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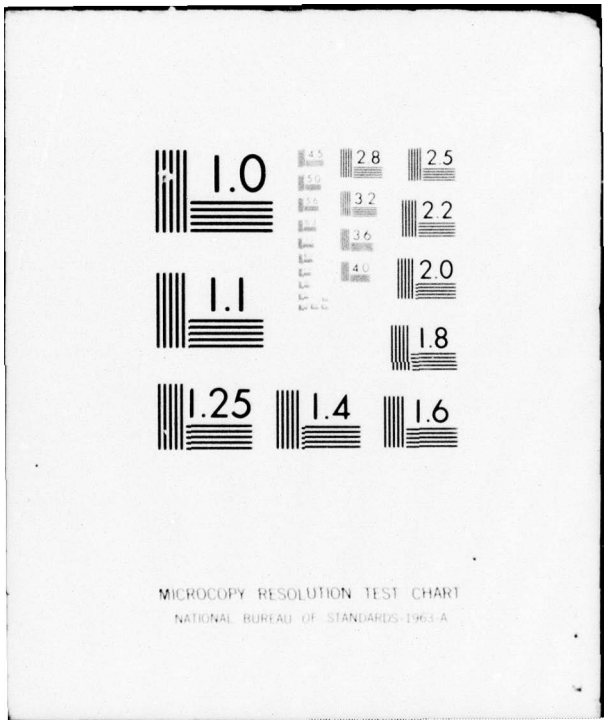
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DAVID W. TAYLOR NAVAL SHIP RESEARCH AND DEVELOPMENT CENTER

Bethesda, Md. 20084

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TWIN CUSHION SURFACE EFFECT VEHICLE HEAD

SEA REGULAR WAVE SEAKEEPING EXPERIMENT

by

Michael J. Davis

Stephen H. McGuigan

Daniel Huminik

Jose A. Bonilla-Norat

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SHIP PERFORMANCE DEPARTMENT

August 1977

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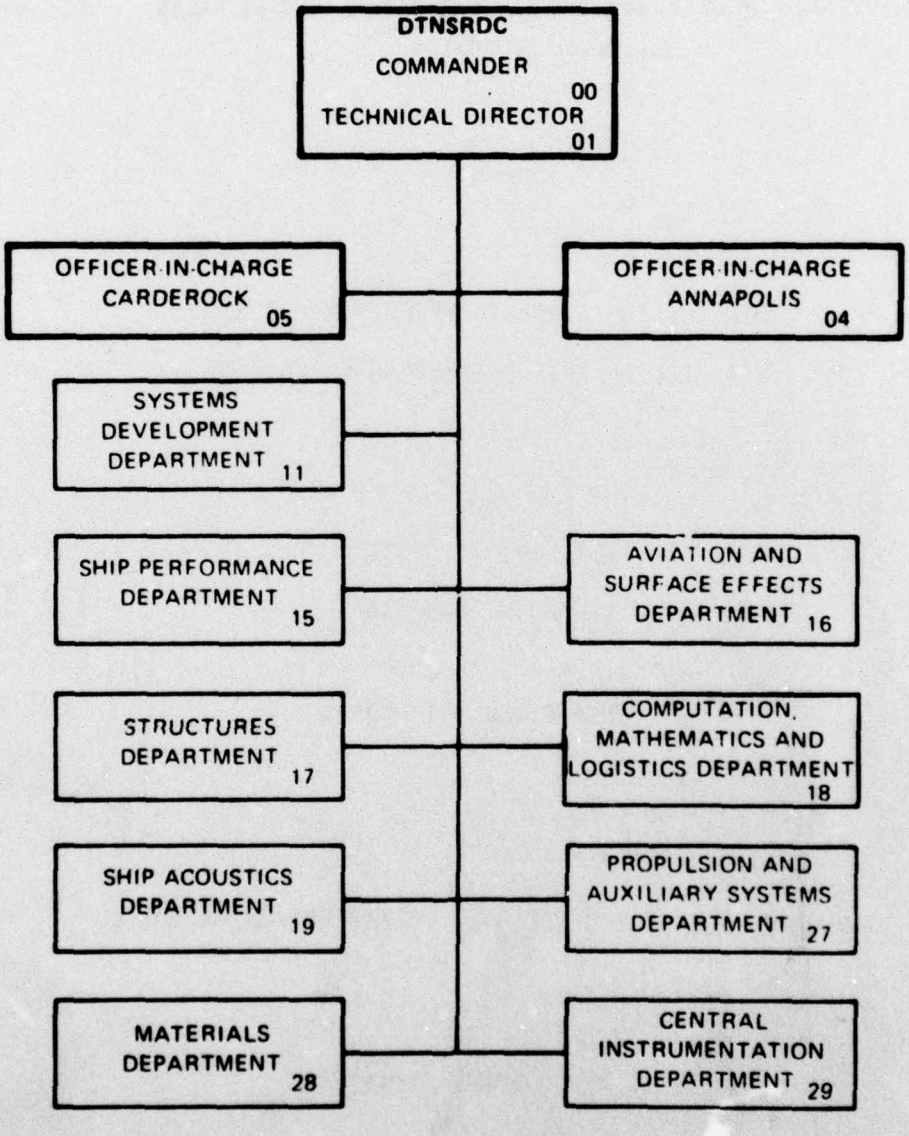
TWIN CUSHION SURFACE EFFECT VEHICLE HEAD
SEA REGULAR WAVE SEAKEEPING EXPERIMENT

MAJOR DTNSRDC ORGANIZATIONAL COMPONENTS



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Model experiments were performed to determine the head sea regular wave seakeeping characteristics of a Twin Cushion Surface Effect Vehicle. Experimental values of wave height, drag, cushion pressures and rigid body motions and accelerations are presented in graphical and tabular form.

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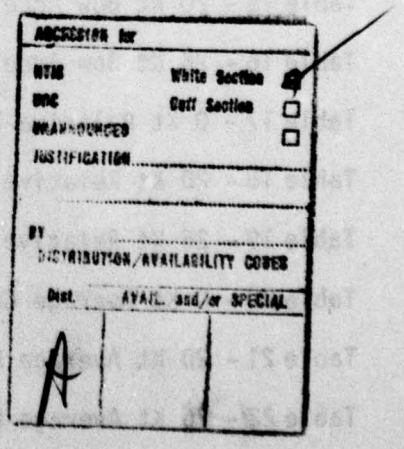

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ABSTRACT

Model experiments were performed to determine the the sea-keeping characteristics of a Twin Cushion Surface Effect Vehicle in regular-wave head seas. Experimental values of wave height, drag, cushion pressures, and rigid body motions and accelerations are presented in graphical and tabular form.

ADMINISTRATIVE INFORMATION

These experiments were performed in support of the Advanced Naval Vehicle Concept Evaluation (ANVCE) Program under Work Unit Number 1102-003. Funds were provided for this experiment by NAVSEA 0323, Task 20678, Task Area S0407056, Program Element 63564N.

INTRODUCTION

The Ship Performance Department of the David W. Taylor Naval Ship Research and Development Center (DTNSRDC) performed head seas regular wave seakeeping experiments on a non-propelled dynamic model of a Twin Cushion Surface Effect Vehicle (SEV). These experiments were conducted at the DTNSRDC High Speed Basin in Langley, Virginia during June 1976. The purpose of these experiments was to determine the transfer functions and examine the linearity of the Twin Cushion SEV in head seas. This report presents a description of the model and equipment used; and the results obtained in a fairly limited number of experimental conditions. The results presented include mean, amplitude, phase and transfer function values in tabular form and nondimensionalized graphical plots of transfer functions.

DESCRIPTION OF MODEL AND TEST EQUIPMENT

Model

The Twin Cushion SEV model, as depicted in Figure 1, consists of two high length-to-beam ratio, deep-skirted hulls connected by a wing-form bridging structure. The bridging structure is constructed of reinforced styrofoam covered with fiberglass. The two hulls are hollow aluminum structures with fiberglass bow and stern section. The hulls house the fans and provide a plenum and supporting structure for the deep, slanted-pericell, nylon skirt system. The heave staff was attached through a pitch gimbal fixture to an aluminum channel located in the bridging structure of the model. This attachment was made at the nominal longitudinal and transverse center of gravity. This location and other model particulars are listed in Table 1.

Test Equipment

The experiments were conducted at the DTNSRDC High Speed Basin in Langley, Virginia. This basin is 902 m (2960 ft) long and 7.3 m (24 ft) wide. When the wave maker is used the basin water level is lowered to 3 m (10 ft). The basin is filled with brackish water. The wave maker is a large vertical plate hinged at the basin bottom driven by a 10 speed truck transmission and reduction gear which is in turn powered by a DC motor. The speed of the DC motor is adjustable to provide a range of regular wave frequencies. Wave amplitude is determined by a combination of transmission gear setting and variation of the length of the stroke of the arm which connects the plate with the output crank of the reduction gear.

The towing carriage is powered by DC motors which drive the inflated rubber tires that support the carriage. The tires ride on rails formed by steel I-beams which extend the length of the basin. All personnel and equipment ride on the carriage.

The model was towed by the heave staff which was supported by bearings attached to a beam over the center bay of the carriage. Normally, the heave staff is allowed to surge, however, since this model was not propelled the heave staff was locked in surge.

Heave was measured using a linear string potentiometer. Pitch was measured using a high resolution film type potentiometer. Drag was measured by means of a "block gage", which is a cube shaped module containing flexures and a differential reluctance sensing element. The gage (rated at ± 444.8 N (100 lbf))was installed in the heave staff directly above the pitch pivot. The relative locations of all transducers and pressure taps are shown in Figure 1 and listed in Table 2.

An ultransonic transducer mounted on a fixture located on the bow of the port hull measured relative bow motion. An additional ultrasonic probe mounted on a staff, attached to the carriage forward of the model, measured wave height.

Force balance servo-accelerometers (±5G range) were used to measure vertical accelerations at the bow and at the longitudinal center of gravity (LCG) of the port hull. The accelerometer at the LCG did not function properly; this was probably due to leakage of spray into its sealed connector.

Cushion pressures were measured using diaphram-type pressure gages containing semi-conductor strain gages as the sensing element, and having a rated range of 4826 P (0.7 psi). The reference side of the pressure gages was connected to a constant (atomospheric) pressure chamber located on the carriage. Flexible tubing connected the active side of the gages to piezometer openings in the port hull. The forward and aft pressure gage piezometer openings were located directly within the bow and stern plenum areas of the port hull. The average pressure measurement was actually a combination of three piezometer openings located in cylindrical chambers which vented directly into the port hull plenum. These three piezometer openings were combined by flexible tubing to a manifold with a single output. The locations of these piezometer openings can be seen in Figure 1 and are listed in Table 2.

The transducer signals were amplified and all signals except the impact pressures were digitized using a system consisting of an Interdata Model 70 computer with 64 KB memory and selector channel, a nine-track Kennedy 3110 digital tape drive, an ASR 33 teletype, an Analogic 5800 analogue to digital (A to D) and digital to analogue (D to A) converter, a Versatec 1100A line printer, and a Tridata 1024 cartridge tape recorder.

A sample rate of 200 samples/channel/second was used and all channels into the digital system were filtered using 6-pole, Butterworth filters with a -3db point of 50 Hz. Wave amplitude, pitch, heave, drag, average (of three piezometers connected to a single gage) pressure, forward cushion pressure, relative bow motion, and mode channels were also recorded on Sanborn strip chart recorders to provide a continuous visual record of the signals. The mode channel is a step voltage provided by the computer to indicate the times during which a steady state condition existed and the computer was digitizing data. This period of time was manually controlled.

The two impact pressures, the two accelerations, mode, and waveheight were recorded on an oscillograph. The galvanometers used in the oscillograph have a natural frequency of 5 KHz and are flat out to 3 KHz. The signals into the oscillograph were unfiltered.

TEST PROGRAM AND PROCEDURE

The model was manually oscillated while on cushion at zero speed to determine its natural pitch and heave periods. The heave oscillation was accomplished by pushing down on the heave staff and then releasing the model and recording the motion on strip chart. Pitch oscillation was simularly accomplished by raising the stern of the model and then releasing it.

Prior to testing with the model, some runs (1-12) were made to sample the waves. These runs were analyzed and were compared with an informal calibration consisting of a limited frequency range of regular waves previously recorded for particular wavemaker settings. These wave runs and the comparisons were then used to predict appropriate wavemaker settings for the regular wave runs with the model.

The model experiments in regular waves were conducted only in head seas, because the towing carriage was not capable of accurately maintaining speed in the direction required for following seas. Model velocities of 0 knots, 20 kts, and 26 kts were used. The sequence in regular waves was to: position the carriage and model a few hundred feet down the basin, lower the model with fans on, collect a zero speed run, raise the model, back the carriage to the extreme starting point in the basin, lower the model, accelerate to 20 kts, collect data for a minimum of 10 cycles, accelerate to 26 kts, collect data until carriage operator signaled for deceleration to begin.

Ideally, a wavelength to wave height ratio of 100 should have been maintained for all regular wave experiments used to determine the transfer function. However, due to the relatively high velocities, and the consequent possibility of destruction of or damage to the model, wave-height was limited to approximately 0.1 m (4 in) for the range of wave frequencies used to determine the transfer functions. Larger waveheights were used later during the linearity check experiments in which wave height was varied while wave length was held as constant as wavemaker performance would allow. A few runs were made in calm water to characterize the calm water performance of the model.

Data Analysis

After each calm water run a minimum analysis consisting of mean ("d.c. level") standard deviation(σ), and root Q_0 ($\sqrt{2}\sigma$ i.e. the single amplitude if the wave form is sinusoidal) values in engineering units was performed for all channels input to the digital system. The root Q_0 value in calm water was calculated to quantify the magnitude of any oscillation

about the mean value. After each pass in regular waves a minimum analysis and a harmonic analysis were performed for those portions of each run during which the strip charts indicated the waves to be regular (in some instances only a few cycles were found to be regular, probably due to basin interference with the waves). The harmonic analysis included determination of frequency of wave encounter, wave characteristics (period, frequency, length, etc.) and single amplitude and phase of model responses for the fundamental, second and third harmonics. The amplitudes were then used to calculate transfer functions values. These preliminary values were then plotted to begin definition of the transfer functions of the craft motions.

After completion of the experiment, further harmonic analyses were performed on each run, and wave lengths were calculated using finite depth formulas (as required by the combination of shallow depth and long waves). The portions of the run analyzed were further refined to allow analysis of as many cycles of data as wave regularity would allow. Transfer function values were again plotted and values which seemed contradictory or questionable were further verified by re-examination of the strip chart records and additional harmonic analysis if necessary.

The accelerations and impact pressures recorded on oscillograph were visually examined for the occurrence of impacting and extreme accelerations during those runs for which the wave steepness was most severe.

PRESENTATION AND DISCUSSION OF RESULTS

At zero speed, on-cushion with 20 fans operating the natural heave frequency of the model (as determined by manually oscillating the model) was approximately 1 Hz. The natural pitch frequency was approximately 1.2 Hz. These motions were heavily damped.

Tables 3 and 4 present minimum analyses for two calm water runs at 26 knots. Additional calm water runs were attempted at 32.6 knots, but this speed results in the model literally "flying" and the run was aborted to prevent model damage. The lift of the wing at this speed does not explain this behavior. This behavior may have been due to changes in air flow around the model caused by the close proximity of the carriage above the model.

Tables (5 - 7) present wave length to cushion length ratio, mean, root Q_0, amplitude (single), amplitude to root Q_0 ratio, encounter period, wave period, and number of cycles for the wave amplitude channel for all the regular wave runs (dimensional quantities are in metric units). Tables 8 - 31 present these same values for pitch, heave, bow acceleration, relative bow motion, average cushion pressure, forward cushion pressure, aft cushion pressure and drag. In Tables 8 - 31 phase and transfer functions are also presented, while encounter period and wave period are omitted since these are constant for the particular run for all channels. Tables (5 - 31) present the values measured for the particular speed and measurement channel listed at the top of the page. For a particular channel the tables for the three speeds (0, 20, 26 knots) are presented consecutively, followed by those tables for the next measurement channel. Tables 32 - 52 repeat Tables 5 - 31 with dimensional quantities listed in English units when appropriate. Zero trim (mean pitch) represents the case with hull decks parallel to the water surface. Bow down motion is defined to be positive pitch. Zero sinkage (mean heave) and zero relative bow motion represent the model on cushion

in calm water with twenty fans operating. Heave is defined to be positive for model displacement down. Decreasing linear distance between bow and wave is defined as positive relative bow motion. Wave crests are taken to be positive.

The phases presented in Tables (5 - 52) are referenced to a zero phase which, by definition, exists when the maximum amplitude of a particular measurement occurs at the instant that the wave crest is at the model longitudinal center of gravity (LCG). A positive phase exists when the maximum amplitude of the particular measurement leads the maximum wave amplitude at the LCG.

The nondimensional transfer function values plotted in Figures 2 - 9 and listed in Tables 5 - 52 are defined in the following way:

a. angular measurement: angle/θ

b. displacement measurement: displacement/r

c. force measurement: force x $L_c/r\Delta$

d. acceleration measurement: acceleration x $g/\omega_e^2 r$

e. pressure measurement: pressure x $(L_c)^3/r\Delta$

where:

θ = maximum wave slope

r = wave amplitude

L_c = cushion length (2.17 m (7.12 ft) used)

Δ = model mass (65.8 kg (145 lbm) used)

g = accleration due to gravity (9.81 m/s^2 (32.2 ft/sec^2)

ω_e = measured frequency of wave encounter (rad/sec)

In some cases, comparison of the root Q_o and the amplitude obtained from the Fourier analysis or the ratio of the two for a particular run condition (see Tables 5 - 55) indicates large dis-

crepancies between these values. These two values would of course be expected to be approximately equal and their ratio close to one for a sinusoidal signal. Examination of the strip chart records indicates that the discrepancies between these two values are probably due to model or tow gear vibration or electrical interference. The strip chart records of bow acceleration show high frequency accelerations superimposed on the expected encounter frequency signal. These small amplitude accelerations are probably the result of fan induced and hull vibrations. It should be noted, however, that in some extreme wave amplitude conditions, short duration accelerations as high as twice the amplitude values listed in Tables 5 - 55 were noted. These accelerations were probably the result of the side hulls or cushion impacting the wave crest when the cushion nearly or completely collapsed. The drag measurement also contained high frequency oscillation which was caused by noticeable fore-aft vibration of the heave staff. During the earlier runs in the experiment, the relative bow motion measurement was contaminated by what was determined to be cable cross-talk from the fan power cable. All of these extraneous signals are, in effect, nearly entirely filtered by the Fourier analysis. The Fourier analysis was performed at what was determined to be the wave encounter frequency. Therefore, the amplitudes are in effect the amplitudes of wave induced phenomena at the encounter frequency.

The pitch oscillation during runs 319 and 331 was noted to have significant first and second harmonic content. During run 319 the first harmonic amplitude was approximately one-third of that of the fundamental amplitude and the second harmonic one-sixth. During run 331 both the first and second harmonic pitch amplitudes were approximately one-half of the fundamental

amplitude. This harmonic content in the pitch oscillation was also reflected in the relative bow motion for run 319, during which, the first harmonic amplitude was one-seventh of that of the fundamental and the second harmonic one-third of that of the fundamental. These were the only instances noted of appreciable first or second harmonic amplitude content during this experiment.

Figures 2 - 9 present plots of the transfer functions plotted versus the appropriate wave length to cushion length ratios (as listed in Tables 5 - 31). Figure 10 presents mean drag plotted versus wave length to cushion length (as listed in Tables 29 - 31 and 50 - 52). Figures 11 - 18 present plots of the measured signal amplitude versus wave amplitude for runs 320 - 322 and 353 - 367 during which wave length was held constant.

Some transfer function values can be seen (Figures 2 - 9) to vary significantly from the curves drawn. These variations appear to be due to nonlinearity of the craft motion for large wave amplitudes. The transfer function in many cases, particularly at zero speed, is multipeaked. The curves were drawn to adhere as closely as possible to those values for which the respective wave length to wave height ratio was close to 100. Lack of wavemaker calibration for the full range used made control of this ratio difficult. The variation in linearity is better illustrated in Figures 11 - 18 where nonlinearities can be seen at the higher wave amplitudes in pitch for the 20 kt speed (Figure 11). Variations in heave linearity at 0 knots and relative bow motion linearity at 20 knots can be seen in Figures 12 and 14. These variations are reflected in the bow acceleration linearity plots in Figure 13. However, the large variations seen in heave amplitude and relative bow motions (Figures 12 and 14) are not reflected in bow acceleration (Figure 13) due to the units and scale of the plot and the phase relationships between pitch and

heave. Combination of the measured pitch and heave, with particular regard to phase, results in values that correspond with the measured relative bow motion and bow acceleration. A large number of variations in the linearity study would be required to establish firm conclusions about the craft linearity.

Impacting of the bridging structure did not occur in the present tests. The ride-smoothing capability of the deep cushion appears responsible for this lack of impacting and the relatively low rigid body motions and accelerations measured in the severe (in respect to craft size and speed) conditions encountered by the craft in the linearity portions of this experiment.

As mentioned earlier, the majority of the tests to obtain the transfer functions were conducted in relatively mild waves of height about 1/100 of their length. During the linearity studies larger wave heights (up to about 12 inches were examined in waves of length approximately 7 times the cushion length of the craft and waves of this height and length still produced no impacts. However, Figure 5 shows that the relative bow motion transfer function was approximately 3 at zero speed in λ/L_c = 2 and at 20 kts in λ/L_c = 5. This indicates that a twelve inch wave height at these wave frequencies could have been critical since the height of the bridging structure above the bottom of the skirt was approximately 15 in (.038 m).

CONCLUSIONS

This experiment was primarily concerned with defining the transfer functions and determining the linearity of the twin cushion SEV in head seas. To this end model experiments were performed in regular waves. The transfer functions are in many cases multipeaked. This is particularly noticeable at zero speed. Wide variations in linearity were recorded for some motions, such as heave. These variations did not drastically change the accelerations measured. This seems to be due to the phase relationship of the motions. The rigid body motions and accelerations measured appear low relative to the craft size, high speed, and large wave height conditions encountered during the experiment. This seems to be attributable to the ride smoothing capability of the deep cushion.

ACKNOWLEDGMENTS

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TABLE 1

TWIN CUSHION SEV MODEL CHARACTERISTICS

	METRIC	ENGLISH
Length Overall	2.49 m	8.17 ft
Cushion Length	2.17 m	7.12 ft
Mass (Including 5.9 kg (13 lbm) heave staff)	68.5 kg	151 lbm
Cushion Fans	20	
Fan Speed	365 rps	
Longitudinal Center of Gravity (Aft of Leading Edge of Wing)	.405 m	1.33 ft
Transverse Center of Gravity	$\mathcal{C}_L$	

TABLE 2

LOCATION OF TRANSDUCERS AND CUSHION PRESSURE TAPS TWIN CUSHION SEV

1. C.G. Acceleration
   - x 0.013 m (0.5 in) AFT of C.G.
   - y 0.778 m (20.62 in) Port of C.G.
   - z 0.019 m (0.75 in) Above Pontoon Deck
2. Forward Accelerometer
   - x 1.311 m (51.62 in) Forward of C.G.
   - y 0.638 m (24.12 in) Port of C.G.
   - z 0.025 m (1.0 in) Above Port Hull Deck
3. Relative Bow Motion Sonic
   - x 1.387 m (54.62 in) Forward of C.G.
   - y 0.692 m (27.25 in) Port of C.G.
   - z 0.146 m (5.75 in) Above Port Hull Deck
4. Forward Impact Gage
   - x 0.127 m (5 in) Aft of Fwd Edge of Wing or 11 in (0.279 M) Fwd of C.G.
   - y On Centerline
   - z Lower side of Wing
5. C.G. (Mid) Impact Gage
   - x 0.406 m (16 in) Aft of Fwd Edge of Wing (On C.G.)
   - y On Centerline
   - z Lower side of Wing
6. Forward Cushion Pressure
   - x 0.864 m (34 in) Forward of C.G.
   - y 0.533 m (21 in) Port of C.G.
   - z On Plenum Diffuser

TABLE 2 (Cont'd)

LOCATION OF TRANDUCERS AND CUSHION PRESSURE
TAPS TWIN CUSHION SEV

7. Aft Cushion Pressure

   x 0.806 m (31.75 in) Aft of C.G.

   y 0.724 m (28.5 in) Port of C.G.

   z 0.019 m (0.75 in) Below Cushion Disperse (Wet Deck) or
   0.219 m (8.62 in) Below Pontoon Deck

8. Average Cushion Pressure

   x 0.800 m (31.5 in) Forward of C.G.

   y 0.927 m (36.5 in) Port of C.G.

   z Approximately .05 m (2 in) Below Pontoon Deck

9. Average Cushion Pressure

   x 0.165 m (6.5 in) Aft of C.G.

   y 0.959 m (37.75 in) Port of C.G.

   z Approximately .05 m (2 in) Below Pontoon Deck

10. Average Cushion Pressure

   x 0.698 m (27.5 in) Aft of C.G.

   y 0.927 m (36.5 in) Port of C.G.

   z Approximately .05 m (2 in) Below Pontoon Deck

11. Wave Amplitude Sonic

   x 4.95 m (16.25 ft) Forward of C.G.

   y 1.01 m (3.25 ft) Port of C.G.

