



CALS TEST NETWORK

**CTN Test Report
93-012**

**AFCTB-ID
92-063**



**Computer Graphics Metafile
Transfer Using:**



Texas Instruments Data



MIL-D-28003 (CGM)



Quick Short Test Report

5 October 1992



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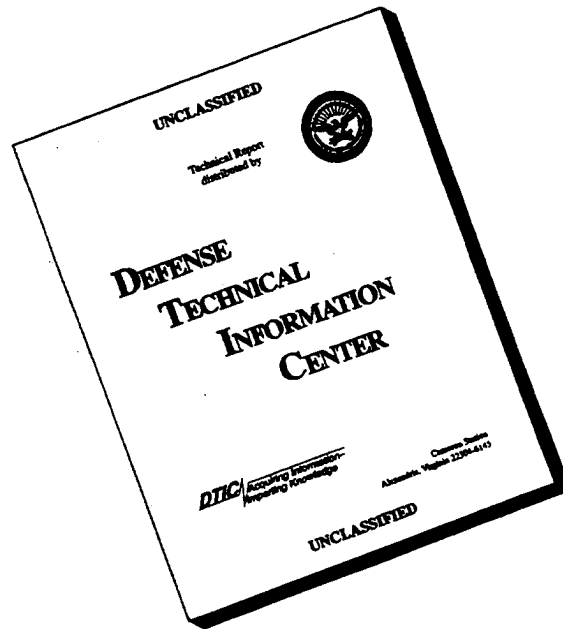
19960822 199



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Electronic Systems Center

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5 October 1992

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1. Introduction

1.1 Background

The Department of Defense (DoD) Computer-aided Acquisition and Logistics Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the CTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the CTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the CTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Texas Instruments' interpretation and use of the CALS Standards in transferring Computer Graphics Metafile data. Texas Instruments used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the CTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 92-063

Date of Evaluation: 5 October 1992

Evaluator: George Elwood
Air Force CALS Test Bed
HQ ESC/ENCS
4027 Colonel Glenn Hwy
Suite 200
Dayton, OH 45431-1601

Data Originator: Michael Hurn
Texas Instruments
6500 Chase Oaks Boulevard
P.O. Box 869305
Plano, TX 75086

Data Description: Technical Manual Test
1 Document Declaration file
6 Computer Graphics Metafile (CGM) files

Data Source System:

CGM

HARDWARE

Sun 4/60
Apollo 4000
Texas Instruments (TI) System 955

SOFTWARE

Art & Letter V3.12
Illustrator V7.8
Harvard Graphics 2.3
Micrographx Draw V 3.0
Micrographx CGM Translator 2.3

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

CTN Tapetool v1.2.8 UNIX

AGFA Compugraphics CAPS/CALS v40.4

MIL-D-28003 (CGM)

SUN SparcStation 2

AGFA CAPS *cgm2ps v6.0x*

ArborText *cgm2draw*

Island Graphics *IslandDraw 3.0*

Sun 3/60

Advanced Technology Corporation

(ATC) *CGM-View R2.0*

Cheetah Gold 486

ATC *MetaVIEW R 1.12*

ATC *MetaCHECK R 2.05*

Software Publishing Corporation

(SPC) *Harvard Graphics 3.0*

Inset Systems *HiJaak v2.02*

Xerox Ventura Publisher

Standards

Tested:

MIL-STD-1840A

MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was marked with the magnetic tape warning label, as required by MIL-STD1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files that were recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A tape was run through the CTN *Tapetool v1.2.8* utility. No errors were encountered while evaluating the contents of the tape labels.

3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file or data file headers.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on this tape.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included on this tape.

6. Raster Analysis

No Raster files were included on this tape.

7. CGM Analysis

The tape contained six (6) CGM files to be evaluated per the CALS MIL-D-28003 specification. None of the files were found to meet the current CALS specification; several did not meet the basic CGM standard.

The error log from the ATC *MetaCHECK* and the CTN *validcgm* are included in the appendix of this report.

All files were viewed, with varied results, using ATC's *MetaVIEW*. Files D001C001, 002, and 003 were displayed with reported errors.

The files were converted using ArborText's *cgm2draw* utility. All files converted without a reported error. The resulting files were imported into Island Graphics' *IslandDraw*. File C001 displayed and printed without a problem. File C002 did not display or print correctly. Part of the image was rotated 180 degrees, and the text along the bottom of the image printed across two pages. File C003 displayed correctly, but the text along the bottom of the image printed over two pages. File C004 displayed and printed correctly after the background was removed. File C005 displayed and printed without a problem. File C006 displayed and printed with heavy lines.

The files were printed using ATC's *CGM-View* software on the Sun 3/60. File C001 printed correctly. File C002 appeared to be missing some lines. Files C003, C004 and C005 appeared to be correct. File C006 printed with heavy lines and would be unusable.

The files were imported into SPC's *Harvard Graphics 3.05*. File C001 would be unusable because of the lack of definition in the pie charts. File C002 printed as dark shapes.

File C003 appeared to be correct. File C004 printed as a dark shape. File C005 appeared to be correct. File C006 printed as heavy dark lines that were unacceptable.

The files were imported directly into Island Graphics' *IslandDraw*. Files C001-C005 appeared to be correct after the the background was removed. File C006 displayed and printed as white on black. Removing the background made the image disappear. Other than the color, the image was correct.

The files were imported into the Xerox *Ventura Publisher*. All files with the exception of C002 appeared to be complete and correct. Several lines appear to be missing from file C002.

Because of the reported errors by ATC's *MetaCHECK* and CTN's *validcgm*, the files do not meet the CALS MIL-D-28003 specification.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape structure from Texas Instruments was correct. No errors were reported by either tape reading utility.

The CGM files were evaluated with a range of tools. The two parsers available in the AFCTB reported the files as not meeting the CALS MIL-D-28003 specification. Some of the files were reported as not meeting basic CGM standard.

The CGM files contained on this tape do not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:

- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- MIL-R-28003 (1988) - Digital Representation For Communication Of Illustration Data; CGM Application Profile
- ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Oct 2 12:16:38 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set097

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001C001	CGM	F/00080	00800/000005	Extracted
D001C002	CGM	F/00080	00800/000135	Extracted
D001C003	CGM	F/00080	00800/000029	Extracted
D001C004	CGM	F/00080	00800/000012	Extracted
D001C005	CGM	F/00080	00800/000006	Extracted
D001C006	CGM	F/00080	00800/000069	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8

Standards referenced:

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Oct 2 12:16:26 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CAL501

TI-TAPETOOL

4

Label Identifier: VOL1

Volume Identifier: CAL501

Volume Accessibility:

Owner Identifier:

Label Standard Version: 4

HDR1D001

CAL50100010001000000 92262 00000 000000TI-TAPETOOL

Label Identifier: HDR1

File Identifier: D001

File Set Identifier: CAL501

File Section Number: 0001

File Sequence Number: 0001

Generation Number: 0000

Generation Version Number: 00

Creation Date: 92262

Expiration Date: 00000

File Accessibility:

Block Count: 000000

Implementation Identifier: TI-TAPETOOL

HDR2D0204800260

00

Label Identifier: HDR2

Recording Format: D

Block Length: 02048

Record Length: 00260

Offset Length: 00

File Accessibility:
Block Count: 000000
Implementation Identifier: TI-TAPETOOL

HDR2F0080000080 00

Label Identifier: HDR2
Recording Format: F
Block Length: 00800
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 800 Bytes.

