

LESSON PLAN

**PART I
COVER SHEET**

LESSON TITLE: Camouflage, Concealment, and Deception (CCD) Program

TRAINING METHOD: Briefing

ORGANIZATIONAL PATTERN: Topical

REFERENCES: AFI 32-4007, Camouflage, Concealment, and Deception Program
JCCD Technical Report 94-1, Air Base Camouflage, Concealment, and Deception Guide

AIDS AND HANDOUTS: Video (PIN# 613113) Camouflage, Concealment, and Deception Program
RTP K3 Basic Principles and Assumptions of Camouflage, Concealment (CCD)
RTP K4 Lightweight Camouflage Screening (LCS)
RTP K5 Threat Sensor Types and Characteristics
RTP K6 Large Area Smoke Screen
RTP K7 Tonedown and Blackout Operations
RTP K8 Forestation and Vegetation (F/V) Projects
RTP K9 2-Dimensional, 3-Dimensional, and Multispectral Decoys
RTP K10 Operation of the A/E32U-13 Smoke Generator
RTP K11 Camouflage, Concealment, and Deception (CCD) Planning and Implementation

LESSON OBJECTIVE: Given a briefing on basic CCD knowledge the student will understand what types of things CCD planners must consider in developing an integrated CCD plan.

SUGGESTED COURSES OF INSTRUCTION: CCD User's Course
CCD Planning Course
CCD Trainer's Course

STRATEGY: This overview of the CCD program should provide students a basic understanding of what is involved to accomplish successful CCD efforts, ensure the student gains a good understanding of the main points, help the student visualize how each part of the puzzle must fit together, and finally, to stress the importance of CCD plan security. Although this lesson plan gives only an overview of CCD, additional RTPs will provide more in-depth details in the CCD world. Studying additional RTPs will complete taskings and training in CCD.

LESSON OUTLINE:

MAIN POINT 1. THE CCD PROGRAM

- a. PRIORITIES
- b. CAPABILITIES
- c. RESPONSIBILITIES
- d. READINESS PLANNING AND TRAINING
- e. UNITS PROVIDE FUNCTIONAL SUPPORT
- f. WRITING THE PLAN

MAIN POINT 2. AREAS OF CONCERN

- a. HISTORICAL PERSPECTIVE
- b. WEAPONS THAT THREATEN US

MAIN POINT 3. CCD METHODS

- a. HIDE
- b. BLEND
- c. DISGUISE
- d. DECOY

MAIN POINT 4. CCD MEASURES

- a. CAMOUFLAGE NETS
- b. DECOYS
- c. ELECTRONIC COUNTER MEASURES
- d. SMOKE OBSCURES
- e. TONEDOWN AND BLACKOUT
- f. FORESTATION AND VEGETATION

MAIN POINT 5. APPLYING CCD MEASURES

- a. PERMANENT MEASURES
- b. EXPEDIENT MEASURES

PART II

TEACHING PLAN

INTRODUCTION

ATTENTION:

Any potential adversary will have a difficult time infiltrating our lines of defense to inflict damage upon our bases. If the enemy is lucky enough to get through our defenses, they'll have little time to identify critical targets and discharge their weapons. What can we do to reduce their chances of having a successful mission?

MOTIVATION:

We can apply camouflage, concealment, and deception (CCD) measures. These measures reduce the effectiveness of the reconnaissance effort and the enemy's attacking force. This helps preserve our resources. Today will provide a foundation for this training. The famous tactician Sun Tzu (pronounced Soon Zoo) stated in 500 BC, all warfare is based on deception," which still holds true today.

OVERVIEW:

This lesson will cover the mission and objectives of the Air Force CCD program, the organization at base level, and the six areas of concern encountered when studying CCD.

TRANSITION:

Let's start with the mission of the Air Force CCD program.

