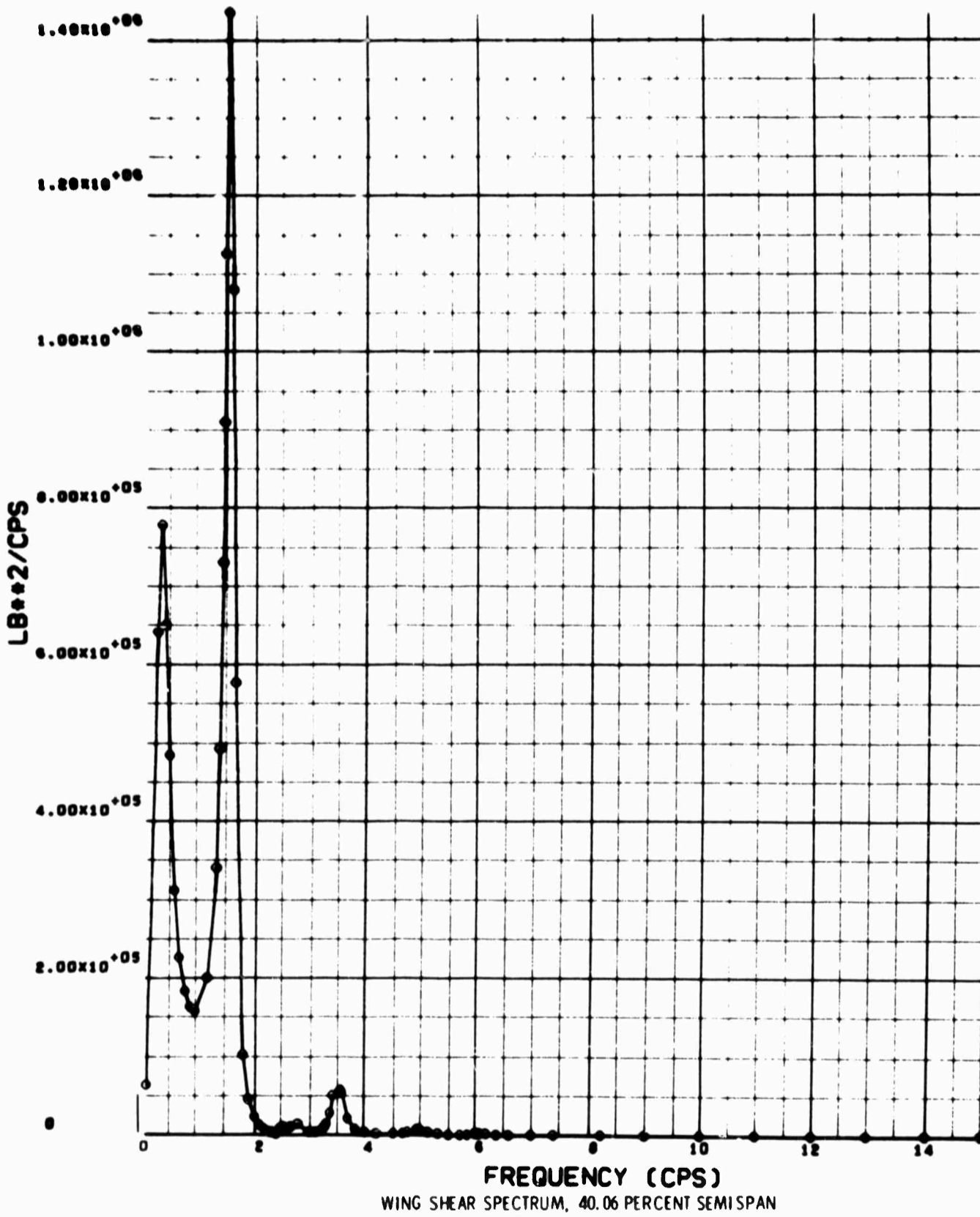
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1

WEIGHT CONDITION A

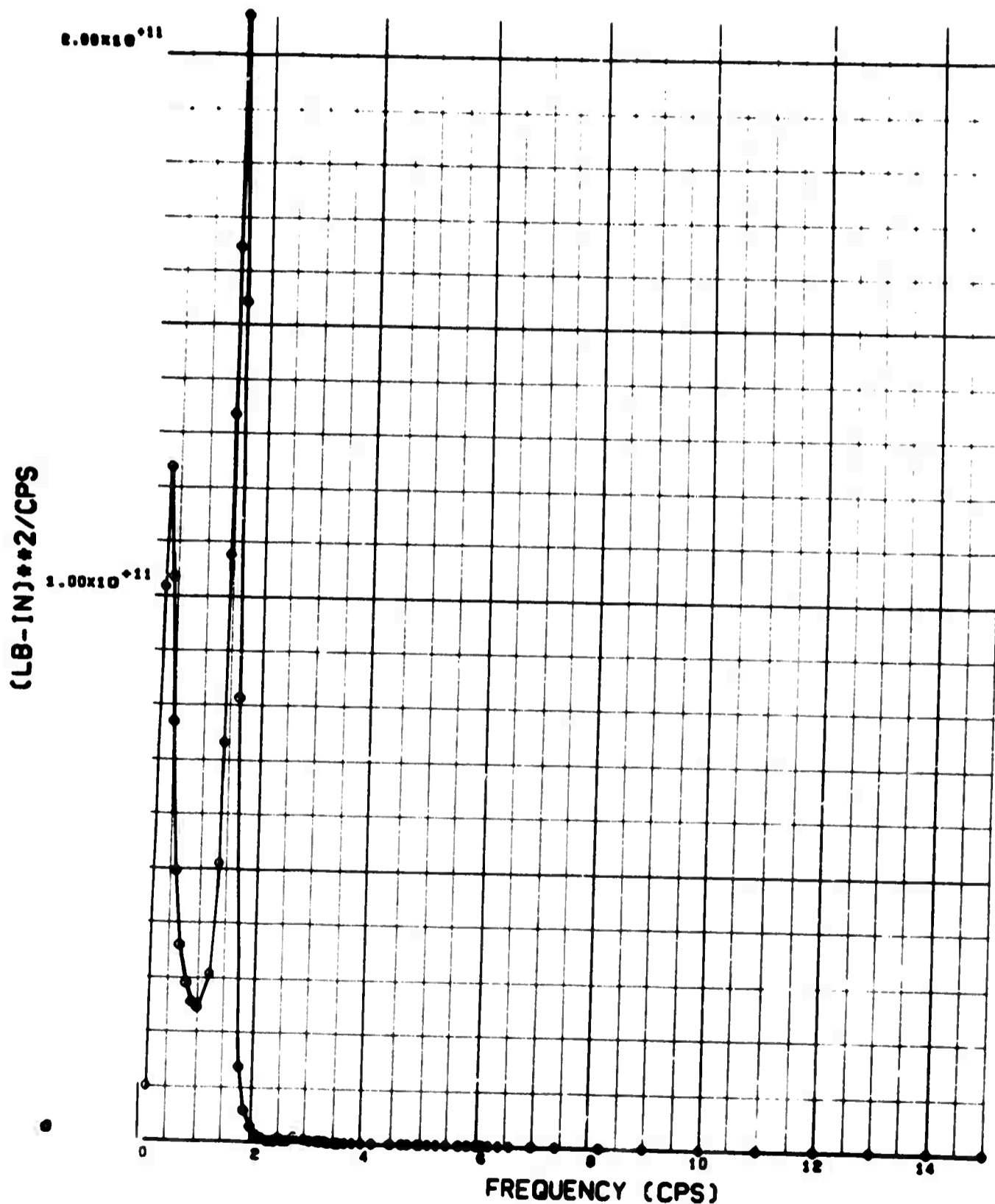
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



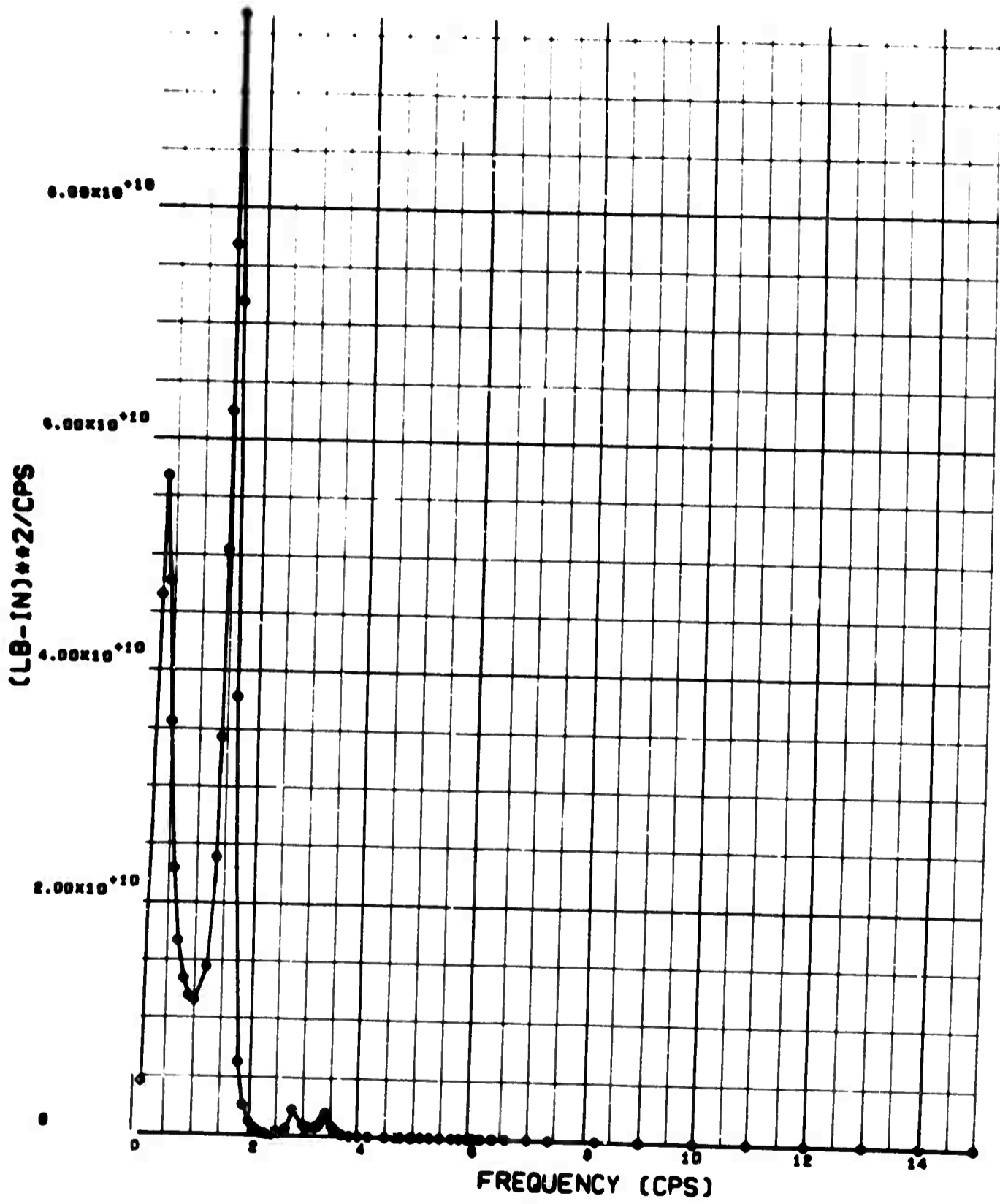
WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

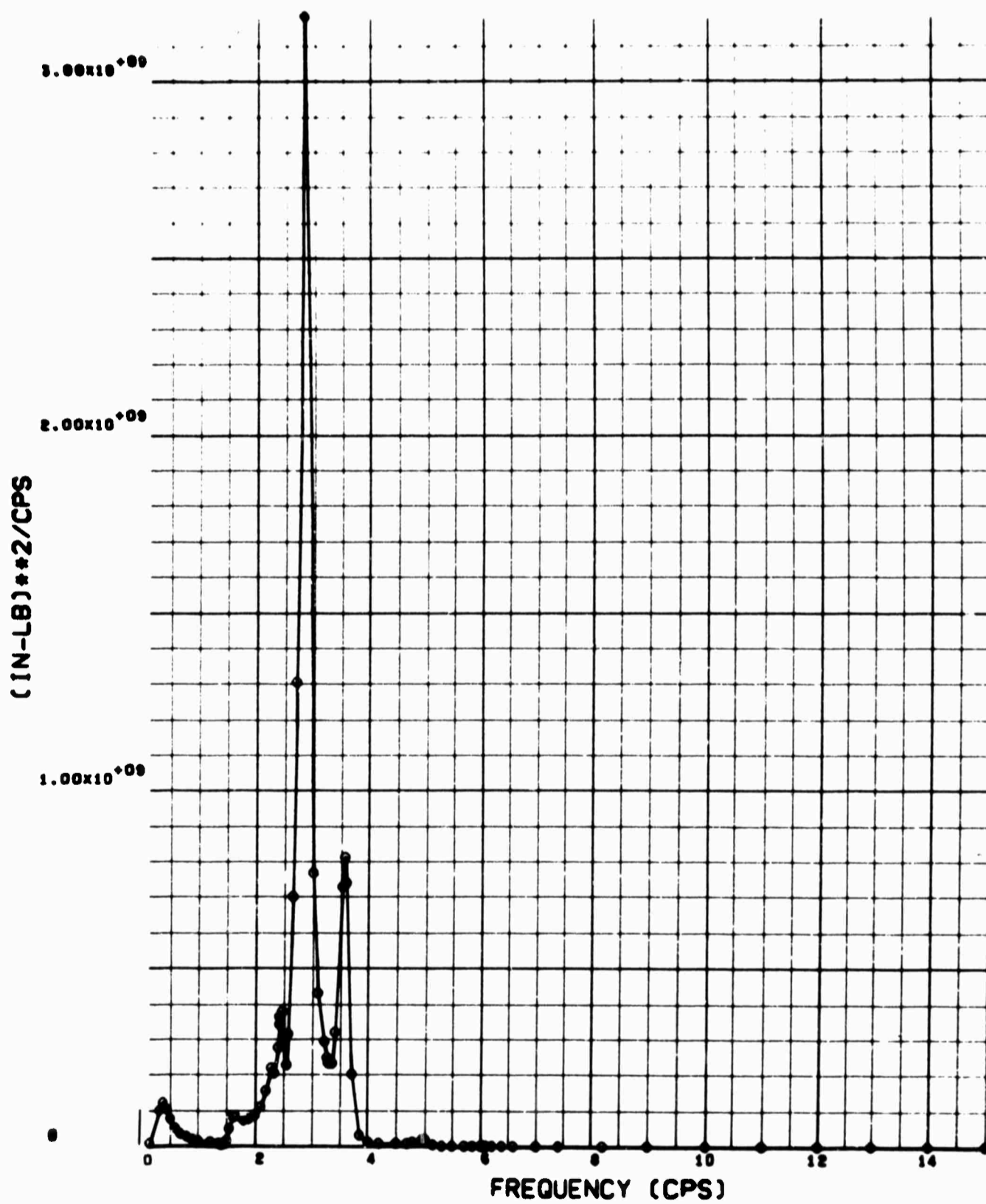


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

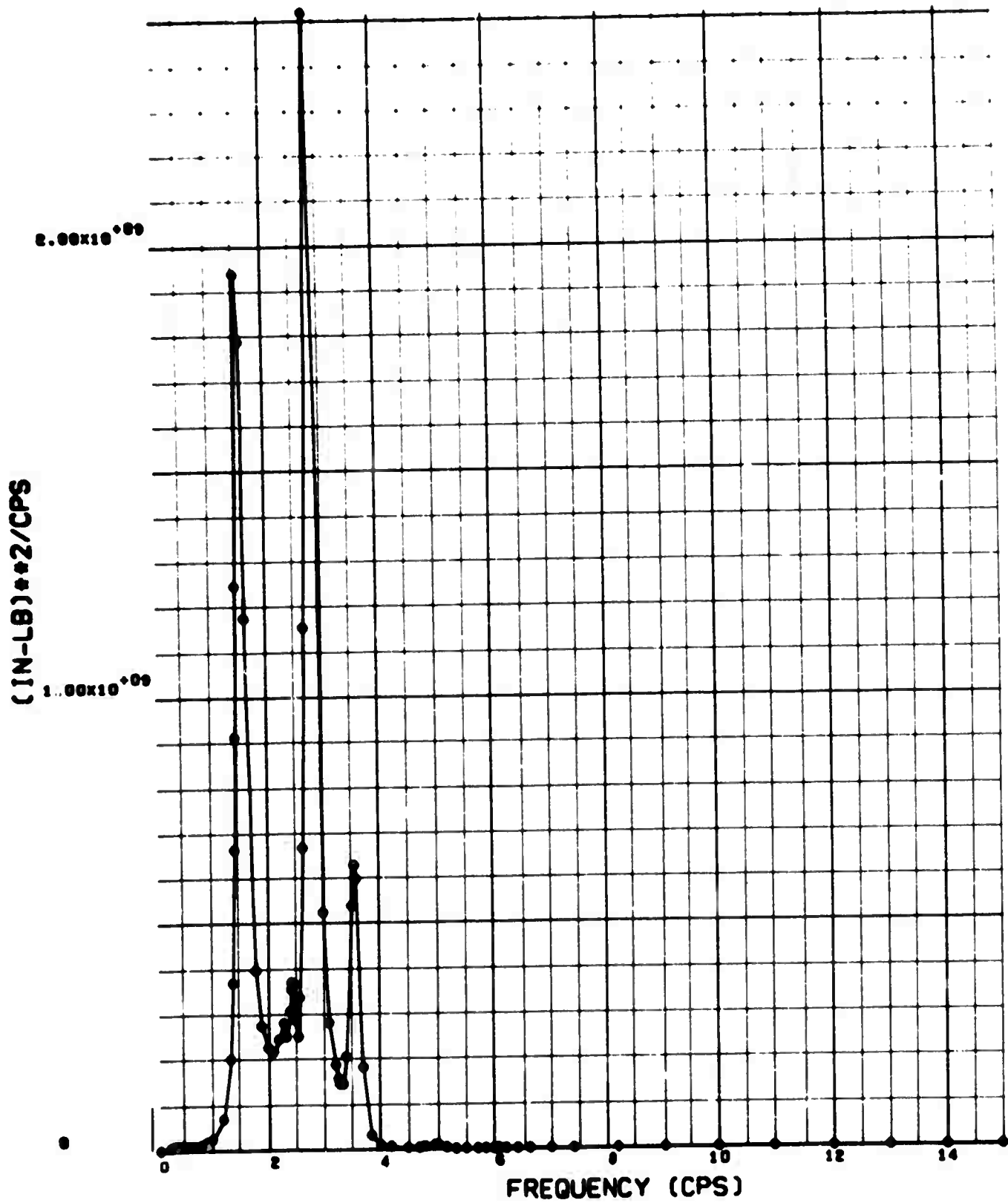
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



WING TORQUE SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

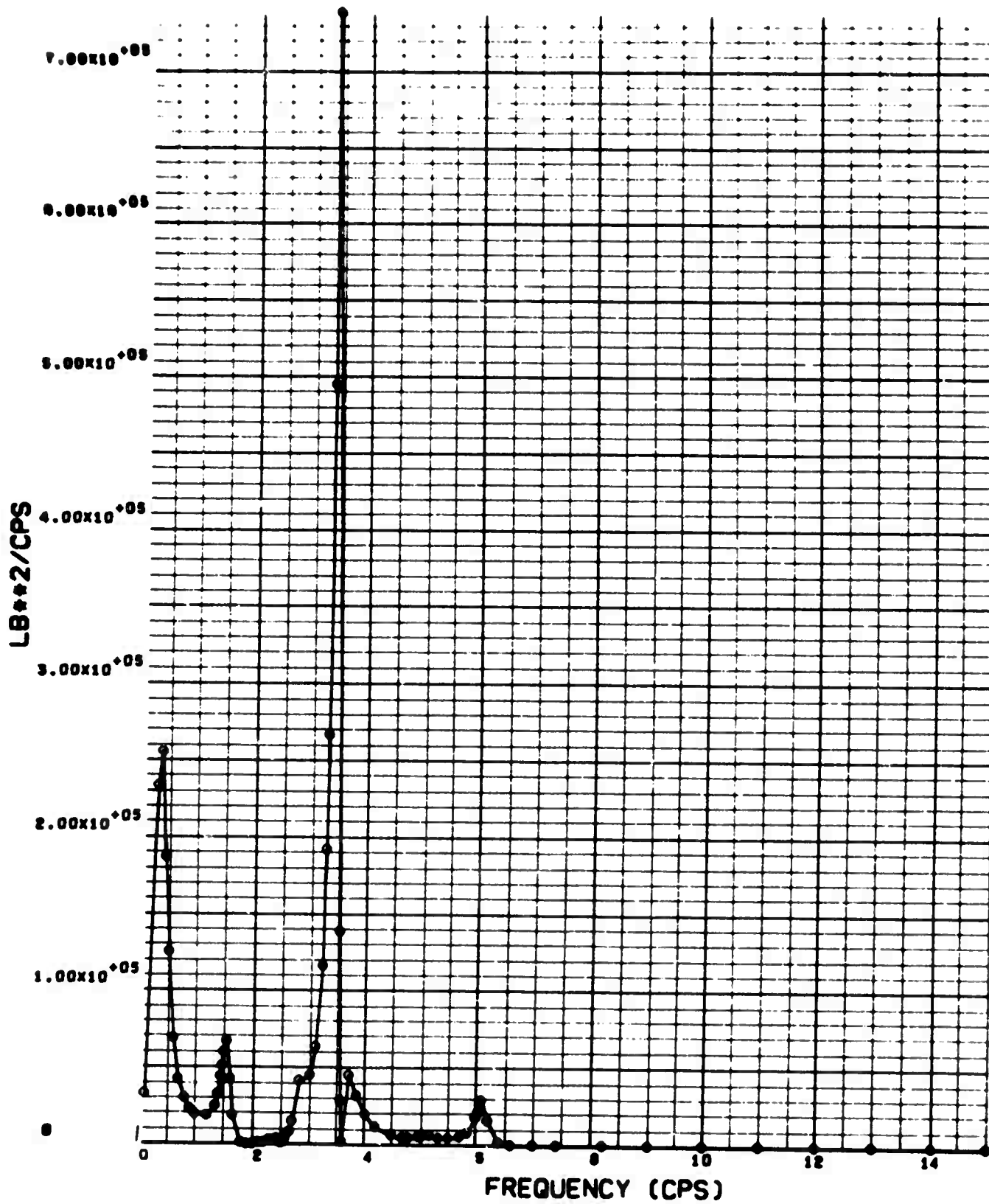


WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

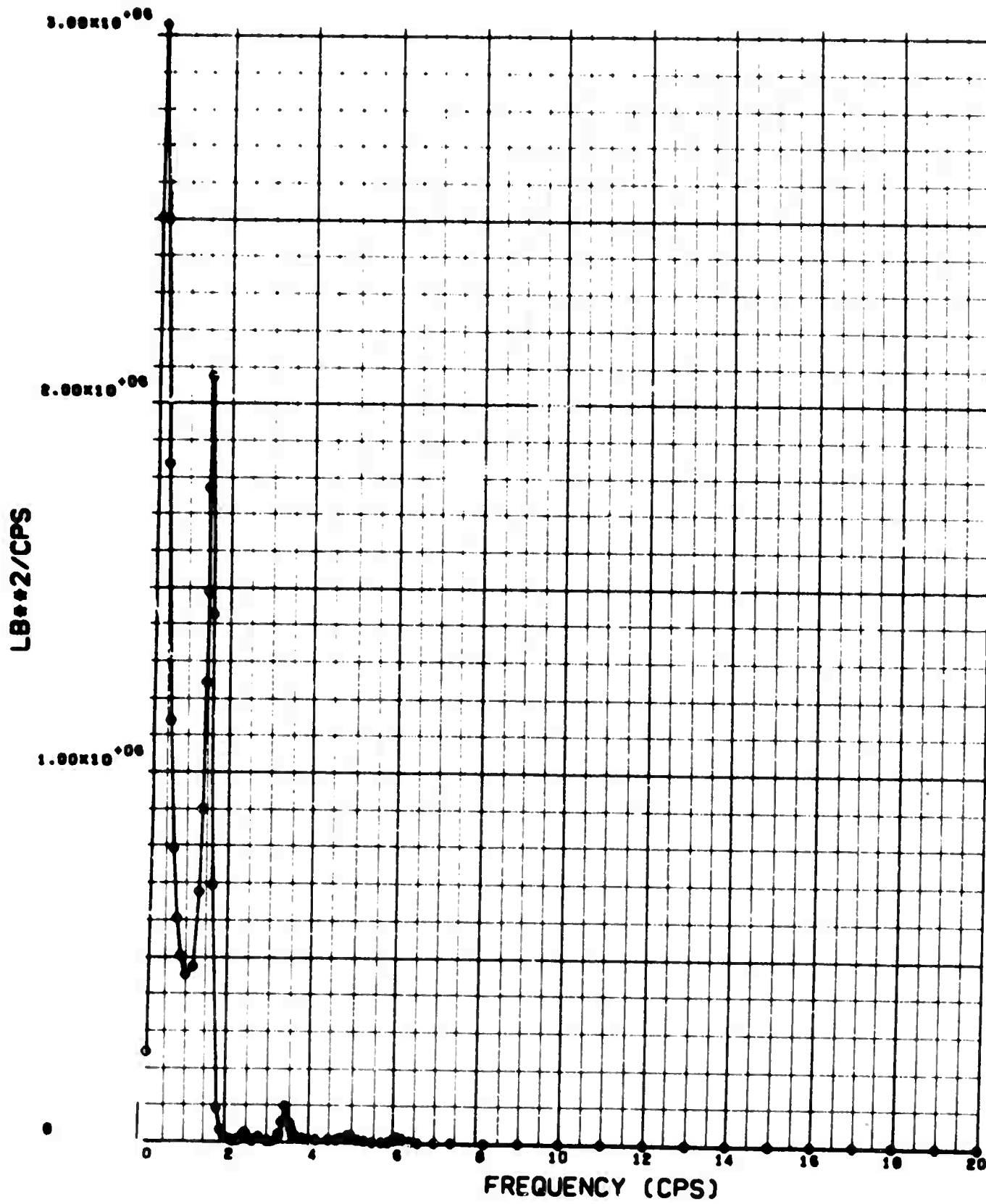


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

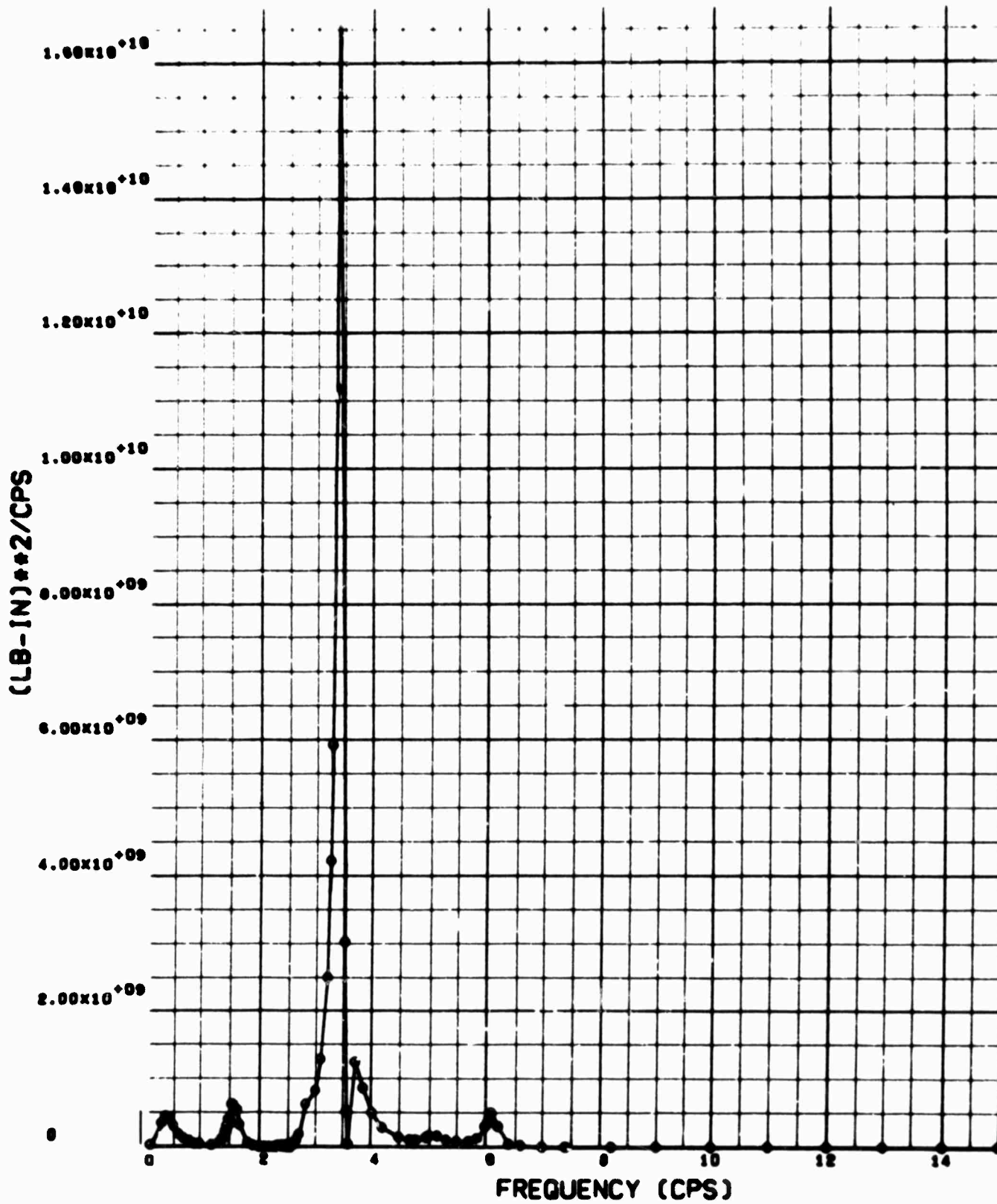


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

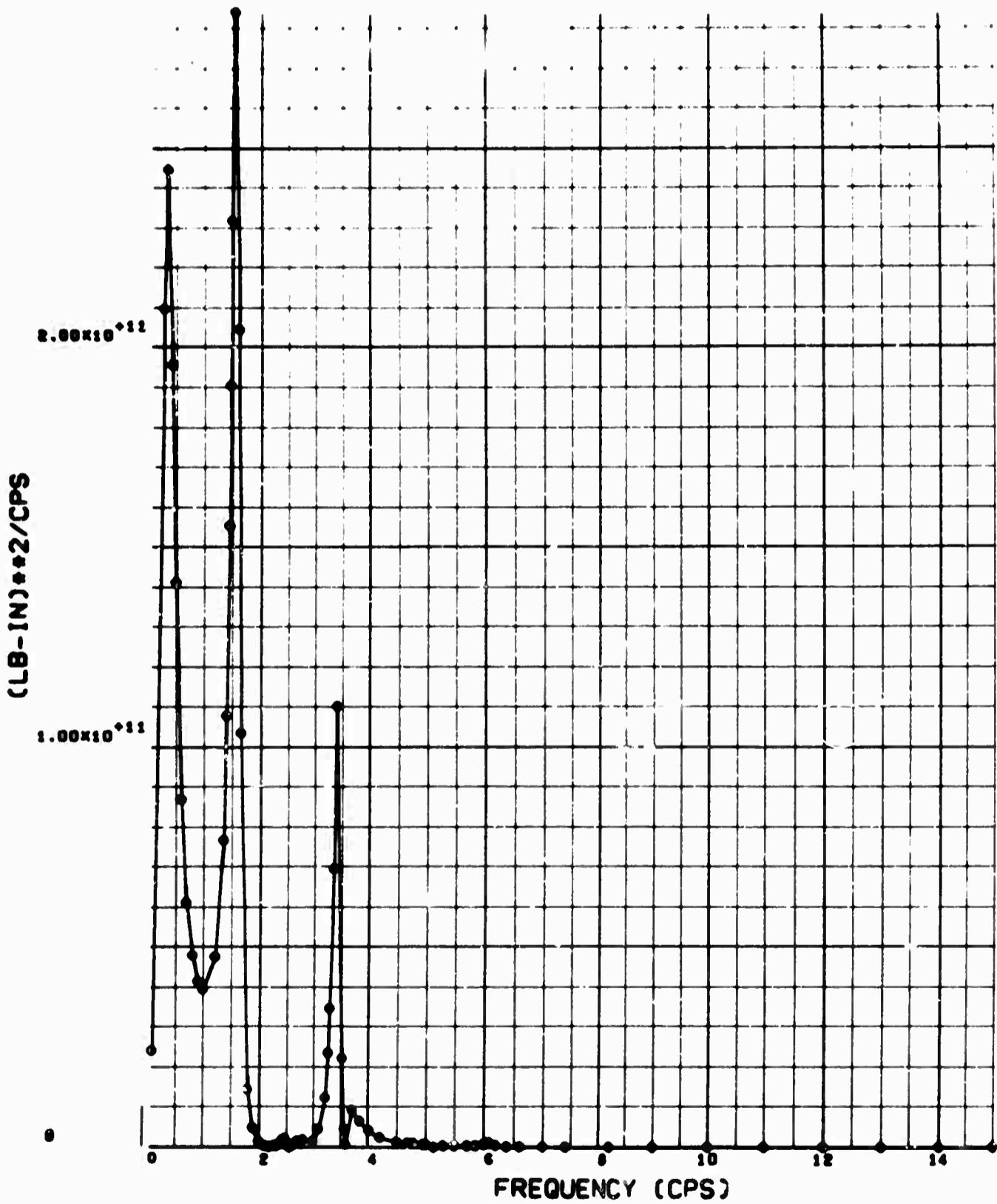


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,600 LB    CUTOFF FREQUENCY: 15 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

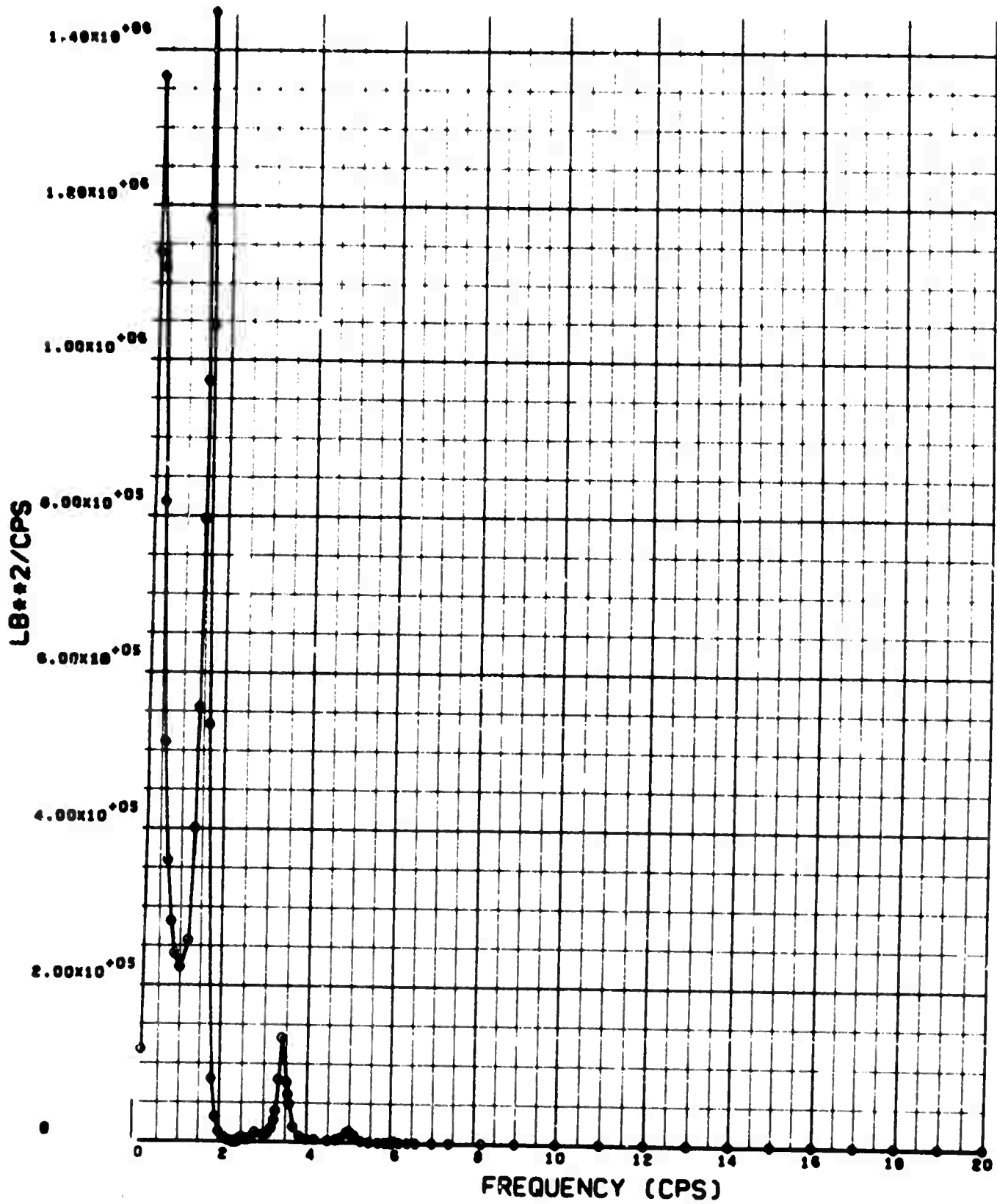


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



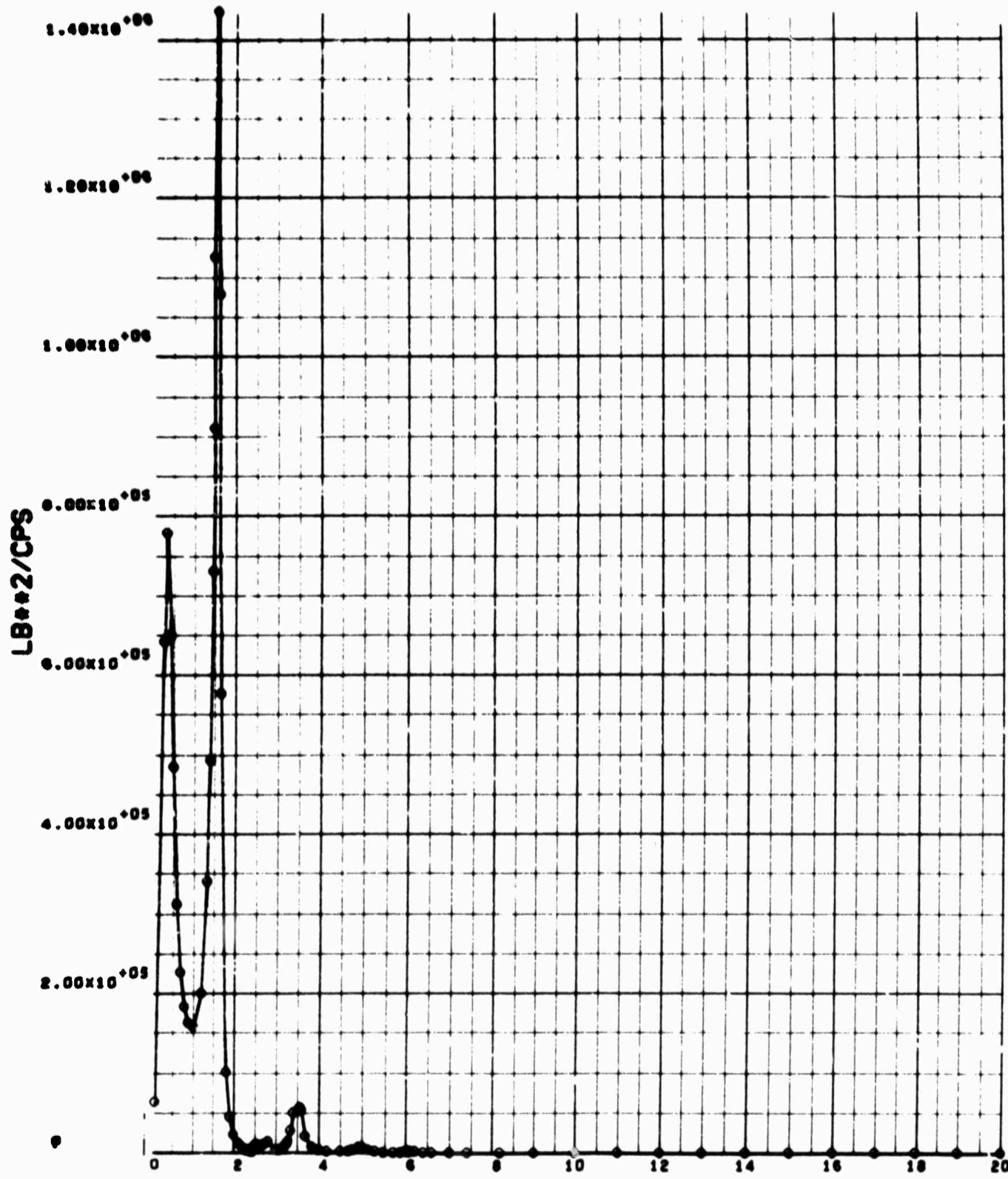
WING SHEAR SPECTRUM, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 1

WEIGHT CONDITION A

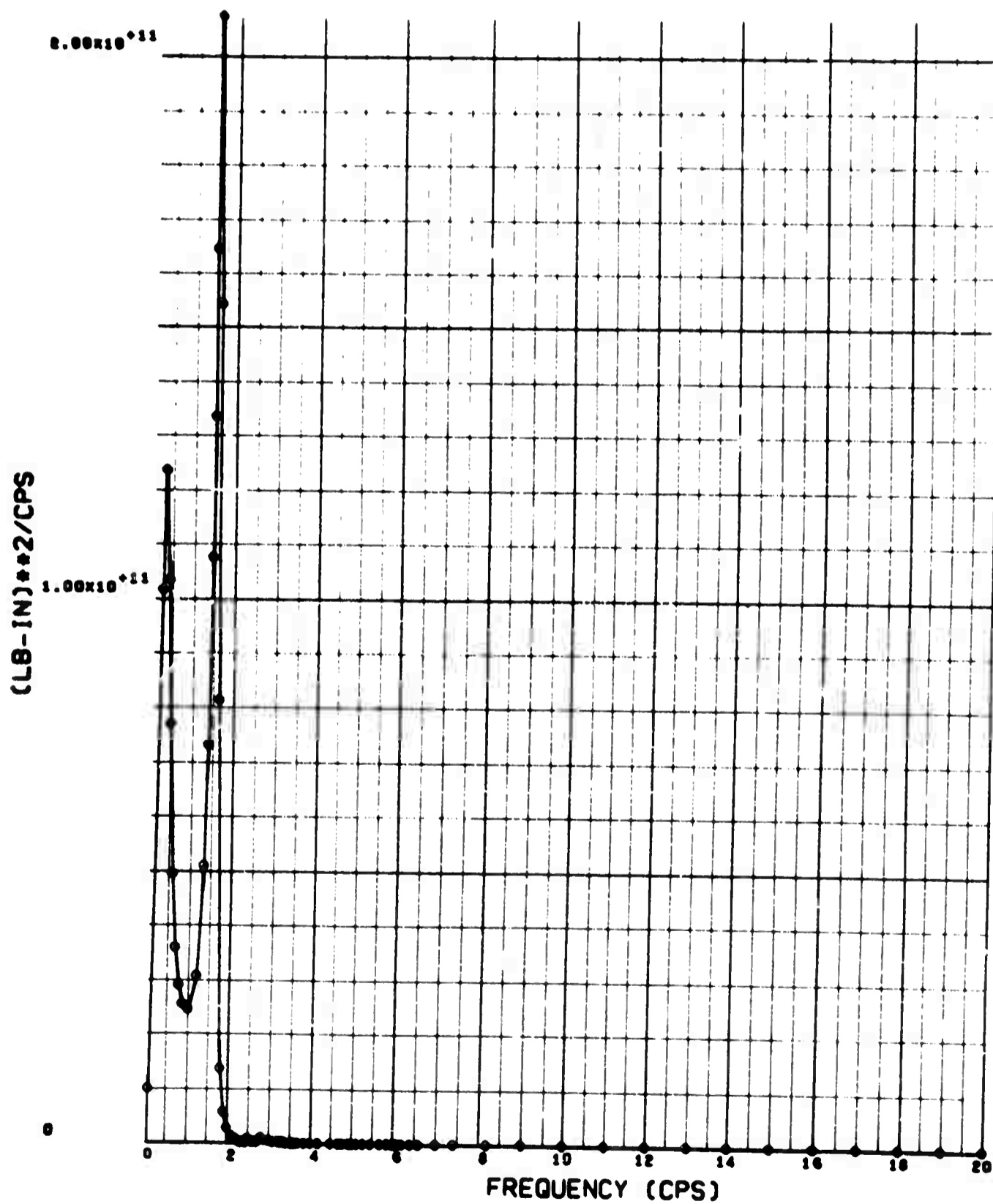
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT          SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

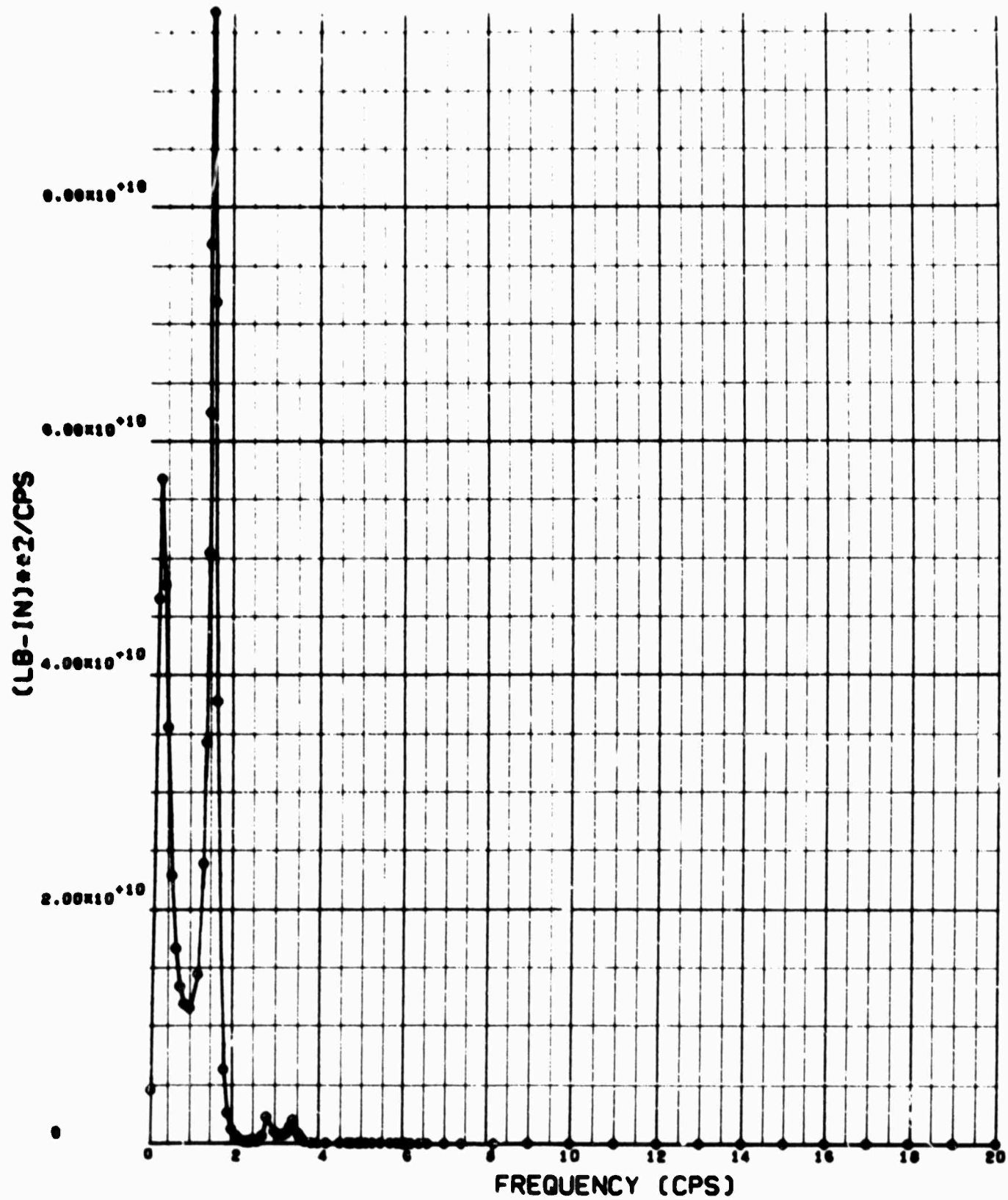


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

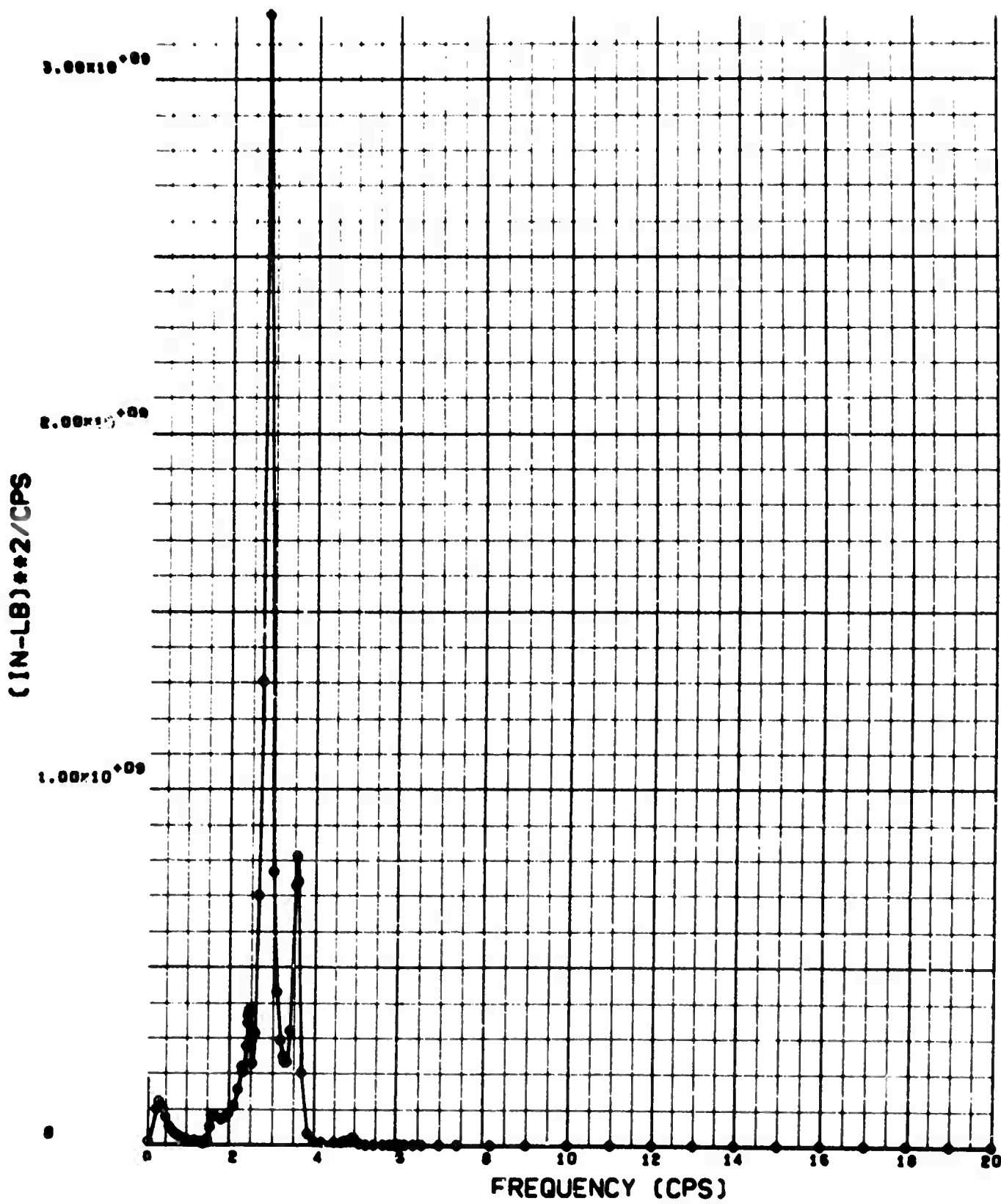


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT      SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

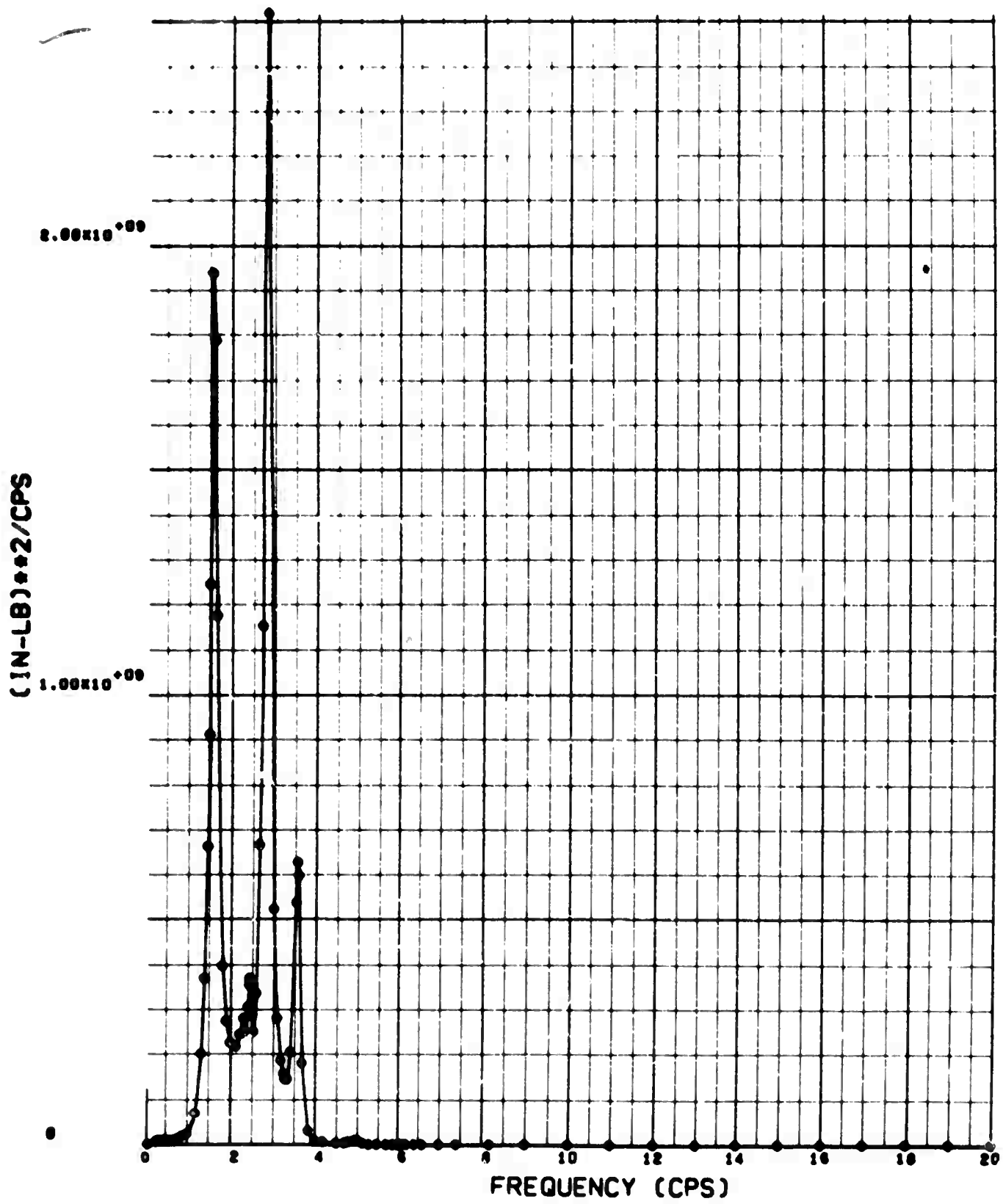


WING TORQUE SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

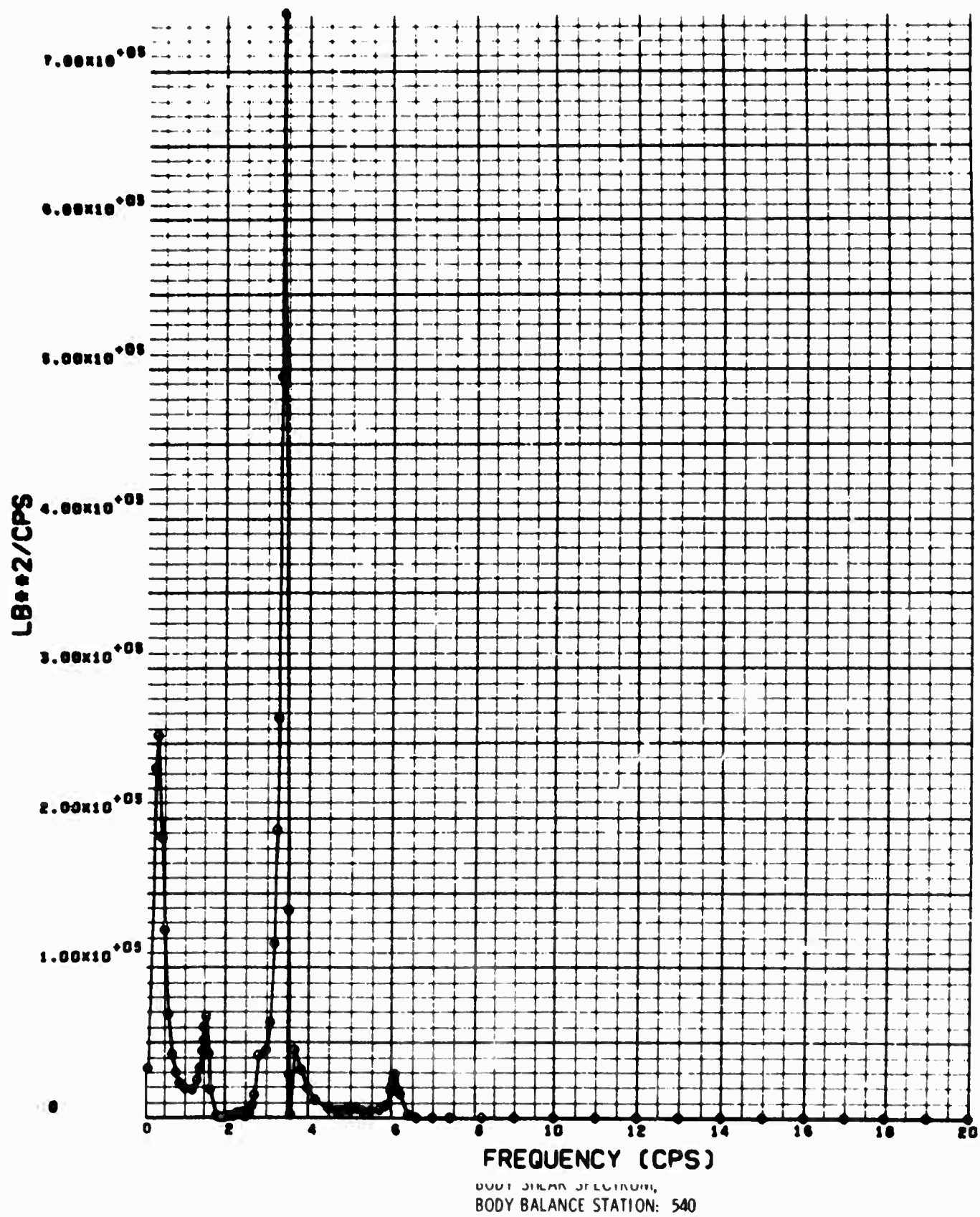


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 1

WEIGHT CONDITION A

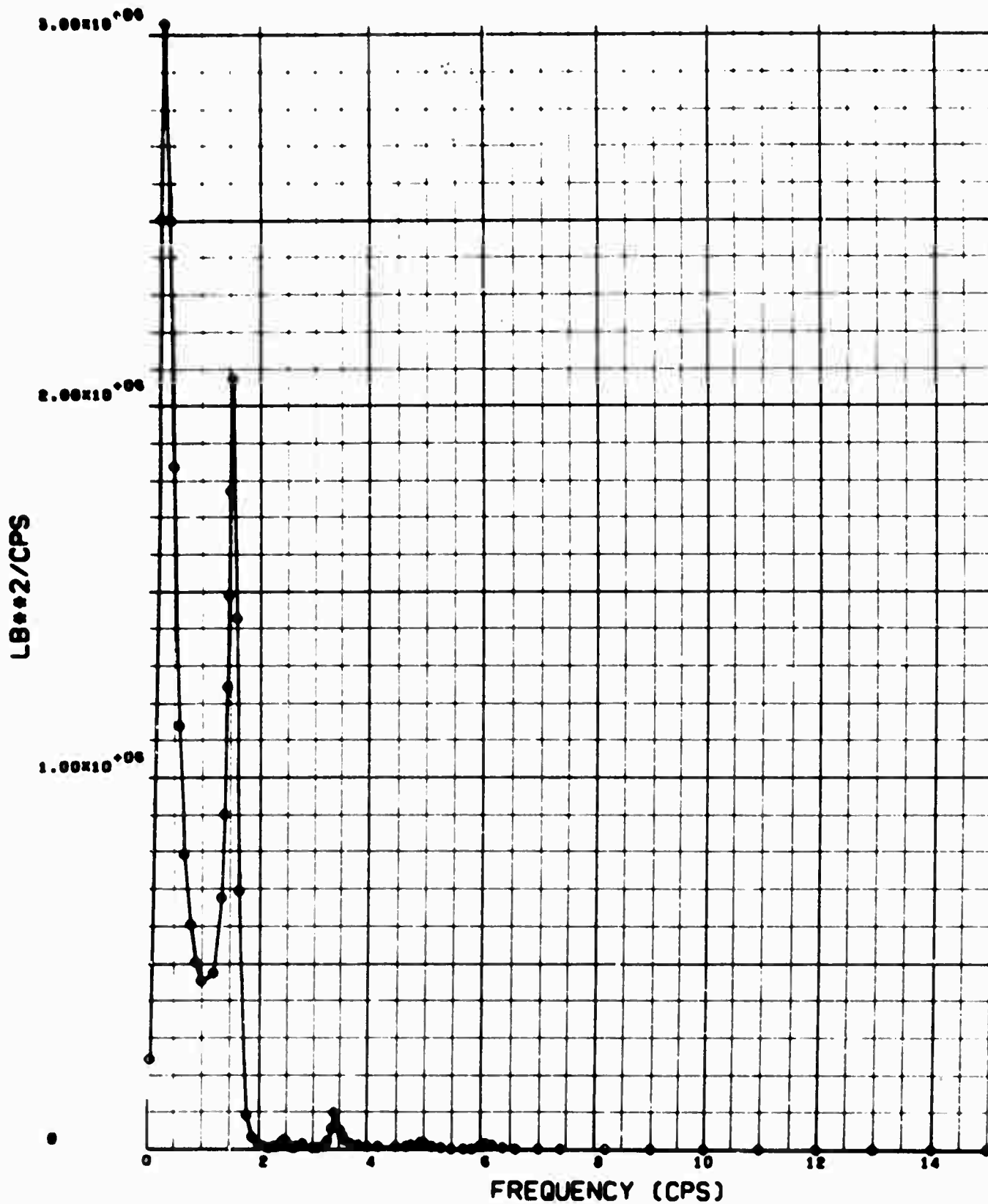
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

