

**TECHNICAL MANUAL  
MAINTENANCE INSTRUCTIONS  
UNIT MAINTENANCE  
M1078 SERIES, 2 1/2-TON, 4 X 4,  
LIGHT MEDIUM TACTICAL VEHICLES (LMTV)  
VOLUME NO. 3 OF 5**

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MODEL	NSN	EIC
TRK, CAR., LMTV, M1078		
W/WN	2320-01-360-1898	BHH
W/O WN	2320-01-354-3385	BHD
TRK, VAN, LMTV, M1079		
W/WN	2320-01-360-1891	BHG
W/O WN	2320-01-354-3384	BHE
TRK, CHAS, LMTV, M1080	2320-01-353-9098	BHC
TRK, CAR., LMTV, AIR DROP, M1081		
W/WN	2320-01-360-1899	BHJ
W/O WN	2320-01-355-3064	BHF

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**HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE AIR FORCE**

JUNE 1998



**WARNING SUMMARY****WARNING****EXHAUST GASES CAN KILL**

1. **DO NOT** operate your vehicle engine in an enclosed area.
2. **DO NOT** idle vehicle engine with cab windows closed.
3. **DO NOT** drive vehicle with inspection plates or covers removed.
4. **BE ALERT** at all times for exhaust odors.
5. **BE ALERT** for exhaust poisoning symptoms, they are:
  - Headache
  - Dizziness
  - Sleepiness
  - Loss of Muscular Control
6. **IF YOU SEE** another person with exhaust poisoning symptoms:
  - Remove person from area.
  - Expose to open air.
  - Keep person warm.
  - Do not permit person to move.
  - Administer cardiopulmonary resuscitation, if necessary.\*

\* For cardiopulmonary resuscitation, refer to FM 21-11.

**WARNING**

**Remove rings, bracelets, watches, necklaces, and any other jewelry before working around vehicle. Jewelry can catch on equipment and cause injury or short across electrical circuit and cause severe burns or electrical shock. Batteries can explode from a spark. Battery acid is harmful to skin and eyes. Always wear eye protection and rubber gloves when working with batteries.**

**WARNING**

**Battery acid (electrolyte) is extremely harmful. Always wear safety goggles and rubber gloves, and do not smoke when performing maintenance on batteries. Injury will result if acid contacts skin or eyes. Wear rubber apron to prevent clothing being damaged.**

**WARNING SUMMARY (CONT)**

**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

**WARNING**

- Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent; the flashpoint for Type I Dry Cleaning Solvent is 100 degrees F (38 degrees C) and for Type II is 130 degrees F (50 degrees C). Failure to comply may result in serious injury or death to personnel.
- If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

**WARNING**

Diesel fuel is flammable. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

**WARNING**

After Nuclear, Biological, or Chemical (NBC) exposure of vehicle, all air filters shall be handled with extreme caution. Unprotected personnel may experience serious injury or death if residual toxic agents or radioactive material are present. If vehicle is exposed to chemical or biological agents, servicing personnel shall wear protective mask, hood, protective overgarments, and chemical protective gloves and boots in accordance with FM-3-4. All contaminated air filters shall be placed in double-lined plastic bags and moved swiftly to a segregation area away from the worksite. The same procedure applies for radioactive dust contamination. The Company NBC team should measure radiation prior to filter removal to determine extent of safety procedures required per the NBC Annex to the unit Standard Operating Procedures (SOP). The segregation area in which the contaminated air filters are temporarily stored shall be marked with appropriate NBC placards. Final disposal of contaminated air filters shall be in accordance with local SOP. Decontamination operation shall be in accordance with FM-3-5 and local SOP. Failure to comply may result in serious injury or death to personnel.

**WARNING**

Diesel fuel is flammable. Do not fill fuel tank with engine running, while smoking, or when near an open flame. Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

**WARNING**

Adhesive sealant MIL-S-46163 can damage your eyes. Wear safety goggles/glasses when using; avoid contact with eyes. If sealant contacts eyes, flush eyes with water and get immediate medical attention. Failure to comply may result in injury to personnel.

**WARNING**

Use care when removing/installing springs. Springs are under tension and can act as projectiles when being removed. Failure to comply can cause injury to personnel.

**WARNING**

Retaining rings are under tension and can act as projectiles when released causing severe eye injury. Use care when removing retaining rings. Failure to comply may result in injury to personnel.

**WARNING**

Ensure exhaust system is cool before performing maintenance. Failure to comply may result in injury to personnel.

**WARNING**

Wear appropriate eye protection when working under vehicle due to the possibility of falling debris. Failure to comply may result in injury to personnel.

**WARNING**

Do not operate LMTV vehicle with muffler removed. Toxic exhaust fumes may enter cab, resulting in serious injury or death to personnel.

**WARNING**

Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.

**WARNING SUMMARY (CONT)**

**WARNING**

Post signs that read "NO SMOKING WITHIN 50 FEET" when working with open fuel, fuel lines or fuel tanks. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Exhaust pipe, transmission oil lines, and transmission scavenge pump hose may be hot to the touch. Extreme care should be taken when checking exhaust pipe, transmission oil lines, and transmission scavenge pump hose for leaks. Failure to comply may result in injury to personnel.

**WARNING**

Compressed air used for cleaning purposes will not exceed 30 psi (207 Kpa). Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc). Failure to comply may result in injury to personnel.

**WARNING**

Wheel drum weighs approximately 90 lb (41 Kg). Use the aid of an assistant to help remove wheel drum. Failure to comply may result in injury to personnel.

