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SAFE ARMING TIMES FOR MK 81, MK 82,  
MK 83, MK 84 AND M117 LOW DRAG BOMBS

By:  
Roy G. Saffold

NOL

1 August 1969

UNITED STATES NAVAL ORDNANCE LABORATORY, WHITE OAK, MARYLAND

NOLTR 69-135

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SAFE ARMING TIMES FOR MK 81, MK 82, MK 83, MK 84 AND M117  
LOW DRAG BOMBS

Prepared by:  
Roy G. Saffold

**ABSTRACT:** This report presents results of a study conducted to determine the arming time that should be recommended for each combination of aircraft type, release condition, bomb type, and post-release maneuver, as well as discussion of the methods used to arrive at the recommended arming times. The aircraft types considered were A-4, A-6, A-7, and F-4. The release conditions considered were level attitude with no post-release maneuver, and dives followed by application of a 4G recovery force within two seconds after release of the last bomb. The tabulations presented do not replace the tactical manual recommendations, but rather present supplementary information for those interested.

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U. S. NAVAL ORDNANCE LABORATORY  
WHITE OAK, MARYLAND

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Safe arming times for Mk 81, Mk 82, Mk 83, Mk 84, and M117 low drag bombs

This report contains tables of recommended arming times for Mark 81, Mark 82, Mark 83, Mark 84, and M117 low drag bombs. This work was performed under Naval Air Systems Command AIRTASK A05-532-009/292-4/00000, Engineering and Production Support of Unguided Air Launched Weapon Fuzing.

The valuable assistance of R. D. Cuddy, C. I. McGraw, D. Jones, and C. Phillips of the Naval Weapons Laboratory, Dahlgren, Virginia in obtaining hit probabilities is gratefully acknowledged.

G. G. Ball  
Captain, USN  
Commander



R. E. GRANTHAM  
By direction

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REFERENCES

- (a) NWL TR-2228 of Oct 68, The Path II Model for Assessing Fragment Hazards to Delivery Aircraft
- (b) NOL(WO) ltr 0431:RE:sw 8010 Ser 2540 of 3 May 68 to NASC

INTRODUCTION

1. Because explosive ordnance has been known to explode prior to the time intended by the user, the arming of the fuze, is delayed until after the launching of the munition. "Arming" of a fuze is usually the alignment of the explosive train. The delay is called the "arming time." The desired length of the arming time is such that the user of the munition is safe from early functioning of the munition. One problem in determining arming times to use with aircraft bombs is to arrive at a definition of the term "safe arming time" which lends itself to expression in quantitative terms.

DEFINITION OF SAFE ARMING TIME

2. From a somewhat philosophical point of view a safe arming time is one which would allow arming to occur only when there is no chance of the delivery aircraft being damaged should the fuze function at completion of the arming cycle. While such a definition is very satisfying philosophically, in practice it is quite restrictive. Simply, such a criterion would result in such long arming times that release altitudes sufficient to allow completion of the arming cycle would be too great for accurate bombing. Thus the words "no chance" in the above definition might be changed to read "an acceptable level of risk." This in turn presents two problems: how to determine the risk level and what constitutes an "acceptable" risk.

3. The commonly accepted measure of the risk has been taken to be the probability of at least one fragment penetrating the delivery aircraft. This probability is computed for a particular fuze-weapon combination in the following manner:

$$P_H = (P_{EB}) (P_H|EB)$$

where

$P_H$  is the probability of at least one fragment penetrating the delivery aircraft.

$P_{EB}$  is the probability of the fuze functioning at or shortly after arming but prior to proper functioning on the target (otherwise known as the early burst rate).

$P_{H|EB}$  is the probability of at least one fragment penetrating the delivery aircraft if the weapon has burst at the completion of the arming cycle.

4. The probability of an early burst of the fuze is determined by engineering judgment, test results, and historical data. The probability of a fragment hit on the delivery aircraft is computed using the complex mathematical model of reference (a). The Naval Weapons Laboratory, Dahlgren performs these calculations upon request. This data has been collected on magnetic tape at the Naval Ordnance Laboratory for use in making this type of recommendation.

5. In the past when determining safe arming times, the only criterion used was the value of  $P_H$ . The limiting value of  $P_H$  was 0.0001. However, this did not take into account the full importance of the factor  $P_{H|EB}$ . There is a great deal of difference between the effects of at least one fragment hit when  $P_{H|EB} = 0.01$  and when  $P_{H|EB} = 1.0$ . As  $P_{H|EB}$  increases from zero to one, the severity of the damage expected should an early burst occur increases dramatically. Thus, the advent of a fuze with a much improved early burst rate would lead to accepting a larger value for  $P_{H|EB}$  while  $P_H$  remained constant. Thus, if one compares two fuzes with different early burst rates the two fuzes would result in aircraft damage at the same rate. However, the fuze with the lower early burst rate would result in more severe damage.

6. It was owing to the above consideration that reference (b) suggested a new set of criteria for safe arming times. These criteria are:  $P_H$  shall not exceed 0.0001 and  $P_{H|EB}$  shall not exceed 0.1. These criteria adhere to the previously accepted rate at which damage to the aircraft may be expected to occur, while in effect limiting that damage in its severity.

7. The factors which must be considered when recommending a particular fuze/arming time combination are:

a. The early burst rate has, of course, a direct bearing on the value of  $P_H$  and thus on the suitability of a fuze/arming time recommendation.

b. The altitude at which use is expected to be made affects the  $P_{H|EB}$ , since at a higher altitude fragments experience less drag and travel farther and faster.

c. The aircraft size has an effect, since a larger aircraft would be expected to encounter more fragments under the same circumstances than a small aircraft.

d. The speed of the aircraft determines how long the aircraft stays in the volume that the fragments traverse.

e. The post-release maneuver is critical in that it directly affects the relative positions of the bomb and aircraft.

f. For much the same reason as above, the type of release (dive angle, straight and level, etc.) must be considered.

#### METHOD OF COMPUTATION

8. The method by which the recommended arming times in the appendices were determined is as follows. First NWL was requested to compute the probability of at least one fragment penetrating the delivery aircraft for a matrix of delivery conditions and times after release. These were transferred to magnetic tape. The magnetic tape was then used as input to a computer program for the IBM 7090 which computed the probability of at least one fragment penetrating the delivery aircraft as above. The early-burst rate of the particular fuze under consideration, and the arming times available with the fuze are also inputs. The program requires that, for a time to be chosen for a fuze, that time correspond to one of the times for which a  $P_{H|EB}$  has been computed and is on the tape. Owing to the nature of the probability-versus-time curve as it has been plotted for various weapons, it was decided not to attempt an interpolation, since it would be in error by a large percentage in most cases. Thus the times after release for which probabilities are available are those found in current types of fuzes, i.e., 4.0, 4.5, 5.5, 6.0, 8.0, and 10.0 seconds. The capability exists to add more data to the existing tape as it becomes available. The program compared the value of  $P_H$  and  $P_{H|EB}$  against the required values. The minimum time satisfying the criterion was then printed. If no time satisfied the criterion then a "N.A." was printed.

#### EXPLANATION OF APPENDICES

9. The appendices represent the output of the program spoken of in paragraph 8. The appendices are arranged by aircraft and by release condition considered. The aircraft considered were the A-4, A-6, A-7, and F-4. The variable by which the appendices for a particular aircraft are arranged is the length of the stick of bombs released. Thus, there is an appendix for each of



the following: single release (or "zero stick length ripples" of "salvo"), one-second stick release, and two-second stick release. Each appendix treats the whole range of speeds and dive angles. Thus appendices A thru C deal with the A-4 aircraft, appendices D thru F with the A-6 aircraft, appendices G thru I with the A-7 aircraft, and appendices J thru L with the F-4 aircraft.

10. In each appendix there may appear types of releases that are not possible with a particular model aircraft such as stick bombing with Mk 84 bombs from an A-4 aircraft. Such combinations appear only for completeness, and reference to the particular aircraft model tactical manual is necessary to discover if a type of release is within the permissible envelope of the aircraft. In each appendix there appear columns headed with designations of particular fuzes. The recommendations in each of the columns are for not only that particular fuze but all fuzes of its type. In each case the arming time which appears is the minimum for the condition. If that time is not available the proper choice becomes the next higher time available. In no case is the proper choice a time lower than that shown.

11. In each of the appendices, the recommendations for the Mk 84 bomb are marked as estimated. At this time the fragmentation pattern for the Mk 84 has not been satisfactorily established. Based on the assumption that the Mk 84 bomb fragments will have initial velocities of the same magnitude as the Mk 83 bomb but approximately twice the number of fragments, NWL supplied the following approximation for use in estimating  $P_{H|EB}$  values for the Mk 84 bomb.

$$P_{84} = 1. - (1. - P_{83})^2$$

where

$P_{84}$  is the probability (estimated) of at least one fragment from the early burst of a Mk 84 bomb penetrating the delivery aircraft.

$P_{83}$  is the probability (calculated by NWL) of at least one fragment from the early burst of a Mk 83 bomb penetrating the delivery aircraft.

Estimates of the  $P_{H|EB}$  for the Mk 84 bomber were made for all release conditions and used to make the recommendations appearing in the appendices for the Mk 84.

