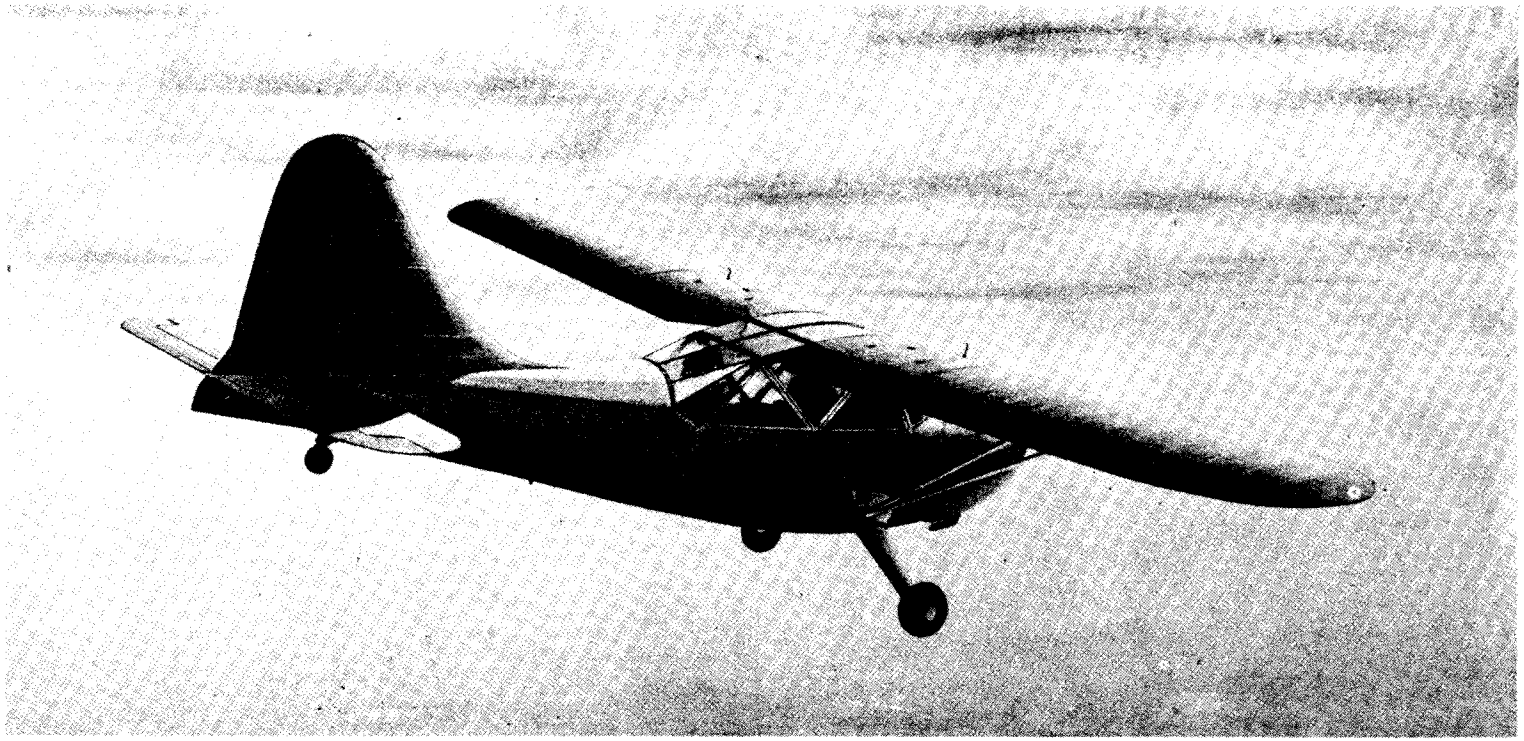
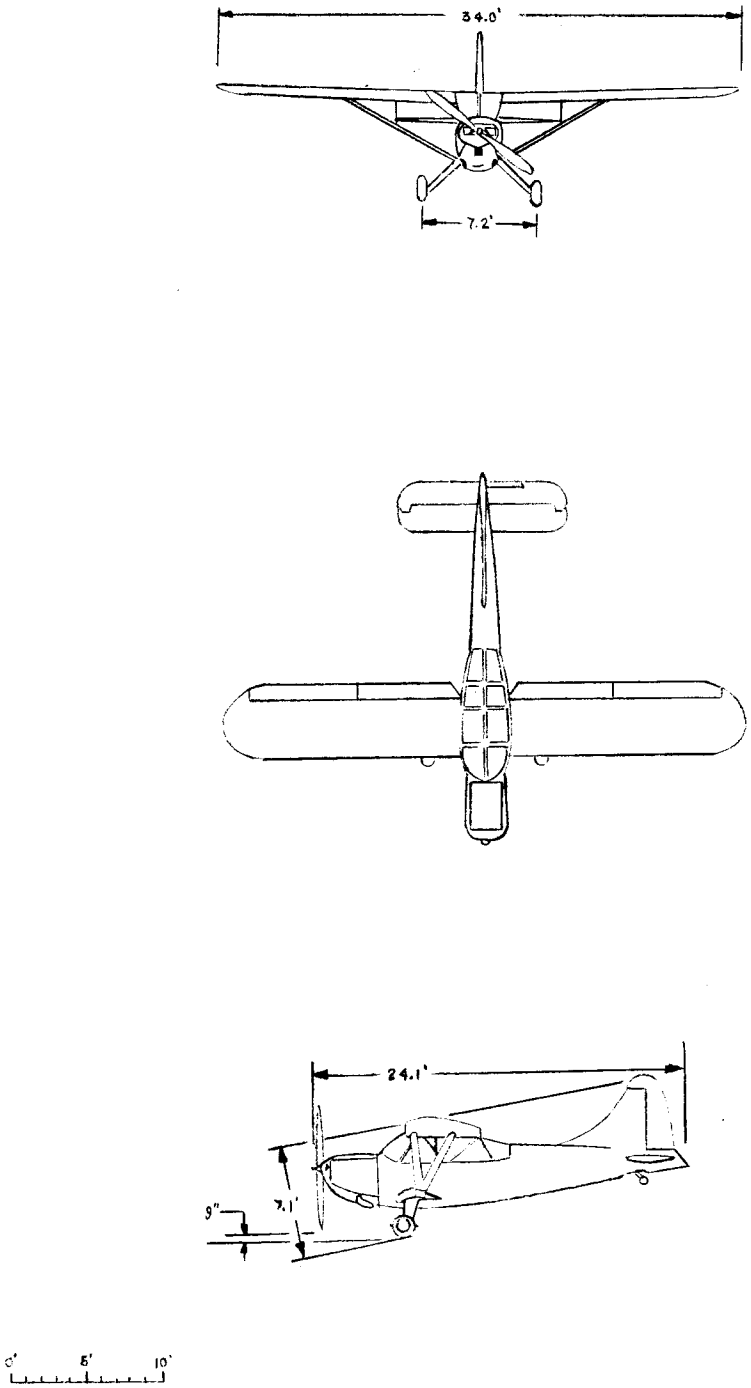
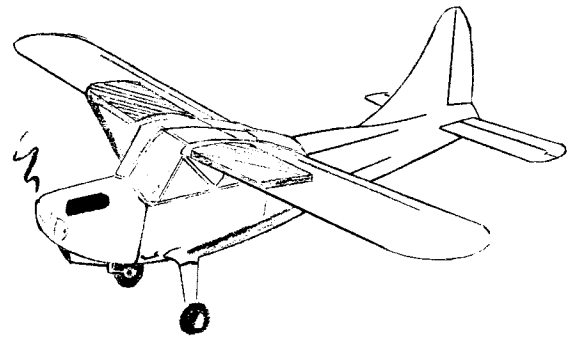


