



# AFCTN Report 94-108

AFCTB-ID  
94-101



## Technical IGES Transfer

Using:



NADEP Cherry Point's Data

Supporting:



H-46 CNCS Air Frame Change #443

MIL-D-28000A (IGES)



Quick Short Test Report

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27 July 1994

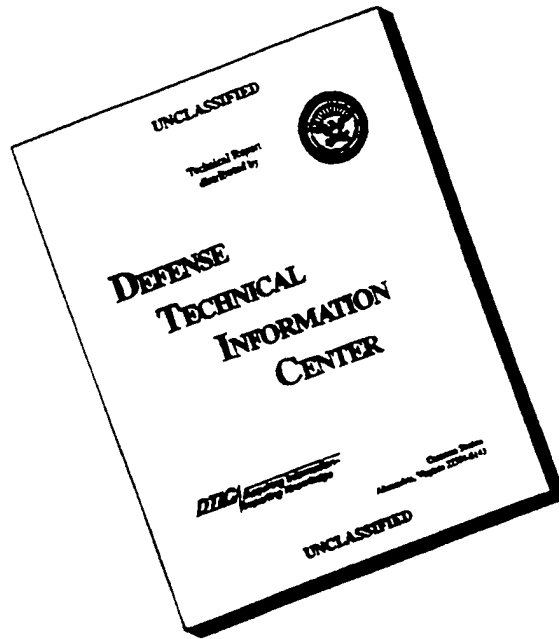
19960822 122



Prepared for  
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**AFCTN Test Report**  
**94-108**

**AFCTB-ID**  
**94-101**

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**Technical IGES Transfer**  
**Using:**  
**NADEP Cherry Point's Data**  
**Supporting:**  
**H-46 CNCS Air Frame Change #443 Program**

**MIL-D-28000A (IGES)**

**Quick Short Test Report**

**27 July 1994**

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# Air Force CALS Test Bed

## *Notification of Test Results*

27 July 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

### **NADEP Cherry Point**

Identified as follows:

Title:	<b>Technical IGES Transfer</b>
Program:	<b>H-46 CNCS Air Frame Change #443</b>
Program Office:	<b>NADEP</b>
Contract No.:	<b>N/A</b>
QSTR No.:	<b>AFCTB-ID 94-101</b>

Received on the following media: **Electronic Transfer**

The results of the QSTR Report evaluation are as follows:

MIL-STD-1840A Standard	<b>N/A</b>
MIL-STD-1840A Media Format:	<b>N/A</b>
MIL-D-28000A IGES:	<b>FAIL</b>
MIL-M-28001B SGML:	<b>N/A</b>
MIL-R-28002A Raster:	<b>N/A</b>
MIL-D-28003 CGM:	<b>N/A</b>

Formal results with associated disclaimer are documented and available from the AFCTB.

**Air Force CALS Test Bed**  
**HQ ESC/AV-2P**  
**4027 Colonel Glenn Highway, Suite 300**  
**Dayton, OH 45431-1672**  
**Phone: 513-257-3085      FAX: 513-257-5881**

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## 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 NADEP Cherry Point's interpretation and use of the CALS standards in transferring technical IGES data. NADEP used its Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff using an electronic transfer. The data is a sample from the NADEP CAD systems to determine CALS conformance. No MIL-STD-1840A data was included.

## 2. Test Parameters

**Test Plan:** AFCTB 94-101

**Date of Evaluation:** 26 July 1994

**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:** Sue Webster 35400  
NADEP  
Bldg 163  
PSC Box 8021  
MCAS Cherry Point NC 28533-0021  
DSN 582-7354

**Data Description:** Technical IGES Test  
2 Initial Graphics Exchange Specification  
(IGES) files

**Data Source System:**

IGES

**HARDWARE** Sun 3/60

**SOFTWARE** Computervision CADDS4

**Evaluation Tools Used:**

MIL-D-28000 (IGES)  
HP 735

InterCAP X-Change v7.82  
Island Software *IslandDraw 3.0*  
Carberry Cadleaf 3.1.2  
International TechneGroup Incorporated  
(ITI) *IGES/Works v2.0*

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SGI Indigo2

AUTODESK AutoCAD R12  
Cadkey Cadkey v6.0  
IGES Data Analysis (IDA) CALSView

Sun SparcStation 2

Auto-trol S5000 IGES Converter R7.0.1  
IDA Parser/Verifier v94  
IDA IGESView v3.05  
Intergraph I/EMS 02.00.01.11  
Intergraph I/CIGES 02.00.01.03  
ITI IGES/Works v1.3  
Rosetta Technologies Preview v3.2

PC 486/50

AUTODESK AutoCAD 386 R12  
IDA IGES Parser/Verifier v93  
IDA IGESView Windows

**Standards**

**Tested:**

MIL-D-28000A

### **3. 1840A Analysis**

#### **3.1 External Packaging**

The files arrived at the Air Force CALS Test Bed (AFCTB) via an electronic transfer to the Internet server. No physical media was exchanged or evaluated.

#### **3.2 Transmission Envelope**

The files received by the AFCTB were not MIL-STD-1840A files. The files were not named per the standard conventions, as the stated purpose of the evaluation was only for the basic data structure.

##### **3.2.1 Tape Formats**

No tape was submitted for evaluation.

##### **3.2.2 Declaration and Header Fields**

The files were submitted for evaluation without the CALS headers or a Document Declaration file. The purpose of the evaluation was only for the basic data files.

## 4. IGES Analysis

The transfer contained two IGES files. The AFCTB has several tools for viewing IGES 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 an indication of CALS capability. All operations were performed using the default settings.

These files were evaluated using IDA's *parser/verifier* set for basic IGES and CALS Class II. The CADDS4 does not have a CALS specific output so errors were expected. Both files reported the same type errors.

Entity 100 was reported in error for radii not being equal. The reported error while small, would be critical in a CNC application. An undefined font was also reported with this entity.

Entity 108 had a bounded plane error. The defined plane did not have a specified boundary.

A CALS specific error was reported for entity 212 where an illegal font was used. The fonts permitted in MIL-D-28000A are defined in Table II, Note 3. The permitted fonts are 1, 1001, 1002, and 1003.

File 2129-1i contained two drawings. It was noted throughout the evaluation by all software used, that the first drawing contained no information.

The text that appears to be upside down in the upper corner of file 399-2i was created that way.

Some lines in the models appeared to be missing. These entities were not found during an evaluation of the files. As an example, the thickening of the plate in model #399 was not inserted. Some of the right angle lines were present but the line defining the second edge was not created.

The files were converted using a utility available within the AFCTB with no reported errors. However file 2129-1i did not create a valid draw file. When specific views or drawings were selected the system reported a segment fault and did a core dump. The file created from 399-2i was read

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into Island Software's *IslandDraw*, displayed and printed without a reported error. Additional files were created using the two views in the 399 file and displayed without a problem.

The files were read using AUTODESK's *AutoCAD R12* with translator version 5.1. Both files had reported errors in the 100 entity. The reported errors relate to the radii problem noted above. Both files were displayed without a problem. Two drawing files were generated during the conversion process of file 2129-1i. The first was noted as blank. The second contained two drawings. Sample dimension points were tested and found to match the drawing.

The files were converted using Cadkey's *ig2c* utility. The resulting files were read into Cadkey's *Cadkey*, displayed and printed. Both the 3-D model and drawing appeared in the same screen. It was noted that some entities, which were noted above, appeared to be missing. Sample dimension points were tested and found to match the drawing.

The files were read into Carberry's *CADLeaf* software without a reported error. The font was noted as being different than the remaining systems. Some thickening of circles was noted in both files.

The files were read using IDA's *CALSVIEW*. File 2129 caused the system to crash every time it was read. Normally a core dump resulted. File 399 appeared to be complete. All lines appeared to be present, with some text over flow noted.

The files were read using IDA's *IGESVIEW for Windows*. Some lines that were partly blanked were displayed and printed.

The files were read using InterCAPS' *X-Change* with no reported errors. When displayed and printed, the partly blanked lines were completely missing.

The IGES files were converted using Intergraph's *I/CIGES* utility without a reported error. The resulting files were read into Intergraph's *I/EMS* and displayed. The 3-D models appeared to be complete with the exception of some missing lines. These lines were not created in the original model and should not have been displayed.

The files were read using ITI's *IGESWORKS* without a reported error. When the files were displayed and printed it was noted that many lines were missing from the drawing.

---

The IGES files were converted using Rosetta Technologies' *Prepare* with reported errors. The reported errors are due to a higher level of precision specified than can be used. The resulting files were read into Rosetta Technologies' *Preview*, displayed and printed. The partly blanked lines were completely displayed. A sample dimension was inserted and it matched the length specified in the drawing exactly.

Because CADD4 does not have a CALS IGES output, it was not expected to generate valid CALS IGES files. This was found to be true during the evaluation.

Errors were reported in the basic IGES files during the evaluation.

## **5. SGML Analysis**

No Standard Generalized Markup Language (SGML) files were included in this evaluation.

## **6. Raster Analysis**

No Raster files were included in this evaluation.

## **7. CGM Analysis**

No Computer Graphics Metafiles (CGM) were included in this evaluation.

## 8. Conclusions and Recommendations

The stated purpose of this evaluation was to determine the amount of data that could be transferred between CADDS4 and other systems. It was found that the transfer of most data could be accomplished without a problem. The models appeared to be incomplete, and this was reflected by the reading systems.

The dimensional data appears to have been passed correctly. Sample data points were found to be the same as referenced on the drawing.

Problems were revealed in partially blanked lines. Some systems did not display these lines at all, and some displayed the complete lines including the blanked sections.

While the submitted files did not meet the CALS MIL-D-28000A, the systems in the AFCTB were able to read and display the information. Data that was missing does not appear to have been added during the creation of the files. All systems within the AFCTB were able to display usable amounts of information, which could be used to manufacture the defined parts. All part information located in the drawing information blocks was passed to all systems.

## 9. Appendix A - Detailed IGES Analysis

### 9.1 File 399-2i

#### 9.1.1 Parser/Verifier Log

##### 9.1.1.1 Basic IGES

```
*****  
*****  IGES PARSER/VERIFIER  *****  
*****      MARCH 1994      *****  
*****  IGES Data Analysis  *****  
*****    (708) 344-1815    *****  
*****
```

Input file is 399-2i.igs

Checking conformance to Standard IGES

Today is July 26, 1994 3:58 PM

```
*****  
*****  CHECK FILE SYNTAX  *****  
*****
```

Section	Records
Start	1
Global	4
Directory	2700 ( 1350 Entities)
Parameter	1650
Terminate	1

No syntax errors detected.

```
*****  
*****  SUMMARY AND STATISTICS  *****  
*****
```

---

\*\*\* File and Product Name Information \*\*\*

File name from sender = '399-2'  
File creation Date.Time = '940719.155421'  
Model change Date.Time = ''  
Author = 'Sue Webster'  
Department = '35400'  
Product name from sender = 'h-46.eng.399-2'  
Destination product name = 'h-46.eng.399-2'

\*\*\* Parameter Delimiters \*\*\*

Delimiter = ','  
Terminator = ';'

\*\*\* Originating System Data \*\*\*

System ID = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'  
Preprocessor version = 'IGES VERSION 4.0 (06-OCT-88)'  
Specification version = 6 (IGES 4.0)

\*\*\* Precision levels \*\*\*

Integer bits = 32  
Floating point - Exponent = 38 Mantissa = 6  
Double precision - Exponent = 308 Mantissa = 14

\*\*\* Global Model Data \*\*\*

Model scale = 1.0000E+00  
Unit flag = 1  
Units = 'INCH'  
Line weights = 32767  
Maximum line thickness = 3.276700E+01  
Minimum line thickness = 1.000000E-03  
Granularity = 1.000000E-06  
Maximum coordinate = 0.000000E+00

CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be defaulted to zero.

Drafting standard applicable to original data is ANSI.

\*\*\* Status Flag Summary \*\*\*

Blank status: Visible 938  
                  Blanked 412

Independence:	Independent	820
	Physically Subordinate	516
	Logically Subordinate	0
	Totally Subordinate	14
Entity use:	Geometry	721
	Annotation	489
	Definition	140
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0
Hierarchy:	Structure DE applies	0
	Subordinate DE applies	1350
	Hierarchy property applies	0
	Not Specified	0

\*\*\* Entity Occurrence Counts \*\*\*

Entity	Form	Level	Count	Type
-----	----	-----	-----	-----
100	0	0	51	Circular arc
100	0	1	4	
100	0	3	112	
100	0	4	18	
100	0	5	50	
100	0	72	1	
102	0	0	2	Composite curve
106	31	252	2	Section lines - General use, iron, brick, stone masonry
106	40	0	24	Witness line
108	1	0	8	Plane, Bounded
110	0	0	192	Line
110	0	1	106	
110	0	4	49	
110	0	5	203	
110	0	252	147	
124	0	0	25	Transformation matrix
210	0	1	4	General label
212	0	0	23	General note
212	0	1	61	
212	0	252	87	
214	3	0	28	Leader arrow - Filled triangle
216	0	1	12	Linear dimension
230	0	252	2	Sectioned area (Standard Crosshatching)

---

304	2	0	2	Line font definition - repeating pattern
314	0	0	1	Color definition
402	4	0	128	Views visible, Color, Line weight instance
404	0	0	1	Drawing
406	15	0	3	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
410	0	0	2	View - Orthographic parallel

\*\*\* Entity Count by Level \*\*\*

Level	Count
0	492
1	187
3	112
4	67
5	253
72	1
252	238

\*\*\* Labeling Information \*\*\*

0% of the entities are labeled.

Unlabeled 1350

\*\*\* Line Fonts Used in Data \*\*\*

100	102	104	106	108	110	112	114	
149	2	-	24	8	249	-	-	Undefined
87	-	-	2	-	409	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	39	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	25	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

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

---

\*\*\* Line Widths Used in Data \*\*\*

Weight	Count	Width
Defaulted	1350	(0.0010)

\*\*\* Colors Used in Data \*\*\*

Defaulted	496
Green	112
Yellow	238
Cyan	251
User	253

\*\*\*\*\*  
\*\*\*\*\* ENTITY ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

\*\*\* Entity type: 100

ERROR 2242: Radii not equal at D 203; difference is 4.999840E-06.  
WARNING 2492: Undefined line font value (0) specified for D 483.  
WARNING 2492: Undefined line font value (0) specified for D 495.  
WARNING 2492: Undefined line font value (0) specified for D 499.  
WARNING 2492: Undefined line font value (0) specified for D 509.  
ERROR 2242: Radii not equal at D 521; difference is 3.736742E-06.  
WARNING 2492: Undefined line font value (0) specified for D 545.  
ERROR 2242: Radii not equal at D 595; difference is 3.736742E-06.  
WARNING 2492: Undefined line font value (0) specified for D 601.  
WARNING 2492: Undefined line font value (0) specified for D 603.  
WARNING 2492: Undefined line font value (0) specified for D 605.  
WARNING 2492: Undefined line font value (0) specified for D 647.  
WARNING 2492: Undefined line font value (0) specified for D 695.  
WARNING 2492: Messages regarding undefined line font suppressed.  
ERROR 2242: Radii not equal at D 823; difference is 3.736499E-06.  
ERROR 2242: Radii not equal at D 855; difference is 3.736499E-06.  
ERROR 2242: Radii not equal at D 1977; difference is 1.503891E-06.  
ERROR 2242: Radii not equal at D 1983; difference is 1.503891E-06.  
ERROR 2242: Radii not equal at D 1991; difference is 1.503891E-06.  
ERROR 2242: Radii not equal at D 1993; difference is 3.329138E-06.  
ERROR 2242: Radii not equal at D 1997; difference is 1.503891E-06.  
ERROR 2242: Messages regarding unequal radii suppressed.

\*\*\* Entity type: 102

---

\*\*\* Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D 2209.  
NITPICK 2076: Entity does not have Annotation flag set at D 2211.  
NITPICK 2076: Messages regarding entity use (annotation) suppressed.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 2347.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 2349.

