

**AIRPLANE CHARACTERISTICS & PERFORMANCE**

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		FIGHTER (COMBAT ONDITION)	FIGHTER (COMBAT CONDITION)	FIGHTER (COMBAT CONDITION)	FIGHTER ONE TANK EXTERNAL
GROSS WEIGHT	LBS.	7487	7487	7487	7879
EMPTY WEIGHT - ACTUAL -	LBS.	5448			
FUEL/OIL	GALS.	126/11	126/11	126/11	184/11
FIXED GUNS/AMMUNITION		4-.50 cal/1720 rds.			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		WAR EMERGENCY	MILITARY	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	28.8	28.8	28.8	30.3
POWER LOADING ①	LBS./BHP.	6.2	7.5	8.3	8.8
V-MAX. SEA LEVEL	MPH.	306	296	283	272
V-MAX. AIRPLANE CRIT. ALT.	MPH.	326/10700	331/17900	332/20800	315/20600
V-STALL GROSS WEIGHT ②	MPH.	75.6	75.6	75.6	77.5
V-STALL WITHOUT FUEL ②	MPH.	71.6	71.6	71.6	71.8
TIME-TO-CLIMB -10000FT-	MIN.	3.2	3.3	3.6	4.0
TIME-TO-CLIMB -20000FT-	MIN.	7.5	8.1	8.8	10.0
SERVICE CEILING	FT.	34700	34700	34300	32800
TAKE-OFF DISTANCE -CALM-	FT.	489	489	489	561
TAKE-OFF DISTANCE -15 KN-	FT.	303	303	303	351
TAKE-OFF DISTANCE -25 KN-	FT.	202	202	202	240
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	3650	3380	2880	2570
MAX. RANGE /V-AV ③	STMI/MPH.			900/164	1150/153
BOMBING RADIUS/V-AV -20%R-	N MI./KN.				
BOMBING RADIUS/V-AV -33%R-	N MI./KN.				
PATROL RADIUS/V-AV -20%R-	N MI./KN.				
PATROL RADIUS/V-AV -33%R-	N MI./KN.				
SCOUT RADIUS	N MI.				
COMBAT RADIUS	N MI.			65	215

ENGINE / PROP. GEAR RATIO W.A.C. R-1820-56/3 to 2

ENGINE RATING BHP/RPM/ALT.	WAR EMERGENCY	MILITARY	NORMAL	TAKE-OFF
	1360/2600/SL			
1300/2600/1500	1300/2600/SL-1500		1200/2600/SL-2700	1350/2700
1200/2600/4000-7500	1000/2600/9000-14700		900/2500/11000-17500	
1000/2600/13300-14700				

TANKAGE IN GALLONS OIL FUEL OFFENSIVE ARMAMENT

AUX. FIXED	PROTECTED		126	WING (External):- Bombs: 2-250#  Rockets: 6 - 5" AR.
	UNPROTECTED	11		
	TOTAL - FIXED INTERNAL	11	126	
	DROPPABLE			
	DROPPABLE Wings-2#58		116	
TOTAL	11	242		

NOTE	STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS	Note:
	① BHP AT MAX. CRIT. ALT.	Engine ratings are AFI ratings. These ratings do not conform to engine data obtained from FM-2 flight test.
	② STALL - WITHOUT POWER	The flight test data are used in performance calculations.
	③ AT 1500' ALTITUDE	The following changes are incorporated: Contract - thru AL

NAVAER-15100 (Rev. 6-66)

