

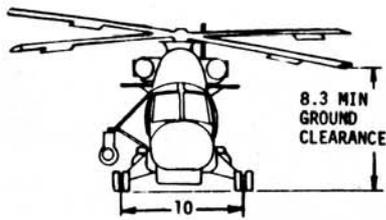


STANDARD AIRCRAFT CHARACTERISTICS

SH-2D "SEASPRITE"

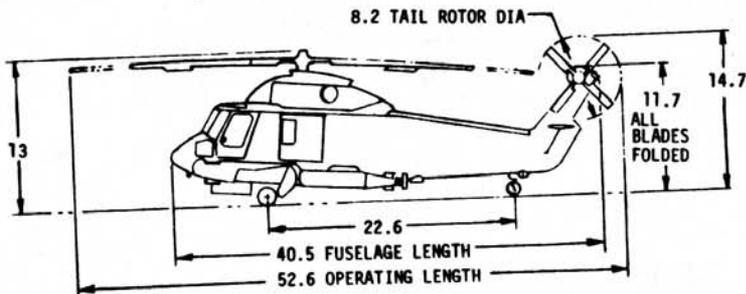
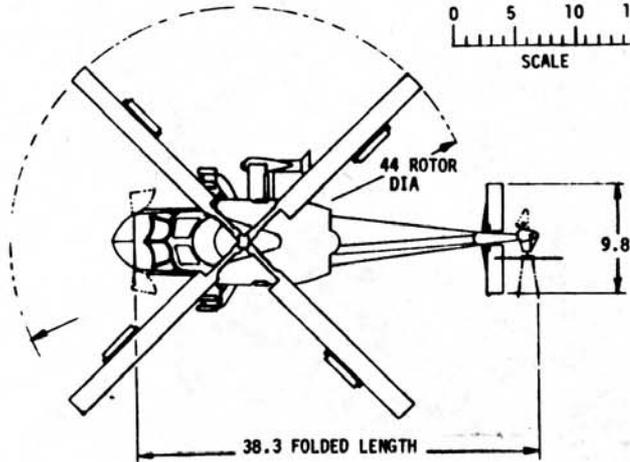
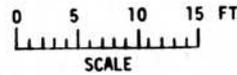
KAMAN

NAVAL AIR SYSTEMS COMMAND
NAVY DEPARTMENT



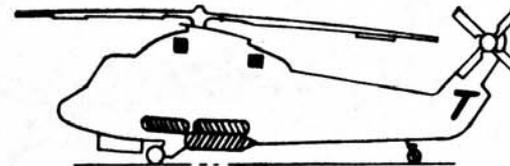
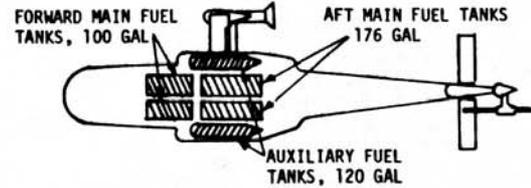
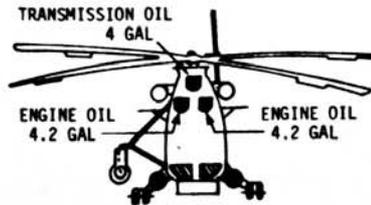
MAIN ROTOR

DISC AREA 1520.5 SQ. FT.
BLADE AREA 158.3 SQ. FT.
AIRFOIL SECTION NACA 23012 MOD
ENGINE/ROTOR GEAR RATIO 67.4:1

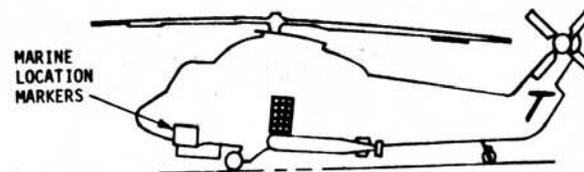
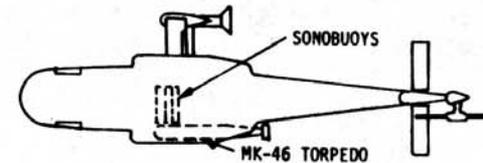