\*\*\* Entity type: 108

ERROR 2012: Bounded Plane defined without a boundary specified at D 53.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 55.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 57.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 59.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 67.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 69.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 71.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 73.

\*\*\* Entity type: 110

-- 697 lines averaging 1.167336E+00 units --

\*\*\* Entity type: 124

25 transformation matrices, 1 non-zero translations.  
NOTE 2341: 1 matrices contain translation information.

\*\*\* Entity type: 210

\*\*\* Entity type: 212

200 text strings in data file.  
Average text aspect ratio in file is 0.9874040.  
Minimum text aspect ratio in file is 0.5000000.  
Maximum text aspect ratio in file is 1.2000000.

FONTS USED IN FILE

FONT	COUNT	NAME
1	108	Default ASCII Style
2	89	LeRoy
1002	3	Symbol Font 2

\*\*\* Entity type: 214

Average arrow aspect ratio in file is 3.0000000.  
Minimum arrow aspect ratio in file is 3.0000000.  
Maximum arrow aspect ratio in file is 3.0000000.

\*\*\* Entity type: 216

\*\*\* Entity type: 230

\*\*\* Entity type: 304

Default line font substitute at D 383 is Center-line.  
Default line font substitute at D 473 is Dashed.

\*\*\* Entity type: 314

Color specified at D 47 has no name.  
Default color substitute is cyan.

\*\*\* Entity type: 402

\*\*\* Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 2699.  
Drawing at D 2699 contains 2 views.  
NITPICK 2289: View (D 75) is not logically subordinate to drawing at D  
2699.  
NITPICK 2289: View (D 61) is not logically subordinate to drawing at D  
2699.  
Drawing at D 2699 contains 443 annotation entities.

\*\*\* Entity type: 406

\*\*\* Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D 61.  
Scale of view at D 61 is 1.000000E+00.  
CAUTION 2315: Matrix associated with view contains translation information at D  
61.  
Orthographic View entity at D 61 has 4 clipping planes specified.  
XMIN = -0.739 XMAX = 11.910  
YMIN = -1.930 YMAX = 2.669  
ZMIN = Not Set ZMAX = Not Set

---

NITPICK 2073: Entity use flag must be 1 for View entity at D 75.  
Scale of view at D 75 is 1.000000E+00.  
Orthographic View entity at D 75 has 4 clipping planes specified.  
XMIN = -0.739 XMAX = 12.115  
YMIN = -1.807 YMAX = 2.423  
ZMIN = Not Set ZMAX = Not Set

\*\*\* Message Summary \*\*\*

2006: 8 Missing pointers.  
2011: 2 Invalid subordinate relationships.  
2015: 47 Mathematically incorrect definitions.  
2016: 27 Invalid entity use flag.  
2038: 809 Invalid Line font values.

\*\*\* Error Summary \*\*\*

0 fatal errors  
0 severe errors  
55 errors  
809 warnings  
4 cautions  
29 nitpicks  
1 notes

\*\*\* End of Analysis of 399-2i.igs \*\*\*

---

## 9.1.1.2 CALS IGES Class II

```
*****
****  IGES PARSER/VERIFIER  ****
****      MARCH 1994      ****
****  IGES Data Analysis  ****
****      (708) 344-1815  ****
*****
```

Input file is 399-2i.igs  
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)  
Today is July 26, 1994 3:57 PM

```
*****
****  CHECK FILE SYNTAX  ****
*****
```

Section	Records
Start	1
Global	4
Directory	2700 ( 1350 Entities)
Parameter	1650
Terminate	1

No syntax errors detected.

```
*****
****  SUMMARY AND STATISTICS  ****
*****
```

\*\*\* File and Product Name Information \*\*\*

```
File name from sender      = '399-2'
File creation Date.Time    = '940719.155421'
Model change Date.Time     = ''
Author                     = 'Sue Webster'
Department                 = '35400'
Product name from sender   = 'h-46.eng.399-2'
Destination product name   = 'h-46.eng.399-2'
```

\*\*\* Parameter Delimiters \*\*\*

```
Delimiter = ','
Terminator = ';'

```

---

\*\*\* Originating System Data \*\*\*

System ID = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'  
Preprocessor version = 'IGES VERSION 4.0 (06-OCT-88)'  
Specification version = 6 (IGES 4.0)

\*\*\* Precision levels \*\*\*

Integer bits = 32  
Floating point - Exponent = 38 Mantissa = 6  
Double precision - Exponent = 308 Mantissa = 14

\*\*\* Global Model Data \*\*\*

Model scale = 1.0000E+00  
Unit flag = 1  
Units = 'INCH'  
Line weights = 32767  
Maximum line thickness = 3.276700E+01  
Minimum line thickness = 1.000000E-03  
Granularity = 1.000000E-06  
Maximum coordinate = 0.000000E+00

CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be defaulted to zero.

Drafting standard applicable to original data is ANSI.

\*\*\* Status Flag Summary \*\*\*

Blank status:	Visible	938
	Blanked	412
Independence:	Independent	820
	Physically Subordinate	516
	Logically Subordinate	0
	Totally Subordinate	14
Entity use:	Geometry	721
	Annotation	489
	Definition	140
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0

Hierarchy:    Structure DE applies            0  
                  Subordinate DE applies        1350  
                  Hierarchy property applies    0  
                  Not Specified                    0

\*\*\* Entity Occurrence Counts \*\*\*

Entity	Form	Level	Count	Type
-----	----	-----	-----	-----
100	0	0	51	Circular arc
100	0	1	4	
100	0	3	112	
100	0	4	18	
100	0	5	50	
100	0	72	1	
102	0	0	2	Composite curve
106	31	252	2	Section lines - General use, iron, brick, stone masonry
106	40	0	24	Witness line
108	1	0	8	Plane, Bounded
110	0	0	192	Line
110	0	1	106	
110	0	4	49	
110	0	5	203	
110	0	252	147	
124	0	0	25	Transformation matrix
210	0	1	4	General label
212	0	0	23	General note
212	0	1	61	
212	0	252	87	
214	3	0	28	Leader arrow - Filled triangle
216	0	1	12	Linear dimension
230	0	252	2	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
314	0	0	1	Color definition
402	4	0	128	Views visible, Color, Line weight instance
404	0	0	1	Drawing
406	15	0	3	Property - Name
406	16	0	1	Property - Drawing size
406	17	0	1	Property - Drawing units
410	0	0	2	View - Orthographic parallel

---

\*\*\* Entity Count by Level \*\*\*

Level	Count
0	492
1	187
3	112
4	67
5	253
72	1
252	238

\*\*\* Labeling Information \*\*\*

0% of the entities are labeled.  
Unlabeled 1350

\*\*\* Line Fonts Used in Data \*\*\*

100	102	104	106	108	110	112	114	
149	2	-	24	8	249	-	-	Undefined
87	-	-	2	-	409	-	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	39	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	25	-	-	-	Undefined
-	-	-	-	-	-	-	-	Solid
-	-	-	-	-	-	-	-	Dashed

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

\*\*\* Line Widths Used in Data \*\*\*

Weight	Count	Width
Defaulted	1350	(0.0010)

\*\*\* Colors Used in Data \*\*\*

Defaulted	496
Green	112
Yellow	238
Cyan	251
User	253

---

\*\*\*\*\*  
\*\*\*\*\* ENTITY ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

\*\*\* Entity type: 100

ERROR 2242: Radii not equal at D 203; difference is 4.999840E-06.  
WARNING 2492: Undefined line font value (0) specified for D 483.  
WARNING 2492: Undefined line font value (0) specified for D 495.  
WARNING 2492: Undefined line font value (0) specified for D 499.  
WARNING 2492: Undefined line font value (0) specified for D 509.  
ERROR 2242: Radii not equal at D 521; difference is 3.736742E-06.  
WARNING 2492: Undefined line font value (0) specified for D 545.  
ERROR 2242: Radii not equal at D 595; difference is 3.736742E-06.  
WARNING 2492: Undefined line font value (0) specified for D 601.  
WARNING 2492: Undefined line font value (0) specified for D 603.  
WARNING 2492: Undefined line font value (0) specified for D 605.  
WARNING 2492: Undefined line font value (0) specified for D 647.  
WARNING 2492: Undefined line font value (0) specified for D 695.  
WARNING 2492: Messages regarding undefined line font suppressed.  
ERROR 2242: Radii not equal at D 823; difference is 3.736499E-06.  
ERROR 2242: Radii not equal at D 855; difference is 3.736499E-06.  
ERROR 2242: Radii not equal at D 1977; difference is 1.503891E-06.  
ERROR 2242: Radii not equal at D 1983; difference is 1.503891E-06.  
ERROR 2242: Radii not equal at D 1991; difference is 1.503891E-06.  
ERROR 2242: Radii not equal at D 1993; difference is 3.329138E-06.  
ERROR 2242: Radii not equal at D 1997; difference is 1.503891E-06.  
ERROR 2242: Messages regarding unequal radii suppressed.

\*\*\* Entity type: 102  
\*\*\* Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D 2209.  
NITPICK 2076: Entity does not have Annotation flag set at D 2211.  
NITPICK 2076: Messages regarding entity use (annotation) suppressed.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 2347.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 2349.

\*\*\* Entity type: 108

ERROR 2012: Bounded Plane defined without a boundary specified at D 53.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 55.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 57.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 59.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 67.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 69.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 71.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 73.

---

\*\*\* Entity type: 110

-- 697 lines averaging 1.167336E+00 units --

\*\*\* Entity type: 124

25 transformation matrices, 1 non-zero translations.  
NOTE 2341: 1 matrices contain translation information.

\*\*\* Entity type: 210

\*\*\* Entity type: 212

ERROR 4050: Illegal text font for CALS Class II specified for string 1 at D  
2359.

ERROR 4050: Illegal text font for CALS Class II specified for string 1 at D  
2361.

ERROR 4050: Messages regarding illegal text fonts suppressed.  
200 text strings in data file.

Average text aspect ratio in file is 0.9874040.

Minimum text aspect ratio in file is 0.5000000.

Maximum text aspect ratio in file is 1.2000000.

FONTS USED IN FILE

FONT	COUNT	NAME
1	108	Default ASCII Style
2	89	LeRoy
1002	3	Symbol Font 2

\*\*\* Entity type: 214

Average arrow aspect ratio in file is 3.0000000.

Minimum arrow aspect ratio in file is 3.0000000.

Maximum arrow aspect ratio in file is 3.0000000.

\*\*\* Entity type: 216

\*\*\* Entity type: 230

\*\*\* Entity type: 304

Default line font substitute at D 383 is Center-line.  
Default line font substitute at D 473 is Dashed.

\*\*\* Entity type: 314

Color specified at D 47 has no name.  
Default color substitute is cyan.

\*\*\* Entity type: 402

\*\*\* Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 2699.

Drawing at D 2699 contains 2 views.

NITPICK 2289: View (D 75) is not logically subordinate to drawing at D  
2699.

NITPICK 2289: View (D 61) is not logically subordinate to drawing at D  
2699.

Drawing at D 2699 contains 443 annotation entities.

\*\*\* Entity type: 406

\*\*\* Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D 61.

Scale of view at D 61 is 1.000000E+00.

CAUTION 2315: Matrix associated with view contains translation information at D  
61.

Orthographic View entity at D 61 has 4 clipping planes specified.

XMIN =	-0.739	XMAX =	11.910
YMIN =	-1.930	YMAX =	2.669
ZMIN =	Not Set	ZMAX =	Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D 75.

Scale of view at D 75 is 1.000000E+00.

Orthographic View entity at D 75 has 4 clipping planes specified.

XMIN =	-0.739	XMAX =	12.115
YMIN =	-1.807	YMAX =	2.423
ZMIN =	Not Set	ZMAX =	Not Set

\*\*\* Message Summary \*\*\*

2006: 8 Missing pointers.  
2011: 2 Invalid subordinate relationships.  
2015: 47 Mathematically incorrect definitions.  
2016: 27 Invalid entity use flag.  
2038: 809 Invalid Line font values.  
4000: 89 Miscellaneous CALS messages

---

\*\*\* Error Summary \*\*\*

0 fatal errors  
0 severe errors  
144 errors  
809 warnings  
4 cautions  
29 nitpicks  
1 notes

\*\*\* End of Analysis of 399-2i.igs \*\*\*

---

## 9.1.2 Parser Log - AutoCAD R12

Title: IGESIN Journal (v5.1 Nov 05 1992)

=====  
File: C:/TMP/399-2I.xli

Date: Tue, Jul 26, 1994

Time: 16:26:46  
=====

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N: 117-10075750

Translating from IGES file: C:/TMP/399-2I.IGS  
to AutoCAD Drawing: C:\399-2I.dwg  
=====

Options obtained from: default settings

Curves Approximated to Tolerance of 0.01

Surfaces Approximated to Tolerance of 0.01

Text Font/Style mapping:

IGES Text font	Style Name	ACAD Font
0	SYMBOL0	iges0
1	STANDARD	txt
2	LEROY	txt
3	FUTURA	txt
6	COMP80	txt
12	GOTHICE	gothice
13	GOTHICI	gothici
14	ROMANS	romans
17	ROMANT	romant
18	ROMAND	romand
19	OCR	txt
1001	SYMBOL1	iges1001
1002	SYMBOL2	iges1002
1003	SYMBOL3	iges1003
2001	KANJI	bigfont

IGES Linetype/AutoCAD Linetype mapping

IGES Line Font	AutoCAD linetype	Shape file
0	BYLAYER	
1	CONTINUOUS	
2	DASHED	acad.lin
3	PHANTOM	acad.lin
4	CENTER	acad.lin
5	DOT	acad.lin

---

Parse phase

\*\*\* Warning (IEVM\_BAD\_VECTOR\_124) \*\*\*  
(DE 37, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

\*\*\* Warning (IEVM\_BAD\_VECTOR\_124) \*\*\*  
(DE 39, TF 124:0) Entity has a column which is not a unit vector.

Action taken: Unitized all vectors.

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

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*  
(DE 53, TF 108:1) Entity references DE 0. Pointer must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*  
(DE 55, TF 108:1) Entity references DE 0. Pointer must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

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

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*  
(DE 203, TF 100:0) Entity's radii are not equal. Start point radius:  
4.9654092e-002. Terminate point radius: 4.9649093e-002.

Action taken: Start point moved 2.4999198e-006 units from 2.7254200e+001,  
3.8816500e+000 to 2.7254198e+001, 3.8816487e+000. Terminate point moved  
2.4999198e-006 units from 2.7168200e+001, 3.8816400e+000 to 2.7168198e+001,  
3.8816412e+000.

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*  
(DE 521, TF 100:0) Entity's radii are not equal. Start point radius:  
9.9995397e-002. Terminate point radius: 9.9991660e-002.

Action taken: Start point moved 1.8683709e-006 units from -4.8807400e+000,  
-1.4773700e+000 to -4.8807417e+000, -1.4773693e+000. Terminate point moved  
1.8683709e-006 units from -4.8807400e+000, -1.4026400e+000 to -4.8807383e+000,  
-1.4026393e+000.

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

---

---

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*  
(DE 2063, TF 100:0) Entity's radii are not equal. Start point radius:  
1.1835267e-001. Terminate point radius: 1.1835712e-001.

Action taken: Start point moved 2.2264143e-006 units from 4.9965000e+000,  
-1.3499900e-001 to 4.9965004e+000, -1.3500120e-001. Terminate point moved  
2.2264143e-006 units from 5.0670000e+000, -9.4999300e-002 to 5.0669983e+000,  
-9.4997857e-002.

