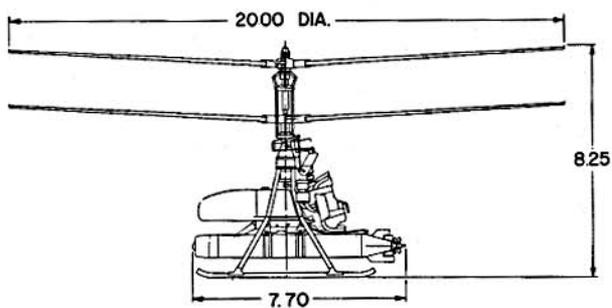
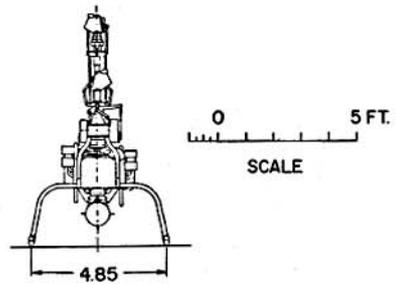
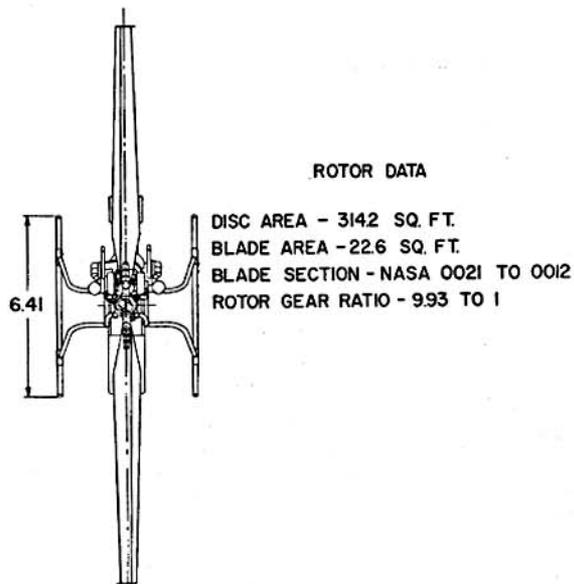


# STANDARD AIRCRAFT CHARACTERISTICS

DSN - I

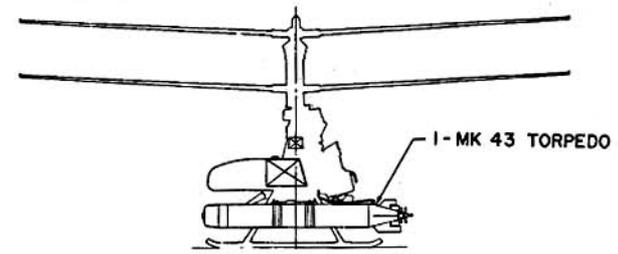
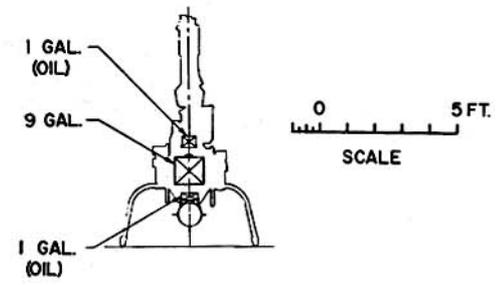
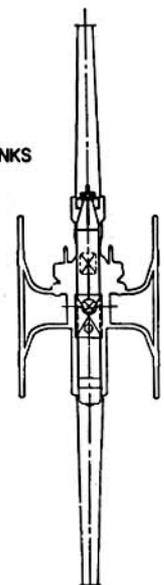
GYRODYNE

Standard Aircraft Characteristics NAVAR 1335A (REV. 1-55)



DESCRIPTIVE ARRANGEMENT

☒ NON SELF-SEALING TANKS



ARMAMENT & TANKAGE

Standard Aircraft Characteristics NUMBER 1335B (Rev. 1-55)

## POWER PLANT

ENGINE.....(1) YO-95-8  
 MPR.....Gyrodyne-Porsche  
 TYPE.....4 cyl., 4 cycle

## RATINGS

	<u>BHP</u>	<u>RPM</u>	<u>ALT</u>
T.O.	72	4500	SSL
NORM.	72	4500	SSL

Model Spec. No.2 of 28 Jan 1959,  
 revised 5 Aug 1959

## ORDNANCE

1 - MK 43 Torpedo

## MISSION AND DESCRIPTION

The Model DSN-1 Drone is a remotely controlled ASW helicopter designed to carry one MK 43 Torpedo or equivalent and be capable of launching this weapon by remote control.