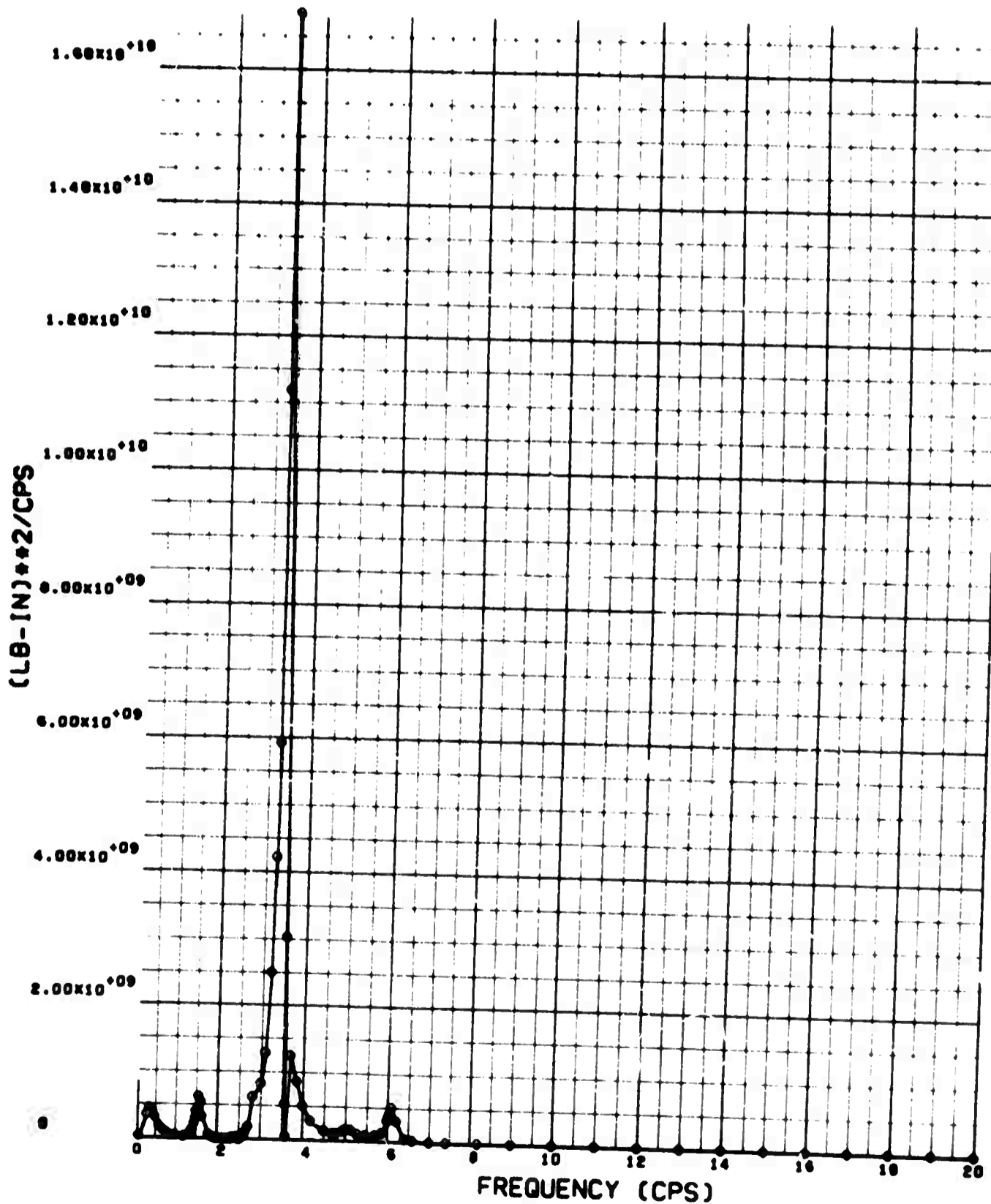


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 1

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

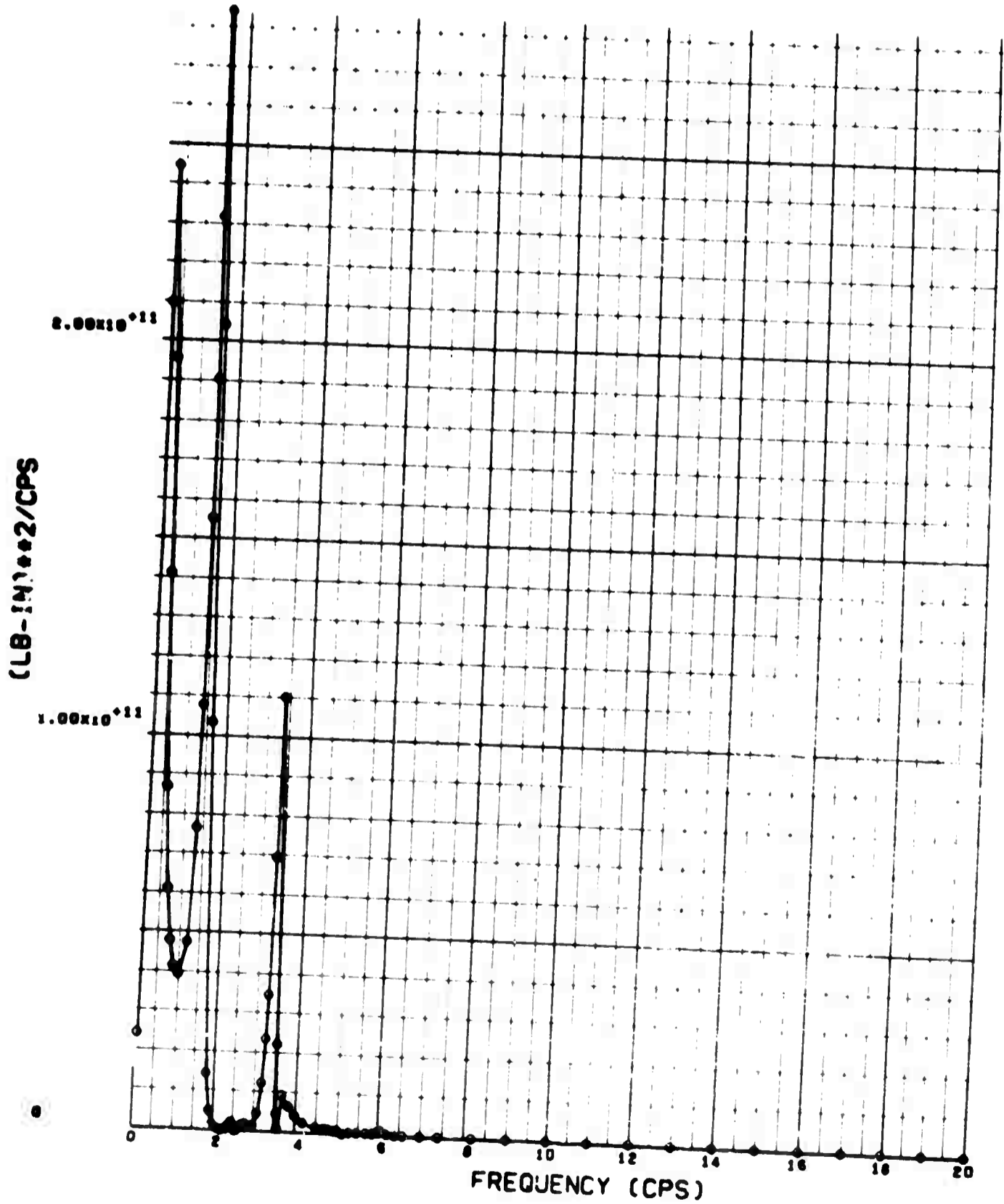


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 1  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 20 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

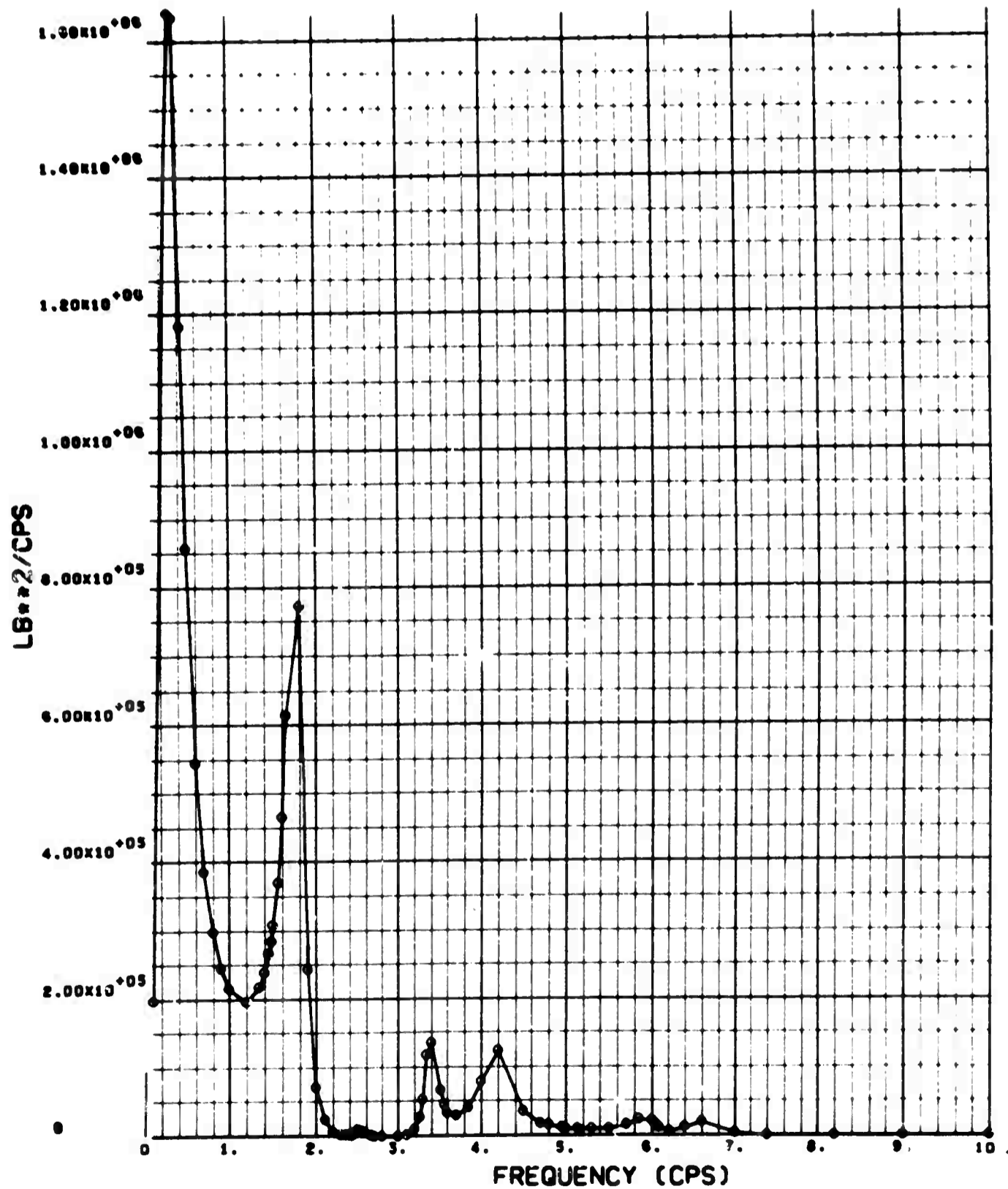


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

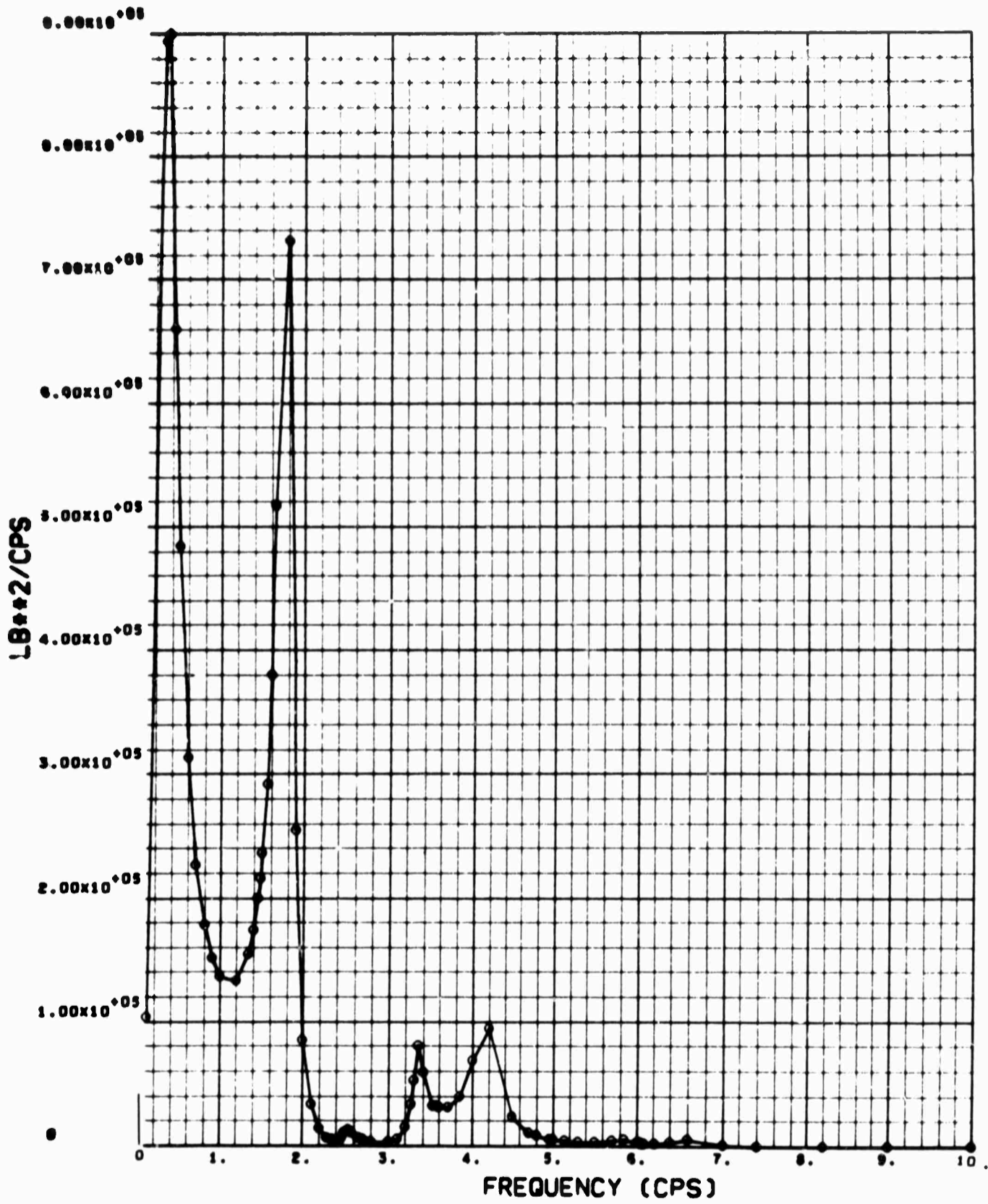


WING SHEAR SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

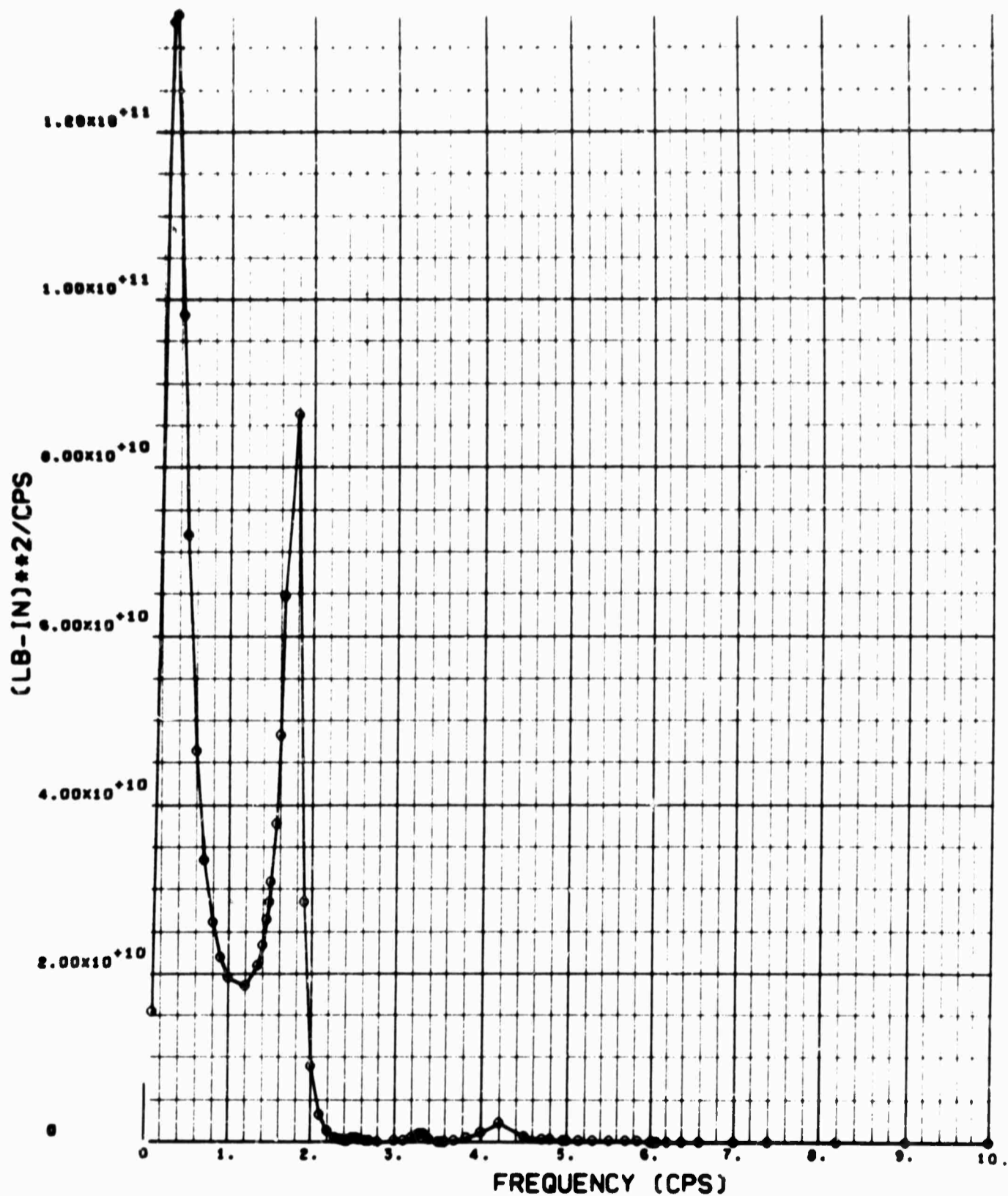


WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

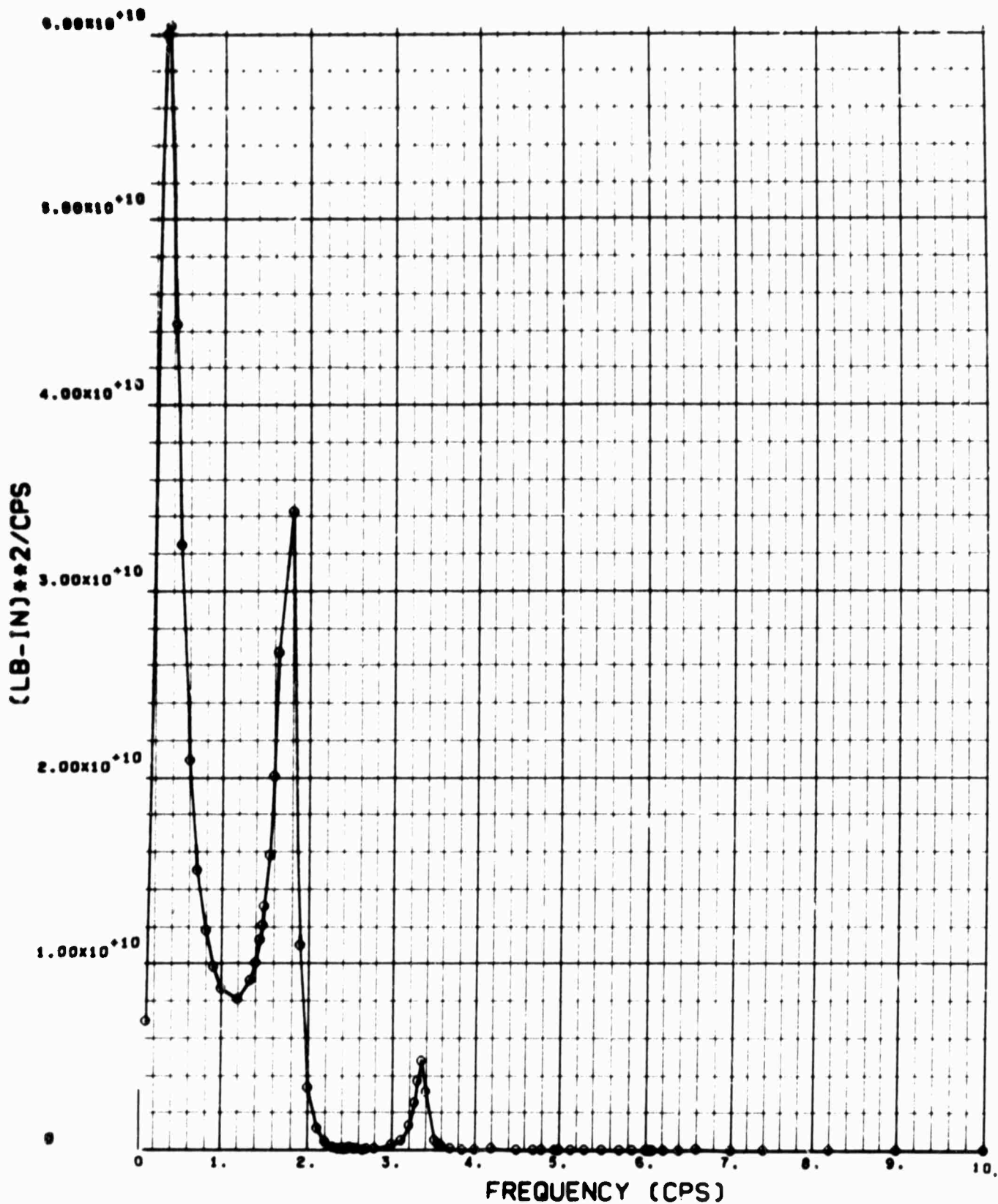


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

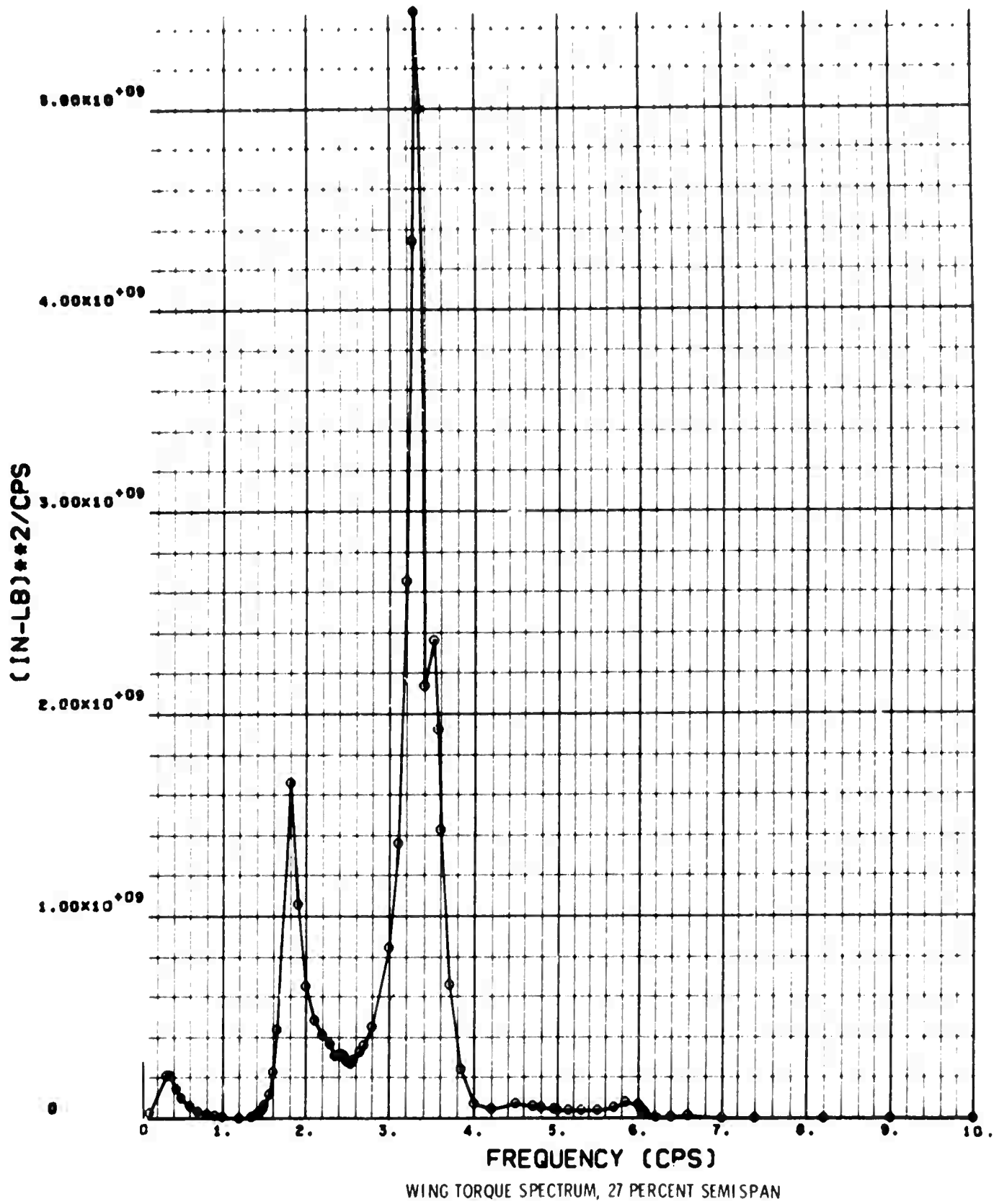


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

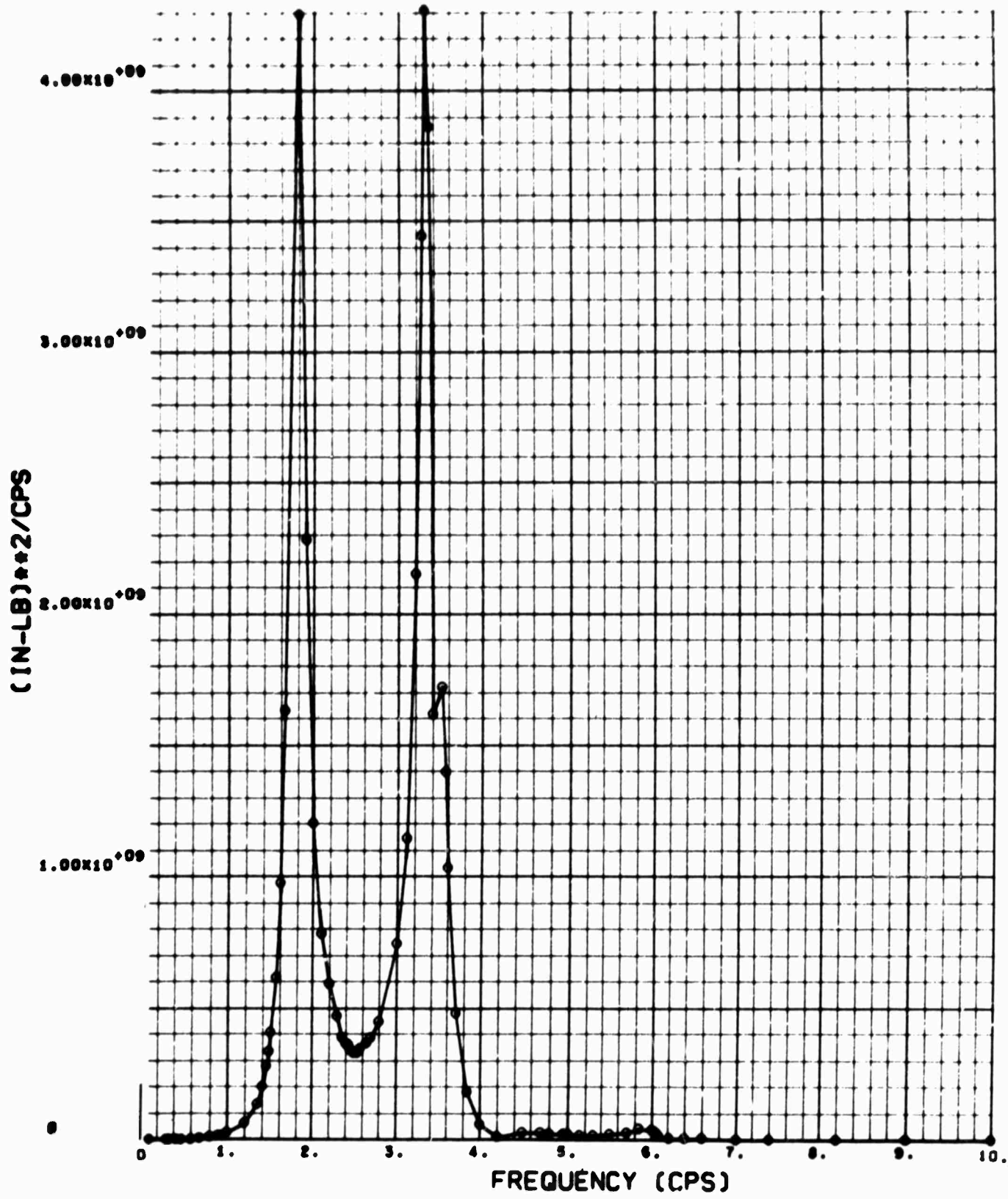
GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

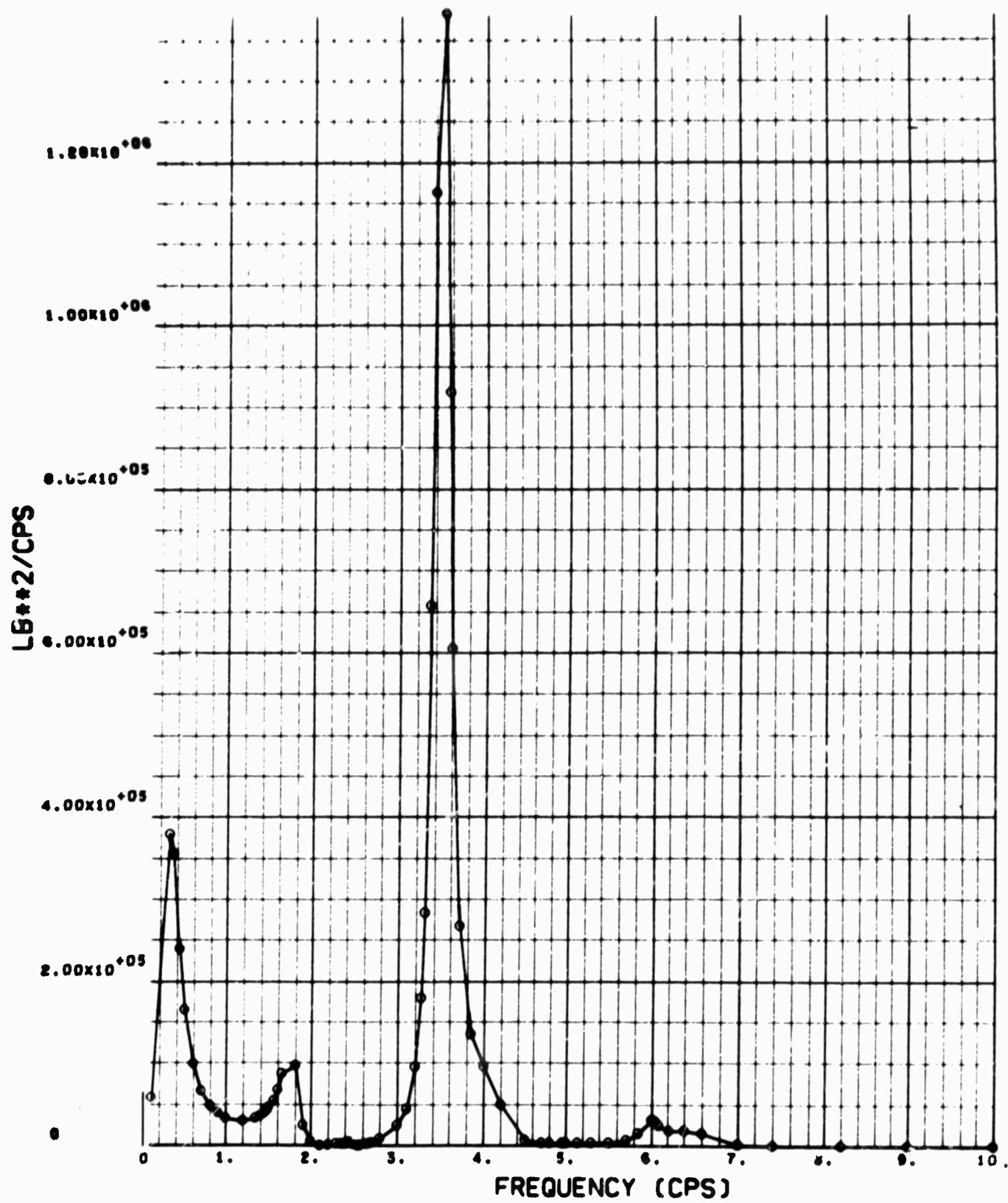


WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



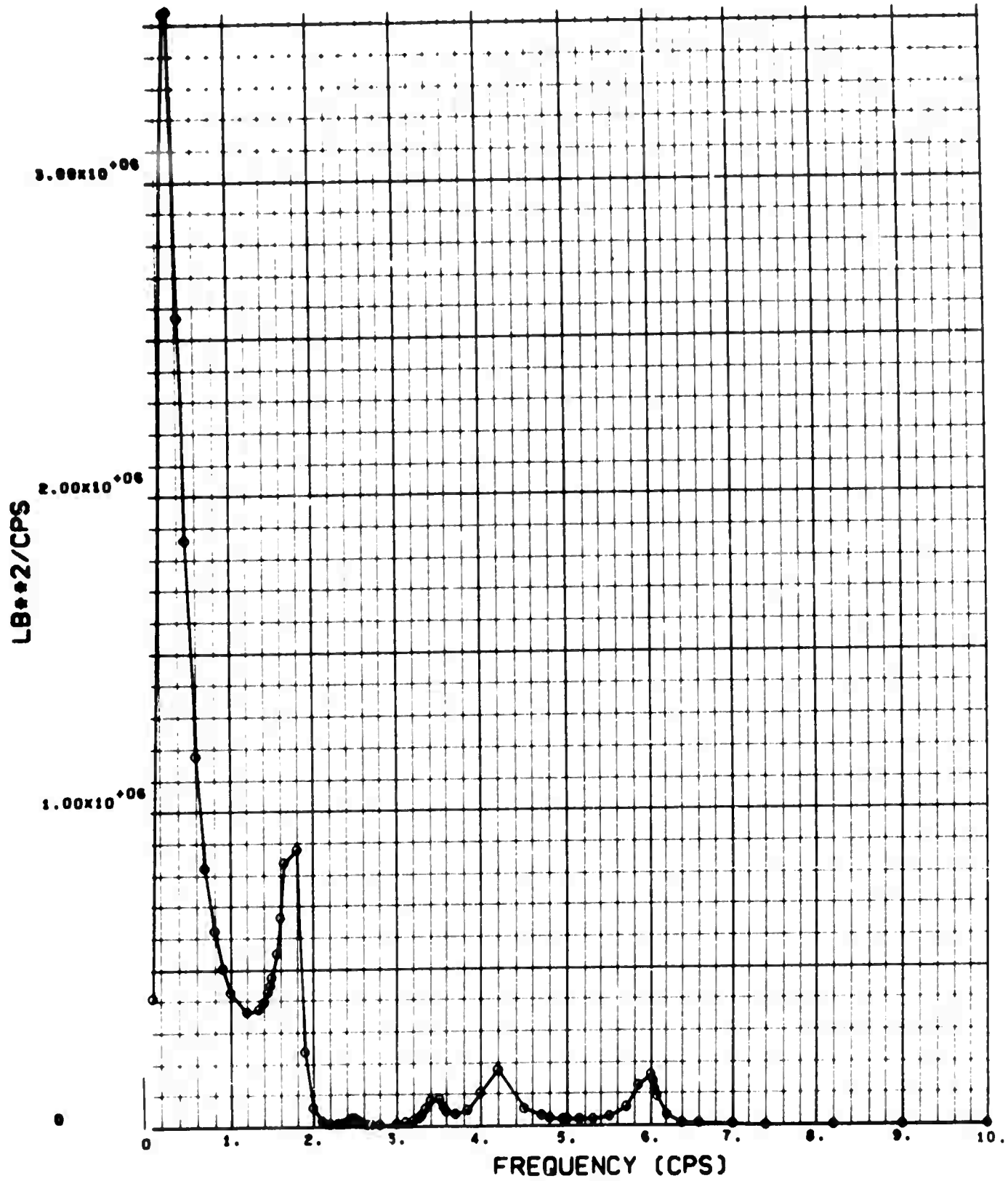
FREQUENCY (CPS)

BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 2  
WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

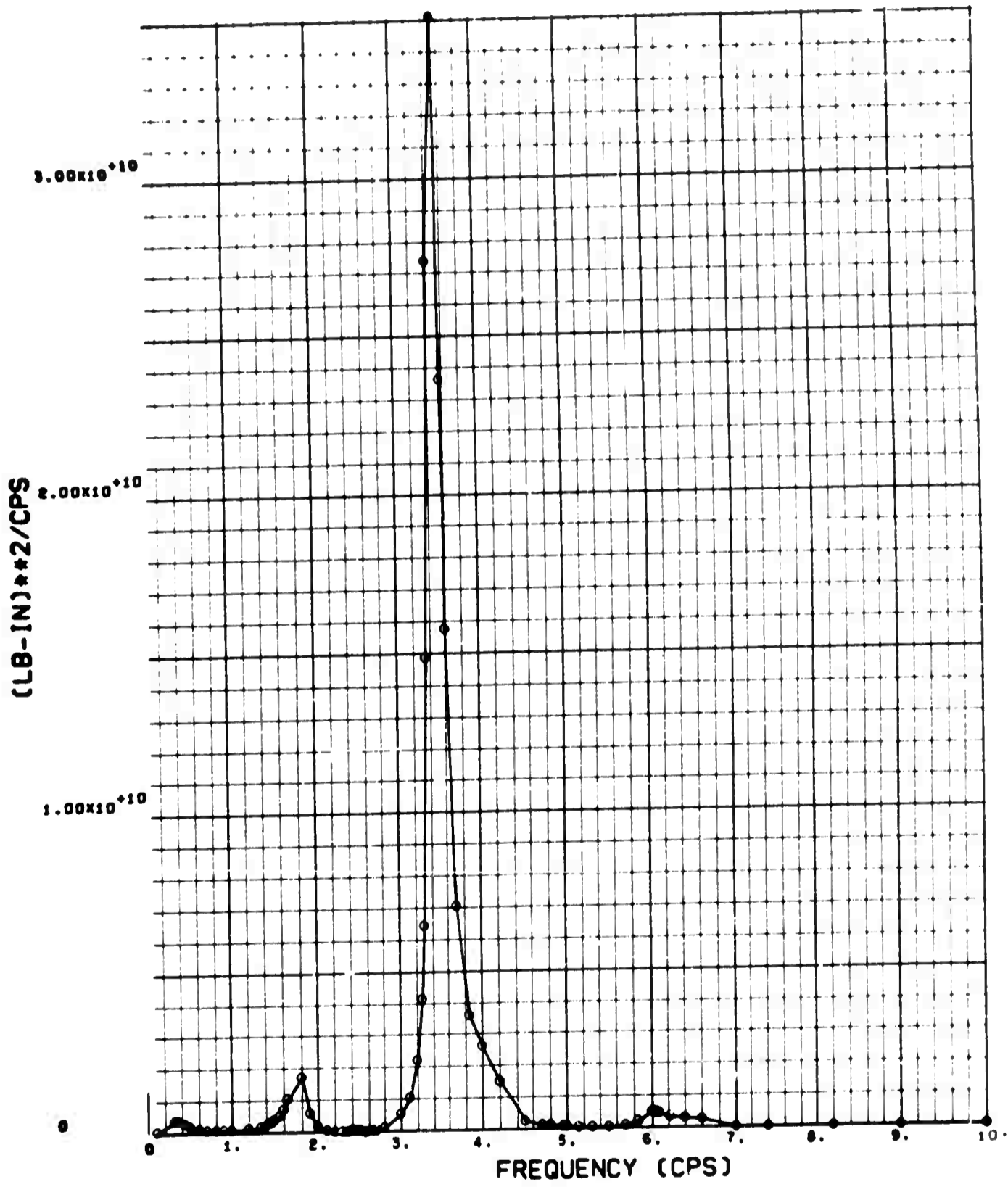


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

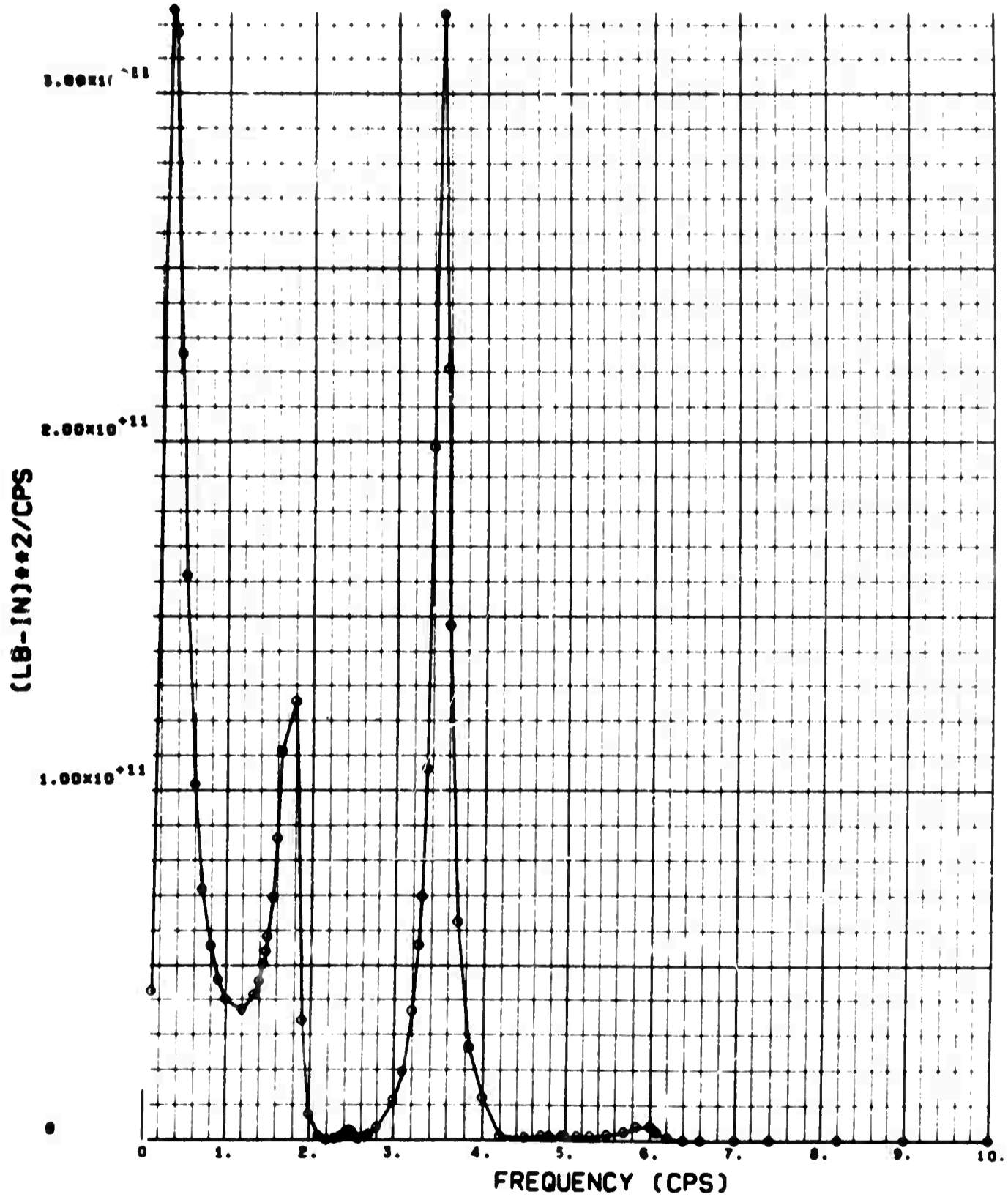


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

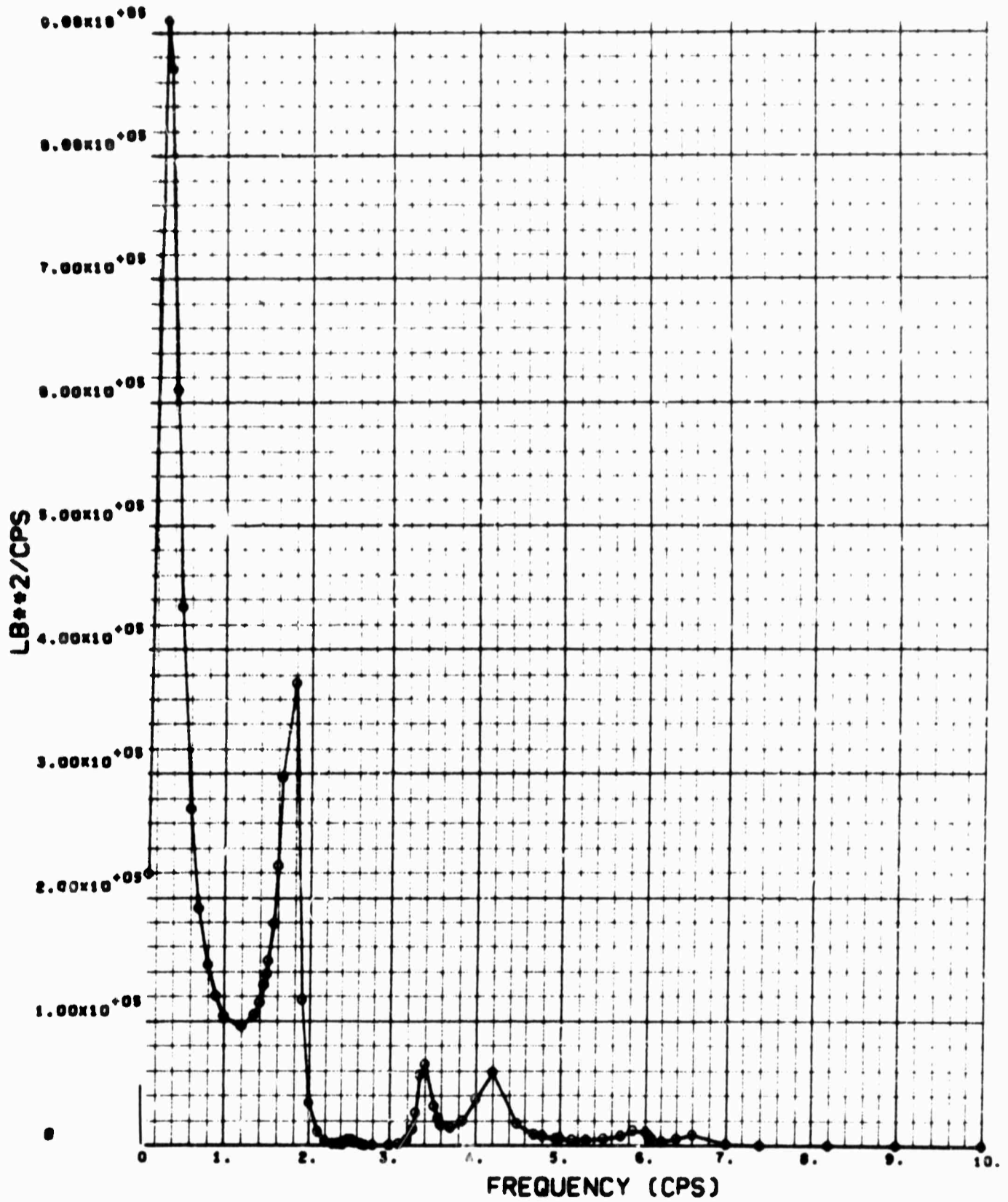


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

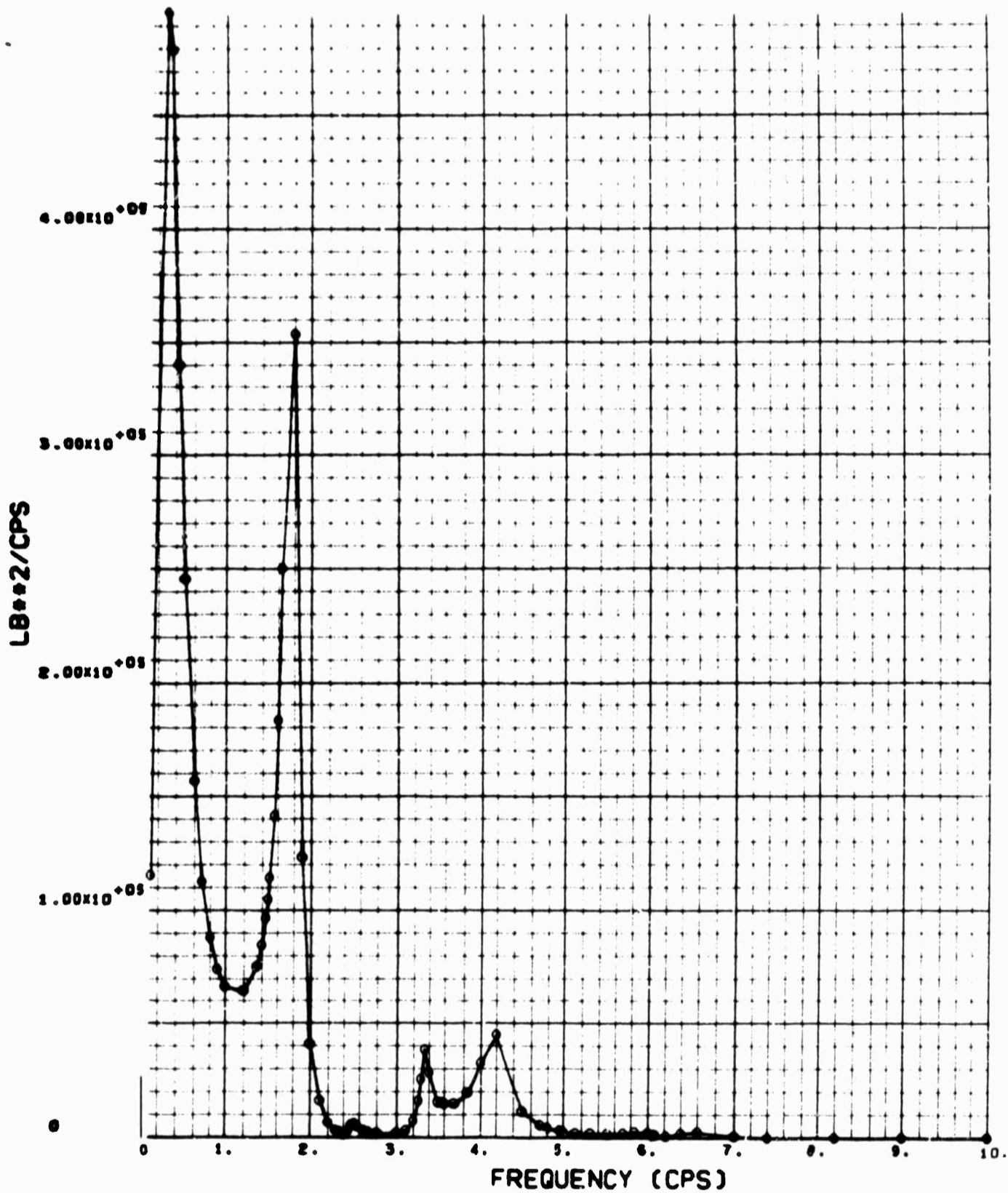


WING SHEAR SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

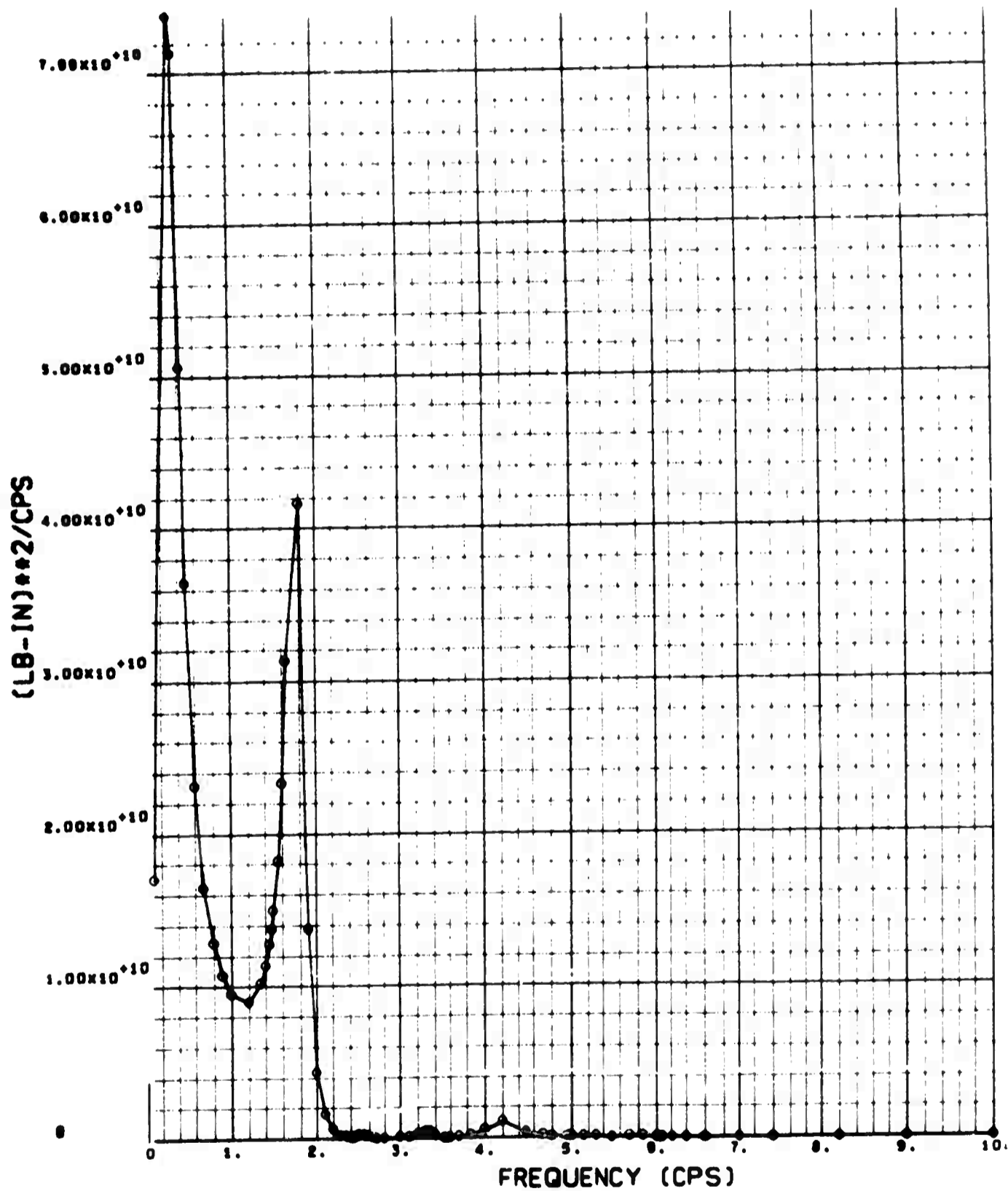


WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

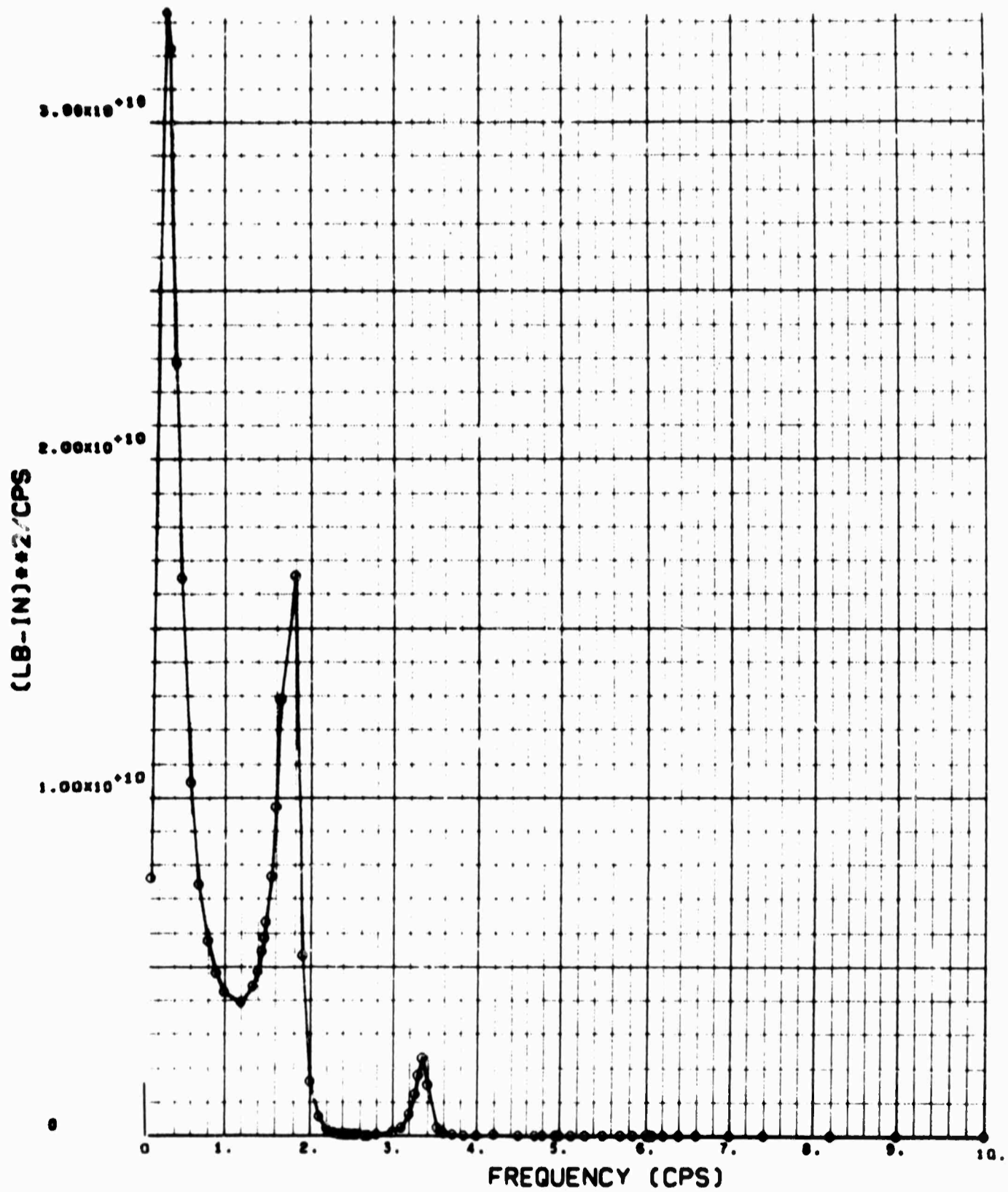


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

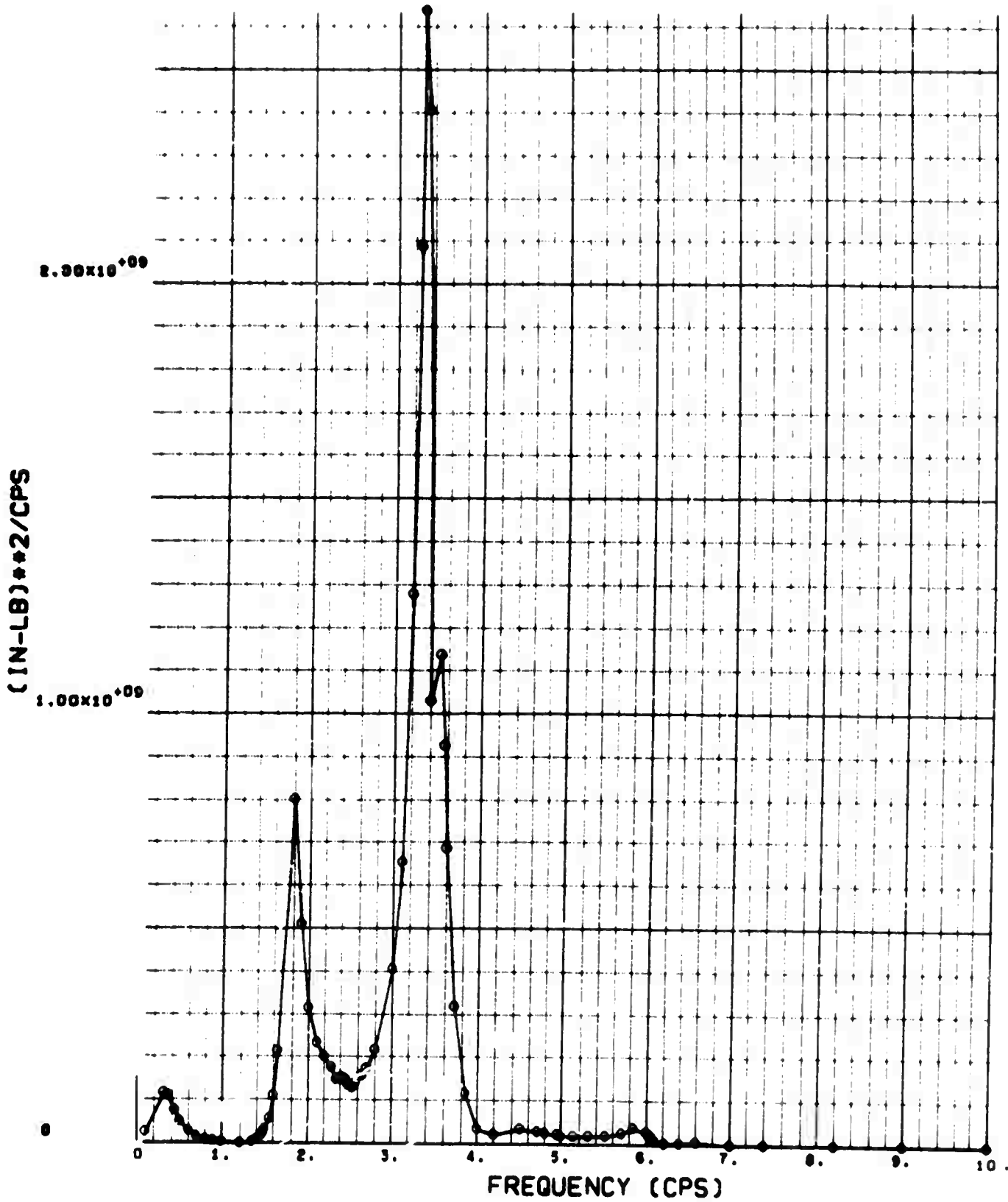


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85



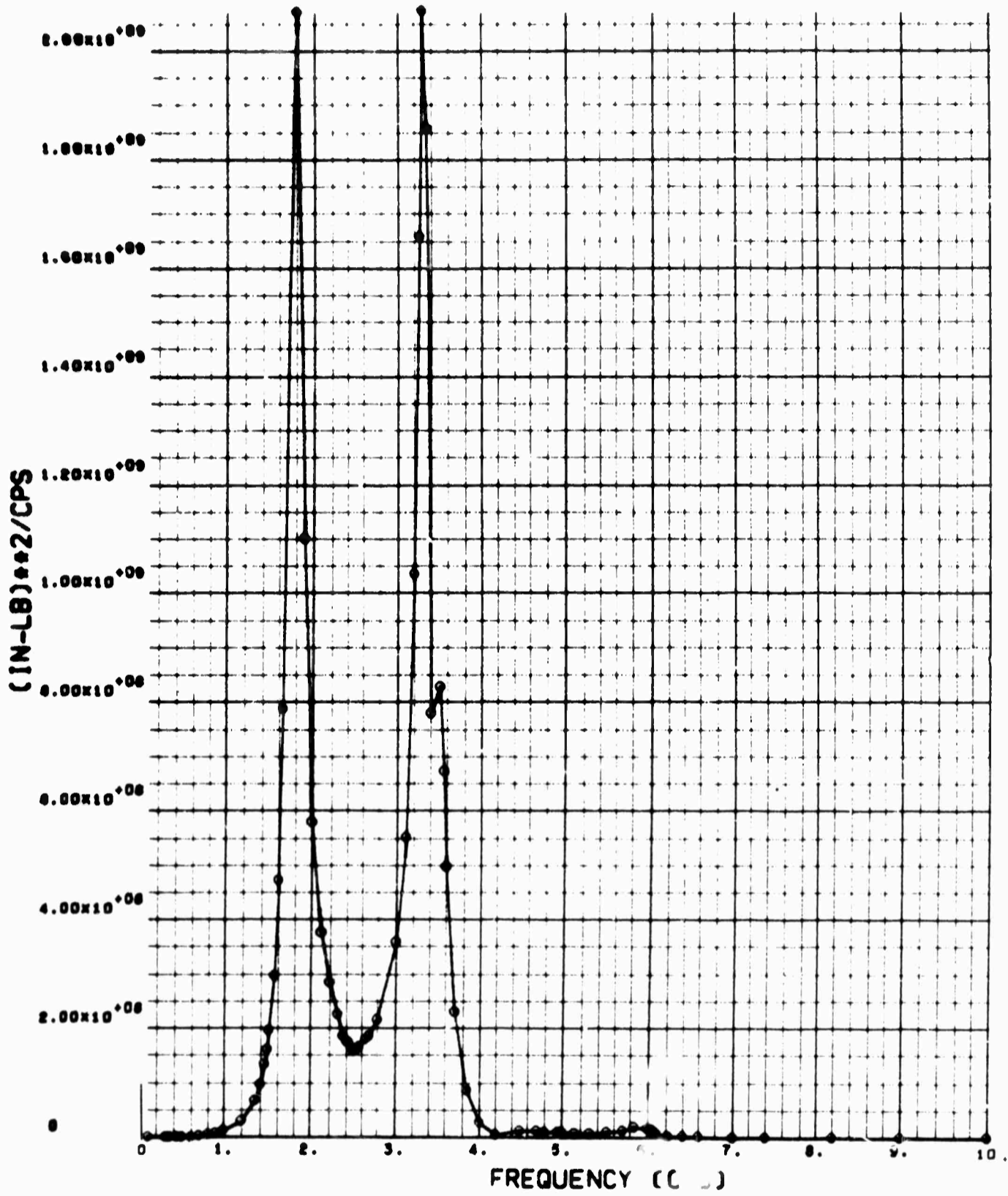
WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