=====  
Start Section:

Global Section:

Parameter Delimiter: ,  
Record Delimiter: ;  
Sending Product ID: h-46.eng.399-2  
File Name: 399-2  
System ID: COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM  
Preprocessor Version: IGES VERSION 4.0 (06-OCT-88)  
Size of Integer: 32  
Sgl. Precision Mag: 38  
Sgl. Precision Sig: 6  
Dbl. Precision Mag: 308  
Dbl. Precision Sig: 14  
Receiving Product ID: h-46.eng.399-2  
Model Space Scale: 1.000000  
Unit Flag: 1  
Unit String: INCH  
# of Line Weights: 32767  
Maximum Line Width: 32.767000  
Creation Date: 07/19/94 15:54:21  
Minimum Resolution: 0.000001  
Maximum Coordinate: 0.000000  
Author: Sue Webster  
Organization: 35400  
IGES Version Number: 6  
Drafting Standard: 3

Entity Summary:

Type	Form	Description	Count
100	0	Circular Arc	236
102	0	Composite Curve	2
106	31	Section Entity	2
106	40	Witness Line	24
108	0	Plane (Unbounded)	8
110	0	Line	697
124	0	Transformation Matrix	25
210	0	General Label	4
212	0	General Note (Simple)	171
214	3	Leader (Filled triangle)	28
216	0	Linear dim - undetermined form	12
230	0	Section Area (Standard Fill)	2
304	2	Line Font Definition (Pattern)	2
314	0	Color Definition	1
402	4	Views Visible, Color, Line wt.	128
404	0	Drawing (form 0)	1
406	15	Property (Name)	3
406	16	Property (Drawing Size)	1
406	17	Property (Drawing Units)	1
410	0	View	2
Total			1350

Translation phase

Drawing Entity (404 Form 0) at DE 2699, with  
 name = 1,  
 size = 40.000000, 28.000000,  
 units = IN,  
 was processed in the AutoCAD drawing file: C:\399-2I.dwg

IGES Entity Summary:

Type	Form	Description	Count	Processed	Errors
100	0	Circular Arc	236	236	0
102	0	Composite Curve	2	2	0
106	31	Section Entity	2	2	0
106	40	Witness Line	24	24	0
108	0	Plane (Unbounded)	8	8	0
110	0	Line	697	697	0
210	0	General Label	4	4	0
212	0	General Note (Simple)	171	171	0
214	3	Leader (Filled triangle)	28	28	0
216	0	Linear dim - undetermined form	12	12	0
230	0	Section Area (Standard Fill)	2	2	0
304	2	Line Font Definition (Pattern)	1	1	0
314	0	Color Definition	1	1	0
402	4	Views Visible, Color, Line wt.	128	128	0
404	0	Drawing (form 0)	1	1	0
406	15	Property (Name)	3	3	0
406	16	Property (Drawing Size)	1	1	0
406	17	Property (Drawing Units)	1	1	0
410	0	View	2	2	0
Totals			1324	1324	0

AutoCAD Entity Summary

Entity	Created	Errors
LINE	823	0
CIRCLE	146	0
TEXT	180	0
ARC	90	0
SOLID	4	0
INSERT	12	0
POLYLINE	2	0
DIMENSION	12	0
BLOCK	12	0
Totals	1281	0

**Error Summary:**

The following message was issued 47 time(s)  
Entity's radii are not equal. Start point radius: %.7e. Terminate point  
radius: %.7e.

The following message was issued 8 time(s)  
Entity references DE %ld%s. Pointer must must reference a Closed Curve entity.

The following message was issued 5 time(s)  
Entity has a column which is not a unit vector.

Status: 0  
Warning: 60  
Error: 0  
Fatal: 0

**Elapsed Time:**

Processor: 00:00:24  
Clock: 00:00:25

=====

---

### 9.1.3 Prepare Error Log

ERROR REPORT FOR FILE /novell/94101/399-2i.igs

>> File record length is 81 (1 record terminator used)

Terminate section report :

File Section	#lines
START	1
GLOBAL	4
DIRECTORY ENTRY	2700
PARAMETER DATA	1650
TERMINATE	1
TOTAL	4356

(Expect 81 X 4356 = 352836 bytes)

----- preliminary format scan complete -----

>> WARNING: Cannot use maximum power of 10 requested.

: Requested maximum power of 308 using 307.

: Field 11 line 2 of GLOBAL section. (Max. Exp. for Double)

C SYSTEM,28HIGES VERSION 4.0 (06-OCT-88),32,38,6,308,14,14Hh-46.eng.399-G

2

-----  
Found 0 errors and 1 warnings

## 9.1.4 Parser Log - IGESWorks

IGES/Works v1.4.1  
International TechneGroup Incorporated  
Validation Logfile

Date: July 28, 1994  
Model: 399-2i

\*\*\*\*\* Validation Parameters \*\*\*\*\*

### TOLERANCE CONFIGURATION VALUES

-----

```

ZERO_TOL = 1.000000e-13
MODEL_SPACE_PNT_COIN_TOL = 1.000000e-03
PARM_SPACE_PNT_COIN_TOL = 1.000000e-08
ISO_PARM_CURVE_TOL = 1.000000e-08
NON_CONV_TOL = 1.000000e-12
KNOT_COIN_TOL = 1.000000e-10
SAME_INTER_TOL = 1.000000e-12
PARALLEL_LINES_TOL = 1.000000e-07
ANGLE_COIN_TOL = 1.000000e-05
PNT_PROJ_TOL = 1.000000e-07
COLIN_TOL = 1.000000e-07
COPLANAR_TOL = 1.000000e-08
ZERO_NORMAL_TOL = 1.000000e-06
SAME_TANGENT_TOL = 1.000000e-04
SAME_CURVATURE_TOL = 1.000000e-04
SAME_DERIVATIVE_TOL = 1.000000e-03
MODEL_LINEAR_APPROX_TOL = 2.220446e-16

```

\*\*\*\*\* Entity Listing Before Validation \*\*\*\*\*

Count	Type	Form	Description
-----	-----	-----	-----
236	100	0	Circular Arc
2	102	0	Composite Curve
2	106	31	Section Entity
24	106	40	Witness Line
8	108	1	Plane (Bounded)
697	110	0	Line
25	124	0	Transformation Matrix
4	210	0	General Label
171	212	0	General Note (Simple)
28	214	3	Leader (Filled triangle)
12	216	0	Linear dim - undetermined form

---

2	230	0	Section Area (Standard Fill)
2	304	2	Line Font Definition (Pattern)
1	314	0	Color Definition
128	402	4	Views Visible, Color, Line wt.
1	404	0	Drawing (form 0)
3	406	15	Property (Name)
1	406	16	Property (Drawing Size)
1	406	17	Property (Drawing Units)
2	410	0	View

1350 - Number of entities in selection list

\*\*\*\*\* Entity Validation \*\*\*\*\*

\*\*\* Warning (IEVM\_BAD\_VECTOR\_124) \*\*\*

(DE 37, TF 124:0) This Transformation Matrix entity (124) has a a column that is not a unit vector within the stated tolerance.

Action taken: All vectors have been unitized.

\*\*\* Warning (IEVM\_BAD\_VECTOR\_124) \*\*\*

(DE 39, TF 124:0) This Transformation Matrix entity (124) has a a column that is not a unit vector within the stated tolerance.

Action taken: All vectors have been unitized.

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

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*

(DE 53, TF 108:1) This Bounded Plane entity (108:1, 108:-1) references DE 0. The pointer must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*

(DE 55, TF 108:1) This Bounded Plane entity (108:1, 108:-1) references DE 0. The pointer must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

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

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*

(DE 203, TF 100:0) This circular arc entity's start point and end point radii are not equal in length. Start point radius: 4.9654092e-02. Terminate point radius: 4.9649093e-02.

Action taken: Start point moved 2.4999198e-06 units from 2.7254200e+01, 3.8816500e+00 to 2.7254198e+01, 3.8816487e+00. Terminate point moved 2.4999198e-06 units from 2.7168200e+01, 3.8816400e+00 to 2.7168198e+01, 3.8816412e+00.

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*

(DE 521, TF 100:0) This circular arc entity's start point and end point radii are not equal in length. Start point radius: 9.9995397e-02. Terminate point radius: 9.9991660e-02.

Action taken: Start point moved 1.8683709e-06 units from -4.8807400e+00, -1.4773700e+00 to -4.8807417e+00, -1.4773693e+00. Terminate point moved 1.8683709e-06 units from -4.8807400e+00, -1.4026400e+00 to -4.8807383e+00, -1.4026393e+00.

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

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected		Number of Uncorrected	
				Warnings	Errors	Warnings	Errors
Global Section		1	1	0	0	0	0
100	0	236	189	0	47	0	0
102	0	2	2	0	0	0	0
106	31	2	2	0	0	0	0
106	40	24	24	0	0	0	0
108	0	8	0	0	8	0	0
110	0	697	697	0	0	0	0
124	0	25	20	0	5	0	0
210	0	4	4	0	0	0	0
212	0	171	171	0	0	0	0
214	3	28	28	0	0	0	0
216	0	12	12	0	0	0	0
230	0	2	2	0	0	0	0
304	2	2	2	0	0	0	0
314	0	1	1	0	0	0	0
402	4	128	128	0	0	0	0
404	0	1	1	0	0	0	0
406	15	3	3	0	0	0	0
406	16	1	1	0	0	0	0
406	17	1	1	0	0	0	0
410	0	2	2	0	0	0	0
Totals:		1351	1291	0	60	0	0

The following message was issued and suppressed 42 times:

This circular arc entity's start point and end point radii are not equal in length. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued and suppressed 3 times:

This Bounded Plane entity (108:1, 108:-1) references DE %ld%s. The pointer must reference a Closed Curve entity.

A message is suppressed when it has been issued more than 5 times. This value is controlled by the 'MAX\_MESSAGE' configuration parameter.

\*\*\*\*\*

---

## 9.1.5 Intergraph Log File

IGES Translator Log File

IGES to I/EMS processing

Command line used:

```
iges -d in -i /novell/94101/21291i.igs -o /novell/94101/21291i.dgn -s  
/cals/ip32/ems/config/seed_file -l /novell/94101/21291i.log
```

Processing started: Thu Jul 28 09:04:37 1994

Seed file used: /cals/ip32/ems/config/seed\_file

-----  
\*\* Generic Information \*\*

IGES Version: 4.0  
IGES File: "/novell/94101/21291i.igs"  
MODEL File: "/novell/94101/21291i.dgn"  
LOG File: "/novell/94101/21291i.log"  
Application Protocol: ANSI IGES  
Defaulted Values:  
Chord Height tolerance of 0.010000 has been used

-----  
\*\* Start Section \*\*

-----  
\*\* Global Section \*\*  
-----

1. Parameter delimiter: ','
2. Record delimiter: ';'
3. Product Identification of sending system: "h-46.eng.2129-1"
4. File Name: "2129-1i"
5. System ID: "COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM"
6. Preprocessor Version: "IGES VERSION 4.0 (06-OCT-88)"
7. Number of bits for integer representation: 32
8. Maximum power of ten in single precision floating point: 38
9. Number of significant digits in single precision floating point: 6
10. Maximum power of ten in double precision floating point: 308
11. Number of significant digits in double precision floating point: 14
12. Product Identification of receiving system: h-46.eng.2129-1
13. Model space scale: 1.000000
14. Unit flag: 1
15. Units: "INCH"
16. Maximum number of line weight gradations: 15
17. Size of maximum line width in units: 1077961261
18. Date and time of file generation: "940720.085344"

- 
- 19. Minimum user intended resolution: 0.000001
  - 20. Approximate maximum coordinate value: 0.000000
  - 21. Name of author: Sue Webster
  - 22. Author's organization: 35400 Cherry Point
  - 23. Integer value corresponding to IGES version: 6
  - 24. Drafting standard: 3

\*\* Qualitative Analysis \*\*

---

Warning: Form 2 not supported for IGES type 304. DE record #: 715  
Warning: Form 2 not supported for IGES type 304. DE record #: 1079  
Warning: File 1 already exists, renamed to 21291i.s01. DE record #: 6903  
Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 5977  
Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 5979  
Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 5981

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

Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 6451

\*\* Quantitative Diagnostics \*\*

IGES entity types encountered:

-----

Entity Type: 100 (IGES_ARC)	Quantity: 571
Entity Type: 102 (IGES_COMPOSITE_CURVE)	Quantity: 8
Entity Type: 106 (IGES_COPIOUS_DATA)	Quantity: 109
Entity Type: 108 (IGES_PLANE)	Quantity: 32
Entity Type: 110 (IGES_LINE)	Quantity: 2090
Entity Type: 126 (IGES_B_SPLINE_CURVE)	Quantity: 20
Entity Type: 210 (IGES_GENERAL_LABEL)	Quantity: 24
Entity Type: 212 (IGES_GENERAL_NOTE)	Quantity: 408
Entity Type: 214 (IGES_LEADER)	Quantity: 33
Entity Type: 216 (IGES_LINEAR_DIMENSION)	Quantity: 3
Entity Type: 230 (IGES_SECTIONED_AREA)	Quantity: 8
Entity Type: 304 (IGES_LINE_FONT_DEF)	Quantity: 2
Entity Type: 314 (IGES_COLOR_DEF)	Quantity: 8
Entity Type: 402 (IGES_ASSOCIATIVITY_INST)	Quantity: 184
Entity Type: 404 (IGES_DRAWING)	Quantity: 2
Entity Type: 406 (IGES_PROPERTY)	Quantity: 8

Total: 3510

---

---

IGES entity types successfully translated:

-----

Entity Type: 100 (IGES_ARC)	Quantity: 571
Entity Type: 102 (IGES_COMPOSITE_CURVE)	Quantity: 8
Entity Type: 108 (IGES_PLANE)	Quantity: 32
Entity Type: 110 (IGES_LINE)	Quantity: 2090
Entity Type: 126 (IGES_B_SPLINE_CURVE)	Quantity: 20
Entity Type: 212 (IGES_GENERAL_NOTE)	Quantity: 408
Entity Type: 230 (IGES_SECTIONED_AREA)	Quantity: 8
Entity Type: 314 (IGES_COLOR_DEF)	Quantity: 4
Entity Type: 402 (IGES_ASSOCIATIVITY_INST)	Quantity: 184
Entity Type: 404 (IGES_DRAWING)	Quantity: 2
Entity Type: 406 (IGES_PROPERTY)	Quantity: 8

Total: 3335

IGES entity types modified during translation:

-----

Entity Type: 106 (IGES_COPIOUS_DATA)	Quantity: 109
Entity Type: 210 (IGES_GENERAL_LABEL)	Quantity: 24
Entity Type: 214 (IGES_LEADER)	Quantity: 33
Entity Type: 216 (IGES_LINEAR_DIMENSION)	Quantity: 3

Total: 169

IGES entity types ignored during translation:

-----

Entity Type: 304 (IGES_LINE_FONT_DEF)	Quantity: 2
Entity Type: 314 (IGES_COLOR_DEF)	Quantity: 4

Total: 6

IGES entity types failed during translation:

-----

Total: 0

I/EMS elements successfully created:

-----

I/EMS element type: GR3dcircle	Quantity: 485
I/EMS element type: GR3dcirarc	Quantity: 86
I/EMS element type: GRcompcurve	Quantity: 8
I/EMS element type: GRbcsubbc	Quantity: 20
I/EMS element type: GR3dtext	Quantity: 441

I/EMS element type: GRgrgrp	Quantity:	109
I/EMS element type: GRaxhatch	Quantity:	8
I/EMS element type: GR3dlinestr	Quantity:	33
I/EMS element type: GR3dlineseg	Quantity:	2090
I/EMS element type: GRreffile	Quantity:	4