Table 3a - 26 Kts Calm Water Minimum Analysis
Run 13 (Metric Units)

Langley T1

19 June 1976

TWIN CUSHION SEV (ANVCE) REGULAR WAVE EXPERIMENT

MEAS SPEED = 26.25 KNOTS
NOMN SPEED = 26.00 KNOTS

RUN No 13

TIME: 0.000 - 23.360
RECORDS: 1 - 146

	CHAN		CALIB	GAIN	MEAN	STDDEV	ROOTQO
1	CARR VEL	KTS	5.925E 00	1.000E 00	2.625E 01	8.404E-02	1.189E-01
2	WAVE AMP	M	2.540E-01	5.000E 00	-2.237E-03	1.513E-03	2.139E-03
3	PITCH	DEG	-2.000E 00	1.000E 00	3.897E-01	1.103E-01	1.560E-01
4	HEAVE	M	2.540E-01	5.000E 00	-2.901E-02	1.741E-03	2.463E-03
5	BOW ACC	G	4.000E 00	1.000E 01	5.281E-03	1.176E-01	1.664E-01
6	CG ACC	G	4.000E 00	1.000E 01	-1.708E-01	5.354E-02	7.572E-02
7	RBM	M	2.540E 01	5.000E 00	-5.174E-02	1.555E-03	2.199E-03
8	AVG PRES	P	4.826E 04	5.000E 01	3.035E 02	1.657E 01	2.344E 01
9	FWD PRES	P	4.826E 04	5.000E 01	2.896E 02	1.126E 01	1.593E 01
10	AFT PRES	P	4.826E 04	5.000E 01	2.679F 02	1.673E 01	2.367E 01
11	DRAG	N	-5.338E 01	2.000E 00	1.141E 02	6.766E 01	9.568E 01

Table 3b - 26 Kts Calm Water Minimum Analysis
Run 13 (English Units)

LANGLEY-TI TWIN CUSHION SEV (ANVCE) REGULAR WAVE EXPERIMENT 18 JUNE 1976

MEAS SPEED = 26.25 KNOTS
NOMN SPEED = 26.00 KNOTS

RUN NO 13

TIME: 0.000 - 23.360
RECORDS: 1 - 146

	CHAN		CALIB	GAIN	MEAN	STDDEV	ROOTQ0
1	CARR VEL	KTS	5.925E 00	1.000E 00	2.625E 01	8.404E-02	1.189E-01
2	WAVE AMP	IN	1.000E 01	5.000E 00	-8.809E-02	5.956E-02	8.423E-02
3	PITCH	DEG	-2.000E 00	1.000E 00	3.897E-01	1.103E-01	1.560E-01
4	HEAVE	IN	1.000E 01	5.000E 00	-1.142E 00	6.855E-02	9.695E-02
5	BOW ACC	G	4.000E 00	1.000E 01	5.281E-03	1.176E-01	1.664E-01
6	CG ACC	G	4.000E 00	1.000E 01	-1.708E-01	5.354E-02	7.572E-02
7	RBM	IN	1.000E 01	5.000E 00	-2.037E 00	6.123E-02	8.659E-02
8	AVG PRES	PSI	7.000E 00	5.000E 01	4.402E-02	2.404E-03	3.399E-03
9	FWD PRES	PSI	7.000E 00	5.000E 01	4.201E-02	1.633E-03	2.310E-03
10	AFT PRES	PSI	7.000E 00	5.000E 01	3.085E-02	2.427E-03	3.433E-03
11	DRAG	LBS	-1.200E 01	2.000E 00	2.566E 01	1.521E 01	2.151E 01

Table 4a - 26 Kts Calm Water Minimum Analysis
Run 15 (Metric Units)

19 June 1976

Langley T1

Twin Cushion SEV (ANVCE) Regular Wave Experiments

MEAS SPEED = 26.28 KNOTS
NOMN SPEED = 26.00 KNOTS

RUN NO 15

TIME: 0.000 - 23.520
RECORDS: 1 - 147

	CHAN		CALIB	GAIN	MEAN	STDDEV	ROOTOO
1	CARR VEL	KTS	5.925E 00	1.000E 00	2.628E 01	8.376F-02	1.185E-01
2	WAVE AMP	M	2.540E 01	5.000E 00	-3.599E-03	1.944E-03	2.748E-03
3	PITCH	DEG	-2.000E 00	1.000E 00	9.740E-01	1.104E-01	1.561E-01
4	HEAVE	M	2.540E-01	5.000E 00	-5.771E-03	1.383E-03	1.956E-03
5	BOW ACC	G	4.000E 00	1.000E 01	3.709E-03	5.453E-02	7.711E-02
6	CG ACC	G	4.000E 00	1.000E 01	-6.043E-03	2.922E-02	4.132E-02
7	RBM	M	2.540E-01	5.000E 00	-2.082E-02	4.724E-03	6.683E-03
8	AVG PRES	P	4.826E 04	5.000E 01	2.840E 02	1.129E 01	1.596E 01
9	FWD PRES	P	4.826E 04	5.000E 01	3.055E 02	1.297E 01	1.835E 01
10	AFT PRES	P	4.826E 04	5.000E 01	2.834E 02	1.126E 01	1.593E 01
11	DRAG	N	-5.338E 01	2.000E 00	1.229E 02	5.907E 01	8.354E 01

Table 4b - 26 Kts Calm Water Minimum Analysis
Run 15 (English Units)

LANGLEY T1 TWIN CUSHION SEV (ANVCE) REGULAR WAVE EXPERIMENT 19 JUNE 1976

MEAS SPEED = 26.28 KNOTS
NOMN SPEED = 26.00 KNOTS

RUN NO 15

TIME: 0.000 - 23.520
RECORDS: 1 - 147

	CHAN		CALIB	GAIN	MEAN	STDDEV	ROOTSQ
1	CARR VEL	KTS	5.925E 00	1.000E 00	2.628E 01	8.376E-02	1.185E-01
2	WAVE AMP	IN	1.000E 01	5.000E 00	-1.401E-01	7.653E-02	1.802E-01
3	PITCH	DEG	-2.000E 00	1.000E 00	9.740E-01	1.104E-01	1.561E-01
4	HEAVE	IN	1.000E 01	5.000E 00	-2.272E-01	5.446E-02	7.702E-02
5	BOW ACC	G	4.000E 00	1.000E 01	3.709E-03	5.453E-02	7.711E-02
6	CG ACC	G	4.000E 00	1.000E 01	-6.043E-03	2.922E-02	4.132E-02
7	RBM	IN	1.000E 01	5.000E 00	-8.197E-01	1.860E-01	2.631E-01
8	AVG PRES	PSI	7.000E 00	5.000E 01	4.119E-02	1.637E-03	2.315E-03
9	FWD PRES	PSI	7.000E 00	5.000E 01	4.431E-02	1.881E-03	2.661E-03
10	AFT PRES	PSI	7.000E 00	5.000E 01	4.110E-02	1.633E-03	2.310E-03
11	DRAG	LBS	-1.200E 01	2.000E 00	2.764E 01	1.320E 01	1.878E 01

Table 5 - 0 Kt Wave Amplitude (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

WAVE AMPLITUDE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQ0 (METERS)	AMPLITUDE (METERS)	AMLPITUDE /ROOTQ0	ENCOUNTER PERIOD	WAVE PERIOD	NUMBER CYCLES
300	1.491	2.753E-03	2.044E-02	2.000E-02	9.78E-01	1.455	1.455	11.
344	1.499	-3.724E-03	2.177E-02	2.146E-02	9.86E-01	1.444	1.444	4.
347	1.750	-3.874E-03	1.862E-02	1.820E-02	9.77E-01	1.560	1.560	2.
302	2.290	-8.174E-04	3.774E-02	3.749E-02	9.93E-01	1.784	1.784	5.
350	2.360	-2.121E-03	2.891E-02	2.791E-02	9.65E-01	1.812	1.812	5.
305	2.969	-4.176E-03	3.724E-02	3.691E-02	9.91E-01	2.037	2.037	6.
308	3.933	-1.332E-03	5.014E-02	4.976E-02	9.92E-01	2.365	2.365	6.
311	4.564	-2.809E-03	5.438E-02	5.403E-02	9.94E-01	2.571	2.571	5.
314	5.332	-2.657E-03	4.529E-02	4.460E-02	9.85E-01	2.826	2.826	4.
317	6.488	-2.990E-03	5.832E-02	5.779E-02	9.91E-01	3.203	3.203	6.
320	7.206	-3.465E-03	7.198E-02	7.092E-02	9.85E-01	3.458	3.458	4.
356	7.248	-2.355E-03	5.075E-02	5.032E-02	9.80E-01	3.473	3.473	5.
359	7.272	-3.218E-03	6.810E-02	6.594E-02	9.68E-01	3.481	3.481	5.
362	7.291	-6.482E-03	9.268E-02	9.020E-02	9.73E-01	3.488	3.488	5.
353	7.333	-9.817E-04	2.550E-02	2.473E-02	9.70E-01	3.492	3.492	5.
365	7.433	-9.672E-03	1.316E-01	1.266E-01	9.62E-01	3.525	3.525	5.
326	8.057	-1.833E-03	7.348E-02	7.211E-02	9.81E-01	3.750	3.750	1.
368	8.078	2.758E-03	6.261E-02	6.132E-02	9.79E-01	3.758	3.758	5.
329	8.253	-2.277E-03	5.857E-02	5.718E-02	9.76E-01	3.820	3.820	3.
335	8.336	-1.470E-03	4.854E-02	4.569E-02	9.42E-01	3.850	3.850	4.
332	8.553	-2.123E-03	6.322E-02	6.142E-02	9.72E-01	3.929	3.929	2.
338	8.881	-3.391E-03	4.397E-02	4.298E-02	9.77E-01	4.026	4.026	1.

Table 6 - 20 Kt Wave Amplitude (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

WAVE AMPLITUDE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQO (METERS)	AMPLITUDE (METERS)	AMLPITUDE /ROOTQO	ENCOUNTER PERIOD	WAVE PERIOD	NUMBER CYCLES
345	1.489	-5.255E-03	2.149E-02	2.079E-02	9.68E-01	.256	1.439	13.
301	1.506	-3.033E-03	1.983E-02	1.972E-02	9.94E-01	.259	1.447	15.
342	1.530	1.243E-04	4.732E-03	3.846E-03	8.13E-01	.262	1.458	11.
348	1.757	-4.940E-03	2.438E-02	2.302E-02	9.44E-01	.298	1.563	10.
351	2.243	-3.338E-03	3.239E-02	3.030E-02	9.35E-01	.370	1.766	8.
303	2.273	-1.494E-03	3.058E-02	2.863E-02	9.36E-01	.375	1.778	18.
306	2.938	-4.498E-03	3.802E-02	3.655E-02	9.61E-01	.474	2.026	12.
309	3.790	-3.409E-03	5.110E-02	5.029E-02	9.84E-01	.599	2.317	4.
312	4.360	-3.317E-03	4.981E-02	4.928E-02	9.89E-01	.686	2.506	12.
315	5.073	-4.732E-03	4.630E-02	4.440E-02	9.59E-01	.800	2.740	5.
318	5.790	-3.048E-03	5.022E-02	4.884E-02	9.73E-01	.921	2.976	12.
354	6.233	-4.727E-03	2.293E-02	2.149E-02	9.37E-01	.997	3.120	4.
366	6.260	-1.007E-02	1.575E-01	1.510E-01	9.59E-01	1.001	3.128	3.
360	6.290	-6.647E-03	7.640E-02	7.366E-02	9.64E-01	1.007	3.138	3.
357	6.361	-5.319E-03	4.255E-02	4.158E-02	9.77E-01	1.019	3.162	5.
363	6.372	-7.823E-03	1.271E-01	1.236E-01	9.72E-01	1.022	3.165	3.
321	6.397	-4.610E-03	6.266E-02	6.048E-02	9.65E-01	1.026	3.730	8.
327	6.786	1.031E-03	6.726E-02	6.513E-02	9.68E-01	1.100	3.312	4.
370	6.899	-8.392E-03	6.546E-02	6.441E-02	9.84E-01	1.122	3.351	8.
330	6.922	-3.856E-03	6.985E-02	6.802E-02	9.74E-01	1.127	3.359	4.
333	7.242	-3.020E-03	6.607E-02	6.330E-02	9.58E-01	1.190	3.471	3.
336	7.393	-2.972E-03	6.238E-02	5.992E-02	9.60E-01	1.213	3.512	7.
339	7.468	-3.236E-03	6.474E-02	6.200E-02	9.58E-01	1.228	3.537	7.

Table 7 - 26 Kt Wave Amplitude (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

WAVE AMPLITUDE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQ0 (METERS)	AMPLITUDE (METERS)	AMLPITUDE /ROOTQ0	ENCOUNTER PERIOD	WAVE PERIOD	NUMBER CYCLES
343	1.213	-5.748E-03	2.266E-02	2.237E-02	9.87E-01	.170	1.299	2.
346	1.495	-2.291E-03	2.191E-02	2.150E-02	9.81E-01	.206	1.442	9.
349	1.741	-1.273E-03	2.358E-02	2.318E-02	9.83E-01	.237	1.556	8.
304	2.222	-9.055E-04	3.030E-02	2.982E-02	9.84E-01	.297	1.758	16.
352	2.263	-1.453E-03	3.251E-02	3.000E-02	9.23E-01	.302	1.771	26.
307	2.930	-3.863E-03	3.673E-02	3.586E-02	9.77E-01	.384	2.023	10.
310	3.813	-1.654E-03	5.121E-02	5.100E-02	9.96E-01	.493	2.325	10.
313	4.341	-4.013E-03	5.255E-02	5.088E-02	9.83E-01	.560	2.498	12.
316	5.001	-5.471E-03	4.879E-02	4.658E-02	9.55E-01	.647	2.711	10.
319	5.930	-6.248E-03	5.027E-02	4.628E-02	9.21E-01	.782	3.020	7.
355	6.272	-1.453E-03	2.733E-02	2.624E-02	9.60E-01	.832	3.132	3.
358	6.326	-5.712E-03	4.407E-02	4.293E-02	9.74E-01	.841	3.150	9.
361	6.387	-6.109E-03	8.250E-02	8.095E-02	9.81E-01	.850	3.170	5.
322	6.393	-5.298E-03	6.599E-02	5.756E-02	8.72E-01	.860	3.190	9.
364	6.433	-3.007E-03	1.277E-01	1.241E-01	9.72E-01	.857	3.185	8.
328	6.757	-8.979E-05	7.054E-02	6.952E-02	9.86E-01	.912	3.302	17.
331	6.905	-2.462E-03	7.231E-02	7.059E-02	9.76E-01	.936	3.353	5.
334	7.175	-1.870E-03	6.830E-02	6.576E-02	9.63E-01	.982	3.447	5.
337	7.242	-1.645E-03	6.761E-02	6.612E-02	9.78E-01	.994	3.471	5.
340	7.451	-2.708E-03	6.406E-02	6.172E-02	9.64E-01	1.024	3.532	10.

Table 8 - 0 Kt Pitch (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

PITCH

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (DEG)	ROOTQ0 (DEG)	AMPLITUDE (DEG)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	-7.252E-01	1.153E+00	1.141E+00	80.1	5.23E-01	9.89E-01	11.
344	1.499	-1.510E-01	1.284E+00	1.262E+00	70.8	5.32E-01	9.83E-01	4.
347	1.750	-3.150E-01	1.600E+00	1.596E+00	73.3	9.25E-01	9.97E-01	2.
302	2.290	-4.471E-01	1.141E+00	1.137E+00	85.5	4.18E-01	9.96E-01	5.
350	2.360	-2.933E-01	1.805E+00	1.735E+00	59.6	8.85E-01	9.61E-01	5.
305	2.969	-1.505E+00	1.858E+00	1.854E+00	72.4	8.98E-01	9.98E-01	6.
308	3.933	-1.032E-01	1.758E+00	1.752E+00	82.9	8.35E-01	9.96E-01	6.
311	4.564	-1.246E+00	1.521E+00	1.507E+00	76.6	7.67E-01	9.91E-01	5.
314	5.332	-1.405E+00	1.373E+00	1.344E+00	50.3	9.69E-01	9.79E-01	4.
317	6.488	-1.287E+00	1.216E+00	1.177E+00	79.8	7.97E-01	9.68E-01	6.
320	7.206	-1.592E+00	1.687E+00	1.665E+00	86.2	1.02E+00	9.87E-01	4.
356	7.248	-5.229E-01	1.062E+00	1.049E+00	85.7	9.11E-01	9.88E-01	5.
359	7.272	-5.828E-01	1.537E+00	1.486E+00	62.8	9.88E-01	9.67E-01	5.
362	7.291	-6.008E-01	2.820E+00	2.700E+00	67.9	1.31E+00	9.57E-01	5.
353	7.333	-7.745E-01	6.912E-01	6.583E-01	84.3	1.17E+00	9.52E-01	5.
365	7.433	9.760E-02	3.218E+00	3.091E+00	66.1	1.09E+00	9.61E-01	5.
326	8.057	-2.511E-01	1.629E+00	1.585E+00	80.1	1.06E+00	9.73E-01	1.
368	8.078	-9.364E-01	1.264E+00	1.181E+00	73.3	9.37E-01	9.35E-01	5.
329	8.253	-1.978E-01	1.392E+00	1.339E+00	69.2	1.17E+00	9.62E-01	3.
335	8.336	-1.998E-01	1.048E+00	9.770E-01	75.5	1.07E+00	9.33E-01	4.
332	8.553	7.240E-02	1.544E+00	1.475E+00	77.3	1.24E+00	9.55E-01	2.
338	8.881	-1.777E-01	8.274E-01	8.061E-01	78.9	1.00E+00	9.74E-01	1.

Table 9 - 20 Kt Pitch (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

PITCH

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (DEG)	ROOTQ0 (DEG)	AMPLITUDE (DEG)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	6.693E-01	4.179E-01	1.861E-01	344.5	8.03E-02	4.45E-01	13.
301	1.506	1.159E-01	3.881E-01	1.637E-01	330.2	7.53E-02	4.22E-01	15.
342	1.530	7.786E-01	3.420E-01	1.173E-01	198.2	2.81E-01	3.43E-01	11.
348	1.757	1.249E-01	9.711E-01	8.977E-01	290.4	4.13E-01	9.24E-01	10.
351	2.243	2.991E-02	1.120E+00	1.002E+00	33.0	4.47E-01	8.95E-01	8.
303	2.273	3.797E-01	7.919E-01	6.199E-01	19.7	2.97E-01	7.83E-01	18.
306	2.938	-7.909E-01	9.224E-01	8.167E-01	24.7	3.96E-01	8.85E-01	12.
309	3.790	-1.547E-01	1.124E+00	9.079E-01	32.2	4.12E-01	8.08E-01	4.
312	4.360	-4.867E-01	1.137E+00	1.048E+00	24.9	5.59E-01	9.22E-01	12.
315	5.073	-3.417E-01	1.213E+00	1.125E+00	32.1	7.75E-01	9.27E-01	5.
318	5.790	-2.665E-03	1.254E+00	1.169E+00	49.7	8.36E-01	9.33E-01	12.
354	6.233	2.600E-01	7.798E-01	6.649E-01	66.3	1.16E+00	8.53E-01	4.
366	6.260	6.975E-01	1.965E+00	1.077E+00	65.4	2.69E-01	5.48E-01	3.
360	6.290	2.273E-01	1.839E+00	1.692E+00	69.4	8.71E-01	9.20E-01	3.
357	6.361	3.267E-01	1.208E+00	1.125E+00	63.9	1.03E+00	9.32E-01	5.
363	6.372	2.278E-01	2.086E+00	1.638E+00	51.2	5.09E-01	7.85E-01	3.
321	6.397	-1.719E-01	1.568E+00	1.475E+00	60.2	9.41E-01	9.41E-01	8.
327	6.786	9.253E-01	1.460E+00	1.420E+00	70.9	8.92E-01	9.72E-01	4.
370	6.899	-2.033E+00	1.712E+00	1.603E+00	90.1	1.04E+00	9.37E-01	8.
330	6.922	1.033E+00	1.565E+00	1.500E+00	74.5	9.20E-01	9.59E-01	4.
333	7.242	8.503E-01	1.607E+00	1.492E+00	76.8	1.03E+00	9.28E-01	3.
336	7.393	1.095E+00	1.514E+00	1.416E+00	79.3	1.05E+00	9.35E-01	7.
339	7.468	1.067E+00	1.523E+00	1.424E+00	84.1	1.03E+00	9.35E-01	7.

Table 10 - 26 Kt Pitch (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

PITCH

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (DEG)	ROOTQ0 (DEG)	AMPLITUDE (DEG)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
343	1.213	-1.814E-01	2.165E-01	4.631E-02	326.1	1.51E-02	2.14E-01	2.
346	1.495	1.062E-01	1.928E-01	1.025E-01	313.5	4.30E-02	5.32E-01	9.
349	1.741	-1.535E+00	3.124E-01	2.379E-01	303.4	1.08E-01	7.61E-01	8.
304	2.222	-1.518E+00	2.280E+00	2.229E+00	328.3	1.00E+00	9.78E-01	16.
352	2.263	-1.310E+00	2.880E+00	2.668E+00	346.7	1.21E+00	9.26E-01	26.
307	2.930	-2.161E+00	1.199E+00	1.162E+00	40.7	5.72E-01	9.70E-01	10.
310	3.813	-1.935E+00	1.174E+00	1.054E+00	69.1	4.75E-01	8.97E-01	10.
313	4.341	-1.652E+00	1.006E+00	7.659E-01	87.9	3.88E-01	7.61E-01	12.
316	5.001	-8.678E-01	5.899E-01	3.478E-01	81.8	2.25E-01	5.90E-01	10.
319	5.930	-6.554E-01	5.513E+01	2.593E-01	65.9	2.00E-01	4.70E-01	7.
355	6.272	-4.817E-01	2.765E-01	1.864E-01	81.4	2.69E-01	6.74E-01	3.
358	6.326	-3.724E-01	5.243E-01	3.222E-01	77.7	2.86E-01	6.15E-01	9.
361	6.387	-8.962E-01	9.083E-01	7.756E-01	94.9	3.69E-01	8.54E-01	5.
322	6.393	-1.151E+00	6.514E-01	4.813E-01	81.9	3.22E-01	7.39E-01	9.
364	6.433	-1.426E+00	1.486E+00	1.222E+00	109.4	3.82E-01	8.22E-01	8.
328	6.757	3.694E-01	5.804E-01	4.463E-01	65.0	2.62E-01	7.69E-01	17.
331	6.905	3.610E-01	6.729E-01	3.088E-01	43.6	1.82E-01	4.59E-01	5.
334	7.175	4.504E-01	7.210E-01	5.965E-01	68.5	3.92E-01	8.27E-01	5.
337	7.242	7.181E-01	7.325E-01	6.050E-01	51.7	3.99E-01	8.26E-01	5.
340	7.451	4.778E-01	7.648E-01	6.179E-01	65.9	4.50E-01	8.08E-01	10.

Table 11 - 0 Kt Heave (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

HEAVE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQ0 (METERS)	AMPLITUDE (METERS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	8.570E-03	8.936E-03	8.435E-03	181.2	4.22E-01	9.44E-01	11.
344	1.499	1.827E-02	1.042E-02	1.021E-02	181.2	4.76E-01	9.80E-01	4.
347	1.750	2.764E-02	1.747E-02	1.743E-02	187.9	9.58E-01	9.98E-01	2.
302	2.291	1.154E-02	2.153E-02	2.124E-02	175.1	5.66E-01	9.87E-01	5.
350	2.360	6.426E-02	2.196E-02	2.108E-02	169.4	7.55E-01	9.60E-01	5.
305	2.969	5.438E-03	2.786E-02	2.771E-02	176.4	7.51E-01	9.94E-01	6.
308	3.933	1.599E-02	4.694E-02	4.681E-02	181.8	9.41E-01	9.97E-01	6.
311	4.564	1.208E-02	4.958E-02	4.933E-02	175.0	9.13E-01	9.95E-01	5.
314	5.332	2.215E-02	4.752E-02	4.704E-02	168.7	1.05E+00	9.90E-01	4.
317	6.488	2.888E-02	5.034E-02	4.996E-02	157.8	8.65E-01	9.93E-01	6.
320	7.206	2.277E-02	5.197E-02	5.126E-02	164.8	7.23E-01	9.87E-01	4.
356	7.248	1.627E-02	3.734E-02	3.698E-02	159.8	7.35E-01	9.90E-01	5.
359	7.272	1.123E-02	8.730E-02	8.484E-02	165.9	1.29E+00	9.72E-01	5.
362	7.291	9.068E-03	1.219E-01	1.189E-01	-175.4	1.32E+00	9.75E-01	5.
353	7.333	1.563E-02	1.688E-02	1.662E-02	189.3	6.72E-01	9.85E-01	5.
365	7.433	1.849E-02	1.677E-01	1.633E-01	172.2	1.29E+00	9.73E-01	5.
326	8.057	1.127E-02	6.106E-02	5.992E-02	163.2	8.31E-01	9.81E-01	1.
368	8.078	1.420E-02	6.906E-02	6.792E-02	160.0	1.11E+00	9.83E-01	5.
329	8.253	8.517E-03	7.684E-02	7.526E-02	-178.1	1.32E+00	9.79E-01	3.
335	8.336	1.189E-02	7.295E-02	6.866E-02	189.9	1.50E+00	9.41E-01	4.
332	8.553	1.338E-02	5.753E-02	5.603E-02	198.7	9.13E-01	9.74E-01	2.
338	8.881	1.584E-02	7.534E-02	7.485E-02	179.8	1.74E+00	9.94E-01	1.

Table 12 - 20 Kt Heave (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

HEAVE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQ0 (METERS)	AMPLITUDE (METERS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	8.369E-03	5.044E-03	3.513E-03	62.5	1.69E-01	6.96E-01	13.
301	1.506	2.026E-02	3.914E-03	3.348E-03	47.6	1.70E-01	8.55E-01	15.
342	1.530	2.483E-04	1.855E-03	5.519E-04	65.5	1.44E-01	2.97E-01	11.
348	1.757	1.289E-02	9.428E-03	7.442E-03	79.8	3.23E-01	7.90E-01	10.
351	2.243	1.453E-02	2.082E-02	1.702E-02	93.8	5.62E-01	8.17E-01	8.
303	2.273	1.227E-02	2.264E-02	1.738E-02	89.2	6.07E-01	7.68E-01	18.
306	2.938	1.626E-02	3.820E-02	3.556E-02	112.1	9.73E-01	9.31E-01	12.
309	3.790	1.371E-02	6.190E-02	6.121E-02	137.2	1.22E+00	9.89E-01	4.
312	4.360	1.383E-02	6.693E-02	6.632E-02	146.4	1.35E+00	9.91E-01	12.
315	5.073	1.651E-02	6.261E-02	6.035E-02	156.7	1.36E+00	9.64E-01	5.
318	5.790	9.865E-03	6.322E-02	6.210E-02	174.8	1.27E+00	9.82E-01	12.
354	6.233	9.924E-03	2.878E-02	2.751E-02	180.4	1.28E+00	9.56E-01	4.
366	6.260	8.319E-03	2.088E-01	2.040E-01	176.7	1.35E+00	9.77E-01	3.
360	6.290	1.178E-02	9.487E-02	9.205E-02	187.6	1.25E+00	9.70E-01	3.
357	6.361	6.345E-03	5.441E-02	5.331E-02	182.0	1.28E+00	9.80E-01	5.
363	6.372	7.790E-03	1.451E-01	1.419E-01	174.4	1.15E+00	9.78E-01	3.
321	6.397	1.245E-02	7.752E-02	7.546E-02	179.2	1.25E+00	9.74E-01	8.
327	6.786	-3.858E-03	8.006E-02	7.915E-02	183.0	1.22E+00	9.89E-01	4.
370	6.899	8.468E-02	7.704E-02	7.620E-02	-173.1	1.18E+00	9.89E-01	8.
330	6.922	2.079E-03	8.247E-02	8.065E-02	188.0	1.19E+00	9.78E-01	4.
333	7.242	-1.467E-03	7.643E-02	7.422E-02	188.0	1.17E+00	9.71E-01	3.
336	7.393	-2.114E-03	7.343E-02	7.092E-02	185.6	1.18E+00	9.66E-01	7.
339	7.468	-1.293E-03	7.196E-02	6.929E-02	-170.5	1.12E+00	9.63E-01	7.

Table 13 - 26 Kt Heave (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

HEAVE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQ0 (METERS)	AMPLITUDE (METERS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
343	1.213	1.323E-02	1.792E-03	3.759E-04	84.7	1.68E-02	2.10E-01	2.
346	1.495	6.868E-03	2.718E-03	2.110E-03	27.5	9.82E-02	7.76E-01	9.
349	1.741	2.677E-02	5.380E-03	3.505E-03	51.5	1.51E-01	6.51E-01	8.
304	2.222	2.252E-02	1.390E-02	1.268E-02	76.1	4.25E-01	9.12E-01	16.
352	2.263	2.043E-02	1.452E-02	1.190E-02	85.2	3.97E-01	8.19E-01	26.
307	2.930	2.637E-02	3.289E-02	3.061E-02	90.3	8.54E-01	9.31E-01	10.
310	3.813	1.956E-02	5.690E-02	5.634E-02	119.9	1.10E+00	9.90E-01	10.
313	4.341	1.748E-02	6.200E-02	6.086E-02	136.3	1.18E+00	9.81E-01	12.
316	5.001	1.205E-02	5.827E-02	5.568E-02	150.2	1.20E+00	9.56E-01	10.
319	5.930	1.009E-02	5.824E-02	5.232E-02	164.8	1.13E+00	8.99E-01	7.
355	6.272	2.357E+01	3.112E-02	3.002E-02	172.2	1.14E+00	9.65E-01	3.
358	6.326	6.568E-03	5.062E-02	4.915E-02	173.8	1.15E+00	9.71E-01	9.
361	6.387	1.151E-02	9.337E-02	9.177E-02	175.4	1.13E+00	9.83E-01	5.
322	6.393	1.991E-02	7.460E-02	6.614E-02	170.3	1.15E+00	8.87E-01	9.
364	6.433	2.949E-02	1.516E-01	1.470E-01	169.9	1.18E+00	9.70E-01	8.
328	6.757	-7.595E-03	8.166E-02	8.075E-02	176.7	1.16E+00	9.89E-01	17.
331	6.905	-1.259E-03	8.608E-02	8.222E-02	176.3	1.16E+00	9.55E-01	5.
334	7.175	-2.394E-03	5.479E-02	7.551E-02	-180.7	1.15E+00	9.75E-01	5.
337	7.242	-2.743E-03	7.737E-02	7.592E-02	179.3	1.15E+00	9.81E-01	5.
340	7.451	-3.124E-03	7.541E-02	7.229E-02	181.5	1.17E+00	9.59E-01	10.