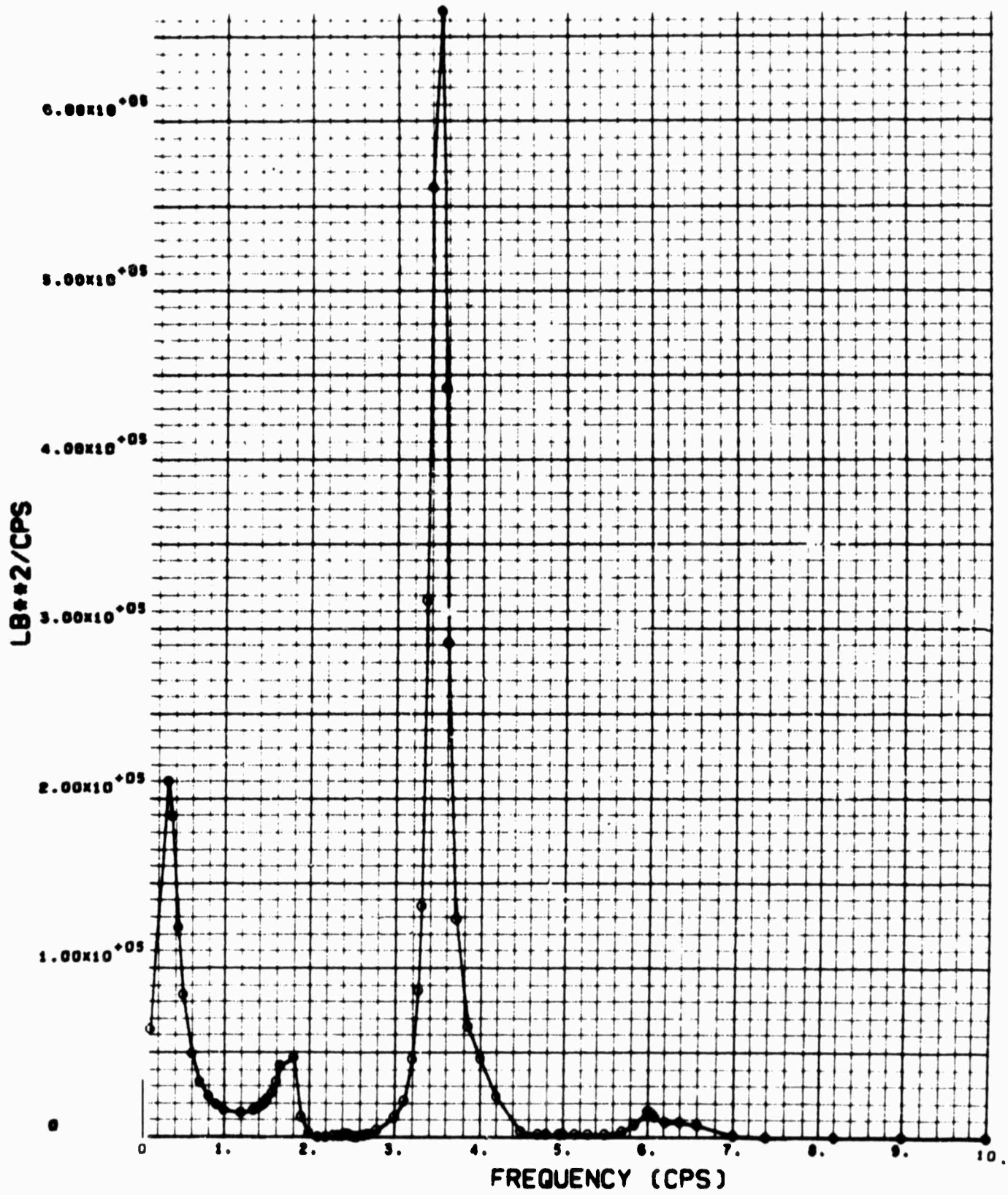


WING TORQUE SPECTRUM, 40.06 Pt    27M SPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

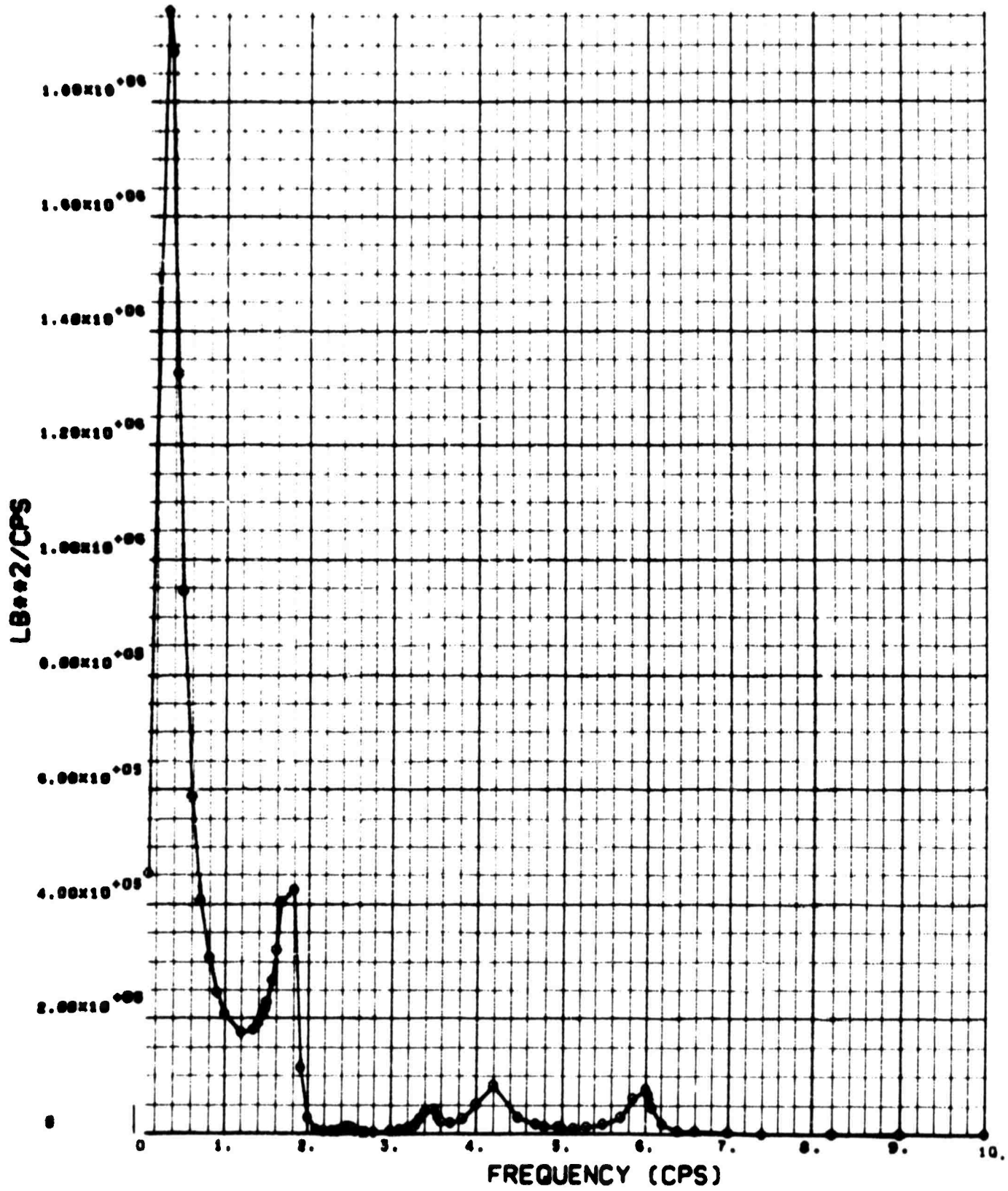


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

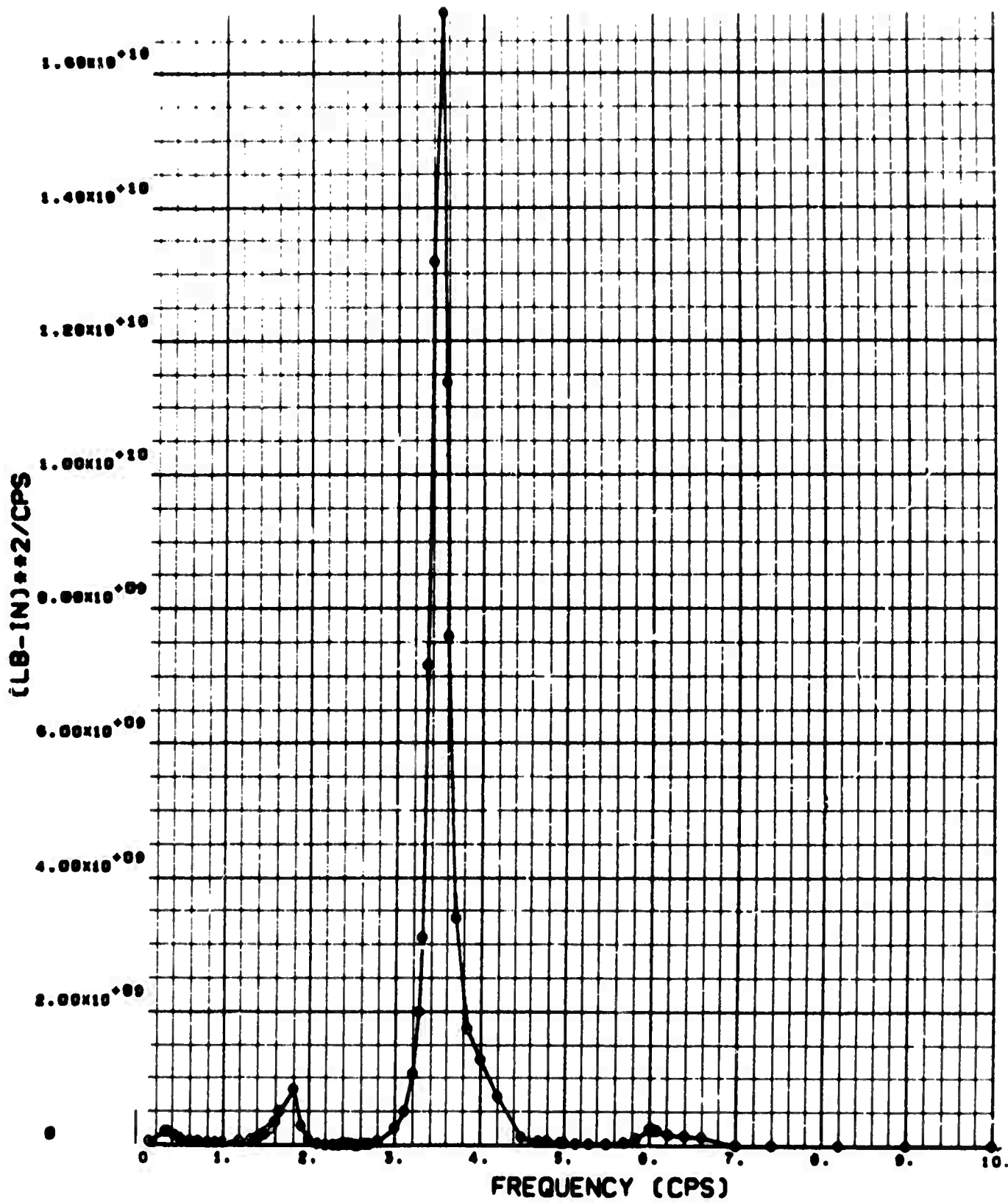


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

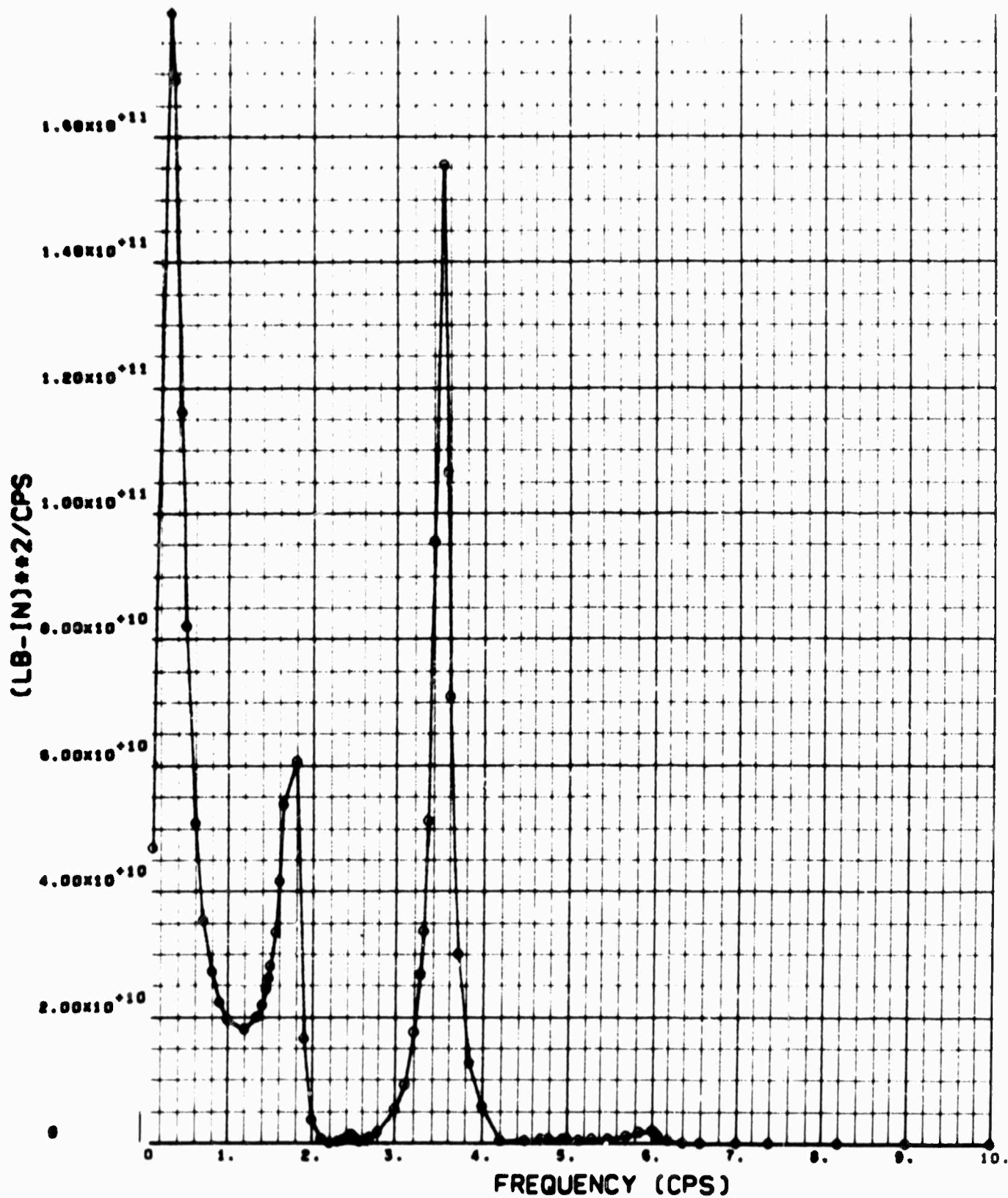


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000  
MACH NUMBER: 0.85

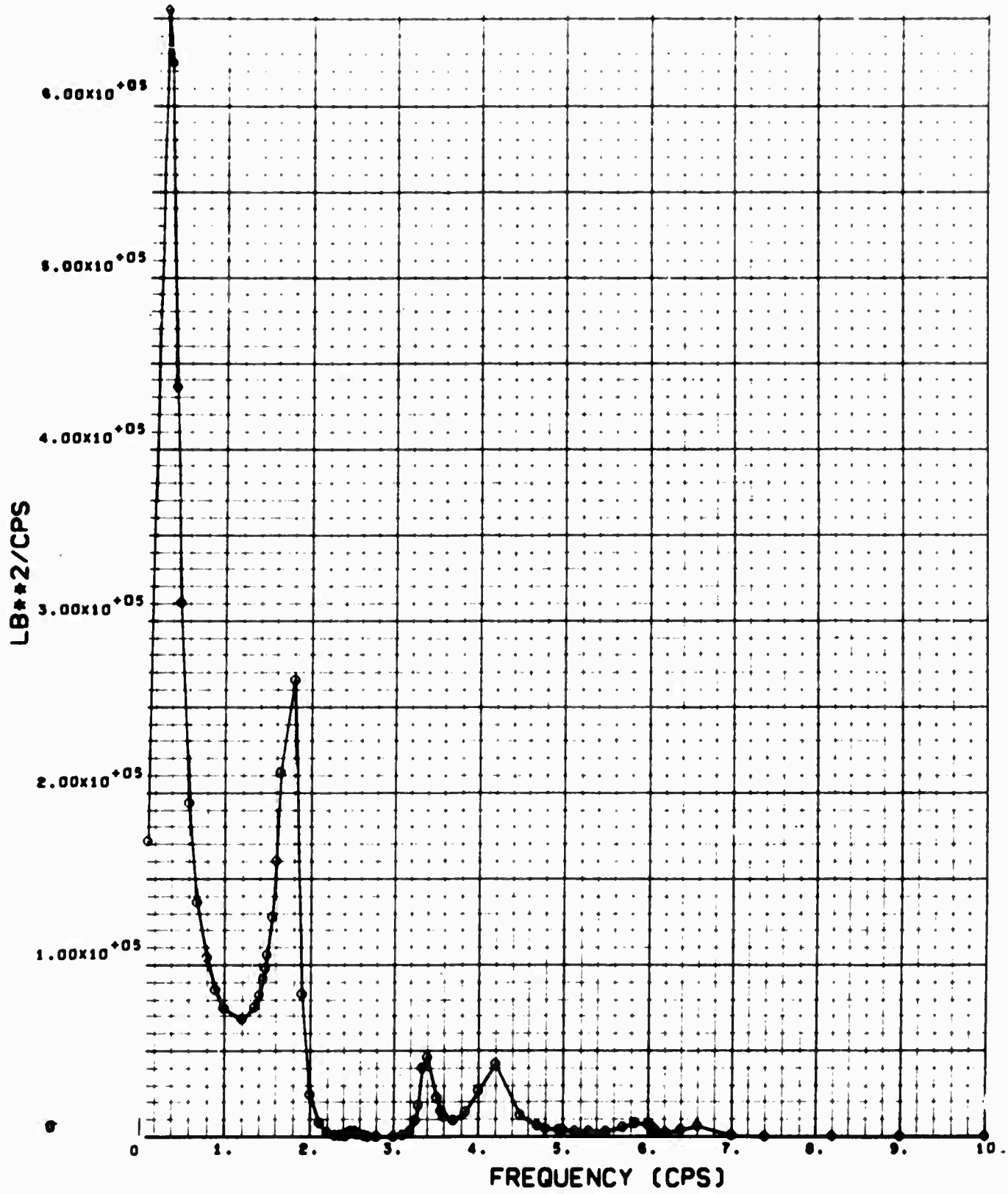


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 320

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

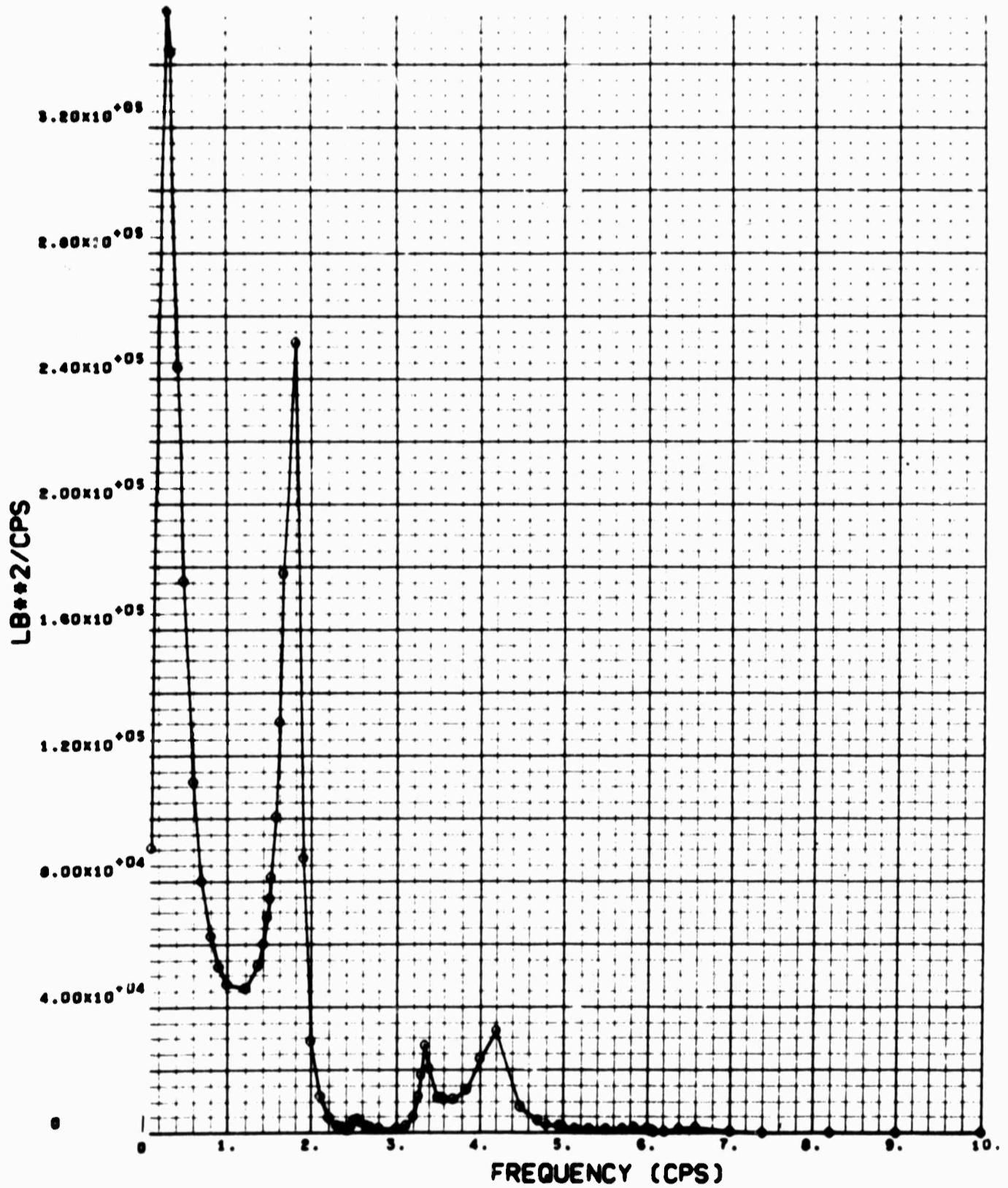


WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

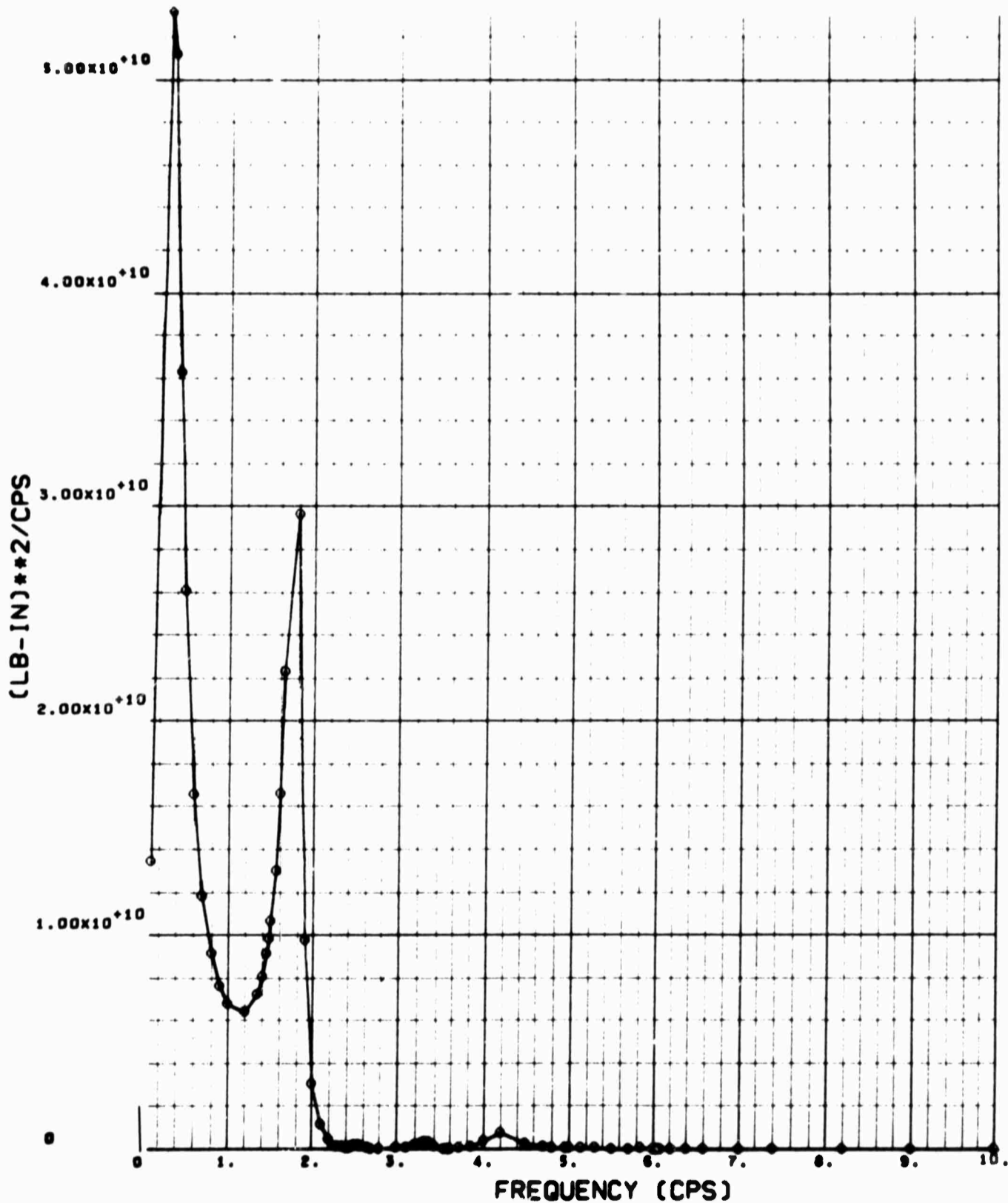


WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



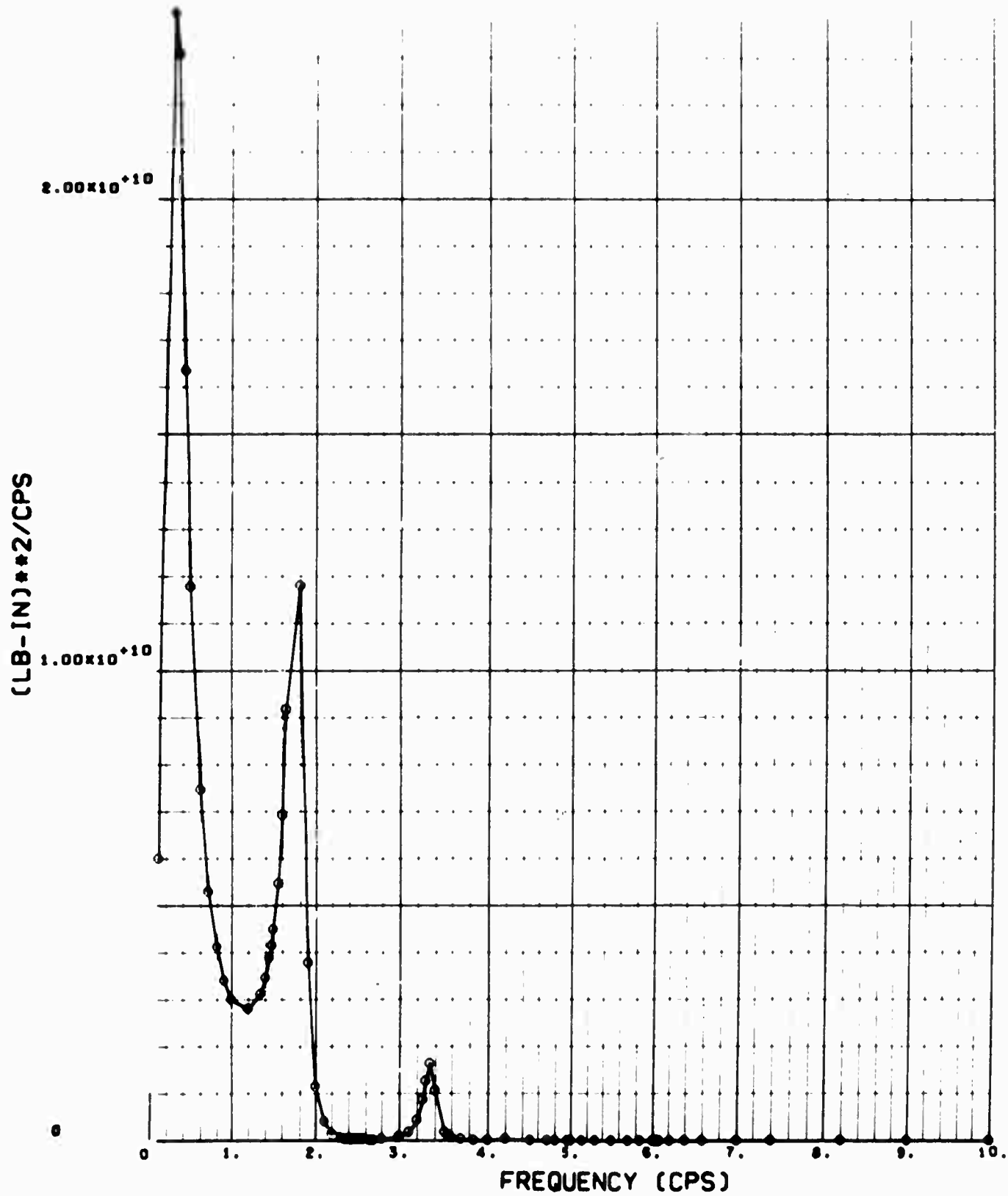
WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT      CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT      SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

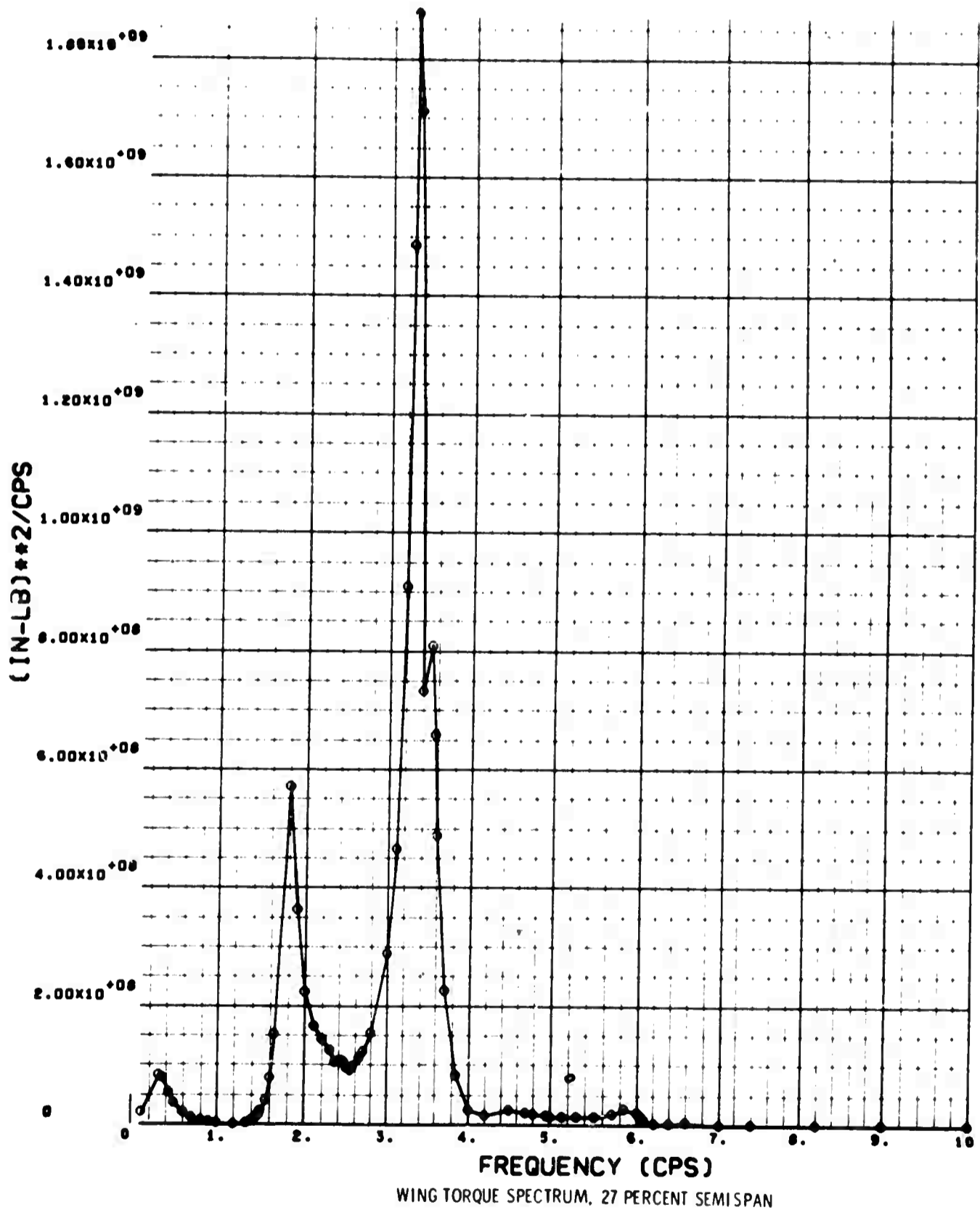


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

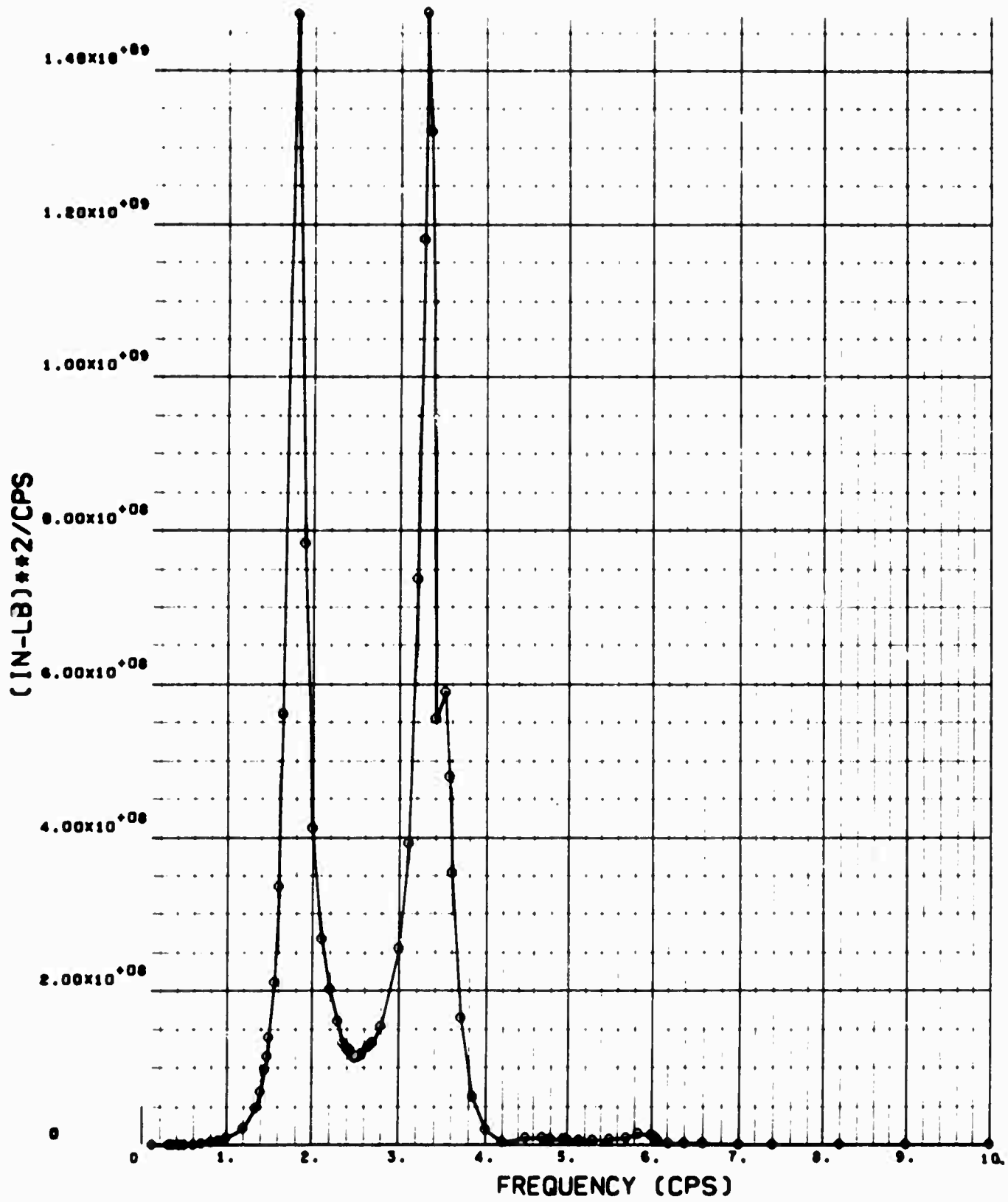
GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

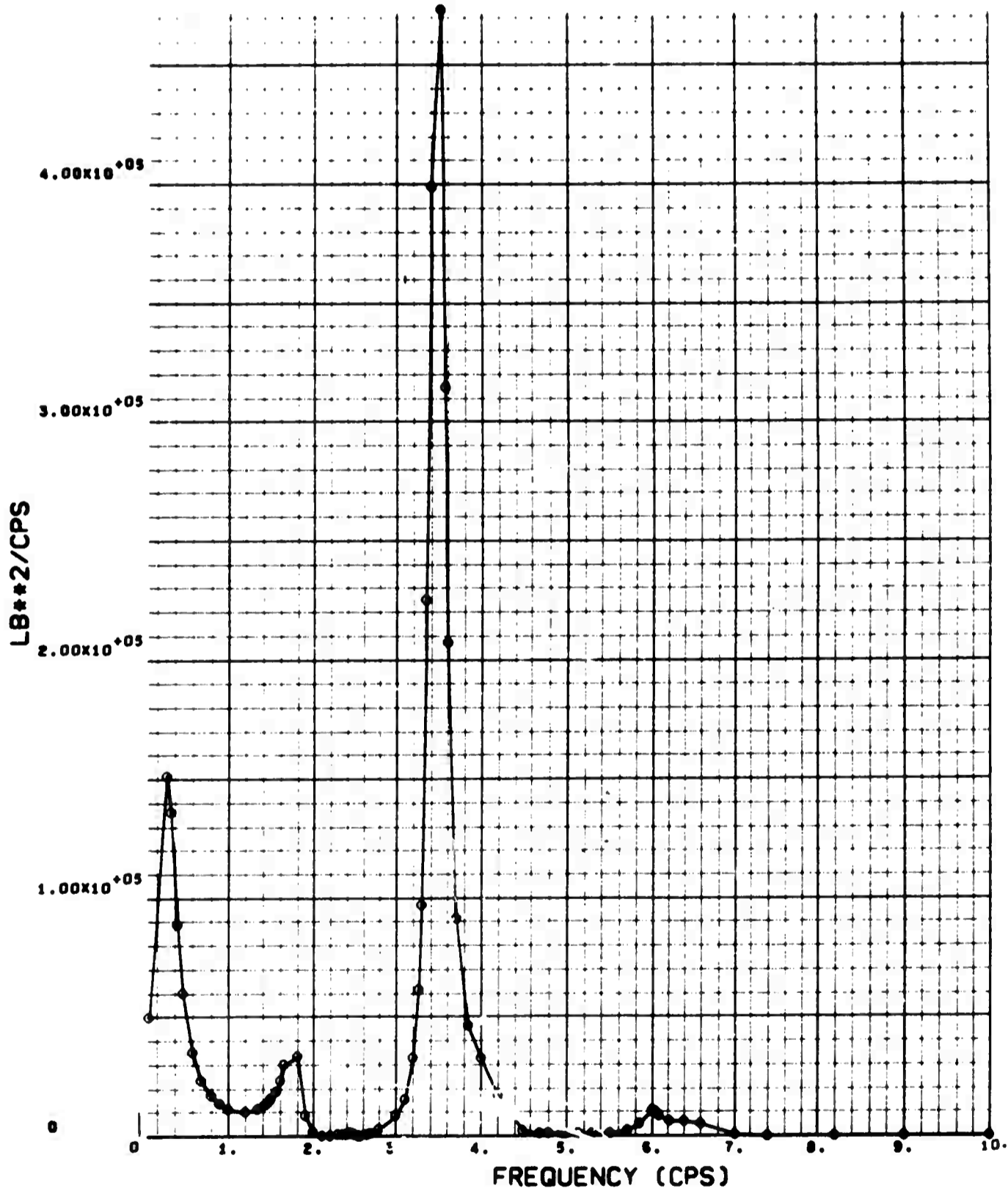


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

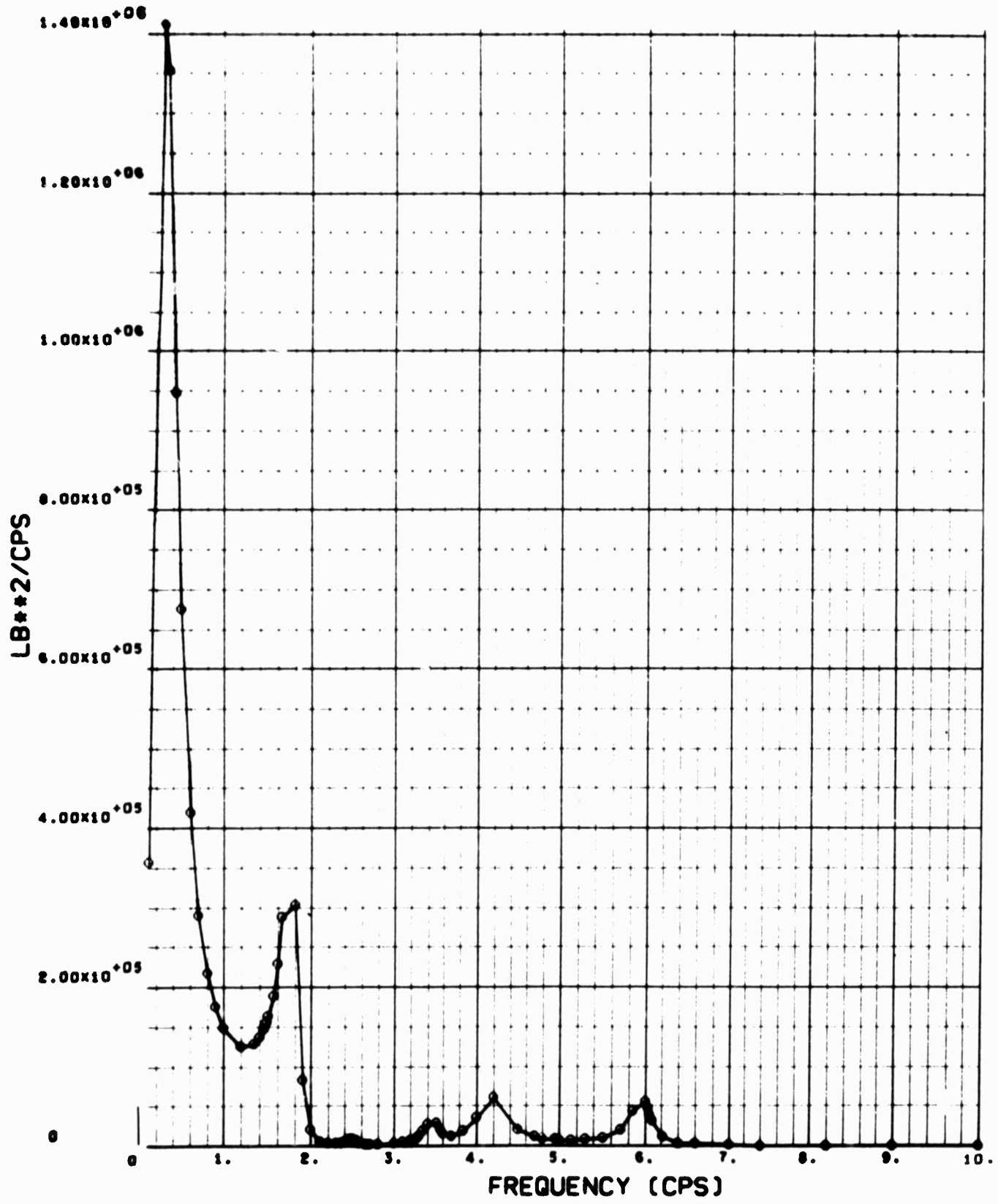


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

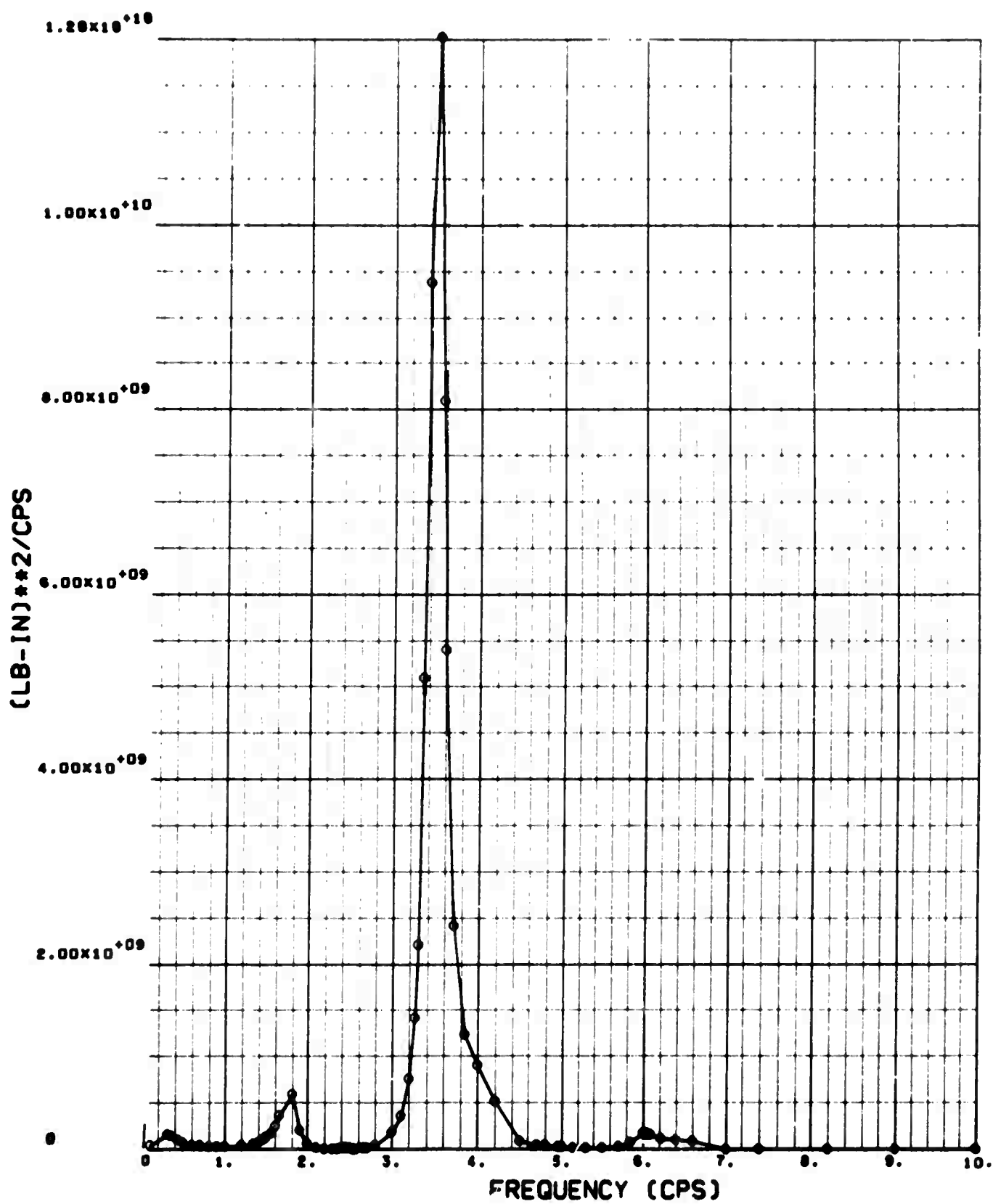


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

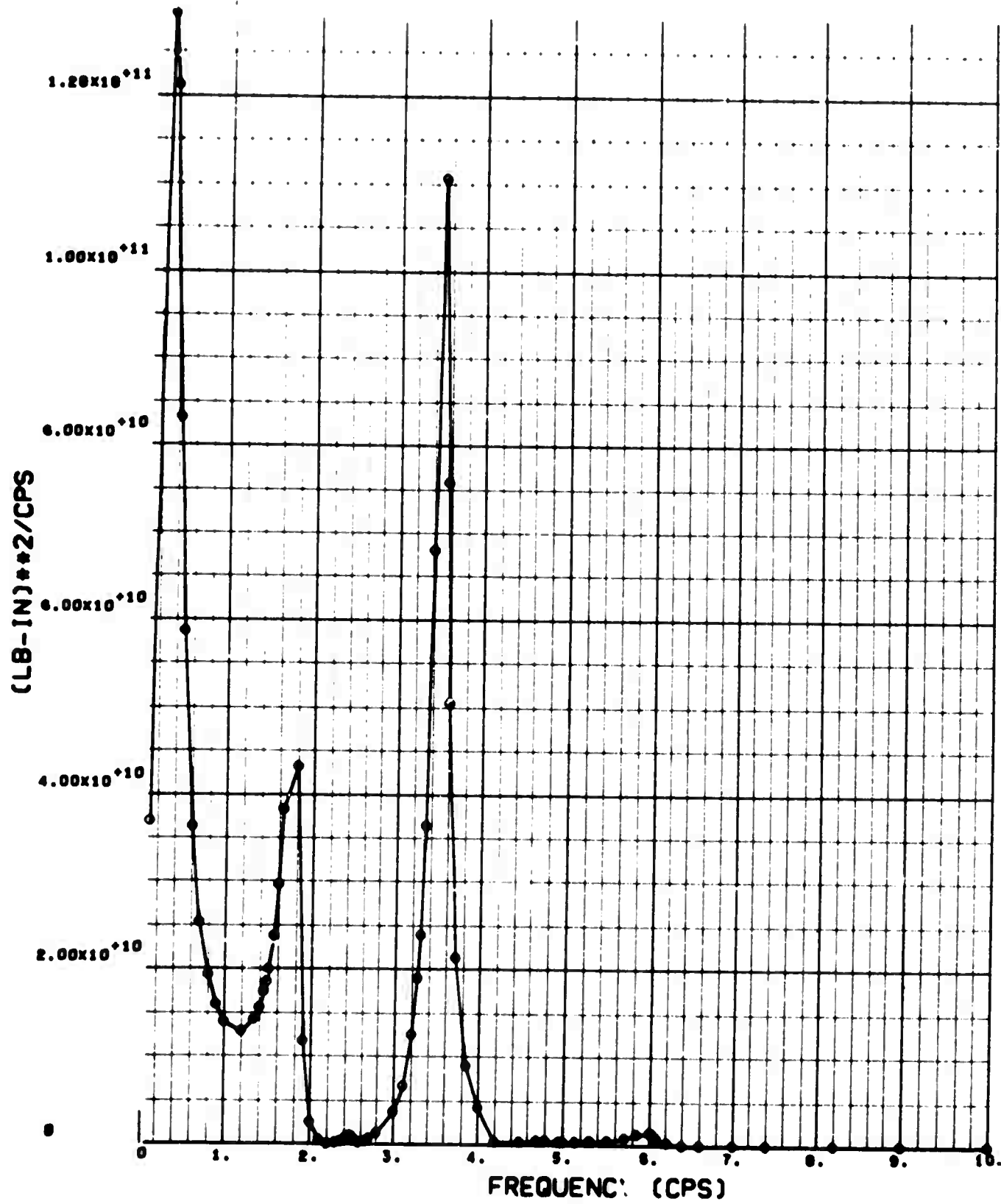


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 2

WEIGHT CONDITION B

GROSS WEIGHT: 268,000 FT    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

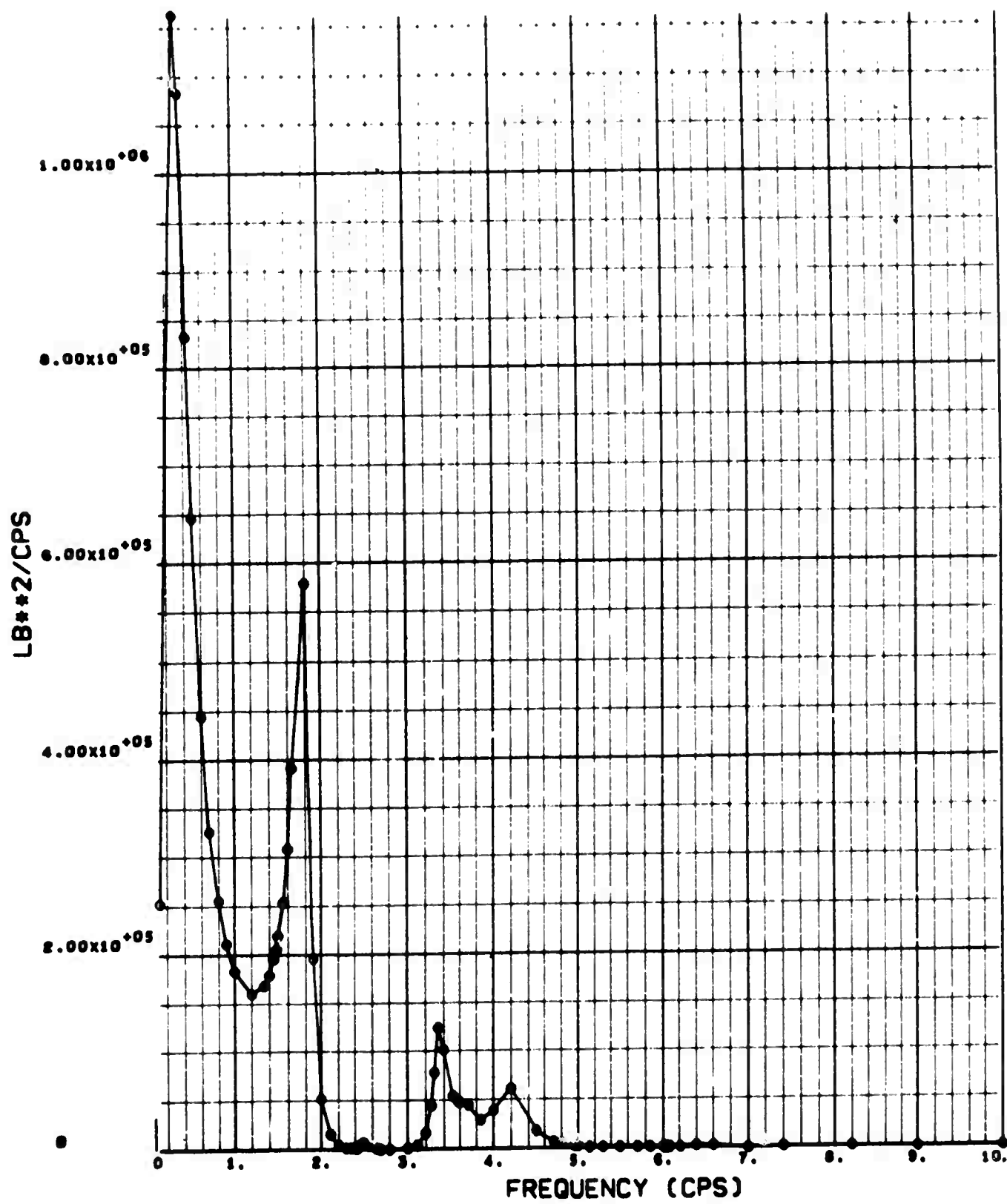


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

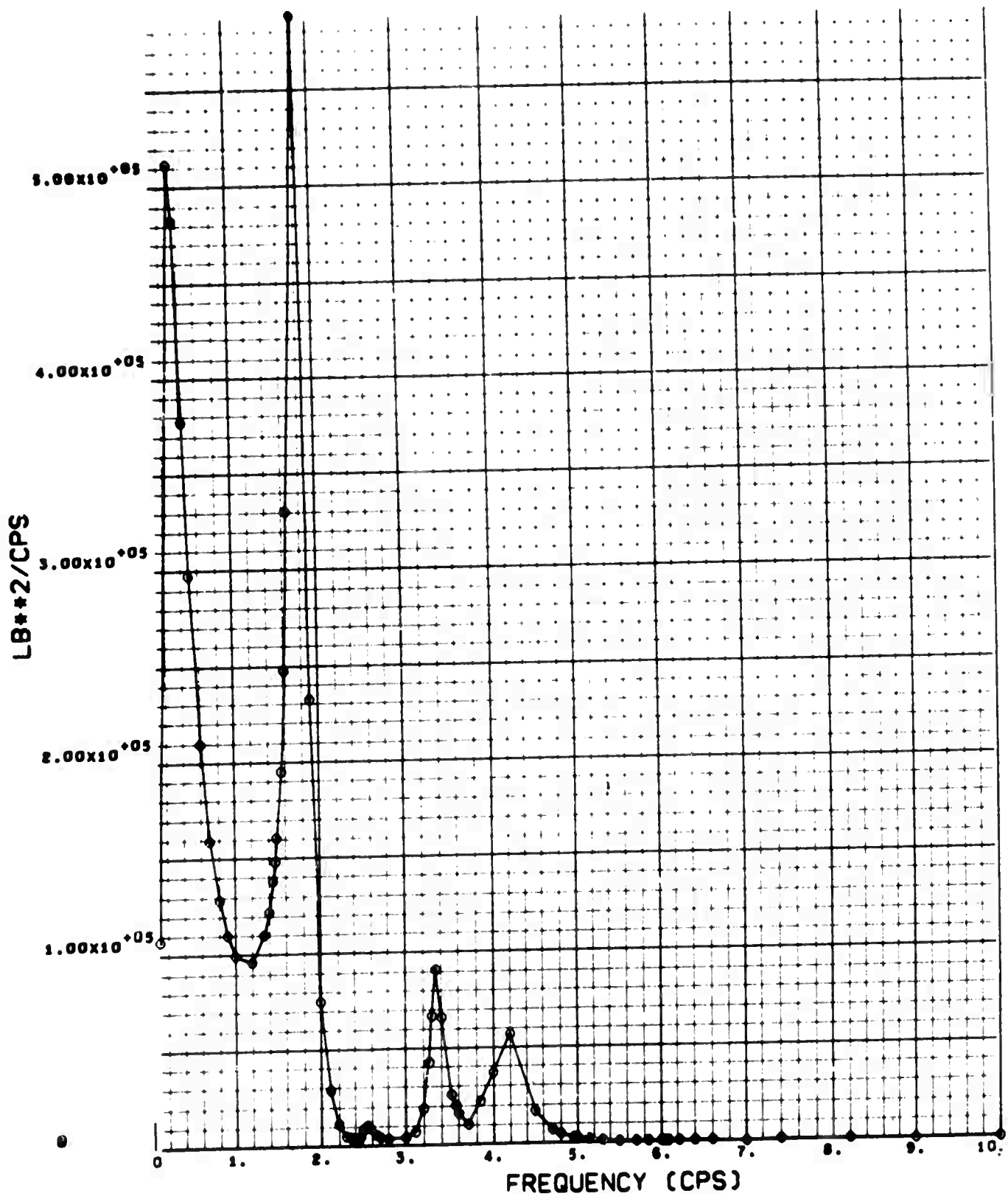


WING SHEAR SPECTRUM, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 3  
WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

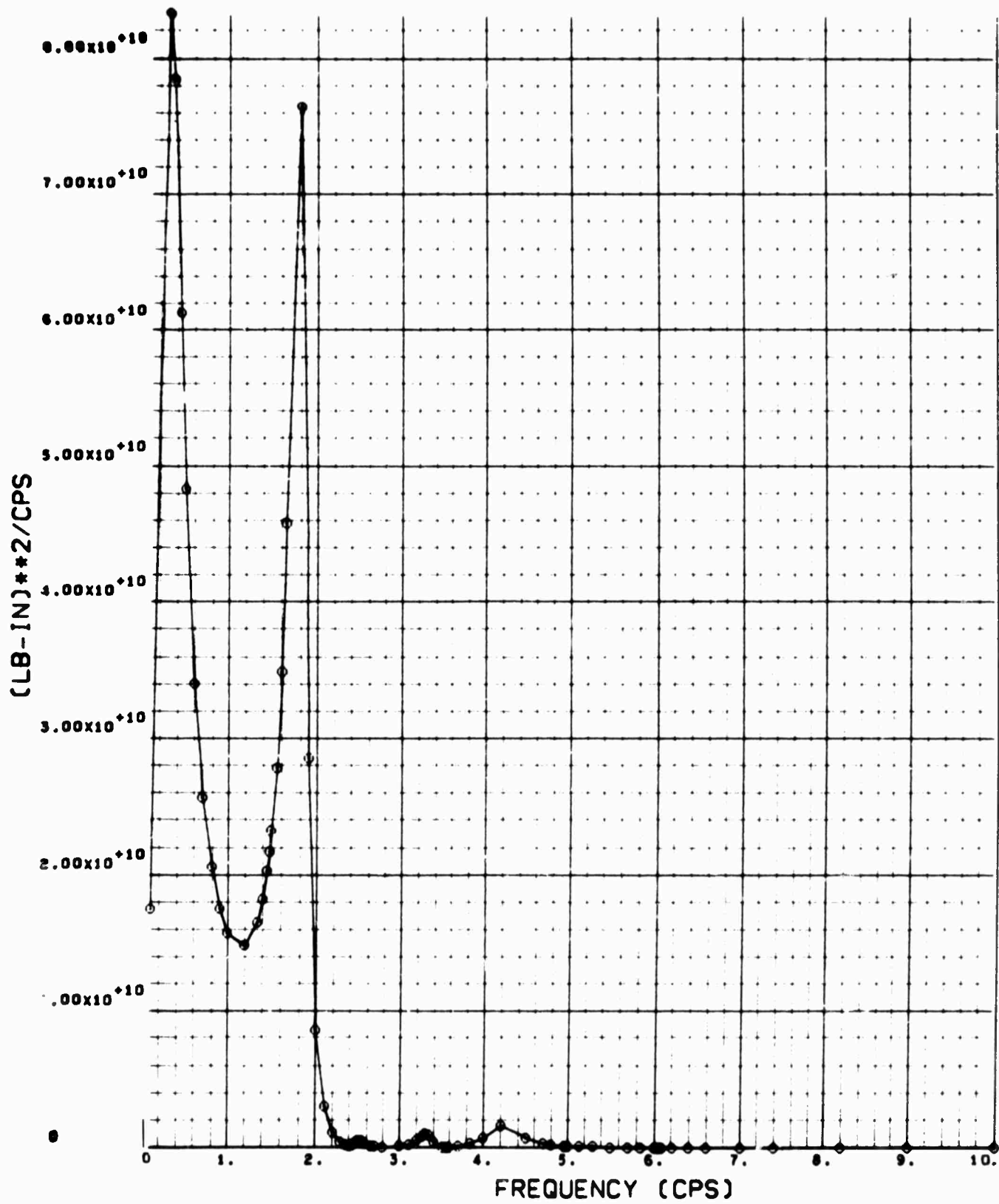


WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

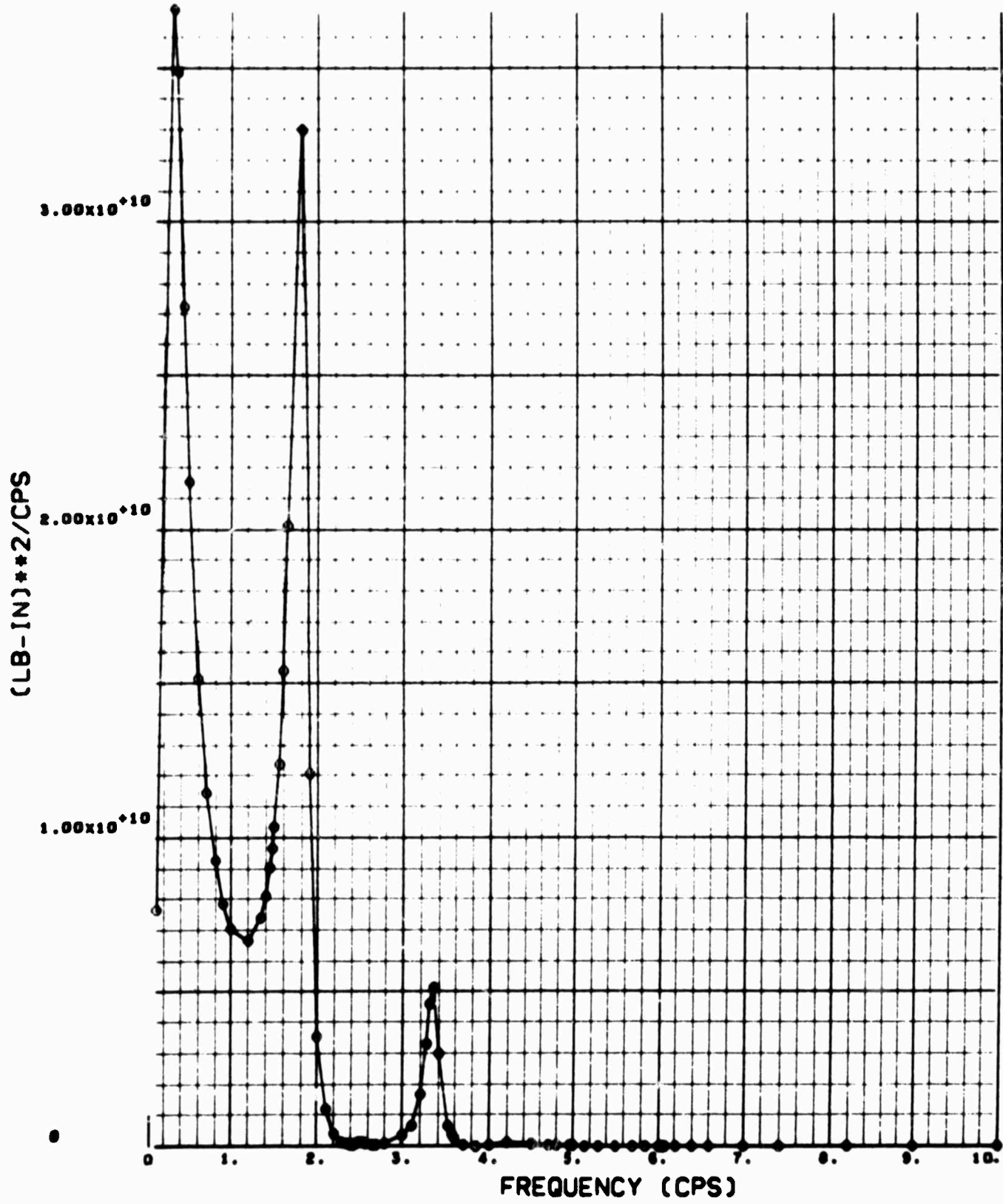


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

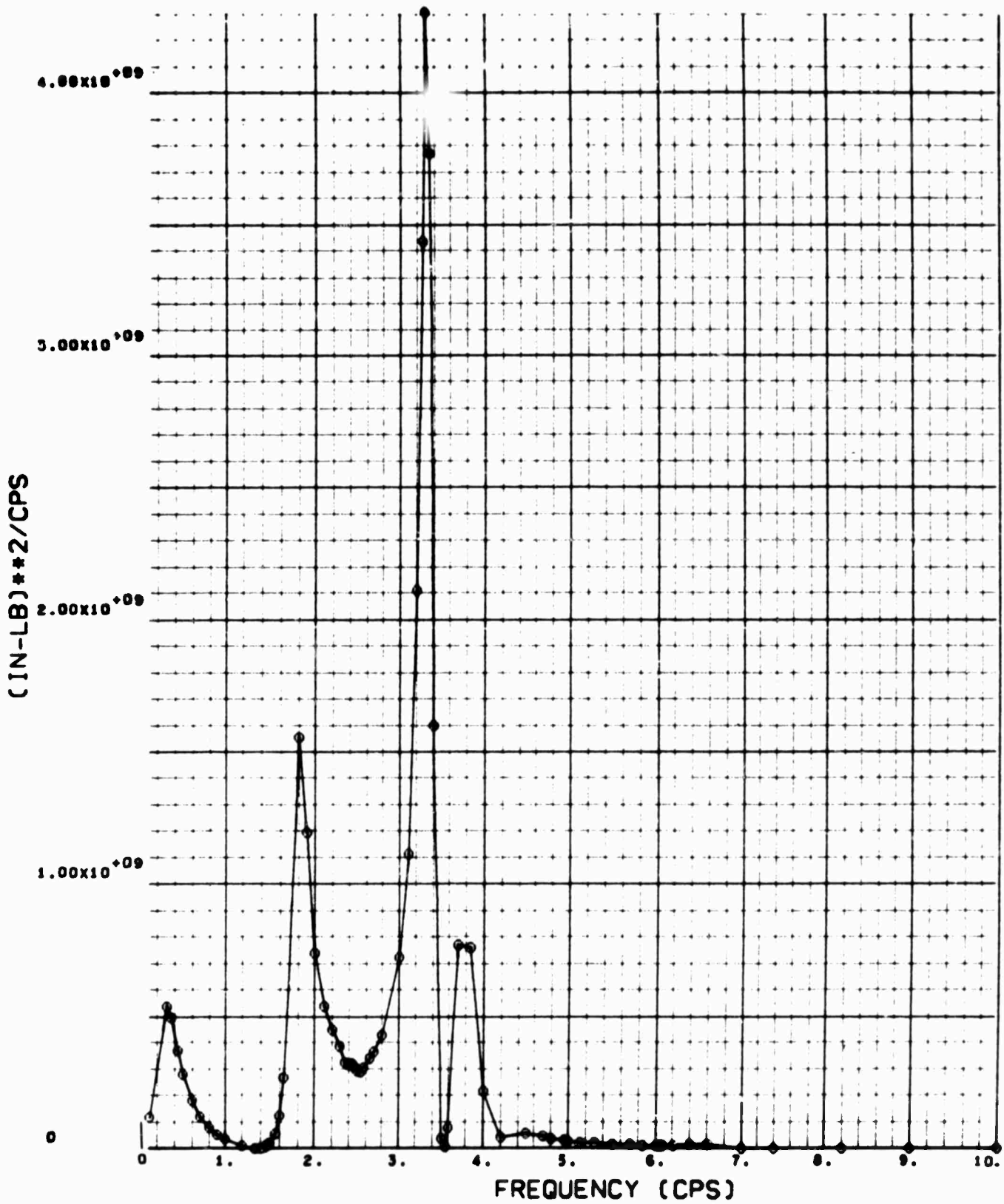


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

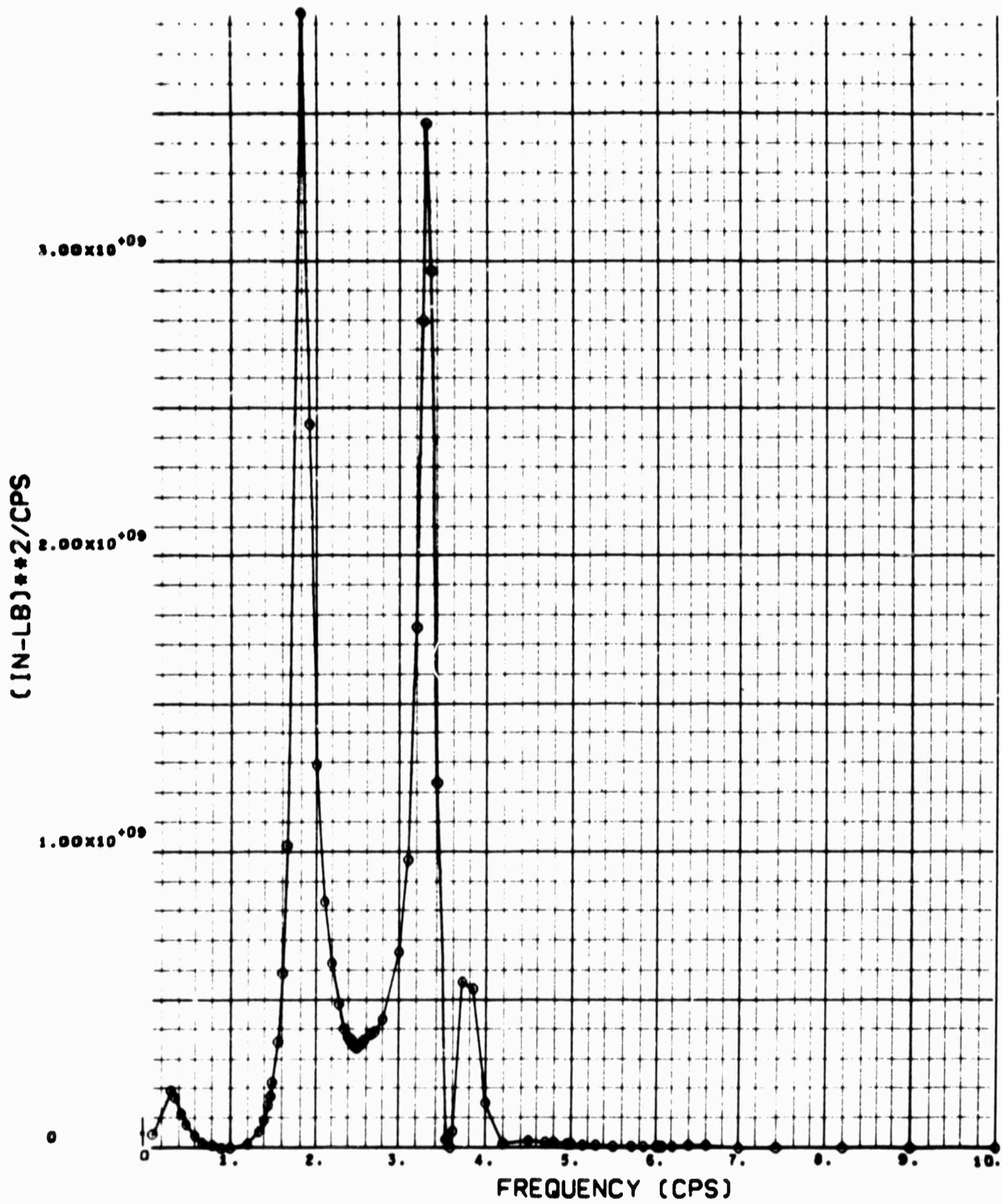


WING TORQUE SPECTRUM, 27 PERCENT SEMI-SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

