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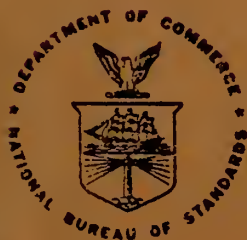
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Initial Graphics Exchange Specification Test Library, Version 1.3

U. S. DEPARTMENT OF COMMERCE
National Bureau of Standards
National Engineering Laboratory
Center for Manufacturing Engineering
Automated Production Technology Division
Washington, DC 20234

September 1983

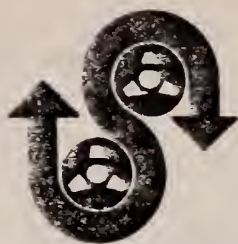


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**INITIAL GRAPHICS EXCHANGE
SPECIFICATION TEST LIBRARY,
VERSION 1.3**

Bradford Smith, NBS
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IGES Test, Evaluate & Support Committee

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
National Engineering Laboratory
Center for Manufacturing Engineering
Automated Production Technology Division
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September 1983

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INTRODUCTION

This document contains a library of benchmark tests to be used to verify the interface capability possible with the Initial Graphics Exchange Specification (IGES) (Reference A). IGES provides a common data format to facilitate the exchange of data between different Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) systems.

The test cases outlined in this document provide data for software modules which translate IGES format to and from the format of a particular CAD/CAM system. The geometric and drafting entities contained in these parts comprise only a limited portion of all IGES entities and are intended to demonstrate some capabilities of an IGES translator on an individual entity basis. This set of tests does not constitute a test of compliance with any existing or proposed standardization of IGES. Subsequent tests with more complex parts should be made to insure the suitability of the processors for a user's production environment.

The library has been prepared by the IGES Test, Evaluate, and Support Committee and has been iterated through several versions during its development. Test Library Versions 1.0, 1.1, and 1.2 were made available only to Test, Evaluate, and Support Committee members for verification of accuracy and to evaluate the utility of individual cases. During this process, many cases and the associated documentation were modified to address errors, make the case more useful, or clarify the supporting documentation. Version 1.3 represents the results of this effort, and is the first version of the Test Library to be made available to the general community. Future versions will incorporate additional cases and address any reported errors.

While the Test, Evaluate, and Support Committee has attempted to remove all errors from this library, no responsibility or liability is accepted by IGES, by members of IGES committees, or by firms represented in IGES for decisions made on the basis of the use of these test cases.

2.0 TEST METHODOLOGY

2.1 TEST OBJECTIVES

The objective of this series of tests is to demonstrate the ability of CAD/CAM systems to accept data in IGES format and transform the data into a format compatible with the receiving CAD/CAM system without significant loss of data accuracy or design intent.

The intended users of IGES span a wide range of applications, each having differing requirements on the data retrieved from IGES format. Each application's requirements will determine what constitutes acceptable results from these tests. Due to a wide range of requirements, no acceptance criteria are given and it is left to each user to determine if the results of these tests are acceptable in his environment.

Each entity listed in Section 3.0 will be tested individually and in combination with other entities to verify the ability of the CAD/CAM system to process the IGES entity. Each test case will contain a variety of examples of the entity such as a wide range of coordinate values, rotations, intersecting entities, non-model definition spaces, various fonts, various text/arrow configurations, and complex sub-entity arrangements.

2.2 TEST PROCEDURE

While IGES does not endorse any explicit testing and evaluation procedures, the parts in this library are intended as input to a software module which translates IGES format to the format of a particular CAD/CAM system. The output of this module will be a set of parts in the native format of the receiving system. In order to evaluate the conversion, the user will have to develop evaluation techniques and acceptance criteria suited to the user's needs. This criteria may include a combination of usability and functionality of the entities created, retention of design intent, visual display, and numeric comparison of parameter data. None of these by themselves is, in general, a complete or accurate evaluation criterion. Different users will have differing circumstances in which IGES will be utilized. These may

range from a single pre-processor and post-processor to several of each. Figure 2.2-1 illustrates a very simple test flow which transfers a test case once through a post-processor and once through a pre-processor. Evaluators must decide for themselves at what points evaluation will be performed. They must also decide whether they will evaluate upon a single pass or multiple loops through the pre- and post-processors. Users having more than one pre- and/or post-processor will have more than one route possible and must make their own selection of routes to evaluate. The visual and IGES formatted representations contained in this document are not "master definitions" which other representations should be compared against. Valid representations of the data in the test parts may be generated which differ substantially in parameterization from the examples in this document.

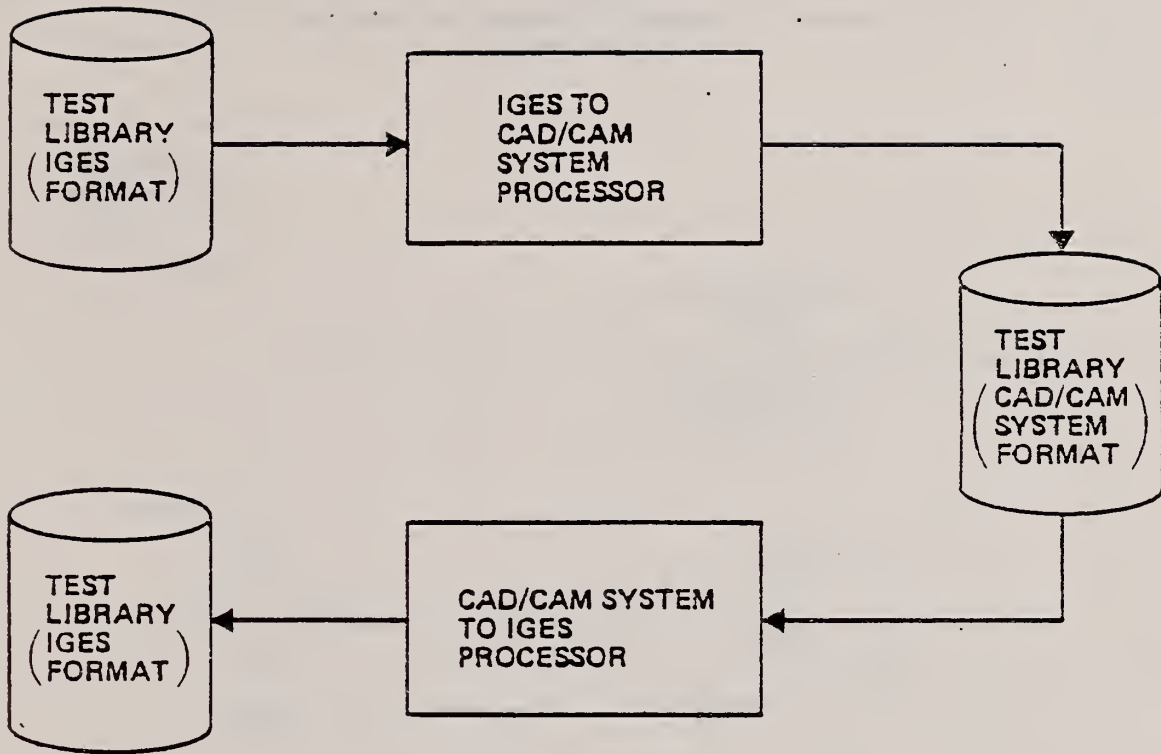


Figure 2.2-1 - Simple Test Flow

2.3 TEST CASE GENERATION

The majority of these test cases were developed within the Boeing CAD/CAM Integrated Information Network (CIIN) (Reference C) environment and transformed into IGES format through an IGES/CIIN post-processor. Additional cases were provided by participating CAD/CAM system developers. Figure 2.3-1 shows the data flow.

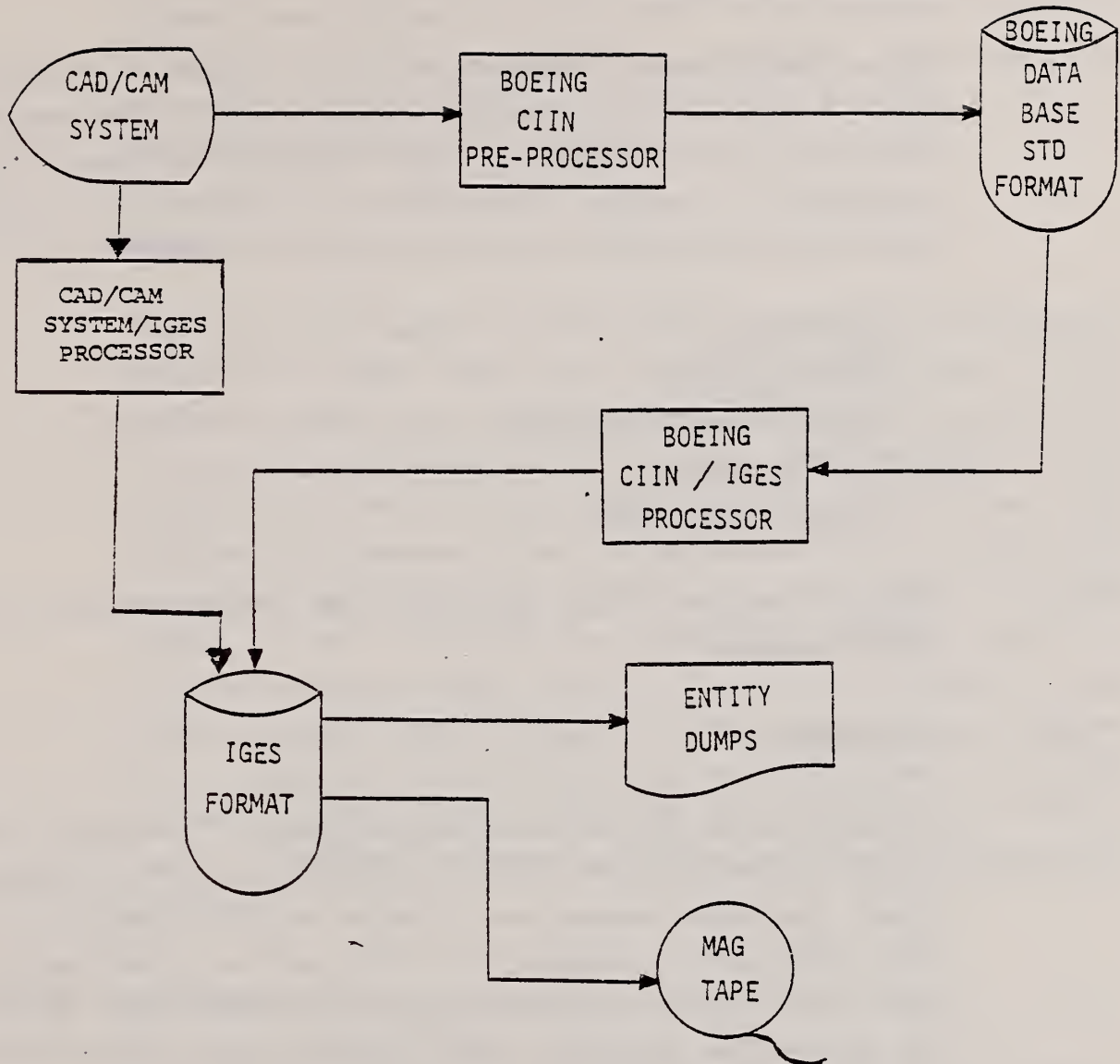


Figure 2.3-1 - Data Flow

2.4 TESTING LIMITATIONS

2.4.1 Validation of Test Cases

The test cases presented in this document have themselves on the date of issuance received only limited testing. Despite the efforts of the preparers and reviews by Test, Evaluate, and Support Committee undetected errors may persist in the test cases. Only extensive use of these files will reveal such errors. If any problems are found, they should be reported to

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Washington, D.C. 20234

Subsequent versions of this test library will attempt to correct any reported problems.

2.4.2 Completeness

This version of the IGES test library does not attempt to exhaustively test all IGES entities, attributes, associativities, properties, and combinations thereof. Each case addresses only a limited set of functionality and is largely independent of the other cases. The tests are rather general in nature and do not have any particular application thrust. In later versions this library will be extended to cover additional entities and attributes. Moreover, the test cases in these future versions will be organized into groups appropriate to the more common application areas. The inclusion or exclusion of a particular entity or attribute should not be interpreted as a statement of its relative usefulness. No attempt has been or will be made to establish a priority scheme in this area.

The initial set of test cases has been provided by a small number of sources. This may have caused some unintentional bias to be introduced into the test cases. This would be reflected not only in the specific

features chosen for testing but also the manner in which the features are tested. Even subtle choices such as range of coordinate values and viewing orientation can inadvertently affect the test cases. The software used to generate these files uses a limited range of numeric representations (i.e., in number of decimal places), of global parameter values, and in the sequencing of data. Further tests with data from a variety of different sources constitutes a more complete test.

2.4.3 Figures

The figures which appear in this document were derived from hardcopy taken from the CRT screen of the originating graphics system. These figures were appropriately scaled for viewing clarity and are therefore not a one-to-one representation of the data file. The appearance of small details such as line font pattern which appear in the file may have been distorted by this procedure. Even the appearance of actual geometry may be distorted as when relatively large and small items appear in the same figure. In order to reproduce these figures on the graphics screen of a CAD/CAM system processing these test cases it may be necessary to issue several viewing commands to achieve the same scale and viewing orientation. A simple visual comparison is not sufficient to accurately verify successful transfer of data. The intent of the figures is to provide a visually recognizable description of the test cases, not a "template" for evaluation.

2.4.4 Attributes

Some IGES attributes are not defined in geometric detail but rather in terms of the default values of the active CAD/CAM system. For example the line font parameter has value 1, 2, 3, or 4 for solid, dashed, phantom, and centerline font respectively. The spacing and line pattern for the last three forms may vary from graphics system to graphics system and are not defined in the IGES specification. Therefore some changes in the appearance of line font may be introduced when transferring from system A to system B but such a change would not be due to a processor error. Other attributes which fall into this category include line weight and text

font. The figures which appear in the document were generated on a specific CAD/CAM system. This should not be interpreted as an endorsement by IGES of that specific implementation of these attributes.

2.4.5 Compound Test

Even though the test cases presented in this document are limited in scope, each case addresses multiple functionality. For example the transfer of a geometric entity is frequently tied with its cosmetic appearance e.g., line font. In the majority of cases, the multiplicity is limited to an entity and its attributes. Careful examination of the output of an IGES processor is required to determine whether all aspects of the test case have been successfully transferred. Conversely a cursory or simple visual examination of output may lead to erroneous conclusions on completeness of data transfer. It is up to each individual user to decide the relative importance of each feature.

2.4.6 Numeric Accuracy

The internal representation of geometric entities in the various CAD/CAM systems differ greatly among themselves and also from the IGES representation. Therefore in transferring data to or from IGES format, calculations must be performed on the source representation in order to achieve the target representation. In the course of this procedure some computational inaccuracies may be introduced. Parameters which identically match in one representation may differ slightly in a second representation. Parameters with zero value in one representation may have small non-zero values in another representation. Within the parameter data of some entities in the test library, two values intended to be identical may differ by some small amount. For example, the start and terminate points of a curve intended to be closed may not have identical coordinate values. Further, these small representational inaccuracies may lead to boundary points for mathematical curves that do not lie exactly on those curves. Sophisticated numerical analysis techniques may be required to reduce the adverse effects of this problem. Careful examination of the output of IGES processors is required to detect such problems and even more detailed

analysis is needed to determine the point where the error may have been introduced.

2.4.7 System Incompatibilities

There is a significant amount of overlap of functionality provided by the various CAD/CAM systems. However, the user interfaces and internal data representation employed to support this common functionality differ greatly among these systems and also from IGES. A given graphics system may provide perfectly acceptable functionality to its user community without having a direct correspondence to each and every IGES entity, property, and associativity. An obvious example would be an electronics system which did not support ruled and parametric spline surfaces. Conversely data which does reside in a given graphics system may have no corresponding entity, property, or associativity in IGES to directly map into. The inclusion or exclusion of a specific data type in the specifications should not be interpreted as a statement by IGES on its relative merits.

When an IGES pre-processor encounters an entity in the native data base which has no equivalent IGES entity, it has two basic choices. It can ignore the information or convert it to one or more IGES entities. The user-defined IGES entities (macro, associativity and property) will be useful in this context.

When an IGES post-processor encounters an entity in the IGES file which has no equivalent entity in its native data base, it has two basic choices. It can either discard the data or store it in an "equivalent" form in the target system. There are no hard and fast IGES rules for determining what is an appropriate "equivalent" representation. It is up to each user to determine whether data has been adequately captured in the target system. It is also a subjective judgment whether any loss of data or transformation of data is acceptable in a given user environment.

A user may minimize this type of problem by eliminating or restricting the usage of features and data structures in one system which have little or no

correspondence in a second system into which it is intended to transfer data via IGES. Future extensions to IGES will also help alleviate this type of problem.

3.0 TEST LIBRARY STRUCTURE

For each entity type, one or more test cases are provided:

- Case 1 contains multiple occurrences of the entity in a definition space which coincides with model space (XYZ). Several different variations of the entity are provided.
- Case 2 is identical to the first except the entities are in a non-model definition space (XT, YT, ZT).
- Case 3 contains unusual or extreme examples of the entity.
- Case 4 is identical to the third case except it is in a non-model definition space.

For each entity a figure for the test case with descriptive annotation is given along with a figure of the actual test case. The descriptive annotation is not part of the test case and will not be present in the IGES file.

The following conventions are followed for the test cases:

- Test cases contain only the entities being tested
- Test cases contain values (coordinates and coefficients) with magnitudes from 0 to 1000 except for the point case where larger magnitudes were used
- All transformation matrices have zero translation components
- All text originates from Computervision CADD3-3 Rev. 10.020V6B
- No provision made for properties

The test cases contain geometric and drafting entities defined in an appropriate coordinate system, but do not include the IGES Drawing or View entities. All figures in this document have a viewing orientation corresponding to looking along the positive ZT axis toward the origin of the unrotated XT-YT plane (right-handed coordinate system). Thus the figures for the model and non-model definition space cases are identical when viewed from the appropriate orientation. The regeneration of the

appropriate orientation is left to the user interface of the particular system using, if necessary, the orientation information given with the case description. This information consists of a series of rotations which will move the model relative to the user's viewing perspective. The rotations are described by an ordered triple (A,B,C) where the values are rotation angles measured in degrees. For example, an orientation of (30°, 60°, 90°) means the user must enter the commands to rotate the model relative to the user's viewing perspective as follows:

- o Begin with a viewing orientation corresponding to looking along the positive Z axis toward the origin of the unrotated X-Y plane (right-handed coordinate system).
- o First, 30° top out, bottom in
- o Second, 60° left out, right in
- o Third, 90° counter clockwise

These orientation descriptions are for use as an aid to the user in reaching a viewing orientation similar to the figure in the document and do not supercede the IGES transformation matrix entity.

3.1 ENTITY SET

The following IGES geometric entities are contained in this library:

- Circular Arc (entity #100)
- Composite Entity (entity #102)
- Conic (entity #104) FORM 1, 2, 3
- Copious Data Entity (entity #106) FORM 11, 12, 13, 40
- Line (entity #110)
- Parametric Spline (entity #112)
 - Cubic Splines
 - Wilson Fowler Splines
 - Modified Wilson Fowler Splines

B-spline

- Point (entity #116)
- Transformation Matrix (entity #124)

The following IGES annotation entities are contained:

- Angular Dimension (entity #202)
- Diameter Dimension (entity #206)
- General Label (entity #210)
- General Note (entity #212)
- Leader (entity #214)
- Linear Dimension (entity #216)
- Radius Dimension (entity #222)

The IGES structural entity Associativity Instance (FORM #1) is also contained.

Section 3.3 describes the individual tests to be performed. For each test an explanation of the test case and a corresponding IGES formatted definition are given.

3.2 ENTITY ATTRIBUTES

The following IGES features (attributes) are contained in this library:

- Line Fonts
- Levels
- Entity Labels/Subscript
- Blanked Status

3.3 TEST CASES

NOTE: Some test cases contain zero values in the DE Reserved fields (16 and 17)

3.3.1 Circular Arc

- Case 1 (Figures 3.3.1-1 and 3.3.1-2) tests the following items:
 - Full circles
 - Fonted circles (solid, dashed, phantom, centerline)
 - Arcs

- Case 2
 - Identical to Case 1 except non-model space is used with rotation (30° , 60° , 90°) per section 3.0

- Case 3 (Figures 3.3.1-3 and 3.3.1-4) tests the following:
 - Large circle (diameter = 1000 in)
 - Small circle (diameter = 0.01 in)

- Case 4
 - Identical to Case 3 except non-model space is used with rotation (60° , 120° , -60°) per section 3.0

NOTE: Circle entities that appear closed may have start and terminate points which are not identical but which differ by 10^4

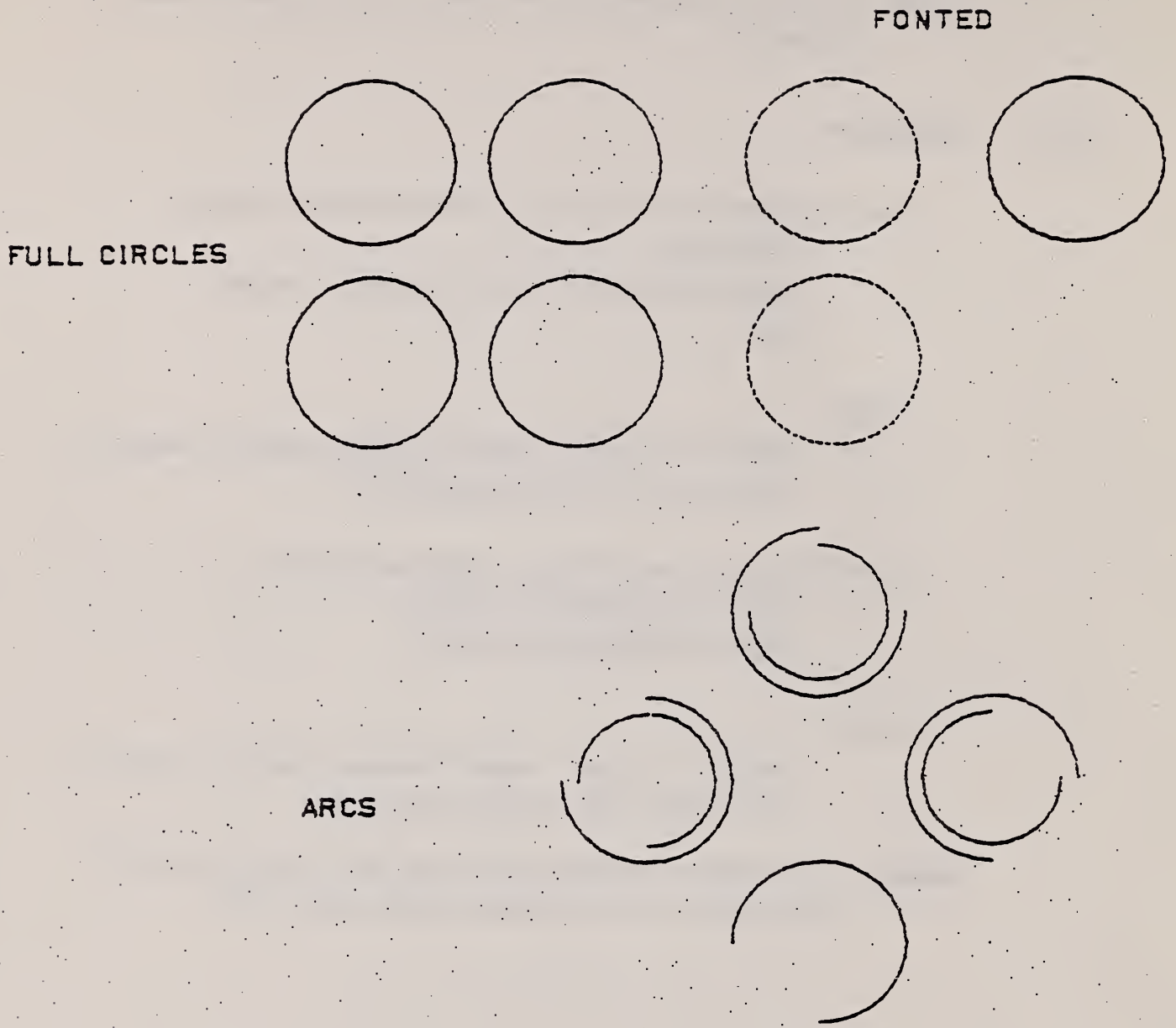


Figure 3.3.1-1 Circular Arc Cases 1 and 2 (with annotation)
 Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)
 Case 2: Rotation ($30^\circ, 60^\circ, 90^\circ$)