BODY**MAIN POINT 1:
THE CCD
PROGRAM**

According to AFI 32-4007, Camouflage, Concealment, and Deception Program, the mission of the Air Force CCD program is to support Air Force war and contingency plans by minimizing the loss of operational capability during contingencies.

a. PRIORITIES

The highest priorities are force survivability and mission continuation.

b. CAPABILITIES

This mission includes the capability to reduce the effectiveness of attacking air and ground forces, as well as, reconnaissance assets.

c. RESPONSIBILITIES

The responsibilities for implementing the installation CCD program vary widely, but most units on the installation will play a role in the CCD effort. Let's take a look at some of the specific responsibilities.

1) MAJCOM

Each MAJCOM evaluates the threat and provides definitive guidance to each base. The integration of CCD into the installation defenses is based on location, threat, mission requirements, and organization structures. Specific requirements and tasks will be incorporated into the base and wing-wide measures by MAJCOM.

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| 2) COMMANDER'S PROGRAM | The installation or wing commander establishes a single, comprehensive program that supports all units. This CCD program guidance must be inserted into applicable operations orders, plans, directives, and similar documents. AFI 32-4007 contains additional information for accomplishing this. |
| a) INSTALLATION COMMANDER | The installation commander inserts CCD guidance into operational plans, operations orders, directives, and other similar documents, and ensures implementation during local readiness exercises. |
| b) DEPLOYMENT AND HOME STATION CCD | Among other tasks, the installation commander incorporates CCD considerations into deployment location plans, home station facilities, and landscaping when appropriate. |
| d. READINESS PLANNING AND TRAINING | The Civil Engineer Readiness Flight provides planning and personnel training for the program and ensures CCD is properly evaluated during assessments and readiness exercises. |
| 1) DEVELOPS PROGRAM | The readiness flight also develops the program by coordinating CCD planning documents and advises the commander on planned and programmed measures to ensure base operability during contingencies. |
| 2) ASSISTS SRC/CSS | The readiness flight also assists the Survival Recovery Center or Contingency Support Staff commander in CCD operations. |

3) DEVELOP CHECKLISTS	Readiness flight members will assist each unit's representatives as needed to develop unit checklists supporting the base CCD plan.
e. UNITS PROVIDE FUNCTIONAL SUPPORT	Each assigned or attached unit provides functional area support to the installations CCD program. This includes planning, training, procurement and operations.
1) IDENTIFY EQUIPMENT REQUIREMENTS	All units must identify requirements and budget, obtain, store, maintain, and use unit CCD equipment.
2) APPOINT UNIT CCD PROGRAM REPRESENTATIVE	Additionally, each unit appoints a unit CCD program representative to manage and coordinate unit aspects of the program.
f. WRITING THE PLAN	Planning is one of the most important factors that go into CCD. There are many important factors that go into creating and implementing a plan. The USAF Concept of Operations for CCD (CONOPS) provides detailed checklists for setting up a good plan.
MAIN POINT 2: AREAS OF CONCERN	Let's look at the major areas that are critical to the execution of a successful CCD program.

a. HISTORICAL
PERSPECTIVE

In the past, the Air Force has overlooked a great deal of knowledge previously gathered about CCD. History books reveal examples of the use of CCD in various forms throughout history. The Trojan Horse is perhaps one of the best known examples of a successful CCD employment.

b. WEAPONS THAT
THREATEN US

The second concern is the weapons that threaten and protect US forces.

1) KNOW THE
THREAT

Too often nations have prepared to defend against a threat that never occurred and failed to protect against the one that did. It is very important to be aware of the types of threats to an installation and its location.

2) WASTED EFFORT

The wrong defense results in wasted time, effort, money, and a false sense of security.

3) INFORMATION IN
CLASSIFIED
FORM

Most information on weapons of mass destruction is classified. Therefore, we can only touch on the non-classified areas throughout this course.

