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CTN Report
89-001

CALS TEST NETWORK

UCID 21622

The CALS Test Network MIL-D-28000 Class II Reference Drawing Packet Revision C

January 27, 1989

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Prepared for
Air Force Logistics Command
AITI Project

Lawrence Livermore National Laboratory

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The CALS Test Network MIL-D-28000 Class II Reference Drawing Packet Revision C

January 27, 1989

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Prepared for
Air Force Logistics Command
AITI Project

Lawrence Livermore National Laboratory

Contents

Preface

This CALS Test Network MIL-D-28000 CLass II Reference Drawing Packet is a document which will have periodic updates. This will occur as the reference drawings and their associated procedures, scripts, and files are corrected for oversights and/or are updated to new versions of the standards.

I acknowledge the following people for their technical assistance: members of the IGES/PDES Organization, in particular of the IGES Test Case Development Committee; those in the LLNL Plant Engineering Central CADD Facility, in particular Kenneth Sivori; and all the CTN team members.

Please use the information contained in this packet at your own risk. Send recommendations for change or comments about the content to:

Jill Farrell
CALS Test Network, IGES Lead Analyst
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Abstract

This CALS Test Network MIL-D-28000 Class II Reference Drawing Packet contains the information needed to conduct tests of the engineering drawing subset, Class II, of the military specification MIL-D-28000 using IGES processors. The material is intended to demonstrate industry's and government's use of MIL-D-28000 in accordance with the CALS initiative. The CALS Test Network (CTN) is the organization tasked with demonstrating this digital data interchange among industry and government and will use this packet during CTN structured testing. The results derived from this testing will allow the CTN to suggest modifications to drafting techniques, CAD vendors' IGES processors, the IGES specification, and most importantly, the MIL-D-28000 military specification.

The CALS Test Network MIL-D-28000 Class II Reference Drawing Packet

1.0 Introduction

The CALS Test Network (CTN) is a distributed Department of Defense (DOD) and industry consortium within the Computer-Aided Acquisition and Logistic Support (CALS) Program tasked with demonstrating and testing the interchange of digital technical information using the CALS standards in user applications.

The N-entity and the L-bracket reference drawings described herein will be used by the CALS Test Network (CTN) during structured end-to-end transfer testing of IGES data. IGES is the Initial Graphics Exchange Specification used for interchanging computer aided design (CAD) data between dissimilar CAD systems. Specifically, these reference drawings will demonstrate the use of the IGES entities identified in the engineering drawing subset, Class II, of the military specification, MIL-D-28000. In addition to demonstrating the use of this military specification and subset, these drawings will also allow the CTN to demonstrate the use of MIL-D-28000's parent document, MIL-STD-1840A. MIL-STD-1840A is a CALS standard which standardizes the delivery "envelope" used by organizations exchanging digital forms of technical information.

It is important to note that many CAD systems presently support only part of the military specification/subset, MIL-D-28000 Class II, because of the large number of entities the subset identifies. This means that any system executing this reference material will not likely achieve 100 percent perfect results. There is no reason to be alarmed. The goal is to determine which entities are presently processed and to work toward the best transfers possible.

2.0 Content of the Reference Drawing Packet

The CTN MIL-D-28000 Class II Reference Drawing Packet you are currently reading contains a set of reference material. This packet contains the pieces of information needed to execute a test using a CAD vendor's IGES processors. It contains:

1. Procedures to follow to conduct a pre-processor test; pre-processing is the translation from a CAD system to an IGES file.

2. Generation scripts (sets of instructions) to follow to create the N-entity and L-bracket drawings on any CAD system.
3. Plots to show what the N-entity and L-bracket drawings should look like upon completing the generation scripts.
4. Procedures to follow to conduct a post-processor test; post-processing is the translation from an IGES file to a CAD system.
5. The IGES files on a 9-track tape in MIL-STD-1840A format of both the N-entity and L-bracket reference drawings to post-process into the CAD system.
6. Evaluation scripts (sets of questions) to complete after the N-entity and L-bracket drawings have appeared on the CAD screen after post-processing.
7. A paper printout of the IGES files for both the N-entity and L-bracket drawings with every entity identified by number, form, and, description; these may be useful in pinpointing processing errors.
8. Entity listing and counts for both the N-entity and L-bracket drawings.
9. Hardware and software descriptions of the CTN IGES Test Platform.

The above-mentioned pieces of information are contained in the attachments labeled A through M which follow this general introduction.

3.0 Content and Creation of the Reference Material

3.1 The N-entity Drawing

The N-entity drawing is comprised of all the geometric and annotation IGES entities (entity numbers 100 through 230) identified in the MIL-D-28000 Class II subset. The drawing is organized such that the entities reside individually by entity and form number within one box of a grid. This grid box is labeled to show which entity it should contain. All entities are model mode entities and some are three-dimensional. The drawing is C-sized.

3.2 The L-bracket Drawing

The L-bracket drawing incorporates all of the structure entities (IGES entity numbers 304-410) specified in the MIL-D-28000 Class II subset. The l-bracket is stored as a three-dimensional model and is represented on a C-sized drawing by four views. Draw mode entities detail and dimension the l-bracket's views. The drawing is meant to resemble a workable engineering drawing.

3.3 Development of the IGES Files

The N-entity and L-bracket drawings were drafted on a CAD system, then pre-processed into IGES files. Because the pre-processed IGES files did not completely conform to IGES Version 4.0 and MIL-D-28000, did not include all desired Class II entities, and included unwanted volunteer entities; the files were hand edited. During this hand editing, the criteria discussed in the "Guide to Developing IGES Test Cases" written by the IGES Test Case Subcommittee of the National IGES/PDES Committee was adhered to where ever possible. This hand editing produced IGES files that incorporate all MIL-D-28000 Class II entities and pass several IGES analyzers with no accountable errors. The two analyzers referred to are the IGES Model Testing System and the IGES Data Analysis Company Parser/Verify and View software package.

The completed IGES files were then copied to a 9-track tape in accordance with MIL-STD-1840A. 1840A declaration files accompany the IGES files on the 9-track tape.

3.4 The Scripts

The reference drawing packet contains two different kinds of scripts. The generation scripts describe how to create the reference drawings on a CAD system during the pre-processor test and are designed to be generic enough to allow drawing generation on any CAD system. The evaluation scripts describe how to evaluate the CAD model that appears during a post-processor test, and they ask questions that try to address DOD's present requirements for an engineering drawing digital transfer. CTN's understanding is that, presently, DOD requires only accurate pictures of the engineering drawings.

3.5 The Procedures

The CTN's procedures for testing both the pre- and post-processors follow the testing procedures proposed by the National IGES/PDES Testing Subcommittee. Other procedures were derived from available hardware and software resources and past experience.

4.0 Conclusion

By following the procedures described in this CTN MIL-D-28000 Class II Reference Drawing Packet and by referring to the scripts, plots, and data lists also contained within, one can examine engineering data digital transfers using IGES and MIL-D-28000. This packet does not validate a vendor's conformance to MIL-D-28000 Class II, but instead allows the CALS Test Network to demonstrate

industry/government's use of the MIL-D-28000 specification in accordance with the CALS initiative.

Incident Report

Attachment A

Procedures for Executing the CTN Reference Drawing IGES Pre-processor Test

Procedures for Executing the CTN Reference Drawing IGES Pre-processor Test

1) Follow the script to generate both the N-entity and the L-bracket reference drawings on your native CAD system to the system's best abilities. Record any problems encountered or deviations taken while following the generic script on the attached incident report sheets. Use additional sheets if necessary.

   Try to create the entities on the CAD system so that the desired IGES entity is pre-processing into the IGES file. The scripts specify which entities are the desired entities. To accomplish this, we recommend that these scripts be followed in the presence of both a knowledgeable CAD operator and an experienced IGES person, both people preferably supplied by the CAD vendor. This will insure the best transfer possible with a particular CAD vendor's software.

   Furthermore, although the CAD system may not support the "desired" IGES entity, try to match the appearance of the drawings using other entities allowed in MIL-D-28000 Class II.

2) Pre-process the CAD drawings into the IGES formats using the best possible switch configuration for a most complete entity mapping. Name the IGES files the same names as the CAD parts. Record any errors the system reports.

3) Prepare a MIL-STD-1840A compliant 9-track tape containing both the N-entity and L-bracket IGES files and their corresponding declaration files. Be sure to include the proper 1840A header information to the IGES files and copy all files to the tape with the appropriate 1840A format. Record any difficulties experienced.

4) Send the tape and all incident reports from 1), 2), and 3) above to:

   CALS Test Network
   IGES Testing
   Lawrence Livermore National Laboratory
   P.O. Box 808
   7000 East Ave.
   L-542
   Livermore, CA 94550

   Refer questions to Jill Farrell at (415) 423-6348.

5) We at the CALS Test Network will:

a) Check the tape for proper MIL-STD-1840A formats.
b) Check the tape for appropriate MIL-STD-1840A declaration information.
c) Check the IGES files for appropriate 1840A header information.
d) Examine the IGES files visually for format and content.
e) Parse and verify the IGES syntax using the IGES analyzers IMTES and IDA.
f) View the graphics the IGES files generate with the IDA View software.
g) Compare the pre-processed IGES files to reference IGES files using IMCOS.
h) Pinpoint any file, IGES processor, IGES standard, and/or military standard inefficiencies using the above software and our knowledge.
i) Feed back problem points through test participants for their input and review.
j) Publicly publish results of our findings.
k) Bring the findings to the appropriate parties for correction (either CAD vendor, CAD operator, IGES Committee, or the military standard's sponsor).

Attachment B

N-entity Generation Script

N-entity Generation Script

Part) Create a part named "NENTITY".

Drawing) If the CAD system allows for a separate drawing file within the part, create a C-sized drawing named "NENTITY" with the drawing origin in the lower left-hand corner.

INSERT ALL ENTITIES WHILE WORKING IN THE TOP VIEW CONSTRUCTION PLANE. THIS CONSTRUCTION PLANE OR REQUIRED COORDINATE ORIENTATION IS SHOWN (LABEL A) ON THE A-SIZED, N-ENTITY PLOT ATTACHED TO THIS SCRIPT. ALL MODEL COORDINATES (X,Y,Z) REFERRED TO IN THIS SCRIPT ARE BASED ON THIS COORDINATE ORIENTATION. NAME THIS VIEW "A".

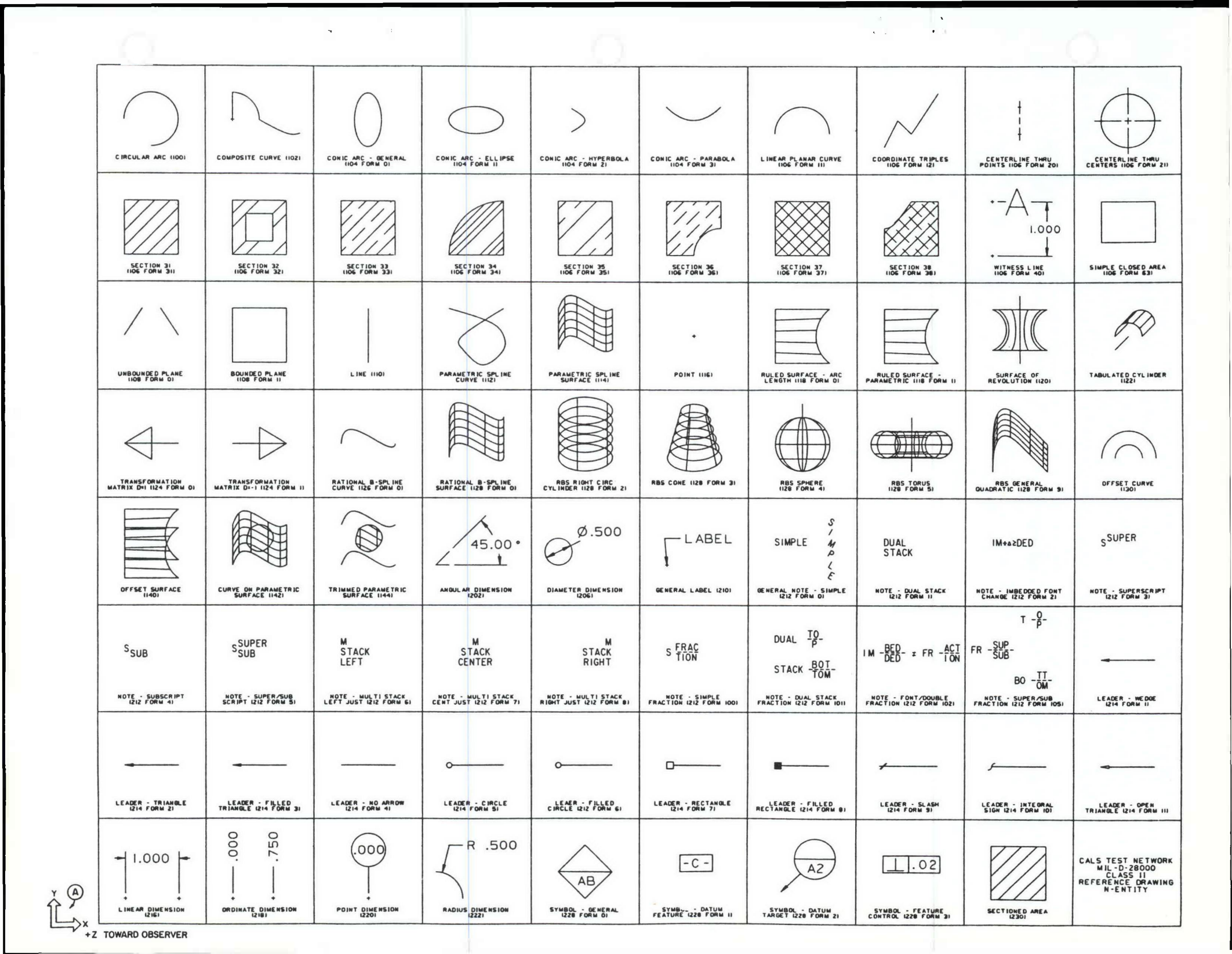
CREATE THE FOLLOWING ENTITIES IN THE DEFAULT COLOR AND DEFAULT LEVEL OF THE CAD SYSTEM. INSERT ALL ENTITIES IN MODEL MODE.

IN EVERY INSTANCE, TRY TO CREATE THE ENTITY ON THE CAD SYSTEM SUCH THAT UPON PRE-PROCESSING THE PART INTO IGES, THE DESIRED ENTITY AND FORM NUMBER APPEAR IN THE IGES FILE. THE DESIRED ENTITY AND FORM NUMBERS ARE THOSE NUMBERS ALONG THE LEFT-HAND MARGIN PRECEDING THE CREATION OR INSERTION COMMAND.

Grid lines)

Insert the following grid lines:

a)	from	(1,16,0)	to	(1,0.01,0)
b)		(3,16,0)		(3,0.01,0)
c)		(5,16,0)		(5,0.01,0)
d)		(7,16,0)		(7,0.01,0)
e)		(9,16,0)		(9,0.01,0)
f)		(11,16,0)		(11,0.01,0)
g)		(13,16,0)		(13,0.01,0)
h)		(15,16,0)		(15,0.01,0)
i)		(17,16,0)		(17,0.01,0)
j)		(19,16,0)		(19,0.01,0)
k)		(21,16,0)		(21,0.01,0)
l)		(21,16,0)		(1,16,0)
m)		(1,14,0)		(21,14,0)
n)		(1,12,0)		(21,12,0)
o)		(1,10,0)		(21,10,0)
p)		(1,8,0)		(21,8,0)
q)		(1,6,0)		(21,6,0)
r)		(1,4,0)		(21,4,0)
s)		(1,2,0)		(21,2,0)
t)		(1,0.01,0)		(21,0.01,0)


CIRCULAR ARC (100)
COMPOSITE CURVE (102)
CONIC ARC - GENERAL (104 FORM 0)
CONIC ARC - ELLIPSE (104 FORM 1)
CONIC ARC - HYPERBOLA (104 FORM 2)
CONIC ARC - PARABOLA (104 FORM 3)
LINEAR PLANAR CURVE (106 FORM 11)
COORDINATE TRIPLES (106 FORM 12)
CENTERLINE THRU POINTS (106 FORM 20)
CENTERLINE THRU CENTERS (106 FORM 21)
SECTION 31 (106 FORM 31)
SECTION 32 (106 FORM 32)
SECTION 33 (106 FORM 33)
SECTION 34 (106 FORM 34)
SECTION 35 (106 FORM 35)
SECTION 36 (106 FORM 36)
SECTION 37 (106 FORM 37)
SECTION 38 (106 FORM 38)
A
1.000
WITNESS LINE (106 FORM 40)
SIMPLE CLOSED AREA (106 FORM 63)
UNBOUNDED PLANE (108 FORM 0)
BOUNDED PLANE (108 FORM 1)
LINE (110)
PARAMETRIC SPLINE CURVE (112)
PARAMETRIC SPLINE SURFACE (114)
POINT (116)
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RULED SURFACE - PARAMETRIC (118 FORM 1)
SURFACE OF REVOLUTION (120)
TABULATED CYLINDER (122)
TRANSFORMATION MATRIX D=1 (124 FORM 0)
TRANSFORMATION MATRIX D=-1 (124 FORM 1)
RATIONAL B-SPLINE CURVE (126 FORM 0)
RATIONAL B-SPLINE SURFACE (128 FORM 0)
RBS RIGHT CIRC CYLINDER (128 FORM 2)
RBS CONE (128 FORM 3)
RBS SPHERE (128 FORM 4)
RBS TORUS (128 FORM 5)
RBS GENERAL QUADRATIC (128 FORM 9)
OFFSET CURVE (130)
OFFSET SURFACE (140)
CURVE ON PARAMETRIC SURFACE (142)
TRIMMED PARAMETRIC SURFACE (144)
45.00°
ANGULAR DIMENSION (202)
Ø.500
DIAMETER DIMENSION (206)
LABEL
GENERAL LABEL (210)
SIMPLE
SIMPLE
GENERAL NOTE - SIMPLE (212 FORM 0)
DUAL STACK
NOTE - DUAL STACK (212 FORM 1)
IM+a≥DED
NOTE - IMBEDDED FONT CHANGE (212 FORM 2)
S SUPER
NOTE - SUPERSCRIPT (212 FORM 3)
S SUB
NOTE - SUBSCRIPT (212 FORM 4)
S SUPER SUB
NOTE - SUPER/SUB SCRIPT (212 FORM 5)
M STACK LEFT
NOTE - MULTI STACK LEFT JUST (212 FORM 6)
M STACK CENTER
NOTE - MULTI STACK CENT JUST (212 FORM 7)
M STACK RIGHT
NOTE - MULTI STACK RIGHT JUST (212 FORM 8)
S FRAC TION
NOTE - SIMPLE FRACTION (212 FORM 100)
DUAL TO P
STACK BOT TOM
NOTE - DUAL STACK FRACTION (212 FORM 101)
IM BED DED ± FR ACT ION
NOTE - FONT/DOUBLE FRACTION (212 FORM 102)
T O P
FR SUP SUB
BO TT OM
NOTE - SUPER/SUB FRACTION (212 FORM 105)
LEADER - WEDGE (214 FORM 1)
LEADER - TRIANGLE (214 FORM 2)
LEADER - FILLED TRIANGLE (214 FORM 3)
LEADER - NO ARROW (214 FORM 4)
LEADER - CIRCLE (214 FORM 5)
LEAER - FILLED CIRCLE (212 FORM 6)
LEADER - RECTANGLE (214 FORM 7)
LEADER - FILLED RECTANGLE (214 FORM 8)
LEADER - SLASH (214 FORM 9)
LEADER - INTEGRAL SIGN (214 FORM 10)
LEADER - OPEN TRIANGLE (214 FORM 11)
1.000
LINEAR DIMENSION (216)
.000
.750
ORDINATE DIMENSION (218)
.000
POINT DIMENSION (220)
R .500
RADIUS DIMENSION (222)
AB
SYMBOL - GENERAL (228 FORM 0)
-C-
SYMB... - DATUM FEATURE (228 FORM 1)
A2
SYMBOL - DATUM TARGET (228 FORM 2)
⊥ .02
SYMBOL - FEATURE CONTROL (228 FORM 3)
SECTIONED AREA (230)
CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
N-ENTITY
Y
A
X
+Z TOWARD OBSERVER

100) Create a circular arc centered at (2,15,0) with a radius of 0.5 inches and traced out counterclockwise from 270 to 180 degrees.

102) a) Insert a point at (3.5,15,0).
b) Insert a line from (3.5,15,0) to (3.5,15.5,0).
c) Insert an arc centered at (3.5,15,0) with a radius of 0.5 inches and traced out counterclockwise from 0 to 90 degrees.
d) Insert a cubic parametric spline through the points (4,15,0), (4.5,14.75,0), and (4.75,14.75,0).
e) Group the point, line, arc, and spline together to form one entity. Use the composite curve entity (IGES entity 102) if your system supports it.

104 F0) Insert a conic with the general equation:

$4x^2 + 0xy + y^2 - 48x - 30y + 368.75 = 0$

If the CAD system will not accept a general equation, this conic is an ellipse centered at (6,15,0) with a major axis of 1.0 inches and a minor axis of 0.5 inches. The major axis parallels the vertical axis.

104 F1) Insert an ellipse centered at (8,15,0) with a major axis of 1.0 inches and a minor of 0.5 inches. Position the ellipse so that the major axis parallels the horizontal axis.

If needed, the general equation of this conic is:

$x^2 + 0xy + 4y^2 - 16x - 120y + 963.75 = 0$

104 F2) Insert a horizontal hyperbola centered at (10.25,15,0) such that only the left side is visible and that it extends 0.25 inches toward the negative x-direction. Refer to the N-entity plot for a pictorial description.

If needed, the general equation of this conic is:

$x^2 + 0xy - 4y^2 - 20.5x + 120y - 795 = 0$
For $9.75 \leq x \leq 10$

104 F3) Insert a vertical parabola with a vertex of (12,15,0) and the focus point at (12,15.25,0). Extend the parabola into the positive y-direction to make it 0.25 inches tall. Refer to the plot for a pictorial description.

If needed, the general equation of this conic is:

$x^2 + 0xy + 0y^2 - 24x - y + 159 = 0$
For $15 \leq y \leq 15.25$

106 F11) a) Insert a circular arc centered at (14,14.75,0) with a radius of 0.5 and traced out counterclockwise from 0 to 180 degrees.

b) Transform the circular arc into a "linear planar curve" entity (IGES entity 106 Form 11) - a curved string of many short straight segments.

106 F12) Insert a three-segmented string as one entity through the 3D points:

(15.5,14.5,0)
(15.75,15,1)
(16,14.75,2)
(16.5,15.5,3)

106 F20) a) Insert a point at (18,15.25,0) and at (18,14.75,0).

b) Insert a centerline between these two points to create the "centerline through points" entity (106 Form 20) in the IGES file if possible. This centerline should extend between approximately (18,15.4,0) and (18,14.6,0).

106 F21) a) Insert a circle centered at (20,15,0) with a 0.5 inch radius.

b) Create a crosshair through this circle using the "centerline through circle center" entity (106 Form 21) if possible. This is a single entity composed of both a vertical and a horizontal centerline. These centerlines should extend between approximately (20.6,15,0) to (19.4,15,0) and (20,15.6,0) to (20,14.4,0).

106 F31) a) Insert a square as a single, four-sided entity between the points:

(1.5,13.5,0)
(2.5,13.5,0)
(2.5,12.5,0)
(1.5,12.5,0)

b) Create solid crosshatching (106 Form 31 - parallel line segments) inside this square. This pattern usually represents cast or malleable iron or general use for all materials. Insert the crosshatching with a spacing of 0.2 inches and at an angle of 45 degrees.

106 F32) a) Insert eight lines between the points:

(3.5,13.5,0)	and	(4.5,13.5,0)
(4.5,13.5,0)		(4.5,12.5,0)
(4.5,12.5,0)		(3.5,12.5,0)
(3.5,12.5,0)		(3.5,13.5,0)

(3.75,13.25,0) (4.25,13.25,0)
(4.25,13.25,0) (4.25,12.75,0)
(4.25,12.75,0) (3.75,12.75,0)
(3.75,12.75,0) (3.75,13.25,0)

to create a square shape within a square.

b) Insert crosshatching (106 Form 32 - parallel line segments in pairs with a gap between pairs) between the outer square and the inner square. This pattern usually represents steel. Insert the crosshatching with a spacing of 0.177 inches and at an angle of 45 degrees. Refer to the N-entity plot for further clarification of the pattern definition.

106 F33) a) Insert four lines from:

(5.5,13.5,0) to (6.5,13.5,0)
(6.5,13.5,0) (6.5,12.5,0)
(6.5,12.5,0) (5.5,12.5,0)
(5.5,12.5,0) (5.5,13.5,0)

b) Insert crosshatching (106 Form 33 - an alternating pattern of a solid line and a set of collinear dash segments) inside the square that the above lines form. This pattern usually represents bronze, brass, copper, and compositions. Insert the crosshatching with a spacing of 0.167 inches and at an angle of 45 degrees. Again, refer to the plot for clarification.

106 F34) a) Insert two lines from (7.5,12.5,0) to (8.5,12.5,0) and (8.5,12.5,0) to (8.5,13.5,0).

b) Insert a circular arc centered at (8.5,12.5,0), with a radius of 1 inch, and arced between (8.5,13.5,0) and (7.5,12.5,0) counterclockwise.

c) Insert crosshatching (106 Form 34 - parallel lines in quadruples with a gap between groups) inside the two lines and the arc. This pattern usually represents rubber, plastic, and electrical insulation. Insert the crosshatching with a spacing of 0.1 inches and at an angle of 45 degrees.

106 F35) a) Insert four lines from:

(9.5,13.5,0) to (10.5,13.5,0)
(10.5,13.5,0) (10.5,12.5,0)
(10.5,12.5,0) (9.5,12.5,0)
(9.5,12.5,0) (9.5,13.5,0)

b) Insert crosshatching (106 Form 35 - triples of parallel lines consisting of two solid lines and a set of collinear dash segments between them with a gap between triples) inside the four lines. This pattern usually represents titanium and refractory material. Insert the crosshatching with a spacing of 0.2 inches and at an angle of 45 degrees.

106 F36) a) Insert four lines from:

(12,12.5,0) to (11.5,12.5,0).
(11.5,12.5,0) (11.5,13.5,0)
(11.5,13.5,0) (12.5,13.5,0)
(12.5,13.5,0) (12.5,13,0)

b) Insert a circular arc centered at (12.5,12.5,0), with a radius of 0.5 inches, and arced between (12.5,13,0) and (12,12.5,0) counterclockwise.

c) Insert crosshatching (106 Form 36 - parallel sets of collinear dash segments) inside these two lines and the arc. This pattern usually represents marble, slate, glass, porcelain. Insert the crosshatching with a spacing of 0.167 inches and at an angle of 45 degrees.

106 F37) a) Insert four lines from:

(13.5,13.5,0) to (14.5,13.5,0)
(14.5,13.5,0) (14.5,12.5,0)
(14.5,12.5,0) (13.5,12.5,0)
(13.5,12.5,0) (13.5,13.5,0)

b) Insert crosshatching (106 Form 37 - two perpendicular sets of parallel lines) inside the four lines. This pattern usually represents white metal, zinc, lead, babbitt, and alloys. Insert the crosshatching with a spacing of 0.177 inches and at an angle of 45 degrees.

106 F38) a) Insert four lines from:

(15.5,13,0) to (15.5,12.5,0)
(15.5,12.5,0) (16.5,12.5,0)
(16.5,12.5,0) (16.5,13.5,0)
(16.5,13.5,0) (16,13.5,0).

b) Insert a cubic parametric spline through the three points:

(15.5,13,0)
(15.7,13.1,0)
(16,13.5,0).

c) Insert crosshatching (106 Form 38 - two perpendicular sets of lines with the principal set solid from edge to edge and the second set consisting of collinear dash segments alternating on the solid lines) inside these four lines and the spline. This pattern usually represents magnesium, aluminum, and aluminum alloys. Insert the crosshatching with a spacing of 0.167 inches and at an angle of 45 degrees.

106 F40) a) Insert a point at (17.5,13.5,0) and at (17.5,12.5,0).

b) Insert the letter "A" at (17.75,13.25,0) with a bottom-left-justified text origin. The text height should be 0.5 and width 0.5 inches. Use the standard block (or default) text font.

c) Create a linear dimension between the two points. Center the "1.000" text around (18.5,13,0) and use a text height of 0.125 inches. Use the default arrowhead sizes. The upper witness line leading from the point to the arrowhead should blank out while over the letter to allow clear reading of the text "A".

106 F63) Create a rectangle or a "simple closed area" entity (106 Form 63) consisting of one entity between the points:

(19.5,12.75,0)
(19.5,13.5,0)
(20.5,13.5,0)
(20.5,12.75,0)

108 F0) a) Insert two lines from:

(1.5,11,0) to (2,11.75,0)
(2.5,11,0) (2,11.75,0)

b) Create a new view named "B" with the clipping planes (IGES entities 108 Form 0) at:

x = 1
x = 3
y = 10
y = 11.5

108 F1) Create a bounded plane (108 Form 1) at:

x = 3.5
x = 4.5
y = 10.5
y = 11.5

This should create a rectangle or "bounded curve" between the points:

(3.5,10.5,0)
(4.5,10.5,0)
(4.5,11.5,0)
(3.5,11.5,0)

110) Create a line from (6,11.5,0) to (6,10.5,0).

112) Create a cubic parametric spline curve through the points:

(7.5,11.5,0)
(8.25,11.25,0)
(8.5,11,0)
(8.5,10.75,0)
(8.25,10.5,0)
(8,10.5,0)
(7.75,10.75,0)
(7.75,11,0)
(8.5,11.5,0).

114) a) Insert two cubic parametric spline curves through:

(9.5,11.5,1)
(9.75,11.75,1)
(10.25,11.5,1)
(10.5,11.5,1)

and

(9.5,10.75,0)
(9.75,11,0)
(10.25,10.75,0)
(10.5,10.75,0).

b) Create a cubic parametric spline surface (IGES entity 114) between these two splines. Mesh the surface to make 5 mesh spacings in both the horizontal and vertical directions.

116) Insert a point at (12,11,0).

118 F0) a) Insert a line from (13.5,11.5,0) to (13.5,10.5,0).

b) Insert a circular arc through the points (14.5,11.5,0), (14.25,11,0), and (14.5,10.5,0).

c) Create a ruled surface with equal relative arc lengths (IGES entity 118 Form 0). Mesh the surface to make 5 mesh spacings in the horizontal direction.

118 F1) a) Insert a line from (15.5,11.5,0) to (15.5,10.5,0).

b) Insert a circular arc through the points (16.5,11.5,0), (16.25,11,0), and (16.5,10.5,0).

c) Create a ruled surface with equal relative parametric values (IGES entity 118 Form 1). Mesh the surface to make 5 mesh spacings in the horizontal direction.

120) a) Insert a line from (18,11.75,0) to (18,10.5,0).

b) Insert a circular arc through the points (18.5,11.5,0), (18.25,11.125,0), and (18.5,10.75,0).

c) Generate a surface of revolution with the circular arc as the generatrix and the line as the axis of revolution. Mesh the surface to make 10 mesh spacings in the vertical direction.

122) a) Insert a line from (19.75,10.75,0) to (20,11,-1).

b) Insert a circular arc through the points (19.75,11,0), (20,11.25,0), and (20.25,11,0).

c) Generate a tabulated cylinder 1 inch into the negative z-direction following the vector path of the line. The circular arc is the directrix and the line is the generatrix. Mesh the partial cylinder to make 5 mesh spacings parallel to the length of the cylinder.

124 F0) a) Create a subfigure named "ARROW" of an arrow shaped figure composed of four lines from:

(0,0.5,0) to (0,-0.5,0)
(0,-0.5,0) (0.3,0,0)
(0,-0.5,0) (-0.3,0,0)
(-0.3,0,0) (0.3,0,0).

Note that the arrow points downward.

b) Insert the subfigure into the NENTITY drawing at the model location (2,9,0) so that the arrowhead points left. Try to achieve this orientation using a right-hand-coordinate transformation matrix (a transformation matrix where the determinant of the matrix equals 1).

124 F1) Insert the same subfigure from above named "ARROW" into the NENTITY drawing at the model location (4,9,0) so that the arrowhead points right. Try to achieve this

orientation using a left-hand-coordinate transformation matrix (a transformation matrix where the determinant of the matrix equals -1).

126 F0) Insert a rational b-spline curve of degree 5 through the points: (5.5,9,0), (5.75,9.25,0), (6.25,9,0), and (6.5,9,0).

128 F0) a) Insert a rational b-spline curve of degree 5 through the points: (7.5,9.5,1), (7.75,9.75,1), (8.25,9.5,1), and (8.5,9.5,1).

b) Insert a rational b-spline curve of degree 5 through the points: (7.5,8.75,0), (7.75,9,0), (8.25,8.75,0), and (8.5,8.75,0).

c) Create a rational b-spline surface of degree 5 between these two curves. Mesh the surface to make 5 mesh spacings in both the horizontal and vertical directions.

128 F2) a) Insert a rational b-spline curve of degree 7 that takes the form of a circle through the points:

(10,9.25,0)
(9.5,8.75,0)
(10,8.25,0)
(10.5,8.75,0)

b) Copy this circular shaped rational b-spline into the z = 1 plane. This will make a curve through the points:

(10,9.25,1)
(9.5,8.75,1)
(10,8.25,1)
(10.5,8.75,1)

c) Rotate the two curves -120 degrees around an x-axis that passes through the origin of the first curve (the curve on the z=0 plane).

d) Create a rational b-spline surface of degree 7 between the two curves to make a cylindrical shaped surface. Mesh the surface to make 5 mesh spacings in both the horizontal and vertical directions.

128 F3) a) Insert a rational b-spline curve of degree 7 that takes the form of a circle through the points:

(12,9.25,0)
(11.5,8.75,0)
(12,8.25,0)

(12.5,8.75,0)

b) Insert a rational b-spline curve of degree 7 that takes the form of a circle through the points:

(12,9,1)
(11.75,8.75,1)
(12,8.5,1)
(12.25,8.75,1)

c) Rotate the two curves -120 degrees around an x-axis that passes through the origin of the first curve (the larger curve).

d) Create a rational b-spline surface of degree 7 between the two curves to make a cone shaped surface. Mesh the surface to make 5 mesh spacings in both the horizontal and vertical directions.

128 F4) a) Insert a line from (14,8.5,0) to (14,9.75,0).

b) Insert a circle through the three points:

(14,9.5,0)
(13.5,9,0)
(14,8.5,0)

c) Rotate the circle around the line to create a rational b-spline surface of degree 5 shaped like a sphere (IGES entity 128 Form 4). Mesh the surface 5 X 5.

128 F5) a) Insert a line from (16,9.5,0) to (16,8.5,0).

b) Insert a circle through the three points:

(16.5,9.25,0)
(16.25,9,0)
(16.5,8.75,0)

c) Rotate the circle around the line to create a rational b-spline surface of degree 5 shaped like a torus or donut (IGES entity 128 Form 5). Mesh the surface 10 X 10.

128 F9) a) Insert a spline of degree 2 through the points:

(17.5,9.25,1)
(18,9.75,1)
(18.5,9.25,1)

b) Insert another spline of degree 2, but this time through the points:

(17.5,8.5,0)
(18,9,0)
(18.5,8.5,0)

c) Generate a rational b-spline general quadratic (degree 2) surface (IGES entity 128 Form 9) between the two splines. Mesh the surface 5 X 5.

130) a) Insert a circular arc through the three points:

(19.5,8.75,0)
(20,9.25,0)
(20.5,8.75,0)

b) Create an offset of this curve that is 0.25 inches smaller in radius. Try to produce the offset curve entity in the IGES file (130).

140) a) Insert a line from (1.5,7.5,0) to (1.5,6.5,0).

b) Insert a circular arc through the points:

(2.5,7.5,0)
(2.25,7,0)
(2.5,6.5,0)

c) Create a planar ruled surface between the line and the arc meshed with 5 horizontal mesh spacings.

d) Offset this surface into the negative z-direction 1 inch. Try to produce the offset surface entity in the IGES file (140).

e) Rotate both surfaces 20 degrees around an x-axis to make both surfaces visible. The rotation point should be the lower end of the line component of the original ruled surface.

142) a) Insert a parametric spline through the points:

(3.5,7.5,1)
(3.75,7.75,1)
(4.25,7.5,1)
(4.5,7.5,1)

b) Insert a second parametric spline, but this time through the points:

(3.5,6.75,0)
(3.75,7,0)
(4.25,6.75,0)
(4.5,6.75,0)

c) Generate a parametric spline surface between these two splines. Mesh it 5 X 5.

d) Insert a circle of diameter 0.5 inches centered at (4,7.25,0).

e) Project the circle 2 inches into the positive z-direction so that it cuts through the parametric spline surface and leaves the projection of the curve on the parametric surface.

f) Delete all construction entities except for the circle; blank the circle.

144) a) Insert a parametric spline through the points:

(5.5,7.5,1)
(5.75,7.75,1)
(6.25,7.5,1)
(6.5,7.5,1)

b) Insert a second parametric spline, but this time through the points:

(5.5,6.75,0)
(5.75,7,0)
(6.25,6.75,0)
(6.5,6.75,0)

c) Generate a parametric spline surface between these two splines. Mesh it 5 X 5.

d) Insert a circle of diameter 0.5 inches centered at (6,7.25,0).

e) Project the circle 2 inches into the positive z-direction so that it cuts through the parametric spline surface and leaves the projection of the curve on the parametric surface.

f) Delete all construction entities except for the circle; blank the circle.

g) Trim the parametric spline surface back to the spline that is left by the projected curve.

FOR THE FOLLOWING THREE DIMENSIONS, USE THE STANDARD BLOCK (OR DEFAULT) TEXT FONT WITH A TEXT HEIGHT OF 0.156 INCHES. ALSO, USE THE IGES-DEFINED TRIANGLE TYPE ARROWHEADS WITH ARROWHEAD HEIGHT = 0.15 INCHES AND WIDTH = 0.05 INCHES.

202) a) Insert a line from (7.5,7,0) to (7.25,6.75,0).

b) Insert a line from (7.25,6.75,0) to (7.5,6.75,0).

c) Create an angular dimension between these two lines. Place the bottom-left-justified text "45.00°" at (7.9,7.1,0).

206) a) Insert a circle at (9.5,7,0) with a diameter of 0.5 inches.

b) Create a diameter dimension with the two arrows on the inside of the circle and the text "ϕ.500" on the outside of the circle. Place the bottom-left-justified text at (9.9,7.3,0).

210) a) Insert a point at (11.5,6.75,0).

b) Create a label with the text "LABEL" that points to the point entity. The leader that leads from the point to the label should be two-segmented. Place the arrowhead on the point, the end of the leader's first segment at (11.46,7.25,0), and the end of the second segment at (11.75,7.25,0).

FOR THE FOLLOWING GENERAL NOTE ENTITIES (212), USE THE STANDARD BLOCK (OR DEFAULT) TEXT FONT, A TEXT HEIGHT OF 0.125 INCHES, AND A TEXT WIDTH OF 0.1 INCHES. SELECT THE ORIGIN OF THE TEXT BOTTOM-LEFT-JUSTIFIED UNLESS OTHERWISE STATED.

212 F0) a) Insert the text string "SIMPLE" horizontally at (13.5,7.125,0).

b) Insert the text string "SIMPLE" vertically at (14.5,7.5,0). Change the text slant to -30 degrees.

212 F1) Insert the text "DUAL" and "STACK" as one text string such that the words are both left justified and the second word is displayed below the first. Place the origin of the text at (15.5,7.125,0).

212 F2) a) Insert the text "IMBEDDED" with the origin of the text string at (17.5,7.125,0).

b) Change the font of the middle three letters, "BED", of the text string to the IGES Font 1002. This will change the letters "BED" to the symbols "÷≥".

212 F3) Insert the text string "SSUPER" such that the origin is at (19.5,7.125,0) and the word "SUPER" is a superscript of "S".

212 F4) Insert the text string "SSUB" such that the origin is at (1.5,5.125,0) and the word "SUB" is a subscript of "S".

212 F5) Insert the text "S", "SUPER", and "SUB" as one text string such that the origin is at (3.5,5.125,0) and the word "SUPER" is a superscript of "S" and "SUB" is a subscript of "S".

212 F6) Insert the text "M", "STACK", and "LEFT" as one multi-lined text string such that the origin of the text string is at (5.5,5.25,0) and all words are left-justified to a common margin.

212 F7) Insert the text "M", "STACK", and "CENTER" as one multi-lined text string that is bottom-center-justified with the origin at (8,5.25,0).

212 F8) Insert the text "M", "STACK", and "RIGHT" as one multi-lined text string that is bottom-right-justified with the origin at (10.5,5.25,0).

