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Maintenance of Supplies and Equipment
CORROSION PREVENTION AND CONTROL (CPC) AND
CHEMICAL AGENT RESISTANT COATING (CARC) PROGRAM

***This pamphlet supersedes AK Pam 750-6, dated 15 May 2007.**

FOR THE COMMANDER:

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Summary. This pamphlet provides guidance and establishes procedures for the management of Corrosion Prevention and Control (CPC) and Chemical Agent Resistant Coating (CARC) program, which will protect equipment from corrosion, provide chemical agent resistance and camouflage.

Summary of Changes. This revision adds information and guidance for Water Dispersible (WD) CARC painting procedures.

Applicability. This pamphlet applies to all Eighth Army (8A) units and contractor operated facilities involved with the application of CARC paint to US Army equipment in the Republic of Korea. It discusses responsibilities, policies, procedures, health and environmental hazards, safety requirements, and proper disposal of hazardous materials.

Supplementation. Supplementation of this pamphlet and establishment of command and local forms are not authorized without prior approval from the Commander, Eighth Army G4 (EAGD-SO) UNIT #15236, APO AP 96205-5236

Forms. AK forms are available at http://8tharmy.korea.army.mil/g1_ag/.

Records Management. Records created as result of processes proscribed by this pamphlet must be identified, maintained, and disposed of according to AR 25-400-2. Record titles and descriptions are available on the Army Record Information Management System website <https://www.arims.army.mil>.

Suggested Improvements. Users of this pamphlet are invited to send comments and suggestions for improvement on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commander, Eighth Army G4 (EAGD-SO) UNIT #15236, APO AP 96205-5236.

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Chapter 1 Introduction

1-1. Purpose

This pamphlet provides guidance and establishes procedures for the management of Department of Army (DA) Corrosion Prevention and Control (CPC) and Chemical Agent Resistant Coating (CARC) painting programs within the Eighth Army (8A) and its Operational Control (OPCON) organizations.

1-2. References

Required and related publications and forms are listed in Appendix A.

1-3. Explanation of Abbreviations

Abbreviations used in this regulation are explained in the glossary.

1-4. Responsibilities

a. 8A G4 will provide command direction on CPC and CARC painting programs, and will designate the 19th Expeditionary Sustainment Command (19th ESC) as the CPC and CARC painting program manager.

b. 19th ESC will develop and establish policy and procedures, provide staff supervision and guidance for CARC painting processes to include planning, programming, scheduling, and execution of the program. 19th ESC will inspect the CARC painting facilities operated by Army maintenance units and local Korean contractor operated facilities as required. 19th ESC will be the 8A central collection point for record keeping and will maintain a data file on all equipment that has been completely repainted.

Chapter 2 Policy and Procedures

2-1. Policies for Painting

a. CARC is the approved coating for all combat and combat support equipment, tactical vehicles, aircraft, and essential ground support equipment, to include secondary item containers such as engine, transmission, ammunition containers and appropriate kits. More detailed painting information and procedures are covered by TM 43-0139 for ground equipment, TB 43-0144 for watercraft, TM 55-1500-345-23 for army aircraft, and TM 38-470 for APS-4 stocks.

b. Complete repainting should be done only when the existing finish is obsolete (is not longer suitable for the environment in which the equipment is operated) or has been deteriorated to the extent that it no longer protects the underlying surface or when higher authority mandates. Complete repainting for the sole purpose of achieving uniformity or cosmetic purposes is prohibited.

(1) Materiel Support Center-Korea (MSC-K) is the only Army maintenance facility equipped with CARC painting booths that comply with Occupational Safety and Health Administration (OSHA) standards for complete repainting. MSC-K will manage the CARC program for their facilities, to include planning, programming, scheduling and execution. On the last working day of each month, MSC-K will provide 19th ESC SPO a list of CARC painted equipment during the

month. The list will include the following information: LIN, Model, NSN, USA number, serial number, and owning unit of the equipment.