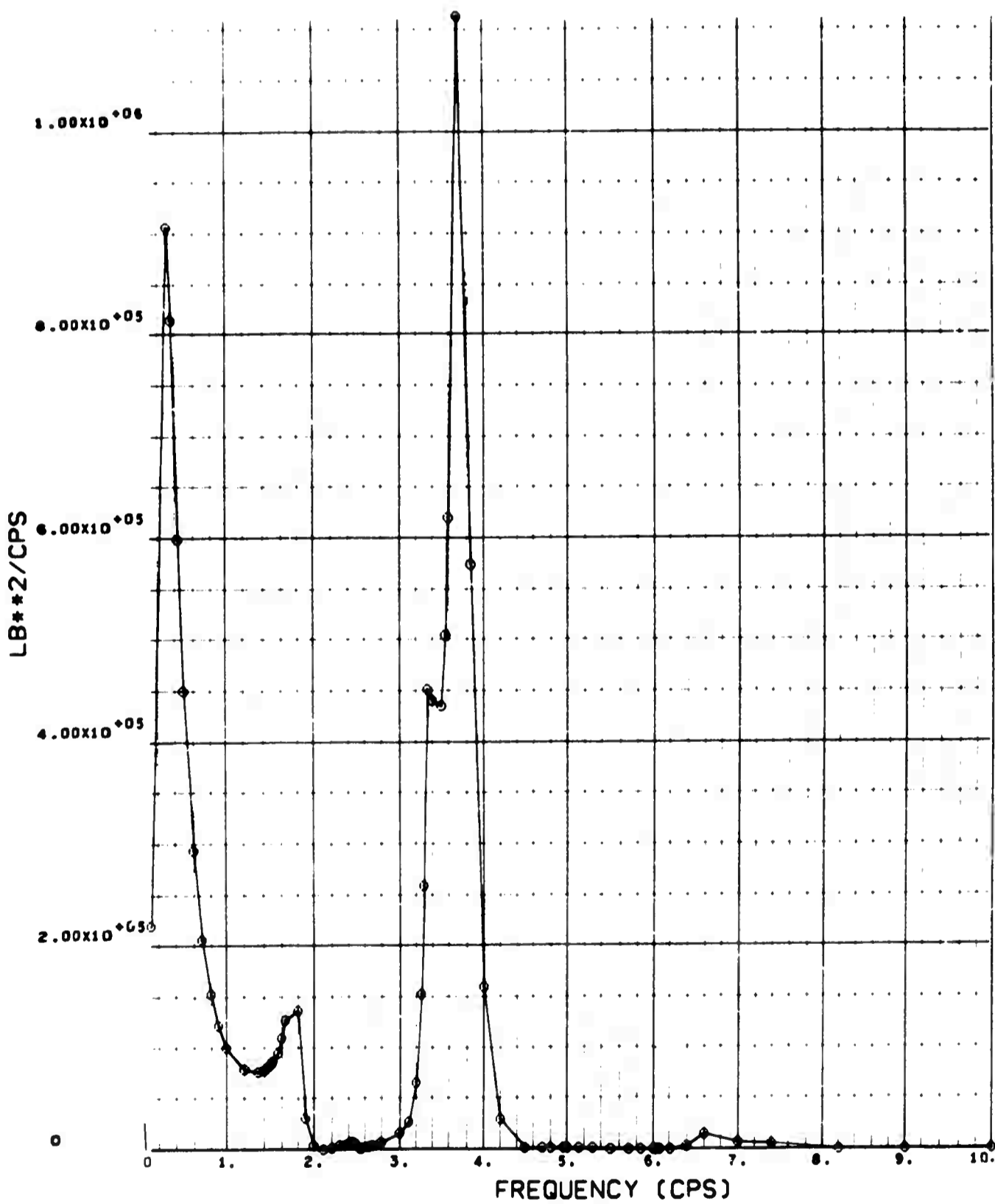


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

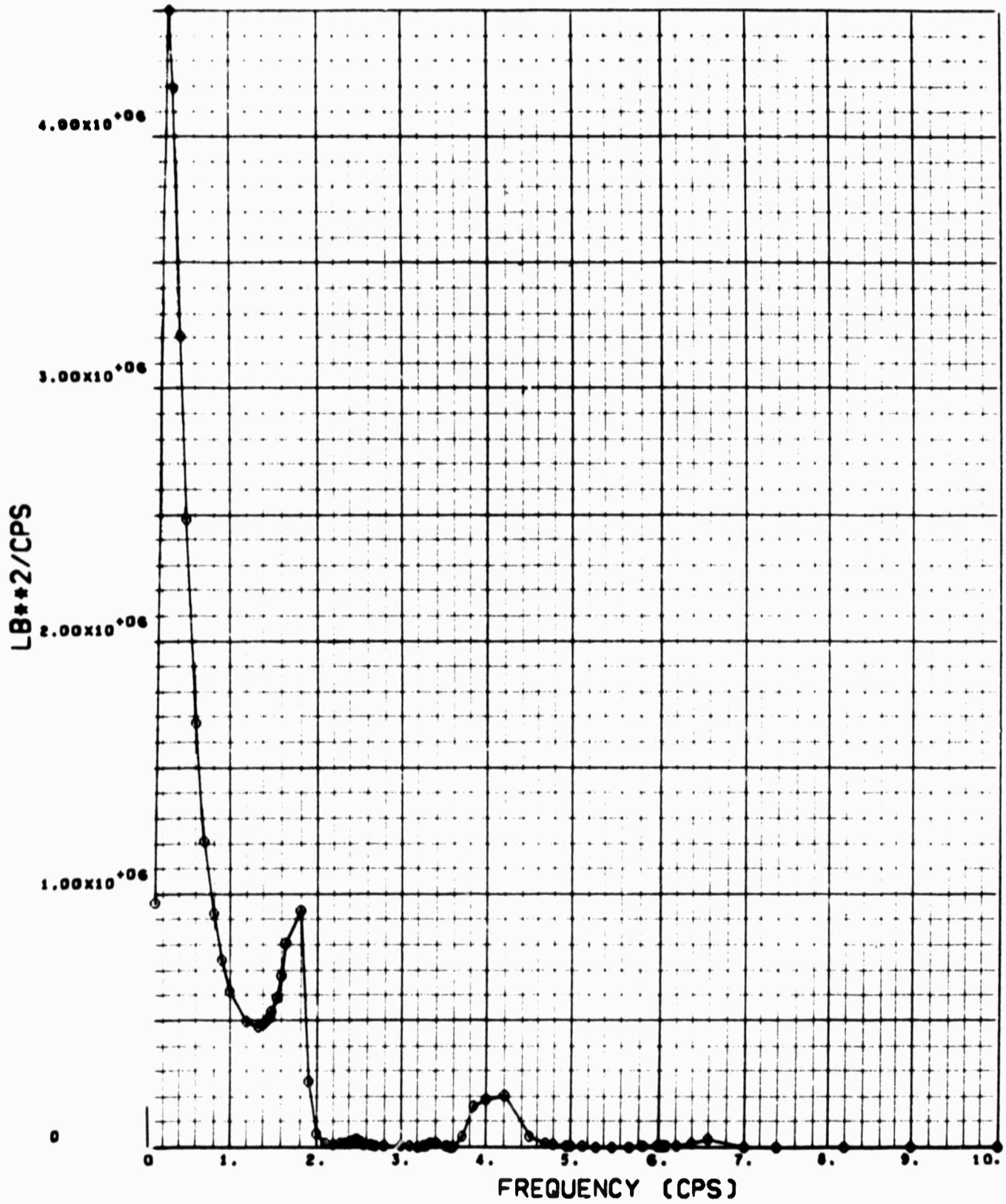


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

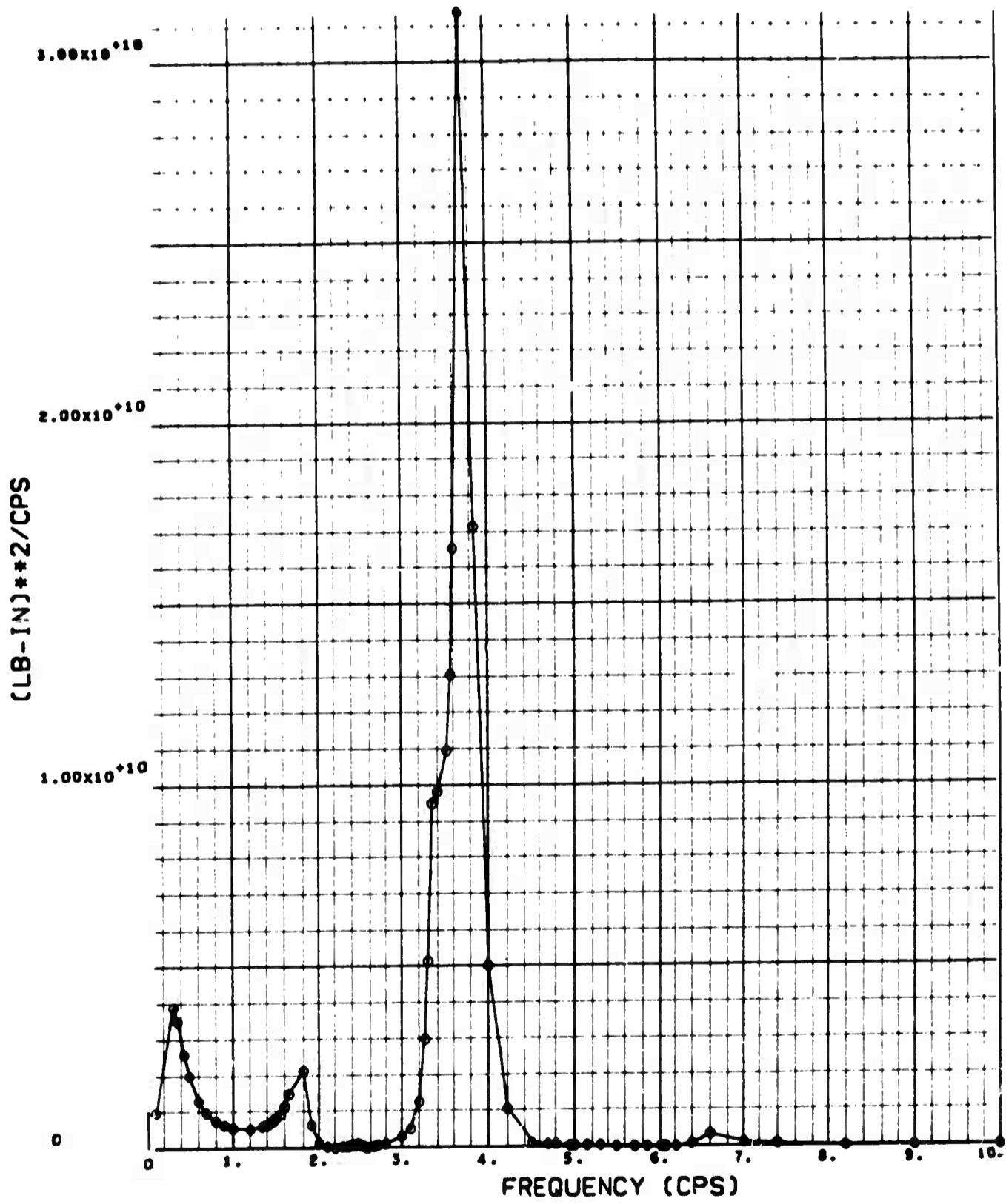


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



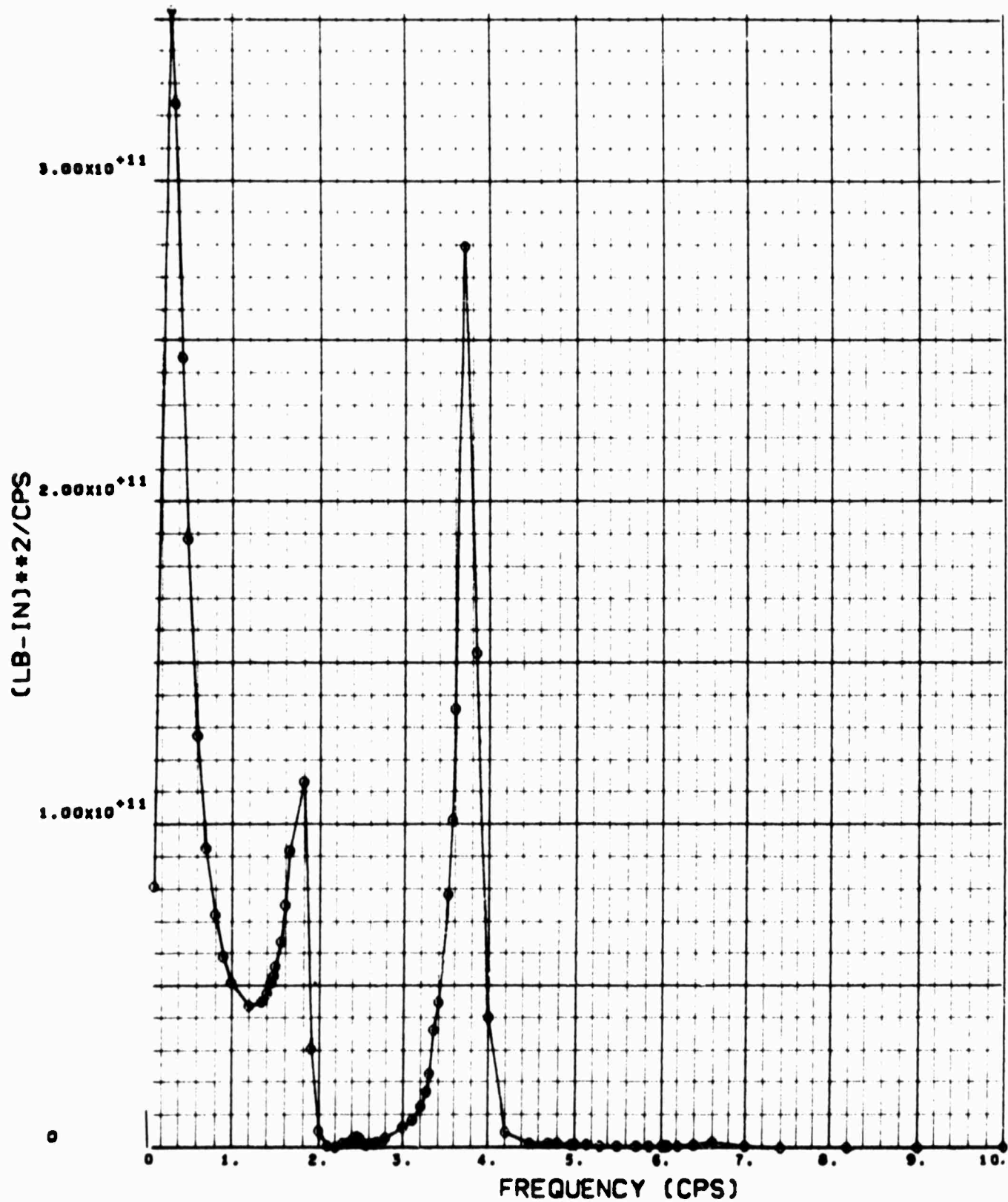
BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 3

WEIGHT CONDITION C

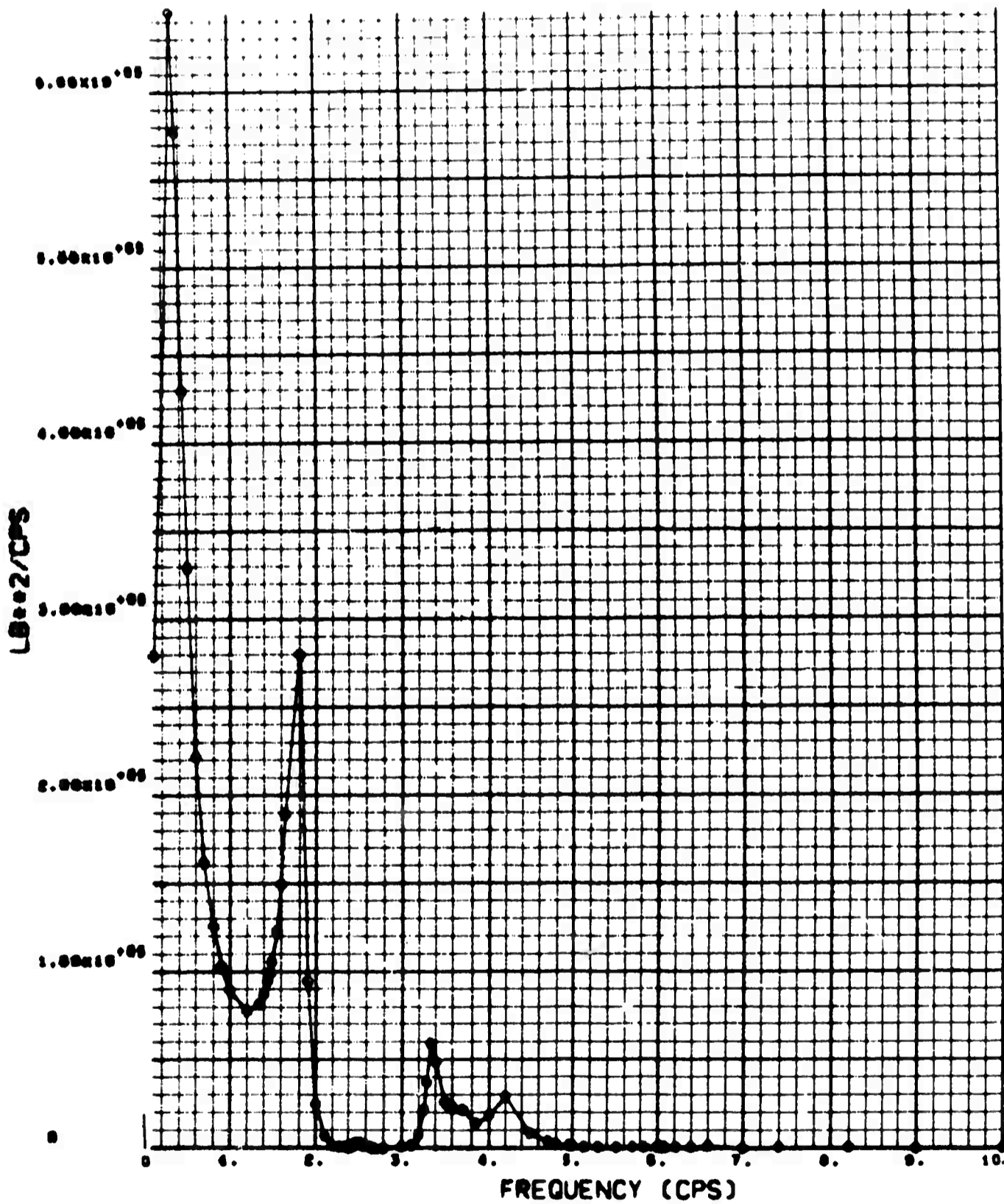
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

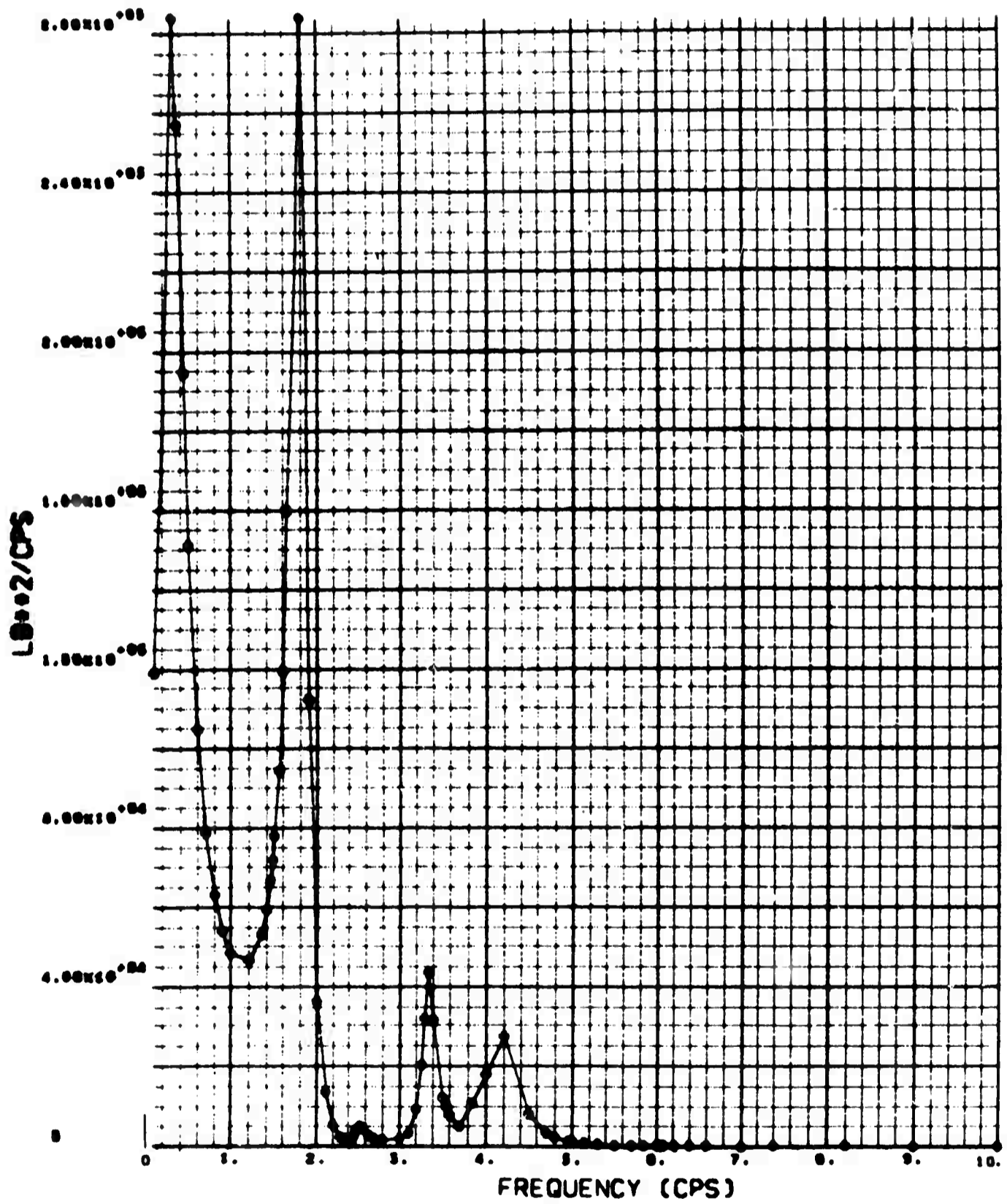
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

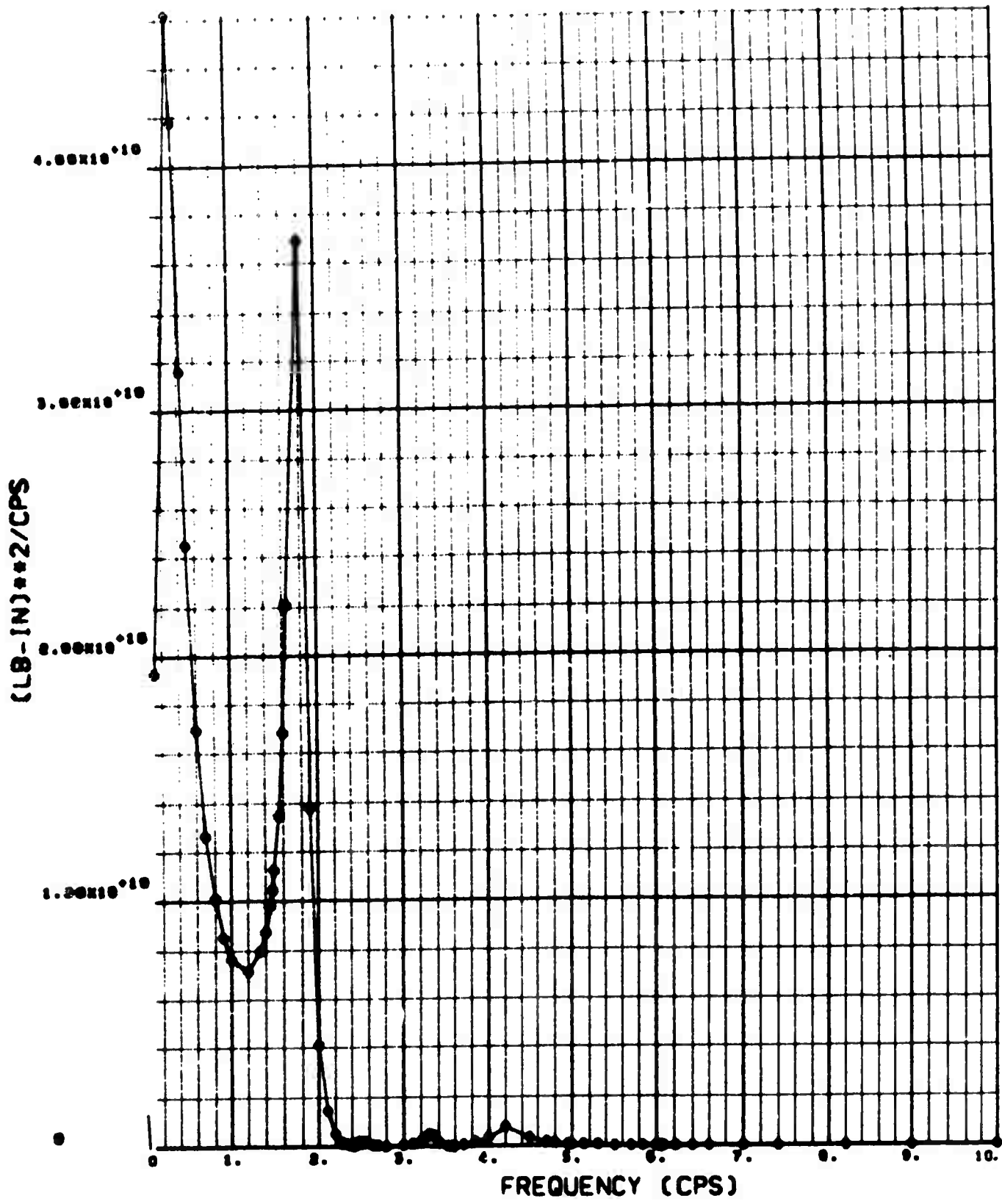


WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

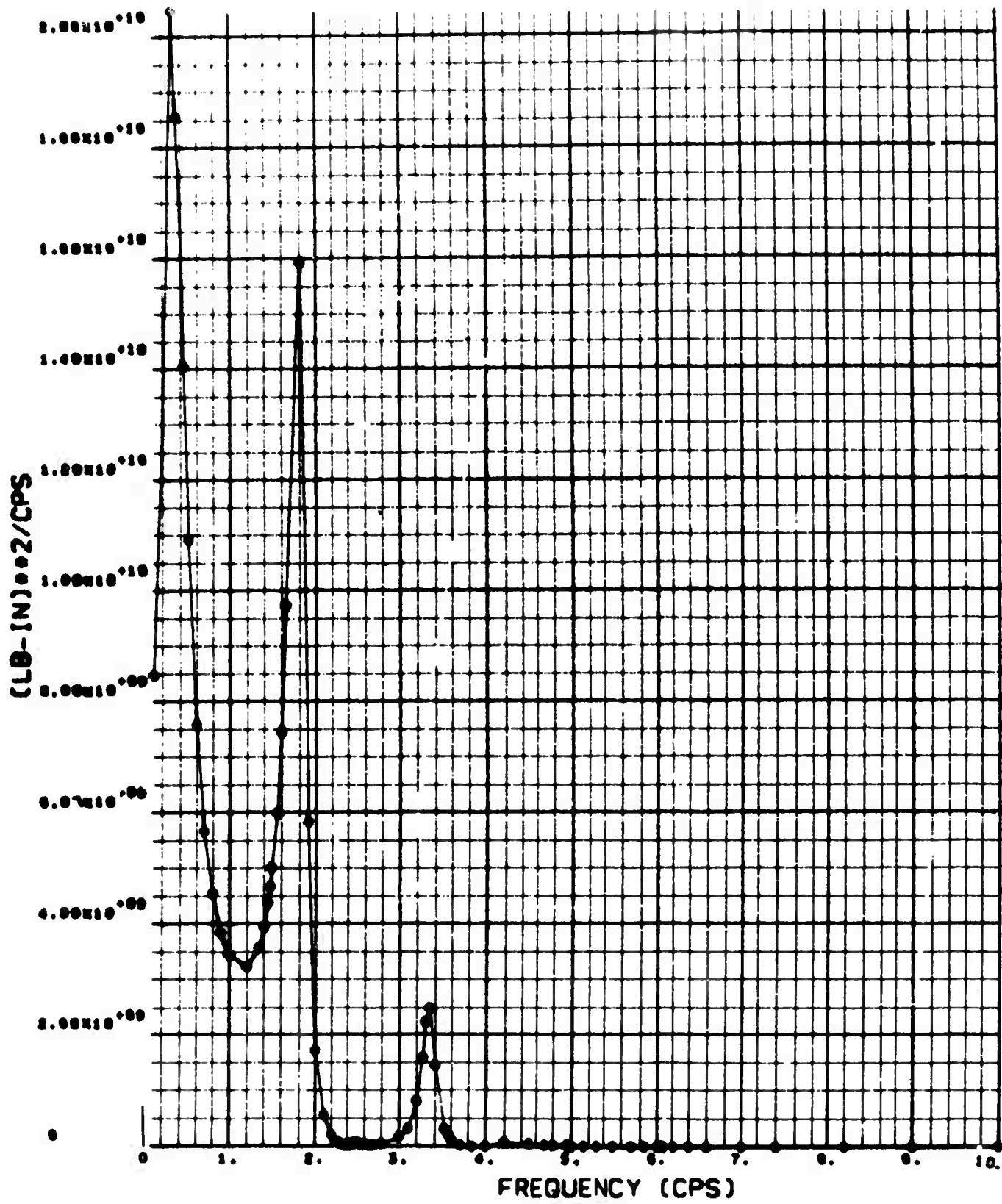


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

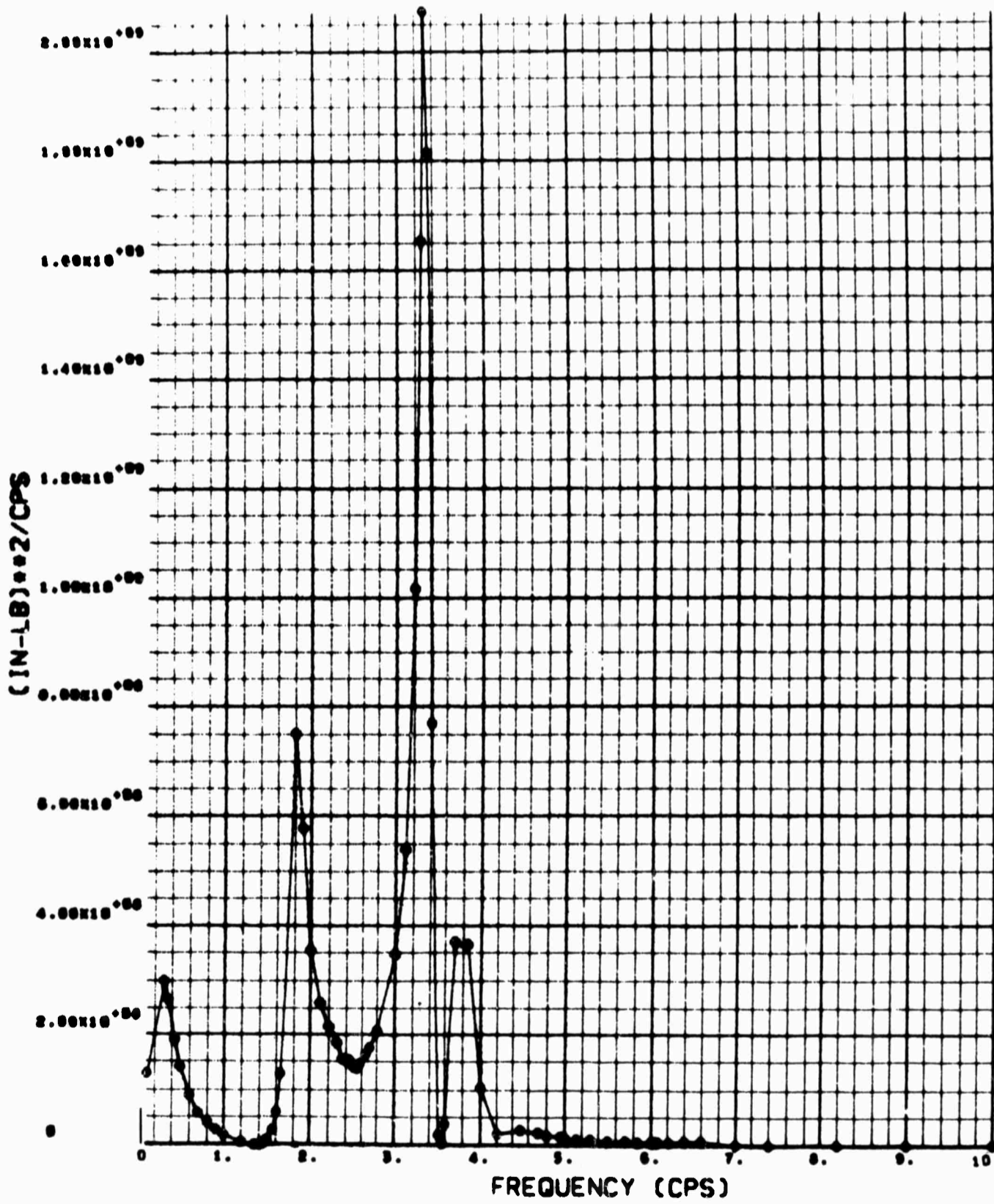


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB      CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT      SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

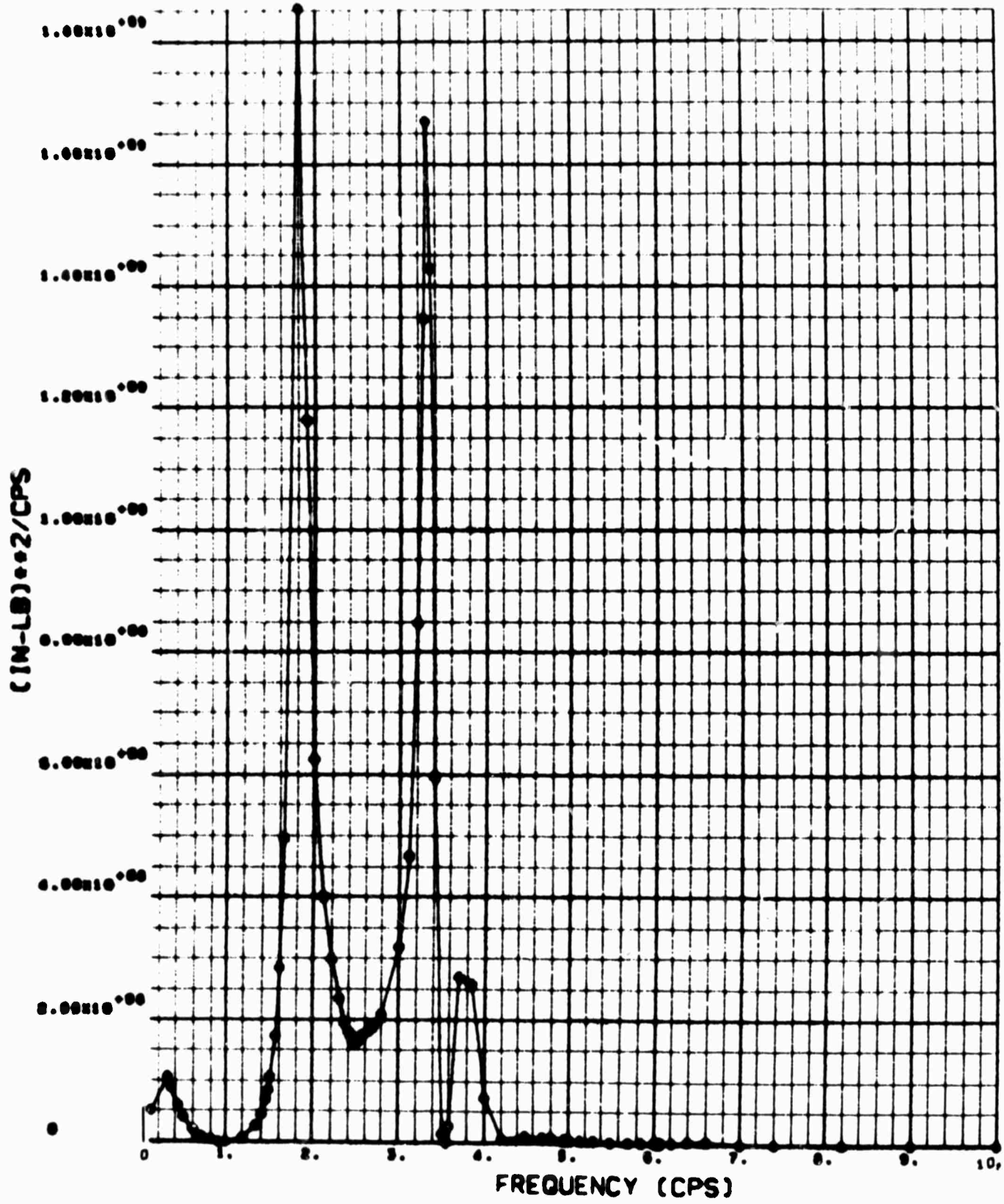


WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

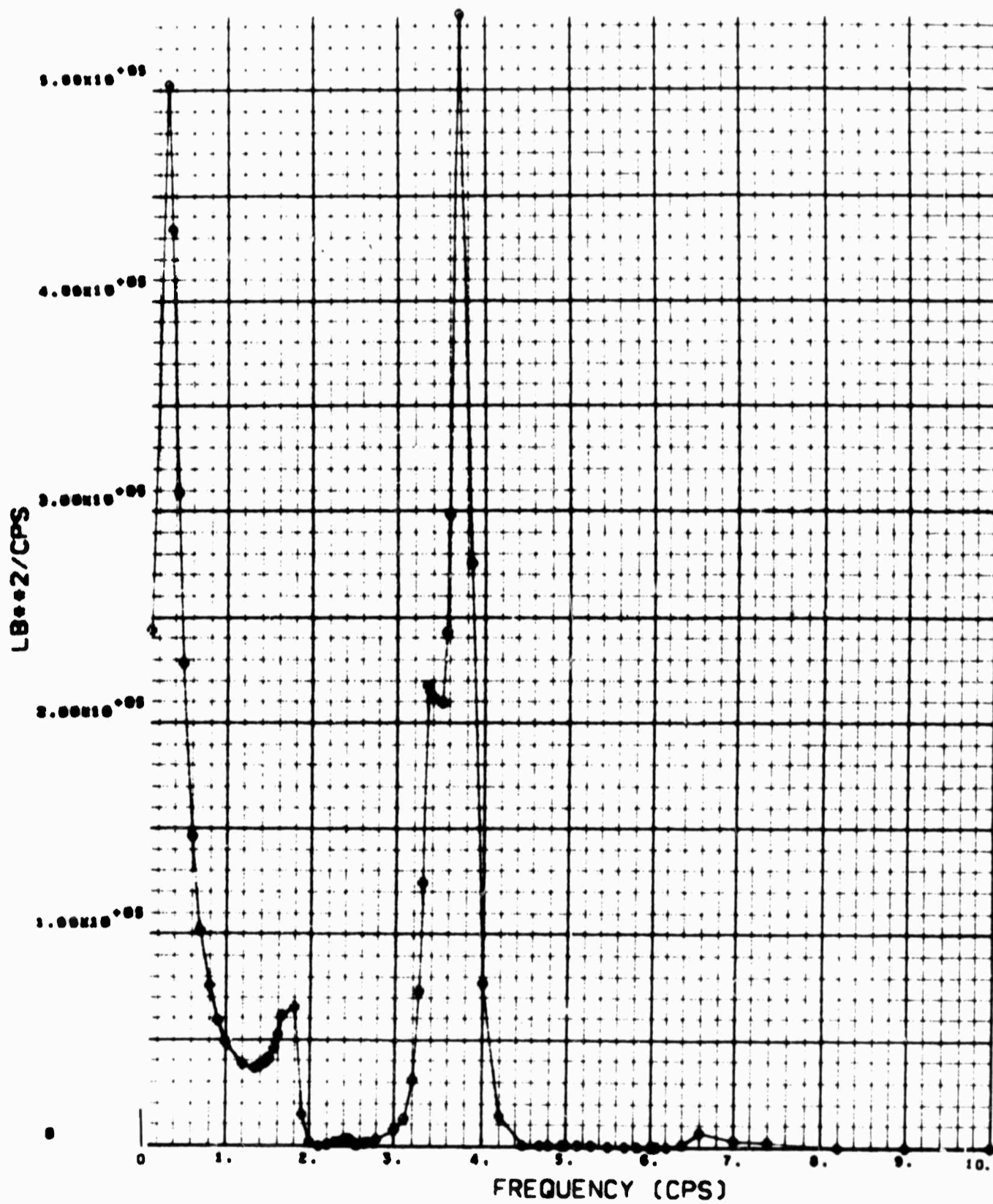


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



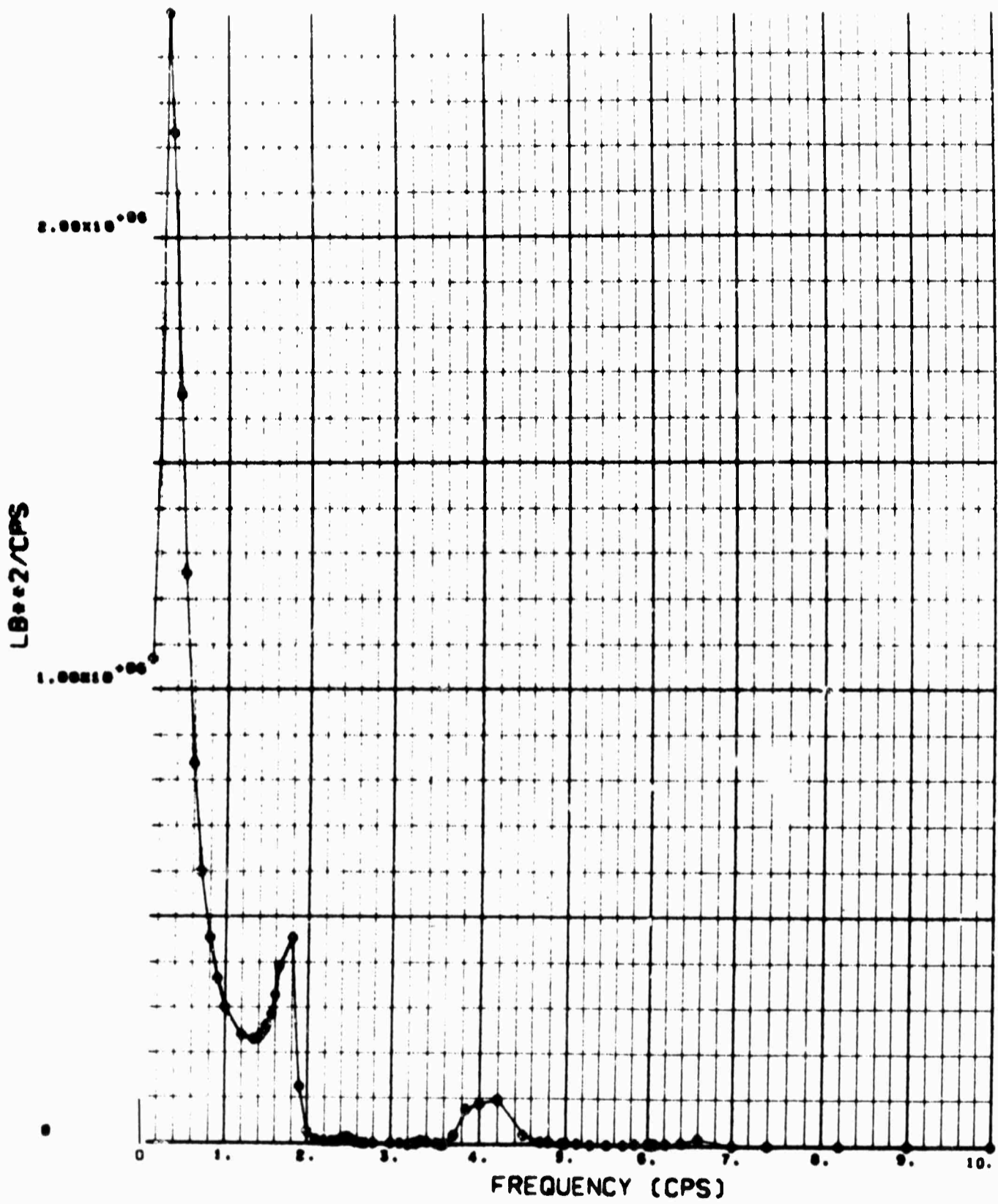
BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

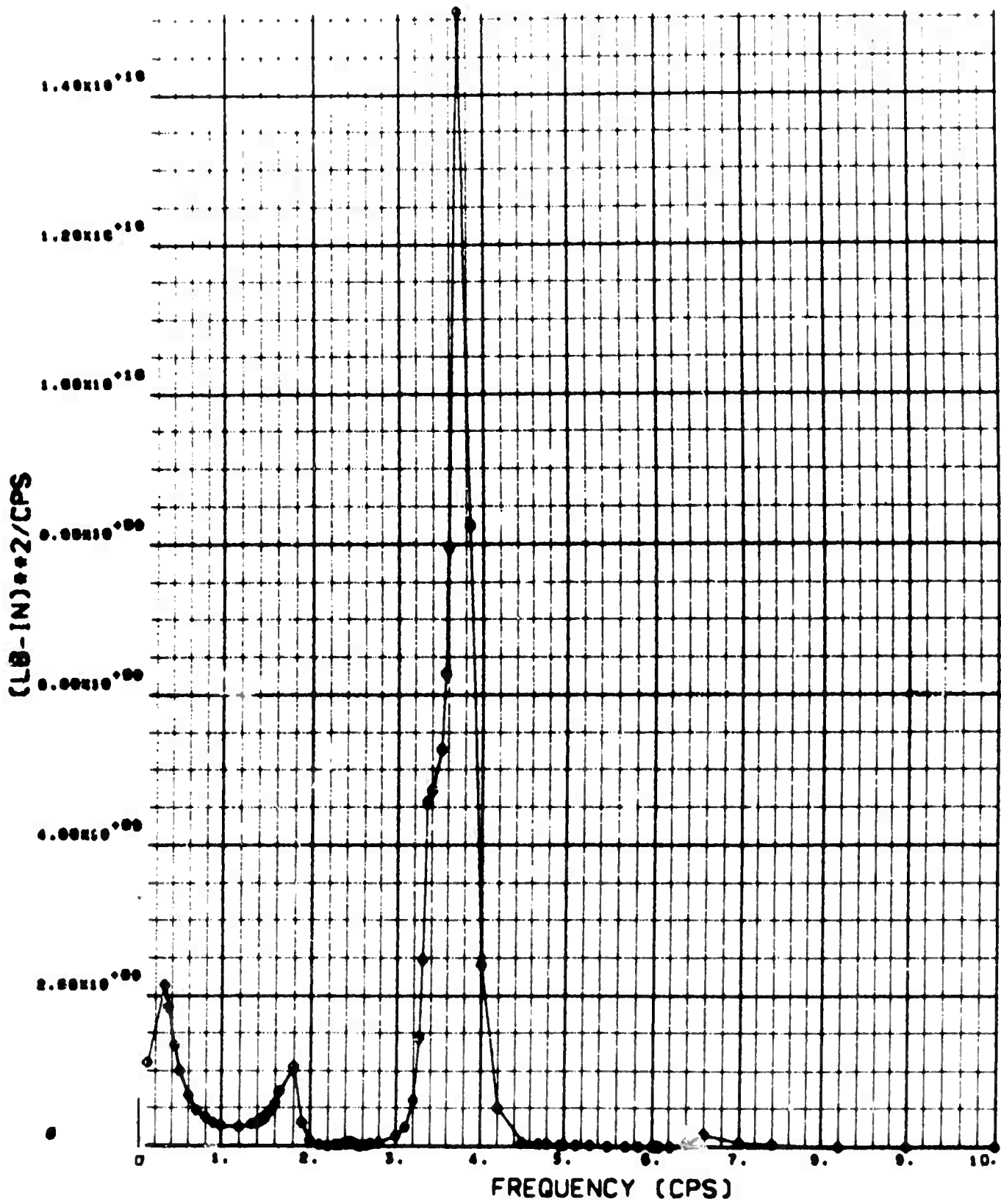


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3

WEIGHT CONDITION C

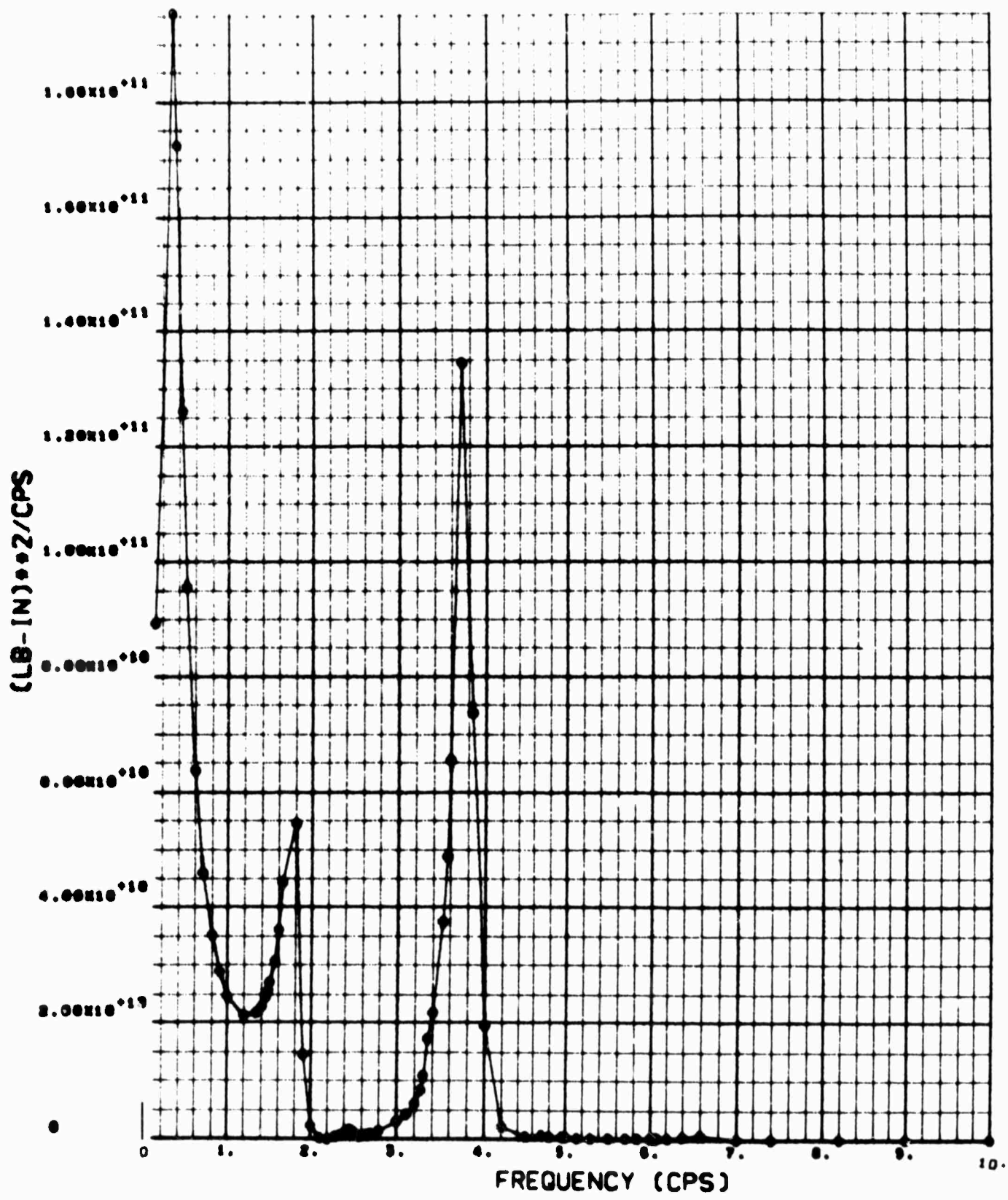
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

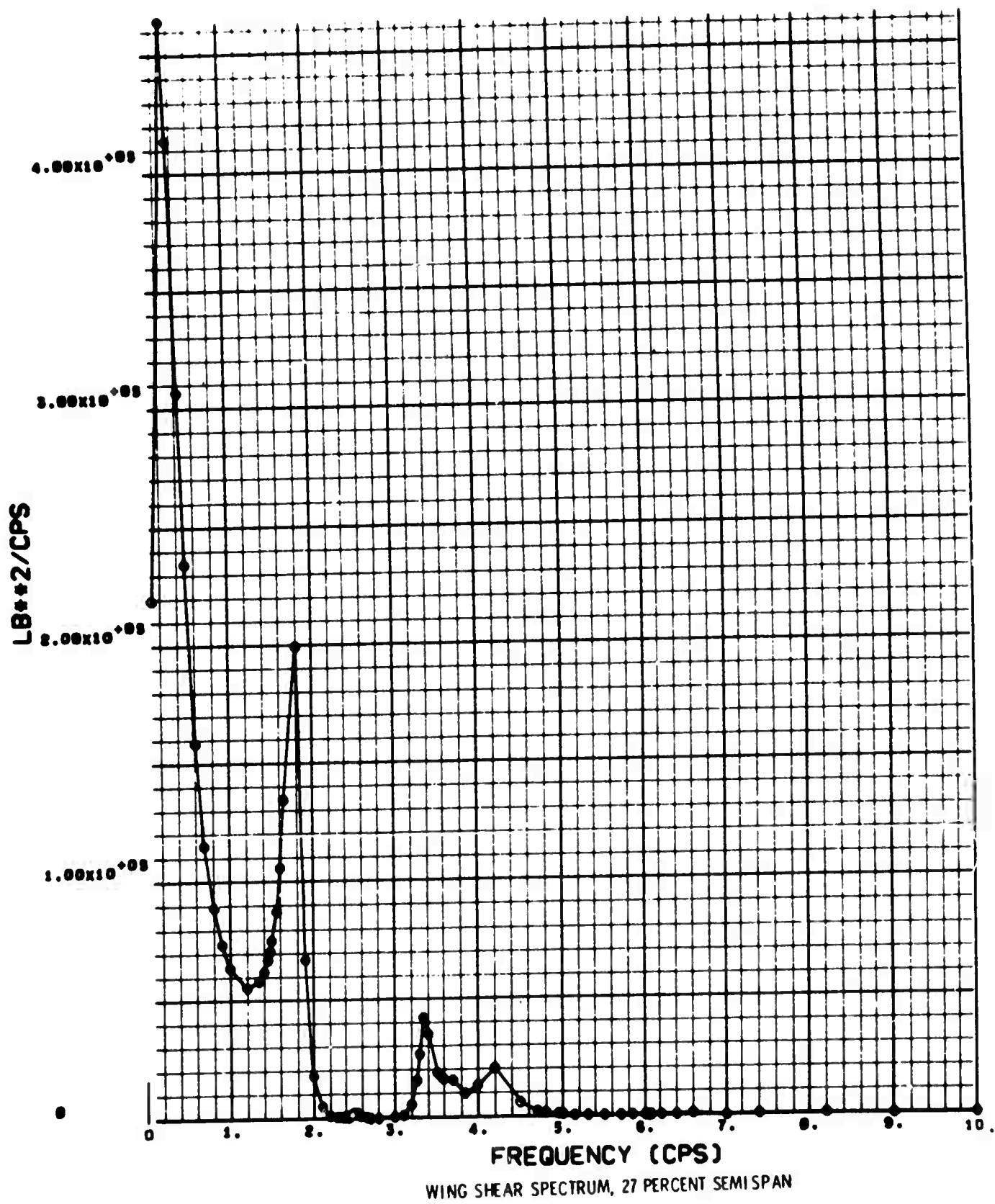
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

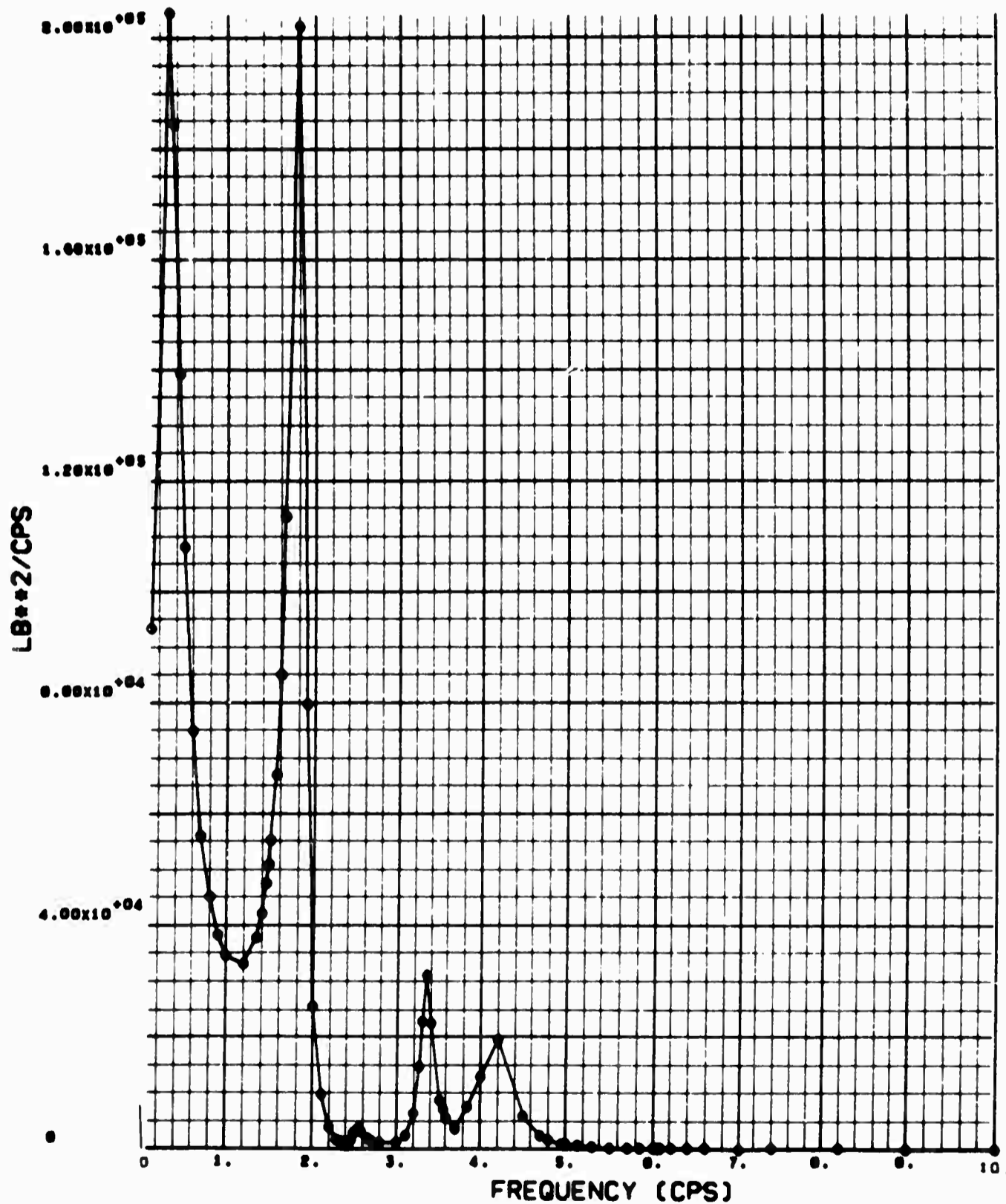
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