CONCLUSIONS

12. A few general conclusions which may be made from a study of the appendices are:

a. The slower the delivery speed the longer the safe arming time must be

b. The choice of 5.5 seconds in the M990E series of fuzes and the Mk 344 is safe for most dive bombing

c. The 10.0 seconds in the M990E series of fuzes and Mk 376 is safe for most level bombing.

APPENDIX A

SAFE ARMING TIMES  
A-4 AIRCRAFT  
SINGLE RELEASES

CONTENTS

MK 81 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	A 2
LEVEL RELEASE AT 15,000 FT MSL .....	A 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	A 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	A 4
LEVEL RELEASE AT 15,000 FT MSL .....	A 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	A 5
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LEVEL RELEASE AT 10,000 FT MSL .....	A 6
LEVEL RELEASE AT 15,000 FT MSL .....	A 6
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MK 84 GPLD ( EST )	
LEVEL RELEASE AT 10,000 FT MSL .....	A 8
LEVEL RELEASE AT 15,000 FT MSL .....	A 8
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	A 9
MK 81 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	A 10
LEVEL RELEASE AT 15,000 FT MSL .....	A 10
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	A 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	A 12
LEVEL RELEASE AT 15,000 FT MSL .....	A 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	A 13
M117A1 ( H-6 LOADED ) / M131 FIN	
LEVEL RELEASE AT 10,000 FT MSL .....	A 14
LEVEL RELEASE AT 15,000 FT MSL .....	A 14
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	A 15

NOTE- ALL DIVES ARE 4G RECOVERIES

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MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
PH/EB\* 0.10000

SINGLE RELEASE

A/C A-4 BOMB MK 81 GPLD EJ VEL 7.2 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 10000 FT  
 REL REL  
 ANG VEL  
 (DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
300.0	8.0	8.0	N.A.	10.0	N.A.
325.0	8.0	8.0	8.0	10.0	N.A.
350.0	8.0	8.0	8.0	10.0	N.A.
400.0	8.0	8.0	8.0	8.0	8.0
450.0	6.0	8.0	8.0	8.0	8.0
500.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
PH/EB\* 0.10000

SINGLE RELEASE

A/C A-4 BOMB MK 81 GPLD EJ VEL 7.2 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 15000 FT  
 REL REL  
 ANG VEL  
 (DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
300.0	8.0	8.0	N.A.	10.0	N.A.
325.0	8.0	8.0	N.A.	10.0	N.A.
350.0	8.0	8.0	N.A.	10.0	N.A.
400.0	8.0	8.0	8.0	10.0	N.A.
450.0	8.0	8.0	8.0	8.0	8.0
500.0	6.0	8.0	8.0	8.0	8.0

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MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010

PH/EB\* 0.10000

SINGLE RELEASE

A/C A-4

TARGET ALTITUDE SEA LEVEL

BOMB MK 81 GPLD  
EJ VEL 7.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	4.5
-30.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	4.5	5.5	8.0
	350.0	4.0	5.5	4.5	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	6.0	5.5	4.5	5.5	8.0

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MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.							
	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.							
	300.0		8.0	8.0	N.A.	N.A.	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.

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MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-4

BOMB MK 82 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 6.0 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	4.5	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0

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MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 83 GPLD			EJ VEL 4.8 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 83 GPLD			EJ VEL 4.8 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	N.A.	10.0	N.A.



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MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 83 GPLD EJ VEL 4.8 FT/SEC					
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0
-10.0	300.0		6.0	5.5	8.0	8.0	8.0
	325.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
-30.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
-45.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
-60.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC	
TARGET REL	ALTITUDE REL	SEA LEVEL	REL ALT 10000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC	
TARGET REL	ALTITUDE REL	SEA LEVEL	REL ALT 15000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-4						BOMB MK 84 GPLD (EST)	
TARGET	ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				EJ VEL 4.8 FT/SEC	
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D	
0.	300.0	8.0	8.0	N.A.	10.0	N.A.	
	325.0	8.0	8.0	N.A.	10.0	N.A.	
	350.0	8.0	8.0	N.A.	10.0	N.A.	
	400.0	8.0	8.0	N.A.	10.0	N.A.	
	450.0	8.0	8.0	8.0	10.0	N.A.	
	500.0	8.0	8.0	8.0	10.0	N.A.	
-10.0	300.0	6.0	5.5	8.0	8.0	8.0	
	325.0	6.0	5.5	8.0	8.0	8.0	
	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
-30.0	300.0	6.0	5.5	8.0	8.0	8.0	
	325.0	6.0	5.5	8.0	8.0	8.0	
	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	5.5	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
-45.0	300.0	6.0	5.5	8.0	8.0	8.0	
	325.0	6.0	5.5	8.0	8.0	8.0	
	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	5.5	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
-60.0	300.0	6.0	5.5	8.0	8.0	8.0	
	325.0	6.0	5.5	8.0	8.0	8.0	
	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	8.0	8.0	

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 81/SNAKEYE I/UNRET

EJ VEL 7.2 FT/SEC

REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	8.0	10.0	N.A.
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 81/SNAKEYE I/UNRET

EJ VEL 7.2 FT/SEC

REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C	A-4	TARGET ALTITUDE	SEA LEVEL	BOMB MK 81/SNI/UNRETARDED EJ VEL 7.2 FT/SEC MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL ANG (DEG)	REL VEL (KTAS)			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	350.0	4.0	5.5	8.0	5.5	8.0	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0	5.5	4.5
	500.0	4.0	5.5	4.5	5.5	8.0	5.5	4.5
-30.0	300.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	4.5	5.5	8.0	5.5	8.0
	350.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0	5.5	4.5
-45.0	300.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	4.5	5.5	8.0	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0	5.5	4.5
-60.0	300.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 82/SNAKEYE I / UNRET		EJ VEL 5.6 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	REL ALT 10000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 82/SNAKEYE I / UNRET		EJ VEL 5.6 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	REL ALT 15000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB MK 82/SNI/UNRETARDED					
TARGET REL	ALTITUDE REL	SEA LEVEL	EJ VEL 5.6 FT/SEC				
REL	REL		MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL		M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)						
0.	300.0		8.0	8.0	8.0	10.0	N.A.
	325.0		8.0	8.0	8.0	10.0	N.A.
	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
-10.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		4.0	5.5	4.5	5.5	8.0
	500.0		4.0	5.5	4.5	5.5	8.0
-30.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	4.5	5.5	8.0
	500.0		4.0	5.5	4.5	5.5	8.0
-45.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	4.5	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
-60.0	300.0		6.0	5.5	8.0	5.5	8.0
	325.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-4		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

BOMB M117A1 (M-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

A/C A-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	H904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0

APPENDIX B

SAFE ARMING TIMES  
A-4 AIRCRAFT  
ONE SECOND STICK RELEASES

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LEVEL RELEASE AT 15,000 FT MSL .....	B 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	B 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	B 4
LEVEL RELEASE AT 15,000 FT MSL .....	B 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	B 5
MK 83 GPLD	
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0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	B 7
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0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	B 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	B 12
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0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	B 13
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0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	B 15

NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2 M990E M990D VT/M990E VT/M990D

0.

300.0	8.0	8.0	N.A.	10.0	N.A.
325.0	8.0	8.0	9.0	10.0	N.A.
350.0	8.0	8.0	8.0	10.0	N.A.
400.0	8.0	8.0	8.0	8.0	8.0
450.0	6.0	8.0	8.0	8.0	8.0
500.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2 M990E M990D VT/M990E VT/M990D

0.

300.0	8.0	8.0	N.A.	10.0	N.A.
325.0	8.0	8.0	N.A.	10.0	N.A.
350.0	8.0	8.0	N.A.	10.0	N.A.
400.0	8.0	8.0	8.0	10.0	N.A.
450.0	8.0	8.0	8.0	8.0	8.0
500.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4					BOMB MK 81 GPLD	
TARGET	ALTITUDE SEA LEVEL	EJ VEL 7.2 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	5.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	5.5	8.0
	325.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES  
 PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES  
 PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	300.0		8.0	8.0	N.A.	N.A.	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

1/C A-4

BOMB MK 82 GPLD  
 EJ VEL 6.0 FT/SEC

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-49.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 83 GPLD			EJ VEL 4.8 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 83 GPLD			EJ VEL 4.8 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

ONE SECOND STICK

A/C A-4		BOMB MK 83 GPLD					
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 4.8 FT/SEC				
			MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0
-10.0	300.0		6.0	5.5	8.0	8.0	8.0
	325.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
-30.0	300.0		6.0	5.5	8.0	8.0	8.0
	325.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
-45.0	300.0		6.0	5.5	8.0	8.0	8.0
	325.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
-60.0	300.0		6.0	6.0	8.0	8.0	8.0
	325.0		6.0	6.0	8.0	8.0	8.0
	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK  
BOMB MK 84 GPLD (EST) EJ VEL 4.8 FT/SEC  
REL ALT 10000 FT

TARGET ALTITUDE SEA LEVEL  
REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
300.0	10.0	10.0	N.A.	N.A.	N.A.
325.0	10.0	10.0	N.A.	N.A.	N.A.
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	8.0	8.0	N.A.	10.0	N.A.
500.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK  
BOMB MK 84 GPLD (EST) EJ VEL 4.8 FT/SEC  
REL ALT 15000 FT

