TM 9-2320-209-34-1

T.O. 36A12-1B-1092-2-1

TECHNICAL MANUAL

VOLUME 1 OF 2

TROUBLESHOOTING

DIRECT SUPPORT AND GENERAL SUPPORT LEVEL

2 1/2 TON, 6X6, M44A1 AND M44A2 SERIES TRUCKS

(MULTIFUEL)

TRUCK, CARGO: M35A1 M35A2, M35A2C, M36A2; TRUCK, TANK, FUEL: M49A1C, M49A2C, TRUCK, TANK, WATER: M50A1, M50A2, M50A3; TRUCK, VAN, SHOP: M109A2, M109A3; TRUCK, REPAIR SHOP: M185A2, M185A3; TRUCK, TRACTOR: M275A1, M275A2; TRUCK, DUMP: M342A2; TRUCK, MAINTENANCE, PIPELINE CONSTRUCTION: M756A2; TRUCK, MAINTENANCE, EARTH BORING AND POLESETTING: M764

NOTE:

THE STYLE OF THIS TM IS EXPERIMENTAL. IT IS BEING TRIED BY THE ARMY ONLY ON A LIMITED BASIS

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

MAY 1981

WARNING

EXHAUST GASES CAN BE DEADLY

Exposure to exhaust gases produces symptoms of headache, dizziness, loss of muscular control, apparent drowsiness, and coma. Permanent brain damage or death can result from severe exposure.

Carbon monoxide occurs in the exhaust fumes of fuel burning heaters and internal combustion engines, and becomes dangerously concentrated under conditions of inadequate ventilation. The following precautions must be observed to insure the safety of personnel whenever fuel burning heater(s) or engine of any vehicle is operated for maintenance purposes or tactical use.

Do not operate heater or engine of vehicle in an enclosed area unless it is adequately ventilated.

Do not idle engine for long periods without maintaining adequate ventilation in personnel compartments.

Do not drive any vehicle with inspection plates or cover plates removed unless necessary for maintenance purposes.

Be alert at all times during vehicle operation for exhaust odors and exposure symptoms. If either are present, immediately ventilate personnel compartments. If symptoms persist, remove affected personnel from vehicle and treat as follows: expose to fresh air; keep warm; do not permit physical exercise; if necessary, administer artificial respiration.

If exposed, seek prompt medical attention for possible delayed onset of acute lung congestion. Administer oxygen if available.

The best defense against exhaust gas poisoning is adequate ventilation.

WARNING

Serious or fatal injury to personnel may result
if the following instructions are not complied with.

Diesel fuel is very flammable. Care must be used when choosing a place to work on fuel system. Keep truck about 50 feet away from an area where open flame, sparks, or smoking may cause a fire. Keep a fire extinguisher close by.

Fuel coming out of an injector nozzle under pressure can go through the skin. This can cause blood poisoning. Keep hands away from injector nozzle when doing test procedures.

Only properly trained personnel should perform test on 115 volt system. The voltage present in 115 volt system can cause severe or fatal electric shock.

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TECHNICAL MANUAL
NO. 9-2320-209-34-1
TECHNICAL ORDER
NO. 36A12-1B-1092-2-1

DEPARTMENTS OF THE ARMY
AND
THE AIR FORCE
Washington, DC, 20 May 1981

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2 1/2-TON, 6X6, M44A1 AND M44A2 SERIES TRUCKS

(MULTIFUEL)

Model		NSN without Winch	NSN with Winch
Truck, Cargo	M135Al	2320-00-542-5633	2320-00-542-5634
	M35A2	2320-00-077-1616	2320-00-077-1617
	M35A2C	2320-00-926-0873	2320-00-926-0875
	M36A2	2320-00-077-1618	2320-00-077-1619
Truck, Tank, Fuel	M49AlC	2320-00-440-3349	2320-00-440-3346
	M49A2C	2320-00-077-1631	2320-00-077-1632
Truck, Tank, Water	M50Al	2320-00-440-8307	2320-00-440-8305
	M50A2	2320-00-077-1633	2320-00-077-1634
	M50A3	2320-00-937-4036	2320-00-937-5264
Truck, Van, Shop	M109A2	2320-00-440-8313	2320-00-440-8308
	M109A3	2320-00-077-1636	2320-00-077-1637
Truck, Repair Shop	M185A2	4940-00-987-8799	4940-00-987-8800
	M185A3	4940-00-077-1638	4940-00-077-1639
Truck, Tractor	M275A1	2320-00-446-2479	
	M275A2	2320-00-077-1640	2320-00-077-1641
Truck, Dump	M342A2	2320-00-077-1643	2320-00-077-1644
Truck, Maintenance, Pipeline Construction	M756A2		2320-00-904-3277
Truck, Maintenance, Earth Boring and Polesetter	M7 64		2320-00-937-5980