ANALYSIS CONDITION 3

WEIGHT CONDITION C

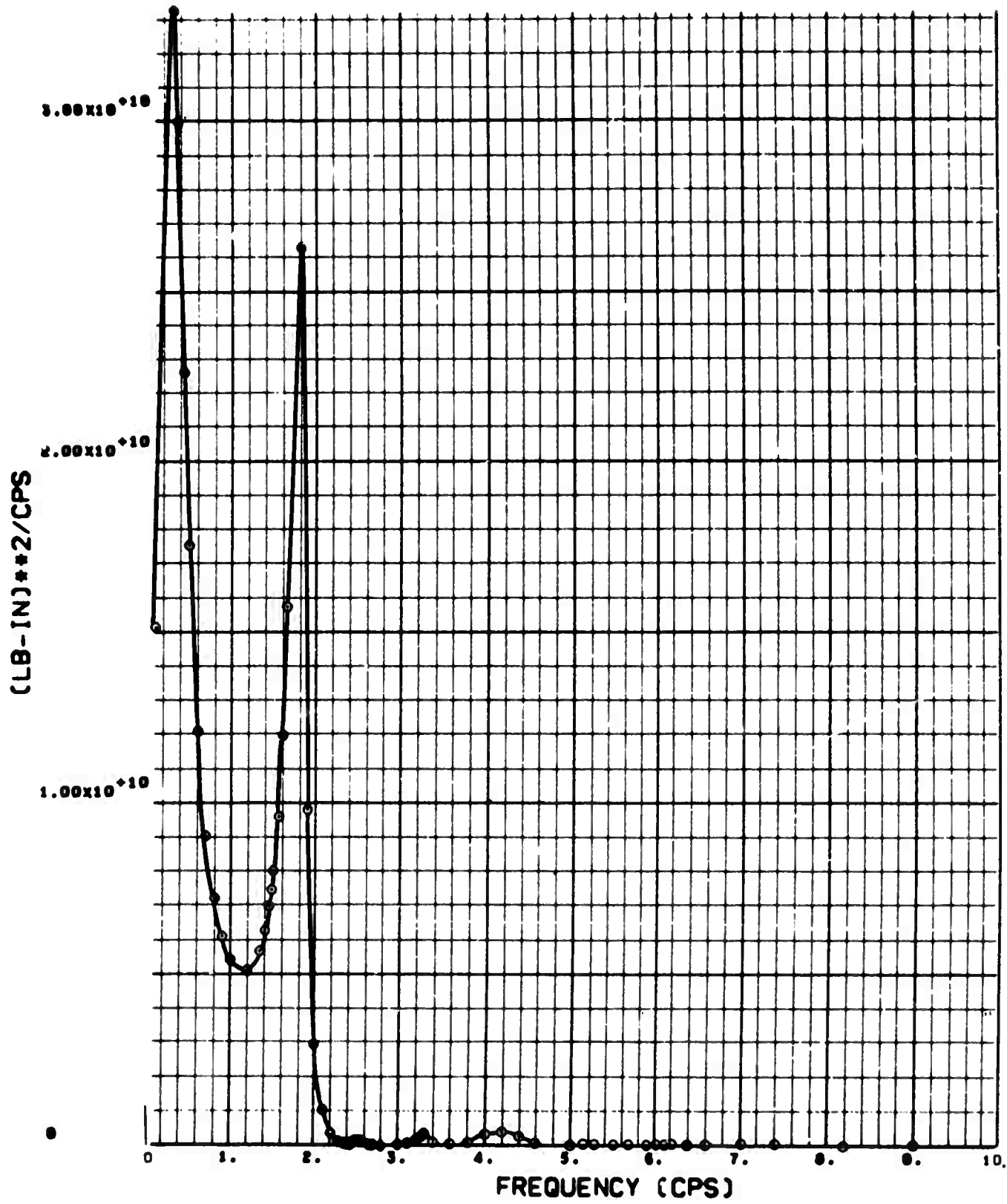
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

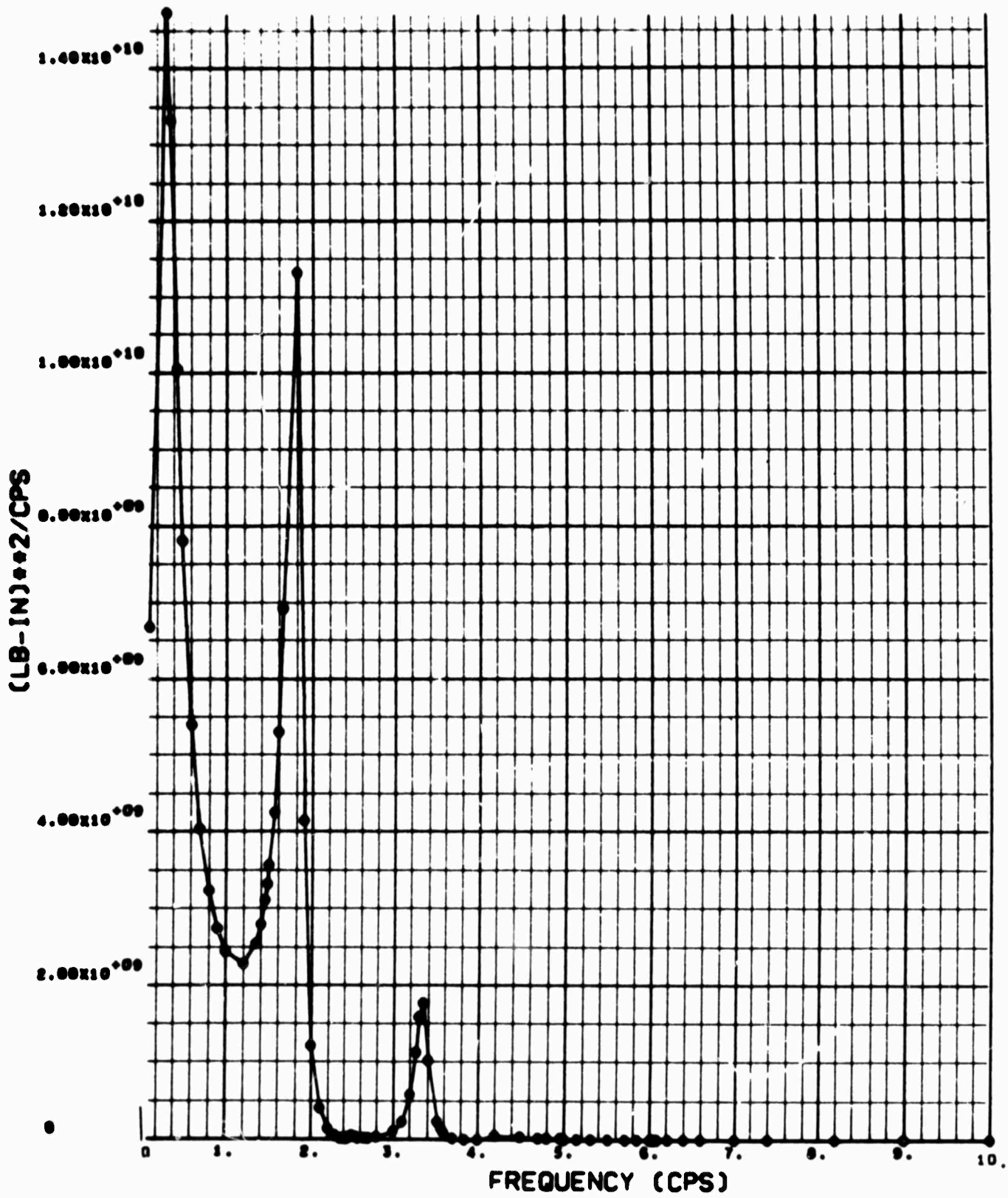


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 3

WEIGHT CONDITION C

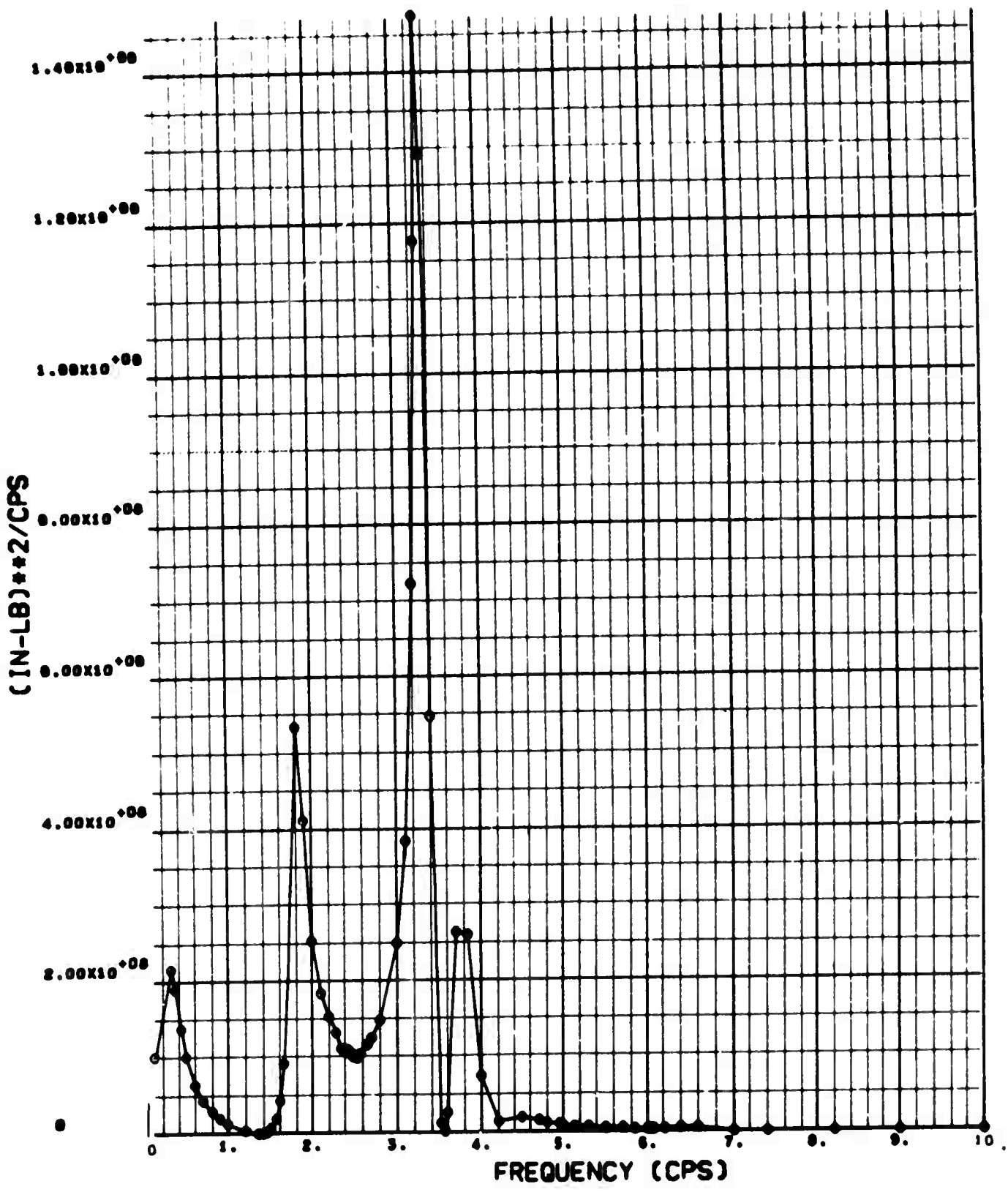
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

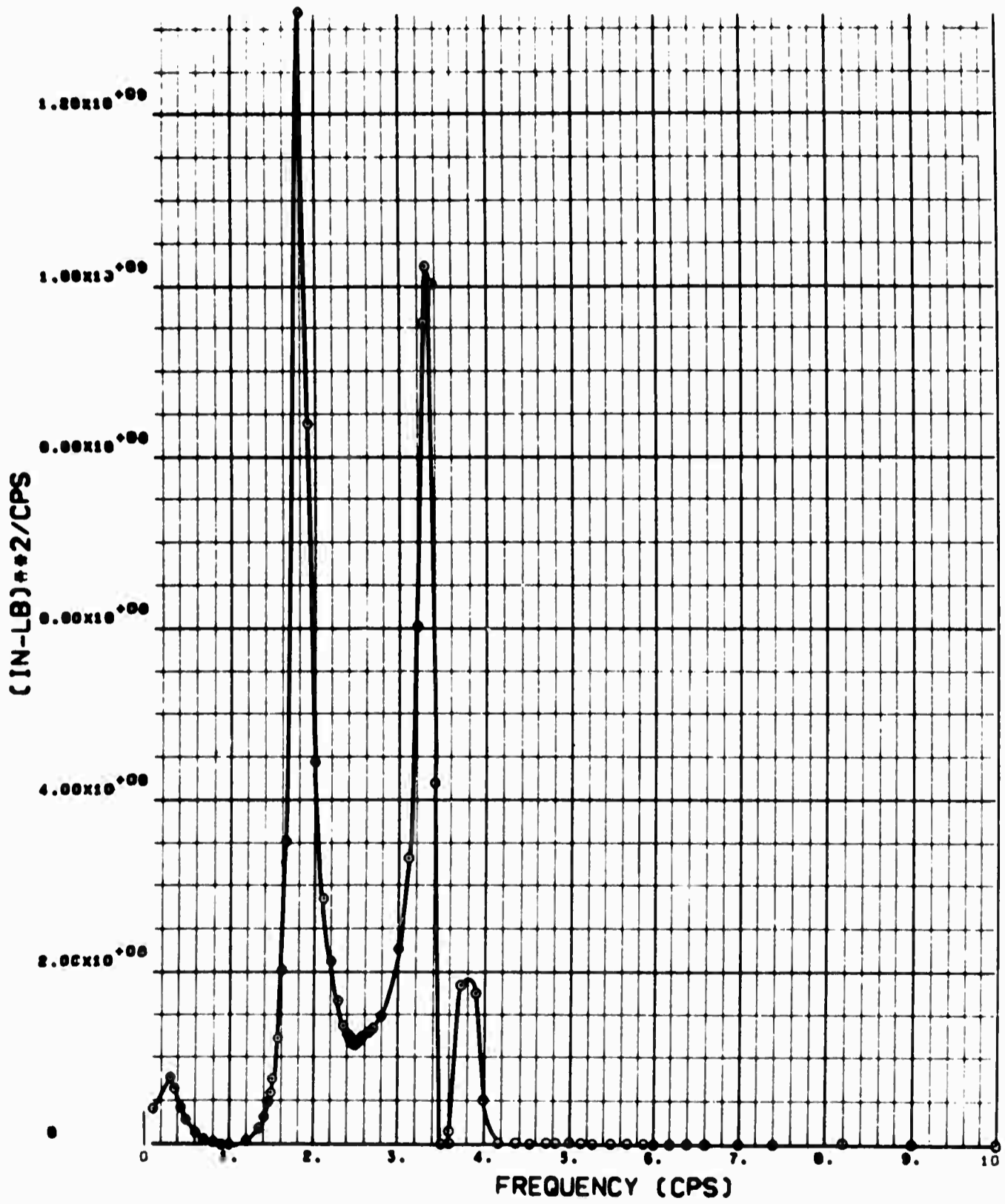


WING TORQUE SPECTRUM, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 3  
WEIGHT CONDITION C

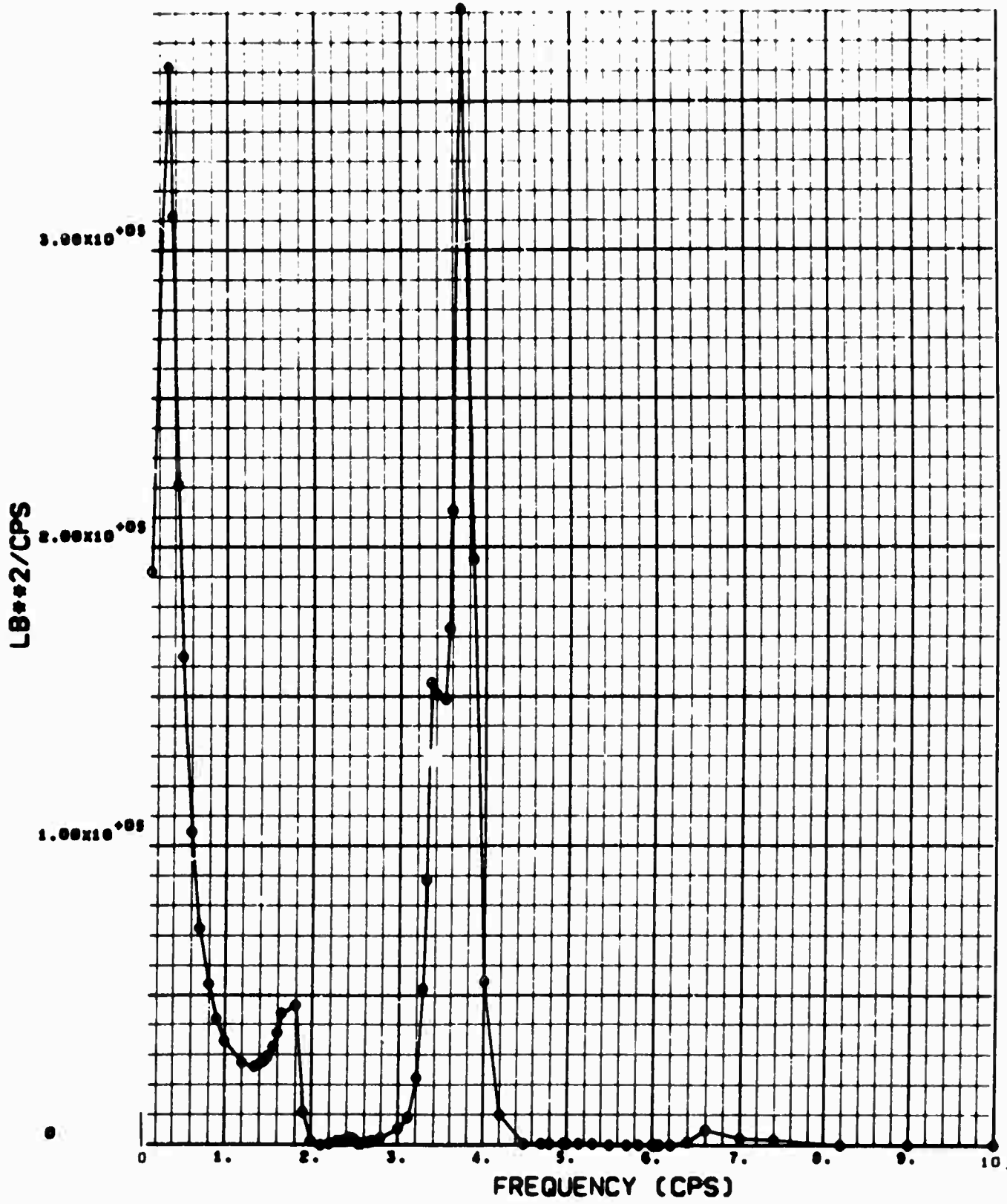
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 3  
WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

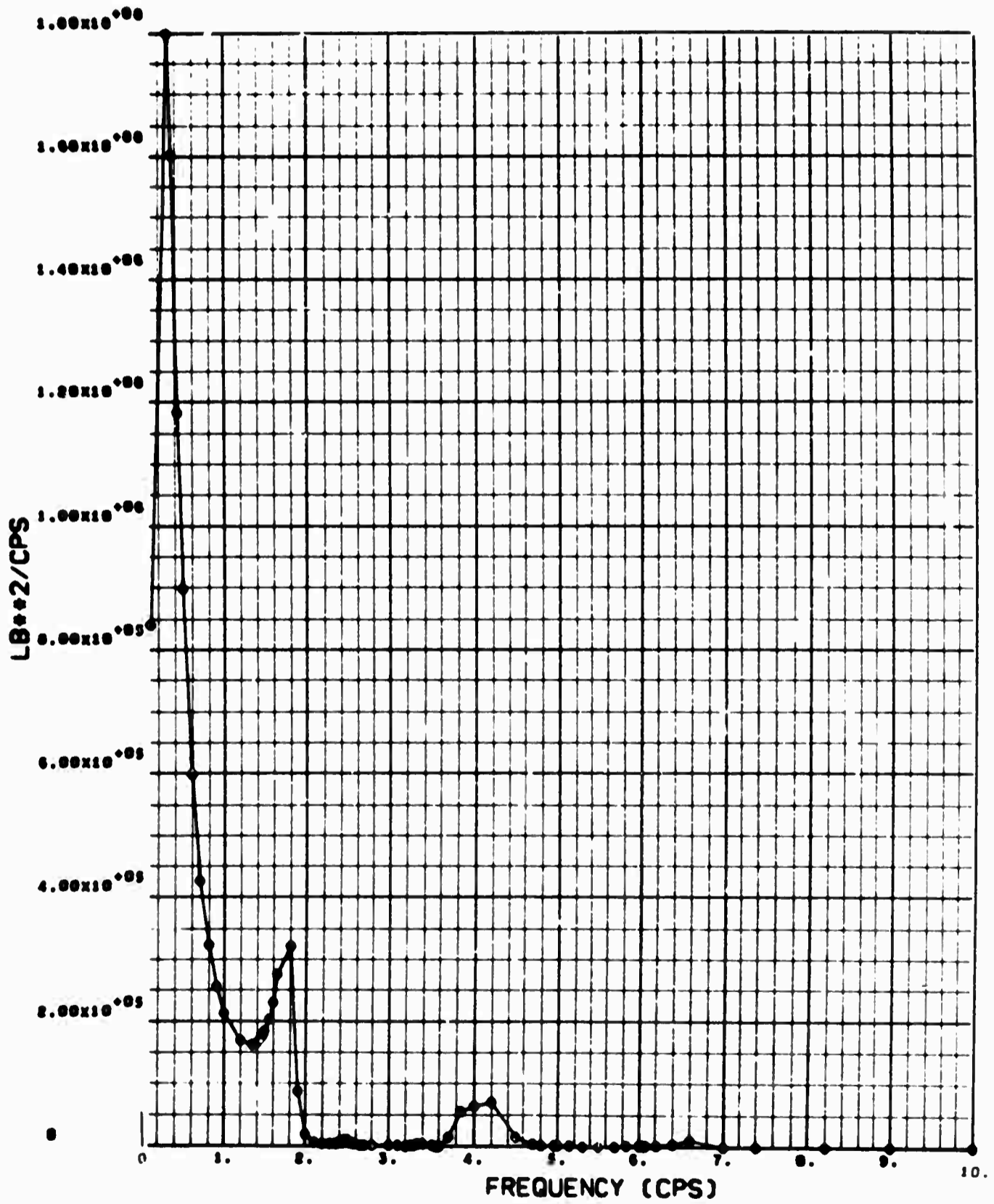


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

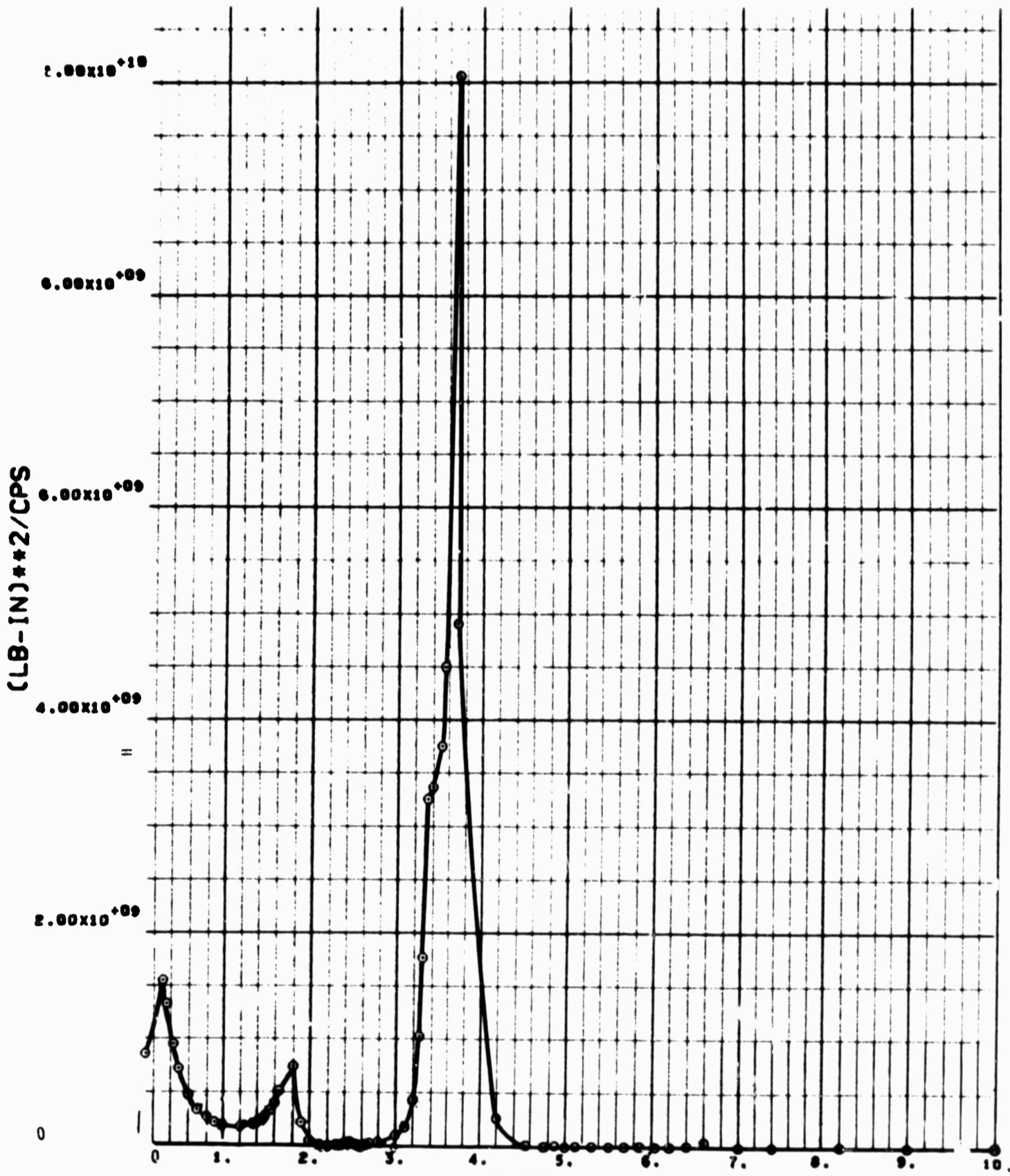


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 3

WEIGHT CONDITION C

GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.35



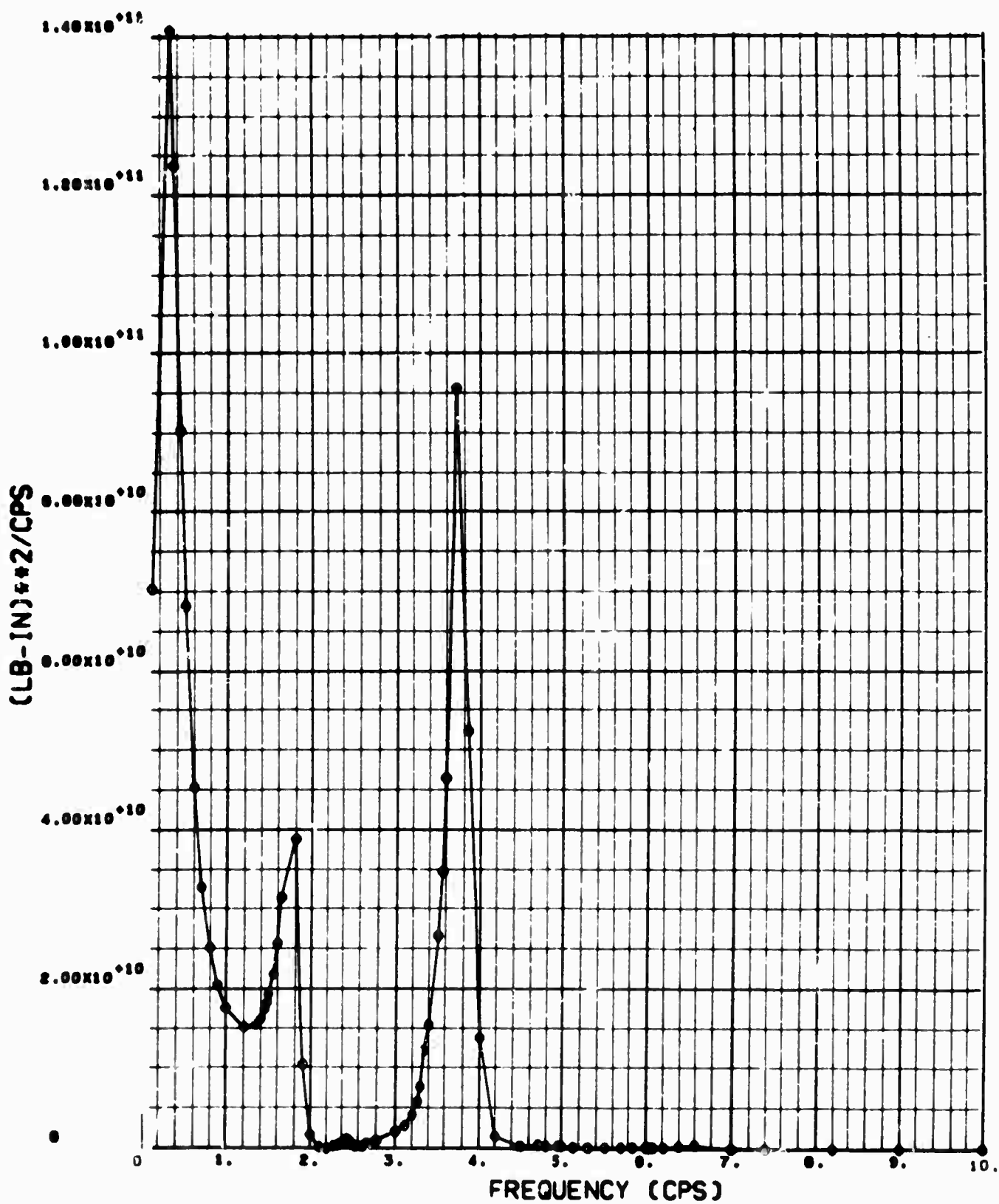
FREQUENCY (CPS)

BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 3

WEIGHT CONDITION C

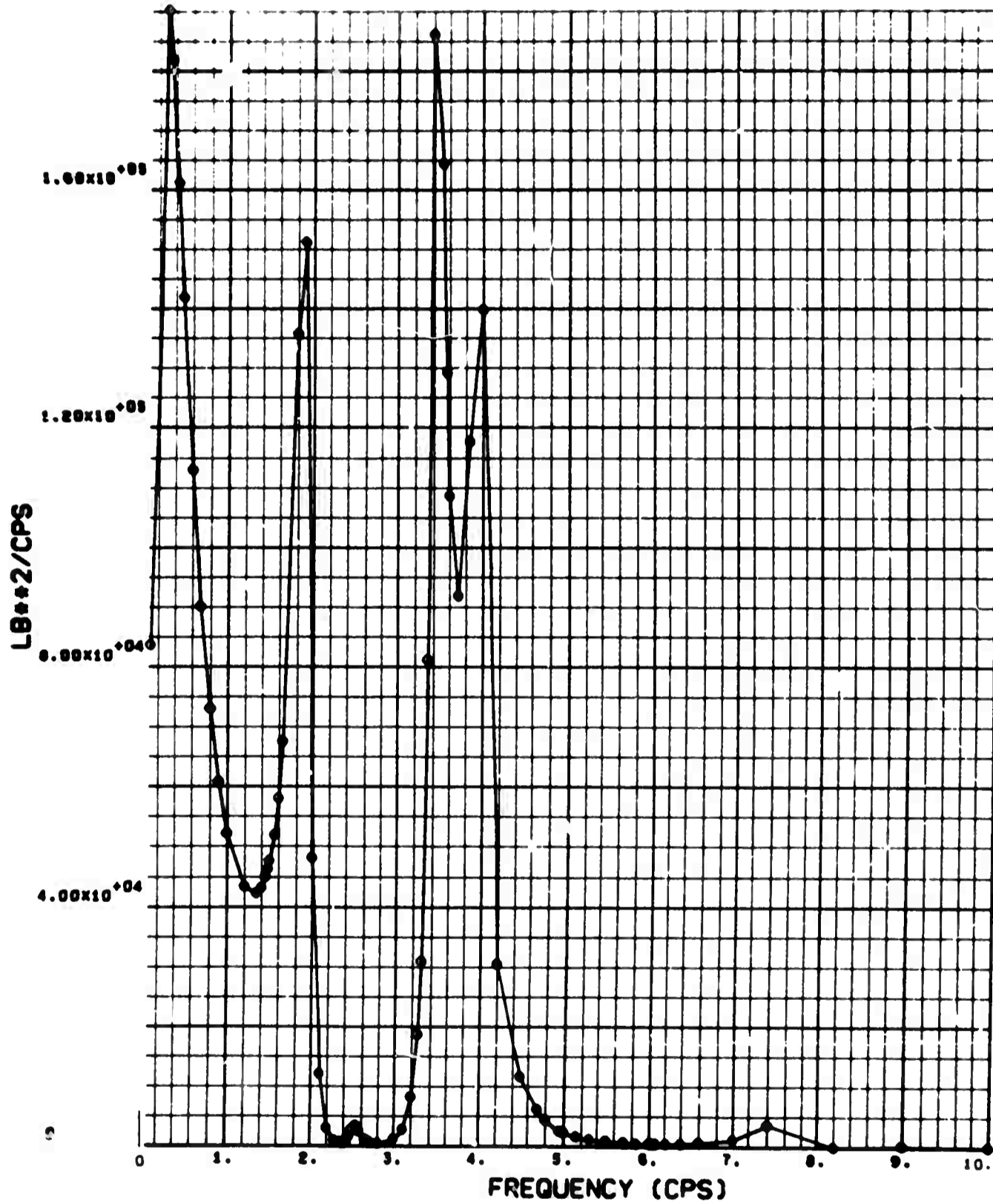
GROSS WEIGHT: 190,590 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

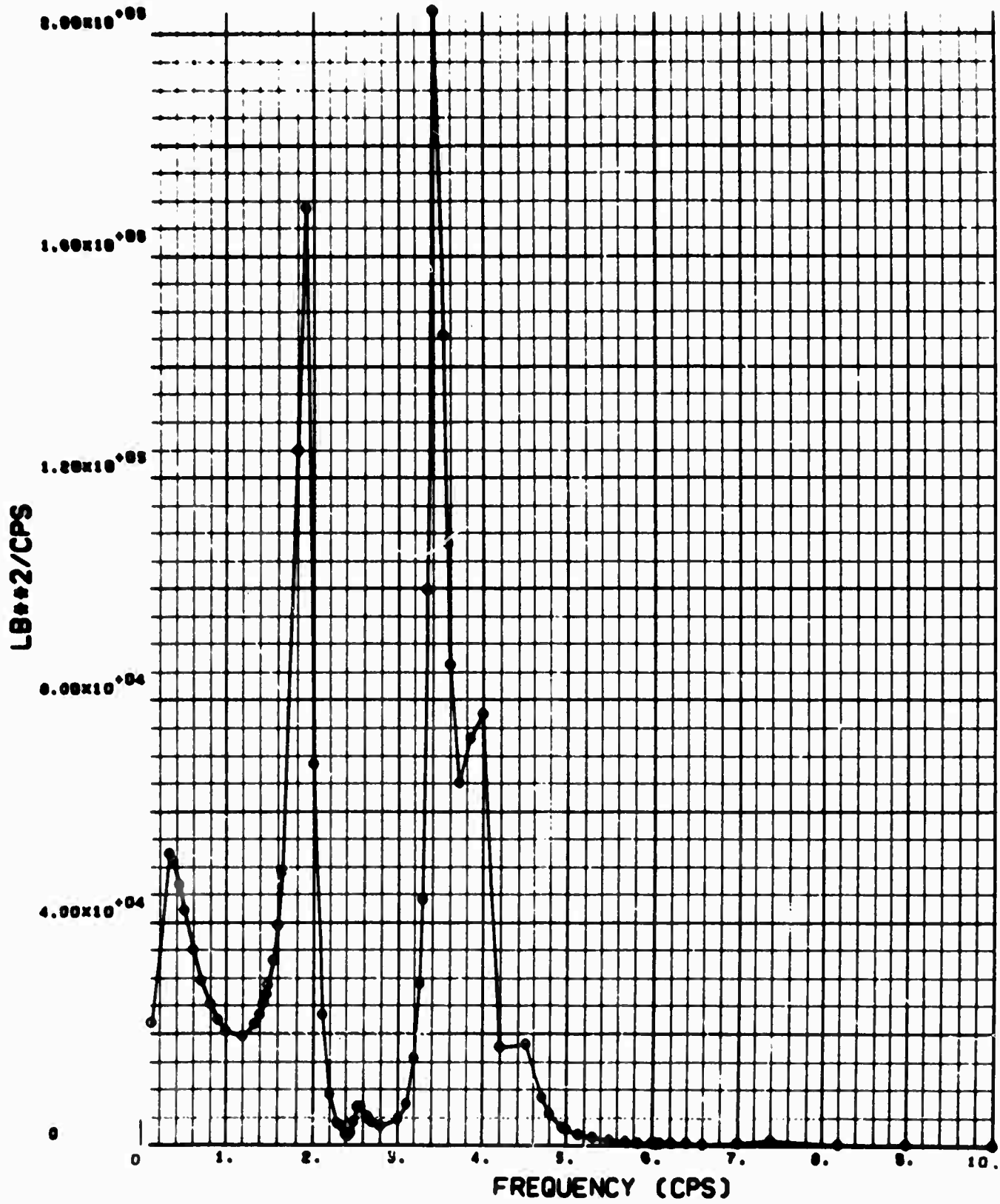


WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

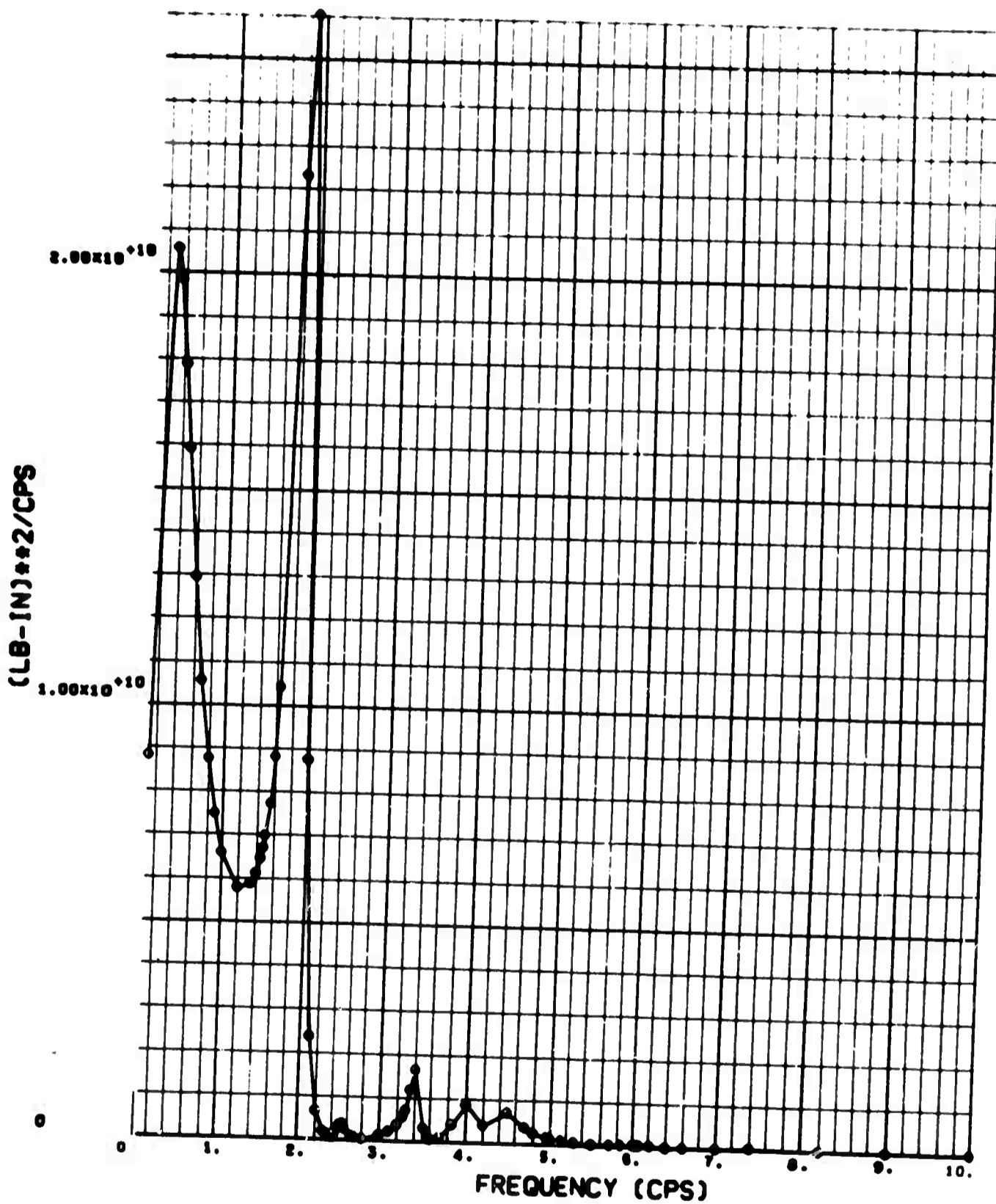


WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB      CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT      SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



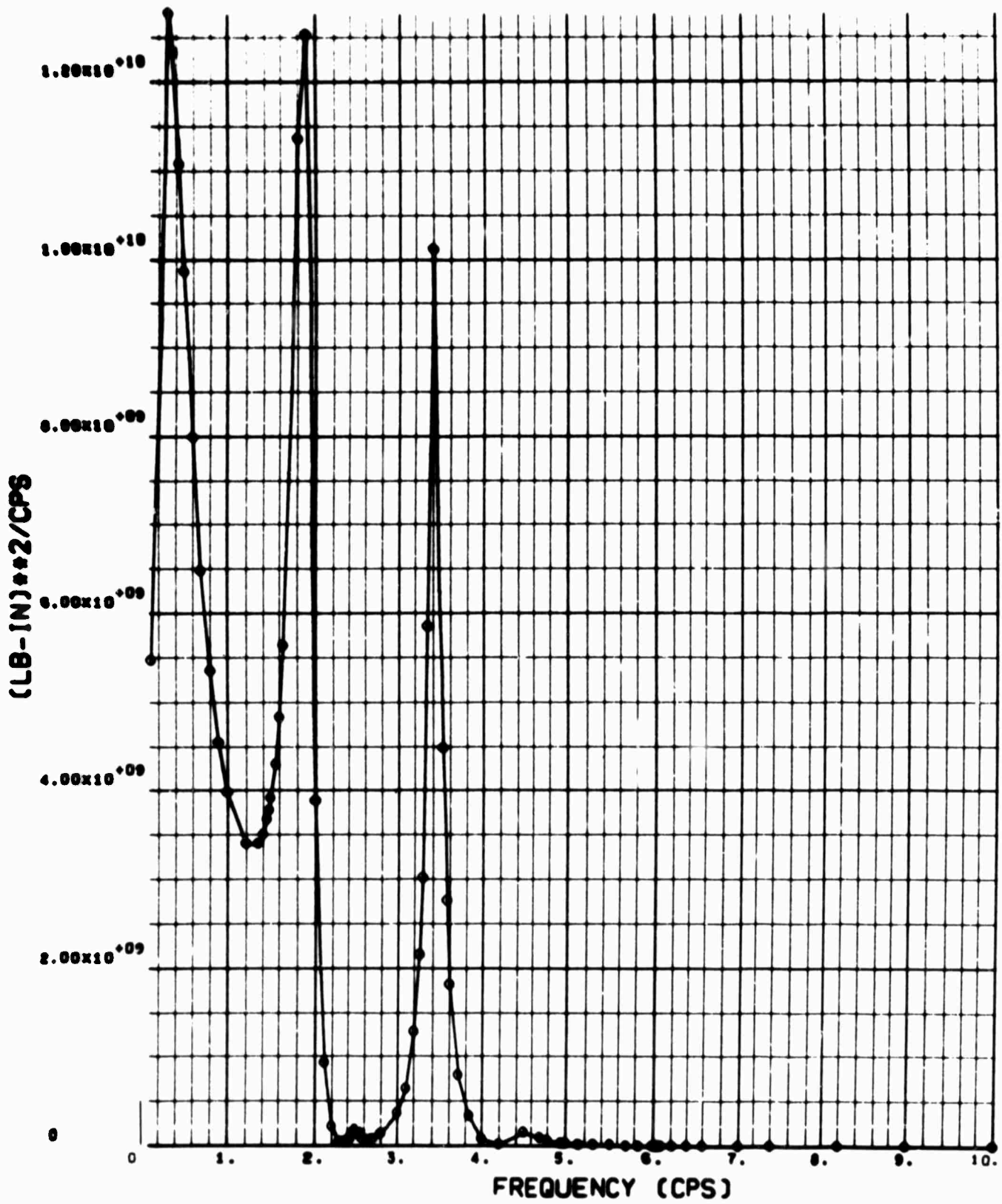
WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 4

WEIGHT CONDITION D

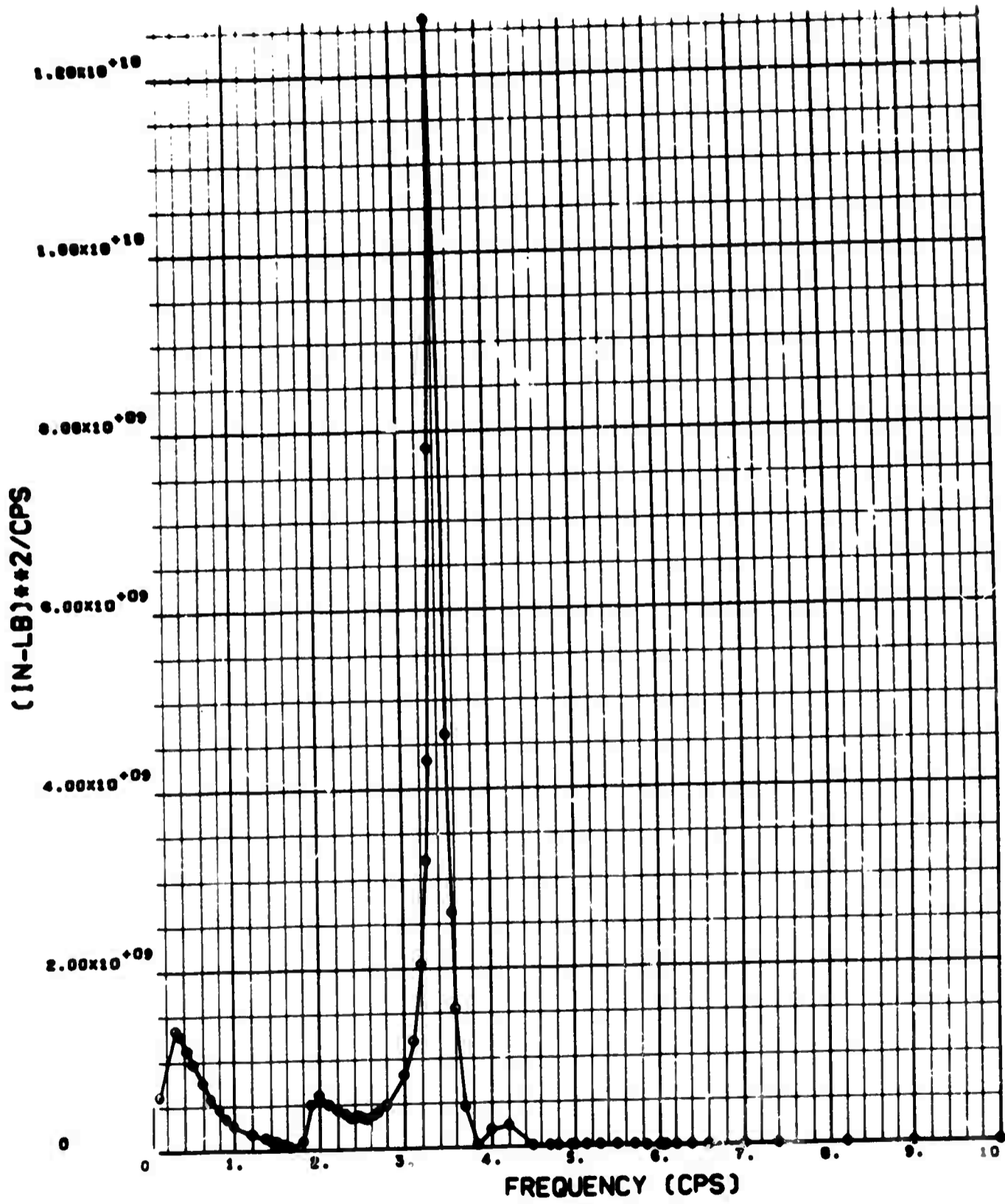
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

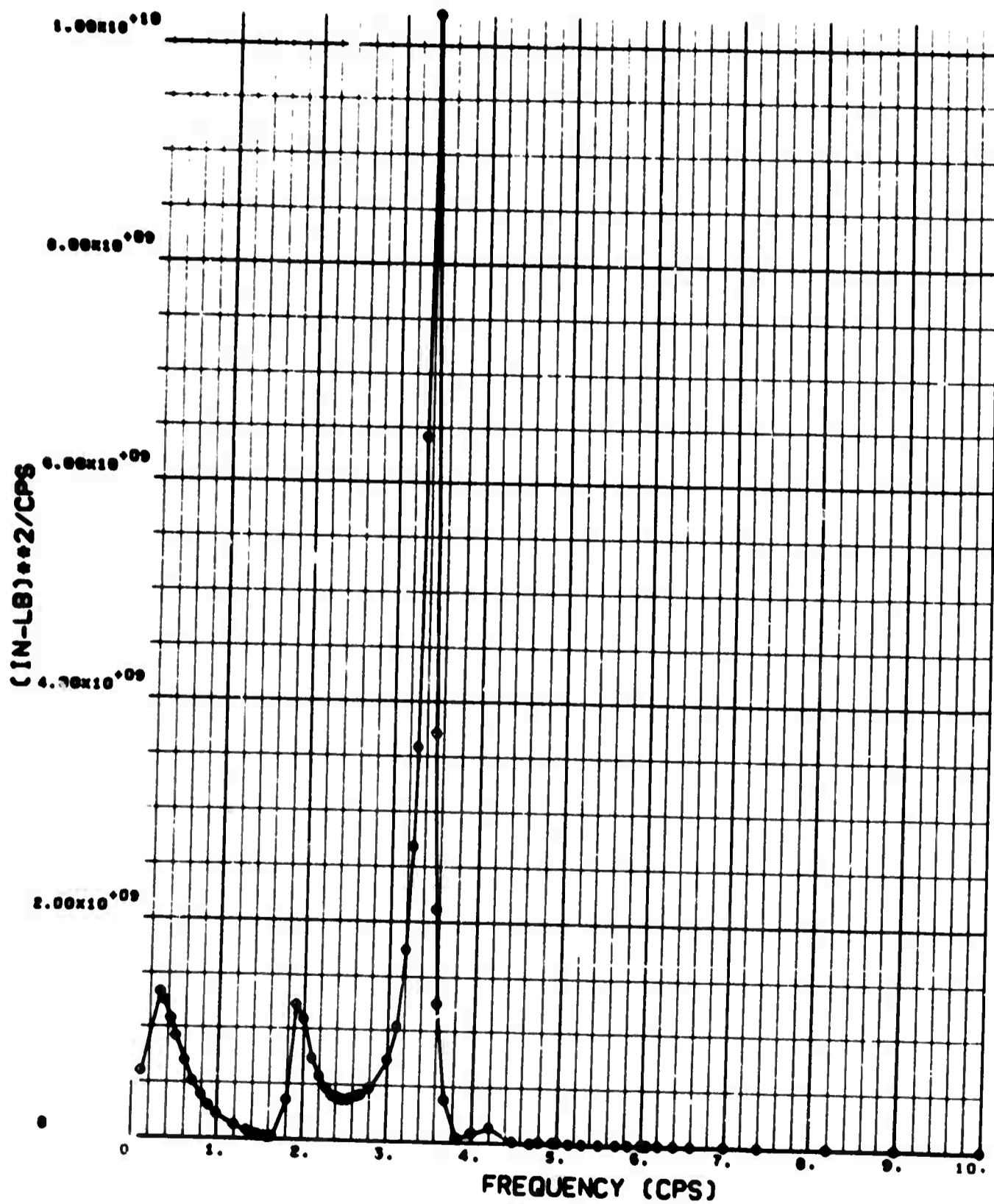


WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

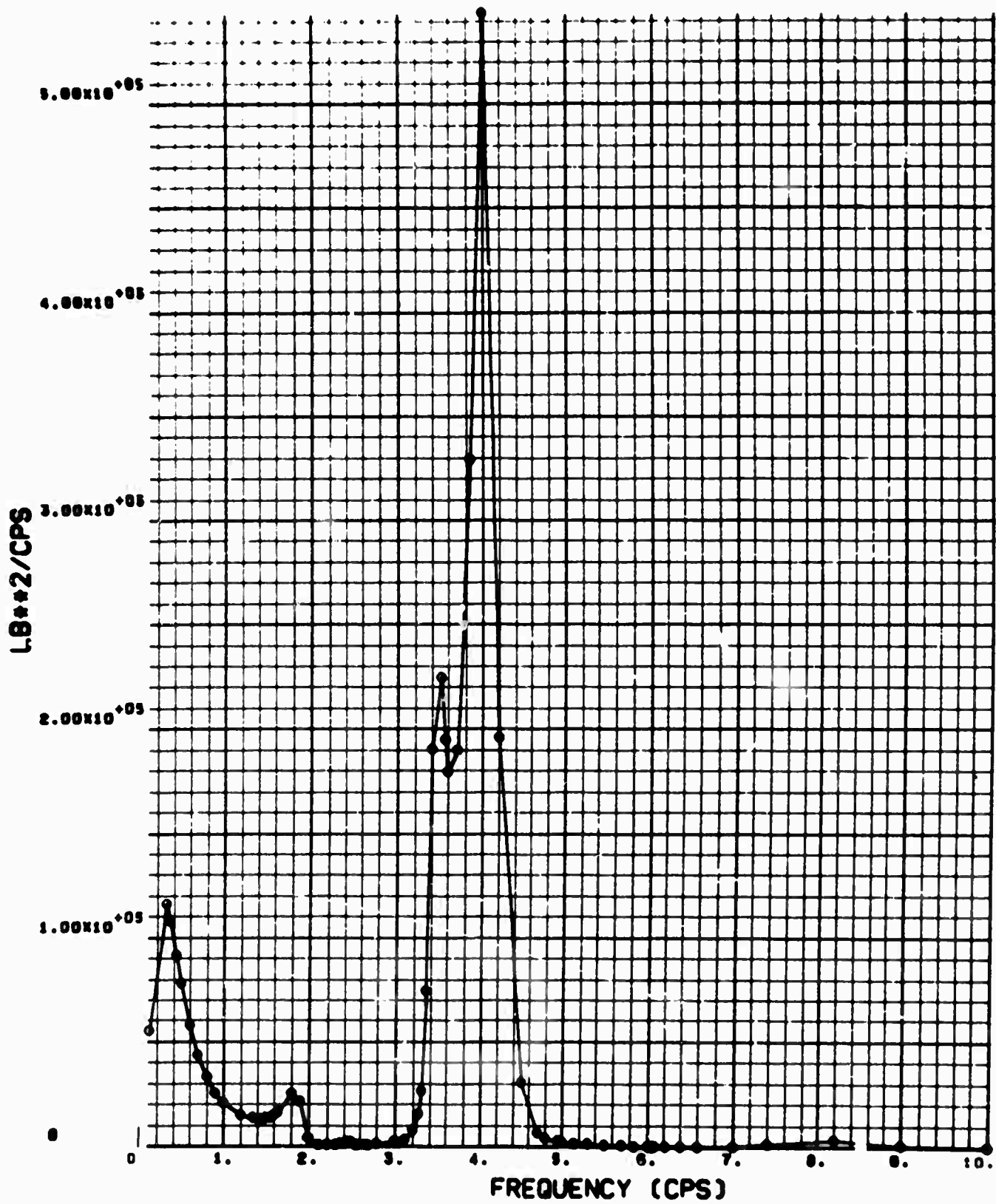


WING TORQUE SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

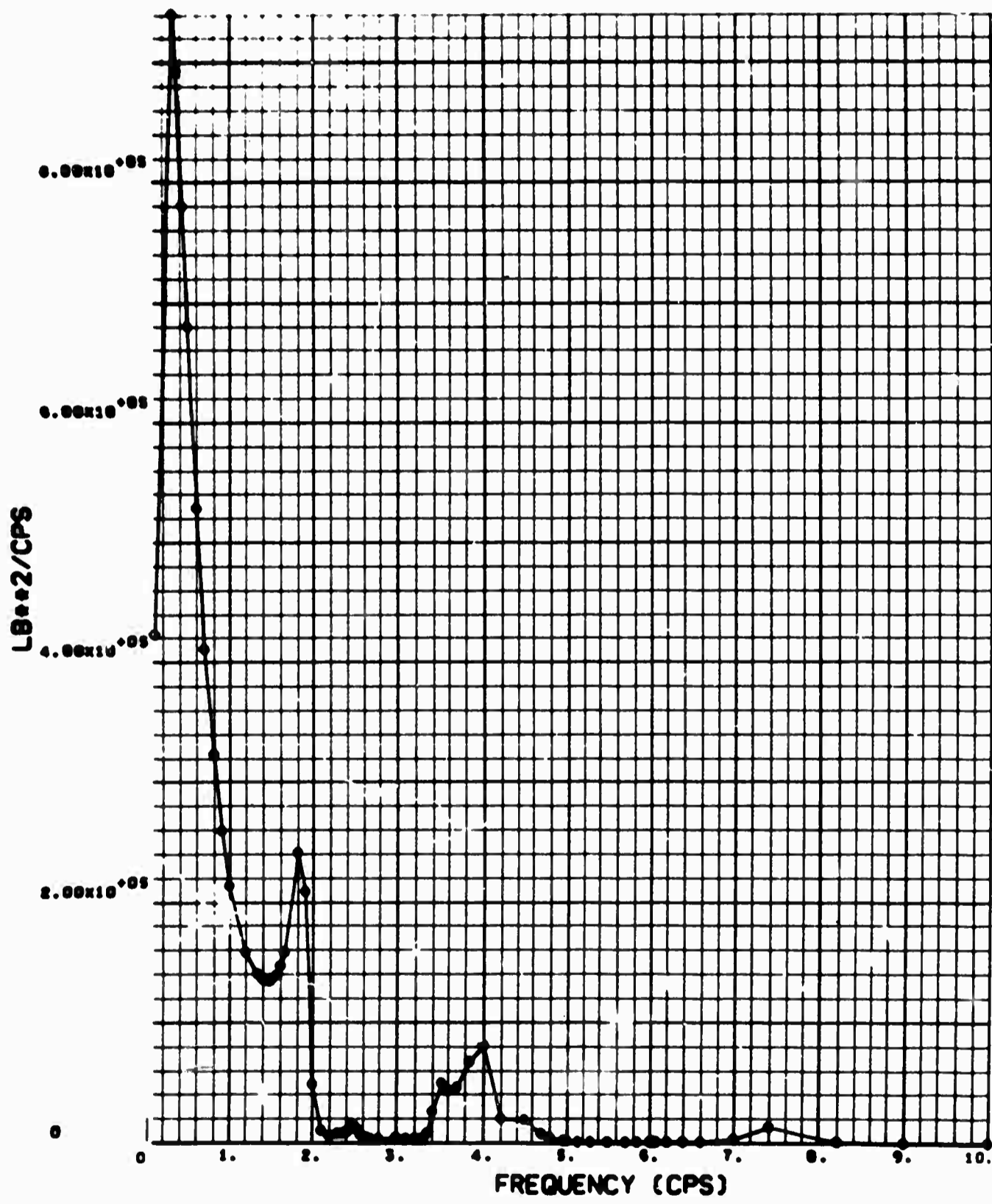
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85

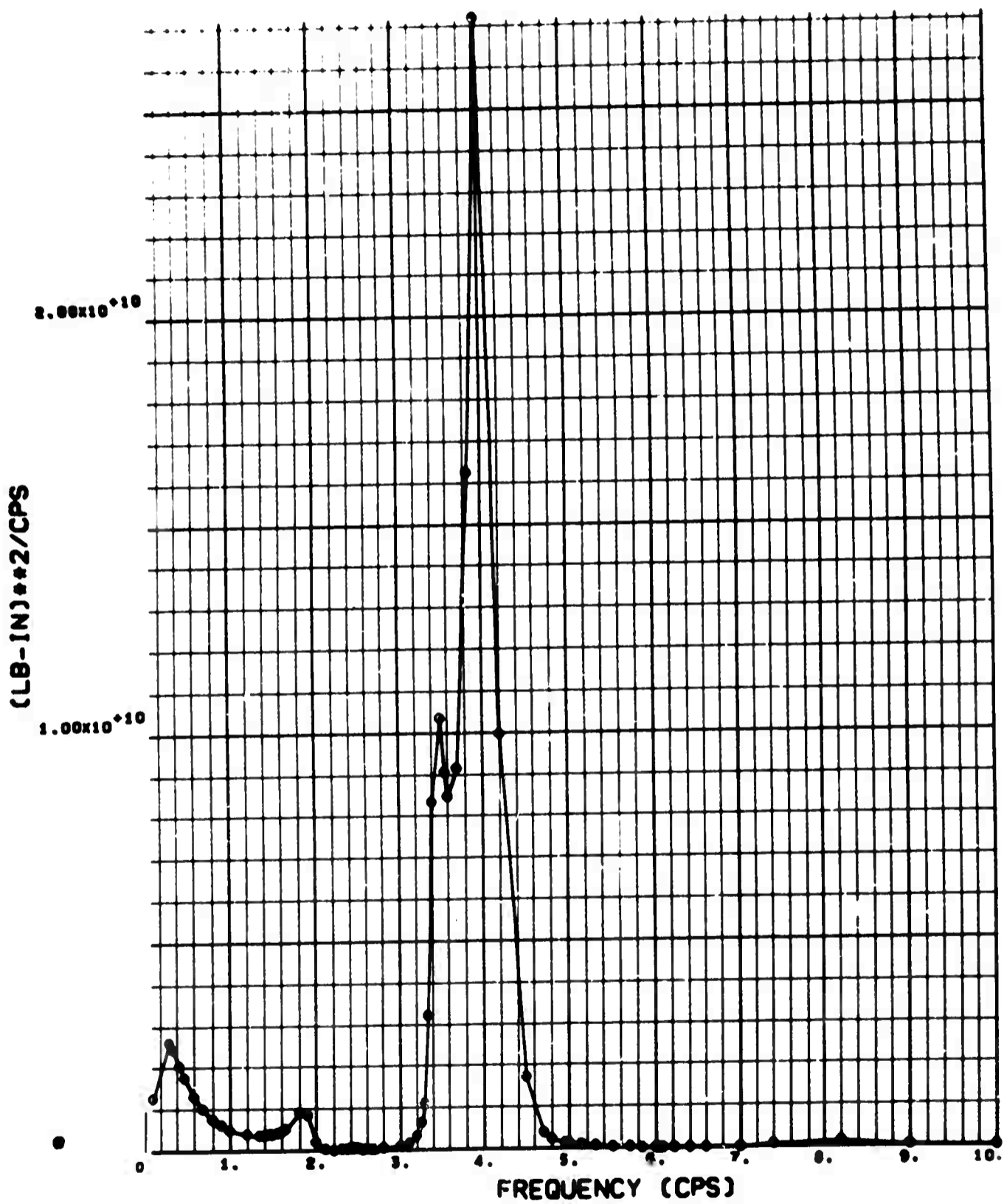


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB      CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT      SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.85



