

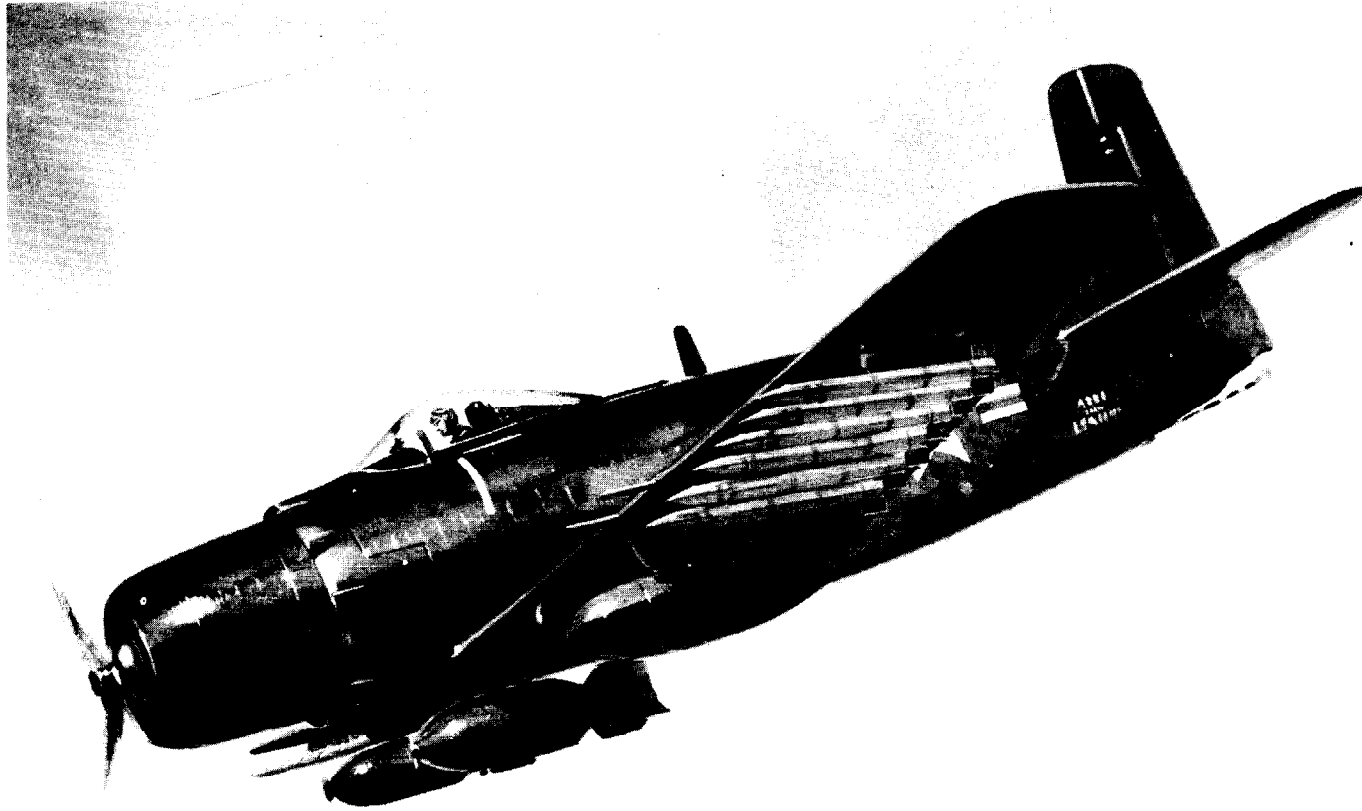
Brief Skyraider History (AD/A-1)

Originally designed to meet World War II requirements for a carrier-based, single-place, long-range, high performance dive bomber/torpedo-carrier, the Skyraider was ordered in July 1944 as the XBT2D-1. In April 1945, one month after its first flight, it was evaluated at NATC, and in December 1946, after redesignation to AD-1, delivery of the first AD to a fleet squadron was made to VA-19A.

Though the Skyraider was produced too late to take part in World War II, it became the backbone of naval air attack forces in Korea, with the first AD's going into action from USS *Valley Forge*. Its ability to employ a wide variety of weapons allowed it to be used against nearly all Korean targets, earning the Skyraider the reputation of the most effective close support aircraft in the world at that time.