**WARNING**

Wheel drum weighs approximately 90 lb (41 kg). Use the aid of an assistant to help install wheel drum. Failure to comply may result in injury to personnel.

**WARNING**

Brake shoes may be covered with dust. Breathing this dust may be harmful to your health. Do not use compressed air to clean brake shoes. Wear a filter mask approved for use against brake dust. Failure to comply may result in injury to personnel.

**WARNING**

Cage spring brake before air chamber is removed or severe injury to personnel will occur.

**WARNING**

Ensure air chamber is caged prior to installation. Failure to comply may result in injury to personnel.

**WARNING**

Ensure that tire is totally deflated before removing self-locking nuts. Failure to comply may result in serious injury or death to personnel.

**WARNING**

Spring brakes must be caged before attempting replacement of a rear axle wheel stud. Failure to comply may result in severe injury to personnel.

**WARNING**

Wear protective goggles to protect against possible injury from release of high pressure air. Failure to comply may result in injury to personnel.

**WARNING**

Prolonged contact with lubricating oil (MIL-L-2104) may cause a skin rash. Skin and clothing that come in contact with lubricating oil should be thoroughly washed immediately. Saturated clothing should be removed immediately. Areas in which lubricating oil is used should be well ventilated to keep fumes to a minimum. Failure to comply may result in injury to personnel.

**WARNING**

Hydraulic fluid (MIL-H-5606) is TOXIC. Wear protective goggles and gloves; use only in well ventilated area; avoid contact with skin, eyes, and clothes. Skin and clothing that come in contact with hydraulic oil should be washed immediately. Saturated clothing should be removed immediately. Failure to comply may result in injury to personnel.

**WARNING**

Wire rope can become frayed or contain broken wires. Wear heavy leather-palmed gloves when handling wire rope. Frayed or broken wires can injure hands. Failure to comply may result in injury to personnel.

**WARNING**

Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through gloves and cut hands.

**WARNING SUMMARY (CONT)**

**WARNING**

**Wear appropriate eye protection when removing rivets. Failure to comply may result in injury to personnel.**

**WARNING**

**Wear appropriate eye protection when drilling holes. Failure to comply may result in injury to personnel.**

**WARNING**

**Wear leather gloves at all times when handling winch cable. Do not allow cable to slide through hands even with gloves on. Broken wires may cause injury to personnel.**

**WARNING**

**Use extreme caution when working around moving cable. Failure to do so may result in serious injury to personnel.**

**WARNING**

**Caution must be exercised while cab is raised. Ensure that locking mechanism is functioning properly before proceeding. Failure to comply may result in death or serious injury to personnel and damage to equipment.**

**WARNING**

**Diesel fuel is flammable. Arctic heater components and fuel lines may contain small amounts of fuel. If fuel is spilled, clean up immediately. Failure to comply may result in serious injury or death to personnel.**

**WARNING**

**Coolant may be very hot and under pressure from engine operation. Ensure engine is cool before performing maintenance. Failure to comply may result in injury to personnel.**

**WARNING**

**Do not remove oil filter while engine is hot. Failure to comply may result in injury to personnel.**



**WARNING**

Sling spreader weighs approximately 200 lbs (91 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Remove all loose equipment from van body. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Van body weighs approximately 3,360 lbs (1525 kgs) empty. Attach a suitable lifting device prior to removal. Failure to comply may result in serious injury or death to personnel.

**WARNING**

Guide ropes must be attached at opposite corners of van body to aid in controlling van body during removal. Failure to comply may result in serious injury or death to personnel.

**WARNING**

Center of gravity will change depending on equipment installed in van body. Attach and adjust lifting device so that van body lifts level. Failure to comply may result in serious injury or death to personnel or damage to equipment.

**WARNING**

Pod frame weighs approximately 80 lbs (36 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Do not install pod frame on van body for 72 hours after installing blind rivet nuts and spacers. Failure to comply may result in injury to personnel and/or damage to equipment.

**WARNING**

Goggles and gloves must be worn when working with glass. Failure to comply may result in injury to personnel.

**WARNING SUMMARY (CONT)**

**WARNING**

RH door assembly weighs approximately 85 lbs (39 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

LH door assembly weighs approximately 85 lbs (39 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Wear appropriate eye protection when handling fluorescent lamps. Failure to comply may result in injury to personnel.

**WARNING**

- Heavy objects/loads, such as tool boxes and heavy parts, must always be carried on the floor with the weight distributed as equally as possible between left and right sides of M1079 van. Failure to comply decreases the stability of the M1079 van and will increase the likelihood of a rollover.
- Heavy cabinets must always be mounted as low as possible with the weight distributed as equally as possible between left and right sides of M1079 van. Remember to consider the weight of the items that will be stored in the cabinets. Failure to comply decreases the stability of the M1079 van and will increase the likelihood of a rollover.
- Always keep in mind, when placing items inside the M1079 van, that heavier items must always be positioned as low as possible and the weight distributed as equally as possible between left and right sides of M1079 van. Failure to comply decreases the stability of the M1079 van and will increase the likelihood of a rollover.

**WARNING**

Diesel fuel is flammable. Arctic heater components and fuel hoses may contain small amounts of fuel. If fuel is spilled, clean it up immediately. Failure to comply may result in serious injury or death to personnel.

**WARNING**

Extreme care must be taken when lowering gravel deflector. Coolant hoses could be pulled loose. Failure to comply could result in serious eye injury.