DESCRIPTIVE ARRANGEMENT

NAVAL AIR SYSTEMS COMMAND
NAVY DEPARTMENT



TANKAGE
ASMD CONFIGURATION



ARMAMENT
ASW CONFIGURATION

POWER PLANT	MISSION AND DESCRIPTION	WEIGHTS																																																
<p>NO. & MODEL (2) T58-GE-8F MFR GENERAL ELECTRIC</p> <p><u>GEAR REDUCTION RATIOS</u></p> <p>ENGINE SPEED DECREASER 0.31 MAIN ROTOR 0.048 TAIL ROTOR 0.28</p> <p><u>RATINGS</u></p> <table border="1"> <thead> <tr> <th></th> <th>SHP</th> <th>RPM</th> <th>ALT</th> </tr> </thead> <tbody> <tr> <td>MIL</td> <td>1350</td> <td>19500</td> <td>S.S.L.</td> </tr> <tr> <td>NORM</td> <td>1150</td> <td>19500</td> <td>S.S.L.</td> </tr> </tbody> </table> <p>G.E. ENGINE SPEC. NO. E1152 JULY 14, 1968</p>		SHP	RPM	ALT	MIL	1350	19500	S.S.L.	NORM	1150	19500	S.S.L.	<p>THE PRIMARY MISSIONS OF THIS HELICOPTER ARE ANTI-SUBMARINE WARFARE (ASW) AND ANTI-SHIP MISSILE DEFENSE (ASMD). IN ASW, THE HELICOPTER WILL REDETECT TARGETS INITIALLY CONTACTED BY ANOTHER SOURCE (SUCH AS SHIP'S SONAR), LOCALIZE AND CLASSIFY THE TARGET, AND ATTACK, IF NECESSARY. IN ASMD, THE HELICOPTER WILL DETECT THE THREAT OF AN ANTI-SHIP MISSILE AND/OR ITS LAUNCH PLATFORM, CLASSIFY THE THREAT, PROVIDE EARLY WARNING TO THE THREATENED FORCE, AND LOCALIZE THE THREAT FOR POSSIBLE ATTACK BY OWN FORCES.</p> <p>THIS HELICOPTER IS ALSO TO ACCOMPLISH GENERAL UTILITY TASKS, WHICH INCLUDE SEARCH AND RESCUE MISSIONS, GUN FIRE OBSERVATION, RECONNAISSANCE, VERTICAL REPLENISHMENT, EMERGENCY SUPPLY AND RESUPPLY, PERSONNEL TRANSFER, EVACUATION OF WOUNDED, COURIER SERVICES, AND TACTICAL AIR CONTROLLER OPERATIONS.</p> <p>THE HELICOPTER IS CAPABLE OF OPERATION FROM CARRIERS, CRUISERS, DESTROYERS, AND FROM A WIDE VARIETY OF OTHER NAVAL AND MERCHANT SHIPS EQUIPPED WITH SUITABLE LANDING PLATFORMS AND FACILITIES, AND FROM AIRFIELDS AND UNPREPARED FIELDS.</p> <p>THE SH-2D IS A TWIN TURBOSHAFT ENGINE POWERED, SINGLE FOUR-BLADED ROTOR HELICOPTER WITH AN ANTI-TORQUE TAIL ROTOR. THE MAIN ROTOR IS CONTROLLED BY AERODYNAMIC SERVO FLAPS ACTUATED BY CONVENTIONAL PILOT'S COCKPIT CONTROLS.</p> <p>THE SH-2D IS A MODIFICATION OF THE HH-2D MODEL. THE MODIFICATION INCLUDES THE INSTALLATION OF LAMPS EQUIPMENT AND INSTALLATION OF THE MORE POWERFUL T58-GE-8F ENGINES.</p>	<table border="1"> <thead> <tr> <th>LOADING</th> <th>LBS</th> <th>L.F.</th> </tr> </thead> <tbody> <tr> <td>EMPTY (A)</td> <td>8609</td> <td></td> </tr> <tr> <td>BASIC</td> <td>8760</td> <td></td> </tr> <tr> <td>COMBAT</td> <td>9653</td> <td>2.7</td> </tr> <tr> <td>MAXIMUM</td> <td>12800</td> <td>2.0</td> </tr> </tbody> </table> <p>NOTES: (A) = ACTUAL WITH LAMPS EQUIPMENT</p>	LOADING	LBS	L.F.	EMPTY (A)	8609		BASIC	8760		COMBAT	9653	2.7	MAXIMUM	12800	2.0																					
