AFCTN Test Report 94-054

AFCTB-ID 93-106

Technical Publication Transfer

Using:

Sikorsky Aircraft's Data

MIL-R-28001A (SGML)
MIL-D-28003 (CGM)

Quick Short Test Report

30 November 1993

Prepared for
Electronic Systems Center
Det 2 HQ ESC/AV-2
4027 Colonel Glenn Hwy, Suite 300
Dayton, Ohio 45431-1672

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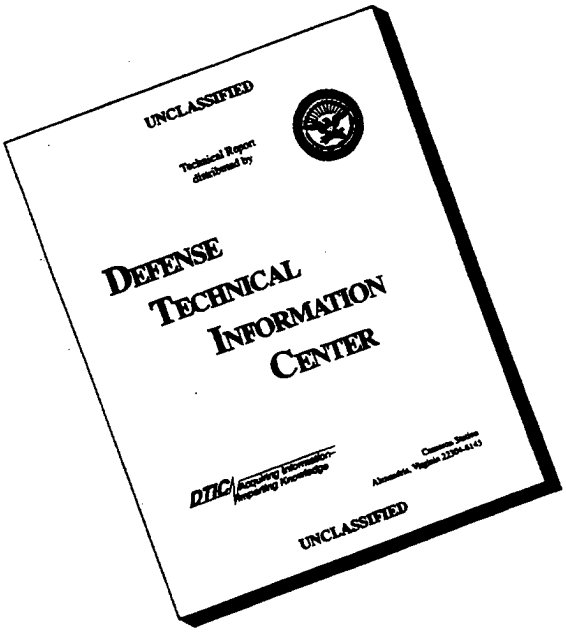

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30 November 1993

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) 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 AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN 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 AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN 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 AFCTN 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 Sikorsky Aircraft's interpretation and use of the CALS standards, in transferring technical publication data. Sikorsky used its CALS Technical Data Interchange System (see Data Source System list, of actual hardware and software used to create these tapes, on pages 3 and 4 of this report) to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape. They anticipate to deliver MIL-STD-1840A tapes to both U.S. Navy and U.S. Army customers in the very near future.

2. Test Parameters

Test Plan: AFCTB 93-106

Date of Evaluation: 30 November 1993

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
Frank Krasnicki
Sikorsky Aircraft
6900 Main Street
M/S B205A
P. O. Box 9729
Stratford CT 06497-9129

Data Description: Technical Manual Test
- 10 Document Declaration files
- 10 Document Type Definitions (DTD)
- 10 Text/Standard Generalized Markup Language (SGML) files
- 10 Format Output Specification Instance (FOSI) files
- 22 Computer Graphics Metafile (CGM) files

Data Source System:

1840

HARDWARE
- Unknown

SOFTWARE
- Unknown

Text/SGML

HARDWARE
- DEC 5000 Ulgrix RISC Workstations
- DEC 5500 Server

SOFTWARE
- ArborText Adept SGML Editor 5.0
- ArborText Adept 1840A Tape Utility

& Graphics Conversion Filters
Parlance Document Manager 1.3
Interbase Relational Database 3.2
Xyvision Parlance Publisher

CGM

HARDWARE

Auto-trol Apollo DN3550 Graphics Workstation
Auto-trol Apollo DSP 4500 servers

SOFTWARE

Auto-trol Tech Illustrator Plus 8.2.6
Auto-trol S5K/IGES Processor 6.0
Auto-trol S5K/CGM Converter 1.4
Auto-trol S5K/DXF AutoCad Converter 3.0

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN *Tapetool v1.2.10 UNIX*
XSoft *CAPS/CALS v40.4*

MIL-M-28001 (SGML)

SUN SparcStation 2

SoftQuad *Author/Editor v2.1*

PC 486/50

Exoterica *XGMLNormalizer v1.2e3.2*
Exoterica *Validator v2.0 ex1*
SoftQuad *Author/Editor v2.1*
McAfee & McAdam *Sema MARK-IT v2.3*
Public Domain *sgmls*

MIL-D-28003 (CGM)

SUN SparcStation 2

Carberry *CADLeaf Plus v3.1*
Island Graphics *IslandDraw v3.0*
Island Graphics *IslandDraw v4.0*

PC 486/50

Software Publishing Corporation
(SPC) *Harvard Graphics v3.05*
Inset Systems *HiJaak Pro v2.0*
Lotus *Freelance v2.01*
Micrografx *Designer v3.1*
Corel *Ventura Publisher*

Standards Tested:

MIL-STD-1840A
MIL-M-28001A
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 a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. The tape reel was missing the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Some 9-track tape units require this BPI to be set manually. Enclosed in the box was a packing list showing all files 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 tape was run through the AFCTN *Tapetool v1.2.10* utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using the XSoft *CAPS read1840A* utility without any reported errors. However, only the first document was read off the tape.

The physical structure of the tape meets the requirements defined in CALS MIL-STD-1840A.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration files and data file headers. This portion of the tape meets the requirements defined in CALS MIL-STD-1840A.

4. IGES Analysis

The tape contained no Initial Graphics Exchange Specification (IGES) files.

5. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and Text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

The tape contained ten DTD, ten Text, and ten FOSI files. Evaluation revealed that the last five DTD, FOSI and Text files were the same as the first five. For this reason, only one DTD and FOSI were parsed while all Text files were evaluated. The only stated difference between the files were missing cross references and external references in the first five files. These were reported by some of the parsers.

The Text and DTD files were tested using the Exoterica *XGMLNormalizer* parser. The DTD parsed without a reported error. When the first Text file was parsed, an error was reported in a missing CGM notation. When the line shown below was added to the DTD, no errors were reported in the first five Text files. Note, the remaining parsing operations were conducted with the CGM notation already included.

```
<!NOTATION cgm PUBLIC "-//USA-DOD//NOTATION Computer Graphics
Metafile//EN" >
```

When the second set of Text files were parsed, all had a reported error in a missing ID reference. Each file had a different report IDREF error. Shown below is the error from file D006T001.

```
C:\XGML\XGMLNORM.EXE --
Error on line 534 in file \93106\d006t001:
No element with ID declared for IDREF.
For IDREF 'APPHF18'.
```

The DTD files were evaluated using another utility available within the AFCTB. This utility reported many errors in the DTD which were not corrected. See the Appendix for the log file.

The Text and DTD files were evaluated using Exoterica's *validator exl* parser. No errors were reported but 10 warnings were issued. These warnings were the same for all ten DTD and Text files.

The Text and DTD files were evaluated using McAfee & McAdam's *Sema MARK-IT* parser. No errors were reported in any of the file sets from the first five or last five files.

The Text and DTD files were evaluated using the Public Domain *sgmls* parser. No errors were reported in the first five file sets. The second set of files had multiple errors reported as missing in the XREF.

The Text file from document one was selected for import into a software package available within the AFCTB. The corrected DTD file was parsed without a reported error. The FOSI was imported with warnings about variables defined but not referenced. Further checking of the provided FOSI showed they were the template FOSI provided by this software to permit parsing. The file set was successfully compiled and installed. The CGM graphics were converted and were displayed on the screen during the review. Without a real FOSI it was not possible to complete the document or print it.

Because of the missing CGM notation, the DTD did not parse. The SGML files do not meet the specification defined in CALS MIL-M-28001A.

6. Raster Analysis

The tape contained no Raster files.

7. CGM Analysis

The tape contained 22 Computer Graphics Metafile (CGM) files. The files were evaluated using another utility available within the AFCTB, with CALS options. This utility reported the 22 files do not meet the CALS MIL-D-28003 specification. All files were reported as having more than four fonts. It was also reported that undefined fonts were used in the file. Shown below is a sample of the font list error message from file D001C008.

```
Error 6508: Element Class/ID: 1/13   Offset: 90 octets Element No. 10
The FONT LIST element is invalid; it may not contain
more than 4 font names.
```

The CGM files were evaluated using the beta AFCTN *validcgm* utility. This utility reported that all 22 CGM files failed to meet the specification defined in CALS MIL-D-28003. This utility also reported the error of having more than four fonts in the files.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor and indication of CALS capability. All operations were performed using the default settings.

Because of the number of CGM files included in this submission, all files were converted and displayed on screen,

where possible, using all utilities available within the AFCTB. Only D001C008 and D004C005 were printed as examples of the displayed results.