4) TARGET
ACQUISITION

We wonder how our adversaries acquire targets and why this is even important. The short answer is that understanding the enemy's acquisition methods helps to improve the way our forces employ countermeasures.

a) MOST COMMON
METHODS

The most common target acquisition methods are the human eye, video, radar, and infrared systems.

b) NAKED EYE

The human eye is the most effective and relied upon means for detecting, recognizing, and identifying targets. This method depends on many factors including target size, background contrast, meteorological conditions, and the time of day.

c) VIDEO
SYSTEMS

Video systems can greatly improve the eyeballs' capability to detect and recognize targets by extending its' range through telescopic means.

d) INFRARED
SYSTEMS

Infrared (IR) systems detect targets emitting thermal energy. For IR sensors to detect an object, the object must radiate a temperature different from that of its' background.

e) RADAR
SYSTEMS

Radar systems operate by emitting pulses of radio waves. When the pulse of energy arrives at an object, it is absorbed, scattered, or reflected. The reflected energy returns to the receiver where it is translated into a visual picture onto the enemy's radar scope.

**MAIN POINT 3:
CCD METHODS**

The Air Force uses the same four methods to develop a base CCD plan that are applied to fool target acquisition sensors. Although the methods of hide, blend, disguise, and decoy are each given separate names, when these methods are combined, they create a synergistic or teamwork effect.

a. HIDE

To hide is to completely conceal or screen a target from detection. Discovery of important targets by the enemy is prevented by positioning a physical barrier to block the view. Techniques useful for hiding targets include natural vegetation, nets, and screens.

b. BLEND

The objective of blending is to make an object look like or appear to be part of its background. In the visual band, this normally means coordinating the colors and brightness of the target with the background.

c. DISGUISE

A good disguise generates a false appearance so that the target looks like a non-target. For example, the roof of a large building can be made to appear like a parking lot with spaces painted on it.

d. DECOY

Decoys are objects which are constructed specifically to look like real items of equipment, structures, and operating surfaces. The objective is to draw the enemy's attention from the real targets - our assets to false ones. Decoys may be placed in areas where there is little or no equipment or activity.

INSTRUCTOR NOTE: RTP K3 contains additional information and describes, in detail, these four methods.

**MAIN POINT 4:
CCD MEASURES**

CCD measures or CCDMs represent the physical equipment or techniques applied that allow us to accomplish the four methods.

These include:

- Camouflage screens
- Decoys
- Electronic countermeasures
- Smoke/obscurants
- Tonedown/Blackout
- Forestation/Vegetation

Let's take a brief look at each one of these individually.

a. CAMOUFLAGE
SCREENS

Camouflage nets or screens have been used in various forms since before World War II. There have been great advances in technology for camouflage screening. New models are much more lightweight, multispectral in design, and better adapted to the environment.

b. DECOYS

Decoys are available in three categories: target decoys, decoy cues, and distracters.

1) FALSE CUES

Decoy cues are false cues. When an attacker looks for a target, they generally work from big to small, finding large objects and using that objects' location can orient themselves and find the location of a smaller object and so on until they find the target they are looking for.

2) CUES INCLUDE
FEATURES THAT
STAND OUT

Cues include lakes and rivers, road intersections, towers, large buildings, antennas, and other conspicuous features that stand out from their surroundings. Concealing the real cue by using hiding, blending, and disguising techniques or substituting a decoy in its place, can lead the attacker well away from targeting assets.

3) TARGET DECOYS

Target decoys are realistic imitations of targets positioned where they will become effective false targets, munitions absorbers, and where the munitions discharge will have minor impact on other assets or operations.

4) EXAMPLES OF
FALSE TARGETS

Examples of false targets include decoys representing vehicles, aircraft, and surface-to-air (SAM) sites, craters, false surfaces, or other high-value assets. Inflatable aircraft and refueling vehicle decoys are available which are extremely believable and take two people as little as 20 minutes to erect.

5) CUT LOSSES IN
HALF

Consider this concept: If we present ten targets to the enemy and only five of those are real, we reduce by fifty percent the likelihood of the enemy hitting one of the real target assets.