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<p>RADAR LN-66HP IFF AN/APX-72 UHF RADIO SET (2) AN/ARC-159 ICS AN/AIC-14 TACAN AN/ARN-52 DOPPLER RADAR AN/APN-182 ATTITUDE HEADING AN/ASN-73 NAV COMPUTER AN/AYK-2 PLOTING BOARD PT-429/A DIRECTION FINDER (UHF) AN/ARA-25 OTPI R1047A/A RADAR ALTIMETER AN/APN-171 RAWS AN/APQ-107 SONOBUOY RECEIVER AN/ARR-52 ACOUSTIC DATA PROC AN/ASA-26B DATA LINK AN/AKT-22 MAD AN/ASQ-81 ESM AN/ALR-54 SECURE SPEECH* KY-28</p> <p>*NOT INCLUDED IN WEIGHT EMPTY</p>	<p>DIMENSIONS</p> <table border="1"> <tbody> <tr> <td colspan="2">MAIN ROTOR</td> </tr> <tr> <td>DIAMETER</td> <td>44 FT</td> </tr> <tr> <td>DISC AREA</td> <td>1520.5 SQ.FT</td> </tr> <tr> <td>BLADE AREA</td> <td>158.3 SQ.FT</td> </tr> <tr> <td>NO. OF BLADES</td> <td>4</td> </tr> <tr> <td colspan="2">LENGTH</td> </tr> <tr> <td>MAXIMUM</td> <td>52.6 FT</td> </tr> <tr> <td>BLADES FOLDED</td> <td>38.3 FT</td> </tr> <tr> <td colspan="2">HEIGHT</td> </tr> <tr> <td>MAXIMUM</td> <td>14.7 FT</td> </tr> <tr> <td>BLADES FOLDED</td> <td>13.0 FT</td> </tr> <tr> <td colspan="2">WIDTH</td> </tr> <tr> <td>BLADES FOLDED</td> <td>12.3 FT</td> </tr> <tr> <td>TREAD</td> <td>10 FT</td> </tr> </tbody> </table>	MAIN ROTOR		DIAMETER	44 FT	DISC AREA	1520.5 SQ.FT	BLADE AREA	158.3 SQ.FT	NO. OF BLADES	4	LENGTH		MAXIMUM	52.6 FT	BLADES FOLDED	38.3 FT	HEIGHT		MAXIMUM	14.7 FT	BLADES FOLDED	13.0 FT	WIDTH		BLADES FOLDED	12.3 FT	TREAD	10 FT	<p>ACCOMMODATIONS</p> <p>CREW (MISSION) 3 CABIN SIZE CLEARANCE</p> <table border="1"> <tbody> <tr> <td>LENGTH</td> <td>8.3</td> </tr> <tr> <td>WIDTH</td> <td>4.5</td> </tr> <tr> <td>HEIGHT</td> <td>4.6</td> </tr> <tr> <td>USABLE VOLUME</td> <td>172 CU.FT</td> </tr> <tr> <td>PROVISION FOR TROOP SEATS</td> <td>3</td> </tr> <tr> <td>PROVISION FOR LITTERS</td> <td>2</td> </tr> <tr> <td>RESCUE HOIST CAPABILITY</td> <td>600 LB</td> </tr> <tr> <td>CARGO HOOK CAPABILITY</td> <td>4000 LB</td> </tr> <tr> <td>DEAD WEIGHT CARGO FLOOR</td> <td></td> </tr> <tr> <td>LIMIT FOR 3G L.F.</td> <td>200 LB/SQ.FT</td> </tr> </tbody> </table>	LENGTH	8.3	WIDTH	4.5	HEIGHT	4.6	USABLE VOLUME	172 CU.FT	PROVISION FOR TROOP SEATS	3	PROVISION FOR LITTERS	2	RESCUE HOIST CAPABILITY	600 LB	CARGO HOOK CAPABILITY	4000 LB	DEAD WEIGHT CARGO FLOOR		LIMIT FOR 3G L.F.	200 LB/SQ.FT
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		<p>ORDNANCE</p> <p>THE FOLLOWING LAUNCHERS ARE PROVIDED:</p> <p>2 EXT. FIXED STORES STA. WITH MK-8 MOD 5 SHACKLES FOR AUX TANKS AND/OR MK-46 TORPEDO</p> <p>1 SONOBUOY LAUNCHER WITH 15 TUBES FOR "A" SIZE BUOYS: SSQ-41 AND/OR SSQ-47</p> <p>2 MARINE LOCATION MARKER LAUNCHERS FOR MK-25 TYPE MLM, 4 RDS/LAUNCHER</p>																																																