The CGM files were converted using a utility available within the AFCTB, without a reported error. The resulting files were read into Island Graphics' *IslandDraw v3.1*, displayed and printed. The displayed and printed results appeared to be correct and complete after the black background was removed. Some text overflow was noted on file D001C008 which occurred because of the font selection.

The files were viewed using another software available within the AFCTB. The selected files were converted without a reported error. However, when displayed many additional lines appeared. The print file from D001C008 was too large for the printer in the AFCTB, which resulted in a partial output.

The files were read into Carberry's *CADLeaf* software and displayed. When initially displayed no text was visible. The text was black and the drawing had a black background. When the background was changed to white the entire image was displayed. The images appeared to be complete with some text overflow. Some of the pointer lines started within the text.

The files could not be read into Inset Systems' *HiJaak Pro v2.0*. All attempted files had the error "Real precision CGM not supported."

The files were imported directly into Island Graphics' *IslandDraw v4.0* without a reported error. When displayed the text was not visible because of the black background. When the background was removed the complete image was visible. When displayed it was noted that many of the arcs were shown incorrectly. Some arcs were noted as being missing. No text overflow was noted.

The files were imported into Lotus' *Freelance* without a reported error. Because of the black background no text was displayed. After the background was changed to white complete images appeared. Some text overflow was noted as well as text in the breakout boxes.

An attempt to imported the files into the Micrografx *Designer* resulted in an error message being displayed. The reported error was "Unrecognized data in the input stream."

According to Michael Harrison of Micrografx, "The version of Micrografx Designer used with this report has been replaced with Designer version 4.0 which reads and prints these files successfully."

The files were imported into SPC's *Harvard Graphics v3.05* with reported errors. Errors were reported in objects not being translated, clipped objects, and adjusted points. The resulting files were not usable because they consisted of lines, some arcs and some text.

The files were converted using Corel's *Ventura Publisher* without a reported error. When an attempt to bring the converted files into *Ventura Publisher* was made, the system reset itself. Nothing displayed.

Because of the number of fonts in the files, the CGM files do not meet the specifications defined in CALS MIL-D-28003.

8. Conclusions and Recommendations

The tape from Sikorsky Aircraft had no reported errors in the structure or CALS headers. This portion of the tape meets the CALS MIL-STD-1840A requirements.

The DTD had errors which had to be fixed before they would parse. The first five DTD files had a missing CGM reference, and the last five Text files had external references not addressed in the DTD. The SGML files do not meet the CALS MIL-M-28001A specification.

The CGM files do not meet the CALS MIL-D-28003 specification, because of more than four fonts being defined. The files could not be successfully imported by some of the software tools available in the AFCTB.

The tape submitted by Sikorsky Aircraft does not meet the CALS MIL-STD-1840A requirements, because of errors in the SGML and CGM files.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

```
CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Tue Nov 30 08:25:59 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set034

Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001C004	CGM	F/00080	00800/000040	Extracted
D001C005	CGM	F/00080	00800/000033	Extracted
D001C006	CGM	F/00080	00800/000024	Extracted
D001C007	CGM	F/00080	00800/000037	Extracted
D001C008	CGM	F/00080	00800/000208	Extracted
D001C009	CGM	F/00080	00800/000106	Extracted
D001G002	DTD	D/00260	02048/000016	Extracted
D001H003	Output Specification	D/00260	02048/000002	Extracted
D001T001	Text	D/00260	02048/000020	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

D010	Document Declaration	D/00260	02048/000001	Extracted
D010G002	DTD	D/00260	02048/000016	Extracted
D010H003	Output Specification	D/00260	02048/000002	Extracted
D010T001	Text	D/00260	02048/000003	Extracted

```
Catalog Process terminated normally.
```

9.2 Tape Evaluation Log

```
CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
  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

Tue Nov 30 08:24:27 1993

ANSI Tape Import Log

/dev/rmt0 allocated.

VOL1CALS01                              KRASNICK
4

  Label Identifier: VOL1
  Volume Identifier: CALS01
  Volume Accessibility:
  Owner Identifier: KRASNICK
  Label Standard Version: 4

HDR1D001                    00010001000100 93327 99364 000000UNIX4.2-PRODS

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier:
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0001
  Generation Version Number: 00
  Creation Date:  93327
  Expiration Date:  99364
  File Accessibility:
  Block Count: 000000
  Implementation Identifier: UNIX4.2-PRODS

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

############ End of Volume CALS01 ###############

############ End Of Tape File Set ###############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log

```
CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

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

Tue Nov 30 08:26:00 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set034

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Sikorsky Aircraft 6900 Main St. Stratford, Ct. 06601-1381
srcdocid: Para 3.1
srcrelid: TM1-1520-250-23
chglvl: ORIGINAL
dteisu: 19931124
dstsys: U.S. Army ATCOM
dstdocid: Para 3.1
dstrelid: TM1-1520-250-23
dtetrn: 19931124
dlvacc: NONE
filcnt: T1,G1,H1,C6
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Technical Order
docttl: Mn Ldg Gr Drag Beam and Axle

Found file: D001C004
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: Para 3.1
dstdocid: Para 3.1
txtfilid: W
figid: 3-2
srcgph: ak0078
doccls: UNCLASSIFIED
notes: NONE

Saving CGM Header File: D001C004_HDR
Saving CGM Data File: D001C004_CGM
```

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

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.

Found file: D002

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D002.

Found file: D003

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D003.

Found file: D004

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D004.

Found file: D005

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D005.

Found file: D006

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D006.

Found file: D007

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D007.

Found file: D008

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D008.

Found file: D009

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D009.

Found file: D010

<<<<< *PART OF LOG FILE REMOVED HERE* >>>>>

No errors were encountered in Document D010.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed SGML Analysis

10.1 Exoterica Validator Log

```
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "BODY".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "CDMTASK".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "DATE".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "DESCINFO".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "FAULTINF".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "MKBOOK".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "PARTINFO".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "PARTNAME".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
```

```
   appear in any accessible content model or it is completely excluded.
   The element is "SYSTEM".
-->
<!-- **Warning** in "106a.sgm", line 942:
   An element is not allowed in the document instance because it does not
   appear in any accessible content model or it is completely excluded.
   The element is "VOLUME".
-->
```

10.2 Datalogic Parser Log

```
            SGML Document Type Definition Parser
                      Version 3.36
                 An SGML System Conforming to
               International Standard ISO 8879
              Standard Generalized Markup Language

Log file: '106g1.LOG'
SDO File: 'ctndecl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '106g1.dtd'
Parsing DOCTYPE BHMAN

DTD0137: Incorrect token 'TEMP'.  Parser Ignoring Input Up To Next MDO.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!DOCTYPE'.
         in line 125 in file '106g1.dtd'
DTD0221: An unknown keyword was used in a marked section declaration.  Only
         TEMP, IGNORE, and INCLUDE are allowed in a Document Type Definition.
         CDATA and RCDATA are allowed in a document instance.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!DOCTYPE'.
         in line 138 in file '106g1.dtd'
DTD0137: Incorrect token 'IGNORE'.  Parser Ignoring Input Up To Next MDO.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!DOCTYPE'.
         in entity 'moduleatt'
         in line 412 in file '106g1.dtd'
DTD0221: An unknown keyword was used in a marked section declaration.  Only
         TEMP, IGNORE, and INCLUDE are allowed in a Document Type Definition.
         CDATA and RCDATA are allowed in a document instance.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
         In declaration: '<!['.
```

```
         In declaration: '<![['.
         In declaration: '<!DOCTYPE'.
         in entity 'moduleatt'
         in line 417 in file '106g1.dtd'
DTD0137: Incorrect token 'TEMP'.  Parser Ignoring Input Up To Next MDO.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<!DOCTYPE'.
         in entity 'text'
         in line 689 in file '106g1.dtd'
DTD0221: An unknown keyword was used in a marked section declaration.  Only
         TEMP, IGNORE, and INCLUDE are allowed in a Document Type Definition.
         CDATA and RCDATA are allowed in a document instance.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<![['.
         In declaration: '<!DOCTYPE'.
         in entity 'text'
         in line 693 in file '106g1.dtd'
DTD0096: The generic ID VOLUME has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID MKBOOK has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID PARTNAME has not been used in any content
         model, inclusion, or as a doctype element.
DTD0096: The generic ID DATE has not been used in any content
         model, inclusion, or as a doctype element.

DTD does not conform to ISO 8879 standard due to these errors:
    Syntax error count: 3
    Uncorrectable syntax error count: 3
.DTO file not created due to parsing errors.

Program status code: 5.
```