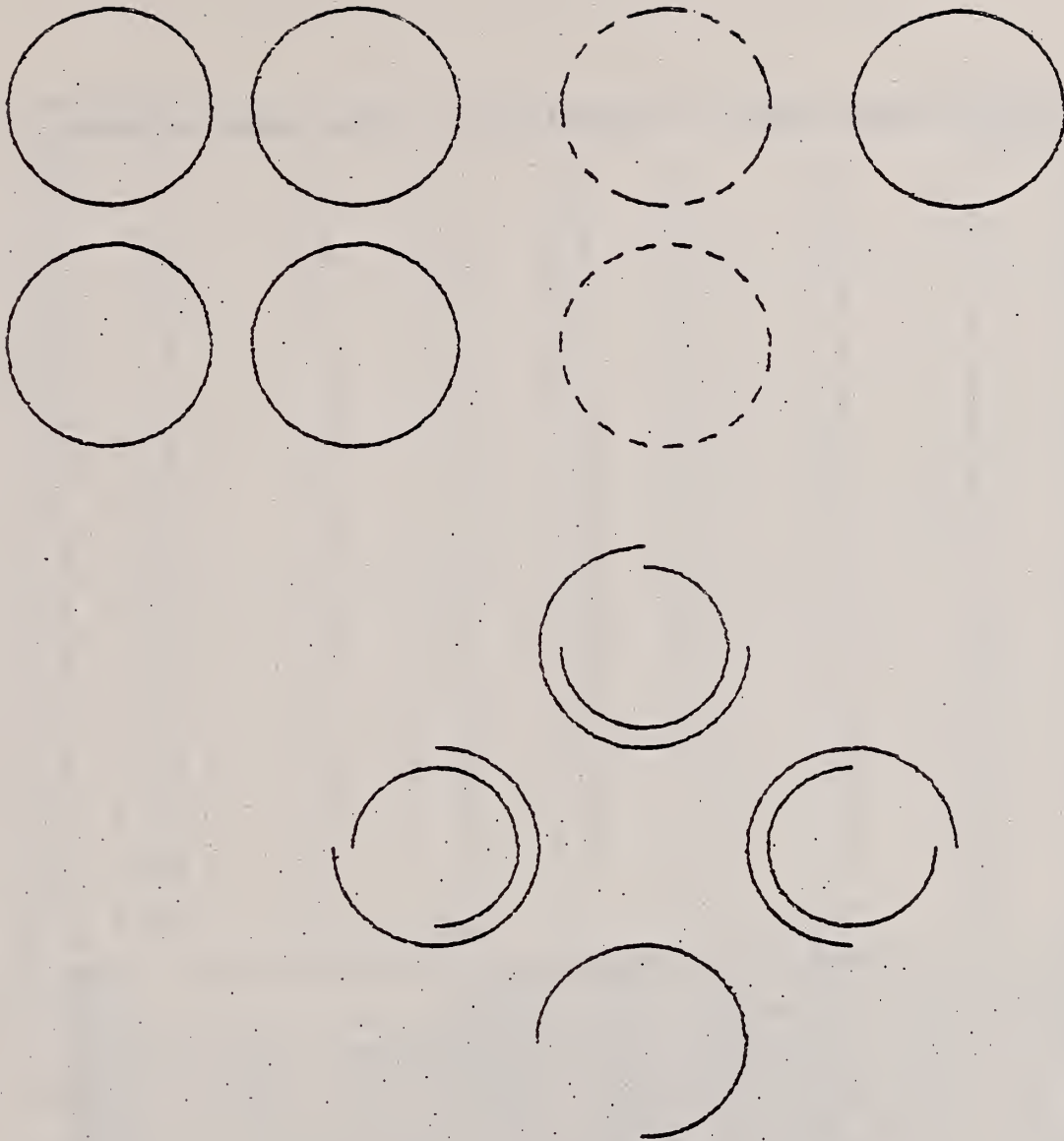


Figure 3.3.1-2 Circular Arc Cases 1 and 2 (actual part)

CIRCLE TEST CASE 1

1H,,1H;,,7HCIRCLE1,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.000,1,4HINCH,0,,13H81G
0714.092244,,,,;

124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	1	0	0	0		OD	2
100	2	1	1	0	0	1	0 0 0 0	D	3
100	0	0	1	0	0	0		OD	4
100	3	1	1	0	0	1	0 0 0 0	D	5
100	0	0	1	0	0	0		OD	6
100	4	1	1	0	0	1	0 0 0 0	D	7
100	0	0	1	0	0	0		OD	8
100	5	1	1	0	0	1	0 0 0 0	D	9
100	0	0	1	0	0	0		OD	10
100	6	1	3	0	0	1	0 0 0 0	D	11
100	0	0	1	0	0	0		OD	12
100	7	1	2	0	0	1	0 0 0 0	D	13
100	0	0	1	0	0	0		OD	14
100	8	1	4	0	0	1	0 0 0 0	D	15
100	0	0	1	0	0	0		OD	16
100	9	1	1	0	0	1	0 0 0 0	D	17
100	0	0	1	0	0	0		OD	18
100	10	1	1	0	0	1	0 0 0 0	D	19
100	0	0	1	0	0	0		OD	20
100	11	1	1	0	0	1	0 0 0 0	D	21
100	0	0	1	0	0	0		OD	22
100	12	1	1	0	0	1	0 0 0 0	D	23
100	0	0	1	0	0	0		OD	24
100	13	1	1	0	0	1	0 0 0 0	D	25
100	0	0	1	0	0	0		OD	26
100	14	1	1	0	0	1	0 0 0 0	D	27
100	0	0	1	0	0	0		OD	28
100	15	1	1	0	0	1	0 0 0 0	D	29
100	0	0	1	0	0	0		OD	30
124,1.000,0.0,0.0,0.0,0.0,1.000,0.0,0.0,0.0,0.0,1.000,0.0,0.0,0.0;								1P	1
100,0.0,6.000,6.000,11.000,6.000,11.000,6.000,0,0;								3P	2
100,0.0,-6.000,6.000,-1.000,6.000,-1.000,6.000,0,0;								5P	3
100,0.0,-6.000,-6.000,-1.000,-6.000,-1.000,-6.000,0,0;								7P	4
100,0.0,6.000,-6.000,11.000,-6.000,11.000,-6.000,0,0;								9P	5
100,0.0,21.000,6.000,26.000,6.000,26.000,6.000,0,0;								11P	6
100,0.0,21.000,-6.000,26.000,-6.000,26.000,-6.000,0,0;								13P	7
100,0.0,35.000,6.000,40.000,6.000,40.000,6.000,0,0;								15P	8
100,0.0,30.000,-31.000,35.000,-31.000,30.000,-36.000,0,0;								17P	9
100,0.0,20.000,-21.000,20.000,-16.000,25.000,-21.000,0,0;								19P	10
100,0.0,10.000,-31.000,5.000,-31.000,10.000,-26.000,0,0;								21P	11
100,0.0,20.000,-41.000,20.000,-46.000,15.000,-41.000,0,0;								23P	12
100,0.0,30.000,-31.000,30.000,-27.000,34.000,-31.000,0,0;								25P	13
100,0.0,20.000,-21.000,16.000,-21.000,20.000,-17.000,0,0;								27P	14
100,0.0,10.000,-31.000,10.000,-35.000,6.000,-31.000,0,0;								29P	15
S	1G	2D	30P	15				T	1

CIRCLE TEST CASE 2

								S	1
1H,,1H,,,7HCIRCLE2,4HCIIN,6H2.1.2 ,16,3,24,8,56,,1.0000,1,4HINCH,0,,13H8G								G	2
10714.092709,,,,;									
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0	0	0		0D	2
100	3	1	1	0	0	1	0 0 0 0	D	3
100	0	0	1	0	0	0		0D	4
100	4	1	1	0	0	1	0 0 0 0	D	5
100	0	0	1	0	0	0		0D	6
100	5	1	1	0	0	1	0 0 0 0	D	7
100	0	0	1	0	0	0		0D	8
100	6	1	1	0	0	1	0 0 0 0	D	9
100	0	0	1	0	0	0		0D	10
100	7	1	3	0	0	1	0 0 0 0	D	11
100	0	0	1	0	0	0		0D	12
100	8	1	2	0	0	1	0 0 0 0	D	13
100	0	0	1	0	0	0		0D	14
100	9	1	4	0	0	1	0 0 0 0	D	15
100	0	0	1	0	0	0		0D	16
100	10	1	1	0	0	1	0 0 0 0	D	17
100	0	0	1	0	0	0		0D	18
100	11	1	1	0	0	1	0 0 0 0	D	19
100	0	0	1	0	0	0		0D	20
100	12	1	1	0	0	1	0 0 0 0	D	21
100	0	0	1	0	0	0		0D	22
100	13	1	1	0	0	1	0 0 0 0	D	23
100	0	0	1	0	0	0		0D	24
100	14	1	1	0	0	1	0 0 0 0	D	25
100	0	0	1	0	0	0		0D	26
100	15	1	1	0	0	1	0 0 0 0	D	27
100	0	0	1	0	0	0		0D	28
100	16	1	1	0	0	1	0 0 0 0	D	29
100	0	0	1	0	0	0		0D	30
124,0.0,.5000,-.8660,0.0,-.8660,.4330,.2500,0.0,.5000,.7500,								1P	1
.4330,0.0,0,0;								1P	2
100,0.0,6.0000,6.0000,11.0000,6.0000,11.0000,6.0000,0,0;								3P	3
100,0.0,-6.0000,6.0000,-1.0000,6.0000,-1.0000,6.0000,0,0;								5P	4
100,0.0,-6.0000,-6.0000,-1.0000,-6.0000,-1.0000,-6.0000,0,0;								7P	5
100,0.0,6.0000,-6.0000,11.0000,-6.0000,11.0000,-6.0000,0,0;								9P	6
100,0.0,21.0000,6.0000,26.0000,6.0000,26.0000,6.0000,0,0;								11P	7
100,0.0,21.0000,-6.0000,26.0000,-6.0000,26.0000,-6.0000,0,0;								13P	8
100,0.0,35.0000,6.0000,40.0000,6.0000,40.0000,6.0000,0,0;								15P	9
100,0.0,30.0000,-31.0000,35.0000,-31.0000,30.0000,-36.0000,0,0;								17P	10
100,0.0,20.0000,-21.0000,20.0000,-16.0000,25.0000,-21.0000,0,0;								19P	11
100,0.0,10.0000,-31.0000,5.0000,-31.0000,10.0000,-26.0000,0,0;								21P	12
100,0.0,20.0000,-41.0000,20.0000,-46.0000,15.0000,-41.0000,0,0;								23P	13
100,0.0,30.0000,-31.0000,30.0000,-27.0000,34.0000,-31.0000,0,0;								25P	14
100,0.0,20.0000,-21.0000,16.0000,-21.0000,20.0000,-17.0000,0,0;								27P	15
100,0.0,10.0000,-31.0000,10.0000,-35.0000,6.0000,-31.0000,0,0;								29P	16
S	1C	2D	30P	16				T	1

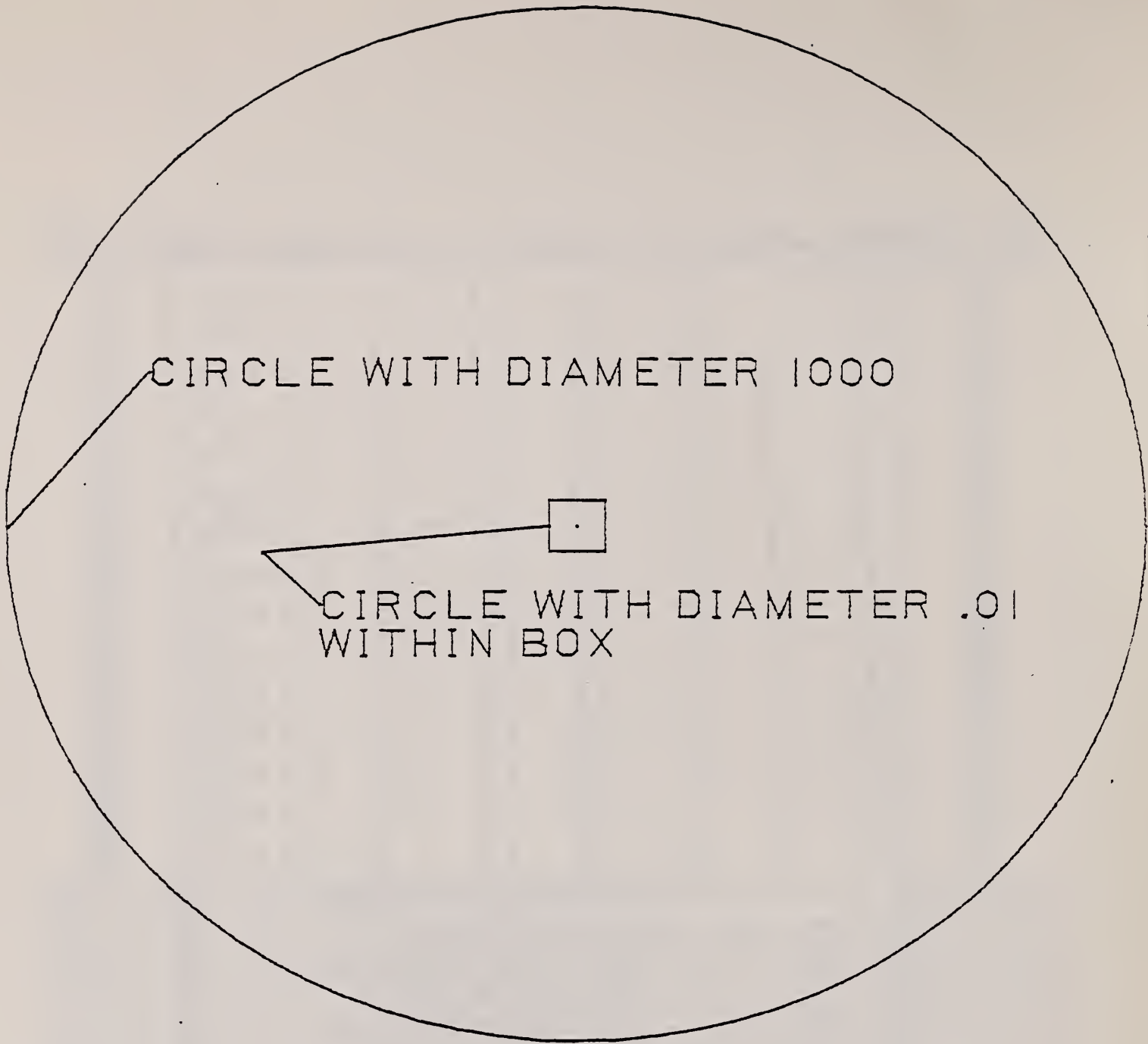


Figure 3.3.1-3 Circular Arc Cases 3 and 4 (with annotation)

Case 3: Rotation (0° , 0° , 0°)

Case 4: Rotation (60° , 120° , -60°)

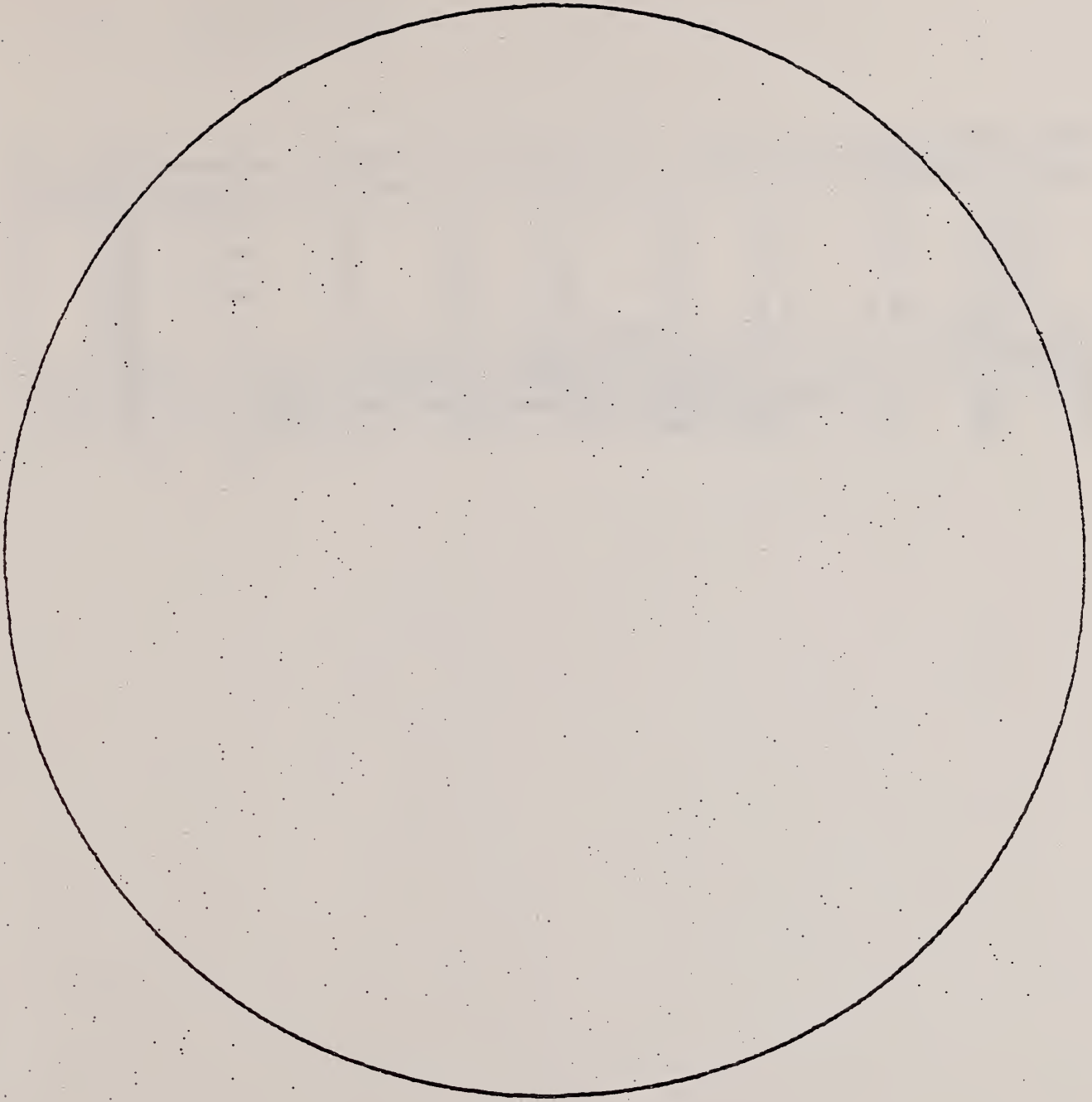


Figure 3.3.1-4 Circular Arc Cases 3 and 4 (actual part)

```

CIRCLE TEST CASE 3
1H,,1H;;;7HCIRCLE3,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,1G      S      1
3H810713.191302,,,,;                                                                G      2
    124      1      1      1      0      0      0      0 0 0 0 D      1
    124      0      0      2      0      0      0      0 OD     2
    100      3      1      1      0      0      0      1 0 0 0 0 D      3
    100      0      0      1      0      0      0      0 OD     4
    100      4      1      1      0      0      0      1 0 0 0 0 D      5
    100      0      0      1      0      0      0      0 OD     6
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,C.0,      1P     1
1.0000000,0.0,0,0;                                                                1P     2
100,0.0,0.0,0.0,500.0000000,0.0,500.0000000,-.0003894,0,0;      3P     3
100,0.0,0.0,0.0,.0050000,0.0,.0050000,-.3894144E-08,0,0;      5P     4
S      1G      2D      6P      4                                                                T      1

```

CIRCLE TEST CASE 4									S	1
1H,,1H;,,,7HCIRCLE4,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,1G										1
3H810713.191408,,,,;									G	2
124	1	1	1	0	0	0	0 0 0 0		D	1
124	0	0	2	0	0	0			0D	2
100	3	1	1	0	0	1	0 0 0 0		D	3
100	0	0	1	0	0	0			0D	4
100	4	1	1	0	0	1	0 0 0 0		D	5
100	0	0	1	0	0	0			0D	6
124,-.24999999,.4330126,-.8660254,0.0,.8080128,-.3995191,									1P	1
-.4330126,0.0,-.5334937,-.8080127,-.2500000,0.0,0,0;									1P	2
100,0.0,0.0,0.0,500.0000000,0.0,500.0000000,-.0003894,0,0;									3P	3
100,0.0,0.0,0.0,.0050000,0.0,.0050000,-.3894144E-08,0,0;									5P	4
S	1G	2D	6P	4					T	1

3.3.2 Composite Entity

Case 1 (Figures 3.3.2-1 and 3.3.2-2) tests the following:

- Composite entities with the following subentities:
 - 5 lines
 - 2 circular arcs
 - 1 cubic spline

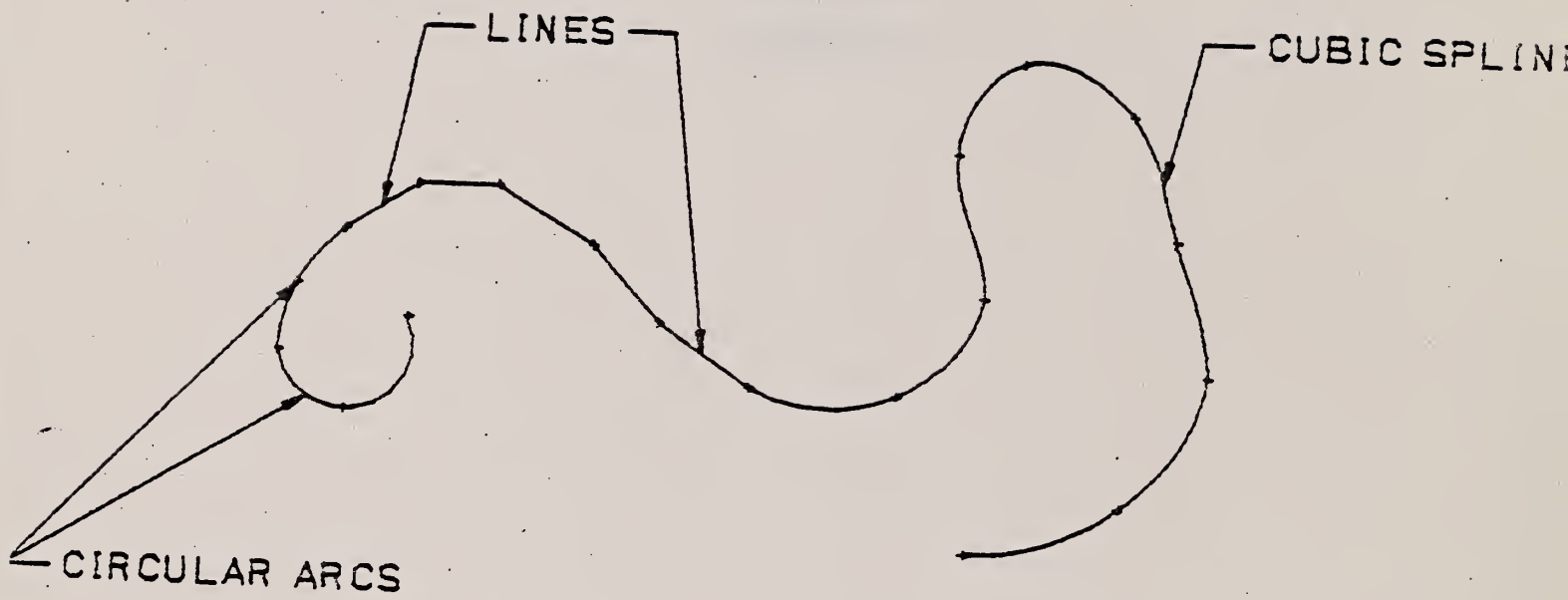


Figure 3.3.2-1 Composite Entity Case 1 (with annotation)
Case 1: Rotation (0° , 0° , 0°)

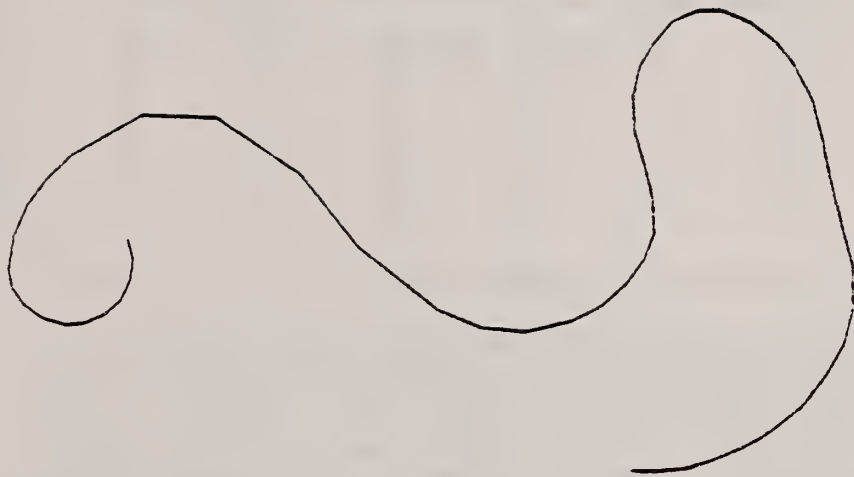


Figure 3.3.2-2 Composite Entity Case 1 (actual part)