TARGET ALTITUDE SEA LEVEL  
REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
300.0	10.0	10.0	N.A.	N.A.	N.A.
325.0	10.0	10.0	N.A.	N.A.	N.A.
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	10.0	10.0	N.A.	N.A.	N.A.
500.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4

BOMB MK 84 GPLD (EST)

TARGET ALTITUDE SEA LEVEL

EJ VEL 4.8 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 81/SNAKEYE I/UNRET		EJ VEL 7.2 FT/SEC		
TARGET	ALTITUDE SEA LEVEL	REL	REL	REL ALT 10000 FT		
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	9.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	3.0
	500.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 81/SNAKEYE I/UNRET		EJ VEL 7.2 FT/SEC		
TARGET	ALTITUDE SEA LEVEL	REL	REL	REL ALT 15000 FT		
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4 TARGET ALTITUDE REL ANG (DEG)	REL VEL (KTAS)	SEA LEVEL	BOMR MK 81/SNI/UNRETARDED EJ VEL 7.2 FT/SEC MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E VT/M990D	
0.	300.0	6.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	5.5	8.0	8.0
	350.0	6.0	5.5	8.0	5.5	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0	8.0
	500.0	4.0	5.5	4.5	5.5	8.0	8.0
-30.0	300.0	6.0	5.5	8.0	5.5	8.0	8.0
	325.0	6.0	5.5	8.0	5.5	8.0	8.0
	350.0	6.0	5.5	8.0	5.5	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0	8.0
-45.0	300.0	6.0	5.5	8.0	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	5.5	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 82/SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.3	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 82/SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB MK 82/SNI/UNRETARDED				
TARGET	ALTITUDE SEA LEVEL	EJ VEL 5.6 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.	300.0	8.0	8.0	8.0	10.0	N.A.
	325.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	8.0	6.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-4		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

BOMB M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

A/C A-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL REL  
ANG VEL  
(DEG) (KTAS)

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0



APPENDIX C

SAFE ARMING TIMES  
A-4 AIRCRAFT  
TWO SECOND STICK RELEASES

CONTENTS

MK 81 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	C 2
LEVEL RELEASE AT 15,000 FT MSL .....	C 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	C 4
LEVEL RELEASE AT 15,000 FT MSL .....	C 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 5
MK 83 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	C 6
LEVEL RELEASE AT 15,000 FT MSL .....	C 6
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 7
MK 84 GPLD ( EST )	
LEVEL RELEASE AT 10,000 FT MSL .....	C 8
LEVEL RELEASE AT 15,000 FT MSL .....	C 8
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 9
MK 81 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	C 10
LEVEL RELEASE AT 15,000 FT MSL .....	C 10
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	C 12
LEVEL RELEASE AT 15,000 FT MSL .....	C 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 13
M117A1 ( H-6 LOADED ) / M131 FIN	
LEVEL RELEASE AT 10,000 FT MSL .....	C 14
LEVEL RELEASE AT 15,000 FT MSL .....	C 14
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	C 15

NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK  
 BOMB MK 81 GPLD  
 A/C A-4  
 TARGET ALTITUDE SEA LEVEL  
 REL REL  
 ANG VEL  
 (DEG) (KTAS)

EJ VEL 7.2 FT/SEC  
 REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK  
 BOMB MK 81 GPLD  
 A/C A-4  
 TARGET ALTITUDE SEA LEVEL  
 REL REL  
 ANG VEL  
 (DEG) (KTAS)

EJ VEL 7.2 FT/SEC  
 REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMR MK 81 GPLD EJ VEL 7.2 FT/SEC				
TARGET REL ANG (DEG)	ALTITUDE SEA LEVEL REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 82 GPLD		EJ VEL 6.0 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 82 GPLD		EJ VEL 6.0 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	N.A.	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4

BOMB MK 82 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 6.0 FT/SEC

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG VEL  
(DEG) (KTAS)

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK  
 BOMB MK 83 GPLD  
 EJ VEL 4.8 FT/SEC  
 REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	325.0		10.0	10.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK  
 BOMB MK 83 GPLD  
 EJ VEL 4.8 FT/SEC  
 REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	325.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4

BOMB MK 83 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 4.8 FT/SEC

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DBG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
PH/EB\* 0.10000

TWO SECOND STICK

A/C A-4 BOMB MK 84 GPLD (EST) EJ VEL 4.8 FT/SEC  
REL ALT 10000 FT

TARGET ALTITUDE SEA LEVEL  
REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
PH/EB\* 0.10000

TWO SECOND STICK

A/C A-4 BOMB MK 84 GPLD (EST) EJ VEL 4.8 FT/SEC  
REL ALT 15000 FT

TARGET ALTITUDE SEA LEVEL  
REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4

BOMB MK 84 GPLD (EST)

TARGET ALTITUDE SEA LEVEL

EJ VEL 4.8 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
-10.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-30.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 81/SNAKEYE 1/UNRET		EJ VEL 7.2 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	8.0	10.0	N.A.
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 81/SNAKEYE 1/UNRET		EJ VEL 7.2 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 81/SNI/UNRETARDED				
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 7.2 FT/SEC			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	325.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 82/SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 82/SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	325.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB MK 82/SNI/UNRETARDED				
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 5.6 FT/SEC			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	10.0	N.A.
	325.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
MINIMUM ARMING TIME / FUZE COMBINATIONS						
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-4		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
MINIMUM ARMING TIME / FUZE COMBINATIONS						
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	325.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.

NDLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

BOMB M117A1 (M-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-4 TARGET ALTITUDE REL ANG (DEG)	SEA LEVEL REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	300.0	8.0	8.0	N.A.	10.0	N.A.
	325.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	325.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0

APPENDIX D

SAFE ARMING TIMES  
A-6 AIRCRAFT  
SINGLE RELEASES

CONTENTS

MK 81 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	D 2
LEVEL RELEASE AT 15,000 FT MSL .....	D 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	D 4
LEVEL RELEASE AT 15,000 FT MSL .....	D 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 5
MK 83 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	D 6
LEVEL RELEASE AT 15,000 FT MSL .....	D 6
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 7
MK 84 GPLD ( EST )	
LEVEL RELEASE AT 10,000 FT MSL .....	D 8
LEVEL RELEASE AT 15,000 FT MSL .....	D 8
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 9
MK 81 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	D 10
LEVEL RELEASE AT 15,000 FT MSL .....	D 10
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	D 12
LEVEL RELEASE AT 15,000 FT MSL .....	D 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 13
M117A1 ( M-6 LOADED ) / M131 FIN	
LEVEL RELEASE AT 10,000 FT MSL .....	D 14
LEVEL RELEASE AT 15,000 FT MSL .....	D 14
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	D 15

NOTE- ALL DIVES ARE 4G RECOVERIES



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-6 BOMB MK 81 GPLD EJ VEL 7.2 FT/SEC  
 REL ALT 10000 FT

TARGET ALTITUDE SEA LEVEL  
 REL REL  
 ANG VEL  
 (DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
300.0	8.0	8.0	N.A.	10.0	N.A.
350.0	8.0	8.0	8.0	10.0	N.A.
400.0	8.0	8.0	8.0	10.0	N.A.
450.0	8.0	8.0	8.0	10.0	N.A.
500.0	6.0	8.0	8.0	8.0	8.0
550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-6 BOMB MK 81 GPLD EJ VEL 7.2 FT/SEC  
 REL ALT 15000 FT

TARGET ALTITUDE SEA LEVEL  
 REL REL  
 ANG VEL  
 (DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
300.0	8.0	8.0	N.A.	10.0	N.A.
350.0	8.0	8.0	N.A.	10.0	N.A.
400.0	8.0	8.0	N.A.	10.0	N.A.
450.0	8.0	8.0	8.0	10.0	N.A.
500.0	8.0	8.0	8.0	10.0	N.A.
550.0	6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EBP 0.10000

SINGLE RELEASE

A/C	REL ALTITUDE	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			
REL ANG (DEG)	REL VEL (KTAS)		M904E2	M990E	M990D	BOMB MK 81 GPLD EJ VEL 7.2 FT/SEC VT/M990E VT/M990D
0.	300.0		8.0	8.0	8.0	10.0 N.A.
	350.0		8.0	8.0	8.0	10.0 N.A.
	400.0		8.0	8.0	8.0	8.0 8.0
	450.0		6.0	8.0	8.0	8.0 8.0
	500.0		6.0	5.5	8.0	8.0 8.0
	550.0		6.0	5.5	8.0	8.0 8.0
-10.0	300.0		6.0	5.5	8.0	8.0 8.0
	350.0		6.0	5.5	8.0	5.5 8.0
	400.0		6.0	5.5	4.5	5.5 8.0
	450.0		4.0	5.5	4.5	5.5 8.0
	500.0		4.0	5.5	4.5	5.5 8.0
	550.0		4.0	5.5	4.5	5.5 8.0
-30.0	300.0		6.0	5.5	8.0	5.5 8.0
	350.0		6.0	5.5	4.5	5.5 8.0
	400.0		6.0	5.5	4.5	5.5 8.0
	450.0		6.0	5.5	4.5	5.5 8.0
	500.0		4.0	5.5	4.5	5.5 8.0
	550.0		6.0	5.5	4.5	5.5 8.0
-45.0	300.0		6.0	5.5	8.0	5.5 8.0
	350.0		6.0	5.5	8.0	5.5 8.0
	400.0		6.0	5.5	4.5	5.5 8.0
	450.0		6.0	5.5	4.5	5.5 8.0
	500.0		6.0	5.5	4.5	5.5 8.0
	550.0		6.0	5.5	8.0	5.5 8.0
-60.0	300.0		6.0	5.5	8.0	5.5 8.0
	350.0		6.0	5.5	8.0	5.5 8.0
	400.0		6.0	5.5	8.0	5.5 8.0
	450.0		6.0	5.5	8.0	5.5 8.0
	500.0		6.0	5.5	8.0	5.5 8.0
	550.0		6.0	5.5	8.0	5.5 8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
 PH/EB\* 0.10000

SINGLE RELEASE

A/C A-6 BOMB MK 82 GPLD EJ VEL 6.0 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 10000 FT  
 REL REL  
 ANG VEL  
 (DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
 PH/EB\* 0.10000

SINGLE RELEASE

A/C A-6 BOMB MK 82 GPLD EJ VEL 6.0 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 15000 FT  
 REL REL  
 ANG VEL  
 (DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-6						BOMB MK 82 GPLD	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			EJ VEL 6.0 FT/SEC	
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0
-10.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	300.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	300.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	300.0		6.0	5.5	8.0	5.5	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-6

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2 M990E M990D VT/M990E VT/M990D

0.