Number of data blocks read = 69.

***** Tape Mark *****

EOF1D001C006 CALS0100010007000000 92262 00000 000069TI-TAPETOOL

Label Identifier: EOF1
File Identifier: D001C006
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0007
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92262
Expiration Date: 00000
File Accessibility:
Block Count: 000069
Implementation Identifier: TI-TAPETOOL

EOF2F0080000080 00

Label Identifier: EOF2
Recording Format: F
Block Length: 00800
Record Length: 00080
Offset Length: 00

***** Tape Mark *****

***** Tape Mark *****

End of Volume CALS01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 0 warning(s),
and 0 note(s).

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

MIL-R-28002 (1989) - Raster Graphics Representation In Binary
Format, Requirements For

Fri Oct 2 12:16:38 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set097

Found file: D001

srcsys: Texas Instruments P.O.Box 869305 Plano, TX 75086

srcdocid: CALS TEST NETWORK TEST DOCUMENT 1

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19920918

dstsys: CALS TEST NETWORK AFLC LMSC/SJT WRIGHT-PATTERSON AFB, OHIO 44533-5001

dstdocid: TEXAS INSTRUMENTS TEST DOCUMENT 1

dstrelid: NONE

dtetrn: 19920918

dlvacc: NONE

filcnt: C6

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Product Data

docttl: NONE

Found file: D001C001

Extracting CGM Header Records...

Evaluating CGM Header Records...

srcdocid: NONE

dstdocid: NONE

txtfilid: NONE

figid: NONE

srcgph: NONE

doccls: UNCLASSIFIED

notes: NONE

Saving CGM Header File: D001C001_HDR

Saving CGM Data File: D001C001_CGM

<<<< PART OF LOG REMOVED HERE >>>>

Found file: D001C006
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: NONE
dstdocid: NONE
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
notes: NONE

Saving CGM Header File: D001C006_HDR
Saving CGM Data File: D001C006_CGM

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

9.4 Other Tape Reading Logs

No reported errors during the evaluation using Agfa CAPS read1840A.

10. Appendix B - CGM Detail Analysis

10.1 File D001C001

10.2 Parser Log MetaCHECK

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:09:55

Metafile Examined : \9263\c001.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

=====
===== Trace Report =====

Tracing not selected.

=====
===== CGM Conformance Violation Report =====

Bulletin 20024: Element Class/ID: 5/34 Offset: 314 octets Element No. 21
Warning; the definition of color index 0 differs from the
explicitly defined Background Color.

Error 6113: Element Class/ID: 5/24 Offset: 2228 octets Element No. 146
The Hatch Index value is invalid; it must either be negative (private)
or be positive and be one of the standardized or registered values.

=====
===== CALS CGM Profile (MIL-D-28003) Report =====

Error 6501: Element Class/ID: 1/2 Offset: 20 octets Element No. 3
The METAFILE DESCRIPTION string is invalid; it lacks the phrase
"MIL-D-28003/BASIC-1" required by the Profile.

Error 6521: Element Class/ID: 5/10 Offset: 2686 octets Element No. 216
The Text Font Index value is invalid; it must not exceed 4.

=====
===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:09:58

Name of CGM under test: \9263\c001.cgm
Encoding : Binary

10.3 Parser Log validcgm

Analysis for file c001.cgm using table table

MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1

(3, 20) (1, 2, 8) Metafile Description "HG V2.3"

more colour entries than max. color index

(21, 314) (5, 34, 98) Colour Table begin 0, 16 entries

(0, 0, 0)
(1000, 1000, 0)
(660, 0, 0)
(0, 660, 0)
(660, 0, 700)
(0, 330, 660)
(1000, 700, 0)
(700, 450, 0)
(0, 0, 0)
(0, 330, 660)
(660, 0, 0)
(0, 660, 0)
(660, 0, 700)
(1000, 1000, 0)
(1000, 700, 0)
(500, 500, 500)

MILSPEC 28003 error: illegal hatch index

(90, 1376) (5, 24, 2) Hatch Index 6

MILSPEC 28003 error: illegal hatch index

(104, 1680) (5, 24, 2) Hatch Index 6

MILSPEC 28003 error: illegal hatch index

(146, 2228) (5, 24, 2) Hatch Index 10

MILSPEC 28003 error: illegal text font index

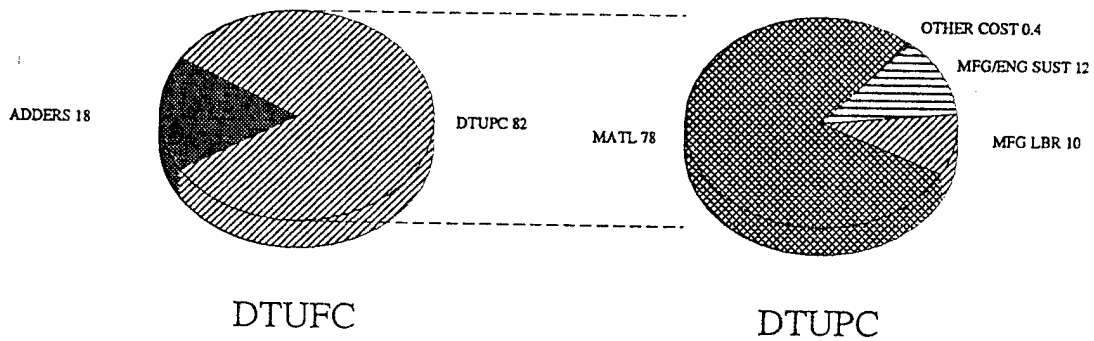
(216, 2686) (5, 10, 2) Text Font Index 6

(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(2, 1) occurred 1 time
(2, 2) occurred 1 time

(2, 3) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 1) occurred 1 time
(3, 5) occurred 31 times
(3, 6) occurred 31 times
(4, 1) occurred 2 times
(4, 4) occurred 11 times
(4, 7) occurred 10 times
(5, 2) occurred 5 times
(5, 3) occurred 1 time
(5, 4) occurred 5 times
(5, 10) occurred 4 times
(5, 14) occurred 8 times
(5, 15) occurred 6 times
(5, 16) occurred 12 times
(5, 18) occurred 12 times
(5, 22) occurred 17 times
(5, 23) occurred 21 times
(5, 24) occurred 24 times
(5, 27) occurred 10 times
(5, 28) occurred 1 time
(5, 29) occurred 1 time
(5, 30) occurred 21 times
(5, 34) occurred 1 time