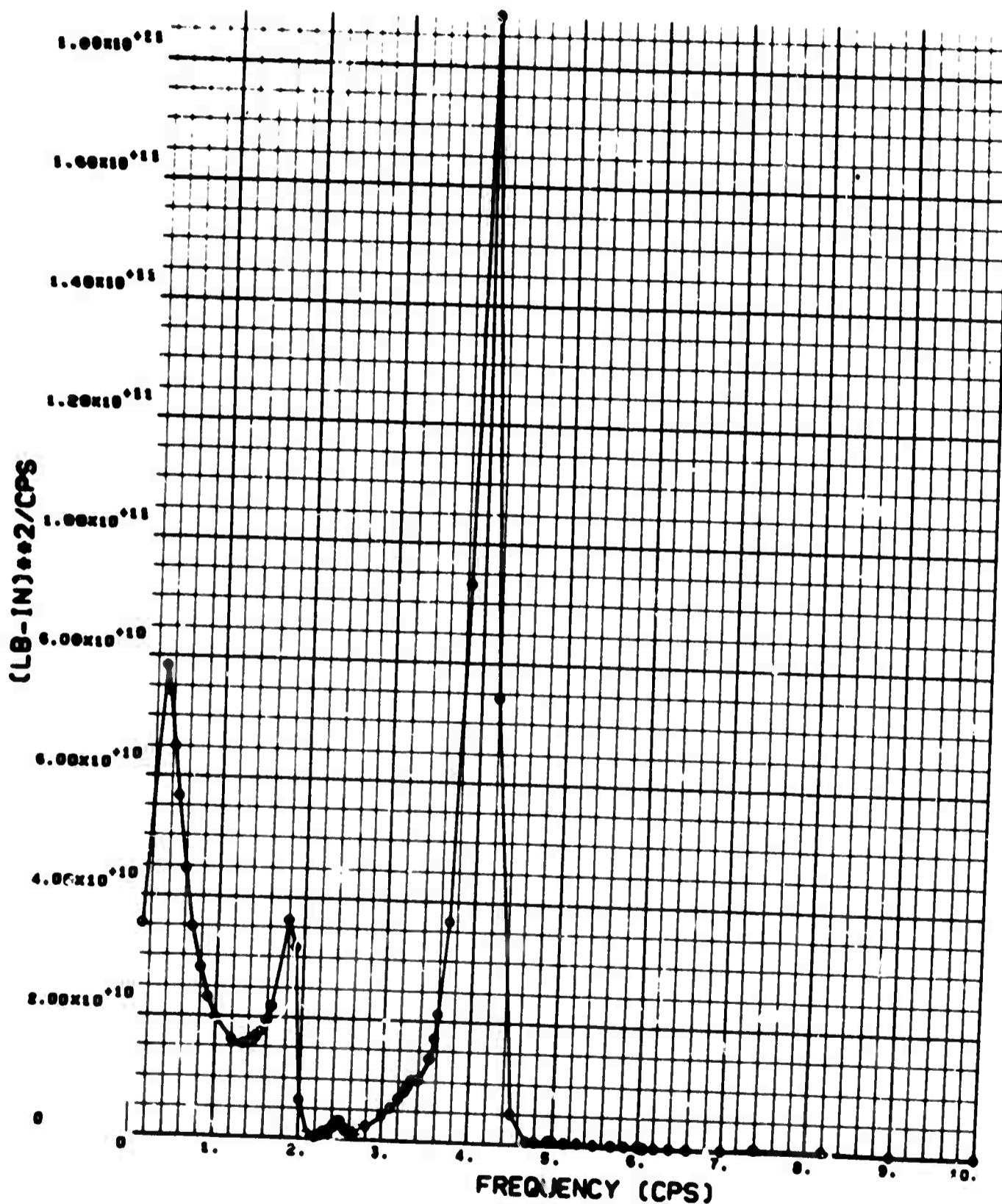
BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB  
ALTITUDE: 24,000 FT  
MACH NUMBER: 0.85

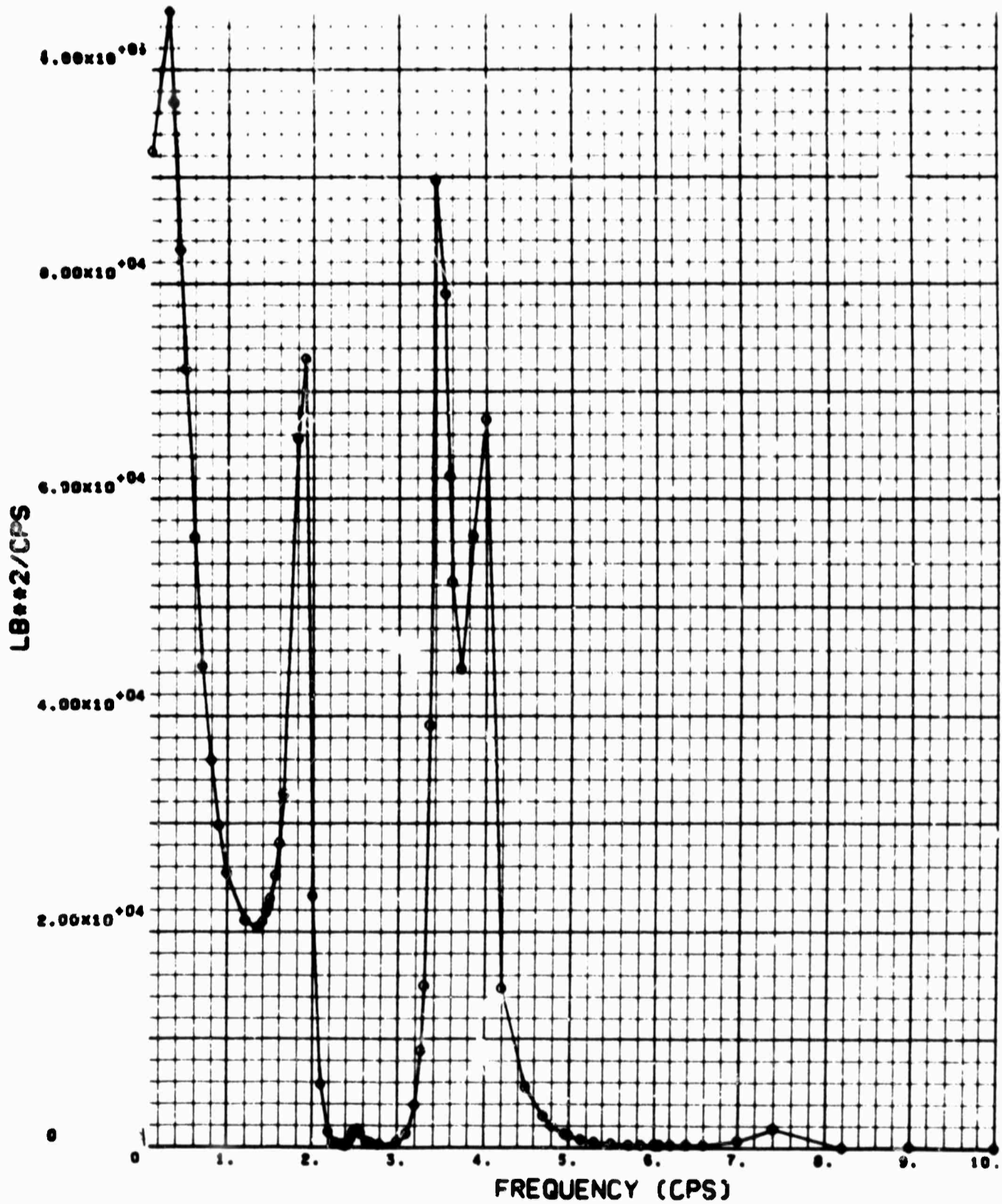
CUTOFF FREQUENCY: 10 CPS  
SCALE OF TURBULENCE: 1,000 FT



BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

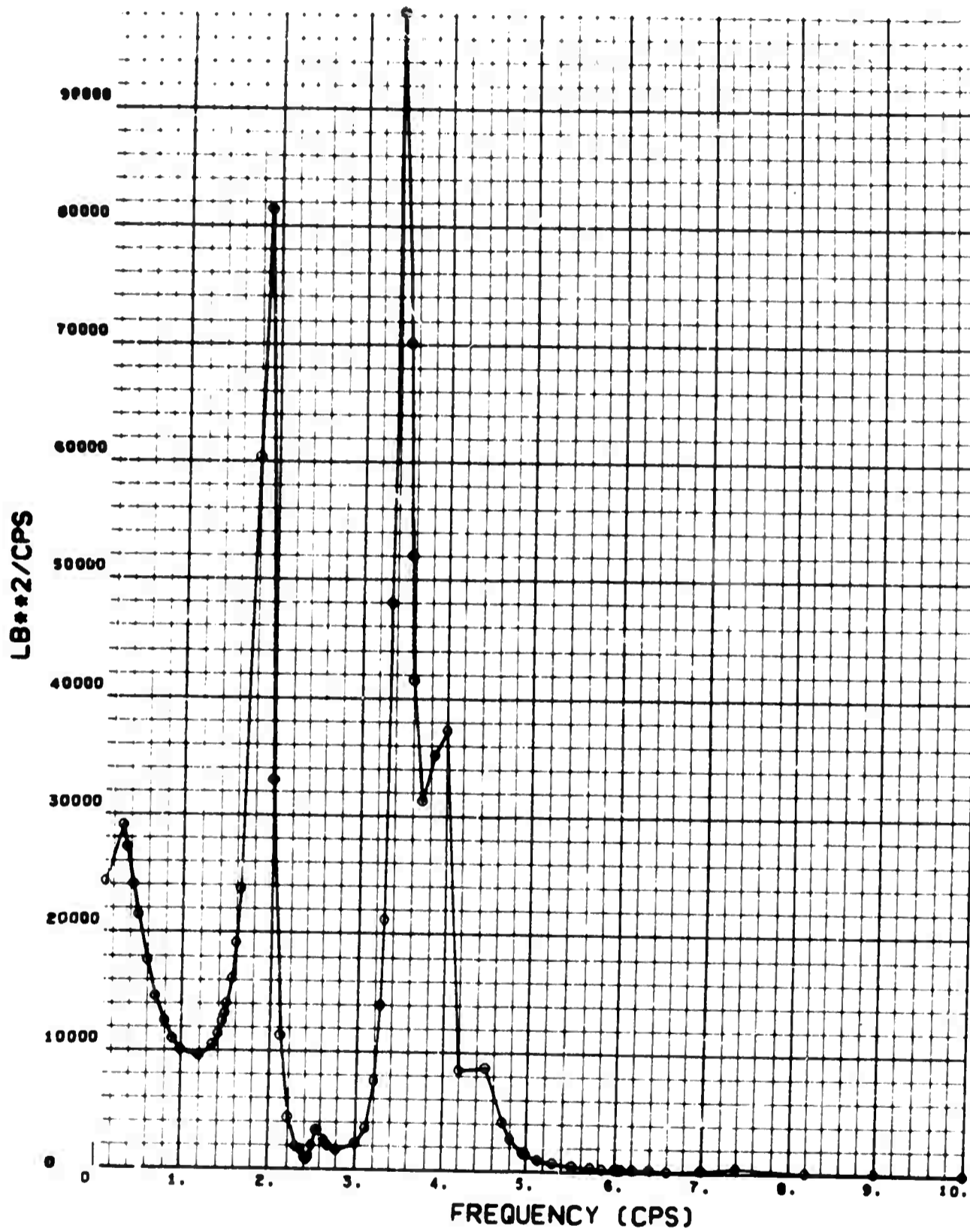


WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 4  
WEIGHT CONDITION D

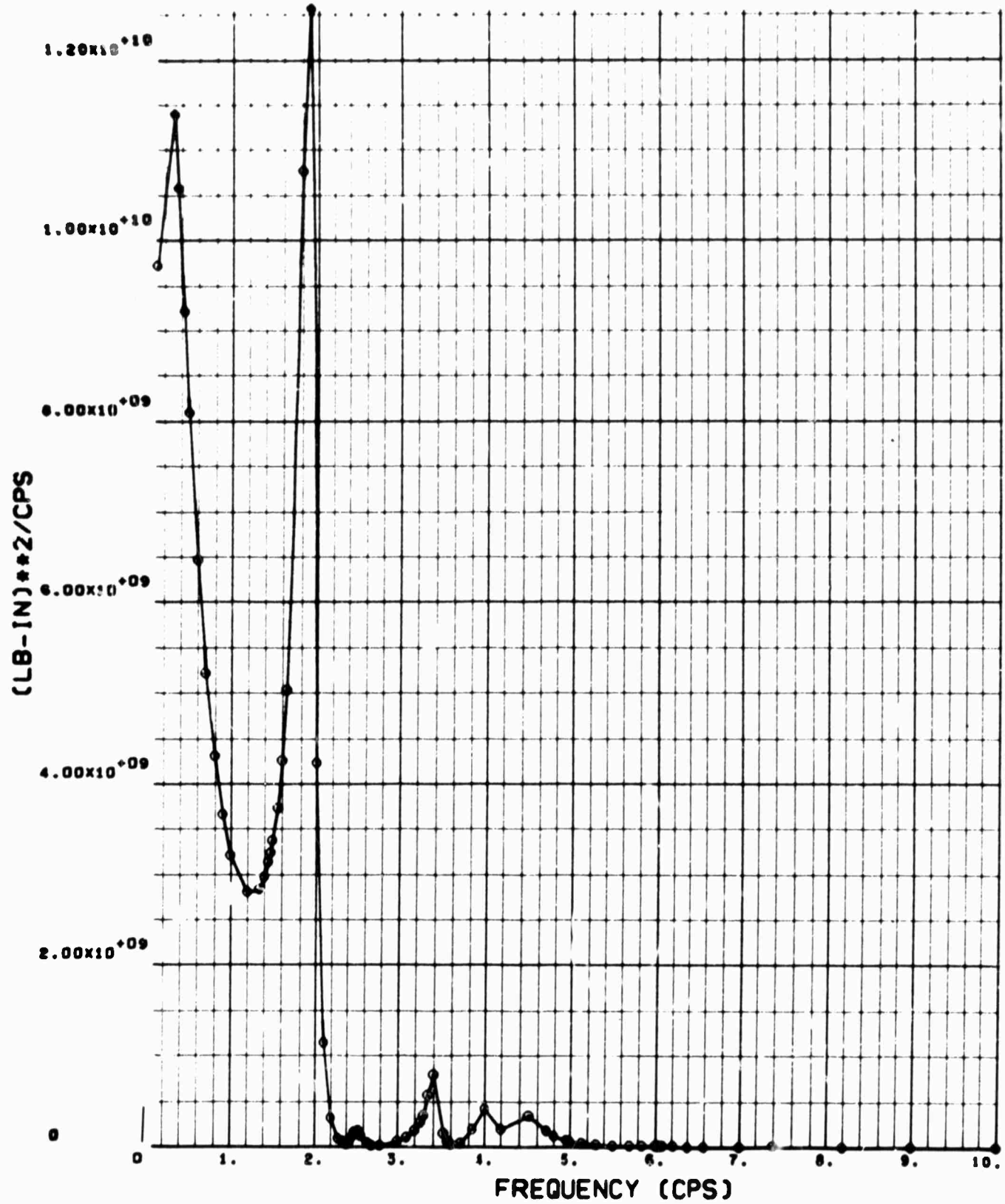
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

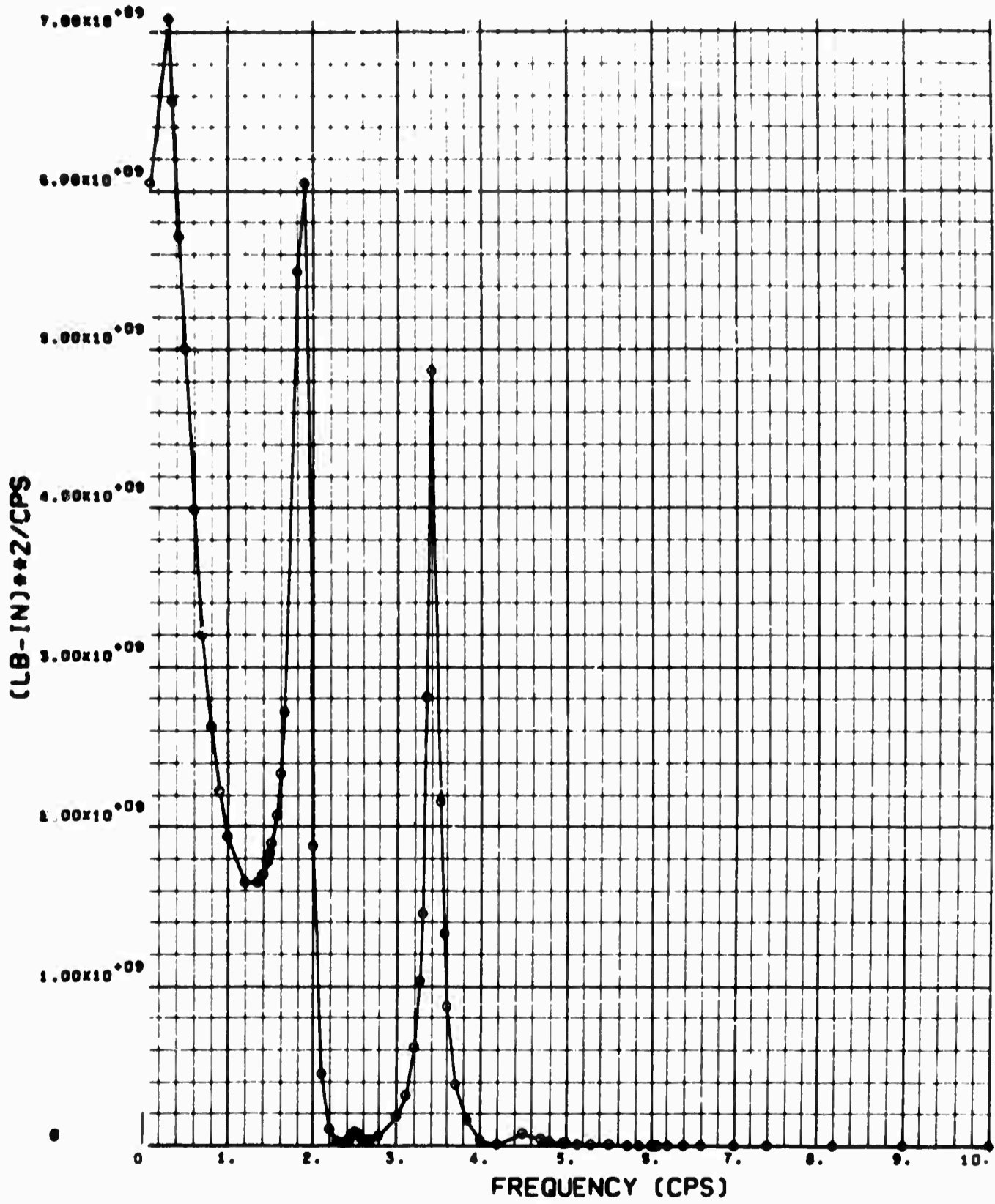
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

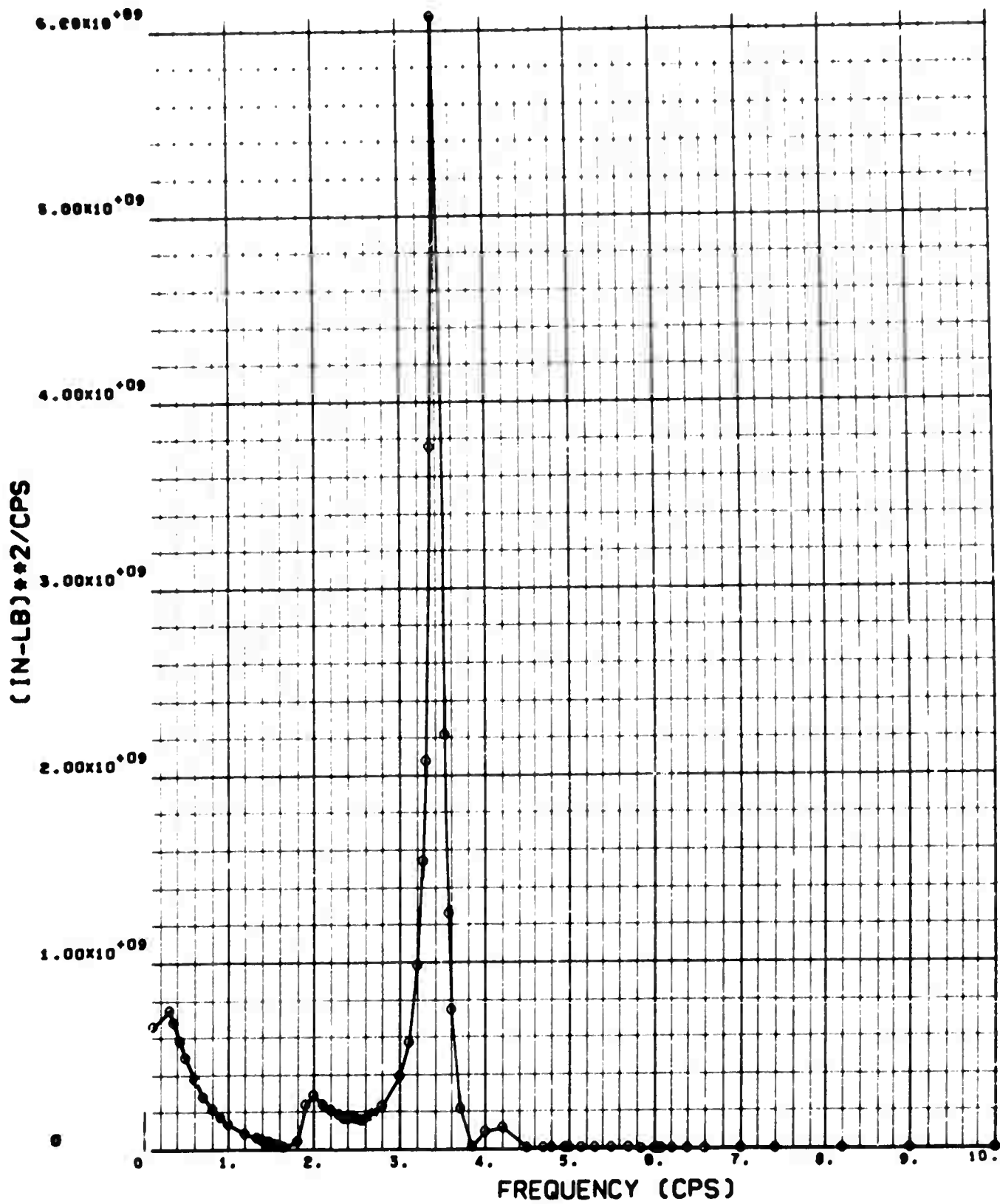
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

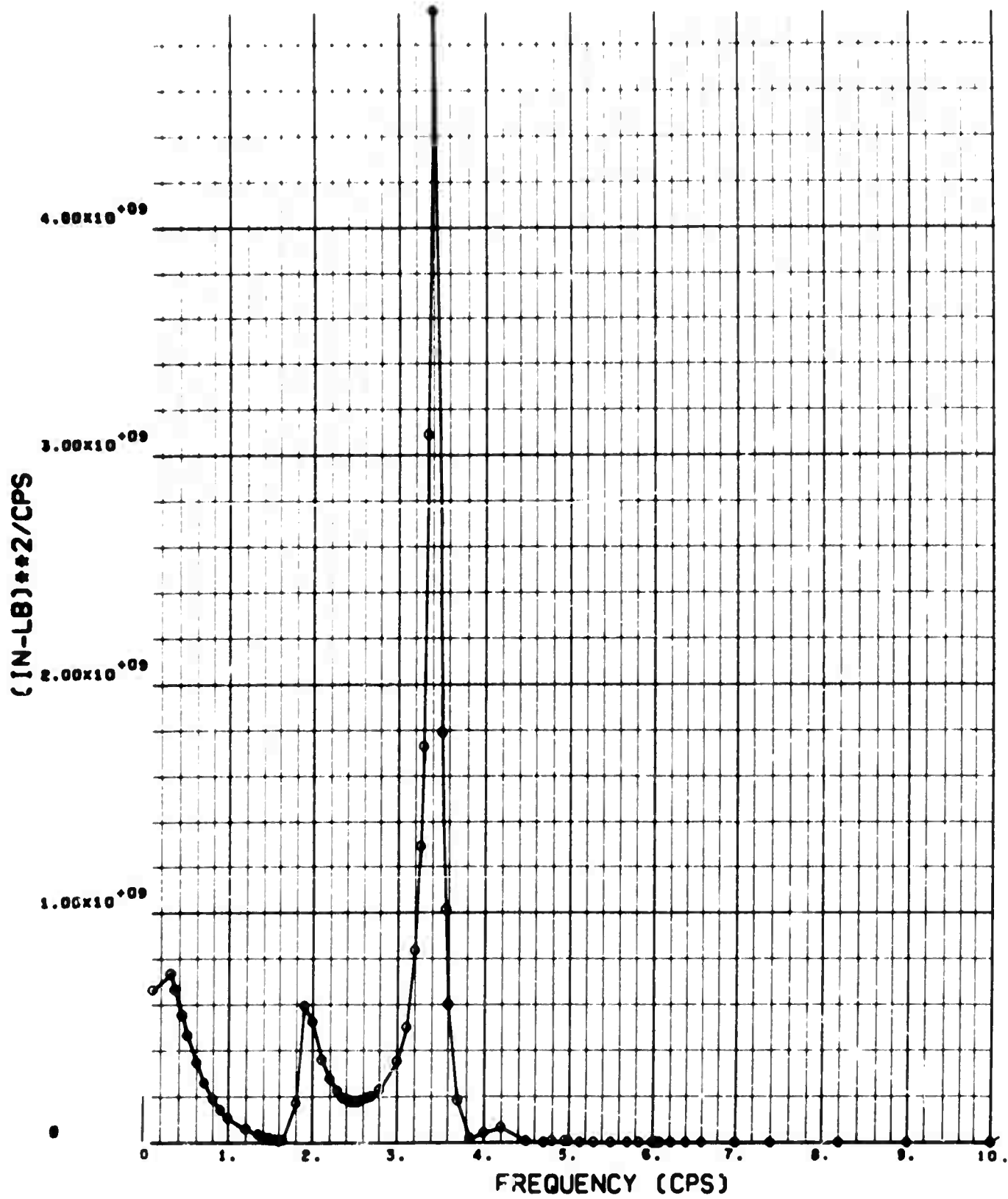
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING TORQUE SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

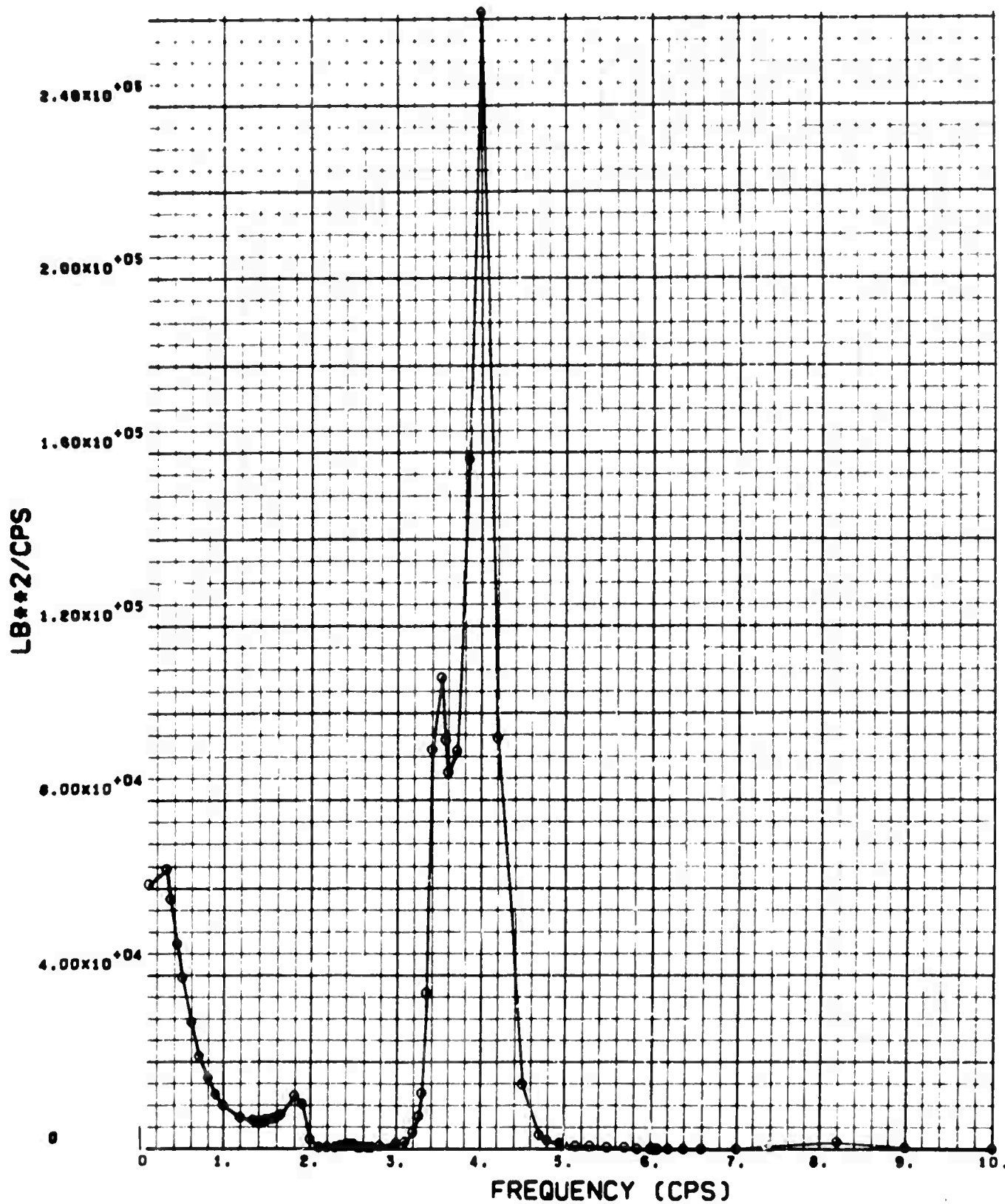
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

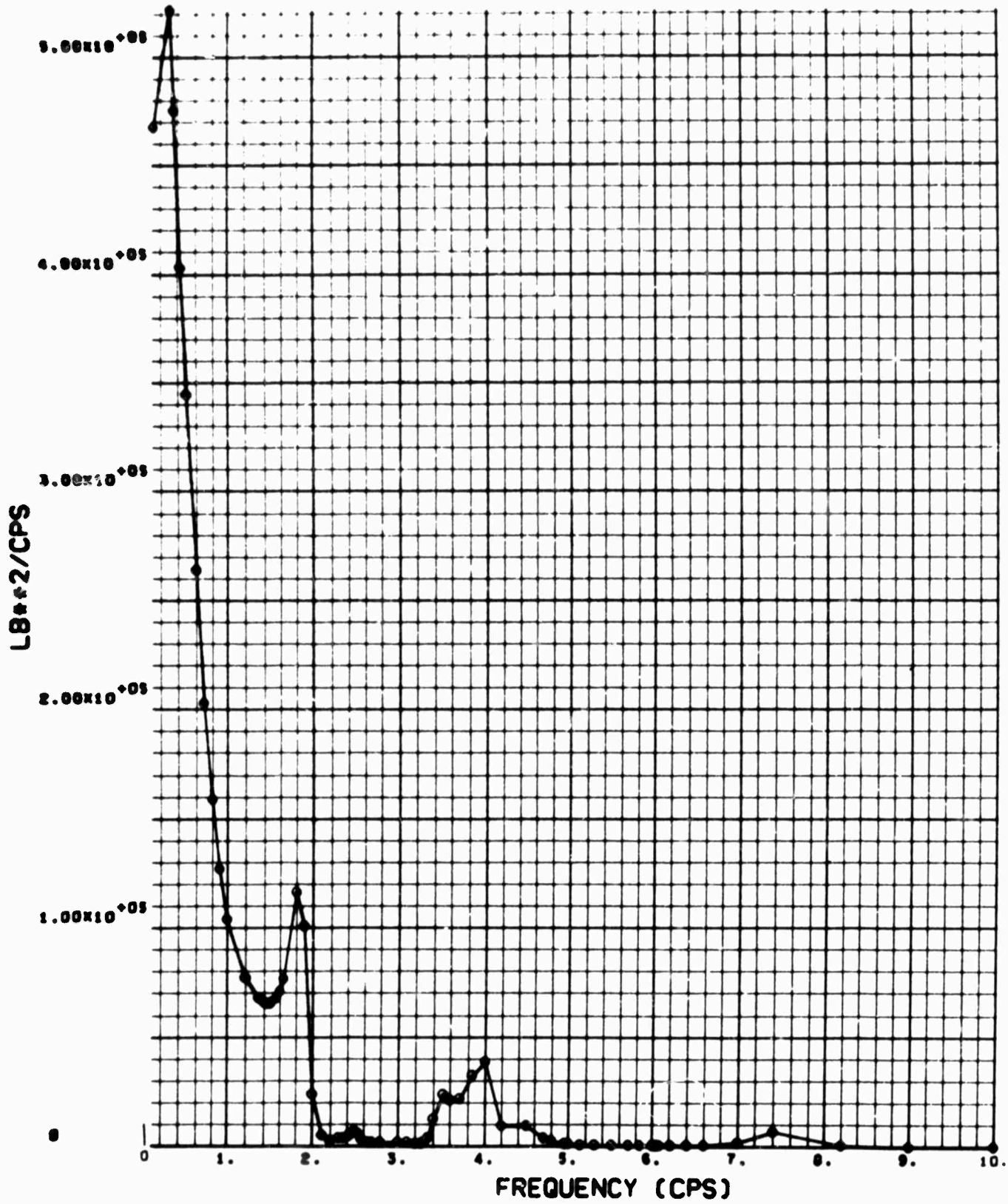
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

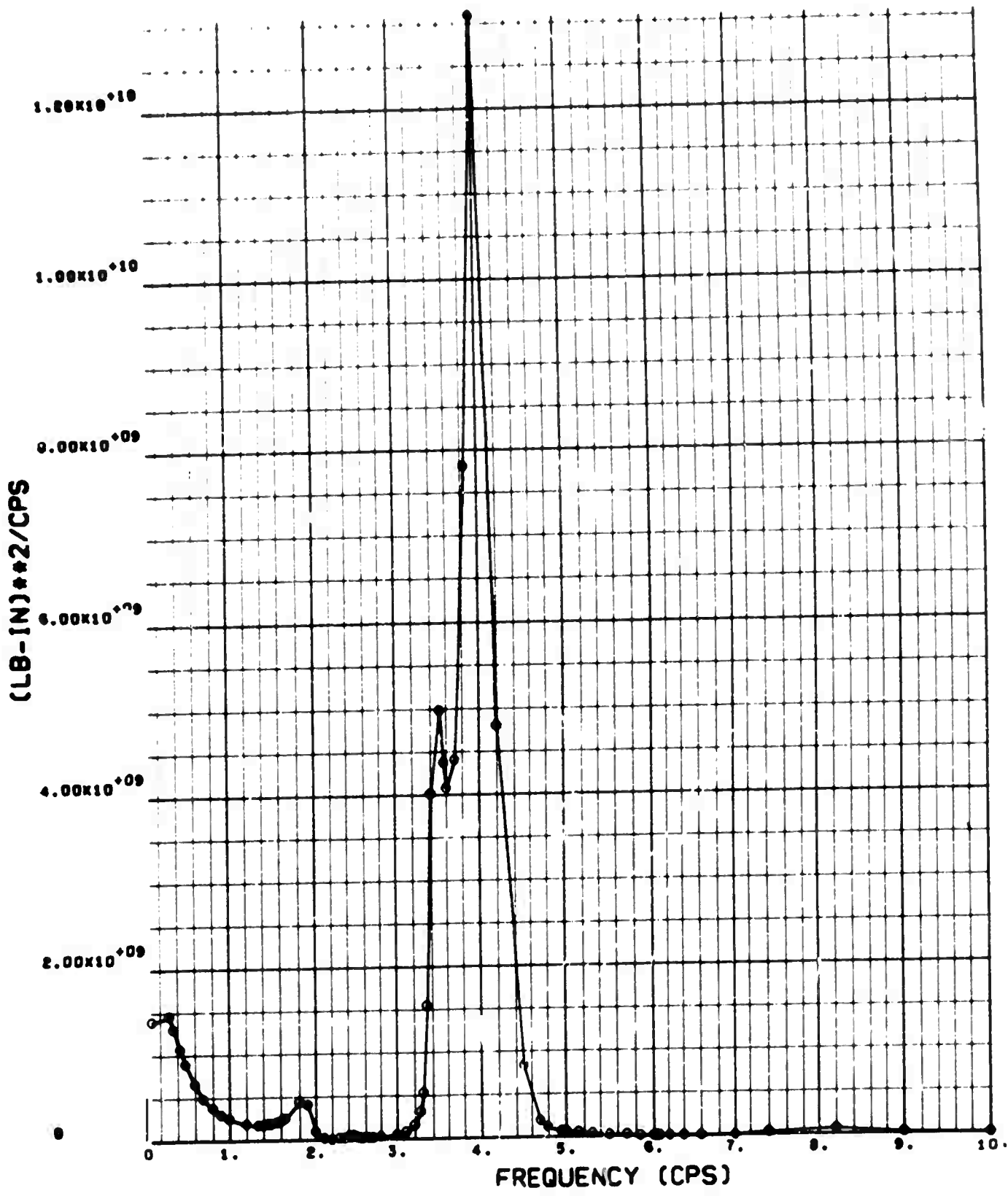
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85



BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

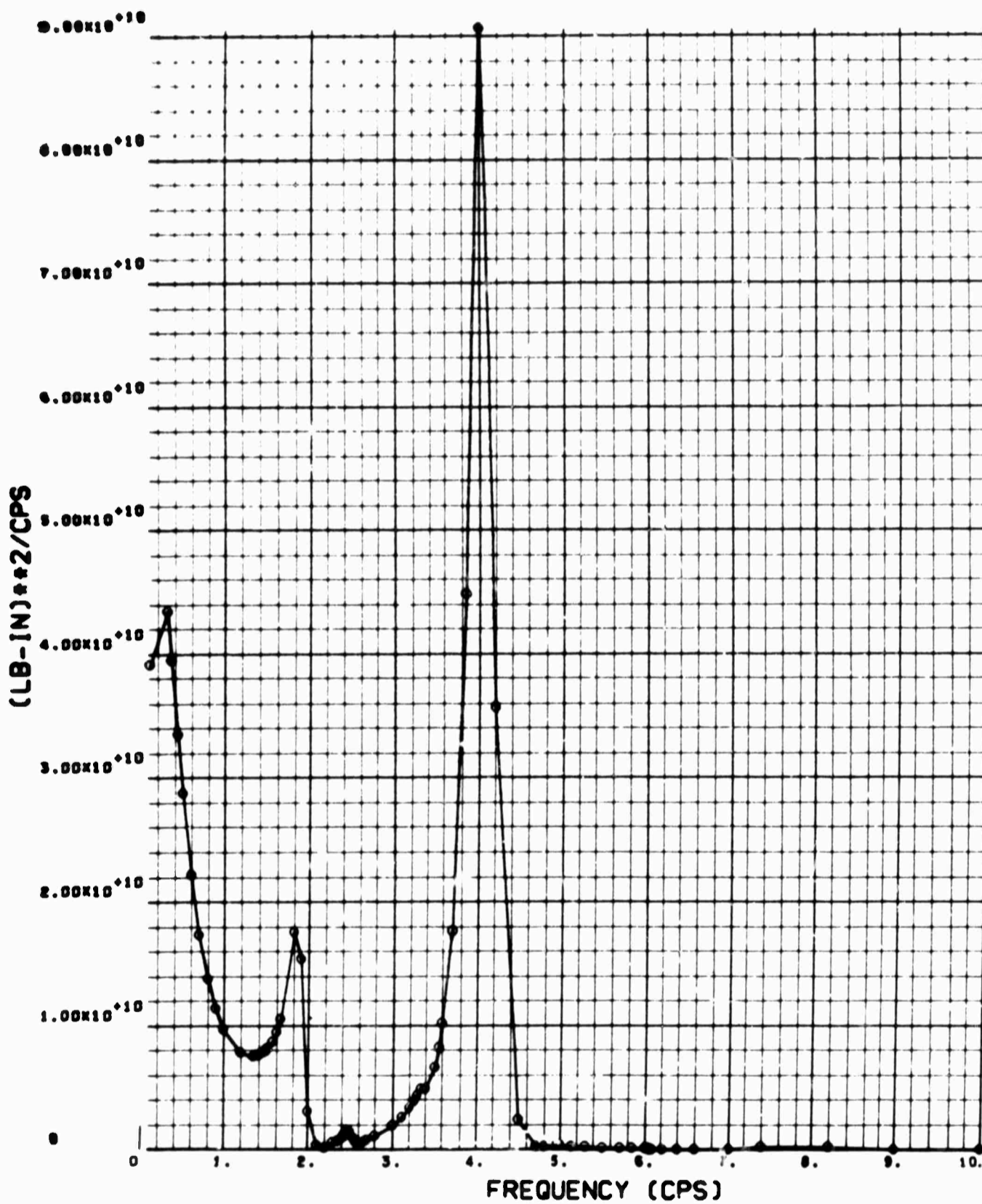


BODY BENDING MOMENT SPECTRUM  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.85

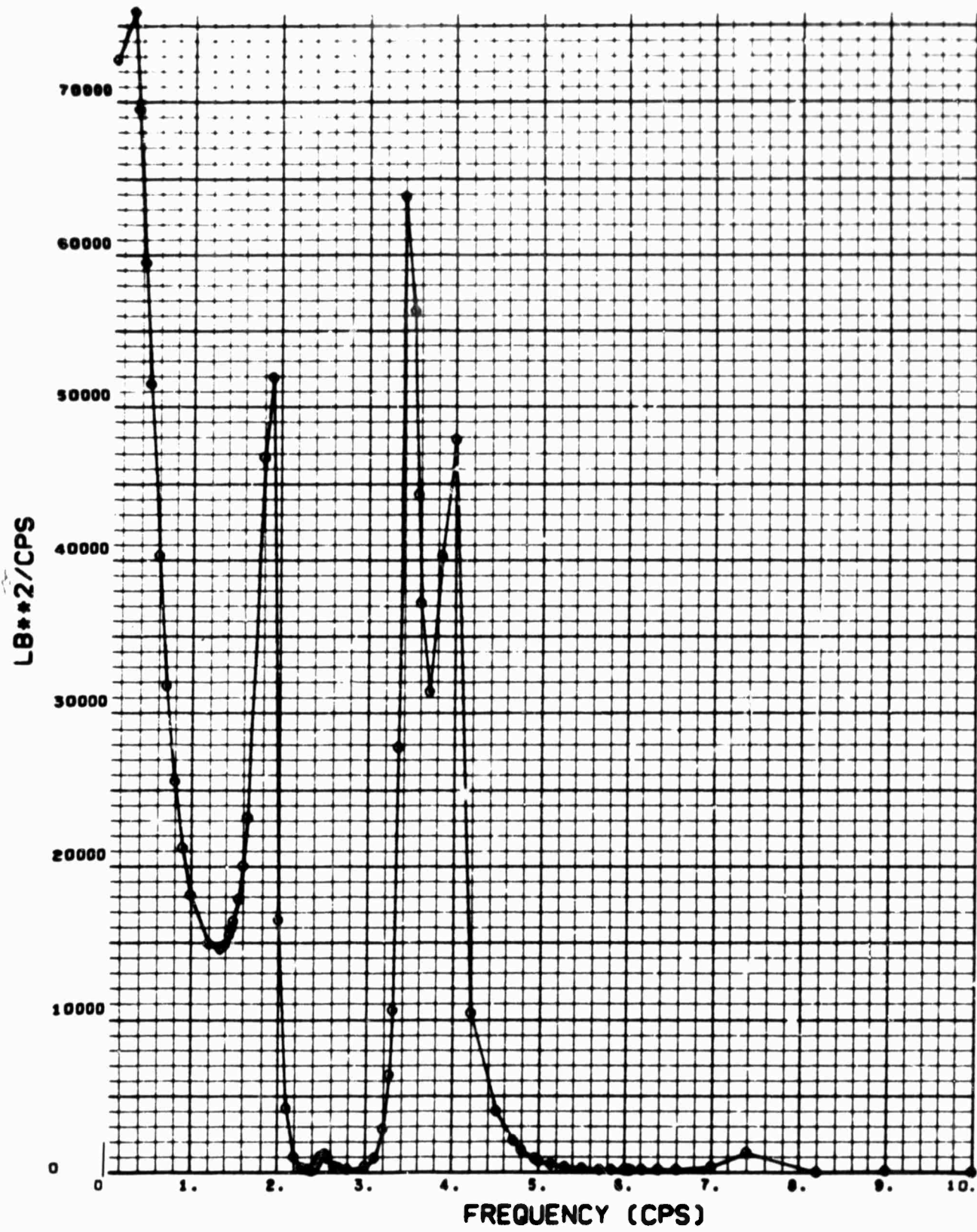


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

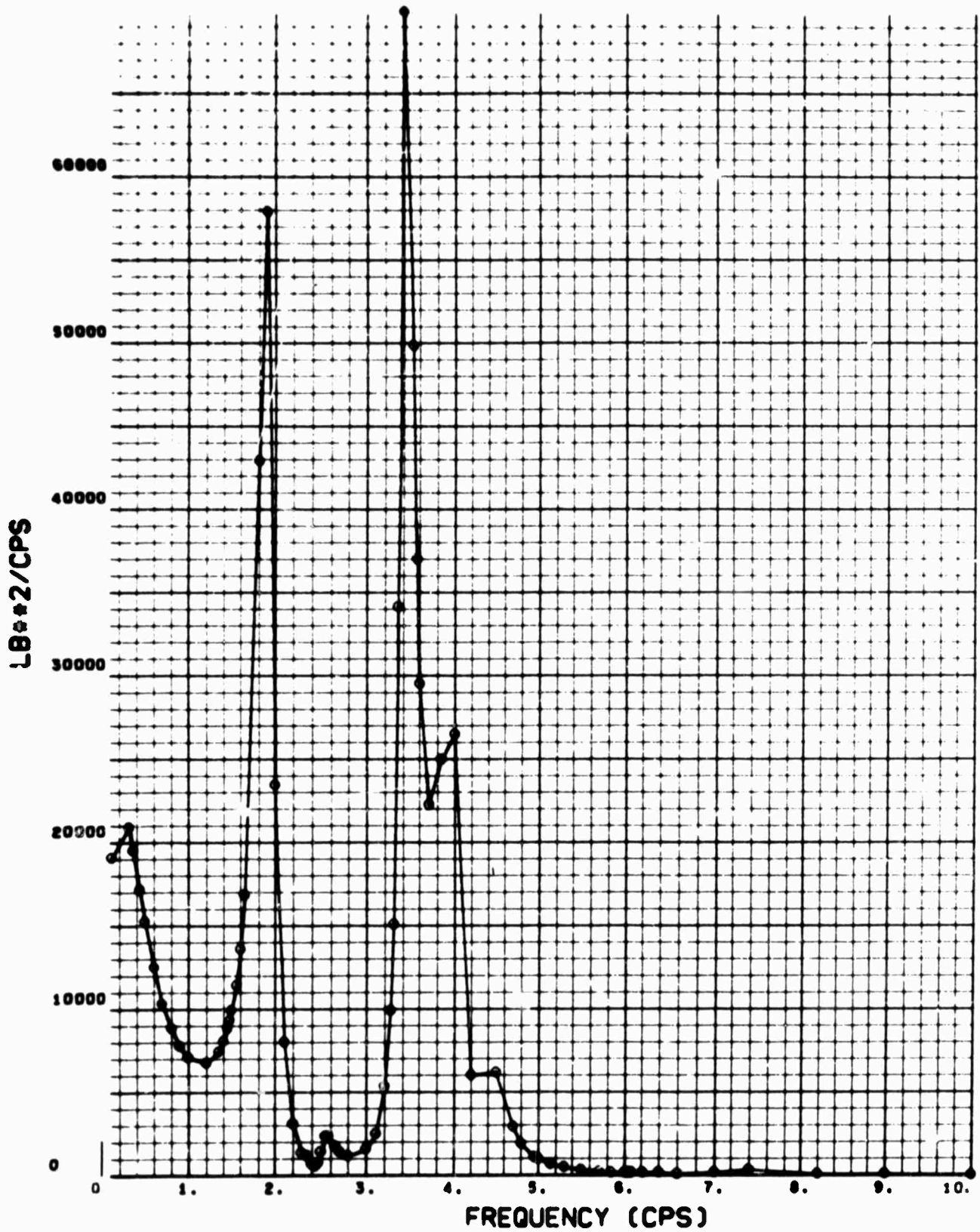


WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

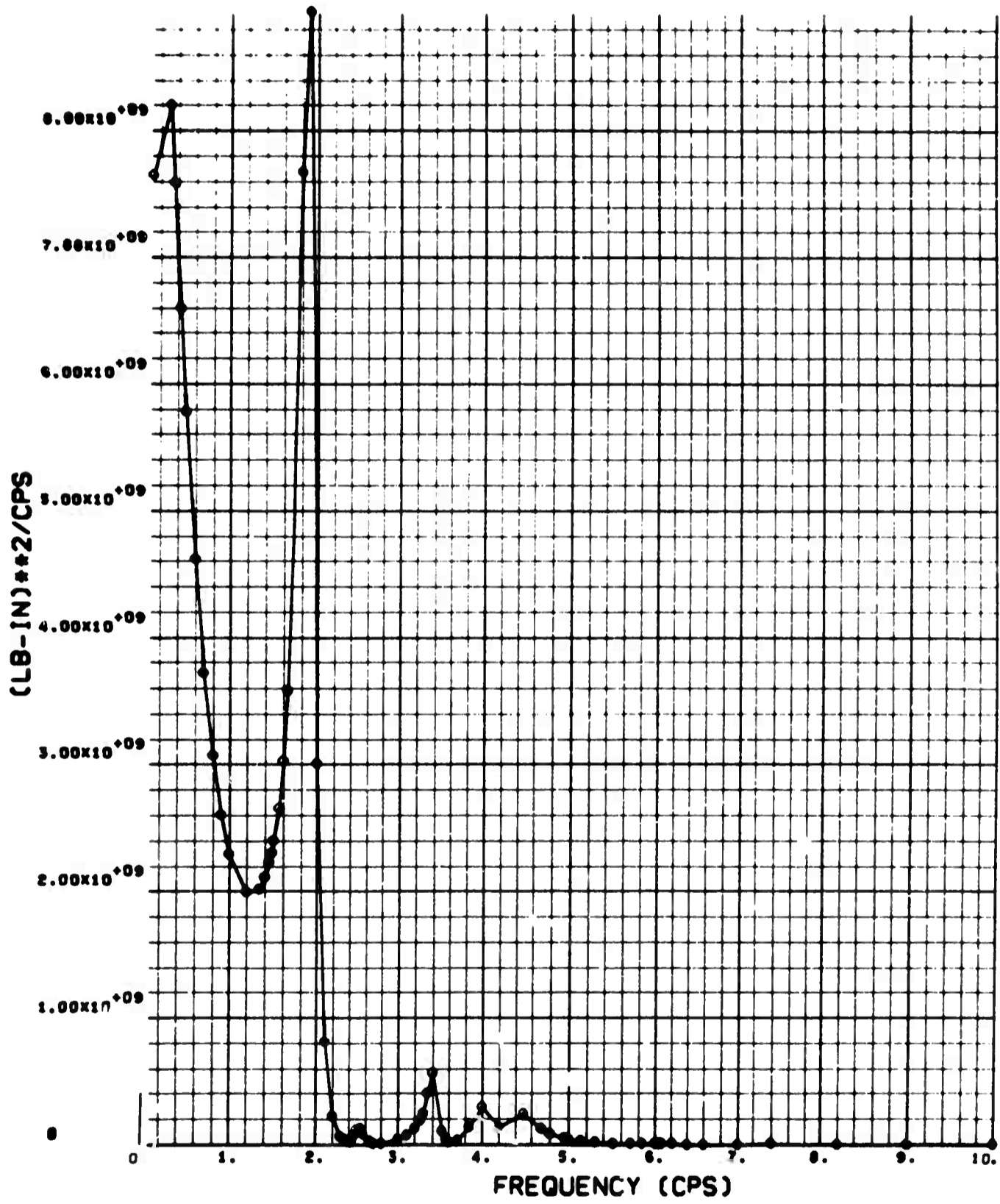


WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

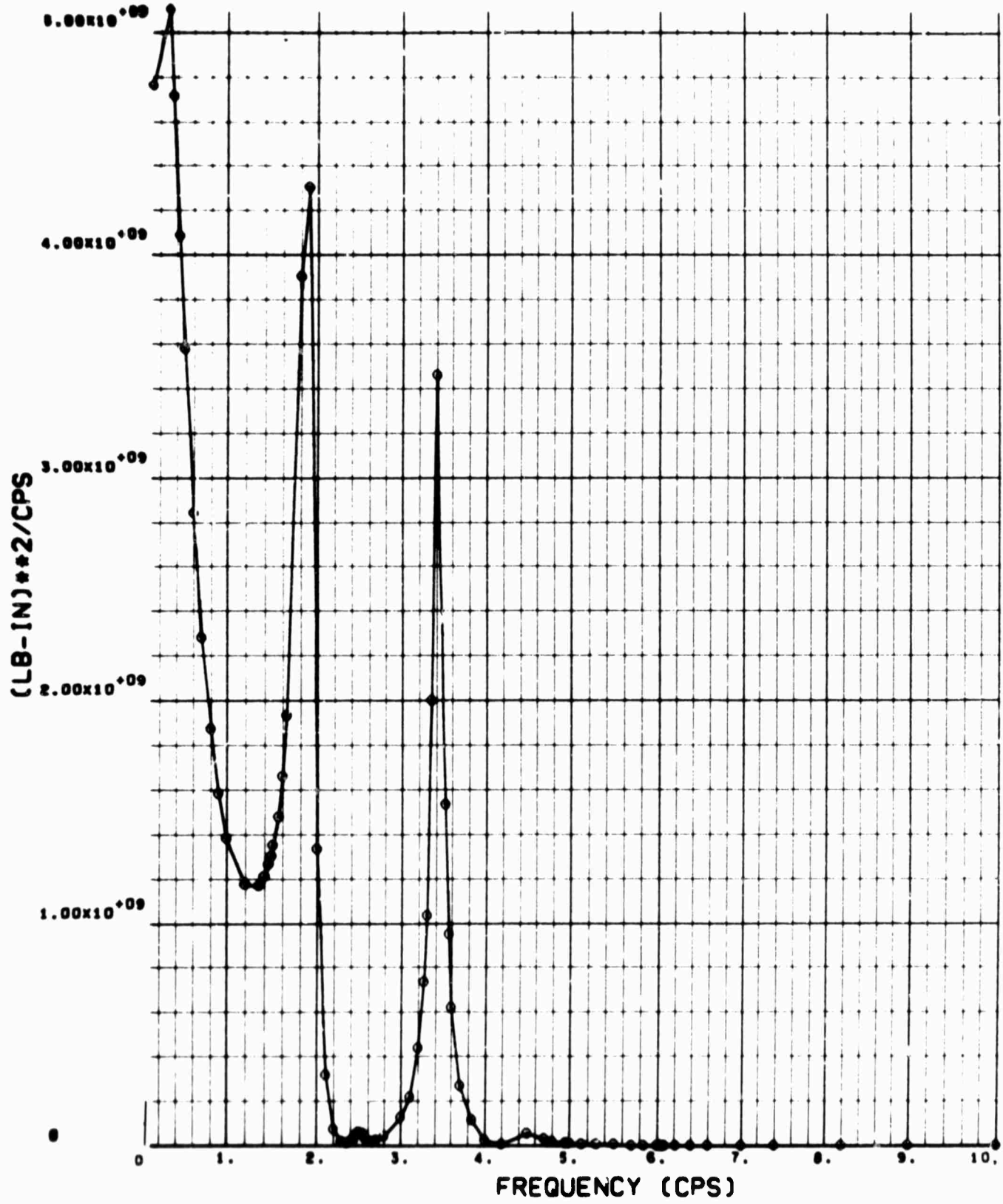


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

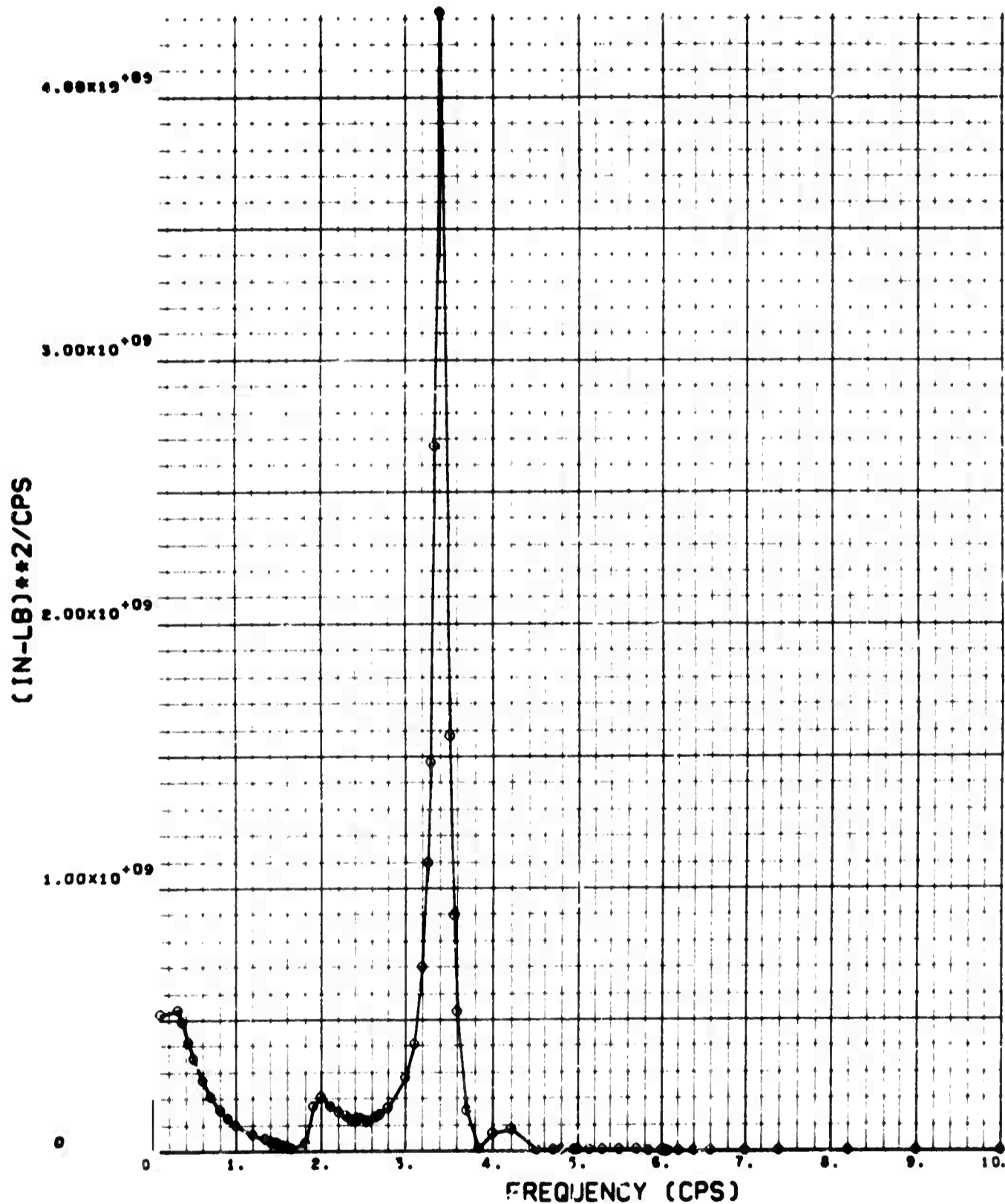


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

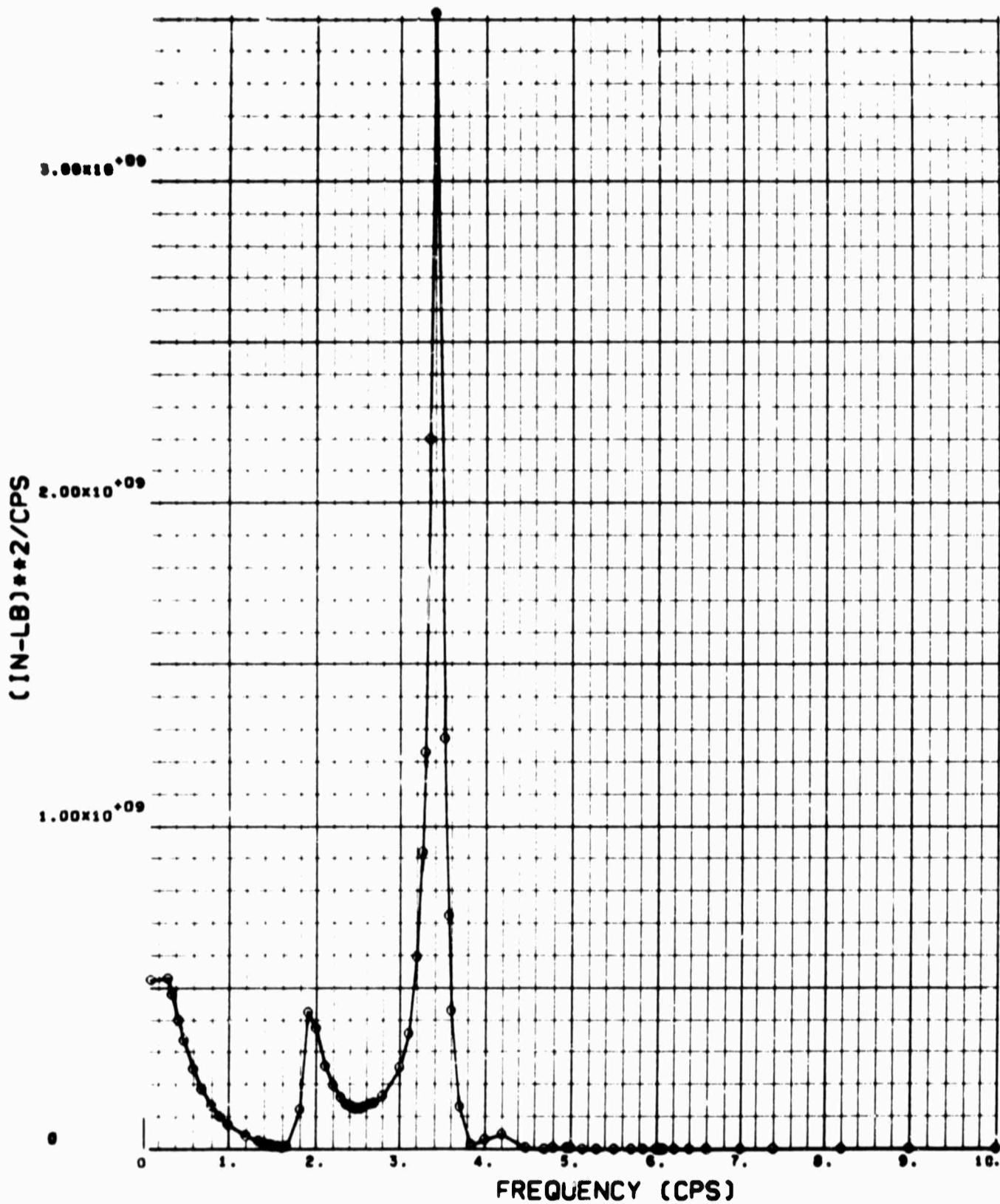


WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 4

WEIGHT CONDITION D

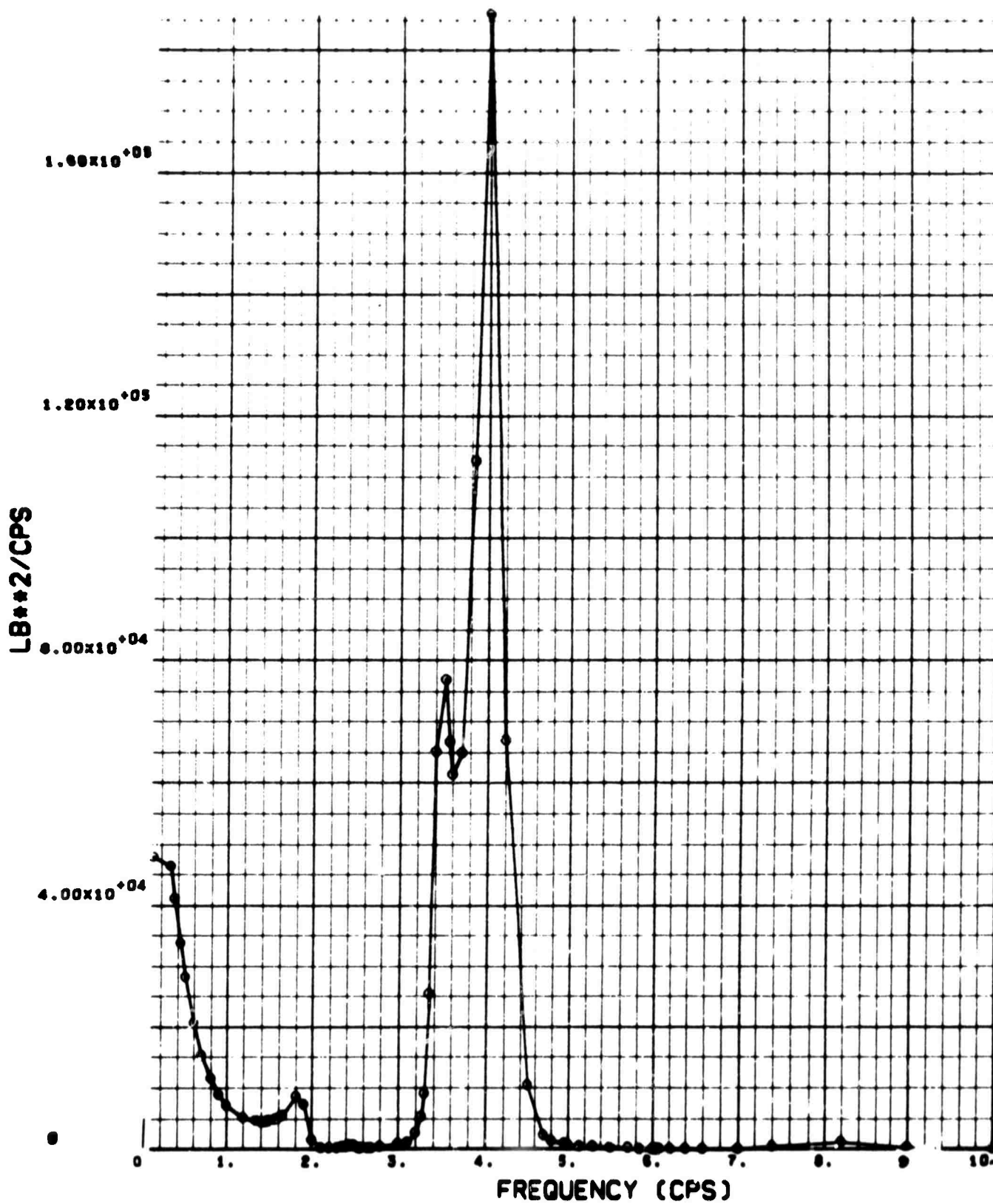
GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 4  
WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85