300.0	10.0	10.0	N.A.	N.A.	N.A.
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	8.0	8.0	N.A.	10.0	N.A.
500.0	8.0	8.0	N.A.	10.0	N.A.
550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-6

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2 M990E M990D VT/M990E VT/M990D

0.

300.0	10.0	10.0	N.A.	N.A.	N.A.
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	10.0	10.0	N.A.	N.A.	N.A.
500.0	10.0	10.0	N.A.	10.0	N.A.
550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EBP 0.10000

SINGLE RELEASE

A/C A-6

TARGET ALTITUDE SEA LEVEL

BOMB MK 83 GPLD

EJ VEL 4,8 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 10000 FT	
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.							
	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 15000 FT	
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.							
	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	N.A.	N.A.
	550.0		10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-6						BOMB MK 84 GPLD (EST)	
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				EJ VEL 4.8 FT/SEC
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M9900	VT/M990E	VT/M9900
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.
-10.0	300.0		6.0	8.0	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC	
TARGET REL	ALTITUDE REL	SEA LEVEL	REL ALT 10000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC	
TARGET REL	ALTITUDE REL	SEA LEVEL	REL ALT 15000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 81/SNI/UNRETARDED

EJ VEL 7.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL SEA LEVEL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	4.5	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	5.5	8.0
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB MK 82/ SNAKEYE I/ UNRET			EJ VEL 5.6 FT/SEC	
TARGET REL	ALTITUDE REL	SEA LEVEL	REL ALT 10000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB MK 82/ SNAKEYE I/ UNRET			EJ VEL 5.6 FT/SEC	
TARGET REL	ALTITUDE REL	SEA LEVEL	REL ALT 15000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-6

BOMB MK 82/SNI/UNRETARDED

TARGET ALTITUDE SEA LEVEL

EJ VEL 5.6 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
	-10.0	300.0	6.0	5.5	8.0	8.0
350.0		6.0	5.5	8.0	5.5	8.0
400.0		6.0	5.5	8.0	5.5	8.0
450.0		6.0	5.5	8.0	5.5	8.0
500.0		6.0	5.5	4.5	5.5	8.0
550.0		6.0	5.5	4.5	5.5	8.0
-30.0		300.0	6.0	5.5	8.0	5.5
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
	-45.0	300.0	6.0	5.5	8.0	5.5
350.0		6.0	5.5	8.0	5.5	8.0
400.0		6.0	5.5	8.0	5.5	8.0
450.0		6.0	5.5	8.0	5.5	8.0
500.0		6.0	5.5	8.0	5.5	8.0
550.0		6.0	5.5	8.0	5.5	8.0
-60.0		300.0	6.0	5.5	8.0	5.5
	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-6		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

BOMB M117A1 (M-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6

TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0

APPENDIX E

SAFE ARMING TIMES  
A-6 AIRCRAFT  
ONE SECOND STICK RELEASES

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MK 82 / SNAKEYE I / UNRETARDED	
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NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-6

BOMR MK 81 GPLD  
EJ VEL 7.2 FT/SEC

TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	8.0	10.0	N.A.
	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-10.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-60.0	300.0		6.0	5.5	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-6

TARGET ALTITUDE SEA LEVEL

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	10.0	10.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 83 GPLD EJ VEL 4,8 FT/SEC				
TARGET	ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N,A.	10.0	N,A.
	350.0	8.0	8.0	N,A.	10.0	N,A.
	400.0	8.0	8.0	N,A.	10.0	N,A.
	450.0	8.0	8.0	N,A.	10.0	N,A.
	500.0	8.0	8.0	8.0	10.0	N,A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C A-6  
BOMB MK 84 GPLD (EST)  
EJ VEL 4.8 FT/SEC  
REL ALT 10000 FT

TARGET ALTITUDE SEA LEVEL  
REL REL  
ANG VEL  
(DEG) (KTAS)

ONE SECOND STICK  
MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0,					
300.0	10.0	10.0	N.A.	N.A.	N.A.
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	10.0	10.0	N.A.	N.A.	N.A.
500.0	10.0	10.0	N.A.	10.0	N.A.
550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C A-6  
BOMB MK 84 GPLD (EST)  
EJ VEL 4.8 FT/SEC  
REL ALT 15000 FT

TARGET ALTITUDE SEA LEVEL  
REL REL  
ANG VEL  
(DEG) (KTAS)

ONE SECOND STICK  
MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0,					
300.0	10.0	10.0	N.A.	N.A.	N.A.
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	10.0	10.0	N.A.	N.A.	N.A.
500.0	10.0	10.0	N.A.	N.A.	N.A.
550.0	10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-6

BOMB MK 84 GPLD (EST)

TARGET ALTITUDE SEA LEVEL

EJ VEL 4.8 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.
-10.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK  
BOMB MK 81/ SNAKEYE I/ UNRET  
EJ VEL 7.2 FT/SEC  
REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL SEA LEVEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK  
BOMB MK 81/ SNAKEYE I/ UNRET  
EJ VEL 7.2 FT/SEC  
REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL SEA LEVEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 81/SNI/UNRETARDED				
TARGET ALTITUDE	SEA LEVEL	EJ VEL 7,2 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.	300.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 82/ SNAKEYE I/ UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 82/ SNAKEYE I/ UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB MK 82/SNI/UNRETARDED				
TARGET REL	ALTITUDE REL	SEA LEVEL	EJ VEL 5,6 FT/SEC			
ANG	VEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	300.0	6.0	5.5	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-6		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

BOMB M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6	TARGET ALTITUDE	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
REL ANG (DEG)	REL VEL (KTAS)						
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	300.0		6.0	8.0	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-30.0	300.0		6.0	8.0	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-45.0	300.0		6.0	8.0	8.0	8.0	8.0
	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-60.0	300.0		6.0	8.0	8.0	8.0	8.0
	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0

APPENDIX F

SAFE ARMING TIMES  
A-6 AIRCRAFT  
TWO SECOND STICK RELEASES

CONTENTS

MK 81 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	F 2
LEVEL RELEASE AT 15,000 FT MSL .....	F 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	F 4
LEVEL RELEASE AT 15,000 FT MSL .....	F 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 5
MK 83 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	F 6
LEVEL RELEASE AT 15,000 FT MSL .....	F 6
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 7
MK 84 GPLD ( EST )	
LEVEL RELEASE AT 10,000 FT MSL .....	F 8
LEVEL RELEASE AT 15,000 FT MSL .....	F 8
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 9
MK 81 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	F 10
LEVEL RELEASE AT 15,000 FT MSL .....	F 10
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	F 12
LEVEL RELEASE AT 15,000 FT MSL .....	F 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 13
M117A1 ( H-6 LOADED ) / M131 FIN	
LEVEL RELEASE AT 10,000 FT MSL .....	F 14
LEVEL RELEASE AT 15,000 FT MSL .....	F 14
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	F 15

NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 81 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 7.2 FT/SEC

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG VEL  
(DEG) (KTAS)

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0



NOLTR 69-139

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PM = 0.00010

PM/EB = 0.10000

TWO SECOND STICK

A/C A-6

TARGET ALTITUDE SEA LEVEL

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2 M990E M990D VT/M990E VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	10.0	10.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-6		BOMB MK 83 GPLD				
TARGET	ALTITUDE SEA LEVEL	EJ VEL 4.8 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.	300.0	10.0	10.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-30.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010

PH/EB\* 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 84 GPLD (EST)

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	10.0	10.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010

PH/EB\* 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 84 GPLD (EST)

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	10.0	10.0	N.A.	N.A.	N.A.
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	10.0	10.0	N.A.	N.A.	N.A.
	550.0	10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-6		BOMR MK 84 GPLD (EST) EJ VEL 4.8 FT/SEC					
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.
-10.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0
-30.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-45.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-60.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK  
BOMB MK 81/ SNAKEYE 1/ UNRET  
EJ VEL 7.2 FT/SEC  
REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK  
BOMB MK 81/ SNAKEYE 1/ UNRET  
EJ VEL 7.2 FT/SEC  
REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 81/SNI/UNRETARDED