**WARNING**

- Do not open coolant fill cap if temperature reads above 110°F (43°C). Steam or hot coolant is under pressure. Failure to comply may result in injury to personnel.
- Pressure in reservoir tank must be released before removing cap. Failure to comply may result in injury to personnel.

**WARNING**

Heater weighs approximately 120 lbs (54 kgs). Use the aid of an assistant when lifting. Failure to comply may result in injury to personnel.

**WARNING**

200 amp alternator weighs approximately 70 lbs (32 kgs). The aid of an assistant is required to install 200 amp alternator. Failure to comply may result in injury to personnel.

**WARNING**

Light Material Handling Crane (LMHC) mast weighs approximately 110 lbs (50 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Light Material Handling Crane (LMHC) boom assembly weighs approximately 150 lbs (68 kgs). Use an assistant when removing LMHC boom assembly. Failure to comply may result in injury to personnel.

**WARNING SUMMARY (CONT)**

**WARNING**

Light Material Handling Crane (LMHC) boom weighs approximately 60 lbs (27 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

**WARNING**

Light Material Handling Crane (LMHC) weighs approximately 250 lbs (114 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel.

**WARNING**

Use care when removing/installing springs. Springs are under tension and can act as projectiles when released. Failure to comply may result in injury to personnel.

**WARNING**

Air conditioner weighs approximately 300 lbs (136 kg). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel.

**WARNING**

Ensure cargo bed is free of equipment and debris, and is not warped or damaged in any way. Failure to comply may result in serious injury or death to personnel or damage to equipment.

**WARNING**

S-280 shelter weighs approximately 1500 lbs (680 kgs) empty. Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel or damage to equipment.

CHANGE  
NO. 1

HEADQUARTERS  
DEPARTMENTS OF THE ARMY  
AND THE AIR FORCE

Washington, D.C., 1 July 2003

TECHNICAL MANUAL  
MAINTENANCE INSTRUCTIONS  
UNIT MAINTENANCE  
M1078 SERIES, 2 1/2-TON, 4x4,  
LIGHT MEDIUM TACTICAL VEHICLE  
(LMTV)

VOLUME NO. 3 OF 5

TM 9-2320-365-20-3, 15 September 1998, is changed as follows:

1. Remove old pages and insert new pages as indicated below.
2. New or changed material is indicated by a vertical bar in the out margin of the page.
3. Added or revised illustrations are indicated by a vertical bar adjacent to the illustration.

Remove Pages	Insert Pages	Remove Pages	Insert Pages
i and j	i and j	7-45 and 7-46	7-45 and 7-46
none	A thru D	7-51 and 7-52	7-51 and 7-52
i thru v/(vi blank)	i thru vi	7-55 and 7-56	7-55 and 7-56
4-1 and 4-2	4-1 and 4-2	7-65 thru 7-68	7-65 thru 7-68
4-5 and 4-6	4-5 and 4-6	7-75 and 7-76	7-75 and 7-76
4-9 and 4-10	4-9 and 4-10	7-79 and 7-80	7-79 and 7-80
none	4-10.1 and 4-10.2	7-87 thru 7-90	7-87 thru 7-90
4-11 thru 4-18	4-11 thru 4-18	7-103 and 7-104	7-103 and 7-104
4-41 thru 4-48	4-41 thru 4-48	7-119 and 7-120	7-119 and 7-120
4-59 and 4-60	4-59 and 4-60	7-143 thru 7-152	7-143 thru 7-152
4-63 and 4-64	4-63 and 64	7-159 and 7-160	7-159 and 7-160
4-69 and 4-70	4-69 and 4-70	none	7-160.1/(7-160.2 Blank)
4-81 thru 4-84	4-81 thru 4-84	7-161 thru 7-166	7-161 thru 7-166
5-1 and 5-2	5-1 and 5-2	7-169 thru 7-174	7-169 thru 7-174
5-7 thru 5-15/(5-16 Blank)	5-7 thru 5-15(5-16 Blank)	7-189 and 7-190	7-189 and 7-190
6-1 thru 6-4	6-1 thru 6-4	7-193 thru 7-200	7-193 thru 7-200
none	6-4.1 and 6-4.2	none	7-200.1 and 7-200.2
6-5 thru 6-22	6-5 thru 6-22	7-201 thru 7-204	7-201 thru 7-204
none	6-22.1/(6-22.2 Blank)	7-219 thru 7-224	7-219 thru 7-224
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none	6-72.1/(6-72.2 Blank)	7-297 and 7-298	7-297 and 7-298
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7-1 thru 7-4	7-1 thru 7-4	none	7-316.1 thru 7-316.4
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7-41 and 7-42	7-41 and 7-42	none	7-350.1 and 7-350.2

Place this change sheet in the front of the publication for reference purposes.