212 F100) Insert a multi-lined text string that is bottom-left-justified with the origin at (11.5,5.25,0) as follows:

a) 1st line is " FRAC" such that the substring "FRAC" is a subscript of the two spaces.
b) 2nd line is "S ----".
c) 3rd line is " TION" such that the substring "TION is a superscript of the two spaces.

The substring "FRAC" is a subscript of the spaces so that it appears to be a superscript of the "S" and vise versa for the substring "TION".

212 F101) Insert a multi-lined text string with the origin at (13.5,5.5,0) as follows:

a) 1st line is "   TO" such that the substring "TO" is a subscript of the six spaces.
b) 2nd line is "DUAL ---".
c) 3rd line is "   P" such that the substring "P" is a superscript of the seven spaces.
d) 4th line is blank.
e) 5th line is "   BOT" such that the substring "BOT" is a subscript of the seven spaces.
f) 6th line is "STACK -----".
g) 7th line is "   TOM" such that the substring "TOM" is a superscript of the seven spaces.

212 F102) Insert a multi-lined text string with the origin at (15.125,5.25,0) as follows:

a) 1st line is "   BED   ACT" with four spaces before "BED" and eight spaces before "ACT" and such that the substrings "BED" and "ACT" are both subscripts of the spaces.

b) 2nd line is "IM ----- ≠ FR ----".
c) 3rd line is " DED ION" with four spaces before "DED" and eight before "ION" and such that the substrings "DED" and "ION" are both superscripts of the spaces.

212 F105) Insert a multi-lined text string with the origin at (17.125,5.875,0) as follows:

a) 1st line is " O" such that the substring "O" is a subscript of the twelve spaces.
b) 2nd line is " T ----". There are nine spaces before the "T".
c) 3rd line is " P" such that the substring "P" is a superscript of the twelve spaces.
d) 4th line is blank.
e) 5th line is " SUP" such that the substring "SUP" is a subscript of the four spaces.
f) 6th line is "FR -----".
g) 7th line is " SUB" such that the substring "SUB" is a superscript of the four spaces.
h) 8th line is blank.
i) 9th line is " TT" such that the substring "TT" is a subscript of the twelve spaces.
j) 10th line is " BO ----". There are eight spaces before "BO".
k) 11th line is " OM" such that the substring "OM" is a superscript of the twelve spaces.

INSERT THE FOLLOWING LEADERS OR ARROWS (214) WITH THE ARROWHEAD POINTING LEFT, THE ARROWHEAD HEIGHT = 0.15 INCHES, AND ARROWHEAD WIDTH = 0.05 INCHES UNLESS OTHERWISE STATED. REFER TO THE IGES SPECIFICATION OR TO THE LARGE C-SIZED, N-ENTITY PLOT FOR A PICTORIAL DESCRIPTION OF THE DESIRED ARROWHEAD TYPE.

214 F1) Insert a leader with a wedge type arrowhead between the points (19.5,5.0,0) and (20.5,5.0,0).

214 F2) Insert a leader with a triangle type arrowhead between the points (1.5,3.0,0) and (2.5,3.0,0).

214 F3) Insert a leader with a filled triangle type arrowhead between the points (3.5,3.0,0) and (4.5,3.0,0).

214 F4) Insert a leader with no arrowhead between the points (5.5,3.0,0) and (6.5,3.0,0).

214 F5) Insert a leader with a circle type arrowhead between the points (7.5,3.0,0) and (8.5,3.0,0). Here, both the arrowhead height and width should be 0.1 inches.

214 F6) Insert a leader with a filled circle type arrowhead between the points (9.5,3.0,0) and (10.5,3.0,0). Here, both the arrowhead height and width should be 0.1 inches.

214 F7) Insert a leader with a rectangle type arrowhead between the points (11.5,3.0,0) and (12.5,3.0,0). Here, both the arrowhead height and width should be 0.1 inches.

214 F8) Insert a leader with a filled rectangle type arrowhead between the points (13.5,3.0,0) and (14.5,3.0,0). Here, both the arrowhead height and width should be 0.1 inches.

214 F9) Insert a leader with a slash type arrowhead between the points (15.5,3.0,0) and (16.5,3.0,0). Here, both the arrowhead height and width should be 0.1 inches.

214 F10) Insert a leader with an integral sign type arrowhead between the points (17.5,3.0,0) and (18.5,3.0,0). Here, both the arrowhead height and width should be 0.1 inches.

214 F11) Insert a leader with an open triangle type arrowhead between the points (19.5,3.0,0) and (20.5,3.0,0).

FOR THE NEXT EIGHT ENTITIES (216 - 228 FORM 3), USE THE STANDARD BLOCK (OR DEFAULT) TEXT FONT AND TEXT HEIGHT OF 0.156 INCHES. FURTHERMORE, USE TRIANGLE TYPE ARROWHEADS WITH ARROWHEAD HEIGHT=0.15 INCHES AND WIDTH=0.05 INCHES.

216) a) Insert two points: one at (1.5,0.5,0) and one at (2.5,0.5,0).

b) Create a linear dimension between the two points centering the text "1.000" around (2,1.25,0). The arrows should be outside the witness lines and approximately 0.2 inches long from arrowhead to tail.

218) a) Insert two points: one at (3.5,0.5,0) and one at (4.25,0.5,0).

b) Dimension, ordinately, the right point from the left. Place the bottom-left-justified text ".000" at (3.58,1.19,0) and text ".750" at (4.33,1.19,0). Both text blocks should be rotated 90 degrees counterclockwise. Leaders with no arrowheads or witness lines should extend from just above the points to the beginning of the text blocks.

220) a) Insert a point at (6,0.5,0).

b) Dimension this point by placing the origin of the bottom-left-justified text ".000" at (5.73,1.33,0) and inside of a circle.

If the CAD system positions the point dimension differently and more information is needed: the circle's center is at (6,1.41,0) and radius is 0.314 inches, and the tail of the leader that connects the point to the bottom of the circle is at (6,1.09,0).

222) a) Insert a circular arc centered at (7.25,0.5,0) with a radius of 0.5 inches and traced out from 0 to 90 degrees counterclockwise.

b) Radially dimension this arc. Place the origin of the bottom-left-justified text "R .500" at (7.85,1.42,0). Place the arrowhead of the two-segmented leader on the outside of the arc, the first segment's end at (7.5,1.5,0), and the second segment's end at (7.75,1.5,0).

228 F0) Create a general symbol as one entity containing the following entities:

A general symbol is defined as a symbol which is not necessarily a standard symbol.

a) A diamond shaped closed figure (one entity) that connects the approximate points:

(10.0,1.5,0)
(9.5,1,0)
(10,0.5,0)
(10.5,1,0).

b) A line from approximately (9.5,1,0) to (10.5,1,0).

c) A text block "AB" with its bottom-left-justified origin at (9.875,0.75,0).

228 F1) Create a datum feature symbol as one entity containing the following entities:

A datum feature symbol is defined as a symbol consisting of a frame containing the datum identifying letter preceded and followed by a dash.

a) A rectangle shaped closed figure (one entity) that connects the approximate points:

(11.75,1,0)
(11.75,1.31,0)
(12.36,1.31,0)

(12.36,1,0).

b) A text string "-C-" with its bottom-left-justified origin at (11.83,1.08,0).

228 F2) Create a datum target symbol as one entity consisting of the following entities:

A datum target symbol is defined as a symbol consisting of a circle divided horizontally into two halves with the lower half containing a letter identifying the associated datum, followed by the target number, and an entity attached to the symbol pointing to the target.

a) A circle approximately centered at (14.25,1.25,0) with a radius of 0.375.

b) A line from approximately (13.875,1.25,0) to (14.625,1.25,0).

c) A text block "A2" with its bottom-left-justified origin at (14.125,1,0).

d) Leader with its arrowhead near (13.625,0.625,0) and its tail on the circle near (13.99,0.98,0).

228 F3) Create a feature control frame as one entity containing the following entities:

A feature control frame is defined as a symbol consisting of a frame divided into compartments containing the geometric characteristic symbol followed by the tolerance.

a) A rectangle shaped closed figure (one entity) connecting the approximate points:

(15.5,1,0)
(15.5,1.31,0)
(16.55,1.31,0)
(16.55,1,0)

b) A text block containing a perpendicular symbol, a frame divider, and then the text ".02 ". Place the entire text block's bottom-left-justified origin at (15.58,1.08,0).

230) a) Insert four lines from:

(17.5,1.5,0) to (18.5,1.5,0)
(18.5,1.5,0) (18.5,0.5,0)
(18.5,0.5,0) (17.5,0.5,0)
(17.5,0.5,0) (17.5,1.5,0).

b) Utilize the sectioned area entity (230) to crosshatch between the lines. The fill should be solid parallel line segments from section edge to edge. They should be angled 45 degrees counterclockwise from the x-axis and spaced 0.2 inches apart.

Title block) Insert the title block "CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
N-ENTITY".
This multi-lined text should be bottom-center-justified with the text origin at (20,1.2,0). The text height and width should both be 0.09 inches.

Incident Report

Attachment C

L-bracket Generation Script

L-bracket Generation Script

1) Create a part named "LBRACKT".

2) If the CAD system allows for a separate drawing file within the part, create a C-sized drawing named "LBRACKT" with the drawing origin in the lower left-hand corner.

VIEW THE MODEL IN THE ISOMETRIC VIEW WITH A TOP CONSTRUCTION PLANE SELECTED FOR ENTITY INSERTION UNTIL FURTHER NOTICE. THIS CONSTRUCTION PLANE OR REQUIRED COORDINATE ORIENTATION IS SHOWN (LABEL A) ON THE A-SIZED, L-BRACKET PLOT ATTACHED TO THIS SCRIPT. ALL MODEL COORDINATES (X,Y,Z) REFERRED TO IN THE SCRIPT ARE BASED ON THIS COORDINATE ORIENTATION.

CREATE THE FOLLOWING ENTITIES IN THE DEFAULT COLOR OF THE CAD SYSTEM AND ON LEVEL 1 UNTIL FURTHER NOTICE.

3) Create a horizontal line from (0,0,0) to (3,0,0).

4) Create a vertical line from (3,0,0) to (3,0,0.75).

5) Create a horizontal line from (3,0,0.75) to (1,0,0.75).

6) Create a vertical line from (1,0,0.75) to (1,0,3.5).

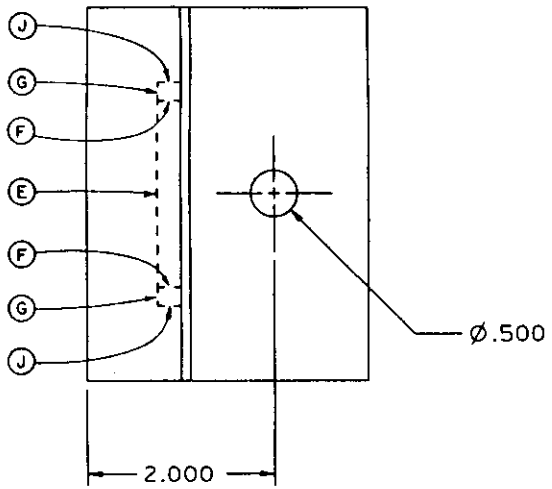
7) Create a horizontal line from (1,0,3.5) to (0,0,3.5).

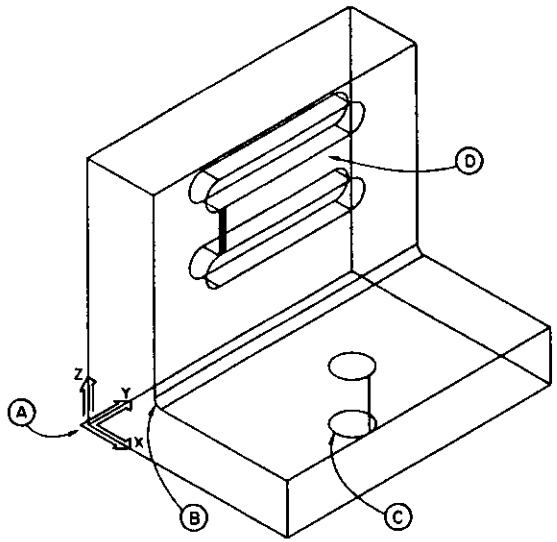
8) Create a vertical line from (0,0,3.5 to (0,0,0).

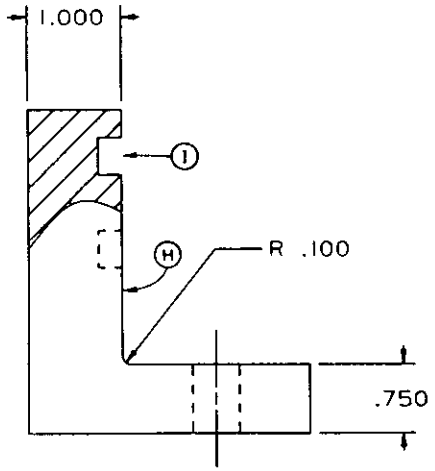
9) Create a fillet with a radius of 0.1 inches at the intersection of the [(1,0,3.5),(1,0,0.75)] [(1,0,0.75),(3.0,0.75)] and [(1,4,3.5),(1,4,0.75)] [(1,4,0.75),(3,4,0.75)] lines. This is labeled "B" on the L-bracket plot.

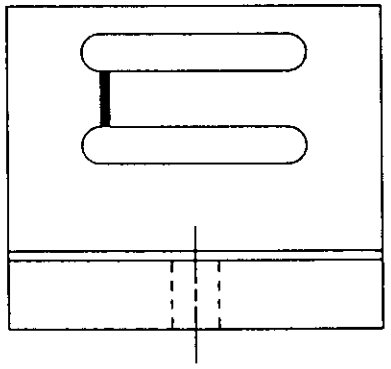
10) Create a three-dimensional model of this L-shape by projecting it from y=0 to y=4. If the system does not have projection capabilities, one must create the three-dimensionality by hand. The created lines should be:

a)	from	(0,0,0) to	(0,4,0).
b)		(0,0,3.5)	(0,4,3.5).
c)		(1,0,3.5)	(1,4,3.5).
d)		(3,0,o.75)	(3,4,0.75).
e)		(3,0,0)	(3,4,0).
f)		(0,4,3.5)	(1,4,3.5).
g)		(3,4,0)	(3,4,0.75).
h)		(0,4,3.5)	(0,4,0).









CALS TEST NETWORK
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i) (0,4,0) (3,4,0).
j) (3,4,0.75) (1,4,0.75).
k) (1,4,0.75) (1,4,3.5)

11) Create a circle, while still in the top construction plane, 0.5 inches in diameter at (2,2,0). This circle is labeled "C" on the plot.

12) Project the circle through the l-bracket 0.75 inches in the positive z-direction to display the top of the cylinder at a center of (2,2,0.75).

13) Create a 3D slot (Label D) with the following entities:

a) line from (1,1,3.2) to (1,3,3.2).
b) line from (1,1,2.8) to (1,3,2.8).
c) circular arc through the points (1,1,3.2), (1,0.8,3), and (1,1,2.8).
d) circular arc through the points (1,3,3.2), (1,3.2,3), and (1,3,2.8).

14) Project this long oval 0.25 of an inch into the negative x-direction. This will create the following entities:

a) line from (0.75,1,2.8) to (0.75,3,2.8).
b) line (0.75,1,3.2) (0.75,3,3.2).
c) line (1,1,2.8) (0.75,1,2.8).
d) line (1,3,2.8) (0.75,3,2.8).
e) line (1,1,3.2) (0.75,1,3.2).
f) line (1,3,3.2) (0.75,3,3.2).
g) circular arc through the points (0.75,1,3.2), (0.75,0.8,3), and (0.75,1,2.8).
h) circular arc through the points (0.75,3,3.2), (0.75,3.2,3), and (0.75,3,2.8).

15) Construct a subfigure out of the slot entities just drawn and save it under the name "SUBFIG". If needed, copy the entities into a separate part and prepare the subfigure there. Maintain the existing origin relationship, in other words, the entity positions should stay the same in relationship to (0,0,0).

16) Insert the subfigure "SUBFIG" into the model at (0,0,-1). This brings the subfigure into the model one inch below the existing slot. Use the "definition levels" entity (IGES entity 406 Form 1) if possible to assign the subfigure to level four. If this entity is not available on the CAD system, assign the subfigure to level four any way possible.

17) Create an "ordered group" using IGES entity 402 Form 15 if possible out of the entities which comprise the top slot (the slot that is not the subfigure).

18) Display this model in the following four views placed at the following locations on a two-dimensional drawing sheet:

    a) front view origin at (3,3). Name it "FRONT".
    b) top view origin at (3,10). Name it "TOP".
    c) side view origin at (12,3). Name it "SIDE".
    d) isometric view origin at (12,10). Name it "ISO".

    If the system does not have this capability, make the screen resemble the plot as closely as possible.

19) Create a model line from (1,1,2.8) to (1,1,2.2), then widen the line to produce the "line widening" entity (406 Form 5) in the IGES file. Widen the line to 0.1 inches to the right of the line with no extension and with squared corners. This is meant to resemble, for example, a strip of metalization.

20) Erase from view (don't delete) making use of the "views visible" entity (402 Form 3) the following model lines from the various views for detailing purposes.

    a) Erase from the front and top views the lower slot (the subfigure).
    b) Erase from the top view the two long slot lines which appear superimposed. See label "E".
    c) Erase from the top view the four horizontal short slot lines which reside near the ends of the slot. See label "F". Some of these lines are superimposed on the others.
    d) Erase from the top view the two arcs from the upper slot which appear as short vertical lines. See label "G".
    e) Erase from the front view the two superimposed model lines marked by "H" to allow for properly detailing the slot.
    f) Erase from the front view the two arcs, seen from the side as short vertical lines of the upper slot, to expose the cut out. See label "I".
    g) Erase from the front and side views the two circles and the projection line of the through-hole.

EXIT THE MODEL MODE AND ENTER THE DRAW MODE IF POSSIBLE TO CREATE THE REMAINING ENTITIES. DRAW MODE REQUIRES ONE TO INSERT ENTITIES ON A 2D DRAWING SHEET.

21) Create two solid detailing lines on the front view from the 2D draw mode coordinates (4,3.85) to (4,5.8) and (4,6.2) to (4,6.5).

22) Create the following detailing lines on the top and front views:

a)	line from	(3.75,10.8) to	(4,10.8)
b)	line	(3.75,13.2)	(4,13.2)
c)	line	(3.75,5.2)	(3.75,4.8)
d)	line	(3.75,10.8)	(3.75,13.2)
e)	line	(3.75,11)	(4,11)
f)	line	(3.75,13)	(4,13)

23) Dash the above detailing lines a) through f) using the line font procedure that will generate a "line font" entity specified by a "repeating visible-blank pattern" (304 Form 2) in the IGES file. All dashes should be .1 inch long and be spaced by .1 inch.

24) Create the following detailing lines on the front view:

a)	line from	(3.75,4.8) to	(4,4.8)
b)	line	(3.75,5.2)	(4,5.2).

25) Dash the above detailing lines a) and b) with a line font specified by a "repeating template subfigure" (304 Form 1). The subfigure should be a line from (0,0,0) to (0.1,0,0) and named "DASH". The repeating subfigure should begin every 0.2 inches making a dashed line with 0.1 inch long dashes and 0.1 inch spaces.

26) Create dashed detailing lines on the front and side views in draw mode space to represent the hidden lines from the through-hole. The lines should be located as follows and dashed in such a way that the line font type appears in the DE section index 4 of the IGES file. All dashes should be 0.1 inch long and be spaced by 0.1 inch.

a)	line from	(4.75,3.75) to	(4.75,3)
b)	line	(5.25,3.75)	(5.25,3)
c)	line	(13.75,3.75)	(13.75,3)
d)	line	(14.25,3.75)	(14.25,3)

27) Create a cubic parametric spline curve through the points:

a) (3,5)
b) (3.5,5.5)
c) (4,5.4)

28) Crosshatch the 1-bracket area above the spline with solid lines at an angle of 45 degrees and with 0.2 inch

spacing. This depicts the exposed interior of the l-bracket.

29) Create centerlines through the points (5,3.325) on the front view and (14,3.325) on the side view (to create the IGES entity 106 Form 20). The approximate length of the centerlines should be 1.25 inches. These centerlines represent the center of the through-hole as viewed from the front and side.

30) Create a crosshair centerline through the circle center at (5,12) on the top view (to create entity 106 Form 21). The approximate length of the crosshairs should be 1.25 inches.

INSERT THE FOLLOWING FIVE DIMENSIONS USING THE STANDARD BLOCK (OR DEFAULT) TEXT FONT AND A TEXT HEIGHT OF 0.2 INCHES. ALSO, USE THE IGES-DEFINED TRIANGLE TYPE ARROWHEAD WITH THE ARROWHEAD HEIGHT 0.15 INCHES AND WIDTH 0.05 INCHES.

31) Dimension the one inch thickness of the l-bracket's vertical leg on the front view at (3.5,7.5). The text should state "1.000". Refer to the L-bracket plot for a pictorial description of this location.

32) Dimension the two inch distance between the center of the circle and the left side of the l-bracket on the top view at (4,9). The text should state "2.000". Again, refer to the plot.

33) Dimension the 0.75 inch thickness of the l-bracket's horizontal leg on the front view at (7,3.375). The text should state ".750".

34) Dimension the 0.1 inch fillet with a two segmented leader line with the segment ends at (5,5) and (5.5,5). The text should state "R .100".

35) Dimension the 0.5 inch diameter circle with a two segmented leader line with the segment ends at (6.5,10.5) and (7,10.5). The text should state "ϕ.500".

36) Create a border around the l-bracket's four views. The border is made up of four lines from:

a)	(1,1)	to	(21,1)
b)	(21,1)		(21,16)
c)	(21,16)		(1,16)
d)	(1,16)		(1,1)

37) Insert two lines to create a title block border from:

a) (19,1) to (19,3)

b) (19,3) (21,3)

38) Insert into the title block the text "CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
L-BRACKET".
The text should be multi-lined and bottom center justified around the origin (20,2.25). Text height and width should be 0.09 inches.

39) Assign the crosshatching the color magenta by using the "color definition" entity (314) if possible.

40) Assign the dimensions (the text, leaders, witness lines, etc.) the color yellow in such a way that the color appears in index 13 of the DE section of the IGES file.

41) Assign the two circles and the cylinder's projection line magenta in the isometric view and green in the top view, making use of the "views visible, color, line weight" entity (402 form 4) if possible. Make sure the entities are not visible in the front or side views.

42) Assign all model entities to level one, dimension entities to level two, and the detailing entities (dashed lines, crosshatching, centerlines, spline, border lines, title block lines, and title block text) to level three. This level information should appear in the DE section field five of the outputted file.

43) Use the "level function" entity (406 form 3) to transfer the meaning of the levels in the sending system.

Incident Report

Attachment D

N-entity C-sized Plot

Attachment E

L-bracket C-sized Plot

Attachment F

Procedures for Executing the CTN Reference Drawing IGES Post-processor Test

Procedures for Executing the CTN Reference Drawing
IGES Post-processor Test.

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1) Receive a 9-track, MIL-STD-1840A formatted tape from the CALS Test Network containing both the N-entity and L-bracket IGES files.

2) Read the MIL-STD-1840A declaration information and load the IGES files onto your CAD system storage. The file names are shown in the 1840A declaration files and header fields.

3) Post-process the IGES files into your CAD system, noting all errors the system reports. Call the CAD parts the same names as the file names.

4) Inspect the resulting models and answer the questions listed in the evaluation scripts. If you answer "no" to any of the questions, please explain why on the incident report sheets which follow the script. Attach additional sheets if necessary.

5) Generate a hard copy plot of each drawing.

6) Send the completed evaluation scripts, plots, and any incident reports to:

CALS Test Network
IGES Testing
Lawrence Livermore National Laboratory
P.O. Box 808
7000 East Ave.
L-542
Livermore, CA 94550

Refer questions to Jill Farrell at (415) 423-6348.

7) We at the CALS Test Network will:

   a) Examine the incident reports, plots, and evaluation scripts.
   b) Pinpoint processor, IGES standard, and/or military standard inefficiencies.
   c) Feed back problem points through test participants for their input and review.
   d) Publicly publish results of our findings.
   e) Bring the finding to the appropriate parties for correction (either CAD vendor, CAD operator, IGES Committee, or the military standard's sponsor).

Attachment G

N-entity Evaluation Script

Answer the following questions:

100)

_____ a) Is the circular arc centered at (2,15,0)?
_____ b) Is the arc radius 0.5 inches?
_____ c) Is the arc traced out from 270 to 180 degrees counterclockwise?

102)

_____ a) Is the composite curve made up of a point, line, circular arc, and spline?
_____ b) Is the point at (3.5,15,0)?
_____ c) Does the line extend from (3.5,15,0) to (3.5,15.5,0)?
_____ d) Is the arc centered at (3.5,15,0) with a radius of 0.5 inches and traced out from 0 to 90 degrees counterclockwise?
_____ e) Does the spline curve between the endpoints (4,15,0) and (4.75,14.75,0)?
_____ f) Does the composite curve arc as a single entity (selectable by one touch)?

104 Form 0)

_____ a) Is the general conic arc an ellipse centered at (6,15,0)?
_____ b) Is the major axis 1.0 inches?
_____ c) Is the minor axis 0.5 inches?
_____ d) Is the ellipse positioned so that the long axis parallels the vertical axis (is the ellipse skinny and tall)?

104 Form 1)

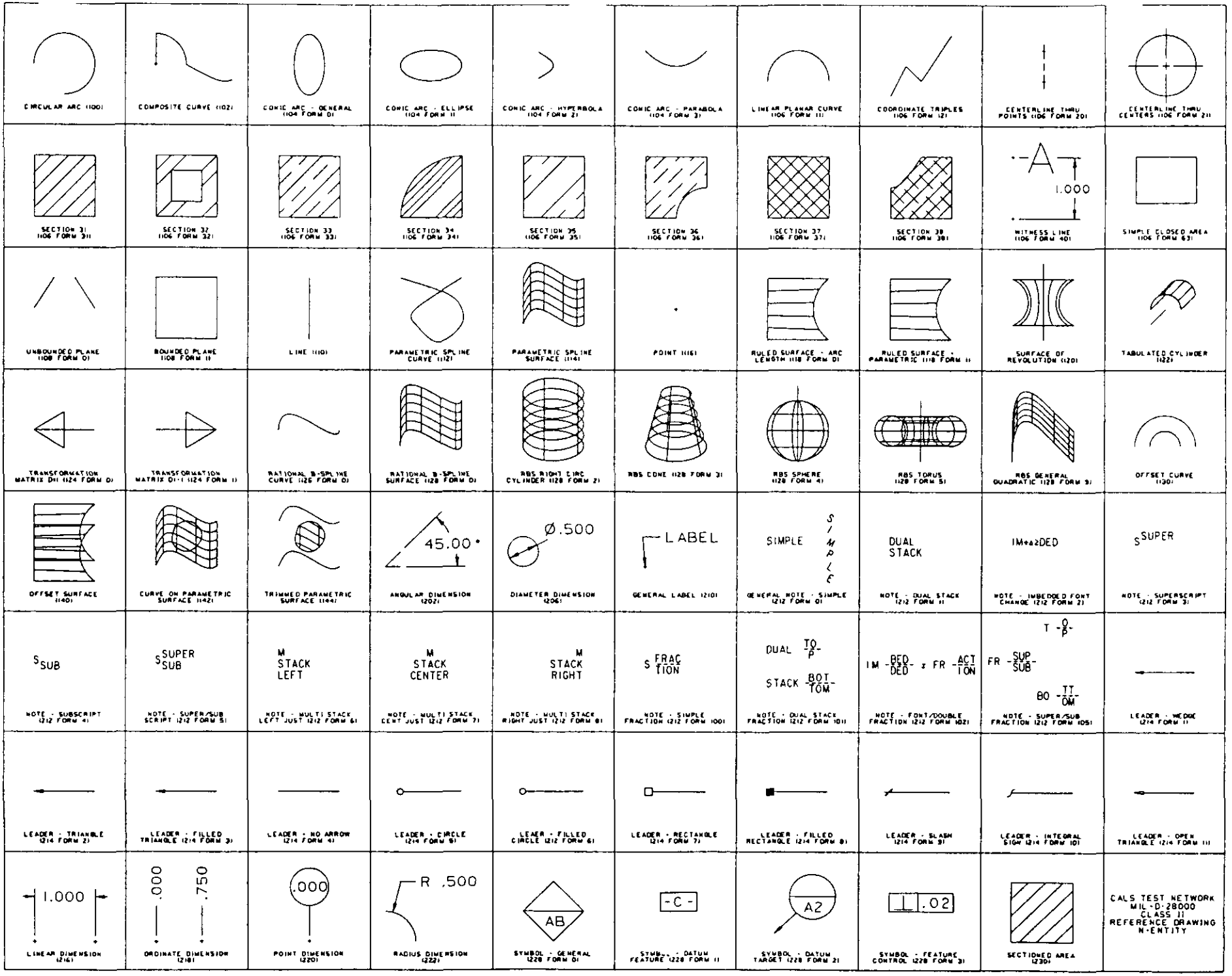
_____ a) Is the ellipse centered at (8,15,0)?
_____ b) Is the major axis 1.0 inches?
_____ c) Is the minor axis 0.5 inches?
_____ d) Is the ellipse positioned so that the long axis parallels the horizontal axis (is the ellipse short and fat)?

104 Form 2)

_____ a) Is the hyperbola a horizontal hyperbola (shaped like a backwards "C")?
_____ b) Is the right most part of the hyperbola at (10,15,0)?
_____ c) Do the ends of the hyperbola extend toward the negative x-direction 0.25 inches?

104 Form 3)

_____ a) Is the parabola a vertical parabola (shaped like a wide "U")?
_____ b) Is the parabola's vertex (lowest point) at (12,15,0)?


CIRCULAR ARC (100)
COMPOSITE CURVE (102)
CONIC ARC - GENERAL (104 FORM 01)
CONIC ARC - ELLIPSE (104 FORM 11)
CONIC ARC - HYPERBOLA (104 FORM 21)
CONIC ARC - PARABOLA (104 FORM 31)
LINEAR PLANAR CURVE (106 FORM 11)
COORDINATE TRIPLES (106 FORM 12)
CENTERLINE THRU POINTS (106 FORM 20)
CENTERLINE THRU CENTERS (106 FORM 21)
SECTION 31 (106 FORM 31)
SECTION 32 (106 FORM 32)
SECTION 33 (106 FORM 33)
SECTION 34 (106 FORM 34)
SECTION 35 (106 FORM 35)
SECTION 36 (106 FORM 36)
SECTION 37 (106 FORM 37)
SECTION 38 (106 FORM 38)
A
1.000
WITNESS LINE (106 FORM 40)
SIMPLE CLOSED AREA (106 FORM 63)
UNBOUNDED PLANE (108 FORM 01)
BOUNDED PLANE (108 FORM 11)
LINE (110)
PARAMETRIC SPLINE CURVE (112)
PARAMETRIC SPLINE SURFACE (114)
POINT (116)
RULED SURFACE - ARC LENGTH (118 FORM 01)
RULED SURFACE - PARAMETRIC (118 FORM 11)
SURFACE OF REVOLUTION (120)
TABULATED CYLINDER (122)
TRANSFORMATION MATRIX D=I (124 FORM 01)
TRANSFORMATION MATRIX D=I (124 FORM 11)
RATIONAL B-SPLINE CURVE (126 FORM 01)
RATIONAL B-SPLINE SURFACE (128 FORM 01)
RBS RIGHT CIRC CYLINDER (128 FORM 21)
RBS CONE (128 FORM 31)
RBS SPHERE (128 FORM 41)
RBS TORUS (128 FORM 51)
RBS GENERAL QUADRATIC (128 FORM 91)
OFFSET CURVE (130)
OFFSET SURFACE (140)
CURVE ON PARAMETRIC SURFACE (142)
TRIMMED PARAMETRIC SURFACE (144)
45.00°
ANGULAR DIMENSION (202)
Ø.500
DIAMETER DIMENSION (206)
LABEL
GENERAL LABEL (210)
SIMPLE
SIMPLE
GENERAL NOTE - SIMPLE (212 FORM 01)
DUAL STACK
NOTE - DUAL STACK (212 FORM 11)
IM+a2DED
NOTE - IMBEDDED FONT CHANGE (212 FORM 21)
S SUPER
NOTE - SUPERSCRIPT (212 FORM 31)
S SUB
NOTE - SUBSCRIPT (212 FORM 41)
S SUPER SUB
NOTE - SUPER/SUB SCRIPT (212 FORM 51)
M STACK LEFT
NOTE - MULTI STACK LEFT JUST (212 FORM 61)
M STACK CENTER
NOTE - MULTI STACK CENT JUST (212 FORM 71)
M STACK RIGHT
NOTE - MULTI STACK RIGHT JUST (212 FORM 81)
S FRAC TION
NOTE - SIMPLE FRACTION (212 FORM 100)
DUAL TO P
STACK BOT TOM
NOTE - DUAL STACK FRACTION (212 FORM 101)
IM BED DED x FR ACT TION
NOTE - FONT/DOUBLE FRACTION (212 FORM 102)
T Q P
FR SUP SUB
BO TT OM
NOTE - SUPER/SUB FRACTION (212 FORM 105)
LEADER - WEDGE (214 FORM 11)
LEADER - TRIANGLE (214 FORM 21)
LEADER - FILLED TRIANGLE (214 FORM 31)
LEADER - NO ARROW (214 FORM 41)
LEADER - CIRCLE (214 FORM 61)
LEADER - FILLED CIRCLE (212 FORM 61)
LEADER - RECTANGLE (214 FORM 71)
LEADER - FILLED RECTANGLE (214 FORM 81)
LEADER - SLASH (214 FORM 91)
LEADER - INTEGRAL SIGN (214 FORM 101)
LEADER - OPEN TRIANGLE (214 FORM 111)
1.000
LINEAR DIMENSION (216)
.000
.750
ORDINATE DIMENSION (218)
.000
POINT DIMENSION (220)
R .500
RADIUS DIMENSION (222)
AB
SYMBOL - GENERAL (228 FORM 01)
-C-
SYMBOL - DATUM FEATURE (228 FORM 11)
A2
SYMBOL - DATUM TARGET (228 FORM 21)
.02
SYMBOL - FEATURE CONTROL (228 FORM 31)
SECTIONED AREA (230)
CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
N-ENTITY
Y
A
X
+Z TOWARD OBSERVER

_____ c) Do the ends of the parabola extend 0.25 inches into the positive y-direction?

106 Form 11)

_____ a) Does the linear planar curve look like a circular arc of radius 0.5 inches, centered at (14,14.75,0) and traced out from 0 to 180 degrees counterclockwise?

_____ b) Is the linear planar curve made up of short straight segments combined to form a single entity?

106 Form 12)

_____ Does this three-segmented line stretch between (15.5,14.5,0), (15.75,15,1), (16,14.75,2), and (16.5,15.5,3)?

106 Form 20)

_____ a) Are two points present at (18,15.25,0) and (18,14.75,0)?

_____ b) Does a horizontal centerline extend between the approximate locations (18,15.4,0) and (18,14.6,0)? A centerline is a line of alternating short and long dashed segments.

106 Form 21)

_____ a) Is a circle centered at (20,15,0) with a radius of 0.5 inches?

_____ b) Are crosshairs present through the circle's center?

_____ c) Does the horizontal crosshair extend from approximately (20.6,15,0) to (19.4,15,0)?

_____ d) Does the vertical crosshair extend from approximately (20,15.6,0) to (20,14.4,0)?

_____ e) Do these crosshairs act together as one entity (both selectable by one touch)?

106 Form 31)

_____ a) Is a square shaped polygon present?

_____ b) Is the polygon crosshatched with parallel line segments?

_____ c) Is the crosshatch spacing 0.2 inches and angle 45 degrees?

_____ d) Does the polygon act as a single entity (selectable by one touch)?

_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 32)

_____ a) Are two squares present, one smaller and within the other?

_____ b) Is the area between the inner and outer squares crosshatched with parallel line segments in pairs with a gap between the pairs?

_____ c) Is the pattern spacing 0.177 inches and angle 45 degrees?

_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 33)
_____ a) Is a square present?
_____ b) Is the square crosshatched with an alternating pattern of a solid line and a set of collinear dash segments?
_____ c) Is the pattern spacing 0.167 inches and angle 45 degrees?
_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 34)
_____ a) Is a polygon present that is composed of two perpendicular line segments and a convex arc connecting the unattached ends of the line segments?
_____ b) Is the polygon crosshatched with parallel lines in quadruples with a gap between the groups?
_____ c) Is the pattern spacing 0.1 inches and angle 45 degrees?
_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 35)
_____ a) Is a square present?
_____ b) Is the square crosshatched with triples of parallel lines consisting of two solid lines and a set of collinear dash segments between them with a gap between triples?
_____ c) Is the pattern spacing 0.2 inches and angle 45 degrees?
_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 36)
_____ a) Is a polygon present that is composed of four lines and one concave arc closing the polygon?
_____ b) Is the polygon crosshatched with parallel sets of collinear dash segments?
_____ c) Is the pattern spacing 0.167 inches and angle 45 degrees?
_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 37)
_____ a) Is a square present?
_____ b) Is the square crosshatched with two perpendicular sets of parallel lines?
_____ c) Is the pattern spacing 0.177 inches and angle 45 degrees?
_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 38)
_____ a) Is a polygon present that is composed of four lines and a concave shaped spline closing the polygon?

_____ b) Is the polygon crosshatched with two perpendicular sets of lines with the principal set solid from edge to edge and the second set consisting of collinear dash segments alternating on the solid lines?

_____ c) Is the pattern spacing 0.167 inches and angle 45 degrees?

_____ d) Does the crosshatching act as a single entity (selectable by one touch)?

106 Form 40)

_____ a) Is the lower left corner of the letter "A" at (17.75,13.25,0)?

_____ b) Is "A"'s text height 0.5 and width 0.5 inches?

_____ c) Are points present at (17.5,13.5,0) and (17.5,12.5,0)?

_____ d) Does a linear dimension placed to the right of and below the letter "A" read "1.000"?

_____ e) Is the upper witness line of the linear dimension visible between the approximate points (17.6,13.5,0) to (17.75,13.5,0) and (18.25,13.5,0) to (18.6,13.5,0)? In other words, does the witness line blank out as it goes through the letter "A"?

_____ f) Is the lower witness line visible from approximately (17.6,12.5,0) to (18.6,12.5,0)?

_____ g) Does the entire linear dimension (witness lines, leaders, and text) act as a single entity?

106 Form 63)

_____ a) Is a rectangle present between the points (19.5,12.75,0), (19.5,13.5,0), (20.5,13.5,0), and (20.5,12.75,0)?

_____ b) Is this rectangle a closed area (can it be filled by a pattern)?

_____ c) Does this simple closed area act as a single entity (selectable by one touch)?

108 Form 0)

_____ a) Is there a view present that is clipped by the planes x = 1, x = 3, y = 10, and y = 11.5?

_____ b) Is the view named "B"?

_____ c) Are the two lines from (1.5,11,0) to (2,11.75,0) and from (2.5,11,0) to (2,11.75,0) present?

_____ d) Are these lines clipped, therefore visible only between y = 11 and y = 11.5?

108 Form 1)

_____ Is there a plane defined at z = 0 that is bounded by a simple closed area (a square shaped figure) connecting the points (3.5,10.5,0), (4.5,10.5,0), (4.5,11.5,0), and (3.5,11.5,0)?

110)

_____ Is a line present from (6,11.5,0) to (6,10.5,0)?

112)

_____ Does the spline start at the upper left near (7.5,11.5,0), trace out toward the lower right, move toward the lower left to create a loop, and cross back over itself as it moves to the upper right near (8.5,11.5,0)? In other words, does the parametric spline curve visually resemble the spline on the N-entity plot?

114)

_____ a) Did two parametric splines appear, one 0.75 inches in the y-direction and 1.0 inches in the z-direction above the other?

_____ b) Is the area between the splines surfaced with a parametric spline surface?

_____ c) Does the parametric spline surface visually resemble the surface on the N-entity plot?

116)

_____ Is the point at (12,11,0)?

118 Form 0)

_____ a) Does a line extend from (13.5,11.5,0) to (13.5,10.5,0)?

_____ b) Is there a circular arc present through the points (14.5,11.5,0), (14.25,11,0), and (14.5,10.5,0)?

_____ c) Is the area between the arc and the line surfaced with a ruled surface of equal relative arc length?

_____ d) Does the surface visually resemble the plot?

118 Form 1)

_____ a) Does a line extend from (15.5,11.5,0) to (15.5,10.5,0)?

_____ b) Is there a circular arc present through the points (16.5,11.5,0), (16.25,11,0), and (16.5,10.5,0)?

_____ c) Is the area between the arc and the line surfaced with a ruled surface of equal relative parametric values?

_____ d) Does the surface visually resemble the plot?

120)

_____ a) Does a line extend from (18,11.75,0) to (18,10.5,0)?

_____ b) Is there an arc present through (18.5,11.5,0), (18.25,11.125,0), and (18.5,10.75,0)?

_____ c) Is the arc revolved 360 degrees around the line to create a surface of revolution?

_____ d) Does the surface visually resemble the plot?

122)

_____ a) Does a line extend from (19.75,10.75,0) to (20,11,-1)?

_____ b) Is there an arc present through (19.75,11,0), (20,11.25,0), and (20.25,11,0)?

_____ c) Is the arc projected 1 inch into the negative z-direction along the vector path of the line to create a tabulated cylinder.