TARGET ALTITUDE SEA LEVEL

EJ VEL 7.2 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2 M990E M990D VT/M990E VT/M990D

TARGET REL ANG (DEG)	ALTITUDE SEA LEVEL REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	8.0	10.0	N.A.
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK  
BOMB MK 82/ SNAKEYE I/ UNRET  
EJ VEL 5.6 FT/SEC  
REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK  
BOMB MK 82/ SNAKEYE I/ UNRET  
EJ VEL 5.6 FT/SEC  
REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-139

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-6

BOMB MK 82/SNI/UNRETARDED

TARGET ALTITUDE SEA LEVEL

EJ VEL 5,6 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	300.0	8.0	8.0	N.A.	10.0	N.A.
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	300.0	6.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	300.0	8.0	8.0	8.0	8.0	8.0
	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-6	BOMB M117A1 (H-6 LOADED)/M131 FIN	EJ VEL 4.2 FT/SEC					
TARGET ALTITUDE SEA LEVEL	REL	REL	RELEASE ALTITUDE 10,000 FT				
REL	REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)	(KTAS)					
0.							
	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	8.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-6	BOMB M117A1 (H-6 LOADED)/M131 FIN	EJ VEL 4.2 FT/SEC					
TARGET ALTITUDE SEA LEVEL	REL	REL	RELEASE ALTITUDE 15,000 FT				
REL	REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)	(KTAS)					
0.							
	300.0		10.0	10.0	N.A.	N.A.	N.A.
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

BOMB M117A1 (M-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-6	TARGET ALTITUDE	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
REL ANG (DEG)	REL VEL (KTAS)						
0.	300.0		8.0	8.0	N.A.	10.0	N.A.
	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-30.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0
-45.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-60.0	300.0		8.0	8.0	8.0	8.0	8.0
	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

APPENDIX G

SAFE ARMING TIMES  
A-7 AIRCRAFT  
SINGLE RELEASES

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NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-7					BOMB MK 81 GPLD	
TARGET	ALTITUDE SEA LEVEL	EJ VEL 7.2 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	4.5
-30.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	6.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	4.5	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 82 GPLD		EJ VEL 6.0 FT/SEC			
TARGET	ALTITUDE	SEA LEVEL	REL ALT 10000 FT				
REL	REL		MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL						
(DBG)	(KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 82 GPLD		EJ VEL 6.0 FT/SEC			
TARGET	ALTITUDE	SEA LEVEL	REL ALT 15000 FT				
REL	REL		MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL						
(DBG)	(KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-7 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7 BOMB MK 83 GPLD EJ VEL 4.8 FT/SEC  
TARGET ALTITUDE SEA LEVEL REL ALT 10000 FT  
REL REL  
ANG VEL  
(DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7 BOMB MK 83 GPLD EJ VEL 4.8 FT/SEC  
TARGET ALTITUDE SEA LEVEL REL ALT 15000 FT  
REL REL  
ANG VEL  
(DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C A-7					BOMB MK 83 CPLD	
TARGET	ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			EJ VEL 4.8 FT/SEC	
REL ANG (DBG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	3.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C A-7		BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC		
TARGET	ALTITUDE	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL	REL						
ANG	VEL						
(DEG)	(KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.							
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C A-7		BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC		
TARGET	ALTITUDE	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL	REL						
ANG	VEL						
(DEG)	(KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.							
	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	N.A.	N.A.
	550.0		10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7						BOMB MK 84 GPLD (EST)	
TARGET	ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				EJ VEL 4,8 FT/SEC	
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D	
0.	350.0	10.0	10.0	N.A.	10.0	N.A.	
	400.0	8.0	8.0	N.A.	10.0	N.A.	
	450.0	8.0	8.0	N.A.	10.0	N.A.	
	500.0	8.0	8.0	8.0	10.0	N.A.	
	550.0	8.0	8.0	8.0	10.0	N.A.	
-10.0	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	8.0	
-30.0	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	8.0	
-45.0	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	8.0	
-60.0	350.0	6.0	5.5	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	8.0	8.0	
	550.0	6.0	5.5	8.0	8.0	8.0	

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 81/SNI/UNRETARDED				
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 7.2 FT/SEC			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	4.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	4.5
-30.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	4.5
-45.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	6.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 82/ SNAKEYE I /UNRET		EJ VEL 5.6 FT/SEC		
TARGET	ALTITUDE	SEA LEVEL	REL ALT 10000 FT			
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 82/ SNAKEYE I /UNRET		EJ VEL 5.6 FT/SEC		
TARGET	ALTITUDE	SEA LEVEL	REL ALT 15000 FT			
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	5.5	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7		BOMB MK 82/SNI/UNRETARDED				
TARGET	ALTITUDE SEA LEVEL	EJ VEL 5.6 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	4.0	5.5	8.0	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	4.5	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	BOMB M117A1 (H-6 LOADED)/M131 FIN SEA LEVEL	EJ VEL 4.2 FT/SEC RELEASE ALTITUDE 10,000 FT MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0	8.0	8.0	8.0	N.A.	10.0 N.A.
	400.0	8.0	8.0	8.0	N.A.	10.0 N.A.
	450.0	8.0	8.0	8.0	N.A.	10.0 N.A.
	500.0	8.0	8.0	8.0	8.0	10.0 N.A.
	550.0	8.0	8.0	8.0	8.0	8.0 8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C A-7 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	BOMB M117A1 (H-6 LOADED)/M131 FIN SEA LEVEL	EJ VEL 4.2 FT/SEC RELEASE ALTITUDE 15,000 FT MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0	10.0	10.0	10.0	N.A.	N.A. N.A.
	400.0	8.0	8.0	8.0	N.A.	10.0 N.A.
	450.0	8.0	8.0	8.0	N.A.	10.0 N.A.
	500.0	8.0	8.0	8.0	N.A.	10.0 N.A.
	550.0	8.0	8.0	8.0	N.A.	10.0 N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

BOMR M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-7 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0

APPENDIX H

SAFE ARMING TIMES  
A-7 AIRCRAFT  
ONE SECOND STICK RELEASES

CONTENTS

MK 81 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	H 2
LEVEL RELEASE AT 15,000 FT MSL .....	H 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	H 4
LEVEL RELEASE AT 15,000 FT MSL .....	H 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 5
MK 83 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	H 6
LEVEL RELEASE AT 15,000 FT MSL .....	H 6
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 7
LEVEL RELEASE AT 10,000 FT MSL .....	H 8
LEVEL RELEASE AT 15,000 FT MSL .....	H 8
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 9
MK 81 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	H 10
LEVEL RELEASE AT 15,000 FT MSL .....	H 10
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	H 12
LEVEL RELEASE AT 15,000 FT MSL .....	H 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 13
M117A1 ( H-6 LOADED ) / M131 FIN	
LEVEL RELEASE AT 10,000 FT MSL .....	H 14
LEVEL RELEASE AT 15,000 FT MSL .....	H 14
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	H 15

NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-7

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-7

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-7					BOMB MK 81 GPLD		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-60.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 10000 FT	
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 15000 FT	
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-7					BOMB MK 82 GPLD	
TARGET	ALTITUDE SEA LEVEL				EJ VEL 6,0 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C A-7		ONE SECOND STICK			EJ VEL 4.8 FT/SEC	
TARGET	ALTITUDE	BOMB MK 83 GPLD	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 10000 FT
REL	REL	SEA LEVEL				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C A-7		ONE SECOND STICK			EJ VEL 4.8 FT/SEC	
TARGET	ALTITUDE	BOMB MK 83 GPLD	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 15000 FT
REL	REL	SEA LEVEL				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 83 GPLD EJ VEL 4.8 FT/SEC				
TARGET	ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 84 GPLD (EST)		EJ VEL 4.8 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 84 GPLD (EST)		EJ VEL 4.8 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	N.A.	N.A.
	550.0		10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 84 GPLD (EST)				
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 4.8 FT/SEC			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7	BOMB MK 81/ SNAKEYE I/ UNRET	EJ VEL 7.2 FT/SEC				
TARGET ALTITUDE	SEA LEVEL	REL ALT 10000 FT				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.						
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7	BOMB MK 81/ SNAKEYE I/ UNRET	EJ VEL 7.2 FT/SEC				
TARGET ALTITUDE	SEA LEVEL	REL ALT 15000 FT				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.						
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-7

BOMB MK 81/SNI/UNRETARDED

TARGET ALTITUDE SEA LEVEL

EJ VEL 7.2 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	4.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 82/ SNAKEYE I /UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 10000 FT	
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 82/ SNAKEYE I /UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			REL ALT 15000 FT	
ANG (DEG)	VEL (KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C A-7		BOMB MK 82/SNI/UNRETARDED				
TARGET	ALTITUDE SEA LEVEL	EJ VEL 5.6 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990F	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-7	BOMB M117A1 (H-6 LOADED)/M131 FIN	EJ VEL 4.2 FT/SEC				
TARGET ALTITUDE	SEA LEVEL	RELEASE ALTITUDE 10,000 FT				
REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	6.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C A-7	BOMB M117A1 (H-6 LOADED)/M131 FIN	EJ VEL 4.2 FT/SEC				
TARGET ALTITUDE	SEA LEVEL	RELEASE ALTITUDE 15,000 FT				
REL ANG (DEG)	REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0,	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