Total: 3284

Processing completed: Thu Jul 28 09:05:38 1994

Elapsed time: 00:01:01

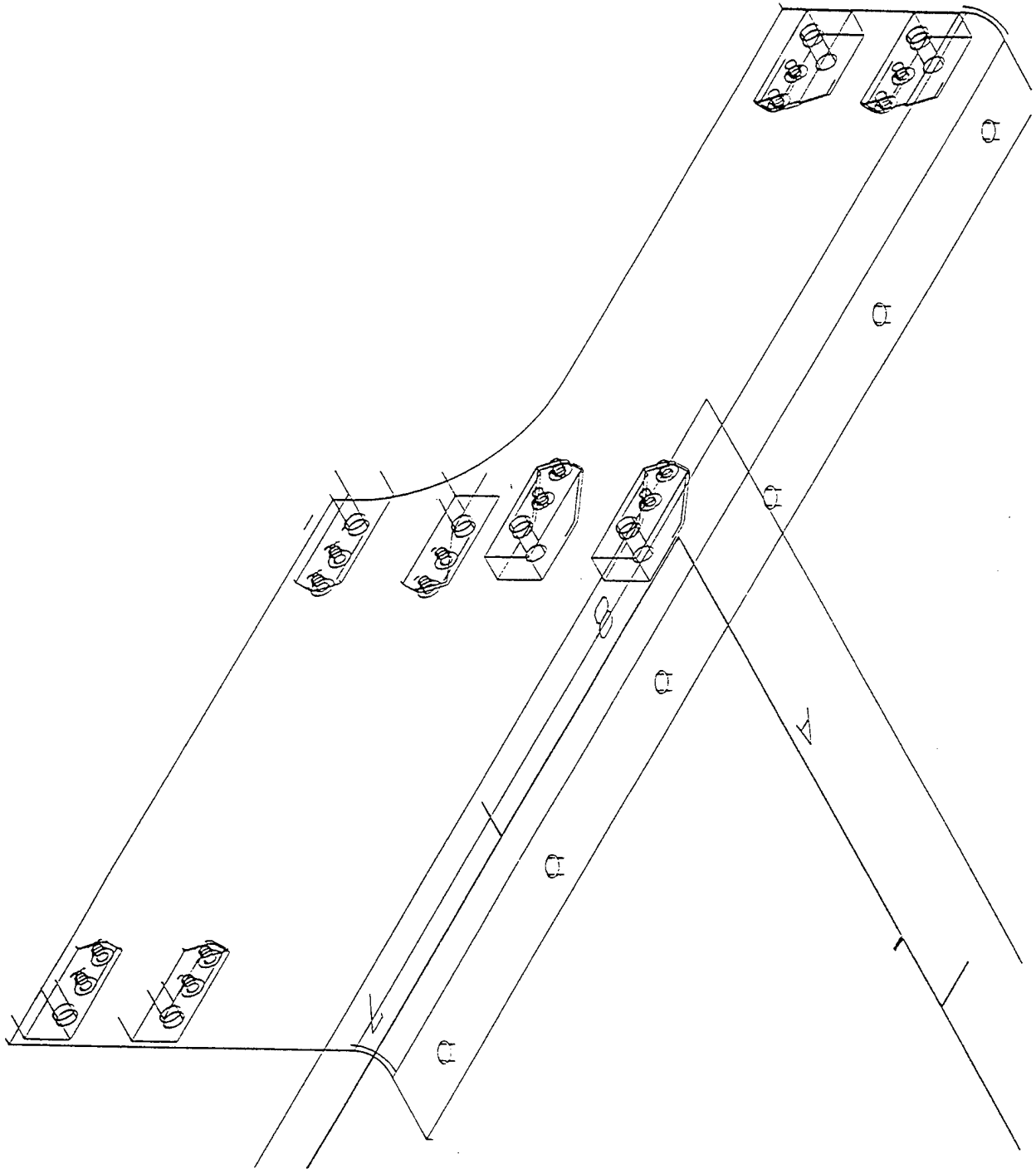
-\*o\*-





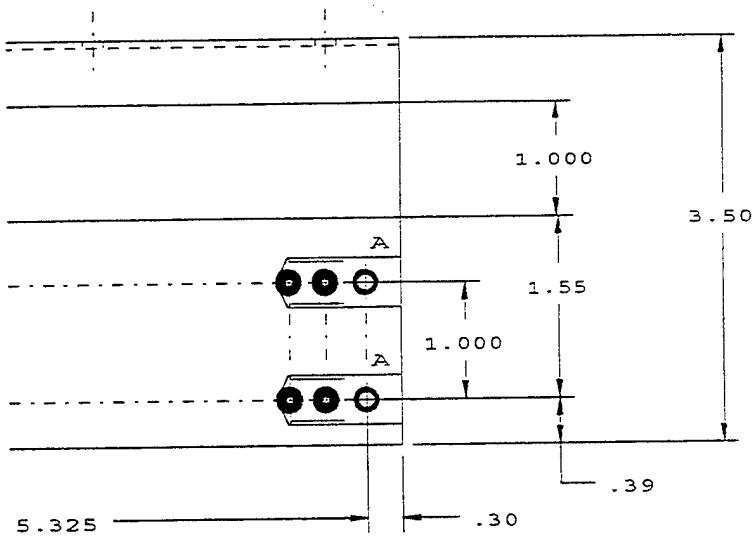
---

### 9.1.8 Output Cadkey v6.0 - Model

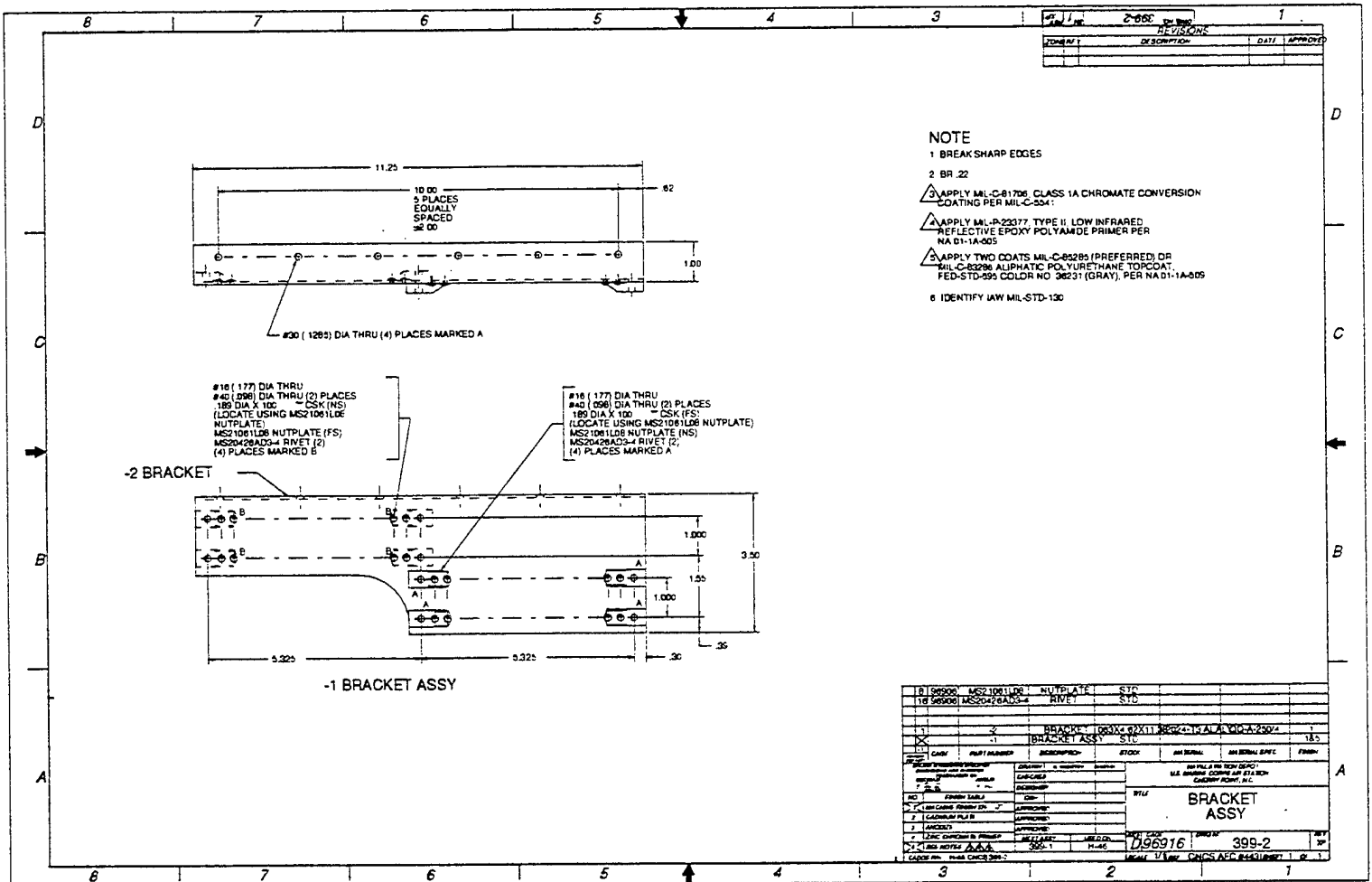


### 9.1.9 Output CADLeaf - Detail

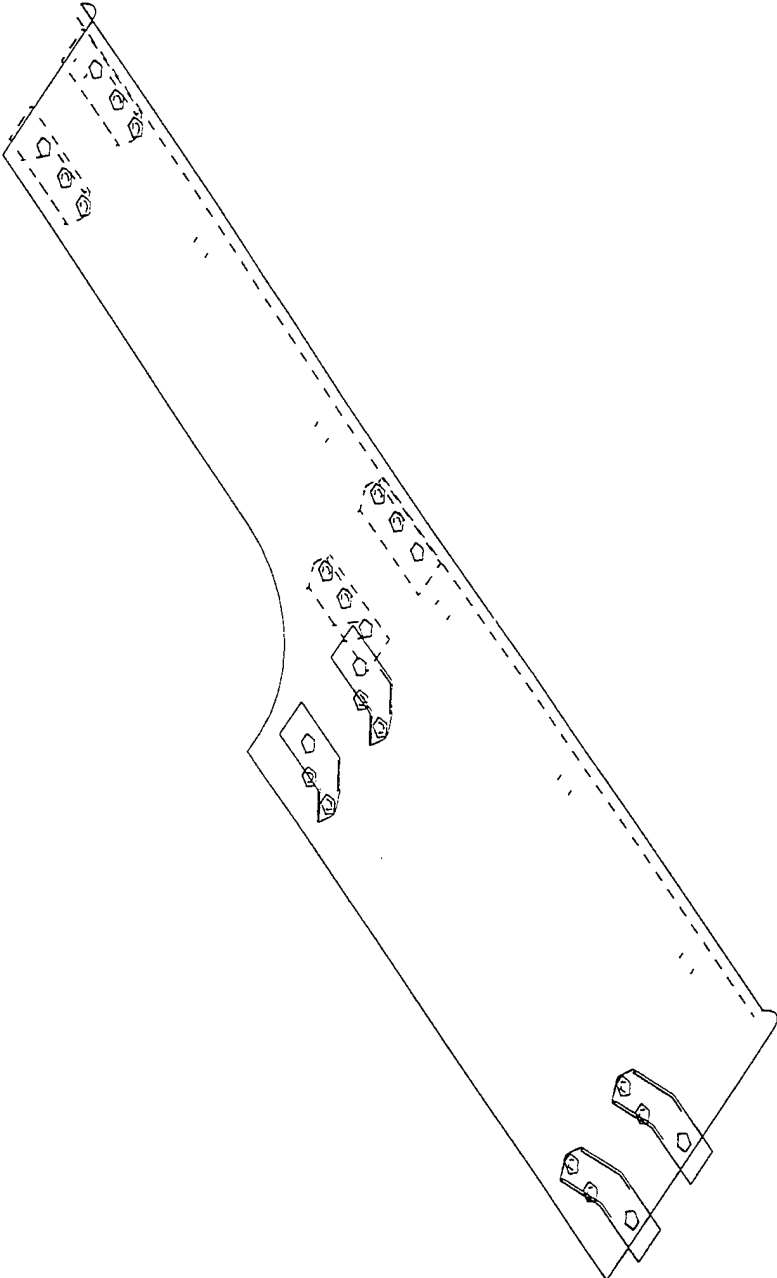
#16 (.177) DIA THRU  
#40 (.098) DIA THRU (2) PLACES  
.189 DIA X 100 \$ CSK (FS)  
(LOCATE USING MS21061L08 NUTPLATE)  
MS21061L08 NUTPLATE (NS)  
MS20426AD3-4 RIVET (2)  
(4) PLACES MARKED A