10.3 Exoterica XGMLNormalizer Parser

```
C:\XGML\XGMLNORM.EXE -- Error on line 534 in file \93106\d006t001: No element with ID
declared for IDREF. For IDREF 'APPHF18'.
```

10.3.1 Exoterica Validator - D006T001

```
<!--*** file:\XVALID\106B.SGM line:1061 pos:40476
Entered IDREF reference value (APPD) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1348 pos:63071
Entered IDREF reference value (APPHF18) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1006 pos:36143
Entered IDREF reference value (C1P42) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1002 pos:35871
Entered IDREF reference value (C2P31) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1004 pos:36001
Entered IDREF reference value (C2P32) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1066 pos:40917
Entered IDREF reference value (C2P5) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1127 pos:45674
Entered IDREF reference value (C3P2) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1007 pos:36252
Entered IDREF reference value (C3P6) has not been used as an ID for
an element in the currently open document.-->

<!--*** file:\XVALID\106B.SGM line:1009 pos:36358
Entered IDREF reference value (C3P8) has not been used as an ID for
an element in the currently open document.-->
```

10.4 Public Domain sgmls Log

10.4.1 D001G001/D001T001

```
sgmls: SGML error at \ws\106g1.dtd, line 870 at record end:
       Notation "CGM" not defined in DTD
TOTALCAP 70217/200000
  ENTCAP  6752/200000
ENTCHCAP  4938/200000
 ELEMCAP  6464/200000
  GRPCAP 31648/200000
EXGRPCAP   480/200000
 EXNMCAP   960/200000
  ATTCAP 13984/200000
ATTCHCAP   223/200000
AVGRPCAP  4768/200000
```

10.4.2 D006T001

```
sgmls: SGML error at \93106\d006t001, line 197 at """:
       XREFID = "C2P31" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       SPECPARA PARA

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

sgmls: SGML error at \93106\d006t001, line 64 at """:
       XREFID = "C2P32" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA
sgmls: SGML error at \93106\d006t001, line 506 at """:
       XREFID = "C2P5" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA

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

sgmls: SGML error at \93106\d006t001, line 532 at """:
       XREFID = "APPD" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA

                    <<<<< PART OF LOG FILE REMOVED HERE >>>>>
```

```
sgmls: SGML error at \93106\d006t001, line 408 at """:
       XREFID = "APPHF18" IDREF attribute ignored: referenced ID does not
       exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA
sgmls: SGML error at \93106\d006t001, line 205 at """:
       XREFID = "C1P42" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       SPECPARA PARA

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

sgmls: SGML error at \93106\d006t001, line 187 at """:
       XREFID = "C3P2" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA
sgmls: SGML error at \93106\d006t001, line 254 at """:
       XREFID = "C3P6" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA

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

sgmls: SGML error at \93106\d006t001, line 189 at """:
       XREFID = "C3P8" IDREF attribute ignored: referenced ID does not exist
       Element structure: BHMAN PARTIALDOC MODULE PARA0 SUBPARA1 TASK STEP1
       PARA

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

TOTALCAP 72527/200000
  ENTCAP  6048/200000
ENTCHCAP  4112/200000
 ELEMCAP  6464/200000
  GRPCAP 31648/200000
EXGRPCAP   480/200000
 EXNMCAP   960/200000
  ATTCAP 13984/200000
ATTCHCAP   223/200000
AVGRPCAP  4768/200000
   IDCAP   960/200000
IDREFCAP  2880/200000
```

11. Appendix C - Detailed CGM Analysis

11.1 File D001C008

11.1.1 Parser Log

```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 11/30/93     Time:  10:38:08

Metafile Examined    : \93106\c108.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 6508: Element Class/ID: 1/13   Offset: 90 octets Element No. 10
The FONT LIST element is invalid; it may not contain
more than 4 font names.

Error 6509: Element Class/ID: 1/13   Offset: 90 octets Element No. 10
Invalid list parameters; each of the Font Names in the FONT LIST element
must be among the Font Names allowed by the Profile.

Error 6521: Element Class/ID: 5/10   Offset: 133572 octets Element No. 2437
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 133818 octets Element No. 2453
The Text Font Index value is invalid; it must not exceed 4.

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

Error 6521: Element Class/ID: 5/10   Offset: 154896 octets Element No. 3055
The Text Font Index value is invalid; it must not exceed 4.
```