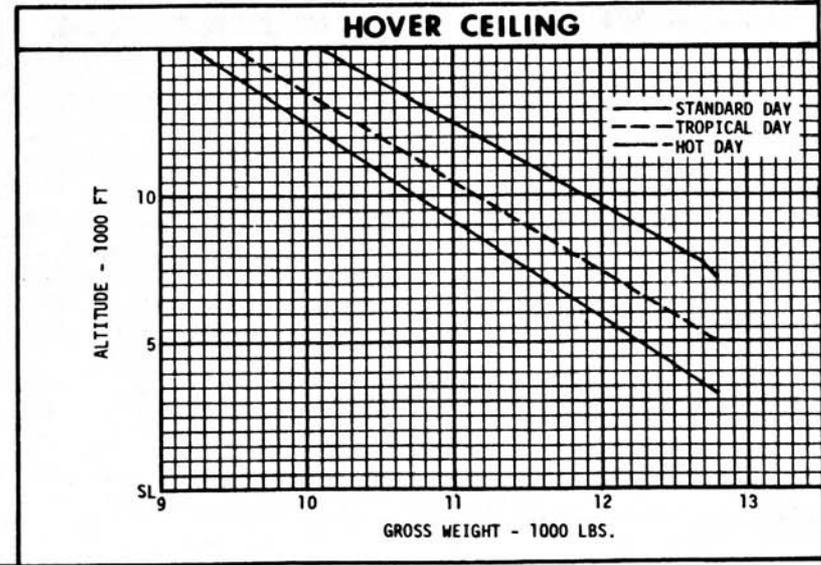
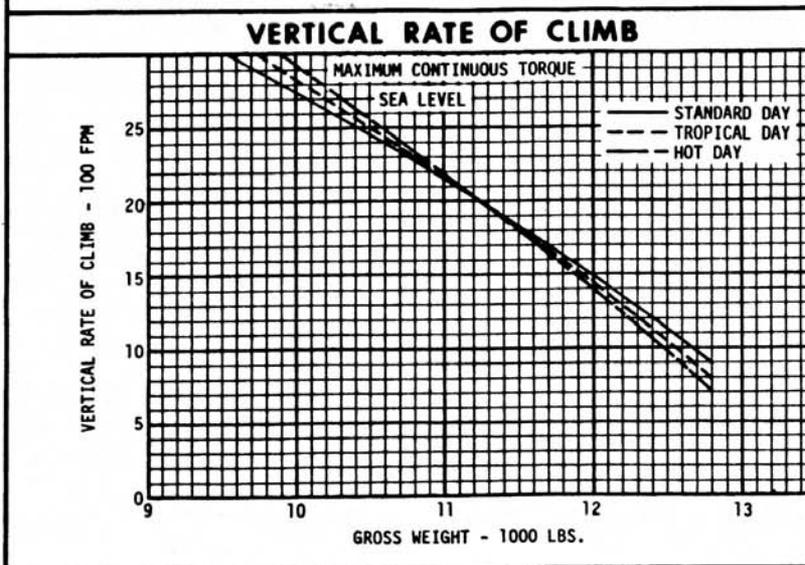