_____ d) Does the cylinder visually resemble the plot?

124 Form 0)

_____ a) Did an arrow shaped figure appear?
_____ b) Does this arrow act as a subfigure (selectable by one touch)?
_____ c) Is the subfigure named "ARROW"?
_____ d) Does the arrow point left with the arrowhead tip at (1.5,9,0)?

124 Form 1)
_____ a) Did an arrow shaped figure appear?
_____ b) Does this arrow act as a subfigure (selectable by one touch)?
_____ c) Is the subfigure named "ARROW"?
_____ d) Does the arrow point right with the arrowhead tip at (4.5,9,0)?

126 Form 0)
_____ a) Does a rational b-spline curve pass through the points (5.5,9,0), (5.75,9.25,0), (6.25,9,0), and (6.5,9,0)?
_____ b) Is the rational b-spline curve of degree 5?
_____ c) Does the rational b-spline curve visually resemble the curve on the N-entity plot?

128 Form 0)
_____ a) Did two rational b-splines appear, one 0.75 inches in the y-direction and 1.0 inches in the z-direction above the other?
_____ b) Are the splines of degree 5?
_____ c) Is the area between the splines surfaced with a rational b-spline surface?
_____ d) Is the surface of degree 5?
_____ e) Does the rational b-spline surface visually resemble the RBS surface on the plot?

128 Form 2)
_____ a) Did two rational b-spline appear, both circular in shape and one positioned above the other?
_____ b) Are the splines of degree 7?
_____ c) Is the area between the splines surfaced with a rational b-spline right circular cylinder?
_____ d) Is the surface of degree 7?
_____ e) Does the rational b-spline right circular cylinder visually resemble the RBS right circular cylinder on the plot?

128 Form 3)
_____ a) Did two rational b-splines appear, both circular in shape, but one both above and smaller that the other?
_____ b) Are the splines of degree 7?
_____ c) Is the area between the splines surfaced with a rational b-spline cone?
_____ d) Is the surface of degree 7?
_____ e) Does the rational b-spline cone visually resemble the plot?

128 Form 4)

_____ a) Is a line present from (14,8.5,0) to (14,9.75,0)?
_____ b) Is a sphere shaped rational b-spline surface present?
_____ c) Is the surface of degree 5?
_____ d) Does the rational b-spline sphere visually resemble the RBS sphere on the plot?

128 Form 5)

_____ a) Is a line present from (16,9.5,0) to (16,8.5,0)?
_____ b) Is a torus or donut shaped rational b-spline surface present?
_____ c) Is the surface of degree 5?
_____ d) Does the rational b-spline torus visually resemble the RBS torus on the plot?

128 Form 9)

_____ a) Did two rational b-splines appear, one 0.75 inches in the y-direction and 1.0 inches in the z-direction above the other?
_____ b) Are the splines of degree 2?
_____ c) Is the area between the splines surfaced with a rational b-spline general quadratic surface?
_____ d) Is the surface of degree 2?
_____ e) Does the rational b-spline general quadratic surface visually resemble the RBS surface on the plot?

130)

_____ a) Is there a circular arc present through the points (19.5,8.75,0), (20,9.25,0), and (20.5,8.75,0)?
_____ b) Did a second circular arc appear?
_____ c) Is this second circular arc smaller by 0.25 inches in radius than the first arc?
_____ d) Is this second arc traced out from 0 to 180 degrees counterclockwise like the first?
_____ e) Is the second circular arc an offset of the first?

140)

_____ a) Is the ruled surface present that extends between the line from (1.5,7.44,0.34) to (1.5,6.5,0) and the arc that connects (2.5,7.44,0.34), (2.125,6.97,0.17), and (2.5,6.5,0)?
_____ b) Did a second surface appear, one that looks exactly like the first surface?
_____ c) Is this second surface an offset surface.
_____ d) Is this second surface offset by 1.0 inch into the screen?

142)

_____ a) Did two parametric splines appear, one 0.75 inches in the y-direction and 1.0 inches in the z-direction above the other?
_____ b) Is the area between the splines surfaced with a parametric spline surface?

_____ c) Did a spline appear on the surface to represent a circle projected upon this parametric spline surface?
_____ d) The projected circle should not appear; is it blanked?

144)

_____ a) Did two parametric splines appear, one 0.75 inches in the y-direction and 1.0 inches in the z-direction above the other?
_____ b) Is the area between the splines surfaced with a parametric spline surface?
_____ c) Did a spline appear on the surface to represent a circle projected upon this parametric spline surface?
_____ d) The projected circle should not appear; is it blanked?
_____ e) Is the parametric spline surface trimmed back to and enclosed in the spline?

202)

_____ a) Is a line present from (7.5,7,0) to (7.25,6.75,0)?
_____ b) Is a line present from (7.25,6.75,0) to (7.5,6.75,0)?
_____ c) Is the angle that these two lines create dimensioned with an angular dimension?
_____ d) Is the angular dimension composed of two witness lines, two leader arrows, and a text block?
_____ e) Do the two witness lines, two leaders, and text block act as a single entity (selectable by one touch)?
_____ f) Does the text say "45.00°"?
_____ g) Is the lower left corner of the text block approximately at (7.9,7.1,0)?
_____ h) Is the text height 0.156 inches?
_____ i) Are the arrowheads the IGES-defined triangle types?
_____ j) Do both arrows point from the text toward the witness lines?
_____ k) Do the two witness lines extend from approximately (7.6,7.1,0) to (8.2,7.7,0) and from (7.6,6.75,0) to (8.6,6.75,0)?

206)

_____ a) Is a circle of diameter 0.5 present and centered at (9.5,7,0)?
_____ b) Is the circle dimensioned with a diameter dimension?
_____ c) Is the diameter dimension composed of two leader arrows and a text block?
_____ d) Do the two leaders and the text block act as a single entity (selectable by one touch)?
_____ e) Does the text say "ϕ.500"?
_____ f) Is the lower left corner of the text block approximately at (9.9,7.3,0)?
_____ g) Is the text height 0.156 inches?
_____ h) Are the arrowheads the IGES-defined triangle types?
_____ i) Do both arrowheads point toward the inside of the circle?
_____ j) Are the arrowheads 0.15 inches high and 0.05 inches wide?

210)

_____ a) Is a point present at (11.5,6.75,0)?
_____ b) Is this point labeled?
_____ c) Is the label composed of a leader and a text block?
_____ d) Do the leader and the text block act as a single entity (selectable by one touch)?
_____ e) Does the text block say "LABEL"?
_____ f) Is the lower left corner of the text block at (11.8,7.2,0)?
_____ g) Is the text height 0.156 inches?
_____ h) Is the leader a two-segmented leader?
_____ i) Is the leader's arrowhead at (11.5,6.75,0), first segment end at approximately (11.46,7.25,0), and second segment end at (11.75,7.25,0)?
_____ j) Is the arrowhead the IGES-defined triangle type?

212 Form 0)

_____ a) Does the lower left corner of the horizontal text block "SIMPLE" reside at (13.5,7.125,0)?
_____ b) Does a second text string also say "SIMPLE"?
_____ c) Is this second text string in the vertical orientation?
_____ d) Are the letters of this second text string slanted 30 degrees clockwise from the vertical axis?
_____ e) Is the lower left corner of the letter "S" at (14.5,7.5,0)?
_____ f) Is the text height for both text strings 0.125 inches?

212 Form 1)

_____ a) Does the text say "DUAL STACK"?
_____ b) Is the lower left corner of the text "DUAL" at (15.5,7.125,0)?
_____ c) Is the text "STACK" left justified directly below "DUAL"?
_____ d) Is the text height 0.125 inches?

212 Form 2)

_____ a) Do the first and second letters say "IM" and the sixth through eighth say "DED"?
_____ b) Do the third through the fifth letters say "÷Δ≥"?
_____ c) Is the lower left corner of the text block at (17.5,7.125,0)?
_____ d) Is the text height 0.125 inches?

212 Form 3)

_____ a) Are the words of the general note "S" and "SUPER"?
_____ b) Is the word "SUPER" a superscript of the letter "S"?
_____ c) Is the lower left corner of the letter "S" at (19.5,7.125,0)?
_____ d) Is the text height 0.125 inches?

212 Form 4)

_____ a) Are the words of the general note "S" and "SUB"?
_____ b) Is the word "SUB" a subscript of the letter "S"?

_____ c) Is the lower left corner of the letter "S" at (1.5,5.125,0)?
_____ d) Is the text height 0.125 inches?

212 Form 5)
_____ a) Are the words of the general note "S", "SUPER", and "SUB"?
_____ b) Is the word "SUPER" a superscript of "S"?
_____ c) Is the word "SUB" a subscript of "S"?
_____ d) Is the lower left corner of the letter "S" at (3.5,5.125,0)?
_____ e) Is the text height 0.125 inches?

212 Form 6)
_____ a) Are the words of the general note "M", "STACK", and "LEFT"?
_____ b) Are the words stacked one below the other ("M" then "STACK" then "LEFT")?
_____ c) Are the words left justified to a common margin?
_____ d) Is the lower left corner of the letter "M" at (5.5,5.25,0)?
_____ e) Is the text height 0.125 inches?

212 Form 7)
_____ a) Are the words of the general note "M", "STACK", and "CENTER"?
_____ b) Are the words stacked one below the other?
_____ c) Are the words center justified?
_____ d) Is the lower center location of the letter "M" at (8,5.25,0)?
_____ e) Is the text height 0.125 inches?

212 Form 8)
_____ a) Are the words of the general note "M", "STACK", and "RIGHT"?
_____ b) Are the words stacked one below the other?
_____ c) Are the words right justified to a common margin?
_____ d) Is the lower right corner of the letter "M" at (10.5,5.25,0)?
_____ e) Is the text height 0.125 inches?

212 Form 100)
_____ a) Are the words "S", "----", "FRAC", and "TION" present?
_____ b) Is the lower left corner of the letter "S" at approximately (11.5,5.1,0)?
_____ c) Do the four dashes follow, after one space, the letter "S"?
_____ d) Does the text "FRAC" appear to be a superscript of "S"?
_____ e) Is "FRAC" located directly above the dashes?
_____ f) Does the text "TION" appear to be a subscript of "S"?
_____ g) Is "TION" located directly below the dashes?

212 Form 101)
_____ a) Are the words "DUAL", "---", "TO", "P", "STACK",

"-----", "BOT", and "TOM" present?

_____ b) Is the lower left corner of "DUAL" at approximately (13.5,5.3,0)?

_____ c) Do the three dashes follow, after two spaces, the word "DUAL"?

_____ d) Does the text "TO" appear to be a superscript of "DUAL"?

_____ e) Is "TO" located directly above the dashes?

_____ f) Does the text "P" appear to be a subscript of "DUAL"?

_____ g) Is "P" located directly below the dashes?

_____ h) Is the word "STACK" roughly three lines below and left justified to "DUAL"?

_____ i) Do the five dashes follow, after one space, the word "STACK"?

_____ j) Does the text "BOT" appear to be a superscript of "STACK"?

_____ k) Is "BOT" located directly above the dashes?

_____ l) Does the text "TOM" appear to be a subscript of "STACK"?

_____ m) Is "TOM" located directly below the dashes?

_____ n) Is the text height 0.125 inches?

212 Form 102)

_____ a) Are the words "IM", "-----", "BED", "DED", "≠", "FR", "----", "ACT", and "ION" present?

_____ b) Is the lower left corner of "IM" at approximately (15.1,5.1,0)?

_____ c) Do the five dashes follow, after one space, the text string "IM"?

_____ d) Does the text "BED" appear to be a superscript of "IM"?

_____ e) Is "BED" located directly above the dashes?

_____ f) Does the text "DED" appear to be a subscript of "IM"?

_____ g) Is "DED" located directly below the dashes?

_____ h) Is there a space after the fifth dash and then the character "≠"?

_____ i) Is there a space after "≠" and then the text "FR"?

_____ j) Do the four dashes follow, after one space, the text "FR"?

_____ k) Does the text "ACT" appear to be a superscript of "FR"?

_____ l) Is "ACT" located directly above the dashes?

_____ m) Does the text "ION" appear to be a subscript of "FR"?

_____ n) Is "ION" located directly below the dashes?

_____ o) Is the text height 0.125 inches?

212 Form 105)

_____ a) Are the words "FR", "-----", "SUP", "SUB", "T", "---", "O", "P", "BO", "----", "TT", "OM" present?

_____ b) Is the lower left corner of "FR" at approximately (17.1,5.1,0)?

_____ c) Do the five dashes follow, after one space, the text "FR"?

_____ d) Does the text "SUP" appear to be a superscript of "FR"?

_____ e) Is "SUP" located directly above the dashes?

_____ f) Does the text "SUB" appear to be a subscript of "FR"?

_____ g) Is "SUB" located directly below the dashes?
_____ h) Does the letter "T" appear to be a superscript of the entire first fraction?
_____ i) Do the three dashes follow, after one space, the letter "T"?
_____ j) Does "O" appear to be a superscript to "T"?
_____ k) Is "O" located directly above the dashes?
_____ l) Does "P" appear to be a subscript to "T"?
_____ m) Is "P" located directly below the dashes?
_____ n) Does "BO" appear to be a subscript of the entire first fraction?
_____ o) Do the four dashes follow, after one space, the text "BO"?
_____ p) Does the text "TT" appear to be a superscript of "BO"?
_____ q) Is "TT" located directly above the dashes?
_____ r) Does the text "OM" appear to be a subscript of "BO"?
_____ s) Is "OM" located directly below the dashes?
_____ t) Is the text height 0.125 inches?

214 Form 1)
_____ a) Is the leader's tail at (20.5,5,0)?
_____ b) Is the leader's head at (19.5,5,0)?
_____ c) Is the arrowhead the IGES-defined wedge type?
_____ d) Is the arrowhead height 0.15 inches?
_____ e) Is the arrowhead width 0.05 inches?

214 Form 2)
_____ a) Is the leader's tail at (2.5,3,0)?
_____ b) Is the leader's head at (1.5,3,0)?
_____ c) Is the arrowhead the IGES-defined triangle type?
_____ d) Is the arrowhead height 0.15 inches?
_____ e) Is the arrowhead width 0.05 inches?

214 Form 3)
_____ a) Is the leader's tail at (4.5,3,0)?
_____ b) Is the leader's head at (3.5,3,0)?
_____ c) Is the arrowhead the IGES-defined filled triangle type?
_____ d) Is the arrowhead height 0.15 inches?
_____ e) Is the arrowhead width 0.05 inches?

214 Form 4)
_____ a) Is the leader's tail at (6.5,3,0)?
_____ b) Is the leader's head at (5.5,3,0)?
_____ c) Is there no arrowhead?

214 Form 5)
_____ a) Is the leader's tail at (8.5,3,0)?
_____ b) Is the leader's head at (7.5,3,0)?
_____ c) Is the arrowhead the IGES-defined circle type?
_____ d) Is the arrowhead height 0.1 inches?
_____ e) Is the arrowhead width 0.1 inches?

214 Form 6)
_____ a) Is the leader's tail at (10.5,3,0)?

_____ b) Is the leader's head at (9.5,3,0)?
_____ c) Is the arrowhead the IGES-defined filled circle type?
_____ d) Is the arrowhead height 0.1 inches?
_____ e) Is the arrowhead width 0.1 inches?

214 Form 7)
_____ a) Is the leader's tail at (12.5,3,0)?
_____ b) Is the leader's head at (11.5,3,0)?
_____ c) Is the arrowhead the IGES-defined rectangle type?
_____ d) Is the arrowhead height 0.1 inches?
_____ e) Is the arrowhead width 0.1 inches?

214 Form 8)
_____ a) Is the leader's tail at (14.5,3,0)?
_____ b) Is the leader's head at (13.5,3,0)?
_____ c) Is the arrowhead the IGES-defined filled rectangle type?
_____ d) Is the arrowhead height 0.1 inches?
_____ e) Is the arrowhead width 0.1 inches?

214 Form 9)
_____ a) Is the leader's tail at (16.5,3,0)?
_____ b) Is the leader's head at (15.5,3,0)?
_____ c) Is the arrowhead the IGES-defined slash type?
_____ d) Is the arrowhead height 0.1 inches?
_____ e) Is the arrowhead width 0.1 inches?

214 Form 10)
_____ a) Is the leader's tail at (18.5,3,0)?
_____ b) Is the leader's head at (17.5,3,0)?
_____ c) Is the arrowhead the IGES-defined integral sign type?
_____ d) Is the arrowhead height 0.1 inches?
_____ e) Is the arrowhead width 0.1 inches?

214 Form 11)
_____ a) Is the leader's tail at (20.5,3,0)?
_____ b) Is the leader's head at (19.5,3,0)?
_____ c) Is the arrowhead the IGES-defined open triangle type?
_____ d) Is the arrowhead height 0.15 inches?
_____ e) Is the arrowhead width 0.05 inches?

216)
_____ a) Are there two points present: one at (1.5,0.5,0) and one at (2.5,0.5,0)?
_____ b) Is the space between these two points dimensioned with a linear dimension?
_____ c) Is the linear dimension composed of two witness lines, two leader arrows, and a text block?
_____ d) Do the two witness lines, two leaders, and text block act as a single entity (selectable by one touch)?
_____ e) Does the text say "1.000"?
_____ f) Is the lower left corner of the text block approximately at (1.64,1.17,0)?
_____ g) Is the text height 0.156 inches?

_____ h) Are the arrowheads of the IGES-defined triangle type?
_____ i) Do both arrows point toward the text from the outside of the witness lines?

218)

_____ a) Are there two points present: one at (3.5,0.5,0) and one at (4.25,0.5,0)?
_____ b) Is the right point ordinately dimensioned from the left point?
_____ c) Is the ordinate dimension composed of two leaders and two text blocks?
_____ d) Do the two leaders and two text blocks act as a single entity (selectable by one touch)?
_____ e) Does the text above the left point say ".000"?
_____ f) Does the text above the right point say ".750"?
_____ g) Is the lower left corner of the left text block before rotation approximately at (3.58,1.19,0)?
_____ h) Is the lower left corner of the right text block before rotation approximately at (4.33,1.19,0)?
_____ i) Is the text height 0.156 inches?
_____ j) Are there no arrowheads on the leaders?
_____ k) Do the leaders extend from locations just above the points to the text blocks?

220)

_____ a) Is there a point present at (6,0.5,0)?
_____ b) Is this point dimensioned?
_____ c) Is the point dimension composed of one leader, one circle, and one text block?
_____ d) Do the leader, circle, and text block act as a single entity (selectable by one touch)?
_____ e) Does the text say ".000"?
_____ f) Is the lower left corner of the text block approximately at (5.73,1.33,0)?
_____ g) Is the text height 0.156 inches?
_____ h) Is there no arrowhead on the leader?
_____ i) Is the text surrounded by a circle?
_____ j) Does the leader extend from a location just above the point to the bottom of the circle?

222)

_____ a) Is a circular arc present centered at (7.25,0.5,0) with a radius of 0.5 inches and traced out from 0 to 90 degrees counterclockwise?
_____ b) Is this arc dimensioned with a radius dimension?
_____ c) Is this radius dimension composed of a leader and a text block?
_____ d) Do the leader and the text block act as a single entity (selectable by one touch)?
_____ d) Does the text block say "R .500"?
_____ e) Is the lower left corner of the text block at (7.85,1.42,0)?
_____ f) Is the text height 0.156 inches?
_____ g) Is the leader a two-segmented leader?

_____ h) Is the arrowhead of the IGES-defined triangle type?
_____ i) Does the arrowhead point toward the outside of the arc?

228 Form 0)
_____ a) Is a diamond shaped closed figure present?
_____ b) Does a line horizontally cut in half this diamond shaped figure?
_____ c) Does a piece of text saying "AB" occupy the lower half of this diamond shaped figure?
_____ d) Do the closed figure, line, and text block act as a single general symbol (all three entities selectable by one touch)?
_____ e) Is the lower left corner of the text block at (9.875,0.75,0)?
_____ f) Is the text height 0.156 inches?

228 Form 1)
_____ a) Is a rectangular shaped closed figure present?
_____ b) Is the text "-C-" present inside of the rectangle?
_____ c) Do the closed figure and the text act as a single datum feature symbol (both entities selectable by one touch)?
_____ d) Is the lower left corner of the text block at (11.83,1.08,0)?
_____ e) Is the text height 0.156 inches?

228 Form 2)
_____ a) Is a circle present?
_____ b) Does a line horizontally cut this circle in half?
_____ c) Does the text "A2" occupy the lower half of this circle?
_____ d) Is the lower left corner of the text block at (14.125,1,0)?
_____ e) Is the text height 0.156 inches?
_____ f) Does an arrow point from the lower left side of the circle to (13.625,0.625,0)?
_____ g) Do the circle, line, text, and arrow act as a single target symbol (all four entities selectable by one touch)?

228 Form 3)
_____ a) Is a rectangular frame present?
_____ b) Does a text block containing a perpendicular symbol, a frame divider, and the text ".02" occupy the rectangular frame?
_____ c) Is the lower left corner of the text block at (15.58,1.08,0)?
_____ d) Is the text height 0.156 inches?
_____ e) Do the rectangle and text act as a single feature control frame (selectable by one touch)?

230)
_____ a) Do four lines form a square?
_____ b) Is the square crosshatched with solid parallel line segments from edge to edge?

_____ c) Is the crosshatching spacing 0.2 inches?
_____ d) Is the crosshatching angled at 45 degrees?

Grid Lines)
_____ a) Are there 11 vertical grid lines?
_____ b) Are there 9 horizontal grid lines?

Entity Identifiers)
_____ Is every entity identified by a name and an IGES number placed beneath the entity within the grid box?

Title Block)
_____ Does the title block in the lower right hand grid box say, "CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
N-ENTITY"?

Incident Report

Attachment H

L-bracket Evaluation Script

L-bracket Evaluation Script

Answer the following questions:

Views)

_____ a) Is the lower left corner of the top view at the drawing location (3,10)?

_____ b) Is the lower left corner of the front view at the drawing location (3,3)?

_____ c) Is the lower left corner of the side view at the drawing location (12,3)?

_____ d) Is the lower left corner of the isometric view at the drawing location (12,10)?

Dimensions)

_____ a) Is the diameter dimension (ϕ.500) readable and does it point at the circle on the top view?

_____ b) Is the radius dimension (R .100) readable and does it point at the fillet on the front view?

_____ c) Is the linear dimension (2.000) readable and does it dimension the distance between the circle center and the left side of the l-bracket on the top view?

_____ d) Is the linear dimension (1.000) readable and does it dimension the width of the l-bracket's vertical leg on the front view?

_____ e) Is the linear dimension (.750) readable and does it dimension the width of the l-bracket's horizontal leg on the front view?

Dashed lines)

_____ a) On the top view, are the two horizontal hidden slot lines dashed that are labeled "J" on the A-sized, L-bracket plot attached to this script? Do the lines have 0.1 inch long dashes and 0.1 inch long spaces?

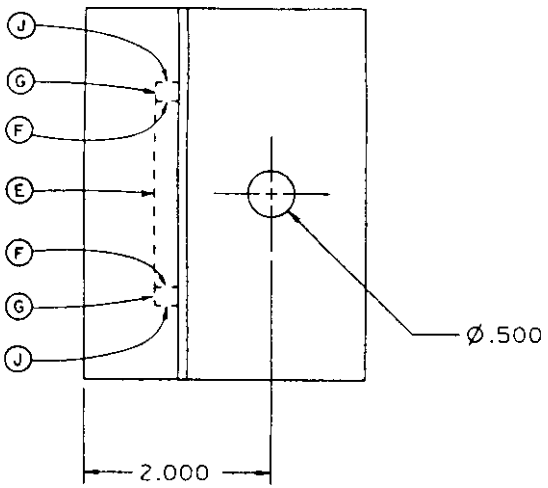
_____ b) On the top view, are the remaining three hidden slot lines (labeled by "E+G" and "F") dashed?

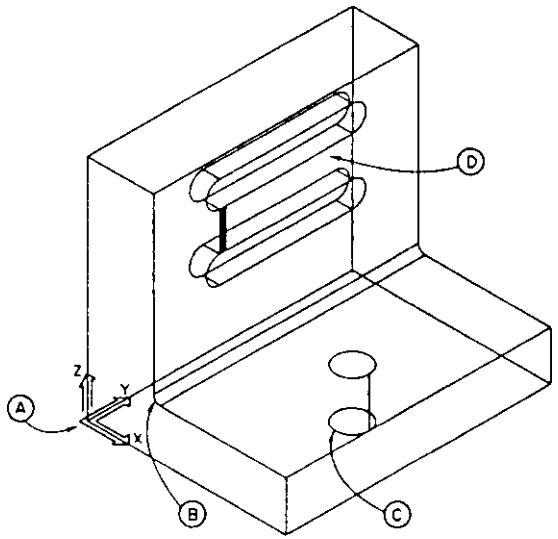
_____ c) If the answer to a) was yes, and if the answer to b) was no, blank the whole top view momentarily to clearly see the font of the "E+G" and "F" lines. Are they now dashed?

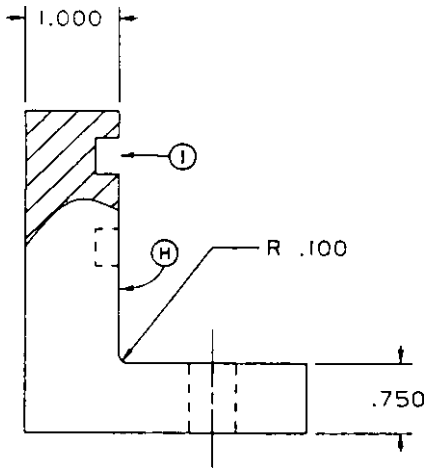
_____ d) On the front view, is the vertical hidden slot line dashed? Again, if the answer to a) was yes, blank the front view to clearly see the font of this line. Is it now dashed?

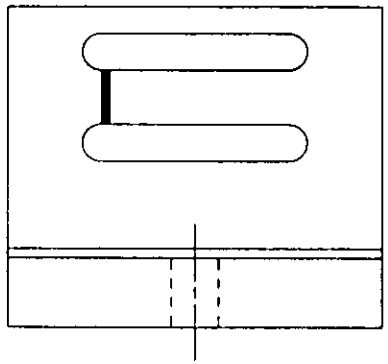
_____ e) On the front view, are the two horizontal hidden slot lines dashed. Do the lines have 0.1 inch long dashes and 0.1 inch long spaces? If they are not dashed, blank the whole front view to clearly see the font of these lines. Are they now dashed?

_____ f) On the front view, is the line representing the left side of the through-hole dashed?









CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
L-BRACKET

_____ g) On the front view, is the line representing the right side of the through-hole dashed? If not, blank the view to clearly see the line font.
_____ h) On the side view, are both lines representing both sides of the through-hole dashed?

Subfigure)
_____ a) Does the lower slot act as a subfigure (e.g. selectable by one touch)?
_____ b) Is the subfigure named "SUBFIG"?

Color)
_____ a) Is the crosshatching close to the color of magenta?
_____ b) Are all the dimensions yellow?
_____ c) Are the two circles and the line which comprise the through-hole magenta in the isometric view?
_____ d) Are the two circles and the line which comprise the through-hole green in the top view?
_____ e) Are the rest of the entities the default color of the system?

Ordered group)
_____ Does the upper slot act as an ordered group (e.g. the entire group selectable by one touch)?

Crosshatching)
_____ Did crosshatching appear on the vertical leg of the l-bracket to depict the exposed interior of the l-bracket?

Centerlines)
_____ a) Did a crosshair (one horizontal and one vertical centerline) appear on the circle in the top view?
_____ b) Does this crosshair act as a single entity?
_____ c) Did a centerline appear on the front view to depict the center of the through-hole?
_____ d) Did a centerline appear on the side view to depict the center of the through-hole?

Level definitions)
_____ a) Are all the model entities on level one?
_____ b) Are all the dimension entities on level two?
_____ c) Are all the other detailing entities (all dashed lines, crosshatching, centerlines, the spline, border lines, title block lines, and the title block text) on level three?
_____ d) Is the lower slot (subfigure) on level four?
_____ e) Is the definition of the levels apparent?

Views visible)
_____ a) Is the cut-out pointed to by "I" really cut out as shown on the plot?

Spline)

_____ Did the parametric spline appear properly on the front view exposing the interior of the l-bracket?

Line widening)

_____ a) Is the line connecting the two slots widened?
_____ b) Is it widened to 0.1 inch?
_____ c) Does the widened line have squared corners?
_____ d) Does the widened line not extent beyond the bottom line of the top slot and the top line of the bottom slot?

Border)

_____ a) Did the four lines bordering the drawing appear?
_____ b) Did the two lines bordering the title block appear?

Title block)

_____ Did the title block appear as centered text and read "CALS TEST NETWORK
MIL-D-28000
CLASS II
REFERENCE DRAWING
L-BRACKET"?

Drawing)

_____ a) Is the drawing named "LBRACKT"?
_____ b) Are the drawing units in inches?
_____ c) Is the drawing C-sized?

General)

_____ Does the drawing look generally similar to the provided L-bracket reference drawing plot?

Incident Report

Attachment I

N-entity IGES File Printout

CONFORMANCE: This IGES file comforms to the MIL-D-28000 Amendment 1 Class II subset (Engineering Drawings).

CREATED BY: CALS Test Network
Lawrence Livermore National Laboratory
7000 East Ave., P.O. Box 808, L-542
Livermore, CA 94550
(415) 422-4357

DATE: 15 October 1988

PART NAME: NENTITY

DRAWING NAME: NENTITY

DESCRIPTION: Reference drawing named N-entity which is comprised of all the IGES geometric and annotion entities (100-230) specified in MIL-D-28000 Class II. Contact the CALS Test Network to obtain procedures for conducting the test and evaluating the results.

REVISION: C

DRAWING SIZE AND NUMBER: One C-Size

PART LEVEL SCHEME:

LEVEL	COLOR	ENTITY DESCRIPTION	MODE
defaulted	not assigned	all entities	model

```
1H,,1H;,7HNENTITY,7HNENTITY,4HNONE,4HNONE,16,8,24,8,56,
7HNENTITY,1.0,1,4HINCH,1,1.0,13H881015.080000,0.000001,22.0,
7HFARRELL,17HCALS TEST NETWORK,6,0;

       0       1       0       0       0       0       0       0
       0       0       0       1       0
       0       2       0       0       0       0       0       0
       0       0       0       1       0
       0       3       0       0       0       0       0       0
       0       0       0       1       0
       0       4       0       0       0       0       0       0
       0       0       0       1       0
       0       5       0       0       0       0       0       0
       0       0       0       1       0
       0       6       0       0       0       0       0       0
       0       0       0       1       0
       0       7       0       0       0       0       0       0
       0       0       0       2       0
       0       9       0       0       0       0       0       0
```

0	0	0	1	0				D	16
0	10	0	0	0	0	0	0	1D	17
0	0	0	2	0				D	18
0	12	0	0	0	0	0	0	1D	19
0	0	0	2	0				D	20
0	14	0	0	0	0	0	0	1D	21
0	0	0	2	0				D	22
406	16	0	0	0	0	0	0	10001D	23
406	0	0	1	15				D	24
124	17	0	0	0	0	0	0	00001D	25
124	0	0	1	0				D	26
108	18	0	3	0	0	0	0	10001D	27
108	0	0	1	0				D	28
108	19	0	3	0	0	0	0	10001D	29
108	0	0	1	0				D	30
108	20	0	3	0	0	0	0	10001D	31
108	0	0	1	0				D	32
108	21	0	3	0	0	0	0	10001D	33
108	0	0	1	0				D	34
410	22	0	0	0	0	25	0	20201D	35
410	0	0	1	0				D	36
110	23	0	1	0	0	0	0	1D	37
110	0	5	1	0				D	38
110	24	0	1	0	0	0	0	1D	39
110	0	5	1	0				D	40
110	25	0	1	0	0	0	0	1D	41
110	0	5	1	0				D	42
110	26	0	1	0	0	0	0	1D	43
110	0	5	1	0				D	44
110	27	0	1	0	0	0	0	1D	45
110	0	5	1	0				D	46
110	28	0	1	0	0	0	0	1D	47
110	0	5	1	0				D	48
110	29	0	1	0	0	0	0	1D	49
110	0	5	1	0				D	50
110	30	0	1	0	0	0	0	1D	51
110	0	5	1	0				D	52
110	31	0	1	0	0	0	0	1D	53
110	0	5	1	0				D	54
110	32	0	1	0	0	0	0	1D	55
110	0	5	1	0				D	56
110	33	0	1	0	0	0	0	1D	57
110	0	5	1	0				D	58
110	34	0	1	0	0	0	0	1D	59
110	0	5	1	0				D	60
110	35	0	1	0	0	0	0	1D	61
110	0	5	1	0				D	62
110	36	0	1	0	0	0	0	1D	63
110	0	5	1	0				D	64
110	37	0	1	0	0	0	0	1D	65
110	0	5	1	0				D	66
110	38	0	1	0	0	0	0	1D	67
110	0	5	1	0				D	68
110	39	0	1	0	0	0	0	1D	69
110	0	5	1	0				D	70

110	40	0	1	0	0	0	0	1D	71
110	0	5	1	0				D	72
110	41	0	1	0	0	0	0	1D	73
110	0	5	1	0				D	74
100	42	0	1	0	0	0	0	1D	75
100	0	5	1	0				D	76
116	43	0	0	0	0	0	0	10001D	77
116	0	5	1	0				D	78
110	44	0	1	0	0	0	0	10001D	79
110	0	5	1	0				D	80
100	45	0	1	0	0	1045	0	10001D	81
100	0	5	1	0				D	82
124	46	0	0	0	0	0	0	1D	83
124	0	0	1	0				D	84
104	47	0	1	0	0	83	0	1D	85
104	0	5	2	1				D	86
116	49	0	0	0	0	0	0	1D	87
116	0	5	1	0				D	88
116	50	0	0	0	0	0	0	1D	89
116	0	5	1	0				D	90
100	51	0	1	0	0	0	0	1D	91
100	0	5	1	0				D	92
0	52	0	1	0	0	0	0	1D	93
0	0	5	1	0				D	94
110	53	0	1	0	0	0	0	1D	95
110	0	5	1	0				D	96
110	54	0	1	0	0	0	0	1D	97
110	0	5	1	0				D	98
110	55	0	1	0	0	0	0	1D	99
110	0	5	1	0				D	100
110	56	0	1	0	0	0	0	1D	101
110	0	5	1	0				D	102
110	57	0	1	0	0	0	0	1D	103
110	0	5	1	0				D	104
110	58	0	1	0	0	0	0	1D	105
110	0	5	1	0				D	106
110	59	0	1	0	0	0	0	1D	107
110	0	5	1	0				D	108
110	60	0	1	0	0	0	0	1D	109
110	0	5	1	0				D	110
110	61	0	1	0	0	0	0	1D	111
110	0	5	1	0				D	112
110	62	0	1	0	0	0	0	1D	113
110	0	5	1	0				D	114
110	63	0	1	0	0	0	0	1D	115
110	0	5	1	0				D	116
110	64	0	1	0	0	0	0	1D	117
110	0	5	1	0				D	118
110	65	0	1	0	0	0	0	1D	119
110	0	5	1	0				D	120
110	66	0	1	0	0	0	0	1D	121
110	0	5	1	0				D	122
110	67	0	1	0	0	0	0	1D	123
110	0	5	1	0				D	124
110	68	0	1	0	0	0	0	1D	125

110	0	5	1	0				D	126
110	69	0	1	0	0	0	0	1D	127
110	0	5	1	0				D	128
110	70	0	1	0	0	0	0	1D	129
110	0	5	1	0				D	130
110	71	0	1	0	0	0	0	1D	131
110	0	5	1	0				D	132
110	72	0	1	0	0	0	0	1D	133
110	0	5	1	0				D	134
110	73	0	1	0	0	0	0	1D	135
110	0	5	1	0				D	136
110	74	0	1	0	0	0	0	1D	137
110	0	5	1	0				D	138
110	75	0	1	0	0	0	0	1D	139
110	0	5	1	0				D	140
110	76	0	1	0	0	0	0	1D	141
110	0	5	1	0				D	142
110	77	0	1	0	0	0	0	1D	143
110	0	5	1	0				D	144
110	78	0	1	0	0	0	0	1D	145
110	0	5	1	0				D	146
110	79	0	1	0	0	0	0	1D	147
110	0	5	1	0				D	148
110	80	0	1	0	0	0	0	1D	149
110	0	5	1	0				D	150
110	81	0	1	0	0	0	0	1D	151
110	0	5	1	0				D	152
110	82	0	1	0	0	0	0	1D	153
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100	0	5	1	0				D	156
100	84	0	1	0	0	0	0	1D	157
100	0	5	1	0				D	158
106	85	0	0	0	0	0	0	101D	159
106	0	5	2	21				D	160
106	87	0	0	0	0	0	0	101D	161
106	0	5	2	20				D	162
0	89	0	0	0	0	0	0	101D	163
0	0	5	2	0				D	164
116	91	0	0	0	0	0	0	1D	165
116	0	5	1	0				D	166
116	92	0	0	0	0	0	0	1D	167
116	0	5	1	0				D	168
106	93	0	1	0	0	0	0	20001D	169
106	0	5	1	63				D	170
108	94	0	1	0	0	0	0	1D	171
108	0	5	1	1				D	172
110	95	0	1	0	0	0	0	1D	173
110	0	5	1	0				D	174
116	96	0	0	0	0	0	0	1D	175
116	0	5	1	0				D	176
110	97	0	1	0	0	0	0	20001D	177
110	0	5	1	0				D	178
110	98	0	1	0	0	0	0	20001D	179
110	0	5	1	0				D	180

110	99	0	1	0	0	0	0	20001D	181
110	0	5	1	0				D	182
110	100	0	1	0	0	0	0	20001D	183
110	0	5	1	0				D	184
100	101	0	1	0	0	0	0	1D	185
100	0	5	1	0				D	186
116	102	0	0	0	0	0	0	1D	187
116	0	5	1	0				D	188
116	103	0	0	0	0	0	0	1D	189
116	0	5	1	0				D	190
116	104	0	0	0	0	0	0	1D	191
116	0	5	1	0				D	192
116	105	0	0	0	0	0	0	1D	193
116	0	5	1	0				D	194
110	106	0	1	0	0	0	0	1D	195
110	0	5	1	0				D	196
214	107	0	1	0	0	0	0	101D	197
214	0	5	1	7				D	198
214	108	0	1	0	0	0	0	101D	199
214	0	5	1	11				D	200
116	109	0	0	0	0	0	0	1D	201
116	0	5	1	0				D	202
100	110	0	1	0	0	0	0	1D	203
100	0	5	1	0				D	204
110	111	0	1	0	0	0	0	1D	205
110	0	5	1	0				D	206
100	112	0	1	0	0	0	0	10101D	207
100	0	5	1	0				D	208
110	113	0	1	0	0	0	0	10101D	209
110	0	5	1	0				D	210
0	114	0	1	0	0	0	0	101D	211
0	0	5	6	0				D	212
0	115	0	1	0	0	0	0	1D	213
0	0	5	1	0				D	214
0	116	0	1	0	0	0	0	1D	215
0	0	5	1	0				D	216
0	117	0	1	0	0	0	0	1D	217
0	0	5	1	0				D	218
0	118	0	1	0	0	0	0	1D	219
0	0	5	1	0				D	220
110	119	0	1	0	0	0	0	10101D	221
110	0	5	1	0				D	222
0	120	0	1	0	0	0	0	1D	223
0	0	5	1	0				D	224
0	121	0	1	0	0	0	0	1D	225
0	0	5	1	0				D	226
0	122	0	2	0	0	0	0	1D	227
0	0	5	1	0				D	228
0	123	0	2	0	0	0	0	1D	229
0	0	5	1	0				D	230
0	124	0	1	0	0	0	0	1D	231
0	0	5	1	0				D	232
0	125	0	1	0	0	0	0	1D	233
0	0	5	1	0				D	234
0	126	0	1	0	0	0	0	1D	235

