

TURRETS GUNS AND AMMUNITION ACTIVE
AIRBORNE WEAPONS CORRECTIVE ACTION PROGRAM

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NOTE: OPEN problems denoted by asterisk (*) following problem number.

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PROBLEM NO: 14976 CLOSED

END ITEM	NOMENCLATURE	PART/DOC. NO.	FSC	NIIN	NALC
:	GUN	11838579	1005	00-369-9015	
	GUN M197	11838579	1005	00-396-9015	
	DELINKING FEEDER M89E1	12007300	1005	00-348-9607	
	GUN M197	12011591	1005	01-059-5784	

EI CNTRL NO:

PROB BRIEF : M89E1 FEEDER JAMMED

PROBLEM : M89E1 feeder jammed.
DESCRIPTION

PREVENTIVE : Inspect feeder to assure the stripper and T-bar are not bent or
ACTION excessively worn to assure proper operation.

CORRECTIVE : Jam cleared, weapon returned to service.
ACTION

OCCURRENCES:	SOURCE	TYPE	DOCUMENT NO.	DATE	DR STATUS
	HMLA-169	CODR	M09202-01-0006	31AUG01	CLOSED
	HMLA-169	CODR	M09202-01-0007	31AUG01	CLOSED
	HMLA-169	CODR	M09202-01-0008	31AUG01	CLOSED
	HMLA-169	CODR	M09202-01-0009	31AUG01	CLOSED
	MALS-39	PQDR I	M09808-96-0035	21JUN96	CLOSED *
	MALS-36	CODR/EIR	M09136-93-0035	22AUG93	CLOSED *
	HMLA-167	CODR	M09898-93-0002	09FEB93	CLOSED *
	HMLA-167	CODR	M09898-93-0003	07FEB93	CLOSED *
	HMLA-167	CODR	M09898-93-0004	07FEB93	CLOSED *
	HMLA-167	CODR	M09898-93-0005	07FEB93	CLOSED *
	MAWTS-1	EMR/EIR	M55167-92-0017	28MAR92	CLOSED *
	MAWTS-1	EMR/EIR	M55167-92-0015	26MAR92	CLOSED *
	HMLA-169	EMR	M09202-92-0079	02MAR92	CLOSED *
	HMLA-169	EMR	M09202-92-0058	13FEB92	CLOSED *

* ACTION REPORTED IN PREVIOUS PUBLICATION

ACTION : HMLA-169 CODR M09202-01-0006 31AUG01 CLOSED

END ITEM	PART/DOC. NO.	FSC	NIIN	NALC
:	12007300	1005	00-348-9607	
	NOMEN: DELINKING FEEDER M89E1			
	S/N: NONE			
FAILED PART:	12007300	1005	00-348-9607	
	NOMEN: DELINKING FEEDER M89E1			

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PROBLEM NO: 14976

(Continued)

DESCRIPTION:

Pilot reported feeder jammed after firing 21 rounds of A665. After clearing gun, two rounds were found jammed in the feeder mechanism. One jammed round had been crushed and one round was impaled on the feeder mechanism and the projectile had been torn loose. The feeder was removed from the aircraft and rounds were removed. Post flight inspection revealed no indication as to cause of jam. No ammo can jam.

ACTION TAKEN:

NAWC PT. MUGU 070129ZSEP01: Request MAL5 -36 repair the feeder and return it to service. This problem will be monitored for further occurrence. This is closing action.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE STATUS
SUMMARY		NAWC PT MUGU/311000E	MONITOR	COMPLETE 07SEP01

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
		HMLA-169 MESSAGE 310700ZAUG01	PROBLEM REPORT
		NAWC PT MUGU/311000E MESSAGE	REPLY/CLOSING
		070129ZSEP01	

ACTION	:	HMLA-169	CDR	M09202-01-0007	31AUG01 CLOSED
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		PART/DOC. NO.	FSC	NIIN	NALC
END ITEM	:	12007300	1005	00-348-9607	
		NOMEN: DELINKING FEEDER M89E1			
		S/N: NONE			
FAILED PART:		12007300	1005	00-348-9607	
		NOMEN: DELINKING FEEDER M89E1			

DESCRIPTION:

Pilot reported feeder jammed after firing 249 rounds of A665. After clearing gun, two rounds were found jammed in the feeder mechanism. One of the jammed rounds had been crushed and the projectile torn loose. The feeder was removed from the aircraft and rounds were removed. Post flight inspection revealed no indication as to cause of jam. No ammo can jam. This is the second gun jam with A665 ammo in seven days.

