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NO

HQ USAF KIRTLAND AFB NM//SE//

ALSAFECOM

HQ AAC EGLIN AFB FL//WM/WMM//

377ABW KIRTLAND AFB NM//SE//

150FW KIRTLAND AFB NM//SE//

HQ AFOTEC KIRTLAND AFB NM//SE//

58SOW KIRTLAND AFB NM//SE//

PL KIRTLAND AFB NM//SE//

INFO HQ USAF WASHINGTON DC//SEI//

HQ AFSFC LACKLAND AFB TX//SF//

COMNAVSAFECEN NORFOLK VA//CODE 40//

CDRUSASC FORT RUCKER AL//CSSC-Z//

CMC WASHINGTON DC//SD//

COMDT COGARD WASHINGTON DC//G-KSE//

UNCLAS

ALSAFECOM/04/1999: EXPLOSIVES SAFETY MISHAP POTENTIAL: MHU-83

OVERSTRESSED WITH GBU-28 DURING AIRCRAFT LOADING ACTIVITIES

REF: A. 3 WG/SEF MSG R220735Z OCT 99, SUBJ: MHU-83/GBU-28, HAP,
EXPLOSIVE, NA, PRELIMINARY/FINAL REPORT, 19991018, FXSB, 601H

B. 3 WG/SEG MSG R021958Z APR 98, SUBJ: CLASS H, GROUND, EXPLOSIVES,

LT COL HOGAN
SEWO, 6-1396

FRANCIS C. GIDEON, JR, MGEN, USAF
CRC: 24993

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INDUSTRIAL, FINAL REPORT, 98/03/12, FXSB, 201H

C. AAC/WMM LTR TO USAF SAFETY CENTER, DATED 23 OCT 99, SUBJ: MHU-83
LIFT TRUCK ROLL CYLINDERS

1. BASED ON THE DATA PROVIDED BY TWO (2) MISHAPS RECEIVED FROM
ELMENDORF AFB AK WITH SIMILAR RESULTS WHEN USING THE MHU-83C/E TO
SUPPORT GBU-28 AIRCRAFT LOADING AND INFORMATION FROM THE MMHE FOCAL
POINT, AFSC ADVISES:

A. THE NOMINAL WEIGHT OF THE GBU-28 IS 4,576 POUNDS PLUS/MINUS FIVE
PERCENT ACCORDING TO THE 1999 EDITION OF THE WEAPONS FILE (LIVE
ORDNANCE). THE WEIGHT CAPACITY OF THE MHU-83C/E WITH THE FORK
ASSEMBLY ADAPTER INSTALLED IS 6,000 POUNDS. WHILE THE GBU-28
WEIGHT, EVEN AT THE HIGHEST TOLERANCE WEIGHT, APPEARS WELL WITHIN
THE WEIGHT CAPACITY OF THE MHU-83C/E, THE CONCERN IS THAT THESE
FACTORS ARE "STATIC" LOAD FACTORS AND DO NOT ACCOUNT FOR DYNAMIC
LOADING.

B. DYNAMIC LOADS MAY BE EXCEEDING THE CAPACITY OF THE REAR ROLL
CYLINDERS. DUE TO THE VARIABLES INVOLVED AND THE LACK OF AVAILABLE
DATA, IT IS NOT PRACTICAL FOR AFSC TO SPECIFICALLY IDENTIFY WHICH
DYNAMIC LOADS CREATED BY THE GBU-28 ACTING ON THE MHU-83 CAUSES
CATASTROPHIC FAILURES OF THE LIFT CYLINDERS. CERTAIN EQUIPMENT

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DESIGNS REQUIRE SAFETY MARGINS AS HIGH AS FOUR TO FIVE TIMES THE EXPECTED DYNAMIC LOADING AND, THEREFORE, IT SEEMS REASONABLE THAT THE DYNAMIC LOADS ARE SUSPECT AS CAUSES FOR FAILURE.

C. ADDITIONALLY, CLIMATIC FACTORS, SUCH AS LONG TERM COLD AND/OR EXTREMELY COLD TEMPERATURES, MAY HASTEN FAILURE. WHILE WE VIEW CYLINDER ROD MATERIALS AS A NON-CONTRIBUTOR TO FAILURE (BASED ON THE ABSENCE OF MHU-83 FAILURES OF THIS TYPE IN OUR DATABASE FOR ANY OTHER WEAPONS), FINAL ELIMINATION OF THIS AREA IS RESERVED UNTIL CONCLUSIVE DATA BECOMES AVAILABLE.

2. RECOMMENDATIONS:

A. FOR ALL GBU-28/F-15/E TASKED MAJCOM/UNITS: INCORPORATE A MSG CAUTION INTO TECHNICAL ORDERS TO USE EXTREME CAUTION WHILE LOADING, DOWNLOADING, AND MOVING GBU-28 ON THE MHU-83 WITH FORK ASSEMBLY ADAPTER. MINIMIZE ALL DYNAMIC LOADS AS PRACTICAL BY STABILIZING THE GBU-28, REDUCING SPEED, LIMITING DISTANCE MOVED, MINIMIZING UPLOAD PRESSURE, ETC.

B. FOR AAC/WM AND AAC/WMM: REQUEST A STUDY BE INITIATED TO DEFINE THE DYNAMIC LOADING PARAMETERS ASSOCIATED WITH THE GBU-28 (AND OTHER BLU-113 CONFIGURATIONS) AND THE MHU-83 LIFT TRUCK. INCORPORATE INFORMATION INTO APPROPRIATE TECHNICAL DATA TO ELIMINATE OR MITIGATE

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NO

THE POTENTIAL FOR THIS MISHAP SCENARIO.

3. AFSC/SEW ASSESSES THE MISHAP POTENTIAL AS A MEDIUM RISK

(PROBABILITY EQUALS OCCASIONAL, SEVERITY EQUALS MODERATE). OUR POC

IS LT COL HOGAN, DSN 246-1396.

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