COMPOSITE ENTITY TEST CASE 1

										S	1		
1H,,1H;,,SHCOMPL,4HCCIIN,6H2.1.2,16,8,24,8,56,,1.00000,1,4HINCH,0,,13HP1G											1		
0#12.145333,,,,;										G	2		
102	1	1	1	0	0	0	0	0	0	0	D	1	
102	0	0	2	0	0	0	0	0	0	0	0D	2	
124	3	1	1	0	0	0	0	0	0	0	D	3	
124	0	0	2	0	0	0	0	0	0	0	0D	4	
112	5	1	1	0	0	3	0	0	1	0	D	5	
112	0	0	15	0	0	0	0	0	0	0	0D	6	
110	20	1	1	0	0	0	0	0	0	1	0	D	7
110	0	0	1	0	0	0	0	0	0	0	0D	8	
110	21	1	1	0	0	0	0	0	0	1	0	D	9
110	0	0	1	0	0	0	0	0	0	0	0D	10	
110	22	1	1	0	0	0	0	0	0	1	0	D	11
110	0	0	1	0	0	0	0	0	0	0	0D	12	
110	23	1	1	0	0	0	0	0	0	1	0	D	13
110	0	0	1	0	0	0	0	0	0	0	0D	14	
110	24	1	1	0	0	0	0	0	0	1	0	D	15
110	0	0	1	0	0	0	0	0	0	0	0D	16	
100	25	1	1	0	0	3	0	0	0	1	0	D	17
100	0	0	1	0	0	0	0	0	0	0	0D	18	
100	26	1	1	0	0	3	0	0	0	1	0	D	19
100	0	0	1	0	0	0	0	0	0	0	0D	20	
102,8,	5,	7,	9,	11,	13,	15,	17,	19,0,			1P	1	
0;											1P	2	
124,1.00000,0.0,0.0,0.0,0.0,1.00000,0.0,0.0,0.0,0.0,1.00000,0.0,											3P	3	
0,0;											3P	4	
112,3,0,3,10,0.0,1.02466,2.05777,2.97944,3.85023,4.61964,											5P	5	
5.35851,6.33129,7.18463,8.12094,8.12094,5.57600,.99989,.00585,											5P	6	
-.05827,1.61600,-.01453,.35191,-.01727,0.0,0.0,0.0,0.0,6.54400,											5P	7	
.82834,-.17328,-.12953,1.95200,.65223,.29881,-.09500,0.0,0.0,											5P	8	
0.0,0.0,7.07200,.05556,-.57473,.28229,2.84000,.96545,.00437,											5P	9	
.00315,0.0,0.0,0.0,0.0,6.85600,-.28448,.20579,-.32156,3.73600,											5P	10	
.98153,.01307,-.07362,0.0,0.0,0.0,0.0,6.55200,-.65756,-.63423,											5P	11	
.40704,4.55200,.83681,-.17926,-.46045,0.0,0.0,0.0,0.0,5.85600,											5P	12	
-.91064,.30531,.24335,4.88000,-.25680,-1.24210,.62433,0.0,0.0,											5P	13	
0.0,0.0,5.44800,-.06091,.84473,-.58673,4.26400,-1.06979,.14179,											5P	14	
-.04943,0.0,0.0,0.0,0.0,5.64800,-.08313,-.86756,.26824,3.31200,											5P	15	
-.93426,-.00247,.21733,0.0,0.0,0.0,0.0,5.11200,-.97778,-.19085,											5P	16	
.16818,2.64800,-.46371,.55389,-.03339,0.0,0.0,0.0,0.0,4.17600,											5P	17	
0.0,0.0,0.0,2.67200,0.0,0.0,0.0,0.0,0.0,0.0,0.0,4.17600,0.0,0.0,											5P	18	
0.0,2.67200,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0;											5P	19	
110,4.17600,2.67200,0.0,3.59200,3.08000,0.0,0,0;											7P	20	
110,3.59200,3.08000,0.0,3.16000,3.57600,0.0,0,0;											9P	21	
110,3.16000,3.57600,0.0,2.53600,3.95200,0.0,0,0;											11P	22	
110,2.53600,3.95200,0.0,2.02400,3.94400,0.0,0,0;											13P	23	
110,2.02400,3.94400,0.0,1.56000,3.63200,0.0,0,0;											15P	24	
100,0.0,2.23906,2.78276,1.56000,3.63200,1.15200,2.80800,0,0;											17P	25	
100,0.0,1.58626,2.87073,1.15200,2.80800,1.98400,3.05600,0,0;											19P	26	
S	1G	2D	20P	26							T	1	

3.3.3 Conic

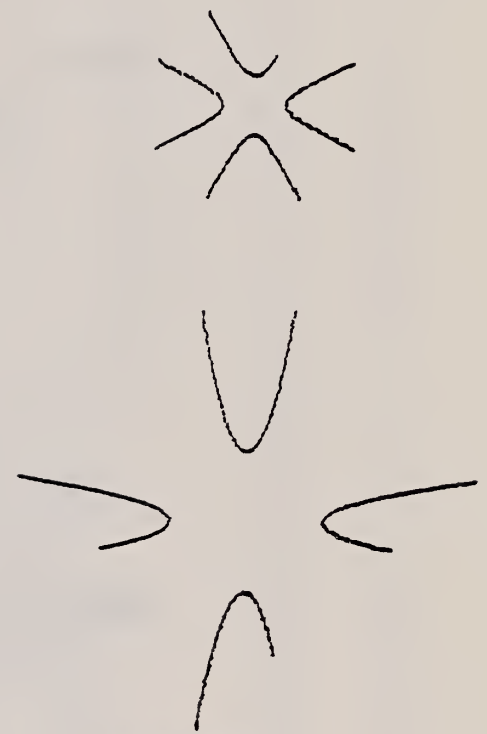
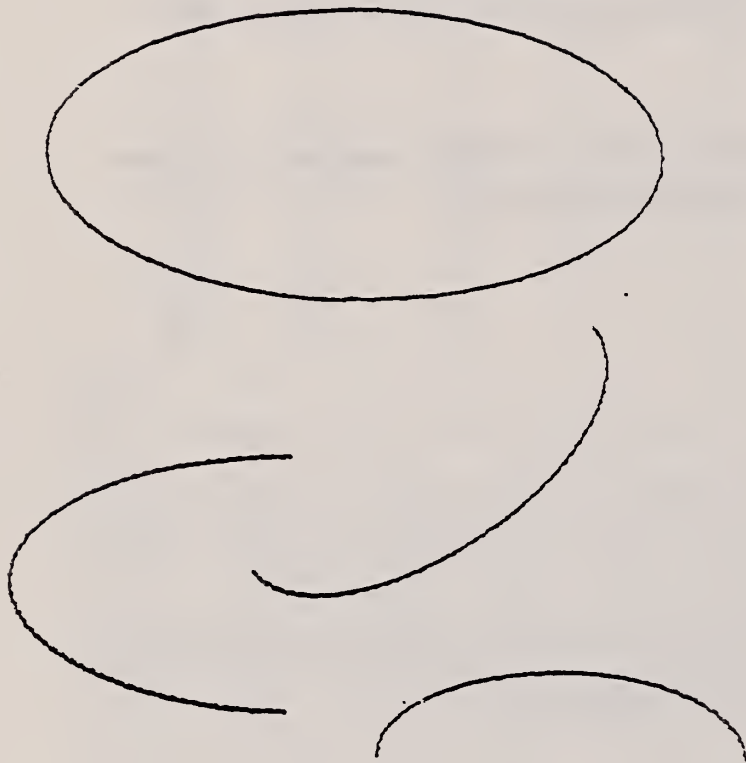
- Case 1 (Figures 3.3.3-1 and 3.3.3-2) tests the following:
 - Closed and partial ellipses (FORM 1)
 - Ellipses with fonts (solid, dashed, phantom, centerline)
 - Symmetric and partial parabolas (FORM 3)
 - Parabolas with fonts (solid, dashed, phantom, centerline)
 - Symmetric and partial hyperbolas (FORM 2)
 - Hyperbolas with fonts (solid, dashed, phantom, centerline)

- Case 2
 - Identical to Case 1 except non-model space with rotation (33° , 77° , 99°) is used per section 3.0

NOTE: The start and terminate point of the conic may not exactly lie on the conic curve but may differ by 10^{-4}

ELLIPSE

HYPERBOLA



PARABOLA

Figure 3.3.3-1 Conic Cases 1 and 2 (with annotation)

Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)

Case 2: Rotation ($33^\circ, 77^\circ, 99^\circ$)

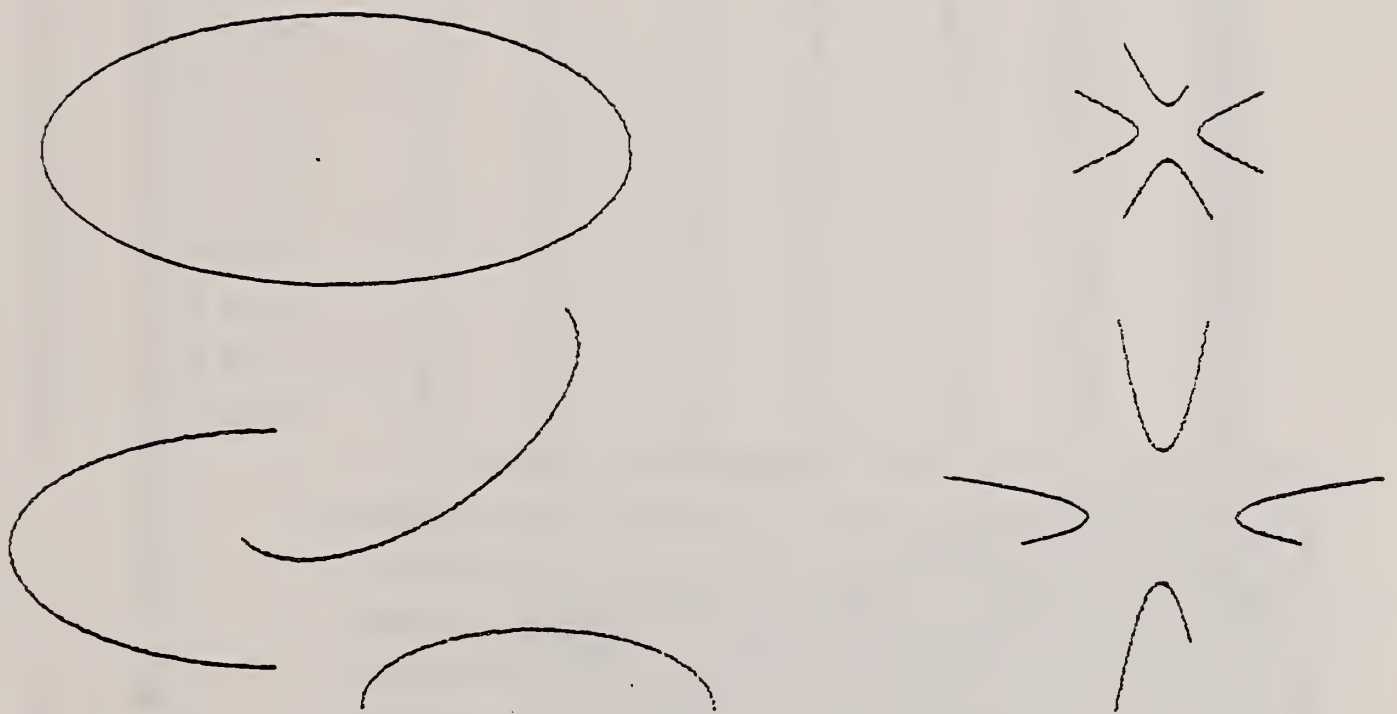


Figure 3.3.3-2 Conic Cases 1 and 2 (actual part)

```

CONIC TEST CASE 1
1H,,1H;,,6HCONIC1,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,
13H810713.191441,,,,;
124 1 1 1 0 0 0 0 0 0 0 D 1
124 0 0 2 0 0 0 0 0 0 0D 2
104 3 1 1 0 0 1 0 0 0 0 D 3
104 0 0 2 1 0 0 0 0 0 0D 4
104 5 1 4 0 0 1 0 0 0 0 D 5
104 0 0 2 1 0 0 0 0 0 0D 6
104 7 1 3 0 0 1 0 0 0 0 D 7
104 0 0 2 1 0 0 0 0 0 0D 8
104 9 1 2 0 0 1 0 0 0 0 D 9
104 0 0 2 1 0 0 0 0 0 0D 10
104 11 1 4 0 0 1 0 0 0 0 D 11
104 0 0 2 2 0 0 0 0 0 0D 12
104 13 1 1 0 0 1 0 0 0 0 D 13
104 0 0 2 2 0 0 0 0 0 0D 14
104 15 1 2 0 0 1 0 0 0 0 D 15
104 0 0 2 2 0 0 0 0 0 0D 16
104 17 1 3 0 0 1 0 0 0 0 D 17
104 0 0 3 2 0 0 0 0 0 0D 18
104 20 1 3 0 0 1 0 0 0 0 D 19
104 0 0 2 3 0 0 0 0 0 0D 20
104 22 1 2 0 0 1 0 0 0 0 D 21
104 0 0 3 3 0 0 0 0 0 0D 22
104 25 1 1 0 0 1 0 0 0 0 D 23
104 0 0 3 3 0 0 0 0 0 0D 24
104 28 1 4 0 0 1 0 0 0 0 D 25
104 0 0 3 3 0 0 0 0 0 0D 26
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0, 1P 1
1.0000000,0.0,0.0; 1P 2
104,.0025000,0.0,.0100000,0.0,0.0,-1.0000000,0.0,20.0000000,0.0, 3P 3
20.0000000,-.1907349E-04,0.0; 3P 4
104,.0030864,0.0,.0123457,.0246914,.7407407,10.1604938,0.0, 5P 5
-3.9999957,-21.0000019,-4.0000086,-39.0000000,0.0; 5P 6
104,.0110752,-.0149328,.0144350,-.4104291,.6609945,6.7296818, 7P 7
0.0,-6.1815600,-29.1839848,15.6827803,-11.6925392,0.0; 7P 8
104,.0069444,0.0,.0277778,-.1944444,2.3333333,49.3611111,0.0, 9P 9
26.0000000,-42.0000000,2.0000010,-41.9999924,0.0; 9P 10
104,.2500000,0.0,-1.0000000,-28.2500000,3.2000000,793.4525001, 11P 11
0.0,62.8245392,-1.0999905,62.8245544,4.8999991,0.0; 11P 12
104,-.9999999,.5960464E-06,.2500000,112.9999854,-.9500336, 13P 13
-3192.3470556,0.0,57.8370590,5.2392955,53.5000038,8.2245541,0.0; 13P 14
104,.2500000,-.1192093E-05,-1.0000000,-28.2499977,3.8000673, 15P 15
793.4523721,0.0,50.1754646,4.8999934,50.1754456,-1.0999961,0.0; 15P 16
104,-.9999999,-.2980232E-06,.2500000,112.9999871,-.9499830, 17P 17
-3192.3471516,0.0,53.5000114,-4.4245372,59.5000000,-4.4245529,0, 17P 18
0; 17P 19
104,0.0,0.0,1.0000000,-.9200000,54.2000008,790.8060245,0.0, 19P 20
65.6478271,-29.1000004,71.0826111,-24.1000004,0.0; 19P 21
104,.9999999,-.4768371E-06,.5684342E-13,-112.6000034,-.9199731, 21P 22
3149.3585719,0.0,59.3000069,-12.3173933,53.3000069,-12.3173914, 21P 23

```

0,0;						21P	24
104,.2273737E-12,.9536743E-06,1.0000000,.9200259,54.1999514,						23P	25
687.2126793,0.0,41.5173950,-24.0999966,46.9521751,-29.0999985,0,						23P	26
0;						23P	27
104,.9999999,.2384186E-06,.1421085E-13,-112.5999851,.9199865,						25P	28
3199.2215419,0.0,53.3000031,-41.8826103,58.3000031,-36.4478264,						25P	29
0,0;						25P	30
S	1G	2D	26P	30		T	1

```

CONIC TEST CASE 2
1H,,1H;,,6HCONIC2,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810713.191457,,,,;
124 1 1 1 0 0 0 0 0 0 0 D 1
124 0 0 2 0 0 0 0 0 0 0 OD 2
104 3 1 1 0 0 1 0 0 0 0 D 3
104 0 0 2 1 0 0 0 0 0 0 OD 4
104 5 1 4 0 0 1 0 0 0 0 D 5
104 0 0 2 1 0 0 0 0 0 0 OD 6
104 7 1 1 0 0 1 0 0 0 0 D 7
104 0 0 2 1 0 0 0 0 0 0 OD 8
104 9 1 3 0 0 1 0 0 0 0 D 9
104 0 0 2 1 0 0 0 0 0 0 OD 10
104 11 1 2 0 0 1 0 0 0 0 D 11
104 0 0 2 1 0 0 0 0 0 0 OD 12
104 13 1 4 0 0 1 0 0 0 0 D 13
104 0 0 2 2 0 0 0 0 0 0 OD 14
104 15 1 1 0 0 1 0 0 0 0 D 15
104 0 0 2 2 0 0 0 0 0 0 OD 16
104 17 1 2 0 0 1 0 0 0 0 D 17
104 0 0 2 2 0 0 0 0 0 0 OD 18
104 19 1 3 0 0 1 0 0 0 0 D 19
104 0 0 3 2 0 0 0 0 0 0 OD 20
104 22 1 3 0 0 1 0 0 0 0 D 21
104 0 0 2 3 0 0 0 0 0 0 OD 22
104 24 1 2 0 0 1 0 0 0 0 D 23
104 0 0 3 3 0 0 0 0 0 0 OD 24
104 27 1 1 0 0 1 0 0 0 0 D 25
104 0 0 3 3 0 0 0 0 0 0 OD 26
104 30 1 4 0 0 1 0 0 0 0 D 27
104 0 0 3 3 0 0 0 0 0 0 OD 28
124,-.0351901,.2221817,-.9743701,0.0,-.9113618,.3929496, 1P 1
.1225172,0.0,.4100994,.8923150,.1886600,0.0,0,0; 1P 2
104,.0025000,0.0,.0100000,0.0,0.0,-1.0000000,0.0,20.0000000,0.0, 3P 3
20.0000000,-.1907349E-04,0,0; 3P 4
104,.0030864,0.0,.0123457,0.0,0.0,-1.0000000,0.0,.4291534E-05, 5P 5
8.9999990,-.8583069E-05,-9.0000000,0,0; 5P 6
104,.0039063,0.0,.0156250,0.0,0.0,-1.0000000,0.0,.7629395E-05, 7P 7
-8.0000000,.1525879E-04,7.9999995,0,0; 7P 9
104,.0051020,0.0,.0204082,0.0,0.0,-1.0000000,0.0,-13.9999990, 9P 9
.8344650E-05,14.0000000,-.6675720E-05,0,0; 9P 10
104,.0069444,0.0,.0277778,0.0,0.0,-1.0000000,0.0,12.0000000,0.0, 11P 11
-11.9999990,.7152557E-05,0,0; 11P 12
104,.2500000,0.0,-1.0000000,-28.2500000,3.8000000,793.4525001, 13P 13
0.0,62.8245392,-1.0999905,62.8245544,4.8999991,0,0; 13P 14
104,-.9999999,.5960464E-06,.2500000,112.9999854,-.9500336, 15P 15
-3192.3470556,0.0,59.4999924,8.2245359,53.5000038,8.2245541,0,0; 15P 16
104,.2500000,-.1192093E-05,-1.0000000,-28.2499977,3.8000673, 17P 17
793.4523721,0.0,50.1754646,4.8999934,50.1754456,-1.0999961,0,0; 17P 18
104,-.9999999,-.2980232E-06,.2500000,112.9999871,-.9499830, 19P 19
-3192.3471516,0.0,53.5000114,-4.4245372,59.5000000,-4.4245529,0, 19P 20
0; 19P 21

```

104,0.0,0.0,1.0000000,-.9200000,54.2000008,765.0460240,0.0,	21P	22				
27.6473310,-29.1000004,43.0826111,-24.1000004,0,0;	21P	23				
104,.9999999,-.4768371E-06,.5684342E-13,-56.6000063,-.9199865,	23P	24				
780.5582742,0.0,31.3000031,-12.3173933,25.3000031,-12.3173914,0,	23P	25				
0;	23P	26				
104,.2273737E-12,.9536743E-06,1.0000000,.9200259,54.1999781,	25P	27				
712.9734052,0.0,13.5173941,-24.0999966,18.9521751,-29.0999985,0,	25P	28				
0;	25P	29				
104,.9999999,.2384186E-06,.1421085E-13,-56.5999880,.9199932,	27P	30				
830.4217567,0.0,25.3000031,-41.8826103,30.3000011,-36.4478264,0,	27P	31				
0.	27P	32				
S	1G	2D	28P	32	T	1

3.3.4 Copious Data Entity

- Case 1 tests the following forms of the copious data entity:
 - Level 1 (Figure 3.3.4-1) contains 2-D linear strings (FORM 11) in model space.
 - Level 2 (Figure 3.3.4-2) contains 3-D linear strings (FORM 12) in a model space.
 - Level 3 (Figure 3.3.4-3) contains a 3-D linear string (FORM 13) with associated normal vectors. Non-model space rotation (90° , 111.80° , 125.94°) is used per section 3.0.