Remove Pages	Insert Pages	Remove Pages	Insert Pages
7-351 thru 7-368	7-351 thru 7-368	14-21 and 14-22	14-21 and 14-22
none	7-381 thru 7-383/(7-384 Blank)	none	14-35 thru 14-38
8-1 and 8-2	8-1 and 8-2	15-1 thru 15-4	15-1 thru 15-4
8-9 thru 8-12	8-9 thru 8-12	A-1 thru A-4	A-1 thru A-4
none	8-12.1/(8-12.2 Blank)	B-13 thru B-20	B-13 thru B-19/(B-20 Blank)
8-15 and 8-16	8-15 and 8-16	C-3 and C-4	C-3 and C-4
none	8-16.1/(8-16.2 Blank)	D-1 thru D-5/(D-6 Blank)	D-1 thru D-6
8-31 thru 8-40	8-31 thru 8-40	E-3 and E-4	E-3 and E-4
none	8-40.1/(8-40.2 Blank)	none	E-21 and E-22
8-41 thru 8-50	8-41 thru 8-50	G-1 thru G-10	G-1 thru G-10
8-53 and 8-54	8-53 and 8-54	None	G-11/(G-12 Blank)
none	8-55 thru 8-69/(8-70 Blank)	H-1 thru H-8	H-1 thru H-8
9-1 and 9-2	9-1 and 9-2	H-17 thru H-21/ (H-22 Blank)	H-17 thru H-21/ (H-22 Blank)
none	9-2.1 and 9-2.2	none	K-1 thru K-4
9-3 and 9-4	9-3 and 9-4	Index-1 thru Index-12	Index-1 thru Index-12
none	9-5/(9-6 Blank)	FO-1 FP-1/(FP-2 Blank) thru FP-19/(FP-20 Blank)	FO-1 PF-1/(FP-2 Blank) thru FP-19/(FP-20 Blank)
10-1 thru 10-14	10-1 thru 10-14	FO-1 FP-23/(FP-24 Blank)	FO-1 FP-23/(FP-24 Blank)
10-17 thru 10-19/ (10-20 Blank)	10-17 thru 10-19/ (10-20 Blank)	FO-1 FP-27/(FP-28 Blank) thru FP-61/(FP-62 Blank)	FO-1 FP-27/(FP-28 Blank) thru FP-61/(FP-62 Blank)
11-1 and 11-2	11-1 and 11-2	FO-1 FP-65/(FP-66 Blank) thru FP-67/(FP-68 Blank)	FO-1 FP-65/(FP-66 Blank) thru FP-67/(FP-68 Blank)
11-9 thru 11-16	11-9 thru 11-16	DA FORM 2028-2 Sample	DA FORM 2028-2 Sample
11-31 and 11-32	11-31 and 11-32	DA FORM 2028-2	DA FORM 2028-2
11-33 thru 11-40	11-33 thru 11-40	DA FORM 2028-2	DA FORM 2028-2
11-43 thru 11-58	11-43 thru 11-58	Metric Conversion Chart	Metric Conversion Chart
none	11-58.1 and 11-58.2	Cover	Cover
11-59 and 11-60	11-59/(11-60 Blank)		
11-61 and 11-62	11-61 and 11-62		
11-65 thru 11-84	11-65 thru 11-84		
11-91 thru 11-94	11-91 thru 11-94		
11-97 thru 11-106	11-97 thru 11-106		
none	11-106.1/(11-106.2 Blank)		
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none	11-112.1/(11-112.2 Blank)		
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none	11-144.1 thru 11-144.4		
11-145 and 11-146	11-145 and 11-146		
12-1 and 12-2	12-1 and 12-2		
12-7 and 12-8	12-7 and 12-8		
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none	12-16.1/(12-16.2 Blank)		
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13-1 thru 13-4	13-1 thru 13-4		
none	13-4.1/(13-4.2 Blank)		
13-5 thru 13-8	13-5 thru 13-8		
none	13-8.1/(13-8.2 Blank)		
13-25 thru 13-31/(13-32 Blank)	13-25 thru 13-32		
none	13-33 thru 13-35/(13-36 Blank)		
14-1 thru 14-8	14-1 thru 14-8		
14-9 and 14-10	none		
14-11 and 14-12	(14-11 Blank)/14-12		
14-13 thru 14-20	14-13 thru 14-20		
none	14-20.1 thru 14-20.4		

Place this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

Official:



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*Administrative Assistant to the  
Secretary of the Army*

0110104

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Acting Chief of Staff*

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**LIST OF EFFECTIVE PAGES**

Insert latest changed pages. Destroy superseded pages.

NOTE: New or changed material is indicated by a vertical bar in the outer margin of the page.

Dates of issue for original and changed pages are:

Original.....0..... 17 June 1998  
 Change .....1..... 1 July 2003

THE TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 1218, CONSISTING OF THE FOLLOWING:

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Cover	1	5-7 and 5-8	1	6-73 thru 6-78	1
Blank	0	5-9	0	7-1 thru 7-4	1
a thru h	0	5-10 and 5-11	1	7-5 and 7-6	0
i	1	5-12 and 5-13	0	7-7 and 7-9	1
j	0	5-14 and 5-15	1	7-10 thru 7-24	0
A thru D Added	1	5-16 Blank	0	7-25 thru 7-31	1
i	1	6-1 thru 6-3	1	7-32 thru 7-35	0
ii	0	6-4	0	7-36	1
iii thru vi	1	6-4.1 and 6-4.2 Added	1	7-36.1 thru 7-36.4 Added	1
4-1	1	6-5	1	7-37 thru 7-40	0
4-2 thru 4-4	0	6-6	0	7-41	1
4-5	1	6-7	1	7-42 thru 7-44	0
4-6 thru 4-8	0	6-8 and 6-9	0	7-45	1
4-9	1	6-10 thru 6-13	1	7-46 thru 7-51	0
4-10	0	6-14	0	7-52	1
4-10.1 and 4-10.2 Added	1	6-15 thru 6-18	1	7-53 thru 7-55	0
4-11	0	6-19	0	7-56	1
4-12 and 4-13	1	6-20 thru 6-22	1	7-57 thru 7-64	0
4-14	0	6-22.1 Added	1	7-65	1
4-15	1	6-22.2 Blank Added	1	7-66	0
4-16 and 4-17	0	6-23 thru 6-25	1	7-67 and 7-68	1
4-18	1	6-26 and 6-27	0	7-69 thru 7-74	0
4-19 thru 4-41	0	6-28	1	7-75	1
4-42 and 4-43	1	6-29 thru 6-31	0	7-76 thru 7-78	0
4-44	0	6-32	1	7-79	1
4-45	1	6-33	0	7-80 thru 7-86	0
4-46	0	6-34	1	7-87	1
4-47	1	6-35 thru 6-38	0	7-88	0
4-48 thru 4-59	0	6-39	1	7-89	1
4-60	1	6-40 thru 6-48	0	7-90 thru 7-102	0
4-61 and 4-62	0	6-49	1	7-103	1
4-63	1	6-50 thru 6-52	0	7-104 thru 7-118	0
4-64 thru 4-68	0	6-53	1	7-119	1
4-69	1	6-54 thru 6-66	0	7-120 thru 7-142	0
4-70 thru 4-81	0	6-67	1	7-143 and 7-144	1
4-82 thru 4-84	1	6-68 and 6-69	0	7-145	0
4-85 thru 4-105	0	6-70 and 6-71	1	7-146 and 7-147	1
4-106 Blank	0	6-72	0	7-148	0
5-1	1	6-72.1 Added	1	7-149	1
5-2 thru 5-6	0	6-72.2 Blank Added	1	7-150	0