STANDARD AIRCRAFT CHARACTERISTICS
OY-2 "SENTINAL"

CONSOLIDATED-VULTEE

Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)





Fuel (Gal)

Oil (Gal)

POWER PLANT

NO. & MODEL.....(1)O-435-11
MFR.....Lycoming
RED.GEAR RATIO...Direct Drive
PROP.MFR.....Koppers
PROP. HUB NO.....220
NO. BL./DIA.....2/7' -1"

RATINGS

	BHP	@ RPM	@ ALT.
T.O.	190	2,550	S.L.
NORM.	190	2,550	S.L.

FEATURES

1 Litter or 200 lbs. cargo

5 Message Containers

Type A-1 Message pick-up

K-20 Camera (Prov.)

MISSION AND DESCRIPTION

AIR FORCE EQUIVALENT: L-5G

The principal mission of the OY-2 is short range liaison. The airplane can also be converted into an ambulance or cargo-carrier by folding down the back of the observers seat and removing the rear control stick.

The landing gear is a fixed cantilever type, with a fixed steerable tail wheel. Flight controls are operated manually and wheel brakes hydraulically. The electrical system is 24 volt. Provisions are made for the installation of floats. Normal crew consists of pilot and observer.

DIMENSIONS

WING
AREA.....155 sq.ft.
SPAN.....34' -0"
M.A.C.....4' -9"
LENGTH.....24' -1"
HEIGHT.....7' -1"
TREAD.....7' -2"
PROP.GRD.CLEARANCE.....9"

WEIGHTS

LOADINGS	LBS.	L.F
EMPTY	1,600	
BASIC	1,626	
DESIGN	2,020	6.7
MAX.T.O.	2,265	6.0
MAX.LAND	2,265	

All weights are actual.