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| 6) PHOTOGRAPHS
OF DECOYS | These decoys along with many others currently exist in the DoD inventory. RTP K3 demonstrates the realistic fidelity of the new generation decoy aircraft and vehicles. The R-12 refueler and the F-16 aircraft in the photograph are both fully inflatable decoys. |
| 7) DISTRACTORS | The opposite of hiding and blending is using <i>distractors</i> to create confusion and disorientation of an attacker. These decoys should be detectable, however not identifiable. The effect draws attention, if only briefly, from the attackers target search routine. |
| 8) MOULAGE BOMB | Another possibility is moulage bomb damage placed or painted on buildings or runways to make the surface appear damaged. Decoy damage has proven to be successful at making enemies believe the target is out of service. |
| 9) SMOKE
GENERATORS | Finally, smoke generators are effective for not only concealing targets, but to also pull the attacker away from the intended target to the smoke screen where there is nothing to hide. |
| 10) COMBINE WITH
OTHER METHODS | Combining decoys with other CCDMs help decoys become very realistic. |
| c. ELECTRONIC
COUNTER
MEASURES | Electronic countermeasures are procedures, policies, and devices used to blind or fool an enemies' electronic detection, navigation, or bombing systems and sensors. These sensors include those operating in the ultraviolet, visual, radar, and infrared (IR) ranges. |

d. SMOKE
OBSCURANTS

Smoke is one of the oldest CCDMs and still one of the most effective. As technology improves, multispectral smoke may become available. Smoke has obscured visual, radar, and infrared signatures as proven during exercises such as Green Flag and Foal Eagle.

1) SMOKEY SAM
SIMULATORS

Smokey SAM simulators are a small unguided rocket producing the same white plume of smoke associated with the launch of man portable SAM's.

2) SUPPLEMENTS
CAMOUFLAGE

Smoke and obscurants should be considered in the concealment of the installation prior to and during attack. It can be used to supplement camouflage by aiding in concealing either the installation or a landmark which can be used to locate specific targets.

3) SMOKE
DISORIENTS

Studies indicate intense stress and disorientation can be placed upon the enemy resulting from the use of smoke. These same evaluations have been successful in concealing air base resources.

e. TONEDOWN AND
BLACKOUT

Tonedown lowers the visual conspicuousness of bases and is a basic practice used today which dates back to prehistoric times.

1) DISRUPT VIEW

For tonedown, paints and stains which are generically referred to as "coatings" are applied in uniform, disruptive, and geometric patterns.

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| 2) LOWER
CONTRAST | The main purpose for tonedown is simply to lower the contrast of equipment, facilities, and structures to more closely match the surrounding environment or background. |
| 3) DELAYS TARGET
ACQUISITION | Tonedown is <i>not</i> intended to prevent detection of a target, rather to delay target acquisition and cause the attacker to miss the window of opportunity in effectively launching weapons. |
| 4) BLACKOUT | Blackout is another exceptionally old form of CCD and a fundamental part of any CCD program. It is used as a basic protective procedure for most threat locations. |
| 5) DETER ENEMY'S
ATTENTION | Turning off outside lights, driving without the use of normal vehicular lighting, and covering windows and other openings from letting the light be seen can easily be accomplished and deter the enemy's attention. However, if your base is in the middle of a large city, blacking it out would cause it to be a darkened target. |
| f. FORESTATION AND
VEGETATION | Forestation is a popular program with commanders. It is a two-fold effect-an integral part of CCD, as well as, provides additional landscaping beauty on installations. |

1) PERMANENT
MEASURES

Forestation and vegetation are permanent CCD measures which contribute to the overall camouflage of the air base by blending it with the surrounding area. This measure is relatively inexpensive and effective for concealing critical targets.

2) REDUCES
APPARENT SIZE

Screening an object with trees and vegetation reduces the objects apparent size. This reduction makes detection and recognition more difficult.

3) REDUCES
SHADOWS

Vegetation is also used to accomplish large-scale patterning of open areas and to reduce shadows. The shade plants keep structures cooler and reduces thermal signatures.