Figure 3.3.4-1 Linear String Form II (actual part)
Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)

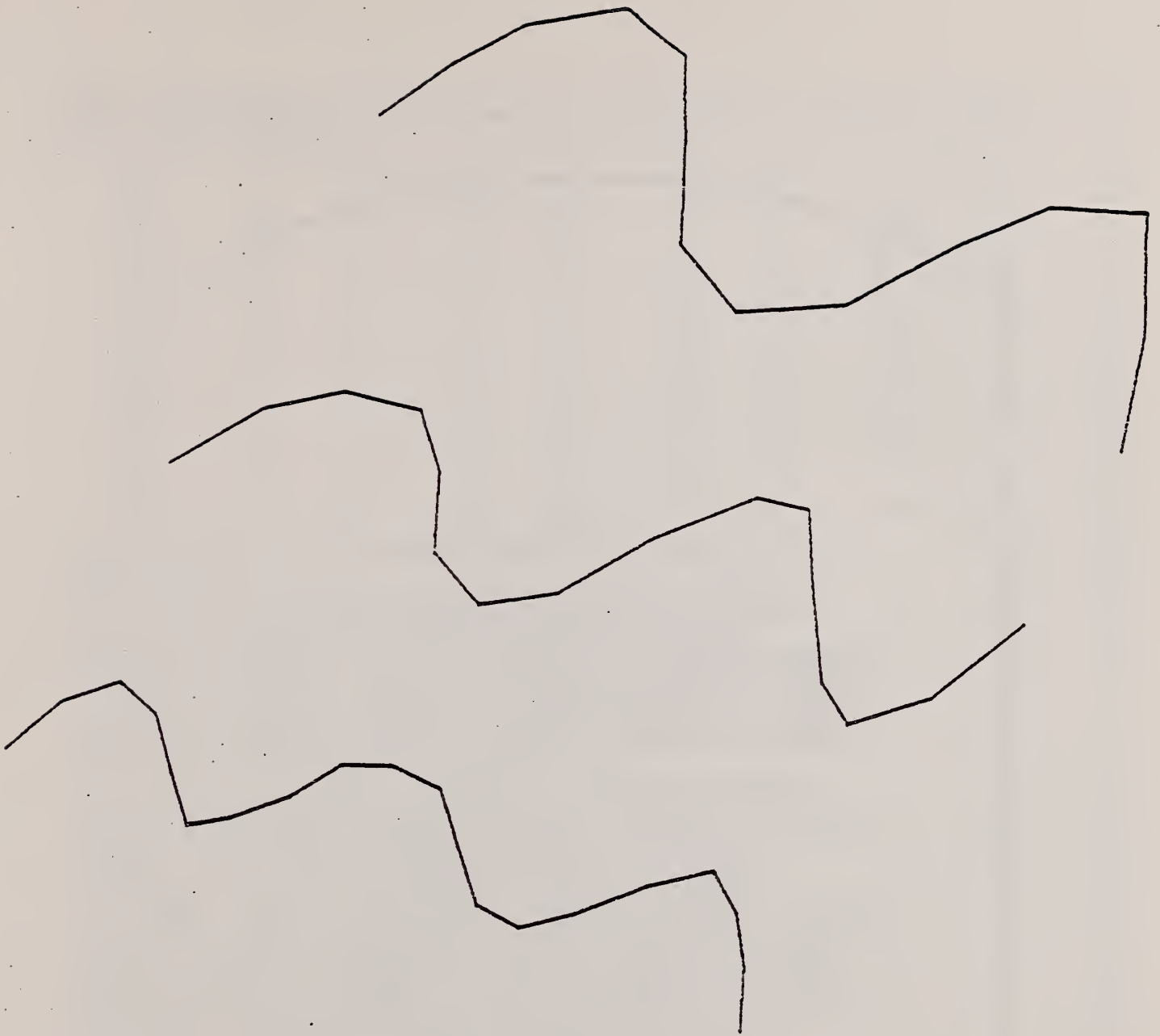


Figure 3.3.4-2 Linear String Form 12 (actual part)
Case 1: Rotation (0° , 0° , 0°)

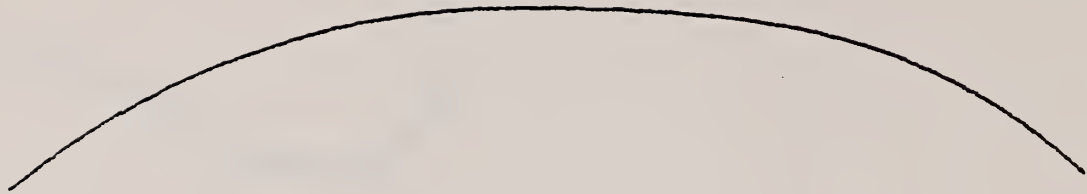


Figure 3.3.4-3 Linear String Form 13 (actual part)

Rotation: (90° , 111.80° , 125.94°)

LINEAR STRING CASE 1										S		
1H,,,2H,,,,13HLINEARSTRING1,4HCIIN,6H2.1.2,16,8,24,8,56,,,1.0000000,1,4HING											1	
CH,0,,,13H810714.085946,,,,;										G	2	
124	1	1	0	0	0	0	0	0	0	0	D	1
124	0	0	2	0	0	0	0	0	0	0	OD	2
106	3	1	1	1	0	1	0	0	0	0	D	3
106	0	0	9	11	0	0	S1	0	0	0	OD	4
106	12	1	1	1	0	1	0	0	0	0	D	5
106	0	0	12	11	0	0	S2	0	0	0	OD	6
106	24	1	1	1	0	1	0	0	0	0	D	7
106	0	0	12	11	0	0	S3	0	0	0	OD	8
106	36	1	1	2	0	1	0	0	0	0	D	9
106	0	0	16	12	0	0	S4	0	0	0	OD	10
106	52	1	1	2	0	1	0	0	0	0	D	11
106	0	0	13	12	0	0	S5	0	0	0	OD	12
106	65	1	1	2	0	1	0	0	0	0	D	13
106	0	0	11	12	0	0	S6	0	0	0	OD	14
124	76	1	1	0	0	0	0	0	0	0	D	15
124	0	0	2	0	0	0	0	0	0	0	OD	16
106	78	1	1	3	0	15	0	0	0	0	D	17
106	0	0	224	13	0	0	0	0	0	0	OD	18
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,										1P	1	
1.0000000,0.0,0.0;										1P	2	
106,1,24,0.0,-17.0832386,5.6932182,-16.5788116,5.7789435,										3P	3	
-15.7591171,5.1168823,-14.6556816,4.8016148,-13.3000326,										3P	4	
4.8961949,-11.9443836,5.4321494,-10.9040022,6.0942106,										3P	5	
-9.7059860,7.1030655,-8.1611767,7.7651267,-6.1434669,7.5444398,										3P	6	
-4.5671306,6.2203174,-3.4952223,4.7070346,-2.5494206,2.8784850,										3P	7	
-1.2883517,-1.4722028,-.1849164,-5.2869363,.9500456,-6.7056384,										3P	8	
2.5524883,-6.9893789,4.5125651,-6.4849515,5.9312677,-4.8770885,										3P	9	
6.9401226,-2.7963250,7.3814969,2.4371109,7.9805045,7.5444398,										3P	10	
8.8001995,8.3326082,9.8721075,8.3956614,0.0;										3P	11	
106,1,32,0.0,-17.8714066,-4.1204472,-17.5876675,-2.8278518,										5P	12	
-17.0832386,-1.6298363,-16.3896523,-.5264010,-15.4753771,										5P	13	
.1356601,-14.0566740,.5455075,-12.8526588,.3878739,-11.6921701,										5P	14	
-.0850270,-10.6517878,-1.1254088,-9.9897270,-2.0712104,										5P	15	
-9.4852991,-3.1746457,-8.9493456,-4.3725611,-8.1927042,										5P	16	
-5.3815165,-6.7424746,-5.6022034,-5.2607188,-5.1608291,										5P	17	
-4.0311766,-4.1204472,-3.0538480,-2.7017448,-2.2656201,.4194006,										5P	18	
-1.8558327,4.2341342,-1.5720922,7.4498596,-.9730845,8.9946690,										5P	19	
-.0903363,9.8458900,1.3283663,9.9719973,2.7785954,9.4990969,										5P	20	
4.1657710,8.3641348,5.2692065,7.1030655,6.1204281,5.6528363,										5P	21	
6.9716496,3.4459660,7.6967640,1.0814618,8.3568257,-1.5667830,										5P	22	
9.0208864,-4.4357147,9.9351616,-7.7144938,0.0;										5P	23	
106,1,34,0.0,-17.2408733,7.7336001,-15.6014833,8.5532951,										7P	24	
-13.8044605,8.7739820,-11.9759102,8.3010807,-10.5887346,										7P	25	
7.1661191,-9.8951464,5.9681039,-9.4852991,3.7612331,-9.1069784,										7P	26	
1.8065764,-3.2557573,.7661945,-6.2695737,.4194006,-4.5671306,										7P	27	
.1041334,-3.3691154,-.7786148,-2.4863672,-2.1342640,-1.7297258,										7P	28	
-3.7736535,-.2794966,-5.0977759,1.3283663,-5.7598372,3.5352368,										7P	29	
-5.4445696,5.6475272,-4.0889206,6.4356952,-1.9135768,6.6248555,										7P	30	
.2302403,5.1746264,2.4686375,2.9362290,3.6666529,.8869921,										7P	31	

4.5809278,-1.8243060,5.6843634,-3.8420162,6.6932182,-4.0942302,	7P	32
7.7336001,-3.9681232,8.6794014,-3.2114818,9.1207762,-2.1395731,	7P	33
9.3099365,-.9415578,8.9631424,.6032516,.3641348,3.5667634,	7P	34
7.3552794,6.4987488,6.4725313,8.3588257,6.5986381,0,0;	7P	35
106,2,20,-166436.2343750,-79694.1875000,-155682.1718750,	9P	36
-150317.2656250,-65993.6484375,-146587.0468750,-133174.8750000,	9P	37
-59756.8515625,-128580.8515625,-122428.9062500,-68533.1171875,	9P	38
-104607.4765625,-117311.7656250,-85383.2890625,-80520.5859375,	9P	39
-112450.4921875,-100111.6640625,-58917.3320313,-99913.5234375,	9P	40
-97643.1093750,-43655.9414063,-82259.4140625,-91044.4687500,	9P	41
-25287.9003906,-67163.8750000,-81649.5937500,-13334.4619141,	9P	42
-53091.7617188,-81677.5156250,6594.4301758,-38507.9335938,	9P	43
-87484.1640625,33025.7148438,-32879.0859375,-103972.4921875,	9P	44
57474.4375000,-26738.5292969,-121122.4218750,83308.4218750,	9P	45
-14201.5556641,-127352.9765625,107268.9375000,1917.4097900,	9P	46
-122863.2812500,125574.8906250,22385.9375000,-114018.6875000,	9P	47
145677.1718750,41575.1835938,-108893.1171875,167689.2812500,	9P	48
48995.0273438,-121300.5937500,190590.0000000,51809.4492188,	9P	49
-138499.7500000,211769.3593750,51553.5898438,-157358.2031250,	9P	50
230265.9687500,0,0;	9P	51
106,2,16,-120893.7656250,3680.5187988,-174650.0937500,	11P	52
-93261.2578125,20149.3750000,-152040.6875000,-69466.5859375,	11P	53
25461.1933594,-123701.7734375,-47462.9218750,20551.6074219,	11P	54
-87674.3046875,-41322.3593750,2889.9716797,-61328.6093750,	11P	55
-42089.9296875,-19912.3046875,-39611.8398438,-28785.3847656,	11P	56
-34555.0898438,-6153.5888672,-5758.2924805,-30553.5976563,	11P	57
22410.1406250,20850.7910156,-14296.7001953,43784.1679688,	11P	58
51041.8671875,-1647.5095215,73831.6015625,66137.4062500,	11P	59
-4533.7514648,98066.1640625,68184.2656250,-27136.9277344,	11P	60
123564.0234375,71510.3984375,-54208.5039063,155339.4687500,	11P	61
79697.8125000,-65817.3750000,178527.0781250,102980.7656250,	11P	62
-57797.1171875,203433.8906250,129529.8515625,-35911.3750000,	11P	63
219179.0781250,0,0;	11P	64
106,2,14,-62302.6093750,104725.3046875,-192834.4687500,	13P	65
-41578.2226563,120147.2265625,-178947.6875000,-20086.2753906,	13P	66
131762.3281250,-160168.6093750,9081.3789063,137547.2968750,	13P	67
-124704.2812500,26223.7753906,124339.0000000,-87252.9765625,	13P	68
27247.2011719,98965.2968750,-60431.9335938,26735.4882813,	13P	69
69435.8046875,-31626.1191406,43366.1679688,50748.5429688,	13P	70
10580.4794922,75348.2421875,53662.3203125,52896.1796875,	13P	71
106818.6093750,71565.6640625,79498.6406250,133683.5468750,	13P	72
83653.9218750,105403.1484375,161060.2031250,82799.4687500,	13P	73
144974.0312500,161571.9218750,46829.6679688,181667.5000000,	13P	74
156198.9218750,14630.3085938,206268.3125000,0,0;	13P	75
124,.2179680,-.3007008,-.9284767,0.0,-.5449199,.7517521,	15P	76
-.3713907,0.0,.8096618,.5868967,-.8970038E-14,0.0,0,0;	15P	77
106,3,196,168.1553374,108.7943474,0.0,168.1664308,-98.3623479,	17P	78
15155.7416570,168.2656492,108.8837842,0.0,168.2768157,	17P	79
-98.9032742,15066.4584928,168.6856710,109.2223890,0.0,	17P	80
168.6971194,-100.9649623,14731.9961143,169.1074731,109.5593993,	17P	81
0.0,169.1192104,-103.0387380,14405.1250099,169.5367929,	17P	82
109.3993684,0.0,169.5488299,-105.1529982,14081.9481626,	17P	83

169.9679577,110.2377732,0.0,169.9803011,-107.2799994,	17P	84
13767.1963416,170.4047717,110.5775887,0.0,170.4174306,	17P	85
-109.4386798,13458.4059555,170.8435136,110.9159089,0.0,	17P	86
170.8564942,-111.6108253,13158.4482103,171.2844427,111.2529576,	17P	87
0.0,171.2977512,-113.7978491,12867.1984279,171.7274050,	17P	88
111.5886397,0.0,171.7410472,-115.9991199,12584.7576772,	17P	89
172.1501739,111.9063461,0.0,172.1641382,-118.1039967,	17P	90
12324.5059592,172.5753759,112.2233022,0.0,172.5896676,	17P	91
-120.2249470,12071.7289575,173.3822629,112.8178499,0.0,	17P	92
173.3971843,-124.2609107,11615.9766696,173.7569628,113.0909364,	17P	93
0.0,173.7721900,-126.1401660,11414.6161718,174.1873068,	17P	94
113.4015909,0.0,174.2031292,-129.7517877,11004.8746185,	17P	95
174.2196015,113.4247120,0.0,174.2354764,-130.0623721,	17P	96
10970.4157810,174.2296242,113.4318821,0.0,174.2455155,	17P	97
-130.1588534,10959.7583124,174.4031208,113.5555821,0.0,	17P	98
174.4192959,-131.8358395,10777.9647968,174.7610898,113.8083322,	17P	99
0.0,174.7778562,-135.3372938,10418.8216886,175.1905922,	17P	100
114.1072438,0.0,175.2080760,-139.6133442,10015.4214943,	17P	101
175.6521569,114.4232694,0.0,175.6704183,-144.3018468,	17P	102
9613.7214350,176.1323519,114.7464328,0.0,176.1514263,	17P	103
-149.2848761,9228.5276207,176.6254366,115.0724155,0.0,	17P	104
176.6453472,-154.5166169,8865.0531473,177.1285144,115.3990012,	17P	105
0.0,177.1492771,-159.9780779,8524.8132709,177.6399517,	17P	106
115.7249109,0.0,177.6615771,-165.6624023,8207.6484915,	17P	107
178.1587543,116.0493420,0.0,178.1812497,-171.5691331,	17P	108
7912.5787519,178.6842871,116.3717589,0.0,178.7076569,	17P	109
-177.7016548,7638.2151628,179.2161327,116.6917875,0.0,	17P	110
179.2403797,-184.0659421,7382.9778762,179.7540156,117.0091580,	17P	111
0.0,179.7791416,-190.6699133,7145.2182762,180.2977595,	17P	112
117.3236712,0.0,180.3237660,-197.5230887,6923.2890438,	17P	113
180.8472612,117.6351789,0.0,180.8741500,-204.6364190,	17P	114
6715.3839778,181.4024758,117.9435706,0.0,181.4302496,	17P	115
-212.0222136,6520.5604579,181.9634068,118.2487654,0.0,	17P	116
181.9920698,-219.6941340,6336.7503077,182.5301013,118.5507066,	17P	117
0.0,182.5596599,-227.6672339,6162.7659876,183.1026469,	17P	118
118.8493581,0.0,183.1331103,-235.9580344,5997.3019045,	17P	119
183.6211708,119.1447013,0.0,183.7125514,-244.5846301,	17P	120
5839.1347035,184.2658404,119.4367341,0.0,184.2981546,	17P	121
-253.5668237,5687.1218570,184.8568643,119.7254692,0.0,	17P	122
184.8901330,-262.9262893,5540.2015016,185.4544952,120.0109334,	17P	123
0.0,185.4887445,-272.6867658,5397.3913086,186.0590325,	17P	124
120.2931670,0.0,186.0942943,-282.8742838,5257.7895054,	17P	125
186.6708267,120.5722242,0.0,186.7071391,-293.5174299,	17P	126
120.5747814,187.2902778,120.8481693,0.0,187.3276861,	17P	127
-304.6475417,4985.0100898,187.9178518,121.1210826,0.0,	17P	128
187.9564090,-316.2992487,4850.4419049,188.5519739,121.3901740,	17P	129
0.0,188.5917369,-328.4696509,4716.7453146,189.1948579,	17P	130
121.6552731,0.0,189.2358959,-341.2291759,4583.0290825,	17P	131
189.2237150,121.6705105,0.0,189.2708232,-341.9334578,	17P	132
4575.3961456,189.8857060,121.9348470,0.0,189.9281779,	17P	133
-355.4288930,4441.2409496,190.5525083,122.1966275,0.0,	17P	134
190.5964343,-369.6290627,4305.8470490,191.2310317,122.4560086,	17P	135

0.0,191.2765132,-384.5929631,4169.5205225,191.9223123,	17P	136
122.7131648,0.0,191.9694621,-400.3867536,4032.1592012,	17P	137
192.6275306,122.9682900,0.0,192.6764736,-417.0849059,	17P	138
3893.7586092,193.3480249,123.2215962,0.0,193.3988986,	17P	139
-434.7713151,3754.3944248,194.0853023,123.4733110,0.0,	17P	140
194.1382566,-453.5405326,3614.2381635,194.8397506,123.7232508,	17P	141
0.0,194.8949441,-473.4641251,3473.7830855,195.6114815,	17P	142
123.9711459,0.0,195.6690785,-494.6087485,3333.6620716,	17P	143
196.2289195,124.1639741,0.0,196.2885187,-512.0910759,	17P	144
3224.4505337,196.8455565,124.3517953,0.0,196.9072211,	17P	145
-530.0579457.3118.1939252,197.7492308,124.6205264,0.0,	17P	146
197.8131919,-547.6540644,3011.2497571,198.4579530,124.8267860,	17P	147
0.0,198.5237586,-565.2390018,2929.0950487,199.0427703,	17P	148
124.9930007,0.0,199.1101096,-584.4307571,2862.5133828,	17P	149
199.5470941,125.1326787,0.0,199.6157020,-605.4684849,	17P	150
2808.1785794,200.0000572,125.2546599,0.0,200.0697200,	17P	151
-628.6542449,2762.9896793,200.4239939,125.3654002,0.0,	17P	152
200.4945559,-654.4428687,2723.8914526,200.8412329,125.4708175,	17P	153
0.0,200.9126139,-683.7083642,2687.2909330,201.2836190,	17P	154
125.5784772,0.0,201.3558624,-718.3942663,2647.6469743,	17P	155
201.8011875,125.6990019,0.0,201.8745909,-761.9552739,	17P	156
2594.1261970,202.3471741,125.8201658,0.0,202.4222857,	17P	157
-607.0881329,2519.1492796,202.8055459,125.9178151,0.0,	17P	158
202.8824088,-843.5855882,2445.5679691,203.3635391,126.0319454,	17P	159
0.0,203.4424699,-891.2365655,2358.3997663,203.9296040,	17P	160
126.1424782,0.0,204.0105158,-943.5489277,2273.0052638,	17P	161
204.5047800,126.2494598,0.0,204.5875305,-1001.2517222,	17P	162
2189.6249269,205.0901854,126.3529201,0.0,205.1745663,	17P	163
-1065.2343922,2108.4435789,205.6870302,126.4528719,0.0,	17P	164
205.7727565,-1136.5934843,2029.5972827,206.2966317,126.5493101,	17P	165
0.0,206.3833311,-1216.6966889,1953.1798494,206.9204331,	17P	166
126.6422096,0.0,207.0076358,-1307.2722179,1879.2488998,	17P	167
207.5600246,126.7315238,0.0,207.6471569,-1410.5360424,	17P	168
1807.8313969,208.2171695,126.8171819,0.0,208.3035510,	17P	169
-1529.3771299,1738.9286398,208.8938352,126.8990861,0.0,	17P	170
208.9786833,-1667.6340502,1672.5206576,209.5922313,126.9771073,	17P	171
0.0,209.6746737,-1830.5202468,1608.5701087,210.3148531,	17P	172
127.0510801,0.0,210.3939494,-2025.2995091,1547.0258166,	17P	173
211.0645305,127.1207958,0.0,211.1393028,-2262.4014499,	17P	174
1487.8262299,211.8442441,127.1859744,0.0,211.9137157,	17P	175
-2557.2523407,1430.9194320,212.6570793,127.2462576,0.0,	17P	176
212.7203177,-2933.6342586,1376.2664920,213.4875978,127.3000876,	17P	177
0.0,213.5439164,-3417.9032162,1324.9418113,214.3366030,	17P	178
127.3473372,0.0,214.3854767,-4062.7232432,1276.7826557,	17P	179
215.1677049,127.3862957,0.0,215.2091082,-4916.3943566,	17P	180
1233.4810417,216.0051614,127.4185676,0.0,216.0390058,	17P	181
-6138.6159839,1193.3454423,216.8550461,127.4444652,0.0,	17P	182
216.8813081,-8045.7613262,1155.8769487,217.7428508,127.4644810,	17P	183
0.0,217.7613849,-11565.2382906,1119.9206167,218.6719573,	17P	184
127.4780936,0.0,218.6826896,-20217.5160986,1085.4417658,	17P	185
219.6465955,127.4847170,0.0,219.6495096,-75239.0465783,	17P	186
1052.3912986,220.1592546,127.4851932,0.0,220.1602924,	17P	187

212262.5523205,1036.1772655,220.6719896,127.4836718,0.0,	17P	188
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127.4737637,0.0,221.7978095,17397.0797041,989.5209269,	17P	191
222.3758385,127.4649789,0.0,222.3926614,13308.2949348,	17P	192
974.1884621,222.9667175,127.4538526,0.0,222.9873981,	17P	193
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223.6217066,9149.6970178,944.9222953,224.2274300,127.4226381,	17P	195
0.0,224.2558752,7951.8239434,930.9890304,224.9028942,	17P	196
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225.5783584,127.3785522,0.0,225.6144606,6305.9061705,	17P	198
903.5359138,226.3057053,127.3505372,0.0,226.3456657,	17P	199
5715.6538177,889.9944745,227.0330353,127.3196820,0.0,	17P	200
227.0766802,5249.6096258,877.2424225,227.8204806,127.2832058,	17P	201
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127.2436731,0.0,228.6589600,4515.8152234,852.0799204,	17P	203
229.4655180,127.1972894,0.0,229.5203371,4221.5642524,	17P	204
839.6495048,230.3230892,127.1475987,0.0,230.3814659,	17P	205
3977.8591494,828.0278090,231.2634303,127.0894888,0.0,	17P	206
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783.2241467,234.8587052,126.8355865,0.0,234.9334986,	17P	211
3159.9628145,777.9393647,235.4348102,126.7892475,0.0,	17P	212
235.5150121,2948.4124121,774.8133054,236.0087684,126.7396356,	17P	213
0.0,236.0943007,2765.4348370,771.5524579,236.8398942,	17P	214
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762.0895218,238.4860587,126.4854586,0.0,238.5942515,	17P	217
2182.6595817,757.6736176,239.2927918,126.3882808,0.0,	17P	218
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242.6295617,1618.9104823,739.6212809,243.2210690,125.8075515,	17P	225
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125.6801109,0.0,244.1018241,1476.6967581,734.0649967,	17P	227
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124.9744614,0.0,247.6034795,1215.4909801,726.3820147,	17P	233
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726.7638016,248.6833467,124.6753477,0.0,248.8791998,	17P	235
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250.4989696,124.2018695,0.0,250.7090959,1032.8924793,	17P	240
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251.8413841,977.5029551,729.6955642,252.1709439,123.7172018,0.0,	17P	243
252.3936335,952.0500476,729.7785240,252.7088019,123.5508607,0.0,	17P	244
252.9353893,928.0020683,729.9656609,253.2367447,123.3824493,0.0,	17P	245
253.4670841,905.2416538,730.2483067,253.7552228,123.2119883,0.0,	17P	246
253.9891726,883.6631002,730.6179404,254.2646800,123.0394878,0.0,	17P	247
254.5021028,863.1719211,731.0661705,254.7655511,122.8649486,0.0,	17P	248
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255.5022359,825.1215000,732.1655542,255.7432243,122.5097132,0.0,	17P	250
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256.9444023,774.3412426,734.2020246,257.1556140,121.9611037,0.0,	17P	253
257.4112496,758.8617410,734.9529656,257.6135161,121.7738834,0.0,	17P	254
257.8717949,744.0245532,735.7272542,258.0655804,121.5844054,0.0,	17P	255
258.3264036,729.7873128,736.5173867,258.5121569,121.3926105,0.0,	17P	256
258.7754309,716.1112897,737.3159242,258.9535861,121.1984330,0.0,	17P	257
259.2192222,702.9610048,738.1154874,259.3901988,121.0018008,0.0,	17P	258
259.6581138,690.3038937,738.9087493,259.8223173,120.8026355,0.0,	17P	259
260.0924329,678.1100120,739.6884259,260.2502552,120.6008527,0.0,	17P	260
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260.9486212,655.0037241,741.1780689,261.0948058,120.1890647,0.0,	17P	262
261.3711053,644.0423284,741.8736461,261.5120088,119.9788589,0.0,	17P	263
261.7902472,633.4457991,742.5268494,261.9262129,119.7656340,0.0,	17P	264
262.2063377,623.1939296,743.1305608,262.3376976,119.5492734,0.0,	17P	265
262.6196613,613.2679520,743.6776944,262.7467373,119.3296537,0.0,	17P	266
263.0304972,603.6504067,744.1612071,263.1536012,119.1066447,0.0,	17P	267
263.4391199,594.3250294,744.5740964,263.5585544,118.8801091,0.0,	17P	268
263.8457992,585.2766446,744.9094228,263.9618576,118.6499021,0.0,	17P	269
264.2508010,576.4910748,745.1603073,264.3637680,118.4158717,0.0,	17P	270
264.6543873,567.9550547,745.3199560,264.7645397,118.1778579,0.0,	17P	271
265.0568168,559.6561540,745.3816800,265.1644235,117.9356930,0.0,	17P	272
265.4583454,551.5827115,745.3389035,265.5636675,117.6892013,0.0,	17P	273
265.8592257,543.7237694,745.1851997,265.9625173,117.4381986,0.0,	17P	274
266.2597080,536.0690171,744.9143149,266.3612159,117.1824923,0.0,	17P	275
266.6600401,528.6087394,744.5201974,266.7600041,116.9218813,0.0,	17P	276
267.0604672,521.3337677,743.9970403,267.1591202,116.6561558,0.0,	17P	277
267.4612320,514.2354375,743.3393121,267.5588000,116.3850972,0.0,	17P	278
267.8625745,507.3055475,742.5418061,267.9592762,116.1084784,0.0,	17P	279
268.2647320,500.5363226,741.5996883,268.2344489,115.9154752,0.0,	17P	280
268.5410720,495.9849496,740.8611570,268.6372034,115.6282994,0.0,	17P	281
268.9449562,489.1576074,741.7972167,269.0120147,115.3565583,0.0,	17P	282
269.3217087,483.4292899,739.3828502,269.4335290,115.0456782,0.0,	17P	283
269.7453226,477.0745943,736.9396235,269.8511828,114.7320469,0.0,	17P	284
270.1650127,470.8914197,734.6411791,270.2672561,114.4139867,0.0,	17P	285
270.5830957,464.8539542,732.3849334,270.6830635,114.0904646,0.0,	17P	286
271.0009074,458.9465226,730.1136926,271.0994002,113.7607971,0.0,	17P	287
271.4192565,453.1591326,727.7926236,271.5168213,113.4244554,0.0,	17P	288
271.8387078,447.4845193,725.3990541,271.9357592,113.0809840,0.0,	17P	289
272.2597008,441.9163842,722.9176332,272.3565760,112.7299633,0.0,	17P	290
272.6826034,436.4493543,720.3378512,272.7795905,112.3709912,0.0,	17P	291

273.1077388,431.0784688,717.6526694,273.2050909,112.0036732,0.0,	17P	292
273.5353991,425.7990857,714.8577311,273.6333424,111.6276182,0.0,	17P	293
273.9658526,420.6067972,711.9509131,274.0645902,111.2424364,0.0,	17P	294
274.3993466,415.4973741,708.9320707,274.4990593,110.8477396,0.0,	17P	295
274.8361081,410.4667307,705.8028866,274.9369541,110.4431427,0.0,	17P	296
275.2763422,405.5108946,702.5668347,275.3784550,110.0282675,0.0,	17P	297
275.7202299,400.6259874,699.2291590,275.8237151,109.6027469,0.0,	17P	298
276.1679236,395.8082076,695.7969096,276.2728548,109.1662307,0.0,	17P	299
276.6195426,391.0538198,692.2789764,276.6496432,108.7943474,0.0,	17P	300
276.9984275,387.1429341,689.2937702,0,0;	17P	301
S 1G 2D 18P 301	T	I



3.3.5 Line

- Case 1 (Figures 3.3.5-1 and 3.3.5-2) tests the following:
 - horizontal lines
 - vertical lines
 - lines at angles
 - 4 connected lines
 - fonted lines (solid, dashed, phantom and centerline)

- Case 2
This is identical to Case 1 except lines are in 3-D parallel to a plane with rotation (89° , 89° , 89°) is used per section 3.0

- Case 3 (Figures 3.3.5-3 and 3.3.5-4) tests the following:
 - long vertical, horizontal and angled lines
(length > 1000 in.)