FUEL AND OIL

No. Tanks	Tot.Gal.	Location
2	36	Wing

FUEL GRADE.....80
FUEL SPEC....MIL-F-5572

OIL

CAPACITY(Gals.).....3
GRADE.....1100
SPEC.....MIL-O-6082

ELECTRONICS

COMMAND SET.....SCR-274N

Alternate Provisions

RADIO SET.....SCR-610
or AN/ARC-3

PERFORMANCE SUMMARY

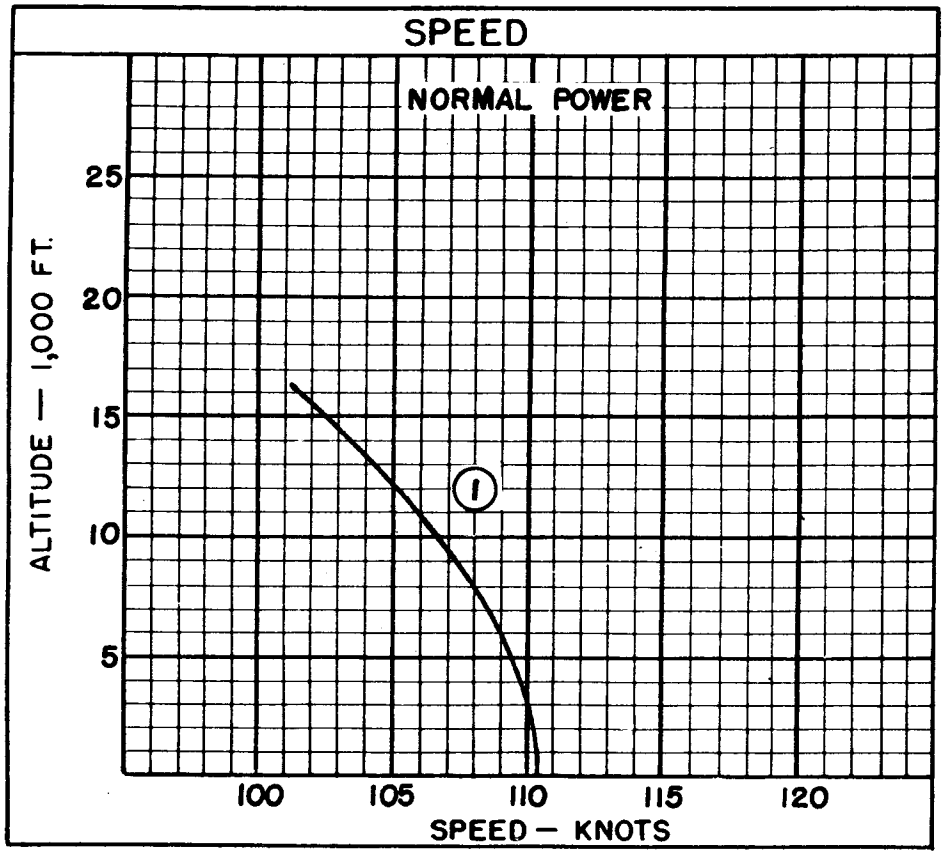
TAKE-OFF LOADING CONDITION	(1) LIAISON	(2) RECONNAIS-SANCE	(3) EVACUATION	(4) FERRY RANGE	
TAKE-OFF WEIGHT lb.	2,265	2,265	2,065	2,065	
Fuel lb.	216	216	216	216	
Payload lb.	-	-	-	-	
Wing loading lb./sq.ft.	14.6	14.6	13.3	13.3	
Stall speed - power-off kn.	45.0	45.0	43.0	43.0	
Take-off run at S.L. - calm (A) ft.	570	570	465	465	
Take-off run at S.L. 25 kn. wind(A) ft.	135	135	110	110	
Take-off to clear 50 ft. - calm (A) ft.	910	910	730	730	
Max. speed/altitude (A) kn./ft.	110/S.L.	110/S.L.	113/S.L.	113/S.L.	
Rate of climb at S.L. (A) fpm	900	900	1,050	1,050	
Time: S.L. to 10,000 ft. (A) min.	18.3	18.3	12.4	12.4	
Time: S.L. to service ceiling (A) min.	29.4	29.4	27.3	27.3	
Service ceiling (100 fpm) (A) ft.	15,600	15,600	17,450	17,450	
Combat range n.mi.	310	310		325	
Average cruising speed kn.	79	79		78	
Cruising altitude(s) ft.	5,000	5,000		5,000	
Combat radius n.mi.	140	156	145		
Average cruising speed kn.	79	79	78		
Mission time hrs.	3.6	4.0	3.7		
COMBAT LOADING CONDITION					
COMBAT WEIGHT lb.					
Engine power					
Fuel lb.					
Combat speed/combat altitude kn./ft.					
Rate of climb/combat altitude fpm/ft.					
Combat ceiling (500 fpm) ft.					
Rate of climb at S.L. fpm					
Max. speed at S.L. kn.					
Max. speed/altitude kn./ft.					
LANDING WEIGHT lb.					
Fuel lb.					
Stall speed - power-off kn.					
Stall speed - with approach power kn.					

