

# STANDARD AIRCRAFT CHARACTERISTICS

## ZPG-2W

GOODYEAR

Standard Aircraft Characteristics NAVAER 1325A (REV. 1-49)

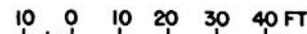
BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

\*TIRE INFLATION AND  
EXTENSION OF OLEO  
STRUT ADDS 2.09 FT

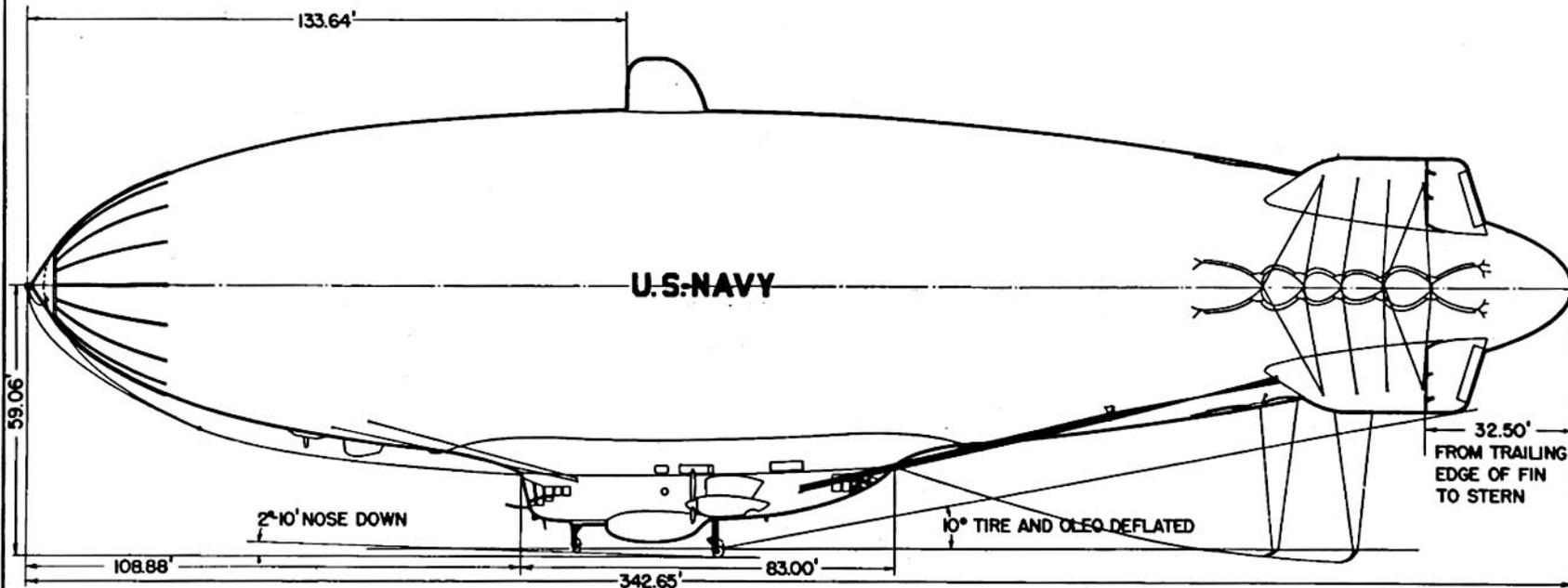
\*17.64" PROPELLER  
GROUND CLEARANCE

31.75" TIRE AND OLEO DEFLATED

ENVELOPE VOLUME . . . . . 975,000 CU FT  
ENVELOPE FINENESS RATIO . . . . . 4.50  
TOTAL BALLONET VOLUME  
(4 BALLONETS) . . . . . 247,300 CU FT  
UPPER FIN AREA (2) . . . . . EACH 517.50 SQ FT  
LOWER FIN AREA (2) . . . . . EACH 517.50 SQ FT  
UPPER RUDEVATOR AREA (2) EACH 247.00 SQ FT  
LOWER RUDEVATOR AREA (2) EACH 247.00 SQ FT



SCALE



DESCRIPTIVE ARRANGEMENT

Standard Aircraft Characteristics NAVAR 1335F (REV. 1-49)