 - short vertical horizontal and angled lines
(length \leq .001 in.)

Case 4

This case tests lines in 3-D

- long lines (length > 1000 in)
- short lines (length \leq .001 in)

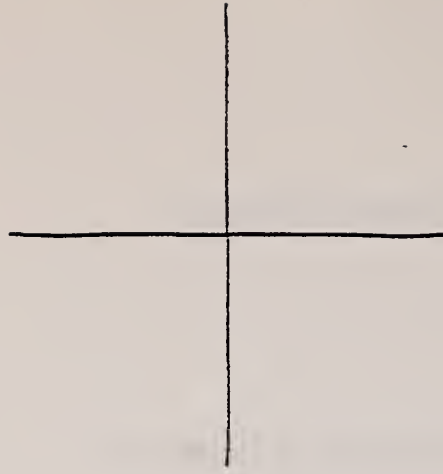
HORIZONTAL LINES



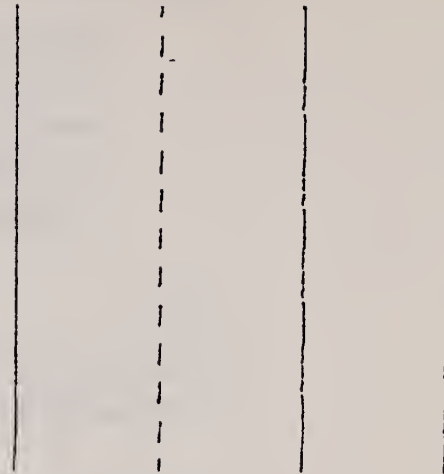
VERTICAL LINES



4 CONNECTED LINES



FONDED LINES



LINES AT ANGLES

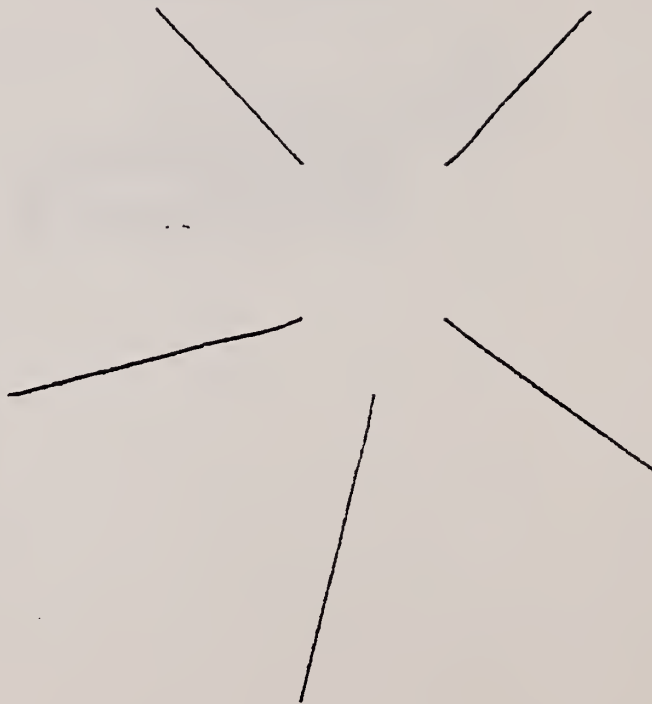


Figure 3.3.5-1 Line Cases 1 and 2 (with annotation)

Case 1: Rotation ($0^{\circ}, 0^{\circ}, 0^{\circ}$)

Case 2: Rotation ($89^{\circ}, 89^{\circ}, 89^{\circ}$)

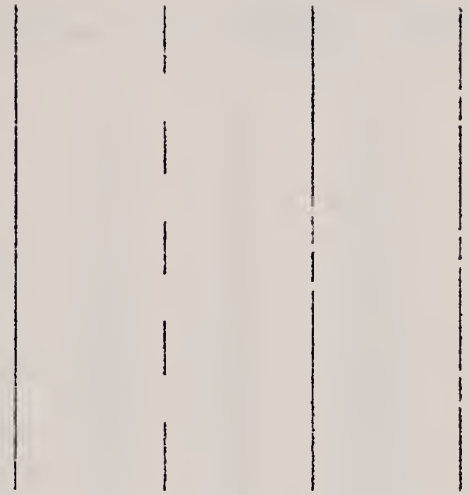
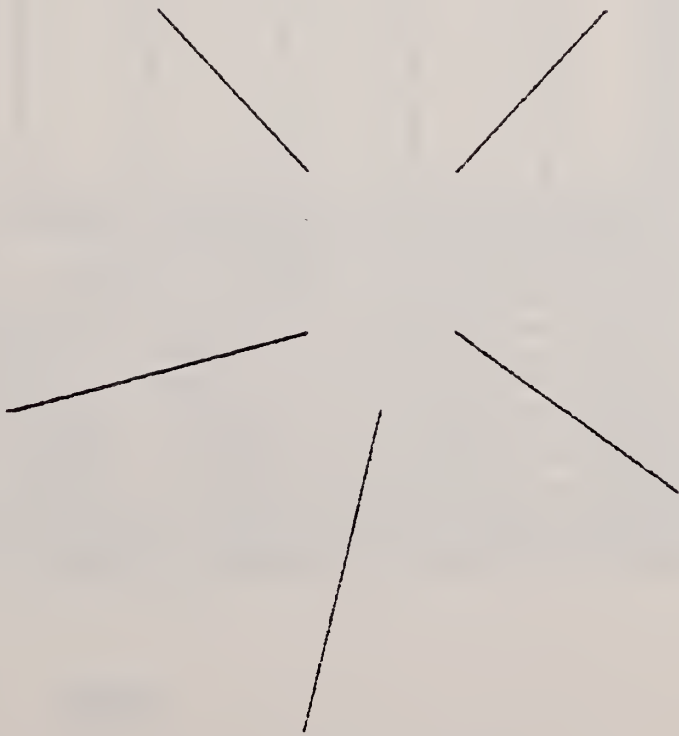
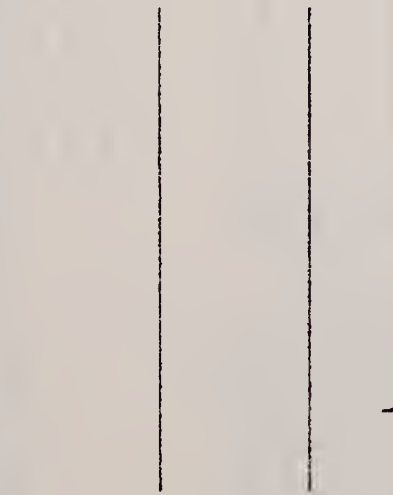
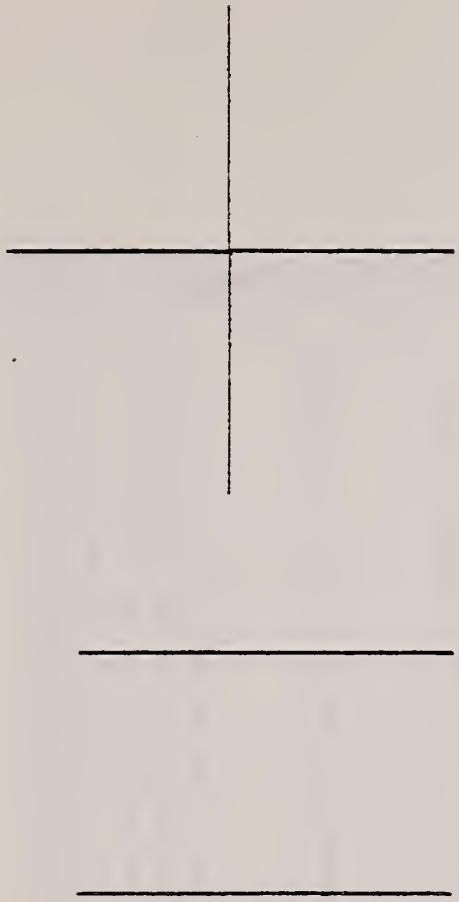


Figure 3.3.5-2 Line Case 1 and 2 (actual part)