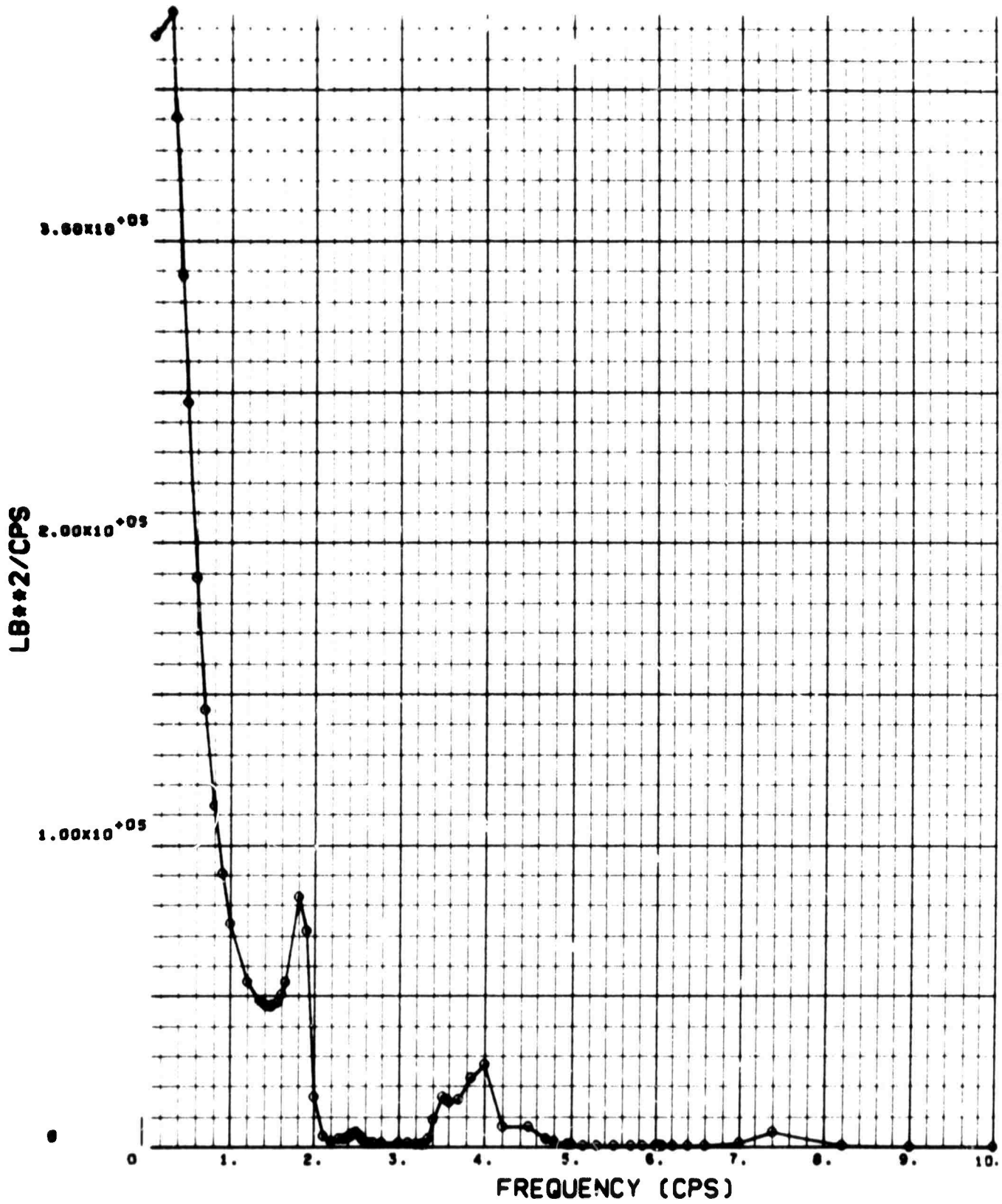
BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

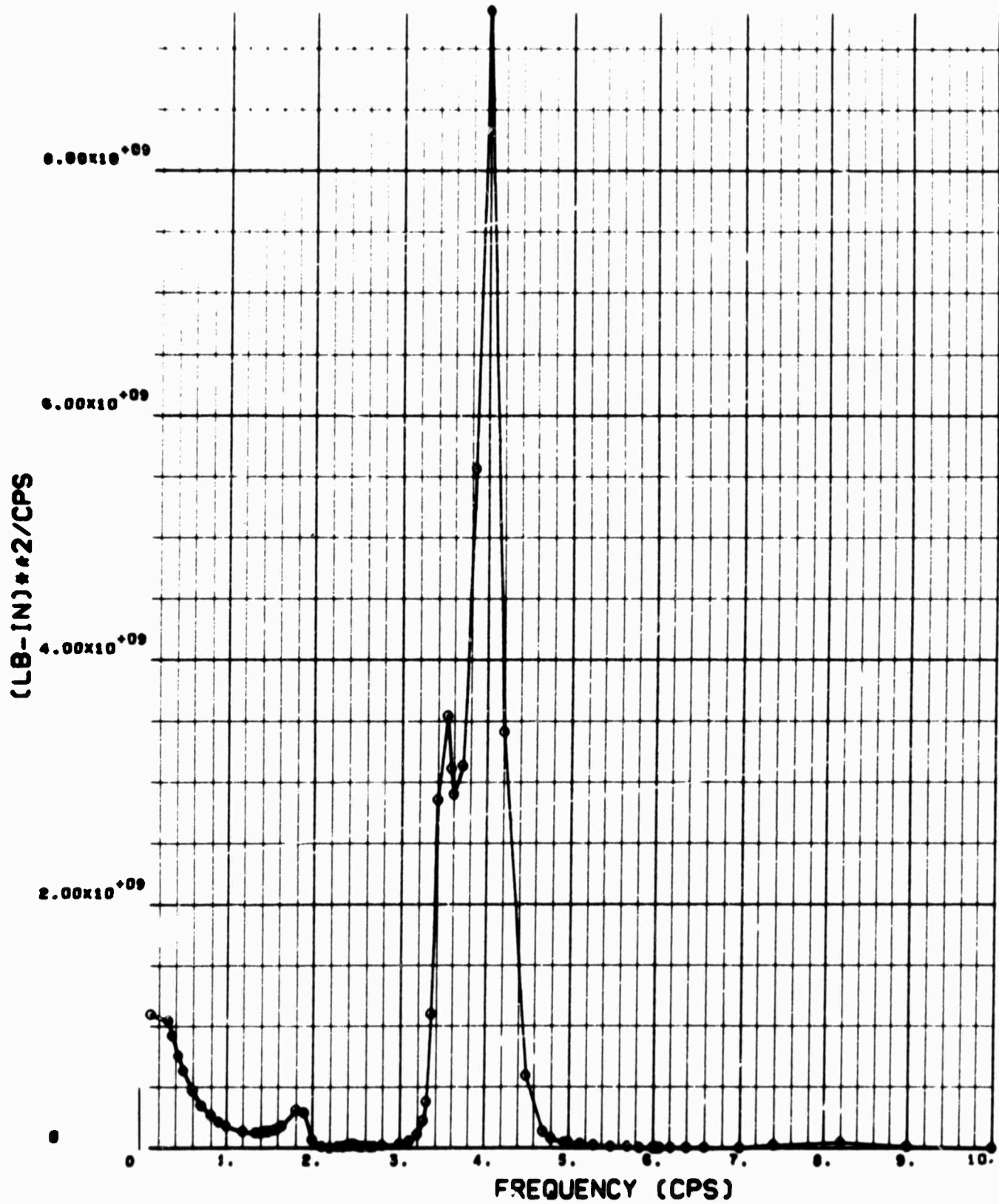


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

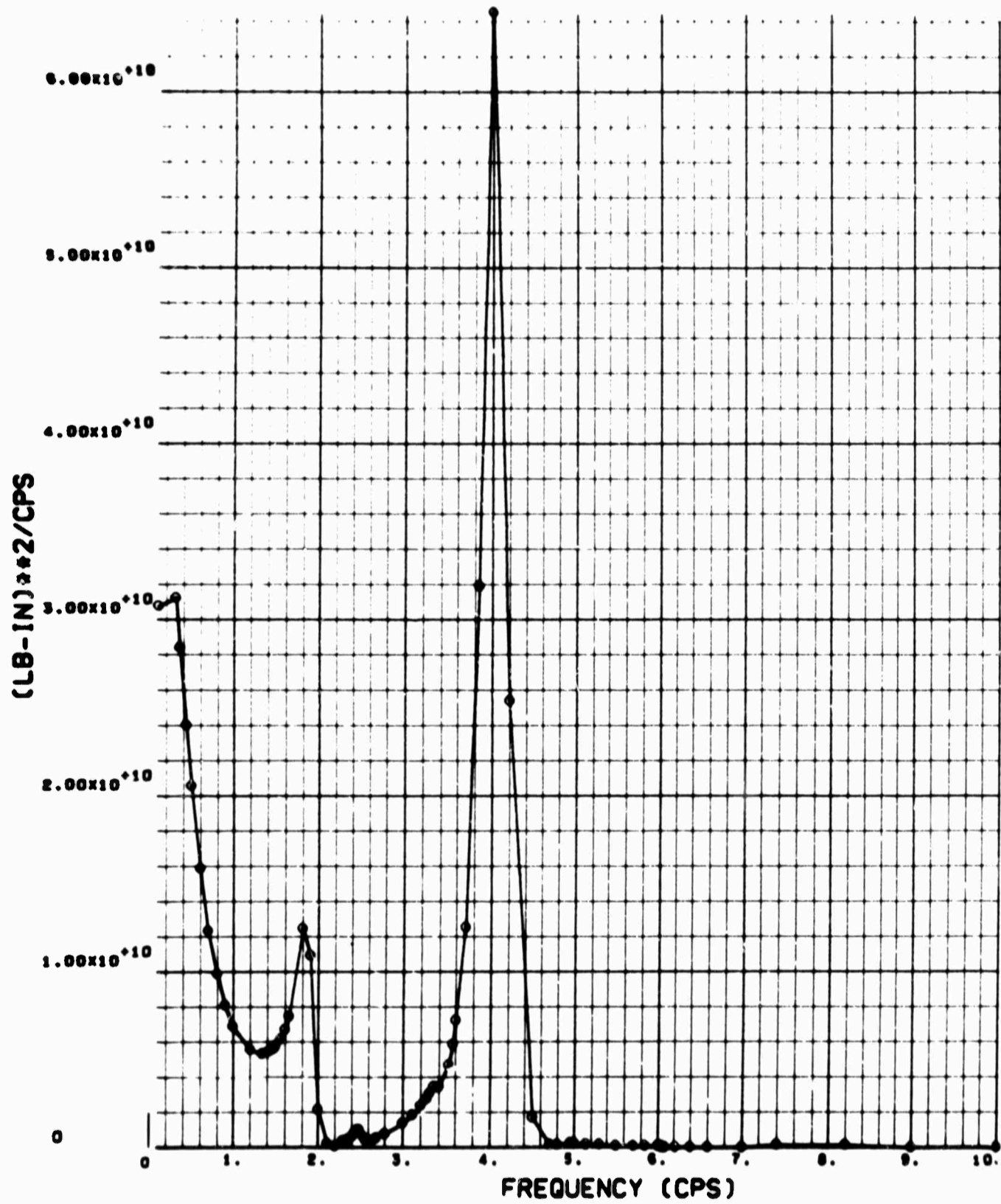


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 4

WEIGHT CONDITION D

GROSS WEIGHT: 107,260 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.85

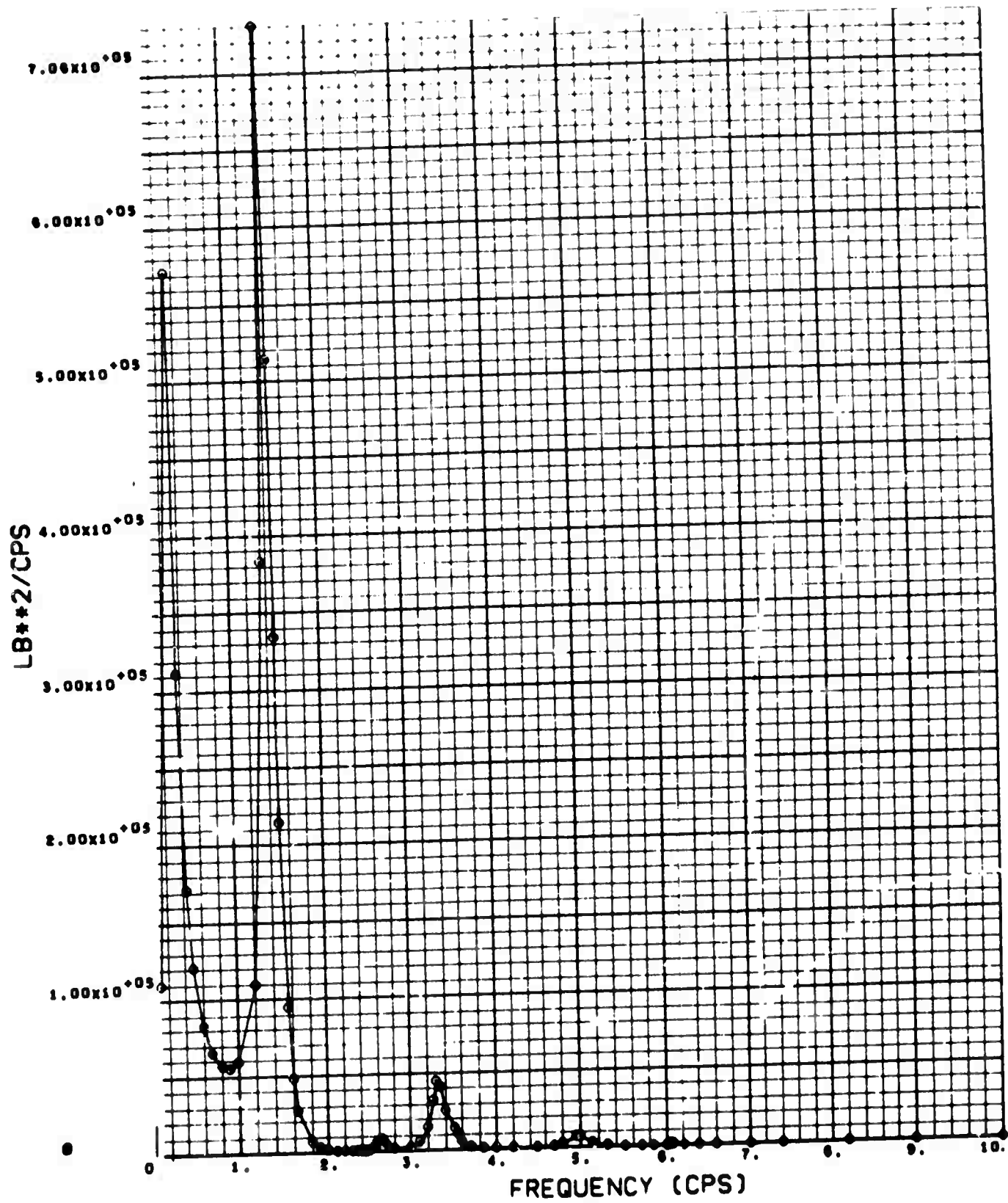


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

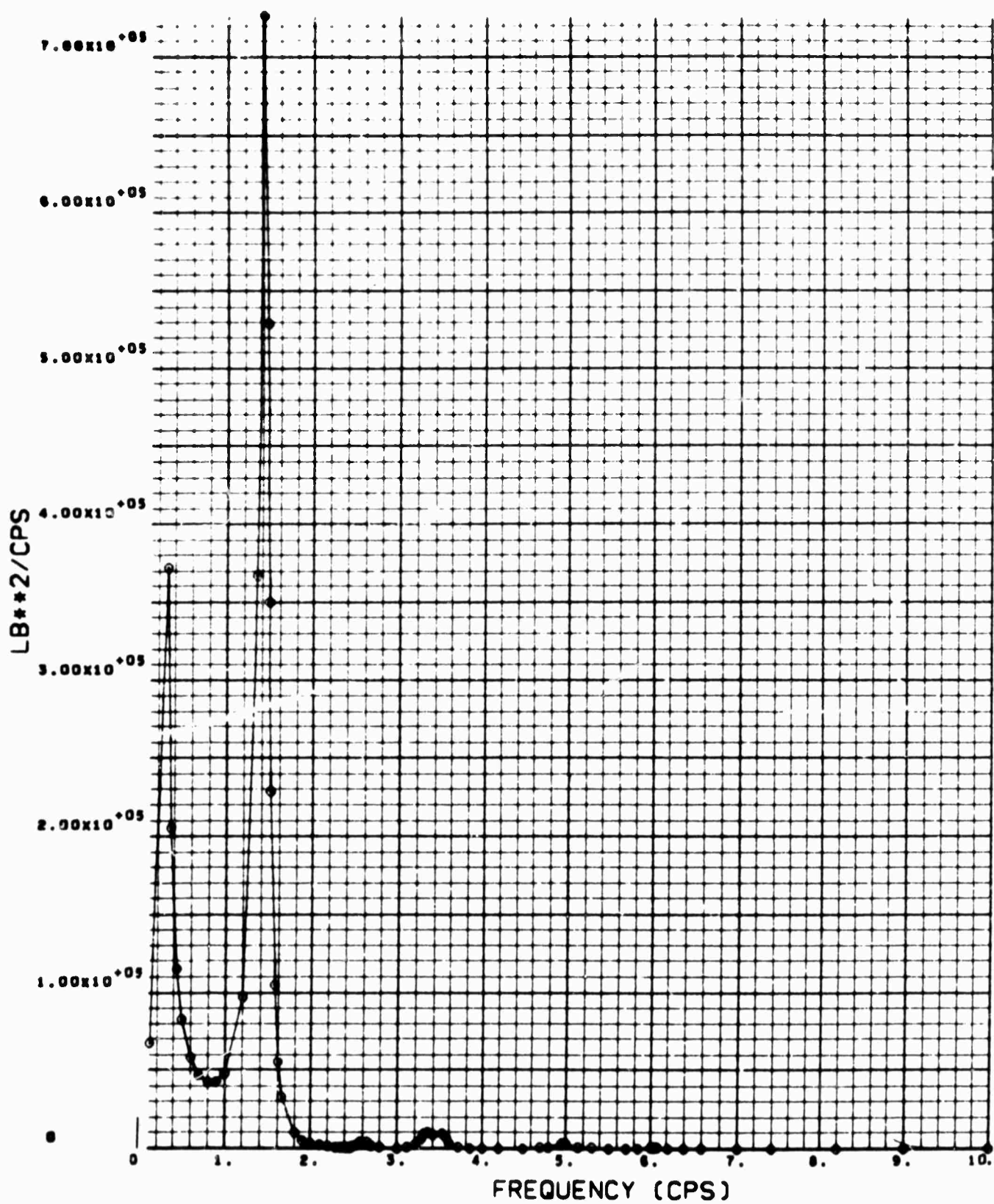


WING SHEAR SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

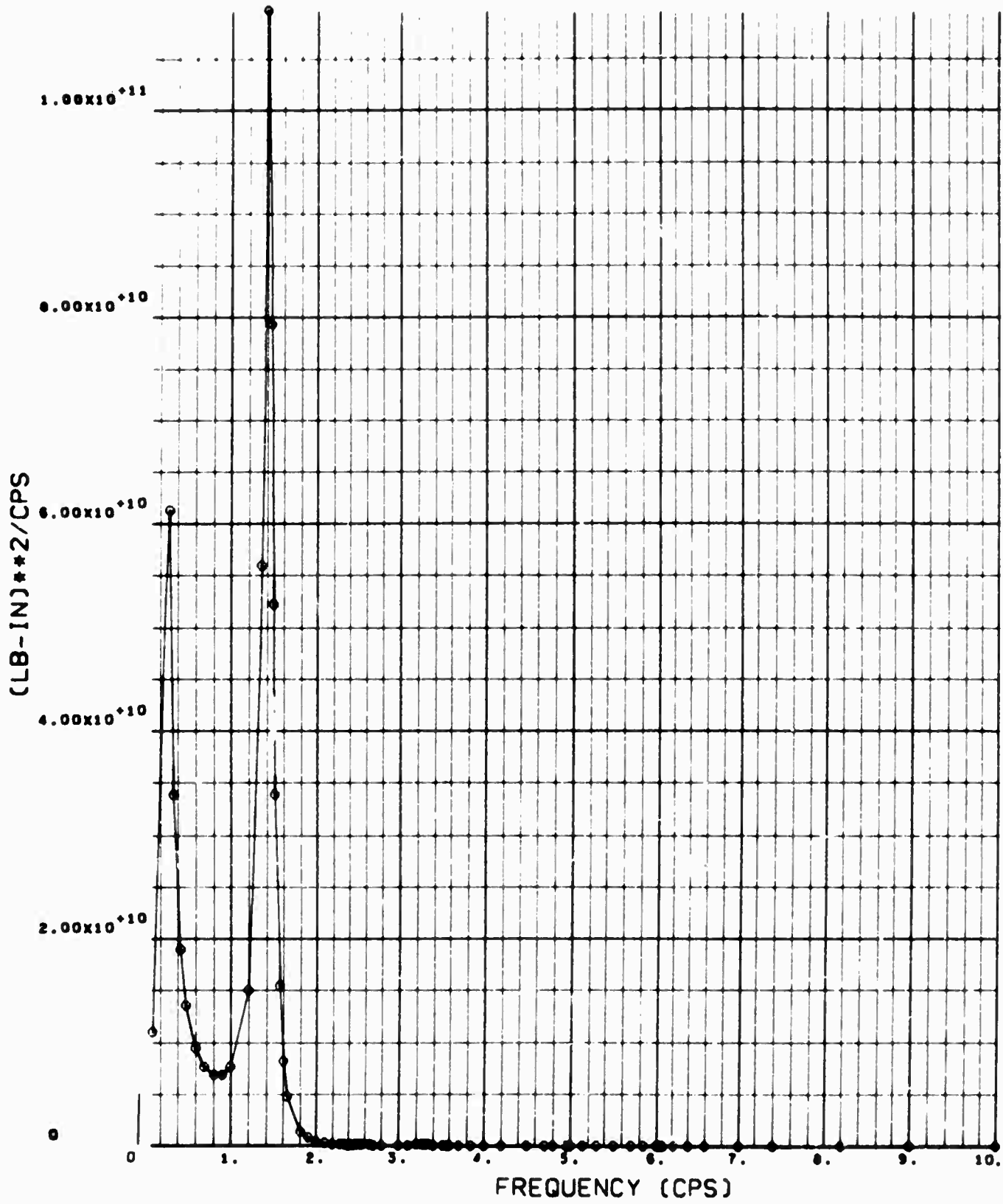


WING SHEAR SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

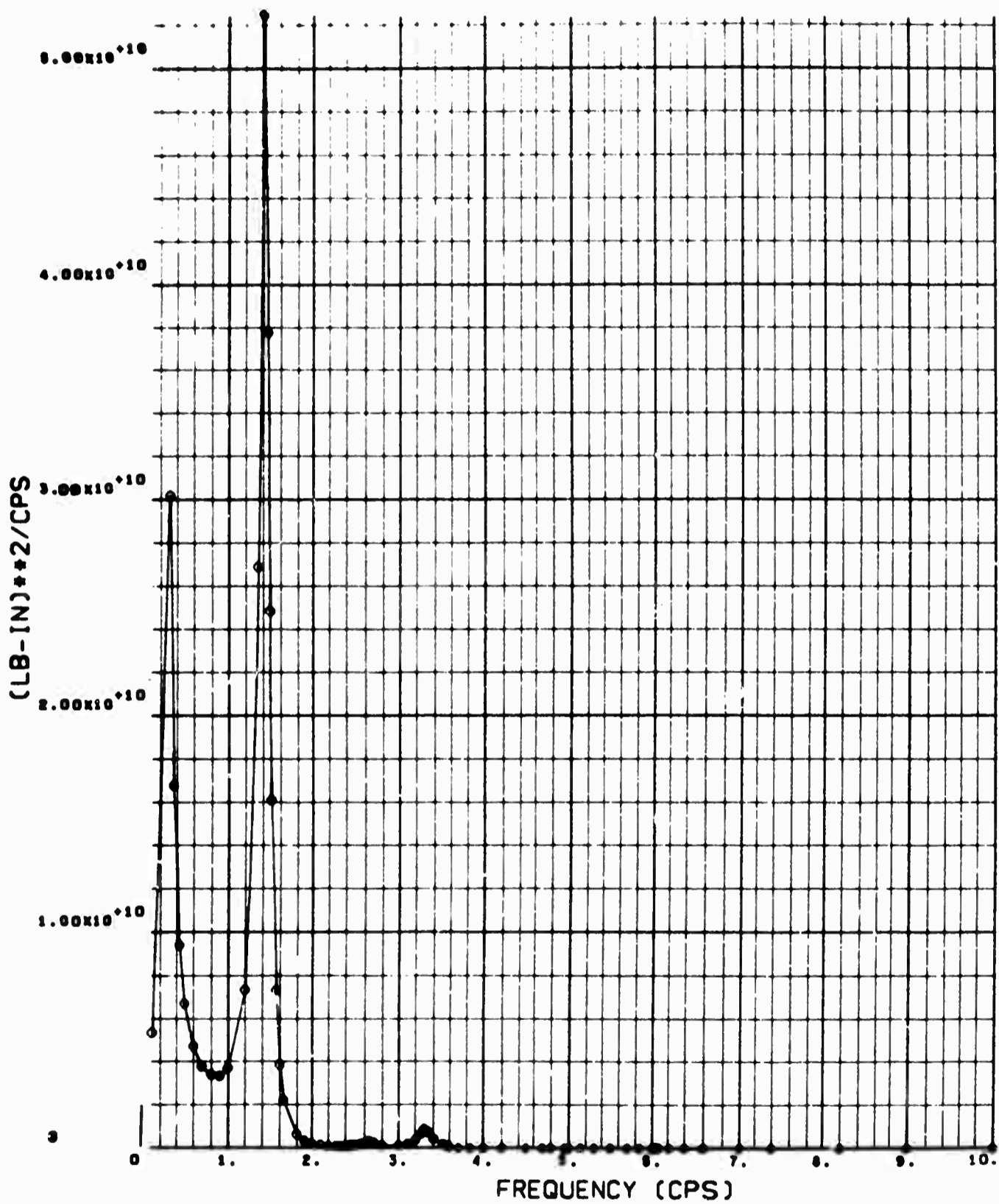


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

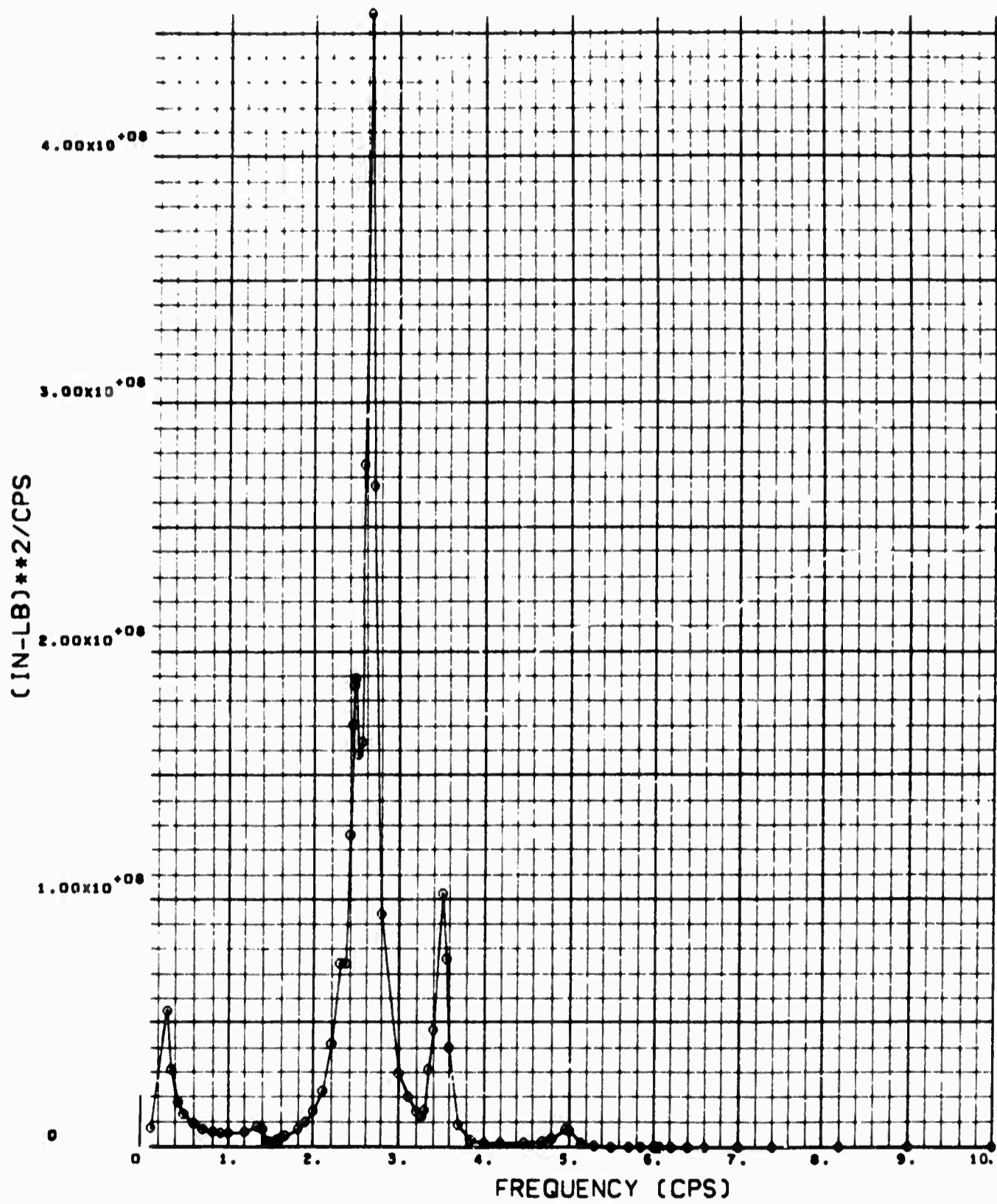


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50



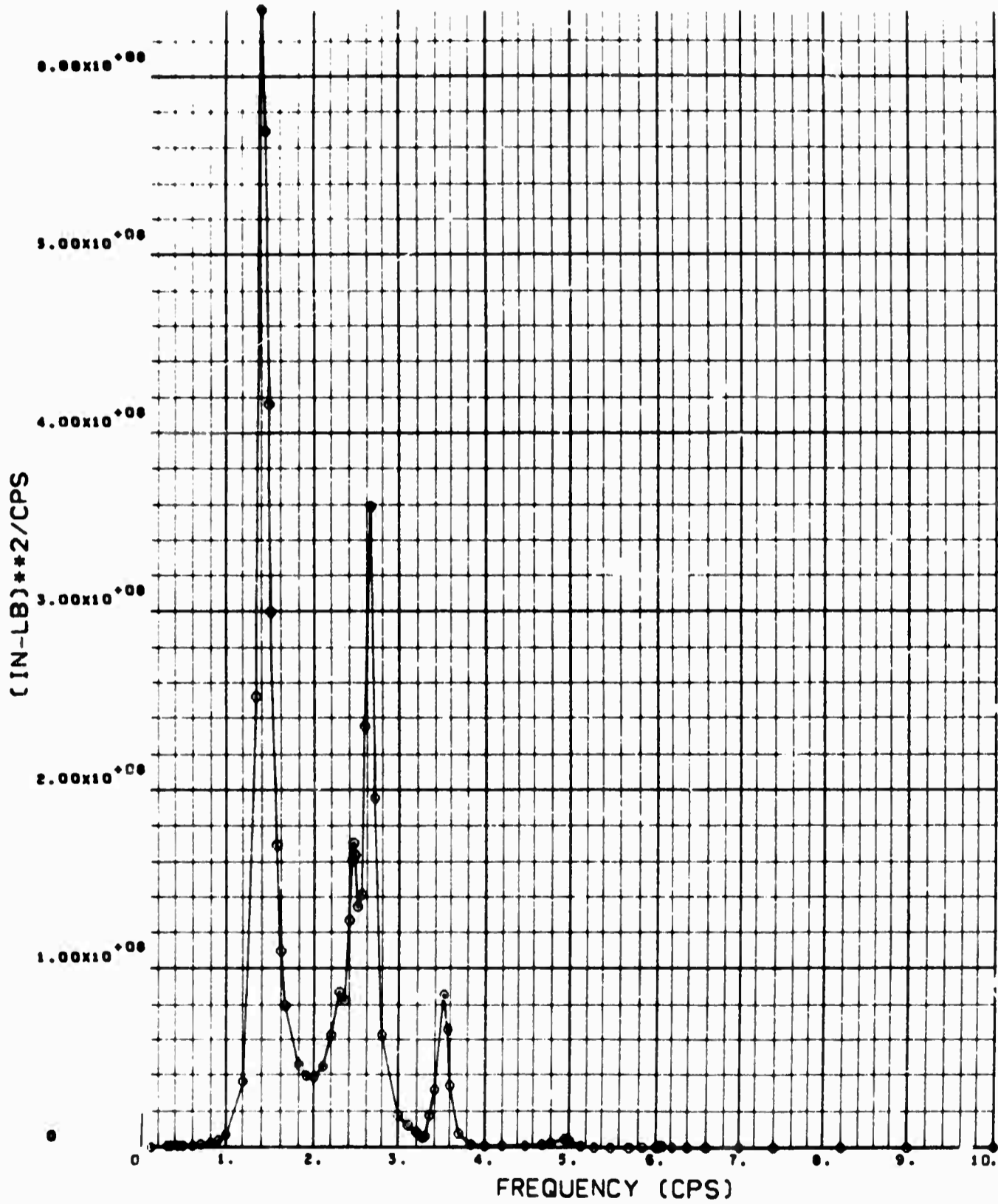
WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

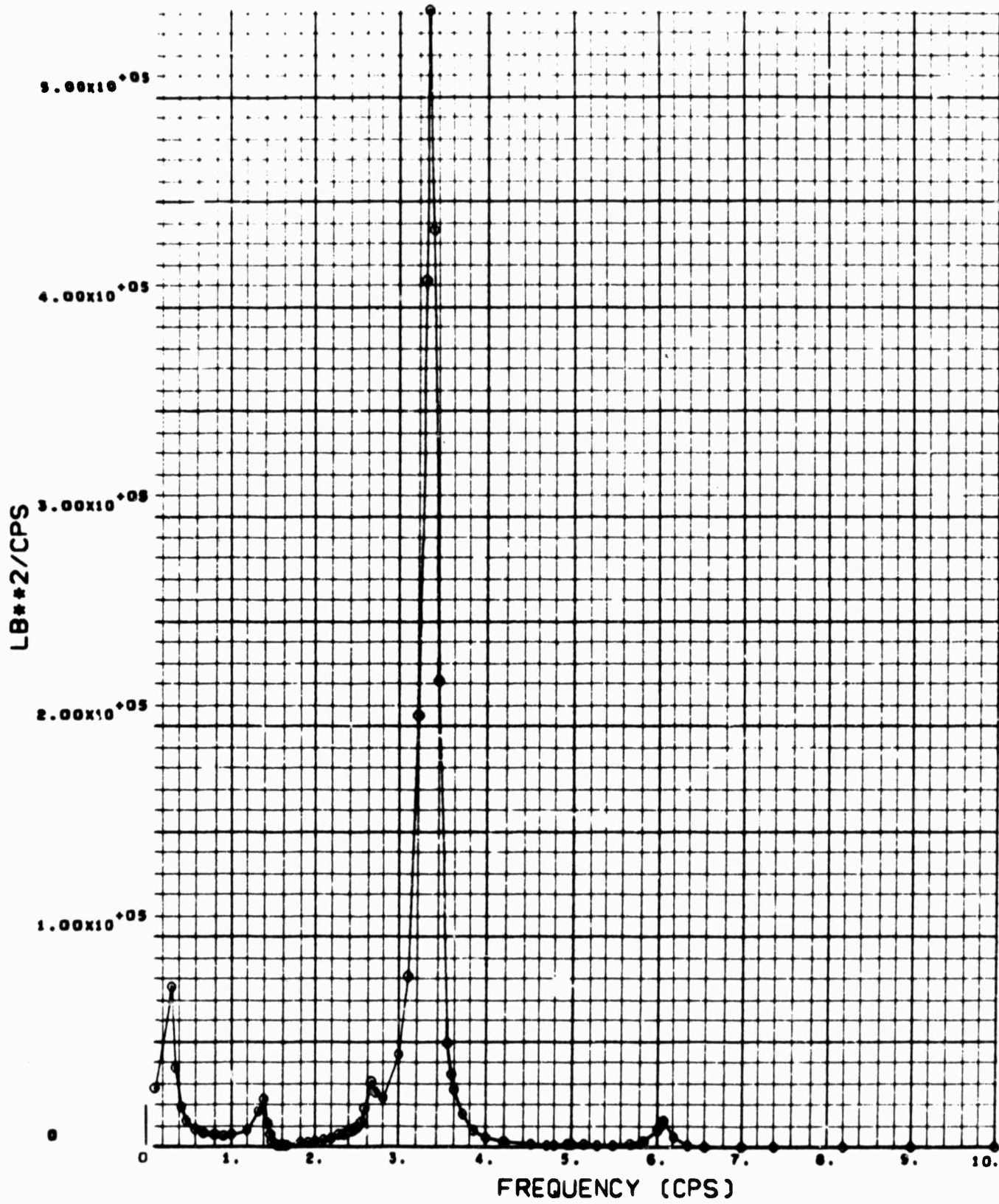


WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB      CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT      SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

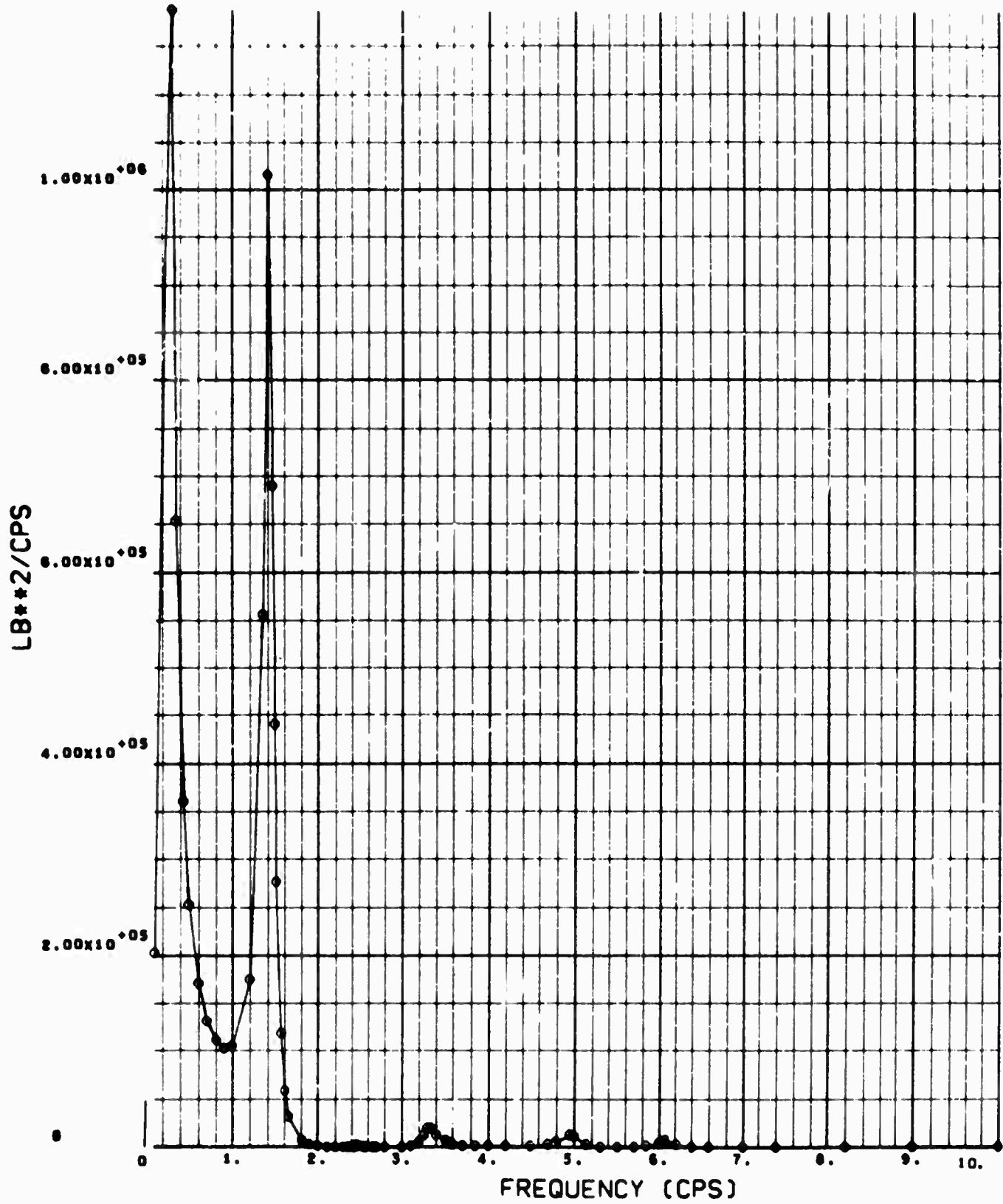


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

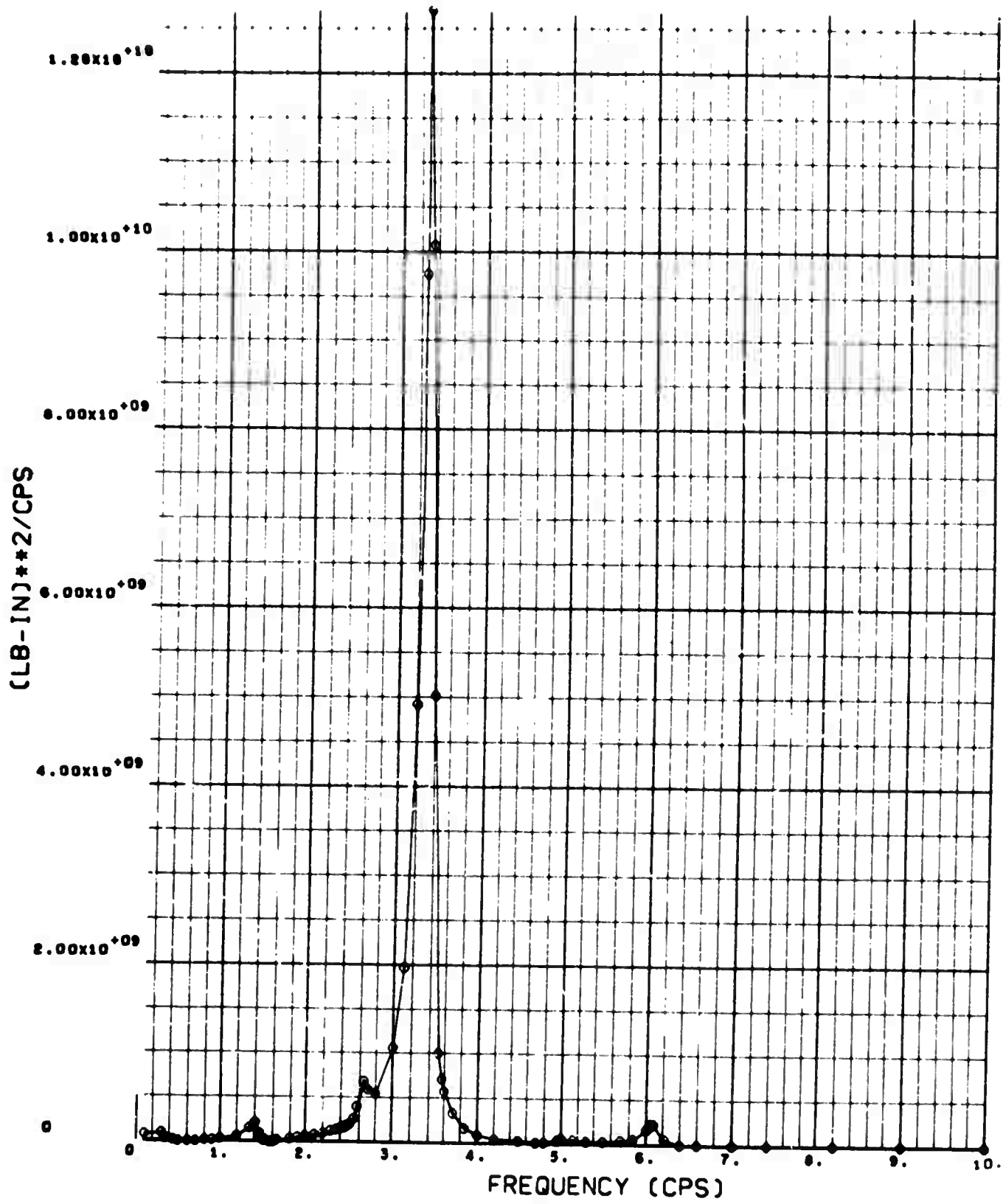


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

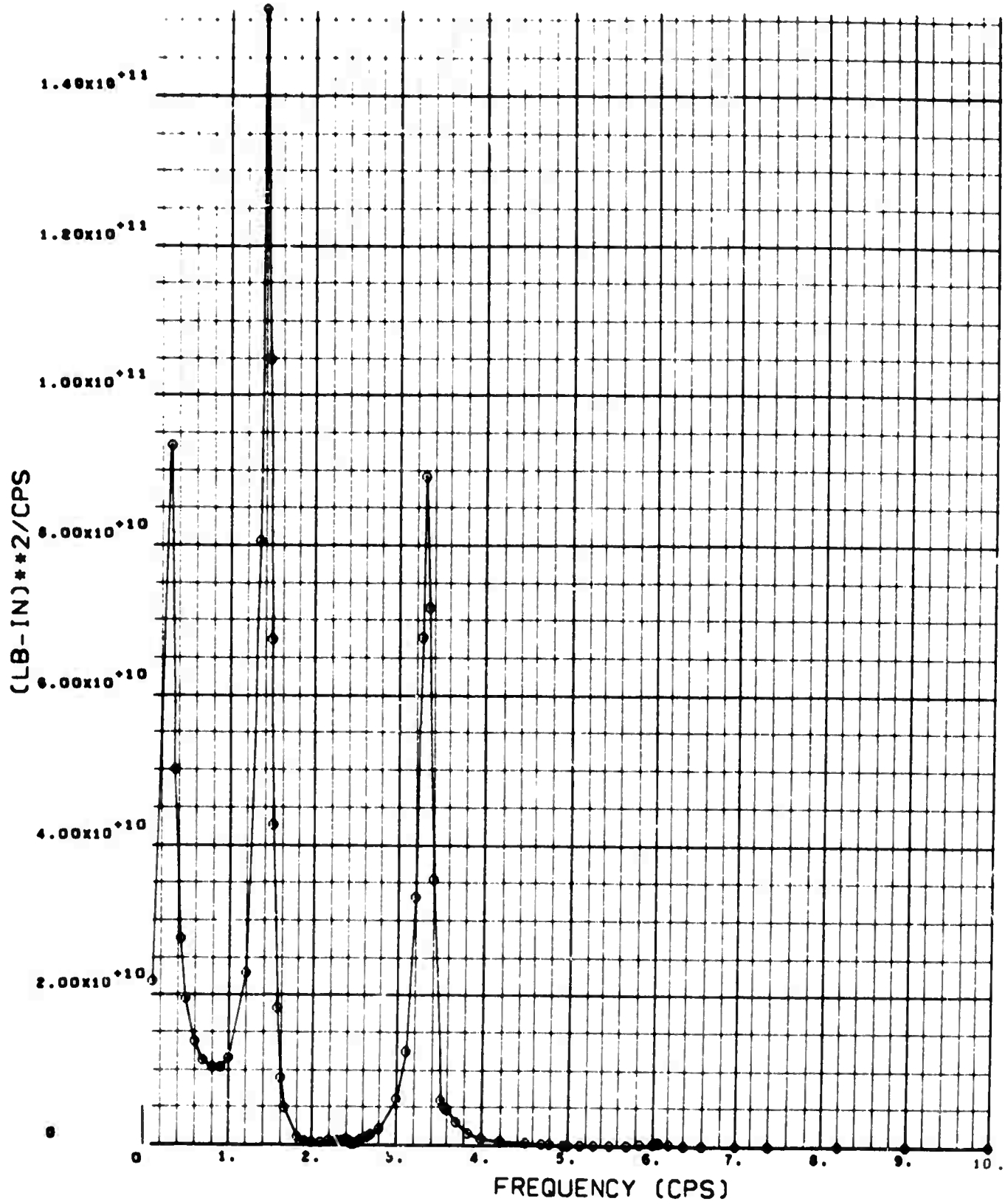


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 1,000 FT  
MACH NUMBER: 0.50

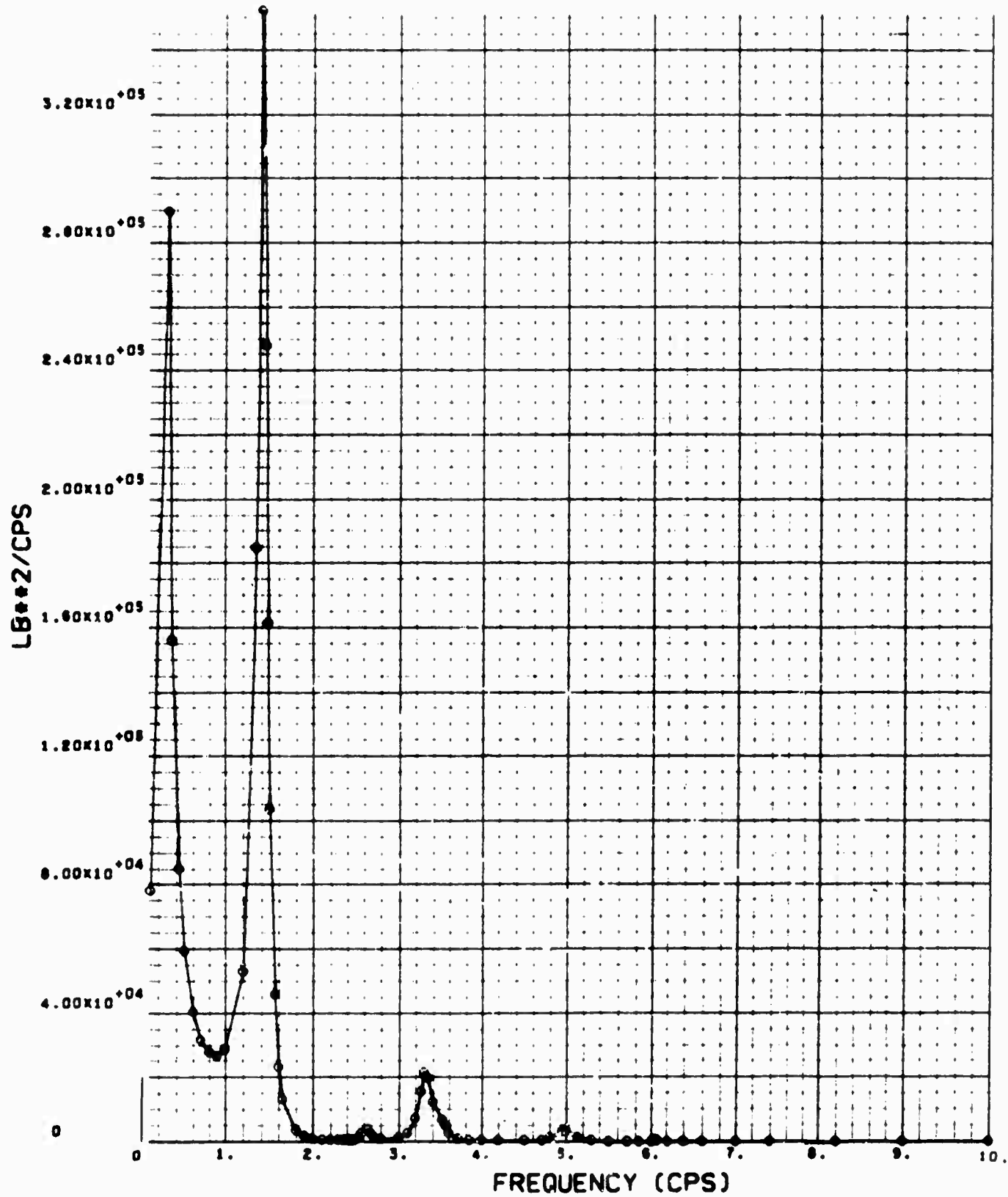


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

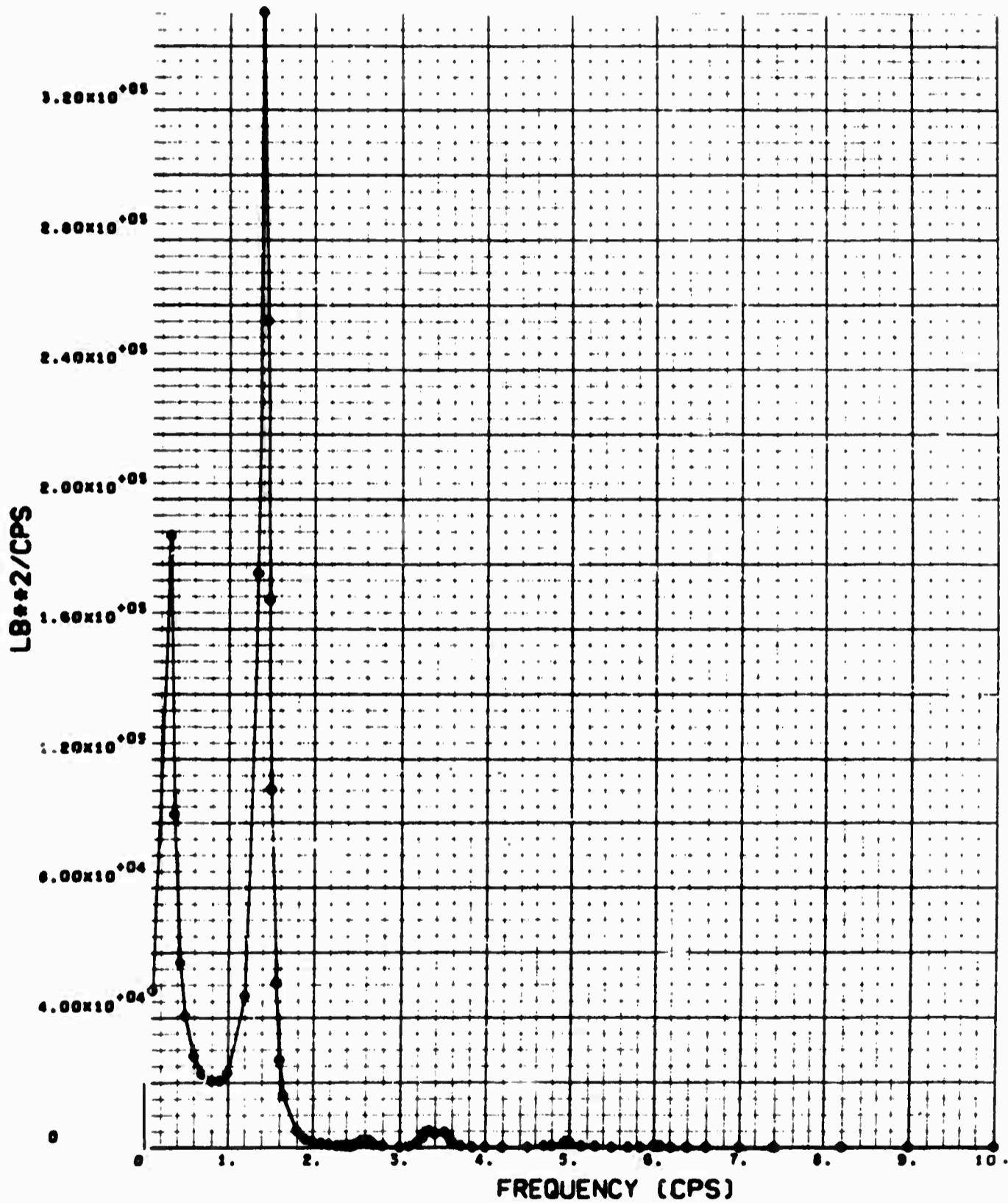
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ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50



WING SHEAR SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 5

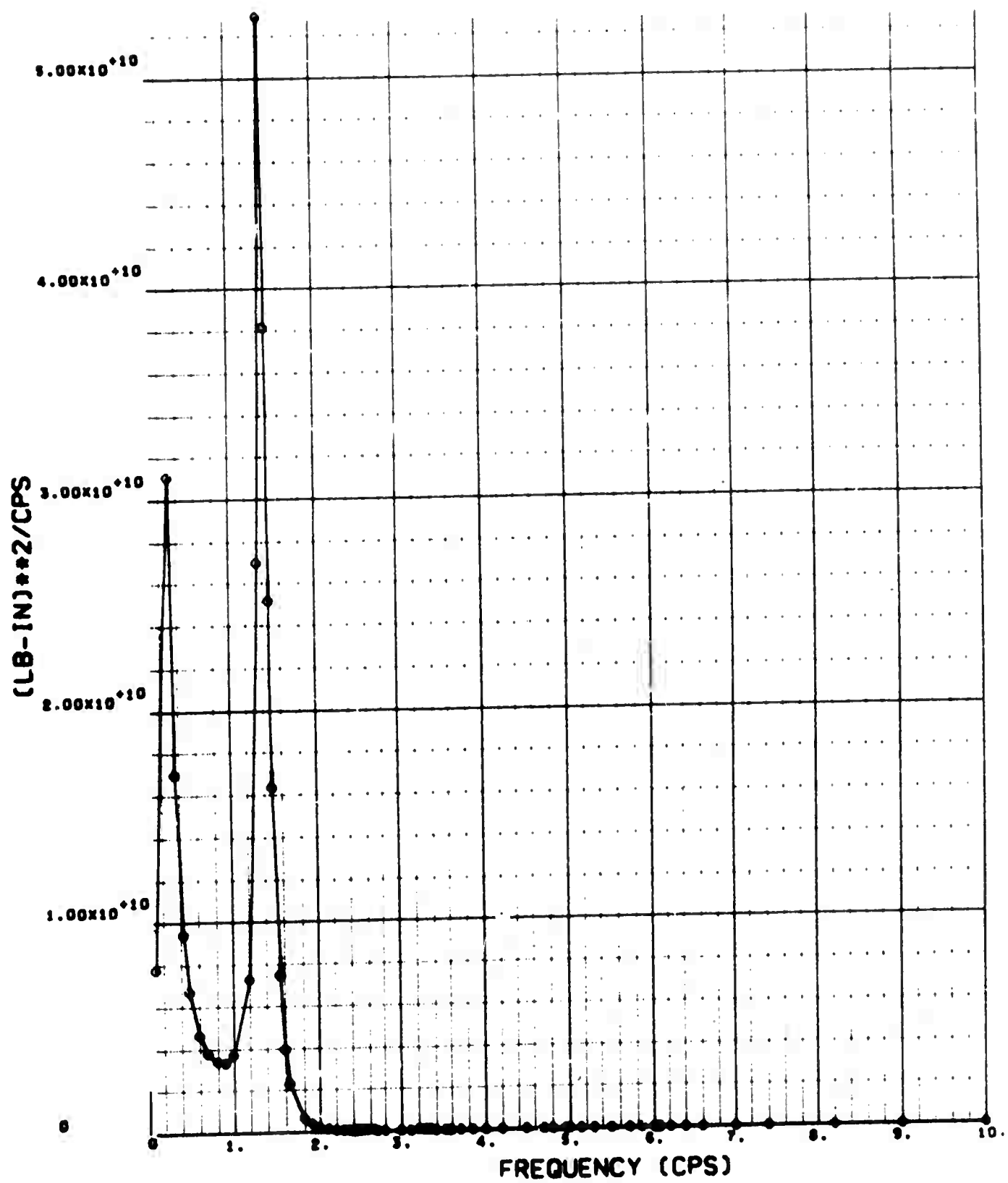
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GROSS WEIGHT:	297,000 LB	CUTOFF FREQUENCY:	10 CPS
ALTITUDE:	24,000 FT	SCALE OF TURBULENCE:	3,000 FT
MACH NUMBER:	0.50		



WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 5  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50

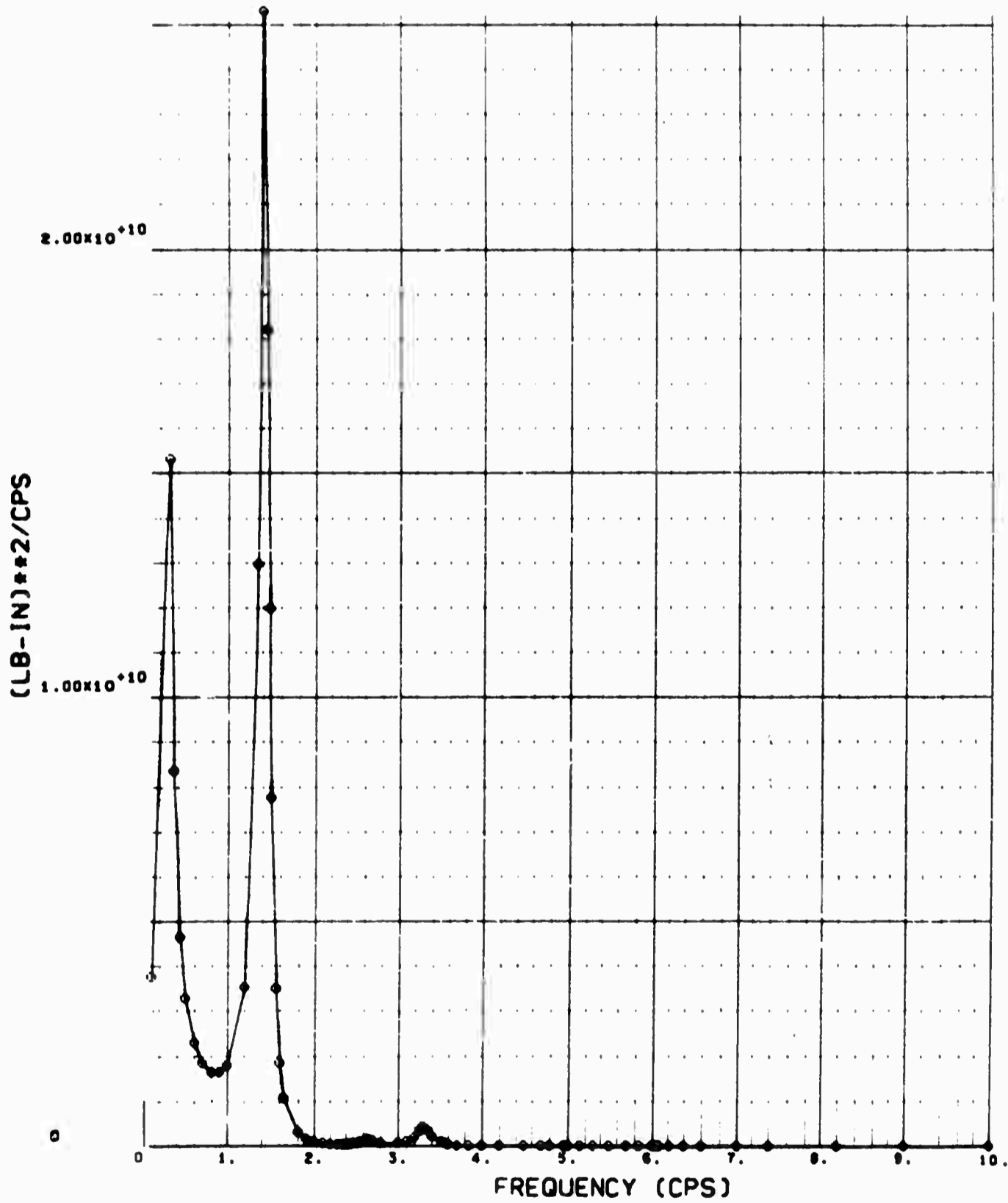


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN



ANALYSIS CONDITION 5

	WEIGHT CONDITION A		
GROSS WEIGHT:	297,000 LB	CUTOFF FREQUENCY:	10 CPS
ALTITUDE:	24,000 FT	SCALE OF TURBULENCE:	3,000 FT
MACH NUMBER:	0.50		