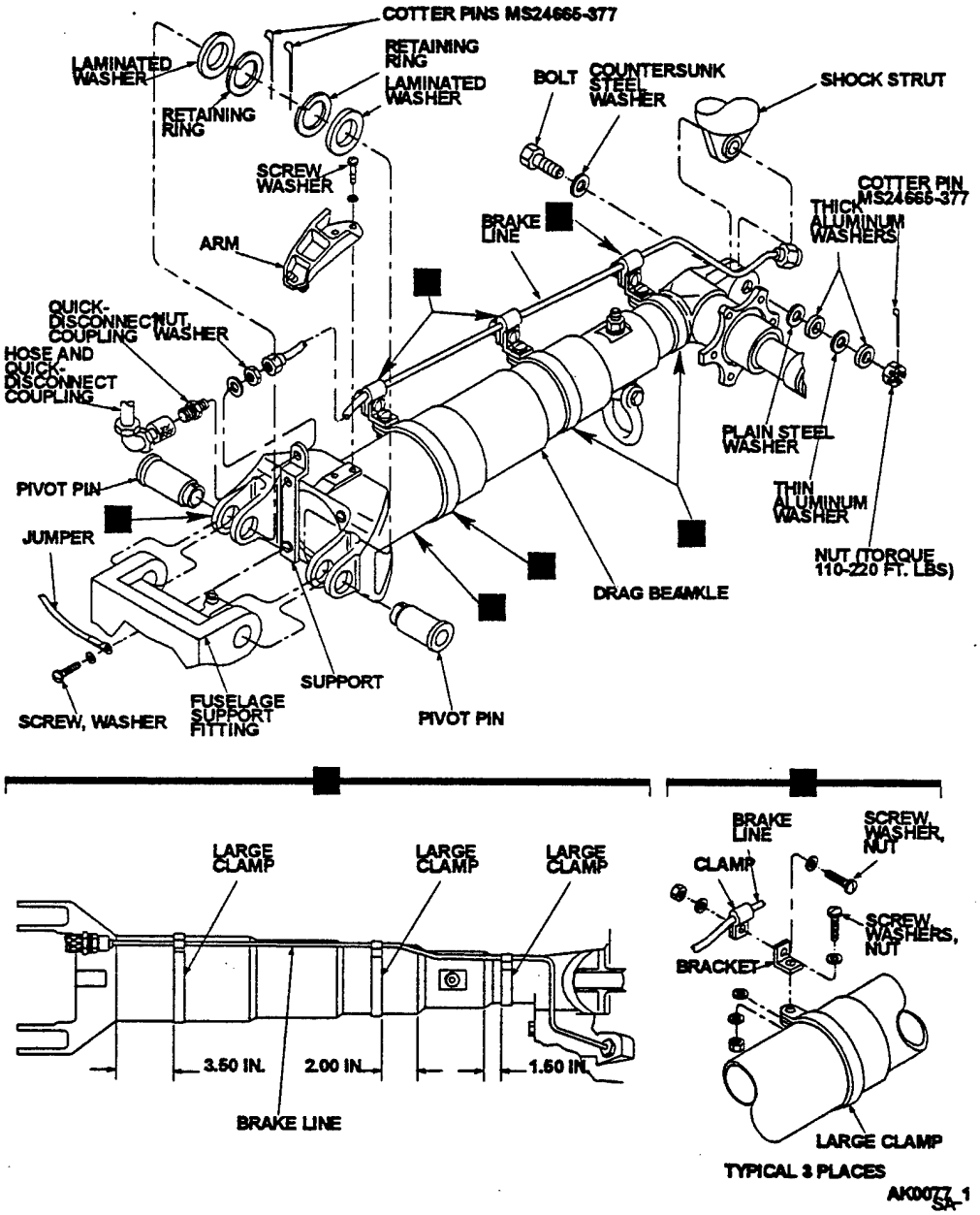
```
================ Conformance Summary Report ================

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 11/30/93     Time:  10:38:21

Name of CGM under test: \93106\c108.cgm
Encoding              : Binary

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

BEGIN METAFILE string : >ak0077_1<
METAFILE DESCRIPTION  : >AUTO-TROL/REL-1.0 MIL-D-28003/BASIC-<
                        >1<

Picture 1 starts at octet offset 388: >ak0077_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
       3266 Elements Tested
     165430 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
       7 Profile Parameter Values Out of Range       6500 -   6999
       0 Profile Data Limits Exceeded                8500 -   8999
       0 Other Profile Constraints Violated          9500 -   9999
       7     *** Profile Violations Found (total) ***

       3 distinct error(s) and warning(s) reported.

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

11.1.2 validcgm Log

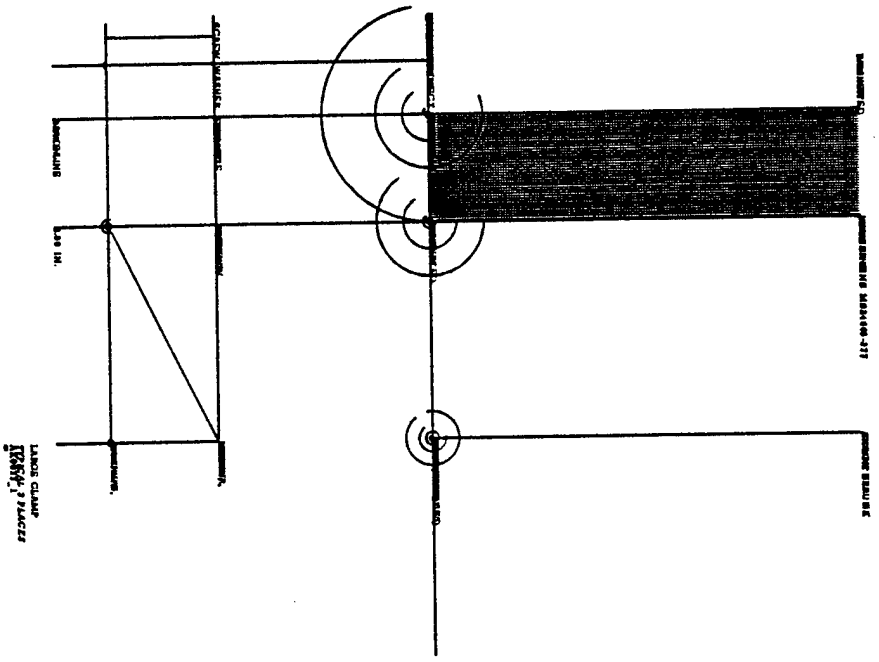
```
Analysis for file c108.cgm using table table
MILSPEC 28003 error: more than 4 fonts
(10, 90)          (1, 13, 294)    Font List
                                  "HERSHEY:SIMPLEX_ROMAN"
                                  "HERSHEY:SIMPLEX_GREEK"
                                  "HERSHEY:SIMPLEX_SCRIPT"
                                  "HERSHEY:COMPLEX_ROMAN"
                                  "HERSHEY:COMPLEX_GREEK"
                                  "HERSHEY:COMPLEX_SCRIPT"
                                  "HERSHEY:COMPLEX_ITALIC"
                                  "HERSHEY:DUPLEX_ROMAN"
                                  "HERSHEY:TRIPLEX_ROMAN"