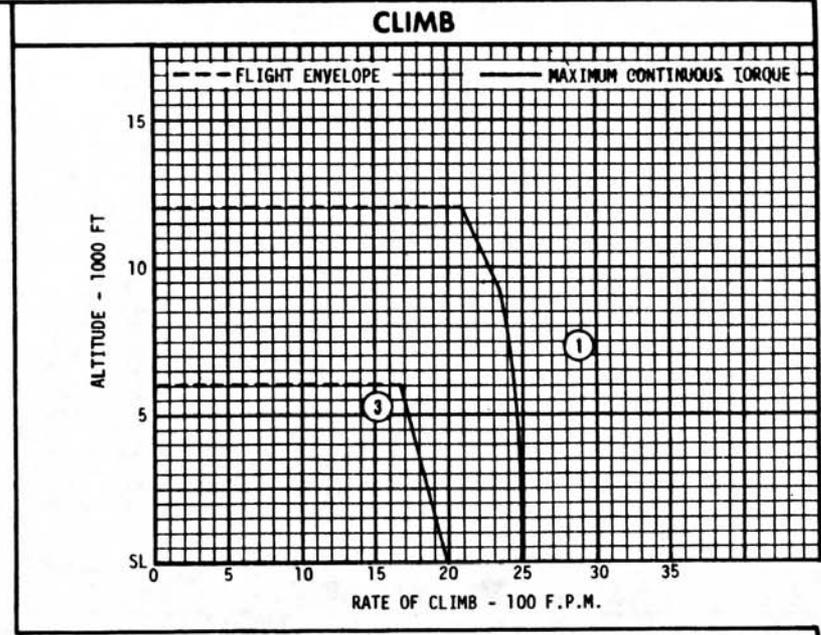
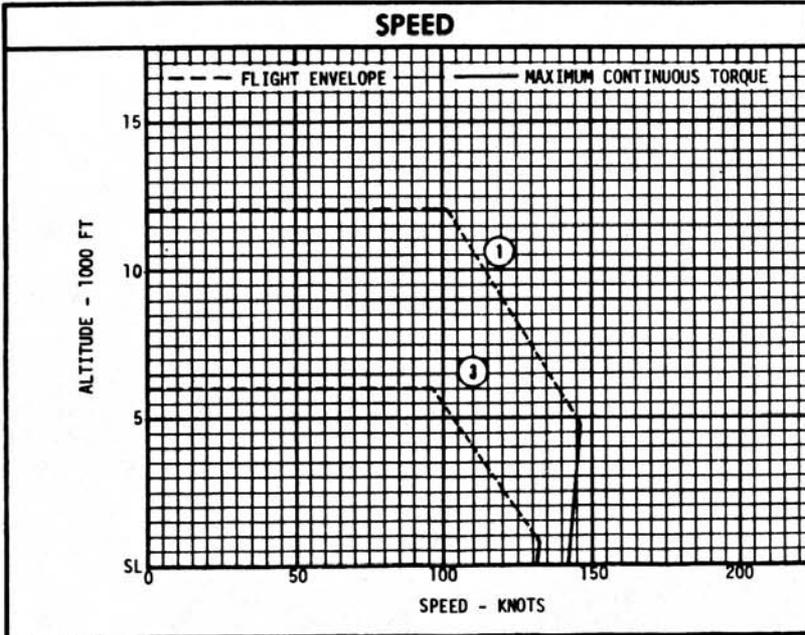
PERFORMANCE SUMMARY