Skyraiders continued in first line service well into the Vietnam conflict, where they once again became star performers in a close air support role. By this time, the Skyraider had picked up a new designation. It had become the A-1 in the 1962 redesignation of naval aircraft. The last Skyraider left active service late in 1971.

Throughout its long life, the Skyraider, in addition to earning many nicknames, including Able Dog and Spad, was produced in a wide variety of models calling for a regular alphabet soup of designations. The AD-1's and AD-2's were also produced with ECM equipment, and had an operator behind the pilot as the AD-1Q and AD-2Q. The AD-3 came in four basic variants: AD-3, AD-3N, night attack; AD-3Q, electronic countermeasures; and AD-3W, an AEW radar-toting model. AD-4's and AD-5's were also built in N, Q and W versions. AD-4B's, with a tactical nuclear weapon capability, were produced and some AD-4's were modified to AD-4L's (winterized). AD-4N's saw modification to AD-4NA (day attack) and AD-4NL (winterized). The lengthened AD-5 featured side-by-side seating in the cockpit. Other variants were produced over the years in small numbers. AD-6's and AD-7's completed the series. The last of 3,180 Skyraiders was built in 1957. With the redesignation of naval aircraft in 1962, AD-5's became A-1E's and AD-6's and -7's became A-1H's and J's, respectively. The Skyraiders served in Southeast Asia with the U.S. and Vietnamese Air Forces.



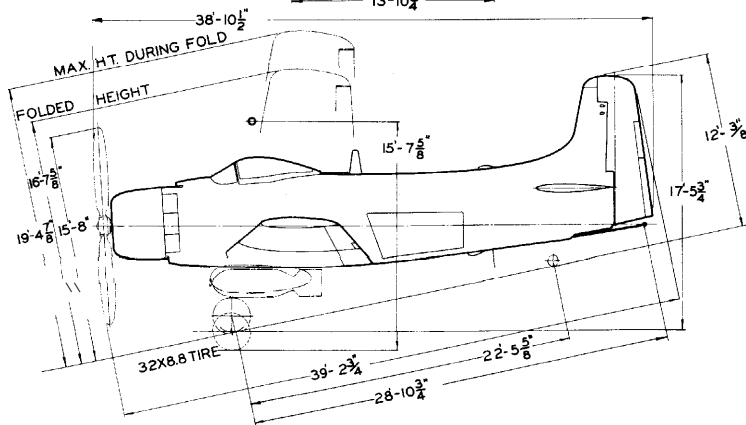
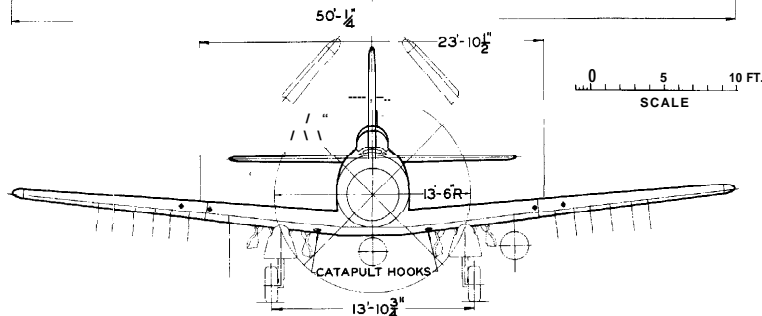
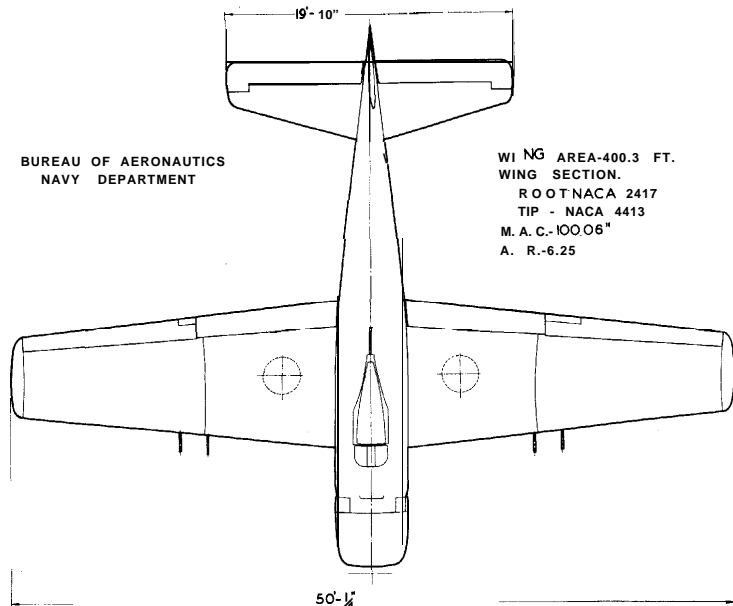
STANDARD AIRCRAFT CHARACTERISTICS