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LINE TEST CASE 1
1H,,1H;,,5HLINE1,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG
810713.191724,,,,;

```

110	1	1	1	0	0	0	0 0 0 0	D	1
110	0	0	1	0	0	0		0D	2
110	2	1	1	0	0	0	0 0 0 0	D	3
110	0	0	1	0	0	0		0D	4
110	3	1	1	0	0	0	0 0 0 0	D	5
110	0	0	1	0	0	0		0D	6
110	4	1	1	0	0	0	0 0 0 0	D	7
110	0	0	1	0	0	0		0D	8
110	5	1	1	0	0	0	0 0 0 0	D	9
110	0	0	1	0	0	0		0D	10
110	6	1	1	0	0	0	0 0 0 0	D	11
110	0	0	1	0	0	0		0D	12
110	7	1	1	0	0	0	0 0 0 0	D	13
110	0	0	1	0	0	0		0D	14
110	8	1	1	0	0	0	0 0 0 0	D	15
110	0	0	1	0	0	0		0D	16
110	9	1	1	0	0	0	0 0 0 0	D	17
110	0	0	1	0	0	0		0D	18
110	10	1	1	0	0	0	0 0 0 0	D	19
110	0	0	1	0	0	0		0D	20
110	11	1	2	0	0	0	0 0 0 0	D	21
110	0	0	1	0	0	0		0D	22
110	12	1	3	0	0	0	0 0 0 0	D	23
110	0	0	1	0	0	0		0D	24
110	13	1	4	0	0	0	0 0 0 0	D	25
110	0	0	1	0	0	0		0D	26
110	14	1	1	0	0	0	0 0 0 0	D	27
110	0	0	1	0	0	0		0D	28
110	15	1	1	0	0	0	0 0 0 0	D	29
110	0	0	1	0	0	0		0D	30
110	16	1	1	0	0	0	0 0 0 0	D	31
110	0	0	1	0	0	0		0D	32
110	17	1	1	0	0	0	0 0 0 0	D	33
110	0	0	1	0	0	0		0D	34
110,-3.0000000,5.0000000,0.0,-2.0000000,5.0000000,0.0,0,0;								1P	1
110,-8.0000000,3.0000000,0.0,-2.0000000,3.0000000,0.0,0,0;								3P	2
110,0.0,2.0000000,0.0,0.0,7.0000000,0.0,0,0;								5P	3
110,3.0000000,2.0000000,0.0,3.0000000,7.0000000,0.0,0,0;								7P	4
110,-4.0000000,-2.0000000,0.0,-2.0000000,0.0,0.0,0,0;								9P	5
110,-4.0000000,-4.0000000,0.0,-2.0000000,-6.0000000,0.0,0,0;								11P	6
110,-6.0000000,-4.0000000,0.0,-3.0000000,-7.0000000,0.0,0,0;								13P	7
110,-7.0000000,-3.0000000,0.0,-11.0000000,-2.0000000,0.0,0,0;								15P	8
110,-6.0000000,-2.0000000,0.0,-7.0000000,2.0000000,0.0,0,0;								17P	9
110,2.0000000,-2.0000000,0.0,8.0000000,-2.0000000,0.0,0,0;								19P	10
110,2.0000000,-4.0000000,0.0,8.0000000,-4.0000000,0.0,0,0;								21P	11
110,2.0000000,-6.0000000,0.0,8.0000000,-6.0000000,0.0,0,0;								23P	12
110,2.0000000,-8.0000000,0.0,8.0000000,-8.0000000,0.0,0,0;								25P	13
110,8.0000000,8.0000000,0.0,8.0000000,5.0000000,0.0,0,0;								27P	14
110,5.0000000,5.0000000,0.0,8.0000000,5.0000000,0.0,0,0;								29P	15

110,8.0000000,2.0000000,0.0,8.0000000,5.0000000,0.0,0,0;
110,11.0000000,5.0000000,0.0,8.0000000,5.0000000,0.0,0,0;
S 1G 2D 34P 17

31P 16
33P 17
T 1

LINE TEST CASE 2								S	1
1H,,1H;,,5HLINE2,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG									1
810713.191729,,,,;								G	2
110	1	1	1	0	0	0	0 0 0 0	D	1
110	0	0	2	0	0	0		OD	2
110	3	1	1	0	0	0	0 0 0 0	D	3
110	0	0	2	0	0	0		OD	4
110	5	1	1	0	0	0	0 0 0 0	D	5
110	0	0	2	0	0	0		OD	6
110	7	1	1	0	0	0	0 0 0 0	D	7
110	0	0	2	0	0	0		OD	8
110	9	1	1	0	0	0	0 0 0 0	D	9
110	0	0	2	0	0	0		OD	10
110	11	1	1	0	0	0	0 0 0 0	D	11
110	0	0	2	0	0	0		OD	12
110	13	1	1	0	0	0	0 0 0 0	D	13
110	0	0	2	0	0	0		OD	14
110	15	1	1	0	0	0	0 0 0 0	D	15
110	0	0	2	0	0	0		OD	16
110	17	1	1	0	0	0	0 0 0 0	D	17
110	0	0	2	0	0	0		OD	18
110	19	1	1	0	0	0	0 0 0 0	D	19
110	0	0	2	0	0	0		OD	20
110	21	1	2	0	0	0	0 0 0 0	D	21
110	0	0	2	0	0	0		OD	22
110	23	1	3	0	0	0	0 0 0 0	D	23
110	0	0	2	0	0	0		OD	24
110	25	1	4	0	0	0	0 0 0 0	D	25
110	0	0	2	0	0	0		OD	26
110	27	1	1	0	0	0	0 0 0 0	D	27
110	0	0	2	0	0	0		OD	28
110	29	1	1	0	0	0	0 0 0 0	D	29
110	0	0	2	0	0	0		OD	30
110	31	1	1	0	0	0	0 0 0 0	D	31
110	0	0	2	0	0	0		OD	32
110	33	1	1	0	0	0	0 0 0 0	D	33
110	0	0	2	0	0	0		OD	34
110,-3.8349369,6.1070509,-6.0825319,.6650635,4.8080130,								1P	1
-2.3325319,0,0;								1P	2
110,-4.7009621,4.3570509,-5.6495194,-.2009619,3.0580127,								3P	3
-1.8995192,0,0;								3P	4
110,.8660254,1.7500001,-.4330127,3.0310891,6.1250000,-1.5155445,								5P	5
0,0;								5P	6
110,3.1160254,1.1004810,1.4419874,5.2810888,5.4754810,.3594556,								7P	7
0,0;								7P	8
110,-3.8660257,-.8839747,-2.0669875,-1.5000001,.4330127,								9P	9
-1.2500001,0,0;								9P	10
110,-4.7320509,-2.6339748,-1.6339748,-4.0980763,-4.8169875,								11P	11
.0490381,0,0;								11P	12
110,-6.2320509,-2.2009621,-2.8839748,-9.0310888,-4.3929491,								13P	13
-3.4844558,0,0;								13P	14
110,-6.5490384,-1.1094556,-3.7254813,-9.1160259,.6315699,								15P	15

-6.4419875,0,0;	15P	16
110,-5.3660254,-.4509619,-3.3169875,-4.3839746,3.2655447,	17P	17
-4.8080130,0,0;	17P	18
110,.6339747,-2.1830127,1.6830128,5.1339750,-3.4820509,	19P	19
5.4330130,0,0;	19P	20
110,-.2320508,-3.9330130,2.1160254,4.2679496,-5.2320509,	21P	21
5.8650259,0,0;	21P	22
110,-1.0980762,-5.6830130,2.5490382,3.4019241,-6.9820509,	23P	23
6.2990384,0,0;	23P	24
110,-1.9641017,-7.4330130,2.9820509,2.5358987,-8.7320509,	25P	25
6.7320514,0,0;	25P	26
110,9.4641018,5.2679496,3.2679496,8.1650639,2.6429493,3.9174685,	27P	27
0,0;	27P	28
110,5.9150639,3.2924683,2.0424683,8.1650639,2.6429493,3.9174685,	29P	29
0,0;	29P	30
110,6.8660259,.0179492,4.5669875,8.1650639,2.6429493,3.9174685,	31P	31
0,0;	31P	32
110,10.4150639,1.9934303,5.7924685,8.1650639,2.6429493,	33P	33
3.9174685,0,0;	33P	34
S 1G 2D 34P 34	T	1

LINE WITH LENGTH 1100

LINES WITH LENGTH
.001 WITHIN BOX

Figure 3.3.5-3 Line Cases 3 and 4 (with annotation)
Case 3: Rotation ($0^{\circ}, 0^{\circ}, 0^{\circ}$)

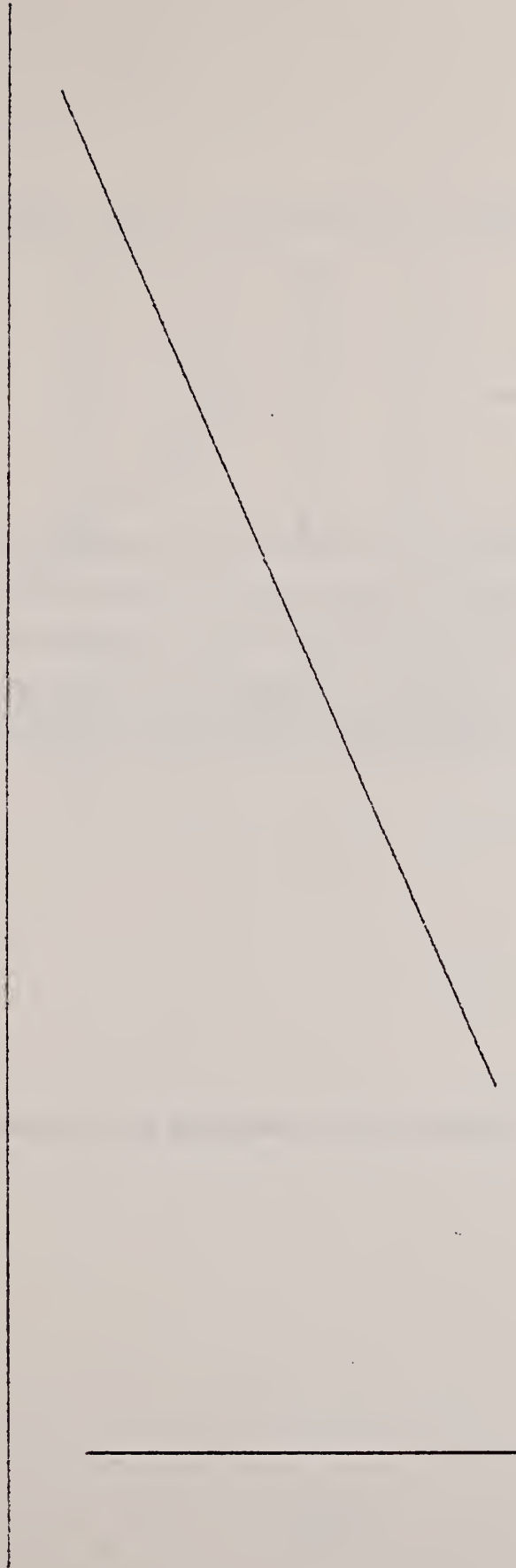


Figure 3.3.5-4 Line Cases 3 and 4 (actual part)



Figure 3.3.5-5 Line Cases 3 and 4 (magnified to show small lines)

LINE TEST CASE 3									S	1
1H,,1H;,,5HLINE3,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG										1
810713.191733,,,,;									G	2
110	1	1	1	0	0	0	0 0 0 0	D		1
110	0	0	2	0	0	0		0D		2
110	3	1	1	0	0	0	0 0 0 0	D		3
110	0	0	2	0	0	0		0D		4
110	5	1	1	0	0	0	0 0 0 0	D		5
110	0	0	2	0	0	0		0D		6
110	7	1	1	0	0	0	0 0 0 0	D		7
110	0	0	1	0	0	0		0D		8
110	8	1	1	0	0	0	0 0 0 0	D		9
110	0	0	1	0	0	0		0D		10
110	9	1	1	0	0	0	0 0 0 0	D		11
110	0	0	1	0	0	0		0D		12
110,-520.0000000,100.0000000,0.0,580.0000000,100.0000000,0.0,0,								1P		1
0;								1P		2
110,-440.0000000,-290.0000000,0.0,-440.0000000,40.0000000,0.0,0,								3P		3
0;								3P		4
110,-180.0000000,-270.0000000,0.0,520.0000000,50.0000000,0.0,0,								5P		5
0;								5P		6
110,29.9980011,-94.9990082,0.0,29.9990005,-94.9990082,0.0,0,0;								7P		7
110,29.9980011,-95.0010071,0.0,29.9980011,-95.0000076,0.0,0,0;								9P		8
110,30.0000019,-94.9990082,0.0,30.0010014,-95.0000076,0.0,0,0;								11P		9
S	1G	2D	12P	9				T		1

LINE TEST CASE 4									S	1
1H,,1H;,,5HLINE4,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG										1
810713.191737,,,,;									G	2
110	1	1	1	0	0	0	0	0 0 0 0	D	1
110	0	0	2	0	0	0			0D	2
110	3	1	1	0	0	0	0	0 0 0 0	D	3
110	0	0	2	0	0	0			0D	4
110	5	1	1	0	0	0	0	0 0 0 0	D	5
110	0	0	2	0	0	0			0D	6
110	7	1	1	0	0	0	0	0 0 0 0	D	7
110	0	0	2	0	0	0			0D	8
110	9	1	1	0	0	0	0	0 0 0 0	D	9
110	0	0	2	0	0	0			0D	10
110	11	1	1	0	0	0	0	0 0 0 0	D	11
110	0	0	2	0	0	0			0D	12
110,1.5866011,99.9861374,-520.0001831,1.9216517,99.9832153,									1P	1
579.9996338,0,0;									1P	2
110,-5.1944871,-289.9546204,-439.9991760,.5639753,39.9950714,									3P	3
-440.0000305,0,0;									3P	4
110,-4.7662959,-269.9583435,-179.9992523,1.2053807,59.9894714,									5P	5
519.9997559,0,0;									5P	6
110,-1.6485848,-94.9846039,29.9982491,-1.6485845,-94.9846039,									7P	7
29.9992485,0,0;									7P	8
110,-1.6486197,-94.9866028,29.9982491,-1.6486022,-94.9856033,									9P	9
29.9982491,0,0;									9P	10
110,-1.6485842,-94.9846039,30.0002499,-1.6486013,-94.9856033,									11P	11
30.0012493,0,0;									11P	12
S	1G	2D	12P	12					T	1

3.3.6 Parametric Spline

- Case 1

Spline types of linear, cubic, Wilson-Fowler and Modified Wilson-Fowler are tested.

- Level 2 (Figures 3.3.6-1 and 3.3.6-2) contains a 2D and 3D cubic spline in model space.
- Level 3 (Figure 3.3.6-3) contains a Wilson-Fowler spline in model space.
- Level 4 (Figure 3.3.6-4) contains 3 Modified Wilson-Fowler splines.
 - One in model space.
 - One in non-model space with rotation (0° , 0° , 2°) per section 3.0.
 - One in non-model space with rotation (0° , 0° , 71°) per section 3.0.
- Case 2 (Figure 3.3.6-5)
 - A uniform, cubic B-spline in model space

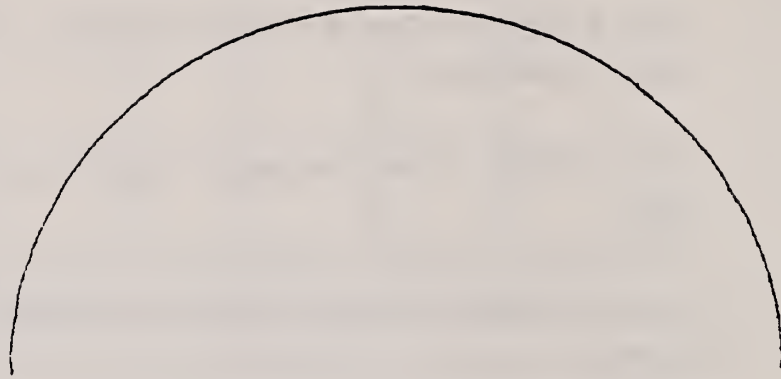


Figure 3.3.6-1 2D Cubic Spline (actual part)
Case 1: Rotation (0° , 0° , 0°)



CUBIC SPLINE

Figure 3.3.6-2 3D Cubic Spline (actual part)
Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)

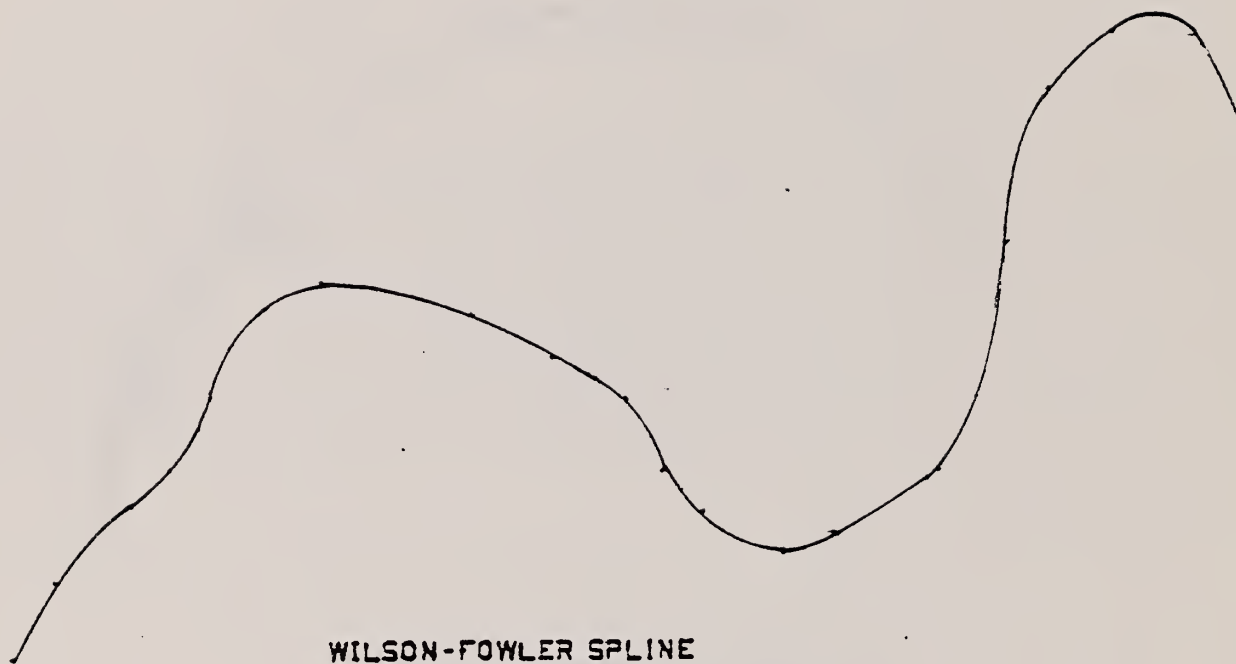


Figure 3.3.6-3 Wilson Fowler Spline (actual part)
Case 1: Rotation (0° , 0° , 0°)

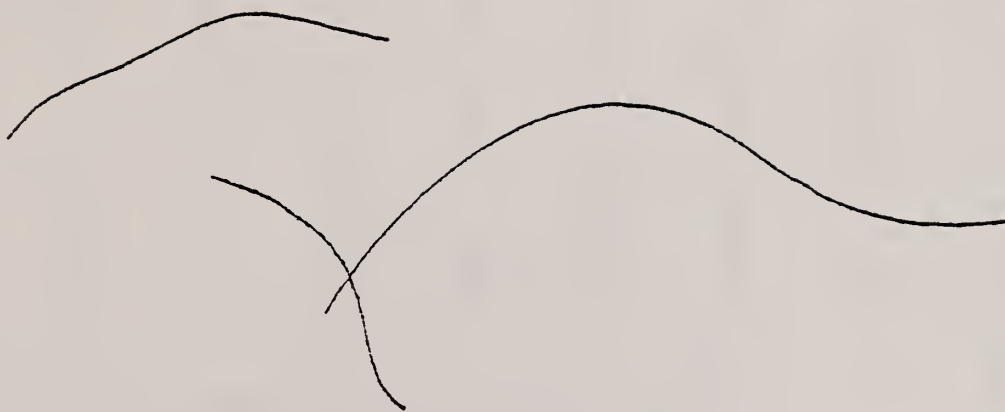


Figure 3.3.6-4 Modified Wilson Fowler Splines (actual part)
Case 1: Rotation (0° , 0° , 0°)

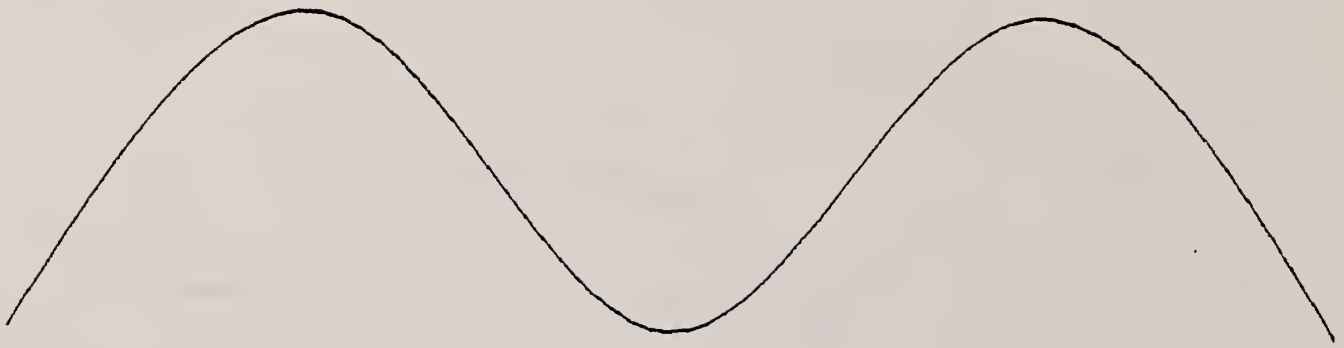


Figure 3.3.6-5 Uniform B-Spline (actual part)
Case 2: Rotation ($0^\circ, 0^\circ, 0^\circ$)

-.0608631,.0231806,11.0000000,1.0059238,.0152158,-.0057951,0.0,	3P	37
0.0,0.0,0.0,27.0000000,.6225473,.1104887,-.0652475,15.0000000,	3P	37
.7316663,-.1104387,.0652475,0.0,0.0,0.0,0.0,28.0000000,.6660642,	3P	37
-.1463434,.1111193,16.0000000,.9039395,.2926263,-.2222337,0.0,	3P	35
0.0,0.0,0.0,30.0000000,.2479882,-.1224687,.0161578,17.0000000,	3P	36
-.5552254,-.1224687,.0161578,0.0,0.0,0.0,0.0,31.0000000,	3P	37
.6002002,-.0684177,.7447602E-17,16.0000000,-.3179339,-.0342089,	3P	38
.3723901E-17,0.0,0.0,0.0,0.0,31.0000000,.6002002,-.1362354,	3P	39
.4468561E-15,16.0000000,-.3179339,-.0684177,.2234281E-15,0.0,	3P	40
0.0,0.0,0.0,0.0,	3P	41
112,5,0,2,9,1.2719991,1.4799993,1.8559990,2.3199992,2.9999976,	5P	42
3.7999983,4.2639980,4.9159981,5.4399977,6.0399971,1.2719991,	5P	43
1.0000000,0.0,0.0,2.3359985,5.5851707,-25.0423955,49.4484100,	5P	44
0.0,0.0,0.0,0.0,1.4799993,1.0000000,0.0,0.0,3.0239983,2.1695476,	5P	45
-.0233724,1.4731183,0.0,0.0,0.0,0.0,1.8559990,1.0000000,0.0,	5P	46
0.0,3.6319976,1.2727575,-.5552737,.1929117,0.0,0.0,0.0,0.0,	5P	47
2.3199992,1.0000000,0.0,0.0,4.1199980,.2722259,-.3455377,	5P	48
-.0042488,0.0,0.0,0.0,0.0,2.9999976,1.0000000,0.0,0.0,4.5519981,	5P	49
.3964018,-.3492873,-.0421438,0.0,0.0,0.0,0.0,3.7999983,	5P	50
1.0000000,0.0,0.0,4.6239977,-.2433746,-.4788300,.0001601,0.0,	5P	51
0.0,0.0,0.0,4.2639980,1.0000000,0.0,0.0,4.4079981,-.6876252,	5P	52
-.4716982,.6379271,0.0,0.0,0.0,0.0,4.8159981,1.0000000,0.0,0.0,	5P	53
3.9919977,-.6252437,.4901187,-.1345374,0.0,0.0,0.0,0.0,	5P	54
5.4399977,1.0000000,0.0,0.0,3.7599974,-.1707328,.2538025,	5P	55
-.0228200,0.0,0.0,0.0,0.0,5.4399977,1.0000000,0.0,0.0,3.7599974,	5P	56
-.1707328,.5076050,-.1369200,0.0,0.0,0.0,0.0,0.0,	5P	57
124,.9993906,.0348992,0.0,0.0,-.0348992,.9993906,0.0,0.0,0.0,	7P	58
0.0,1.0000000,0.0,0.0,	7P	59
112,5,0,2,7,-.9707423,-.8516917,-.6198565,-.2815026,.2698888,	9P	60
.9277999,1.5857108,1.9240549,-.9707423,1.0000000,0.0,0.0,	9P	61
3.5215421,5.1570997,-18.3800507,46.7533646,0.0,0.0,0.0,0.0,	9P	62
-.8516917,1.0000000,0.0,0.0,3.9538841,2.7687006,-3.7920985,	9P	63
4.0561001,0.0,0.0,0.0,-.6198565,1.0000000,0.0,0.0,4.4426165,	9P	64
1.6660461,-1.6373434,.4771601,0.0,0.0,0.0,0.0,-.2815026,	9P	65
1.0000000,0.0,0.0,4.8373642,.7219237,-.9007666,.8229391,0.0,0.0,	9P	66
0.0,0.0,.2698888,1.0000000,0.0,0.0,5.1005287,.4246470,.3580946,	9P	67
-.5858296,0.0,0.0,0.0,0.0,.9277999,1.0000000,0.0,0.0,5.4075537,	9P	68
.1951118,-.7513818,.3832674,0.0,0.0,0.0,0.0,1.5857108,1.0000000,	9P	69
0.0,0.0,5.3198318,-.2958844,.0445210,.3499294,0.0,0.0,0.0,0.0,	9P	70
1.5857108,1.0000000,0.0,0.0,5.3198318,-.2958844,.0891619,	9P	71
2.0995764,0.0,0.0,0.0,0.0,0.0,	9P	72
124,.3255621,.9455184,0.0,0.0,-.9455184,.3255621,0.0,0.0,0.0,	11P	73
0.0,1.0000000,0.0,0.0,	11P	74
112,5,0,2,7,-3.7373052,-3.4709454,-3.1987929,-2.9261094,	13P	75
-2.6313226,-2.3128533,-1.9248936,-1.7975037,-3.7373052,	13P	76
1.0000000,0.0,0.0,2.2780337,1.3976610,-1.5699646,1.2024587,0.0,	13P	77
0.0,0.0,0.0,-3.4709454,1.0000000,0.0,0.0,2.5617661,.8185216,	13P	78
-.6787245,.3479272,0.0,0.0,0.0,0.0,-3.1987929,1.0000000,0.0,0.0,	13P	79
2.7412710,.5263982,-.4534544,-.3350706,0.0,0.0,0.0,0.0,	13P	80
-2.8261094,1.0000000,0.0,0.0,2.8512822,.1445419,-.7457782,	13P	81
.7004392,0.0,0.0,0.0,-2.6313226,1.0000000,0.0,0.0,2.9512822,	13P	82
-.0990749,-.2099753,.1989091,0.0,0.0,0.0,0.0,-2.3128533,	13P	83

1.0000000,0.0,0.0,2.8049655,-.1716579,-.0077140,.9620458,0.0,	13P	84
0.0,0.0,0.0,-1.9248936,1.0000000,0.0,0.0,2.7933846,.2567570,	13P	85
1.0833561,3.6833868,0.0,0.0,0.0,0.0,-1.9248936,1.0000000,0.0,	13P	86
0.0,2.7933846,.2567570,2.1667123,22.1003208,0.0,0.0,0.0,0.0,0.0;	13P	87
112,3,0,2,20,0.0,.2255125,.6248973,1.0244054,1.4238676,	15P	88
1.8236292,2.0955628,2.4947605,2.8943290,3.2938080,3.6934843,	15P	89
3.9653941,4.3649945,4.6366426,4.9085522,5.1804630,5.4525724,	15P	90
5.7243701,5.9962628,6.2681369,6.2681369,-2502.6000977,.0384577,	15P	91
0.0,.4358998,599.0290527,1.0000929,0.0,-.0379968,0.0,0.0,0.0,	15P	92
0.0,-2502.5864258,.1049619,.2949025,-.0551033,599.2541504,	15P	93
.9942958,-.0257063,-.0450447,0.0,0.0,0.0,0.0,-2502.5009766,	15P	94
.3141528,.2288803,-.0065292,599.6442871,.9522075,-.0796767,	15P	95
-.0367165,0.0,0.0,0.0,0.0,-2502.3393555,.4939055,.2210548,	15P	96
-.0253096,600.0096436,.8709639,-.1236823,-.0353520,0.0,0.0,0.0,	15P	97
0.0,-2502.1083984,.6583957,.1907242,-.0340757,600.3355713,	15P	98
.7552277,-.1650477,-.0284184,0.0,0.0,0.0,-2501.8168945,	15P	99
.7945473,.1498578,-.0290074,600.6091309,.6088442,-.2001294,	15P	100
-.0186703,0.0,0.0,0.0,0.0,-2501.5903320,.8696149,.1261935,	15P	101
-.0394897,600.7595215,.4958584,-.2153607,-.0219202,0.0,0.0,0.0,	15P	102
0.0,-2501.2255859,.9514881,.0789009,-.0414603,600.9217529,	15P	103
.3134360,-.2416121,-.0056566,0.0,0.0,0.0,-2500.8354492,	15P	104
.9946827,.0292022,-.0407993,601.0080566,.1176455,-.2483927,	15P	105
-.0024372,0.0,0.0,0.0,0.0,-2500.4360352,.9984813,-.0196932,	15P	106
-.0447514,601.0152588,-.0819767,-.2513135,.0081693,0.0,0.0,0.0,	15P	107
0.0,-2500.0429688,.9612936,-.0733514,-.0293878,600.9428711,	15P	108
-.2789499,-.2415133,.0160201,0.0,0.0,0.0,-2499.7875977,	15P	109
.9148853,-.0973239,-.0451330,600.8494873,-.4067390,-.2284502,	15P	110
.0178055,0.0,0.0,0.0,0.0,-2499.4404297,.8154834,-.1514293,	15P	111
-.0194162,600.6516113,-.5807870,-.2071050,.0343843,0.0,0.0,0.0,	15P	112
0.0,-2499.2304688,.7289141,-.1672525,-.0385164,600.4792480,	15P	113
-.6856945,-.1790837,.0233108,0.0,0.0,0.0,-2499.0454102,	15P	114
.6294159,-.1986714,-.0102541,600.2800293,-.7779132,-.1600684,	15P	115
.0409681,0.0,0.0,0.0,-2498.8891602,.5190996,-.2070361,	15P	116
-.0457711,600.0574951,-.8558749,-.1266494,.0282874,0.0,0.0,0.0,	15P	117
0.0,-2498.7641602,.3962595,-.2444003,.0340867,599.8157959,	15P	118
-.9185164,-.1035576,.0474737,0.0,0.0,0.0,-2498.6738281,	15P	119
.2709590,-.2166062,-.1235455,599.5594482,-.9642986,-.0648479,	15P	120
.0368954,0.0,0.0,0.0,-2498.6186523,.1257722,-.3173796,	15P	121
.3891256,599.2932129,-.9913694,-.0347532,.0426094,0.0,0.0,0.0,	15P	122
0.0,-2498.6000977,0.0,0.0,599.0219727,0.0,0.0,0.0,0.0,	15P	123
0.0,0.0,-2498.6000977,0.0,0.0,599.0219727,0.0,0.0,0.0,0.0,	15P	124
0.0,0.0,0.0,0.0;	15P	125
112,3,0,3,31,0.0,.2719033,.6714031,.9433063,1.3428058,1.7423051,	17P	126
2.0142084,2.4137074,2.8132071,3.2127060,3.6122057,4.0117048,	17P	127
4.4112046,4.8107045,5.2102045,5.6097035,5.8816074,6.1535108,	17P	128
6.2741145,6.5753975,6.8766794,7.0818746,7.2870688,7.4922637,	17P	129
7.7935460,8.0948280,8.3000226,8.5052167,8.7104114,8.9156066,	17P	130
9.0052996,9.0052996,.9838046,.0348794,0.0,.3244740,2.1824389,	17P	131
.8564018,0.0,-.1267781,1.9159014,.5176959,0.0,.1431206,.9998111,	17P	132
.1068459,.2646767,-.0627361,2.4127488,.8282831,-.1034142,	17P	133
-.0215909,2.0595417,.5494392,.1167449,-.0542858,1.0807383,	17P	134
.2882843,-.1894875,.0103111,2.7257662,.7353175,-.1292908,	17P	135

-.0301380,2.2942138,.6167263,.0516833,-.0105403,1.1733401,	17P	136
.3936158,.1978983,-.0232532,2.9155369,.6583239,-.1538747,	17P	137
-.0261188,2.4655128,.6424942,.0430856,-.0305710,1.3606913,	17P	138
.5406028,.1700295,-.0264296,3.1523132,.5228725,-.1851781,	17P	139
-.0188928,2.7271161,.6622822,.0064463,-.0285366,1.6021132,	17P	140
.6638016,.1383537,-.0250792,3.3304415,.3658696,-.2078211,	17P	141
-.0109925,2.9909067,.6537694,-.0277548,-.0230526,1.7923276,	17P	142
.7334768,.1178964,-.0342911,3.4143372,.2504171,-.2167878,	17P	143
-.0080331,3.1661534,.6335632,-.0465591,-.0275076,2.1019807,	17P	144
.8112573,.0767986,-.0346088,3.4792671,.0733578,-.2264155,	17P	145
.0010430,3.4100766,.5831921,-.0795268,-.0224660,2.4361281,	17P	146
.0000400,.0055200,-.0363817,3.4725041,-.1070486,-.2251654,	17P	147
.0080932,3.6289368,.5088935,-.1064523,-.0195787,2.7814360,	17P	148
.8668497,-.0082834,-.0359517,3.3943181,-.2830803,-.2154657,	17P	149
.0155069,3.8140011,.4144641,-.1299173,-.0150304,3.1241279,	17P	150
.8430176,-.0513715,-.0342648,3.2478280,-.4478126,-.1968807,	17P	151
.0215453,3.9578862,.3034637,-.1479312,-.0103413,3.4505291,	17P	152
.7855659,-.0924378,-.0312447,3.0388789,-.5948040,-.1710587,	17P	153
.0290698,4.0548506,.1803155,-.1603252,-.0042977,3.7476172,	17P	154
.6967482,-.1298845,-.0266683,2.7758074,-.7175612,-.1362185,	17P	155
.0268075,4.1010246,.0501580,-.1654760,-.0013400,4.0035381,	17P	156
.5802017,-.1618465,-.0222198,2.4691105,-.9135644,-.1040898,	17P	157
.0556307,4.0945673,-.0825989,-.1670819,.0136968,4.2080812,	17P	158
.4402475,-.1884769,-.0124730,2.1310258,-.8700961,-.0374164,	17P	159
-.0377731,4.0357361,-.2096393,-.1506663,-.0166505,4.3530836,	17P	160
.2836828,-.2034258,-.0278086,1.7750432,-.9180774,-.0826873,	17P	161
.5315399,3.9268775,-.3379936,-.1706218,.2017731,4.4146194,	17P	162
.1668905,-.2261096,.0734518,1.5299864,-.8451503,.3508961,	17P	163
-1.9093353,3.8264174,-.3860268,-.0060332,-.7141670,4.4447575,	17P	164
.0602218,-.1661942,-.9666144,1.2877476,-1.0778103,-1.2065677,	17P	165
24.0700000,3.7066531,-.3477058,-.5885863,9.0735209,4.4479074,	17P	166
-.0220445,-.5159261,.4546422,1.1824400,-.3183741,7.5035233,	17P	167
-10.5686030,3.6479535,-.2937472,2.6943143,-4.3488745,4.4068680,	17P	168
-.2091184,-.1049981,-.0876423,1.4785960,1.3250118,-2.0488981,	17P	169
2.7983145,3.6850867,.1454941,-1.2364115,1.2334575,4.3319368,	17P	170
-.2962525,-.1842132,.0948841,1.7683451,.8524356,.4803464,	17P	171
-1.4080201,3.6504235,-.2636370,-.1215563,-.5012857,4.2642107,	17P	172
-.3598665,-.1258039,.0368399,1.9513209,.8717107,-.3864106,	17P	173
.2406320,3.5868773,-.3768426,-.4301406,.2054004,4.1853895,	17P	174
-.4068416,-.1031259,.0535461,2.1160002,.7435275,-.2382817,	17P	175
-.1725876,3.4932151,-.5274224,-.3036997,.0307898,4.0980282,	17P	176
-.4423998,-.0701638,.0610086,2.2570443,.6239388,-.3445240,	17P	177
-.0589758,3.3724694,-.6481685,-.2847460,.1016837,3.9600406,	17P	178
-.4680645,-.0150213,.0633914,2.4121404,.4002809,-.3978290,	17P	179
-.0380688,3.1541219,-.7920565,-.1928395,.1134978,3.8193913,	17P	180
-.4598536,.0422747,.0517269,2.4955854,.1501968,-.4322374,	17P	181
.7220595E-04,2.9010892,-.8773478,-.0902549,.1058269,3.7272587,	17P	182
-.4359706,.0741170,.0598137,2.5082064,-.0271796,-.4321930,	17P	183
.0053276,2.7181764,-.9010199,-.0251096,.1241773,3.6414375,	17P	184
-.3979986,.1109372,.0311158,2.4844780,-.2038735,-.4289134,	17P	185
.0675528,2.5333080,-.8956393,.0513317,.0911214,3.5647101,	17P	186
-.3485407,.1300916,.1036357,2.4251685,-.3713621,-.3873290,	17P	187

-0.0529834,2.3524761,-.8630633,.1074246,.1898821,3.4995642,	17P	188
-.2820616,.1938883,-.7205624,2.3322005,-.5370108,-.4199448,	17P	189
1.5606746,2.1815434,-.7949923,.2243133,-.8336334,3.4753051,0.0,	17P	190
0.0,0.0,2.2817822,0.0,0.0,0.0,2.1114411,0.0,0.0,0.0,3.4753051,	17P	191
0.0,0.0,0.0,2.2817822,0.0,0.0,0.0,2.1114411,0.0,0.0,0.0,0.0;	17P	192
S 1G 2D 18P 192	T	1

THIS IS A BENCHMARK OF A UNIFORM BSPLINE THAT IS OF
 DEGREE 3. POINTS WERE EXPLICITLY ENTERED AS FOLLOWS;
 X2Y6,X6Y10,X10Y6,X14Y10,X18Y6

1H,,1H;,9HSYSTEM #1,25H BMC.BENCHMARK.BSPLINE.PUT,45HCOMPUTERVISION.CADDSG
 4 REV.2.00 GRAPHIC SYSTEM,14HIGES REV 01.00,16,08,24,08,56,9HSYSTEM #2, G
 156.000,1,4HINCH,,,13H810724.092702,,,18HINSTAVIEW OPERATOR,14HCOMPUTERVG
 ISION;

124	1	1			000000	D	1
124			3			D	2
112	4	1			000000	D	3
112			13			D	4
124,	1.000000,	0.000000,	0.000000,	0.000000,	0.000000,	1P	1
	0.000000,	1.000000,	0.000000,	0.000000,	0.000000,	1P	2
	0.000000,	0.000000,	1.000000,	0.000000,	0.000000;	1P	3
112,3,1,2,5,	.00000000,	1.000000,	2.000000,	3.000000,	4.000000,	3P	4
5.000000,	2.000000,	3.980861,	-0.2384186E-06,	.01913905,	6.000000,	3P	5
6.889953,	.00000000,	-2.889952,	.00000000,	.00000000,	.00000000,	3P	6
6.000000,	4.038278,	.05741692,	-.09569439,	10.000000,	-1.779904,	3P	7
-8.669857,	6.449761,	.00000000,	.00000000,	.00000000,	.00000000,	3P	8
3.966028,	-.2296662,	.3636374,	6.000000,	-.2296648,	10.67943,	3P	9
-6.909091,	.00000000,	.00000000,	.00000000,	.00000000,	14.000000,	3P	10
.8612461,	-1.358853,	10.000000,	.8612442,	-10.04785,	5.186603,	3P	11
.00000000,	.00000000,	.00000000,	.00000000,	18.000000,	2.143540,	3P	12
1.071773,	6.000000,	-3.674642,	5.511961,	-1.837319,	.00000000,	3P	13
.00000000,	.00000000,	.00000000,	18.000000,	-1.071768,	.00001120567,	3P	14
6.430639,	6.000000,	1.837322,	.000005722046,	-11.02392,	.00000000,	3P	15
.00000000,	.00000000,	.00000000,				3P	16
S	4G	4D	4P	16		T	1

3.3.7 Point

Case 1 (Figure 3.3.7-1) tests the following:

- points defined in 3-D
- points with large absolute coordinate values
(-224355 to 200122)

Points are also tested in level Case 1 (Section 3.3.20).

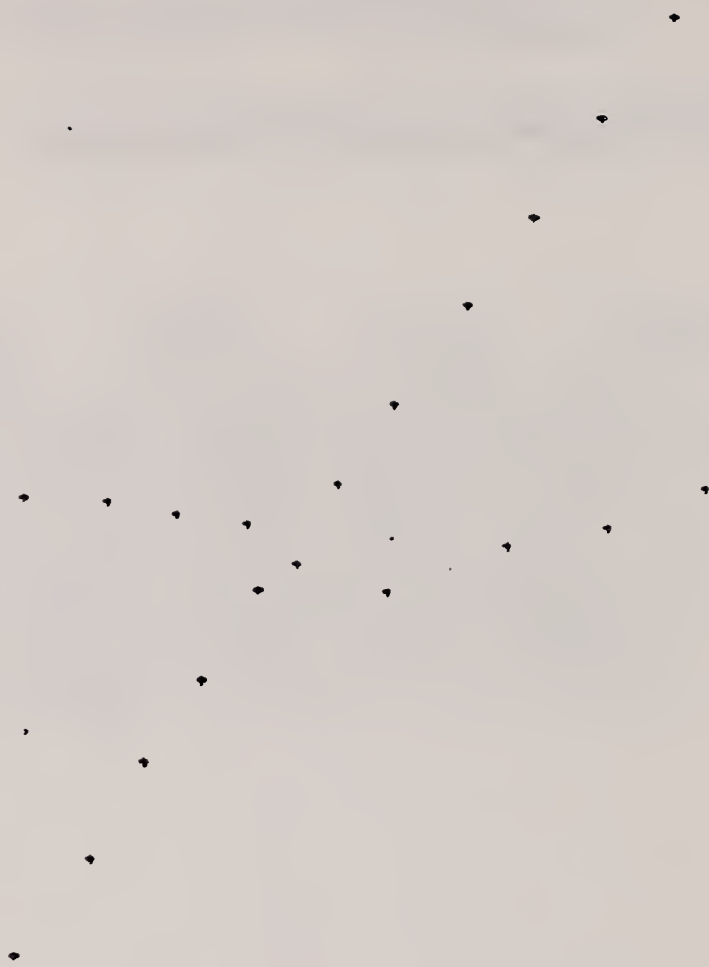


Figure 3.3.7-1 Point Case 1 (actual part)
Case 1: Rotation (0° , 0° , 0°)