0	0	5	1	0				D	236
0	127	0	1	0	0	0	0	1D	237
0	0	5	1	0				D	238
116	128	0	0	0	0	0	0	1D	239
116	0	5	1	0				D	240
110	129	0	1	0	0	0	0	1D	241
110	0	5	1	0				D	242
110	130	0	1	0	0	0	0	1D	243
110	0	5	1	0				D	244
0	131	1	1	0	0	0	0	1D	245
0	0	5	1	0				D	246
0	132	1	1	0	0	0	0	1D	247
0	0	5	1	0				D	248
0	133	1	1	0	0	0	0	1D	249
0	0	5	1	0				D	250
0	134	1	1	0	0	0	0	1D	251
0	0	5	1	0				D	252
0	135	1	1	0	0	0	0	1D	253
0	0	5	1	0				D	254
124	136	0	0	0	0	0	0	1D	255
124	0	0	1	0				D	256
104	137	0	1	0	0	255	0	1D	257
104	0	5	2	0				D	258
124	139	0	0	0	0	0	0	1D	259
124	0	0	2	0				D	260
104	141	0	1	0	0	259	0	1D	261
104	0	5	1	3				D	262
124	142	0	0	0	0	0	0	1D	263
124	0	0	2	0				D	264
104	144	0	1	0	0	263	0	1D	265
104	0	5	2	2				D	266
0	146	1	1	0	0	0	0	1D	267
0	0	5	1	0				D	268
100	147	0	1	0	0	0	0	20001D	269
100	0	5	1	0				D	270
100	148	0	1	0	0	0	0	1D	271
100	0	5	1	0				D	272
0	149	1	1	0	0	0	0	1D	273
0	0	5	1	0				D	274
0	150	1	1	0	0	0	0	1D	275
0	0	5	1	0				D	276
0	151	1	1	0	0	0	0	1D	277
0	0	5	1	0				D	278
0	152	1	1	0	0	0	0	1D	279
0	0	5	1	0				D	280
0	153	1	1	0	0	0	0	1D	281
0	0	5	1	0				D	282
0	154	1	1	0	0	0	0	1D	283
0	0	5	1	0				D	284
0	155	1	1	0	0	0	0	1D	285
0	0	5	1	0				D	286
106	156	0	1	0	0	0	0	1D	287
106	0	5	2	12				D	288
106	158	0	1	0	0	0	0	1D	289
106	0	5	1	63				D	290

106	159	0	1	0	0	0	0	1D	291
106	0	5	1	63				D	292
0	160	1	1	0	0	0	0	1D	293
0	0	5	2	0				D	294
228	162	0	1	0	0	0	0	101D	295
228	0	5	1	2				D	296
0	163	1	1	0	0	0	0	20001D	297
0	0	5	1	0				D	298
0	164	1	1	0	0	0	0	20001D	299
0	0	5	1	0				D	300
0	165	1	1	0	0	0	0	20001D	301
0	0	5	1	0				D	302
0	166	1	0	0	0	0	0	201D	303
0	0	0	1	0				D	304
0	167	1	1	0	0	0	0	1D	305
0	0	5	4	0				D	306
0	171	1	1	0	0	0	0	1D	307
0	0	5	2	0				D	308
106	173	0	1	0	0	0	0	10101D	309
106	0	5	1	63				D	310
106	174	0	1	0	0	0	0	1D	311
106	0	5	9	11				D	312
112	183	0	1	0	0	0	0	1D	313
112	0	5	5	0				D	314
112	188	0	1	0	0	0	0	10001D	315
112	0	5	4	0				D	316
112	192	0	1	0	0	0	0	1D	317
112	0	5	14	0				D	318
126	206	0	1	0	0	0	0	1D	319
126	0	5	7	0				D	320
0	213	0	1	0	0	0	0	20001D	321
0	0	5	6	0				D	322
0	219	0	1	0	0	0	0	20001D	323
0	0	5	6	0				D	324
126	225	0	1	0	0	0	0	1D	325
126	0	5	5	0				D	326
0	230	0	1	0	0	0	0	20001D	327
0	0	5	22	0				D	328
126	252	0	1	0	0	0	0	1D	329
126	0	5	5	0				D	330
126	257	0	1	0	0	0	0	1D	331
126	0	5	5	0				D	332
126	262	0	1	0	0	0	0	1D	333
126	0	5	7	0				D	334
126	269	0	1	0	0	0	0	1D	335
126	0	5	7	0				D	336
126	276	0	1	0	0	0	0	1D	337
126	0	5	7	0				D	338
112	283	0	1	0	0	0	0	1D	339
112	0	5	3	0				D	340
112	286	0	1	0	0	0	0	1D	341
112	0	5	3	0				D	342
112	289	0	1	0	0	0	0	1D	343
112	0	5	6	0				D	344
112	295	0	1	0	0	0	0	1D	345

112	0	5	6	0				D	346
0	301	1	1	0	0	0	0	20001D	347
0	0	5	13	0				D	348
112	314	0	1	0	0	0	0	1D	349
112	0	5	6	0				D	350
112	320	0	1	0	0	0	0	1D	351
112	0	5	6	0				D	352
112	326	0	1	0	0	0	0	1D	353
112	0	5	6	0				D	354
112	332	0	1	0	0	0	0	1D	355
112	0	5	6	0				D	356
212	338	0	0	0	0	0	0	10101D	357
212	0	5	1	0				D	358
214	339	0	1	0	0	0	0	10101D	359
214	0	5	1	2				D	360
222	340	0	1	0	0	0	0	101D	361
222	0	5	1	0				D	362
212	341	0	0	0	0	0	0	10101D	363
212	0	5	2	0				D	364
214	343	0	1	0	0	0	0	10101D	365
214	0	5	1	4				D	366
218	344	0	1	0	0	0	0	101D	367
218	0	5	1	0				D	368
212	345	0	0	0	0	0	0	10101D	369
212	0	5	1	0				D	370
214	346	0	1	0	0	0	0	10101D	371
214	0	5	1	2				D	372
214	347	0	1	0	0	0	0	10101D	373
214	0	5	1	2				D	374
106	348	0	0	0	0	0	0	10101D	375
106	0	5	1	40				D	376
106	349	0	0	0	0	0	0	10101D	377
106	0	5	1	40				D	378
216	350	0	1	0	0	0	0	101D	379
216	0	5	1	0				D	380
212	351	0	0	0	0	0	0	10101D	381
212	0	5	2	0				D	382
214	353	0	1	0	0	0	0	10101D	383
214	0	5	1	4				D	384
218	354	0	1	0	0	0	0	101D	385
218	0	5	1	0				D	386
212	355	0	0	0	0	0	0	10101D	387
212	0	5	2	0				D	388
214	357	0	1	0	0	0	0	10101D	389
214	0	5	1	2				D	390
214	358	0	1	0	0	0	0	10101D	391
214	0	5	1	2				D	392
206	359	0	1	0	0	0	0	101D	393
206	0	5	1	0				D	394
212	360	0	0	0	0	0	0	10101D	395
212	0	5	2	0				D	396
214	362	0	1	0	0	0	0	10101D	397
214	0	5	1	2				D	398
214	363	0	1	0	0	0	0	10101D	399
214	0	5	1	2				D	400

106	364	0	0	0	0	0	0	10101D	401
106	0	5	1	40				D	402
106	365	0	0	0	0	0	0	10101D	403
106	0	5	1	40				D	404
202	366	0	1	0	0	0	0	101D	405
202	0	5	1	0				D	406
212	367	0	0	0	0	0	0	10101D	407
212	0	5	1	0				D	408
100	368	0	1	0	0	0	0	10101D	409
100	0	5	1	0				D	410
214	369	0	1	0	0	0	0	10101D	411
214	0	5	1	4				D	412
220	370	0	1	0	0	0	0	101D	413
220	0	5	1	0				D	414
212	371	0	0	0	0	0	0	20101D	415
212	0	5	2	0				D	416
214	373	0	1	0	0	0	0	20101D	417
214	0	5	1	2				D	418
214	374	0	1	0	0	0	0	20101D	419
214	0	5	1	2				D	420
106	375	0	0	0	0	0	0	20101D	421
106	0	5	1	40				D	422
106	376	0	0	0	0	0	0	20101D	423
106	0	5	1	40				D	424
216	377	0	1	0	0	0	0	101D	425
216	0	5	1	0				D	426
102	378	0	0	0	0	0	0	10201D	427
102	0	0	1	0				D	428
230	379	0	1	0	0	0	0	101D	429
230	0	5	1	0				D	430
0	380	1	0	0	0	0	0	10201D	431
0	0	0	1	0				D	432
0	381	1	1	0	0	0	0	101D	433
0	0	5	1	0				D	434
0	382	1	1	0	0	0	0	20001D	435
0	0	5	1	0				D	436
0	383	1	1	0	0	0	0	20001D	437
0	0	5	1	0				D	438
0	384	1	1	0	0	0	0	20001D	439
0	0	5	1	0				D	440
0	385	1	1	0	0	0	0	20001D	441
0	0	5	1	0				D	442
0	386	1	1	0	0	0	0	20001D	443
0	0	5	1	0				D	444
0	387	1	1	0	0	0	0	20001D	445
0	0	5	1	0				D	446
0	388	1	1	0	0	0	0	20001D	447
0	0	5	1	0				D	448
0	389	1	0	0	0	0	0	201D	449
0	0	0	1	0				D	450
0	390	1	1	0	0	0	0	20001D	451
0	0	5	1	0				D	452
0	391	1	1	0	0	0	0	20001D	453
0	0	5	1	0				D	454
0	392	1	1	0	0	0	0	20001D	455

0	0	5	1	0				D	456
0	393	1	1	0	0	0	0	20001D	457
0	0	5	1	0				D	458
0	394	1	1	0	0	0	0	20001D	459
0	0	5	1	0				D	460
0	395	1	1	0	0	0	0	20001D	461
0	0	5	1	0				D	462
0	396	1	1	0	0	0	0	20001D	463
0	0	5	1	0				D	464
0	397	1	1	0	0	0	0	20001D	465
0	0	5	1	0				D	466
0	398	1	1	0	0	0	0	20001D	467
0	0	5	1	0				D	468
0	399	1	1	0	0	0	0	20001D	469
0	0	5	1	0				D	470
0	400	1	1	0	0	0	0	20001D	471
0	0	5	1	0				D	472
0	401	1	1	0	0	0	0	20001D	473
0	0	5	1	0				D	474
0	402	1	1	0	0	0	0	20001D	475
0	0	5	1	0				D	476
0	403	1	1	0	0	0	0	20001D	477
0	0	5	1	0				D	478
0	404	1	0	0	0	0	0	201D	479
0	0	0	1	0				D	480
0	405	1	1	0	0	0	0	20001D	481
0	0	5	1	0				D	482
0	406	1	1	0	0	0	0	20001D	483
0	0	5	1	0				D	484
0	407	1	1	0	0	0	0	20001D	485
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0	408	1	1	0	0	0	0	20001D	487
0	0	5	1	0				D	488
0	409	1	1	0	0	0	0	20001D	489
0	0	5	1	0				D	490
0	410	1	1	0	0	0	0	20001D	491
0	0	5	1	0				D	492
0	411	1	1	0	0	0	0	20001D	493
0	0	5	1	0				D	494
0	412	1	1	0	0	0	0	20001D	495
0	0	5	1	0				D	496
0	413	1	1	0	0	0	0	20001D	497
0	0	5	1	0				D	498
0	414	1	1	0	0	0	0	20001D	499
0	0	5	1	0				D	500
0	415	1	1	0	0	0	0	20001D	501
0	0	5	1	0				D	502
0	416	1	1	0	0	0	0	20001D	503
0	0	5	1	0				D	504
0	417	1	1	0	0	0	0	20001D	505
0	0	5	1	0				D	506
0	418	1	1	0	0	0	0	20001D	507
0	0	5	1	0				D	508
0	419	1	1	0	0	0	0	20001D	509
0	0	5	1	0				D	510

0	420	1	1	0	0	0	0	20001D	511
0	0	5	1	0				D	512
0	421	1	1	0	0	0	0	20001D	513
0	0	5	1	0				D	514
0	422	1	1	0	0	0	0	20001D	515
0	0	5	1	0				D	516
0	423	1	1	0	0	0	0	20001D	517
0	0	5	1	0				D	518
0	424	1	1	0	0	0	0	20001D	519
0	0	5	1	0				D	520
0	425	1	1	0	0	0	0	20001D	521
0	0	5	1	0				D	522
0	426	1	1	0	0	0	0	20001D	523
0	0	5	1	0				D	524
0	427	1	1	0	0	0	0	20001D	525
0	0	5	1	0				D	526
0	428	1	1	0	0	0	0	20001D	527
0	0	5	1	0				D	528
0	429	1	1	0	0	0	0	20001D	529
0	0	5	1	0				D	530
0	430	1	1	0	0	0	0	20001D	531
0	0	5	1	0				D	532
0	431	1	0	0	0	0	0	201D	533
0	0	0	2	0				D	534
0	433	1	1	0	0	0	0	20001D	535
0	0	5	1	0				D	536
0	434	1	1	0	0	0	0	20001D	537
0	0	5	1	0				D	538
0	435	1	1	0	0	0	0	20001D	539
0	0	5	1	0				D	540
0	436	1	1	0	0	0	0	20001D	541
0	0	5	1	0				D	542
0	437	1	1	0	0	0	0	20001D	543
0	0	5	1	0				D	544
0	438	1	1	0	0	0	0	20001D	545
0	0	5	1	0				D	546
0	439	1	1	0	0	0	0	20001D	547
0	0	5	1	0				D	548
0	440	1	1	0	0	0	0	20001D	549
0	0	5	1	0				D	550
0	441	1	1	0	0	0	0	20001D	551
0	0	5	1	0				D	552
0	442	1	1	0	0	0	0	20001D	553
0	0	5	1	0				D	554
0	443	1	1	0	0	0	0	20001D	555
0	0	5	1	0				D	556
0	444	1	1	0	0	0	0	20001D	557
0	0	5	1	0				D	558
0	445	1	1	0	0	0	0	20001D	559
0	0	5	1	0				D	560
0	446	1	0	0	0	0	0	201D	561
0	0	0	1	0				D	562
0	447	1	1	0	0	0	0	20001D	563
0	0	5	1	0				D	564
0	448	1	1	0	0	0	0	20001D	565

0	0	5	1	0				D	566
0	449	1	1	0	0	0	0	20001D	567
0	0	5	1	0				D	568
0	450	1	1	0	0	0	0	20001D	569
0	0	5	1	0				D	570
0	451	1	1	0	0	0	0	20001D	571
0	0	5	1	0				D	572
0	452	1	1	0	0	0	0	20001D	573
0	0	5	1	0				D	574
0	453	1	1	0	0	0	0	20001D	575
0	0	5	1	0				D	576
0	454	1	1	0	0	0	0	20001D	577
0	0	5	1	0				D	578
0	455	1	1	0	0	0	0	20001D	579
0	0	5	1	0				D	580
0	456	1	1	0	0	0	0	20001D	581
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0	459	1	1	0	0	0	0	20001D	587
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0	0	5	1	0				D	590
0	461	1	1	0	0	0	0	20001D	591
0	0	5	1	0				D	592
0	462	1	0	0	0	0	0	201D	593
0	0	0	2	0				D	594
0	464	1	1	0	0	0	0	20001D	595
0	0	5	1	0				D	596
0	465	1	1	0	0	0	0	20001D	597
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0	466	1	1	0	0	0	0	20001D	599
0	0	5	1	0				D	600
0	467	1	1	0	0	0	0	20001D	601
0	0	5	1	0				D	602
0	468	1	1	0	0	0	0	20001D	603
0	0	5	1	0				D	604
0	469	1	1	0	0	0	0	20001D	605
0	0	5	1	0				D	606
0	470	1	1	0	0	0	0	20001D	607
0	0	5	1	0				D	608
0	471	1	0	0	0	0	0	201D	609
0	0	0	1	0				D	610
0	472	1	1	0	0	0	0	20001D	611
0	0	5	1	0				D	612
0	473	1	1	0	0	0	0	20001D	613
0	0	5	1	0				D	614
0	474	1	1	0	0	0	0	20001D	615
0	0	5	1	0				D	616
0	475	1	1	0	0	0	0	20001D	617
0	0	5	1	0				D	618
0	476	1	1	0	0	0	0	20001D	619
0	0	5	1	0				D	620

0	477	1	1	0	0	0	0	20001D	621
0	0	5	1	0				D	622
0	478	1	1	0	0	0	0	20001D	623
0	0	5	1	0				D	624
0	479	1	1	0	0	0	0	20001D	625
0	0	5	1	0				D	626
0	480	1	1	0	0	0	0	20001D	627
0	0	5	1	0				D	628
0	481	1	1	0	0	0	0	20001D	629
0	0	5	1	0				D	630
0	482	1	1	0	0	0	0	20001D	631
0	0	5	1	0				D	632
0	483	1	1	0	0	0	0	20001D	633
0	0	5	1	0				D	634
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0	486	1	0	0	0	0	0	201D	639
0	0	0	1	0				D	640
0	487	1	0	0	0	0	0	10101D	641
0	0	0	1	0				D	642
214	488	0	1	0	0	0	0	101D	643
214	0	5	1	1				D	644
0	489	1	1	0	0	0	0	101D	645
0	0	5	1	0				D	646
212	490	0	0	0	0	0	0	101D	647
212	0	5	1	0				D	648
212	491	0	0	0	0	0	0	10101D	649
212	0	5	2	0				D	650
106	493	0	1	0	0	0	0	10101D	651
106	0	5	2	11				D	652
228	495	0	1	0	0	0	0	101D	653
228	0	5	1	3				D	654
212	496	0	0	0	0	0	0	101D	655
212	0	5	1	0				D	656
0	497	1	0	0	0	0	0	10101D	657
0	0	0	1	0				D	658
214	498	0	1	0	0	0	0	101D	659
214	0	5	1	2				D	660
0	499	1	1	0	0	0	0	101D	661
0	0	5	1	0				D	662
0	500	1	0	0	0	0	0	10101D	663
0	0	0	1	0				D	664
214	501	0	1	0	0	0	0	101D	665
214	0	5	1	3				D	666
0	502	1	1	0	0	0	0	101D	667
0	0	5	1	0				D	668
0	503	1	0	0	0	0	0	10101D	669
0	0	0	1	0				D	670
214	504	0	1	0	0	0	0	101D	671
214	0	5	1	4				D	672
0	505	1	1	0	0	0	0	101D	673
0	0	5	1	0				D	674
0	506	1	0	0	0	0	0	10101D	675

0	0	0	1	0				D	676
214	507	0	1	0	0	0	0	101D	677
214	0	5	1	5				D	678
0	508	1	1	0	0	0	0	101D	679
0	0	5	1	0				D	680
0	509	1	0	0	0	0	0	10101D	681
0	0	0	1	0				D	682
214	510	0	1	0	0	0	0	101D	683
214	0	5	1	6				D	684
0	511	1	1	0	0	0	0	101D	685
0	0	5	1	0				D	686
0	512	1	0	0	0	0	0	10101D	687
0	0	0	1	0				D	688
214	513	0	1	0	0	0	0	101D	689
214	0	5	1	9				D	690
0	514	1	1	0	0	0	0	101D	691
0	0	5	1	0				D	692
0	515	1	0	0	0	0	0	10101D	693
0	0	0	1	0				D	694
214	516	0	1	0	0	0	0	101D	695
214	0	5	1	8				D	696
0	517	1	1	0	0	0	0	101D	697
0	0	5	1	0				D	698
0	518	1	0	0	0	0	0	10101D	699
0	0	0	1	0				D	700
214	519	0	1	0	0	0	0	101D	701
214	0	5	1	10				D	702
0	520	1	1	0	0	0	0	101D	703
0	0	5	1	0				D	704
212	521	0	0	0	0	0	0	10100D	705
212	0	5	1	0				D	706
214	522	0	1	0	0	0	0	10101D	707
214	0	5	1	2				D	708
210	523	0	1	0	0	0	0	101D	709
210	0	5	1	0				D	710
212	524	0	0	0	0	0	0	10101D	711
212	0	5	1	0				D	712
106	525	0	1	0	0	0	0	10101D	713
106	0	5	2	11				D	714
228	527	0	1	0	0	0	0	101D	715
228	0	5	1	1				D	716
0	528	1	0	0	0	0	0	10101D	717
0	0	0	1	0				D	718
214	529	0	1	0	0	0	0	10101D	719
214	0	5	1	2				D	720
0	530	1	1	0	0	0	0	101D	721
0	0	5	1	0				D	722
212	531	0	0	0	0	0	0	10101D	723
212	0	5	1	0				D	724
212	532	0	0	0	0	0	0	101D	725
212	0	5	2	0				D	726
212	534	0	0	0	0	0	0	20101D	727
212	0	5	1	0				D	728
212	535	0	0	0	0	0	0	101D	729
212	0	5	2	0				D	730

212	537	0	0	0	0	0	0	101D	731
212	0	5	3	0				D	732
212	540	0	0	0	0	0	0	101D	733
212	0	5	3	0				D	734
212	543	0	0	0	0	0	0	101D	735
212	0	5	3	0				D	736
212	546	0	0	0	0	0	0	101D	737
212	0	5	3	0				D	738
212	549	0	0	0	0	0	0	101D	739
212	0	5	3	0				D	740
212	552	0	0	0	0	0	0	101D	741
212	0	5	3	0				D	742
212	555	0	0	0	0	0	0	101D	743
212	0	5	3	0				D	744
212	558	0	0	0	0	0	0	101D	745
212	0	5	3	0				D	746
212	561	0	0	0	0	0	0	101D	747
212	0	5	3	0				D	748
212	564	0	0	0	0	0	0	101D	749
212	0	5	3	0				D	750
212	567	0	0	0	0	0	0	101D	751
212	0	5	3	0				D	752
212	570	0	0	0	0	0	0	101D	753
212	0	5	3	0				D	754
212	573	0	0	0	0	0	0	101D	755
212	0	5	3	0				D	756
212	576	0	0	0	0	0	0	101D	757
212	0	5	3	0				D	758
212	579	0	0	0	0	0	0	101D	759
212	0	5	3	0				D	760
212	582	0	0	0	0	0	0	101D	761
212	0	5	3	0				D	762
212	585	0	0	0	0	0	0	101D	763
212	0	5	3	0				D	764
212	588	0	0	0	0	0	0	101D	765
212	0	5	3	0				D	766
212	591	0	0	0	0	0	0	101D	767
212	0	5	3	0				D	768
212	594	0	0	0	0	0	0	101D	769
212	0	5	3	0				D	770
212	597	0	0	0	0	0	0	101D	771
212	0	5	2	0				D	772
212	599	0	0	0	0	0	0	101D	773
212	0	5	3	0				D	774
212	602	0	0	0	0	0	0	101D	775
212	0	5	3	0				D	776
212	605	0	0	0	0	0	0	101D	777
212	0	5	2	0				D	778
212	607	0	0	0	0	0	0	101D	779
212	0	5	3	0				D	780
212	610	0	0	0	0	0	0	101D	781
212	0	5	3	0				D	782
212	613	0	0	0	0	0	0	101D	783
212	0	5	3	0				D	784
212	616	0	0	0	0	0	0	101D	785

212	0	5	3	0				D	786
212	619	0	0	0	0	0	0	101D	787
212	0	5	3	0				D	788
212	622	0	0	0	0	0	0	101D	789
212	0	5	3	0				D	790
212	625	0	0	0	0	0	0	101D	791
212	0	5	3	0				D	792
212	628	0	0	0	0	0	0	101D	793
212	0	5	3	0				D	794
212	631	0	0	0	0	0	0	101D	795
212	0	5	3	0				D	796
212	634	0	0	0	0	0	0	101D	797
212	0	5	2	0				D	798
212	636	0	0	0	0	0	0	101D	799
212	0	5	3	0				D	800
212	639	0	0	0	0	0	0	101D	801
212	0	5	2	0				D	802
212	641	0	0	0	0	0	0	101D	803
212	0	5	3	0				D	804
212	644	0	0	0	0	0	0	101D	805
212	0	5	2	0				D	806
212	646	0	0	0	0	0	0	101D	807
212	0	5	2	0				D	808
212	648	0	0	0	0	0	0	101D	809
212	0	5	3	0				D	810
212	651	0	0	0	0	0	0	101D	811
212	0	5	3	0				D	812
212	654	0	0	0	0	0	0	101D	813
212	0	5	2	0				D	814
212	656	0	0	0	0	0	0	101D	815
212	0	5	3	0				D	816
212	659	0	0	0	0	0	0	101D	817
212	0	5	2	0				D	818
212	661	0	0	0	0	0	0	101D	819
212	0	5	3	0				D	820
212	664	0	0	0	0	0	0	101D	821
212	0	5	3	0				D	822
212	667	0	0	0	0	0	0	101D	823
212	0	5	3	0				D	824
212	670	0	0	0	0	0	0	101D	825
212	0	5	3	0				D	826
212	673	0	0	0	0	0	0	101D	827
212	0	5	3	0				D	828
212	676	0	0	0	0	0	0	101D	829
212	0	5	3	0				D	830
212	679	0	0	0	0	0	0	101D	831
212	0	5	3	0				D	832
212	682	0	0	0	0	0	0	101D	833
212	0	5	3	0				D	834
212	685	0	0	0	0	0	0	101D	835
212	0	5	3	0				D	836
212	688	0	0	0	0	0	0	101D	837
212	0	5	3	0				D	838
212	691	0	0	0	0	0	0	101D	839
212	0	5	3	0				D	840

212	694	0	0	0	0	0	0	101D	841
212	0	5	3	0				D	842
212	697	0	0	0	0	0	0	101D	843
212	0	5	3	0				D	844
212	700	0	0	0	0	0	0	101D	845
212	0	5	3	0				D	846
212	703	0	0	0	0	0	0	101D	847
212	0	5	3	0				D	848
212	706	0	0	0	0	0	0	101D	849
212	0	5	3	0				D	850
212	709	0	0	0	0	0	0	101D	851
212	0	5	3	0				D	852
212	712	0	0	0	0	0	0	101D	853
212	0	5	3	0				D	854
212	715	0	0	0	0	0	0	101D	855
212	0	5	3	0				D	856
212	718	0	0	0	0	0	0	101D	857
212	0	5	3	0				D	858
212	721	0	0	0	0	0	0	101D	859
212	0	5	3	0				D	860
212	724	0	0	0	0	0	0	101D	861
212	0	5	3	0				D	862
212	727	0	0	0	0	0	0	101D	863
212	0	5	3	0				D	864
212	730	0	0	0	0	0	0	101D	865
212	0	5	3	0				D	866
212	733	0	0	0	0	0	0	101D	867
212	0	5	2	0				D	868
212	735	0	0	0	0	0	0	101D	869
212	0	5	3	0				D	870
212	738	0	0	0	0	0	0	101D	871
212	0	5	2	0				D	872
212	740	0	0	0	0	0	0	101D	873
212	0	5	2	0				D	874
212	742	0	0	0	0	0	0	101D	875
212	0	5	3	0				D	876
212	745	0	0	0	0	0	0	101D	877
212	0	5	3	0				D	878
212	748	0	0	0	0	0	0	101D	879
212	0	5	3	0				D	880
212	751	0	0	0	0	0	0	101D	881
212	0	5	3	0				D	882
212	754	0	0	0	0	0	0	101D	883
212	0	5	2	0				D	884
212	756	0	0	0	0	0	0	101D	885
212	0	5	5	0				D	886
212	761	0	0	0	0	0	0	101D	887
212	0	5	2	1				D	888
0	763	1	1	0	0	0	0	101D	889
0	0	5	1	0				D	890
0	764	1	1	0	0	0	0	101D	891
0	0	5	1	0				D	892
212	765	0	0	0	0	0	0	101D	893
212	0	5	2	3				D	894
212	767	0	0	0	0	0	0	101D	895

212	0	5	2	4				D	896
212	769	0	0	0	0	0	0	101D	897
212	0	5	3	5				D	898
212	772	0	0	0	0	0	0	101D	899
212	0	5	3	6				D	900
212	775	0	0	0	0	0	0	101D	901
212	0	5	3	7				D	902
212	778	0	0	0	0	0	0	101D	903
212	0	5	3	8				D	904
212	781	0	0	0	0	0	0	101D	905
212	0	5	5	100				D	906
212	786	0	0	0	0	0	0	101D	907
212	0	5	10	101				D	908
0	796	1	1	0	0	0	0	101D	909
0	0	5	6	0				D	910
0	802	1	1	0	0	0	0	101D	911
0	0	5	2	0				D	912
212	804	0	0	0	0	0	0	101D	913
212	0	5	15	105				D	914
0	819	0	0	0	0	0	0	101D	915
0	0	5	2	0				D	916
0	821	0	0	0	0	0	0	101D	917
0	0	5	1	0				D	918
110	822	0	1	0	0	0	0	10001D	919
110	0	5	1	0				D	920
100	823	0	1	0	0	0	0	20001D	921
100	0	5	1	0				D	922
0	824	1	0	0	0	0	0	10201D	923
0	0	0	1	0				D	924
120	825	0	1	0	0	0	0	1D	925
120	0	5	1	0				D	926
110	826	0	1	0	0	0	0	00001D	927
110	0	5	1	0				D	928
0	827	1	0	0	0	0	0	10201D	929
0	0	0	1	0				D	930
0	828	0	1	0	0	0	0	1D	931
0	0	5	1	0				D	932
100	829	0	1	0	0	0	0	20001D	933
100	0	5	1	0				D	934
0	830	1	0	0	0	0	0	10201D	935
0	0	0	1	0				D	936
122	831	0	1	0	0	0	0	1D	937
122	0	5	1	0				D	938
128	832	0	1	0	0	0	0	1D	939
128	0	5	15	0				D	940
100	847	0	1	0	0	0	0	20001D	941
100	0	5	1	0				D	942
110	848	0	1	0	0	0	0	20001D	943
110	0	5	1	0				D	944
0	849	1	0	0	0	0	0	10201D	945
0	0	0	1	0				D	946
118	850	0	1	0	0	0	0	1D	947
118	0	5	1	0				D	948
100	851	0	1	0	0	0	0	20001D	949
100	0	5	1	0				D	950

110	852	0	1	0	0	0	0	20001D	951
110	0	5	1	0				D	952
0	853	1	0	0	0	0	0	10201D	953
0	0	0	1	0				D	954
118	854	0	1	0	0	0	0	1D	955
118	0	5	1	1				D	956
110	855	0	1	0	0	0	0	00001D	957
110	0	5	1	0				D	958
0	856	1	0	0	0	0	0	10201D	959
0	0	0	1	0				D	960
0	857	0	1	0	0	0	0	1D	961
0	0	5	1	0				D	962
128	858	0	1	0	0	0	0	1D	963
128	0	5	45	3				D	964
128	903	0	1	0	0	0	0	1D	965
128	0	5	45	2				D	966
0	948	1	0	0	0	0	0	10201D	967
0	0	0	1	0				D	968
114	949	0	1	0	0	0	0	20001D	969
114	0	5	56	0				D	970
0	1005	1	0	0	0	0	0	10201D	971
0	0	0	1	0				D	972
114	1006	0	1	0	0	0	0	20001D	973
114	0	5	57	0				D	974
0	1063	1	0	0	0	0	0	10201D	975
0	0	0	1	0				D	976
114	1064	0	1	0	0	0	0	1D	977
114	0	5	50	0				D	978
100	1114	0	1	0	0	0	0	20001D	979
100	0	5	1	0				D	980
110	1115	0	1	0	0	0	0	20001D	981
110	0	5	1	0				D	982
0	1116	0	0	0	0	0	0	10201D	983
0	0	0	1	0				D	984
118	1117	0	1	0	0	0	0	20001D	985
118	0	5	1	0				D	986
100	1118	0	1	0	0	0	0	20001D	987
100	0	5	1	0				D	988
110	1119	0	1	0	0	0	0	20001D	989
110	0	5	1	0				D	990
0	1120	0	0	0	0	0	0	10201D	991
0	0	0	1	0				D	992
118	1121	0	1	0	0	0	0	1D	993
118	0	5	1	0				D	994
406	1122	0	0	0	0	0	0	10001D	995
406	0	0	1	15				D	996
406	1123	0	0	0	0	0	0	10001D	997
406	0	0	1	17				D	998
406	1124	0	0	0	0	0	0	10001D	999
406	0	0	1	16				D	1000
404	1125	0	0	0	0	0	0	201D	1001
404	0	0	1	0				D	1002
106	1126	0	0	0	0	0	0	101D	1003
106	0	5	6	34				D	1004
106	1132	0	0	0	0	0	0	101D	1005

106	0	5	6	35				D	1006
106	1138	0	0	0	0	0	0	101D	1007
106	0	5	5	31				D	1008
106	1143	0	0	0	0	0	0	101D	1009
106	0	5	13	37				D	1010
106	1156	0	0	0	0	0	0	101D	1011
106	0	5	5	32				D	1012
106	1161	0	0	0	0	0	0	101D	1013
106	0	5	7	33				D	1014
106	1168	0	0	0	0	0	0	101D	1015
106	0	5	9	36				D	1016
106	1177	0	0	0	0	0	0	101D	1017
106	0	5	11	38				D	1018
102	1188	0	0	0	0	0	0	1D	1019
102	0	0	1	0				D	1020
228	1189	0	1	0	0	0	0	101D	1021
228	0	5	1	0				D	1022
130	1190	0	1	0	0	0	0	1D	1023
130	0	5	1	0				D	1024
140	1191	0	1	0	0	0	0	1D	1025
140	0	5	1	0				D	1026
100	1192	0	1	0	0	0	0	1020501D	1027
100	0	5	1	0				D	1028
142	1193	0	1	0	0	0	0	1D	1029
142	0	5	1	0				D	1030
0	1194	0	3	0	0	0	0	20501D	1031
0	0	5	1	0				D	1032
142	1195	0	1	0	0	0	0	20001D	1033
142	0	5	1	0				D	1034
144	1196	0	1	0	0	0	0	1D	1035
144	0	5	1	0				D	1036
0	1197	0	1	0	0	0	0	1D	1037
0	0	5	1	0				D	1038
212	1198	0	0	0	0	0	0	101D	1039
212	0	5	3	2				D	1040
212	1201	0	0	0	0	0	0	101D	1041
212	0	5	8	102				D	1042
112	1209	0	1	0	0	0	0	20001D	1043
112	0	5	17	0				D	1044
124	1226	0	0	0	0	0	0	00001D	1045
124	0	0	1	0				D	1046
110	1227	0	1	0	1063	0	0	1D	1047
110	0	5	1	0				D	1048
110	1228	0	1	0	1063	0	0	1D	1049
110	0	5	1	0				D	1050
406	1229	0	0	0	0	0	0	10001D	1051
406	0	0	1	15				D	1052
124	1230	0	0	0	0	0	0	00001D	1053
124	0	0	1	0				D	1054
108	1231	0	3	0	0	0	0	10001D	1055
108	0	0	1	0				D	1056
108	1232	0	3	0	0	0	0	10001D	1057
108	0	0	1	0				D	1058
108	1233	0	3	0	0	0	0	10001D	1059
108	0	0	1	0					1060

```
     108    1234       0       3       0       0       0       0   10001D    1061
     108       0       0       1       0                               D    1062
     410    1235       0       0       0       0    1053       0   20201D    1063
     410       0       0       1       0                               D    1064
     212    1236       0       0       0       0       0       0    101D    1065
     212       0       5       1       0                               D    1066
     128    1237       0       1       0       0       0       0     1D    1067
     128       0       5      19       5                               D    1068
     128    1256       0       1       0       0       0       0     1D    1069
     128       0       5      19       4                               D    1070
     128    1275       0       1       0       0       0       0     1D    1071
     128       0       5       8       9                               D    1072
     100    1283       0       1       0       0       0   001020001D    1073
     100       0       5       1       0                               D    1074
     112    1284       0       1       0       0       0       0  20001D    1075
     112       0       5      17       0                               D    1076
     110    1301       0       1       0       0       0       0  10001D    1077
     110       0       5       1       0                               D    1078
     110    1302       0       1       0       0       0       0  10001D    1079
     110       0       5       1       0                               D    1080
     110    1303       0       1       0       0       0       0  10001D    1081
     110       0       5       1       0                               D    1082
     110    1304       0       1       0       0       0       0  10001D    1083
     110       0       5       1       0                               D    1084
     308    1305       0       0       0       0       0       0    201D    1085
     308       0       0       1       0                               D    1086
     124    1306       0       0       0       0       0       0     1D    1087
     124       0       0       2       0                               D    1088
     408    1308       0       0       0       0    1087       0     1D    1089
     408       0       0       1       0                               D    1090
     124    1309       0       0       0       0       0       0     1D    1091
     124       0       0       2       1                               D    1092
     408    1311       0       0       0       0    1091       0     1D    1093
     408       0       0       1       0                               D    1094
0,1.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0;                    1P       1
0,1.0,0.0,0.0,0.0,0.0,0.0,-1.0,0.0,0.0,1.0,0.0,0.0,0.0;                   3P       2
0,0.0,0.0,1.0,0.0,0.0,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0;                5P       3
0,1.0,0.0,0.0,0.0,0.0,0.0,-1.0,0.0,0.0,0.0,0.0,0.0,-1.0,0.0;              7P       4
0,0.0,0.0,-1.0,0.0,0.0,-1.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0;          9P       5
0,-1.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0;          11P       6
0,1.0,0.0,0.0,0.0,0.0,0.0,0.939693,0.34202,0.0,0.0,-0.34202,             13P       7
0.939693,0.0;                                                             13P       8
0,-1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0,0.0,0.0,-1.0,0.0;             15P       9
0,0.707107,-0.408248,0.57735,0.0,0.707107,0.408248,-0.57735,             17P      10
0.0,0.0,0.816497,0.57735,0.0;                                             17P      11
0,-0.707107,-0.408248,0.57735,0.0,0.707107,-0.408248,0.57735,            19P      12
0.0,-2.52368E-08,0.816497,0.57735,0.0;                                    19P      13
0,-0.868833,0.0,0.495105,0.0,0.495105,0.0,0.868833,0.0,0.0,              21P      14
1.0,0.0,0.0;                                                              21P      15
406,1,1HA;                                                                23P      16
124,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0;         25P      17
108,1.0,0.0,0.0,0.0,0.0;                                                  27P      18
108,0.0,1.0,0.0,0.0,17.0;                                                 29P      19
108,1.0,0.0,0.0,0.0,22.0;                                                 31P      20
108,0.0,1.0,0.0,0.0,0.0;                                                  33P      21
```

Entity and Form Number	Entity Description on N-entity Drawing
406 F 15	top view name
124 F 0	top view matrix
108 F 0	top view plane
108 F 0	top view plane
108 F 0	top view plane
108 F 0	top view plane

