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Recovery and Battlefield Damage Assessment and Repairs

U.S. Marine Corps

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TO 36-1-181

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PREFACE

PURPOSE

This field manual provides doctrinal guidance on the use and employment of recovery and repair assets on the battlefield. Practical methods of recovering or repairing disabled or immobilized vehicles due to terrain, mechanical failures, or hostile actions are also addressed in this publication.

SCOPE

FM 9-43-2 is directed toward both the leader and the technician. Tactically, it provides a layout of how recovery and BDAR assets are employed on the battlefield. Technically, it provides principles of resistance and the mechanical applications to overcome them. Equipment, rigging techniques, and expedient repairs are summarized as a refresher for H8 ASI (recovery-trained) soldiers and as general guidance for others.

APPLICATION

The procedures and doctrine in this manual are designed for both wartime and operation other than war. Normally, BDAR should be used when and where standard maintenance practices are not practical due to METT-T. BDAR is not meant to replace standard maintenance practices, but rather to supplement them under certain conditions. Standard maintenance procedures provide the best and most effective means of returning disabled equipment to the operational commander, provided adequate time, parts, and tools are available.

High-risk battlefield damage repairs, (danger to personnel and equipment) are only authorized in

emergency situations, normally in a battlefield environment and only when directed by the owning unit commander or his designated representative. The goal is to return a combat system to battle in the least amount of time.

BDAR techniques are not limited to simple restoration of minimal functional combat capability. If full mission capability can be restored expediently with a limited expenditure of time and assets, this should be done. This decision is based on METT-T.

Some BDAR techniques, if applied, may result in shortened life or further damage to components. The commander must decide whether the risk of having one less vehicle outweighs the risk of applying a potentially destructive expedient repair. Each technique gives appropriate warnings and cautions and lists system limitations caused by this action.

When operating recovery assets around or on an aircraft, extreme caution and use of ground guides must be a factor.

Users of this manual are encouraged to submit suggestions, changes, or comments to improve this manual. Comments with justifications should be keyed to specific page, paragraph, and line of text; prepared on DA Form 2028 (Recommended Changes to Publications and Blank Forms); and forwarded to:

Commander,
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Fort Lee, VA 23801-6000

The provisions of this publication are the subject of international agreement QSTAG 171, Procedures for Repair and Recovery of Military Technical Equipment.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

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CHAPTER 1

INTRODUCTION TO RECOVERY AND BATTLEFIELD DAMAGE ASSESSMENT AND REPAIR

Recovery and Battlefield Damage Assessment and Repair (BDAR) are separate and distinct subsets of maintenance. Both are the owning units' responsibility, both have a fundamental purpose of returning combat assets to the battlefield ASAP. The purpose of recovery is the rapid removal of a disabled vehicle from the battlefield while the purpose of BDAR is the rapid temporary repair of the vehicle in order to continue the mission or self-recover. Training for BDAR should include some training in recovery techniques. There are not any written policies for BDAR in the United States Marine Corps. Recovery vehicles, wheel and track, should carry at least one BDAR kit to aid in recovery operations.

RECOVERY

Recovery is retreiving, or freeing immobile, inoperative, or abandoned materiel from its current position and returning it to operation or to a maintenance site for repair. These actions typically involve towing, lifting, and winching. Towing is typically limited to moving vehicles to the nearest Unit Maitenance Collection Point. Recovery consists of: Self-recovery, like-recovery, and dedicated-recovery. Self-recovery actions use only the equipment's assets; like-recovery actions involve the assistance of a second, similar vehicle; and dedicated-recovery requires the assistance of a vehicle which is specifically designed and dedicated to recovery operations. Recovery also takes place during operations other than war (OOTW). Unless specifically mentioned, recovery Tactics, Techniques, and Procedures (TTP) and Doctrine, Organization, Training, Leader, Development, and Soldier (DOTLMS) considerations apply to both combat and OOTW.

SELF-VEHICLE

Self-recovery is initiated at the location a vehicle becomes mired or disabled. The operator/crew uses the basic issue items (BII) and additional authorized listing (AAL, OVE for USMC) items to perform self-vehicle recovery. Also the operator/crew can use the axe to cut branches to put under the tires/track to get better traction (if situation or country permits tree cutting).

When the equipment has a mechanical failure, the operator/crew will use the equipment's -10 manual to perform troubleshooting procedures with the tools available in the BII and AAL. When self-recovery fails, the operator/crew requests assistance from available like vehicles.

NOTE: By current doctrine, equipment self-recovery winches can only be used to recover the vehicle that it is mounted on. It cannot be