Table 14 - 0 Kt Bow Acceleration (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

BOW ACCELERATION

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (G)	ROOTQ0 (G)	AMPLITUDE (G)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	3.276E-03	1.081E-01	6.219E-02	249.3	1.63E+00	5.75E-01	11.
344	1.499	-6.969E-04	1.258E-01	6.869E-02	237.4	1.66E+00	5.46E-01	4.
347	1.750	-2.347E-05	1.327E-01	7.365E-02	236.9	2.45E+00	5.55E-01	2.
302	2.290	3.452E-03	9.897E-02	4.771E-02	233.8	1.01E+00	4.82E-01	5.
350	2.360	-8.854E-04	1.197E-01	6.141E-02	220.7	1.79E+00	5.13E-01	5.
305	2.969	7.991E-03	9.650E-02	5.152E-02	226.9	1.44E+00	5.34E-01	6.
308	3.933	9.258E-03	1.006E-01	4.579E-02	221.2	1.28E+00	4.55E-01	6.
311	4.564	7.010E-03	9.033E-02	3.701E-02	210.4	1.12E-01	4.10E-01	5.
314	5.332	6.167E-03	1.012E-01	3.239E-02	195.3	1.44E+00	3.20E-01	4.
317	6.488	9.980E-03	1.038E-01	1.984E-02	191.4	8.75E-01	1.91E-01	6.
320	7.206	1.002E-02	8.853E-02	1.835E-02	208.2	7.69E-01	2.07E-01	4.
356	7.248	-2.214E-04	1.072E-01	1.217E-02	201.6	7.25E-01	1.14E-01	5.
359	7.272	3.311E-05	9.862E-02	3.112E-02	186.9	1.42E+00	3.16E-01	5.
362	7.291	-3.570E-05	1.068E-01	4.899E-02	-153.6	1.64E+00	4.59E-01	5.
353	7.333	-5.030E-04	9.430E-02	9.336E-03	-129.3	1.14E+00	9.90E-02	5.
365	7.433	-1.381E-03	1.416E-01	6.142E-02	193.2	1.50E+00	4.34E-01	5.
326	8.057	4.984E-03	1.075E-01	1.876E-02	199.8	9.09E-01	1.75E-01	1.
368	8.078	-1.534E-03	1.170E-01	1.984E-02	184.0	1.13E+00	1.70E-01	5.
329	8.253	5.898E-03	1.121E-01	2.433E-02	-157.6	1.54E+00	2.17E-01	3.
335	8.336	-1.964E-03	9.436E-02	1.988E-02	207.1	1.60E+00	2.11E-01	4.
332	8.553	7.228E-03	1.033E-01	1.962E-02	221.8	1.22E+00	1.90E-01	2.
338	8.881	-2.179E-03	9.888E-02	1.817E-02	193.2	1.70E+00	1.84E-01	1.

Table 15 - 20 Kt Bow Acceleration (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

BOW ACCELERATION

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (G)	ROOTQ0 (G)	AMPLITUDE (G)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	-1.177E-03	3.257E-01	2.908E-01	136.8	2.28E-01	8.93E-01	13.
301	1.506	3.759E-03	3.357E-01	3.038E-01	133.6	2.56E-01	9.05E-01	15.
342	1.530	6.296E-04	1.733E-01	1.080E-01	127.9	4.79E-01	6.23E-01	11.
348	1.757	4.813E-03	5.213E-01	4.848E-01	127.4	4.64E-01	9.30E-01	10.
351	2.243	-1.908E-03	6.486E-01	5.996E-01	134.4	6.74E-01	9.24E-01	8.
303	2.273	6.442E-03	6.056E-01	5.672E-01	126.0	6.93E-01	9.37E-01	18.
306	2.938	4.545E-03	7.909E-01	7.467E-01	138.1	1.14E+00	9.44E-01	12.
309	3.790	1.173E-02	9.009E-01	8.097E-01	153.7	1.44E+00	8.99E-01	4.
312	4.360	6.723E-03	7.333E-01	6.979E-01	161.2	1.66E+00	9.52E-01	12.
315	5.073	1.325E-02	5.477E-01	5.079E-01	175.6	1.82E+00	9.27E-01	5.
318	5.790	8.995E-03	3.978E-01	3.724E-01	192.2	1.60E+00	9.36E-01	12.
354	6.233	-6.675E-05	2.106E-01	1.362E-01	203.5	1.56E+00	6.47E-01	4.
366	6.260	-2.393E-02	1.014E+00	8.050E-01	183.6	1.33E+00	7.94E-01	3.
360	6.290	9.193E-03	4.591E-01	4.071E-01	206.1	1.39E+00	8.87E-01	3.
357	6.361	1.539E-03	2.958E-01	2.640E-01	202.7	1.64E+00	8.92E-01	5.
363	6.372	-8.530E-03	6.840E-01	6.045E-01	183.4	1.27E+00	8.84E-01	3.
321	6.397	1.093E-02	3.974E-01	3.634E-01	198.8	1.57E+00	9.15E-01	8.
327	6.786	4.603E-03	3.366E-01	3.089E-01	201.0	1.43E+00	9.18E-01	4.
370	6.899	-5.299E-03	3.679E-01	2.740E-01	-149.5	1.33E+00	7.45E-01	8.
330	6.922	3.340E-03	3.559E-01	2.994E-01	205.8	1.39E+00	8.41E-01	4.
333	7.242	6.649E-03	3.069E-01	2.498E-01	208.1	1.39E+00	8.14E-01	3.
336	7.393	3.753E-03	2.749E-01	2.294E-01	207.2	1.40E+00	8.35E-01	7.
339	7.468	-5.557E-04	2.573E-01	2.154E-01	-147.9	1.30E+00	8.37E-01	7.

Table 16 - 26 Kt Bow Acceleration (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

BOW ACCELERATION

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (G)	ROOTQ0 (G)	AMPLITUDE (G)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
343	1.213	6.502E-03	3.748E-01	3.336E-01	222.4	1.06E-01	8.90E-01	2.
346	1.495	-4.212E-04	3.115E-01	2.853E-01	146.9	1.40E-01	9.16E-01	9.
349	1.741	2.946E-03	3.883E-01	3.517E-01	132.3	2.12E-01	9.06E-01	8.
304	2.222	2.384E-03	6.908E-01	6.291E-01	127.4	4.62E-01	9.11E-01	16.
352	2.263	-4.482E-03	7.306E-01	6.383E-01	136.8	4.82E-01	8.74E-01	26.
307	2.930	6.993E-03	8.059E-01	7.080E-01	121.1	7.23E-01	8.79E-01	10.
310	3.813	7.077E-03	9.450E-01	7.892E-01	139.6	9.34E-01	8.35E-01	10.
313	4.341	6.883E-01	2.441E+00	6.887E-01	149.1	1.04E+00	8.96E-01	12.
316	5.001	2.660E-03	5.784E-01	5.208E-01	158.8	1.16E+00	9.00E-01	10.
319	5.930	1.264E-02	4.414E-01	3.811E-01	172.1	1.25E+00	8.63E-01	7.
355	6.272	-2.497E-03	2.230E-01	1.816E-01	-177.1	1.19E+00	8.14E-01	3.
358	6.326	-4.206E-05	3.166E-01	2.883E-01	182.6	1.18E+00	9.11E-01	9.
361	6.387	3.378E-03	5.345E-01	4.903E-01	-175.3	1.09E+00	9.17E-01	5.
322	6.393	1.373E-02	4.406E-01	3.724E-01	179.3	1.19E+00	8.45E-01	9.
364	6.433	-4.779E-04	8.852E-01	7.482E-01	177.0	1.10E+00	8.45E-01	8.
328	6.757	4.651E-03	4.417E-01	4.046E-01	183.0	1.20E+00	9.16E-01	17.
331	6.905	5.949E-03	4.503E-01	3.969E-01	178.8	1.22E+00	8.81E-01	5.
334	7.175	1.788E-03	3.704E-01	3.373E-01	-174.1	1.23E+00	9.11E-01	5.
337	7.242	-6.126E-04	3.827E-01	3.391E-01	186.1	1.26E+00	8.86E-01	5.
340	7.451	-2.105E-03	3.471E-01	3.058E-01	191.1	1.29E+00	8.81E-01	10.

Table 17 - 0 Kt Relative Bow Motion (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

RELATIVE BOW MOTION

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQ0 (METERS)	AMPLITUDE (METERS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	-3.071E-03	4.890E-02	3.894E-03	186.8	9.57E-01	3.91E-01	11.
344	1.499	-9.637E-03	1.049E-01	5.552E-02	220.4	2.59E+00	5.29E-01	4.
347	1.750	1.725E-02	8.242E-02	5.870E-02	201.6	3.23E+00	7.12E-01	2.
302	2.290	2.421E-02	5.565E-02	2.591E-02	170.8	6.91E-01	4.66E-01	5.
350	2.360	1.274E-02	6.500E-02	4.234E-02	193.7	1.52E+00	6.51E-01	5.
305	2.969	1.129E-02	4.056E-02	2.363E-02	170.5	6.40E-01	5.83E-01	6.
308	3.933	-1.262E-01	2.279E-01	7.178E-02	110.0	1.44E+00	3.15E-01	6.
311	4.564	-7.752E-02	2.041E-01	7.892E-02	135.0	1.46E+00	3.87E-01	5.
314	5.332	-9.289E-02	2.244E-01	5.278E-02	167.6	1.18E+00	2.35E-01	4.
317	6.488	-9.418E-02	2.267E-01	5.941E-02	158.7	1.03E+00	2.62E-01	6.
320	7.206	-1.566E-02	1.446E-01	1.089E-02	232.8	1.54E-01	7.54E-02	4.
356	7.248	-1.149E-03	7.414E-02	1.332E-02	167.3	2.65E-01	1.80E-01	5.
359	7.272	5.446E-03	4.590E-02	1.691E-02	185.9	2.57E-01	3.68E-01	5.
362	7.291	7.437E-03	4.011E-02	2.555E-02	-174.4	2.83E-01	6.37E-01	5.
353	7.333	-4.018E-03	9.510E-02	2.697E-03	-116.0	1.09E-01	2.84E-02	5.
365	7.433	-2.771E-03	5.692E-02	3.592E-02	168.2	2.84E-01	6.31E-01	5.
326	8.057	-2.053E-03	7.407E-02	1.171E-02	276.3	1.62E-01	1.58E-01	1.
368	8.078	-1.023E-03	7.064E-02	1.364E-02	141.7	2.22E-01	1.93E-01	5.
329	8.253	4.366E-03	3.919E-02	1.422E-02	-165.7	2.49E-01	3.63E-01	3.
335	8.336	4.663E-03	4.524E-02	6.800E-03	219.2	1.49E-01	1.50E-01	4.
332	8.553	-1.214E-02	8.816E-02	2.228E-02	184.5	3.63E-01	2.53E-01	2.
338	8.881	1.478E-03	5.123E-02	7.920E-03	234.8	1.84E-01	1.55E-01	1.

Table 18 - 20 Kt Relative Bow Motion (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

RELATIVE BOW MOTION

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTQO (METERS)	AMPLITUDE (METERS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
345	1.489	-8.931E-03	2.654E-02	2.491E-02	150.6	1.20E+00	9.39E-01	13.
342	1.530	-1.498E-02	8.476E-03	6.190E-03	136.6	1.61E+00	7.30E-01	11.
301	1.560	1.280E-02	2.746E-02	2.417E-02	128.3	1.23E+00	8.80E-01	15.
348	1.757	6.683E-03	3.993E-02	3.383E-02	129.9	1.47E+00	8.47E-01	10.
351	2.243	1.284E-02	5.563E-02	5.014E-02	115.0	1.66E+00	9.01E-01	8.
303	2.273	1.678E-02	6.063E-02	3.467E-02	116.2	1.21E+00	5.72E-01	18.
306	2.938	2.677E-02	7.376E-02	4.864E-02	112.9	1.33E+00	6.60E-01	12.
309	3.790	-3.096E-02	1.526E-01	1.140E-01	115.1	2.27E+00	7.47E-01	4.
312	4.360	-2.286E-02	1.663E-01	1.271E-01	129.2	2.58E+00	7.64E-01	12.
315	5.073	-7.859E-02	2.171E-01	1.512E-01	140.7	3.40E+00	6.96E-01	5.
318	5.790	-4.849E-02	1.634E-01	9.533E-02	160.3	1.95E+00	5.84E-01	12.
354	6.233	-4.994E-03	2.149E-02	1.890E-02	175.1	8.80E-01	8.80E-01	4.
366	6.260	5.298E-03	1.857E-01	1.713E-01	131.2	1.13E+00	9.23E-01	3.
360	6.290	-4.300E-03	6.304E-02	5.959E-02	171.2	8.09E-01	9.45E-01	3.
357	6.361	-8.527E-03	3.813E-02	3.686E-02	172.2	8.86E-01	9.67E-01	5.
363	6.372	-2.483E-03	1.122E-01	1.044E-01	136.7	8.44E-01	9.30E-01	3.
321	6.397	-4.216E-02	1.530E-01	9.746E-02	146.9	1.61E+00	6.37E-01	8.
327	6.786	-3.259E-02	4.547E-02	4.384E-02	166.6	6.73E-01	9.64E-01	4.
370	6.899	1.479E-01	3.495E-02	3.045E-02	-172.8	4.73E-01	8.71E-01	8.
330	6.922	-2.865E-02	4.552E-02	4.247E-02	175.3	6.24E-01	9.33E-01	4.
333	7.242	-2.901E-02	3.884E-02	3.663E-02	180.7	5.78E-01	9.43E-01	3.
336	7.393	-3.198E-02	3.315E-02	3.101E-02	181.1	5.18E-01	9.35E-01	7.
339	7.468	-3.200E-02	3.028E-02	2.809E-02	-170.6	4.53E-01	9.27E-01	7.

Table 19 - 26 Kt Relative Bow Motion (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

RELATIVE BOW MOTION

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (METERS)	ROOTMS (METERS)	AMPLITUDE (METERS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTMS	NUMBER OF CYCLES
343	1.213	2.112E-02	2.703E-02	2.616E-02	195.1	1.17E+00	9.68E-01	2.
346	1.495	7.953E-03	2.486E-02	2.444E-02	150.2	1.14E+00	9.83E-01	9.
349	1.741	6.993E-02	3.035E-02	2.888E-02	128.7	1.25E+00	9.51E-01	8.
304	2.222	3.825E-02	4.506E-02	4.369E-02	107.7	1.47E+00	9.70E-01	16.
352	2.263	4.844E-02	4.788E-02	4.382E-02	113.3	1.46E+00	9.15E-01	26.
307	2.930	5.141E-02	6.053E-02	5.784E-02	91.6	1.61E+00	9.56E-01	10.
310	3.813	4.729E-02	8.291E-02	8.062E-02	95.3	1.58E+00	9.73E-01	10.
313	4.341	2.863E-02	9.688E-02	8.077E-02	100.1	1.56E+00	8.34E-01	12.
316	5.001	-3.355E-02	1.786E-01	1.010E-01	103.8	2.17E+00	5.65E-01	10.
319	5.930	-6.993E-02	1.999E-01	9.350E-02	102.5	2.02E+00	4.68E-01	7.
355	6.272	1.634E-02	2.318E-02	2.146E-02	124.4	8.18E-01	9.25E-01	3.
358	6.326	1.352E-02	4.044E-02	3.688E-02	125.2	8.60E-01	9.13E-01	9.
361	6.387	2.738E-02	6.520E-02	6.388E-02	126.1	7.89E-01	9.80E-01	5.
322	6.393	8.870E-03	1.046E-01	6.271E-02	103.8	1.09E+00	5.99E-01	9.
364	6.433	6.434E-02	1.182E-01	1.115E-01	116.2	8.98E-01	9.44E-01	8.
328	6.757	-1.642E-02	6.027E-02	5.880E-02	127.3	8.46E-01	9.75E-01	17.
331	6.905	-9.794E-03	6.967E-02	6.472E-02	124.3	9.17E-01	9.29E-01	5.
334	7.175	-1.431E-02	4.854E-02	4.696E-02	-224.5	7.14E-01	9.67E-01	5.
337	7.242	-2.213E-02	5.319E-02	5.146E-02	136.6	7.78E-01	9.68E-01	5.
340	7.451	-1.532E-02	4.666E-02	4.379E-02	140.9	7.09E-01	9.38E-01	10.

Table 20 - 0 Kt Average Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AVERAGE CUSHION PRESSURE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQQ (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
300	1.491	3.964E+02	2.837E+01	5.020E+00	186.4	3.98E+00	1.77E-01	11.
344	1.499	3.933E+02	2.964E+01	2.876E+00	148.9	2.12E+00	9.70E-02	4.
347	1.750	4.004E+02	3.530E+01	3.420E+00	169.9	2.98E+00	9.69E-02	2.
302	2.290	3.965E+02	3.039E+01	5.998E+00	171.1	2.53E+00	1.97E-01	5.
350	2.360	4.139E+02	3.130E+01	8.363E+00	153.7	4.75E+00	2.67E-01	5.
305	2.969	4.098E+02	2.860E+01	1.011E+01	165.1	4.34E+00	3.54E-01	6.
308	3.933	4.121E+02	3.253E+01	6.950E+00	157.5	2.21E+00	2.14E-01	6.
311	4.564	4.143E+02	3.241E+01	1.167E+01	156.9	3.42E+00	3.60E-01	5.
314	5.332	4.102E+02	3.705E+01	7.108E+00	135.6	2.53E+00	1.92E-01	4.
317	6.488	3.923E+02	4.045E+01	7.246E+00	137.5	1.99E+00	1.79E-01	6.
320	7.206	4.198E+02	3.723E+01	7.632E+00	142.6	1.71E+00	2.05E-01	4.
356	7.248	3.904E+02	3.902E+01	4.641E+00	116.4	1.46E+00	1.19E-01	5.
359	7.272	4.221E+02	3.490E+01	1.011E+01	151.5	2.43E+00	2.90E-01	5.
362	7.291	4.397E+02	3.400E+01	1.423E+01	-182.7	2.50E+00	4.19E-01	5.
353	7.333	4.042E+02	3.263E+01	2.499E+00	136.5	1.60E+00	7.66E-02	5.
365	7.433	4.135E+02	3.927E+01	1.997E+01	165.1	2.50E+00	5.08E-01	5.
326	8.057	3.977E+02	3.542E+01	5.616E+00	148.9	1.23E+00	1.59E-01	1.
368	8.078	4.017E+02	3.403E+01	7.405E+00	136.3	1.91E+00	2.18E-01	5.
329	8.253	3.825E+02	3.523E+01	7.839E+00	-199.1	2.17E+00	2.23E-01	3.
335	8.336	4.100E+02	3.100E+01	6.943E+00	165.0	2.41E+00	2.24E-01	4.
332	8.553	4.055E+02	3.332E+01	6.489E+00	180.3	1.67E+00	1.95E-01	2.
338	8.881	3.920E+02	3.283E+01	5.724E+00	172.4	2.11E+00	1.74E-01	1.

Table 21 - 20 Kt Average Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AVERAGE CUSHION PRESSURE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQO (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
345	1.489	3.150E+02	1.208E+02	1.143E+02	63.4	8.71E+01	9.47E-01	13.
301	1.506	3.192E+02	1.070E+02	1.030E+02	54.6	8.28E+01	9.62E-01	15.
342	1.530	2.935E+02	4.574E+01	3.025E+01	89.8	1.25E+02	6.61E-01	11.
348	1.757	3.552E+02	1.802E+02	1.675E+02	76.7	1.15E+02	9.30E-01	10.
351	2.243	3.417E+02	2.257E+02	2.146E+02	91.1	1.12E+02	9.50E-01	8.
303	2.273	3.212E+02	2.187E+02	2.107E+02	86.4	1.17E+02	9.63E-01	18.
306	2.938	3.297E+02	2.710E+02	2.611E+02	108.0	1.13E+02	9.64E-01	12.
309	3.790	3.261E+02	2.836E+02	2.677E+02	129.9	8.44E+01	9.44E-01	4.
312	4.360	3.444E+02	2.430E+02	2.327E+02	139.7	7.48E+01	9.58E-01	12.
315	5.073	3.348E+02	1.684E+02	1.601E+02	151.0	5.71E+01	9.51E-01	5.
318	5.790	3.236E+02	1.223E+02	1.168E+02	168.8	3.79E+01	9.55E-01	12.
354	6.233	3.411E+02	5.990E+01	4.117E+01	174.7	3.04E+01	6.87E-01	4.
366	6.260	3.208E+02	3.980E+02	3.020E+02	166.2	3.17E+01	7.59E-01	3.
360	6.290	3.538E+02	1.460E+02	1.313E+02	180.9	2.83E+01	9.00E-01	3.
357	6.361	3.297E+02	8.970E+01	8.246E+01	175.7	3.14E+01	9.20E-01	5.
363	6.372	3.396E+02	2.359E+02	2.100E+02	164.2	2.69E+01	8.90E-01	3.
321	6.397	3.383E+02	1.244E+02	1.158E+02	172.3	3.03E+01	9.31E-01	8.
327	6.786	3.193E+02	1.105E+02	1.049E+02	177.1	2.55E+01	9.50E-01	4.
370	6.899	3.569E+02	9.722E+01	7.894E+01	-178.7	1.94E+01	8.12E-01	8.
330	6.922	2.954E+02	1.167E+02	1.020E+02	180.9	2.37E+01	8.73E-01	4.
333	7.242	3.336E+02	9.694E+01	8.377E+01	181.9	2.10E+01	8.64E-01	3.
336	7.393	3.257E+02	8.687E+01	7.770E+01	179.6	2.05E+01	8.94E-01	7.
339	7.468	3.098E+02	7.977E+01	7.053E+01	-176.0	1.80E+01	8.84E-01	7.

Table 22 - 26 Kt Average Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AVERAGE CUSHION PRESSURE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQQ (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLE
343	1.213	2.554E+02	9.129E+01	7.874E+01	301.4	5.58E+01	8.62E-01	2.
346	1.495	2.828E+02	1.236E+02	1.140E+02	39.3	8.41E+01	9.23E-01	9.
349	1.741	3.272E+02	1.502E+02	1.361E+02	47.3	9.30E+01	9.06E-01	8.
304	2.222	3.061E+02	2.621E+02	2.490E+02	67.1	1.32E+02	9.50E-01	16.
352	2.263	3.245E+02	2.543E+02	2.299E+02	75.4	1.21E+02	9.04E-01	26.
307	2.930	3.172E+02	3.729E+02	3.387E+02	81.8	1.50E+02	9.08E-01	10.
310	3.813	3.142E+02	3.929E+02	3.476E+02	110.2	1.08E+02	8.85E-01	10.
313	4.341	3.216E+02	3.298E+02	3.042E+02	126.6	9.34E+01	9.22E-01	12.
316	5.001	3.003E+02	2.249E+02	2.110E+02	140.0	7.18E+01	9.38E-01	10.
319	5.930	2.939E+02	1.660E+02	1.464E+02	151.7	5.01E+01	8.82E-01	7.
355	6.272	3.052E+02	8.232E+01	7.295E+01	158.8	4.41E+01	8.86E-01	3.
358	6.326	2.976E+02	1.187E+02	1.124E+02	160.8	4.15E+01	9.47E-01	9.
361	6.387	3.296E+02	2.143E+02	1.986E+02	164.4	3.89E+01	9.27E-01	5.
322	6.393	3.213E+02	1.717E+02	1.482E+02	158.2	4.08E+01	8.63E-01	9.
364	6.433	3.490E+02	3.489E+02	2.976E+02	155.3	3.80E+01	8.53E-01	8.
328	6.757	2.885E+02	1.714E+02	1.591E+02	163.7	3.63E+01	9.28E-01	17.
331	6.905	2.683E+02	1.748E+02	1.554E+02	160.9	3.49E+01	8.89E-01	5.
334	7.175	2.932E+02	1.397E+02	1.308E+02	-194.9	3.15E+01	9.36E-01	5.
337	7.242	2.911E+02	1.391E+02	1.270E+02	165.6	3.04E+01	9.13E-01	5.
340	7.451	2.756E+02	1.298E+02	1.174E+02	168.2	3.01E+01	9.05E-01	10.

Table 23 - 0 Kt Forward Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

FORWARD CUSHION PRESSURE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQ0 (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	4.571E+02	3.411E+01	2.207E+01	185.2	1.75E+01	6.47E-01	11.
344	1.499	4.840E+02	3.170E+01	1.625E+01	214.0	1.20E+01	5.12E-01	4.
347	1.750	4.642E+02	3.922E+01	1.859E+01	204.6	1.62E+01	4.74E-01	2.
302	2.290	4.839E+02	3.502E+01	1.973E+01	182.2	8.34E+00	5.63E-01	5.
350	2.360	4.675E+02	3.322E+01	2.045E+01	177.6	1.16E+01	6.16E-01	5.
305	2.969	4.764E+02	3.520E+01	2.570E+01	187.8	1.01E+01	7.30E-01	6.
308	3.933	4.933E+02	3.344E+01	1.777E+01	178.4	5.66E+00	5.31E-01	6.
311	4.564	4.598E+02	3.736E+01	2.176E+01	173.5	3.42E+00	3.60E-01	5.
314	5.332	4.526E+02	3.758E+01	1.475E+01	162.9	5.24E+00	3.92E-01	4.
317	6.488	4.625E+02	4.128E+01	1.270E+01	154.7	3.48E+00	3.08E-01	6.
320	7.206	4.755E+02	3.693E+01	1.245E+01	170.8	2.78E+00	3.37E-01	4.
356	7.248	4.589E+02	3.574E+01	6.838E+00	146.5	2.15E+00	1.91E-01	5.
359	7.272	4.836E+02	3.580E+01	1.844E+01	159.7	4.43E+00	5.15E-01	5.
362	7.291	5.019E+02	3.649E+01	2.177E+01	-173.6	3.83E+00	5.97E-01	5.
353	7.333	4.615E+02	2.671E+01	4.960E+00	162.1	3.18E+00	1.86E-01	5.
365	7.433	5.089E+02	5.730E+01	4.044E+01	174.2	5.06E+00	7.06E-01	5.
326	8.057	4.758E+02	3.808E+01	1.005E+01	163.1	2.21E+00	2.64E-01	1.
368	8.078	4.942E+02	3.305E+01	1.218E+01	153.0	3.15E+00	3.68E-01	5.
329	8.253	4.969E+02	3.584E+01	9.625E+00	-203.6	2.67E+00	2.44E-01	3.
335	8.336	4.865E+02	2.985E+01	1.285E+01	174.6	4.46E+00	4.30E-01	4.
332	8.553	4.856E+02	2.906E+01	1.196E+01	191.3	3.09E+00	4.12E-01	2.
338	8.881	5.075E+02	3.252E+01	7.439E+00	171.5	2.74E+00	2.29E-01	1.

Table 24 - 20 Kt Forward Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

FORWARD CUSHION PRESSURE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQ0 (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	3.913E+02	1.344E+02	1.262E+02	86.7	9.61E+01	9.39E-01	13.
301	1.506	3.909E+02	1.565E+02	1.397E+02	77.7	1.12E+02	8.92E-01	15.
342	1.530	4.041E+02	6.624E+01	4.691E+01	96.6	1.93E+02	7.08E-01	11.
348	1.757	4.078E+02	2.284E+02	2.145E+02	85.5	1.48E+02	9.39E-01	10.
351	2.243	3.971E+02	3.047E+02	2.882E+02	96.5	1.51E+02	9.46E-01	8.
303	2.273	3.701E+02	3.040E+02	2.831E+02	93.9	1.57E+02	9.31E-01	18.
306	2.938	3.889E+02	3.809E+02	3.638E+02	110.7	1.58E+02	9.55E-01	12.
309	3.790	3.654E+02	3.968E+02	3.786E+02	128.0	1.19E+02	9.54E-01	4.
312	4.360	3.949E+02	3.552E+02	3.451E+02	138.4	1.11E+02	9.72E-01	12.
315	5.073	3.922E+02	2.569E+02	2.474E+02	151.9	8.83E+01	9.63E-01	5.
318	5.790	3.829E+02	1.944E+02	1.878E+02	169.8	6.09E+01	9.66E-01	12.
354	6.233	4.157E+02	8.770E+01	6.643E+01	180.7	4.90E+01	7.58E-01	4.
366	6.260	3.774E+02	4.763E+02	4.069E+02	164.1	4.27E+01	8.54E-01	3.
360	6.290	4.186E+02	2.117E+02	1.923E+02	186.5	4.14E-01	9.08E-01	3.
357	6.361	4.053E+02	1.376E+02	1.301E+02	181.0	4.96E+01	9.46E-01	5.
363	6.372	3.720E+02	3.267E+02	3.019E+02	161.4	3.87E+01	9.24E-01	3.
321	6.397	3.897E+02	1.917E+02	1.811E+02	175.7	4.75E+01	9.45E-01	8.
327	6.786	4.011E+02	1.640E+02	1.587E+02	182.2	3.86E+01	9.68E-01	4.
370	6.899	4.699E+02	1.434E+02	1.173E+02	-172.7	2.89E+01	8.18E-01	8.
330	6.922	3.920E+02	1.715E+02	1.500E+02	186.8	3.49E+01	8.75E-01	4.
333	7.242	4.107E+02	1.439E+02	1.258E+02	187.5	3.15E+01	8.74E-01	3.
336	7.393	4.049E+02	1.309E+02	1.188E+02	185.7	3.14E+01	9.07E-01	7.
339	7.468	4.123E+02	1.129E+02	1.020E+02	-168.8	2.61E+01	9.05E-01	7.