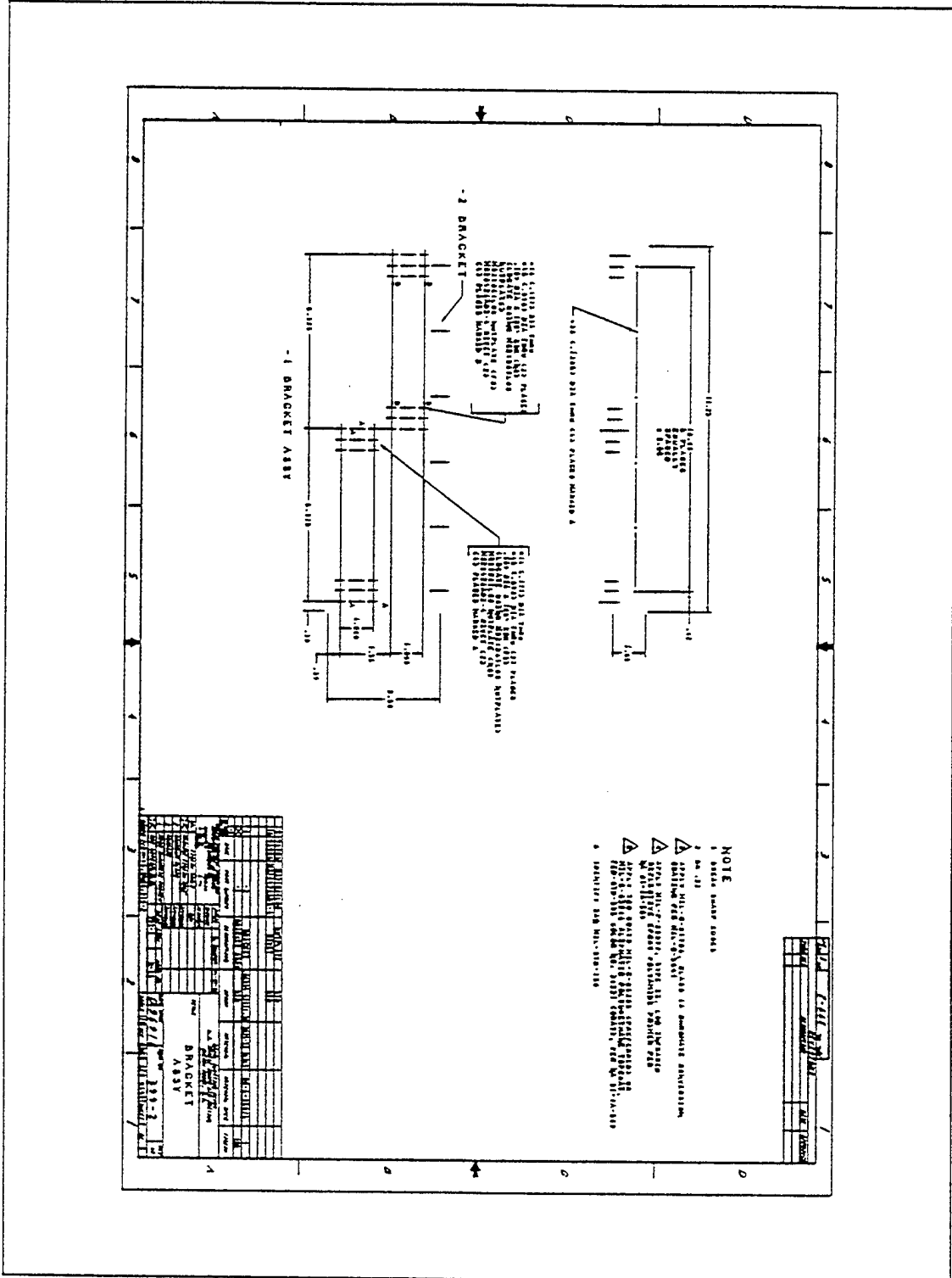
### 9.1.10 Output CALSView



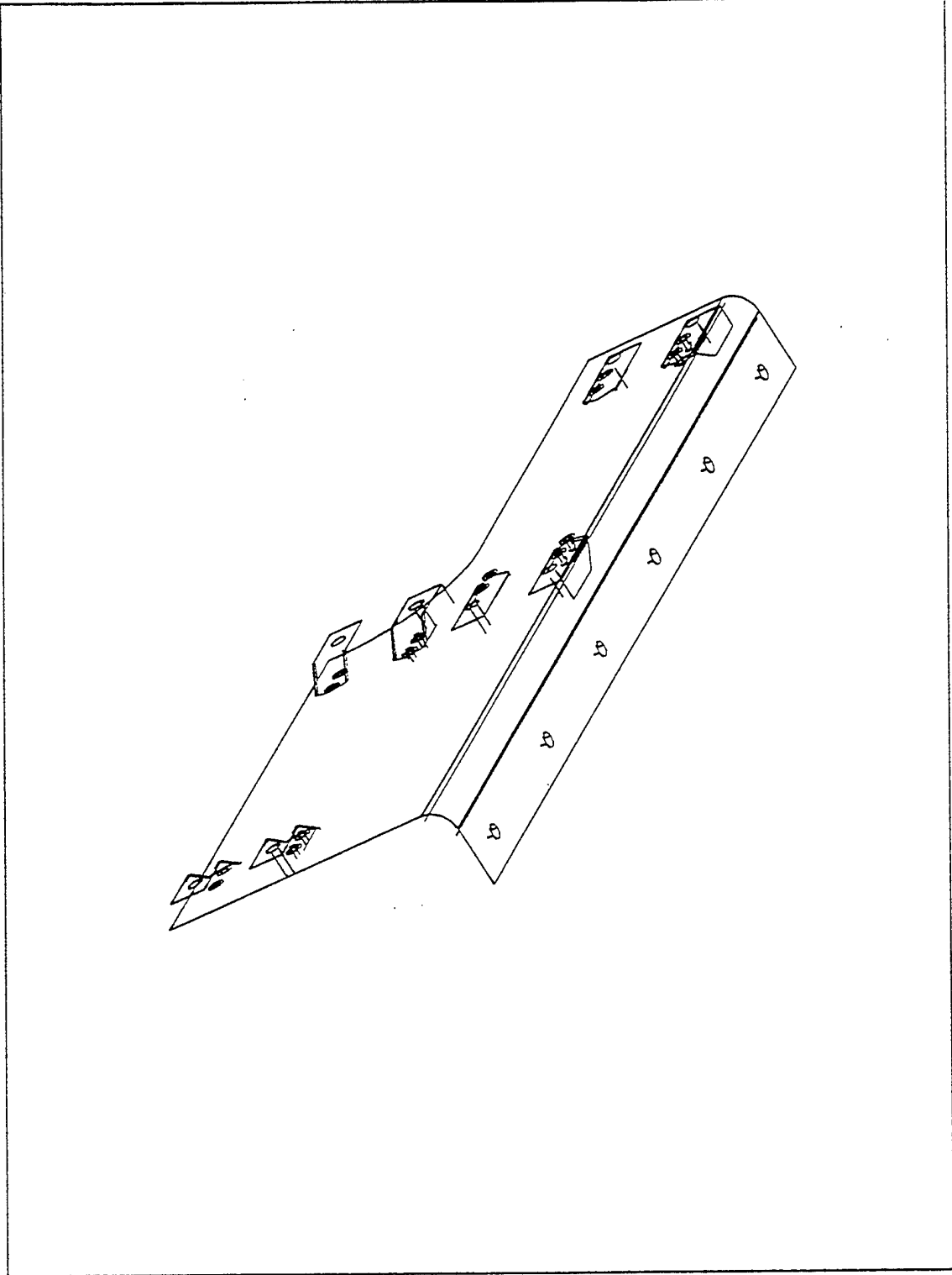
9.1.11 Output IGESView - Model



9.1.12 Output IGESWorks - Drawing



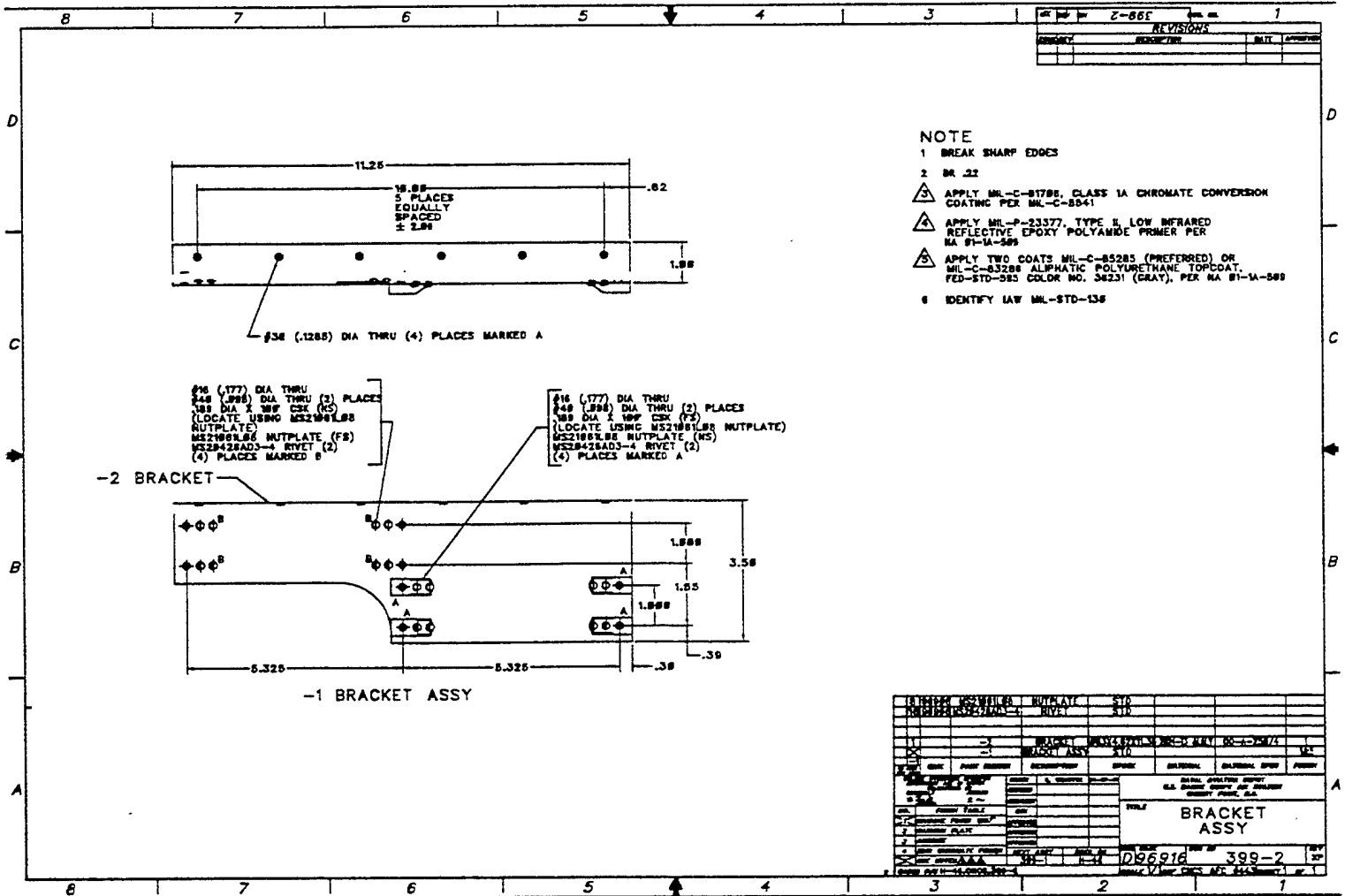
9.1.13 Output IGESWorks - Model







9.1.16 Output X-Change - Model



## 9.2 File 2129-1i

### 9.2.1 Parser/Verifier Log

#### 9.2.1.1 Basic IGES

```
*****  
**** IGES PARSER/VERIFIER ****  
**** MARCH 1994 ****  
**** IGES Data Analysis ****  
**** (708) 344-1815 ****  
*****
```

Input file is 2129-1i.igs  
Checking conformance to Standard IGES  
Today is July 26, 1994 3:58 PM

```
*****  
**** CHECK FILE SYNTAX ****  
*****
```

Section	Records
Start	1
Global	4
Directory	6904 ( 3452 Entities)
Parameter	4441
Terminate	1

No syntax errors detected.

```
*****  
**** SUMMARY AND STATISTICS ****  
*****
```

#### \*\*\* File and Product Name Information \*\*\*

```
File name from sender = '2129-1i'  
File creation Date.Time = '940720.085344'  
Model change Date.Time = ''  
Author = 'Sue Webster'  
Department = '35400 Cherry Point'  
Product name from sender = 'h-46.eng.2129-1'  
Destination product name = 'h-46.eng.2129-1'
```

---

\*\*\* Parameter Delimiters \*\*\*

Delimiter = ','  
Terminator = ';'

\*\*\* Originating System Data \*\*\*

System ID = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'  
Preprocessor version = 'IGES VERSION 4.0 (06-OCT-88)'  
Specification version = 6 (IGES 4.0)

\*\*\* Precision levels \*\*\*

Integer bits = 32  
Floating point - Exponent = 38 Mantissa = 6  
Double precision - Exponent = 308 Mantissa = 14

\*\*\* Global Model Data \*\*\*

Model scale = 1.0000E+00  
Unit flag = 1  
Units = 'INCH'  
Line weights = 32767  
Maximum line thickness = 3.276700E+01  
Minimum line thickness = 1.000000E-03  
Granularity = 1.000000E-06  
Maximum coordinate = 0.000000E+00

CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be defaulted to zero.

Drafting standard applicable to original data is ANSI.

\*\*\* Status Flag Summary \*\*\*

Blank status: Visible	2724
Blanked	728
Independence: Independent	1998
Physically Subordinate	1398
Logically Subordinate	0
Totally Subordinate	56

Entity use:   Geometry                   1740  
               Annotation               1502  
               Definition                210  
               Other                     0  
               Logical/Positional       0  
               2D parametric            0  
               Construction geometry    0  
               Not Specified            0

Hierarchy:   Structure DE applies           0  
               Subordinate DE applies   3452  
               Hierarchy property applies 0  
               Not Specified            0

\*\*\* Entity Occurrence Counts \*\*\*

Entity	Form	Level	Count	Type
-----	----	-----	-----	-----
100	0	0	272	Circular arc
100	0	1	48	
100	0	2	51	
100	0	5	1	
100	0	6	8	
100	0	7	28	
100	0	9	16	
100	0	10	6	
100	0	11	1	
100	0	14	13	
100	0	15	8	
100	0	16	104	
100	0	20	8	
100	0	50	4	
100	0	75	3	
102	0	0	8	Composite curve
106	20	1	92	Centerline
106	31	0	1	Section lines - General use, iron, brick, stone masonry
106	31	1	1	
106	31	2	4	
106	31	4	5	
106	40	0	6	Witness line
108	1	0	16	Plane, Bounded
110	0	0	348	Line
110	0	1	107	
110	0	2	180	
110	0	3	73	
110	0	4	43	

110	0	5	39	
110	0	6	71	
110	0	7	104	
110	0	8	48	
110	0	9	129	
110	0	10	18	
110	0	11	44	
110	0	12	57	
110	0	13	34	
110	0	14	35	
110	0	15	84	
110	0	16	179	
110	0	20	26	
110	0	25	25	
110	0	35	34	
110	0	50	45	
110	0	72	6	
110	0	73	1	
110	0	252	304	
124	0	0	12	Transformation matrix
126	0	0	4	Rational B-spline curve
126	0	2	12	
126	0	72	4	
210	0	1	24	General label
212	0	0	27	General note
212	0	1	217	
212	0	2	16	
212	0	252	148	
214	3	0	33	Leader arrow - Filled triangle
216	0	1	3	Linear dimension
230	0	252	8	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
314	0	0	4	Color definition
402	3	0	40	Views visible instance
402	4	0	144	Views visible, Color, Line weight instance
404	0	0	2	Drawing
406	15	0	6	Property - Name
406	16	0	2	Property - Drawing size
406	17	0	2	Property - Drawing units
410	0	0	4	View - Orthographic parallel

---

\*\*\* Entity Count by Level \*\*\*

Level	Count
0	933
1	492
2	263
3	73
4	48
5	40
6	79
7	132
8	48
9	145
10	24
11	45
12	57
13	34
14	48
15	92
16	283
20	34
25	25
35	34
50	49
72	10
73	1
75	3
252	460

\*\*\* Labeling Information \*\*\*

0% of the entities are labeled.

Unlabeled 3452

\*\*\* Line Fonts Used in Data \*\*\*

100	102	104	106	108	110	112	114	
160	8	-	74	16	496	-	-	Undefined
411	-	-	35	-	1518	-	-	Solid
-	-	-	-	-	2	-	-	Dashed
-	-	-	-	-	6	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	12	-	-	User defined

---

116	118	120	122	124	125	126	128	
-	-	-	-	12	-	-	-	Undefined
-	-	-	-	-	-	20	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom

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

\*\*\* Line Widths Used in Data \*\*\*

Weight	Count	Width
Defaulted	3440	(0.0010)
14	12	(0.0140)

\*\*\* Colors Used in Data \*\*\*

Defaulted	1957
Green	73
Yellow	460
Magenta	2
Cyan	626
White	93
User	241

\*\*\*\*\*  
\*\*\*\*\* ENTITY ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

\*\*\* Entity type: 100

ERROR 2242: Radii not equal at D 195; difference is 8.663394E-05.  
ERROR 2242: Radii not equal at D 197; difference is 8.663394E-05.  
ERROR 2242: Radii not equal at D 201; difference is 8.669726E-05.  
WARNING 2492: Undefined line font value (0) specified for D 2137.  
ERROR 2242: Radii not equal at D 2197; difference is 1.486456E-06.  
WARNING 2492: Undefined line font value (0) specified for D 2197.  
ERROR 2242: Radii not equal at D 2199; difference is 1.486456E-06.  
WARNING 2492: Messages regarding undefined line font suppressed.  
ERROR 2242: Radii not equal at D 2647; difference is 9.922906E-05.  
ERROR 2242: Radii not equal at D 3541; difference is 4.412839E-06.  
ERROR 2242: Messages regarding unequal radii suppressed.

\*\*\* Entity type: 102

---

\*\*\* Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D 5893.  
NITPICK 2076: Entity does not have Annotation flag set at D 5895.  
NITPICK 2076: Entity does not have Annotation flag set at D 5905.  
NITPICK 2076: Entity does not have Annotation flag set at D 5907.  
NITPICK 2076: Entity does not have Annotation flag set at D 5917.  
NITPICK 2076: Entity does not have Annotation flag set at D 5919.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5923.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5925.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5927.  
CAUTION 2331: Messages suppressed

\*\*\* Entity type: 108

ERROR 2012: Bounded Plane defined without a boundary specified at D 29.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 31.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 33.  
ERROR 2012: Messages regarding bounded plane without boundary suppressed.

\*\*\* Entity type: 110

-- 2034 lines averaging 2.033674E+00 units --

\*\*\* Entity type: 124

12 transformation matrices, 0 non-zero translations.

\*\*\* Entity type: 126

\*\*\* Entity type: 210

\*\*\* Entity type: 212

477 text strings in data file.  
Average text aspect ratio in file is 1.0446580.  
Minimum text aspect ratio in file is 0.4469697.  
Maximum text aspect ratio in file is 1.4000000.