\* Zero in this column indicates an original page.

**LIST OF EFFECTIVE PAGES (CONT)**

Insert latest changed pages. Destroy superseded pages.

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7-151	1	7-316.1 thru 7-316.4 Added	1	9-5 Added	1
7-152 thru 7-159	0	7-317 and 7-318	1	9-6 Blank Added	1
7-160	1	7-319 thru 7-326	0	10-1	1
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7-166 thru 7-168	0	7-347 and 7-348	0	10-6 and 10-7	1
7-169	1	7-349 and 7-350	1	10-8	0
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7-173	0	7-352 and 7-353	0	10-12	1
7-174	1	7-354 and 7-356	1	10-13	0
7-175 thru 7-188	0	7-357	0	10-14	1
7-189 and 7-190	1	7-358 and 7-359	1	10-15 and 10-16	0
7-191 and 7-192	0	7-360	0	10-17 thru 10-19	1
7-193	1	7-361	1	10-20 Blank	0
7-194	0	7-362	0	11-1	1
7-195 thru 7-200	1	7-363	1	11-2 thru 11-8	0
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7-201 thru 7-203	1	7-365 thru 7-368	1	11-11	0
7-204 thru 7-218	0	7-369 thru 7-380	0	11-12	1
7-219 thru 7-223	1	7-381 thru 7-383 Added	1	11-13	0
7-224 thru 7-228	0	7-384 Blank Added	1	11-14	1
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7-232	0	8-2 thru 8-9	0	11-16	1
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7-243 and 7-244	1	8-12.2 Blank Added	1	11-40 thru 11-42	0
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7-246	1	8-16	1	11-46	0
7-247 thru 7-258	0	8-16.1 Added	1	11-47 thru 11-53	1
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7-260 thru 7-268	0	8-17 thru 8-31	0	11-55 thru 11-57	1
7-269	1	8-32	1	11-58	0
7-270 thru 7-274	0	8-33	0	11-58.1 and 11-58.2 Added	1
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7-278	1	8-40.2 Blank Added	1	11-61 and 11-62	1
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7-288	1	8-48 and 8-49	0	11-66 thru 11-68	1
7-289	0	8-50	1	11-69	0
7-290 and 7-291	1	8-51 and 8-52	0	11-70 thru 11-72	1
7-292 and 7-293	0	8-53 and 8-54	1	11-73	0
7-294	1	8-55 thru 8-69 Added	1	11-74	1
7-295 thru 7-297	0	8-70 Blank Added	1	11-75	0
7-298	1	9-1 and 9-2	1	11-76 and 11-77	1
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7-303 thru 7-316	1	9-3 and 9-4	1	11-80 thru 11-83	1

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11-95 and 11-96	0	13-8.2 Blank Added	1	Glossary-1 and Glossary-2	0
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11-144	1	E-3 and E-4	1	FO-1 FP-28 Blank	0
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TECHNICAL MANUAL  
 NO. 9-2320-365-20-3

HEADQUARTERS  
 DEPARTMENTS OF THE ARMY  
 AND THE AIR FORCE

TECHNICAL ORDER  
 NO. 36A12-1B-1095-2-3

Washington, D.C., 17 June 1998

**Unit Maintenance Manual  
 M1078 SERIES, 2 1/2-TON, 4 x 4,  
 LIGHT MEDIUM TACTICAL VEHICLES (LMTV)  
 VOLUME NO. 3 OF 5**

MODEL	NSN	EIC
TRK, CAR., LMTV, M1078		
W/WN	2320-01-360-1898	BHH
W/O WN	2320-01-354-3385	BHD
TRK, VAN, LMTV, M1079		
W/WN	2320-01-360-1891	BHG
W/O WN	2320-01-354-3384	BHE
TRK, CHAS, LMTV, M1080	2320-01-353-9098	BHC
TRK, CAR., LMTV, AIR DROP, M1081		
W/WN	2320-01-360-1899	BHJ
W/O WN	2320-01-355-3064	BHF