		① UTILITY	② ASW	③ ASMD	④ RESCUE	⑤ CARGO	⑥ FERRY
TAKE-OFF WEIGHT	LB.	10404 (F)	12577	12157	12357	12800 (F)	11997
FUEL INTERNAL/EXTERNAL (JP-5)	LB.	1877/-	1580/408	1877/816	1877/816	713	1877/816
PAYLOAD	(A) LB.	-	999	-	400/1200	3560	-
DISC LOADING	LB./SQ.FT.	6.8	8.3	8.0	8.1	8.4	7.9
VERTICAL RATE OF CLIMB AT S.L.	(B) FPM.	2575	1070	1370	1230	900	1500
ABSOLUTE HOVERING CEILING (OGE) (C)	FT.	14000	8000	9100	8600	7200	9600
MAX. RATE OF CLIMB AT S.L.	(B) FPM.	2280	1760	1850	1800	1700	1890
OPERATIONAL CEILING	FT.	10400	6000	6000	6000	5000	6000
SPEED AT S.L.	(B) KN.	141	129	132	131	124	136
MAX. SPEED/ALTITUDE	(B) KN/FT.	144/2900	129/SL	132/500	131/SL	124/SL	137/200
OEI SERVICE CEILING (100 FPM) (D)	FT.	10400	6000	6000	6000	5000	6000
OEI MIN SPEED	(C)(D)(G) KN.	0	0	0	3	0	0
OEI MAX SPEED	(C)(D) KN.	117	103	105	104	97	109
COMBAT RADIUS	N.MI.	116	-	-	135	-	-
MISSION TIME	HRS.	2.1	2.0	3.0	2.5	0.6	2.8
AVERAGE CRUISING SPEED	KN.	115	-	-	115	-	-
CRUISING ALTITUDE	FT.	10000	-	-	5000	-	-
RANGE	N.MI.	244	-	-	287	50	318
AVERAGE CRUISING SPEED	KN.	116	-	-	120	110	114
CRUISING ALTITUDE	FT.	10000	-	-	5000	SL	10000
ENDURANCE	HRS.	2.3	1.4	2.8	3.0	-	-
ENDURANCE SPEED	KN.	70	70	70	70	-	-
ENDURANCE ALTITUDE	FT.	SL	1500	1500	SL	-	-