Table 25 - 26 Kt Forward Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

FORWARD CUSHION PRESSURE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQQ (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
343	1.213	3.732E+02	2.072E+02	2.046E+02	196.3	1.45E+02	9.88E-01	2.
346	1.495	3.587E+02	1.027E+02	9.404E+01	89.9	6.93E+01	9.15E-01	9.
349	1.741	3.981E+02	1.351E+02	1.269E+02	74.3	8.67E+01	9.39E-01	8.
304	2.222	3.728E+02	4.733E+02	4.548E+02	115.9	2.42E+02	9.61E-01	16.
352	2.263	3.239E+02	3.560E+02	3.066E+02	104.8	1.62E+02	8.61E-01	26.
307	2.930	3.061E+02	3.551E+02	3.132E+02	92.0	1.38E+02	8.82E-01	10.
310	3.813	3.472E+02	4.629E+02	4.144E+02	105.8	1.29E+02	8.95E-01	10.
313	4.341	3.625E+02	4.110E+02	3.805E+02	119.4	1.17E+02	9.26E-01	12.
316	5.001	3.448E+02	3.099E+02	2.899E+02	133.0	9.86E+01	9.36E-01	10.
319	5.930	3.487E+02	2.390E+02	2.133E+02	145.9	7.30E+01	8.92E-01	7.
355	6.272	3.793E+02	1.163E+02	1.068E+02	155.2	6.45E+01	9.18E-01	3.
358	6.326	3.774E+02	1.731E+02	1.659E+02	157.8	6.13E+01	9.58E-01	9.
361	6.387	3.976E+02	2.877E+02	2.729E+02	161.8	5.34E+01	9.49E-01	5.
322	6.393	3.781E+02	2.419E+02	2.110E+02	154.0	5.81E+01	8.72E-01	9.
364	6.433	3.859E+02	4.284E+02	3.861E+02	150.1	4.93E+01	9.01E-01	8.
328	6.757	3.657E+02	2.370E+02	2.221E+02	162.3	5.06E+01	9.37E-01	17.
331	6.905	3.600E+02	2.471E+02	2.259E+02	156.6	5.07E+01	9.14E-01	5.
334	7.175	3.634E+02	1.984E+02	1.866E+02	-195.0	4.50E+01	9.41E-01	5.
337	7.242	3.598E+02	2.002E+02	1.846E+02	165.5	4.43E+01	9.22E-01	5.
340	7.451	3.667E+02	1.783E+02	1.627E+02	170.4	4.18E+01	9.13E-01	10.

Table 26 - 0 Kt Aft Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AFT CUSHION PRESSURE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQ0 (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	4.017E+02	3.192E+01	1.502E+01	160.7	1.19E+01	4.70E-01	11.
344	1.499	3.895E+02	3.501E+01	1.454E+01	142.3	1.07E+01	4.15E-01	4.
347	1.750	3.720E+02	3.386E+01	1.072E+01	154.3	9.33E+00	3.17E-01	2.
302	2.290	4.013E+02	3.312E+01	1.346E+01	163.5	5.69E+00	4.06E-01	5.
350	2.360	3.854E+02	3.516E+01	2.533E+04	79.7	1.97E+00	7.44E-01	5.
305	2.969	3.992E+02	3.361E+01	1.622E+01	137.6	6.97E+00	4.83E-01	6.
308	3.933	3.845E+02	3.912E+01	1.619E+01	156.7	5.16E+00	4.14E-01	6.
311	4.364	3.887E+02	3.738E+01	1.975E+01	151.3	5.79E+00	5.28E-01	5.
314	5.332	3.971E+02	3.611E+01	1.116E+01	131.4	3.96E+00	3.09E-01	4.
317	6.488	3.652E+02	4.299E+01	1.270E+01	154.7	3.48E+00	3.08E-01	6.
320	7.206	3.856E+02	3.603E+01	1.035E+01	142.3	2.31E+00	2.87E-01	4.
356	7.248	3.624E+02	3.894E+01	5.019E+00	119.2	1.58E+00	1.29E-01	5.
359	7.272	3.993E+02	3.511E+01	1.506E+01	145.4	3.62E+00	4.29E-01	5.
362	7.291	3.947E+02	3.827E+01	1.949E+01	-188.4	3.42E+00	5.09E-01	5.
353	7.333	3.893E+02	3.047E+01	3.978E+00	137.8	2.55E+00	1.31E-01	5.
365	7.433	3.645E+02	4.284E+01	2.401E+01	159.5	3.00E+00	5.60E-01	5.
326	8.057	3.885E+02	3.842E+01	7.819E+00	147.5	1.72E+00	2.03E-01	1.
368	8.078	3.536E+02	3.749E+01	9.542E+00	134.2	2.47E+00	2.55E-01	5.
329	8.253	3.821E+02	3.944E+01	9.625E+00	-203.6	2.67E+00	2.44E-01	3.
335	8.336	3.859E+02	3.364E+01	7.626E+00	165.9	2.64E+00	2.27E-01	4.
332	8.553	3.820E+02	3.478E+01	6.525E+00	168.4	1.68E+00	1.88E-01	2.
338	8.881	4.015E+02	3.547E+01	7.143E+00	149.0	2.63E+00	2.01E-01	1.

Table 27 - 20 Kt Aft Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AFT CUSHION PRESSURE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQO (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
345	1.489	3.199E+02	1.725E+02	1.663E+02	20.6	1.27E+02	9.64E-01	13.
301	1.506	2.981E+02	1.787E+02	1.633E+02	12.2	1.31E+02	9.14E-01	15.
342	1.530	3.090E+02	4.569E+01	3.033E+01	49.7	1.25E+02	6.64E-01	11.
348	1.757	3.320E+02	2.166E+02	2.044E+02	44.0	1.41E+02	9.44E-01	10.
351	2.243	3.130E+02	2.417E+02	2.316E+02	63.5	1.21E+02	9.58E-01	8.
303	2.273	2.927E+02	2.268E+02	2.092E+02	61.6	1.16E+02	9.22E-01	18.
306	2.938	3.178E+02	2.765E+02	2.648E+02	90.7	1.15E+02	9.58E-01	12.
309	3.790	3.027E+02	2.742E+02	2.630E+02	117.1	8.29E+01	9.59E-01	4.
312	4.360	3.243E+02	2.219E+02	2.126E+02	129.3	6.83E+01	9.57E-01	12.
315	5.073	3.070E+02	1.535E+02	1.471E+02	138.9	5.25E+01	5.27E-01	5.
318	5.790	3.101E+02	1.098E+02	1.049E+02	157.3	3.40E+01	9.56E-01	12.
354	6.233	3.197E+02	5.336E+01	3.688E+01	159.9	2.72E+01	6.91E-01	4.
366	6.260	2.765E+02	3.701E+02	2.874E+02	161.7	3.02E+01	7.77E-01	3.
360	6.290	3.253E+02	1.362E+02	1.213E+02	168.2	2.61E+01	8.91E-01	3.
357	6.361	3.258E+02	8.191E+01	7.529E+01	161.6	2.87E+01	9.19E-01	5.
363	6.372	2.785E+02	2.314E+02	1.970E+02	159.3	2.53E+01	8.51E-01	3.
321	6.397	3.147E+02	1.158E+02	1.081E+02	159.2	2.83E+01	9.34E-01	8.
327	6.789	3.065E+02	1.091E+02	1.020E+02	164.0	2.48E+01	9.34E-01	4.
370	6.899	3.087E+02	1.005E+02	8.356E+01	-191.8	2.06E+01	8.31E-01	8.
330	6.922	3.085E+02	1.086E+02	9.694E+01	167.7	2.26E+01	8.93E-01	4.
333	7.242	3.255E+02	9.087E+01	7.832E+01	168.2	1.96E+01	8.62E-01	3.
336	7.393	2.912E+02	8.115E+01	7.329E+01	165.9	1.94E+01	9.03E-01	7.
339	7.468	3.226E+02	7.998E+01	7.191E+01	-191.4	1.84E+01	8.99E-01	7.

Table 28 - 26 Kt Aft Cushion Pressure (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AFT CUSHION PRESSURE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PASCAL)	ROOTQO (PASCAL)	AMPLITUDE (PASCAL)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
343	1.213	2.597E+02	2.130E+02	2.092E+02	304.0	1.48E+02	9.82E-01	2.
346	1.495	2.817E+02	2.297E+02	2.259E+02	349.8	1.67E+02	9.83E-01	9.
349	1.741	2.825E+02	2.305E+02	2.191E+02	2.1	1.50E+02	9.51E-01	8.
304	2.222	2.945E+02	3.281E+02	3.010E+02	95.4	1.60E+02	9.17E-01	16.
352	2.263	2.219E+02	2.897E+02	2.283E+02	63.2	1.21E+02	7.88E-01	26.
307	2.930	2.140E+02	3.128E+02	2.802E+02	62.0	1.24E+02	8.96E-01	10.
310	3.813	2.623E+02	4.224E+02	3.819E+02	95.4	1.19E+02	9.04E-01	10.
313	4.341	2.856E+02	3.486E+02	3.215E+02	116.7	9.87E+01	9.22E-01	12.
316	5.001	2.703E+02	2.289E+02	2.160E+02	133.2	7.35E+01	9.44E-01	10.
319	5.930	2.761E+02	1.651E+02	1.462E+02	145.5	5.01E+01	8.86E-01	7.
355	6.272	2.761E+02	7.901E+01	6.936E+01	153.9	4.19E+01	8.78E-01	3.
358	6.326	2.800E+02	1.133E+02	1.060E+02	155.6	3.91E+01	9.36E-01	9.
361	6.387	2.872E+02	2.193E+02	2.020E+02	159.4	3.95E+01	9.22E-01	5.
322	6.393	2.918E+02	1.740E+02	1.481E+02	152.8	4.08E+01	8.51E-01	9.
364	6.433	2.583E+02	3.581E+02	3.043E+02	150.6	3.88E+01	8.50E-01	8.
328	6.757	2.771E+02	1.662E+02	1.521E+02	159.0	3.47E+01	9.15E-01	17.
331	6.905	2.803E+02	1.684E+02	1.446E+02	158.2	3.25E+01	8.58E-01	5.
334	7.175	2.852E+02	1.347E+02	1.243E+02	-200.6	2.99E+01	9.23E-01	5.
337	7.242	2.627E+02	1.285E+02	1.162E+02	159.0	2.79E+01	9.05E-01	5.
340	7.451	2.861E+02	1.241E+02	1.108E+02	160.9	2.84E+01	8.93E-01	10.

Table 29 - 0 Kt Drag (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

DRAG

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (NEWTON)	ROOTQ0 (NEWTON)	AMPLITUDE (NEWTON)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
300	1.491	1.910E+00	1.147E+01	8.434E+00	118.8	1.42E+00	7.35E-01	11.
344	1.499	3.943E+00	9.773E+00	9.065E+00	111.5	1.42E+00	9.28E-01	4.
347	1.750	8.145E-01	1.472E+01	1.282E+01	104.1	2.37E+00	8.71E-01	2.
302	2.290	2.310E+00	1.672E+01	1.278E+01	106.3	1.15E+00	7.64E-01	5.
350	2.360	2.581E+00	2.196E+01	1.634E+01	79.7	1.97E+00	7.44E-01	5.
305	2.969	4.349E+00	2.193E+01	1.181E+00	184.2	1.61E+00	8.07E-01	6.
308	3.933	1.835E+00	2.218E+01	1.902E+01	96.0	1.29E+00	8.58E-01	6.
311	4.564	3.699E+00	2.164E+01	1.758E+01	90.5	1.09E+00	8.12E-01	5.
314	5.332	4.329E+00	1.645E+01	1.518E+01	59.4	1.15E+00	9.23E-01	4.
317	6.488	3.432E+00	1.491E+01	1.436E+01	84.8	8.36E-01	9.63E-01	6.
320	7.206	3.956E+00	2.213E+01	2.025E+01	87.0	9.61E-01	9.15E-01	4.
356	7.248	8.345E-01	1.432E+01	1.378E+01	87.8	9.21E-01	9.62E-01	5.
359	7.272	1.690E+00	2.017E+01	1.770E+01	68.5	9.03E-01	8.78E-01	5.
362	7.291	1.645E-01	3.663E+01	3.047E+01	71.2	1.14E+00	8.32E-01	5.
353	7.333	1.603E+00	9.759E+00	8.745E+00	86.0	1.19E+00	8.96E-01	5.
365	7.433	-1.478E+00	4.060E+01	3.565E+01	66.9	9.47E-01	8.78E-01	5.
326	8.057	4.362E+00	2.124E+01	1.833E+01	82.3	8.55E-01	8.63E-01	1.
368	8.078	-1.838E+00	1.779E+01	1.496E+01	77.2	8.21E-01	8.41E-01	5.
329	8.253	3.337E+00	1.721E+01	1.558E+01	75.3	9.17E-01	9.05E-01	3.
335	8.336	3.184E+00	1.330E+01	1.195E+01	79.7	8.80E-01	8.99E-01	4.
332	8.553	5.418E+00	2.080E+01	1.652E+01	80.4	9.05E-01	7.94E-01	2.
338	8.881	3.409E+00	1.067E+01	1.004E+01	79.6	7.86E-01	9.41E-01	1.

Table 30 - 20 Kt Drag (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

DRAG

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (NEWTON)	ROOTQO (NEWTON)	AMPLITUDE (NEWTON)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
345	1.489	1.184E+02	1.759E+02	2.685E+01	284.3	4.35E+00	1.53E-01	13.
301	1.506	9.960E+01	1.549E+02	2.198E+01	249.4	3.75E+00	1.42E-01	15.
342	1.530	1.069E+02	1.706E+02	7.495E+01	188.7	6.56E+01	4.39E-01	11.
348	1.757	1.121E+02	3.695E+02	3.520E+02	276.9	5.15E+01	9.52E-01	10.
351	2.243	1.233E+02	2.749E+02	2.423E+02	56.7	2.69E+01	8.81E-01	8.
303	2.273	1.040E+02	1.639E+02	1.260E+02	56.8	1.48E+01	7.69E-01	18.
306	2.938	1.139E+02	1.344E+02	1.126E+02	76.7	1.04E+01	8.38E-01	12.
309	3.790	1.255E+02	2.021E+02	1.102E+02	101.6	7.37E+00	5.44E-01	4.
312	4.360	1.206E+02	1.481E+02	8.856E+01	99.7	6.05E+00	5.98E-01	12.
315	5.073	1.114E+02	1.287E+02	6.788E+01	111.7	5.14E+00	5.27E-01	5.
318	5.790	1.090E+02	1.222E+02	4.884E+01	131.7	3.36E+00	3.99E-01	12.
354	6.233	1.073E+02	1.499E+02	2.257E+01	145.7	3.53E+00	1.50E-01	4.
366	6.260	1.634E+02	2.242E+02	1.357E+02	129.1	3.02E+00	6.05E-01	3.
360	6.290	1.145E+02	1.989E+02	7.055E+01	143.2	3.22E+00	3.55E-01	3.
357	6.361	1.064E+02	1.524E+02	3.655E+01	140.1	2.96E+00	2.40E-01	5.
363	6.372	1.289E+02	1.934E+02	8.985E+01	122.9	2.45E+00	4.65E-01	3.
321	6.397	1.097E+02	1.408E+02	5.187E+01	137.7	2.88E+00	3.68E-01	8.
324	6.786	1.100E+02	1.193E+02	4.442E+01	137.1	2.29E+00	3.72E-01	4.
370	6.899	1.736E+02	1.669E+02	5.800E+01	153.9	3.03E+00	3.47E-01	8.
330	6.922	1.105E+02	1.293E+02	3.511E+01	140.6	1.74E+00	2.72E-01	4.
333	7.242	1.069E+02	1.823E+02	3.978E+01	143.4	2.11E+00	2.18E-01	3.
336	7.393	1.056E+02	1.528E+02	3.085E+01	143.4	1.73E+00	2.02E-01	7.
339	7.468	1.012E+02	1.692E+02	3.106E+01	151.7	1.69E+00	1.84E-01	7.

Table 31 - 26 Kt Drag (Metric Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

DRAG

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (NEWTON)	ROOTQ0 (NEWTON)	AMPLITUDE (NEWTON)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
343	1.213	1.870E+02	1.395E+02	5.738E+01	210.5	8.63E+00	4.12E-01	2.
346	1.495	1.537E+02	1.007E+02	7.113E+01	229.7	1.11E+01	7.07E-01	9.
349	1.741	1.751E+02	1.465E+02	1.216E+02	249.9	1.77E+01	8.30E-01	8.
304	2.222	3.044E+01	3.299E+02	3.174E+02	339.9	3.58E+01	9.62E-01	16.
352	2.263	7.050E+01	5.961E+02	5.494E+02	358.5	6.16E+01	9.22E-01	26.
307	2.930	1.162E+02	1.971E+02	1.874E+02	63.2	1.76E+01	9.51E-01	10.
310	3.813	1.762E+02	2.206E+02	1.743E+02	87.7	1.15E+01	7.90E-01	10.
313	4.341	1.643E+02	2.226E+02	1.262E+02	102.4	8.23E+00	5.67E-01	12.
316	5.001	1.479E+02	1.083E+02	7.509E+01	107.3	5.42E+00	6.94E-01	10.
319	5.930	1.409E+02	8.327E+01	5.333E+01	117.4	3.88E+00	6.41E-01	7.
355	6.272	1.462E+02	6.228E+01	3.616E+01	126.1	4.64E+00	5.80E-01	3.
358	6.326	1.504E+02	8.932E+01	5.325E+01	122.3	4.17E+00	5.96E-01	9.
361	6.387	1.590E+02	1.876E+02	9.541E+01	129.2	3.97E+00	5.09E-01	5.
322	6.393	1.514E+02	1.555E+02	6.579E+01	124.0	3.85E+00	4.23E-01	9.
364	6.433	1.923E+02	2.586E+02	1.515E+02	123.3	4.11E+00	5.86E-01	8.
328	6.757	1.436E+02	1.169E+02	6.014E+01	125.1	2.91E+00	5.14E-01	17.
331	6.905	1.537E+02	1.548E+02	5.889E+01	120.0	2.81E+00	3.81E-01	5.
334	7.175	1.407E+02	1.068E+02	5.796E+01	127.1	2.97E+00	5.43E-01	5.
337	7.242	1.443E+02	1.057E+02	4.777E+01	128.4	2.43E+00	4.52E-01	5.
340	7.451	1.386E+02	8.781E+01	4.817E+01	130.7	2.63E+00	5.49E-01	10.

Table 32 - 0 Kt Wave Amplitude (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

WAVE AMPLITUDE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQ0 (IN)	AMPLITUDE (IN)	AMLPITUDE /ROOTQ0	ENCOUNTER PERIOD (SEC)	WAVE PERIOD (SEC)	NUMBER CYCLES
300	1.491	1.084E-01	8.049E-01	7.873E-01	9.78E-01	1.455	1.455	11.
344	1.499	-1.466E-01	8.569E-01	8.450E-01	9.86E-01	1.444	1.444	4.
347	1.750	-1.525E-01	7.329E-01	7.164E-01	9.77E-01	1.560	1.560	2.
302	2.290	-3.218E-02	1.486E+00	1.476E+00	9.93E-01	1.784	1.784	5.
350	2.360	-8.352E-02	1.138E+00	1.099E+00	9.65E-01	1.812	1.812	5.
305	2.969	-1.644E-01	1.466E+00	1.453E+00	9.91E-01	2.037	2.037	6.
308	3.933	-5.245E-02	1.974E+00	1.959E+00	9.92E-01	2.365	2.365	6.
311	4.564	-1.106E-01	2.141E+00	2.127E+00	9.94E-01	2.571	2.571	5.
314	5.332	-1.046E-01	1.783E+00	1.756E+00	9.85E-01	2.826	2.826	4.
317	6.488	-1.177E-01	2.296E+00	2.275E+00	9.91E-01	3.203	3.203	6.
320	7.206	-1.364E-01	2.834E+00	2.792E+00	9.85E-01	3.458	3.458	4.
356	7.248	-9.273E-02	1.998E+00	1.981E+00	9.80E-01	3.473	3.473	5.
359	7.272	-1.267E-01	2.681E+00	2.596E+00	9.68E-01	3.481	3.481	5.
362	7.291	-2.552E-01	3.649E+00	3.551E+00	9.73E-01	3.488	3.488	5.
353	7.333	-3.865E-02	1.004E+00	9.736E-01	9.70E-01	3.492	3.492	5.
365	7.433	-3.808E-01	5.181E+00	4.985E+00	9.62E-01	3.525	3.525	5.
326	8.057	-7.216E-02	2.893E+00	2.839E+00	9.81E-01	3.750	3.750	1.
368	8.078	1.086E-01	2.465E+00	2.414E+00	9.79E-01	3.758	3.758	5.
329	8.253	-8.964E-02	2.306E+00	2.251E+00	9.76E-01	3.820	3.820	3.
335	8.336	-5.788E-02	1.911E+00	1.799E+00	9.42E-01	3.850	3.850	4.
332	8.553	-8.359E-02	2.489E+00	2.418E+00	9.72E-01	3.929	3.929	2.
338	8.881	-1.335E-01	1.731E+00	1.692E+00	9.77E-01	4.026	4.026	1.

Table 33 - 20 Kt Wave Amplitude (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

WAVE AMPLITUDE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQQ (IN)	AMPLITUDE (IN)	AMLPITUDE /ROOTQQ	ENCOUNTER PERIOD (SEC)	WAVE PERIOD (SEC)	NUMBER CYCLES
345	1.489	-2.069E-01	8.461E-01	8.187E-01	9.68E-01	.256	1.439	13.
301	1.506	-1.194E-01	7.808E-01	7.764E-01	9.94E-01	.259	1.447	15.
342	1.530	4.892E-03	1.863E-01	1.514E-01	8.13E-01	.262	1.458	11.
348	1.757	-1.945E-01	9.600E-01	9.062E-01	9.44E-01	.298	1.563	10.
351	2.243	-1.314E-01	1.275E+00	1.193E+00	9.35E-01	.370	1.766	8.
303	2.273	-5.882E-02	1.204E+00	1.127E+00	9.36E-01	.375	1.778	18.
306	2.938	-1.771E-01	1.497E+00	1.439E+00	9.61E-01	.474	2.026	12.
309	3.790	-1.342E-01	2.012E+00	1.980E+00	9.84E-01	.599	2.317	4.
312	4.360	-1.306E-01	1.961E+00	1.940E+00	9.89E-01	.686	2.506	12.
315	5.073	-1.863E-01	1.823E+00	1.748E+00	9.59E-01	.800	2.740	5.
318	5.790	-1.200E-01	1.977E+00	1.923E+00	9.73E-01	.921	2.976	12.
354	6.233	-1.861E-01	9.027E-01	8.460E-01	9.37E-01	.997	3.120	4.
366	6.260	-3.965E-01	6.201E+00	5.945E+00	9.59E-01	1.001	3.128	3.
360	6.290	-2.617E-01	3.008E+00	2.900E+00	9.64E-01	1.007	3.138	3.
357	6.361	-2.094E-01	1.675E+00	1.637E+00	9.77E-01	1.019	3.162	5.
363	6.372	-3.080E-01	5.005E+00	4.867E+00	9.72E-01	1.022	3.165	3.
321	6.397	-1.815E-01	2.467E+00	2.381E+00	9.65E-01	1.026	3.730	8.
327	6.786	4.059E-02	2.648E+00	2.564E+00	9.68E-01	1.100	3.312	4.
370	6.899	-3.304E-01	2.577E+00	2.536E+00	9.84E-01	1.122	3.351	8.
330	6.922	-1.518E-01	2.750E+00	2.678E+00	9.74E-01	1.127	3.359	4.
333	7.242	-1.189E-01	2.601E+00	2.492E+00	9.58E-01	1.190	3.471	3.
336	7.393	-1.170E-01	2.456E+00	2.359E+00	9.60E-01	1.213	3.512	7.
339	7.468	-1.274E-01	2.549E+00	2.441E+00	9.58E-01	1.228	3.537	7.

Table 34 - 26 Kt Wave Amplitude (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

WAVE AMPLITUDE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQ0 (IN)	AMPLITUDE (IN)	AMLPITUDE /ROOTQ0	ENCOUNTER PERIOD (SEC)	WAVE PERIOD (SEC)	NUMBER CYCLES
343	1.213	-2.263E-01	8.922E-01	8.807E-01	9.87E-01	.170	1.299	2.
346	1.495	-9.019E-02	8.627E-01	8.463E-01	9.81E-01	.206	1.442	9.
349	1.741	-5.010E-02	9.285E-01	9.127E-01	9.83E-01	.237	1.556	8.
304	2.222	-3.565E-02	1.193E+00	1.174E+00	9.84E-01	.297	1.758	16.
352	2.263	-5.722E-02	1.280E+00	1.181E+00	9.23E-01	.302	1.771	26.
307	2.930	-1.521E-01	1.446E+00	1.412E+00	9.77E-01	.384	2.023	10.
310	3.813	-6.511E-02	2.016E+00	2.008E+00	9.96E-01	.493	2.325	10.
313	4.341	-1.580E-01	2.069E+00	2.003E+00	9.83E-01	.560	2.498	12.
316	5.001	-2.154E-01	1.921E+00	1.834E+00	9.55E-01	.647	2.711	10.
319	5.930	-2.460E-01	1.979E+00	1.822E+00	9.21E-01	.782	3.020	7.
355	6.272	-5.719E-02	1.076E+00	1.033E+00	9.60E-01	.832	3.132	3.
358	6.326	-2.249E-01	1.735E+00	1.690E+00	9.74E-01	.841	3.150	9.
361	6.387	-2.405E-01	3.248E+00	3.187E+00	9.81E-01	.850	3.170	5.
322	6.393	-2.086E-01	2.598E+00	2.266E+00	8.72E-01	.860	3.190	9.
364	6.433	-1.184E-01	5.028E+00	4.887E+00	9.72E-01	.857	3.185	8.
328	6.757	-3.535E-03	2.777E+00	2.737E+00	9.86E-01	.912	3.302	17.
331	6.905	-9.692E-02	2.847E+00	2.779E+00	9.76E-01	.936	3.353	5.
334	7.175	-7.362E-02	2.689E+00	2.589E+00	9.63E-01	.982	3.447	5.
337	7.242	-6.475E-02	2.662E+00	2.603E+00	9.78E-01	.994	3.471	5.
340	7.451	-1.066E-01	2.522E+00	2.430E+00	9.64E-01	1.024	3.532	10.

Table 35 - 0 Kt Heave (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

HEAVE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQQ (IN)	AMPLITUDE (IN)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
300	1.491	3.374E-01	3.518E-01	3.321E-01	181.2	4.22E-01	9.44E-01	11.
344	1.499	7.192E-01	4.102E-01	4.020E-01	181.2	4.76E-01	9.80E-01	4.
347	1.750	1.088E+00	6.877E-01	6.863E-01	187.9	9.58E-01	9.98E-01	2.
302	2.291	4.542E-01	8.475E-01	8.361E-01	175.1	5.66E-01	9.87E-01	5.
350	2.360	2.530E+00	8.647E-01	8.299E-01	169.4	7.55E-01	9.60E-01	5.
305	2.969	2.141E-01	1.097E+00	1.091E+00	176.4	7.51E-01	9.94E-01	6.
308	3.933	6.297E-01	1.848E+00	1.843E+00	181.8	9.41E-01	9.97E-01	6.
311	4.564	4.757E-01	1.952E+00	1.942E+00	175.0	9.13E-01	9.95E-01	5.
314	5.332	8.722E-01	1.871E+00	1.852E+00	168.7	1.05E+00	9.90E-01	4.
317	6.488	1.137E+00	1.982E+00	1.967E+00	157.8	8.65E-01	9.93E-01	6.
320	7.206	8.965E-01	2.046E+00	2.018E+00	164.8	7.23E-01	9.87E-01	4.
356	7.248	6.407E-01	1.470E+00	1.456E+00	159.8	7.35E-01	9.90E-01	5.
359	7.272	4.421E-01	3.437E+00	3.340E+00	165.9	1.29E+00	9.72E-01	5.
362	7.291	3.570E-01	4.798E+00	4.681E+00	-175.4	1.32E+00	9.75E-01	5.
353	7.333	6.155E-01	6.646E-01	6.543E-01	109.3	6.72E-01	9.85E-01	5.
365	7.433	7.279E-01	6.604E+00	6.428E+00	172.2	1.29E+00	9.73E-01	5.
326	8.057	4.437E-01	2.404E+00	2.359E+00	163.2	8.31E-01	9.81E-01	1.
368	8.078	5.592E-01	2.719E+00	2.674E+00	160.0	1.11E+00	9.83E-01	5.
329	8.253	3.353E-01	3.025E+00	2.963E+00	-178.1	1.32E+00	9.79E-01	3.
335	8.336	4.682E-01	2.872E+00	2.703E+00	189.9	1.50E+00	9.41E-01	4.
332	8.553	5.267E-01	2.265E+00	2.206E+00	198.7	9.13E-01	9.74E-01	2.
338	8.881	6.235E-01	2.966E+00	2.947E+00	179.8	1.74E+00	9.94E-01	1.