410,2,1.0,27,29,31,33,0,0,0,1,23;	35P	22	410	top view
110,1.0,16.0,0.0,1.0,9.99928E-03,0.0;	37P	23	110	vertical grid line
110,3.0,16.0,0.0,3.0,9.99928E-03,0.0;	39P	24	110	vertical grid line
110,5.0,16.0,0.0,5.0,9.99928E-03,0.0;	41P	25	110	vertical grid line
110,7.0,16.0,0.0,7.0,9.99928E-03,0.0;	43P	26	110	vertical grid line
110,9.0,16.0,0.0,9.0,9.99928E-03,0.0;	45P	27	110	vertical grid line
110,11.0,16.0,0.0,11.0,9.99928E-03,0.0;	47P	28	110	vertical grid line
110,13.0,16.0,0.0,13.0,9.99928E-03,0.0;	49P	29	110	vertical grid line
110,15.0,16.0,0.0,15.0,9.99928E-03,0.0;	51P	30	110	vertical grid line
110,17.0,16.0,0.0,17.0,9.99928E-03,0.0;	53P	31	110	vertical grid line
110,19.0,16.0,0.0,19.0,9.99928E-03,0.0;	55P	32	110	vertical grid line
110,21.0,16.0,0.0,21.0,9.99928E-03,0.0;	57P	33	110	vertical grid line
110,21.0,16.0,0.0,1.0,16.0,0.0;	59P	34	110	horizontal grid line
110,1.0,14.0,0.0,21.0,14.0,0.0;	61P	35	110	horizontal grid line
110,1.0,12.0,0.0,21.0,12.0,0.0;	63P	36	110	horizontal grid line
110,1.0,10.0,0.0,21.0,10.0,0.0;	65P	37	110	horizontal grid line
110,1.0,8.0,0.0,21.0,8.0,0.0;	67P	38	110	horizontal grid line
110,1.0,6.0,0.0,21.0,6.0,0.0;	69P	39	110	horizontal grid line
110,1.0,4.0,0.0,21.0,4.0,0.0;	71P	40	110	horizontal grid line
110,1.0,2.0,0.0,21.0,2.0,0.0;	73P	41	110	horizontal grid line
100,0.0,2.0,15.0,2.0,14.5,1.5,15.0;	75P	42	100	circular arc
116,3.5,15.0,0.0;	77P	43	116	point for 102
110,3.5,15.0,0.0,3.5,15.5,0.0;	79P	44	110	line for 102
100,0.0,0.0,0.0,0.0,0.5,-0.5,0.0;	81P	45	100	circular arc for 102
124,1.0,0.0,0.0,8.0,0.0,1.0,0.0,15.0,0.0,0.0,1.0,0.0;	83P	46	124 F 0	matrix for 104 Form 1
104,0.0625,0.0,0.25,0.0,0.0,-0.015625,0.0,0.5,0.0,0.5,	85P	47	104 F 1	conic - ellipse
-1.94707E-07;	85P	48		
116,18.0,15.25,0.0;	87P	49	116	top point for 106 Form 20
116,18.0,14.75,0.0;	89P	50	116	bottom point for 106 Form 20
100,0.0,20.0,15.0,20.5,15.0,20.5,15.0;	91P	51	110	circular arc for 106 Form 21
0,16.0,9.5,0.0,16.0,8.5,0.0;	93P	52		
110,3.5,13.5,0.0,3.5,12.5,0.0;	95P	53	110	line for 106 Form 32 box
110,3.5,12.5,0.0,4.5,12.5,0.0;	97P	54	110	line for 106 Form 32 box
110,4.5,12.5,0.0,4.5,13.5,0.0;	99P	55	110	line for 106 Form 32 box
110,4.5,13.5,0.0,3.5,13.5,0.0;	101P	56	110	line for 106 Form 32 box
110,3.75,13.25,0.0,3.75,12.75,0.0;	103P	57	110	line for 106 Form 32 box
110,3.75,12.75,0.0,4.25,12.75,0.0;	105P	58	110	line for 106 Form 32 box
110,4.25,12.75,0.0,4.25,13.25,0.0;	107P	59	110	line for 106 Form 32 box
110,4.25,13.25,0.0,3.75,13.25,0.0;	109P	60	110	line for 106 Form 32 box
110,5.5,13.5,0.0,5.5,12.5,0.0;	111P	61	110	line for 106 Form 33 box
110,5.5,12.5,0.0,6.5,12.5,0.0;	113P	62	110	line for 106 Form 33 box
110,6.5,12.5,0.0,6.5,13.5,0.0;	115P	63	110	line for 106 Form 33 box
110,6.5,13.5,0.0,5.5,13.5,0.0;	117P	64	110	line for 106 Form 33 box
110,7.5,12.5,0.0,8.5,12.5,0.0;	119P	65	110	line for 106 Form 34 box
110,8.5,12.5,0.0,8.5,13.5,0.0;	121P	66	110	line for 106 Form 34 box
110,9.5,13.5,0.0,10.5,13.5,0.0;	123P	67	110	line for 106 Form 35 box
110,10.5,13.5,0.0,10.5,12.5,0.0;	125P	68	110	line for 106 Form 35 box
110,10.5,12.5,0.0,9.5,12.5,0.0;	127P	69	110	line for 106 Form 35 box
110,9.5,12.5,0.0,9.5,13.5,0.0;	129P	70	110	line for 106 Form 35 box
110,12.5,13.0,0.0,12.5,13.5,0.0;	131P	71	110	line for 106 Form 36 box
110,12.5,13.5,0.0,11.5,13.5,0.0;	133P	72	110	line for 106 Form 36 box
110,11.5,13.5,0.0,11.5,12.5,0.0;	135P	73	110	line for 106 Form 36 box
110,11.5,12.5,0.0,12.0,12.5,0.0;	137P	74	110	line for 106 Form 36 box
110,13.5,13.5,0.0,14.5,13.5,0.0;	139P	75	110	line for 106 Form 37 box
110,14.5,13.5,0.0,14.5,12.5,0.0;	141P	76	110	line for 106 Form 37 box