FONTS USED IN FILE

FONT	COUNT	NAME
1	389	Default ASCII Style
2	88	LeRoy

\*\*\* Entity type: 214

Average arrow aspect ratio in file is 3.0000000.  
Minimum arrow aspect ratio in file is 3.0000000.  
Maximum arrow aspect ratio in file is 3.0000000.

\*\*\* Entity type: 216

\*\*\* Entity type: 230

\*\*\* Entity type: 304

Default line font substitute at D 715 is Phantom.  
Default line font substitute at D 1079 is Solid.

\*\*\* Entity type: 314

Color specified at D 17 has no name.  
Default color substitute is magenta.  
Color specified at D 19 has no name.  
Default color substitute is magenta.  
Color specified at D 21 has no name.  
Default color substitute is cyan.  
Color specified at D 23 has no name.  
Default color substitute is white.

\*\*\* Entity type: 402

\*\*\* Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 6895.  
CAUTION 2325: No views in drawing at D 6895.  
Drawing at D 6895 contains 0 annotation entities.  
NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 6903.  
Drawing at D 6903 contains 4 views.  
NITPICK 2289: View (D 79) is not logically subordinate to drawing at D 6903.  
NITPICK 2289: View (D 65) is not logically subordinate to drawing at D 6903.  
NITPICK 2289: View (D 51) is not logically subordinate to drawing at D 6903.  
NITPICK 2289: View (D 37) is not logically subordinate to drawing at D 6903.  
Drawing at D 6903 contains 1346 annotation entities.

\*\*\* Entity type: 406

\*\*\* Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D 37.  
Scale of view at D 37 is 1.000000E+00.  
Orthographic View entity at D 37 has 4 clipping planes specified.  
XMIN = -0.414 XMAX = 16.984  
YMIN = -5.001 YMAX = 2.835  
ZMIN = Not Set ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D 51.  
Scale of view at D 51 is 1.000000E+00.  
Orthographic View entity at D 51 has 4 clipping planes specified.  
XMIN = -14.968 XMAX = -1.620  
YMIN = -2.753 YMAX = 7.075  
ZMIN = Not Set ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D 65.  
Scale of view at D 65 is 1.000000E+00.  
Orthographic View entity at D 65 has 4 clipping planes specified.  
XMIN = -0.017 XMAX = 19.839  
YMIN = -8.406 YMAX = 6.336  
ZMIN = Not Set ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D 79.  
Scale of view at D 79 is 1.000000E+00.  
Orthographic View entity at D 79 has 4 clipping planes specified.  
XMIN = -0.727 XMAX = 16.727  
YMIN = 0.519 YMAX = 14.753  
ZMIN = Not Set ZMAX = Not Set

\*\*\* Message Summary \*\*\*

2006: 16 Missing pointers.  
2011: 4 Invalid subordinate relationships.  
2015: 11 Mathematically incorrect definitions.  
2016: 12 Invalid entity use flag.  
2038: 1438 Invalid Line font values.

\*\*\* Error Summary \*\*\*

0 fatal errors  
0 severe errors  
27 errors  
1438 warnings  
13 cautions  
16 nitpicks  
0 notes

\*\*\* End of Analysis of 2129-1i.igs \*\*\*

---

---

## 9.2.1.2 CALS IGES Class II

```
*****  
***** IGES PARSER/VERIFIER *****  
***** MARCH 1994 *****  
***** IGES Data Analysis *****  
***** (708) 344-1815 *****  
*****
```

Input file is 2129-li.igs  
Checking conformance to CALS Class II (MIL-D-28000A 2/10/92)  
Today is July 26, 1994 3:57 PM

```
*****  
***** CHECK FILE SYNTAX *****  
*****
```

Section	Records
Start	1
Global	4
Directory	6904 ( 3452 Entities)
Parameter	4441
Terminate	1

No syntax errors detected.

```
*****  
***** SUMMARY AND STATISTICS ****  
*****
```

### \*\*\* File and Product Name Information \*\*\*

```
File name from sender = '2129-li'  
File creation Date.Time = '940720.085344'  
Model change Date.Time = ''  
Author = 'Sue Webster'  
Department = '35400 Cherry Point'  
Product name from sender = 'h-46.eng.2129-1'  
Destination product name = 'h-46.eng.2129-1'
```

### \*\*\* Parameter Delimiters \*\*\*

```
Delimiter = ','  
Terminator = ';' 
```

---

\*\*\* Originating System Data \*\*\*

System ID = 'COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM'  
Preprocessor version = 'IGES VERSION 4.0 (06-OCT-88)'  
Specification version = 6 (IGES 4.0)

\*\*\* Precision levels \*\*\*

Integer bits = 32  
Floating point - Exponent = 38 Mantissa = 6  
Double precision - Exponent = 308 Mantissa = 14

\*\*\* Global Model Data \*\*\*

Model scale = 1.0000E+00  
Unit flag = 1  
Units = 'INCH'  
Line weights = 32767  
Maximum line thickness = 3.276700E+01  
Minimum line thickness = 1.000000E-03  
Granularity = 1.000000E-06  
Maximum coordinate = 0.000000E+00

CAUTION 2316: Maximum intended coordinate value of 0.000000E+00 will be defaulted to zero.

Drafting standard applicable to original data is ANSI.

\*\*\* Status Flag Summary \*\*\*

Blank status:	Visible	2724
	Blanked	728
Independence:	Independent	1998
	Physically Subordinate	1398
	Logically Subordinate	0
	Totally Subordinate	56
Entity use:	Geometry	1740
	Annotation	1502
	Definition	210
	Other	0
	Logical/Positional	0
	2D parametric	0
	Construction geometry	0
	Not Specified	0

Hierarchy:    Structure DE applies            0  
                  Subordinate DE applies        3452  
                  Hierarchy property applies    0  
                  Not Specified                    0

\*\*\* Entity Occurrence Counts \*\*\*

Entity	Form	Level	Count	Type
-----	----	-----	-----	-----
100	0	0	272	Circular arc
100	0	1	48	
100	0	2	51	
100	0	5	1	
100	0	6	8	
100	0	7	28	
100	0	9	16	
100	0	10	6	
100	0	11	1	
100	0	14	13	
100	0	15	8	
100	0	16	104	
100	0	20	8	
100	0	50	4	
100	0	75	3	
102	0	0	8	Composite curve
106	20	1	92	Centerline
106	31	0	1	Section lines - General use, iron, brick, stone masonry
106	31	1	1	
106	31	2	4	
106	31	4	5	
106	40	0	6	Witness line
108	1	0	16	Plane, Bounded
110	0	0	348	Line
110	0	1	107	
110	0	2	180	
110	0	3	73	
110	0	4	43	
110	0	5	39	
110	0	6	71	
110	0	7	104	
110	0	8	48	
110	0	9	129	
110	0	10	18	
110	0	11	44	
110	0	12	57	
110	0	13	34	

110	0	14	35	
110	0	15	84	
110	0	16	179	
110	0	20	26	
110	0	25	25	
110	0	35	34	
110	0	50	45	
110	0	72	6	
110	0	73	1	
110	0	252	304	
124	0	0	12	Transformation matrix
126	0	0	4	Rational B-spline curve
126	0	2	12	
126	0	72	4	
210	0	1	24	General label
212	0	0	27	General note
212	0	1	217	
212	0	2	16	
212	0	252	148	
214	3	0	33	Leader arrow - Filled triangle
216	0	1	3	Linear dimension
230	0	252	8	Sectioned area (Standard Crosshatching)
304	2	0	2	Line font definition - repeating pattern
314	0	0	4	Color definition
402	3	0	40	Views visible instance
402	4	0	144	Views visible, Color, Line weight instance
404	0	0	2	Drawing
406	15	0	6	Property - Name
406	16	0	2	Property - Drawing size
406	17	0	2	Property - Drawing units
410	0	0	4	View - Orthographic parallel

\*\*\* Entity Count by Level \*\*\*

Level	Count
0	933
1	492
2	263
3	73
4	48
5	40
6	79
7	132
8	48
9	145
10	24
11	45
12	57

13	34
14	48
15	92
16	283
20	34
25	25
35	34
50	49
72	10
73	1
75	3
252	460

\*\*\* Labeling Information \*\*\*

0% of the entities are labeled.

Unlabeled 3452

\*\*\* Line Fonts Used in Data \*\*\*

100	102	104	106	108	110	112	114	
160	8	-	74	16	496	-	-	Undefined
411	-	-	35	-	1518	-	-	Solid
-	-	-	-	-	2	-	-	Dashed
-	-	-	-	-	6	-	-	Phantom
-	-	-	-	-	-	-	-	Center-line
-	-	-	-	-	-	-	-	Dotted
-	-	-	-	-	12	-	-	User defined
116	118	120	122	124	125	126	128	
-	-	-	-	12	-	-	-	Undefined
-	-	-	-	-	-	20	-	Solid
-	-	-	-	-	-	-	-	Dashed
-	-	-	-	-	-	-	-	Phantom

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

\*\*\* Line Widths Used in Data \*\*\*

Weight	Count	Width
Defaulted	3440	(0.0010)
14	12	(0.0140)

\*\*\* Colors Used in Data \*\*\*

Defaulted	1957
Green	73
Yellow	460
Magenta	2
Cyan	626
White	93
User	241

\*\*\*\*\*  
\*\*\*\*\* ENTITY ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

\*\*\* Entity type: 100

ERROR 2242: Radii not equal at D 195; difference is 8.663394E-05.  
ERROR 2242: Radii not equal at D 197; difference is 8.663394E-05.  
ERROR 2242: Radii not equal at D 201; difference is 8.669726E-05.  
WARNING 2492: Undefined line font value (0) specified for D 2137.  
ERROR 2242: Radii not equal at D 2197; difference is 1.486456E-06.  
WARNING 2492: Undefined line font value (0) specified for D 2197.  
ERROR 2242: Radii not equal at D 2199; difference is 1.486456E-06.  
WARNING 2492: Undefined line font value (0) specified for D 2203.  
WARNING 2492: Undefined line font value (0) specified for D 2219.  
WARNING 2492: Messages regarding undefined line font suppressed.  
ERROR 2242: Radii not equal at D 2647; difference is 9.922906E-05.  
ERROR 2242: Radii not equal at D 3541; difference is 4.412839E-06.  
ERROR 2242: Messages regarding unequal radii suppressed.

\*\*\* Entity type: 102

\*\*\* Entity type: 106

NITPICK 2076: Entity does not have Annotation flag set at D 5893.  
NITPICK 2076: Entity does not have Annotation flag set at D 5895.  
NITPICK 2076: Entity does not have Annotation flag set at D 5905.  
NITPICK 2076: Entity does not have Annotation flag set at D 5907.  
NITPICK 2076: Entity does not have Annotation flag set at D 5917.  
NITPICK 2076: Entity does not have Annotation flag set at D 5919.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5923.  
CAUTION 2331: Use of section lines (Form 31-38) is not recommended at D 5925.  
CAUTION 2331: Messages suppressed

\*\*\* Entity type: 108

ERROR 2012: Bounded Plane defined without a boundary specified at D 29.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 31.  
ERROR 2012: Bounded Plane defined without a boundary specified at D 33.  
ERROR 2012: Messages regarding bounded plane without boundary suppressed.

\*\*\* Entity type: 110

-- 2034 lines averaging 2.033674E+00 units --

\*\*\* Entity type: 124

12 transformation matrices, 0 non-zero translations.

\*\*\* Entity type: 126

\*\*\* Entity type: 210

\*\*\* Entity type: 212

ERROR 4050: Illegal text font for CALS Class II specified for string 1 at D 5977.  
ERROR 4050: Illegal text font for CALS Class II specified for string 1 at D 5979.  
ERROR 4050: Messages regarding illegal text fonts suppressed.  
477 text strings in data file.  
Average text aspect ratio in file is 1.0446580.  
Minimum text aspect ratio in file is 0.4469697.  
Maximum text aspect ratio in file is 1.4000000.

FONTS USED IN FILE

FONT	COUNT	NAME
1	389	Default ASCII Style
2	88	LeRoy

\*\*\* Entity type: 214

Average arrow aspect ratio in file is 3.0000000.  
Minimum arrow aspect ratio in file is 3.0000000.  
Maximum arrow aspect ratio in file is 3.0000000.

\*\*\* Entity type: 216

\*\*\* Entity type: 230

---

\*\*\* Entity type: 304

Default line font substitute at D 715 is Phantom.  
Default line font substitute at D 1079 is Solid.

\*\*\* Entity type: 314

Color specified at D 17 has no name.  
Default color substitute is magenta.  
Color specified at D 19 has no name.  
Default color substitute is magenta.  
Color specified at D 21 has no name.  
Default color substitute is cyan.  
Color specified at D 23 has no name.  
Default color substitute is white.

\*\*\* Entity type: 402

\*\*\* Entity type: 404

NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 6895.  
CAUTION 2325: No views in drawing at D 6895.  
Drawing at D 6895 contains 0 annotation entities.  
NITPICK 2074: Entity use flag must be 1 for Drawing entity at D 6903.  
Drawing at D 6903 contains 4 views.  
NITPICK 2289: View (D 79) is not logically subordinate to drawing at D 6903.  
NITPICK 2289: View (D 65) is not logically subordinate to drawing at D 6903.  
NITPICK 2289: View (D 51) is not logically subordinate to drawing at D 6903.  
NITPICK 2289: View (D 37) is not logically subordinate to drawing at D 6903.  
Drawing at D 6903 contains 1346 annotation entities.

\*\*\* Entity type: 406

\*\*\* Entity type: 410

NITPICK 2073: Entity use flag must be 1 for View entity at D 37.  
Scale of view at D 37 is 1.000000E+00.  
Orthographic View entity at D 37 has 4 clipping planes specified.  
XMIN = -0.414 XMAX = 16.984  
YMIN = -5.001 YMAX = 2.835  
ZMIN = Not Set ZMAX = Not Set

---

---

NITPICK 2073: Entity use flag must be 1 for View entity at D 51.

Scale of view at D 51 is 1.000000E+00.

Orthographic View entity at D 51 has 4 clipping planes specified.

XMIN = -14.968 XMAX = -1.620

YMIN = -2.753 YMAX = 7.075

ZMIN = Not Set ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D 65.

Scale of view at D 65 is 1.000000E+00.

Orthographic View entity at D 65 has 4 clipping planes specified.

XMIN = -0.017 XMAX = 19.839

YMIN = -8.406 YMAX = 6.336

ZMIN = Not Set ZMAX = Not Set

NITPICK 2073: Entity use flag must be 1 for View entity at D 79.

Scale of view at D 79 is 1.000000E+00.

Orthographic View entity at D 79 has 4 clipping planes specified.

XMIN = -0.727 XMAX = 16.727

YMIN = 0.519 YMAX = 14.753

ZMIN = Not Set ZMAX = Not Set

\*\*\* Message Summary \*\*\*

2006: 16 Missing pointers.

2011: 4 Invalid subordinate relationships.

2015: 11 Mathematically incorrect definitions.

2016: 12 Invalid entity use flag.

2038: 1438 Invalid Line font values.

4000: 88 Miscellaneous CALS messages

\*\*\* Error Summary \*\*\*

0 fatal errors

0 severe errors

115 errors

1438 warnings

13 cautions

16 nitpicks

0 notes

\*\*\* End of Analysis of 2129-li.igs \*\*\*

---

## 9.2.2 Parser Log - AutoCAD R12

Title: IGESIN Journal (v5.1 Nov 05 1992)

=====  
File: C:/TMP/2129-1I.xli

Date: Tue, Jul 26, 1994

Time: 16:23:49  
=====

EVALUATION VERSION -- NOT FOR RESALE

Translator S/N: 117-10075750

Translating from IGES file: C:/TMP/2129-1I.IGS  
to AutoCAD Drawing: C:\2129-1I.dwg  
=====

Options obtained from: default settings  
Curves Approximated to Tolerance of 0.01  
Surfaces Approximated to Tolerance of 0.01

Text Font/Style mapping:

IGES Text font	Style Name	ACAD Font
0	SYMBOL0	iges0
1	STANDARD	txt
2	LEROY	txt
3	FUTURA	txt
6	COMP80	txt
12	GOTHICE	gothice
13	GOTHICI	gothici
14	ROMANS	romans
17	ROMANT	romant
18	ROMAND	romand
19	OCR	txt
1001	SYMBOL1	iges1001
1002	SYMBOL2	iges1002
1003	SYMBOL3	iges1003
2001	KANJI	bigfont

IGES Linefont/AutoCAD Linetype mapping

IGES Line Font	AutoCAD linetype	Shape file
0	BYLAYER	
1	CONTINUOUS	
2	DASHED	acad.lin
3	PHANTOM	acad.lin
4	CENTER	acad.lin
5	DOT	acad.lin

---

Parse phase

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*

(DE 29, TF 108:1) Entity references DE 0. Pointer must must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*

(DE 31, TF 108:1) Entity references DE 0. Pointer must must reference a Closed Curve entity.