ACTION TAKEN:

NAWC PT. MUGU 070129ZSEP01: Request MAL5 -36 repair the feeder and return it to service. This problem will be monitored for further occurrence. This is closing action.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE STATUS
SUMMARY		NAWC PT MUGU/311000E	MONITOR	COMPLETE 07SEP01

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PROBLEM NO: 14976

(Continued)

Three rounds were damaged. The feeder was removed from the aircraft and rounds were removed. Post flight inspection revealed no indication as to cause of jam. No ammo can jam. This is the fourth gun jam with A665 ammo in eleven days. Feeder turned in to MALS 36 awaiting disposition.

ACTION TAKEN:

NAWC PT. MUGU 070129ZSEP01: Request MALS -36 repair the feeder and return it to service. This problem will be monitored for further occurrence. This is closing action.

ACTION	:	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
SUMMARY		NAWC PT MUGU/311000E	MONITOR		COMPLETE 07SEP01

REFERENCES	:	IDENTIFICATION	REFERENCE BRIEF
		HMLA-169 MESSAGE 311300ZAUG01	PROBLEM REPORT
		NAWC PT MUGU/311000E MESSAGE	REPLY/CLOSING
		070129ZSEP01	

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PROBLEM NO: 16888 OPEN

EI CNTRL NO: 01-0005

PROB BRIEF : M89E1 FEEDER HOUSING CRACKED

PROBLEM : M89E1 gun feeder housing discovered cracked.
DESCRIPTION

PREVENTIVE : No preventive action has been determined.
ACTION

CORRECTIVE : No corrective action has been determined.
ACTION

OCCURRENCES:	SOURCE	TYPE	DOCUMENT NO.	DATE	DR STATUS
	MALS-26	CODR/EIR	M09167-01-0002	22JAN01	OPEN **
	HMLA-167	CODR/EIR	M09898-00-0097	05DEC00	CLOSED
	MALS-26	CODR/EIR	M09167-00-0000	20OCT00	CLOSED

** ACTION NOT AVAILABLE - AWAITING ADDITIONAL DATA

ACTION : HMLA-167 CODR/EIR M09898-00-0097 05DEC00 CLOSED

END ITEM :	PART/DOC. NO.	FSC	NIIN	NALC
	S/N: N/A			
FAILED PART:	11838572	1005	00-369-5474	
	NOMEN: HOUSING			

DESCRIPTION:

Rounds observed in feeder and feed chute, no gun jam present.
Further inspection revealed broken mounting pin bracket.

ACTION TAKEN:

NAWC PT. MUGU 180129ZDEC00: Request NAWC China Lake take for action and supply shipping instructions for exhibit. Upon completion of investigation report findings to all concerned.
NAWC CHINA LAKE 0302229ZJAN01: Shipping instructions to HMLA-167.
NAWC PT. MUGU 180229ZJUL01: Reported the feeder exhibit was received with the forward lower mount post broken off, with the steel insert still attached to the aluminum casting part. The casting broken approximately at the center line of the steel insert. The steel insert was loose in the cast part. The steel insert was also loose in the forward mounting lug. The feeder housing was evaluated by the metallurgical laboratory, Penetrant examination disclosed an additional five linear cracks. Radiographic examination indicated the casting was in accordance with applicable drawing requirements. They met the drawing requirements for tensile strength and hardness. The casting micro structure is typical of the cast material but

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PROBLEM NO: 16888

(Continued)

shows some porosity, shrinkage and gas holes, but not unusual for the grade of casting required. The most probable cause of the failure is Fatigue. The Fatigue was exacerbated by some porosity, and casting shrinkage around the cast in-steel insert. It is thought that the original casting condition, for this particular item, were not optimal for the proper bonding of the cast aluminum to the stainless steel insert. The mounting lug failure did not result in loss of use of the gun, but if it had gone undetected, the feeder would eventually have failed catastrophically and resulted in major damage and loss of gun use. Recommend feeder serial number 1630 be returned to unit and BCM to depot level. Request ship feeder via traceable means to HMLA-167 for final disposition. Problem will be monitored for further occurrences. This is closing action.

ACTION :	ACTIVITY/CODE	ASSIGNMENT	DUE DATE STATUS
SUMMARY	NAWC CHINA LAKE/478100D	INVESTIGATE	COMPLETE 18JUL01

REFERENCES :	IDENTIFICATION	REFERENCE BRIEF
	HMLA-167 MESSAGE 051200ZDEC00	PROBLEM REPORT
	NAWC PT MUGU/311000E MESSAGE 180129ZDEC00	INTERIM RESPONSE
	NAWC CHINA LAKE MESSAGE 030229ZJAN01	SHIPPING INSTRUCTIONS
	NAWC PT MUGU/311000E MESSAGE 180229ZJUL01	REPLY/CLOSING
	NAWC CHINA LAKE/478100D MESSAGE 210029ZAUG01	ADDITIONAL INFORMATION

ACTION :	MALS-26	CODR/EIR M09167-00-0000	20OCT00 CLOSED
	END ITEM :	PART/DOC. NO.	FSC NIIN NALC
		S/N: 1672	
		LOT: N/A	
	FAILED PART:	12007300	1005 00-348-9607
		NOMEN: DELINKING FEEDER M89E1	

DESCRIPTION:
MALS-26 Reported during 56 day inspection, feeder housing serial number 1672 was found to have cracks located on the forward housing assembly.