BOMB M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

A/C A-7		MINIMUM ARMING TIME / FUZE COMBINATIONS				
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0 N.A.
	400.0		8.0	8.0	8.0	10.0 N.A.
	450.0		8.0	8.0	8.0	8.0 8.0
	500.0		8.0	8.0	8.0	8.0 8.0
	550.0		8.0	8.0	8.0	8.0 8.0
-10.0	350.0		6.0	5.5	8.0	8.0 8.0
	400.0		6.0	5.5	8.0	8.0 8.0
	450.0		6.0	5.5	8.0	8.0 8.0
	500.0		6.0	5.5	8.0	5.5 8.0
	550.0		6.0	5.5	8.0	5.5 8.0
-30.0	350.0		6.0	5.5	8.0	8.0 8.0
	400.0		6.0	5.5	8.0	8.0 8.0
	450.0		6.0	5.5	8.0	8.0 8.0
	500.0		6.0	5.5	8.0	8.0 8.0
	550.0		6.0	5.5	8.0	8.0 8.0
-45.0	350.0		6.0	5.5	8.0	8.0 8.0
	400.0		6.0	5.5	8.0	8.0 8.0
	450.0		6.0	5.5	8.0	8.0 8.0
	500.0		6.0	5.5	8.0	8.0 8.0
	550.0		6.0	5.5	8.0	8.0 8.0
-60.0	350.0		6.0	8.0	8.0	8.0 8.0
	400.0		6.0	8.0	8.0	8.0 8.0
	450.0		6.0	8.0	8.0	8.0 8.0
	500.0		6.0	8.0	8.0	8.0 8.0
	550.0		6.0	8.0	8.0	8.0 8.0

APPENDIX I

SAFE ARMING TIMES  
A-7 AIRCRAFT  
TWO SECOND STICK RELEASES

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NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB MK 81 GPLD		EJ VEL 7.2 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB MK 81 GPLD		EJ VEL 7.2 FT/SEC			
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

TARGET ALTITUDE SEA LEVEL

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-7 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	BOMB MK 82 CPLD EJ VEL 6.0 FT/SEC MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0		8.0	8.0	8.0	10.0 N.A.
	400.0		8.0	8.0	8.0	10.0 N.A.
	450.0		8.0	8.0	8.0	8.0 8.0
	500.0		6.0	8.0	8.0	8.0 8.0
	550.0		6.0	8.0	8.0	8.0 8.0
-10.0	350.0		6.0	8.0	8.0	8.0 8.0
	400.0		6.0	8.0	8.0	8.0 8.0
	450.0		6.0	5.5	8.0	8.0 8.0
	500.0		6.0	5.5	8.0	8.0 8.0
	550.0		6.0	5.5	8.0	8.0 8.0
-30.0	350.0		6.0	8.0	8.0	8.0 8.0
	400.0		6.0	8.0	8.0	8.0 8.0
	450.0		6.0	8.0	8.0	8.0 8.0
	500.0		6.0	8.0	8.0	8.0 8.0
	550.0		6.0	8.0	8.0	8.0 8.0
-45.0	350.0		6.0	8.0	8.0	8.0 8.0
	400.0		6.0	8.0	8.0	8.0 8.0
	450.0		6.0	8.0	8.0	8.0 8.0
	500.0		6.0	8.0	8.0	8.0 8.0
	550.0		6.0	8.0	8.0	8.0 8.0
-60.0	350.0		8.0	8.0	8.0	8.0 8.0
	400.0		8.0	8.0	8.0	8.0 8.0
	450.0		8.0	8.0	8.0	8.0 8.0
	500.0		8.0	8.0	8.0	8.0 8.0
	550.0		8.0	8.0	8.0	8.0 8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 10000 FT

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL

REL ALT 15000 FT

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

BOMB MK 83 GPLD  
EJ VEL 4.8 FT/SEC

TARGET ALTITUDE SEA LEVEL	REL ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-30.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-45.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

A/C A-7		TWO SECOND STICK			EJ VEL 4.8 FT/SEC		
TARGET	ALTITUDE	BOMB MK 84 GPLD (EST)	REL ALT 10000 FT				
REL	REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL						
(DEG)	(KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

A/C A-7		TWO SECOND STICK			EJ VEL 4.8 FT/SEC		
TARGET	ALTITUDE	BOMB MK 84 GPLD (EST)	REL ALT 15000 FT				
REL	REL	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL						
(DEG)	(KTAS)		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	N.A.	N.A.
	550.0		10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C A-7

TARGET ALTITUDE SEA LEVEL

BOMB MK 84 GPLD (EST)

EJ VEL 4.8 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.
-10.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	6.0	8.0	8.0
-30.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-45.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-60.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK  
BOMB MK 81/ SNAKEYE I/ UNRET  
EJ VEL 7.2 FT/SEC  
REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-7 TARGET ALTITUDE REL ANG (DEG)	REL ALTITUDE VEL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK  
BOMB MK 81/ SNAKEYE I/ UNRET  
EJ VEL 7.2 FT/SEC  
REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C A-7 TARGET ALTITUDE REL ANG (DEG)	REL ALTITUDE VEL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 89-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB MK 81/SNI/UNRETARDED EJ VEL 7.2 FT/SEC					
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-45.0	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-60.0	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB MK 82/ SNAKEYE I /UNRET			EJ VEL 5.6 FT/SEC	
TARGET	ALTITUDE	SEA LEVEL	REL ALT 10000 FT			
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB MK 82/ SNAKEYE I /UNRET			EJ VEL 5.6 FT/SEC	
TARGET	ALTITUDE	SEA LEVEL	REL ALT 15000 FT			
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL					
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C A-7 TARGET REL ANG (DEG)	ALTITUDE REL SEA LEVEL VEL (KTAS)	BOMB MK 82/SNI/UNRETARDED EJ VEL 5.6 FT/SEC MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	4.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE SEA LEVEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				RELEASE ALTITUDE 10,000 FT
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C A-7		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE SEA LEVEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				RELEASE ALTITUDE 15,000 FT
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

BOMB M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

A/C A-7

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-45.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

APPENDIX J

SAFE ARMING TIMES  
F-4 AIRCRAFT  
SINGLE RELEASES

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MK 81 GPLD	
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LEVEL RELEASE AT 15,000 FT MSL .....	J 4
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LEVEL RELEASE AT 10,000 FT MSL .....	J 10
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MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	J 12
LEVEL RELEASE AT 15,000 FT MSL .....	J 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	J 13
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LEVEL RELEASE AT 10,000 FT MSL .....	J 14
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NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/FB<sup>2</sup> = 0.10000

SINGLE RELEASE

A/C F-4					BOMR MK 81 GPLD	
TARGET	ALTITUDE SEA LEVEL	EJ VEL 7.2 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0,	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	4.5
-30.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	6.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	4.5	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

REL ALT 10000 FT

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

REL ALT 15000 FT

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C F-4						BOMB MK 82 GPLD	
TARGET	ALTITUDE SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				EJ VEL 6.0 FT/SEC	
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D	
0.	350.0	8.0	8.0	8.0	10.0	N.A.	
	400.0	8.0	8.0	8.0	10.0	N.A.	
	450.0	8.0	8.0	8.0	8.0	8.0	
	500.0	8.0	8.0	8.0	8.0	8.0	
	550.0	6.0	8.0	8.0	8.0	8.0	
-10.0	350.0	6.0	5.5	8.0	5.5	8.0	
	400.0	6.0	5.5	8.0	5.5	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	4.0	5.5	4.5	5.5	8.0	
-30.0	350.0	6.0	5.5	8.0	5.5	8.0	
	400.0	6.0	5.5	8.0	5.5	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	6.0	5.5	4.5	5.5	8.0	
-45.0	350.0	6.0	5.5	8.0	5.5	8.0	
	400.0	6.0	5.5	8.0	5.5	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	8.0	
-60.0	350.0	6.0	5.5	8.0	5.5	8.0	
	400.0	6.0	5.5	8.0	5.5	8.0	
	450.0	6.0	5.5	8.0	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	8.0	

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC  
REL ALT 10000 FT

A/C F-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A. N.A.
	400.0		10.0	10.0	N.A.	10.0 N.A.
	450.0		8.0	8.0	N.A.	10.0 N.A.
	500.0		8.0	8.0	N.A.	10.0 N.A.
	550.0		8.0	8.0	N.A.	10.0 N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC  
REL ALT 15000 FT

A/C F-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A. N.A.
	400.0		10.0	10.0	N.A.	N.A. N.A.
	450.0		10.0	10.0	N.A.	N.A. N.A.
	500.0		10.0	10.0	N.A.	10.0 N.A.
	550.0		8.0	8.0	N.A.	10.0 N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C F-4					BOMB MK 83 GPLD		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N,A,	10.0	N,A,
	400.0		8.0	8.0	N,A,	10.0	N,A,
	450.0		8.0	8.0	N,A,	10.0	N,A,
	500.0		8.0	8.0	8.0	10.0	N,A,
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C F-4 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC REL ALT 10000 FT	
			MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C F-4 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC REL ALT 15000 FT	
			MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	N.A.	N.A.
	550.0		10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