10.3.1 Output cgm2draw/IslandDraw

JSOW COST CONTRIBUTORS AT PRICE

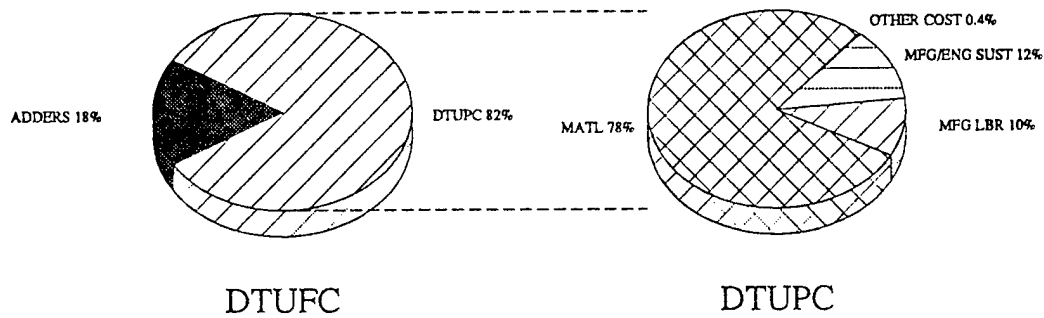


LOT 5 BREAKDOWN (GFY90\$)

FIGURE 4.1

10.3.2 Output CGM-View

JSOW COST CONTRIBUTORS AT PRICE

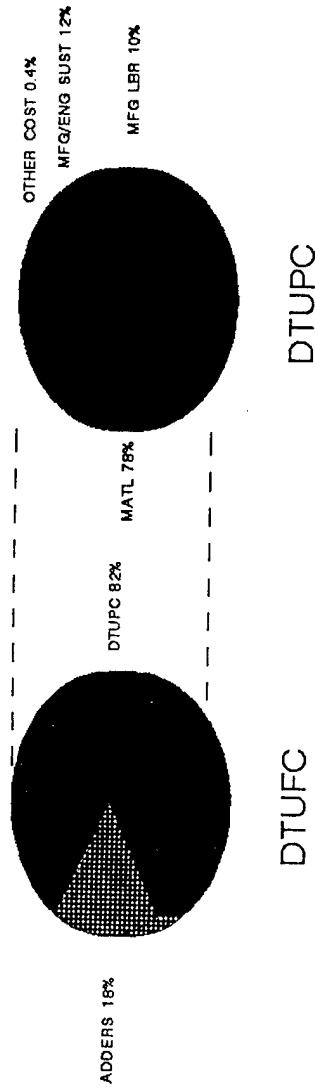


LOT 5 BREAKDOWN (GFY90\$)

FIGURE 4.1

10.3.3 Output Harvard Graphics V3.0

JSOW COST CONTRIBUTORS AT PRICE

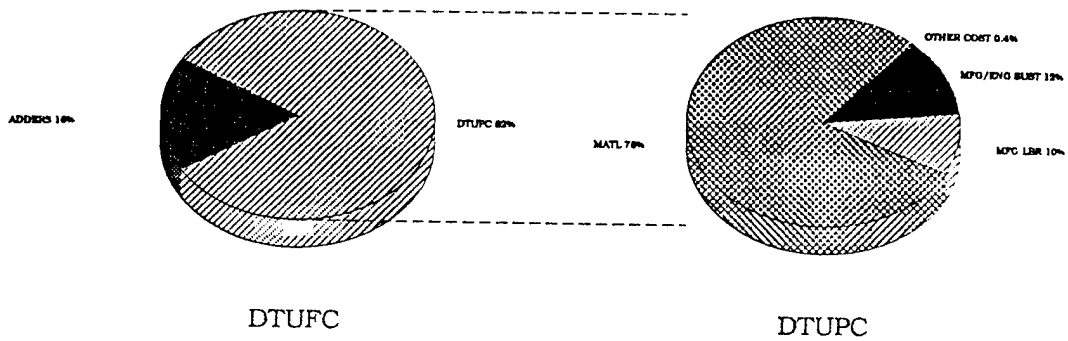


LOT 5 BREAKDOWN (GFY90\$)

FIGURE 4.1

10.3.4 Output IslandDraw

JSOW COST CONTRIBUTORS AT PRICE



LOT 5 BREAKDOWN (GFY90\$)

FIGURE 4.1

11. File D001C002

11.1 Parser Log MetaCHECK

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:10:06

Metafile Examined : \9263\c002.cgm

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

=====
===== Trace Report =====

Tracing not selected.

=====
===== CGM Conformance Violation Report =====

No Errors Detected

=====
===== CALS CGM Profile (MIL-D-28003) Report =====

Error 6515: Element Class/ID: 3/4 Offset: 300 octets Element No. 42
The Transparency Indicator is invalid; it must be 1 (on).

Error 6515: Element Class/ID: 3/4 Offset: 596 octets Element No. 57
The Transparency Indicator is invalid; it must be 1 (on).

<<<< PART OF LOG REMOVED HERE >>>>

Error 6515: Element Class/ID: 3/4 Offset: 106126 octets Element No. 954
The Transparency Indicator is invalid; it must be 1 (on).

Error 6515: Element Class/ID: 3/4 Offset: 106550 octets Element No. 959
The Transparency Indicator is invalid; it must be 1 (on).

=====
===== Conformance Summary Report =====

MetaCHECK Version 2.05 -\ CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:10:23

Name of CGM under test: \9263\c002.cgm
Encoding : Binary

11.2 Parser Log validcgm

Analysis for file c002.cgm using table table
MILSPEC 28003 error: transparency not on
(42, 300) (3, 4, 2) Transparency OFF
MILSPEC 28003 error: transparency not on
(57, 596) (3, 4, 2) Transparency OFF
MILSPEC 28003 error: transparency not on
(67, 3156) (3, 4, 2) Transparency OFF

<<<< PART OF LOG REMOVED HERE >>>>

MILSPEC 28003 error: too many points
(920, 92602) (4, 7, 5504) Polygon 1376 points

(2489, -1703) (-1703, 2488) (2488, -17 04)

(2487, -1705) (-1705, 2487) (2487, -17 06)

(2486, -1707) (-1707, 2486) (2486, -17 07)

(2485, -1708) (-1708, 2484) (2484, -17 08)

(2487, -1712) (-1712, 2491) (2491, -17 17)

(2498, -1727) (-1727, 2502) (2502, -17 32)

<<<< PART OF LOG REMOVED HERE >>>>

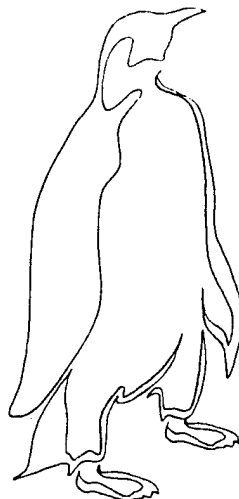
MILSPEC 28003 error: transparency not on
(954, 106126) (3, 4, 2) Transparency OFF
MILSPEC 28003 error: transparency not on
(959, 106550) (3, 4, 2) Transparency OFF
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time