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110,14.5,12.5,0.0,13.5,12.5,0.0;
110,13.5,12.5,0.0,13.5,13.5,0.0;
110,16.0,13.5,0.0,16.5,13.5,0.0;
110,16.5,13.5,0.0,16.5,12.5,0.0;
110,16.5,12.5,0.0,15.5,12.5,0.0;
110,15.5,12.5,0.0,15.5,13.0,0.0;
100,0.0,8.5,12.5,8.5,13.5,7.5,12.5;
100,0.0,12.5,12.5,12.5,13.0,12.0,12.5;
106,1,12.0.,20.6,15.,20.1,15.,20.05,15.,19.95,15.,19.9,15.,19.4,
15.,20.,15.6,20.,15.1,20.,15.06,20.,14.94,20.,14.9,20.,14.4;
106,1,6,0.0,18.0,15.3681,18.0,15.125,18.0,15.0625,18.0,14.9375,
18.0,14.875,18.0,14.6319;
0,1,6,0.0,20.0,15.6181,20.0,15.125,20.0,15.0625,20.0,14.9375,
20.0,14.875,20.0,14.3819;
116,17.5,13.5,0.0;
116,17.5,12.5,0.0;
106,1,5,0.0,3.5,10.5,3.5,11.5,4.5,11.5,4.5,10.5,3.5,10.5;
108,0.0,0.0,1.0,0.0,169,0.0,0.0,0.0,0.0;
110,6.0,11.5,0.0,6.0,10.5,0.0;
116,12.0,11.0,0.0;
110,17.5,1.5,0.0,18.5,1.5,0.0;
110,18.5,1.5,0.0,18.5,0.5,0.0;
110,18.5,0.5,0.0,17.5,0.5,0.0;
110,17.5,0.5,0.0,17.5,1.5,0.0;
100,0.0,7.25,0.5,7.75,0.5,7.25,1.0;
116,4.25,0.5,0.0;
116,3.5,0.5,0.0;
116,1.5,0.5,0.0;
116,2.5,0.5,0.0;
110,7.5,7.0,0.0,7.25,6.75,0.0;
214,1,0.1,0.1,0.0,11.5,3.0,12.5,3.0;
214,1,0.15,0.05,0.0,19.5,3.0,20.5,3.0;
116,11.5,6.75,0.0;
100,0.0,9.5,7.0,9.75,7.0,9.75,7.0;
110,7.25,6.75,0.0,7.5,6.75,0.0;
100,0.0,14.25,1.25,14.625,1.25,14.625,1.25;
110,13.875,1.25,0.0,14.625,1.25,0.0;
0;
0;
0;
0;
0;
110,9.5,1.0,0.0,10.5,1.0,0.0;
0;
0;
0;
0;
0;
0;
0;
0,8.34853,12.5,0.0,8.5,12.6515,0.0;
116,6.0,0.5,0.0;
110,1.0,0.01,0.0,21.0,0.01,0.0;
110,19.75,10.75,0.0,20.0,11.0,-1.0;
0,0.0,20.0,11.0,20.25,11.0,19.75,11.0;
```

143P	77	110	line for 106 Form 37 box
145P	78	110	line for 106 Form 37 box
147P	79	110	line for 106 Form 38 box
149P	80	110	line for 106 Form 38 box
151P	81	110	line for 106 Form 38 box
153P	82	110	line for 106 Form 38 box
155P	83	100	circular arc for 106 Form 34 box
157P	84	100	circular arc for 106 Form 36 box
159P	85	106 F 21	centerline thru centers
159P	86		
161P	87	106 F 20	centerline thru points
161P	88		
163P	89		
163P	90		
165P	91	116	top point for 106 Form 40
167P	92	116	bottom point for 106 Form 40
169P	93	106 F 63	simple closed area for 108 Form 1
171P	94	108 F 1	bounded plane
173P	95	110	line
175P	96	116	point
177P	97	110	line for 230
179P	98	110	line for 230
181P	99	110	line for 230
183P	100	110	line for 230
185P	101	100	circular arc for 222
187P	102	116	right point for 218
189P	103	116	left point for 218
191P	104	116	left point for 216
193P	105	116	right point for 216
195P	106	110	top line for 202
197P	107	214 F 7	leader - rectangle
199P	108	214 F 11	leader - open triangle
201P	109	116	point for 210
203P	110	100	circular arc for 206
205P	111	110	bottom line for 202
207P	112	100	circular arc for 228 Form 2
209P	113	110	line for 228 Form 2
211P	114		
213P	115		
215P	116		
217P	117		
219P	118		
221P	119	110	line for 228 Form 0
223P	120		
225P	121		
227P	122		
229P	123		
231P	124		
233P	125		
235P	126		
237P	127		
239P	128	116	point for 220
241P	129	110	horizontal grid line
243P	130	110	line for 122
245P	131		

0,13.5,11.5,0.0,13.5,10.5,0.0;	247P	132		
0,0.0,14.875,11.0,14.5,11.5,14.5,10.5;	249P	133		
0,15.5,11.5,0.0,15.5,10.5,0.0;	251P	134		
0,0.0,16.875,11.0,16.5,11.5,16.5,10.5;	253P	135		
124,1.0,0.0,0.0,6.0,0.0,1.0,0.0,15.0,0.0,0.0,1.0,0.0;	255P	136	124 F 0	matrix for 104 Form 0
104,0.25,0.0,0.0625,0.0,0.0,-0.015625,0.0,0.25,0.0,0.25,	257P	137	104 F 0	conic - general
8.74228E-08;	257P	138		
124,-4.37114E-08,-1.0,0.0,12.0,1.0,-4.37114E-08,0.0,15.0,0.0,	259P	139	124 F 0	matrix for 104 Form 3
0.0,1.0,0.0;	259P	140		
104,0.0,0.0,1.0,-1.0,0.0,0.0,0.0,0.25,-0.5,0.25,0.5;	261P	141	104 F 3	conic - parabola
124,-1.0,8.74228E-08,0.0,10.25,-8.74228E-08,-1.0,0.0,15.0,0.0,	263P	142	124 F 0	matrix for 104 Form 2
0.0,1.0,0.0;	263P	143		
104,-0.015625,0.0,0.0625,0.0,0.0,9.76563E-04,0.0,0.5,-0.216506,	265P	144	104 F 2	conic - hyperbola
0.5,0.216506;	265P	145		
0,0.0,18.6563,11.125,18.5,11.5,18.5,10.75;	267P	146		
100,0.0,20.0,8.75,20.5,8.75,19.5,8.75;	269P	147	100	circular arc to be offset by 130
100,0.0,20.0,8.75,20.5,8.75,19.5,8.75;	271P	148	100	circular arc for 130
0,14.0,9.75,0.0,14.0,8.5,0.0;	273P	149		
0,18.0,11.75,0.0,18.0,10.5,0.0;	275P	150		
0,17.597,13.5,0.0,17.75,13.5,0.0;	277P	151		
0,1.5,7.43969,-0.34202,1.5,6.5,0.0;	279P	152		
0,2.22313,2.875,6.608,2.5,7.108,2.5,6.108;	281P	153		
0,1.5,7.78171,0.597673,1.5,6.84202,0.939693;	283P	154		
0,3.22313,2.875,6.608,2.5,7.108,2.5,6.108;	285P	155		
106,2,4,15.5,14.5,0.0,15.75,15.0,1.0,16.0,14.75,2.0,16.5,15.5,	287P	156	106 F 12	coordinate triples
3.0;	287P	157		
106,1,5,0.0,1.5,13.5,2.5,13.5,2.5,12.5,1.5,12.5,1.5,13.5;	289P	158	106 F 63	simple closed area for 106 Form 31
106,1,5,0.0,19.5,13.5,20.5,13.5,20.5,12.75,19.5,12.75,19.5,13.5;	291P	159	106 F 63	simple closed area
0,2,5,11.625,2.9375,0.0,11.625,3.0625,0.0,11.5,3.0625,0.0,	293P	160		
11.5,2.9375,0.0,11.625,2.9375,0.0;	293P	161		
228,723,2,207,209,1,719;	295P	162	228 F 2	symbol - datum target
0,13.625,3.0625,0.0,13.5,3.0625,0.0;	297P	163		
0,13.5,3.0625,0.0,13.5,2.9375,0.0;	299P	164		
0,13.5,2.9375,0.0,13.625,2.9375,0.0;	301P	165		
0,4,295,297,299,301;	303P	166		
0,2,11,17.4375,2.9375,0.0,17.4566,2.94096,0.0,17.4738,2.94996,	305P	167		
0.0,17.4875,2.96369,0.0,17.4965,2.98089,0.0,17.5,3.0,0.0,	305P	168		
17.5035,3.01911,0.0,17.5125,3.03631,0.0,17.5262,3.05004,0.0,	305P	169		
17.5434,3.05904,0.0,17.5625,3.0625,0.0;	305P	170		
0,2,4,19.5,3.0,0.0,19.656,2.974,0.0,19.656,3.026,0.0,19.5,3.0,	307P	171		
0.0;	307P	172		
106,1,5,0.0,10.0,1.5,9.5,1.0,10.0,0.5,10.5,1.0,10.0,1.5;	309P	173	106 F 63	simple closed area for 228 Form 0
106,1,26,0.0,14.5,14.75,14.4961,14.8127,14.4843,14.8743,	311P	174	106 F 11	linear planar curve
14.4649,14.9341,14.4382,14.9909,14.4045,15.0439,	311P	175		
14.3645,15.0923,14.3187,15.1353,14.2679,15.1722,	311P	176		
14.2129,15.2024,14.1545,15.2255,14.0937,15.2411,	311P	177		
14.0314,15.249,13.9686,15.249,13.9063,15.2411,	311P	178		
13.8455,15.2255,13.7871,15.2024,13.7321,15.1722,	311P	179		
13.6813,15.1353,13.6355,15.0923,13.5955,15.0439,	311P	180		
13.5618,14.9909,13.5351,14.9341,13.5157,14.8743,	311P	181		
13.5039,14.8127,13.5,14.75;	311P	182		
112,3,1,3,2,0.0,1.0,2.0,15.5,0.175003,-4.29153E-06,0.025002,	313P	183	112	parametric spline for 106 Form 38
13.0,0.0250025,-4.29153E-06,0.075002,0.0,0.0,0.0,0.0,0.0,15.7,0.25,	313P	184		
0.0750017,-0.025003,13.1,0.25,0.225002,-0.0750015,0.0,0.0,0.0,	313P	185		
0.0,16.0,0.324995,-1.43051E-05,-0.150018,13.5,0.474998,	313P	186		

-5.72205E-06,-0.450009,0.0,0.0,0.0,0.0;	313P	187		
112,3,1,3,2,0.0,1.0,2.0,4.0,0.5625,0.0,-0.0625,15.0,-0.312501,	315P	188	112	parametric spline for 102
1.43051E-06,0.0624995,0.0,0.0,0.0,0.0,4.5,0.375,-0.1875,0.0625,	315P	189		
14.75,-0.125,0.1875,-0.0625005,0.0,0.0,0.0,0.0,4.75,0.1875,0.0,	315P	190		
0.375,14.75,0.062499,-2.86102E-06,-0.375003,0.0,0.0,0.0,0.0;	315P	191		
112,3,1,3,8,0.0,1.0,2.0,3.0,4.0,5.0,6.0,7.0,8.0,7.5,0.870857,	317P	192	112	parametric spline
7.15256E-07,-0.120858,11.5,-0.249078,-2.86102E-06,-9.19183E-04,	317P	193		
0.0,0.0,0.0,0.0,8.25,0.508285,-0.362573,0.104289,11.25,	317P	194		
-0.251841,-2.76041E-03,4.60148E-03,0.0,0.0,0.0,0.0,8.5,	317P	195		
0.0960054,-0.0497065,-0.0462993,11.0,-0.243557,0.011044,	317P	196		
-0.0174875,0.0,0.0,0.0,0.0,8.5,-0.142305,-0.188604,0.0809096,	317P	197		
10.75,-0.273932,-0.0414186,0.065352,0.0,0.0,0.0,0.0,8.25,	317P	198		
-0.276785,0.0541244,-0.0273385,10.5,-0.160713,0.154637,	317P	199		
6.07554E-03,0.0,0.0,0.0,0.0,8.0,-0.250552,-0.0278912,0.0284429,	317P	200		
10.5,0.166788,0.172864,-0.089653,0.0,0.0,0.0,0.0,7.75,-0.221006,	317P	201		
0.0574377,0.163568,10.75,0.243557,-0.0960951,0.102539,0.0,0.0,	317P	202		
0.0,0.0,7.75,0.384573,0.548141,-0.182714,11.0,0.358984,0.211522,	317P	203		
-0.070507,0.0,0.0,0.0,0.0,8.5,0.932714,-1.40071E-06,-1.09628,	317P	204		
11.5,0.570508,2.87592E-06,-0.423042,0.0,0.0,0.0,0.0;	317P	205		
126,10,7,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,	319P	206	126 F 0	bottom rational b-spline for 128 Form 3
4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	319P	207		
1.0,1.0,1.0,12.0,8.5,-0.433012,11.8837,8.5,-0.433012,11.648,	319P	208		
8.53158,-0.378307,11.3681,8.66514,-0.146989,11.3783,8.95908,	319P	209		
0.362137,12.0,9.20586,0.789574,12.6217,8.95908,0.362144,12.6319,	319P	210		
8.66513,-0.146992,12.352,8.53158,-0.378309,12.1163,8.5,	319P	211		
-0.433012,12.0,8.5,-0.433012,0.0,4.0;	319P	212		
0,10,7,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,	321P	213		
4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	321P	214		
1.0,1.0,1.0,16.5,9.25,0.0,16.4418,9.25,0.0,16.324,9.21842,0.0,	321P	215		
16.184,9.08486,0.0,16.1892,8.79092,0.0,16.5,8.54414,0.0,16.8108,	321P	216		
8.79091,0.0,16.816,9.08487,0.0,16.676,9.21842,0.0,16.5582,9.25,	321P	217		
0.0,16.5,9.25,0.0,0.0,4.0;	321P	218		
0,10,7,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,	323P	219		
4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	323P	220		
1.0,1.0,1.0,14.0,9.5,0.0,13.8837,9.5,0.0,13.648,9.43683,0.0,	323P	221		
13.3681,9.16973,0.0,13.3783,8.58184,0.0,14.0,8.08828,0.0,	323P	222		
14.6217,8.58184,0.0,14.6319,9.16973,0.0,14.352,9.43683,0.0,	323P	223		
14.1163,9.5,0.0,14.0,9.5,0.0,0.0,4.0;	323P	224		
126,7,5,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,3.0,3.0,3.0,	325P	225	126 F 0	rational b-spline
3.0,3.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,5.5,9.0,0.0,5.50606,	325P	226		
9.12841,0.0,5.56363,9.30454,0.0,5.78636,9.32671,0.0,6.21364,	325P	227		
8.9858,0.0,6.43636,8.89545,0.0,6.49394,8.94659,0.0,6.5,9.0,0.0,	325P	228		
0.0,3.0;	325P	229		
0,3,1,3,9,0.0,1.0,2.0,3.0,4.0,5.0,6.0,7.0,8.0,9.0,6.5,	327P	230		
-0.049942,-7.15256E-07,-2.09272E-03,7.125,-0.0298276,	327P	231		
-2.14577E-06,2.61668E-03,0.499997,5.72205E-06,4.47035E-08,	327P	232		
-1.43299E-06,6.44797,-0.0562216,-6.27887E-03,-2.88339E-03,	327P	233		
7.09779,-0.0219818,7.84791E-03,2.93299E-03,0.500001,1.51247E-06,	327P	234		
-4.25428E-06,1.9744E-06,6.38258,-0.0774295,-0.0149291,	327P	235		
2.79427E-04,7.08658,2.51293E-03,0.0166469,1.67457E-03,0.5,	327P	236		
-1.07288E-06,1.66893E-06,-6.75519E-07,6.2905,-0.106449,	327P	237		
-0.0140908,-9.71365E-03,7.10742,0.0408304,0.0216706,3.77202E-03,	327P	238		
0.5,2.38419E-07,-3.57628E-07,1.19209E-07,6.16025,-0.163772,	327P	239		
-0.0432317,0.0174736,7.17369,0.0954876,0.0329866,-0.0167644,0.5,	327P	240		
-1.19209E-07,0.0,4.96705E-08,5.97072,-0.197814,9.18913E-03,	327P	241		

6.05456E-03,7.2854,0.111168,-0.0173066,-0.0118829,0.5,	327P	242		
2.98023E-08,1.49012E-07,-6.95388E-08,5.78815,-0.161273,	327P	243		
0.0273528,-5.58297E-04,7.36738,0.040906,-0.0529552,3.09523E-03,	327P	244		
0.5,1.19209E-07,-5.96046E-08,-1.49012E-08,5.65367,-0.108242,	327P	245		
0.0256779,-5.22304E-03,7.35842,-0.0557187,-0.0436695,	327P	246		
6.35568E-03,0.5,-4.47035E-08,-1.04308E-07,8.19564E-08,5.56588,	327P	247		
-0.0725551,0.0100088,-3.33579E-03,7.26539,-0.123991,-0.0246024,	327P	248		
8.20128E-03,0.5,-7.45058E-09,1.41561E-07,-3.22859E-08,5.5,	327P	249		
-0.0625448,2.86149E-06,-0.0200148,7.125,-0.148592,2.86289E-06,	327P	250		
0.0492077,0.5,1.78814E-07,8.9407E-08,-1.93715E-07;	327P	251		
126,7,5,0,0,1,0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,3.0,3.0,3.0,	329P	252	126 F 0	top rational b-spline for 128 Form 0
3.0,3.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,7.5,9.5,1.0,7.50606,	329P	253		
9.62841,1.0,7.56363,9.80454,1.0,7.78636,9.82671,1.0,8.21364,	329P	254		
9.4858,1.0,8.43636,9.39545,1.0,8.49394,9.44659,1.0,8.5,9.5,1.0,	329P	255		
0.0,3.0;	329P	256		
126,7,5,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,3.0,3.0,3.0,	331P	257	126 F 0	bottom rational b-spline for 128 Form 0
3.0,3.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,7.5,8.75,0.0,7.50606,	331P	258		
8.87841,0.0,7.56363,9.05454,0.0,7.78636,9.07671,0.0,8.21364,	331P	259		
8.7358,0.0,8.43636,8.64545,0.0,8.49394,8.69659,0.0,8.5,8.75,0.0,	331P	260		
0.0,3.0;	331P	261		
126,10,7,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,	333P	262	126 F 0	top rational b-spline for 128 Form 3
4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	333P	263		
1.0,1.0,1.0,12.0,9.49103,-0.716507,11.9418,9.49103,-0.716507,	333P	264		
11.824,9.50682,-0.689154,11.684,9.57359,-0.573494,11.6892,	333P	265		
9.72056,-0.318937,12.0,9.84396,-0.105211,12.3108,9.72057,	333P	266		
-0.318927,12.3159,9.57359,-0.573499,12.176,9.50682,-0.689155,	333P	267		
12.0582,9.49103,-0.716507,12.0,9.49103,-0.716507,0.0,4.0;	333P	268		
126,10,7,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,	335P	269	126 F 0	top rational b-spline for 128 Form 2
4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	335P	270		
1.0,1.0,1.0,10.0,9.36603,-0.933013,9.88366,9.36603,-0.933013,	335P	271		
9.64802,9.39761,-0.878308,9.3681,9.53116,-0.64699,9.37832,	335P	272		
9.82511,-0.137863,10.0,10.0719,0.289574,10.6217,9.82511,	335P	273		
-0.137856,10.6319,9.53116,-0.646992,10.352,9.39761,-0.87831,	335P	274		
10.1163,9.36603,-0.933013,10.0,9.36603,-0.933013,0.0,4.0;	335P	275		
126,10,7,0,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,	337P	276	126 F 0	bottom rational b-spline for 128 Form 2
4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	337P	277		
1.0,1.0,1.0,10.0,8.5,-0.433013,9.88366,8.5,-0.433013,9.64802,	337P	278		
8.53159,-0.378308,9.3681,8.66514,-0.14699,9.37832,8.95908,	337P	279		
0.362137,10.0,9.20586,0.789574,10.6217,8.95909,0.362144,10.6319,	337P	280		
8.66513,-0.146992,10.352,8.53158,-0.37831,10.1163,8.5,-0.433013,	337P	281		
10.0,8.5,-0.433013,0.0,4.0;	337P	282		
112,2,1,3,2,0.0,1.0,2.0,17.5,0.0,0.5,0.0,9.0,2.0,-1.5,0.0,1.0,	339P	283	112	top parametric spline for 128 Form 9
0.0,0.0,0.0,18.0,1.0,-0.5,0.0,9.5,-1.0,0.5,0.0,1.0,0.0,0.0,0.0,	339P	284		
18.5,0.0,-1.0,0.0,9.0,0.0,1.0,0.0,1.0,0.0,0.0,0.0;	339P	285		
112,2,1,3,2,0.0,1.0,2.0,17.5,0.0,0.5,0.0,8.5,2.0,-1.5,0.0,0.0,	341P	286	112	bottom parametric spline for 128 Form 9
0.0,0.0,0.0,18.0,1.0,-0.5,0.0,9.0,-1.0,0.5,0.0,0.0,0.0,0.0,0.0,	341P	287		
18.5,0.0,-1.0,0.0,8.5,0.0,1.0,0.0,0.0,0.0,0.0,0.0,0.0;	341P	288		
112,3,1,3,3,0.0,1.0,2.0,3.0,5.5,0.166669,-1.43051E-06,0.0833333,	343P	289	112	top parametric spline for 144
7.5,0.400002,-4.29153E-06,-0.149998,1.0,0.0,0.0,0.0,5.75,	343P	290		
0.416666,0.249998,-0.166665,7.75,-0.0500009,-0.449999,0.25,1.0,	343P	291		
0.0,0.0,0.0,6.25,0.416667,-0.249998,0.0833316,7.5,-0.199999,	343P	292		
0.300001,-0.100003,1.0,0.0,0.0,0.0,6.5,0.166666,-5.72205E-06,	343P	293		
0.49999,7.5,0.0999956,-1.432E-05,-0.600017,1.0,0.0,0.0,0.0;	343P	294		
112,3,1,3,3,0.0,1.0,2.0,3.0,5.5,0.166669,-1.43051E-06,0.0833333,	345P	295	112	bottom parametric spline for 144
6.75,0.400002,-4.29153E-06,-0.149998,0.0,0.0,0.0,0.0,5.75,	345P	296		

0.416666,0.249998,-0.166665,7.0,-0.0500009,-0.449999,0.25,0.0,	345P	297		
0.0,0.0,0.0,6.25,0.416667,-0.249998,0.0833316,6.75,-0.199999,	345P	298		
0.300001,-0.100003,0.0,0.0,0.0,0.0,6.5,0.166666,-5.72205E-06,	345P	299		
0.49999,6.75,0.0999956,-1.432E-05,-0.600017,0.0,0.0,0.0,0.0;	345P	300		
0,3,1,3,5,0.0,1.0,2.0,3.0,4.0,5.0,4.15353,0.114716,0.0,	347P	301		
-0.0265429,6.80265,0.106401,-1.43051E-06,0.0270339,4.73196E-05,	347P	302		
0.224783,1.49012E-08,0.0180701,4.2417,0.0350869,-0.0796287,	347P	303		
1.49393E-03,6.93608,0.1875,0.0811002,-0.0528591,0.2429,0.278993,	347P	304		
0.0542104,-0.0760615,4.19865,-0.119689,-0.0751469,0.0121375,	347P	305		
7.15183,0.191123,-0.0774772,-0.015979,0.500042,0.159229,	347P	306		
-0.173974,1.37786E-03,4.01595,-0.23357,-0.0387344,0.0571961,	347P	307		
7.24949,-0.0117681,-0.125414,0.0390046,0.486675,-0.184585,	347P	308		
-0.16984,0.0842352,3.80084,-0.139451,0.132854,-0.0442841,	347P	309		
7.15132,-0.145583,-8.40044E-03,2.79967E-03,0.216485,-0.27156,	347P	310		
0.0828652,-0.0276217,3.74996,-6.59538E-03,2.85357E-06,-0.265705,	347P	311		
7.00013,-0.153985,-2.86056E-06,0.016798,1.68452E-04,-0.188695,	347P	312		
5.58794E-08,-0.16573;	347P	313		
112,3,1,3,3,0.0,1.0,2.0,3.0,3.5,0.166669,-1.43051E-06,0.0833333,	349P	314	112	top parametric spline for 142
7.5,0.400002,-4.29153E-06,-0.149998,1.0,0.0,0.0,0.0,3.75,	349P	315		
0.416666,0.249998,-0.166665,7.75,-0.0500009,-0.449999,0.25,1.0,	349P	316		
0.0,0.0,0.0,4.25,0.416667,-0.249998,0.0833316,7.5,-0.199999,	349P	317		
0.300001,-0.100003,1.0,0.0,0.0,0.0,4.5,0.166666,-5.72205E-06,	349P	318		
0.49999,7.5,0.0999956,-1.432E-05,-0.600017,1.0,0.0,0.0,0.0;	349P	319		
112,3,1,3,3,0.0,1.0,2.0,3.0,3.5,0.166669,-1.43051E-06,0.0833333,	351P	320	112	bottom parametric spline for 142
6.75,0.400002,-4.29153E-06,-0.149998,0.0,0.0,0.0,0.0,3.75,	351P	321		
0.416666,0.249998,-0.166665,7.0,-0.0500009,-0.449999,0.25,0.0,	351P	322		
0.0,0.0,0.0,4.25,0.416667,-0.249998,0.0833316,6.75,-0.199999,	351P	323		
0.300001,-0.100003,0.0,0.0,0.0,0.0,4.5,0.166666,-5.72205E-06,	351P	324		
0.49999,6.75,0.0999956,-1.432E-05,-0.600017,0.0,0.0,0.0,0.0;	351P	325		
112,3,1,3,3,0.0,1.0,2.0,3.0,9.5,0.166669,-1.43051E-06,0.0833333,	353P	326	112	top parametric spline for 114
11.5,0.400002,-4.29153E-06,-0.149998,1.0,0.0,0.0,0.0,9.75,	353P	327		
0.416666,0.249998,-0.166665,11.75,-0.0500009,-0.449999,0.25,1.0,	353P	328		
0.0,0.0,0.0,10.25,0.416667,-0.249998,0.0833316,11.5,-0.199999,	353P	329		
0.300001,-0.100003,1.0,0.0,0.0,0.0,10.5,0.166666,-5.72205E-06,	353P	330		
0.49999,11.5,0.0999956,-1.432E-05,-0.600017,1.0,0.0,0.0,0.0;	353P	331		
112,3,1,3,3,0.0,1.0,2.0,3.0,9.5,0.166669,-1.43051E-06,0.0833333,	355P	332	112	bottom parametric spline for 114
10.75,0.400002,-4.29153E-06,-0.149998,0.0,0.0,0.0,0.0,9.75,	355P	333		
0.416666,0.249998,-0.166665,11.0,-0.0500009,-0.449999,0.25,0.0,	355P	334		
0.0,0.0,0.0,10.25,0.416667,-0.249998,0.0833316,10.75,-0.199999,	355P	335		
0.300001,-0.100003,0.0,0.0,0.0,0.0,10.5,0.166666,-5.72205E-06,	355P	336		
0.49999,10.75,0.0999956,-1.432E-05,-0.600017,0.0,0.0,0.0,0.0;	355P	337		
212,1,6,0.936,0.156,1,1.5708,0.0,0,0,7.85,1.42,0.0,6HR .500;	357P	338	212 F 0	text for 222
214,2,0.15,0.05,0.0,7.37127,0.985071,7.5,1.5,7.75,1.5;	359P	339	214 F 2	leader for 222
222,357,359,7.25,0.5;	361P	340	222	radius dimension
212,1,4,0.6084,0.156,1,1.5708,1.5708,0,0,3.58,1.19,0.0,	363P	341	212 F 0	text for left 218
4H.000;	363P	342		
214,1,0.0,0.0,0.0,3.5,0.5936,3.5,1.0936;	365P	343	214 F 4	leader for left 218
218,363,365;	367P	344	218	left ordinate dimension
212,1,5,0.7176,0.156,1,1.5708,0.0,0,0,1.64,1.17,0.0,5H1.000;	369P	345	212 F 0	text for 216
214,1,0.15,0.05,0.0,1.5,1.25,1.3,1.25;	371P	346	214 F 2	left leader for 216
214,1,0.15,0.05,0.0,2.5,1.25,2.7,1.25;	373P	347	214 F 2	right leader for 216
106,1,3,0.0,1.5,0.5,1.5,0.5936,1.5,1.37675;	375P	348	106 F 40	left witness line for 216
106,1,3,0.0,2.5,0.5,2.5,0.5936,2.5,1.37675;	377P	349	106 F 40	right witness line for 216
216,369,371,373,375,377;	379P	350	216	linear dimension
212,1,4,0.6084,0.156,1,1.5708,1.5708,0,0,4.33,1.19,0.0,	381P	351	212 F 0	text for right 218

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4H.750;
214,1,0.0,0.0,0.0,4.25,0.5936,4.25,1.0936;
218,381,383;
212,2,1,0.234,0.156,1001,1.5708,0.0,0,0,9.9,7.3,0.0,1Hn,
4,0.6084,0.156,1,1.5708,0.0,0,0,10.0965,7.29825,0.0,4H.500;
214,1,0.15,0.05,0.0,9.72361,7.1118,9.5,7.0;
214,2,0.15,0.05,0.0,9.27639,6.8882,9.5,7.0,9.9015,7.20075;
206,387,389,391,9.5,7.0;
212,2,5,0.78,0.156,1,1.5708,0.0,0,0,7.9,7.1,0.0,5H45.00,1,
0.1404,0.156,1002,1.5708,0.0,0,0,8.6865,7.0555,0.0,1H$;
214,1,0.15,0.05,0.0,8.08489,7.58489,8.29001,7.309;
214,1,0.15,0.05,0.0,8.43072,6.75,8.41225,6.958;
106,1,3,0.0,7.5,7.13237,7.56619,7.06619,8.17452,7.67452;
106,1,3,0.0,7.5,6.75,7.5936,6.75,8.55747,6.75;
202,395,401,403,7.25,6.75,1.18072,399,397;
212,1,4,0.6084,0.156,1,1.5708,0.0,0,0,5.73,1.33,0.0,4H.000;
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214,1,0.15,0.05,0.0,18.5,12.5,18.5,12.8594;
106,1,5,0.,17.52,13.5,17.6,13.5,17.75,13.5,18.25,13.5,18.6,13.5;
106,1,3,0.0,17.52,12.5,17.6,12.5,18.6,12.5;
216,415,417,419,421,423;
102,4,183,177,179,181;
230,427,1,17.5,1.21716,0.0,0.2,0.785398,0;
0,4,295,297,299,301;
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0,2.4799,12.5,0.0,2.5,12.5201,0.0;
0,7,435,437,439,441,443,445,447;
0,13.7513,12.5013,0.0,14.5,13.25,0.0;
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0,14.5,12.7525,0.0,13.7525,13.5,0.0;
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0,13.5013,13.0013,0.0,14.0013,12.5013,0.0;
0,13.7513,12.5013,0.0,13.5013,12.7513,0.0;
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0,4.21429,13.25,0.0,4.46429,13.5,0.0;
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383P	353	214 F 4	leader for right 218
385P	354	218	right ordinate dimension
387P	355	212 F 0	text for 206
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389P	357	214 F 2	right leader for 206
391P	358	214 F 2	left leader for 206
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401P	364	106 F 40	top witness line for 202
403P	365	106 F 40	bottom witness line for 202
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409P	368	100	circular arc for 220
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425P	377	216	linear dimension for 106 Form 40
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429P	379	230	sectioned area
431P	380		
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0,3.5,12.7857,0.0,3.75,13.0357,0.0;	485P	407
0,3.9643,13.25,0.0,4.2143,13.5,0.0;	487P	408
0,3.5,13.0357,0.0,3.96428,13.5,0.0;	489P	409
0,4.24373,12.5,0.0,4.5,12.7563,0.0;	491P	410
0,3.99371,12.5,0.0,4.24371,12.75,0.0;	493P	411
0,4.25315,12.7594,0.0,4.5,13.0063,0.0;	495P	412
0,3.74373,12.5,0.0,3.99373,12.75,0.0;	497P	413
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0,26,481,483,485,487,489,491,493,495,497,499,501,503,505,507,	533P	431
509,511,513,515,517,519,521,523,525,527,529,531;	533P	432
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593P	463		
595P	464		
597P	465		
599P	466		
601P	467		
603P	468		
605P	469		
607P	470		
609P	471		
611P	472		
613P	473		
615P	474		
617P	475		
619P	476		
621P	477		
623P	478		
625P	479		
627P	480		
629P	481		
631P	482		
633P	483		
635P	484		
637P	485		
639P	486		
641P	487		
643P	488	214 F 1	leader - wedge
645P	489		
647P	490	212 F 0	text "A" for 106 Form 40
649P	491	212 F 0	text for 228 Form 3
649P	492		
651P	493	106 F 63	simple closed area for 228 Form 3
651P	494		
653P	495	228 F 3	symbol - feature control
655P	496	212 F 0	note - simple horizontal
657P	497		
659P	498	214 F 2	leader - triangle
661P	499		
663P	500		
665P	501	214 F 3	leader - filled triangle
667P	502		
669P	503		
671P	504	214 F 4	leader - no arrow
673P	505		
675P	506		
677P	507	214 F 5	leader - circle
679P	508		
681P	509		
683P	510	214 F 6	leader - filled circle
685P	511		
687P	512		
689P	513	214 F 9	leader - slash
691P	514		
693P	515		
695P	516	214 F 8	leader - filled rectangle

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R ARC (100);
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TE CURVE (102);
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RC - GENERAL,12,0.84,0.07,1,1.5708,0.0,0,0,5.58,14.145,0.0,12H(1
04 FORM 0);
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RC - ELLIPSE,12,0.812,0.07,1,1.5708,0.0,0,0,7.594,14.145,0.0,12H
(104 FORM 1);
212,2,21,1.638,0.07,1,1.5708,0.0,0,0,9.181,14.25,0.0,21HCONIC AR
C - HYPERBOLA,12,0.833,0.07,1,1.5708,0.0,0,0,9.5835,14.145,0.0,
12H(104 FORM 2);
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ARC - PARABOLA,12,0.84,0.07,1,1.5708,0.0,0,0,11.58,14.145,0.0,
12H(104 FORM 3);
212,2,19,1.491,0.07,1,1.5708,0.0,0,0,13.2545,14.25,0.0,19HLINEAR
 PLANAR CURVE,13,0.861,0.07,1,1.5708,0.0,0,0,13.5695,14.145,0.0,
13H(106 FORM 11);
212,2,18,1.407,0.07,1,1.5708,0.0,0,0,15.2965,14.25,0.0,18HCOORDI
NATE TRIPLES,13,0.882,0.07,1,1.5708,0.0,0,0,15.559,14.145,0.0,
13H(106 FORM 12);
212,2,15,1.204,0.07,1,1.5708,0.0,0,0,17.398,14.25,0.0,15HCENTERL
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INTS (106 FORM 20);
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INE THRU,21,1.526,0.07,1,1.5708,0.0,0,0,19.237,14.145,0.0,21HCEN
TERS (106 FORM 21);
212,2,10,0.742,0.07,1,1.5708,0.0,0,0,1.629,12.25,0.0,10HSECTION
31,13,0.889,0.07,1,1.5708,0.0,0,0,1.5555,12.145,0.0,13H(106 FORM
 31);
212,2,10,0.763,0.07,1,1.5708,0.0,0,0,3.6185,12.25,0.0,10HSECTION
 32,13,0.91,0.07,1,1.5708,0.0,0,0,3.545,12.145,0.0,13H(106 FORM
32);
212,2,10,0.77,0.07,1,1.5708,0.0,0,0,5.615,12.25,0.0,10HSECTION 3
3,13,0.917,0.07,1,1.5708,0.0,0,0,5.5415,12.145,0.0,13H(106 FORM
33);
212,2,10,0.77,0.07,1,1.5708,0.0,0,0,7.615,12.25,0.0,10HSECTION 3
4,13,0.917,0.07,1,1.5708,0.0,0,0,7.5415,12.145,0.0,13H(106 FORM
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697P	517		
699P	518		
701P	519	214 F 10	leader - integral sign
703P	520		
705P	521	212 F 0	text for 210
707P	522	214 F 2	leader for 210
709P	523	210	general label
711P	524	212 F 0	text for 228 Form 1
713P	525	106 F 63	simple closed area for 228 Form 1
713P	526		
715P	527	228 F 1	symbol - datum feature
717P	528		
719P	529	214 F 2	leader for 228 Form 2
721P	530		
723P	531	212 F 0	text for 228 Form 2
725P	532	212 F 0	identifier for 100
725P	533		
727P	534	212 F 0	text for 228 Form 0
729P	535	212 F 0	identifier for 102
729P	536		
731P	537	212 F 0	identifier for 104 Form 0
731P	538		
731P	539		
733P	540	212 F 0	identifier for 104 Form 1
733P	541		
733P	542		
735P	543	212 F 0	identifier for 104 Form 2
735P	544		
735P	545		
737P	546	212 F 0	identifier for 104 Form 3
737P	547		
737P	548		
739P	549	212 F 0	identifier for 106 Form 11
739P	550		
739P	551		
741P	552	212 F 0	identifier for 106 Form 12
741P	553		
741P	554		
743P	555	212 F 0	identifier for 106 Form 20
743P	556		
743P	557		
745P	558	212 F 0	identifier for 106 Form 21
745P	559		
745P	560		
747P	561	212 F 0	identifier for 106 Form 31
747P	562		
747P	563		
749P	564	212 F 0	identifier for 106 Form 32
749P	565		
749P	566		
751P	567	212 F 0	identifier for 106 Form 33
751P	568		
751P	569		
753P	570	212 F 0	identifier for 106 Form 34
753P	571		

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34);                                                                    753P    572
212,2,10,0.77,0.07,1,1.5708,0.0,0,0,9.615,12.25,0.0,10HSECTION 3       755P    573     212 F 0   identifier for 106 Form 35
5,13,0.917,0.07,1,1.5708,0.0,0,0,9.5415,12.145,0.0,13H(106 FORM         755P    574
35);                                                                    755P    575
212,2,10,0.77,0.07,1,1.5708,0.0,0,0,11.615,12.25,0.0,10HSECTION         757P    576     212 F 0   identifier for 106 Form 36
36,13,0.917,0.07,1,1.5708,0.0,0,0,11.5415,12.145,0.0,13H(106 FOR        757P    577
M 36);                                                                  757P    578
212,2,10,0.77,0.07,1,1.5708,0.0,0,0,13.615,12.25,0.0,10HSECTION         759P    579     212 F 0   identifier for 106 Form 37
37,13,0.917,0.07,1,1.5708,0.0,0,0,13.5415,12.145,0.0,13H(106 FOR        759P    580
M 37);                                                                  759P    581
212,2,10,0.777,0.07,1,1.5708,0.0,0,0,15.6115,12.25,0.0,10HSECTIO        761P    582     212 F 0   identifier for 106 Form 38
N 38,13,0.924,0.07,1,1.5708,0.0,0,0,15.538,12.145,0.0,13H(106 FO        761P    583
RM 38);                                                                 761P    584
212,2,12,0.924,0.07,1,1.5708,0.0,0,0,17.538,12.25,0.0,12HWITNESS        763P    585     212 F 0   identifier for 106 Form 40
 LINE,13,0.917,0.07,1,1.5708,0.0,0,0,17.5415,12.145,0.0,13H(106         763P    586
FORM 40);                                                               763P    587
212,2,18,1.414,0.07,1,1.5708,0.0,0,0,19.293,12.25,0.0,18HSIMPLE         765P    588     212 F 0   identifier for 106 Form 63
CLOSED AREA,13,0.917,0.07,1,1.5708,0.0,0,0,19.5415,12.145,0.0,          765P    589
13H(106 FORM 63);                                                       765P    590
212,2,15,1.211,0.07,1,1.5708,0.0,0,0,1.3945,10.25,0.0,15HUNBOUND        767P    591     212 F 0   identifier for 108 Form 0
ED PLANE,12,0.847,0.07,1,1.5708,0.0,0,0,1.5765,10.145,0.0,12H(10        767P    592
8 FORM 0);                                                              767P    593
212,2,13,1.043,0.07,1,1.5708,0.0,0,0,3.4785,10.25,0.0,13HBOUNDED        769P    594     212 F 0   identifier for 108 Form 1
 PLANE,12,0.819,0.07,1,1.5708,0.0,0,0,3.5905,10.145,0.0,12H(108         769P    595
FORM 1);                                                                769P    596
212,1,10,0.63,0.07,1,1.5708,0.0,0,0,5.685,10.25,0.0,10HLINE (110        771P    597     212 F 0   identifier for 110
);                                                                      771P    598
212,2,17,1.33,0.07,1,1.5708,0.0,0,0,7.335,10.25,0.0,17HPARAMETRI        773P    599     212 F 0   identifier for 112
C SPLINE,11,0.728,0.07,1,1.5708,0.0,0,0,7.636,10.145,0.0,11HCURV        773P    600
E (112);                                                                773P    601
212,2,17,1.33,0.07,1,1.5708,0.0,0,0,9.335,10.25,0.0,17HPARAMETRI        775P    602     212 F 0   identifier for 114
C SPLINE,13,0.896,0.07,1,1.5708,0.0,0,0,9.552,10.145,0.0,13HSURF        775P    603
ACE (114);                                                              775P    604
212,1,11,0.707,0.07,1,1.5708,0.0,0,0,11.6465,10.25,0.0,11HPOINT         777P    605     212 F 0   identifier for 116
(116);                                                                  777P    606
212,2,19,1.498,0.07,1,1.5708,0.0,0,0,13.251,10.25,0.0,19HRULED S        779P    607     212 F 0   identifier for 118 Form 0
URFACE - ARC,19,1.372,0.07,1,1.5708,0.0,0,0,13.314,10.145,0.0,          779P    608
19HLENGTH (118 FORM 0);                                                 779P    609
212,2,16,1.253,0.07,1,1.5708,0.0,0,0,15.3735,10.25,0.0,16HRULED         781P    610     212 F 0   identifier for 118 Form 1
SURFACE - ,23,1.659,0.07,1,1.5708,0.0,0,0,15.1705,10.145,0.0,23H        781P    611
PARAMETRIC (118 FORM 1);                                                781P    612
212,2,11,0.868,0.07,1,1.5708,0.0,0,0,17.566,10.25,0.0,11HSURFACE        783P    613     212 F 0   identifier for 120
 OF ,16,1.148,0.07,1,1.5708,0.0,0,0,17.426,10.145,0.0,16HREVOLUT        783P    614
ION (120);                                                              783P    615
212,2,18,1.435,0.07,1,1.5708,0.0,0,0,19.2825,10.25,0.0,18HTABULA        785P    616     212 F 0   identifier for 122
TED CYLINDER,5,0.273,0.07,1,1.5708,0.0,0,0,19.8635,10.145,0.0,5H        785P    617
(122);                                                                  785P    618
212,2,14,1.141,0.07,1,1.5708,0.0,0,0,1.4295,8.25,0.0,14HTRANSFOR        787P    619     212 F 0   identifier for 124 Form 0
MATION,23,1.617,0.07,1,1.5708,0.0,0,0,1.1915,8.145,0.0,23HMATRIX        787P    620
 D=1 (124 FORM 0);                                                      787P    621
212,2,14,1.141,0.07,1,1.5708,0.0,0,0,3.4295,8.25,0.0,14HTRANSFOR        789P    622     212 F 0   identifier for 124 Form 1
MATION,24,1.666,0.07,1,1.5708,0.0,0,0,3.167,8.145,0.0,24HMATRIX         789P    623
D=-1 (124 FORM 1);                                                      789P    624
212,2,17,1.316,0.07,1,1.5708,0.0,0,0,5.342,8.25,0.0,17HRATIONAL         791P    625     212 F 0   identifier for 126 Form 0
B-SPLINE,18,1.309,0.07,1,1.5708,0.0,0,0,5.3455,8.145,0.0,18HCURV        791P    626
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E (126 FORM 0);                                                    791P  627
212,2,17,1.316,0.07,1,1.5708,0.0,0,0,7.342,8.25,0.0,17HRATIONAL    793P  628   212 F 0   identifier for 128 Form 0
B-SPLINE,20,1.477,0.07,1,1.5708,0.0,0,0,7.2615,8.145,0.0,20HSURF   793P  629
ACE (128 FORM 0);                                                  793P  630
212,2,14,1.057,0.07,1,1.5708,0.0,0,0,9.4715,8.25,0.0,14HRBS RIGH   795P  631   212 F 0   identifier for 128 Form 2
T CIRC,21,1.533,0.07,1,1.5708,0.0,0,0,9.2335,8.145,0.0,21HCYLIND   795P  632
ER (128 FORM 2);                                                   795P  633
212,1,21,1.547,0.07,1,1.5708,0.0,0,0,11.2265,8.25,0.0,21HRBS CON   797P  634   212 F 0   identifier for 128 Form 3
E (128 FORM 3);                                                    797P  635
212,2,10,0.791,0.07,1,1.5708,0.0,0,0,13.6045,8.25,0.0,10HRBS SPH   799P  636   212 F 0   identifier for 128 Form 4
ERE,12,0.84,0.07,1,1.5708,0.0,0,0,13.58,8.145,0.0,12H(128 FORM 4   799P  637
);                                                                 799P  638
212,2,9,0.721,0.07,1,1.5708,0.0,0,0,15.6395,8.25,0.0,9HRBS TORUS   801P  639   212 F 0   identifier for 128 Form 5
,12,0.84,0.07,1,1.5708,0.0,0,0,15.58,8.145,0.0,12H(128 FORM 5);    801P  640
212,2,11,0.882,0.07,1,1.5708,0.0,0,0,17.559,8.25,0.0,11HRBS GENE   803P  641   212 F 0   identifier for 128 Form 9
RAL,22,1.61,0.07,1,1.5708,0.0,0,0,17.195,8.145,0.0,22HQUADRATIC    803P  642
(128 FORM 9);                                                      803P  643
212,2,12,0.973,0.07,1,1.5708,0.0,0,0,19.5135,8.25,0.0,12HOFFSET    805P  644   212 F 0   identifier for 130
CURVE,5,0.287,0.07,1,1.5708,0.0,0,0,19.8565,8.145,0.0,5H(130);     805P  645
212,2,14,1.134,0.07,1,1.5708,0.0,0,0,1.433,6.25,0.0,14HOFFSET SU   807P  646   212 F 0   identifier for 140
RFACE,5,0.287,0.07,1,1.5708,0.0,0,0,1.8565,6.145,0.0,5H(140);      807P  647
212,2,19,1.512,0.07,1,1.5708,0.0,0,0,3.244,6.25,0.0,19HCURVE ON    809P  648   212 F 0   identifier for 142
PARAMETRIC,13,0.917,0.07,1,1.5708,0.0,0,0,3.5415,6.145,0.0,13HSU   809P  649
RFACE (142);                                                       809P  650
212,2,18,1.449,0.07,1,1.5708,0.0,0,0,5.2755,6.25,0.0,18HTRIMMED    811P  651   212 F 0   identifier for 144
PARAMETRIC,13,0.924,0.07,1,1.5708,0.0,0,0,5.538,6.145,0.0,13HSUR   811P  652
FACE (144);                                                        811P  653
212,2,17,1.33,0.07,1,1.5708,0.0,0,0,7.335,6.25,0.0,17HANGULAR DI   813P  654   212 F 0   identifier for 202
MENSION,5,0.301,0.07,1,1.5708,0.0,0,0,7.8495,6.145,0.0,5H(202);    813P  655
212,2,18,1.407,0.07,1,1.5708,0.0,0,0,9.2965,6.25,0.0,18HDIAMETER   815P  656   212 F 0   identifier for 206
 DIMENSION,5,0.308,0.07,1,1.5708,0.0,0,0,9.846,6.145,0.0,5H(206)   815P  657
;                                                                  815P  658
212,1,19,1.393,0.07,1,1.5708,0.0,0,0,11.3035,6.25,0.0,19HGENERAL   817P  659   212 F 0   identifier for 210
 LABEL (210);                                                      817P  660
212,2,21,1.652,0.07,1,1.5708,0.0,0,0,13.174,6.25,0.0,21HGENERAL    819P  661   212 F 0   identifier for 212 Form 0
NOTE - SIMPLE,12,0.826,0.07,1,1.5708,0.0,0,0,13.587,6.145,0.0,     819P  662
12H(212 FORM 0);                                                   819P  663
212,2,17,1.316,0.07,1,1.5708,0.0,0,0,15.342,6.25,0.0,17HNOTE - D   821P  664   212 F 0   identifier for 212 Form 1
UAL STACK,12,0.798,0.07,1,1.5708,0.0,0,0,15.601,6.145,0.0,12H(21   821P  665
2 FORM 1);                                                         821P  666
212,2,20,1.575,0.07,1,1.5708,0.0,0,0,17.2125,6.25,0.0,20HNOTE -    823P  667   212 F 0   identifier for 212 Form 2
IMBEDDED FONT,19,1.365,0.07,1,1.5708,0.0,0,0,17.3175,6.145,0.0,    823P  668
19HCHANGE (212 FORM 2);                                            823P  669
212,2,18,1.407,0.07,1,1.5708,0.0,0,0,19.2965,6.25,0.0,18HNOTE -    825P  670   212 F 0   identifier for 212 Form 3
SUPERSCRIPT,12,0.826,0.07,1,1.5708,0.0,0,0,19.587,6.145,0.0,12H(   825P  671
212 FORM 3);                                                       825P  672
212,2,16,1.246,0.07,1,1.5708,0.0,0,0,1.377,4.25,0.0,16HNOTE - SU   827P  673   212 F 0   identifier for 212 Form 4
BSCRIPT,12,0.826,0.07,1,1.5708,0.0,0,0,1.587,4.145,0.0,12H(212 F   827P  674
ORM 4);                                                            827P  675
212,2,16,1.26,0.07,1,1.5708,0.0,0,0,3.37,4.25,0.0,16HNOTE - SUPE   829P  676   212 F 0   identifier for 212 Form 5
R/SUB,19,1.351,0.07,1,1.5708,0.0,0,0,3.3245,4.145,0.0,19HSCRIPT    829P  677
(212 FORM 5);                                                      829P  678
212,2,18,1.4,0.07,1,1.5708,0.0,0,0,5.3,4.25,0.0,18HNOTE - MULTI    831P  679   212 F 0   identifier for 212 Form 6
STACK,22,1.603,0.07,1,1.5708,0.0,0,0,5.1985,4.145,0.0,22HLEFT JU   831P  680
ST (212 FORM 6);                                                   831P  681
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212,2,18,1.4,0.07,1,1.5708,0.0,0,0,7.3,4.25,0.0,18HNOTE - MULTI
STACK,22,1.603,0.07,1,1.5708,0.0,0,0,7.1985,4.145,0.0,22HCENT JU
ST (212 FORM 7);
212,2,18,1.4,0.07,1,1.5708,0.0,0,0,9.3,4.25,0.0,18HNOTE - MULTI
STACK,23,1.652,0.07,1,1.5708,0.0,0,0,9.174,4.145,0.0,23HRIGHT JU
ST (212 FORM 8);
212,2,13,1.015,0.07,1,1.5708,0.0,0,0,11.4925,4.25,0.0,13HNOTE -
SIMPLE,23,1.652,0.07,1,1.5708,0.0,0,0,11.174,4.145,0.0,23HFRACTI
ON (212 FORM 100);
212,2,17,1.316,0.07,1,1.5708,0.0,0,0,13.342,4.25,0.0,17HNOTE - D
UAL STACK,23,1.624,0.07,1,1.5708,0.0,0,0,13.188,4.145,0.0,23HFRA
CTION (212 FORM 101);
212,2,18,1.442,0.07,1,1.5708,0.0,0,0,15.279,4.25,0.0,18HNOTE - F
ONT/DOUBLE,23,1.645,0.07,1,1.5708,0.0,0,0,15.1775,4.145,0.0,23HF
RACTION (212 FORM 102);
212,2,16,1.26,0.07,1,1.5708,0.0,0,0,17.37,4.25,0.0,16HNOTE - SUP
ER/SUB,23,1.652,0.07,1,1.5708,0.0,0,0,17.174,4.145,0.0,23HFRACTI
ON (212 FORM 105);
212,2,14,1.106,0.07,1,1.5708,0.0,0,0,19.447,4.25,0.0,14HLEADER -
 WEDGE,12,0.805,0.07,1,1.5708,0.0,0,0,19.5975,4.145,0.0,12H(214
FORM 1);
212,2,17,1.323,0.07,1,1.5708,0.0,0,0,1.3385,2.25,0.0,17HLEADER -
 TRIANGLE,12,0.826,0.07,1,1.5708,0.0,0,0,1.587,2.145,0.0,12H(214
 FORM 2);
212,2,15,1.162,0.07,1,1.5708,0.0,0,0,3.419,2.25,0.0,15HLEADER -
FILLED,21,1.526,0.07,1,1.5708,0.0,0,0,3.237,2.145,0.0,21HTRIANGL
E (214 FORM 3);
212,2,15,1.169,0.07,1,1.5708,0.0,0,0,7.4155,2.25,0.0,15HLEADER -
 CIRCLE,12,0.833,0.07,1,1.5708,0.0,0,0,7.5835,2.145,0.0,12H(214
FORM 5);
212,2,17,1.344,0.07,1,1.5708,0.0,0,0,5.328,2.25,0.0,17HLEADER -
NO ARROW,12,0.833,0.07,1,1.5708,0.0,0,0,5.5835,2.145,0.0,12H(214
 FORM 4);
212,2,14,1.085,0.07,1,1.5708,0.0,0,0,9.4575,2.25,0.0,14HLEAER -
FILLED,19,1.365,0.07,1,1.5708,0.0,0,0,9.3175,2.145,0.0,19HCIRCLE
 (212 FORM 6);
212,2,18,1.435,0.07,1,1.5708,0.0,0,0,11.2825,2.25,0.0,18HLEADER
- RECTANGLE,12,0.833,0.07,1,1.5708,0.0,0,0,11.5835,2.145,0.0,12H
(214 FORM 7);
212,2,15,1.162,0.07,1,1.5708,0.0,0,0,13.419,2.25,0.0,15HLEADER -
 FILLED,22,1.645,0.07,1,1.5708,0.0,0,0,13.1775,2.145,0.0,22HRECT
ANGLE (214 FORM 8);
212,2,14,1.085,0.07,1,1.5708,0.0,0,0,15.4575,2.25,0.0,14HLEADER
- SLASH,12,0.833,0.07,1,1.5708,0.0,0,0,15.5835,2.145,0.0,12H(214
 FORM 9);
212,2,17,1.323,0.07,1,1.5708,0.0,0,0,17.3385,2.25,0.0,17HLEADER
- INTEGRAL,18,1.239,0.07,1,1.5708,0.0,0,0,17.3805,2.145,0.0,18HS
IGN (214 FORM 10);
212,2,13,1.022,0.07,1,1.5708,0.0,0,0,19.489,2.25,0.0,13HLEADER -
 OPEN,22,1.547,0.07,1,1.5708,0.0,0,0,19.2265,2.145,0.0,22HTRIANG
LE (214 FORM 11);
212,2,16,1.232,0.07,1,1.5708,0.0,0,0,1.384,0.25,0.0,16HLINEAR DI
MENSION,5,0.28,0.07,1,1.5708,0.0,0,0,1.86,0.145,0.0,5H(216);
212,2,18,1.393,0.07,1,1.5708,0.0,0,0,3.3035,0.25,0.0,18HORDINATE
 DIMENSION,5,0.287,0.07,1,1.5708,0.0,0,0,3.8565,0.145,0.0,5H(218
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833P	682	212 F 0	identifier for 212 Form 7
833P	683		
833P	684		
835P	685	212 F 0	identifier for 212 Form 8
835P	686		
835P	687		
837P	688	212 F 0	identifier for 212 Form 100
837P	689		
837P	690		
839P	691	212 F 0	identifier for 212 Form 101
839P	692		
839P	693		
841P	694	212 F 0	identifier for 212 Form 102
841P	695		
841P	696		
843P	697	212 F 0	identifier for 212 Form 105
843P	698		
843P	699		
845P	700	212 F 0	identifier for 214 Form 1
845P	701		
845P	702		
847P	703	212 F 0	identifier for 214 Form 2
847P	704		
847P	705		
849P	706	212 F 0	identifier for 214 Form 3
849P	707		
849P	708		
851P	709	212 F 0	identifier for 214 Form 4
851P	710		
851P	711		
853P	712	212 F 0	identifier for 214 Form 5
853P	713		
853P	714		
855P	715	212 F 0	identifier for 214 Form 6
855P	716		
855P	717		
857P	718	212 F 0	identifier for 214 Form 7
857P	719		
857P	720		
859P	721	212 F 0	identifier for 214 Form 8
859P	722		
859P	723		
861P	724	212 F 0	identifier for 214 Form 9
861P	725		
861P	726		
863P	727	212 F 0	identifier for 214 Form 10
863P	728		
863P	729		
865P	730	212 F 0	identifier for 214 Form 11
865P	731		
865P	732		
867P	733	212 F 0	identifier for 216
867P	734		
869P	735	212 F 0	identifier for 218
869P	736		

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);                                                                869P    737
212,2,15,1.148,0.07,1,1.5708,0.0,0,0,5.426,0.25,0.0,15HPOINT DIM  871P    738
ENSION,5,0.301,0.07,1,1.5708,0.0,0,0,5.8495,0.145,0.0,5H(220);    871P    739
212,2,16,1.218,0.07,1,1.5708,0.0,0,0,7.391,0.25,0.0,16HRADIUS DI  873P    740
MENSION,5,0.294,0.07,1,1.5708,0.0,0,0,7.853,0.145,0.0,5H(222);    873P    741
212,2,16,1.288,0.07,1,1.5708,0.0,0,0,9.356,0.25,0.0,16HSYMBOL -   875P    742
GENERAL,12,0.861,0.07,1,1.5708,0.0,0,0,9.5695,0.145,0.0,12H(228   875P    743
FORM 0);                                                          875P    744
212,2,14,1.134,0.07,1,1.5708,0.0,0,0,11.433,0.25,0.0,14HSYMBOL -  877P    745
 DATUM,20,1.477,0.07,1,1.5708,0.0,0,0,11.2615,0.145,0.0,20HFEATU  877P    746
RE (228 FORM 1);                                                  877P    747
212,2,14,1.134,0.07,1,1.5708,0.0,0,0,13.433,0.25,0.0,14HSYMBOL -  879P    748
 DATUM,19,1.407,0.07,1,1.5708,0.0,0,0,13.2965,0.145,0.0,19HTARGE  879P    749
T (228 FORM 2);                                                   879P    750
212,2,16,1.295,0.07,1,1.5708,0.0,0,0,15.3525,0.25,0.0,16HSYMBOL   881P    751
- FEATURE,20,1.512,0.07,1,1.5708,0.0,0,0,15.244,0.145,0.0,20HCON  881P    752
TROL (228 FORM 3);                                                881P    753
212,2,14,1.099,0.07,1,1.5708,0.0,0,0,17.4505,0.25,0.0,14HSECTION  883P    754
ED AREA,5,0.308,0.07,1,1.5708,0.0,0,0,17.846,0.145,0.0,5H(230);   883P    755
212,5,17,1.746,0.09,1,1.5708,0.0,0,0,19.127,1.0,0.0,17HCALS TEST  885P    756
 NETWORK,11,1.098,0.09,1,1.5708,0.0,0,0,19.451,0.865,0.0,11HMIL-  885P    757
D-28000,8,0.738,0.09,1,1.5708,0.0,0,0,19.631,0.73,0.0,8HCLASS II  885P    758
,17,1.755,0.09,1,1.5708,0.0,0,0,19.1225,0.595,0.0,17HREFERENCE D  885P    759
RAWING,8,0.819,0.09,1,1.5708,0.0,0,0,19.591,0.46,0.0,8HN-ENTITY;  885P    760
212,2,4,0.431667,0.125,1,1.5708,0.0,0,0,15.5,7.125,0.0,4HDUAL,5,  887P    761
0.54,0.125,1,1.5708,0.0,0,0,15.5,6.9375,0.0,5HSTACK;              887P    762
0,1,7,0.72,0.125,1,1.5708,0.0,0,0,17.5,7.125,0.0,7HIM    ED;      889P    763
0,1,5,0.53,0.125,1,1.5708,0.0,0,0,17.5,7.125,0.0,5H  BED;         891P    764
212,2,1,0.113333,0.125,1,1.5708,0.0,0,0,19.5,7.125,0.0,1HS,5,     893P    765
0.558333,0.125,1,1.5708,0.0,0,0,19.6133,7.21875,0.0,5HSUPER;      893P    766
212,2,1,0.113333,0.125,1,1.5708,0.0,0,0,1.5,5.125,0.0,1HS,3,      895P    767
0.343333,0.125,1,1.5708,0.0,0,0,1.61333,5.03125,0.0,3HSUB;        895P    768
212,3,1,0.113333,0.125,1,1.5708,0.0,0,0,3.5,5.125,0.0,1HS,5,      897P    769
0.558333,0.125,1,1.5708,0.0,0,0,3.61333,5.21875,0.0,5HSUPER,3,    897P    770
0.343333,0.125,1,1.5708,0.0,0,0,3.61333,5.03125,0.0,3HSUB;        897P    771
212,3,1,0.116667,0.125,1,1.5708,0.0,0,0,5.5,5.25,0.0,1HM,5,0.54,  899P    772
0.125,1,1.5708,0.0,0,0,5.5,5.0625,0.0,5HSTACK,4,0.423333,0.125,   899P    773
1,1.5708,0.0,0,0,5.5,4.875,0.0,4HLEFT;                            899P    774
212,3,1,0.116667,0.125,1,1.5708,0.0,0,0,7.94167,5.25,0.0,1HM,5,   901P    775
0.54,0.125,1,1.5708,0.0,0,0,7.73,5.0625,0.0,5HSTACK,6,0.645,      901P    776
0.125,1,1.5708,0.0,0,0,7.6775,4.875,0.0,6HCENTER;                 901P    777
212,3,1,0.116667,0.125,1,1.5708,0.0,0,0,10.3833,5.25,0.0,1HM,5,   903P    778
0.54,0.125,1,1.5708,0.0,0,0,9.96,5.0625,0.0,5HSTACK,5,0.518333,   903P    779
0.125,1,1.5708,0.0,0,0,9.98167,4.875,0.0,5HRIGHT;                 903P    780
212,5,2,0.173333,0.125,1,1.5708,0.0,0,0,11.5,5.25,0.0,2H  ,4,     905P    781
0.436667,0.125,1,1.5708,0.0,0,0,11.6733,5.15625,0.0,4HFRAC,6,     905P    782
0.613333,0.125,1,1.5708,0.0,0,0,11.5,5.0625,0.0,6HS ----,2,       905P    783
0.173333,0.125,1,1.5708,0.0,0,0,11.5,4.875,0.0,2H  ,4,0.405,      905P    784
0.125,1,1.5708,0.0,0,0,11.6733,4.96875,0.0,4HTION;                905P    785
212,10,7,0.606667,0.125,1,1.5708,0.0,0,0,13.5,5.5,0.0,7H      ,   907P    786
2,0.231667,0.125,1,1.5708,0.0,0,0,14.1067,5.40625,0.0,2HTO,9,     907P    787
0.915,0.125,1,1.5708,0.0,0,0,13.5,5.3125,0.0,9HDUAL  ---,8,       907P    788
0.693333,0.125,1,1.5708,0.0,0,0,13.5,5.125,0.0,8H       ,1,       907P    789
0.111667,0.125,1,1.5708,0.0,0,0,14.1933,5.21875,0.0,1HP,8,        907P    790
0.693333,0.125,1,1.5708,0.0,0,0,13.5,4.9375,0.0,8H       ,3,      907P    791
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212 F 0	identifier for 220
212 F 0	identifier for 222
212 F 0	identifier for 228 Form 0
212 F 0	identifier for 228 Form 1
212 F 0	identifier for 228 Form 2
212 F 0	identifier for 228 Form 3
212 F 0	identifier for 230
212 F 0	title block
212 F 1	note - dual stack
212 F 3	note - superscript
212 F 4	note - subscript
212 F 5	note - super/subscript
212 F 6	note - multi stack left justified
212 F 7	note - multi stack center justified
212 F 8	note - multi stack right justified
212 F 100	note - simple fraction
212 F 101	note - dual stack fraction

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0.348333,0.125,1,1.5708,0.0,0,0,14.1933,4.84375,0.0,3HBOT,11,
1.14333,0.125,1,1.5708,0.0,0,0,13.5,4.75,0.0,11HSTACK -----,8,
0.693333,0.125,1,1.5708,0.0,0,0,13.5,4.5625,0.0,8H       ,3,
0.348333,0.125,1,1.5708,0.0,0,0,14.1933,4.65625,0.0,3HTOM;
0,5,4,0.36,0.125,1,1.5708,0.0,0,0,15.125,5.25,0.0,4H    ,14,
1.42,0.125,1,1.5708,0.0,0,0,15.525,5.15625,0.0,14HBED        ACT
,19,2.01,0.125,1,1.5708,0.0,0,0,15.125,5.0625,0.0,19HIM -----
FR -----,4,0.36,0.125,1,1.5708,0.0,0,0,15.125,4.875,0.0,4H    ,
14,1.38,0.125,1,1.5708,0.0,0,0,15.525,4.96875,0.0,14HDED
ION;
0,1,10,0.91,0.125,1,1.5708,0.0,0,0,15.125,5.0625,0.0,10H
  &;
212,15,12,1.08,0.125,1,1.5708,0.0,0,0,17.125,5.875,0.0,12H
     ,1,0.12,0.125,1,1.5708,0.0,0,0,18.325,5.78125,0.0,1HO,14,
1.35,0.125,1,1.5708,0.0,0,0,17.125,5.6875,0.0,14H         T ---,
12,1.08,0.125,1,1.5708,0.0,0,0,17.125,5.5,0.0,12H          ,1,
0.11,0.125,1,1.5708,0.0,0,0,18.325,5.59375,0.0,1HP,4,0.36,0.125,
1,1.5708,0.0,0,0,17.125,5.3125,0.0,4H    ,3,0.34,0.125,1,1.5708,
0.0,0,0,17.525,5.21875,0.0,3HSUP,8,0.88,0.125,1,1.5708,0.0,0,0,
17.125,5.125,0.0,8HFR -----,4,0.36,0.125,1,1.5708,0.0,0,0,
17.125,4.9375,0.0,4H    ,3,0.35,0.125,1,1.5708,0.0,0,0,17.525,
5.03125,0.0,3HSUB,12,1.08,0.125,1,1.5708,0.0,0,0,17.125,4.75,
0.0,12H           ,2,0.24,0.125,1,1.5708,0.0,0,0,18.325,
4.65625,0.0,2HTT,15,1.49,0.125,1,1.5708,0.0,0,0,17.125,4.5625,
0.0,15H        BO ----,12,1.08,0.125,1,1.5708,0.0,0,0,17.125,
4.375,0.0,12H           ,2,0.26,0.125,1,1.5708,0.0,0,0,18.325,
4.46875,0.0,2HOM;
0,1,6,1.27,0.25,1,1.5708,0.0,0,0,7.24784,2.9598,-4.18579,6HMAT
RIX;
0,1,6,1.27,0.25,1,1.5708,0.0,0,0,-4.5,8.75,0.0,6HMATRIX;
110,18.0,10.5,0.0,18.0,11.75,0.0;
100,0.0,18.6563,11.125,18.5,11.5,18.5,10.75;
0,3,10,10,0;
120,919,921,0.0,6.28318;
110,14.0,8.5,0.0,14.0,9.75,0.0;
0,3,10,10,0;
0,927,323,0.0,6.28318;
100,0.0,20.0,11.0,20.25,11.0,19.75,11.0;
0,3,5,5,0;
122,933,20.4857,11.2357,-0.942809;
128,3,7,3,5,0,0,1,0,0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,0.0,0.0,
0.0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,3.0,3.0,3.0,3.0,3.0,1.0,1.0,1.0,1.0,
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,8.5,9.5,1.0,8.5,
9.25,0.666667,8.5,9.0,0.333333,8.5,8.75,0.0,8.49394,9.44659,1.0,
8.49394,9.19659,0.666667,8.49394,8.94659,0.333333,8.49394,
8.69659,0.0,8.43636,9.39545,1.0,8.43636,9.14546,0.666667,
8.43636,8.89545,0.333333,8.43636,8.64545,0.0,8.21364,9.4858,1.0,
8.21364,9.2358,0.666667,8.21364,8.9858,0.333333,8.21364,8.7358,
0.0,7.78636,9.82671,1.0,7.78637,9.57671,0.666667,7.78637,
9.32671,0.333333,7.78636,9.07671,0.0,7.56363,9.80454,1.0,
7.56363,9.55454,0.666667,7.56363,9.30454,0.333333,7.56363,
9.05454,0.0,7.50606,9.62841,1.0,7.50606,9.37841,0.666667,
7.50606,9.12841,0.333333,7.50606,8.87841,0.0,7.5,9.5,1.0,7.5,
9.25,0.666667,7.5,9.0,0.333333,7.5,8.75,0.0,0.0,1.0,0.0,3.0;
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907P	792		
907P	793		
907P	794		
907P	795		
909P	796		
909P	797		
909P	798		
909P	799		
909P	800		
909P	801		
911P	802		
911P	803		
913P	804	212 F 105	note - super/sub fraction
913P	805		
913P	806		
913P	807		
913P	808		
913P	809		
913P	810		
913P	811		
913P	812		
913P	813		
913P	814		
913P	815		
913P	816		
913P	817		
913P	818		
915P	819		
915P	820		
917P	821		
919P	822	110	line for 120
921P	823	100	cicular arc for 120
923P	824		
925P	825	120	surface of revolution
927P	826	110	line for 128 Form 4
929P	827		
931P	828		
933P	829	100	circular arc for 122
935P	830		
937P	831	122	tabulated cylinder
939P	832	128 F 0	rational b-spline surface
939P	833		
939P	834		
939P	835		
939P	836		
939P	837		
939P	838		
939P	839		
939P	840		
939P	841		
939P	842		
939P	843		
939P	844		
939P	845		
939P	846		

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100,0.0,14.875,11.0,14.5,11.5,14.5,10.5;                                    941P    847
110,13.5,11.5,0.0,13.5,10.5,0.0;                                            943P    848
0,3,5,5,0;                                                                  945P    849
118,941,943,0,0;                                                            947P    850
100,0.0,16.875,11.0,16.5,11.5,16.5,10.5;                                    949P    851
110,15.5,11.5,0.0,15.5,10.5,0.0;                                            951P    852
0,3,5,5,0;                                                                  953P    853
118,949,951,0,0;                                                            955P    854
110,16.0,9.5,0.0,16.0,8.5,0.0;                                              957P    855
0,3,10,10,0;                                                                959P    856
0,957,321,0.0,6.28318;                                                      961P    857
128,7,10,7,7,0,0,1,0,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,             963P    858
1.0,1.0,1.0,1.0,1.0,1.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,            963P    859
3.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,                963P    860
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,            963P    861
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,            963P    862
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1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,            963P    864
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,            963P    865
1.0,12.0,8.5,-0.433012,12.0,8.64158,-0.473511,12.0,8.78315,                 963P    866
-0.514011,12.0,8.92473,-0.554511,12.0,9.0663,-0.59501,12.0,                 963P    867
9.20787,-0.635509,12.0,9.34944,-0.676011,12.0,9.49103,-0.716507,            963P    868
11.8837,8.5,-0.433012,11.892,8.64158,-0.473511,11.9003,8.78315,             963P    869
-0.514011,11.9086,8.92473,-0.554511,11.9169,9.0663,-0.59501,                963P    870
11.9252,9.20787,-0.635509,11.9335,9.34944,-0.676011,11.9418,                963P    871
9.49103,-0.716507,11.648,8.53158,-0.378307,11.6731,8.6709,                  963P    872
-0.422714,11.6983,8.81022,-0.46712,11.7234,8.94954,-0.511528,               963P    873
11.7485,9.08886,-0.555936,11.7737,9.22817,-0.600345,11.7988,                963P    874
9.36749,-0.644751,11.824,9.50682,-0.689154,11.3681,8.66514,                 963P    875
-0.146989,11.4132,8.79492,-0.20792,11.4584,8.92469,-0.268852,               963P    876
11.5035,9.05447,-0.32978,11.5487,9.18425,-0.390711,11.5938,                 963P    877
9.31403,-0.451639,11.6389,9.4438,-0.512569,11.684,9.57359,                  963P    878
-0.573494,11.3783,8.95908,0.362137,11.4227,9.06786,0.264839,                963P    879
11.4671,9.17664,0.167537,11.5115,9.28543,0.0702386,11.5559,                 963P    880
9.39421,-0.0270576,11.6003,9.50299,-0.124352,11.6447,9.61177,               963P    881
-0.221646,11.6892,9.72056,-0.318937,12.0,9.20586,0.789574,12.0,             963P    882
9.29702,0.661743,12.0,9.38817,0.533913,12.0,9.47933,0.406084,               963P    883
12.0,9.57048,0.278254,12.0,9.66163,0.150427,12.0,9.75279,                   963P    884
0.0226035,12.0,9.84396,-0.105211,12.6217,8.95908,0.362144,                  963P    885
12.5773,9.06787,0.264847,12.5329,9.17665,0.167551,12.4885,                  963P    886
9.28544,0.0702558,12.4441,9.39422,-0.0270414,12.3997,9.50299,               963P    887
-0.124339,12.3553,9.61177,-0.221637,12.3108,9.72057,-0.318927,              963P    888
12.6319,8.66513,-0.146992,12.5868,8.79491,-0.207922,12.5417,                963P    889
8.92469,-0.268853,12.4965,9.05447,-0.329783,12.4514,9.18425,                963P    890
-0.390715,12.4063,9.31402,-0.451645,12.3611,9.4438,-0.512576,               963P    891
12.3159,9.57359,-0.573499,12.352,8.53158,-0.378309,12.3268,                 963P    892
8.6709,-0.422717,12.3017,8.81022,-0.467125,12.2766,8.94954,                 963P    893
-0.511534,12.2514,9.08886,-0.555943,12.2263,9.22817,-0.600352,              963P    894
12.2011,9.36748,-0.644758,12.176,9.50682,-0.689155,12.1163,8.5,             963P    895
-0.433012,12.108,8.64158,-0.473511,12.0997,8.78315,-0.514011,               963P    896
12.0914,8.92473,-0.554511,12.0831,9.0663,-0.59501,12.0748,                  963P    897
9.20787,-0.635509,12.0665,9.34944,-0.676011,12.0582,9.49103,                963P    898
-0.716507,12.0,8.5,-0.433012,12.0,8.64158,-0.473511,12.0,                   963P    899
8.78315,-0.514011,12.0,8.92473,-0.554511,12.0,9.0663,-0.59501,              963P    900
12.0,9.20787,-0.635509,12.0,9.34944,-0.676011,12.0,9.49103,                 963P    901
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100	circular arc for 118 Form 0
110	line for 118 Form 0
118 F 0	ruled surface - arc length
100	circular arc for 118 Form 1
110	line for 118 Form 1
118 F 1	ruled surface - parametric
110	line for 128 Form 5
128 F 3	rational b-spline cone

-0.716507,0.0,1.0,0.0,4.0;	963P	902		
128,7,10,7,7,0,0,1,0,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,	965P	903	128 F 2	rational b-spline right circ cylinder
1.0,1.0,1.0,1.0,1.0,1.0,1.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,2.0,	965P	904		
3.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,4.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	965P	905		
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	965P	906		
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	965P	907		
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	965P	908		
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	965P	909		
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	965P	910		
1.0,10.0,8.5,-0.433013,10.0,8.62372,-0.504441,10.0,8.74744,	965P	911		
-0.57587,10.0,8.87116,-0.647298,10.0,8.99487,-0.718728,10.0,	965P	912		
9.11859,-0.790157,9.99999,9.2423,-0.861585,10.0,9.36603,	965P	913		
-0.933013,9.88366,8.5,-0.433013,9.88366,8.62372,-0.504441,	965P	914		
9.88367,8.74744,-0.57587,9.88368,8.87116,-0.647298,9.88368,	965P	915		
8.99487,-0.718728,9.88368,9.11859,-0.790157,9.88368,9.2423,	965P	916		
-0.861585,9.88366,9.36603,-0.933013,9.64802,8.53159,-0.378308,	965P	917		
9.64802,8.6553,-0.449736,9.64802,8.77902,-0.521165,9.64802,	965P	918		
8.90274,-0.592595,9.64802,9.02645,-0.664025,9.64802,9.15017,	965P	919		
-0.735455,9.64801,9.27388,-0.806884,9.64802,9.39761,-0.878308,	965P	920		
9.3681,8.66514,-0.14699,9.36811,8.78885,-0.218421,9.36811,	965P	921		
8.91257,-0.28985,9.36811,9.03629,-0.361281,9.36811,9.16,	965P	922		
-0.43271,9.36811,9.28372,-0.504138,9.3681,9.40743,-0.575566,	965P	923		
9.3681,9.53116,-0.64699,9.37832,8.95908,0.362137,9.37832,9.0828,	965P	924		
0.290705,9.37832,9.20651,0.219275,9.37833,9.33023,0.147843,	965P	925		
9.37832,9.45395,0.0764132,9.37832,9.57766,4.98724E-03,9.37832,	965P	926		
9.70138,-0.0664367,9.37832,9.82511,-0.137863,10.0,9.20586,	965P	927		
0.789574,10.0,9.32958,0.718141,10.0,9.45329,0.646709,10.0,	965P	928		
9.57701,0.575277,10.0,9.70072,0.503846,10.0,9.82444,0.432417,	965P	929		
10.0,9.94816,0.360991,10.0,10.0719,0.289574,10.6217,8.95909,	965P	930		
0.362144,10.6217,9.0828,0.290714,10.6217,9.20652,0.219286,	965P	931		
10.6217,9.33024,0.147857,10.6217,9.45395,0.076427,10.6217,	965P	932		
9.57767,4.99725E-03,10.6217,9.70138,-0.0664334,10.6217,9.82511,	965P	933		
-0.137856,10.6319,8.66513,-0.146992,10.6319,8.78885,-0.218422,	965P	934		
10.6319,8.91257,-0.289851,10.6319,9.03629,-0.361281,10.6319,	965P	935		
9.16,-0.432712,10.6319,9.28372,-0.504141,10.6319,9.40743,	965P	936		
-0.575569,10.6319,9.53116,-0.646992,10.352,8.53158,-0.37831,	965P	937		
10.352,8.6553,-0.44974,10.352,8.77902,-0.521169,10.352,8.90274,	965P	938		
-0.592599,10.352,9.02645,-0.664031,10.352,9.15016,-0.73546,	965P	939		
10.352,9.27388,-0.806889,10.352,9.39761,-0.87831,10.1163,8.5,	965P	940		
-0.433013,10.1163,8.62372,-0.504441,10.1164,8.74744,-0.57587,	965P	941		
10.1164,8.87116,-0.647298,10.1164,8.99487,-0.718728,10.1163,	965P	942		
9.11859,-0.790157,10.1163,9.2423,-0.861585,10.1163,9.36603,	965P	943		
-0.933013,10.0,8.5,-0.433013,10.0,8.62372,-0.504441,10.0,	965P	944		
8.74744,-0.57587,10.0,8.87116,-0.647298,10.0,8.99487,-0.718728,	965P	945		
10.0,9.11859,-0.790157,9.99999,9.2423,-0.861585,10.0,9.36603,	965P	946		
-0.933013,0.0,1.0,0.0,4.0;	965P	947		
0,3,5,5,0;	967P	948		
114,3,1,1,3,0.0,1.0,0.0,1.0,2.0,3.0,6.5,0.0,0.0,0.0,-0.166666,	969P	949	114	parametric spline surface for 144
8.58307E-06,-1.28746E-05,4.29153E-06,-1.43051E-06,-1.50204E-05,	969P	950		
2.25306E-05,-7.51019E-06,-0.0833325,6.4373E-06,-9.65595E-06,	969P	951		
3.21865E-06,7.5,-0.75,0.0,0.0,-0.0999956,4.29153E-06,	969P	952		
-4.29153E-06,0.0,-5.96046E-06,-1.07288E-06,-2.14577E-06,	969P	953		
3.21865E-06,0.100002,-3.57628E-07,2.14577E-06,-1.78814E-06,1.0,	969P	954		
-1.0,-1.19209E-07,5.96046E-08,0.0,0.0,0.0,0.0,0.0,5.36442E-07,	969P	955		
-7.15256E-07,1.78814E-07,0.0,-3.57628E-07,4.76837E-07,	969P	956		

-1.19209E-07,6.25,0.0,0.0,0.0,-0.416667,-2.14577E-06,	969P	957		
3.21865E-06,-1.07288E-06,-0.249998,3.21865E-06,-5.36442E-06,	969P	958		
2.14577E-06,0.166666,-1.07288E-06,2.14577E-06,-1.07288E-06,7.5,	969P	959		
-0.749997,-4.29153E-06,1.43051E-06,0.199999,1.07288E-06,	969P	960		
-2.14577E-06,1.07288E-06,0.300002,-5.36442E-06,1.07288E-05,	969P	961		
-6.79493E-06,-0.25,2.86102E-06,-5.72205E-06,3.8147E-06,1.0,-1.0,	969P	962		
-3.57628E-07,1.19209E-07,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,	969P	963		
0.0,0.0,0.0,5.75,0.0,0.0,0.0,-0.416666,1.07288E-06,-1.07288E-06,	969P	964		
0.0,0.249998,2.14577E-06,-2.14577E-06,0.0,-0.0833328,	969P	965		
-3.21865E-06,3.21865E-06,0.0,7.75,-0.749999,-1.43051E-06,	969P	966		
-4.76837E-07,0.0500009,-1.07288E-06,2.14577E-06,-1.07288E-06,	969P	967		
-0.450001,2.14577E-06,-4.29153E-06,3.57628E-06,0.149999,	969P	968		
-2.5034E-06,3.57628E-06,-2.02656E-06,1.0,-1.0,-3.57628E-07,	969P	969		
1.19209E-07,0.0,0.0,0.0,0.0,0.0,-5.36442E-07,7.15256E-07,	969P	970		
-1.78814E-07,0.0,3.57628E-07,-4.76837E-07,1.19209E-07,5.5,0.0,	969P	971		
0.0,0.0,-0.166669,-4.29153E-06,4.29153E-06,0.0,0.500007,	969P	972		
1.28746E-05,-1.28746E-05,0.0,-0.333338,-8.58307E-06,8.58307E-06,	969P	973		
0.0,7.5,-0.75,0.0,0.0,-0.400002,-4.29153E-06,4.29153E-06,0.0,	969P	974		
1.20001,1.28746E-05,-1.28746E-05,0.0,-0.800005,-8.58307E-06,	969P	975		
8.58307E-06,0.0,1.0,-1.0,-1.19209E-07,5.96046E-08,0.0,0.0,0.0,	969P	976		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,6.5,0.0,0.0,0.0,-0.166666,	969P	977		
-4.29153E-06,1.28746E-05,-8.58307E-06,-1.43051E-06,7.51019E-06,	969P	978		
-2.25306E-05,1.50204E-05,-0.0833325,-3.21865E-06,9.65595E-06,	969P	979		
-6.4373E-06,6.75,-0.75,2.25,-1.5,-0.0999956,-4.29153E-06,	969P	980		
1.28746E-05,-8.58307E-06,-5.96046E-06,4.29153E-06,-1.28746E-05,	969P	981		
8.58307E-06,0.100002,-1.43051E-06,4.29153E-06,-2.86102E-06,0.0,	969P	982		
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-7.15256E-07,0.0,2.38419E-07,-7.15256E-07,4.76837E-07,6.25,0.0,	969P	984		
0.0,0.0,-0.416667,1.07288E-06,-3.21865E-06,2.14577E-06,	969P	985		
-0.249998,-1.07288E-06,3.21865E-06,-2.14577E-06,0.166666,0.0,	969P	986		
0.0,0.0,6.75,-0.750001,2.25,-1.5,0.199999,0.0,0.0,0.0,0.3,	969P	987		
-4.29153E-06,1.28746E-05,-8.58307E-06,-0.25,2.86102E-06,	969P	988		
-8.58307E-06,5.72205E-06,0.0,-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,	969P	989		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,5.75,0.0,0.0,0.0,0.0,-0.416666,	969P	990		
-1.07288E-06,3.21865E-06,-2.14577E-06,0.249998,-2.14577E-06,	969P	991		
6.4373E-06,-4.29153E-06,-0.0833328,3.21865E-06,-9.65595E-06,	969P	992		
6.4373E-06,7.0,-0.750003,2.25001,-1.50001,0.0500009,0.0,0.0,0.0,	969P	993		
-0.449999,4.29153E-06,-1.28746E-05,8.58307E-06,0.149998,	969P	994		
-1.43051E-06,4.29153E-06,-2.86102E-06,0.0,-1.0,3.0,-2.0,0.0,0.0,	969P	995		
0.0,0.0,0.0,3.57628E-07,-1.07288E-06,7.15256E-07,0.0,	969P	996		
-2.38419E-07,7.15256E-07,-4.76837E-07,5.5,0.0,0.0,0.0,0.0,-0.166669,	969P	997		
4.29153E-06,-1.28746E-05,8.58307E-06,0.500007,-1.28746E-05,	969P	998		
3.86238E-05,-2.57492E-05,-0.333338,8.58307E-06,-2.57492E-05,	969P	999		
1.71661E-05,6.75,-0.75,2.25,-1.5,-0.400002,4.29153E-06,	969P	1000		
-1.28746E-05,8.58307E-06,1.20001,-1.28746E-05,3.86238E-05,	969P	1001		
-2.57492E-05,-0.800005,8.58307E-06,-2.57492E-05,1.71661E-05,	969P	1002		
0.0,-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,	969P	1003		
0.0;	969P	1004		
0,3,1,1,0;	971P	1005		
114,3,1,1,3,0.0,1.0,0.0,1.0,2.0,3.0,4.5,0.0,0.0,0.0,-0.166666,	973P	1006	114	parametric spline surface for 142
8.58307E-06,-1.28746E-05,4.29153E-06,-2.86102E-06,-1.07288E-05,	973P	1007		
1.8239E-05,-7.51019E-06,-0.0833316,3.57628E-06,-6.79493E-06,	973P	1008		
3.21865E-06,7.5,-0.75,0.0,0.0,-0.0999956,4.29153E-06,	973P	1009		
-4.29153E-06,0.0,-5.96046E-06,-1.07288E-06,-2.14577E-06,	973P	1010		
3.21865E-06,0.100002,-3.57628E-07,2.14577E-06,-1.78814E-06,1.0,	973P	1011		

-1.0,-1.19209E-07,5.96046E-08,0.0,0.0,0.0,0.0,0.0,5.36442E-07,	973P	1012		
-7.15256E-07,1.78814E-07,0.0,-3.57628E-07,4.76837E-07,	973P	1013		
-1.19209E-07,4.25,1.43051E-06,-1.43051E-06,0.0,-0.416667,	973P	1014		
-2.14577E-06,3.21865E-06,-1.07288E-06,-0.249997,-1.07288E-06,	973P	1015		
-1.07288E-06,2.14577E-06,0.166665,1.78814E-06,-7.15256E-07,	973P	1016		
-1.07288E-06,7.5,-0.749997,-4.29153E-06,1.43051E-06,0.199999,	973P	1017		
1.07288E-06,-2.14577E-06,1.07288E-06,0.300002,-5.36442E-06,	973P	1018		
1.07288E-05,-6.79493E-06,-0.25,2.86102E-06,-5.72205E-06,	973P	1019		
3.8147E-06,1.0,-1.0,-3.57628E-07,1.19209E-07,0.0,0.0,0.0,0.0,	973P	1020		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,3.75,0.0,0.0,0.0,-0.416666,	973P	1021		
1.07288E-06,-1.07288E-06,0.0,0.249998,2.14577E-06,-2.14577E-06,	973P	1022		
0.0,-0.0833328,-3.21865E-06,3.21865E-06,0.0,7.75,-0.749999,	973P	1023		
-1.43051E-06,-4.76837E-07,0.0500009,-1.07288E-06,2.14577E-06,	973P	1024		
-1.07288E-06,-0.450001,2.14577E-06,-4.29153E-06,3.57628E-06,	973P	1025		
0.149999,-2.5034E-06,3.57628E-06,-2.02656E-06,1.0,-1.0,	973P	1026		
-3.57628E-07,1.19209E-07,0.0,0.0,0.0,0.0,0.0,-5.36442E-07,	973P	1027		
7.15256E-07,-1.78814E-07,0.0,3.57628E-07,-4.76837E-07,	973P	1028		
1.19209E-07,3.5,0.0,0.0,0.0,-0.166669,-4.29153E-06,4.29153E-06,	973P	1029		
0.0,0.500007,1.28746E-05,-1.28746E-05,0.0,-0.333338,	973P	1030		
-8.58307E-06,8.58307E-06,0.0,7.5,-0.75,0.0,0.0,-0.400002,	973P	1031		
-4.29153E-06,4.29153E-06,0.0,1.20001,1.28746E-05,-1.28746E-05,	973P	1032		
0.0,-0.800005,-8.58307E-06,8.58307E-06,0.0,1.0,-1.0,	973P	1033		
-1.19209E-07,5.96046E-08,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,	973P	1034		
0.0,0.0,0.0,4.5,0.0,0.0,0.0,-0.166666,-4.29153E-06,1.28746E-05,	973P	1035		
-8.58307E-06,-2.86102E-06,3.21865E-06,-9.65595E-06,6.4373E-06,	973P	1036		
-0.0833316,-3.57628E-07,1.07288E-06,-7.15256E-07,6.75,-0.75,	973P	1037		
2.25,-1.5,-0.0999956,-4.29153E-06,1.28746E-05,-8.58307E-06,	973P	1038		
-5.96046E-06,4.29153E-06,-1.28746E-05,8.58307E-06,0.100002,	973P	1039		
-1.43051E-06,4.29153E-06,-2.86102E-06,0.0,-1.0,3.0,-2.0,0.0,0.0,	973P	1040		
0.0,0.0,0.0,-3.57628E-07,1.07288E-06,-7.15256E-07,0.0,	973P	1041		
2.38419E-07,-7.15256E-07,4.76837E-07,4.25,-1.43051E-06,	973P	1042		
4.29153E-06,-2.86102E-06,-0.416667,1.07288E-06,-3.21865E-06,	973P	1043		
2.14577E-06,-0.249997,3.21865E-06,-9.65595E-06,6.4373E-06,	973P	1044		
0.166665,-2.86102E-06,8.58307E-06,-5.72205E-06,6.75,-0.750001,	973P	1045		
2.25,-1.5,0.199999,0.0,0.0,0.0,0.3,-4.29153E-06,1.28746E-05,	973P	1046		
-8.58307E-06,-0.25,2.86102E-06,-8.58307E-06,5.72205E-06,0.0,	973P	1047		
-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,	973P	1048		
3.75,0.0,0.0,0.0,-0.416666,-1.07288E-06,3.21865E-06,	973P	1049		
-2.14577E-06,0.249998,-2.14577E-06,6.4373E-06,-4.29153E-06,	973P	1050		
-0.0833328,3.21865E-06,-9.65595E-06,6.4373E-06,7.0,-0.750003,	973P	1051		
2.25001,-1.50001,0.0500009,0.0,0.0,0.0,-0.449999,4.29153E-06,	973P	1052		
-1.28746E-05,8.58307E-06,0.149998,-1.43051E-06,4.29153E-06,	973P	1053		
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-1.07288E-06,7.15256E-07,0.0,-2.38419E-07,7.15256E-07,	973P	1055		
-4.76837E-07,3.5,0.0,0.0,0.0,-0.166669,4.29153E-06,-1.28746E-05,	973P	1056		
8.58307E-06,0.500007,-1.28746E-05,3.86238E-05,-2.57492E-05,	973P	1057		
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-1.5,-0.400002,4.29153E-06,-1.28746E-05,8.58307E-06,1.20001,	973P	1059		
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-2.57492E-05,1.71661E-05,0.0,-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,	973P	1061		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0;	973P	1062		
0,3,5,5,0;	975P	1063		
114,3,1,1,3,0.0,1.0,0.0,1.0,2.0,3.0,10.5,0.0,0.0,0.0,-0.166666,	977P	1064	114	parametric spline surface
8.58307E-06,-8.58307E-06,0.0,-1.43051E-06,-1.50204E-05,	977P	1065		
1.50204E-05,0.0,-0.0833325,6.4373E-06,-6.4373E-06,0.0,11.5,	977P	1066		

-0.75,0.0,0.0,-0.0999956,8.58307E-06,-8.58307E-06,0.0,	977P	1067		
-4.52995E-06,-8.58307E-06,8.58307E-06,0.0,0.100001,2.86102E-06,	977P	1068		
-2.86102E-06,0.0,1.0,-1.0,-1.19209E-07,5.96046E-08,0.0,0.0,0.0,	977P	1069		
0.0,0.0,5.36442E-07,-7.15256E-07,1.78814E-07,0.0,-3.57628E-07,	977P	1070		
4.76837E-07,-1.19209E-07,10.25,0.0,0.0,0.0,-0.416667,	977P	1071		
-2.14577E-06,2.14577E-06,0.0,-0.249998,2.14577E-06,-2.14577E-06,	977P	1072		
0.0,0.166666,0.0,0.0,0.0,11.5,-0.749997,-2.86102E-06,0.0,	977P	1073		
0.199999,0.0,0.0,0.0,0.299999,0.0,0.0,0.0,-0.249999,0.0,0.0,0.0,	977P	1074		
1.0,-1.0,-3.57628E-07,1.19209E-07,0.0,0.0,0.0,0.0,0.0,0.0,0.0,	977P	1075		
0.0,0.0,0.0,0.0,0.0,9.75,0.0,0.0,0.0,-0.416666,2.14577E-06,	977P	1076		
-2.14577E-06,0.0,0.249998,4.29153E-06,-4.29153E-06,0.0,	977P	1077		
-0.0833328,-6.4373E-06,6.4373E-06,0.0,11.75,-0.749997,	977P	1078		
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0.149998,-2.86102E-06,2.86102E-06,0.0,1.0,-1.0,-3.57628E-07,	977P	1080		
1.19209E-07,0.0,0.0,0.0,0.0,0.0,-5.36442E-07,7.15256E-07,	977P	1081		
-1.78814E-07,0.0,3.57628E-07,-4.76837E-07,1.19209E-07,9.5,0.0,	977P	1082		
0.0,0.0,-0.166669,-8.58307E-06,8.58307E-06,0.0,0.500007,	977P	1083		
2.57492E-05,-2.57492E-05,0.0,-0.333338,-1.71661E-05,1.71661E-05,	977P	1084		
0.0,11.5,-0.75,0.0,0.0,-0.400002,-8.58307E-06,8.58307E-06,0.0,	977P	1085		
1.20001,2.57492E-05,-2.57492E-05,0.0,-0.800005,-1.71661E-05,	977P	1086		
1.71661E-05,0.0,1.0,-1.0,-1.19209E-07,5.96046E-08,0.0,0.0,0.0,	977P	1087		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,10.5,0.0,0.0,0.0,-0.166666,	977P	1088		
-8.58307E-06,2.57492E-05,-1.71661E-05,-1.43051E-06,1.50204E-05,	977P	1089		
-4.50611E-05,3.00407E-05,-0.0833325,-6.4373E-06,1.93119E-05,	977P	1090		
-1.28746E-05,10.75,-0.75,2.25,-1.5,-0.0999956,-8.58307E-06,	977P	1091		
2.57492E-05,-1.71661E-05,-4.52995E-06,8.58307E-06,-2.57492E-05,	977P	1092		
1.71661E-05,0.100001,-2.86102E-06,8.58307E-06,-5.72205E-06,0.0,	977P	1093		
-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,-3.57628E-07,1.07288E-06,	977P	1094		
-7.15256E-07,0.0,2.38419E-07,-7.15256E-07,4.76837E-07,10.25,0.0,	977P	1095		
0.0,0.0,-0.416667,2.14577E-06,-6.4373E-06,4.29153E-06,-0.249998,	977P	1096		
-2.14577E-06,6.4373E-06,-4.29153E-06,0.166666,0.0,0.0,0.0,10.75,	977P	1097		
-0.750003,2.25001,-1.50001,0.199999,0.0,0.0,0.0,0.299999,0.0,	977P	1098		
0.0,0.0,-0.249999,0.0,0.0,0.0,0.0,0.0,-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,	977P	1099		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,9.75,0.0,0.0,0.0,-0.416666,	977P	1100		
-2.14577E-06,6.4373E-06,-4.29153E-06,0.249998,-4.29153E-06,	977P	1101		
1.28746E-05,-8.58307E-06,-0.0833328,6.4373E-06,-1.93119E-05,	977P	1102		
1.28746E-05,11.0,-0.750003,2.25001,-1.50001,0.0500009,0.0,0.0,	977P	1103		
0.0,-0.449999,0.0,0.0,0.0,0.149998,2.86102E-06,-8.58307E-06,	977P	1104		
5.72205E-06,0.0,-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,3.57628E-07,	977P	1105		
-1.07288E-06,7.15256E-07,0.0,-2.38419E-07,7.15256E-07,	977P	1106		
-4.76837E-07,9.5,0.0,0.0,0.0,-0.166669,8.58307E-06,-2.57492E-05,	977P	1107		
1.71661E-05,0.500007,-2.57492E-05,7.72476E-05,-5.14984E-05,	977P	1108		
-0.333338,1.71661E-05,-5.14984E-05,3.43323E-05,10.75,-0.75,2.25,	977P	1109		
-1.5,-0.400002,8.58307E-06,-2.57492E-05,1.71661E-05,1.20001,	977P	1110		
-2.57492E-05,7.72476E-05,-5.14984E-05,-0.800005,1.71661E-05,	977P	1111		
-5.14984E-05,3.43323E-05,0.0,-1.0,3.0,-2.0,0.0,0.0,0.0,0.0,0.0,	977P	1112		
0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0;	977P	1113		
100,0.17,2.875,6.97,2.5,7.44,2.5,6.5;	979P	1114	100	circular arc for surface to be offset by 140
110,1.5,7.43969,0.34202,1.5,6.5,0.0;	981P	1115	110	line for surface to be offset by 140
0,3,5,5,0;	983P	1116		
118,979,981,0,0;	985P	1117	118 F 0	ruled surface to be offset by 140
100,0.17,2.875,6.97,2.5,7.44,2.5,6.5;	987P	1118	100	circular arc for surface for 140
110,1.5,7.43969,0.34202,1.5,6.5,0.0;	989P	1119	110	line for surface for 140
0,3,5,5,0;	991P	1120		
118,987,989,0,0;	993P	1121	118 F 0	ruled surface for 140

406,1,7HNENTITY;	995P	1122	406 F 15	drawing name
406,2,1,4HINCH;	997P	1123	406 F 17	drawing units
406,2,22.0,17.0;	999P	1124	406 F 16	drawing size
404,2,35,0.0,0.0,1063,0.0,0.0,0,0,3,995,997,999;	1001P	1125	404	drawing
106,1,14,0.0,7.5,12.5,8.5,13.5,7.56096,12.8438,	1003P	1126	106 F 34	section 34
8.1562,13.439,7.51181,12.6532,	1003P	1127		
8.34677,13.4882,7.64142,12.5,	1003P	1128		
8.5,13.3586,8.06569,12.5,8.5,	1003P	1129		
12.9343,8.20711,12.5,8.5,12.7929,	1003P	1130		
8.34853,12.5,8.5,12.6515;	1003P	1131		
106,1,16,0.0,9.5,12.783,10.217,13.5,9.783,12.5,	1005P	1132	106 F 35	section 35
10.5,13.217,9.5,13.066,9.645,	1005P	1133		
13.211,9.790,13.355,9.934,13.5,	1005P	1134		
10.066,12.5,10.211,12.645,10.355,	1005P	1135		
12.79,10.5,12.934,9.5,13.349,	1005P	1136		
9.652,13.5,10.349,12.5,10.5,12.652;	1005P	1137		
106,1,12,0.0,1.5,13.2172,1.78284,13.5,1.5,	1007P	1138	106 F 31	section 31
12.9343,2.06569,13.5,1.5,12.6515,	1007P	1139		
2.34853,13.5,1.63137,12.5,	1007P	1140		
2.5,13.3686,1.91421,12.5,2.5,13.0858,	1007P	1141		
2.19706,12.5,2.5,12.8029;	1007P	1142		
106,1,28,0.0,13.7513,12.5013,14.5,13.25,13.5013,	1009P	1143	106 F 37	section 37
12.5013,14.5,13.5,14.5,13.0,	1009P	1144		
14.0013,12.5013,14.2513,12.5013,	1009P	1145		
14.5,12.75,13.5013,12.7513,	1009P	1146		
14.25,13.5,14.0,13.5,13.5013,13.0013,	1009P	1147		
13.5013,13.2513,13.75,13.5,	1009P	1148		
14.5,13.2525,14.2525,13.5,	1009P	1149		
14.0025,13.5,14.5,13.0025,14.5,	1009P	1150		
12.7525,13.7525,13.5,13.5025,13.5,	1009P	1151		
14.5,12.5025,14.2513,12.5013,	1009P	1152		
13.5013,13.2513,13.5013,	1009P	1153		
13.0013,14.0013,12.5013,	1009P	1154		
13.7513,12.5013,13.5013,12.7513;	1009P	1155		
106,1,14,0.0,3.5,13.25,3.75,13.5,3.5,13.0,	1011P	1156	106 F 32	section 32
4.0,13.5,3.5,12.5,3.75,12.75,4.25,	1011P	1157		
13.25,4.5,13.5,3.75,12.5,4.0,	1011P	1158		
12.75,4.25,13.0,4.5,13.25,4.25,	1011P	1159		
12.5,4.5,12.75;	1011P	1160		
106,1,26,0.0,6.14612,12.5,6.5,12.8542,	1013P	1161	106 F 33	section 33
5.5,12.7965,6.20279,13.5,5.67495,12.5,6.5,13.3259,	1013P	1162		
5.5,13.2682,5.73162,13.5,5.94108,12.5303,6.17678,12.766,	1013P	1163		
6.29463,12.8839,6.5,13.0893,5.5,12.5607,5.58752,12.6482,	1013P	1164		
5.70537,12.766,5.94107,13.0017,6.05893,13.1196,6.29463,13.3553,	1013P	1165		
6.41248,13.4731,6.43934,13.5,5.5,13.0321,5.70537,13.2374,	1013P	1166		
5.82322,13.3553,5.96794,13.5,6.38215,12.5,6.41248,12.5303;	1013P	1167		
106,1,30,0.0,11.7643,12.5,11.9857,12.7214,	1015P	1168	106 F 36	section 36
12.1036,12.8393,12.3393,13.075,12.4571,13.1928,	1015P	1169		
12.5,13.2357,11.5286,12.5,11.75,12.7214,	1015P	1170		
11.8679,12.8393,12.1036,13.075,12.2214,13.1928,	1015P	1171		
12.4571,13.4285,11.5143,12.7214,11.75,12.9571,	1015P	1172		
11.8679,13.075,12.1036,13.3107,12.2214,13.4285,12.2929,13.5,	1015P	1173		
11.5,12.9428,11.5143,12.9571,11.6322,13.075,11.8679,13.3107,	1015P	1174		
11.9857,13.4285,12.0572,13.5,11.5,13.1785,11.5143,13.1928,	1015P	1175		
11.6322,13.3107,11.8215,13.5,11.5,13.4142,11.5858,13.5;	1015P	1176		

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15.5572,12.5,16.5,13.4438,15.5,12.6786,16.3206,13.5,
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102,4,77,79,81,315;
228,727,2,221,309,0;
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142,1,973,1027,1043,2;
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142,1,969,1073,1075,2;
144,969,1,0,1033;
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1.42,0.125,1,1.5708,0.0,0,0,15.525,5.15625,0.0,14HBED        ACT
,8,0.8,0.125,1,1.5708,0.0,0,0,15.125,5.0625,0.0,8HIM -----,
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14,1.38,0.125,1,1.5708,0.0,0,0,15.525,4.96875,0.0,14HDED
ION;
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110,2.5,11.0,0.0,2.0,11.75,0.0;
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124,1.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0;
108,1.0,0.0,0.0,1.0;
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1017P	1177	106 F 38	section 38
1017P	1178		
1017P	1179		
1017P	1180		
1017P	1181		
1017P	1182		
1017P	1183		
1017P	1184		
1017P	1185		
1017P	1186		
1017P	1187		
1019P	1188	102	composite curve
1021P	1189	228 F 0	symbol - general
1023P	1190	130	offset curve
1025P	1191	140	offset surface
1027P	1192	100	circular arc for 142
1029P	1193	142	curve on parametric surface
1031P	1194		
1033P	1195	142	curve on parametric surface for 144
1035P	1196	144	trimmed parametric surface
1037P	1197		
1039P	1198	212 F 2	note - imbedded font change
1039P	1199		
1039P	1200		
1041P	1201	212 F 102	note - font/double fraction
1041P	1202		
1041P	1203		
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1041P	1205		
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1043P	1209	112	parametric spline for 142
1043P	1210		
1043P	1211		
1043P	1212		
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1043P	1216		
1043P	1217		
1043P	1218		
1043P	1219		
1043P	1220		
1043P	1221		
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1043P	1223		
1043P	1224		
1043P	1225		
1045P	1226	124 F 0	matrix for circular arc for 102
1047P	1227	110	left clipped line for 108 Form 0
1049P	1228	110	right clipped line for 108 Form 0
1051P	1229	406 F 15	clipping view name
1053P	1230	124 F 0	clipping view matrix
1055P	1231	108 F 0	clipping view plane with display symbol

108,0.0,1.0,0.0,11.5;	1057P	1232	108 F 0	clipping view plane
108,1.0,0.0,0.0,3.0;	1059P	1233	108 F 0	clipping view plane
108,0.0,1.0,0.0,10.0;	1061P	1234	108 F 0	clipping view plane
410,2,1.0,1055,1057,1059,1061,0,0,0,1,1051;	1063P	1235	410	clipping view
212,1,6,1.0,0.125,1,1.046,4.71,0,1,14.5,7.5,0.0,6HSIMPLE;	1065P	1236	212 F 0	note - simple vertical
128,5,5,5,5,0,0,1,0,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,	1067P	1237	128 F 5	rational b-spline torus
1.0,1.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	1067P	1238		
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	1067P	1239		
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1.23228,15.9504,9.52056,-0.0815506,15.9504,8.47944,-0.0815506,	1067P	1244		
16.75,8.58924,1.23228,16.75,9.0,1.23228,14.3511,9.0,1.56168,	1067P	1245		
14.3511,9.41076,1.56168,16.1091,9.52056,-0.10335,16.1091,	1067P	1246		
8.47944,-0.10335,14.3511,8.58924,1.56167,14.3511,9.0,1.56168,	1067P	1247		
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128,5,5,5,5,0,0,1,0,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,	1069P	1256	128 F 4	rational b-spline sphere
1.0,1.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	1069P	1257		
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12.9007,9.0,1.04112,12.9007,9.82152,1.04112,16.4168,10.0411,	1069P	1267		
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1.0,0.0,1.0;	1069P	1274		
128,3,3,3,2,0,0,1,0,0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,0.0,0.0,	1071P	1275	128 F 9	rational b-spline general quadratic
0.0,1.0,2.0,2.0,2.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,	1071P	1276		
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8.66667,0.333333,18.5,8.5,0.0,18.5,9.0,1.0,18.5,8.83333,	1071P	1278		
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9.83333,0.666667,17.5,9.66667,0.333333,17.5,9.5,0.0,17.5,9.0,	1071P	1280		
1.0,17.5,8.83333,0.666667,17.5,8.66667,0.333333,17.5,8.5,0.0,	1071P	1281		
0.0,1.0,0.0,2.0;	1071P	1282		
100,0.0,6.0,7.25,6.25,7.25,6.25,7.25;	1073P	1283	100	circular arc for 142 for 144
112,3,1,3,7,0.0,1.0,2.0,3.0,4.0,5.0,6.0,7.0,5.817,0.183686,	1075P	1284	112	parametric spline for 142 for 144
7.15256E-07,3.91344E-03,7.42046,0.116096,-1.43051E-06,	1075P	1285		
-0.0365138,0.582714,0.26764,-2.68221E-07,-0.0384366,6.0046,	1075P	1286		

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0.195428,0.011741,-0.0231148,7.50004,6.55174E-03,-0.109543,          1075P   1287
0.0169944,0.811917,0.15233,-0.11531,-6.73003E-03,6.18865,            1075P   1288
0.149566,-0.0576034,-0.034095,7.41404,-0.161551,-0.0585597,          1075P   1289
0.0144959,0.842207,-0.0984805,-0.1355,7.67251E-04,6.24652,           1075P   1290
-0.0679259,-0.159888,0.0609804,7.20843,-0.235182,-0.0150719,         1075P   1291
0.0548643,0.608993,-0.367179,-0.133198,0.11326,6.07969,              1075P   1292
-0.204761,0.0230529,-5.38516E-03,7.01304,-0.100733,0.149521,         1075P   1293
-0.0375805,0.221876,-0.293796,0.206582,-0.0375974,5.89259,           1075P   1294
-0.174811,6.89745E-03,0.041456,7.02425,0.0855677,0.0367796,          1075P   1295
0.0150364,0.0970648,6.57602E-03,0.0937898,0.0214335,5.76614,         1075P   1296
-0.0366479,0.131266,-0.0437549,7.16163,0.204236,0.0818889,           1075P   1297
-0.0272963,0.218864,0.258456,0.15809,-0.0526968,5.817,0.0946183,     1075P   1298
1.43051E-06,-0.26253,7.42046,0.286125,0.0,-0.163778,0.582714,        1075P   1299
0.146546,-1.71363E-07,-0.316181;                                     1075P   1300
110,0.0,-0.5,0.0,0.0,0.5,0.0;                                        1077P   1301    110         line for subfigure for 124
110,0.0,-0.5,0.0,0.3,0.0,0.0;                                        1079P   1302    110         line for subfigure for 124
110,0.0,-0.5,0.0,-0.3,0.0,0.0;                                       1081P   1303    110         line for subfigure for 124
110,0.3,0.0,0.0,-0.3,0.0,0.0;                                        1083P   1304    110         line for subfigure for 124
308,0,5HARROW,4,1077,1079,1081,1083;                                 1085P   1305    308         subfigure definition
124,0.0,1.0,0.0,2.0,-1.0,0.0,0.0,9.0,0.0,0.0,                        1087P   1306    124 F 0     transformation matrix D=1
1.0,0.0;                                                             1087P   1307
408,1085,0.0,0.0,0.0,1.0;                                            1089P   1308    408         subfigure instance for 124 Form 0
124,0.0,-1.0,0.0,4.0,-1.0,0.0,0.0,9.0,0.0,0.0,                       1091P   1309    124 F 1     transformation matrix D=-1
1.0,0.0;                                                             1091P   1310
408,1085,0.0,0.0,0.0,1.0;                                            1093P   1311    408         subfigure instance for 124 Form 1
S     36G       4D    1094P    1311                                    T       1
```