SINGLE RELEASE

A/C F-4 TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS					BOMB MK 84 GPLD (EST) EJ VEL 4.8 FT/SEC	
		SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D	
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.	N.A.	
	400.0	8.0	8.0	N.A.	N.A.	10.0	N.A.	
	450.0	8.0	8.0	N.A.	N.A.	10.0	N.A.	
	500.0	8.0	8.0	N.A.	N.A.	10.0	N.A.	
	550.0	8.0	8.0	8.0	8.0	10.0	N.A.	
-10.0	350.0	6.0	5.5	8.0	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	5.5	5.5	8.0	
	550.0	6.0	5.5	8.0	8.0	5.5	8.0	
-30.0	350.0	6.0	5.5	8.0	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	5.5	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	5.5	8.0	
-45.0	350.0	6.0	5.5	8.0	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	5.5	5.5	8.0	
	500.0	6.0	5.5	8.0	5.5	5.5	8.0	
	550.0	6.0	5.5	8.0	5.5	5.5	8.0	
-60.0	350.0	6.0	5.5	8.0	8.0	8.0	8.0	
	400.0	6.0	5.5	8.0	8.0	8.0	8.0	
	450.0	6.0	5.5	8.0	8.0	8.0	8.0	
	500.0	6.0	5.5	8.0	8.0	8.0	8.0	
	550.0	6.0	5.5	8.0	5.5	5.5	8.0	

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C F-4 BOMB MK 81/ SNAKEYE I/ UNRET EJ VEL 7.2 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 10000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C F-4 BOMB MK 81/ SNAKEYE I/ UNRET EJ VEL 7.2 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 15000 FT

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB MK 81/SNI/UNRETARDED				
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 7.2 FT/SEC			
			MINIMUM ARMING TIME / FUZE COMBINATIONS			
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	4.5
-30.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	4.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	4.5
-45.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	4.5	5.5	8.0
	450.0	6.0	5.5	4.5	5.5	8.0
	500.0	4.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0
-60.0	350.0	6.0	5.5	8.0	5.5	8.0
	400.0	6.0	5.5	8.0	5.5	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	4.5	5.5	8.0
	550.0	4.0	5.5	4.5	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB MK 82 / SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	REL ALT 10000 FT				
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB MK 82 / SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	REL ALT 15000 FT				
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB MK 82/SNI/UNRETARDED					
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 5.6 FT/SEC				
			MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		4.0	5.5	4.5	5.5	8.0
	550.0		4.0	5.5	4.5	5.5	4.5
-30.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	4.5	5.5	8.0
	550.0		4.0	5.5	4.5	5.5	8.0
-45.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

SINGLE RELEASE

A/C F-4		BOMB M117A1 (H-6 LOADED)/M131 FIN		EJ VEL 4.2 FT/SEC		
TARGET REL	ALTITUDE REL	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
 PH/EB# 0.10000

SINGLE RELEASE

BOMR M117A1 (M-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C F-4 TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-30.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	350.0		6.0	5.5	8.0	5.5	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0



APPENDIX K

SAFE ARMING TIMES  
F-4 AIRCRAFT  
ONE SECOND STICK RELEASES

CONTENTS

MK 81 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	K 2
LEVEL RELEASE AT 15,000 FT MSL .....	K 2
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 3
MK 82 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	K 4
LEVEL RELEASE AT 15,000 FT MSL .....	K 4
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 5
MK 83 GPLD	
LEVEL RELEASE AT 10,000 FT MSL .....	K 6
LEVEL RELEASE AT 15,000 FT MSL .....	K 6
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 7
MK 84 GPLD ( EST )	
LEVEL RELEASE AT 10,000 FT MSL .....	K 8
LEVEL RELEASE AT 15,000 FT MSL .....	K 8
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 9
MK 81 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	K 10
LEVEL RELEASE AT 15,000 FT MSL .....	K 10
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 11
MK 82 / SNAKEYE I / UNRETARDED	
LEVEL RELEASE AT 10,000 FT MSL .....	K 12
LEVEL RELEASE AT 15,000 FT MSL .....	K 12
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 13
M117A1 ( H-6 LOADED ) / M131 FIN	
LEVEL RELEASE AT 10,000 FT MSL .....	K 14
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0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....	K 15

NOTE- ALL DIVES ARE 4G RECOVERIES

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
 PH/EB\* 0.10000

ONE SECOND STICK

A/C F-4

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

REL ALT 10000 FT

TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0		8.0	8.0	8.0	10.0 N.A.
	400.0		8.0	8.0	8.0	10.0 N.A.
	450.0		8.0	8.0	8.0	10.0 N.A.
	500.0		6.0	8.0	8.0	8.0 8.0
	550.0		6.0	5.5	8.0	8.0 8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
 PH/EB\* 0.10000

ONE SECOND STICK

A/C F-4

BOMB MK 81 GPLD

EJ VEL 7.2 FT/SEC

REL ALT 15000 FT

TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS			
			M904E2	M990E	M990D	VT/M990E VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0 N.A.
	400.0		8.0	8.0	N.A.	10.0 N.A.
	450.0		8.0	8.0	8.0	10.0 N.A.
	500.0		8.0	8.0	8.0	10.0 N.A.
	550.0		6.0	8.0	8.0	10.0 N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010

PH/EB\* 0.10000

ONE SECOND STICK

A/C F-4

BOMB MK 81 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 7.2 FT/SEC

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG VEL  
(DEG) (KTAS)

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

REL ALT 10000 FT

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

BOMB MK 82 GPLD

EJ VEL 6.0 FT/SEC

REL ALT 15000 FT

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C F-4

BOMB MK 82 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 6.0 FT/SEC

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	3.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

REL ALT 10000 FT

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

BOMB MK 83 GPLD

EJ VEL 4.8 FT/SEC

REL ALT 15000 FT

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	10.0	10.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 83 GPLD				
TARGET	ALTITUDE SEA LEVEL	EJ VEL 4.8 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C F-4  
BOMB MK 84 GPLD (EST)  
EJ VEL 4.8 FT/SEC  
REL ALT 10000 FT

TARGET ALTITUDE SEA LEVEL  
REL VEL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	10.0	10.0	N.A.	N.A.	N.A.
500.0	10.0	10.0	N.A.	10.0	N.A.
550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C F-4  
BOMB MK 84 GPLD (EST)  
EJ VEL 4.8 FT/SEC  
REL ALT 15000 FT

TARGET ALTITUDE SEA LEVEL  
REL VEL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.					
350.0	10.0	10.0	N.A.	N.A.	N.A.
400.0	10.0	10.0	N.A.	N.A.	N.A.
450.0	10.0	10.0	N.A.	N.A.	N.A.
500.0	10.0	10.0	N.A.	N.A.	N.A.
550.0	10.0	10.0	N.A.	10.0	N.A.



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 84 GPLD (EST)				
TARGET	ALTITUDE SEA LEVEL	EJ VEL 4.8 FT/SEC				
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
(DEG)	(KTAS)					
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				REL ALT 10000 FT
ANG (DEG)	VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				REL ALT 15000 FT
ANG (DEG)	VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 81/SNI/UNRETARDED					
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	EJ VEL 7,2 FT/SEC				
			MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		6.0	8.0	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0
-10.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	5.5	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		4.0	5.5	8.0	5.5	8.0
-30.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	5.5	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-45.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	5.5	8.0
	550.0		6.0	5.5	8.0	5.5	8.0
-60.0	350.0		6.0	5.5	8.0	8.0	8.0
	400.0		6.0	5.5	8.0	8.0	8.0
	450.0		6.0	5.5	8.0	8.0	8.0
	500.0		6.0	5.5	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 82 / SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

ONE SECOND STICK

A/C F-4		BOMB MK 82 / SNAKEYE I / UNRET			EJ VEL 5.6 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

A/C F-4

BOMB MK 82/SNI/UNRETARDED

TARGET ALTITUDE SEA LEVEL

EJ VEL 5.6 FT/SEC

REL REL MINIMUM ARMING TIME / FUZE COMBINATIONS

ANG VEL

(DEG)

(KTAS)

M904E2

M990F

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL ALTITUDE (KTAS)	M904E2	M990F	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
+10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	5.5	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-45.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	5.5	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-60.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C F-4	BOMB M117A1 (H-6 LOADED)/M131 FIN	EJ VEL 4.2 FT/SEC				
TARGET ALTITUDE SEA LEVEL	RELEASE ALTITUDE 10,000 FT	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

ONE SECOND STICK

A/C F-4	BOMB M117A1 (H-6 LOADED)/M131 FIN	EJ VEL 4.2 FT/SEC				
TARGET ALTITUDE SEA LEVEL	RELEASE ALTITUDE 15,000 FT	MINIMUM ARMING TIME / FUZE COMBINATIONS				
REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

ONE SECOND STICK

BOMB M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

A/C F-4

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
	-10.0	350.0	6.0	8.0	8.0	8.0
400.0		6.0	5.5	8.0	8.0	8.0
450.0		6.0	5.5	8.0	8.0	8.0
500.0		6.0	5.5	8.0	8.0	8.0
550.0		6.0	5.5	8.0	5.5	8.0
-30.0		350.0	6.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
	-45.0	350.0	6.0	8.0	8.0	8.0
400.0		6.0	5.5	8.0	8.0	8.0
450.0		6.0	5.5	8.0	8.0	8.0
500.0		6.0	5.5	8.0	8.0	8.0
550.0		6.0	5.5	8.0	8.0	8.0
-60.0		350.0	6.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