(2, 1) occurred 1 time
(2, 2) occurred 1 time
(2, 3) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 1) occurred 1 time
(3, 3) occurred 167 times
(3, 4) occurred 167 times
(4, 1) occurred 4 times
(4, 4) occurred 2 times
(4, 7) occurred 169 times
(4, 17) occurred 2 times
(5, 2) occurred 4 times
(5, 3) occurred 167 times
(5, 4) occurred 3 times
(5, 14) occurred 1 time
(5, 15) occurred 1 time
(5, 16) occurred 2 times
(5, 18) occurred 1 time
(5, 22) occurred 37 times
(5, 23) occurred 15 times
(5, 27) occurred 1 time
(5, 28) occurred 167 times
(5, 29) occurred 3 times
(5, 30) occurred 34 times

11.2.1 Output cgm2draw/IslandDraw



11.2.2 Output CGM-View



Micrografx CGM translator version 4.0

11.2.3 Output Harvard Graphics V3.0



*Micrografx CGM translator version 4.0
DSNR01.DRW*

11.2.4 Output IslandDraw



icrografx CGM translator version 4.0
3NR01.DRW

12. File D001C003

12.1 Parser Log MetaCHECK

MetaCHECK Version 2.05J-- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:10:30

Metafile Examined : \9263\c003.cgm

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

=====
===== Trace Report =====

Tracing not selected.

=====
===== CGM Conformance Violation Report =====

Bulletin 20014: Element Class/ID: 5/25 Offset: 268 octets Element No. 38
Warning; a pattern index is being used without the corresponding pattern
table entry's having been previously specified.

Error Summary Message 20016.

Warning; the following pattern indices were used without being set: 4

=====
===== CALS CGM Profile (MIL-D-28003) Report =====

Error 6515: Element Class/ID: 3/4 Offset: 280 octets Element No. 41
The Transparency Indicator is invalid; it must be 1 (on).

Error 6515: Element Class/ID: 3/4 Offset: 322 octets Element No. 46
The Transparency Indicator is invalid; it must be 1 (on).

<<<< PART OF LOG REMOVED HERE >>>>

Error 6515: Element Class/ID: 3/4 Offset: 21960 octets Element No. 2234
The Transparency Indicator is invalid; it must be 1 (on).

Error 6515: Element Class/ID: 3/4 Offset: 22002 octets Element No. 2239
The Transparency Indicator is invalid; it must be 1 (on).

=====
===== Conformance Summary Report =====

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software

Execution Date: 10/05/92 Time: 09:10:41

Name of CGM under test: \9263\c003.cgm
Encoding : Binary

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

BEGIN METAFILE string : "Micrografx CGM Translator, version 4.00"
METAFILE DESCRIPTION : "MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 116; string contains: "1"

Conformance Summary : This file conforms to the CGM specification.

 However, this file does not satisfy
 the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

 1 Pictures Tested
 2248 Elements Tested
 22138 Octets Tested

0 Illegal CGM Elements	1000 -	1999
0 Incorrect CGM Element Lengths	2000 -	2999
0 CGM State Errors	3000 -	3499
0 Required CGM Elements Missing or Wrong	4000 -	4499
0 CGM Parameter Values Out of Range	6000 -	6499
0 CGM Structure Errors	7000 -	7499
0 *** CGM Errors Found (total)	***	
0 Profile State Errors	3500 -	3999
0 Illegal Profile Elements	4500 -	4999
406 Profile Parameter Values Out of Range	6500 -	6999
0 Profile Data Limits Exceeded	8500 -	8999
0 Other Profile Constraints Violated	9500 -	9999
406 *** Profile Violations Found (total)	***	
1 Warnings (Advisory Remarks)	20000 -	20999

2 distinct errors and warnings were reported.

===== End of Conformance Report =====

12.2 Parser Log validcgm

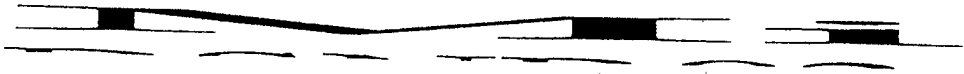
Analysis for file c003.cgm using table table
MILSPEC 28003 error: transparency not on
(41, 280) (3, 4, 2) Transparency OFF
MILSPEC 28003 error: transparency not on
(46, 322) (3, 4, 2) Transparency OFF

<<<< PART OF LOG REMOVED HERE >>>>

MILSPEC 28003 error: transparency not on
(2234, 21960) (3, 4, 2) Transparency OFF
MILSPEC 28003 error: transparency not on
(2239, 22002) (3, 4, 2) Transparency OFF
(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 5) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(2, 1) occurred 1 time
(2, 2) occurred 1 time
(2, 3) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 1) occurred 1 time
(3, 3) occurred 380 times
(3, 4) occurred 410 times
(4, 1) occurred 328 times
(4, 4) occurred 2 times
(4, 17) occurred 8 times
(4, 18) occurred 70 times
(5, 2) occurred 65 times
(5, 3) occurred 440 times
(5, 4) occurred 1 time
(5, 14) occurred 1 time
(5, 15) occurred 1 time
(5, 16) occurred 2 times

(5, 18) occurred 1 time
(5, 22) occurred 3 times
(5, 23) occurred 62 times
(5, 25) occurred 1 time
(5, 27) occurred 1 time
(5, 28) occurred 440 times
(5, 29) occurred 1 time
(5, 30) occurred 10 times