AD-4 "SKYRAIDER"

DOUGLAS

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

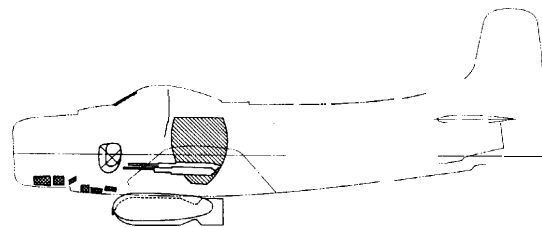
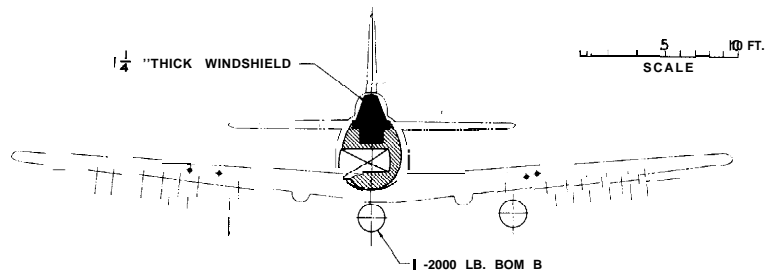
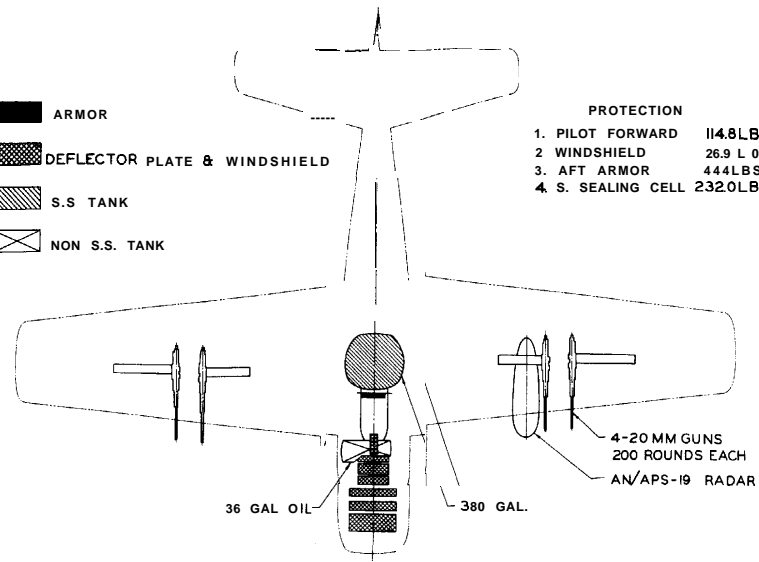
WING AREA-400.3 FT.
WING SECTION.
ROOT NACA 2417
TIP - NACA 4413
M. A. C. - 100.06"
A. R. - 6.25



DESCRIPTIVE ARRANGEMENT

- ARMOR
- DEFLECTOR PLATE & WINDSHIELD
- S.S. TANK
- NON S.S. TANK

- PROTECTION
1. PILOT FORWARD 114.8LBS.
 2. WINDSHIELD 26.9 L OS.
 3. AFT ARMOR 444LBS.
 4. S. SEALING CELL 232.0LBS.



ARMAMENT & TANKS

Standard Aircraft Organization NAVJRP 1320 (Rev. 1-55)

POWER PLANT

NO.(1)
 MFR
 SUPERCH 1 Stage, 2 Speed
 RED. RATIO 0.4375
 PROP. MFR Aero. Prod.
 BLADE DESIGN
 NO. 4/13' -6"

2,700 2,900 E-B1
 2,700 2,900
 2,100 2,600 11,500
 NORM. to
 1,900 2,600 to

NO.