                                  "HERSHEY:TRIPLEX_ITALIC"
MILSPEC 28003 error: illegal text font index
(2437, 133572)    (5, 10, 2)      Text Font Index 13
MILSPEC 28003 error: illegal text font index
(2453, 133818)    (5, 10, 2)      Text Font Index 14
MILSPEC 28003 error: illegal text font index
(2458, 133868)    (5, 10, 2)      Text Font Index 13
MILSPEC 28003 error: illegal text font index
(3052, 154870)    (5, 10, 2)      Text Font Index 12
MILSPEC 28003 error: illegal text font index
(3055, 154896)    (5, 10, 2)      Text Font Index 13
(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, 5) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 11) occurred 1 time
(1, 13) occurred 1 time
(2, 1) occurred 1 time
(2, 3) occurred 1 time
(2, 4) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 2) occurred 1 time
(4, 1) occurred 1652 times
```

(4, 4) occurred 82 times
(4, 7) occurred 336 times
(4, 12) occurred 2 times
(4, 15) occurred 70 times
(4, 17) occurred 14 times
(4, 18) occurred 38 times
(5, 2) occurred 2 times
(5, 3) occurred 123 times
(5, 4) occurred 75 times
(5, 10) occurred 5 times
(5, 13) occurred 2 times
(5, 14) occurred 13 times
(5, 15) occurred 17 times
(5, 16) occurred 1 time
(5, 18) occurred 1 time
(5, 22) occurred 10 times
(5, 23) occurred 40 times
(5, 28) occurred 9 times
(5, 29) occurred 46 times
(5, 30) occurred 673 times
(5, 34) occurred 34 times

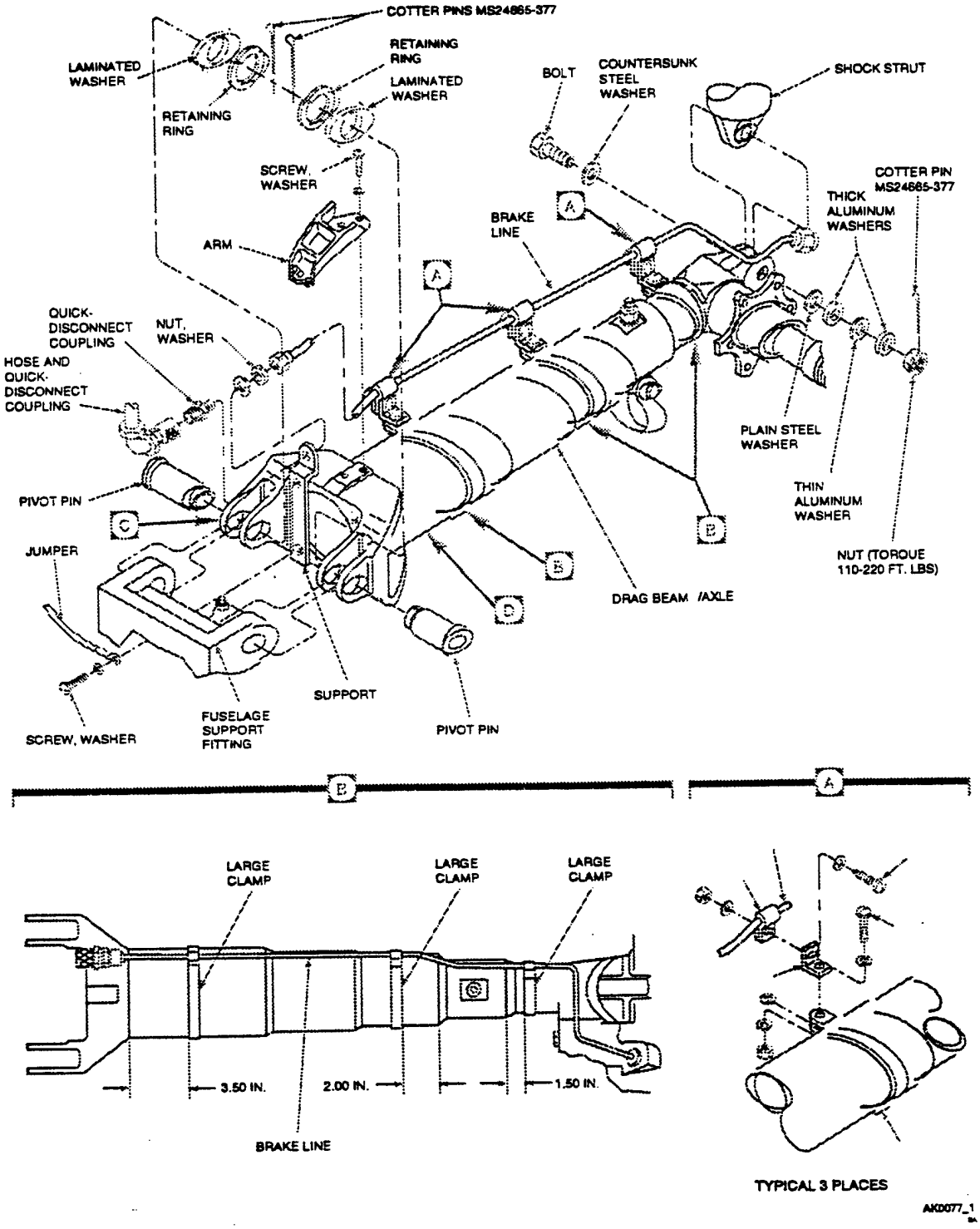
11.1.3 Output Freelance



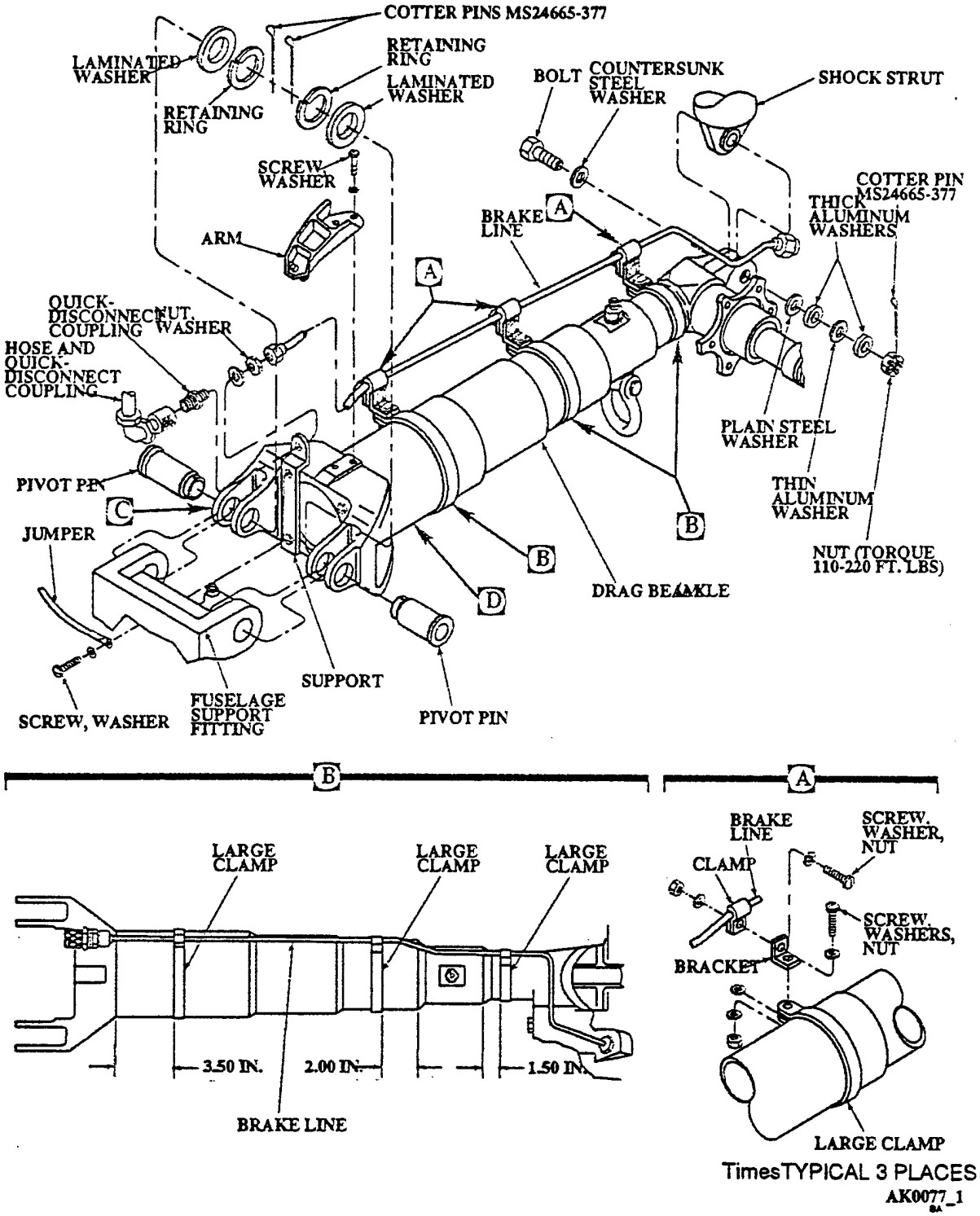
11.1.4 Output Harvard Graphics



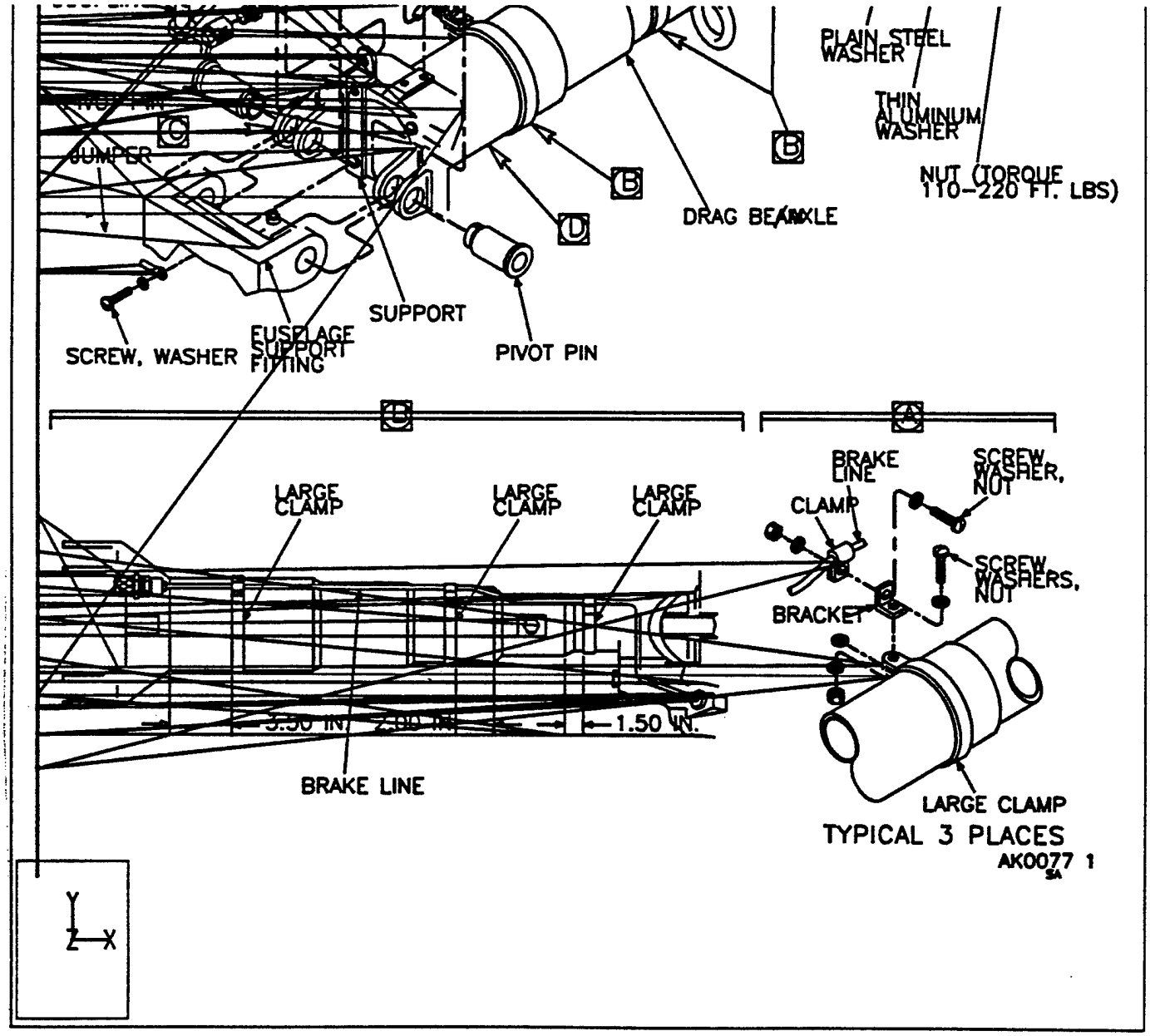
11.1.5 Output IslandDraw V4.0



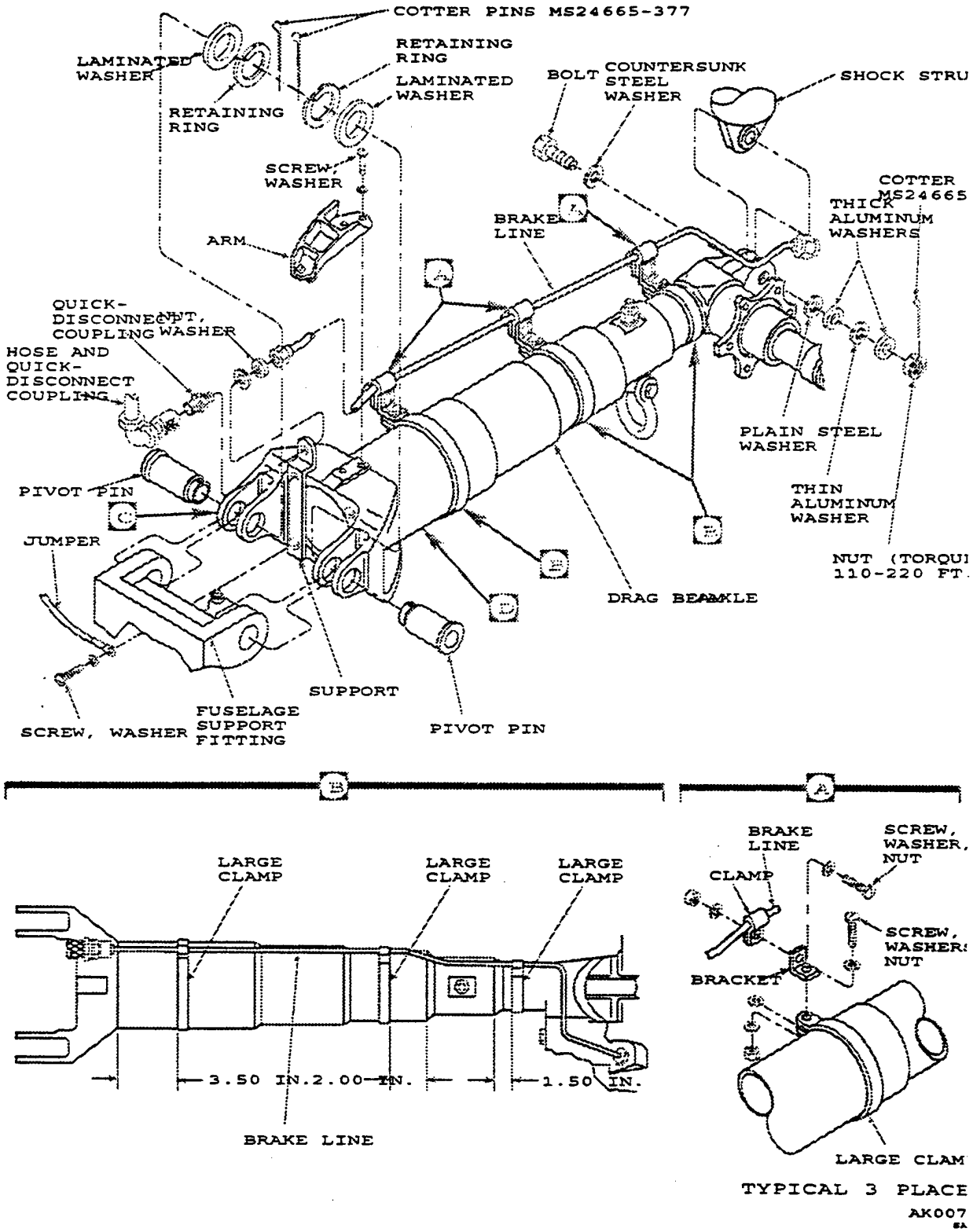
11.1.6 Output IslandDraw



11.1.7 Output Generic



11.1.8 Output Cadleaf



11.2 File D004C005

11.2.1 Parser Log