12.2.1 Output cgm2draw/IslandDraw



12.2.2 Output CGM-View



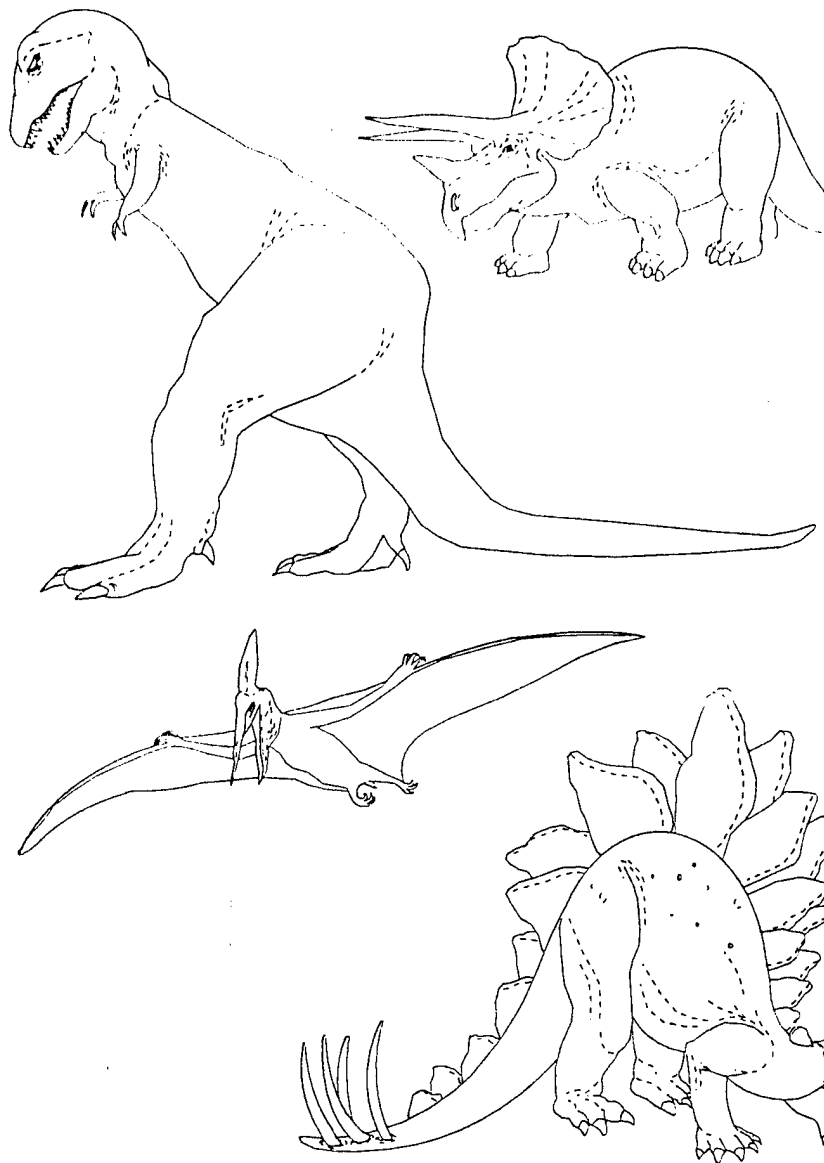
Micrografx CGM translator version 4.0

12.2.3 Output Harvard Graphics V3.0



Micrografix CGM translator version 4.0
DSNR02.DRW

12.2.4 Output IslandDraw



Micrografx CGM translator version 4.0
DSNR02.DRW

13. File D001C004

13.1 Parser Log MetaCHECK

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:10:49

Metafile Examined : \9263\c004.cgm
Pictures Examined : All
Elements Examined : All
Bytes Examined : All

=====
Trace Report
=====

Tracing not selected.

=====
CGM Conformance Violation Report
=====

Bulletin 20027: Element Class/ID: 4/7 Offset: 288 octets Element No. 21
Warning; a foreground color has been defined and referenced by a primitive,
while the background color has not been defined.

=====
CALC CGM Profile (MIL-D-28003) Report
=====

Error 4503: Element Class/ID: 0/3 Offset: 194 octets Element No. 8
The METAFILE DESCRIPTION element is not present; it is required in a CGM
conforming to the Profile.

=====
Conformance Summary Report
=====

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:10:52

Name of CGM under test: \9263\c004.cgm
Encoding : Binary

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

BEGIN METAFILE string : "CGM-A&L v3.11 (MIL-D-28003)/BASIC-1.

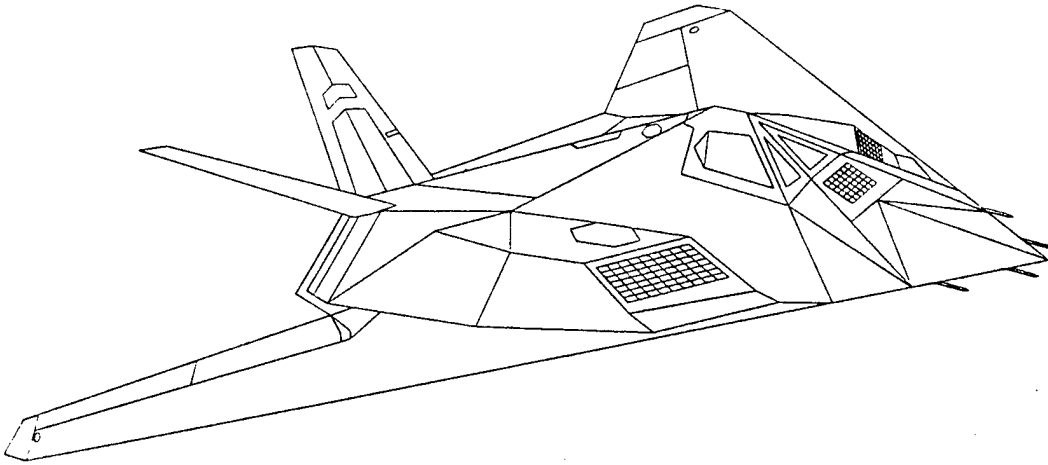
13.2 Parser Log validcgm

Analysis for file c004.cgm using table table

(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) never occurred, required by standard M
(1, 3) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(2, 1) occurred 1 time
(2, 2) occurred 1 time
(2, 3) occurred 1 time
(2, 6) occurred 1 time
(2, 7) never occurred, required by standard B
(4, 1) occurred 117 times
(4, 7) occurred 24 times
(5, 2) occurred 2 times
(5, 3) occurred 2 times
(5, 4) occurred 2 times
(5, 22) occurred 2 times
(5, 23) occurred 2 times
(5, 30) occurred 24 times
(5, 35) occurred 1 time