```

POINT TEST CASE 1
1H,,1H;,,6HPOINT1,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810714.085649,,,,;
116 1 1 1 1 0 0 0 0 0 0 D 1
116 0 0 1 0 0 0 0 0 0 0 OD 2
116 2 1 1 1 0 0 0 0 0 0 D 3
116 0 0 1 0 0 0 0 0 0 0 OD 4
116 3 1 1 1 0 0 0 0 0 0 D 5
116 0 0 1 0 0 0 0 0 0 0 OD 6
116 4 1 1 1 0 0 0 0 0 0 D 7
116 0 0 1 0 0 0 0 0 0 0 OD 8
116 5 1 1 1 0 0 0 0 0 0 D 9
116 0 0 1 0 0 0 0 0 0 0 OD 10
116 6 1 1 1 0 0 0 0 0 0 D 11
116 0 0 1 0 0 0 0 0 0 0 OD 12
116 7 1 1 1 0 0 0 0 0 0 D 13
116 0 0 1 0 0 0 0 0 0 0 OD 14
116 8 1 1 1 0 0 0 0 0 0 D 15
116 0 0 1 0 0 0 0 0 0 0 OD 16
116 9 1 1 1 0 0 0 0 0 0 D 17
116 0 0 1 0 0 0 0 0 0 0 OD 18
116 10 1 1 1 0 0 0 0 0 0 D 19
116 0 0 1 0 0 0 0 0 0 0 OD 20
116 11 1 1 1 0 0 0 0 0 0 D 21
116 0 0 1 0 0 0 0 0 0 0 OD 22
116 12 1 1 1 0 0 0 0 0 0 D 23
116 0 0 1 0 0 0 0 0 0 0 OD 24
116 13 1 1 1 0 0 0 0 0 0 D 25
116 0 0 1 0 0 0 0 0 0 0 OD 26
116 14 1 1 1 0 0 0 0 0 0 D 27
116 0 0 1 0 0 0 0 0 0 0 OD 28
116 15 1 1 1 0 0 0 0 0 0 D 29
116 0 0 1 0 0 0 0 0 0 0 OD 30
116 16 1 1 1 0 0 0 0 0 0 D 31
116 0 0 1 0 0 0 0 0 0 0 OD 32
116 17 1 1 1 0 0 0 0 0 0 D 33
116 0 0 1 0 0 0 0 0 0 0 OD 34
116 18 1 1 1 0 0 0 0 0 0 D 35
116 0 0 1 0 0 0 0 0 0 0 OD 36
116 19 1 1 1 0 0 0 0 0 0 D 37
116 0 0 1 0 0 0 0 0 0 0 OD 38
116 20 1 1 1 0 0 0 0 0 0 D 39
116 0 0 1 0 0 0 0 0 0 0 OD 40
116,134641.8281250,4462.3056641,185949.9667500,0,0,0; 1P 1
116,98410.5156250,6261.1948242,132912.2656250,0,0,0; 3P 2
116,69033.7734375,11927.7695313,85700.7109375,0,0,0; 5P 3
116,38351.3945313,16344.7177734,37892.3398438,0,0,0; 7P 4
116,17461.2656250,33561.1757813,-8867.2158203,0,0,0; 9P 5
116,-20728.4980469,46052.3320313,-75366.8515625,0,0,0; 11P 6
116,-72301.0000000,26884.7089844,-129133.7500000,0,0,0; 13P 7
116,-114734.0781250,19728.5800781,-181987.0468750,0,0,0; 15P 8
116,-136197.9218750,3472.6152344,-224355.6718750,0,0,0; 17P 9

```

116,-144763.6250000,-199308.9218750,-5417.7568359,0,0,0;	19P	10
116,-113754.8437500,-154860.2343750,-6013.4018555,0,0,0;	21P	11
116,-84704.5156250,-112122.7890625,-7667.4790039,0,0,0;	23P	12
116,-55980.5898438,-75165.0859375,-4003.4172363,0,0,0;	25P	13
116,140843.5781250,200122.8437500,-939.9491577,0,0,0;	27P	14
116,-24318.9882813,-33518.8710938,-873.3706055,0,0,0;	29P	15
116,107223.5312500,158071.0156250,-6434.0532227,0,0,0;	31P	16
116,-.0264881,-.4046917,0.0,0,0,0;	33P	17
116,34434.4960938,44583.8359375,4113.8930664,0,0,0;	35P	18
116,58915.1171875,82457.9687500,860.5867310,0,0,0;	37P	19
116,84048.5468750,116876.8046875,1985.7882080,0,0,0;	39P	20
S 1G 2D 40P 20	T	1

3.3.8 Transformation Matrix

Transformation matrices are tested in most of the other cases. A wide range of values are included in those cases.

3.3.9 Angular Dimension

The angular dimensions contain subentities which include leaders, witness lines, vertex points, and general notes.

The following conventions were followed:

- general note sub-entities to be single string with no box rotation
- arrows limited to one or two segments

- Case 1 (Figures 3.3.9-1 through 3.3.9-4) tests the following:
 - text in, arrows in configuration
 - text in, arrows out configuration
 - acute and obtuse angles
 - no witness lines suppressed
 - first witness line suppressed
 - second witness line suppressed
 - both witness lines suppressed

- Case 2
 - This is identical to Case 1 except non-model space with rotation (-6.07° , -67.48° , 92.37°) is used per section 3.0

- Case 3 (Figures 3.3.9-5 and 3.3.9-6) tests the following:
 - different witness line gaps
 - very small angles
 - nearly 360° angles
 - nearly 180° angles

- Case 4
 - This is identical to Case 3 except non-model space with rotation (11° , 22° , 33°) is used per section 3.0

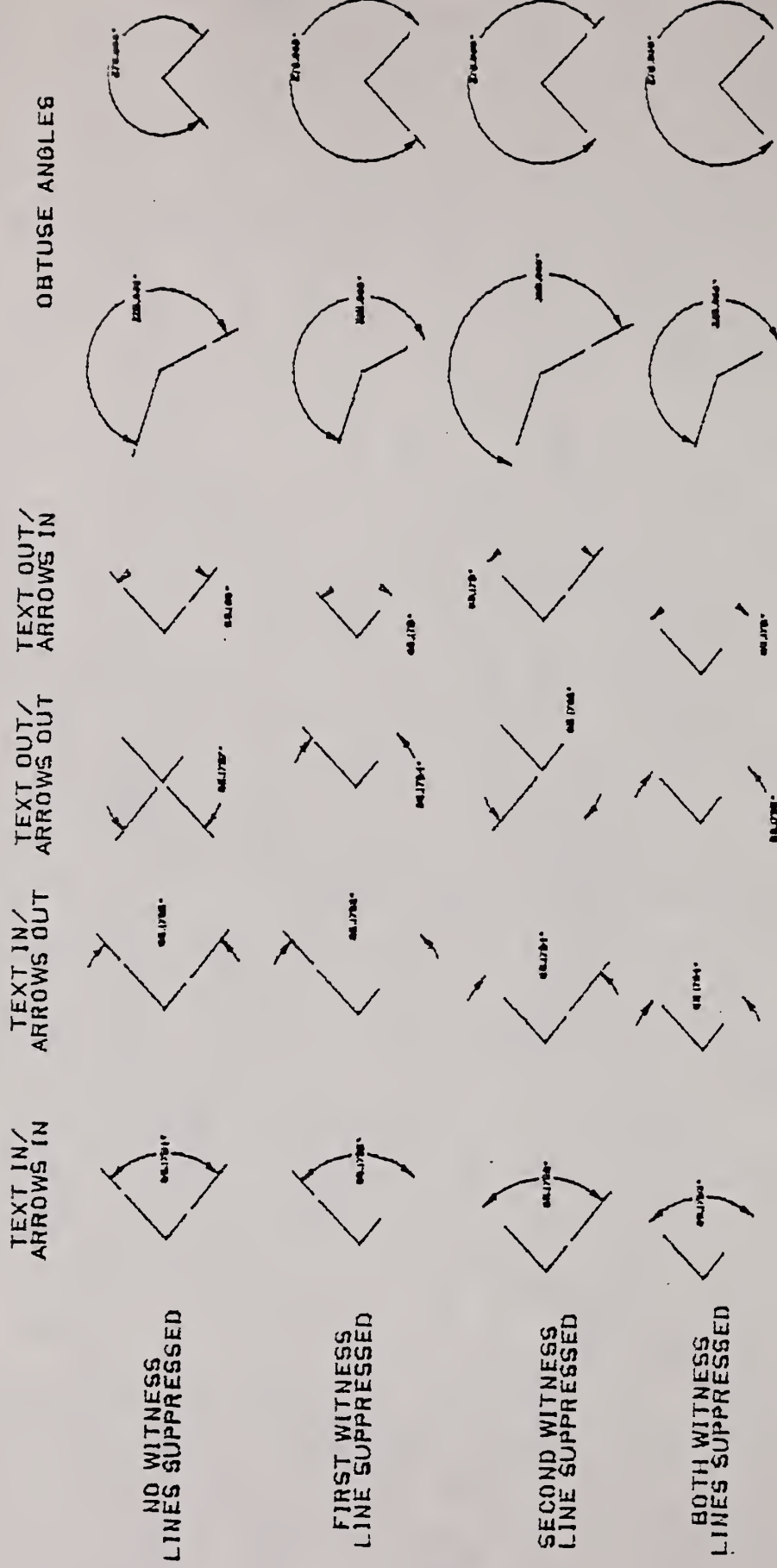


Figure 3.3.9-1 Angular Dimension Cases 1 and 2 (with annotation)
 Case 1: Rotation (0°, 0°, 0°)
 Case 2: Rotation (-6.07°, -67.48°, 92.37°)

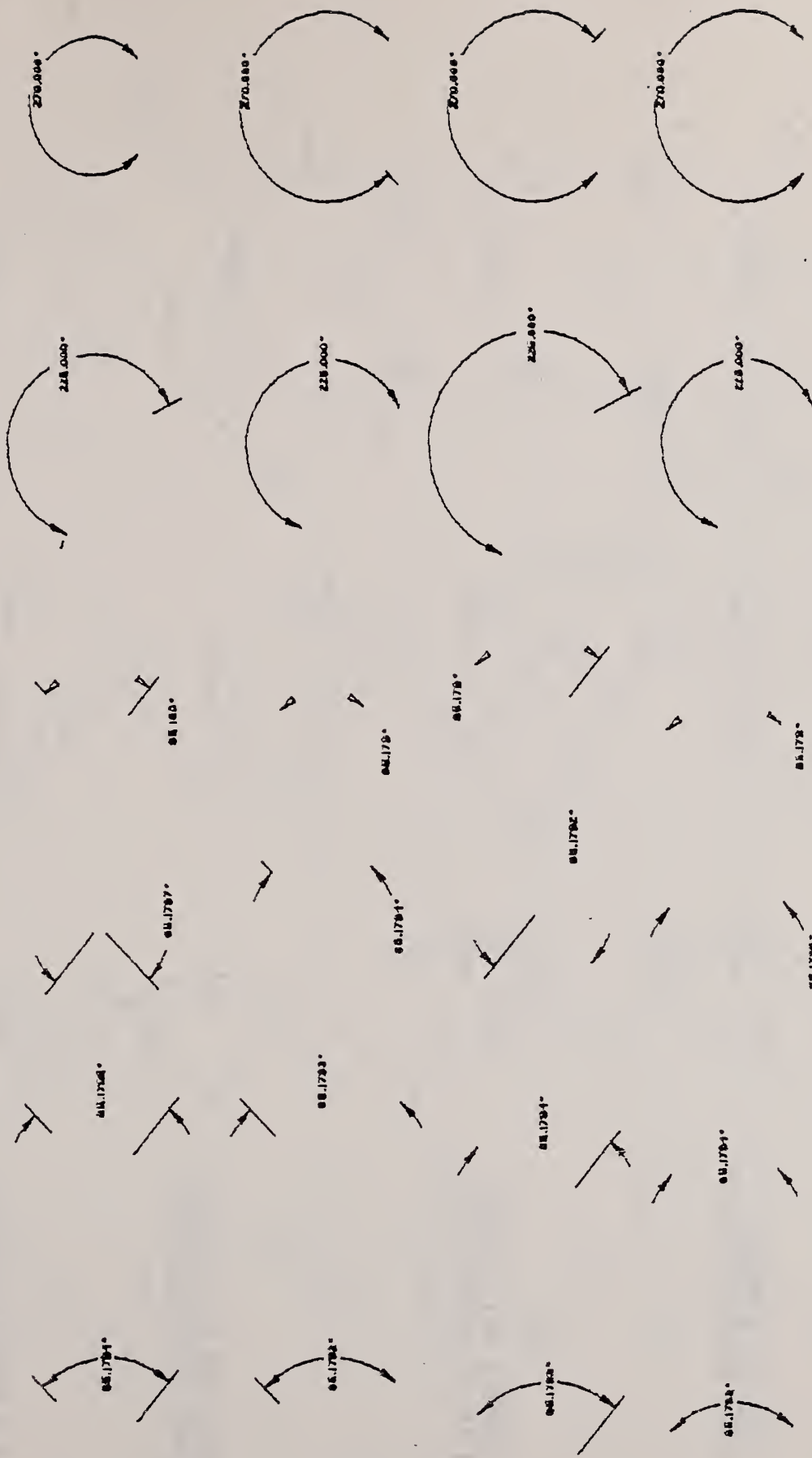


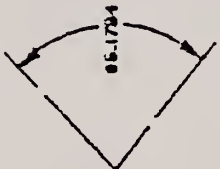
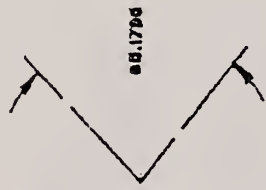
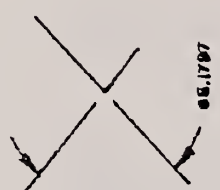
Figure 3.3.9-2 Angular Dimension Cases 1 and 2 (actual part)

TEXT IN/
ARROWS IN

TEXT OUT/
ARROWS OUT

TEXT IN/
ARROWS OUT

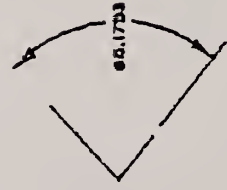
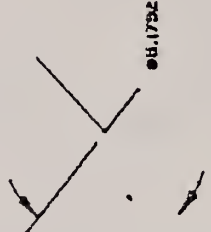
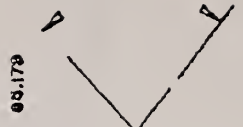
TEXT IN/
ARROWS IN



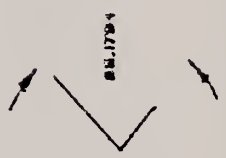
NO WITNESS
LINES SUPPRESSED



FIRST WITNESS
LINE SUPPRESSED



SECOND WITNESS
LINE SUPPRESSED



BOTH WITNESS
LINES SUPPRESSED

Figure 3.3.9-3 Angular Dimension Cases 1 and 2 (left side magnified)

TEXT OUT/
ARROWS OUT

TEXT OUT/
ARROWS IN

OBTUSE ANGLES

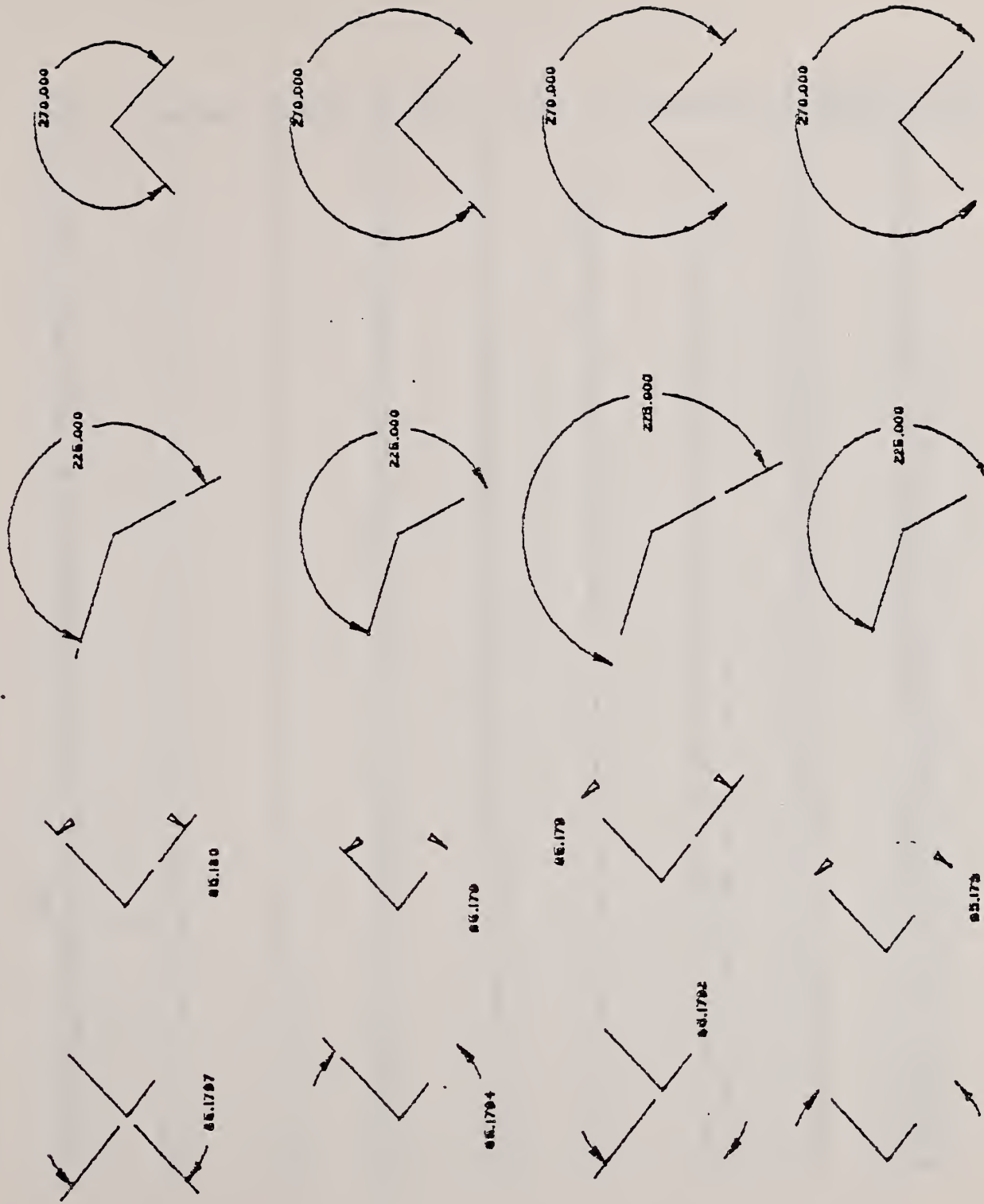


Figure 3.3.9-4 Angular Dimension Cases 1 and 2 (right side magnified)

ADIM TEST CASE 1								S	1
1H,,1H;,,SHADIM1,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG								G	1
810827.122247,,,,;								D	2
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0				OD	2
212	3	1	1	0	0	1	0 0 1 1	D	3
212	0	0	2	0				OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3				OD	6
214	7	1	1	0	0	1	0 0 1 1	D	7
214	0	0	2	3				OD	8
106	9	1	1	0	0	1	0 1 1 1	D	9
106	0	0	2	40				OD	10
106	11	1	1	0	0	1	0 1 1 1	D	11
106	0	0	2	40				OD	12
202	13	1	1	0	0	1	0 0 0 1	D	13
202	0	0	1	0				OD	14
212	14	1	1	0	0	1	0 0 1 1	D	15
212	0	0	2	0				OD	16
214	16	1	1	0	0	1	0 0 1 1	D	17
214	0	0	2	3				OD	18
214	18	1	1	0	0	1	0 0 1 1	D	19
214	0	0	2	3				OD	20
106	20	1	1	0	0	1	0 1 1 1	D	21
106	0	0	2	40				OD	22
106	22	1	1	0	0	1	0 1 1 1	D	23
106	0	0	2	40				OD	24
202	24	1	1	0	0	1	0 0 0 1	D	25
202	0	0	1	0				OD	26
212	25	1	1	0	0	1	0 0 1 1	D	27
212	0	0	2	0				OD	28
214	27	1	1	0	0	1	0 0 1 1	D	29
214	0	0	2	3				OD	30
214	29	1	1	0	0	1	0 0 1 1	D	31
214	0	0	2	3				OD	32
106	31	1	1	0	0	1	0 0 1 1	D	33
106	0	0	2	40				OD	34
106	33	1	1	0	0	1	0 1 1 1	D	35
106	0	0	2	40				OD	36
202	35	1	1	0	0	1	0 0 0 1	D	37
202	0	0	1	0				OD	38
212	36	1	1	0	0	1	0 0 1 1	D	39
212	0	0	2	0				OD	40
214	38	1	1	0	0	1	0 0 1 1	D	41
214	0	0	2	3				OD	42
214	40	1	1	0	0	1	0 0 1 1	D	43
214	0	0	2	3				OD	44
106	42	1	1	0	0	1	0 1 1 1	D	45
106	0	0	2	40				OD	46
106	44	1	1	0	0	1	0 1 1 1	D	47
106	0	0	2	40				OD	48
202	46	1	1	0	0	1	0 0 0 1	D	49

202	0	0	1	0					OD	50	
212	47	1	1	0	0	1	0	0	1	D	51
212	0	0	2	0					OD	52	
214	49	1	1	0	0	1	0	0	1	D	53
214	0	0	2	3					OD	54	
214	51	1	1	0	0	1	0	0	1	D	55
214	0	0	2	3					OD	56	
106	53	1	1	0	0	1	0	0	1	D	57
106	0	0	2	40					OD	58	
106	55	1	1	0	0	1	0	0	1	D	59
106	0	0	2	40					OD	60	
202	57	1	1	0	0	1	0	0	0	D	61
202	0	0	1	0					OD	62	
212	58	1	1	0	0	1	0	0	1	D	63
212	0	0	2	0					OD	64	
214	60	1	1	0	0	1	0	0	1	D	65
214	0	0	2	3					OD	66	
214	62	1	1	0	0	1	0	0	1	D	67
214	0	0	2	3					OD	68	
106	64	1	1	0	0	1	0	0	1	D	69
106	0	0	2	40					OD	70	
106	66	1	1	0	0	1	0	1	1	D	71
106	0	0	2	40					OD	72	
202	68	1	1	0	0	1	0	0	0	D	73
202	0	0	1	0					OD	74	
212	69	1	1	0	0	1	0	0	1	D	75
212	0	0	2	0					OD	76	
214	71	1	1	0	0	1	0	0	1	D	77
214	0	0	2	3					OD	78	
214	73	1	1	0	0	1	0	0	1	D	79
214	0	0	2	3					OD	80	
106	75	1	1	0	0	1	0	1	1	D	81
106	0	0	2	40					OD	82	
106	77	1	1	0	0	1	0	0	1	D	83
106	0	0	2	40					OD	84	
202	79	1	1	0	0	1	0	0	0	D	85
202	0	0	1	0					OD	86	
212	80	1	1	0	0	1	0	0	1	D	87
212	0	0	2	0					OD	88	
214	82	1	1	0	0	1	0	0	1	D	89
214	0	0	2	3					OD	90	
214	84	1	1	0	0	1	0	0	1	D	91
214	0	0	2	3					OD	92	
106	86	1	1	0	0	1	0	1	1	D	93
106	0	0	2	40					OD	94	
106	88	1	1	0	0	1	0	1	1	D	95
106	0	0	2	40					OD	96	
202	90	1	1	0	0	1	0	0	0	D	97
202	0	0	1	0					OD	98	
212	91	1	1	0	0	1	0	0	1	D	99
212	0	0	2	0					OD	100	
214	93	1	1	0	0	1	0	0	1	D	101

214	0	0	2	3				0D	102
214	95	1	1	0	0	1	0 0 1 1	D	103
214	0	0	2	3				0D	104
106	97	1	1	0	0	1	0 0 1 1	D	105
106	0	0	2	40				0D	106
106	99	1	1	0	0	1	0 0 1 1	D	107
106	0	0	2	40				0D	108
202	101	1	1	0	0	1	0 0 0 1	D	109
202	0	0	1	0				0D	110
212	102	1	1	0	0	1	0 0 1 1	D	111
212	0	0	2	0				0D	112
214	104	1	1	0	0	1	0 0 1 1	D	113
214	0	0	2	3				0D	114
214	106	1	1	0	0	1	0 0 1 1	D	115
214	0	0	2	3				0D	116
106	108	1	1	0	0	1	0 0 1 1	D	117
106	0	0	2	40				0D	118
106	110	1	1	0	0	1	0 0 1 1	D	119
106	0	0	2	40				0D	120
202	112	1	1	0	0	1	0 0 0 1	D	121
202	0	0	1	0				0D	122
212	113	1	1	0	0	1	0 0 1 1	D	123
212	0	0	2	0				0D	124
214	115	1	1	0	0	1	0 0 1 1	D	125
214	0	0	2	3				0D	126
214	117	1	1	0	0	1	0 0 1 1	D	127
214	0	0	2	3				0D	128
106	119	1	1	0	0	1	0 0 1 1	D	129
106	0	0	2	40				0D	130
106	121	1	1	0	0	1	0 0 1 1	D	131
106	0	0	2	40				0D	132
202	123	1	1	0	0	1	0 0 0 1	D	133
202	0	0	1	0				0D	134
212	124	1	1	0	0	1	0 0 1 1	D	135
212	0	0	2	0				0D	136
214	126	1	1	0	0	1	0 0 1 1	D	137
214	0	0	2	3				0D	138
214	128	1	1	0	0	1	0 0 1 1	D	139
214	0	0	2	3				0D	140
106	130	1	1	0	0	1	0 0 1 1	D	141
106	0	0	2	40				0D	142
106	132	1	1	0	0	1	0 0 1 1	D	143
106	0	0	2	40				0D	144
202	134	1	1	0	0	1	0 0 0 1	D	145
202	0	0	1	0				0D	146
212	135	1	1	0	0	1	0 0 1 1	D	147
212	0	0	2	0				0D	148
214	137	1	1	0	0	1	0 0 1 1	D	149
214	0	0	2	3				0D	150
214	139	1	1	0	0	1	0 0 1 1	D	151
214	0	0	2	3				0D	152
106	141	1	1	0	0	1	0 1 1 1	D	153

106	0	0	2	40					OD	154
106	143	1	1	0	0	1	0 0 1 1	D		155
106	0	0	2	40				OD		156
202	145	1	1	0	0	1	0 0 0 1	D		157
202	0	0	1	0				OD		158
212	146	1	1	0	0	1	0 0 1 1	D		159
212	0	0	2	0				OD		160
214	148	1	1	0	0	1	0 0 1 1	D		161
214	0	0	2	3				OD		162
214	150	1	1	0	0	1	0 0 1 1	D		163
214	0	0	2	3				OD		164
106	152	1	1	0	0	1	0 1 1 1	D		165
106	0	0	2	40				OD		166
106	154	1	1	0	0	1	0 0 1 1	D		167
106	0	0	2	40				OD		168
202	156	1	1	0	0	1	0 0 0 1	D		169
202	0	0	1	0				OD		170
212	157	1	1	0	0	1	0 0 1 1	D		171
212	0	0	2	0				OD		172
214	159	1	1	0	0	1	0 0 1 1	D		173
214	0	0	2	3				OD		174
214	161	1	1	0	0	1	0 0 1 1	D		175
214	0	0	2	3				OD		176
106	163	1	1	0	0	1	0 1 1 1	D		177
106	0	0	2	40				OD		178
106	165	1	1	0	0	1	0 0 1 1	D		179
106	0	0	2	40				OD		180
202	167	1	1	0	0	1	0 0 0 1	D		181
202	0	0	1	0				OD		182
212	168	1	1	0	0	1	0 0 1 1	D		183
212	0	0	2	0				OD		184
214	170	1	1	0	0	1	0 0 1 1	D		185
214	0	0	2	3				OD		186
214	172	1	1	0	0	1	0 0 1 1	D		187
214	0	0	2	3				OD		188
106	174	1	1	0	0	1	0 1 1 1	D		189
106	0	0	2	40				OD		190
106	176	1	1	0	0	1	0 1 1 1	D		191
106	0	0	2	40				OD		192
202	178	1	1	0	0	1	0 0 0 1	D		193
202	0	0	1	0				OD		194
212	179	1	1	0	0	1	0 0 1 1	D		195
212	0	0	2	0				OD		196
214	181	1	1	0	0	1	0 0 1 1	D		197
214	0	0	2	3				OD		198
214	183	1	1	0	0	1	0 0 1 1	D		199
214	0	0	2	3				OD		200
106	185	1	1	0	0	1	0 0 1 1	D		201
106	0	0	2	40				OD		202
106	187	1	1	0	0	1	0 1 1 1	D		203
106	0	0	2	40				OD		204
202	189	1	1	0	0	1	0 0 0 1	D		205

202	0	0	1	0				0 0 1 1	OD	206
212	190	1	1	0	0	1		0 0 1 1	D	207
212	0	0	2	0					OD	208
214	192	1	1	0	0	1		0 0 1 1	D	209