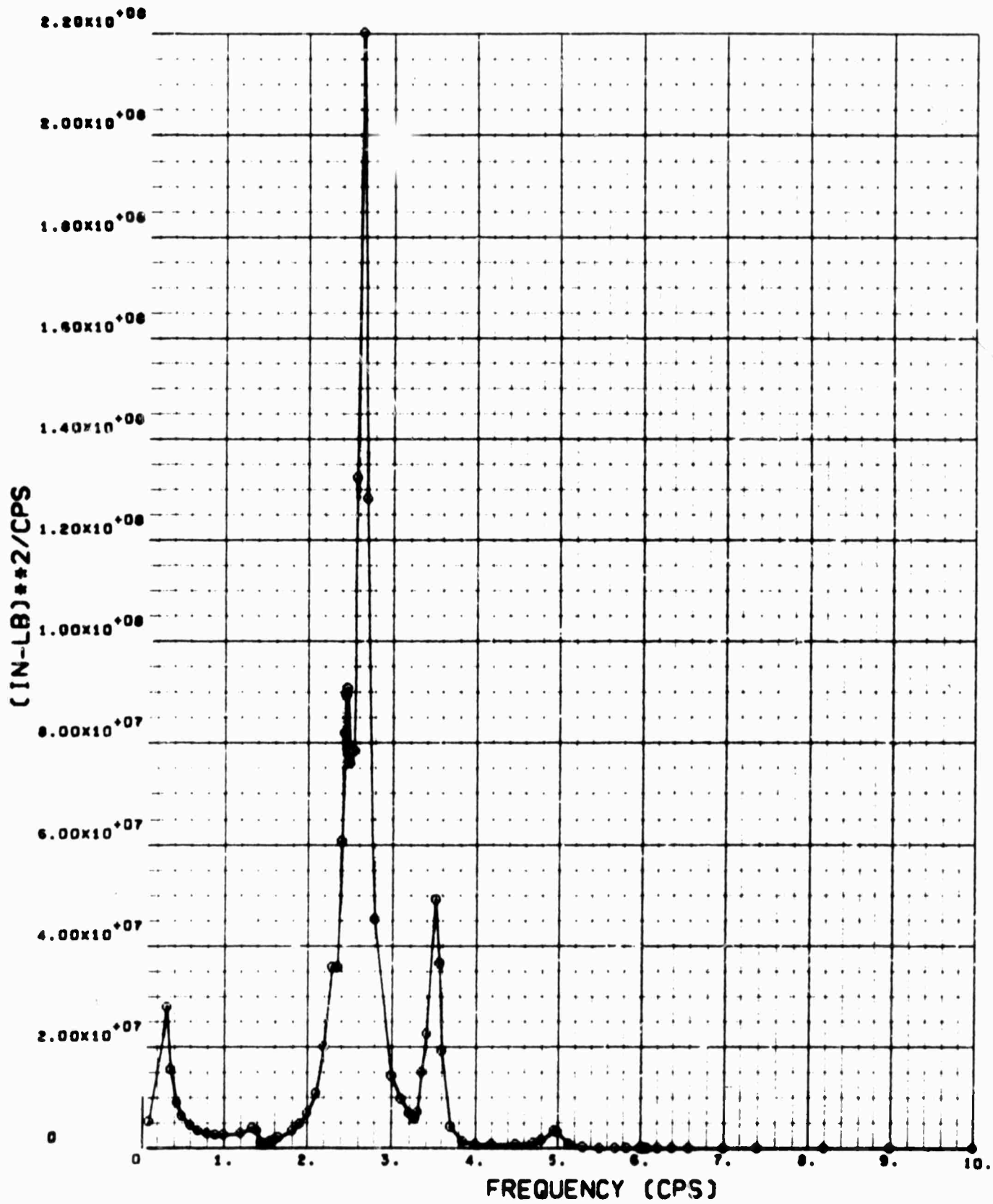


WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50

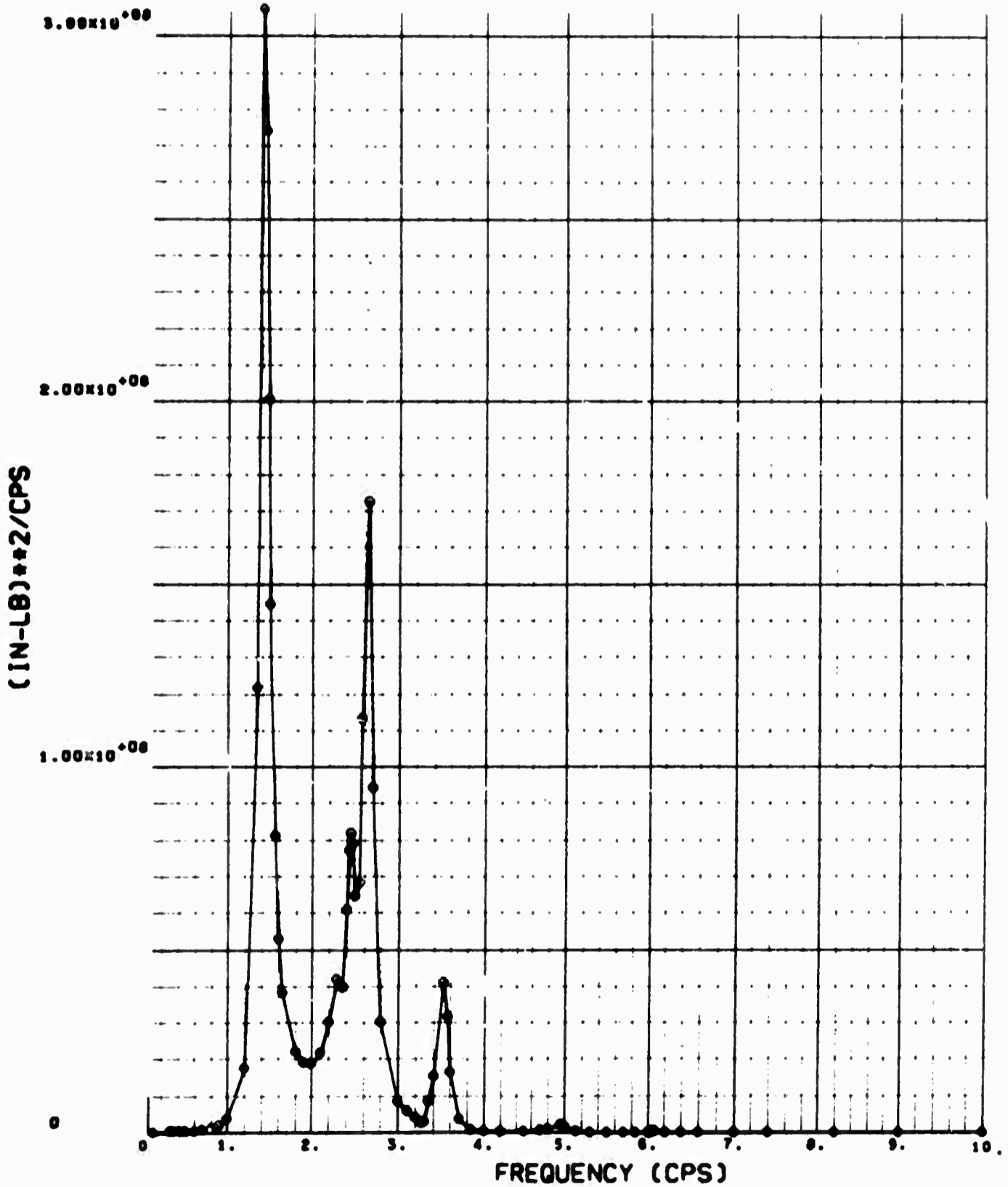


WING TORQUE SPECTRUM, 27 PERCENT SEMI SPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

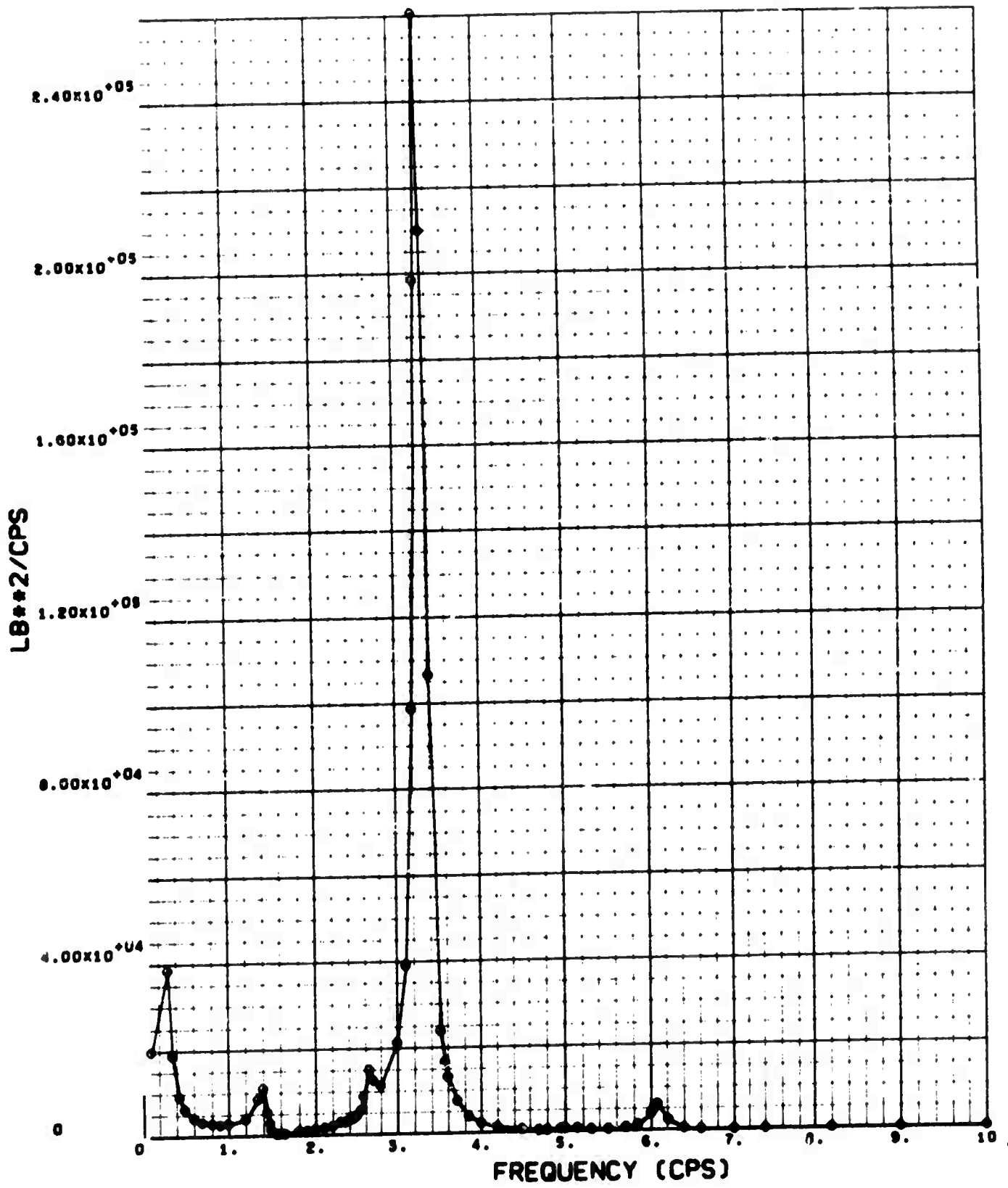
GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50



WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 5

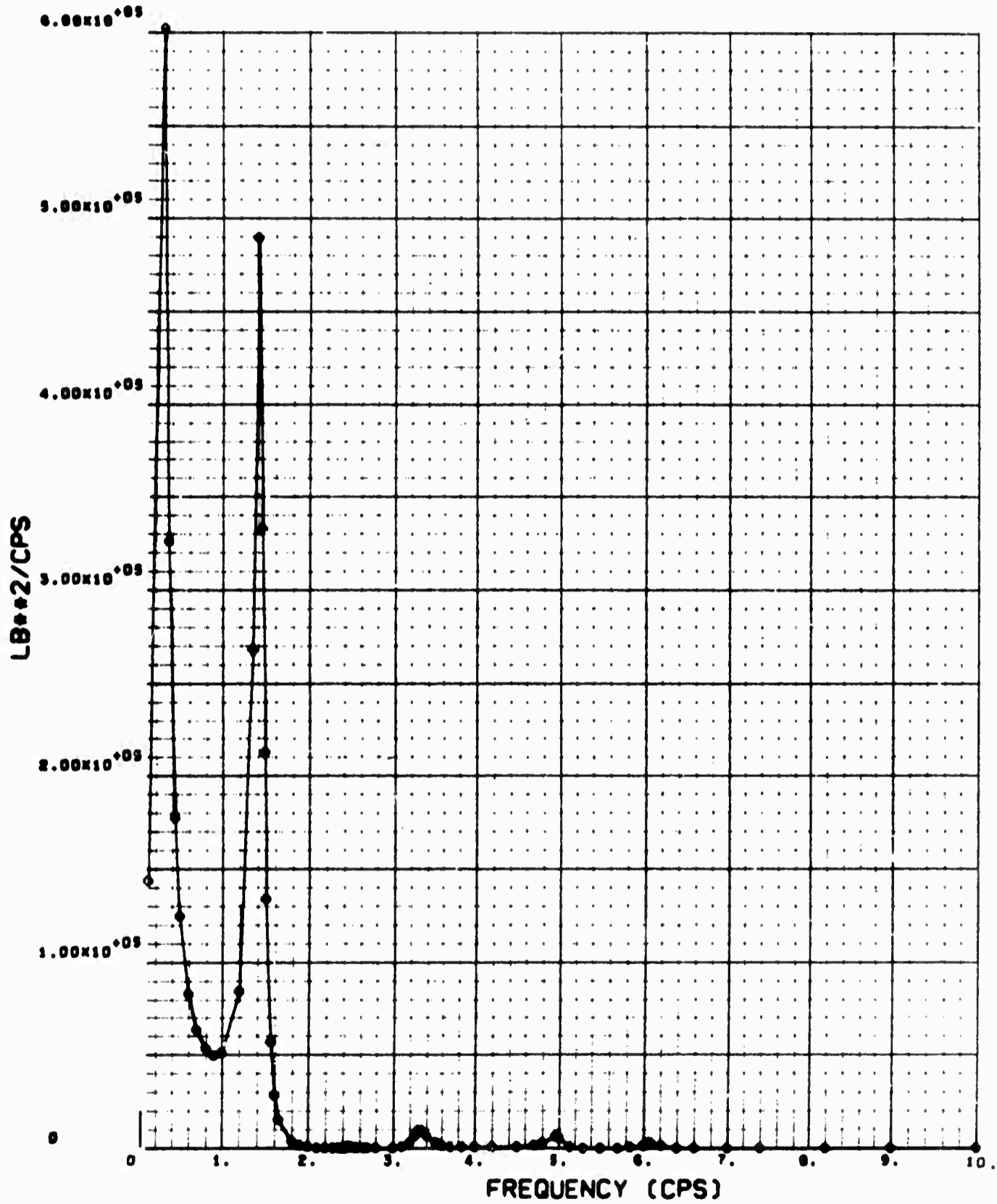
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GROSS WEIGHT:	297,000 LB	CUTOFF FREQUENCY: 10 CPS
ALTITUDE:	24,000 FT	SCALE OF TURBULENCE: 3,000 FT
MACH NUMBER:	0.50	



BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50

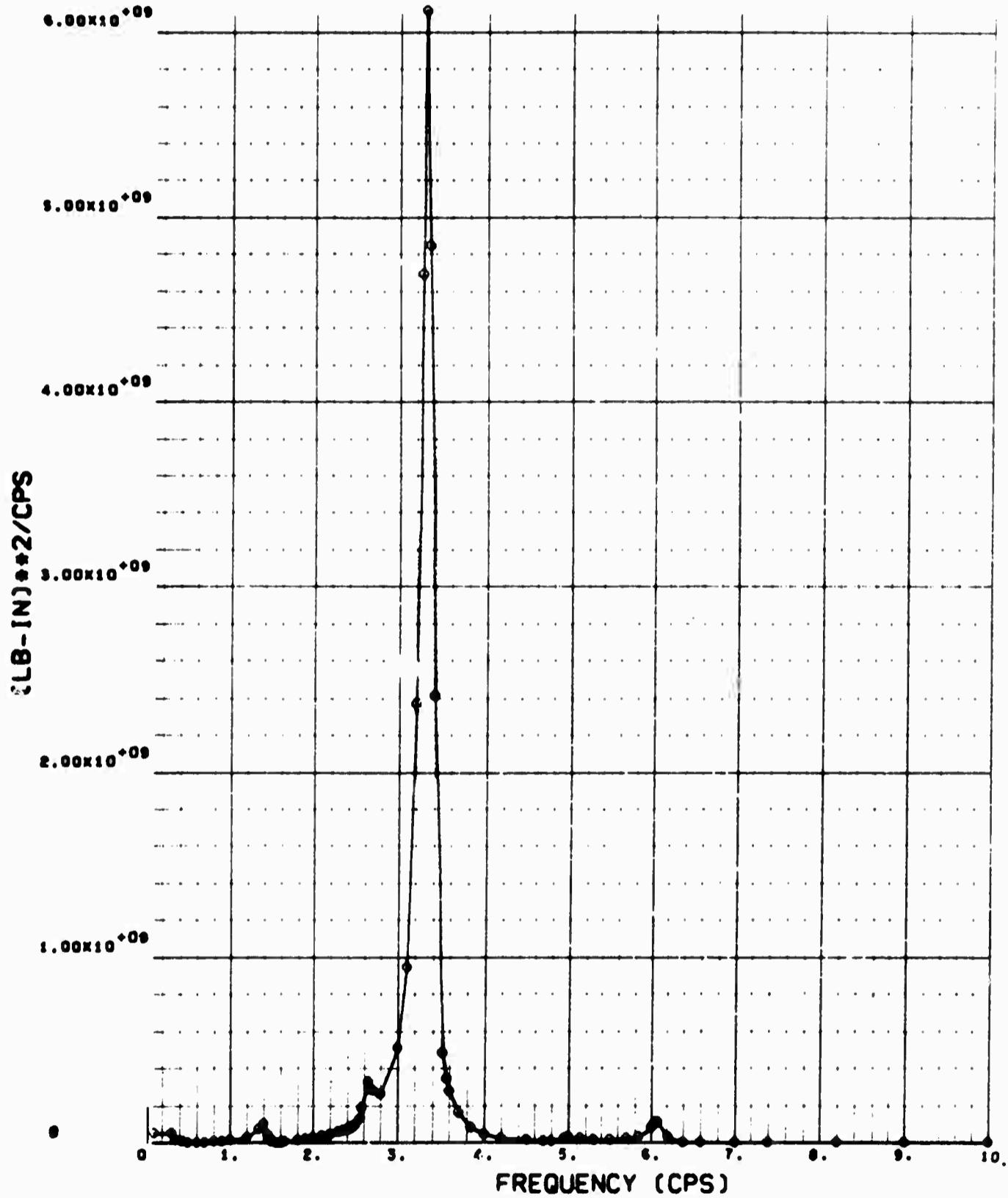


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50

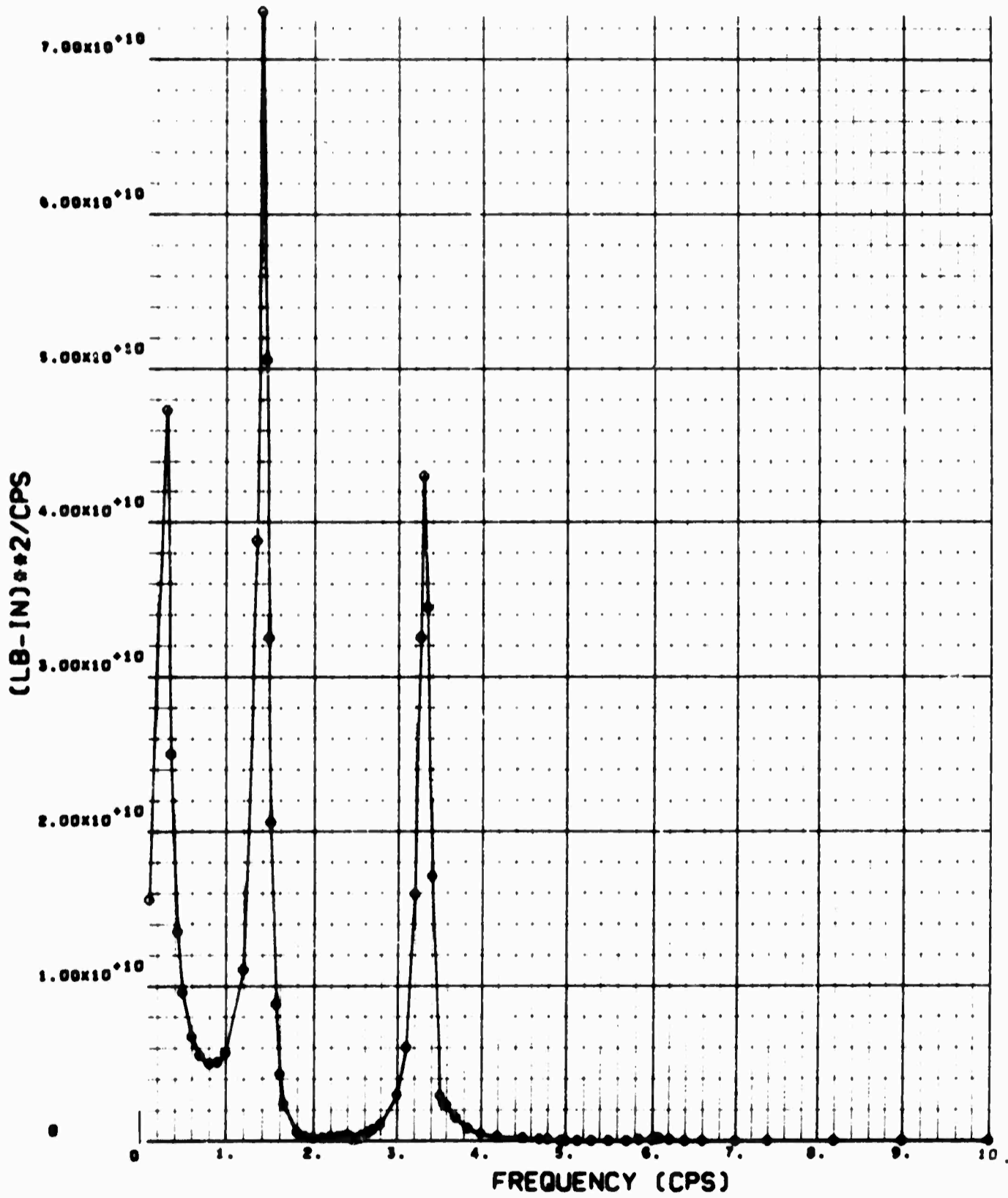


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 3,000 FT  
MACH NUMBER: 0.50

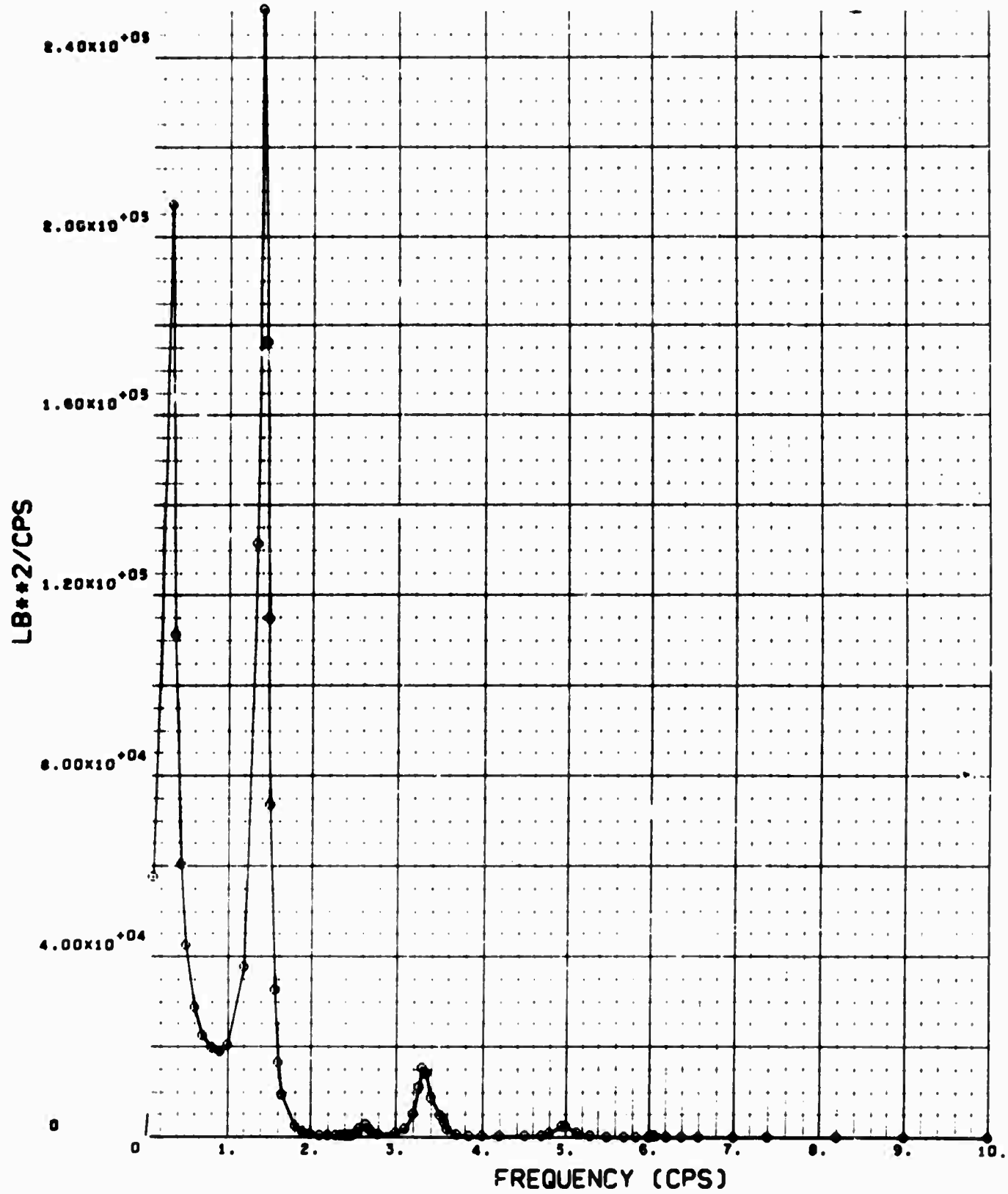


BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50



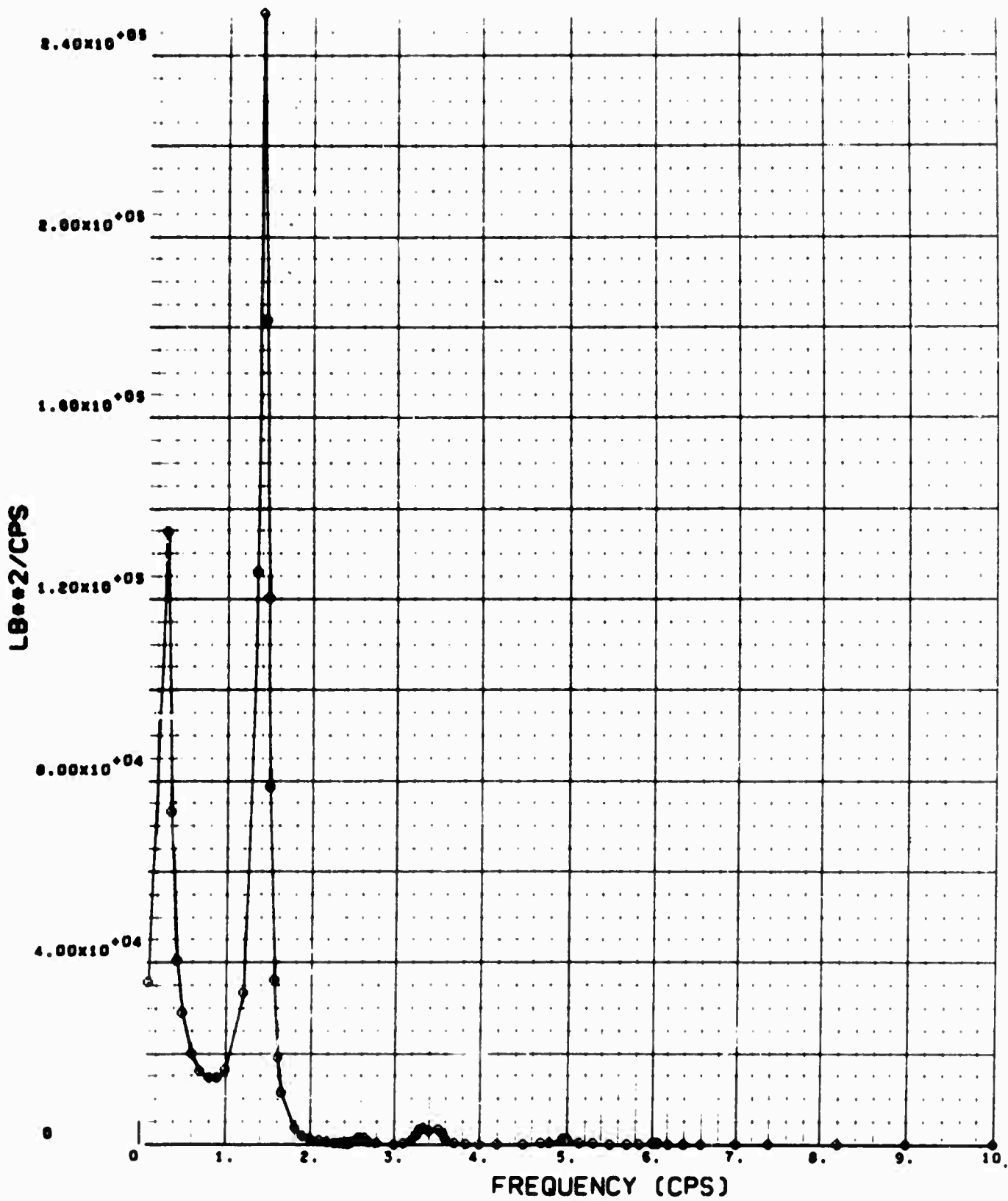
WING SHEAR SPECTRUM, 27 PERCENT SEMI SPAN



ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50

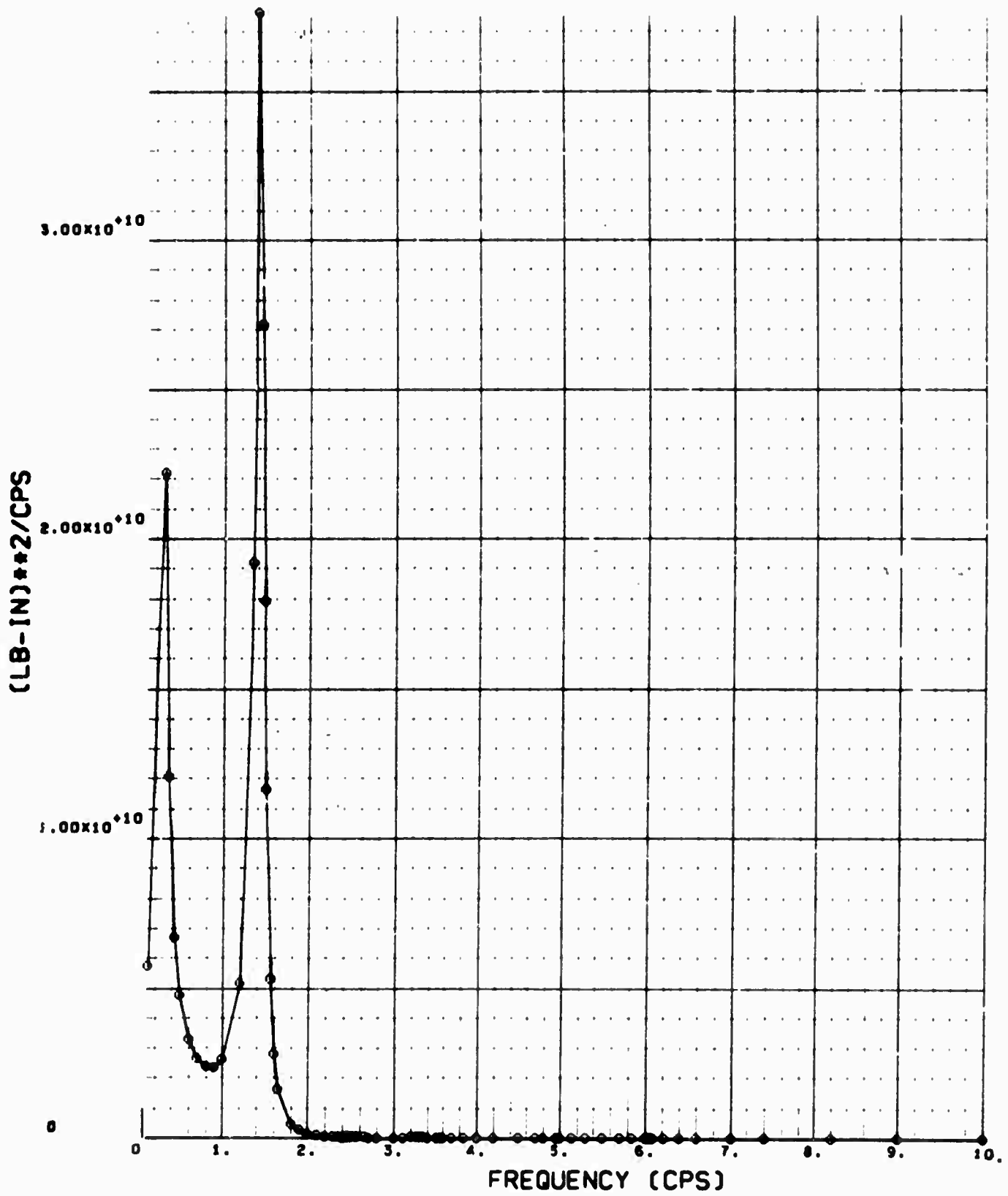


WING SHEAR SPECTRUM, 40.06 PERCENT SEMI SPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50

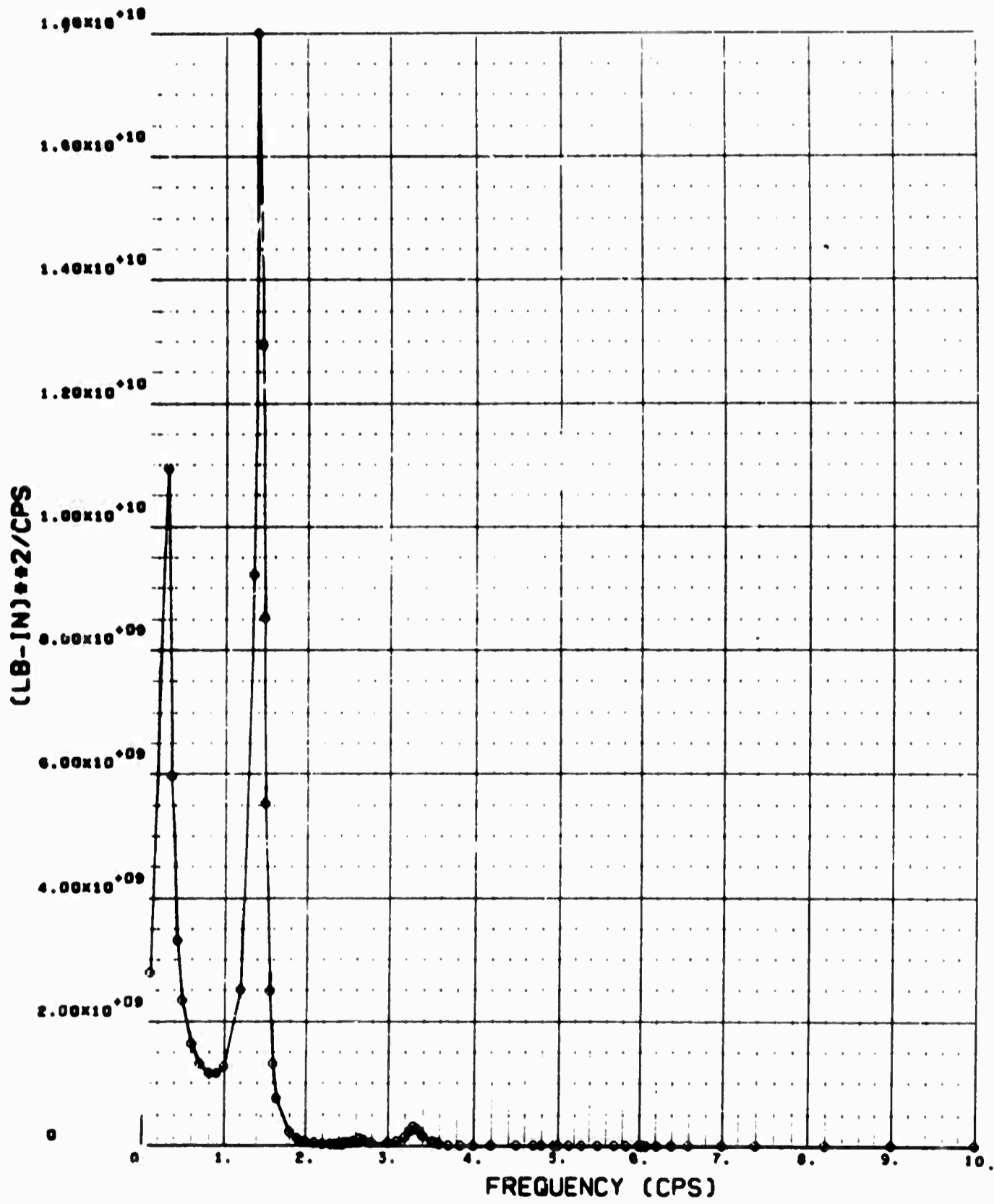


WING BENDING MOMENT SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

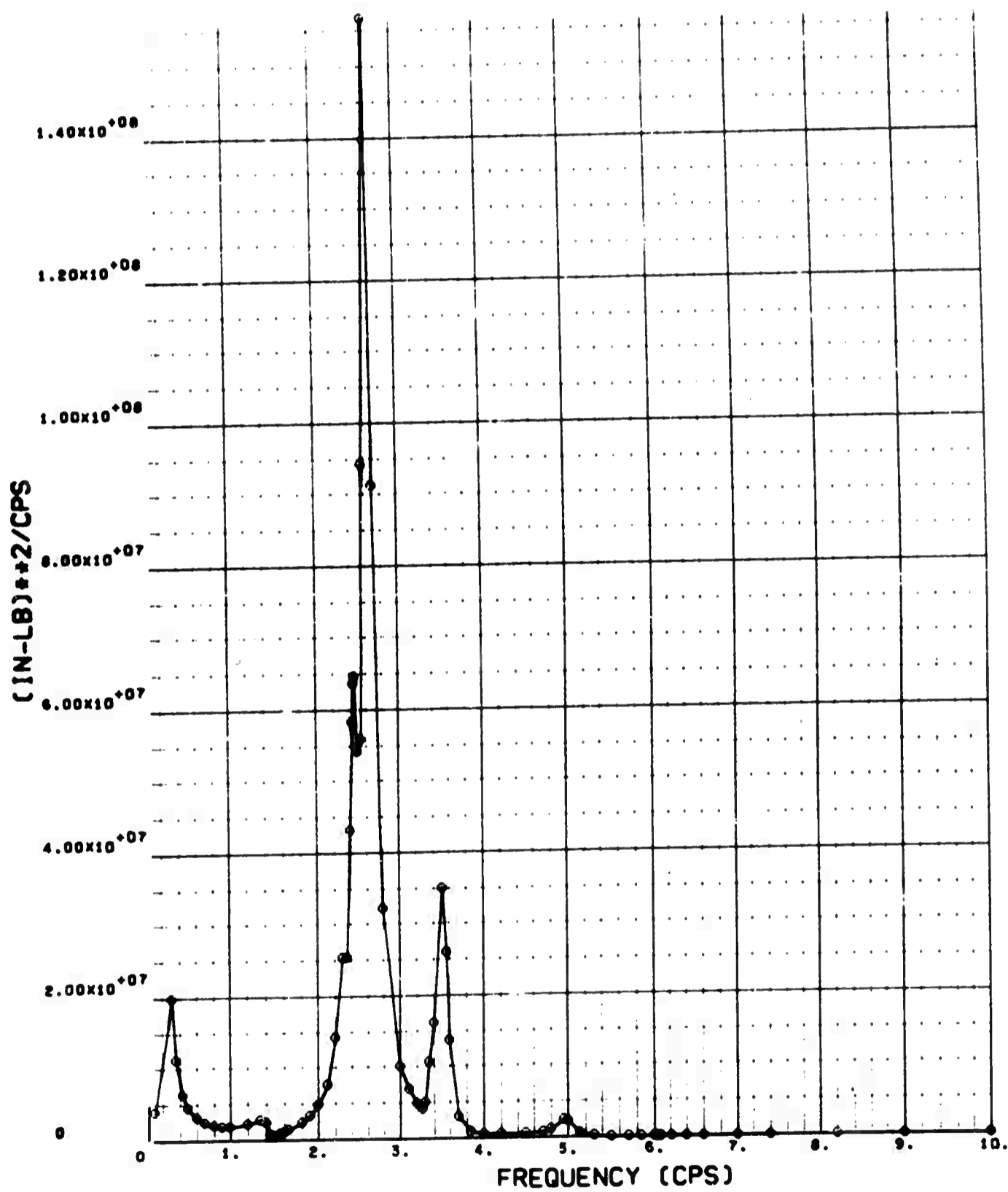
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ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50



WING BENDING MOMENT SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 5  
WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT        SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50

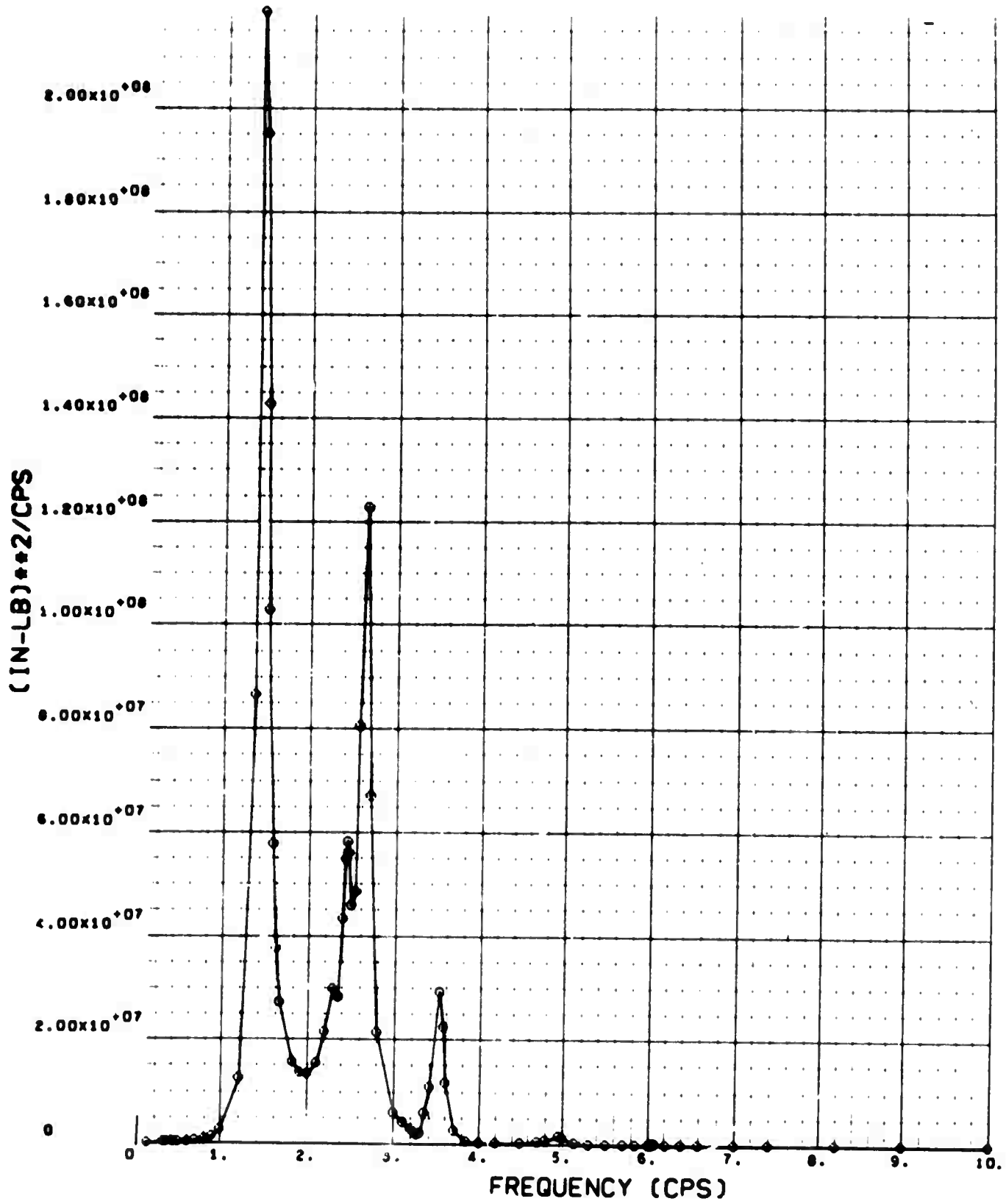


WING TORQUE SPECTRUM, 27 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50

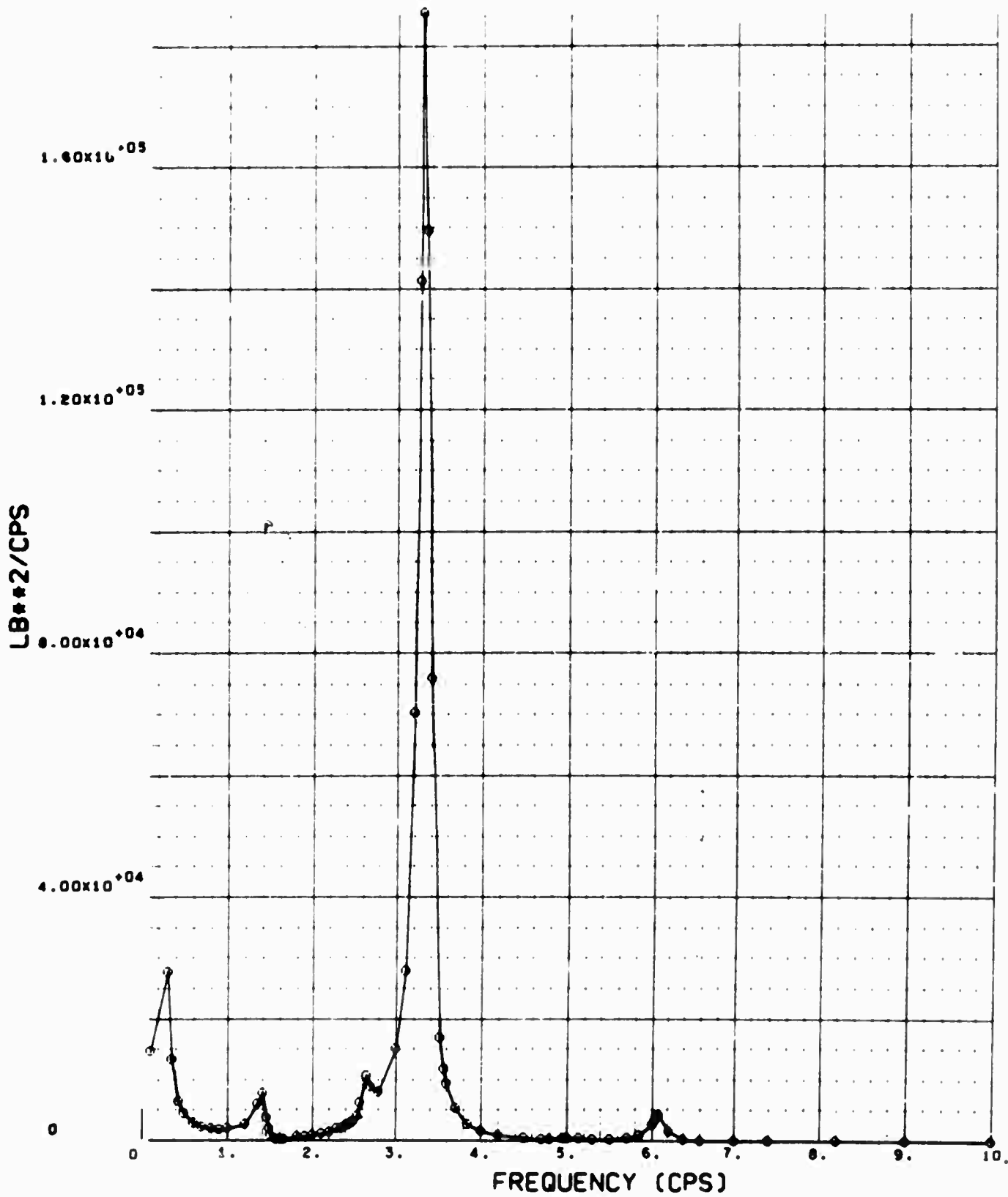


WING TORQUE SPECTRUM, 40.06 PERCENT SEMISPAN

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50

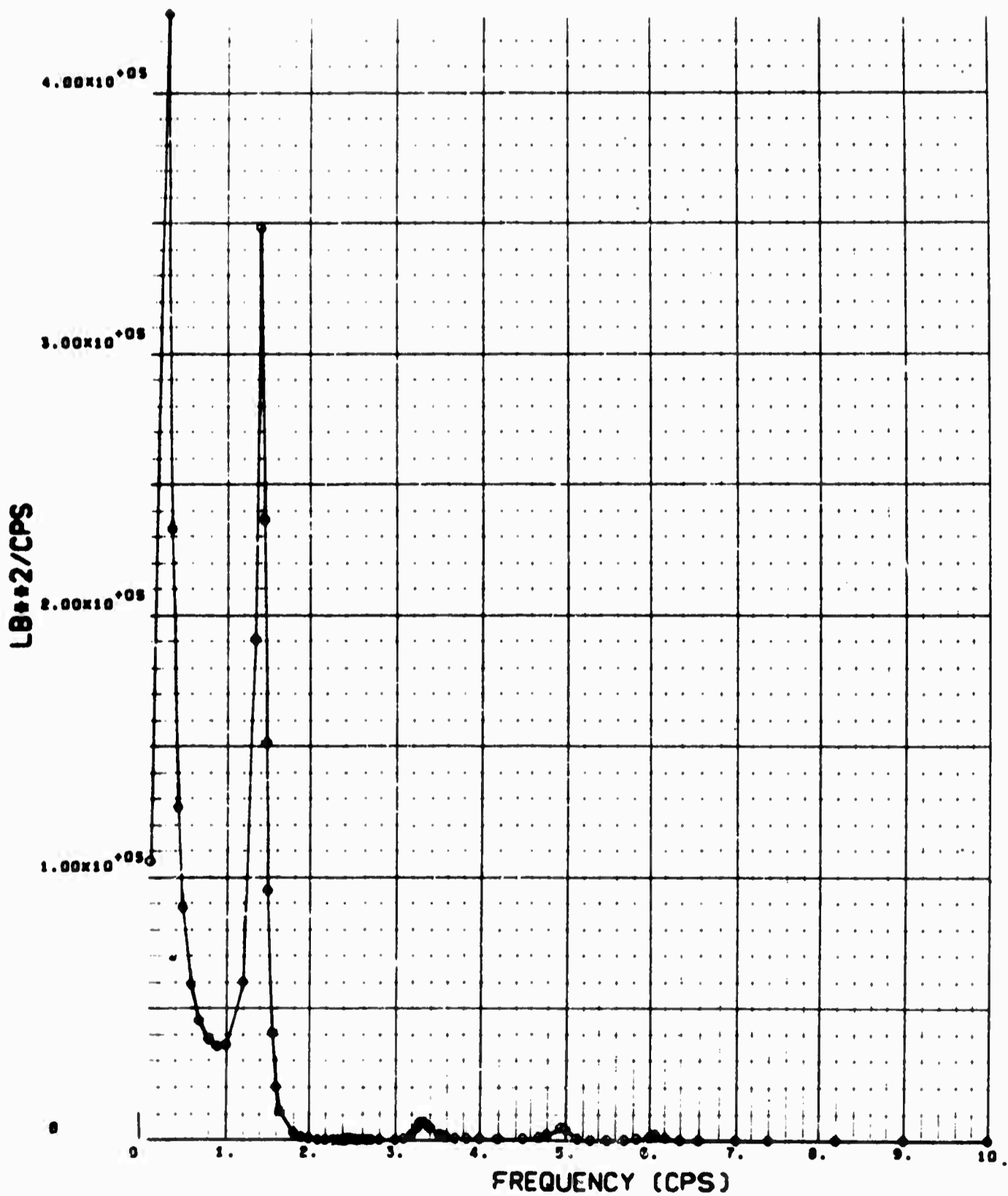


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 540

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
K NUMBER: 0.50

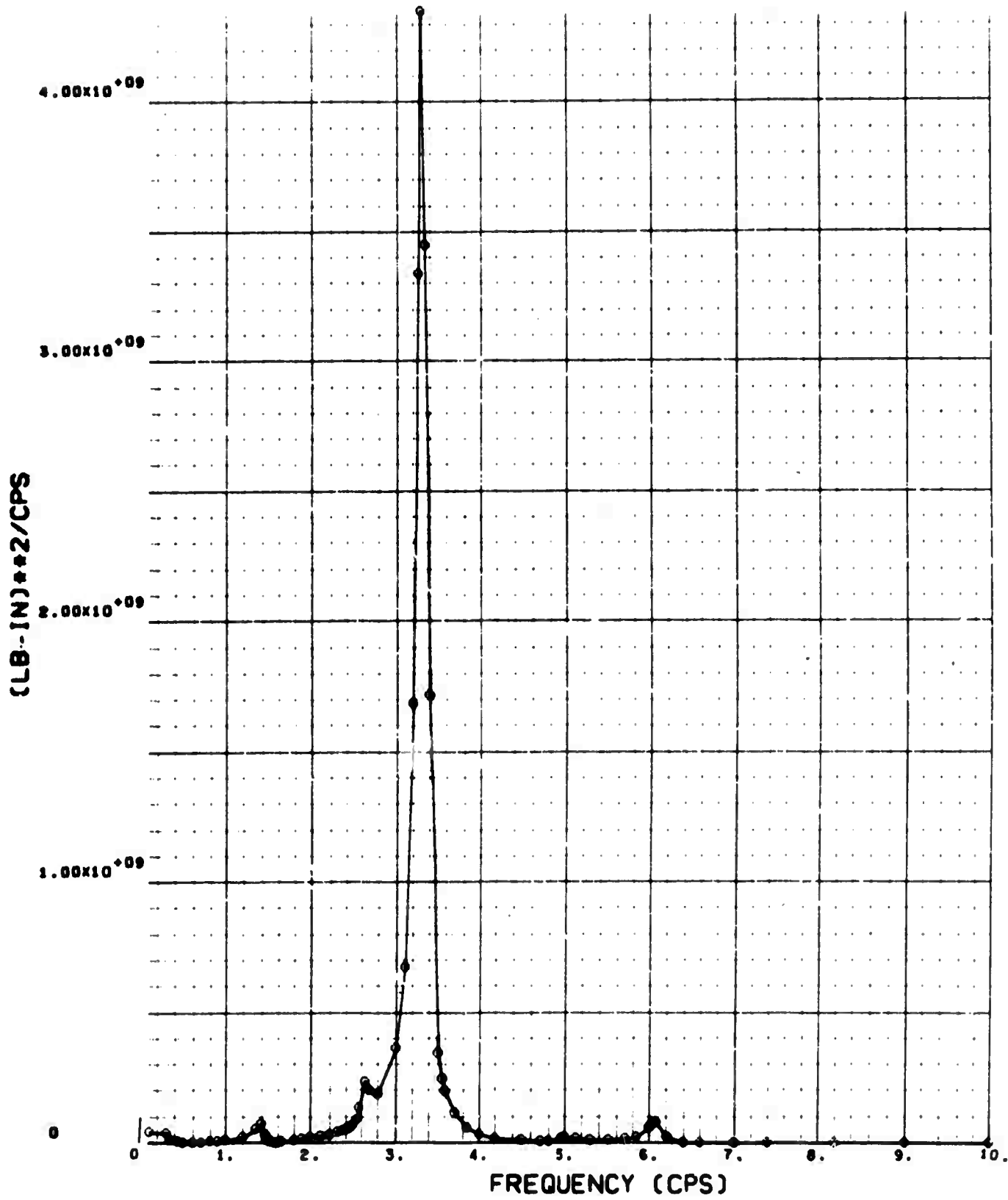


BODY SHEAR SPECTRUM,  
BODY BALANCE STATION: 820

ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50



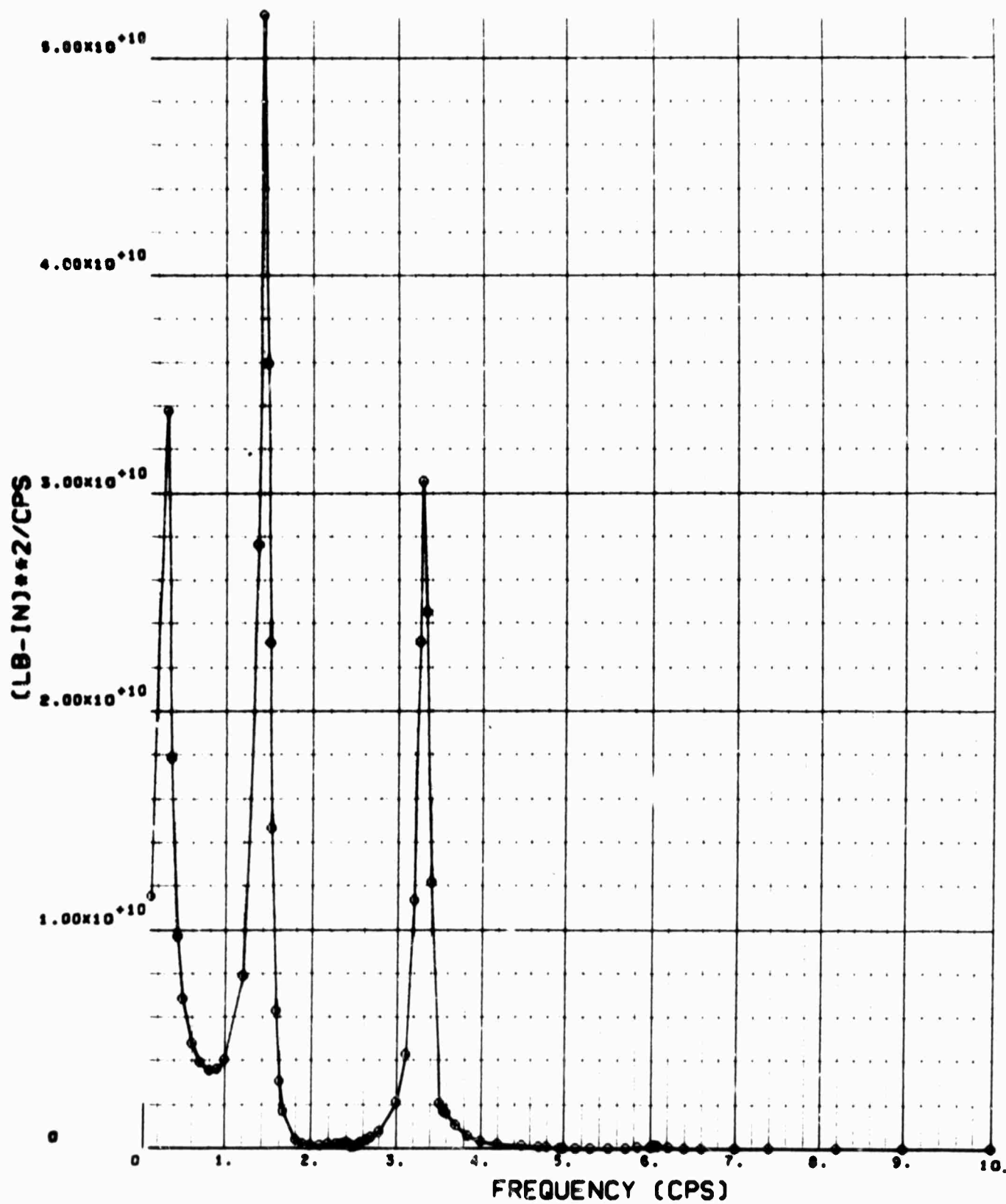
BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 540



ANALYSIS CONDITION 5

WEIGHT CONDITION A

GROSS WEIGHT: 297,000 LB    CUTOFF FREQUENCY: 10 CPS  
ALTITUDE: 24,000 FT    SCALE OF TURBULENCE: 5,000 FT  
MACH NUMBER: 0.50



BODY BENDING MOMENT SPECTRUM,  
BODY BALANCE STATION: 820

SECTION IV

LOAD RESPONSE PARAMETERS AND ZERO -  
CROSSING RATES

**Analysis Condition 1**  
(Gross Weight: 293,000 Pounds; Mach Number: 0.85; Altitude: 24,000 Feet)

Location		Shear		Bending moment		Torsion	
Body station	Percent semispan	A (lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	1,018	1.25	335	1.13	35.6	2.84
---	40.06	877	1.34	230	1.19	39.1	2.48
540	---	551	2.85	66.7	3.47	---	---
820	---	1,390	1.10	45.4	1.55	---	---

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	732	1.22	239	1.10	24.8	2.83
---	40.06	626	1.30	164	1.16	27.1	2.48
540	---	393	2.28	46.4	3.47	---	---
820	---	1,005	1.17	326	1.50	---	---

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	620	1.22	203	1.10	20.9	2.83
---	40.06	530	1.30	139	1.16	22.9	2.48
540	---	333	2.77	39.1	3.46	---	---
820	---	852	1.06	276	1.49	---	---

**Analysis Condition 1 --- Concluded**  
**(Gross Weight: 293,000 Pounds; Mach Number: 0.85; Altitude 24,000 Feet)**

Location		Shear		Bending moment		Torsion	
Body station	Percent semispan	A (lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
 CUTOFF FREQUENCY: 15 CPS

---	27	1,018	1.27	334	1.13	35.6	2.84
---	40.06	878	1.34	229	1.19	39.1	2.48
540	---	551	2.85	66.7	3.50	---	---
820	---	1,390	1.11	453	1.55	---	---

SCALE OF TURBULENCE: 1,000 FT  
 CUTOFF FREQUENCY: 20 CPS

---	27	1,018	1.27	335	1.14	35.6	2.84
---	40.06	878	1.34	230	1.19	39.1	2.48
540	---	551	2.85	66.8	3.56	---	---
820	---	1,390	1.11	454	1.55	---	---

**Analysis Condition 2**

**(Gross Weight: 268,000 Pounds; Mach Number: 0.85 Altitude: 24,000 Feet)**

Location		Shear		Bending moment		Torsion	
Body station	Percent semispan	A (lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	1,075	1.74	308	1.17	53.1	3.09
---	40.06	874	1.72	204	1.16	55.7	2.73
540	---	813	3.13	111	3.55	---	---
820	---	1,471	1.72	538	2.20	---	---

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	781	1.66	223	1.12	37	3.08
---	40.06	630	1.66	148	1.11	38.7	2.73
540	---	576	3.06	77.2	3.54	---	---
820	---	1,074	1.64	338	2.12	---	---

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	662	1.65	190	1.12	31.2	3.08
---	40.06	534	1.65	126	1.11	32.6	2.73
540	---	487	3.06	65.1	3.54	---	---
820	---	912	1.63	329	2.10	---	---

**Analysis Condition 3**

**(Gross Weight: 190,500 Pounds; Mach Number: 0.85 Altitude: 24,000 Feet)**

Location		Shear		Bending moment		Torsion	
Body station	Percent semispan	A (lb)	N <sub>c</sub> (Zero crossings per second)	A (10 <sup>3</sup> in-lb)	N <sub>o</sub> (Zero crossings per second)	A (10 <sup>3</sup> in-lb)	N <sub>o</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	925	1.51	265	1.23	48.9	2.89
---	40.06	721	1.72	178	1.29	51.1	2.63
540	---	965	2.68	123	3.41	---	---
820	---	1,645	1.31	559	2.20	---	---

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	681	1.43	193	1.17	34.3	2.86
---	40.06	523	1.65	130	1.23	35.6	2.62
540	---	700	2.56	86.2	3.37	---	---
820	---	1,225	1.22	408	2.09	---	---

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	579	1.42	164	1.16	28.9	2.86
---	40.06	444	1.64	110	1.22	30	2.62
540	---	595	2.54	72.9	3.36	---	---
820	---	1,044	1.21	347	2.08	---	---

**Analysis Condition 4**  
**(Gross Weight: 107,260 Pounds; Mach Number; 0.85; Altitude: 24,000 Feet)**

Location		Shear		Bending moment		Torsion	
Body station	Percent semispan	A (lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
 CUTOFF FREQUENCY: 10 CPS

---	27	555	2.56	160	1.44	65.9	2.94
---	40.06	443	2.86	128	1.70	62.5	2.83
540	---	612	3.48	128	3.69	---	---
820	---	885	1.58	385	2.98	---	---

SCALE OF TURBULENCE: 3,000 FT  
 CUTOFF FREQUENCY: 10 CPS

---	27	403	2.44	117	1.36	46.8	2.88
---	40.06	314	2.80	94.1	1.61	44.5	2.76
540	---	435	3.40	90.1	3.65	---	---
820	---	669	1.46	278	2.86	---	---

SCALE OF TURBULENCE: 5,000 FT  
 CUTOFF FREQUENCY: 10 CPS

---	27	342	2.43	99.9	1.35	39.6	2.87
---	40.06	266	2.79	80	1.59	37.7	2.75
540	---	368	3.39	76.1	3.64	---	---
820	---	572	1.44	236	2.85	---	---

**Analysis Condition 5**

**(Gross Weight: 297,000 Pounds; Mach Number: 0.50; Altitude: 24,000 Feet)**

Location		Shear		Bending moment		Torsion	
Body station	Percent semispan	A (lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)	A (10 <sup>3</sup> in.-lb)	N <sub>0</sub> (Zero crossings per second)

SCALE OF TURBULENCE: 1,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	579	1.24	202	1.05	13.4	2.63
---	40.06	517	1.20	142	1.10	16.7	2.14
540	---	418	3.07	58.8	3.30	---	---
820	---	752	1.09	285	1.91	---	---

SCALE OF TURBULENCE: 3,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	411	1.21	143	1.03	9.32	2.62
---	40.06	365	1.18	100	1.08	11.6	2.14
540	---	292	3.04	40.8	3.29	---	---
820	---	536	1.07	20.1	1.88	---	---

SCALE OF TURBULENCE: 5,000 FT  
CUTOFF FREQUENCY: 10 CPS

---	27	348	2.04	121	1.74	7.87	4.42
---	40.06	309	1.99	84.7	1.82	9.75	3.62
540	---	247	5.13	34.4	5.57	---	---
820	---	453	1.80	170	3.17	---	---

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	2b. GROUP none	
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13. ABSTRACT  This document presents frequency response functions, power spectra, and response parameters of bending moments, shears, and torsions at two wing stations and two body stations for five conditions of speed, gross weight, and altitude. Volume I presents frequency response functions and response parameters for stresses at the same wing and body stations. Also presented in volume I are ratios of incremental allowable limit stress to stress response parameter.		



Unclassified

14.	KEY WORDS	LINK A		LINK B		LINK C	
		ROLE	WT	ROLE	WT	ROLE	WT
	<p><b>Gust Loads</b>  <b>Power Spectra</b>  <b>Stresses</b>  <b>Response Parameters</b>  <b>Zero Crossings</b>  <b>Analysis</b></p>						

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