**MAIN POINT 5:
APPLYING CCD
MEASURES**

CCD measures can be applied in two ways according to base requirements, location, and threat:

a. PERMANENT
MEASURES

Those measures that applied over the long term and become apparent to observation are “permanent” measures.

b. EXPEDIENT
MEASURES

Measures executed only in times of crisis and that are kept secret, are “expedient” measures.

CONCLUSION

SUMMARY:

I have just briefed you on the mission of the Air Force CCD program, the base level CCD organization, and the six areas of concern

REMOTIVATION:

A basic understanding of the CCD program can help prepare you for the role you will play in preserving an installation's resources, by applying strategies to reduce the effectiveness of enemy attacks.

CLOSURE:

This concludes this lesson.

TRANSITION:

(Develop locally to transition to the next topic.)

PART III
EVALUATION

STUDENT PERFORMANCE STANDARDS

TEST ITEMS

1. LESSON OBJECTIVE: Know the mission of the Air Force CCD Program

QUESTION: (TRUE OR FALSE)

According to AFI 32-4007, Camouflage, Concealment, and Deception Program, the mission of the Air Force CCD program is to support Air Force war and contingency plans by minimizing the loss of operational capability during contingencies.

- a. True
- b. False

Key: a. True

REFERENCE: Main Point 1

2. LESSON OBJECTIVE: Know the primary responsibility of the MAJCOM.

QUESTION: (MULTIPLE CHOICE)

Each _____ evaluates the threat and provides definitive guidance to each base.

- a. MAJCOM
- b. Unit Rep
- c. Base
- d. Wing Commander

Key: a. MAJCOM

REFERENCE: Main Point 1

3. LESSON OBJECTIVE: Recognize CONOPS as a source for building and implementing CCD Plans.

QUESTION: (TRUE OR FALSE)

The USAF Concept of Operations for CCD (CONOPS) provides detailed checklists for setting up a good CCD plan.

- a. True
- b. False

Key: a. True

REFERENCE: Main Point 1

4. LESSON OBJECTIVE: Know the four methods that aid CCD development.

QUESTION: (TRUE OR FALSE)

The Air Force uses four methods to develop a base CCD plan to deceive enemy target acquisition sensors. They are hide, blend, disguise, and decoy.

- a. True
- b. False

Key: a. True

REFERENCE: Main Point 3

5. LESSON OBJECTIVE: Know the two types of CCD measures.

QUESTION: (MULTIPLE CHOICE)

According to base requirements, location, and threat, CCD measures can be **applied** in two ways. They are _____.

- a. permanent deliberate
- b. counter and expedient
- c. desparate and permanent
- d. expedient and permanent

Key: d. expedient and permanent

REFERENCE: Main Point 5

PART IV
RELATED MATERIALS

- RTP K3 Basic Principles and Assumptions of Camouflage, Concealment (CCD)
- RTP K4 Lightweight Camouflage Screening (LCS)
- RTP K5 Threat Sensor Types and Characteristics
- RTP K6 Large Area Smoke Screen
- RTP K7 Tonedown and Blackout Operations
- RTP K8 Forestation and Vegetation (F/V) Projects
- RTP K9 2-Dimensional, 3-Dimensional, and Multispectral Decoys
- RTP K10 Operation of the A/E32U-13 Smoke Generator
- RTP K11 Camouflage, Concealment, and Deception (CCD) Planning and Implementation

TRAINING PACKAGE COMMENT REPORT

RTP # _____

RTP DATE: _____

For an *immediate response* to your questions concerning subject matter in this Readiness Training Package (RTP), contact the Office of Primary Responsibility(OPR)TSgt Ron Childs of the Contingency Training Section at DSN 523-6458 between 0700-1600 (CT), Monday through Friday. Otherwise, write, fax, or E-mail the OPR to make comments, suggestions, or point out technical errors in the areas of: references, body information, performance standards, test questions, and attachments.

NOTE: Do not use the Suggestion Program to submit corrections for printing or typographical errors.

Comments: _____

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