**POWER PLANT**

NO. & MODEL.....(2) R-1300-2A  
 MFR.....W.A.C.  
 SUPERCH.....1 Stage, 1 Speed  
 GEAR BOX RATIO.....0.338  
 PROP. MFR.....Curtiss  
 PROP. DES. NO.....1052-1304-30  
 NO. BLADES/DIA.....3/16' -3"

**RATINGS**

	<u>BHP</u>	<u>RPM</u>	<u>ALT</u>
T.O.	800	2600	SL - 3500 ft.
MIL.	800	2600	SL - 3500 ft.
NORM.	700	2400	SL - 5000 ft.

Take-off limited to 5 min.  
 Military limited to 30 min.

SPEC. NO. H865

**ORDNANCE**

NONE

**MISSION AND DESCRIPTION**

The basic mission of the model ZPG-2W airship is primarily early warning operations.

The basic configuration of the airship is similar to that of the model ZPG-2 airships, except that a streamlined radome is mounted on top centerline of the envelope. This radome houses a height finder radar.

The two, seven-cylinder, air-cooled engines are mounted inside the car and are readily accessible for servicing during flight. The propellers, mounted on outriggers, are driven through cross shafts and bevel gears.

Equipment, installed for inflight refueling and remanning from surface vessels, allows for extended AEW patrols.

The normal crew for AEW operations is twenty-one.

**DEVELOPMENT**

Mock-up.....May 1953  
 First flight....January 1955

**DIMENSIONS**

GAS VOLUME.....975,000 cu.ft.  
 BALLONETS...(4)247,300 cu.ft.  
 LENGTH.....342' -7"  
 HEIGHT.....107' -3"  
 WIDTH.....75' -5"  
 MAX. DIA.....75' -5"

**WEIGHTS**

<u>LOADINGS</u>	<u>LBS</u>
EMPTY.....	47,700
STATIC LIFT.....	58,600
STATIC + MAXIMUM	
DYNAMIC LIFT....	64,600

All weights are calculated.

\*Envelope 97.1% inflated with helium lifting 0.062 lb per cu.ft. at sea level.

**FUEL AND OIL**

<u>Gal.</u>	<u>No. Tanks</u>	<u>Location</u>
1280	3	Car, Fixed
755	3	Car, Slip
FUEL GRADE.....91/96		
FUEL SPEC..MIL-F-5572		