ORDNANCE

1 4
 STATION
 2,
 Ejector center 1
 Aero Outer wing 12
 14A lbe.
 (Shore)

MISSION AND DESCRIPTION

The primary of the destruction and ground targets by dive bombing The and tactical support of The is designed to operate from of naval aircraft or from land .

It is equipped a strengthened landing gear, provisions, 4-20 cannon, rocket of carrying up

The airplane in and Landing wing folding, and three brakes are hydraulically The pressure-balance type are operated by power The rudder equipped with spring tab system, trim achieved by an electrically adjustable stabilizer. Elevators, power plant, and engine conventional. for five hours is displacing gear at the center-line station powder operated. Twenty gallons of ADI fluid are supplied for

DEVELOPMENT

First June 1949
 Service Use July 1949

DIMENSIONS

KING
 AREA Sq. ft.
 - 0"
 C. 8' -
 LENGTH 39' - 3"
 HEIGHT - 11"
 PROP. 6"

WEIGHTS

EMPTY 11,712
 BASIC 12,649
 DESIGN 15,595 .6.0
 17,818 .6.0
 MAX. (Field)
 (cat.) 25,000
 MAX. LAND. (Field) 21,000
 (Arrest) 17,500

All are actual.

FUEL AND OIL

380 1 Fuse.,
 150 or 300 Drop
 150 or 300 2

GRADE 115/145
 applicable.

CAPACITY (Gals.) 36
 1100
 applicable.

ELECTRONICS

VHF COMA AN/ARC-1 or -1A or
 RADIO ALTO
 RANGE R-23/ARC-5
 RADIO AN/ARR-2A
 AN/APS-19A

PERFORMANCE SUMMARY					
TAKE-OFF LOADING CONDITION	(1) LOW ALT. ATTACK 1-2000 lb. Store 12-5 in. HVAR 2-150 gal. ext. tanks	(3) LOW ALT. ATTACK 1-2000 lb. Store AN/APS-19 Radar	(4) LOW ALT. ATTACK 1-2000 lb. Store 2-1000 lb. Stores 12-5 in. HVAR		
TAKE-OFF WEIGHT	lb.	21,483	18,111	21,483	
Fuel	(Fixed/Drop) lb.	2,280/1,800	2,280/ -	2,280/ -	
Fayload (Bombs/Rockets)	lb.	2,000/1,680	2,000/ -	4,000/1,680	
Wing loading	lb./sq.ft.	53.7	45.3	53.7	
Stall speed - power-off	kn.	89.0	80.5	89.0	
Take-off run at S.L. - calm	ft.	1,390	900	1,390	
Take-off run at S.L. 25 kn. wind	ft.	740	450	740	
Take-off to clear 50-ft. - calm	ft.	2,350	1,550	2,350	
Max. speed/altitude	(A) kn./ft.	256/20,000	244/20,000	255/20,000	
Rate of climb at S. L.	(A) fpm.	1,540	1,960	1,540	
Time: S.L. to 10,000 ft.	(A) min.	7.5	5.5	7.5	
Time: S. L. to 20,000 ft. (A)	min.	22.0	14.5	22.0	
Service ceiling (100 fpm)	(A) ft.	23,500	25,800	23,300	
Combat range	n. mi.	1,170	726	500	
Average cruising speed	kn.	197	189	206	
Cruising altitude (s)	ft.	15,000	15,000	15,000	
Combat radius	n. mi.	540	285	220	
Average cruising speed	kn.	184	177	180	
Mission time	hrs.	6.3	3.5	2.8	
COMBAT LOADING CONDITION					
	(2) Includes 1-2000 lb. Store				
COMBAT WEIGHT	lb.	17,818			
Engine power		Military			
Fuel	lb.	2,280			
Combat speed/combat altitude	kn./ft.	274/S.L.			
Rate of climb/combat altitude	fpm/ft.	2,880/S.L.			
Combat ceiling (500 fpm)	ft.	25,300			
Rate of climb at S. L.	fpm.	2,880			
Max. speed at S.L.	kn.	274			
Max. speed/altitude	kn./ft.	303/20,000			
LANDING WEIGHT					
Fuel	lb.	200			
Stall speed - power-off	kn.	70.5			
Stall speed - with approach power	kn.	68.2			