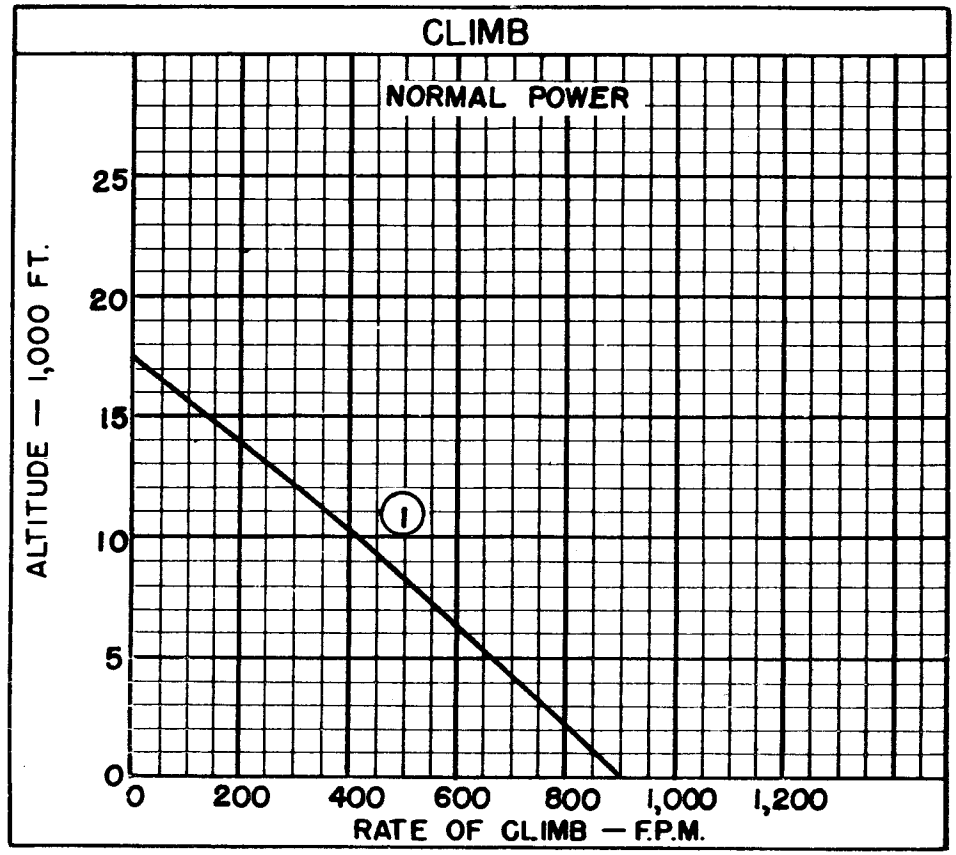
NOTES

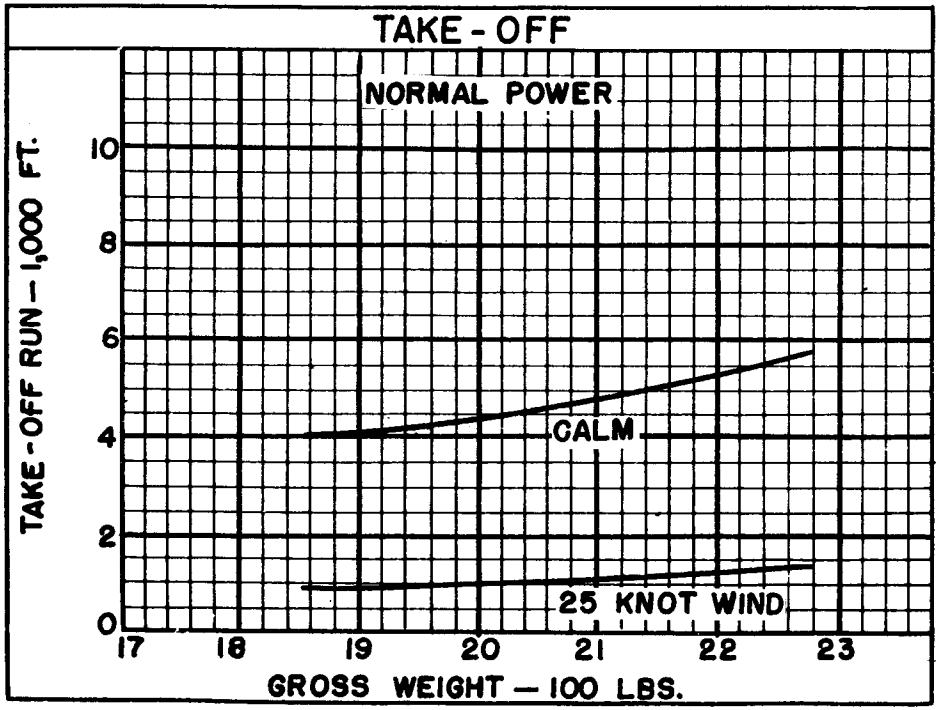
(A) NORMAL RATED POWER

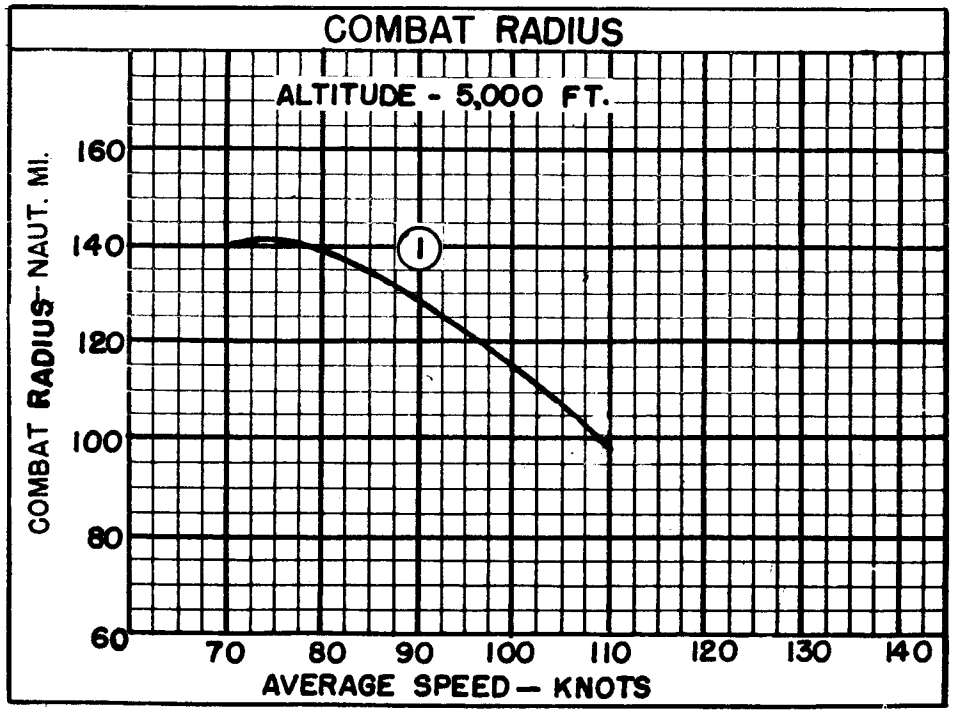
PERFORMANCE BASIS: Flight test

Range and radius are based on flight test fuel consumption increased by 5%.


SPEED
NORMAL POWER
ALTITUDE — 1,000 FT.
25
20
15
10
5
1
100
105
110
115
120
SPEED — KNOTS

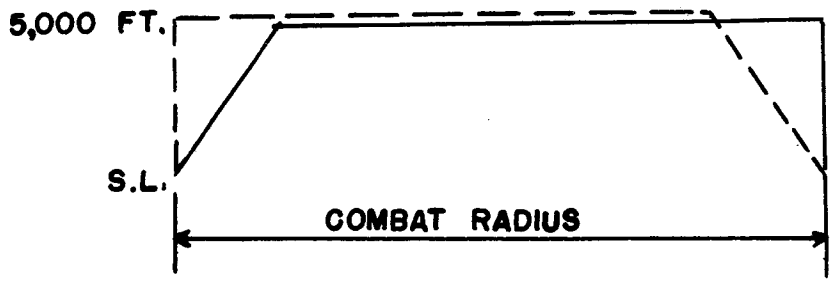

CLIMB
NORMAL POWER
ALTITUDE — 1,000 FT.
25
20
15
10
5
0
1
0
200
400
600
800
1,000
1,200
RATE OF CLIMB — F.P.M.


TAKE-OFF
NORMAL POWER
TAKE-OFF RUN — 1,000 FT.
10
8
6
4
2
0
CALM
25 KNOT WIND
17
18
19
20
21
22
23
GROSS WEIGHT — 100 LBS.


COMBAT RADIUS
ALTITUDE - 5,000 FT.
COMBAT RADIUS — NAUT. MI.
160
140
120
100
80
60
1
70
80
90
100
110
120
130
140
AVERAGE SPEED — KNOTS

NOTES

MISSION TIME = TOTAL TIME FOR CLIMB, CRUISE-OUT AND CRUISE-BACK

COMBAT RADIUS PROBLEM - LIAISON

WARM-UP, TAXI, TAKE-OFF: Fuel allowance for 5 minutes at normal rated power at sea level.
CLIMB: To 5,000 feet at normal rated power.
CRUISE-OUT: At speed for long range at 5,000 feet.
LAND: At sea level base (No fuel consumed, no distance gained).
WARM-UP, TAXI, TAKE-OFF: Fuel allowance for 5 minutes at normal rated power at sea level.
CLIMB: To 5,000 feet at normal rated power
CRUISE-BACK: At speed for long range at 5,000 feet.
RESERVE: Fuel allowance for 20 minutes at speed for long range at sea level plus 5 percent of initial fuel.