Attachment J

L-bracket IGES File Printout

```
                                                                        S      1
                                                                        S      2
CONFORMANCE:  This IGES file comforms to the MIL-D-28000 Amendment 1    S      3
              Class II subset (Engineering Drawings).                   S      4
                                                                        S      5
CREATED BY:   CALS Test Network                                         S      6
              Lawrence Livermore National Laboratory                    S      7
              7000 East Ave., P.O. Box 808, L-542                       S      8
              Livermore, CA 94550                                       S      9
              (415) 422-4357                                            S     10
                                                                        S     11
DATE:         15 October 1988                                           S     12
                                                                        S     13
PART NAME:    LBRACKT                                                   S     14
                                                                        S     15
DRAWING NAME: LBRACKT                                                   S     16
                                                                        S     17
DESCRIPTION:  Reference drawing named L-bracket which is comprised      S     18
              of all the IGES structure entities (304-410) specified    S     19
              in MIL-D-28000 Class II.  Contact the CALS Test Network   S     20
              to obtain procedures for conducting the test and          S     21
              evaluating the results.                                   S     22
                                                                        S     23
REVISION:     C                                                         S     24
                                                                        S     25
DRAWING SIZE                                                            S     26
 AND NUMBER:  One C-Size                                                S     27
                                                                        S     28
PART LEVEL SCHEME:                                                      S     29
                                                                        S     30
                   LEVEL       ENTITY DESCRIPTION       MODE            S     31
                  ------------------------------------------            S     32
                  defaulted    definition entities      model           S     33
                      1        geometric entities       model           S     34
                      2        dimension entities       draw            S     35
                      3        other detailing          draw            S     36
                      4        subfigure entities       model           S     37
                                                                        S     38
                                                                        S     39
1H,,1H;,7HLBRACKT,7HLBRACKT,4HNONE,4HNONE,32,38,6,38,15,                G      1
7HLBRACKT,1.0,1,4HINCH,1,1.0,13H881015.080000,0.000001,22.0,            G      2
7HFARRELL,17HCALS TEST NETWORK,6,0;                                     G      3
       0       1       0       0       0       0       0       000000000D     1
       0       0       0       1       0                               0D     2
       0       2       0       0       0       0       0       000000000D     3
       0       0       0       1       0                               0D     4
       0       3       0       0       0       0       0       000000000D     5
       0       0       0       1       0                               0D     6
       0       4       0       0       0       0       0       000000000D     7
       0       0       0       1       0                               0D     8
       0       5       0       0       0       0       0       000000000D     9
       0       0       0       1       0                               0D    10
       0       6       0       0       0       0       0       000000000D    11
       0       0       0       1       0                               0D    12
     110       7       0       1       0       0       0       000010001D    13
```

110	0	0	1	0			0D	14
100	8	0	1	0	0	43	000010001D	15
100	0	0	1	0			0D	16
110	9	0	1	0	0	0	000010001D	17
110	0	0	1	0			0D	18
100	10	0	1	0	0	43	000010001D	19
100	0	0	1	0			0D	20
110	11	0	1	0	0	0	00010001D	21
110	0	0	1	0			0D	22
100	12	0	1	0	0	43	000010001D	23
100	0	0	1	0			0D	24
110	13	0	1	0	0	0	000010001D	25
110	0	0	1	0			0D	26
100	14	0	1	0	0	43	000010001D	27
100	0	0	1	0			0D	28
110	15	0	1	0	0	0	000010001D	29
110	0	0	1	0			0D	30
110	16	0	1	0	0	0	000010001D	31
110	0	0	1	0			0D	32
110	17	0	1	0	0	0	000010001D	33
110	0	0	1	0			0D	34
110	18	0	1	0	0	0	000010001D	35
110	0	0	1	0			0D	36
308	19	0	0	0	0	0	000000201D	37
308	0	0	2	0			0D	38
0	21	0	0	0	0	0	000000001D	39
0	0	0	1	0			0D	40
124	22	0	0	0	0	0	000000001D	41
124	0	0	1	0			0D	42
124	23	0	0	0	0	0	000000001D	43
124	0	0	1	0			0D	44
0	24	0	0	0	0	0	000000001D	45
0	0	0	2	0			0D	46
0	26	0	0	0	0	0	000000001D	47
0	0	0	1	0			0D	48
0	27	0	0	0	0	0	000000001D	49
0	0	0	1	0			0D	50
0	28	0	0	0	0	0	000000001D	51
0	0	0	1	0			0D	52
406	29	0	0	0	0	0	000020001D	53
406	0	0	1	15			0D	54
124	30	0	0	0	0	0	000000001D	55
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108	32	0	2	0	0	0	000010001D	57
108	0	0	1	0			0D	58
108	33	0	2	0	0	0	000010001D	59
108	0	0	1	0			0D	60
108	34	0	2	0	0	0	000010001D	61
108	0	0	1	0			0D	62
108	35	0	2	0	0	0	000010001D	63
108	0	0	1	0			0D	64
410	36	0	0	0	0	55	000020201D	65
410	0	0	2	0			0D	66
406	38	0	0	0	0	0	00020001D	67
406	0	0	1	15			0D	68

124	39	0	0	0	0	0	000000001D	69
124	0	0	1	0			0D	70
108	40	0	2	0	0	0	000010001D	71
108	0	0	1	0			0D	72
108	41	0	2	0	0	0	000010001D	73
108	0	0	1	0			0D	74
108	42	0	2	0	0	0	000010001D	75
108	0	0	1	0			0D	76
108	43	0	2	0	0	0	000010001D	77
108	0	0	1	0			0D	78
410	44	0	0	0	0	69	000020201D	79
410	0	0	1	0			0D	80
406	45	0	0	0	0	0	000010001D	81
406	0	0	1	15			0D	82
124	46	0	0	0	0	0	000000001D	83
124	0	0	1	0			0D	84
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108	0	0	1	0			0D	88
108	49	0	2	0	0	0	000010001D	89
108	0	0	1	0			0D	90
108	50	0	2	0	0	0	000010001D	91
108	0	0	1	0			0D	92
410	51	0	0	0	0	83	000020201D	93
410	0	0	1	0			0D	94
406	52	0	0	0	0	0	000020001D	95
406	0	0	1	15			0D	96
124	53	0	0	0	0	0	000000001D	97
124	0	0	1	0			0D	98
108	54	0	2	0	0	0	000010001D	99
108	0	0	1	0			0D	100
108	55	0	2	0	0	0	000010001D	101
108	0	0	1	0			0D	102
108	56	0	2	0	0	0	000010001D	103
108	0	0	1	0			0D	104
108	57	0	2	0	0	0	000010001D	105
108	0	0	1	0			0D	106
410	58	0	0	0	0	97	000020201D	107
410	0	0	1	0			0D	108
110	59	0	1	1	0	0	000000001D	109
110	0	0	1	0			0D	110
110	60	0	1	1	0	0	000000001D	111
110	0	0	1	0			0D	112
110	61	0	1	1	0	0	000000001D	113
110	0	0	1	0			0D	114
110	62	0	1	1	303	0	000000001D	115
110	0	0	1	0			0D	116
110	63	0	1	1	0	0	000000001D	117
110	0	0	1	0			0D	118
110	64	0	1	1	0	0	000000001D	119
110	0	0	1	0			0D	120
100	65	0	1	1	0	41	000000001D	121
100	0	0	1	0			0D	122
110	66	0	1	1	0	0	000000001D	123