The drone incorporates two two-bladed coaxial rotors of the semi-rigid (see-saw) type. The blades are of laminated wood construction incorporating taper in planform and thickness and 12° negative twist. The machine is completely controllable through the rotors. Control in pitch and roll is obtained through conventional cyclic pitch control. Control in yaw is achieved by means of rotor blade tip air (drag) brakes, which provide positive directional control in all flight regimes.

The powerplant is a Gyrodyne-Porsche YO-95-8 four cylinder, four cycle reciprocating engine rated at 72 hp (after cooling) at 4500 rpm at sea level. Engine cooling is provided by a fan.

## DEVELOPMENT

First Flight ..... December 1959

## DIMENSIONS

DISC AREA.....314.2 sq. ft.  
 BLADE AREA.....22.6 sq. ft.  
 ROTOR DIAMETER.....20' - 0"  
 LENGTH.....20' - 0"  
 HEIGHT.....8' - 3"  
 TREAD.....4' - 10"

## WEIGHTS

<u>LOADINGS</u>	<u>LBS.</u>
EMPTY.....	560
NORMAL.....	885

All weights are estimated

## FUEL AND OIL

<u>NO. TANKS</u>	<u>GALS</u>	<u>LOCATION</u>
1	9	Beneath Transmission
GRADE.....	91/96	
SPEC.....	MIL-F-5572B	

## OIL

CAPACITY..... 2.0 gals.  
 GRADE..... Symbol 9110/9250  
 SPEC.....MIL-L-9000D

## ELECTRONICS

Gyrodyne-Lear automatic  
 stabilization and remote  
 control equipment

(Nomenclature not  
 yet available)

PERFORMANCE SUMMARY					
TAKE-OFF LOADING CONDITION		NORMAL			
TAKE-OFF WEIGHT	lb.	885			
Fuel	lb.	48			
Payload	lb.	265			
Disc loading	lb./sq.ft.	2.82			
Vertical rate of climb at S.L. (A)	fpm.	510			
Absolute hovering ceiling (A)	ft.	3200			
Max. rate of climb at S.L. (A)	fpm.	956			
Service ceiling (100 fpm) (A)	ft.	10,180			
Speed at S.L. (A)	kn.	68.0			
Max. speed/altitude (A)	kn./ft.	68.0/S.L.			
Combat range	n.mi.	73.0			
Average cruising speed	kn.	53.0			
Cruising altitude	ft.	S.L.			
Combat radius	n.mi.	29.0			
Average cruising speed	kn.	68.6			

## NOTES

(A) Normal Rated Power (= Take-off Power)

PERFORMANCE is based on calculations modified by contractor flight test data of the 17 ft. dia. rotor Model XRON-1 Rotocycle.

COMBAT RANGE AND RADIUS are based upon manufacturers' fuel consumption data increased 5%  
All performance is out of ground effect.