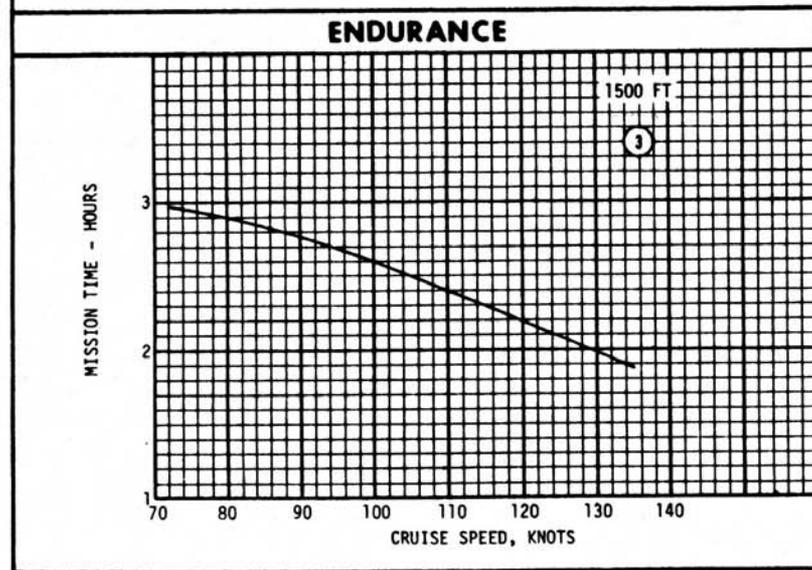
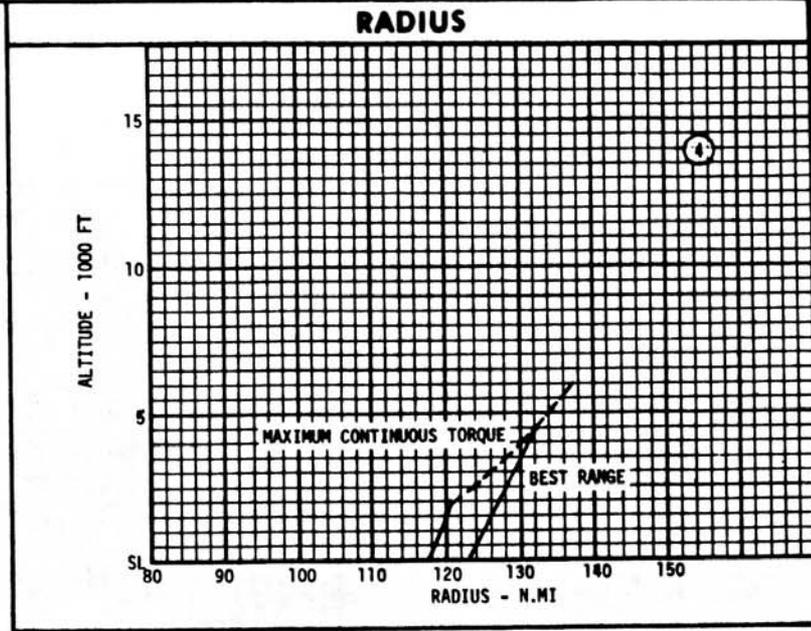
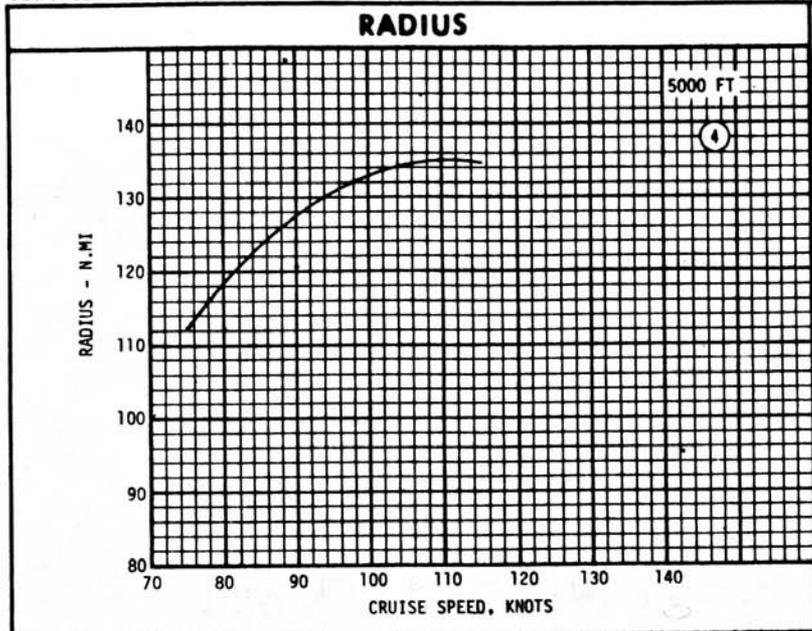
NOTES