*This manual, together with TM 9-2320-209-34-2-1, 20 May 1981; TM 9-2320-209-34-2-2, 20 May 1981; and TM 9-2320-209-34-2-3, 20 May 1981, supersedes TM 9-2320-209-34, Dated 30 March 1979.

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedure, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, Michigan 48090. A reply will be furnished to you.

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CHAPTER 1

GENERAL INFORMATION

1-1. SCOPE. This volume shows you how to do troubleshooting at the direct and general support levels of maintenance. The amount of troubleshooting you can do is based on what the Maintenance Allocation Chart says you can fix. Because of this, the only trouble symptoms you will find here are those that could be caused by faulty things you can fix.

1-2. ORGANIZATION. This volume has the information you will need to troubleshoot the truck. Chapter 2 tells you how to use the information in the other chapters of this volume to find what is wrong with the truck, and what you must do to fix it. Chapter 7 has a procedure that takes you step-by-step through a sample trouble-shooting procedure and shows you how to use the information to find the trouble and fix it.

1-3. TROUBLESHOOTING APPROACH. In order to find out what is causing the problem in the truck, you must use a good approach. A good approach just means a way of doing troubleshooting so you can find the problem and not get confused or lost. The following chapter describes how you can use the materials in this volume to troubleshoot with a good approach.

CHAPTER 2

TROUBLESHOOTING APPROACH

2-1. GENERAL APPROACH. This chapter gives you instructions on how to use the troubleshooting material to help you find and fix the trouble. In every system of the truck there can be faults or problems which will cause certain symptoms. Symptoms can be such things as unusual noise, vibration, or even complete failure of a system. This volume gives information for each system on which you can do troubleshooting to find faults and fix them. Before you troubleshoot a system, you should look at the troubleshooting indexes which will lead you to the information you need to help make your troubleshooting faster and easier. If you follow the instructions the right way, you will find those troubles you can fix. But, if you fix something and the trouble is still there, it means there is more than one trouble. If this happens, start all over again to find the other trouble.

2-2. TROUBLESHOOTING INDEX. The troubleshooting index, and instructions how to use it are in chapter 3. Go to this index first because it tells you where to find troubleshooting roadmaps, fault symptom indexes, summary troubleshooting charts and support diagrams for each system.

2-3. TEST EQUIPMENT PROCEDURES INDEX. The test equipment procedures index, and instructions on how to use it are in chapter 4. This index tells you where to find electrical and mechanical tests which you can use to do your troubleshooting. It also tells you what equipment you will need to do the tests. If you have a STE/ICE (Simplified Test Equipment/Internal Combustion Engine) Set (NSN 4910-00-124-2554), you may use it, where applicable, to do your troubleshooting. Refer to TM 9-4910-571-12&P.

2-4. TROUBLESHOOTING ROADMAPS. Troubleshooting roadmaps for each system are in chapter 5. If the system is made up of subsystems, these subsystems are also on the roadmap. Under the subsystem is a list of things which are the most likely causes of a fault symptom in that subsystem. If you have enough skill, you can troubleshoot these things on the truck without using the detailed troubleshooting procedures. So if you know enough about the truck to work on your own, use the roadmap for the system with the problem before you check the fault symptom index.

2-5. FAULT SYMPTOM INDEX. Fault symptom indexes and instructions on how to use them are in chapter 6. For each system of the truck, there is an index which gives you a list of the fault symptoms for that system. The index also tells you where to find the detailed troubleshooting procedures and what resources (tools/people) you need to do each procedure.

2-6. SAMPLE TROUBLESHOOTING PROCEDURE. A sample troubleshooting procedure is in chapter 7. This sample procedure will help you see the way detailed troubleshooting procedures are to be used.