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You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Equipment Technical Publications), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <http://aeaps.ria.army.mil>. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or Email your letter or DA Form 2028 direct to: AMSTA-LC-CI/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is [TACOM-TECH-PUBS@ria.army.mil](mailto:TACOM-TECH-PUBS@ria.army.mil). The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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**HOW TO USE THIS MANUAL**

**OVERVIEW**

This technical manual (TM) is provided to help you maintain the LMTV at the Unit Maintenance level. Because of its size, it is divided into five volumes. Volume 3 contains the following major sections in order of appearance:

- **WARNING SUMMARY.** Provides a summary of the most important warnings that apply throughout the manual.
- **CHAPTER 4, FUEL SYSTEM MAINTENANCE**
- **CHAPTER 5, EXHAUST SYSTEM MAINTENANCE**
- **CHAPTER 6, COOLING SYSTEM MAINTENANCE**
- **CHAPTER 7, ELECTRICAL SYSTEM MAINTENANCE**
- **CHAPTER 8, TRANSMISSION MAINTENANCE**
- **CHAPTER 9, PROPELLER SHAFT MAINTENANCE**
- **CHAPTER 10, FRONT AND REAR AXLE MAINTENANCE**
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- **CHAPTER 12, WHEELS, TIRES, AND HUBS MAINTENANCE**
- **CHAPTER 13, STEERING SYSTEM MAINTENANCE**
- **CHAPTER 14, FRAME, TOWING ATTACHMENTS, AND DRAWBARS MAINTENANCE**



## OVERVIEW (CONT)

- **CHAPTER 15, SUSPENSION MAINTENANCE**
- **APPENDIX A, REFERENCES.** Lists publications used with the LMTV.
- **APPENDIX B, MAINTENANCE ALLOCATION CHART.** The maintenance allocation chart denotes the level of maintenance which performs specific maintenance tasks and the time required. It also lists tools and special tools required for each task.
- **APPENDIX C, TOOLS IDENTIFICATION LIST.** Lists equipment used in the performance of maintenance and references publications which contain information regarding the equipment.
- **APPENDIX D, EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST.** Lists expendable and durable items used in the performance of maintenance.
- **APPENDIX E, ILLUSTRATED LIST OF MANUFACTURED ITEMS.** Illustrates and describes items that must be fabricated from bulk materials for repair of the LMTV.
- **APPENDIX F, TORQUE LIMITS.** Lists the standard torque values for specific attaching hardware.
- **APPENDIX G, MANDATORY REPLACEMENT PARTS.**
- **APPENDIX H, LUBRICATION ORDER.**
- **APPENDIX J, ADDITIONAL AUTHORIZATION LIST (AAL).**
- **APPENDIX K, TRANSMISSION/TRANSMISSION CONTROLS ADAPTABILITY CHART.**
- **SUBJECT INDEX.** Lists important subjects contained in volume 3 in alphabetical order and gives the associated paragraph number.

## FINDING INFORMATION

There are several ways to find the information you need in this manual. They are as follows:

- **FRONT COVER INDEX.** The front cover index contains a list of the most important topics contained in each volume. It features a black box at the right edge of the cover which corresponds with a black box on the page containing the topic. The topics listed on the front cover are highlighted in the table of contents with a box.
- **TABLE OF CONTENTS.** Lists chapters, sections, appendixes, and indexes with page numbers in order of appearance.
- **CHAPTER INDEXES.** List paragraphs contained in the individual chapters with paragraph and page numbers in order of appearance.
- **SYMPTOM INDEX.** Lists malfunctions contained in the troubleshooting table with page numbers in order of appearance.

## TROUBLESHOOTING

Troubleshooting is contained in chapter 2. When a malfunction occurs, look at the symptom index for the vehicle troubleshooting table in chapter 2. Find the malfunction in the index. Turn to the page number listed for the malfunction in the troubleshooting table. Perform the steps required to correct the malfunction. If you can't find the malfunction, or the malfunction is not corrected, notify your supervisor.

## MAINTENANCE

- **SCHEDULED MAINTENANCE.** Your scheduled maintenance is located in Volume 1, table 2-1, PMCS. These checks and services are mandatory at the intervals listed. Always follow the WARNINGS and CAUTIONS.
- **UNSCHEDULED MAINTENANCE.** Unscheduled maintenance is located in chapters 3 through 22. The PMCS and troubleshooting tables often reference you to these procedures. When you perform maintenance, look over the entire procedure before starting. Make sure you have the necessary tools and materials at hand. Always follow the WARNINGS and CAUTIONS.

### FOLLOW THESE GUIDELINES WHEN USING THIS MANUAL:

- Become familiar with the entire maintenance procedure before beginning a maintenance task.
- Read all **WARNINGS** and **CAUTIONS** before performing any procedures.

# CHAPTER 4 FUEL SYSTEM MAINTENANCE

## RESTRICTED MAINTENANCE NOTICE

Units not authorized SC 4910-95-CL-A72 (SHOP EQUIPMENT, COMMON NO. 2) in their T.O.E. may be unable to perform some of the maintenance tasks described in this chapter. If the required tools are not authorized, the equipment must be submitted to DS Maintenance for repair.

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## Section I. INTRODUCTION

### 4-1. INTRODUCTION

This chapter contains maintenance instructions for replacing, repairing, and adjusting fuel system components authorized by the Maintenance Allocation Chart (MAC) at the Unit Maintenance level.