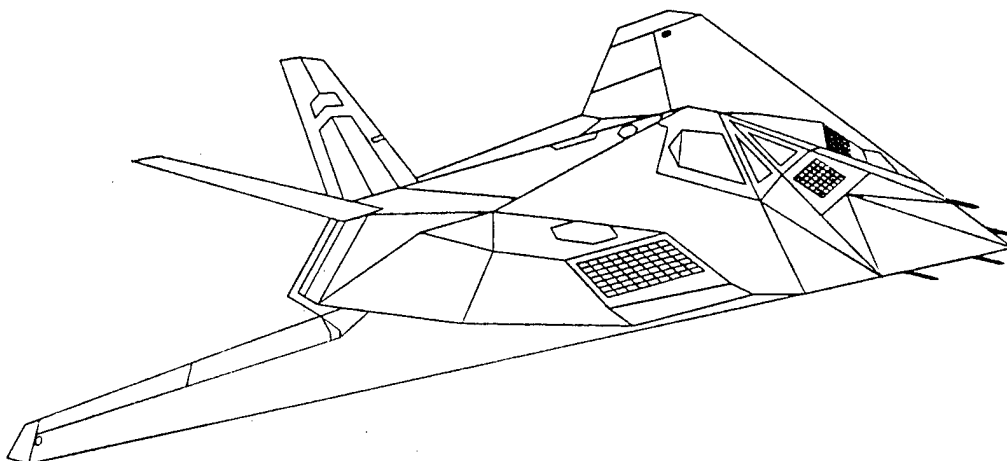
13.2.1 Output cgm2draw/IslandDraw

ARTS & LETTERS VERSION 3.12



13.2.2 Output CGM-View

ARTS & LETTERS VERSION 3.12



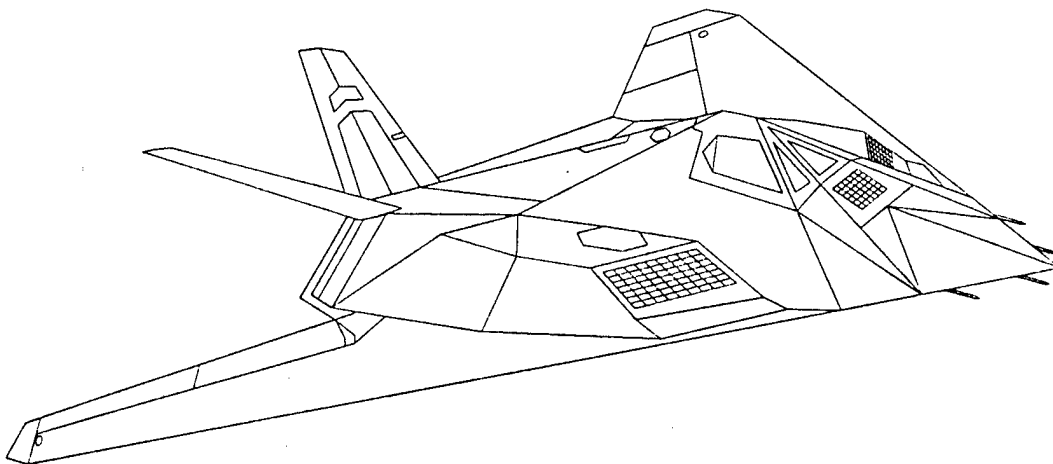
13.2.3 Output Harvard Graphics V3.0

ARTS & LETTERS VERSION 3.12



13.2.4 Output IslandDraw

ARTS & LETTERS VERSION 3.12



14. File D001C005

14.1 Parser Log MetaCHECK

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:10:59

Metafile Examined : \9263\c005.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

==== Trace Report =====

Tracing not selected.

==== CGM Conformance Violation Report =====

Bulletin 20024: Element Class/ID: 5/34 Offset: 314 octets Element No. 21
Warning; the definition of color index 0 differs from the
explicitly defined Background Color.

Error 6044: Element Class/ID: 4/4 Offset: 2982 octets Element No. 245
The Text string is invalid; it contains illegal character codes.

Error 6044: Element Class/ID: 4/4 Offset: 3152 octets Element No. 251
The Text string is invalid; it contains illegal character codes.

Error 6044: Element Class/ID: 4/4 Offset: 3316 octets Element No. 257
The Text string is invalid; it contains illegal character codes.

Error 6044: Element Class/ID: 4/4 Offset: 3412 octets Element No. 260
The Text string is invalid; it contains illegal character codes.

==== CALS CGM Profile (MIL-D-28003) Report =====

Error 6501: Element Class/ID: 1/2 Offset: 20 octets Element No. 3
The METAFILE DESCRIPTION string is invalid; it lacks the phrase
"MIL-D-28003/BASIC-1" required by the Profile.

==== Conformance Summary Report =====

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:11:02

Name of CGM under test: \9263\c005.cgm
Encoding : Binary

Pictures Examined : All
Elements Examined : All
Bytes Examined : All

BEGIN METAFILE string : "METAFILE.DAT"
METAFILE DESCRIPTION : "HG V2.3"

Picture 1 starts at octet offset 258; string contains: "PICTURE 1"

Conformance Summary : This file is not a conforming CGM.

Consequently, it does not meet the
CALC CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested
292 Elements Tested
3844 Octets Tested

0 Illegal CGM Elements	1000 -	1999
0 Incorrect CGM Element Lengths	2000 -	2999
0 CGM State Errors	3000 -	3499
0 Required CGM Elements Missing or Wrong	4000 -	4499
4 CGM Parameter Values Out of Range	6000 -	6499
0 CGM Structure Errors	7000 -	7499
4 *** CGM Errors Found (total)	***	

0 Profile State Errors	3500 -	3999
0 Illegal Profile Elements	4500 -	4999
1 Profile Parameter Values Out of Range	6500 -	6999
0 Profile Data Limits Exceeded	8500 -	8999
0 Other Profile Constraints Violated	9500 -	9999
1 *** Profile Violations Found (total)	***	

1 Warnings (Advisory Remarks)	20000 -	20999
-------------------------------	---------	-------

3 distinct errors and warnings were reported.

=====
===== End of Conformance Report =====

14.2 Parser Log validegm

Analysis for file c005.cgm using table table

MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1

(3, 20) (1, 2, 8) Metafile Description "HG V2.3"

more colour entries than max. color index

(21, 314) (5, 34, 98) Colour Table begin 0, 16 entries

(0, 0, 0)
(1000, 1000, 0)
(660, 0, 0)
(0, 660, 0)
(660, 0, 700)
(0, 330, 660)
(1000, 700, 0)
(700, 450, 0)
(0, 0, 0)
(0, 330, 660)
(660, 0, 0)
(0, 660, 0)
(660, 0, 700)
(1000, 1000, 0)
(1000, 700, 0)
(500, 500, 500)

(0, 1) occurred 1 time
(0, 2) occurred 1 time
(0, 3) occurred 1 time
(0, 4) occurred 1 time
(0, 5) occurred 1 time
(1, 1) occurred 1 time
(1, 2) occurred 1 time
(1, 3) occurred 1 time
(1, 4) occurred 1 time
(1, 6) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 10) occurred 1 time
(1, 11) occurred 1 time
(2, 1) occurred 1 time
(2, 2) occurred 1 time
(2, 3) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 1) occurred 1 time
(3, 5) occurred 3 times
(3, 6) occurred 3 times
(4, 4) occurred 74 times

(4, 7) occurred 5 times
(5, 2) occurred 1 time
(5, 3) occurred 1 time
(5, 4) occurred 1 time
(5, 10) occurred 12 times
(5, 14) occurred 3 times
(5, 15) occurred 4 times
(5, 16) occurred 75 times
(5, 18) occurred 75 times
(5, 22) occurred 1 time
(5, 23) occurred 3 times
(5, 24) occurred 2 times
(5, 27) occurred 1 time
(5, 28) occurred 1 time
(5, 29) occurred 1 time
(5, 30) occurred 3 times
(5, 34) occurred 1 time

14.2.1 Output cgm2draw/IslandDraw

FIGURE 4.4b BASELINE UNIQUE LOT-LOT MATERIAL I/C

- ▷ SUBDIVIDED MATERIAL INTO CATEGORIES: DISPENSER, DIVISIONAL, STRUCTURE BODY (NOSE), COMMON (OTHER)
- ▷ SELECTED IMPROVEMENT CURVES FOR EACH MATERIAL CATEGORY BASED ON HISTORY FOR SIMILAR DEVICES
- ▷ APPLIED SELECTED IMPROVEMENT CURVES TO LRIP BASE MATERIAL
- ▷ COMPOSITE I/C REFLECTS RESULTANT MATERIAL CURVE INCLUDING ADDERS

OTAL @ LOT 5	MATERIAL CATEGORY	LRIP QTY	LT 1	LT 2	LT 3	LT 4	LT 5	LT 6	PROD TOTAL
		300	1560	1560	1560	1560	1560	1520	8800
85.2	DISPENSER		84	87	88	88	91	92	87
14.5	STRUCTURAL (NOSE)		86	88	89	90	92	93	89
.2	DIVISIONAL		90	90	90	92	95	95	91
.1	OTHER		88	88	90	90	92	93	89
COMPOSITE PROD I/C			84	87	88	88	92	92	87