Action taken: The form number was changed from 1 to 0.

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

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*

(DE 195, TF 100:0) Entity's radii are not equal. Start point radius: 4.8609670e-002. Terminate point radius: 4.8696304e-002.

Action taken: Start point moved 4.3316971e-005 units from 8.8423200e+001, 3.8616000e+001 to 8.8423162e+001, 3.8615978e+001. Terminate point moved 4.3316971e-005 units from 8.8507500e+001, 3.8616000e+001 to 8.8507462e+001, 3.8616022e+001.

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*

(DE 197, TF 100:0) Entity's radii are not equal. Start point radius: 4.8609670e-002. Terminate point radius: 4.8696304e-002.

Action taken: Start point moved 4.3316971e-005 units from 8.8423200e+001, 3.8616000e+001 to 8.8423238e+001, 3.8616022e+001. Terminate point moved 4.3316971e-005 units from 8.8338900e+001, 3.8616000e+001 to 8.8338938e+001, 3.8615978e+001.

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

---

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*  
(DE 5791, TF 100:0) Entity's radii are not equal. Start point radius:  
1.5472348e-001. Terminate point radius: 1.5478358e-001.

Action taken: Start point moved 3.0048748e-005 units from 1.0996800e+001,  
7.0750000e-002 to 1.0996818e+001, 7.0773986e-002. Terminate point moved  
3.0048748e-005 units from 1.0810300e+001, 7.0749800e-002 to 1.0810318e+001,  
7.0725824e-002.

=====  
Start Section:

Global Section:

Parameter Delimiter: ,  
Record Delimiter: ;  
Sending Product ID: h-46.eng.2129-1  
File Name: 2129-1i  
System ID: COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM  
Preprocessor Version: IGES VERSION 4.0 (06-OCT-88)  
Size of Integer: 32  
Sgl. Precision Mag: 38  
Sgl. Precision Sig: 6  
Dbl. Precision Mag: 308  
Dbl. Precision Sig: 14  
Receiving Product ID: h-46.eng.2129-1  
Model Space Scale: 1.000000  
Unit Flag: 1  
Unit String: INCH  
# of Line Weights: 32767  
Maximum Line Width: 32.767000  
Creation Date: 07/20/94 08:53:44  
Minimum Resolution: 0.000001  
Maximum Coordinate: 0.000000  
Author: Sue Webster  
Organization: 35400 Cherry Point  
IGES Version Number: 6  
Drafting Standard: 3

Entity Summary:

Type	Form	Description	Count
100	0	Circular Arc	571
102	0	Composite Curve	8
106	20	Centerline Through Points	92
106	31	Section Entity	11
106	40	Witness Line	6
108	0	Plane (Unbounded)	16
110	0	Line	2034
124	0	Transformation Matrix	12
126	0	Rational B-Spline Curve (General)	20
210	0	General Label	24
212	0	General Note (Simple)	408
214	3	Leader (Filled triangle)	33
216	0	Linear dim - undetermined form	3
230	0	Section Area (Standard Fill)	8
304	2	Line Font Definition (Pattern)	2
314	0	Color Definition	4
402	3	Views Visible	40
402	4	Views Visible, Color, Line wt.	144
404	0	Drawing (form 0)	2
406	15	Property (Name)	6
406	16	Property (Drawing Size)	2
406	17	Property (Drawing Units)	2
410	0	View	4
Total			3452

Translation phase

Drawing Entity (404 Form 0) at DE 6895, with  
 name = 2,  
 size = 22.000000, 17.000000,  
 units = IN,  
 was processed in the AutoCAD drawing file: C:\2129-1I.dwg

Drawing Entity (404 Form 0) at DE 6903, with  
 name = 1,  
 size = 140.000000, 70.000000,  
 units = IN,  
 was processed in the AutoCAD drawing file: C:\2129-1I1

IGES Entity Summary

Type	Form	Description	Count	Processed	Errors
100	0	Circular Arc	571	571	0
102	0	Composite Curve	8	8	0
106	20	Centerline Through Points	92	92	0
106	31	Section Entity	11	11	0
106	40	Witness Line	6	6	0
108	0	Plane (Unbounded)	16	16	0
110	0	Line	2034	2034	0
126	0	Rational B-Spline Curve (General)	20	20	0
210	0	General Label	24	24	0
212	0	General Note (Simple)	408	408	0
214	3	Leader (Filled triangle)	33	33	0
216	0	Linear dim - undetermined form	3	3	0
230	0	Section Area (Standard Fill)	8	8	0
304	2	Line Font Definition (Pattern)	1	1	0
314	0	Color Definition	4	4	0
402	3	Views Visible	40	40	0
402	4	Views Visible, Color, Line wt.	144	144	0
404	0	Drawing (form 0)	2	2	0
406	15	Property (Name)	6	6	0
406	16	Property (Drawing Size)	2	2	0
406	17	Property (Drawing Units)	2	2	0
410	0	View	4	4	0
<b>Totals</b>			<b>3439</b>	<b>3439</b>	<b>0</b>

AutoCAD Entity Summary

Entity	Created	Errors
LINE	3222	0
CIRCLE	485	0
TEXT	471	0
ARC	86	0
SOLID	27	0
INSERT	162	0
POLYLINE	28	0
DIMENSION	3	0
BLOCK	162	0
<b>Totals</b>	<b>4646</b>	<b>0</b>

Error Summary:

The following message was issued 11 time(s)  
Entity's radii are not equal. Start point radius: %.7e. Terminate point  
radius: %.7e.

The following message was issued 16 time(s)  
Entity references DE %ld%s. Pointer must reference a Closed Curve entity.

Status: 0  
Warning: 27  
Error: 0  
Fatal: 0

Elapsed Time:

Processor: 00:02:52  
Clock: 00:02:53

---

---

### 9.2.3 Prepare Error Log

ERROR REPORT FOR FILE /novell/94101/2129-1i.igs

>> File record length is 81 (1 record terminator used)

Terminate section report :

File Section	#lines
START	1
GLOBAL	4
DIRECTORY ENTRY	6904
PARAMETER DATA	4441
TERMINATE	1
TOTAL	11351

(Expect 81 X 11351 = 919431 bytes)

----- preliminary format scan complete -----

>> WARNING: Cannot use maximum power of 10 requested.

: Requested maximum power of 308 using 307.

: Field 11 line 2 of GLOBAL section. (Max. Exp. for Double)

PHIC SYSTEM,28HIGES VERSION 4.0 (06-OCT-88),32,38,6,308,14,15Hh-46.eng.2G

2

-----  
Found 0 errors and 1 warnings

---

## 9.2.4 Parser Log - IGESWorks

IGES/Works v1.4.1  
International TechneGroup Incorporated  
Validation Logfile

Date: July 28, 1994  
Model: 21291i

\*\*\*\*\* Validation Parameters \*\*\*\*\*

### TOLERANCE CONFIGURATION VALUES

-----

ZERO\_TOL = 1.000000e-13  
MODEL\_SPACE\_PNT\_COIN\_TOL = 1.000000e-03  
PARAM\_SPACE\_PNT\_COIN\_TOL = 1.000000e-08  
ISO\_PARM\_CURVE\_TOL = 1.000000e-08  
NON\_CONV\_TOL = 1.000000e-12  
KNOT\_COIN\_TOL = 1.000000e-10  
SAME\_INTER\_TOL = 1.000000e-12  
PARALLEL\_LINES\_TOL = 1.000000e-07  
ANGLE\_COIN\_TOL = 1.000000e-05  
PNT\_PROJ\_TOL = 1.000000e-07  
COLIN\_TOL = 1.000000e-07  
COPLANAR\_TOL = 1.000000e-08  
ZERO\_NORMAL\_TOL = 1.000000e-06  
SAME\_TANGENT\_TOL = 1.000000e-04  
SAME\_CURVATURE\_TOL = 1.000000e-04  
SAME\_DERIVATIVE\_TOL = 1.000000e-03  
MODEL\_LINEAR\_APPROX\_TOL = 2.220446e-16

\*\*\*\*\* Entity Listing Before Validation \*\*\*\*\*

Count	Type	Form	Description
-----	----	----	-----
571	100	0	Circular Arc
8	102	0	Composite Curve
92	106	20	Centerline Through Points
11	106	31	Section Entity
6	106	40	Witness Line
16	108	1	Plane (Bounded)
2034	110	0	Line
12	124	0	Transformation Matrix
20	126	0	Rational B-Spline Curve (General)
24	210	0	General Label
408	212	0	General Note (Simple)

---

33	214	3	Leader (Filled triangle)
3	216	0	Linear dim - undetermined form
8	230	0	Section Area (Standard Fill)
2	304	2	Line Font Definition (Pattern)
4	314	0	Color Definition
40	402	3	Views Visible
144	402	4	Views Visible, Color, Line wt.
2	404	0	Drawing (form 0)
6	406	15	Property (Name)
2	406	16	Property (Drawing Size)
2	406	17	Property (Drawing Units)
4	410	0	View

3452 - Number of entities in selection list

\*\*\*\*\* Entity Validation \*\*\*\*\*

\*\*\* Warning (IEVM\_BAD\_PTR\_108) \*\*\*  
(DE 29, TF 108:1) This Bounded Plane entity (108:1, 108:-1) references DE 0.  
The pointer must reference a Closed Curve entity.  
Action taken: The form number was changed from 1 to 0.

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

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*  
(DE 195, TF 100:0) This circular arc entity's start point and end point radii  
are not equal in length. Start point radius: 4.8609670e-02. Terminate point  
radius: 4.8696304e-02.  
Action taken: Start point moved 4.3316971e-05 units from 8.8423200e+01,  
3.8616000e+01 to 8.8423162e+01, 3.8615978e+01. Terminate point moved  
4.3316971e-05 units from 8.8507500e+01, 3.8616000e+01 to 8.8507462e+01,  
3.8616022e+01.

\*\*\* Warning (IEVM\_RADII\_NOT\_EQUAL\_100) \*\*\*  
(DE 197, TF 100:0) This circular arc entity's start point and end point radii  
are not equal in length. Start point radius: 4.8609670e-02. Terminate point  
radius: 4.8696304e-02.  
Action taken: Start point moved 4.3316971e-05 units from 8.8423200e+01,  
3.8616000e+01 to 8.8423238e+01, 3.8616022e+01. Terminate point moved  
4.3316971e-05 units from 8.8338900e+01, 3.8616000e+01 to 8.8338938e+01,  
3.8615978e+01.

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

\*\*\* Warning (IEVM\_BAD\_PLANAR\_FLAG\_126) \*\*\*  
 (DE 5847, TF 126:0) This Rational B-Spline Curve entity's (126) Planar/  
 Nonplanar property flag (Index 3 of Parameter Data) incorrectly specifies the  
 entity as nonplanar. The entity is planar within the specified tolerance.  
 Action taken: The entity's property flag has been changed from 0 to 1.

\*\*\* Warning (IEVM\_BAD\_PLANE\_NORMAL\_126) \*\*\*  
 (DE 5847, TF 126:0) This Rational B-Spline Curve entity's (126) Unit Normal  
 index (in the Parameter Data) for the plane of the curve is incorrect within  
 the stated tolerance.  
 Action taken: The value in the Unit Normal index has been fixed.

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

Entity Validation Summary:

Type	Form	Entity Count	Number Valid	Number of Corrected		Number of Uncorrected	
				Warnings	Errors	Warnings	Errors
Global Section		1	1	0	0	0	0
100	0	571	560	0	11	0	0
102	0	8	8	0	0	0	0
106	20	92	92	0	0	0	0
106	31	11	11	0	0	0	0
106	40	6	6	0	0	0	0
108	0	16	0	0	16	0	0
110	0	2034	2034	0	0	0	0
124	0	12	12	0	0	0	0
126	0	20	0	20	20	0	0
210	0	24	24	0	0	0	0
212	0	408	408	0	0	0	0
214	3	33	33	0	0	0	0
216	0	3	3	0	0	0	0
230	0	8	8	0	0	0	0
304	2	2	2	0	0	0	0
314	0	4	4	0	0	0	0
402	3	40	40	0	0	0	0
402	4	144	144	0	0	0	0
404	0	2	2	0	0	0	0
406	15	6	6	0	0	0	0
406	16	2	2	0	0	0	0
406	17	2	2	0	0	0	0
410	0	4	4	0	0	0	0
Totals:		3453	3406	20	47	0	0

The following message was issued and suppressed 6 times:

This circular arc entity's start point and end point radii are not equal in length. Start point radius: %.7e. Terminate point radius: %.7e.

The following message was issued and suppressed 11 times:

This Bounded Plane entity (108:1, 108:-1) references DE %ld%s. The pointer must reference a Closed Curve entity.

The following message was issued and suppressed 15 times:

This Rational B-Spline Curve entity's (126) Planar/Nonplanar property flag (Index 3 of Parameter Data) incorrectly specifies the entity as nonplanar. The entity is planar within the specified tolerance.

The following message was issued and suppressed 15 times:

This Rational B-Spline Curve entity's (126) Unit Normal index (in the Parameter Data) for the plane of the curve is incorrect within the stated tolerance.

A message is suppressed when it has been issued more than 5 times. This value is controlled by the 'MAX\_MESSAGE' configuration parameter.