APPENDIX L

SAFE ARMING TIMES  
F-4 AIRCRAFT  
TWO SECOND STICK RELEASES

CONTENTS

MK 81 GPLD  
LEVEL RELEASE AT 10,000 FT MSL .....L  
LEVEL RELEASE AT 15,000 FT MSL.....L  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L

MK 82 GPLD  
LEVEL RELEASE AT 10,000 FT MSL .....L  
LEVEL RELEASE AT 15,000 FT MSL.....L  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L

MK 83 GPLD  
LEVEL RELEASE AT 10,000 FT MSL .....L  
LEVEL RELEASE AT 15,000 FT MSL.....L  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L

MK 84 GPLD ( EST )  
LEVEL RELEASE AT 10,000 FT MSL .....L  
LEVEL RELEASE AT 15,000 FT MSL.....L  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L

MK 81 / SNAKEYE I / UNRETARDED  
LEVEL RELEASE AT 10,000 FT MSL .....L 1  
LEVEL RELEASE AT 15,000 FT MSL .....L 1  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L 1

MK 82 / SNAKEYE I / UNRETARDED  
LEVEL RELEASE AT 10,000 FT MSL .....L 1  
LEVEL RELEASE AT 15,000 FT MSL.....L 1  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L 1

M117A1 ( M-6 LOADED ) / M131 FIN  
LEVEL RELEASE AT 10,000 FT MSL .....L 1  
LEVEL RELEASE AT 15,000 FT MSL .....L 1  
0-60 DEGREE RELEASES WITH RECOVERY AT 3,000 FT MSL .....L 1

NOTE- ALL DIVES ARE 4G RECOVERIES



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	8.0	10.0	N.A.
	400.0		8.0	8.0	8.0	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 81 GPLD			EJ VEL 7.2 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	8.0	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C F-4

BOMB MK 81 GPLD  
EJ VEL 7.2 FT/SEC

TARGET ALTITUDE SEA LEVEL

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 82 GPLD			EJ VEL 6.0 FT/SEC		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/FB= 0.10000

TWO SECOND STICK

A/C F-4

BOMR MK 82 GPLD

TARGET ALTITUDE SEA LEVEL

EJ VEL 6.0 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-45.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C F-4		TWO SECOND STICK			EJ VEL 4.8 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	BOMB MK 83 GPLD			REL ALT 10000 FT
MINIMUM ARMING TIME / FUZE COMBINATIONS						
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

A/C F-4		TWO SECOND STICK			EJ VEL 4.8 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	BOMB MK 83 GPLD			REL ALT 15000 FT
MINIMUM ARMING TIME / FUZE COMBINATIONS						
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	N.A.	N.A.
	450.0	10.0	10.0	N.A.	N.A.	N.A.
	500.0	10.0	10.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C F-4

BOMB MK 83 GPLD  
EJ VEL 4.8 FT/SEC

TARGET REL ANG (DEG)	ALTITUDE REL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		8.0	8.0	N.A.	10.0	N.A.
	400.0		8.0	8.0	N.A.	10.0	N.A.
	450.0		8.0	8.0	N.A.	10.0	N.A.
	500.0		8.0	8.0	8.0	10.0	N.A.
	550.0		8.0	8.0	8.0	8.0	8.0
-10.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		6.0	8.0	8.0	8.0	8.0
	500.0		6.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0
-30.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		6.0	8.0	8.0	8.0	8.0
-45.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0
-60.0	350.0		8.0	8.0	8.0	8.0	8.0
	400.0		8.0	8.0	8.0	8.0	8.0
	450.0		8.0	8.0	8.0	8.0	8.0
	500.0		8.0	8.0	8.0	8.0	8.0
	550.0		8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

A/C F-4		TWO SECOND STICK BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC REL ALT 10000 FT		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	10.0	N.A.
	550.0		8.0	8.0	N.A.	10.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

A/C F-4		TWO SECOND STICK BOMB MK 84 GPLD (EST)			EJ VEL 4.8 FT/SEC REL ALT 15000 FT		
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
			M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0		10.0	10.0	N.A.	N.A.	N.A.
	400.0		10.0	10.0	N.A.	N.A.	N.A.
	450.0		10.0	10.0	N.A.	N.A.	N.A.
	500.0		10.0	10.0	N.A.	N.A.	N.A.
	550.0		10.0	10.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010

PH/EB= 0.10000

TWO SECOND STICK

A/C F-4

BOMB MK 84 GPLD (EST)

TARGET ALTITUDE SEA LEVEL

EJ VEL 4.8 FT/SEC

REL REL  
ANG VEL  
(DEG) (KTAS)

MINIMUM ARMING TIME / FUZE COMBINATIONS

M904E2

M990E

M990D

VT/M990E

VT/M990D

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	10.0	N.A.
-10.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-30.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-45.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0



NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	REL ALT 10000 FT				
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 81/ SNAKEYE I/ UNRET			EJ VEL 7.2 FT/SEC	
REL	REL	MINIMUM ARMING TIME / FUZE COMBINATIONS				
ANG	VEL	REL ALT 15000 FT				
(DEG)	(KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010

PH/EB = 0.10000

TWO SECOND STICK

A/C F-4

BOMB MK 81/SNI/UNRETARDED

TARGET ALTITUDE SEA LEVEL

EJ VEL 7.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

REL ANG (DEG)	REL VEL (KTAS)	M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	5.5	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	5.5	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4 BOMB MK 82 / SNAKEYE I / UNRET EJ VEL 5.6 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 10000 FT  
 REL REL  
 ANG VEL  
 (DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	10.0	N.A.
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4 BOMB MK 82 / SNAKEYE I / UNRET EJ VEL 5.6 FT/SEC  
 TARGET ALTITUDE SEA LEVEL REL ALT 15000 FT  
 REL REL  
 ANG VEL  
 (DEG) (KTAS) MINIMUM ARMING TIME / FUZE COMBINATIONS

		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.						
	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	8.0	10.0	N.A.
	550.0	6.0	8.0	8.0	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH \* 0.00010  
 PH/EB\* 0.10000

TWO SECOND STICK

A/C F-4		BOMB MK 82/SNI/UNRETARDED				
TARGET REL	ALTITUDE REL	SEA LEVEL	EJ VEL 5.6 FT/SEC			
ANG (DEG)	VEL (KTAS)	MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	8.0	8.0	8.0	10.0	N.A.
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-10.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	5.5	8.0	8.0	8.0
	450.0	6.0	5.5	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-30.0	350.0	6.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	5.5	8.0	8.0	8.0
	550.0	6.0	5.5	8.0	8.0	8.0
-45.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/EB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 10,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	8.0	8.0	N.A.

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
PH/FB = 0.10000

TWO SECOND STICK

A/C F-4		BOMB M117A1 (H-6 LOADED)/M131 FIN			EJ VEL 4.2 FT/SEC	
TARGET REL ANG (DEG)	ALTITUDE REL VEL (KTAS)	SEA LEVEL	RELEASE ALTITUDE 15,000 FT			
		MINIMUM ARMING TIME / FUZE COMBINATIONS				
		M904E2	M990E	M990D	VT/M990E	VT/M990D
0.	350.0	10.0	10.0	N.A.	N.A.	N.A.
	400.0	10.0	10.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	N.A.	10.0	N.A.
	500.0	8.0	8.0	N.A.	10.0	N.A.
	550.0	8.0	8.0	N.A.	10.0	N.A.

NOLTR 69-135

MINIMUM ACCEPTABLE ARMING TIMES

PH = 0.00010  
 PH/EB = 0.10000

TWO SECOND STICK

BOMB M117A1 (H-6 LOADED)/M131 FIN

EJ VEL 4.2 FT/SEC

MINIMUM ARMING TIME / FUZE COMBINATIONS

A/C F-4	TARGET ALTITUDE SEA LEVEL	REL ALTITUDE SEA LEVEL	M904E2	M990E	M990D	VT/M990E	VT/M990D
REL ANG (DEG)	REL VEL (KTAS)						
0.	350.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	400.0	8.0	8.0	8.0	N.A.	10.0	N.A.
	450.0	8.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0	8.0
-10.0	350.0	8.0	8.0	8.0	8.0	8.0	8.0
	400.0	6.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	5.5	8.0	8.0	8.0
-30.0	350.0	8.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0	8.0
	450.0	6.0	8.0	8.0	8.0	8.0	8.0
	500.0	6.0	8.0	8.0	8.0	8.0	8.0
	550.0	6.0	8.0	8.0	8.0	8.0	8.0
-45.0	350.0	8.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0	8.0
-60.0	350.0	8.0	8.0	8.0	8.0	8.0	8.0
	400.0	8.0	8.0	8.0	8.0	8.0	8.0
	450.0	8.0	8.0	8.0	8.0	8.0	8.0
	500.0	8.0	8.0	8.0	8.0	8.0	8.0
	550.0	8.0	8.0	8.0	8.0	8.0	8.0

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<p>This report presents results of a study conducted to determine the arming time that should be recommended for each combination of aircraft type, release condition, bomb type, and post-release maneuver, as well as discussion of the methods used to arrive at the recommended arming times. The aircraft types considered were A-4, A-6, A-7, and F-4. The release conditions considered were level attitude with no post-release maneuver, the dives followed by application of a 4G recovery force within two seconds after release of the last bomb. The tabulations presented do not replace the tactical manual recommendations, but rather present supplementary information for those interested</p>			

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