

**BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND**

**AIR FORCE MATERIEL COMMAND
INSTRUCTION 21-104**



9 MAY 2024

Maintenance

**CONTROLLED INTERVAL EXTENSION
(CIE) PROGRAMS**

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OPR: HQ AFMC/A4/10-EN

Certified by: HQ AFMC/A4/10
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Supersedes: AFMCI 21-104, 20 November 2019

Pages: 5

This instruction implements DAFPD 21-1, *Maintenance of Military Materiel*. It provides guidance and procedures for establishing and monitoring Controlled Interval Extension (CIE) programs for aerospace equipment. This publication applies to all AFMC Regular Air Force. This publication does not apply to United States Space Force, Air Force Reserve, or Air National Guard units. This AFMCI may be supplemented at any level. Refer recommended changes and questions about this publication to the Office of Primary Responsibility using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. Submit requests for waivers through the chain of command to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System.

SUMMARY OF CHANGES

This document has been revised and should be completely reviewed. Changes include content reorganization, cleanup, and reference updates.

1. Overview. CIE programs set up controlled conditions for extending or reducing maintenance and inspection intervals without sacrificing safety of flight or reliability. Terms and abbreviations used in this instruction are listed in [Attachment 1](#).

2. Responsibilities. This instruction assigns the following responsibilities:

2.1. Major Command (MAJCOM):

2.1.1. Identifies those systems for which a CIE program is recommended.

2.1.2. Exercises surveillance over CIE programs.

2.1.3. Reviews annually (as part of the Programmed Depot Maintenance (PDM) program review, if one exists) proposed CIE programs and the results of existing CIE programs.

2.1.4. Evaluates Program Office (PO) requests for deviations from CIE sample sizes.

2.2. Air Logistics Complex (ALC): Reviews annually (as part of the PDM program review, if one exists) proposed CIE programs and the results of existing CIE programs.

2.3. Program Office (PO):

2.3.1. Sets up and monitors required CIE programs for assigned aircraft.

2.3.2. Determines CIE program needs to include the length of extension, corresponding plateaus, and any special inspections required.

2.3.3. Encourages the using commands to participate in the CIE program by requesting their recommended extension intervals and additional inspection needs.

2.3.4. Publishes a special -6 technical order listing CIE aircraft by serial number and those additional special inspection requirements necessary to ensure airworthiness during the extended period.

2.3.5. Formulates the proposed CIE program as an integral part of the PDM package and submits for ALC and MAJCOM review.

2.3.6. Summarizes results of CIE programs as an integral part of the PDM package and submits for ALC and MAJCOM review.

2.3.7. Analyzes CIE report data and correlate with data from Analytical Condition Inspection (ACI), PDM, field reports, material deficiencies, accident reports and incident reports to develop recommendations for PDM interval changes.

2.3.8. Makes adjustments to technical order and depot inspection requirements resulting from analysis of CIE data.

2.4. Source of Repair (Organic or Contract):

2.4.1. Accomplishes ACI and PDM on CIE aircraft as programmed by the PO.

2.4.2. Reports significant deficiencies in detail immediately upon discovery to the responsible PO for guidance, corrective action, or disposition.

3. Procedures. Programmed depot maintenance (PDM) intervals are best determined by evaluating aircraft safety and reliability requirements, compared to weapon system and cost effectiveness. This technique relies heavily on maintenance requirements, known operational limits, and engineering judgment. By allowing a percentage of the force to exceed the established PDM interval, then comparing the amount of wear and damage found on them with that found on baseline PDM aircraft, the possibility of extending the interval can be evaluated. By extending the interval, mission readiness would increase, and overall cost would decrease; however, this must be done without sacrificing safety of flight or reliability. Alternatively, more frequent shorter

duration PDM cycles may provide increased aircraft availability, increased opportunities for economical repairs, and reduced field level maintenance and inspections.

3.1. CIE programs consist of plateaus. The number of aircraft placed on each plateau should follow the CIE Sample Sizes shown in **Table 1**. The time between plateaus is usually 6 to 12 months. Factors such as PDM tasks, missions, experience, environment and hourly or calendar age should be considered when selecting CIE aircraft and when determining time between plateaus. The mission, design and series (MDS) Force Size is the Total Active Inventory (TAI) (see AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*, Attachment 2).

Table 1. CIE Sample Sizes.

<i>Force Size (TAI)</i>	<i>Sample Size</i>
37-56	11
57-109	12
110-399	13
Note: CIE programs are not required for MDS forces of 36 or less.	

3.2. Example. For a force size of 100 aircraft with a 36-month PDM cycle and a CIE program for 42, 48, and 54 months, a total of 36 aircraft (12 aircraft at each plateau) are selected for CIE.

3.3. The MAJCOM is the authority for changes to the CIE sample sizes.

3.4. The selection of CIE sample aircraft must be finalized by coordination with the using command or commands.

3.5. Close observation of the effects of CIE on readiness and cost effectiveness is an integral part of the CIE program and should be a major consideration for continuing such an effort.

3.6. It may be necessary to selectively set up more thorough phased or isochronal inspection requirements on CIE sample aircraft to ensure critical equipment or components are in operating condition and to promote confidence in continued operation.

3.7. At the end of the CIE period, each CIE sample aircraft should be scheduled for PDM and considered as a prime candidate for including in an ACI sample.

4. Interface with Other Programs. ACI type reports of PDM inspections conducted on CIE and baseline PDM aircraft should provide data for analysis under the CIE program. Consideration should be given to combining ACI, PDM, and CIE programs on the same aircraft.

LYLE K. DREW, Brig Gen, USAF
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 Force Protection, and Nuclear Integration

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

DAFPD 21-1, *Maintenance of Military Materiel*, 21 February 2024

AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*, 27 September 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

Prescribed Forms

None

Adopted Forms

None

Abbreviations and Acronyms

ACI—Analytical Condition Inspection

ALC—Air Logistics Complex

CIE—Controlled Interval Extension

MDS—Mission Design Series

PDM—Programmed Depot Maintenance

PO—Program Office

TAI—Total Active Inventory

Office Symbols

HQ AFMC/A4/10—Logistics, Civil Engineering, Force Protection, and Nuclear Integration Directorate

HQ AFMC/A4/10-EN—Engineering, Technology & Technical Policy Division

Terms

Analytical Condition Inspection (ACI)—The systematic disassembly and inspection of a representative sample of aircraft to find hidden defects, deteriorating conditions, corrosion, fatigue, overstress and other deficiencies in the aircraft structure or systems.

Controlled Interval Extension (CIE)—The controlled extension of a programmed depot maintenance interval based on condition analyses of a representative sample of aircraft. This concept of a controlled interval adjustment can also apply to the reduction of depot maintenance intervals.

Plateau—The number of months a sample number of aircraft can exceed the normal programmed depot maintenance interval.

Programmed Depot Maintenance (PDM)—Depot level inspections and maintenance scheduled on a cyclic basis.