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COLUMN NUMBER		5	6	7	8
LOADING CONDITION		FIGHTER	CLEAN	FIGHTER 6-5"A.R.	BOMBER 2-250#
		Two Tanks External			
GROSS WEIGHT	LBS.	8271	7473	8015	8011
EMPTY WEIGHT - Actual -	LBS.	5448			
FUEL/OIL	GALS.	242/11	126/11	126/11	126/11
FIXED GUNS/AMMUNITION		4-.50 cal./1720 rds.			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		NORMAL	WAR EMERGENCY	NORMAL	NORMAL
WING LOADING	LBS/SQ.FT.	31.8	28.7	30.8	30.8
POWER LOADING ①	LBS/BHP	9.2	6.2	8.9	8.9
V-MAX. SEA LEVEL	MPH.	262	307	268	267
V-MAX. AIRPLANE CRIT. ALT	MPH.	302/20300	327/10700	311/20500	309/20400
V-STALL. GROSS WEIGHT ②	MPH.	79.4	75.5	78.2	78.2
V-STALL. WITHOUT FUEL ②	MPH.	72.1	71.5	74.4	74.4
TIME-TO-CLIMB -10000FT.-	MIN.	4.6	3.2	4.2	4.3
TIME-TO-CLIMB -20000FT.-	MIN.	11.4	7.4	10.5	10.6
SERVICE CEILING	FT.	31200	34700	32300	32000
TAKE-OFF DISTANCE -CALM-	FT.	644	486	587	582
TAKE-OFF DISTANCE -15 KN-	FT.	410	301	370	368
TAKE-OFF DISTANCE -25KN-	FT.	283	201	254	258
TAKE-OFF TIME	SECONDS.				
RATE OF CLIMB -SL-	FT/MIN.	2300	3660	2470	2450
MAX. RANGE /V-AV. ③	ST.MI./MPH.	1310/162		720/153	700/153
BOMBING RADIUS/V-AV -20%R-	NMI./KN.				
BOMBING RADIUS/V-AV -33%R-	NMI./KN.				
PATROL RADIUS/V-AV -20%R-	NMI./KN.				
PATROL RADIUS/V-AV -33%R-	NMI./KN.				
SCOUT RADIUS	NMI.				
COMBAT RADIUS	NMI.	265		50	85

PERFORMANCE IS BASED ON - Flight Test

RANGE &amp; RADIUS ARE BASED ON Flight Test

FUEL CONSUMPTION DATA INCREASED

BY 5 PERCENT TO CONFORM WITH PAST EXPERIENCE.

Maximum range in the ferry condition (G.W. 7360# 242 gals. fuel) is 1410 st.mi. at 143 m.p.h. at 1500 ft.

Condition 7: Rockets suspended from zero-length launchers (MK-5-1).

Launchers, when installed, decrease V max. at military power and airplane critical altitude from 331 mph to 325 mph.

Condition 6: Fuel tank shackles are carried in all conditions except 6.

See page 3 for Combat Radius Problems

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BUREAU OF AERONAUTICS, NAVY DEPT.