Table 36 - 20 Kt Heave (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

HEAVE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQO (IN)	AMPLITUDE (IN)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
345	1.489	3.295E-01	1.986E-01	1.383E-01	62.5	1.69E-01	6.96E-01	13.
301	1.506	7.976E-01	1.541E-01	1.318E-01	47.6	1.70E-01	8.55E-01	15.
342	1.530	9.775E-03	7.305E-02	2.173E-02	65.5	1.44E-01	2.97E-01	11.
348	1.757	5.076E-01	3.712E-01	2.930E-01	79.8	3.23E-01	7.90E-01	10.
351	2.243	5.719E-01	8.196E-01	6.699E-01	93.8	5.62E-01	8.17E-01	8.
303	2.273	4.832E-01	8.912E-01	6.843E-01	89.2	6.07E-01	7.68E-01	18.
306	2.938	6.402E-01	1.504E+00	1.400E+00	112.1	9.73E-01	9.31E-01	12.
309	3.790	5.399E-01	2.437E+00	2.410E+00	137.2	1.22E+00	9.89E-01	4.
312	4.360	5.443E-01	2.635E+00	2.611E+00	146.4	1.35E+00	9.91E-01	12.
315	5.073	6.499E-01	2.465E+00	2.376E+00	156.7	1.36E+00	9.64E-01	5.
318	5.790	3.884E-01	2.489E+00	2.445E+00	174.8	1.27E+00	9.82E-01	12.
354	6.233	3.907E-01	1.133E+00	1.083E+00	180.4	1.28E+00	9.56E-01	4.
366	6.260	3.275E-01	8.222E+00	8.031E+00	176.7	1.35E+00	9.77E-01	3.
360	6.290	4.639E-01	3.735E+00	3.624E+00	187.6	1.25E+00	9.70E-01	3.
357	6.361	2.498E-01	2.142E+00	2.099E+00	182.0	1.28E+00	9.80E-01	5.
363	6.372	3.067E-01	5.711E+00	5.585E+00	174.4	1.15E+00	9.78E-01	3.
321	6.397	4.903E-01	3.052E+00	2.971E+00	179.2	1.25E+00	9.74E-01	8.
327	6.786	-1.519E-01	3.152E+00	3.116E+00	183.0	1.22E+00	9.89E-01	4.
370	6.899	3.334E+00	3.033E+00	3.000E+00	-173.1	1.18E+00	9.89E-01	8.
330	6.922	8.186E-02	3.247E+00	3.175E+00	188.0	1.19E+00	9.78E-01	4.
333	7.242	-5.776E-02	3.009E+00	2.922E+00	188.0	1.17E+00	9.71E-01	3.
336	7.393	-8.321E-02	2.891E+00	2.792E+00	185.6	1.18E+00	9.66E-01	7.
339	7.468	-5.092E-02	2.833E+00	2.728E+00	-170.5	1.12E+00	9.63E-01	7.

Table 37 - 26 Kt Heave (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

HEAVE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQO (IN)	AMPLITUDE (IN)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
343	1.213	5.207E-01	7.054E-02	1.480E-02	84.7	1.68E-02	2.10E-01	2.
346	1.495	2.704E-01	1.070E-01	8.307E-02	27.5	9.82E-02	7.76E-01	9.
349	1.741	1.054E+00	2.118E-01	1.380E-01	51.5	1.51E-01	6.51E-01	8.
304	2.222	8.865E-01	5.473E-01	4.993E-01	76.1	4.25E-01	9.12E-01	16.
352	2.263	8.043E-01	5.716E-01	4.684E-01	85.2	3.97E-01	8.19E-01	26.
307	2.930	1.038E+00	1.295E+00	1.205E+00	90.3	8.54E-01	9.31E-01	10.
310	3.813	7.700E-01	2.240E+00	2.218E+00	119.9	1.10E+00	9.90E-01	10.
313	4.341	6.883E-01	2.441E+00	2.396E+00	136.3	1.18E+00	9.81E-01	12.
316	5.001	4.746E-01	2.294E+00	2.192E+00	150.2	1.20E+00	9.56E-01	10.
319	5.930	3.973E-01	2.293E+00	2.060E+00	164.8	1.13E+00	8.99E-01	7.
355	6.272	9.280E+02	1.225E+00	1.182E+00	172.2	1.14E+00	9.65E-01	3.
358	6.326	2.586E-01	1.993E+00	1.935E+00	173.8	1.15E+00	9.71E-01	9.
361	6.387	4.532E-01	3.676E+00	3.613E+00	175.4	1.13E+00	9.83E-01	5.
322	6.393	7.840E-01	2.937E+00	2.604E+00	170.3	1.15E+00	8.87E-01	9.
364	6.433	1.161E+00	5.967E+00	5.786E+00	169.9	1.18E+00	9.70E-01	8.
328	6.757	-2.990E-01	3.215E+00	3.179E+00	176.7	1.16E+00	9.89E-01	17.
331	6.905	-4.956E-02	3.389E+00	3.237E+00	176.3	1.16E+00	9.55E-01	5.
334	7.175	-9.426E-02	2.157E+00	2.973E+00	-180.7	1.15E+00	9.75E-01	5.
337	7.242	-1.080E-01	3.046E+00	2.989E+00	179.3	1.15E+00	9.81E-01	5.
340	7.451	-1.230E-01	2.969E+00	2.846E+00	181.5	1.17E+00	9.59E-01	10.

Table 38 - 0 Kt Relative Bow Motion (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

RELATIVE BOW MOTION

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQO (IN)	AMPLITUDE (IN)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
300	1.491	-1.209E-01	1.925E+00	1.533E-01	186.8	9.57E-01	3.91E-01	11.
344	1.499	-3.794E-01	4.130E+00	2.186E+00	220.4	2.59E+00	5.29E-01	4.
347	1.750	6.790E-01	3.245E+00	2.311E+00	201.6	3.23E+00	7.12E-01	2.
302	2.290	9.531E-01	2.191E+00	1.020E+00	170.8	6.91E-01	4.66E-01	5.
350	2.360	5.017E-01	2.559E+00	1.667E+00	193.7	1.52E+00	6.51E-01	5.
305	2.969	4.445E-01	1.597E+00	9.303E-01	170.5	6.40E-01	5.83E-01	6.
308	3.933	-4.969E+00	8.974E+00	2.826E+00	110.0	1.44E+00	3.15E-01	6.
311	4.564	-3.052E+00	8.037E+00	3.107E+00	135.0	1.46E+00	3.87E-01	5.
314	5.332	-3.657E+00	8.833E+00	2.078E+00	167.6	1.18E+00	2.35E-01	4.
317	6.488	-3.708E+00	8.924E+00	2.339E+00	158.7	1.03E+00	2.62E-01	6.
320	7.206	-6.167E-01	5.691E+00	4.289E-01	232.8	1.54E-01	7.54E-02	4.
356	7.248	-4.525E-02	2.919E+00	5.246E-01	167.3	2.65E-01	1.80E-01	5.
359	7.272	2.144E-01	1.807E+00	6.659E-01	185.9	2.57E-01	3.68E-01	5.
362	7.291	2.928E-01	1.579E+00	1.006E+00	-174.4	2.83E-01	6.37E-01	5.
353	7.333	-1.582E-01	3.744E+00	1.062E-01	-116.0	1.09E-01	2.84E-02	5.
365	7.433	-1.091E-01	2.241E+00	1.414E+00	168.2	2.84E-01	6.31E-01	5.
326	8.057	-8.083E-02	2.916E+00	4.611E-01	276.3	1.62E-01	1.58E-01	1.
368	8.078	-4.027E-02	2.781E+00	5.369E-01	141.7	2.22E-01	1.93E-01	5.
329	8.253	1.719E-01	1.543E+00	5.600E-01	-165.7	2.49E-01	3.63E-01	3.
335	8.336	1.836E-01	1.781E+00	2.677E-01	219.2	1.49E-01	1.50E-01	4.
332	8.553	-4.778E-01	3.471E+00	8.773E-01	184.5	3.63E-01	2.53E-01	2.
338	8.881	5.817E-02	2.017E+00	3.118E-01	234.8	1.84E-01	1.55E-01	1.

Table 39 - 20 Kt Relative Bow Motion (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

RELATIVE BOW MOTION

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQ0 (IN)	AMPLITUDE (IN)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	-3.516E-01	1.045E+00	9.807E-01	150.6	1.20E+00	9.39E-01	13.
342	1.530	-5.897E-01	3.337E-01	2.437E-01	136.6	1.61E+00	7.30E-01	11.
301	1.560	5.038E-01	1.081E+00	9.515E-01	128.3	1.23E+00	8.80E-01	15.
348	1.757	2.631E-01	1.572E+00	1.332E+00	129.9	1.47E+00	8.47E-01	10.
351	2.243	5.056E-01	2.190E+00	1.974E+00	115.0	1.66E+00	9.01E-01	8.
303	2.273	6.606E-01	2.387E+00	1.365E+00	116.2	1.21E+00	5.72E-01	18.
306	2.938	1.054E+00	2.904E+00	1.915E+00	112.9	1.33E+00	6.60E-01	12.
309	3.790	-1.219E+00	6.009E+00	4.490E+00	115.1	2.27E+00	7.47E-01	4.
312	4.360	-9.001E-01	6.546E+00	5.002E+00	129.2	2.58E+00	7.64E-01	12.
315	5.073	-3.094E+00	8.548E+00	5.951E+00	140.7	3.40E+00	6.96E-01	5.
318	5.790	-1.909E+00	6.432E+00	3.753E+00	160.3	1.95E+00	5.84E-01	12.
354	6.233	-1.966E-01	8.459E-01	7.441E-01	175.1	8.80E-01	8.80E-01	4.
366	6.260	2.086E-01	7.310E+00	6.744E+00	131.2	1.13E+00	9.23E-01	3.
360	6.290	-1.693E-01	2.482E+00	2.346E+00	171.2	8.09E-01	9.45E-01	3.
357	6.361	-3.357E-01	1.501E+00	1.451E+00	172.2	8.86E-01	9.67E-01	5.
363	6.372	-9.777E-02	4.418E+00	4.109E+00	136.7	8.44E-01	9.30E-01	3.
321	6.397	-1.660E+00	6.022E+00	3.837E+00	146.9	1.61E+00	6.37E-01	8.
327	6.786	-1.283E+00	1.790E+00	1.726E+00	166.6	6.73E-01	9.64E-01	4.
370	6.899	5.823E+00	1.376E+00	1.199E+00	-172.8	4.73E-01	8.71E-01	8.
330	6.922	-1.128E+00	1.792E+00	1.672E+00	175.3	6.24E-01	9.33E-01	4.
333	7.242	-1.142E+00	1.529E+00	1.442E+00	180.7	5.78E-01	9.43E-01	3.
336	7.393	-1.259E+00	1.305E+00	1.221E+00	181.1	5.18E-01	9.35E-01	7.
339	7.468	-1.260E+00	1.192E+00	1.106E+00	-170.6	4.53E-01	9.27E-01	7.

Table 40 - 26 Kt Relative Bow Motion (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

RELATIVE BOW MOTION

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (IN)	ROOTQO (IN)	AMPLITUDE (IN)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
343	1.213	8.313E-01	1.064E+00	1.030E+00	195.1	1.17E+00	9.68E-01	2.
346	1.495	3.131E-01	9.786E-01	9.622E-01	150.2	1.14E+00	9.83E-01	9.
349	1.741	2.753E+00	1.195E+00	1.137E+00	128.7	1.25E+00	9.51E-01	8.
304	2.222	1.506E+00	1.774E+00	1.720E+00	107.7	1.47E+00	9.70E-01	16.
352	2.263	1.907E+00	1.885E+00	1.725E+00	113.3	1.46E+00	9.15E-01	26.
307	2.930	2.024E+00	2.383E+00	2.277E+00	91.6	1.61E+00	9.56E-01	10.
310	3.813	1.862E+00	3.264E+00	3.174E+00	95.3	1.58E+00	9.73E-01	10.
313	4.341	1.127E+00	3.814E+00	3.180E+00	100.1	1.56E+00	8.34E-01	12.
316	5.001	-1.321E+00	7.033E+00	3.975E+00	103.8	2.17E+00	5.65E-01	10.
319	5.930	-2.753E+00	7.869E+00	3.681E+00	102.5	2.02E+00	4.68E-01	7.
355	6.272	6.435E-01	9.127E-01	8.447E-01	124.4	8.18E-01	9.25E-01	3.
358	6.326	5.322E-01	1.592E+00	1.452E+00	125.2	8.60E-01	9.13E-01	9.
361	6.387	1.078E+00	2.567E+00	2.515E+00	126.1	7.89E-01	9.80E-01	5.
322	6.393	3.492E-01	4.120E+00	2.469E+00	103.8	1.09E+00	5.99E-01	9.
364	6.433	2.533E+00	4.653E+00	4.390E+00	116.2	8.98E-01	9.44E-01	8.
328	6.757	-6.465E-01	2.373E+00	2.315E+00	127.3	8.46E-01	9.75E-01	17.
331	6.905	-3.856E-01	2.743E+00	2.548E+00	124.3	9.17E-01	9.29E-01	5.
334	7.175	-5.633E-01	1.911E+00	1.849E+00	-224.5	7.14E-01	9.67E-01	5.
337	7.242	-8.711E-01	2.094E+00	2.026E+00	136.6	7.78E-01	9.68E-01	5.
340	7.451	-6.030E-01	1.837E+00	1.724E+00	140.9	7.09E-01	9.38E-01	10.

Table 41 - 0 Kt Average Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AVERAGE CUSHION PRESSURE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQO (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
300	1.491	5.750E-02	4.115E-03	7.281E-04	186.4	3.98E+00	1.77E-01	11.
344	1.499	5.705E-02	4.299E-03	4.172E-04	148.9	2.12E+00	9.70E-02	4.
347	1.750	5.807E-02	5.120E-03	4.960E-04	169.9	2.98E+00	9.69E-02	2.
302	2.290	5.751E-02	4.408E-03	8.699E-04	171.1	2.53E+00	1.97E-01	5.
350	2.360	6.003E-02	4.540E-03	1.213E-03	153.7	4.75E+00	2.67E-01	5.
305	2.969	5.943E-02	4.148E-03	1.467E-03	165.1	4.34E+00	3.54E-01	6.
308	3.933	5.977E-02	4.718E-03	1.008E-03	157.5	2.21E+00	2.14E-01	6.
311	4.564	6.009E-02	4.700E-03	1.693E-03	156.9	3.42E+00	3.60E-01	5.
314	5.332	5.950E-02	5.373E-03	1.031E-03	135.6	2.53E+00	1.92E-01	4.
317	6.488	5.690E-02	5.867E-03	1.051E-03	137.5	1.99E+00	1.79E-01	6.
320	7.206	6.088E-02	5.400E-03	1.107E-03	142.6	1.71E+00	2.05E-01	4.
356	7.248	5.662E-02	5.660E-03	6.731E-04	116.4	1.46E+00	1.19E-01	5.
359	7.272	6.122E-02	5.062E-03	1.467E-03	151.5	2.43E+00	2.90E-01	5.
362	7.291	6.378E-02	4.931E-03	2.064E-03	-182.7	2.50E+00	4.19E-01	5.
353	7.333	5.863E-02	4.733E-03	3.625E-04	136.5	1.60E+00	7.66E-02	5.
365	7.433	5.998E-02	5.695E-03	2.896E-03	165.1	2.50E+00	5.08E-01	5.
326	8.057	5.768E-02	5.137E-03	8.145E-04	148.9	1.23E+00	1.59E-01	1.
368	8.078	5.826E-02	4.935E-03	1.074E-03	136.3	1.91E+00	2.18E-01	5.
329	8.253	5.548E-02	5.109E-03	1.137E-03	-199.1	2.17E+00	2.23E-01	3.
335	8.336	5.947E-02	4.496E-03	1.007E-03	165.0	2.41E+00	2.24E-01	4.
332	8.553	5.882E-02	4.832E-03	9.411E-04	180.3	1.67E+00	1.95E-01	2.
338	8.881	5.685E-02	4.762E-03	8.302E-04	172.4	2.11E+00	1.74E-01	1.

Table 42 - 20 Kt Average Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AVERAGE CUSHION PRESSURE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQ0 (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	4.568E-02	1.752E-02	1.658E-02	63.4	8.71E+01	9.47E-01	13.
301	1.506	4.630E-02	1.552E-02	1.494E-02	54.6	8.28E+01	9.62E-01	15.
342	1.530	4.257E-02	6.634E-03	4.387E-03	89.8	1.25E+02	6.61E-01	11.
348	1.757	5.152E-02	2.613E-02	2.430E-02	76.7	1.15E+02	9.30E-01	10.
351	2.243	4.956E-02	3.274E-02	3.112E-02	91.1	1.12E+02	9.50E-01	8.
303	2.273	4.658E-02	3.172E-02	3.056E-02	86.4	1.17E+02	9.63E-01	18.
306	2.938	4.782E-02	3.930E-02	3.787E-02	108.0	1.13E+02	9.64E-01	12.
309	3.790	4.729E-02	4.113E-02	3.883E-02	129.9	8.44E+01	9.44E-01	4.
312	4.360	4.995E-02	3.525E-02	3.375E-02	139.7	7.48E+01	9.58E-01	12.
315	5.073	4.856E-02	2.442E-02	2.322E-02	151.0	5.71E+01	9.51E-01	5.
318	5.790	4.693E-02	1.774E-02	1.694E-02	168.8	3.79E+01	9.55E-01	12.
354	6.233	4.947E-02	8.688E-03	5.971E-03	174.7	3.04E+01	6.87E-01	4.
366	6.260	4.653E-02	5.772E-02	4.380E-02	166.2	3.17E+01	7.59E-01	3.
360	6.290	5.132E-02	2.117E-02	1.905E-02	180.9	2.83E+01	9.00E-01	3.
357	6.361	4.782E-02	1.301E-02	1.196E-02	175.7	3.14E+01	9.20E-01	5.
363	6.372	4.925E-02	3.421E-02	3.046E-02	164.2	2.69E+01	8.90E-01	3.
321	6.397	4.906E-02	1.804E-02	1.679E-02	172.3	3.03E+01	9.31E-01	8.
327	6.786	4.631E-02	1.602E-02	1.522E-02	177.1	2.55E+01	9.50E-01	4.
370	6.899	5.177E-02	1.410E-02	1.145E-02	-178.7	1.94E+01	8.12E-01	8.
330	6.922	4.284E-02	1.693E-02	1.479E-02	180.9	2.37E+01	8.73E-01	4.
333	7.242	4.839E-02	1.406E-02	1.215E-02	181.9	2.10E+01	8.64E-01	3.
336	7.393	4.724E-02	1.260E-02	1.127E-02	179.6	2.05E+01	8.94E-01	7.
339	7.468	4.493E-02	1.157E-02	1.023E-02	-176.0	1.80E+01	8.84E-01	7.

Table 43 - 26 Kt Average Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AVERAGE CUSHION PRESSURE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQ0 (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
343	1.213	3.704E-02	1.324E-02	1.142E-02	301.4	5.58E+01	8.62E-01	2.
346	1.495	4.102E-02	1.792E-02	1.654E-02	39.3	8.41E+01	9.23E-01	9.
349	1.741	4.745E-02	2.178E-02	1.974E-02	47.3	9.30E+01	9.06E-01	8.
304	2.222	4.439E-02	3.802E-02	3.612E-02	67.1	1.32E+02	9.50E-01	16.
352	2.263	4.706E-02	3.688E-02	3.334E-02	75.4	1.21E+02	9.04E-01	26.
307	2.930	4.601E-02	5.409E-02	4.912E-02	81.8	1.50E+02	9.08E-01	10.
310	3.813	4.557E-02	5.698E-02	5.042E-02	110.2	1.08E+02	8.85E-01	10.
313	4.341	4.664E-02	4.783E-02	4.412E-02	126.6	9.34E+01	9.22E-01	12.
316	5.001	4.355E-02	3.262E-02	3.061E-02	140.0	7.18E+01	9.38E-01	10.
319	5.930	4.263E-02	2.407E-02	2.123E-02	151.7	5.01E+01	8.82E-01	7.
355	6.272	4.426E-02	1.194E-02	1.058E-02	158.8	4.41E+01	8.86E-01	3.
358	6.326	4.316E-02	1.721E-02	1.630E-02	160.8	4.15E+01	9.47E-01	9.
361	6.387	4.780E-02	3.108E-02	2.881E-02	164.4	3.89E+01	9.27E-01	5.
322	6.393	4.660E-02	2.491E-02	2.149E-02	158.2	4.08E+01	8.63E-01	9.
364	6.433	5.062E-02	5.061E-02	4.316E-02	155.3	3.80E+01	8.53E-01	8.
328	6.757	4.185E-02	2.486E-02	2.307E-02	163.7	3.63E+01	9.28E-01	17.
331	6.905	3.892E-02	2.535E-02	2.254E-02	160.9	3.49E+01	8.89E-01	5.
334	7.175	4.253E-02	2.026E-02	1.897E-02	-194.9	3.15E+01	9.36E-01	5.
337	7.242	4.222E-02	2.017E-02	1.842E-02	165.6	3.04E+01	9.13E-01	5.
340	7.451	3.997E-02	1.882E-02	1.703E-02	168.2	3.01E+01	9.05E-01	10.

Table 44 - 0 Kt Forward Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

FORWARD CUSHION PRESSURE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQO (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
300	1.491	6.629E-02	4.947E-03	3.201E-03	185.2	1.75E+01	6.47E-01	11.
344	1.499	7.020E-02	4.598E-03	2.357E-03	214.0	1.20E+01	5.12E-01	4.
347	1.750	6.732E-02	5.688E-03	2.696E-03	204.6	1.62E+01	4.74E-01	2.
302	2.290	7.019E-02	5.079E-03	2.861E-03	182.2	8.34E+00	5.63E-01	5.
350	2.360	6.780E-02	4.818E-03	2.966E-03	177.6	1.16E+01	6.16E-01	5.
305	2.969	6.910E-02	5.106E-03	3.727E-03	187.8	1.01E+01	7.30E-01	6.
308	3.933	7.155E-02	4.850E-03	2.577E-03	178.4	5.66E+00	5.31E-01	6.
311	4.564	6.669E-02	5.419E-03	3.156E-03	173.5	3.42E+00	3.60E-01	5.
314	5.332	6.565E-02	5.451E-03	2.139E-03	162.9	5.24E+00	3.92E-01	4.
317	6.488	6.708E-02	5.987E-03	1.842E-03	154.7	3.48E+00	3.08E-01	6.
320	7.206	6.897E-02	5.356E-03	1.806E-03	170.8	2.78E+00	3.37E-01	4.
356	7.248	6.656E-02	5.183E-03	9.917E-04	146.5	2.15E+00	1.91E-01	5.
359	7.272	7.014E-02	5.192E-03	2.674E-03	159.7	4.43E+00	5.15E-01	5.
362	7.291	7.280E-02	5.293E-03	3.158E-03	-173.6	3.83E+00	5.97E-01	5.
353	7.333	6.693E-02	3.874E-03	7.194E-04	162.1	3.18E+00	1.86E-01	5.
365	7.433	7.381E-02	8.310E-03	5.865E-03	174.2	5.06E+00	7.06E-01	5.
326	8.057	6.901E-02	5.523E-03	1.457E-03	163.1	2.21E+00	2.64E-01	1.
368	8.078	7.168E-02	4.794E-03	1.766E-03	153.0	3.15E+00	3.68E-01	5.
329	8.253	7.207E-02	5.198E-03	1.396E-03	-203.6	2.67E+00	2.44E-01	3.
335	8.336	7.056E-02	4.330E-03	1.864E-03	174.6	4.46E+00	4.30E-01	4.
332	8.553	7.043E-02	4.215E-03	1.735E-03	191.3	3.09E+00	4.12E-01	2.
338	8.881	7.360E-02	4.717E-03	1.079E-03	171.5	2.74E+00	2.29E-01	1.

Table 45 - 20 Kt Forward Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

FORWARD CUSHION PRESSURE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQ0 (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	5.676E-02	1.949E-02	1.830E-02	86.7	9.61E+01	9.39E-01	13.
301	1.506	5.669E-02	2.270E-02	2.026E-02	77.7	1.12E+02	8.92E-01	15.
342	1.530	5.861E-02	9.608E-03	6.803E-03	96.6	1.93E+02	7.08E-01	11.
348	1.757	5.915E-02	3.313E-02	3.111E-02	85.5	1.48E+02	9.39E-01	10.
351	2.243	5.760E-02	4.419E-02	4.180E-02	96.5	1.51E+02	9.46E-01	8.
303	2.273	5.368E-02	4.409E-02	4.106E-02	93.9	1.57E+02	9.31E-01	18.
306	2.938	5.641E-02	5.525E-02	5.277E-02	110.7	1.58E+02	9.55E-01	12.
309	3.790	5.300E-02	5.755E-02	5.491E-02	128.0	1.19E+02	9.54E-01	4.
312	4.360	5.728E-02	5.152E-02	5.005E-02	138.4	1.11E+02	9.72E-01	12.
315	5.073	5.689E-02	3.726E-02	3.588E-02	151.9	8.83E+01	9.63E-01	5.
318	5.790	5.554E-02	2.820E-02	2.724E-02	169.8	6.09E+01	9.66E-01	12.
354	6.233	6.029E-02	1.272E-02	9.635E-03	180.7	4.90E+01	7.58E-01	4.
366	6.260	5.474E-02	6.908E-02	5.901E-02	164.1	4.27E+01	8.54E-01	3.
360	6.290	6.072E-02	3.071E-02	2.789E-02	186.5	4.14E-01	9.08E-01	3.
357	6.361	5.879E-02	1.995E-02	1.887E-02	181.0	4.96E+01	9.46E-01	5.
363	6.372	5.396E-02	4.738E-02	4.378E-02	161.4	3.87E+01	9.24E-01	3.
321	6.397	5.652E-02	2.780E-02	2.627E-02	175.7	4.75E+01	9.45E-01	8.
327	6.786	5.818E-02	2.378E-02	2.302E-02	182.2	3.86E+01	9.68E-01	4.
370	6.899	6.816E-02	2.080E-02	1.702E-02	-172.7	2.89E+01	8.18E-01	8.
330	6.922	5.686E-02	2.487E-02	2.175E-02	186.8	3.49E+01	8.75E-01	4.
333	7.242	5.956E-02	2.087E-02	1.824E-02	187.5	3.15E+01	8.74E-01	3.
336	7.393	5.873E-02	1.899E-02	1.723E-02	185.7	3.14E+01	9.07E-01	7.
339	7.468	5.980E-02	1.637E-02	1.480E-02	-168.8	2.61E+01	9.05E-01	7.

Table 46 - 26 Kt Forward Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

FORWARD CUSHION PRESSURE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQ0 (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
343	1.213	5.413E-02	3.005E-02	2.968E-02	196.3	1.45E+02	9.88E-01	2.
346	1.495	5.203E-02	1.490E-02	1.364E-02	89.9	6.93E+01	9.15E-01	9.
349	1.741	5.774E-02	1.959E-02	1.840E-02	74.3	8.67E+01	9.39E-01	8.
304	2.222	5.407E-02	6.865E-02	6.597E-02	115.9	2.42E+02	9.61E-01	16.
352	2.263	4.698E-02	5.164E-02	4.447E-02	104.8	1.62E+02	8.61E-01	26.
307	2.930	4.440E-02	5.151E-02	4.542E-02	92.0	1.38E+02	8.82E-01	10.
310	3.813	5.036E-02	6.714E-02	6.010E-02	105.8	1.29E+02	8.95E-01	10.
313	4.341	5.257E-02	5.961E-02	5.519E-02	119.4	1.17E+02	9.26E-01	12.
316	5.001	5.001E-02	4.494E-02	4.205E-02	133.0	9.86E+01	9.36E-01	10.
319	5.930	5.057E-02	3.467E-02	3.093E-02	145.9	7.30E+01	8.92E-01	7.
355	6.272	5.502E-02	1.687E-02	1.549E-02	155.2	6.45E+01	9.18E-01	3.
358	6.326	5.473E-02	2.511E-02	2.406E-02	157.8	6.13E+01	9.58E-01	9.
361	6.387	5.766E-02	4.173E-02	3.958E-02	161.8	5.34E+01	9.49E-01	5.
322	6.393	5.484E-02	3.508E-02	3.060E-02	154.0	5.81E+01	8.72E-01	9.
364	6.433	5.597E-02	6.214E-02	5.600E-02	150.1	4.93E+01	9.01E-01	8.
328	6.757	5.304E-02	3.437E-02	3.222E-02	162.3	5.06E+01	9.37E-01	17.
331	6.905	5.222E-02	3.584E-02	3.277E-02	156.6	5.07E+01	9.14E-01	5.
334	7.175	5.270E-02	2.878E-02	2.707E-02	-195.0	4.50E+01	9.41E-01	5.
337	7.242	5.218E-02	2.904E-02	2.678E-02	165.5	4.43E+01	9.22E-01	5.
340	7.451	5.318E-02	2.586E-02	2.360E-02	170.4	4.18E+01	9.13E-01	10.