(2) Bosung Industry CARC painting facility located in Dongducheon accomplishes complete ground equipment repainting to satisfy the requirements of units in northern area (Area I & II) and Korean Air Lines (KAL) Co. Ltd painting facility located in Kimhae accomplishes complete aircraft repainting.

(3) Equipment evacuation for complete repainting procedures must be covered in detail in the unit Standing Operating Procedures (SOP). Field maintenance units will make final determination as to which equipment will be completely repainted IAW criteria established in the unit Standing Operating Procedures.

c. Spot/touch-up painting may be performed by APS-4 and Field maintenance units not equipped with proper CARC painting booths. Spot/touch-up painting will be performed IAW TB 43-0242. Touch-up/spot painting will be done for the area of scratches, chips, and marring surface observed during preventative maintenance checks and services (PMCS) or technical inspection. Touch-up painting includes restoration of painted surfaces after a repair or a replacement. Commanders are responsible for requisitioning required personal protective equipment (PPE), i.e., protective clothing, gloves, footwear, respirators, paints, primers, thinners, solvents, roller, and brushes, necessary to support CARC painting operations. Touch-up/spot painting application must be covered in detail in the unit SOP.

d. Tactical equipment designed for single color CARC requirement will be painted with an approved color based on contingency mission environment. The appropriate color for Korea based equipment is woodland green.

e. Vehicles or equipment painted with CARC or WD CARC should always be spot painted with WD CARC. WD CARC is fully compatible with all existing CARC primers and topcoats.

f. The ambient temperature should be between 60-90F for priming and top coating. The ideal temperature is 70F with a humidity of 45-50 percent.

g. Do not paint the following with WD CARC unless specific written approval is provided by the Army Material Command (AMC) subordinate command (TACOM, CECOM, AMCOM) responsible for the management of that commodity:

(1) Painted items that attain surface temperatures of more than 400 degrees Fahrenheit, or serve a heat-conducting function, or expand and contract during operation (manifolds, turbochargers, cooling fins and rubber hoses).

(2) Displacement watercraft that is subject to prolonged salt-water immersion (Logistic support vessel (LSV) and landing craft utility (LCU)).

(3) Non-deployable equipment and fixed installation systems (Railroad rolling stock and fixed power generation systems).

(4) Installation/TDA equipment such as military police cars, non-tactical fire trucks and buses.

(5) Aluminum transmissions that are enclosed in combat vehicle pack compartment. However, ferrous components of the transmission must be protected with WD CARC or other rust-preventive agents.

(6) Items made of fabric or have anodized or parkerized surfaces.

h. WD CARC protected surfaces should not be covered with petroleum or other products to improve the appearance of the equipment. Use of these products reduces the chemical protection provided by WD CARC and increases the probability of injury.

i. WD CARC is intended for use over new or previously painted surfaces. It is applied over pretreated surfaces after priming with epoxy primer. WD CARC can be applied over thoroughly prepared existing CARC surfaces. It cannot be applied over lacquer.

j. MSC-K and contractor-operated paint facilities will follow their own unique procedures for paint booth operations. All facilities painting US Army equipment will have established written procedures that may be reviewed by 19th ESC or Eighth Army personnel, upon request.

k. Major end items and major components with exposed surfaces painted with WD CARC will have the word "CARC" stenciled on them in close proximity to the data plate.

l. The application of WD CARC consists of four distinct steps; cleaning, pre-treating, priming, and top coating. After proper surface preparation and pretreatment, exteriors will be painted with primer or topcoat.

m. Supporting Safety/Environmental Offices will conduct a quarterly survey and evaluation of all work centers that use or store CARC paint and provide assistance and guidance.