## COMBAT RADIUS PROBLEMS:

### Conditions 3, 4, 5, and 7:

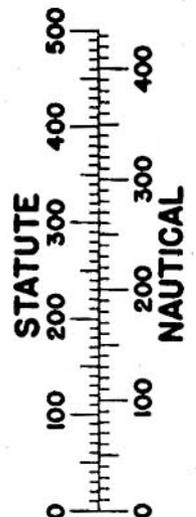
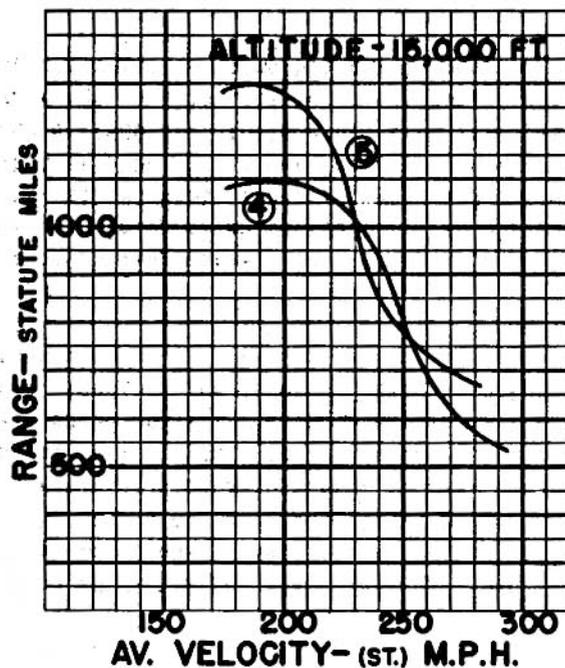
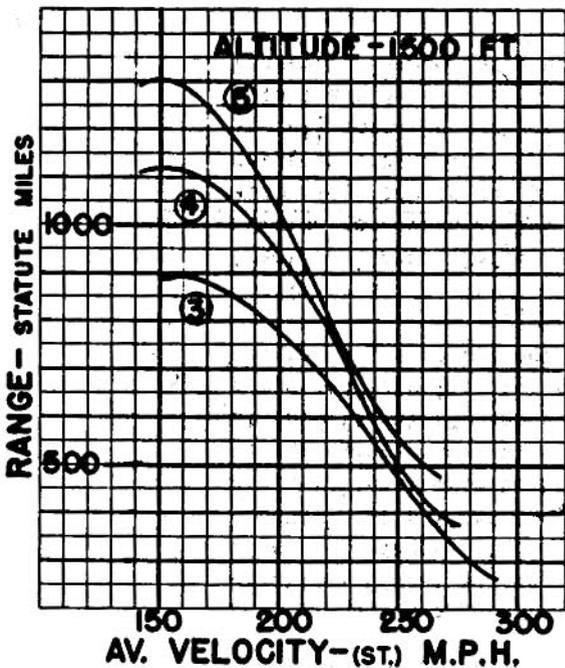
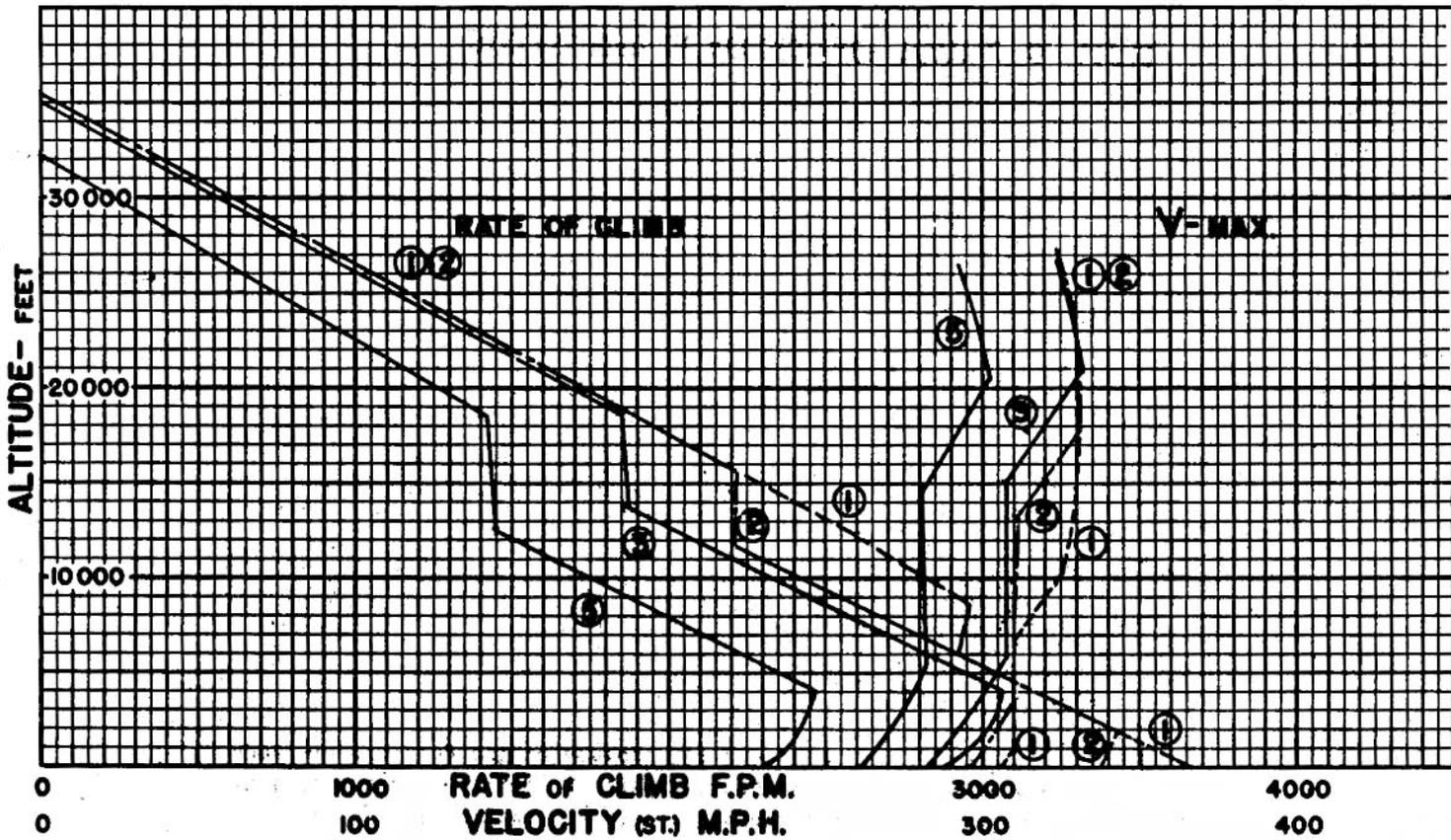
Practical Combat Radius is based on 20 min. warm-up and idling; 1 min. take-off; 20 min. rendezvous at 60% normal sea-level power (nsp) and auto-lean; climb to 15000 ft. at 60% nsp and auto-rich; cruise out at 15000 ft. at V for max. range and auto-lean; drop bombs and unprotected droppable tanks; 10 min. combat at War Emergency power plus 10 min. at full military power; descent; cruise back at 1500 ft. at 170 knots true air speed and auto-lean; 60 min. at V for max. range and auto-lean for rendezvous, landing, and reserve. Radius includes distance covered in climb but not in descent.