## Section II. MAINTENANCE PROCEDURES

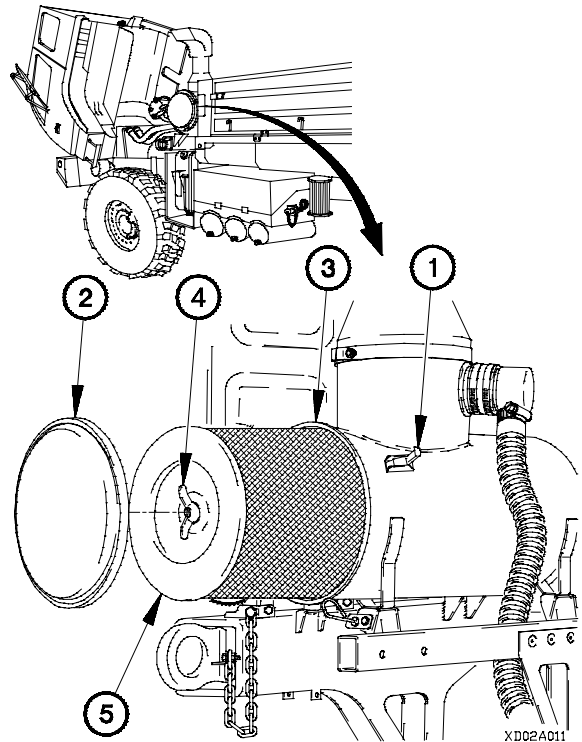
<b>4-2. INTAKE AIR CLEANER FILTER ELEMENT, AIR CLEANER ASSEMBLY, AND PARTICLE EXTRACTION TUBE REPLACEMENT</b>	
<b>This task covers:</b>	
<ul style="list-style-type: none"> <li>a. Intake Air Cleaner Filter Element Removal</li> <li>b. Intake Air Cleaner Filter Element Installation</li> <li>c. Intake Air Cleaner Assembly Removal (except M1081)</li> <li>d. M1081 Intake Air Cleaner Assembly Removal</li> <li>e. Intake Air Cleaner Disassembly</li> <li>f. Intake Air Cleaner Assembly</li> </ul>	<ul style="list-style-type: none"> <li>g. M1081 Intake Air Cleaner Assembly Installation</li> <li>h. Intake Air Cleaner Assembly Installation (except M1081)</li> <li>i. Particle Extraction Tube Removal</li> <li>j. Particle Extraction Tube Installation</li> <li>k. Follow-On Maintenance</li> </ul>
<b>INITIAL SETUP</b>	
<p><b>Equipment Conditions</b>                  Engine shut down (TM 9-2320-365-10).                  Cab raised (TM 9-2320-365-10).                  Batteries disconnected (para 7-48).                  Chemical detection unit removed, if equipped (TM 3-6665-225-12).                  Transmission oil fill tube removed (M1081 only) (para 8-13).</p>	<p><b>Tools and Special Tools (Cont)</b>                  Wrench, Torque, 0-200 lb-in. (Item 58, Appendix C)</p>
<p><b>Tools and Special Tools</b>                  Tool Kit, Genl Mech (Item 44, Appendix C)                  Wrench, Torque, 0-175 lb-ft (Item 57, Appendix C)                  Crowfoot Attachment, Socket Wrench (Item 6, Appendix B)                  Screwdriver Attachment, Socket Wrench (Item 46, Appendix B)                  Socket Set, Socket Wrench (Item 35, Appendix C)</p>	<p><b>Materials/Parts</b>                  Rag, Wiping (Item 51, Appendix D)                  Gasket (Item 32, Appendix G)                  Filter Element (Item 18, Appendix G)                  Washer, Spring (2) (Item 278, Appendix G)                  Nut, Self-Locking (3) (Item 140, Appendix G)                  Nut, Self-Locking (3) (Item 134, Appendix G) (M1081)                  Nut, Self-Locking (3) (Item 141, Appendix G) (all models except M1081)</p>
	<p><b>References</b>                  TM 3-6665-225-12                  FM 3-4                  FM 3-5</p>

**WARNING**

**After Nuclear, Biological, or Chemical (NBC) exposure of vehicle, all air filters shall be handled with extreme caution. Unprotected personnel may experience serious injury or death if residual toxic agents or radioactive materials are present. If vehicle is exposed to chemical or biological agents, servicing personnel shall wear protective mask, hood, protective overgarments, and chemical protective gloves and boots in accordance with FM 3-4. All contaminated air filters shall be placed in double-lined plastic bags and moved swiftly to a segregation area away from the worksite. The same procedure applies for radioactive dust contamination. The Company NBC team should measure radiation prior to filter removal to determine extent of safety procedures required per the NBC Annex to the unit Standard Operating Procedures (SOP). The segregation area in which the contaminated air filters are temporarily stored shall be marked with appropriate NBC placards. Final disposal of contaminated air filters shall be in accordance with local SOP. Decontamination operation shall be in accordance with FM 3-5 and local SOP. Failure to comply may result in serious injury or death to personnel.**

**a. Intake Air Cleaner Filter Element Removal.**

- (1) Unlatch three clasps (1) on cover (2).
- (2) Remove cover (2) from intake air cleaner housing (3).
- (3) Loosen wingnut (4) and remove filter element (5) from intake air cleaner housing (3). Discard filter element.