NOTE: *The CARC inventory has only two topcoat available offering lower Volatile Organic Compounds (VOC) and zero hazardous air pollutants (HAPs). Those are solvent-based CARC and Water Dispersible (WD) CARC. The solvents used to thin CARC contain high concentrations of VOCs. On the other hand, WD CARC is thinned with the de-ionized water further reducing the VOC concentration. In comparison, WD CARC has very low VOC level. To reduce health and environmental hazard, it is required that all equipment will be completely repainted or touch-up/spot painted with WD CARC if available. The WD CARC painting procedures are covered in TM 43-0139 and TB 43-0242. National Stock Numbers (NSNs) for wash primer, CARC primer, and topcoat are found in TM 43-0139 or TB 43-0242.*

2-2. Equipment Processing Procedures

a. Complete Repainting:

(1) Once determination has been made by the Field maintenance to do a complete repainting, the owning unit must provide a memorandum for fund citation to 19th ESC SPO (EANC-DGM-MAD), Unit #15015, APO AP 96218-5015, with the following information: LIN, Model, NSN, USA number, serial number, name of owning unit, and the date of equipment turned-in. Equipment scheduled for Theater Sustainment Repair Program (TSRP) will not be job ordered for complete repainting.

(2) When determination has been made by APS-4 to do a complete repainting, a cost reimbursable job order will be initiated by AF SBn-NEA Production Control Division and turned into MSC-K Production Control Division. The job order will be accompanied with the following

information: type of vehicle/equipment, bumper number, USA number, serial number, name of owning unit, and the date of equipment turned-in.

(3) When using contractor-operated facilities, units are required to coordinate their requirements directly with 19th SPO for an induction schedule. Under the current contract, units are not required to provide any funding for material, labor or transportation to or from the paint facility. Units will be notified if there is any change to this policy.

(4) MSC-K, located at Cp Carroll, Waegwan, services all areas on the peninsula for equipment in the TSRP. Equipment not enrolled in the TSRP will be job ordered as unscheduled maintenance known as the Theater Sustainment Repair and Return (TSRR). When a piece of equipment is submitted to MSC-K for TSRR, the unit is responsible for material. Other than Army units are required to reimburse MSC-K for material and labor.

b. Spot/Touch-up Painting. Painting at Field maintenance not equipped with a proper CARC paint boot is limited to touch-up or spot painting using a brush or a roller. Touch-up kits are available as an aerosol or as a non-aerosol with a sponge roller or brush applicator. NSNs are listed in TB 43-0242.

(1) Spot Painting. When a CARC/WD CARC painted surface is scraped, scratched or damaged, its resistance to chemical agents is lessened and it becomes susceptible to corrosion. Depending on the location and size of the area damaged, spot painting may be required. Use WD CARC only when you have to spot paint equipment painted with CARC. Likewise, only use WD CARC for adding unit identification markings (bumper markings).

(2) Touch-up painting. Touch-up painting is done to prevent corrosion, not for purely cosmetic reasons. If the paint is marred but not deep enough to see bare metal, you do not need to paint. Steps for touch-up painting will be IAW TB 43-0242.

2-3. Army Aircraft and Aviation Ground Support Equipment

a. CARC is the approved coating for all Army aircraft and Aviation Ground Support Equipment. Touch-up/spot painting of aircraft surfaces with CARC is authorized. Complete repainting of Army aircraft will be with single color CARC paint and the aircraft will be painted with a color based on the contingency mission environment. Instructions and procedures for the painting and marking of all Army aircraft, including standard approved materials, application and maintenance of coatings, finishing materials, special purpose coatings and markings, insignia, and identification markings are covered by TM 55-1500-345-23.

b. MSC-K and contractor-operated CARC paint facilities will be utilized for complete repainting of Aviation Ground Support Equipment. Only contractor-operated facilities are authorized to paint the Army aircraft.

c. 19th ESC SPO will determine and establish the location (CONUS versus local aircraft maintenance facilities) and method (contract or evacuation) for complete repainting of the aircraft.

d. Field Level:

(1) Limited minor touch-up/spot painting of aircraft surfaces using CARC will be IAW TM 43-0139 and TM 55-1500-345-23. Use a brush or one quart spray bottle for scratches, chips, or marring of painted surfaces.