**OIL**

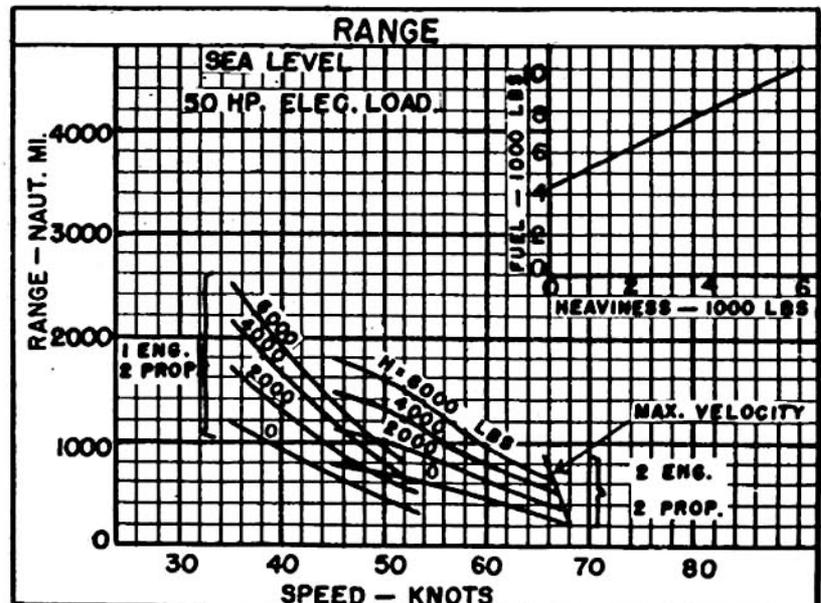
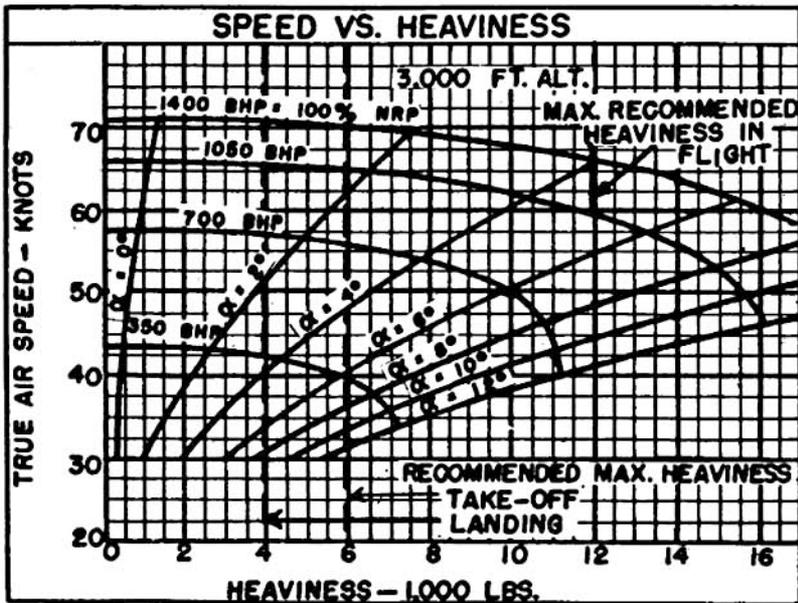
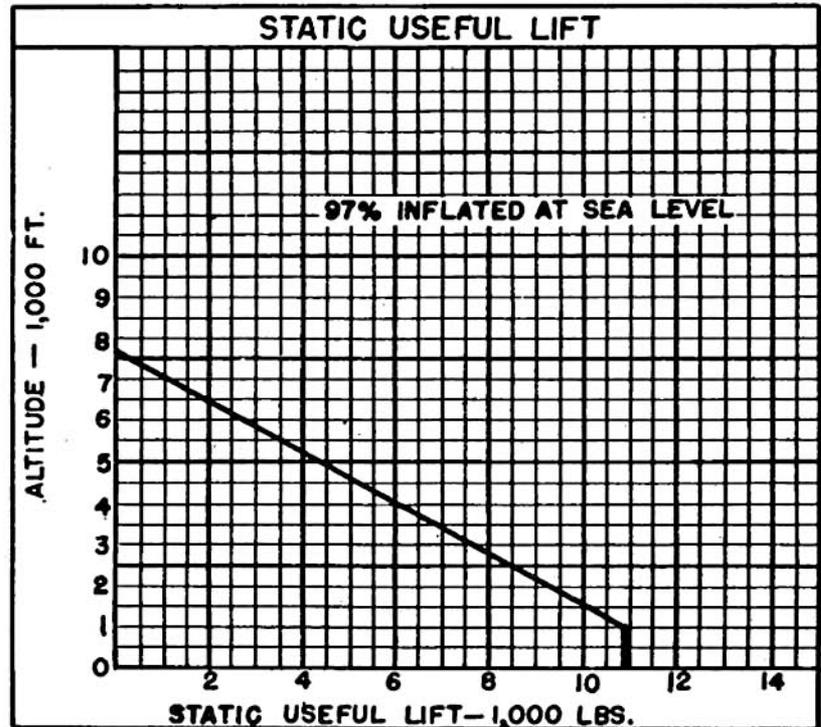
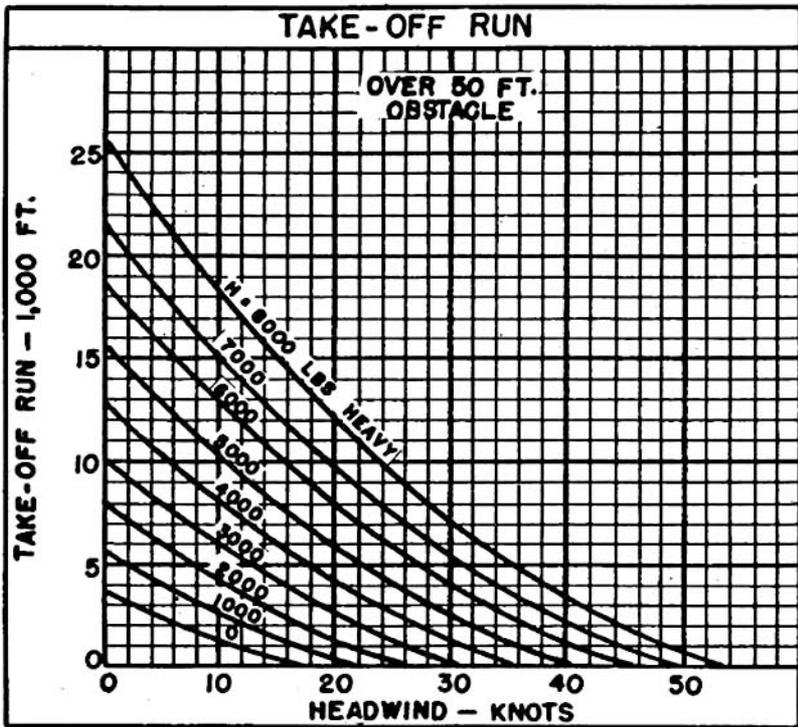
40.....1.....	Car, Fixed
40.....8 cans...	Car-Racks
OIL GRADE.....1100	
OIL SPEC..MIL-C-6C82A	