COMBAT RADIUS MISSION

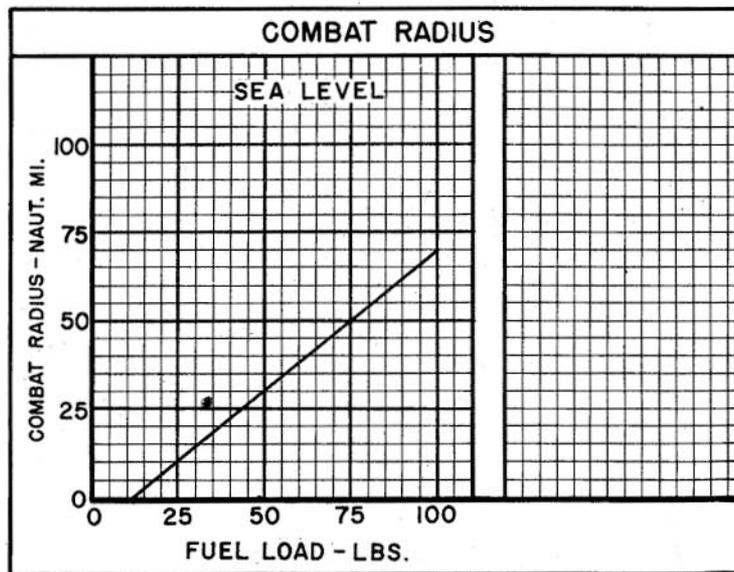
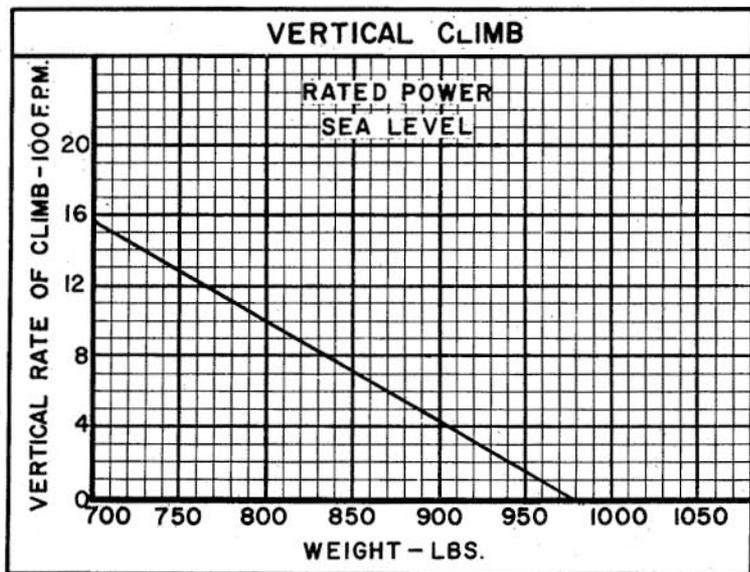
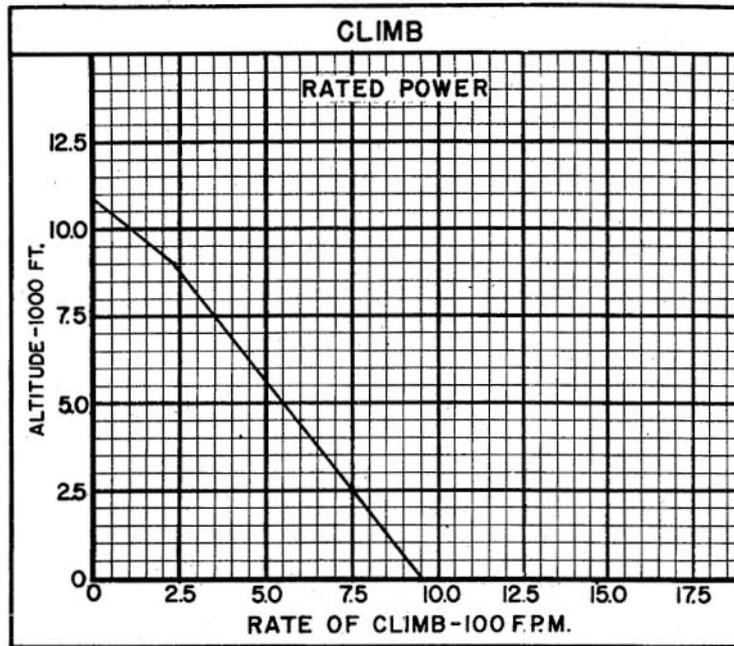
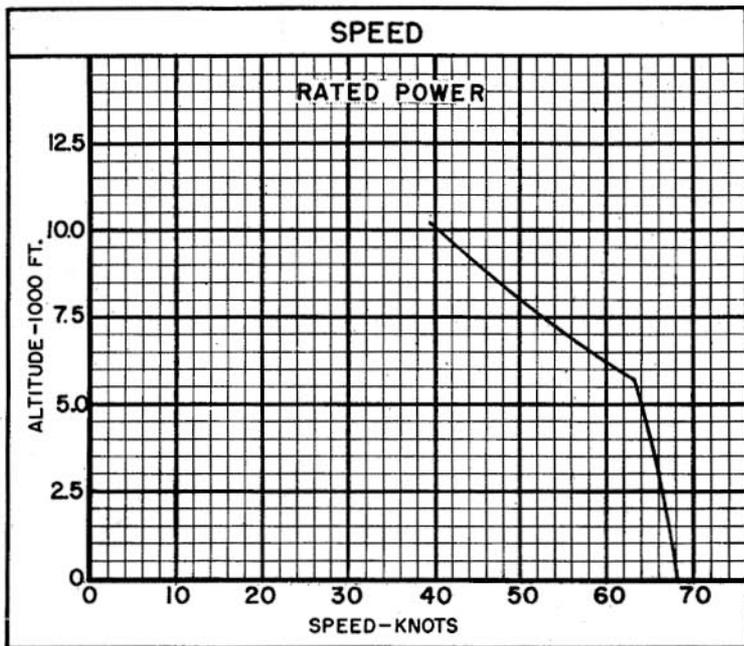
WARM-UP AND TAKE-OFF: 1 Minute at Normal Rated Power.

RESERVE: 10 percent of initial fuel load.

CRUISE: Out and back at sea level at  $V_{max}$ .

HOVER: At sea level for 12 minutes at end of cruise out.