(2) Aviation ground support equipment painted with CARC will have the word 'CARC' stenciled near the data plate in black, using one-inch letters.

(3) Aircraft requiring a complete CARC repainting as determined by supporting Aviation Maintenance Company (AMC) will be reported through the Brigade Aviation Maintenance Office (BAMO) to 19th ESC SPO (EANC-DGM-MAC, 768-8238/ 8237).

2-4. Health/Environmental Hazards and Safety Requirements

a. Vapor

(1) Spray painting results in significant aerosolization of paint and solvents. Painting materials may also contain lead, zinc chromate, chromium VI and hexamethylene diisocyanate (HDI). Exposure to solvent is expected in confined spaces during the brush or roller painting, drying or curing process. Welding and cutting operations on CARC coated metal can release significant quantities of isocyanate.

(2) Every effort must be made to ensure proper ventilation of paint area to rid the area of toxic vapors as quickly as possible. All personnel must be made aware of dangerous toxic vapors generated by CARC paint and trained on the use of proper respirator and other PPE. An effective respiratory protection program and use of PPE must be incorporated into SOP to safeguard the life and health.

b. Fire

(1) The mist generated from spray gun is highly flammable. Open cans containing paint removers, thinners, paints, primers, and oil or solvent-soaked cloths are a fire hazard.

(2) Accurate mixing of two component coatings, according to instructions provided with each kit, is crucial since sufficient amounts of material cause chemical polymerization to occur. Mixing must be conducted in a well ventilated mixing room or spraying area away from any open flames, welding torches, and combustion heaters. All mixing containers must be dry and clean, and personnel doing the mixing must wear eye protection and other PPE to ensure a full protection.

c. Contact with Paint Material

(1) Skin contact with paints, primers, removers and thinner can convey toxic material to food or water during the whole paint process.

(2) Avoid skin contact with paint material. Personal protective equipment will be worn to prevent skin contact.

d. Dust and Noise

(1) Grinding and sanding painted surfaces can expose personnel to hazardous dust with high concentrations of lead, zinc, copper, tin, chromium VI, and noise and eye injury hazard.

(2) Approved respirators, eye, and hearing protection must be used during grinding and sanding operation, and the area must have a noise and eye protection hazards signs posted.

e. Material Safety Data Sheets (MSDS): MSDS are prepared by the manufacturer and should accompany each single shipment or batch of paint, primer and thinner. Along with the product ingredients and specific protection information, the MSDS contains reactivity data, spill and disposal procedures, fire and explosion hazards, and health hazards data. It is a law that personnel working with these substances read and understand this critical information, and MSDS must be posted or filed in a location readily accessible to all workers exposed to the substances. Because of the variations involved, the MSDS must be reviewed for each shipment procured on a single purchase order. MSDS also assist management by directing attention to a need for specific control engineering, work practices and protective measures to ensure safe handling and use of material.

f. Medical Surveillance: Medical surveillance to detect adverse health effects will be determined by the installation medical authority (IMA) based on the specific constituents of the coating. In general, medical surveillance is required for anyone who works 30 or more days per year in paint operations where respiratory protection is required. Personnel involved in painting at Field/Sustainment maintenance will normally require surveillance. Vehicle and equipment operators and unit maintenance section personnel usually do not perform enough touch-up painting to warrant a medical surveillance. For military personnel who require medical surveillance, the supervisor must inform the supporting Medical Facility. For civilian workers, the Civilian Personnel Advisory Center (CPAC) must be notified of individual's entry requirement into the surveillance program. The CPAC is responsible for scheduling an individual for health screening and exams.

g. Storage: Paint thinner and supplies must be stored in an area that meets OSHA and local environmental standards. All opened cans containing paint, paint removers and thinners must be covered tightly before being stored.

h. Disposal: Unusable paint mixtures, paint components, primers, and thinners are considered hazardous waste that require a special handling and disposal in accordance with Federal, DOD, DA, local command, and host nation's hazardous waste regulations. Contractor-operated facilities will comply with Korean disposal and environmental laws and policies. Contractors will make coordination with the Administrative Contracting Officer for proper disposal guidance. This also applies to dried paint and primer waste. All military units must contact their Environmental Control Officer (ECO) for proper disposal guidance.