**b. Intake Air Cleaner Filter Element Installation.**

**NOTE**

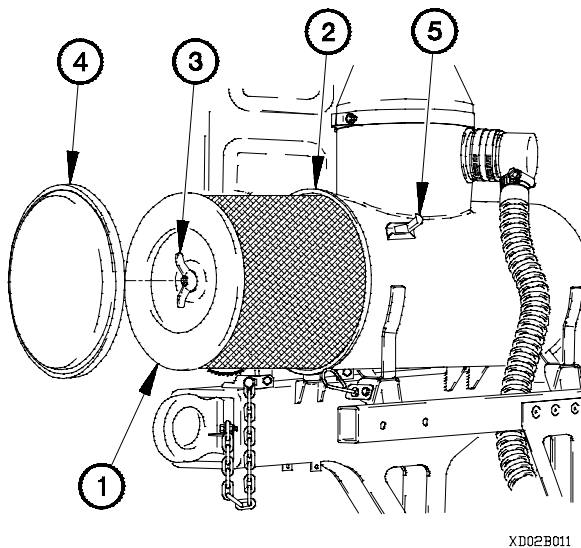
Wipe inside of intake air cleaner housing with damp wiping rag.

- (1) Position filter element (1) in intake air cleaner housing (2).

**CAUTION**

Tighten wingnut securely to prevent air leakage around air cleaner filter element. Do not overtighten. Failure to comply may result in damage to equipment.

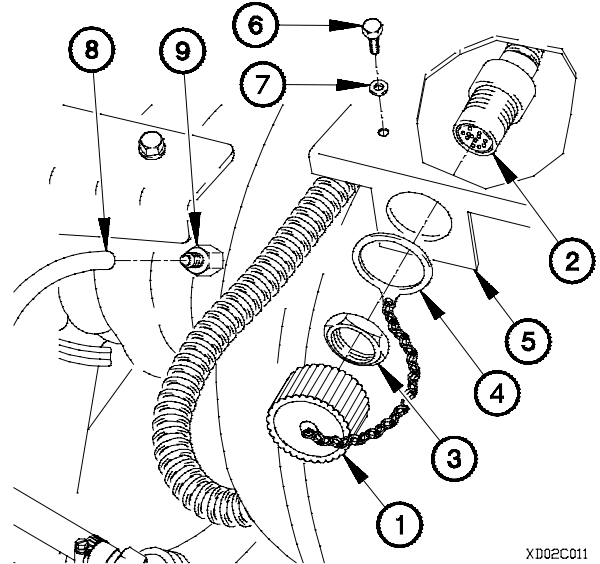
- (2) Tighten wingnut (3) on filter element (1).
- (3) Install cover (4) on intake air cleaner housing (2) with three clasps (5).



**4-2. INTAKE AIR CLEANER FILTER ELEMENT, AIR CLEANER ASSEMBLY, AND PARTICLE EXTRACTION TUBE REPLACEMENT (CONT)**

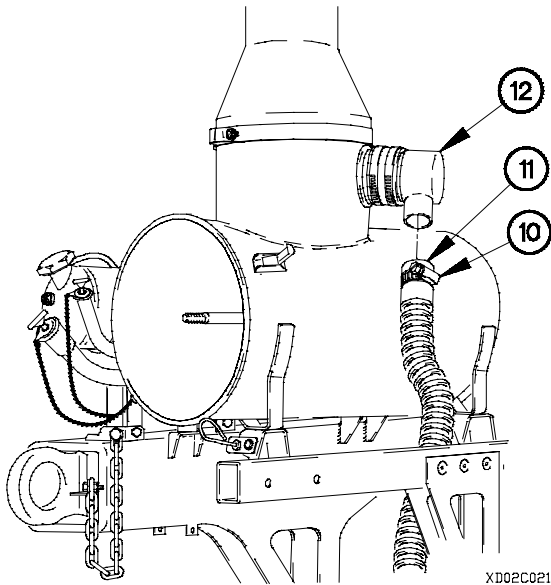
**c. Intake Air Cleaner Assembly Removal (except M1081).**

- (1) Remove dust cap (1) from connector J106 (2).
- (2) Remove nut (3), dust cap lanyard (4), and connector J106 (2) from chemical detector mounting bracket (5).
- (3) Remove four screws (6) and washers (7) from chemical detector mounting bracket (5).
- (4) Disconnect air filter restriction gauge hose (8) from air flow sensor (9).



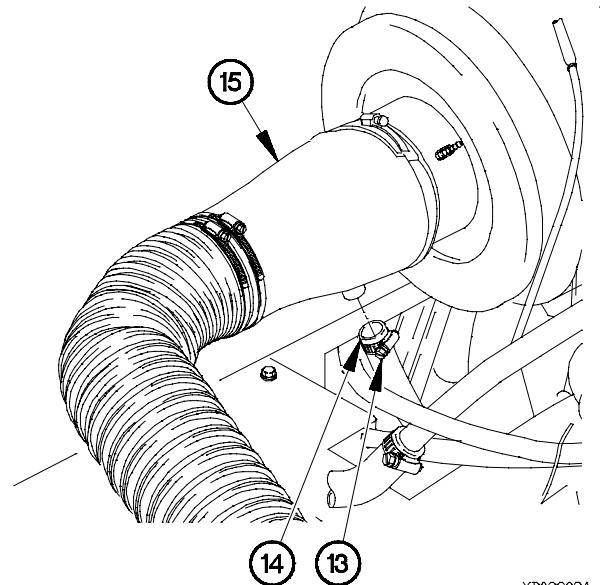
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- (5) Loosen clamp (10) on particle extraction hose (11).
- (6) Remove particle extraction hose (11) from adapter (12).



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- (7) Loosen clamp (13) on air compressor intake hose (14).
- (8) Remove air compressor intake hose (14) from intake air cleaner boot (15).



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