### Condition 8:

Practical Combat Radius is based on 20 min. warm-up and idling; 1 min. take-off; 20 min. rendezvous at 60% nsp and auto-lean; climb to 15000 ft. at 60% nsp and auto-rich; cruise out at 15000 ft. at 180 knots true air speed and auto-lean; descend; drop bombs; 5 min. combat at 1500 ft. at War Emergency power plus 10 min. at full normal power; cruise back at 1500 ft. at 170 knots true air speed and auto-lean; 60 min. at V for max. range as allowance for rendezvous, landing, and reserve. Radius includes distance covered in climb but not in descent.

### Condition 5:

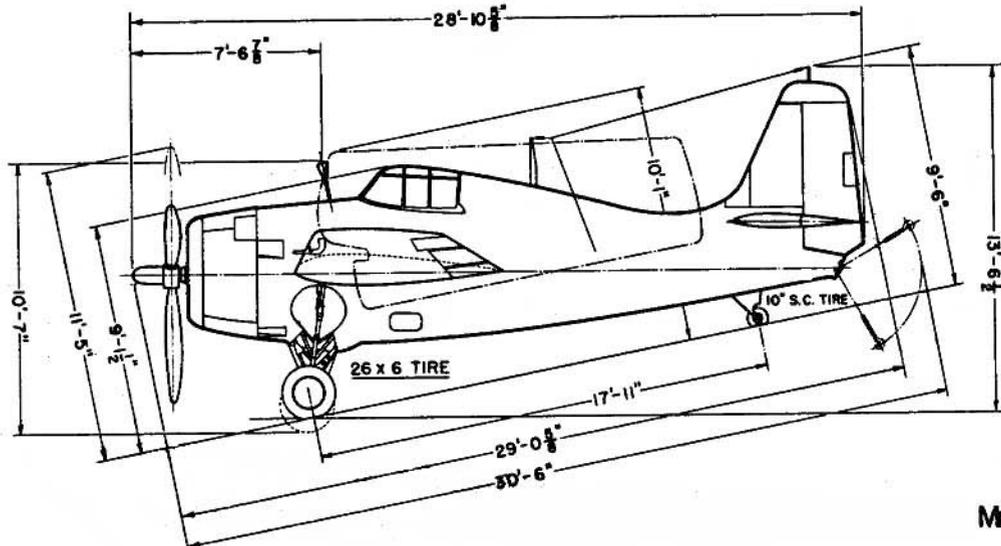
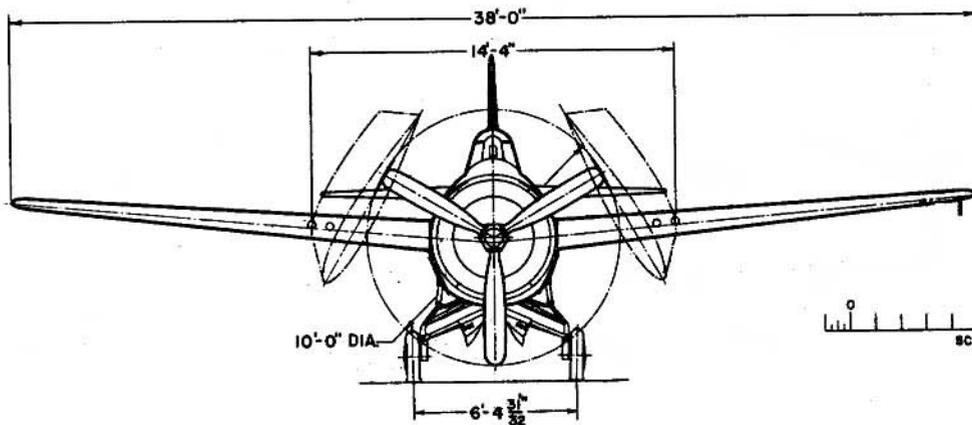
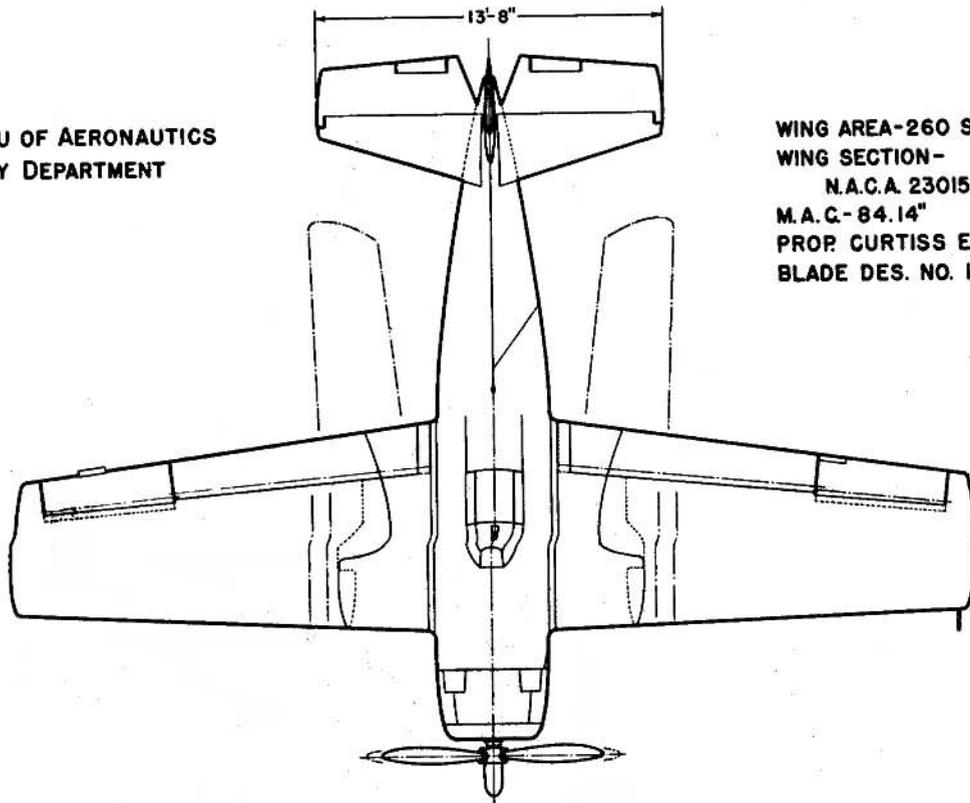
Combat Radius is limited by amount of protected fuel for use in combat and return. 23 gal. of fuel remain in unprotected tanks when entering combat and must be dropped. It may be used for approx. .95 hrs. search or to increase speed in cruising out to approx. 211 knots.