Table 47 - 0 Kt Aft Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AFT CUSHION PRESSURE

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQO (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQO	NUMBER OF CYCLES
300	1.491	5.826E-02	4.630E-03	2.178E-03	160.7	1.19E+01	4.70E-01	11.
344	1.499	5.649E-02	5.078E-03	2.109E-03	142.3	1.07E+01	4.15E-01	4.
347	1.750	5.395E-02	4.911E-03	1.555E-03	154.3	9.33E+00	3.17E-01	2.
302	2.290	5.821E-02	4.803E-03	1.952E-03	163.5	5.69E+00	4.06E-01	5.
350	2.360	5.590E-02	5.100E-03	3.674E+00	79.7	1.97E+00	7.44E-01	5.
305	2.969	5.790E-02	4.874E-03	2.353E-03	137.6	6.97E+00	4.83E-01	6.
308	3.933	5.577E-02	5.674E-03	2.348E-03	156.7	5.16E+00	4.14E-01	6.
311	4.564	5.637E-02	5.421E-03	2.864E-03	151.3	5.79E+00	5.28E-01	5.
314	5.332	5.760E-02	5.238E-03	1.619E-03	131.4	3.96E+00	3.09E-01	4.
317	6.488	5.297E-02	6.235E-03	1.842E-03	154.7	3.48E+00	3.08E-01	6.
320	7.206	5.593E-02	5.226E-03	1.501E-03	142.3	2.31E+00	2.87E-01	4.
356	7.248	5.256E-02	5.648E-03	7.280E-04	119.2	1.58E+00	1.29E-01	5.
359	7.272	5.792E-02	5.093E-03	2.184E-03	145.4	3.62E+00	4.29E-01	5.
362	7.291	5.725E-02	5.551E-03	2.827E-03	-188.4	3.42E+00	5.09E-01	5.
353	7.333	5.647E-02	4.419E-03	5.769E-04	137.8	2.55E+00	1.31E-01	5.
365	7.433	5.286E-02	6.213E-03	3.482E-03	159.5	3.00E+00	5.60E-01	5.
326	8.057	5.634E-02	5.573E-03	1.134E-03	147.5	1.72E+00	2.03E-01	1.
368	8.078	5.129E-02	5.437E-03	1.384E-03	134.2	2.47E+00	2.55E-01	5.
329	8.253	5.542E-02	5.721E-03	1.396E-03	-203.6	2.67E+00	2.44E-01	3.
335	8.336	5.597E-02	4.879E-03	1.106E-03	165.9	2.64E+00	2.27E-01	4.
332	8.553	5.540E-02	5.045E-03	9.463E-04	168.4	1.68E+00	1.88E-01	2.
338	8.881	5.823E-02	5.144E-03	1.036E-03	149.0	2.63E+00	2.01E-01	1.

Table 48 - 20 Kt Aft Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AFT CUSHION PRESSURE

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQ0 (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQ0	NUMBER OF CYCLES
345	1.489	4.640E-02	2.502E-02	2.412E-02	20.6	1.27E+02	9.64E-01	13.
301	1.506	4.324E-02	2.592E-02	2.369E-02	12.2	1.31E+02	9.14E-01	15.
342	1.530	4.482E-02	6.627E-03	4.399E-03	49.7	1.25E+02	6.64E-01	11.
348	1.757	4.815E-02	3.142E-02	2.965E-02	44.0	1.41E+02	9.44E-01	10.
351	2.243	4.539E-02	3.506E-02	3.359E-02	63.5	1.21E+02	9.58E-01	8.
303	2.273	4.245E-02	3.290E-02	3.034E-02	61.6	1.16E+02	9.22E-01	18.
306	2.938	4.610E-02	4.010E-02	3.841E-02	90.7	1.15E+02	9.58E-01	12.
309	3.790	4.391E-02	3.977E-02	3.814E-02	117.1	8.29E+01	9.59E-01	4.
312	4.360	4.704E-02	3.219E-02	3.083E-02	129.3	6.83E+01	9.57E-01	12.
315	5.073	4.452E-02	2.227E-02	2.134E-02	138.9	5.25E+01	5.27E-01	5.
318	5.790	4.497E-02	1.592E-02	1.522E-02	157.3	3.40E+01	9.56E-01	12.
354	6.233	4.637E-02	7.739E-03	5.349E-03	159.9	2.72E+01	6.91E-01	4.
366	6.260	4.010E-02	5.368E-02	4.169E-02	161.7	3.02E+01	7.77E-01	3.
360	6.290	4.718E-02	1.975E-02	1.760E-02	168.2	2.61E+01	8.91E-01	3.
357	6.361	4.726E-02	1.188E-02	1.092E-02	161.6	2.87E+01	9.19E-01	5.
363	6.372	4.040E-02	3.356E-02	2.857E-02	159.3	2.53E+01	8.51E-01	3.
321	6.397	4.565E-02	1.679E-02	1.568E-02	159.2	2.83E+01	9.34E-01	8.
327	6.789	4.445E-02	1.583E-02	1.479E-02	164.0	2.48E+01	9.34E-01	4.
370	6.899	4.477E-02	1.458E-02	1.212E-02	-191.8	2.06E+01	8.31E-01	8.
330	6.922	4.474E-02	1.575E-02	1.406E-02	167.7	2.26E+01	8.93E-01	4.
333	7.242	4.721E-02	1.318E-02	1.136E-02	168.2	1.96E+01	8.62E-01	3.
336	7.393	4.224E-02	1.177E-02	1.063E-02	165.9	1.94E+01	9.03E-01	7.
339	7.468	4.679E-02	1.160E-02	1.043E-02	-191.4	1.84E+01	8.99E-01	7.

Table 49 - 26 Kt Aft Cushion Pressure (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

AFT CUSHION PRESSURE

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (PSI)	ROOTQQ (PSI)	AMPLITUDE (PSI)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
343	1.213	3.766E-02	3.090E-02	3.034E-02	304.0	1.48E+02	9.82E-01	2.
346	1.495	4.086E-02	3.332E-02	3.276E-02	349.8	1.67E+02	9.83E-01	9.
349	1.741	4.097E-02	3.343E-02	3.178E-02	2.1	1.50E+02	9.51E-01	8.
304	2.222	4.271E-02	4.759E-02	4.366E-02	95.4	1.60E+02	9.17E-01	16.
352	2.263	3.218E-02	4.202E-02	3.311E-02	63.2	1.21E+02	7.88E-01	26.
307	2.930	3.104E-02	4.537E-02	4.064E-02	62.0	1.24E+02	8.96E-01	10.
310	3.813	3.805E-02	6.127E-02	5.539E-02	95.4	1.19E+02	9.04E-01	10.
313	4.341	4.142E-02	5.056E-02	4.663E-02	116.7	9.87E+01	9.22E-01	12.
316	5.001	3.921E-02	3.320E-02	3.133E-02	133.2	7.35E+01	9.44E-01	10.
319	5.930	4.004E-02	2.394E-02	2.121E-02	145.5	5.01E+01	8.86E-01	7.
355	6.272	4.004E-02	1.146E-02	1.006E-02	153.9	4.19E+01	8.78E-01	3.
358	6.326	4.061E-02	1.643E-02	1.537E-02	155.6	3.91E+01	9.36E-01	9.
361	6.387	4.165E-02	3.180E-02	2.930E-02	159.4	3.95E+01	9.22E-01	5.
322	6.393	4.232E-02	2.523E-02	2.148E-02	152.8	4.08E+01	8.51E-01	9.
364	6.433	3.747E-02	5.194E-02	4.413E-02	150.6	3.88E+01	8.50E-01	8.
328	6.757	4.019E-02	2.410E-02	2.206E-02	159.0	3.47E+01	9.15E-01	17.
331	6.905	4.065E-02	2.443E-02	2.097E-02	158.2	3.25E+01	8.58E-01	5.
334	7.175	4.136E-02	1.954E-02	1.803E-02	-200.6	2.99E+01	9.23E-01	5.
337	7.242	3.810E-02	1.864E-02	1.686E-02	159.0	2.79E+01	9.05E-01	5.
340	7.451	4.149E-02	1.800E-02	1.607E-02	160.9	2.84E+01	8.93E-01	10.

Table 50 - 0 Kt Drag (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

DRAG

NOMINAL SPEED 0 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (LBS)	ROOTQQ (LBS)	AMPLITUDE (LBS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
300	1.491	4.294E-01	2.579E+00	1.896E+00	118.8	1.42E+00	7.35E-01	11.
344	1.499	8.865E-01	2.197E+00	2.038E+00	111.5	1.42E+00	9.28E-01	4.
347	1.750	1.831E-01	3.310E+00	2.883E+00	104.1	2.37E+00	8.71E-01	2.
302	2.290	5.192E-01	3.759E+00	2.873E+00	106.3	1.15E+00	7.64E-01	5.
350	2.360	5.803E-01	4.937E+00	3.674E+00	79.7	1.97E+00	7.44E-01	5.
305	2.969	9.776E-01	4.929E+00	2.654E-01	184.2	1.61E+00	8.07E-01	6.
308	3.933	4.126E-01	4.986E+00	4.276E+00	96.0	1.29E+00	8.58E-01	6.
311	4.564	8.316E-01	4.865E+00	3.952E+00	90.5	1.09E+00	8.12E-01	5.
314	5.332	9.732E-01	3.699E+00	3.413E+00	59.4	1.15E+00	9.23E-01	4.
317	6.488	7.715E-01	3.353E+00	3.229E+00	84.8	8.36E-01	9.63E-01	6.
320	7.206	8.893E-01	4.975E+00	4.552E+00	87.0	9.61E-01	9.15E-01	4.
356	7.248	1.876E-01	3.219E+00	3.097E+00	87.8	9.21E-01	9.62E-01	5.
359	7.272	3.799E-01	4.535E+00	3.980E+00	68.5	9.03E-01	8.78E-01	5.
362	7.291	3.698E-02	8.235E+00	6.850E+00	71.2	1.14E+00	8.32E-01	5.
353	7.333	3.604E-01	2.194E+00	1.966E+00	86.0	1.19E+00	8.96E-01	5.
365	7.433	-3.322E-01	9.128E+00	8.015E+00	66.9	9.47E-01	8.78E-01	5.
326	8.057	9.807E-01	4.774E+00	4.120E+00	82.3	8.55E-01	8.63E-01	1.
368	8.078	-4.131E-01	4.000E+00	3.363E+00	77.2	8.21E-01	8.41E-01	5.
329	8.253	7.501E-01	3.870E+00	3.503E+00	75.3	9.17E-01	9.05E-01	3.
335	8.336	7.158E-01	2.989E+00	2.687E+00	79.7	8.80E-01	8.99E-01	4.
332	8.553	1.218E+00	4.677E+00	3.714E+00	80.4	9.05E-01	7.94E-01	2.
338	8.881	7.663E-01	2.398E+00	2.256E+00	79.6	7.86E-01	9.41E-01	1.

Table 51 - 20 Kt Drag (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

DRAG

NOMINAL SPEED 20 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (LBS)	ROOTQQ (LBS)	AMPLITUDE (LBS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
345	1.489	2.662E+01	3.955E+01	6.037E+00	284.3	4.35E+00	1.53E-01	13.
301	1.506	2.239E+01	3.482E+01	4.942E+00	249.4	3.75E+00	1.42E-01	15.
342	1.530	2.404E+01	3.836E+01	1.685E+01	188.7	6.56E+01	4.39E-01	11.
348	1.757	2.519E+01	8.307E+01	7.913E+01	276.9	5.15E+01	9.52E-01	10.
351	2.243	2.772E+01	6.181E+01	5.446E+01	56.7	2.69E+01	8.81E-01	8.
303	2.273	2.338E+01	3.684E+01	2.833E+01	56.8	1.48E+01	7.69E-01	18.
306	2.938	2.560E+01	3.021E+01	2.531E+01	76.7	1.04E+01	8.38E-01	12.
309	3.790	2.821E+01	4.544E+01	2.477E+01	101.6	7.37E+00	5.44E-01	4.
312	4.360	2.711E+01	3.329E+01	1.991E+01	99.7	6.05E+00	5.98E-01	12.
315	5.073	2.505E+01	2.894E+01	1.526E+01	111.7	5.14E+00	5.27E-01	5.
318	5.790	2.451E+01	2.748E+01	1.098E+01	131.7	3.36E+00	3.99E-01	12.
354	6.233	2.413E+01	3.371E+01	5.073E+00	145.7	3.53E+00	1.50E-01	4.
366	6.260	3.674E+01	5.041E+01	3.051E+01	129.1	3.02E+00	6.05E-01	3.
360	6.290	2.573E+01	4.471E+01	1.586E+01	143.2	3.22E+00	3.55E-01	3.
357	6.361	2.391E+01	3.426E+01	8.216E+00	140.1	2.96E+00	2.40E-01	5.
363	6.372	2.898E+01	4.347E+01	2.020E+01	122.9	2.45E+00	4.65E-01	3.
321	6.397	2.467E+01	3.166E+01	1.166E+01	137.7	2.88E+00	3.68E-01	8.
324	6.786	2.474E+01	2.682E+01	9.985E+00	137.1	2.29E+00	3.72E-01	4.
370	6.899	3.902E+01	3.753E+01	1.304E+01	153.9	3.03E+00	3.47E-01	8.
330	6.922	2.484E+01	2.906E+01	7.892E+00	140.6	1.74E+00	2.72E-01	4.
333	7.242	2.403E+01	4.099E+01	8.943E+00	143.4	2.11E+00	2.18E-01	3.
336	7.393	2.374E+01	3.435E+01	6.935E+00	143.4	1.73E+00	2.02E-01	7.
339	7.468	2.276E+01	3.804E+01	6.982E+00	151.7	1.69E+00	1.84E-01	7.

Table 52 - 26 Kt Drag (English Units)

TWIN CUSHION SEV

REGULAR WAVE DATA JUNE 1976

DRAG

NOMINAL SPEED 26 KTS

RUN NO.	WAVE LENGTH/ CUSH LENGTH	MEAN (LBS)	ROOTQQ (LBS)	AMPLITUDE (LBS)	PHASE (DEG)	TRANSFER FUNCTION	AMPLITUDE /ROOTQQ	NUMBER OF CYCLES
343	1.213	4.205E+01	3.135E+01	1.290E+01	210.5	8.63E+00	4.12E-01	2.
346	1.495	3.455E+01	2.263E+01	1.599E+01	229.7	1.11E+01	7.07E-01	9.
349	1.741	3.936E+01	3.294E+01	2.734E+01	249.9	1.77E+01	8.30E-01	8.
304	2.222	6.843E+00	7.417E+01	7.135E+01	339.9	3.58E+01	9.62E-01	16.
352	2.263	1.585E+01	1.340E+02	1.235E+02	358.5	6.16E+01	9.22E-01	26.
307	2.930	2.613E+01	4.430E+01	4.214E+01	63.2	1.76E+01	9.51E-01	10.
310	3.813	3.961E+01	4.960E+01	3.918E+01	87.7	1.15E+01	7.90E-01	10.
313	4.341	3.694E+01	5.005E+01	2.838E+01	102.4	8.23E+00	5.67E-01	12.
316	5.001	3.324E+01	2.434E+01	1.688E+01	107.3	5.42E+00	6.94E-01	10.
319	5.930	3.167E+01	1.872E+01	1.199E+01	117.4	3.88E+00	6.41E-01	7.
355	6.272	3.287E+01	1.400E+01	8.128E+00	126.1	4.64E+00	5.80E-01	3.
358	6.326	3.381E+01	2.008E+01	1.197E+01	122.3	4.17E+00	5.96E-01	9.
361	6.387	3.574E+01	4.217E+01	2.145E+01	129.2	3.97E+00	5.09E-01	5.
322	6.393	3.403E+01	3.496E+01	1.479E+01	124.0	3.85E+00	4.23E-01	9.
364	6.433	4.323E+01	5.814E+01	3.405E+01	123.3	4.11E+00	5.86E-01	8.
328	6.757	3.229E+01	2.629E+01	1.352E+01	125.1	2.91E+00	5.14E-01	17.
331	6.905	3.456E+01	3.480E+01	1.324E+01	120.0	2.81E+00	3.81E-01	5.
334	7.175	3.163E+01	2.402E+01	1.303E+01	127.1	2.97E+00	5.43E-01	5.
337	7.242	3.243E+01	2.377E+01	1.074E+01	128.4	2.43E+00	4.52E-01	5.
340	7.451	3.115E+01	1.974E+01	1.083E+01	130.7	2.63E+00	5.49E-01	10.

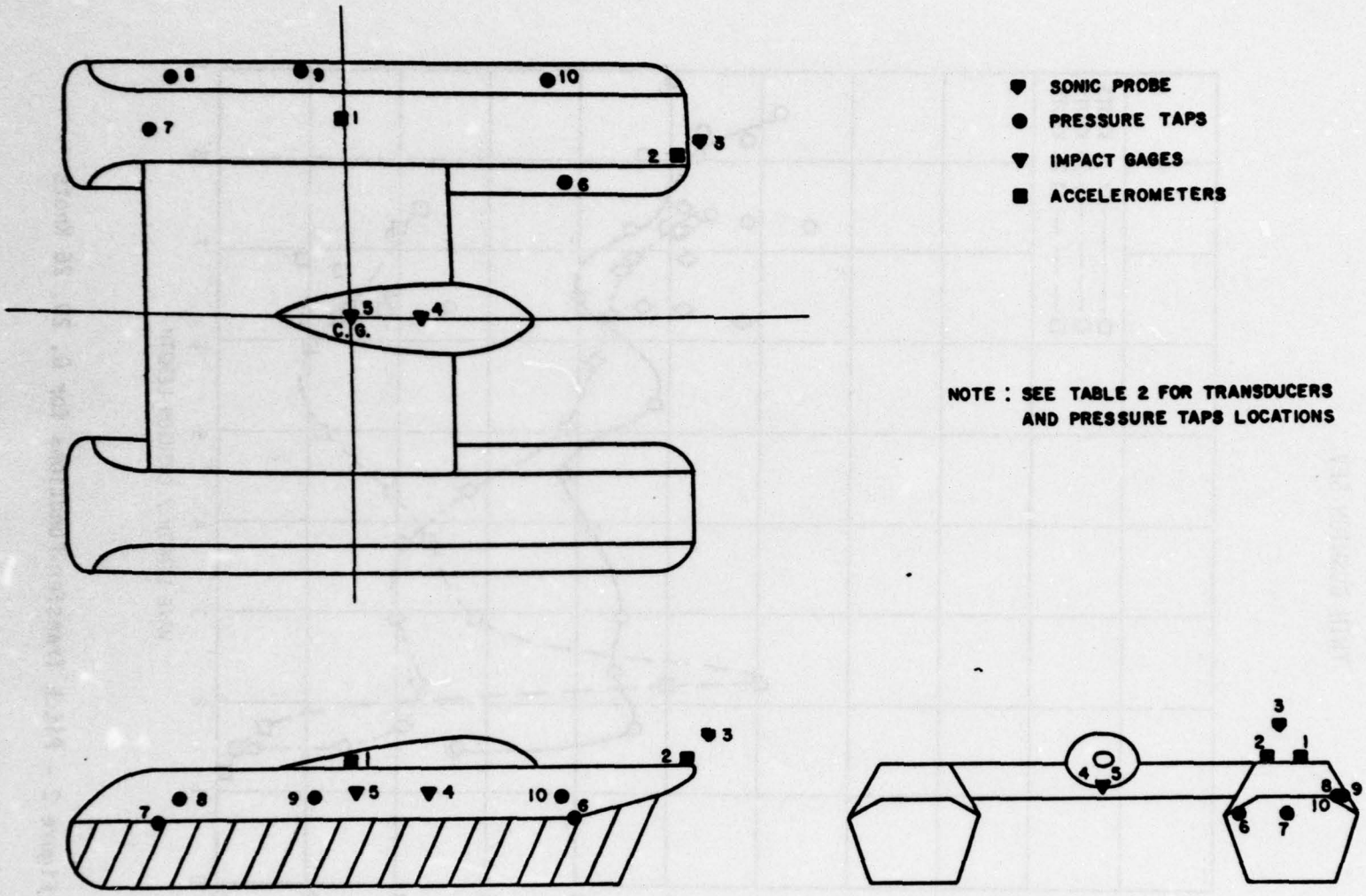

Figure 1 - Twin Cushion SEV Model - Schematic of Tranducer and Pressure Tap Locations