```
CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 11/30/93     Time:  10:39:30

Metafile Examined    : \93106\c405.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 6508: Element Class/ID: 1/13   Offset: 90 octets Element No. 10
The FONT LIST element is invalid; it may not contain more than 4 font names.

Error 6509: Element Class/ID: 1/13   Offset: 90 octets Element No. 10
Invalid list parameters; each of the Font Names in the FONT LIST element
must be among the Font Names allowed by the Profile.

Error 6521: Element Class/ID: 5/10   Offset: 71412 octets Element No. 1285
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 79110 octets Element No. 1657
The Text Font Index value is invalid; it must not exceed 4.

Error 6521: Element Class/ID: 5/10   Offset: 79136 octets Element No. 1660
The Text Font Index value is invalid; it must not exceed 4.

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

CGM/MIL-D-28003 Conformance Analyzer
Copyright 1988-93 CGM Technology Software
Execution Date: 11/30/93     Time:  10:39:38
```

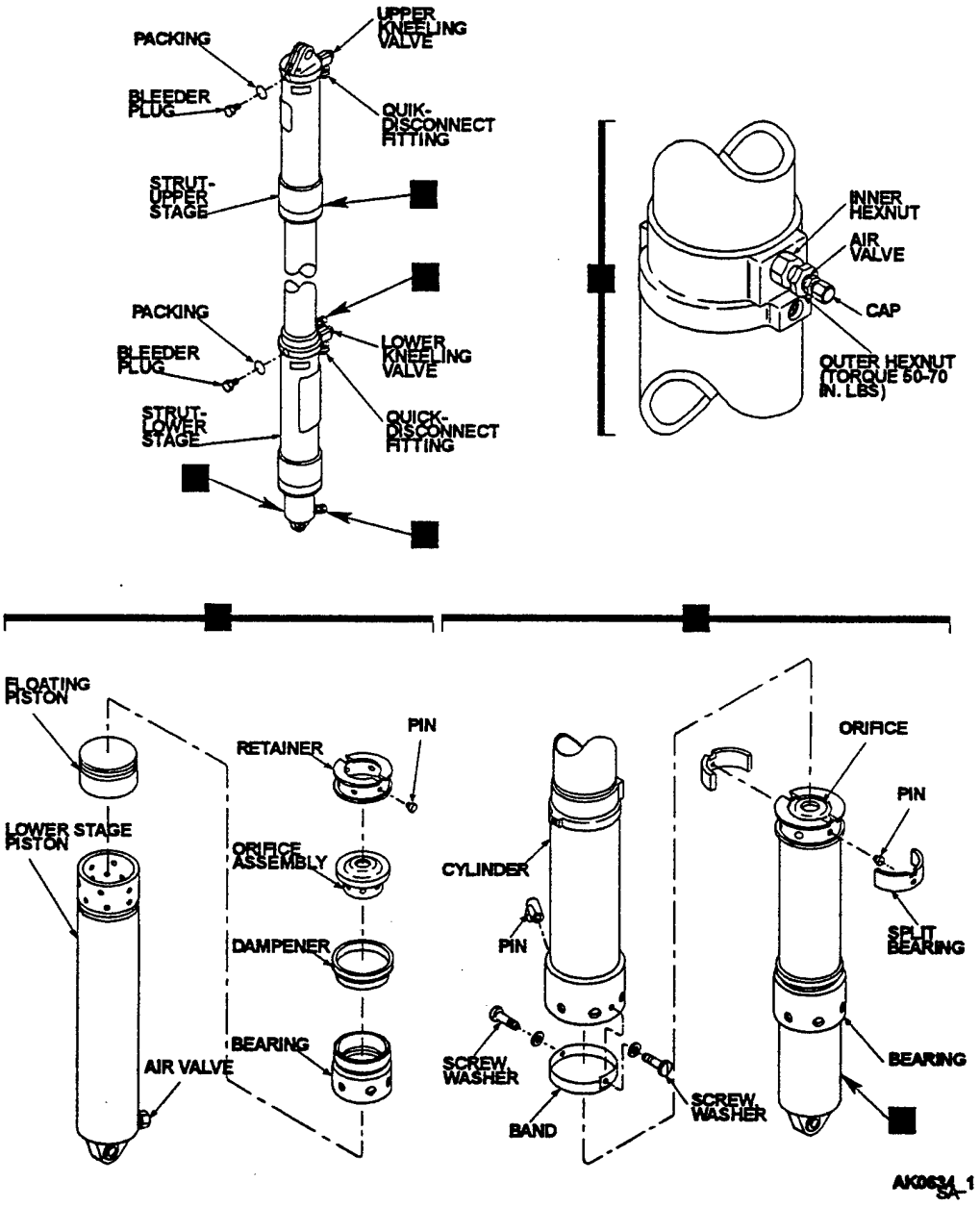
```
Name of CGM under test: \93106\c405.cgm
Encoding              : Binary

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

BEGIN METAFILE string : >ak0634_1<
METAFILE DESCRIPTION  : >AUTO-TROL/REL-1.0 MIL-D-28003/BASIC-<

Picture 1 starts at octet offset 388: >ak0634_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
       1806 Elements Tested
      85774 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
        5 Profile Parameter Values Out of Range       6500 -   6999
        0 Profile Data Limits Exceeded                8500 -   8999
        0 Other Profile Constraints Violated          9500 -   9999
        5     *** Profile Violations Found (total) ***

        3 distinct error(s) and warning(s) reported.