NOTES

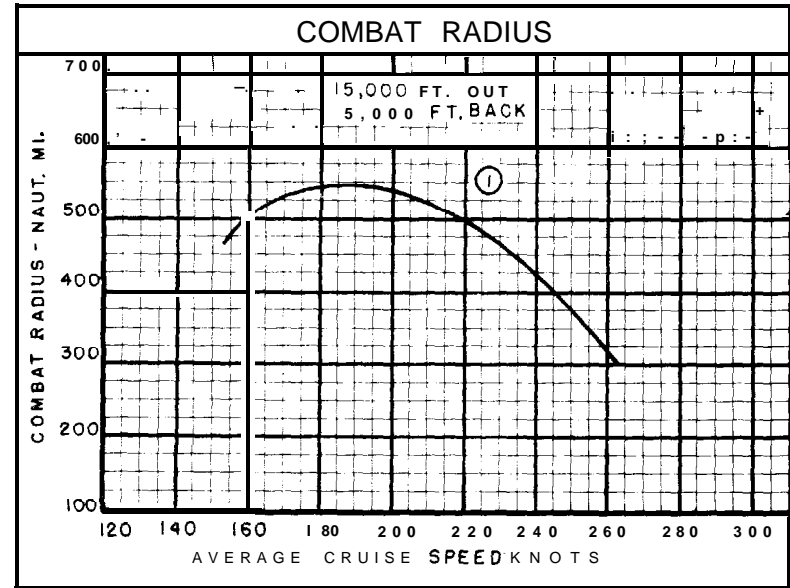
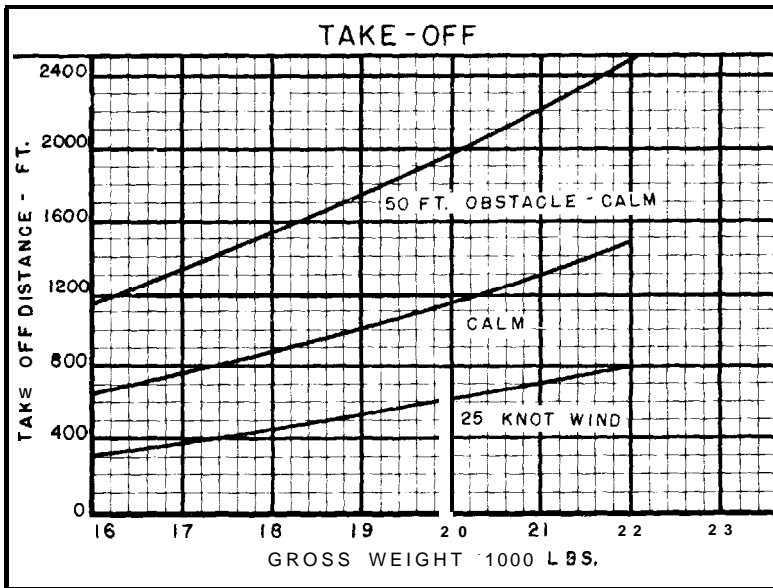
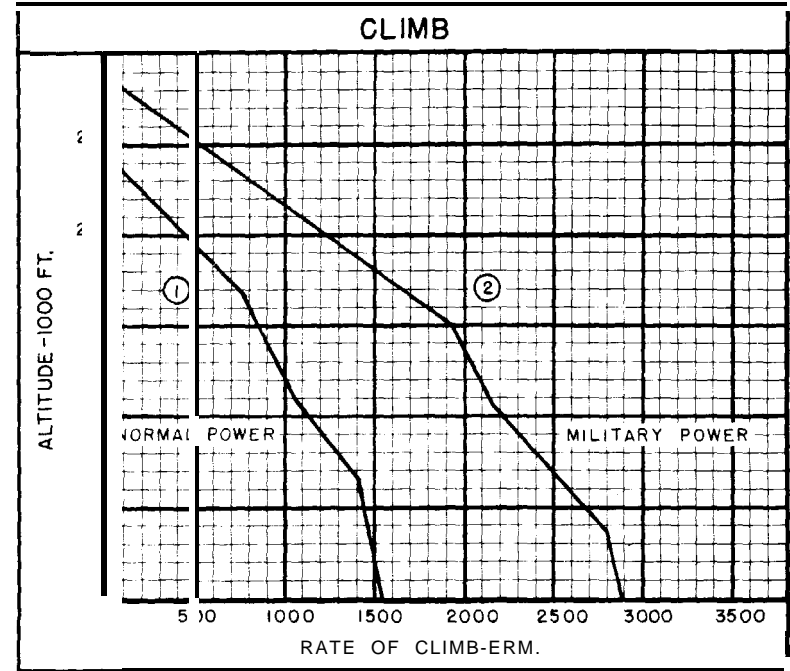
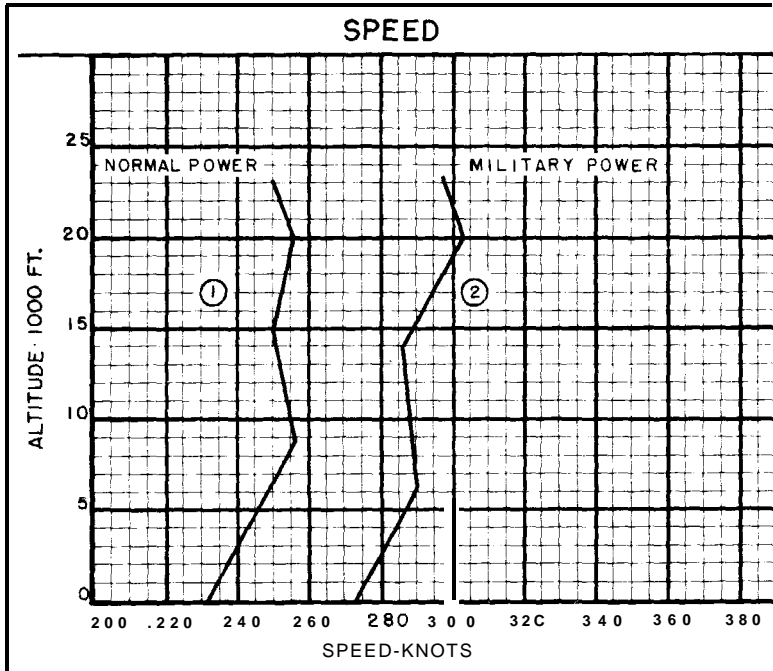
REASON FOR REISSUE: Change in performance due to weight changes and change in combat loading configuration.