○ LOADING CONDITION COLUMN NUMBER

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

WING AREA-260 SQ. FT.  
WING SECTION-  
N.A.C.A. 23015-23009  
M.A.C. - 84.14"  
PROP. CURTISS ELECT. C.S.  
BLADE DES. NO. 109354-12



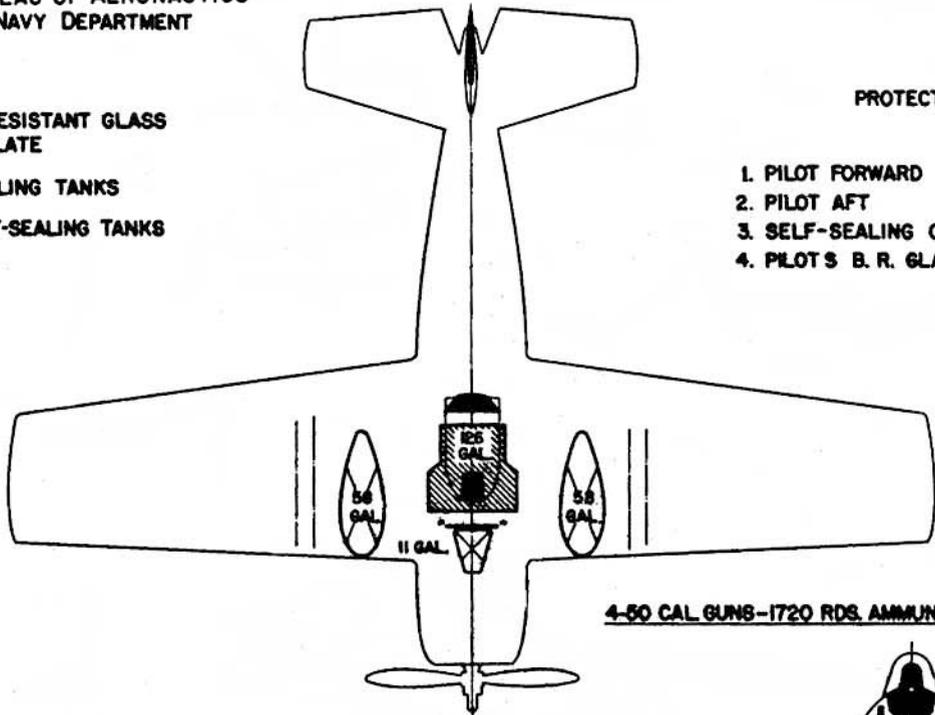
MODEL FM-2

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

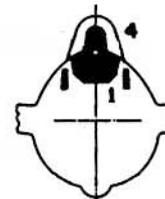
- BULLET RESISTANT GLASS ARMOR PLATE
- SELF-SEALING TANKS
- NON SELF-SEALING TANKS

PROTECTION

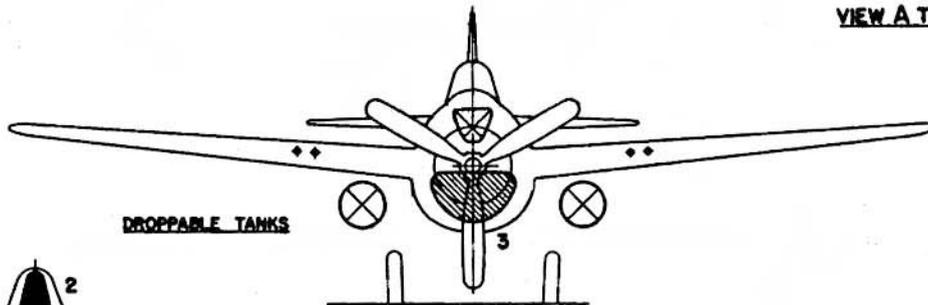
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|-----------------------|---------|
| 1. PILOT FORWARD      | 37 LBS. |
| 2. PILOT AFT          | 86 LBS. |
| 3. SELF-SEALING CELLS | 99 LBS. |
| 4. PILOTS B. R. GLASS | 19 LBS. |



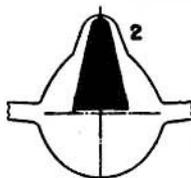
4-50 CAL GUNS-1720 RDS. AMMUNITION



VIEW A TO B



DROPPABLE TANKS



VIEW B