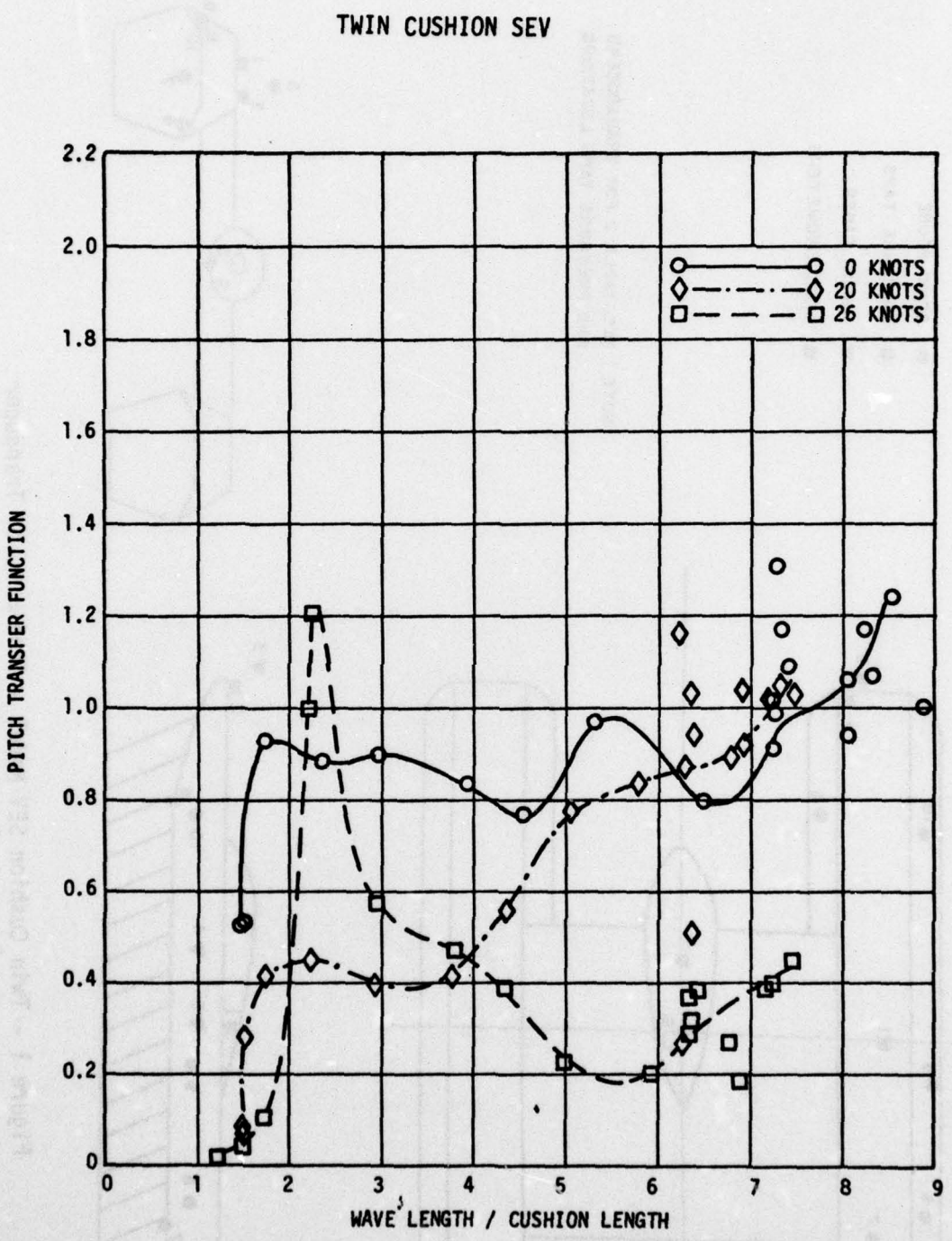

Figure 2 - Pitch Transfer Functions for 0, 20, 26 Knots

TWIN CUSHION SEV

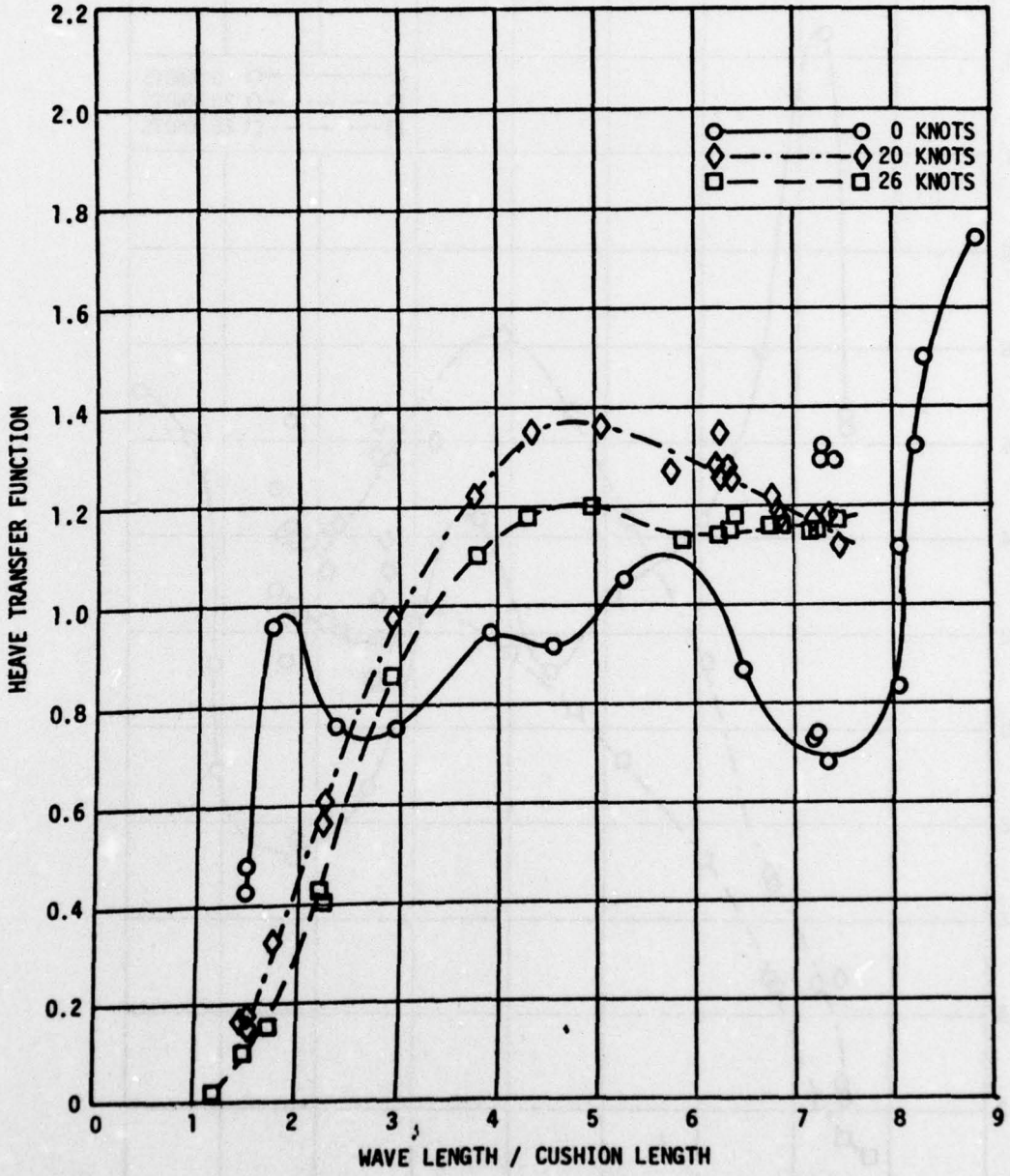

Figure 3 - Heave Transfer FUnctions for 0, 20, 26 Knots

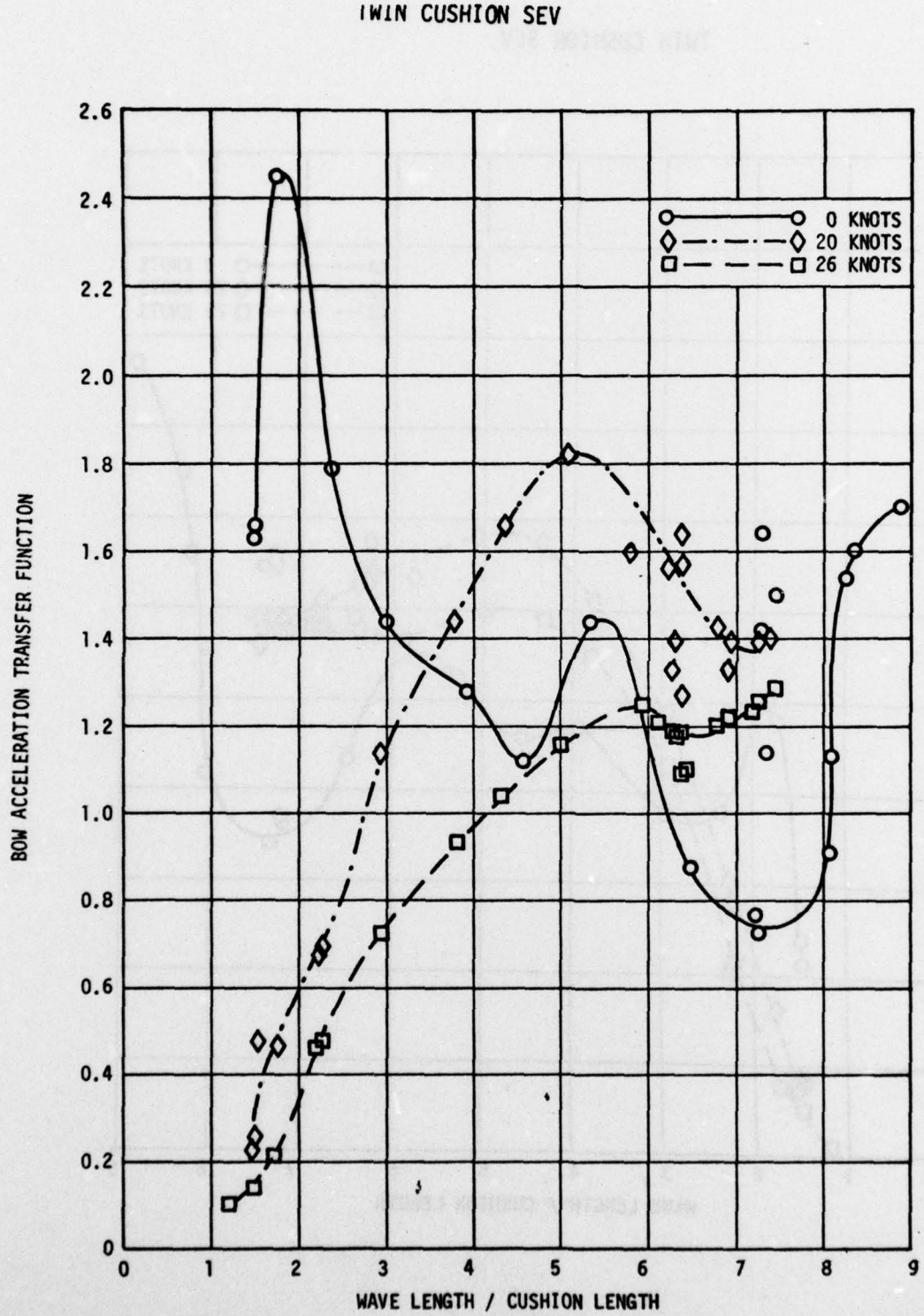

Figure 4 - Bow Acceleration Transfer Functions for 0, 20, 26 Knots

TWIN CUSHION SEV

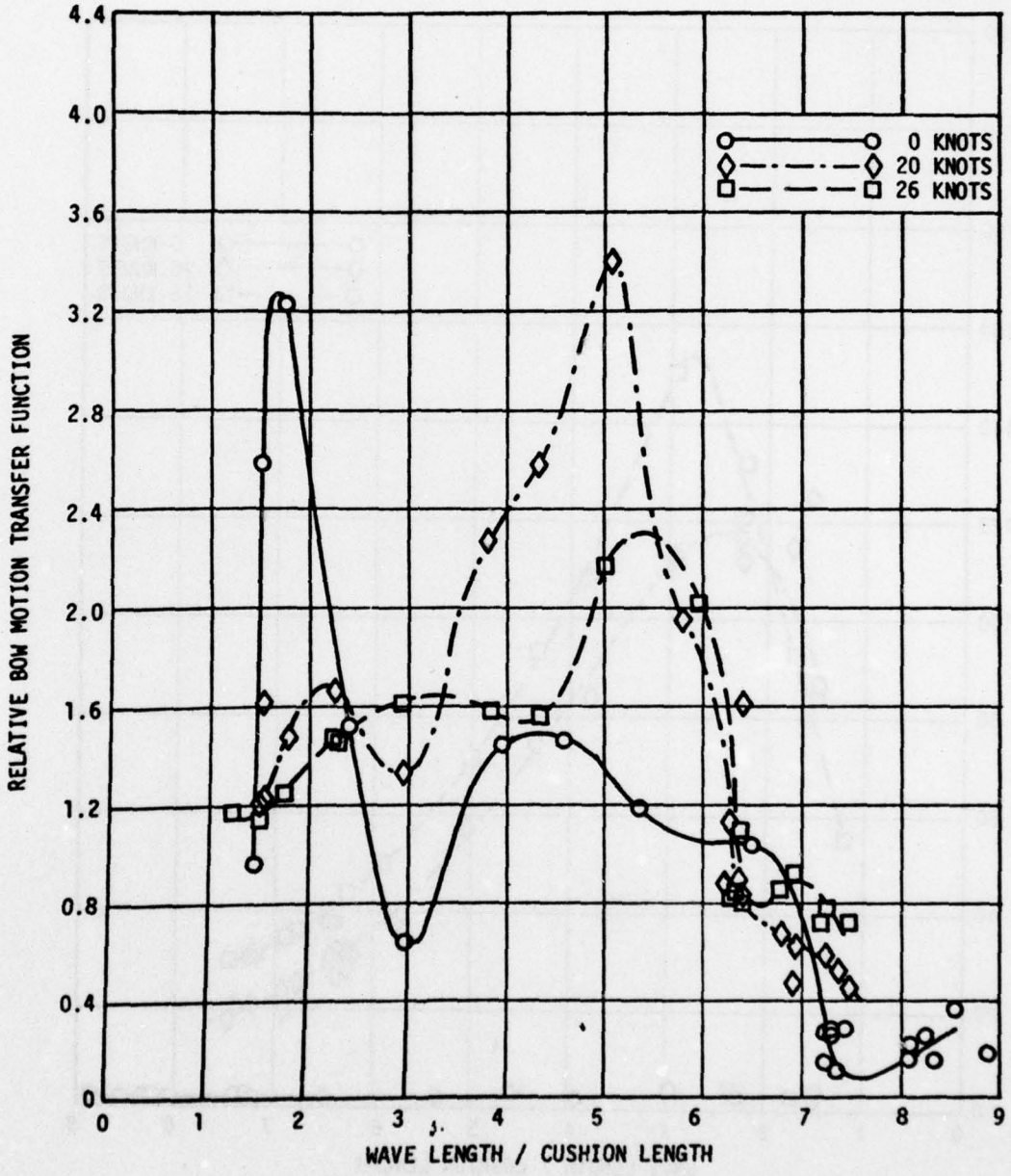

Figure 5 - Relative Bow Motion Transfer Functions for 0, 20, 26 Knots

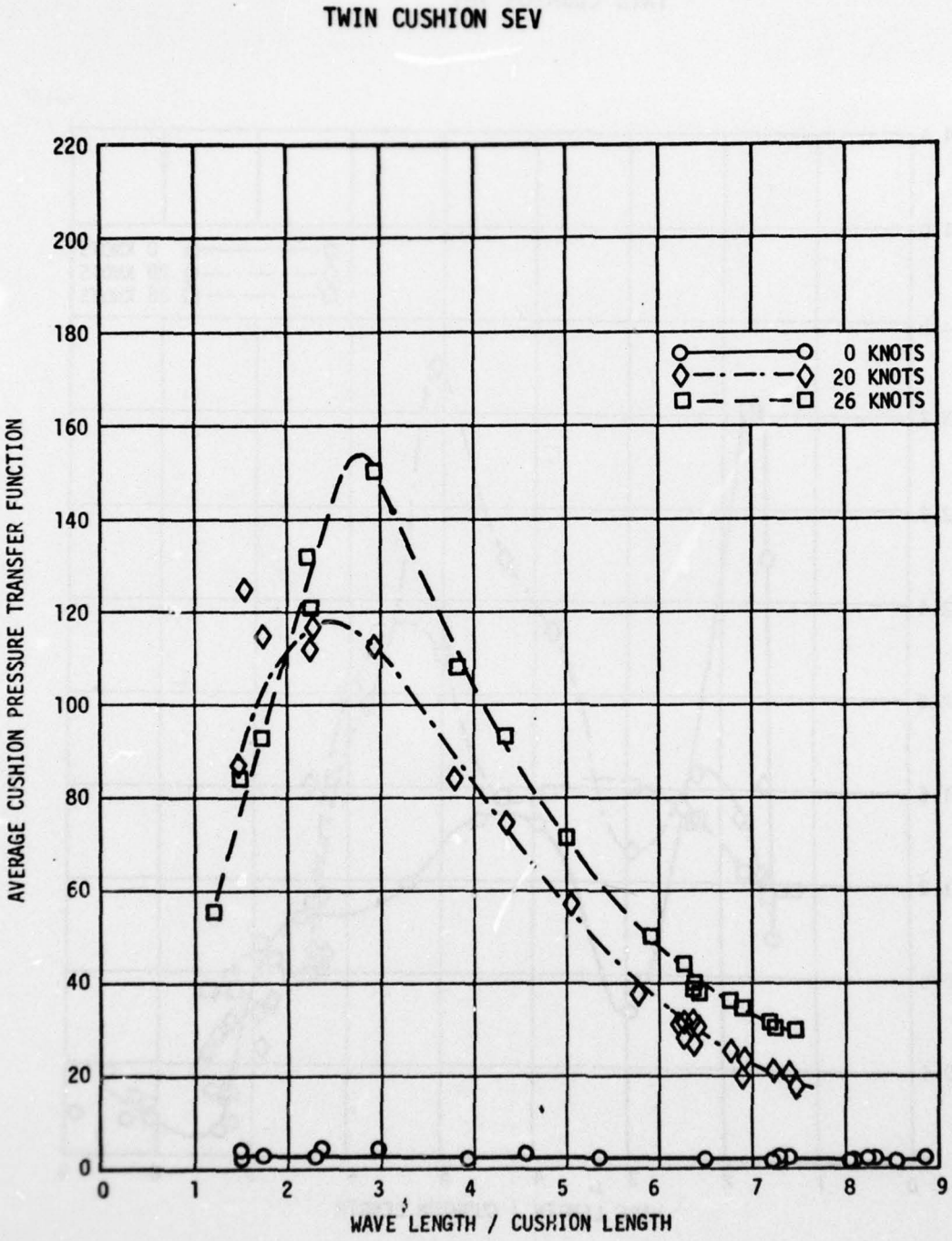

Figure 6 - Average Cushion Pressure Transfer Functions for 0, 20, 26 Knots

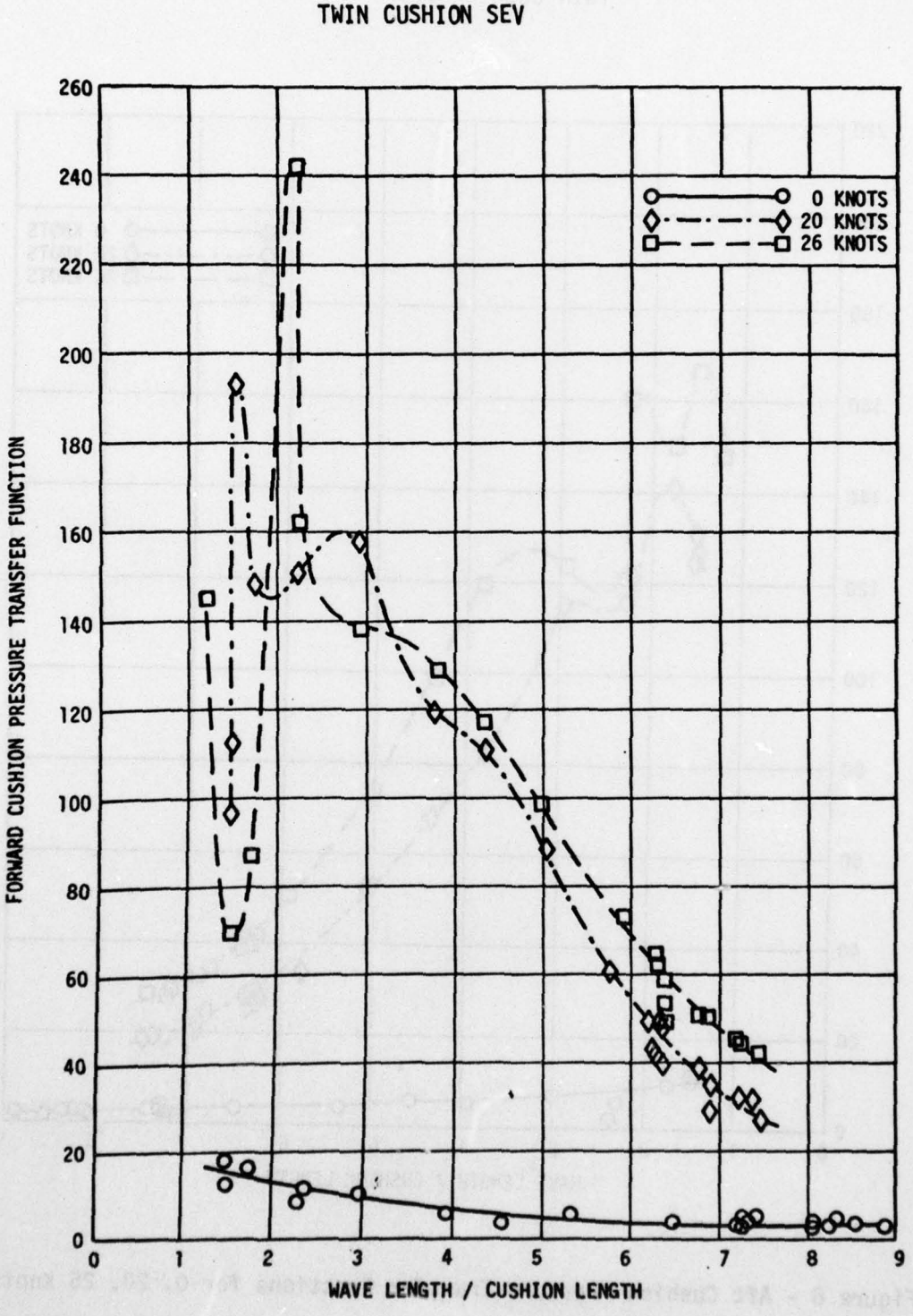

Figure 7 - Forward Cushion Pressure Transfer Functions for 0, 20, 26 Knots

TWIN CUSHION SEV

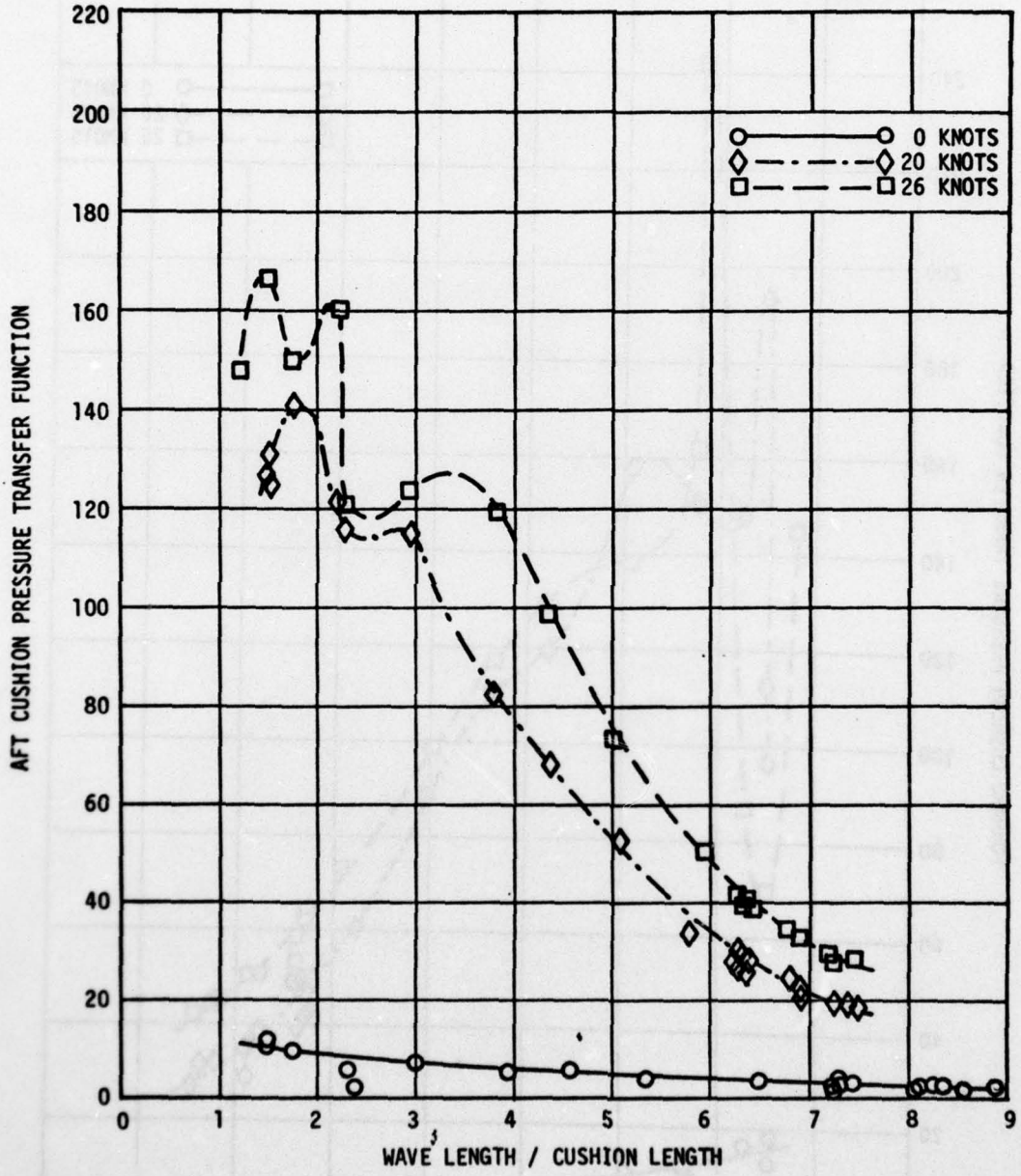

Figure 8 - Aft Cushion Pressure Transfer Functions for 0, 20, 26 Knots

TWIN CUSHION SEV

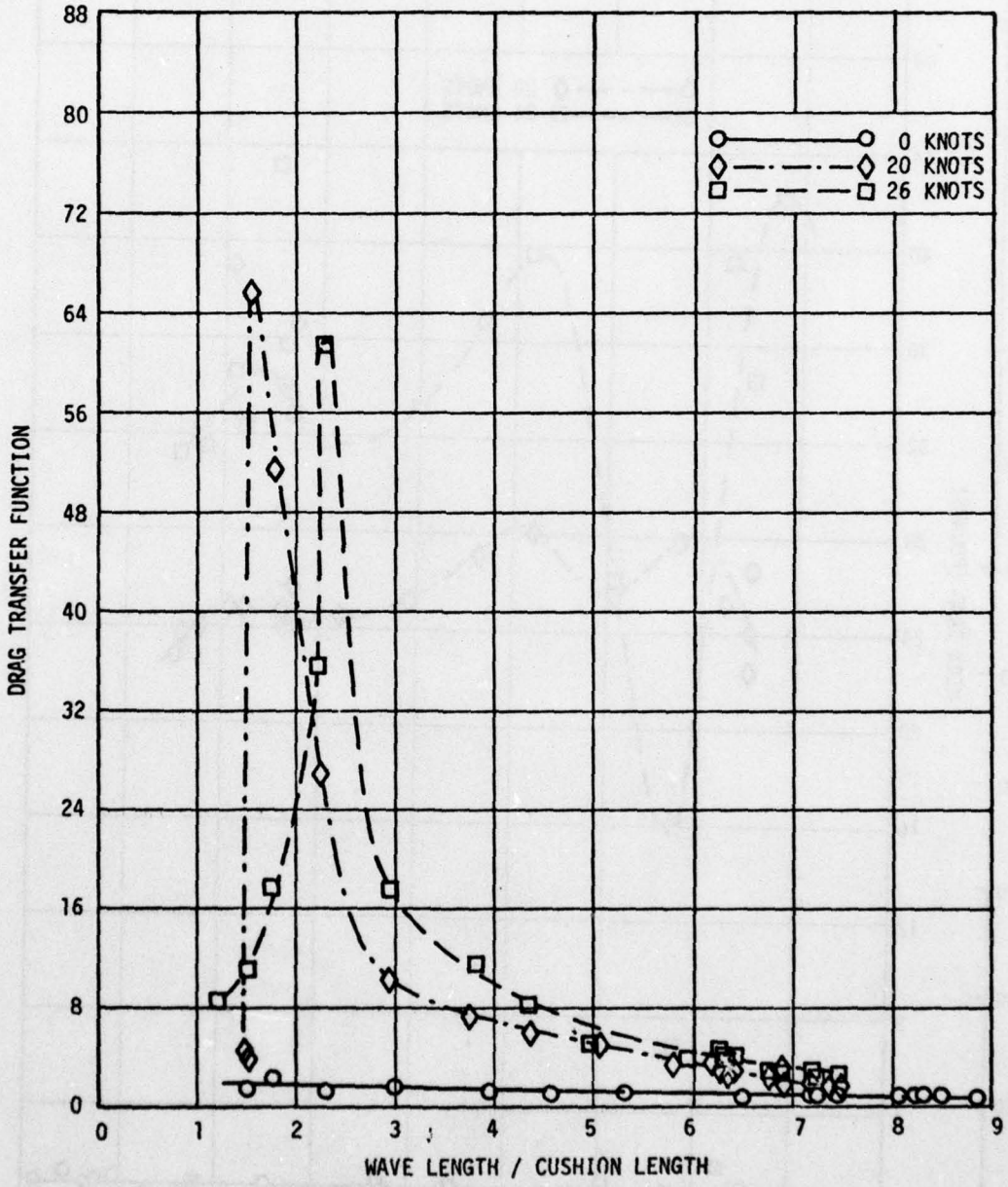

Figure 9 - Drag Transfer Function for 0, 20, 26 Knots

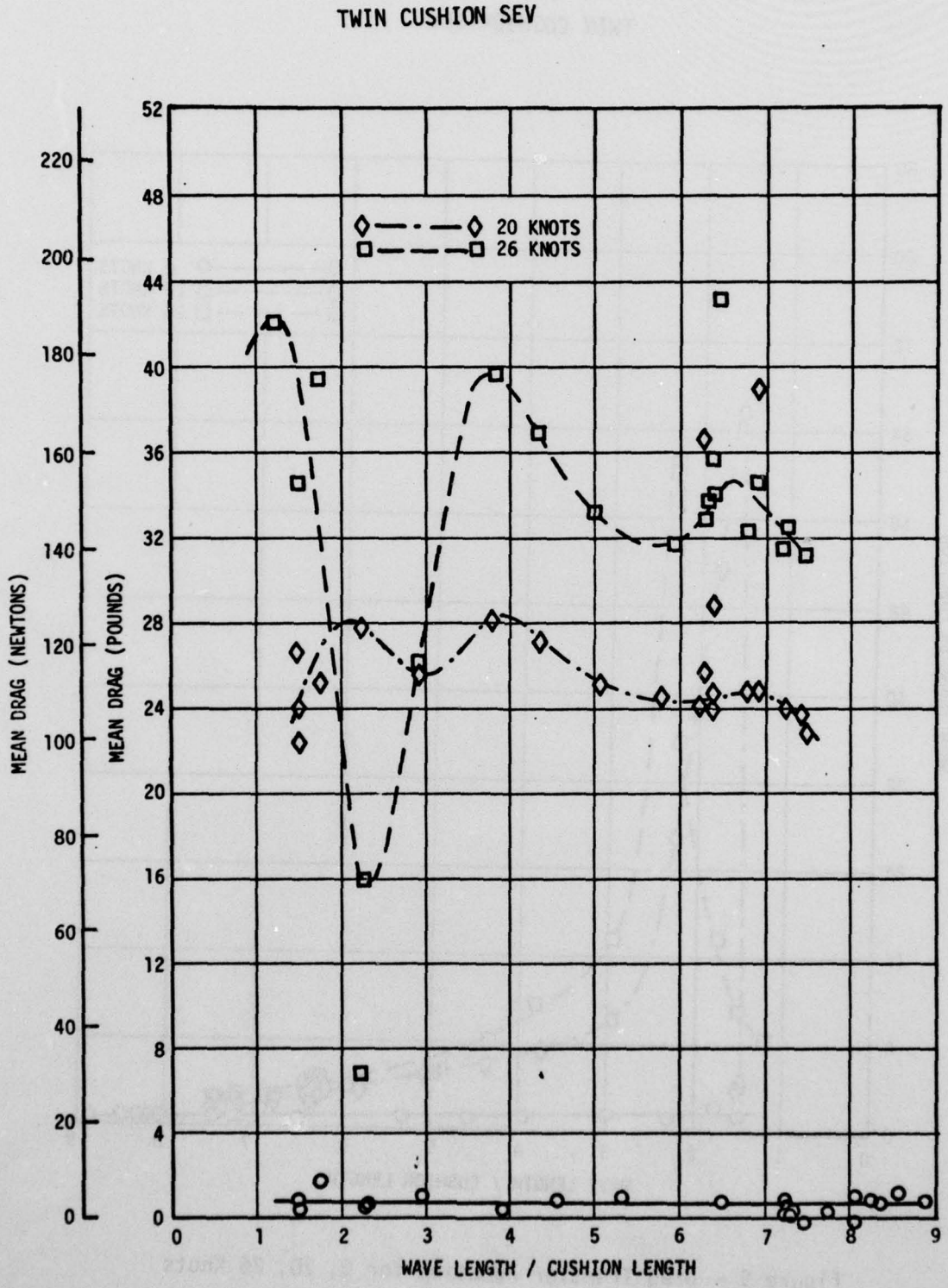

Figure 10 - Mean Drag for 0, 20, 26 Knots