(A) Normal Rated Power.

(B) All Loading Conditions include 4-20mm guns, 800 role. of ammunition, and 12 Aero - 14A racks.

(C) PERFORMANCE is based on Contractor's Flight Test data and NATC Evaluation Test data.

SPOTTING: A maximum operating spot aboard a CVA-19 (Angled Deck) class carrier consists of 42 aircraft on the flight deck with elevators and landing area clear and 41 aircraft on the hangar deck with hangar bay fire doors and elevators clear. Total 83 aircraft.



() LOADING CONDITION COLUMN NUMBER

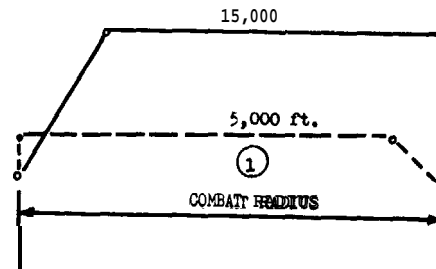
NOTES

In ALTITUDE ATTACK COMBAT RADIUS PROBLEM (RECIPROCATING ENGINE)

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal rated power.
 CLIMB: On course to 15,000 feet at normal rated power.
 CRUISE-OUT: At 15,000 feet, at V for long range. External fuel tanks dropped when empty.
 DESCEND: To sea level. (No fuel used, no distance gained).
 DROP BOMBS, FIRE ROCKETS
 COMBAT: 15 minutes at sea level. (5 minutes at military rated power and 10 minutes at normal rated power).
 CLIMB: On course to 5,000 feet at normal rated power.
 CRUISE-BACK: At 5,000 feet at V for long range.
 RESEWS: 20 minutes at V for long range at sea level plus 5% of initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB} + \text{CRUISE-OUT} = \text{CLIMB} + \text{CRUISE-BACK}$$

$$\text{MISSION TIME} = \text{CLIMB} + \text{CRUISE-OUT} + \text{COMBAT} + \text{CLIMB} + \text{CRUISE-BACK}$$



LOADING CONDITION COLUMN NUMBER

12

Standard Air at Obstruct...
 117748 1 0000 (Rev 1-55)

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