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

11.2.2 validcgm Log

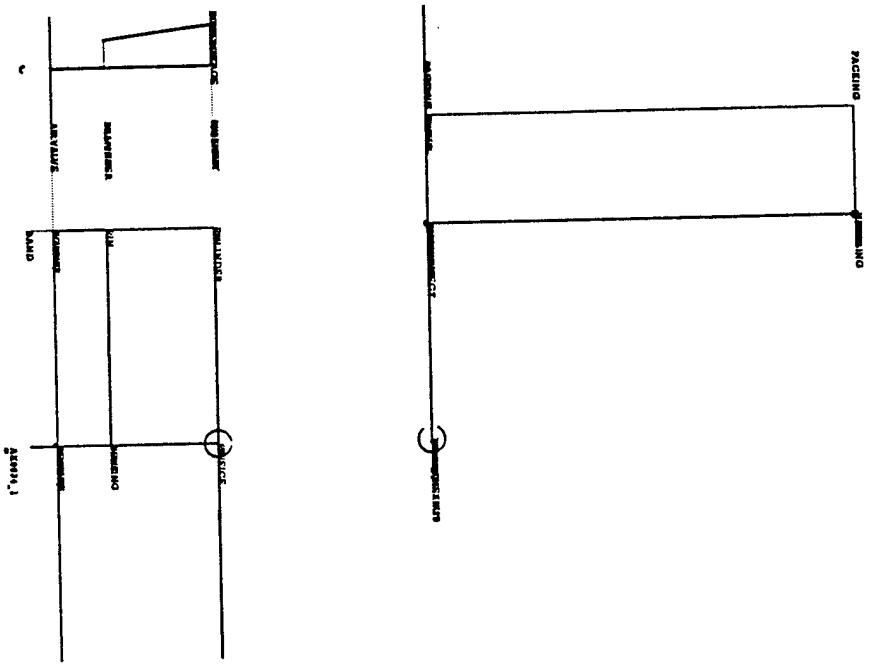
```
Analysis for file c405.cgm using table table
MILSPEC 28003 error: more than 4 fonts
(10, 90)          (1, 13, 294)    Font List
                                  "HERSHEY:SIMPLEX_ROMAN"
                                  "HERSHEY:SIMPLEX_GREEK"
                                  "HERSHEY:SIMPLEX_SCRIPT"
                                  "HERSHEY:COMPLEX_ROMAN"
                                  "HERSHEY:COMPLEX_GREEK"
                                  "HERSHEY:COMPLEX_SCRIPT"
                                  "HERSHEY:COMPLEX_ITALIC"
                                  "HERSHEY:DUPLEX_ROMAN"
                                  "HERSHEY:TRIPLEX_ROMAN"
                                  "HERSHEY:TRIPLEX_ITALIC"
MILSPEC 28003 error: illegal text font index
(1285, 71412)     (5, 10, 2)      Text Font Index 13
MILSPEC 28003 error: illegal text font index
(1657, 79110)     (5, 10, 2)      Text Font Index 12
MILSPEC 28003 error: illegal text font index
(1660, 79136)     (5, 10, 2)      Text Font Index 13
(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, 5) occurred 1 time
(1, 7) occurred 1 time
(1, 8) occurred 1 time
(1, 9) occurred 1 time
(1, 11) occurred 1 time
(1, 13) occurred 1 time
(2, 1) occurred 1 time
(2, 3) occurred 1 time
(2, 4) occurred 1 time
(2, 5) occurred 1 time
(2, 6) occurred 1 time
(2, 7) occurred 1 time
(3, 2) occurred 1 time
(4, 1) occurred 739 times
(4, 4) occurred 65 times
(4, 7) occurred 214 times
(4, 15) occurred 11 times
(4, 17) occurred 28 times
```

(4, 18) occurred 47 times
(5, 3) occurred 61 times
(5, 4) occurred 23 times
(5, 10) occurred 3 times
(5, 14) occurred 8 times
(5, 15) occurred 14 times
(5, 16) occurred 1 time
(5, 18) occurred 1 time
(5, 22) occurred 12 times
(5, 23) occurred 39 times
(5, 28) occurred 14 times
(5, 29) occurred 42 times
(5, 30) occurred 429 times
(5, 34) occurred 34 times