ACTION TAKEN:
NAWC PT. MUGU 050029ZDEC00: Request NAWC China Lake take for action. Provide MALS-26 with shipping instructions. Upon completion of investigation provide results to all concerned.
NAWC PT. MUGU: 220129ZMAY01: Six Feeders (M89E1) were received. All

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(Continued)

Feeders were taken down to the forward housing, with threaded inserts. The Housings were then inspected at the NDI Lab for cracks using a dye penetrant method. All of the cracks originally found during a scheduled inspection. None of the Housings had failed or caused gun jams during firings. Extensive cracks were found in most of the feeders in up to five different locations. No correlation was found between the number of rounds and the length/number of cracks. The forward housing carries the forward mounting lugs for the feeder. The feeder is subjected to the gun firing recoil and counter-recoil forces, as well as other dynamic loads associated with stripping the rounds from the links and placing the cartridges into the gun rotor. The loads are cyclic and the cracks are evidence of the fatigue loading. The cracks occurs because of insufficient material to carry the imposed loads and due to stress riser, caused by casting inclusion and/or small corner radii, resulting in stress concentration points. The number of forward housings exhibiting cracks indicate the present design is not adequate to carry the imposed vibratory loads. There are no markings on the housings to identify the original manufacture, so there is no way to determine if the problem is isolated to a particular lot of castings or is endemic over the entire population. Engineers recommend that cracks in the forward feeder housing be acceptable for continued uses. Any number of cracks is acceptable for the forward feeder housing, as long as one crack does not exceed 0.5" in length. Cracks originating in any bolt holes will be cause for rejection. Cracks with in 1.0" of the end of the feeder forward mount pin bosses will be cause for rejection. Any looseness of the mounting pin hole steel insert will be cause for rejection. This inspection/rejection criteria will be incorporated into the next revision of the NA-11-95M89-1 technical manual. The exhibits will be returned to MALS-26 with the following recommended. disposition for each:

- S/N 919 return to service, using forward housing as is.
- S/N 1267 return to service by replacing forward housing.
- S/N 1573 return to service by replacing forward housing.
- S/N 1661 return to service by replacing forward housing.
- S/N 1672 return to service, using forward housing as is.
- S/N 1745 no forward housing, BCM unit to Depot.

Problem will be monitored for further occurrences. This is closing action.

ACTION :	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
SUMMARY	NAWC PT MUGU/311000E	INVESTIGATE		COMPLETE 22MAR01

REFERENCES :	IDENTIFICATION	REFERENCE BRIEF
	MALS-26 MESSAGE 201342ZOCT00	PROBLEM REPORT
	NAWC PT MUGU/311000E MESSAGE 050029ZDEC00	INTERIM RESPONSE
	NAWC PT MUGU/311000E MESSAGE 220129ZMAY01	REPLY/CLOSING

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PROBLEM NO: 16901 CLOSURE STATUS: CLOSED

EI CNTRL NO:

PROB BRIEF : BROKEN WELDS IN THE NON-FIRING TRACK WELL

PROBLEM : The non-firing track well discovered to have broken welds.
DESCRIPTION

PREVENTIVE : No preventive action has been determined.
ACTION

CORRECTIVE : No corrective action has been determined.
ACTION

	SOURCE	TYPE	DOCUMENT NO.	DATE	DR STATUS
OCCURRENCES:	MALS-29	CODR	M52841-00-0048	15DEC00	CLOSED
ACTION :	MALS-29	CODR	M52841-00-0048	15DEC00	CLOSED

	PART/DOC. NO.	FSC	NIIN	NALC
END ITEM :	S/N: 0055			
FAILED PART:	11838579	1005	00-369-9015	
	NOMEN: GUN			

DESCRIPTION:

Gun was turned into for schedule maintenance and was found to have broken welds in three non-firing track well.

ACTION TAKEN:

NAWC PT. MUGU 190029ZDEC00: Request MALS-29 requisition new part from supply and return gun system to service. Problem will be monitored for further occurrences. This is closing action.

ACTION	ACTIVITY/CODE	ASSIGNMENT	DUE DATE	STATUS
SUMMARY	NAWC PT MUGU/311000E	REVIEW DEFICINCY		COMPLETE 19DEC00

REFERENCES :	IDENTIFICATION	REFERENCE BRIEF
	MALS-29 MESSAGE 150801ZDEC00	PROBLEM REPORT
	NAWC PT MUGU/311000E MESSAGE	REPLY/CLOSING
	190029ZDEC00	