- (A) OUT/RETURN PAYLOAD FOR RADIUS MISSIONS
 (B) MAXIMUM CONTINUOUS TORQUE
 (C) INTERMEDIATE POWER
 (D) ONE ENGINE INOPERATIVE
 (F) READILY REMOVABLE ASW/ASMD EQUIPMENT REMOVED, 636 LB
 (G) DISPOSABLE STORES DROPPED, 10% INTERNAL FUEL REMAINING

PERFORMANCE BASIS: NATC FLIGHT TEST DATA
 ENGINE SPECIFICATION POWER AVAILABLE
 ENGINE SPECIFICATION FUEL CONSUMPTION INCREASED 5%



○ LOADING CONDITION COLUMN NUMBER



○ LOADING CONDITION COLUMN NUMBER

NOTES

RADIUS MISSIONS

① CLEAN- HIGH ALTITUDE

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE

CLIMB OUT: ON COURSE AT MAXIMUM CONTINUOUS TORQUE TO OPT CRUISE ALT

CRUISE OUT: TO TARGET AT SPEED FOR MAXIMUM RANGE AT OPTIMUM CRUISE ALTITUDE

HOVER: 5 MINUTES AT HOVER CEILING, OUT OF GROUND EFFECT

CRUISE BACK: TO HOME BASE AT SPEED FOR MAXIMUM RANGE AT OPTIMUM CRUISE ALTITUDE

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

LANDING RESERVE: 10% OF INITIAL FUEL



④ RESCUE

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE AT SEA LEVEL

CLIMB OUT: ON COURSE AT MAXIMUM CONTINUOUS TORQUE TO 5000 FEET

CRUISE OUT: TO TARGET AT BEST RANGE AIRSPEED AT 5000 FEET

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

PICK UP FOUR (4) SURVIVORS: HOVER OUT OF GROUND EFFECT 5 MINUTES AT SEA LEVEL

CLIMB OUT: ON COURSE AT MAXIMUM CONTINUOUS TORQUE TO 5000 FEET

CRUISE BACK: TO BASE AT 120 KNOTS AT 5000 FEET

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

LANDING RESERVE: 10% OF INITIAL FUEL



RANGE MISSIONS

①⑧ UTILITY & FERRY

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE AT SEA LEVEL

CLIMB OUT: ON COURSE AT MAXIMUM CONTINUOUS TORQUE TO OPT CRUISE ALT

CRUISE OUT: TO REMOTE BASE AT SPEED FOR MAXIMUM RANGE AT OPTIMUM CRUISE ALTITUDE

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

LANDING RESERVE: 10% OF INITIAL FUEL



④ GENERAL RANGE MISSION

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE AT SEA LEVEL

CLIMB OUT: ON COURSE AT MAXIMUM CONTINUOUS TORQUE TO 5000 FEET

CRUISE OUT: TO REMOTE BASE AT BEST RANGE AIRSPEED AT 5000 FEET

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

LANDING RESERVE: 10% OF INITIAL FUEL



⑤ CARGO

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE AT SEA LEVEL

HOVER: 5 MINUTES OUT OF GROUND EFFECT TO PICK UP EXTERNAL CARGO

CRUISE OUT: TO REMOTE BASE AT SPEED FOR MAXIMUM RANGE AT SEA LEVEL

LANDING RESERVE: 10% OF INITIAL FUEL



○ LOADING CONDITION COLUMN NUMBER

ENDURANCE MISSIONS

②④ GENERAL ENDURANCE MISSIONS

WARM-UP AND TAKE-OFF: 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE AT SEA LEVEL

CRUISE: AT SPEED FOR MAXIMUM ENDURANCE AT SEA LEVEL

LANDING RESERVE: 10% OF INITIAL FUEL

② ANTI-SUBMARINE WARFARE (ASW)

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE AT SEA LEVEL

CLIMB OUT: ON COURSE TO 1500 FEET AT MAXIMUM CONTINUOUS TORQUE

CRUISE OUT: TO TARGET 35 N.MI. FROM TAKE-OFF AT 120 KTS AT 1500 FEET.

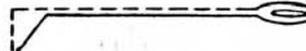
LOITER: STATED TIME AT 1500 FEET AT SPEED FOR MAXIMUM ENDURANCE

DROP STORES (TORPEDO, MARINE MARKERS, SONOBUOYS WITH A TOTAL WEIGHT OF 999 LBS)

CRUISE BACK: TO HOME BASE AT SPEED FOR MAXIMUM RANGE AT 1500 FEET

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

LANDING RESERVE: 10% OF INITIAL FUEL



③ ANTI-SHIP MISSILE DEFENSE (ASMD)

WARM-UP AND TAKE-OFF: FUEL ALLOWANCE OF 2 MINUTES AT MAXIMUM CONTINUOUS TORQUE

CLIMB OUT: ON COURSE TO 1500 FEET AT MAXIMUM CONTINUOUS TORQUE

CRUISE OUT: 10 NAUTICAL MILES AT 120 KNOTS AT 1500 FEET

LOITER: STATED TIME AT SPEED FOR MAXIMUM ENDURANCE AT 1500 FEET

CRUISE BACK: 10 NAUTICAL MILES AT SPEED FOR MAXIMUM RANGE AT 1500 FEET

DESCEND TO SEA LEVEL: NO FUEL USED, NO DISTANCE GAINED

LANDING RESERVE: 10% OF INITIAL FUEL