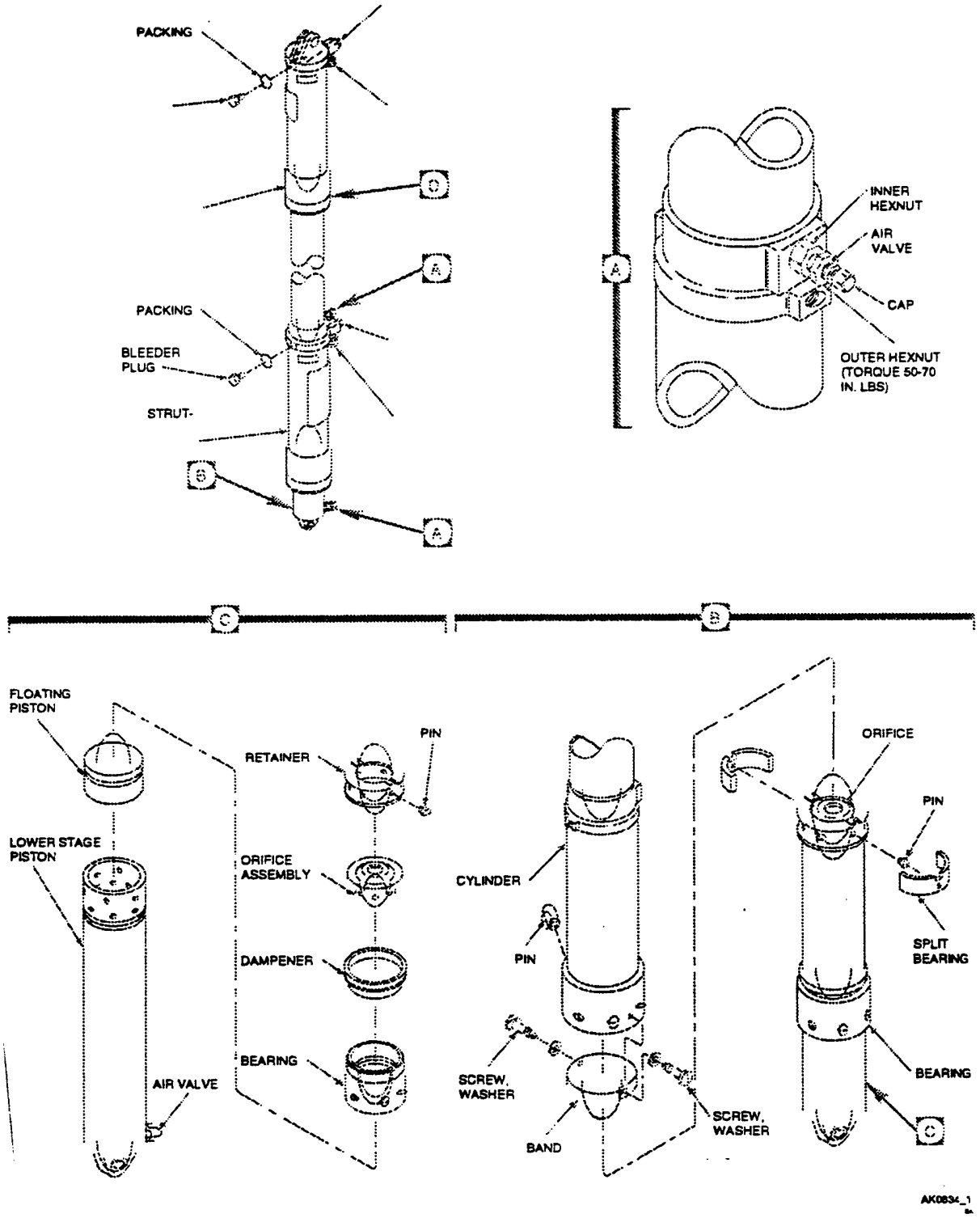
11.2.3 Output Freelance



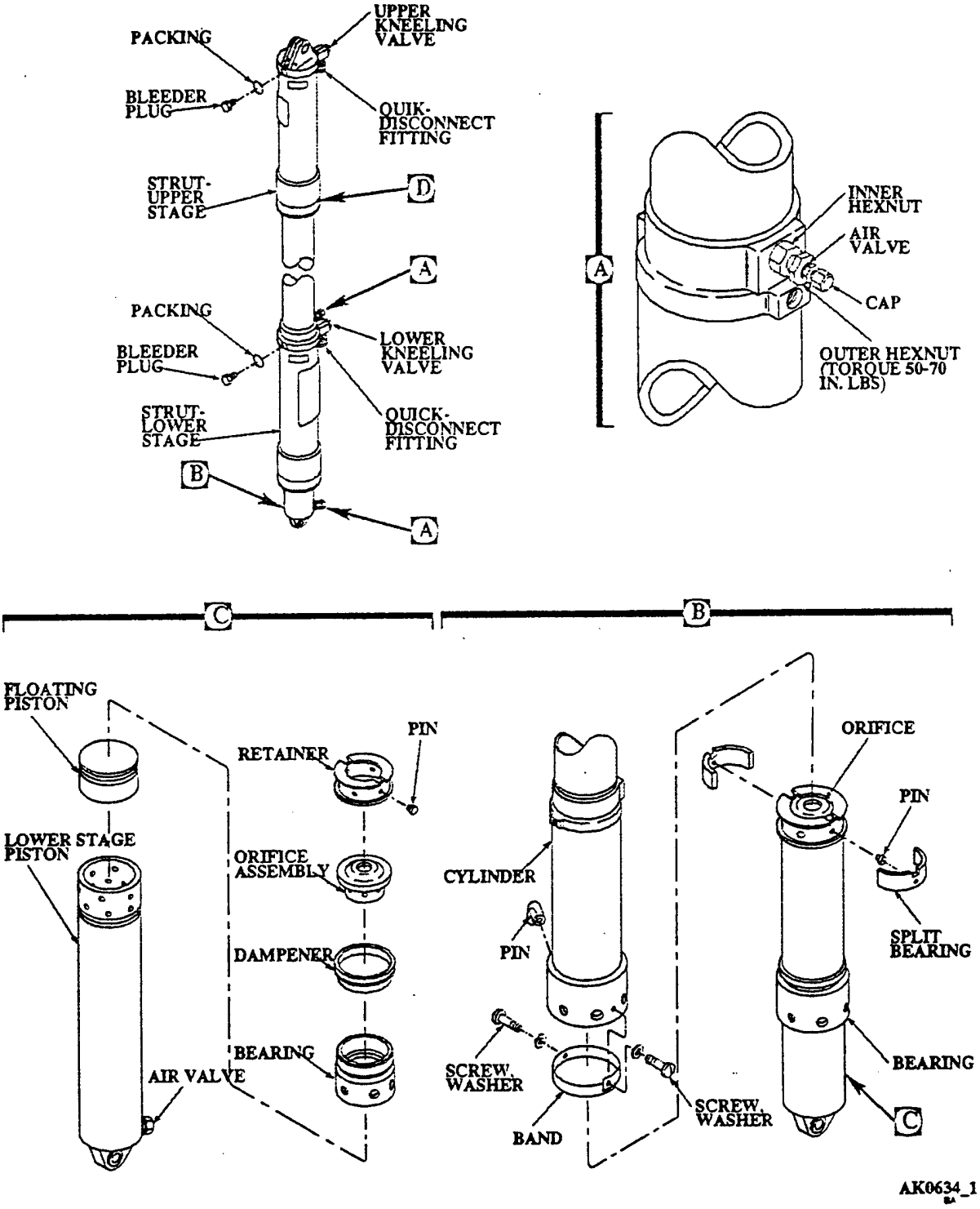
11.2.4 Output Harvard Graphics



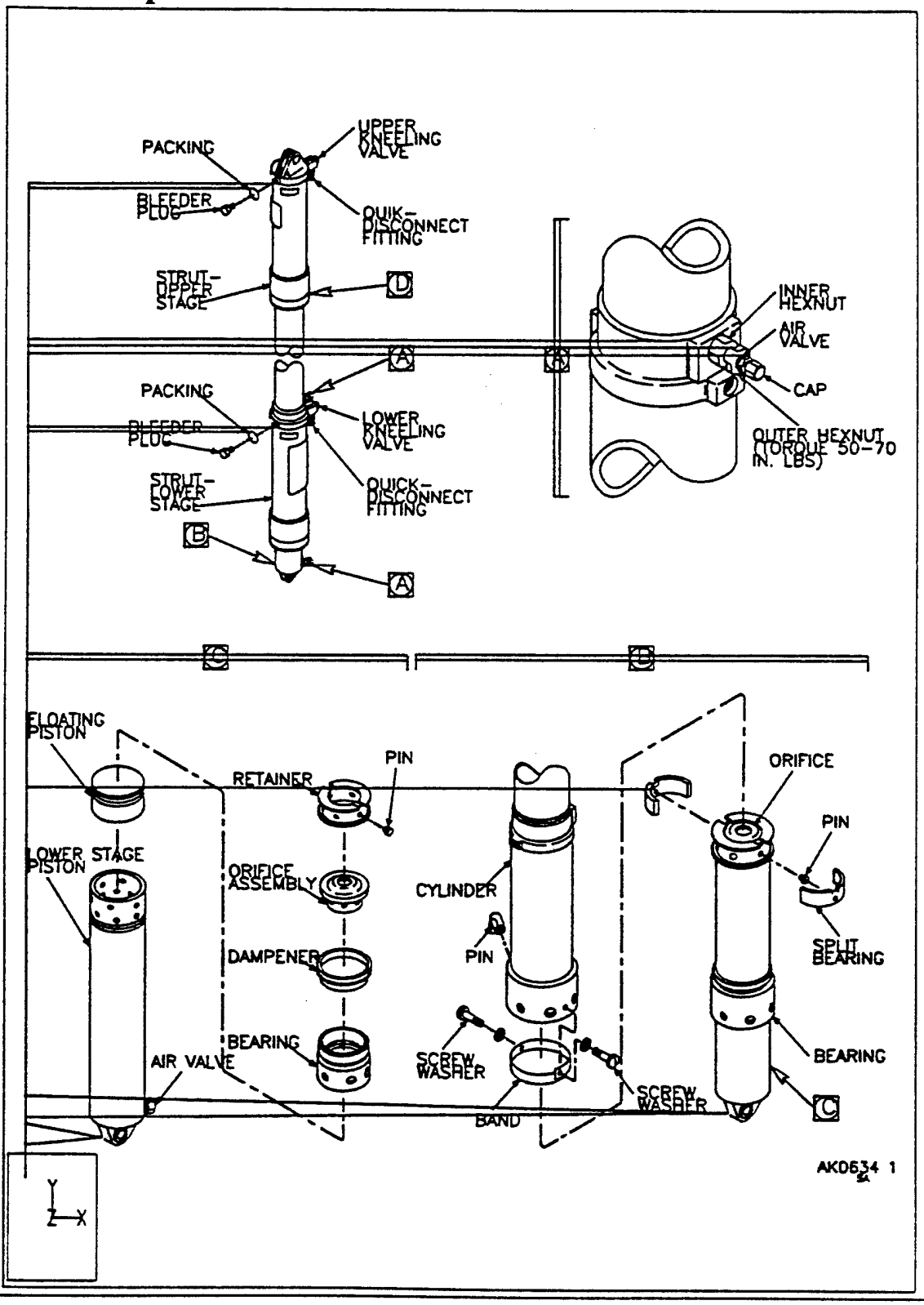
11.2.5 Output IslandDraw V4.0



11.2.6 Output IslandDraw



11.2.7 Output Generic



11.2.8 Output Cadleaf