**ELECTRONICS**

RADIO ALT.....	AN/APN-22
UHF TRANS/REC.....	AN/ARC-27A
LORAN.....	AN/APN-70
RANGE REC.....	AN/ARC-5
IFF.....	AN/APX-6
IFF.....	AN/APX-7
RADIO COMPASS.....	AN/ARN-6
INTERCOM.....	AN/AIC-7A
EOM.....	AN/APR-9B
EOM.....	AN/ALR-5
EOM.....	AN/APA-74

(Cont'd on Note page)





○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics NAVAER 1335E (REV. 2-60)

# NOTES

All figures for lift of the airship are based upon inflation with helium lifting 0.062 lb./cu.ft. at sea level in the standard N.A.C.A. atmosphere.

The static lift in flight is independent of altitude and temperature as long as helium is not valved and there is no superheat (i.e., the air and gas are at equal temperatures).

The gross and useful lifts of the fully inflated airship diminish with altitude in the standard atmosphere at the rate of approximately three percent of the gross lift per 1000 feet.

In the absence of superheat the lift of the fully inflated airship at a given altitude varies inversely as the air temperature at the rate of approximately one percent of the gross lift per 2.8°C (5°F).

In all conditions of inflation, so long as gas is not valved, the lift varies directly with the superheat at approximately one percent per 2.8°C (5°F). The lift of the fully inflated airship is increased approximately 0.2 percent per 2.8°C (5°F) increase in gas temperature at constant envelope pressure.

## ENDURANCE

WARM-UP, TAKE-OFF AND CLIMB: 10 minutes fuel allowance at normal rated power at sea level  
 CRUISE: 1. 8 hours at 50 knots at 1000 ft.  
 2. Patrol at 35 knots at 3000 ft.  
 3. 8 hours at 40 knots at 3000 ft.  
 RESERVE: 10 percent of initial fuel

## RANGE

WARM-UP AND TAKE-OFF: 10 minutes fuel allowance at normal rated power at sea level.  
 CRUISE: At sea level at a speed of 40 knots.  
 RESERVE: 10% of initial fuel load.

## ELECTRONICS (Cont'd)

ECM.....AN/APA-59A  
 ECM.....AN/ALA-2  
 MARK BEACON REC.....AN/ARN-12  
 (2) TRANSMITTER.....AN/ART-13  
 (2) RECEIVER.....AN/ARR-15A  
 SEARCH RADAR.....AN/APS-20B or E

RADAR INDICATOR SYSTEM.....AN/APA-113 (XJ-1)  
 HEIGHT FINDER RADAR.....AN/APS-62 (XJ-1)  
 SEARCHLIGHT.....AN/AVQ-2