Standard Aircraft Characteristics MAYAER 1325E (Rev. 1-55)

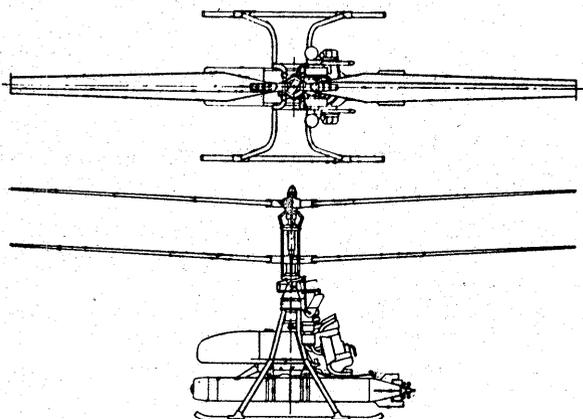
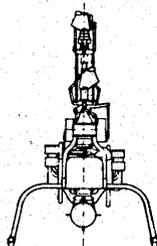


○ LOADING CONDITION COLUMN NUMBER

# CHARACTERISTICS SUMMARY

ASW DRONE

DSN-1



DISC AREA 314.2 sq. ft.

LENGTH 20 ft.

ROTOR DIA. 20.0 ft.

HEIGHT 8' 3"

AVAILABILITY			PROCUREMENT				
NUMBER AVAILABLE			NUMBER DELIVERED IN FISCAL YEARS				
ACTIVE	RESERVE	TOTAL					

## STATUS

First Flight . . . . . December 1959  
 Service Use . . . . . April 1960

### ENGINES

Gyrodyne - Porsche  
 (1) YO-95-8

#### RATINGS

HP/RPM/ALT  
 T.O. 72/4500/SSL  
 NORM. 72/4500/SSL

### FEATURES

Completely ground con-  
 trollable, including  
 weapon drop

Flight path radar  
 monitored

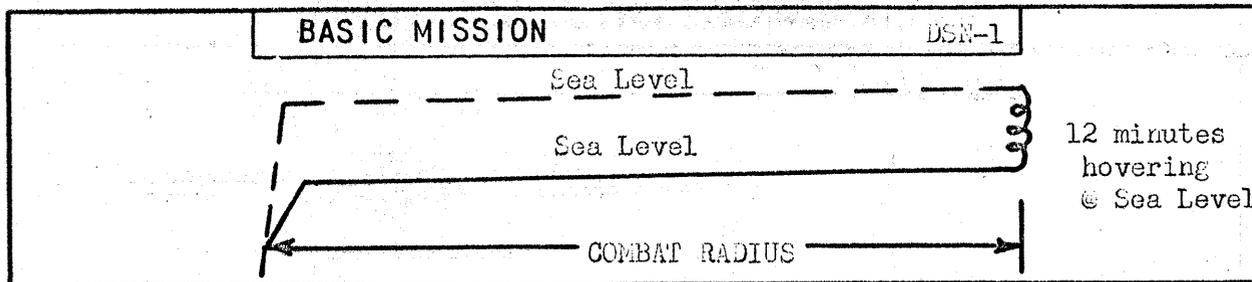
Designed to operate  
 from destroyer-type  
 vessels

### ARMAMENT

1 MK 43 Torpedo  
 (265 lbs.)

NAVAER-1519E (Rev. 6-56)

# CHARACTERISTICS SUMMARY



PERFORMANCE		
ENDURANCE	COMBAT RADIUS	SPEED
1.63 hours	29.0 naut. mi.	68.0 knots at Sea Level
38.5 knots avg. Sea Level	68.6 knots avg. Sea Level	64.0 knots at 5000 ft.
	1.05 hr. mission time	Normal Gross Weight N.R. Power
FORWARD FLIGHT CLIMB	SERVICE CEILING	HOVERING CEILING
956 ft./min. Sea Level, N. G. Wt., N.R. Power	10,180 ft. 100 ft./min., N. G. Wt., N.R. Power	3200 ft. N. G. Wt., N.R. Power out of ground effect
		ft. N. G. Wt., Power in ground effect
LOAD	WEIGHTS	VERTICAL CLIMB
Fuel 48 lbs.	Empty 560 lbs.	510 ft./min.
Internal 48 lbs.	Normal Gross 885 lbs.	Sea Level, N. G. Wt., N.R. Power
External -- lbs.	Overload -- lbs.	
Payload 265 lbs.		

- ### NOTES
- Performance is based on calculations, modified by contractor flight test data of the Model XRON-1 Rotorcycle, 17 ft. dia.
  - Endurance and Radius are based on engine specific fuel consumption data increased 5%.

MAVAER-1519D (Rev. 6-56)