110	0	0	1	0			0D	124
100	67	0	1	1	0	41	000000001D	125
100	0	0	1	0			0D	126
110	68	0	1	1	303	0	000000001D	127
110	0	0	1	0			0D	128
106	69	0	0	3	0	0	000010101D	129
106	0	0	2	21			0D	130
110	71	0	1	1	0	0	000000001D	131
110	0	0	1	0			0D	132
110	72	0	1	1	0	0	000000001D	133
110	0	0	1	0			0D	134
110	73	0	1	1	0	0	000000001D	135
110	0	0	1	0			0D	136
110	74	0	1	1	0	0	000000001D	137
110	0	0	1	0			0D	138
110	75	0	1	1	0	0	000000001D	139
110	0	0	1	0			0D	140
110	76	0	1	1	0	0	000000001D	141
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110	0	0	1	0			0D	146
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110	0	0	1	0			0D	148
0	81	0	0	0	0	0	000000001D	149
0	0	0	1	0			0D	150
100	82	0	1	1	327	0	000000001D	151
100	0	0	1	0			0D	152
100	83	0	1	1	327	0	000000001D	153
100	0	0	1	0			0D	154
0	84	0	0	0	0	0	000000001D	155
0	0	0	1	0			0D	156
110	85	0	1	1	327	0	000000001D	157
110	0	0	1	0			0D	158
110	86	0	2	3	0	0	000010101D	159
110	0	0	1	0			0D	160
110	87	0	2	3	0	0	000010101D	161
110	0	0	1	0			0D	162
110	88	0	2	3	0	0	000010101D	163
110	0	0	1	0			0D	164
110	89	0	2	3	0	0	000010101D	165
110	0	0	1	0			0D	166
106	90	0	0	3	0	0	000010101D	167
106	0	0	2	20			0D	168
106	92	0	0	3	0	0	000010101D	169
106	0	0	2	20			0D	170
110	94	0	1	1	0	0	000000001D	171
110	0	0	1	0			0D	172
110	95	0	1	1	0	0	000000001D	173
110	0	0	1	0			0D	174
110	96	0	1	1	0	0	000000001D	175
110	0	0	1	0			0D	176
0	97	0	0	0	0	0	000000201D	177
0	0	0	1	0			0D	178

110	98	0	1	1	303	0	000020001D	179
110	0	0	1	0			0D	180
0	99	0	0	0	0	0	000000001D	181
0	0	0	1	0			0D	182
0	100	0	0	0	0	0	000000001D	183
0	0	0	1	0			0D	184
100	101	0	1	1	303	43	000020001D	185
100	0	0	1	0			0D	186
0	102	0	0	0	0	0	000000001D	187
0	0	0	1	0			0D	188
110	103	0	1	1	343	0	000020001D	189
110	0	0	1	0			0D	190
0	104	0	0	0	0	0	000000001D	191
0	0	0	1	0			0D	192
100	105	0	1	1	303	43	000020001D	193
100	0	0	1	0			0D	194
110	106	0	1	1	343	0	000020001D	195
110	0	0	1	0			0D	196
100	107	0	1	1	343	43	000020001D	197
100	0	0	1	0			0D	198
110	108	0	1	1	343	0	000020001D	199
110	0	0	1	0			0D	200
100	109	0	1	1	343	43	000020001D	201
100	0	0	1	0			0D	202
0	110	0	0	0	0	0	000000001D	203
0	0	0	1	0			0D	204
110	111	0	1	1	343	0	000020001D	205
110	0	0	1	0			0D	206
110	112	0	1	1	343	0	000020001D	207
110	0	0	1	0			0D	208
110	113	0	1	1	343	0	000020001D	209
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110	114	0	1	0	343	0	000020001D	211
110	0	0	1	0			0D	212
0	115	0	0	0	0	0	000000001D	213
0	0	0	1	0			0D	214
0	116	0	0	0	0	0	000000001D	215
0	0	0	1	0			0D	216
110	117	0	-341	3	0	0	000010101D	217
110	0	0	1	0			0D	218
110	118	0	-341	3	0	0	000010101D	219
110	0	0	1	0			0D	220
110	119	0	-341	3	0	0	000010101D	221
110	0	0	1	0			0D	222
110	120	0	-369	3	0	0	000010101D	223
110	0	0	1	0			0D	224
110	121	0	-369	3	0	0	000010101D	225
110	0	0	1	0			0D	226
112	122	0	1	3	0	0	000010101D	227
112	0	0	5	0			0D	228
110	127	0	1	1	303	0	000000001D	229
110	0	0	1	0			0D	230
0	128	0	1	2	0	0	000010101D	231
0	0	5	1	0			0D	232
0	129	0	1	2	0	0	000010101D	233

0	0	5	1	0			0D	234
0	130	0	1	2	0	0	000010101D	235
0	0	5	1	0			0D	236
0	131	0	1	2	0	0	000010101D	237
0	0	5	1	0			0D	238
0	132	0	1	2	0	0	000010101D	239
0	0	5	1	0			0D	240
0	133	0	1	2	0	0	000010101D	241
0	0	5	1	0			0D	242
0	134	0	1	2	0	0	000010101D	243
0	0	5	1	0			0D	244
0	135	0	1	2	0	0	000010101D	245
0	0	5	1	0			0D	246
0	136	0	1	2	0	0	000010101D	247
0	0	5	1	0			0D	248
0	137	0	1	2	0	0	000010101D	249
0	0	5	1	0			0D	250
0	138	0	1	2	0	0	000010101D	251
0	0	5	1	0			0D	252
212	139	0	0	2	0	0	000010101D	253
212	0	5	1	0			0D	254
214	140	0	1	2	0	0	000010101D	255
214	0	5	1	2			0D	256
214	141	0	1	2	0	0	000010101D	257
214	0	5	1	2			0D	258
106	142	0	0	2	0	0	000010101D	259
106	0	5	1	40			0D	260
106	143	0	0	2	0	0	000010101D	261
106	0	5	1	40			0D	262
216	144	0	1	2	0	0	000010101D	263
216	0	5	1	0			0D	264
212	145	0	0	2	0	0	000010101D	265
212	0	5	1	0			0D	266
214	146	0	1	2	0	0	000010101D	267
214	0	5	1	2			0D	268
222	147	0	1	2	0	0	000010101D	269
222	0	5	1	0			0D	270
212	148	0	0	2	0	0	000010101D	271
212	0	5	1	0			0D	272
214	149	0	1	2	0	0	000010101D	273
214	0	5	1	2			0D	274
214	150	0	1	2	0	0	000010101D	275
214	0	5	1	2			0D	276
106	151	0	0	2	0	0	000010101D	277
106	0	5	1	40			0D	278
106	152	0	0	2	0	0	000010101D	279
106	0	5	1	40			0D	280
216	153	0	1	2	0	0	000010101D	281
216	0	5	1	0			0D	282
212	154	0	0	2	0	0	000010101D	283
212	0	5	2	0			0D	284
214	156	0	1	2	0	0	000010101D	285
214	0	5	1	2			0D	286
206	157	0	1	2	0	0	000010101D	287
206	0	5	1	0			0D	288

212	158	0	0	2	0	0	000010101D	289
212	0	5	1	0			0D	290
214	159	0	1	2	0	0	000010101D	291
214	0	5	1	2			0D	292
214	160	0	1	2	0	0	000010101D	293
214	0	5	1	2			0D	294
106	161	0	0	2	0	0	000010101D	295
106	0	5	1	40			0D	296
106	162	0	0	2	0	0	000010101D	297
106	0	5	1	40			0D	298
216	163	0	1	2	0	0	000010101D	299
216	0	5	1	0			0D	300
106	164	0	0	3	0	0	000010101D	301
106	0	-325	4	31			0D	302
402	168	0	0	0	0	0	000000201D	303
402	0	0	1	3			0D	304
0	169	0	0	0	0	0	000000001D	305
0	0	0	1	0			0D	306
408	170	0	0	-329	303	0	000000001D	307
408	0	0	1	0			0D	308
406	171	0	0	0	0	0	000020001D	309
406	0	0	1	15			0D	310
406	172	0	0	0	0	0	000020001D	311
406	0	0	1	17			0D	312
406	173	0	0	0	0	0	000020001D	313
406	0	0	1	16			0D	314
110	174	0	-341	3	0	0	000010101D	315
110	0	0	1	0			0D	316
110	175	0	-341	3	0	0	000010101D	317
110	0	0	1	0			0D	318
110	176	0	-341	3	0	0	000010101D	319
110	0	0	1	0			0D	320
0	177	0	0	0	0	0	000000201D	321
0	0	0	3	0			0D	322
402	180	0	0	0	0	0	000000201D	323
402	0	0	1	15			0D	324
314	181	0	0	0	0	0	000000201D	325
314	0	0	1	0			0D	326
402	182	0	0	0	0	0	000000201D	327
402	0	0	1	4			0D	328
406	183	0	0	0	0	0	000000001D	329
406	0	0	1	1			0D	330
406	184	0	0	0	0	0	000000001D	331
406	0	0	1	3			0D	332
406	185	0	0	0	0	0	000000001D	333
406	0	0	1	3			0D	334
406	186	0	0	0	0	0	000000001D	335
406	0	0	1	3			0D	336
406	187	0	0	0	0	0	000000001D	337
406	0	0	1	3			0D	338
406	188	0	0	0	0	0	000020001D	339
406	0	0	1	5			0D	340
304	189	0	1	0	0	0	000000201D	341
304	0	0	1	2			0D	342
402	190	0	0	0	0	0	000000201D	343

```
     402       0       0       2       3                               0D      344
     110     192       0       1       3       0       0       000010101D      345
     110       0       0       1       0                               0D      346
     110     193       0       1       3       0       0       000010101D      347
     110       0       0       1       0                               0D      348
     110     194       0       1       3       0       0       000010101D      349
     110       0       0       1       0                               0D      350
     110     195       0       1       3       0       0       000010101D      351
     110       0       0       1       0                               0D      352
     110     196       0       1       3       0       0       000010101D      353
     110       0       0       1       0                               0D      354
     110     197       0       1       3       0       0       000010101D      355
     110       0       0       1       0                               0D      356
     212     198       0       0       3       0       0       000010101D      357
     212       0       0       6       0                               0D      358
     110     204       0       1       1       0       0       000010101D      359
     110       0       0       1       0                               0D      360
     110     205       0       1       1       0       0       000010101D      361
     110       0       0       1       0                               0D      362
     404     206       0       0       0       0       0       000000201D      363
     404       0       0       4       0                               0D      364
     110     210       0       1       0       0       0       000010101D      365
     110       0       0       1       0                               0D      366
     308     211       0       0       0       0       0       000020201D      367
     308       0       0       1       0                               0D      368
     304     212       0       1       0       0       0       000000201D      369
     304       0       0       1       1                               0D      370
0;                                                                      1P        1
0;                                                                      3P        2
0;                                                                      5P        3
0;                                                                      7P        4
0;                                                                      9P        5
0;                                                                     11P        6
110,1.0,1.0,3.2,1.0,3.0,3.2;                                           13P        7
100,1.0,3.0,3.0,3.0,2.8,3.0,3.2;                                       15P        8
110,1.0,1.0,2.8,1.0,3.0,2.8;                                           17P        9
100,1.0,1.0,3.0,1.0,3.2,1.0,2.8;                                       19P       10
110,0.75,1.0,2.8,0.75,3.0,2.8;                                         21P       11
100,0.75,1.0,3.0,1.0,3.2,1.0,2.8;                                      23P       12
110,0.75,1.0,3.2,0.75,3.0,3.2;                                         25P       13
100,0.75,3.0,3.0,3.0,2.8,3.0,3.2;                                      27P       14
110,1.0,1.0,2.8,0.75,1.0,2.8;                                          29P       15
110,1.0,3.0,2.8,0.75,3.0,2.8;                                          31P       16
110,1.0,1.0,3.2,0.75,1.0,3.2;                                          33P       17
110,1.0,3.0,3.2,0.75,3.0,3.2;                                          35P       18
308,0,6HSUBFIG,12,13,15,17,19,21,23,25,27,29,31,33,                    37P       19
35;                                                                    37P       20
0;                                                                     39P       21
124,1.0,0.0,0.0,0.0,0.0,0.0,-1.0,0.0,0.0,1.0,0.0,0.0;                  41P       22
124,0.0,0.0,1.0,0.0,1.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0;                   43P       23
0,0,                                                                   45P       24
0;                                                                     45P       25
0;                                                                     47P       26
0;                                                                     49P       27
0;                                                                     51P       28
```

Entity and Form Number	Entity Description on L-bracket Drawing
110	line 1 for subfigure slot
100	circular arc 2 for subfigure slot
110	line 3 for subfigure slot
100	circular arc 4 for subfigure slot
110	line 5 for subfigure slot
100	circular arc 6 for subfigure slot
110	line 7 for subfigure slot
100	circular arc 8 for subfigure slot
110	line 9 for subfigure slot
110	line 10 for subfigure slot
110	line 11 for subfigure slot
110	line 12 for subfigure slot
308	subfigure definition
124 F 0	matrix for fillet
124 F 0	matrix for slot

406,1,3HISO;	53P	29	406 F 15	isometric view name
124,0.707107,0.707107,0.0,0.0,-0.408248,0.408248,0.816497,0.0,	55P	30	124 F 0	isometric view matrix
0.57735,-0.57735,0.57735,0.0;	55P	31		
108,0.707107,0.707107,0.0,-3.0;	57P	32	108 F 0	isometric view plane
108,-0.408248,0.408248,0.816497,7.0;	59P	33	108 F 0	isometric view plane
108,0.707107,0.707107,0.0,10.0;	61P	34	108 F 0	isometric view plane
108,-0.408248,0.408248,0.816497,-2.0;	63P	35	108 F 0	isometric view plane
410,6,1.0,57,59,61,63,0,0,3,303,343,327,1,	65P	36	410	isometric view
53;	65P	37		
406,1,4HSIDE;	67P	38	406 F 15	side view name
124,0.0,1.0,0.0,0.0,0.0,0.0,1.0,0.0,1.0,0.0,0.0,0.0;	69P	39	124 F 0	side view matrix
108,0.0,1.0,0.0,-3.0;	71P	40	108 F 0	side view plane
108,0.0,0.0,1.0,5.0;	73P	41	108 F 0	side view plane
108,0.0,1.0,0.0,10.0;	75P	42	108 F 0	side view plane
108,0.0,0.0,1.0,-3.0;	77P	43	108 F 0	side view plane
410,5,1.0,71,73,75,77,0,0,2,303,343,1,67;	79P	44	410	side view
406,1,3HTOP;	81P	45	406 F 15	top view name
124,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,0.0,0.0,1.0,0.0;	83P	46	124 F 0	top view matrix
108,1.0,0.0,0.0,-3.0;	85P	47	108 F 0	top view plane
108,0.0,1.0,0.0,7.0;	87P	48	108 F 0	top view plane
108,1.0,0.0,0.0,6.0;	89P	49	108 F 0	top view plane
108,0.0,1.0,0.0,-2.0;	91P	50	108 F 0	top view plane
410,4,1.0,85,87,89,91,0,0,1,327,1,81;	93P	51	410	top view
406,1,5HFRONT;	95P	52	406 F 15	front view name
124,1.0,0.0,0.0,0.0,0.0,0.0,1.0,0.0,0.0,-1.0,0.0,0.0;	97P	53	124 F 0	front view matrix
108,1.0,0.0,0.0,-3.0;	99P	54	108 F 0	front view plane
108,0.0,0.0,1.0,5.0;	101P	55	108 F 0	front view plane
108,1.0,0.0,0.0,6.0;	103P	56	108 F 0	front view plane
108,0.0,0.0,1.0,-3.0;	105P	57	108 F 0	front view plane
410,3,1.0,99,101,103,105,0,0,1,343,1,95;	107P	58	410	front view
110,0.0,0.0,0.0,3.0,0.0,0.0;	109P	59	110	line 1
110,3.0,0.0,0.0,3.0,0.0,0.75;	111P	60	110	line 2
110,3.0,0.0,0.75,1.1,0.0,0.75;	113P	61	110	line 3
110,1.0,0.0,0.85,1.0,0.0,3.5;	115P	62	110	line 4
110,0.0,4.0,3.5,1.0,4.0,3.5;	117P	63	110	line 5
110,0.0,0.0,3.5,0.0,0.0,0.0;	119P	64	110	line 6
100,0.0,1.1,0.85,1.0,0.85,1.1,0.75;	121P	65	100	circular arc for fillet 1
110,3.0,4.0,0.75,1.1,4.0,0.75;	123P	66	110	line 7
100,-4.0,1.1,0.85,1.0,0.85,1.1,0.75;	125P	67	100	circular arc for fillet 2
110,1.0,4.0,0.85,1.0,4.0,3.5;	127P	68	110	line 8
106,1,12,0.0,5.0,12.63,5.0,12.13,5.0,12.06,5.0,11.94,5.0,11.88,	129P	69	106 F 21	centerline - thru centers
5.,11.38,4.38,12.,4.88,12.,4.94,12.,5.06,12.,5.13,12.,5.63,12.;	129P	70		
110,0.0,4.0,3.5,0.0,4.0,0.0;	131P	71	110	line 9
110,0.0,4.0,0.0,3.0,4.0,0.0;	133P	72	110	line 10
110,3.0,4.0,0.0,3.0,4.0,0.75;	135P	73	110	line 11
110,3.0,0.0,0.75,3.0,4.0,0.75;	137P	74	110	line 12
110,1.1,0.0,0.75,1.1,4.0,0.75;	139P	75	110	line 13
110,1.0,0.0,0.85,1.0,4.0,0.85;	141P	76	110	line 14
0,1,6,0.0,4.375,12.0,4.875,12.0,4.9375,12.0,5.0625,12.0,	143P	77		
5.125,12.0,5.625,12.0;	143P	78		
110,0.0,0.0,0.0,0.0,4.0,0.0;	145P	79	110	line 15
110,3.0,0.0,0.0,3.0,4.0,0.0;	147P	80	110	line 16
0;	149P	81		
100,0.0,2.0,2.0,2.25,2.0,2.25,2.0;	151P	82	100	circular arc for bottom of hole
100,0.75,2.0,2.0,2.25,2.0,2.25,2.0;	153P	83	100	circular arc for top of hole

0;	155P	84		
110,2.25,2.0,0.0,2.25,2.0,0.75;	157P	85	110	line connecting circular arcs of hole
110,4.75,3.75,0.0,4.75,3.0,0.0;	159P	86	110	dashed line 9
110,5.25,3.75,0.0,5.25,3.0,0.0;	161P	87	110	dashed line 10
110,13.75,3.75,0.0,13.75,3.0,0.0;	163P	88	110	dashed line 11
110,14.25,3.75,0.0,14.25,3.0,0.0;	165P	89	110	dashed line 12
106,1,6,0.0,5.0,4.0,5.0,3.5,5.0,3.4375,5.0,3.3125,5.0,3.25,	167P	90	106 F 20	centerline 3 - thru points
5.0,2.75;	167P	91		
106,1,6,0.0,14.0,4.0,14.0,3.5,14.0,3.4375,14.0,3.3125,14.0,	169P	92	106 F 20	centerline 4 - thru points
3.25,14.0,2.75;	169P	93		
110,0.0,0.0,3.5,1.0,0.0,3.5;	171P	94	110	line 17
110,0.0,0.0,3.5,0.0,4.0,3.5;	173P	95	110	line 18
110,1.0,0.0,3.5,1.0,4.0,3.5;	175P	96	110	line 19
0,3,0,65,79,107;	177P	97		
110,1.0,1.0,3.2,1.0,3.0,3.2;	179P	98	110	line 1 for slot
0;	181P	99		
0;	183P	100		
100,1.0,3.0,3.0,3.0,2.8,3.0,3.2;	185P	101	100	circular arc 2 for slot
0;	187P	102		
110,1.0,1.0,2.8,1.0,3.0,2.8;	189P	103	110	line 3 for slot
0;	191P	104		
100,1.0,1.0,3.0,1.0,3.2,1.0,2.8;	193P	105	100	circular arc 4 for slot
110,0.75,1.0,2.8,0.75,3.0,2.8;	195P	106	110	line 5 for slot
100,0.75,1.0,3.0,1.0,3.2,1.0,2.8;	197P	107	100	circular arc 6 for slot
110,0.75,1.0,3.2,0.75,3.0,3.2;	199P	108	110	line 7 for slot
100,0.75,3.0,3.0,3.0,2.8,3.0,3.2;	201P	109	100	circular arc 8 for slot
0;	203P	110		
110,1.0,1.0,2.8,0.75,1.0,2.8;	205P	111	110	line 9 for slot
110,1.0,3.0,2.8,0.75,3.0,2.8;	207P	112	110	line 10 for slot
110,1.0,1.0,3.2,0.75,1.0,3.2;	209P	113	110	line 11 for slot
110,1.0,3.0,3.2,0.75,3.0,3.2;	211P	114	110	line 12 for slot
0;	213P	115		
0;	215P	116		
110,3.75,10.8,0.0,4.0,10.8,0.0;	217P	117	110	dashed line 1
110,3.75,13.2,0.0,4.0,13.2,0.0;	219P	118	110	dashed line 2
110,3.75,5.2,0.0,3.75,4.8,0.0;	221P	119	110	dashed line 3
110,3.75,4.8,0.0,4.0,4.8,0.0;	223P	120	110	dashed line 4
110,3.75,5.2,0.0,4.0,5.2,0.0;	225P	121	110	dashed line 5
112,3,1,3,2,0.0,1.0,2.0,3.0,0.500001,-1.07288E-06,3.57628E-07,	227P	122	112	spline
5.0,0.65,-7.15256E-07,-0.149999,0.0,0.0,0.0,0.0,3.5,0.5,0.0,	227P	123		
-1.19209E-07,5.5,0.200001,-0.449999,0.149998,0.0,0.0,0.0,0.0,	227P	124		
4.0,0.5,-7.15256E-07,-7.15256E-07,5.4,-0.250002,-7.15256E-06,	227P	125		
0.899991,0.0,0.0,0.0,0.0,0.0;	227P	126		
110,1.0,1.0,2.8,1.0,1.0,2.2,0,1,339;	229P	127	110	line for strip of metalization
0,1,0.15,0.05,0.0,12.0,2.0,13.5,2.0;	231P	128		
0,1,0.15,0.05,0.0,16.0,2.0,14.5,2.0;	233P	129		
0,1,3,0.0,12.0,3.0,12.0,2.9,12.0,1.9;	235P	130		
0,1,3,0.0,16.0,3.0,16.0,2.9,16.0,1.9;	237P	131		
0,229,231,233,235,237;	239P	132		
0,1,5,0.8,0.2,1,1.5708,0.0,0,0,4.1,1.9,0.0,5H3.000;	241P	133		
0,1,0.15,0.05,0.0,3.0,2.0,4.0,2.0;	243P	134		
0,1,0.15,0.05,0.0,6.0,2.0,5.0,2.0;	245P	135		
0,1,3,0.0,3.0,3.0,3.0,2.9,3.0,1.9;	247P	136		
0,1,3,0.0,6.0,3.0,6.0,2.9,6.0,1.9;	249P	137		
0,241,243,245,247,249;	251P	138		

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212,1,5,0.8,0.2,1,1.5708,0.0,0,0,3.1,7.4,0.0,5H1.000;
214,1,0.15,0.05,0.0,3.0,7.5,2.8,7.5;
214,1,0.15,0.05,0.0,4.0,7.5,4.2,7.5;
106,1,3,0.0,3.0,6.5,3.0,6.6,3.0,7.6;
106,1,3,0.0,4.0,6.5,4.0,6.6,4.0,7.6;
216,253,255,257,259,261;
212,1,6,0.96,0.2,1,1.5708,0.0,0,0,5.6,4.9,0.0,6HR .100;
214,2,0.15,0.05,0.0,4.03837,3.77125,5.0,5.0,5.5,5.0;
222,265,267,4.1,3.85;
212,1,5,0.8,0.2,1,1.5708,0.0,0,0,3.6,8.9,0.0,5H2.000;
214,1,0.15,0.05,0.0,3.0,9.0,3.5,9.0;
214,1,0.15,0.05,0.0,5.0,9.0,4.5,9.0;
106,1,3,0.0,3.0,10.0,3.0,9.9,3.0,8.9;
106,1,3,0.0,5.0,11.375,5.0,11.275,5.0,8.9;
216,271,273,275,277,279;
212,2,1,0.16,0.2,1001,1.5708,0.0,0,0,7.1,10.4,0.0,1Hn,4,
0.64,0.2,1,1.5708,0.0,0,0,7.42,10.4,0.0,4H.500;
214,2,0.15,0.05,0.0,5.17678,11.8232,6.5,10.5,7.0,10.5;
206,283,285,0,5.0,12.0;
212,1,4,0.64,0.2,1,1.5708,0.0,0,0,6.68,3.265,0.0,4H.750;
214,1,0.15,0.05,0.0,7.0,3.0,7.0,2.8;
214,1,0.15,0.05,0.0,7.0,3.75,7.0,3.95;
106,1,3,0.0,6.0,3.0,6.1,3.0,7.1,3.0;
106,1,3,0.0,6.0,3.75,6.1,3.75,7.1,3.75;
216,289,291,293,295,297;
106,1,16,0.0,3.0,6.21716,3.28284,6.5,3.0,5.93431,3.56569,6.5,
3.0,5.65147,3.84853,6.5,3.0,5.36863,3.75,6.11863,3.83137,6.2,
4.0,6.36863,3.0,5.08579,3.75,5.83579,3.71121,5.51415,3.99706,
5.8,3.91937,5.43947,4.0,5.5201;
402,2,5,65,79,307,115,127,185,193;
0;
408,37,0.0,0.0,-1.0,1.0;
406,1,7HLBRACKT;
406,2,1,4HINCH;
406,2,22.0,17.0;
110,3.75,10.8,0.0,3.75,13.2,0.0;
110,3.75,11.0,0.0,4.0,11.0,0.0;
110,3.75,13.0,0.0,4.0,13.0,0.0;
0,4,107,3.0,3.0,93,3.0,10.0,79,12.0,3.0,65,12.0,10.0,32,129,
227,143,239,251,263,159,161,163,165,167,169,269,281,287,299,217,
219,301,221,223,225,317,319,315,0,3,309,311,313;
402,12,179,185,189,193,195,197,199,201,205,207,209,211;
314,60.0,0.0,40.0,7HMAGENTA;
402,2,3,65,1,0,6,0,93,1,0,3,0,157,151,153;
406,2,1,4;
406,2,1,14HMODEL ENTITIES;
406,2,2,18HDIMENSION ENTITIES;
406,2,3,15HOTHER DETAILING;
406,2,4,18HSUBFIGURE ENTITIES;
406,5,0.1,1,0,2,0.0;
304,2,0.1,0.1,1H2;
402,3,10,65,79,107,179,189,195,197,199,201,205,207,
209,211;
110,1.0,1.0,0.0,21.0,1.0,0.0;
110,21.0,1.0,0.0,21.0,16.0,0.0;
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253P	139	212 F 0	text for dimension 1.000
255P	140	214 F 2	left leader for dimension 1.000
257P	141	214 F 2	right leader for dimension 1.000
259P	142	106 F 40	left witness line for dimension 1.000
261P	143	106 F 40	right witness line for dimension 1.000
263P	144	216	linear dimension 1.000
265P	145	212 F 0	text for dimension R .100
267P	146	214 F 2	leader for dimension R .100
269P	147	222	radius dimension
271P	148	212 F 0	text for dimension 2.000
273P	149	214 F 2	left leader for dimension 2.000
275P	150	214 F 2	right leader for dimension 2.000
277P	151	106 F 40	left witness line for dimension 2.000
279P	152	106 F 40	right witness line for dimension 2.000
281P	153	216	linear dimension 2.000
283P	154	212 F 0	text for dimension m.500
283P	155		
285P	156	214 F 2	leader for dimension m.500
287P	157	206	diameter dimension
289P	158	212 F 0	text for dimension .750
291P	159	214 F 2	bottom leader for dimension .750
293P	160	214 F 2	top leader for dimension .750
295P	161	106 F 40	bottom witness line for dimension .750
297P	162	106 F 40	top witness line for dimension .750
299P	163	216	linear dimension .750
301P	164	106 F 31	crosshatching
301P	165		
301P	166		
301P	167		
303P	168	402 F 3	views visible
305P	169		
307P	170	408	subfigure instance
309P	171	406 F 15	drawing name
311P	172	406 F 17	drawing units
313P	173	406 F 16	drawing size
315P	174	110	dashed line 6
317P	175	110	dashed line 7
319P	176	110	dashed line 8
321P	177		
321P	178		
321P	179		
323P	180	402 F 15	ordered group without back pointers
325P	181	314	color definition
327P	182	402 F 4	views visible, color, line weight
329P	183	406 F 1	definition levels
331P	184	406 F 3	level function 1
333P	185	406 F 3	level function 2
335P	186	406 F 3	level function 3
337P	187	406 F 3	level function 4
339P	188	406 F 5	line widening
341P	189	304 F 2	line font - repeating visible/blank
343P	190	402 F 3	views visible
343P	191		
345P	192	110	border line 1
347P	193	110	border line 2

110,21.0,16.0,0.0,1.0,16.0,0.0;	349P	194	110	border line 3
110,1.0,16.0,0.0,1.0,1.0,0.0;	351P	195	110	border line 4
110,19.0,1.0,0.0,19.0,3.0,0.0;	353P	196	110	title block line 1
110,19.0,3.0,0.0,21.0,3.0,0.0;	355P	197	110	title block line 2
212,5,17,1.746,0.09,1,1.5708,0.0,0,0,19.127,2.25,0.0,17HCALS TES	357P	198	212 F 0	text for title block
T NETWORK,11,1.098,0.09,1,1.5708,0.0,0,0,19.451,2.115,0.0,11HMIL	357P	199		
-D-28000,8,0.738,0.09,1,1.5708,0.0,0,0,19.631,1.98,0.0,8HCLASS I	357P	200		
I,17,1.755,0.09,1,1.5708,0.0,0,0,19.1225,1.845,0.0,17HREFERENCE	357P	201		
DRAWING,9,0.936,0.09,1,1.5708,0.0,0,0,19.532,1.71,0.0,9HL-BRACKE	357P	202		
T;	357P	203		
110,4.0,3.85,0.0,4.0,5.8,0.0;	359P	204	110	detail line 1
110,4.0,6.2,0.0,4.0,6.5,0.0;	361P	205	110	detail line 2
404,4,107,3.0,3.0,93,3.0,10.0,79,12.0,3.0,65,12.0,10.0,31,129,	363P	206	404	drawing
227,263,159,161,163,165,167,169,269,281,287,299,217,	363P	207		
219,301,221,223,225,317,319,315,345,347,349,351,353,355,357,	363P	208		
359,361,0,3,309,311,313;	363P	209		
110,0.0,0.0,0.0,0.1,0.0,0.0;	365P	210	110	dashed line for subfigure
308,0,4HDASH,1,365;	367P	211	308	subfigure definition of dashed line
304,0,367,0.2,1.0;	369P	212	304 F 1	line font - repeating dashed subfigure
S 39G 3D 370P 212	T	1		

Attachment K

N-entity Entity Listing and Count

N-ENTITY

NAME	TYP	FORM		COUNT
NULL ENTITY	0	0		196
CIRCULAR ARC	100	0		19
COMPOSITE CURVE	102	0		2
CONIC ARC	104	0		1
ELLIPSE	104	1		1
HYPERBOLA	104	2		1
PARABOLA	104	3		1
COORDINATE PAIRS	106	11		3
COORDINATE TRIPLES	106	12		1
CENTERLINE	106	20		1
CENTERLINE	106	21		1
SECTION (FORM 31)	106	31		1
SECTION (FORM 32)	106	32		1
SECTION (FORM 33)	106	33		1
SECTION (FORM 34)	106	34		1
SECTION (FORM 35)	106	35		1
SECTION (FORM 36)	106	36		1
SECTION (FORM 37)	106	37		1
SECTION (FORM 38)	106	38		1
WITNESS LINE	106	40		6
SIMPLE CLOSED AREA	106	63		4
PLANE (CLIPPING BOX)	108	0		8
PLANE (POSITIV)	108	1		1
LINE	110	0		74
PARAMETRIC SPLINE	112	0		13
PARAMETRIC SPLINE SURFACE	114	0		3
POINT	116	0		12
RULED SURFACE	118	0		3
RULED SURFACE (PARAMETRIC)	118	1		1
SURFACE OF REVOLUTION	120	0		1
TABULATED CYLINDER	122	0		1
TRANSFORMATION MATRIX	124	0		8
TRANSFORMATION MATRIX	124	1		1
RATIONAL B-SPLINE	126	0		7
RATIONAL B-SPLINE SURFACE	128	0		1
RAT B-SPLINE SURF (CIRC CYL)	128	2		1
RAT B-SPLINE SURF (CONE)	128	3		1
RAT B-SPLINE SURF (SPHERE)	128	4		1
RAT B-SPLINE SURF (TORUS)	128	5		1
RAT B-SPLINE SURF (QUADRIC)	128	9		1
OFFSET CURVE	130	0		1
OFFSET SURFACE	140	0		1
CURVE ON A PARAM. SURFACE	142	0		2
TRIMMED SURFACE	144	0		1
ANGULAR DIMENSION	202	0		1
DIAMETER DIMENSION	206	0		1
GENERAL LABEL	210	0		1
GENERAL NOTE	212	0		96
GENERAL NOTE (DUAL STACKS)	212	1		1
GENERAL NOTE (IMBEDDED FONT)	212	2		1
GENERAL NOTE (SUPERSCRIPT)	212	3		1
GENERAL NOTE (SUBSCRIPT)	212	4		1

N-ENTITY CONT.

NAME	TYP	FORM	COUNT
GENERAL NOTE (SUPER/SUBSCR.)	212	5	1
GENERAL NOTE (STACK;LEFT)	212	6	1
GENERAL NOTE (STACK;CENTER)	212	7	1
GENERAL NOTE (STACK;RIGHT)	212	8	1
GENERAL NOTE (SIMPLE FRACT.)	212	100	1
GENERAL NOTE (DUAL FRACTION)	212	101	1
GENERAL NOTE (IMBED.;FRACT.)	212	102	1
GENERAL NOTE (SUP/SUB;FRACT)	212	105	1
LEADER (WEDGE)	214	1	1
LEADER (TRIANGLE)	214	2	12
LEADER (FILLED TRIANGLE)	214	3	1
LEADER (NO ARROWHEAD)	214	4	4
LEADER (CIRCLE)	214	5	1
LEADER (FILLED CIRCLE)	214	6	1
LEADER (RECTANGLE)	214	7	1
LEADER (FILLED RECTANGLE)	214	8	1
LEADER (SLASH)	214	9	1
LEADER (INTEGRAL SIGN)	214	10	1
LEADER (OPEN TRIANLE)	214	11	1
LINEAR DIMENSION	216	0	2
ORDINATE DIMENSION	218	0	2
POINT DIMENSION	220	0	1
RADIUS DIMENSION (SINGLE)	222	0	1
GENERAL SYMBOL	228	0	1
GENERAL SYMBOL (DATUM FEA.)	228	1	1
GENERAL SYMBOL (DATUM TAR.)	228	2	1
GENERAL SYMBOL (FEA.CONTR.)	228	3	1
SECTIONED AREA	230	0	1
SUBFIGURE DEFINITION	308	0	1
DRAWING	404	0	1
NAME	406	15	3
DRAWING SIZE	406	16	1
DRAWING UNITS	406	17	1
SINGULAR SUBFIGURE INSTANCE	408	0	2
VIEW	410	0	2
	T O T A L		547

Attachment L

L-bracket Entity Listing and Count

L-BRACKET

NAME	TYP	FORM	COUNT
NULL ENTITY	0	0	35
CIRCULAR ARC	100	0	12
CENTERLINE	106	20	2
CENTERLINE	106	21	1
SECTION (FORM 31)	106	31	1
WITNESS LINE	106	40	6
PLANE (CLIPPING BOX)	108	0	16
LINE	110	0	58
PARAMETRIC SPLINE	112	0	1
TRANSFORMATION MATRIX	124	0	6
DIAMETER DIMENSION	206	0	1
GENERAL NOTE	212	0	6
LEADER (TRIANGLE)	214	2	8
LINEAR DIMENSION	216	0	3
RADIUS DIMENSION (SINGLE)	222	0	1
LINE FONT DEFINITION	304	1	1
LINE FONT DEFINITION	304	2	1
SUBFIGURE DEFINITION	308	0	2
COLOUR DEFINITION	314	0	1
VIEWS VISIBLE	402	3	2
VIEWS VISIBLE, COLOUR	402	4	1
ORDERED GROUP WITHOUT BACKP.	402	15	1
DRAWING	404	0	1
DEFINITION LEVEL	406	1	1
LEVEL FUNCTION	406	3	4
LINE WIDENING	406	5	1
NAME	406	15	5
DRAWING SIZE	406	16	1
DRAWING UNITS	406	17	1
SINGULAR SUBFIGURE INSTANCE	408	0	1
VIEW	410	0	4
	T O T A L		185

Attachment M

IGES Test Platform: Hardware/Software Descriptions

IGES Test Platform: Hardware/Software Descriptions

1.0 Introduction

The CALS Test Network IGES Test Platform located at the Lawrence Livermore National Laboratory is comprehensive. The CTN IGES analyst has access to mainframe and personal computer CAD systems, IGES analyzers, MIL-STD-1840A analyzers, and more. The following paragraphs discuss the hardware and software utilized on the CTN IGES Test Platform.

2.0 Hardware

2.1 MicroVAX Platform

The primary test hardware, running the analyzation software, is a DEC Microvax II computer. It operates VMS and is equipped with 8 MB of RAM memory, a 159 MB hard drive, and a VT320 console terminal. A Tektronix Model 4207 graphics terminal allows graphic display. A Purtek magnetic tape drive allows the transfer of files to and from 9-track tapes at 800, 1600, 3200, or 6250 bits per inch densities.

2.2 Personal Computer Platform

The personal computer platform, for running editors and PC-based CAD systems, is a COMPAQ Deskpro 386 computer. It operates DOS at 16 MHz speed and is equipped with 4 MB of RAM, a 40 MB hard disk, and a 80387-16 MHZ math co-processor. The terminal is a Wyse 700, 15 inch monochrome monitor with a 1200 x 800 resolution graphics card. The digitizer is a 12 x 12 inch IS/ONE tablet manufactured by KURTA. This computer utilizes a NEC Pinwriter P6 dot matrix printer and a Hewlett-Packard Laserjet Plus.

2.3 Plotter

Both the MicroVAX II and the COMPAQ Deskpro 386 drive a Houston Instruments Model #DMP62 Plotter which is capable of plotting A- through E-sized drawings.

2.4 Mainframe CAD System

The CTN IGES Testing Project has access to a Computervision CGOS 200 mainframe computer. It is equipped with 9 color Instaview work platforms with 1 MB of RAM allotted to each, 3 alpha-numeric terminals, and 9 300 MB disk drives for data storage.

3.0 Software

3.1 MIL-STD-1840A Tape Reading/Analyzation and Writing Tools

The CTN has developed software to read/analyze and write an 1840A standard 9-track tape. Both pieces of software run on the Microvax II computer of the CTN IGES Test Platform. The 1840A tape reading/analyzation tool mounts the tape; copies the files; and analyzes the 1840A tape formats, declaration files, and header fields. The writing tool prompts one to fill in the 1840A declaration and header field information, collects and merges the necessary files, and then copies them to a properly formatted 1840A standard tape. Both software packages are available to all CTN members.

3.2 Parser/Verify and View

The MicroVAX II supports the IGES Data Analysis Company Parser/Verify and View Software. The Parser/Verify programs read IGES formatted data files and generate reports on the IGES files' levels of compliance to the current standard. The programs themselves are easy to run and the output is useful and understandable, although most, but not all, of IGES errors are flagged. The View program allows users to directly view the graphic representation of an IGES file. Users can view an IGES file on the graphics terminal and/or reproduce it on a plotter. Here again, most, but not all, of the IGES entities are displayed for viewing.

3.3 IGES Model Testing System

The MicroVAX II also supports the IGES Model Testing Software (IMTES) Version 4.1 by R. Glatz. This software contains a very thorough IGES compliance analyzer and one of the few that checks for compliance to the MIL-D-28000 subsets. Also encompassed in this software is a program which compares a test pre-processed IGES file to a reference IGES file and reports differences in the resulting models. To debug any problems in an IGES file, the software package also provides a debugger.

3.4 PC CAD Programs

The personal computer runs CAD software. The two CAD packages currently operating on the system are AutoCAD Revision 10 by Autodesk and CADKEY Revision 3.02 by Micro Control Systems, Inc. These are used for experimental CAD designing and IGES processing.

3.5 Editors

The personal computer runs IGES EDITOR, a public domain program written by the National Institute for Standards and

Technology to help edit IGES files and resequence start sections. Large editing of IGES files (like that undertaken to produce the CTN Reference Files) is accomplished using Microsoft Word V. 4.0 on the PC and/or EDT on the MicroVAX II.

3.6 Mainframe CAD Program

The mainframe CAD system that the CALS Test Network utilizes operates the Computervision CADDS 4X Revision 5.00-E software package. It allows more powerful/complete modelling and processing of IGES files.

4.0 Conclusion

A complete IGES testing platform requires not only reliable hardware and software, but also competent analysts. The CALS Test Network IGES Test Platform at the Lawrence Livermore National Laboratory is doing its best to boast all three.

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Available from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

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