Appendix A References

AR 750-1, Army Materiel Maintenance Policy
(Available at <http://www.army.mil/usapa/epubs/index.html>)

AR 750-59, Army Corrosion Prevention and Control Program
(Available at <http://www.army.mil/usapa/epubs/index.html>)

PS Magazine, The Preventive Maintenance Monthly, Issue 668, July 2008, "Spot Painting Easier with WD CARC" (Available at <https://www.logsa.army.mil/psmag/pshome.cfm>)

TM 38-470, Storage and Maintenance of Army Prepositioned Stock Materiel
(Available at <https://www.logsa.army.mil/etms/index.cfm>)

TM 43-0139, Painting Instructions for Army Materiel
(Available at <https://www.logsa.army.mil/etms/index.cfm>)

TB 43-0144, Painting of Watercraft
(Available at <https://www.logsa.army.mil/etms/index.cfm>)

TB 43-0213, Corrosion Prevention and Control (CPC) for Tactical Vehicles (Available at <https://www.logsa.army.mil/etms/index.cfm>)

TB 43-0242, WD CARC Spot Painting
(Available at <https://www.logsa.army.mil/etms/index.cfm>)

TM 55-1500-345-23, Painting and Marking of Army Aircraft
(Available at <https://www.logsa.army.mil/etms/index.cfm>)

TB MED 502, Occupational and Environmental Health Respiratory Protection Program
(Available at <http://chppm-www.apgea.army.mil/tbm.htm>)

TG No. 144, Guidelines for Controlling Health Hazards in Painting Operations
(Available at <http://chppmwww.apgea.army.mil/documents/TG/TECHGUID/TG144.pdf>)

USFK Reg 201-1, Environmental Governing Standard (Available at http://8tharmy.korea.army.mil/G1_AG/index.htm)

USARPAC Policy on: Army Corrosion Prevention and Control Program (CPCP) Policy
Memorandum 04-09

**Glossary
Abbreviations**

8A	Eighth Army
19th ESC	19th Expeditionary Sustainment Command
AFSBn-NEA	Army Field Support Battalion-North East Asia
AMC	Army Material Command
AMC	Aviation Maintenance Company
AMCOM	Aviation and Missile Command
BAMO	Brigade Aviation Maintenance Office
CARC	Chemical Agent Resistant Coating
CECOM	Communications-Electronics Command
CPAC	Civilian Personnel Advisory Center
CPC	Corrosion Prevention and Control
DA	Department of Army
DOD	Department of Defense
ECO	Environmental Control Officer
HAPs	hazardous air pollutants
HDI	Hexamethylene Diisocyanate
IAW	in accordance with
IMA	Installation Medical Authority
KAL	Korean Air Lines Co. Ltd
LCU	landing craft utility
LIN	Line Item Number
LSV	Logistic support vessel
MSC-K	Materiel Support Center-Korea
MSDS	Material Safety Data Sheets

NSNs	National Stock Numbers
OSHA	Occupational Safety and Health Administration
OPCON	Operational Control
PMCS	preventative maintenance checks and services
PPE	personal protective equipment
SOP	Standing Operating Procedures
SPO	Support Operations Office
TACOM	Tactical Command
TDA	Table of Distribution and Allowance
TSRP	Theater Sustainment Repair Program
TSRR	Theater Sustainment Repair and Return
VOC	Volatile Organic Compounds
WD	Water Dispersible