\*\*\*\*\*

---

## 9.2.5 Intergraph Import Log

IGES Translator Log File  
IGES to I/EMS processing

Command line used:

```
iges -d in -i /novell/94101/21291i.igs -o /novell/94101/21291i.dgn -s  
/cals/ip32/ems/config/seed_file -l /novell/94101/21291i.log
```

Processing started: Thu Jul 28 09:04:37 1994

Seed file used: /cals/ip32/ems/config/seed\_file

**\*\* Generic Information \*\***

-----  
IGES Version: 4.0  
IGES File: "/novell/94101/21291i.igs"  
MODEL File: "/novell/94101/21291i.dgn"  
LOG File: "/novell/94101/21291i.log"  
Application Protocol: ANSI IGES  
Defaulted Values:

Chord Height tolerance of 0.010000 has been used

**\*\* Start Section \*\***

-----  
**\*\* Global Section \*\***  
-----

1. Parameter delimiter: ','
2. Record delimiter: ';'
3. Product Identification of sending system: "h-46.eng.2129-1"
4. File Name: "2129-1i"
5. System ID: "COMPUTERVISION CADDStation REV 4.0 GRAPHIC SYSTEM"
6. Preprocessor Version: "IGES VERSION 4.0 (06-OCT-88)"
7. Number of bits for integer representation: 32
8. Maximum power of ten in single precision floating point: 38
9. Number of significant digits in single precision floating point: 6
10. Maximum power of ten in double precision floating point: 308
11. Number of significant digits in double precision floating point: 14
12. Product Identification of receiving system: h-46.eng.2129-1
13. Model space scale: 1.000000
14. Unit flag: 1
15. Units: "INCH"
16. Maximum number of line weight gradations: 15
17. Size of maximum line width in units: 1077961261
18. Date and time of file generation: "940720.085344"

- 
19. Minimum user intended resolution: 0.000001
  20. Approximate maximum coordinate value: 0.000000
  21. Name of author: Sue Webster
  22. Author's organization: 35400 Cherry Point
  23. Integer value corresponding to IGES version: 6
  24. Drafting standard: 3

**\*\* Qualitative Analysis \*\***

---

Warning: Form 2 not supported for IGES type 304. DE record #: 715  
Warning: Form 2 not supported for IGES type 304. DE record #: 1079  
Warning: File 1 already exists, renamed to 21291i.s01. DE record #: 6903  
Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 5977  
Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 5979

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

Warning: Font 2 has no I/EMS equivalent, output as default.  
DE record #: 6451

**\*\* Quantitative Diagnostics \*\***

---

IGES entity types encountered:

---

Entity Type: 100 (IGES_ARC)	Quantity: 571
Entity Type: 102 (IGES_COMPOSITE_CURVE)	Quantity: 8
Entity Type: 106 (IGES_COPIOUS_DATA)	Quantity: 109
Entity Type: 108 (IGES_PLANE)	Quantity> 32
Entity Type: 110 (IGES_LINE)	Quantity: 2090
Entity Type: 126 (IGES_B_SPLINE_CURVE)	Quantity: 20
Entity Type: 210 (IGES_GENERAL_LABEL)	Quantity: 24
Entity Type: 212 (IGES_GENERAL_NOTE)	Quantity: 408
Entity Type: 214 (IGES_LEADER)	Quantity: 33
Entity Type: 216 (IGES_LINEAR_DIMENSION)	Quantity: 3
Entity Type: 230 (IGES_SECTIONED_AREA)	Quantity: 8
Entity Type: 304 (IGES_LINE_FONT_DEF)	Quantity: 2
Entity Type: 314 (IGES_COLOR_DEF)	Quantity: 8
Entity Type: 402 (IGES_ASSOCIATIVITY_INST)	Quantity: 184
Entity Type: 404 (IGES_DRAWING)	Quantity: 2
Entity Type: 406 (IGES_PROPERTY)	Quantity: 8

Total: 3510

---

IGES entity types successfully translated:

-----

Entity Type: 100 (IGES_ARC)	Quantity: 571
Entity Type: 102 (IGES_COMPOSITE_CURVE)	Quantity: 8
Entity Type: 108 (IGES_PLANE)	Quantity: 32
Entity Type: 110 (IGES_LINE)	Quantity: 2090
Entity Type: 126 (IGES_B_SPLINE_CURVE)	Quantity: 20
Entity Type: 212 (IGES_GENERAL_NOTE)	Quantity: 408
Entity Type: 230 (IGES_SECTIONED_AREA)	Quantity: 8
Entity Type: 314 (IGES_COLOR_DEF)	Quantity: 4
Entity Type: 402 (IGES_ASSOCIATIVITY_INST)	Quantity: 184
Entity Type: 404 (IGES_DRAWING)	Quantity: 2
Entity Type: 406 (IGES_PROPERTY)	Quantity: 8

Total: 3335

IGES entity types modified during translation:

-----

Entity Type: 106 (IGES_COPIOUS_DATA)	Quantity: 109
Entity Type: 210 (IGES_GENERAL_LABEL)	Quantity: 24
Entity Type: 214 (IGES_LEADER)	Quantity: 33
Entity Type: 216 (IGES_LINEAR_DIMENSION)	Quantity: 3

Total: 169

IGES entity types ignored during translation:

-----

Entity Type: 304 (IGES_LINE_FONT_DEF)	Quantity: 2
Entity Type: 314 (IGES_COLOR_DEF)	Quantity: 4

Total: 6

IGES entity types failed during translation:

-----

Total: 0

---

I/EMS elements successfully created:

-----

I/EMS element type: GR3dcircle	Quantity:	485
I/EMS element type: GR3dcirarc	Quantity:	86
I/EMS element type: GRcompcurve	Quantity:	8
I/EMS element type: GRbcsubbc	Quantity:	20
I/EMS element type: GR3dtext	Quantity:	441
I/EMS element type: GRgrgrp	Quantity:	109
I/EMS element type: GRaxhatch	Quantity:	8
I/EMS element type: GR3dlinestr	Quantity:	33
I/EMS element type: GR3dlineseg	Quantity:	2090
I/EMS element type: GRreffile	Quantity:	4

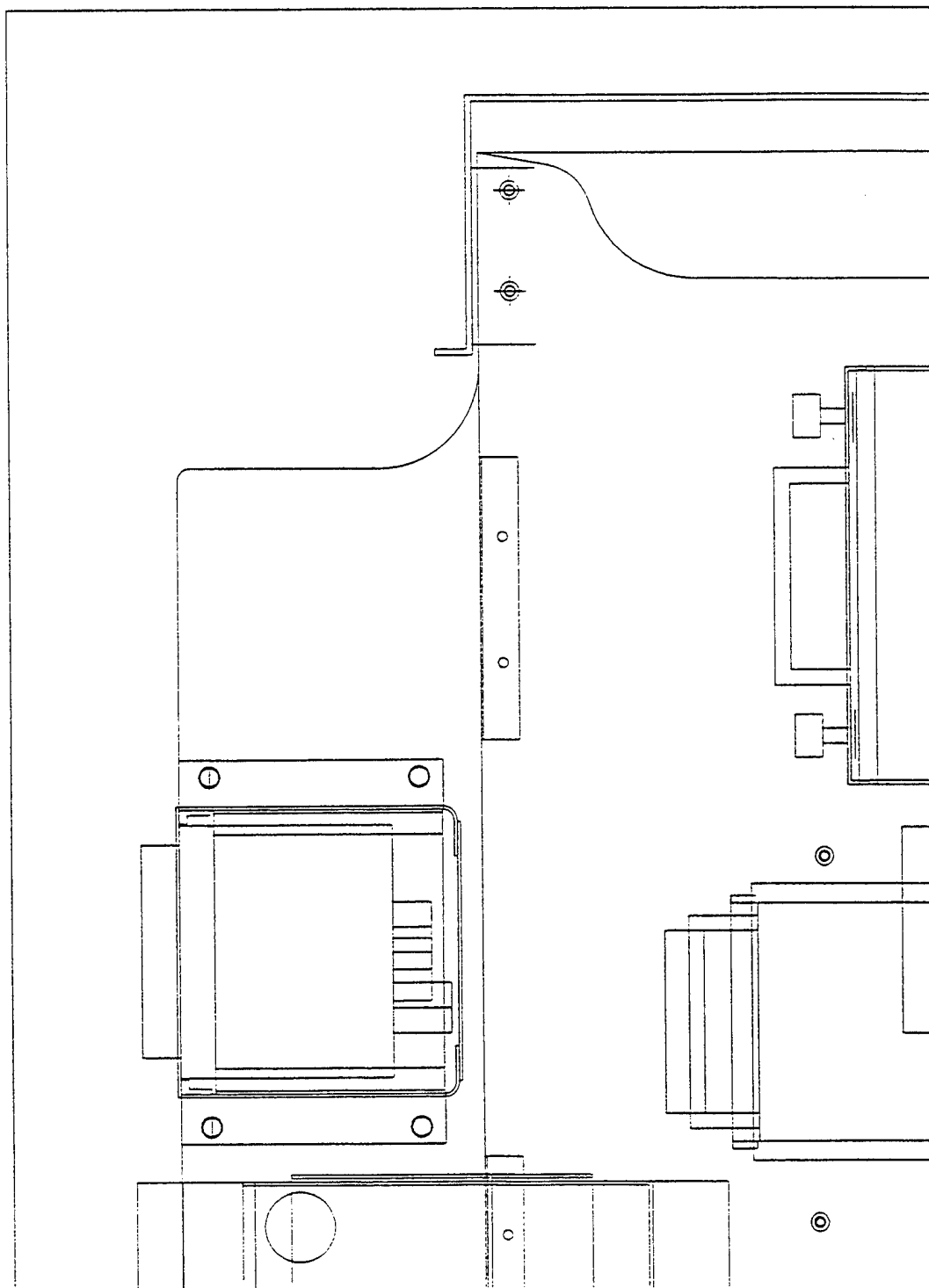
Total: 3284

Processing completed: Thu Jul 28 09:05:38 1994

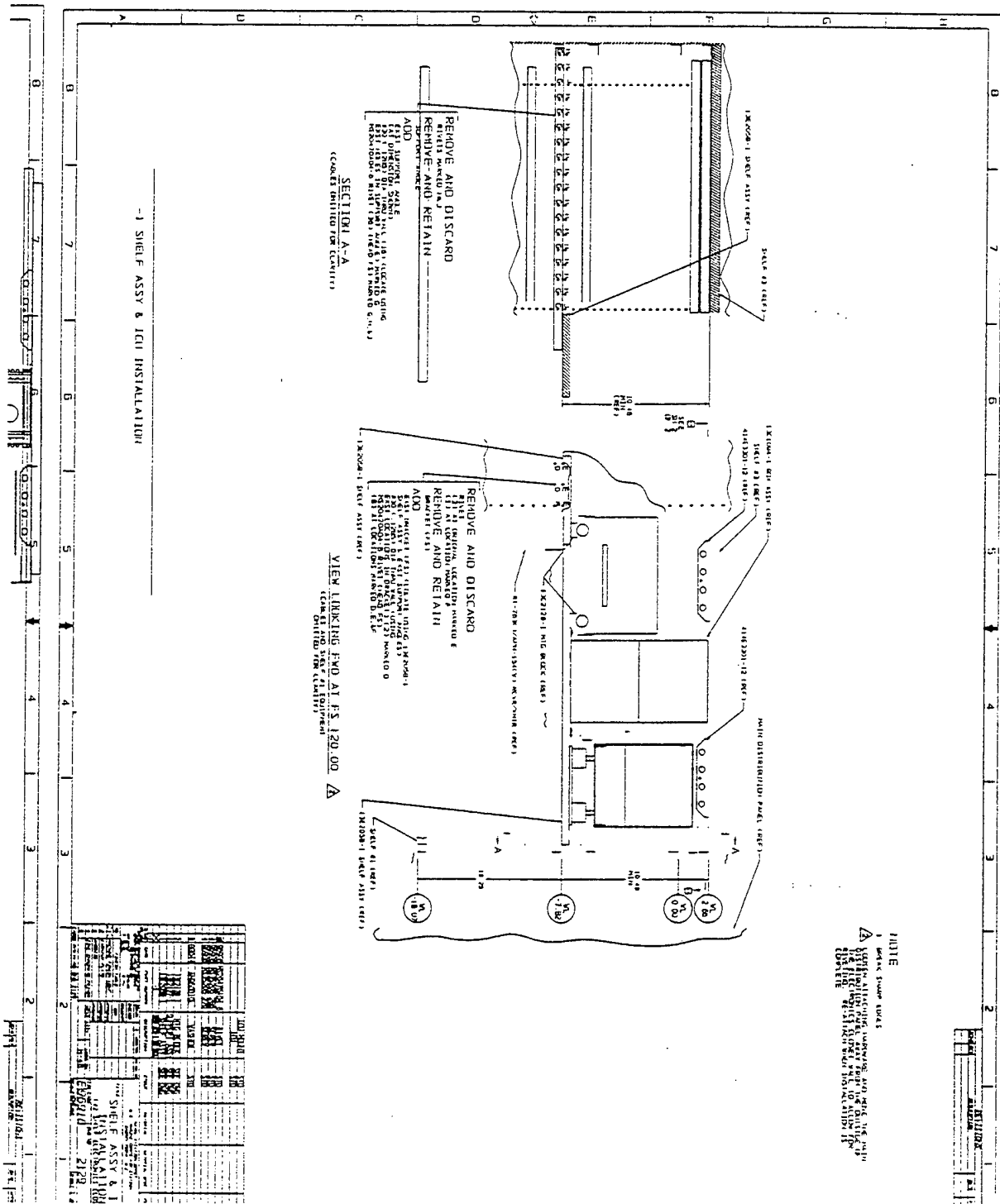
Elapsed time: 00:01:01

--\*o\*--

### 9.2.6 Output AutoCAD R12



### 9.2.7 Output Cadkey v6.0 - Drawing



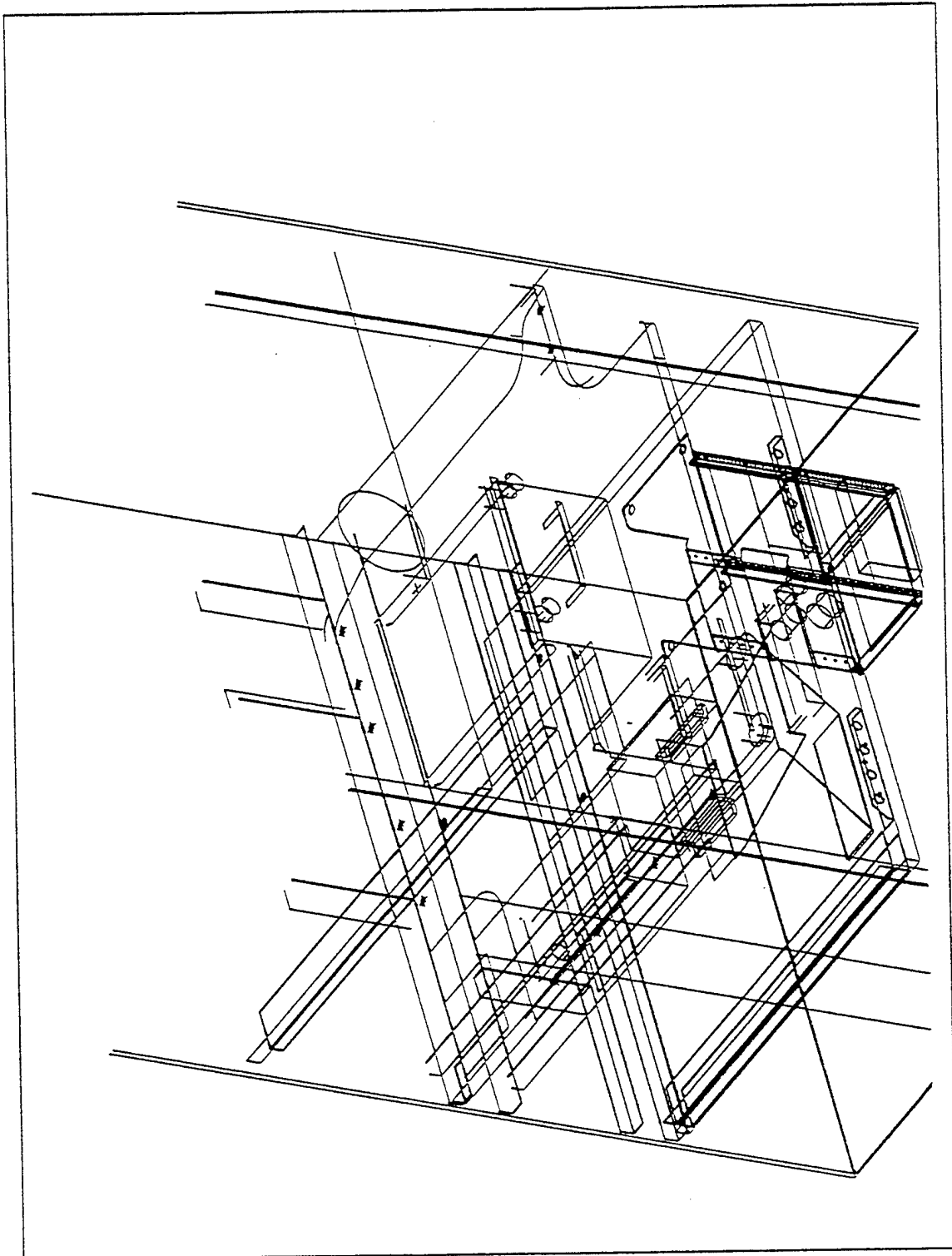








### 9.2.12 Output IGESWorks - Model





### 9.2.14 Output Preview