14.2.2 Output CGM-View

SUBDIVIDED MATERIAL INTO CATEGORIES: DISPENSER,
DIVISIONAL, STRUCTURE BODY (NOSE), COMMON (OTHER)

SELECTED IMPROVEMENT CURVES FOR EACH MATERIAL
CATEGORY BASED ON HISTORY FOR SIMILAR DEVICES

APPLIED SELECTED IMPROVEMENT CURVES TO LRIP BASE MATERIAL

COMPOSITE I/C REFLECTS RESULTANT MATERIAL CURVE INCLUDING
ADDERS

@ LOT 5	MATERIAL CATEGORY	LRIP	LT 1	LT 2	LT 3	LT 4	LT 5	LT 6	PROD TOTAL
		QTY 300	1560	1560	1560	1560	1560	1520	8800
85.2%	DISPENSER	84%	87%	88%	88%	91%	92%		87%
14.5%	STRUCTURAL (NOSE)	86%	88%	89%	90%	92%	93%		89%
.2%	DIVISIONAL	90%	90%	90%	92%	95%	95%		91%
.1%	OTHER	88%	88%	90%	90%	92%	93%		89%
COMPOSITE PROD I/C		84%	87%	88%	88%	92%	92%		87%

14.2.3 Output Harvard Graphics V3.0

FIGURE 4.4b BASELINE UNIQUE LOT-LOT MATERIAL I/C %

- SUBDIVIDED MATERIAL INTO CATEGORIES: DISPENSER, DIVISIONAL, STRUCTURE BODY (NOSE), COMMON (OTHER)
- SELECTED IMPROVEMENT CURVES FOR EACH MATERIAL CATEGORY BASED ON HISTORY FOR SIMILAR DEVICES
- APPLIED SELECTED IMPROVEMENT CURVES TO LRIP BASE MATERIAL
- COMPOSITE I/C REFLECTS RESULTANT MATERIAL CURVE INCLUDING ADDERS

% TOTAL MATERIAL @ LOT'S	MATERIAL CATEGORY	LRIP	LT 1	LT 2	LT 3	LT 4	LT 5	LT 6	PROD TOTAL
		300	1560	1560	1560	1560	1560	1520	8800
86.2%	DISPENSER		84%	87%	88%	88%	91%	92%	87%
14.5%	STRUCTURAL (NOSE)		86%	88%	89%	90%	92%	93%	89%
.2%	DIVISIONAL		90%	90%	90%	92%	95%	95%	91%
.1%	OTHER		88%	88%	90%	92%	93%	93%	89%

COMPOSITE PROD I/C	84%	87%	88%	88%	86%	92%	92%	92%	87%
--------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----

14.2.4 Output IslandDraw

FIGURE 4.4b BASELINE UNIQUE LOT-LOT MATERIAL I/C %

- ▷ SUBDIVIDED MATERIAL INTO CATEGORIES: DISPENSER, DIVISIONAL, STRUCTURE BODY (NOSE), COMMON (OTHER)
- ▷ SELECTED IMPROVEMENT CURVES FOR EACH MATERIAL CATEGORY BASED ON HISTORY FOR SIMILAR DEVICES
- ▷ APPLIED SELECTED IMPROVEMENT CURVES TO LRIP BASE MATERIAL
- ▷ COMPOSITE I/C REFLECTS RESULTANT MATERIAL CURVE INCLUDING ADDERS

TOTAL @ LOT 5	MATERIAL CATEGORY	LRP	LT 1	LT 2	LT 3	LT 4	LT 5	LT 6	PROD TOTAL
		QTY 300	1560	1560	1560	1560	1560	1520	8600
85.2%	DISPENSER		84%	87%	88%	88%	91%	92%	87%
14.5%	STRUCTURAL (NOSE)		86%	88%	89%	90%	92%	93%	89%
.2%	DIVISIONAL		90%	90%	90%	92%	95%	95%	91%
.1%	OTHER		88%	88%	90%	90%	92%	93%	89%
COMPOSITE PROD I/C			84%	87%	88%	88%	92%	92%	87%

15. File D001C006

15.1 Parser Log MetaCHECK

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:11:09

Metafile Examined : \9263\c006.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

=====
===== Trace Report =====

Tracing not selected.

=====
===== CGM Conformance Violation Report =====

No Errors Detected

=====
===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

=====
===== Conformance Summary Report =====

MetaCHECK Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-91 CGM Technology Software
Execution Date: 10/05/92 Time: 09:11:18

Name of CGM under test: \9263\c006.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "cgmblackf15smsh.dwg"

METAFILE DESCRIPTION : "Intercap CGM version 1.10 RWC
0.000000,0.000000,11.000000,8.500000 Page
11.000000,8.500000 Environment ENGLISH ***
MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 312; string contains: "BIN 1"

Application data elements encountered in CGM

Conformance Summary : This file conforms to the CGM specification.

This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested
791 Elements Tested
54296 Octets Tested

```
=====
|   No Errors Were Detected   |
=====
```

=====
===== End of Conformance Report =====

15.2 Parser Log validcgm

Analysis for file c006.cgm using table table

ERROR: invalid times used per CGM (2), std B

ERROR: invalid times used per Picture (2), std B

(14, 290) (1, 12, 10) Metafile Defaults Replacement

ERROR: illegal in this state (2), std B

ERROR: required precursor (0, 3) not yet seen

(14.1, 0) (2, 6, 8) VDC Extent (0, 0) (32767, 32767)