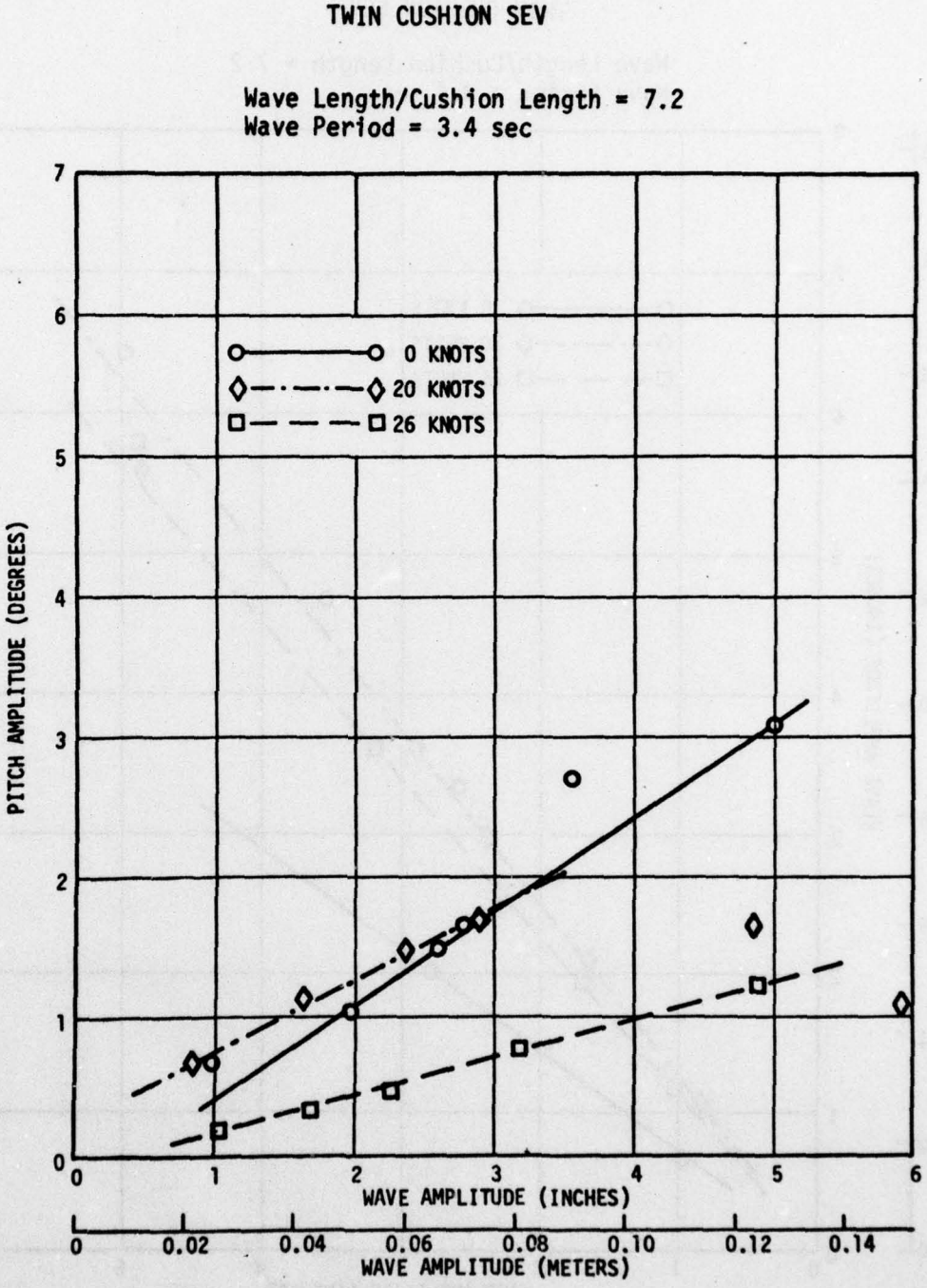

Figure 11 - Pitch Amplitude vs Wave Amplitude for 0, 20, 26 Knots

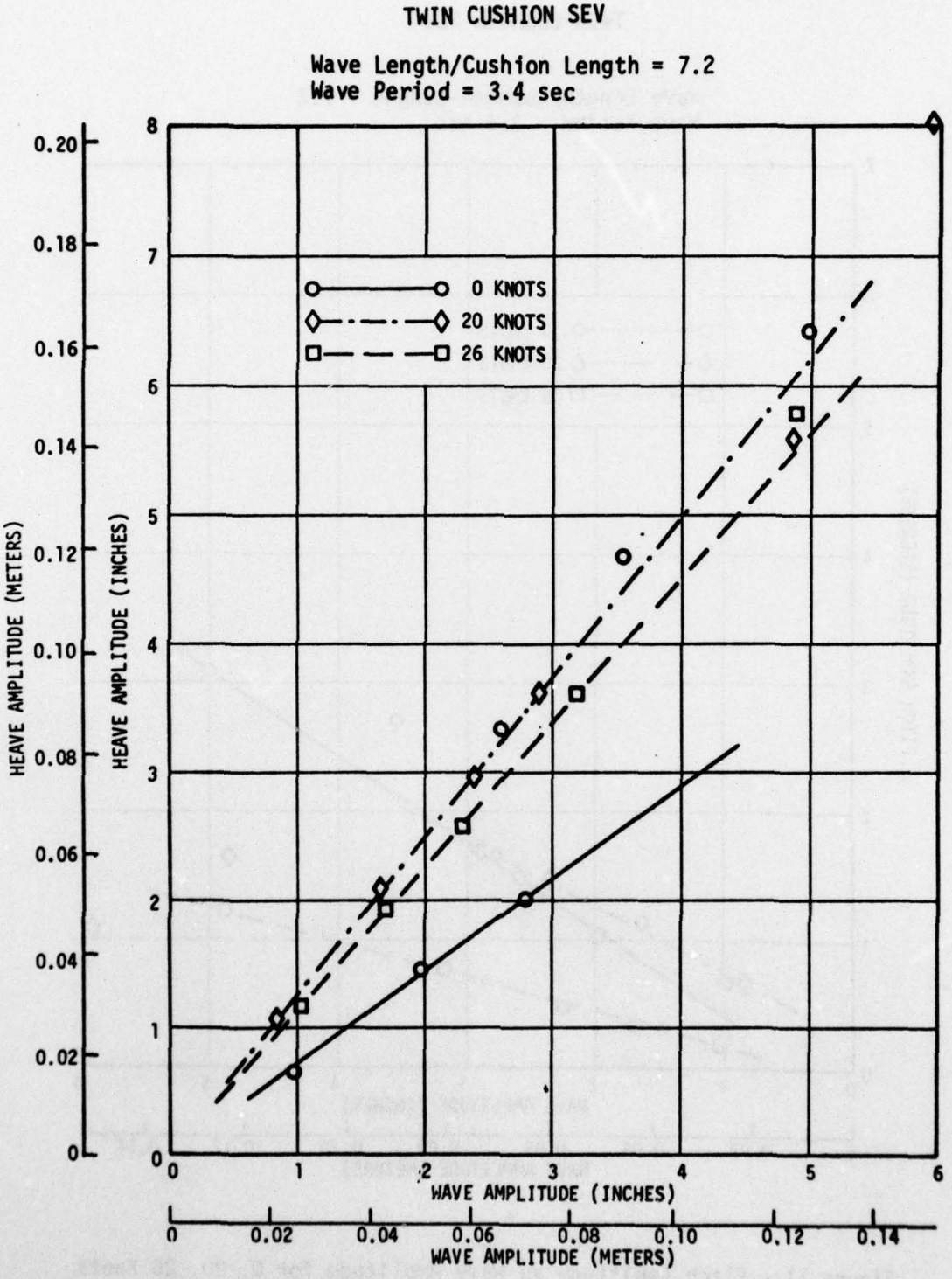

Figure 12 - Heave Amplitude vs Wave Amplitude for 0, 20, 26 Knots

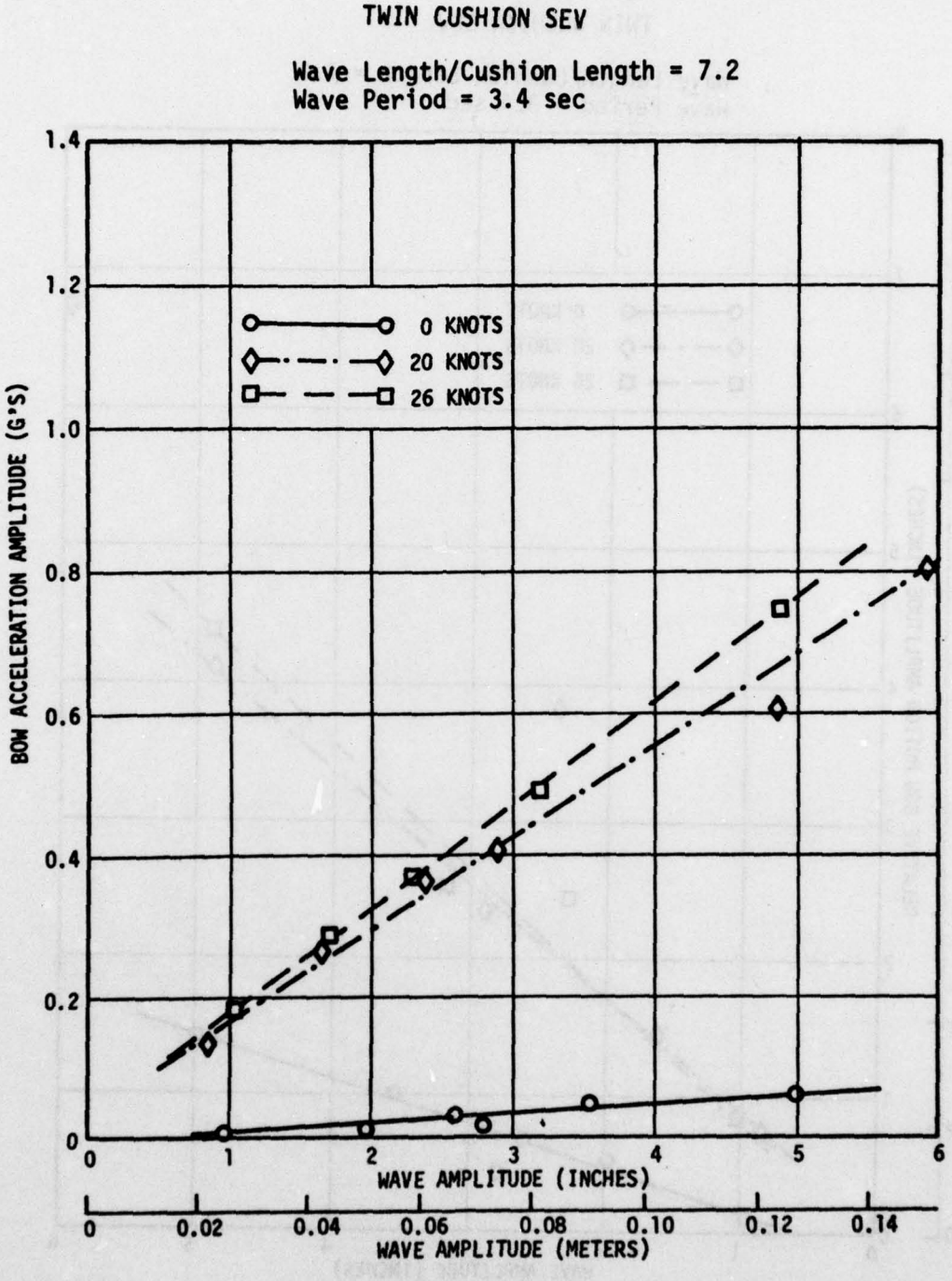

Figure 13 - Bow Acceleration Amplitude vs Wave Amplitude for 0, 20, 26 Knots

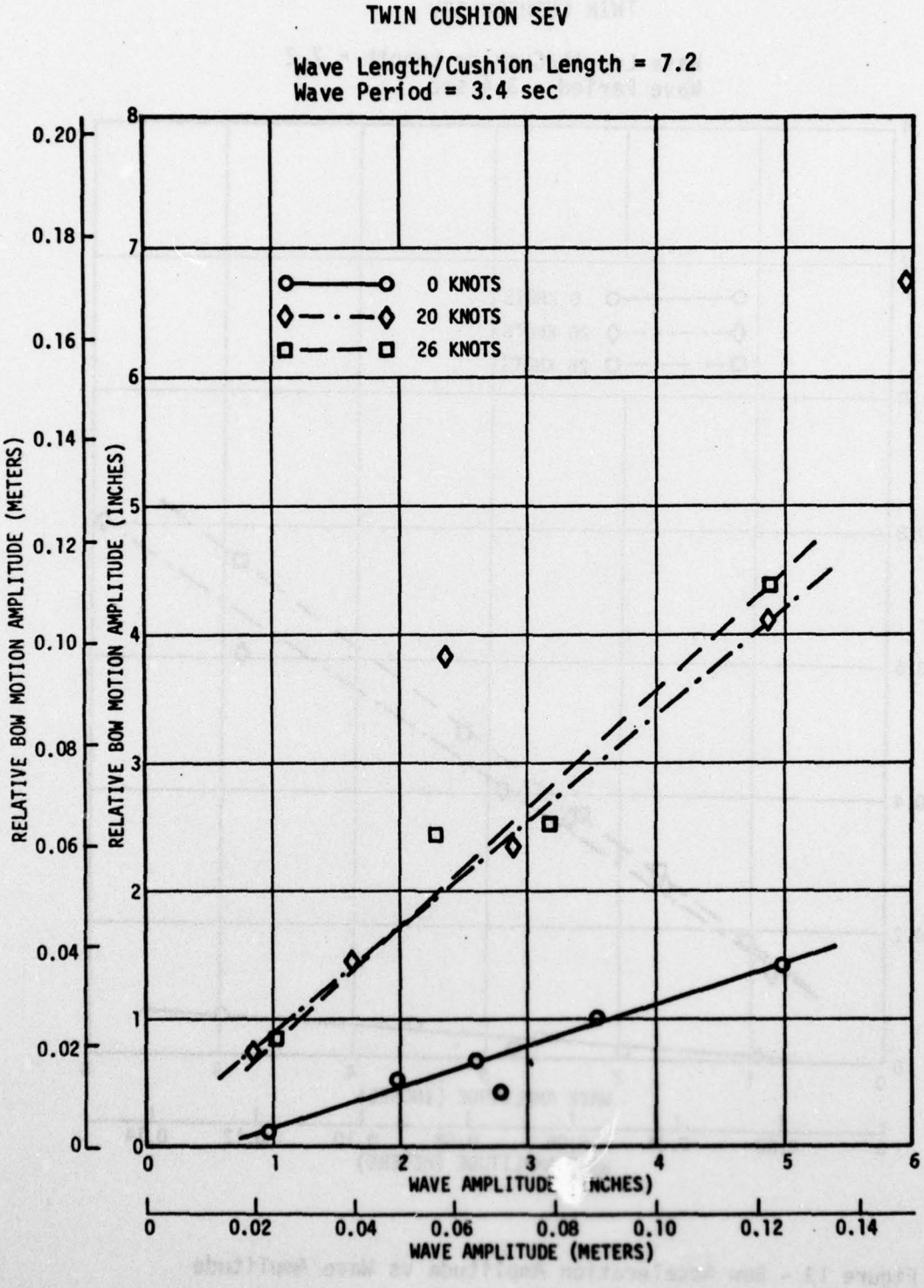

Figure 14 - Relative Bow Motion Amplitude vs Wave Amplitude for 0, 20, 26 Knots

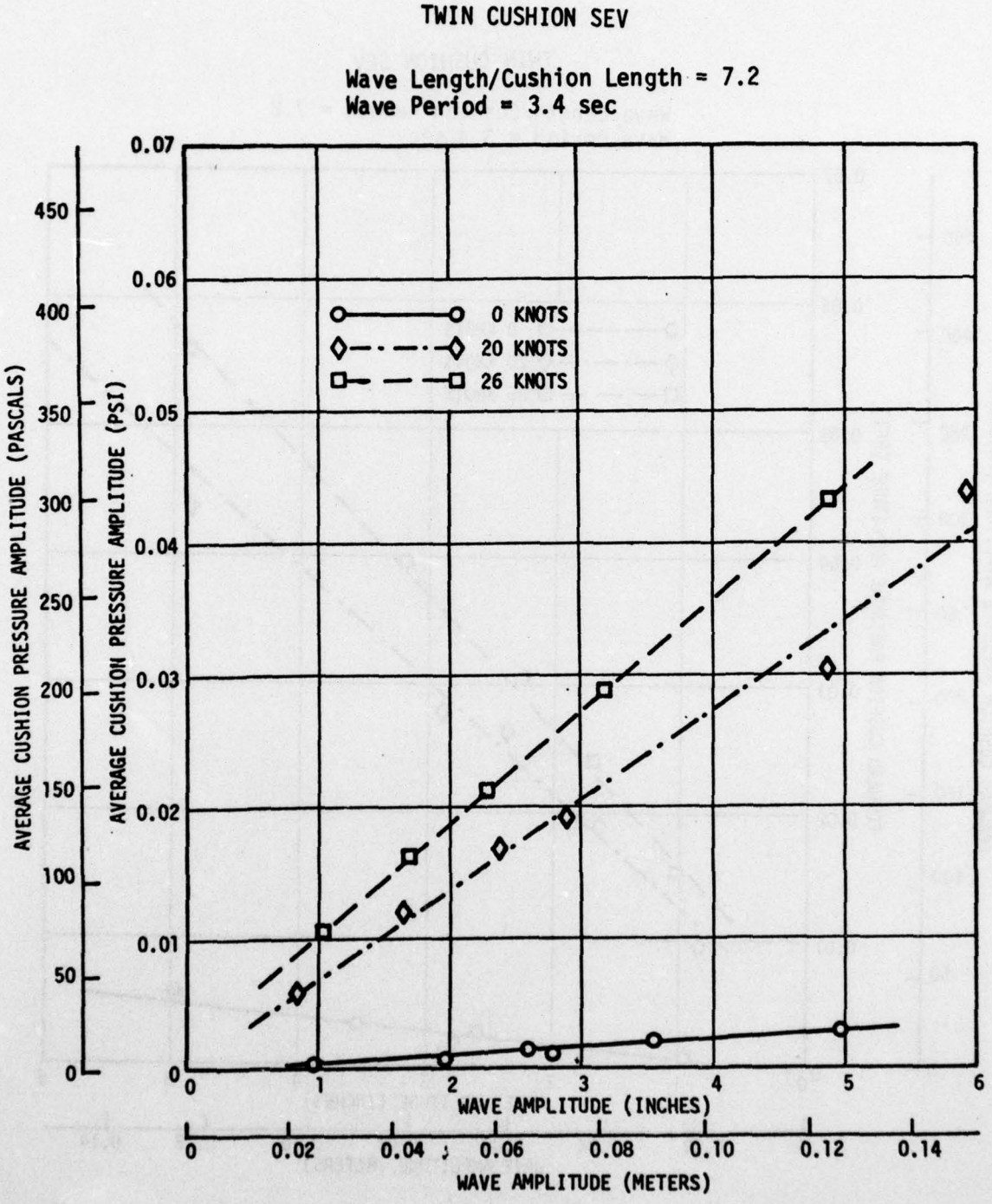

Figure 15 - Average Cushion Pressure Amplitude vs Wave Amplitude for 0, 20, 26 Knots

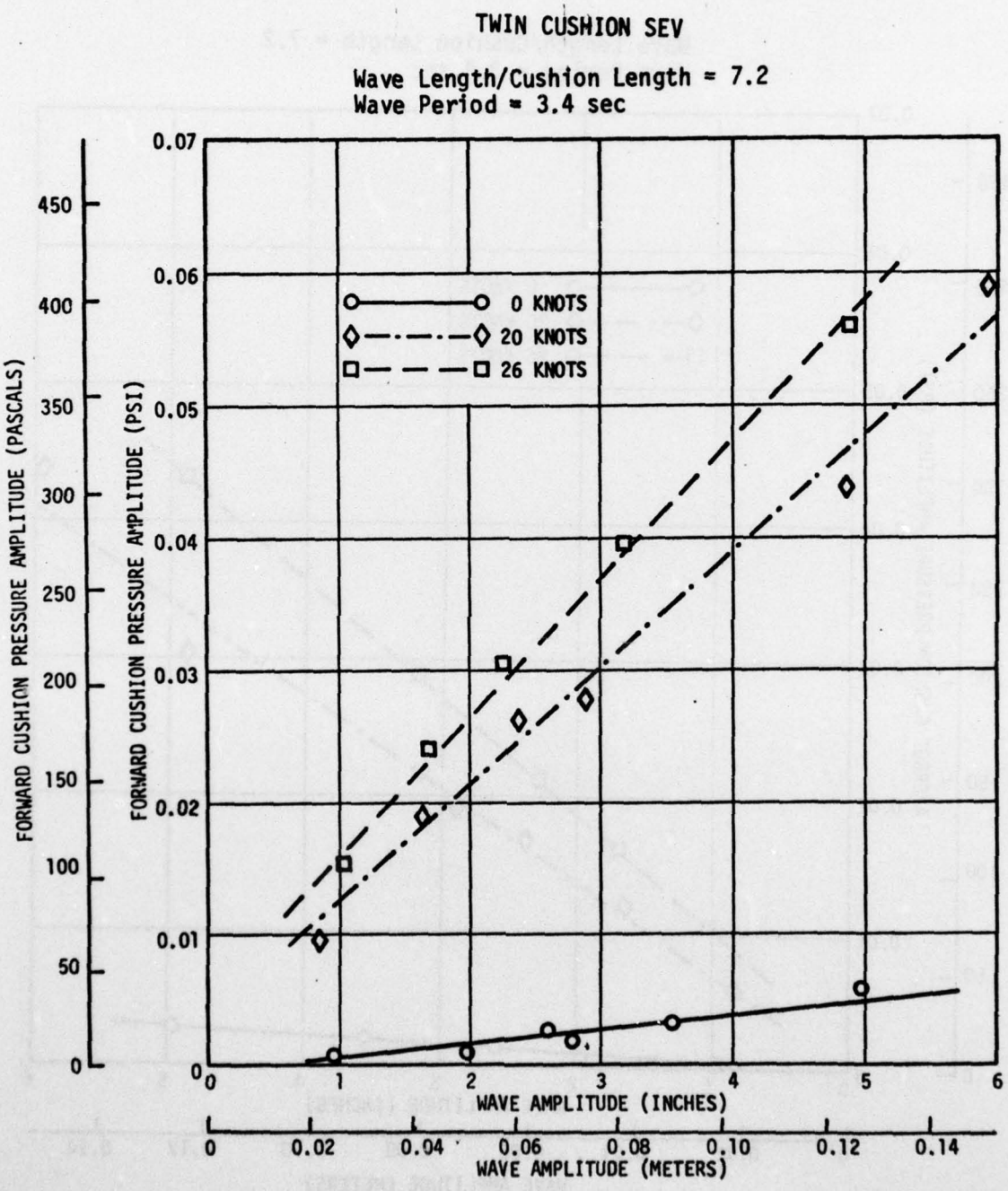

Figure 16 - Forward Cushion Pressure Amplitude vs Wave Amplitude for 0, 20, 26 Knots

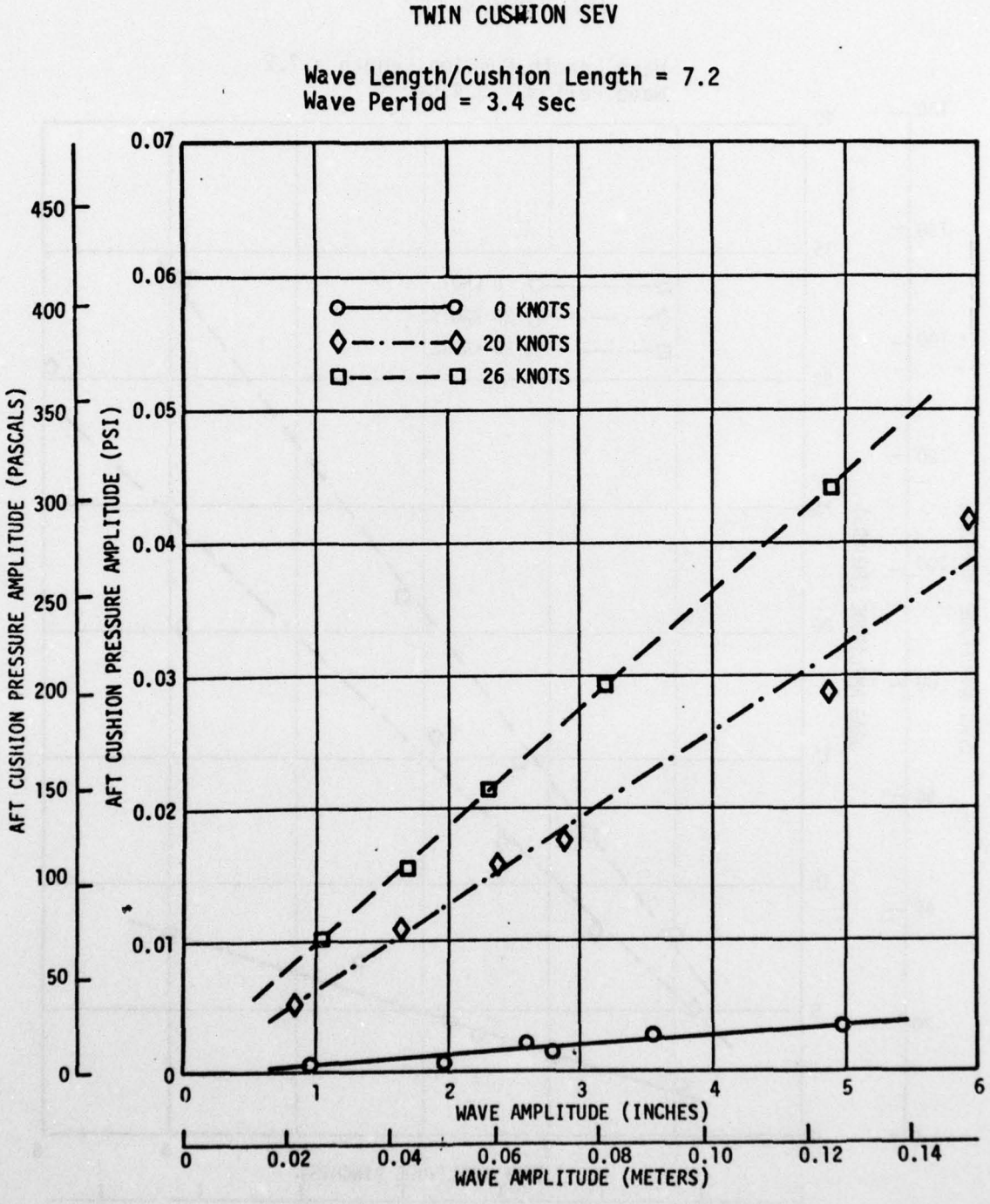

Figure 17 - Aft Cushion Pressure Amplitude vs Wave Amplitude for 0, 20, 26 Knots

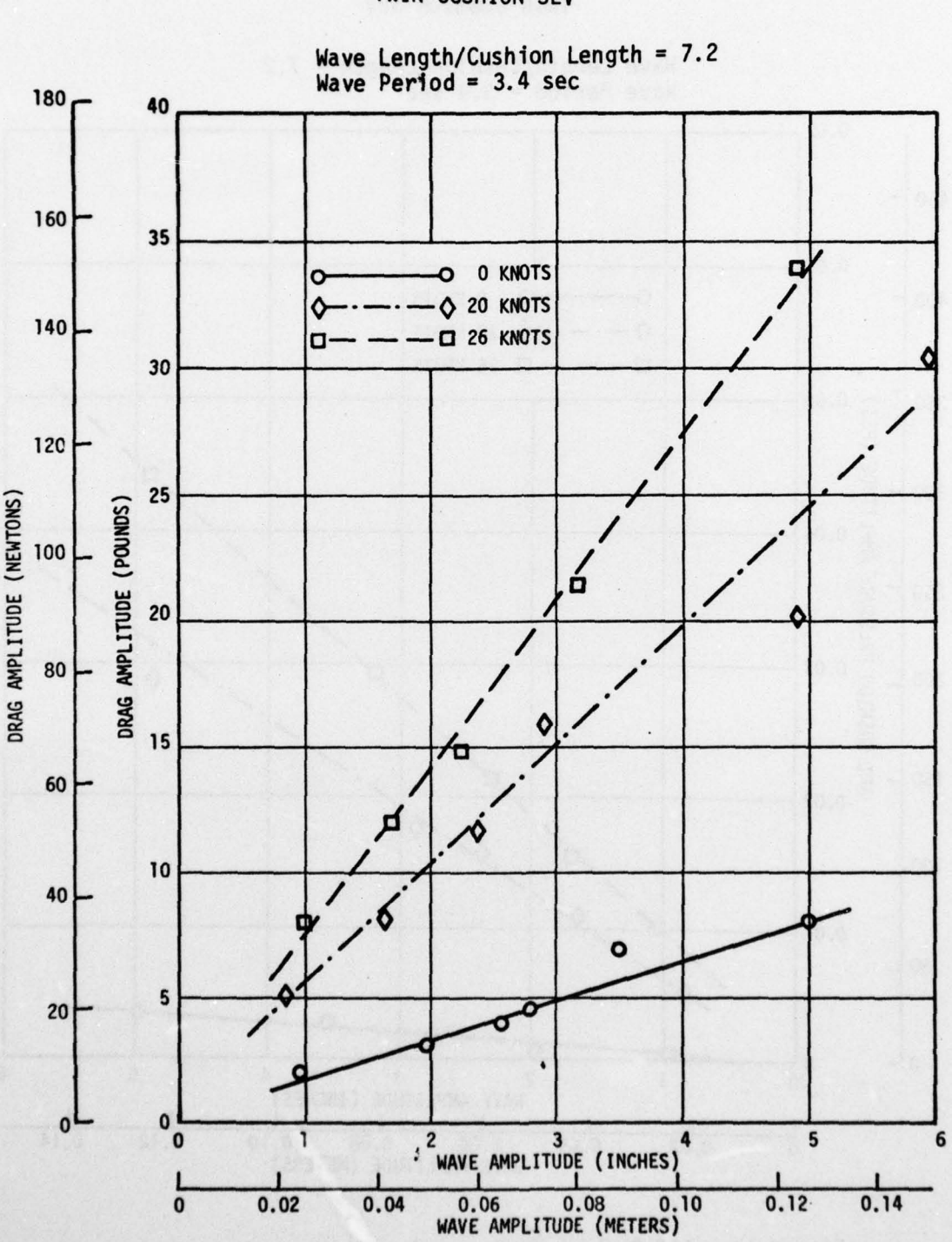

Figure 18 - Drag Amplitude vs Wave Amplitude for 0, 20, 26 Knots

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