ERROR: invalid times used per CGM (3), std B

ERROR: invalid times used per Picture (3), std B

(15, 302) (1, 12, 4) Metafile Defaults Replacement

ERROR: illegal in this state (2), std B

ERROR: required precursor (0, 4) not yet seen

(15.1, 0) (5, 11, 2) Text Precision Stroke

(0, 1) occurred 1 time

(0, 2) occurred 1 time

(0, 3) occurred 1 time

(0, 4) occurred 1 time

(0, 5) occurred 1 time

(1, 1) occurred 1 time

(1, 2) occurred 1 time

(1, 3) occurred 1 time

(1, 4) occurred 1 time

(1, 5) occurred 1 time

(1, 6) occurred 1 time

(1, 7) occurred 1 time

(1, 8) occurred 1 time

(1, 9) occurred 1 time

(1, 10) occurred 1 time

(1, 11) occurred 1 time

(1, 12) occurred 3 times

(1, 12) occurred illegally 2 times

(1, 15) occurred 1 time

(2, 1) occurred 1 time

(2, 2) occurred 1 time

(2, 3) occurred 1 time

(2, 4) occurred 1 time

(2, 5) occurred 1 time

(2, 6) occurred 2 times

(2, 6) occurred illegally 1 time

(2, 7) never occurred, required by standard B

(3, 1) occurred 1 time

(4, 1) occurred 423 times

(4, 5) occurred 3 times

(4, 18) occurred 16 times

(5, 3) occurred 157 times

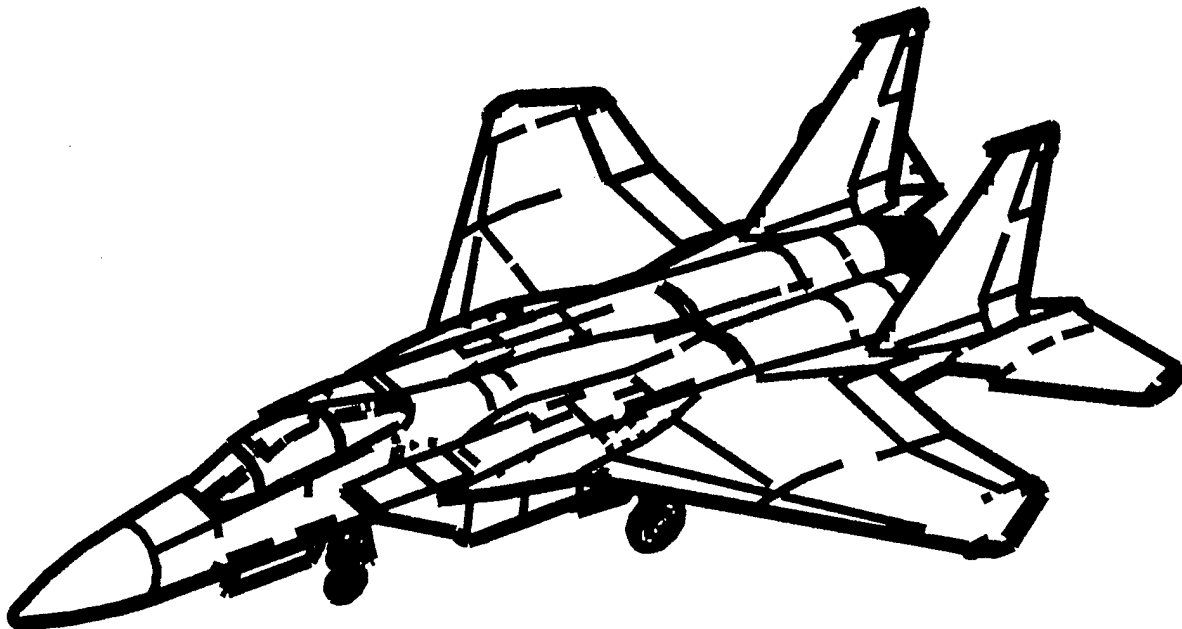
(5, 11) occurred 1 time

(5, 11) occurred illegally 1 time
(5, 12) occurred 1 time
(5, 13) occurred 1 time
(5, 15) occurred 3 times
(5, 16) occurred 1 time
(5, 18) occurred 1 time
(7, 2) occurred 159 times

15.2.1 Output cgm2draw/IslandDraw

cgmblackf15smsh.dwg

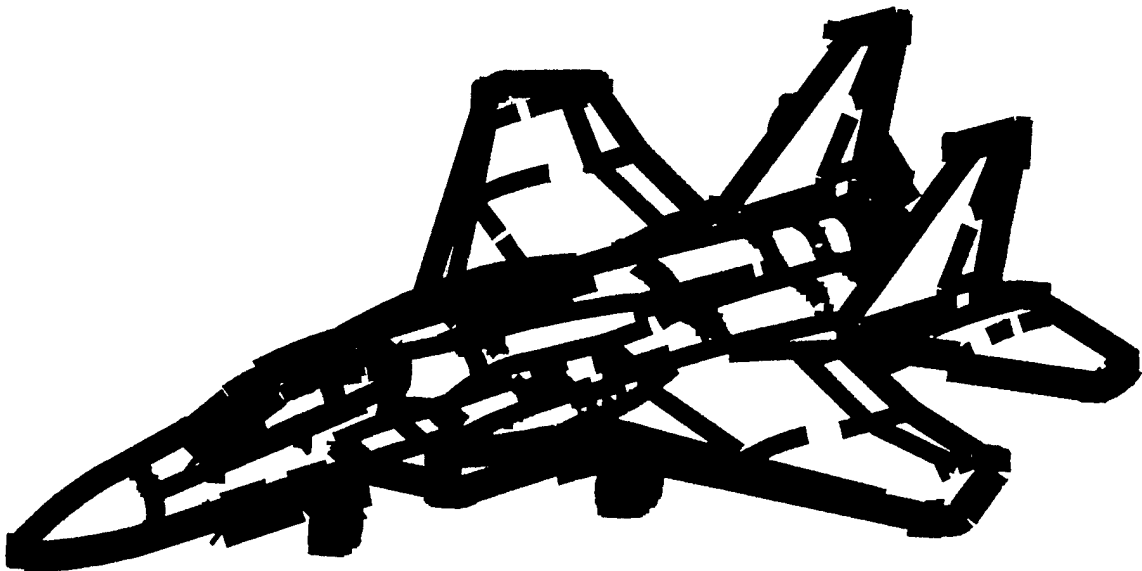
Drawing stored: //n4/intercap/users/a0200487/cgmblackf15.dwg
All layers defined as black. All arcs are smashed.



15.2.2 Output CGM-View

cgmblackf15smsh.dwg

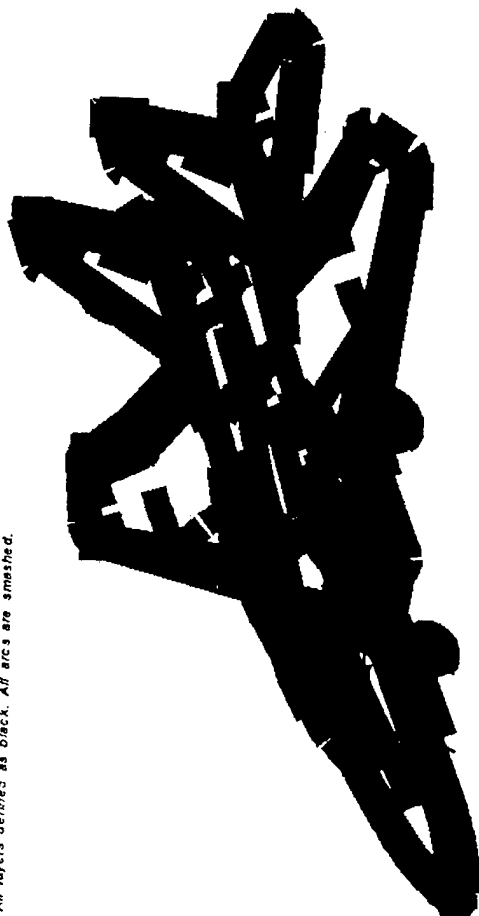
Drawing stored: //n4/intercop/users/a0200487/cgmblackf15.dwg
All layers defined as black. All arcs are smashed.



15.2.3 Output Harvard Graphics V3.0

cgmblock15smsh.dwg

Drawing stored: j:\timercap\users\0200487\cgmblock15.dwg
All layers defined as black. All arcs are smashed.



15.2.4 Output IslandDraw