214	0	0	2	3					OD	210
214	194	1	1	0	0	1		0 0 1 1	D	211
214	0	0	2	3					OD	212
106	196	1	1	0	0	1		0 0 1 1	D	213
106	0	0	2	40					OD	214
106	198	1	1	0	0	1		0 1 1 1	D	215
106	0	0	2	40					OD	216
202	200	1	1	0	0	1		0 0 0 1	D	217
202	0	0	1	0					OD	218
212	201	1	1	0	0	1		0 0 1 1	D	219
212	0	0	2	0					OD	220
214	203	1	1	0	0	1		0 0 1 1	D	221
214	0	0	2	3					OD	222
214	205	1	1	0	0	1		0 0 1 1	D	223
214	0	0	2	3					OD	224
106	207	1	1	0	0	1		0 0 1 1	D	225
106	0	0	2	40					OD	226
106	209	1	1	0	0	1		0 1 1 1	D	227
106	0	0	2	40					OD	228
202	211	1	1	0	0	1		0 0 0 1	D	229
202	0	0	1	0					OD	230
212	212	1	1	0	0	1		0 0 1 1	D	231
212	0	0	2	0					OD	232
214	214	1	1	0	0	1		0 0 1 1	D	233
214	0	0	2	3					OD	234
214	216	1	1	0	0	1		0 0 1 1	D	235
214	0	0	2	3					OD	236
106	218	1	1	0	0	1		0 0 1 1	D	237
106	0	0	2	40					OD	238
106	220	1	1	0	0	1		0 1 1 1	D	239
106	0	0	2	40					OD	240
202	222	1	1	0	0	1		0 0 0 1	D	241
202	0	0	1	0					OD	242
212	223	1	1	0	0	1		0 0 1 1	D	243
212	0	0	2	0					OD	244
214	225	1	1	0	0	1		0 0 1 1	D	245
214	0	0	2	3					OD	246
214	227	1	1	0	0	1		0 0 1 1	D	247
214	0	0	2	3					OD	248
106	229	1	1	0	0	1		0 1 1 1	D	249
106	0	0	2	40					OD	250
106	231	1	1	0	0	1		0 1 1 1	D	251
106	0	0	2	40					OD	252
202	233	1	1	0	0	1		0 0 0 1	D	253
202	0	0	1	0					OD	254
212	234	1	1	0	0	1		0 0 1 1	D	255
212	0	0	2	0					OD	256
214	236	1	1	0	0	1		0 0 1 1	D	257

214	0	0	2	3				0D	256
214	238	1	1	0	0	1	0 0 1 1	D	259
214	0	0	2	3				0D	260
106	240	1	1	0	0	1	0 1 1 1	D	261
106	0	0	2	40				0D	262
106	242	1	1	0	0	1	0 1 1 1	D	263
106	0	0	2	40				0D	264
202	244	1	1	0	0	1	0 0 0 1	D	265
202	0	0	1	0				0D	266
212	245	1	1	0	0	1	0 0 1 1	D	267
212	0	0	2	0				0D	268
214	247	1	1	0	0	1	0 0 1 1	D	269
214	0	0	2	3				0D	270
214	249	1	1	0	0	1	0 0 1 1	D	271
214	0	0	2	3				0D	272
106	251	1	1	0	0	1	0 1 1 1	D	273
106	0	0	2	40				0D	274
106	253	1	1	0	0	1	0 1 1 1	D	275
106	0	0	2	40				0D	276
202	255	1	1	0	0	1	0 0 0 1	D	277
202	0	0	1	0				0D	278
212	256	1	1	0	0	1	0 0 1 1	D	279
212	0	0	2	0				0D	280
214	258	1	1	0	0	1	0 0 1 1	D	281
214	0	0	2	3				0D	282
214	260	1	1	0	0	1	0 0 1 1	D	283
214	0	0	2	3				0D	284
106	252	1	1	0	0	1	0 1 1 1	D	285
106	0	0	2	40				0D	286
106	264	1	1	0	0	1	0 1 1 1	D	287
106	0	0	2	40				0D	288
202	266	1	1	0	0	1	0 0 0 1	D	289
202	0	0	1	0				0D	290
124,1,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,								1P	1
1.0000000,0.0,0,0;								1P	2
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,								3P	3
6.7500000,0.0,7H270.000,0,0;								3P	4
214,1,.1500000,.0500000,0.0,13.1775412,5.8224588,13.1708072,								5P	5
6.6841708,0,0;								5P	6
214,1,.1500000,.0500000,0.0,12.3224588,5.8224588,12.8461883,								7P	7
6.8469345,0,0;								7P	8
106,1,3,0.0,13.3162913,5.6837087,13.3162913,5.6837087,								9P	9
13.2659296,5.7340704,0,0;								9P	10
106,1,3,0.0,12.1837087,5.6837087,12.1837087,5.6837087,								11P	11
12.2340704,5.7340704,0,0;								11P	12
202,3,9,11,12.7500000,6.2500000,.6046346,5,7,0,0;								13P	13
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.2500000,0.0,								15P	14
0.0,7H225.000,0,0;								15P	15
214,1,.1500000,.0500000,0.0,10.0939196,-.6278392,10.5127277,								17P	16
-.0982342,0,0;								17P	17
214,1,.1500000,.0500000,0.0,9.0204363,.2431879,10.4981652,								19P	18
.1779113,0,0;								19P	19

106,1,3,0.0,10.0419263,-.5838525,10.0419263,-.5838525,	21P	20
10.1498213,-.7996426,0,0;	21P	21
106,1,3,0.0,8.9110609,.2796464,8.9110609,.2796464,8.9018509,	23P	22
.2827164,0,0;	23P	23
202,15,21,23,9.7500000,0.0,.7690277,17,19,0,0;	25P	24
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.5000000,	27P	25
2.0000000,0.0,7H225.000,0,0;	27P	26
214,1,.1500000,.0500000,0.0,10.2056059,1.0887882,10.7639457,	29P	27
1.9010157,0,0;	29P	28
214,1,.1500000,.0500000,0.0,8.7835139,2.3221620,10.7528776,	31P	29
2.1792215,0,0;	31P	30
106,1,3,0.0,10.0419263,1.4161475,10.0419263,1.4161475,	33P	31
10.2615076,.9769848,0,0;	33P	32
106,1,3,0.0,8.9110609,2.2796464,8.9110609,2.2796464,8.6649285,	35P	33
2.3616905,0,0;	35P	34
202,27,33,35,9.7500000,2.0000000,1.0187658,29,31,0,0;	37P	35
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.2500000,	39P	36
4.0000000,0.0,7H225.000,0,0;	39P	37
214,1,.1500000,.0500000,0.0,10.0939196,3.3121608,10.5127277,	41P	38
3.9017660,0,0;	41P	39
214,1,.1500000,.0500000,0.0,9.0204363,4.2431879,10.4981651,	43P	40
4.1779116,0,0;	43P	41
106,1,3,0.0,10.0419263,3.4161475,10.0419263,3.4161475,	45P	42
10.1498213,3.2003574,0,0;	45P	43
106,1,3,0.0,8.9110609,4.2796464,8.9110609,4.2796464,8.9018509,	47P	44
4.2827164,0,0;	47P	45
202,39,45,47,9.7500000,4.0000000,.7690277,41,43,0,0;	49P	46
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.2500000,	51P	47
6.5000000,0.0,7H225.000,0,0;	51P	48
214,1,.1500000,.0500000,0.0,10.1171928,5.5156143,10.5564698,	53P	49
6.4041407,0,0;	53P	50
214,1,.1500000,.0500000,0.0,8.9710664,6.5096446,10.4565812,	55P	51
6.6682056,0,0;	55P	52
106,1,3,0.0,10.0419263,5.6661475,10.0419263,5.6661475,	57P	53
10.1730945,5.4038109,0,0;	57P	54
106,1,3,0.0,8.9110609,6.5296464,8.9110609,6.5296464,8.8524810,	59P	55
6.5491730,0,0;	59P	56
202,51,57,59,9.7500000,6.2500000,.8210682,53,55,0,0;	61P	57
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,	63P	58
2.7500000,0.0,7H270.000,0,0;	63P	59
214,1,.1500000,.0500000,0.0,13.3409027,1.4090973,13.2171124,	65P	60
2.6929199,0,0;	65P	61
214,1,.1500000,.0500000,0.0,12.1590973,1.4090973,12.8062794,	67P	62
2.8337653,0,0;	67P	63
106,1,3,0.0,13.3162913,1.4337087,13.3162913,1.4337087,	69P	64
13.4292910,1.3207090,0,0;	69P	65
106,1,3,0.0,12.1837087,1.4337087,12.1837087,1.4337087,	71P	66
12.0707090,1.3207090,0,0;	71P	67
202,63,69,71,12.7500000,2.0000000,.8356626,65,67,0,0;	73P	68
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,	75P	69
4.7500000,0.0,7H270.000,0,0;	75P	70
214,1,.1500000,.0500000,0.0,13.3409028,3.4090972,13.2171053,	77P	71

4.6929249,0,0;	77P	72
214,1,.1500000,.0500000,0.0,12.1590972,3.4090972,12.8062877,	79P	73
4.8337549,0,0;	79P	74
106,1,3,0.0,13.3162913,3.4337087,13.3162913,3.4337087,	81P	75
13.4292912,3.3207088,0,0;	81P	76
106,1,3,0.0,12.1837087,3.4337087,12.1837087,3.4337087,	83P	77
12.0707088,3.3207088,0,0;	83P	78
202,75,81,83,12.7500000,4.0000000,.8356628,77,79,0,0;	85P	79
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,	87P	80
.7500000,0.0,7H270.000,0,0;	87P	81
214,1,.1500000,.0500000,0.0,13.3409027,-.5909027,13.2171124,	89P	82
.6929199,0,0;	89P	83
214,1,.1500000,.0500000,0.0,12.1590973,-.5909027,12.8062794,	91P	84
.8337653,0,0;	91P	85
106,1,3,0.0,13.3162913,-.5662913,13.3162913,-.5662913,	93P	86
13.4292910,-.6792910,0,0;	93P	87
106,1,3,0.0,12.1837087,-.5662913,12.1837087,-.5662913,	95P	88
12.0707090,-.6792910,0,0;	95P	89
202,87,93,95,12.7500000,0.0,.8356626,89,91,0,0;	97P	90
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,1.3335195,	99P	91
6.0924616,0.0,7H85.1794,0,0;	99P	92
214,1,.1500000,.0500000,0.0,1.4129652,5.5212946,1.6220727,	101P	93
6.0315438,0,0;	101P	94
214,1,.1500000,.0500000,0.0,1.3618900,6.7347125,1.6174298,	103P	95
6.2142524,0,0;	103P	96
106,1,3,0.0,1.0592672,5.8199757,1.0592672,5.8199757,1.5084687,	105P	97
5.4406467,0,0;	105P	98
106,1,3,0.0,1.2459306,6.6187529,1.2459306,6.6187529,1.4502783,	107P	99
6.8231009,0,0;	107P	100
202,99,105,107,.7273991,6.1002216,.8973057,101,103,0,0;	109P	101
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,3.7858014,	111P	102
6.1401320,0.0,7H85.1795,0,0;	111P	103
214,1,.1500000,.0500000,0.0,3.8469553,5.5143649,3.7162957,	113P	104
5.3866646,0,0;	113P	105
214,1,.1500000,.0500000,0.0,3.7924764,6.8086880,3.6515481,	115P	106
6.9249570,0,0;	115P	107
106,1,3,0.0,3.4475477,5.8516462,3.4475477,5.8516462,3.9424585,	117P	108
5.4337167,0,0;	117P	109
106,1,3,0.0,3.6342111,6.6504234,3.6342111,6.6504234,3.8808649,	119P	110
6.8970763,0,0;	119P	111
202,111,117,119,3.1156802,6.1318932,.9571335,113,115,0,0;	121P	112
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,5.4941936,	123P	113
5.5083507,0.0,7H85.1797,0,0;	123P	114
214,1,.1500000,.0500000,0.0,4.9675483,6.6129165,5.1033343,	125P	115
6.7351517,0,0;	125P	116
214,2,.1500000,.0500000,0.0,5.0057302,5.7057691,5.2832936,	127P	117
5.5388007,5.4332936,5.5388007,0,0;	127P	118
106,1,3,0.0,5.4084452,6.2405977,5.4084452,6.2405977,4.8720451,	129P	119
6.6935649,0,0;	129P	120
106,1,3,0.0,5.4137822,6.1138211,5.4137822,6.1138211,4.9173413,	131P	121
5.6173807,0,0;	131P	122
202,123,129,131,5.4800725,6.1801114,.6708214,125,127,0,0;	133P	123

212,1,6,.3349500,.0609000,1,1.5707963,0.0,0,0,7.0992069,	135P	124
5.4429245,0.0,6H85.180,0,0;	135P	125
214,1,.1500000,.0500000,0.0,7.5983694,5.6951459,7.5983694,	137P	126
5.6951460,0,0;	137P	127
214,1,.1500000,.0500000,0.0,7.5555836,6.7116229,7.5555836,	139P	128
6.7116228,0,0;	139P	129
106,1,3,0.0,7.3559408,5.8998650,7.3559408,5.8998650,7.6938728,	141P	130
5.6144979,0,0;	141P	131
106,1,3,0.0,7.5426034,6.6986427,7.5426034,6.6986427,7.6439719,	143P	132
6.8000113,0,0;	143P	133
202,135,141,143,7.0240726,6.1801114,.7516703,137,139,0,0;	145P	134
212,1,7,.3897600,.0609000,1,1.5707963,0.0,0,0,1.3302597,	147P	135
3.9236999,0.0,7H85.1792,0,0;	147P	136
214,1,.1500000,.0500000,0.0,1.4018294,3.3481638,1.6171509,	149P	137
3.8627899,0,0;	149P	138
214,1,.1500000,.0500000,0.0,1.3489565,4.6042754,1.6158312,	151P	139
4.0454843,0,0;	151P	140
106,1,3,0.0,1.0240077,3.6672140,1.0240077,3.6672140,1.4973330,	153P	141
3.2675161,0,0;	153P	142
106,1,3,0.0,1.2106713,4.4659909,1.2106713,4.4659909,1.4373450,	155P	143
4.6926637,0,0;	155P	144
202,147,153,155,.6921390,3.9474597,.9288789,149,151,0,0;	157P	145
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,3.8625412,	159P	146
4.0193701,0.0,7H85.1793,0,0;	159P	147
214,1,.1500000,.0500000,0.0,3.8984568,3.2883423,3.7691025,	161P	148
3.1593199,0,0;	161P	149
214,1,.1500000,.0500000,0.0,3.8375103,4.7362208,3.6977707,	163P	150
4.8539159,0,0;	163P	151
106,1,3,0.0,3.4122883,3.6988844,3.4122883,3.6988844,3.9939605,	165P	152
3.2076946,0,0;	165P	153
106,1,3,0.0,3.5989513,4.4976620,3.5989513,4.4976620,3.9258987,	167P	154
4.8246092,0,0;	167P	155
202,159,165,167,3.0804195,3.9791300,1.0706880,161,163,0,0;	169P	156
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,5.0241055,	171P	157
3.3770704,0.0,7H85.1794,0,0;	171P	158
214,2,.1500000,.0500000,0.0,5.9888410,3.5679451,5.7952855,	173P	159
3.4075204,5.6452855,3.4075204,0,0;	173P	160
214,1,.1500000,.0500000,0.0,5.9483098,4.5308470,5.8036153,	175P	161
4.6423942,0,0;	175P	162
106,1,3,0.0,5.7766815,3.7471037,5.7766815,3.7471037,6.0843445,	177P	163
3.4872973,0,0;	177P	164
106,1,3,0.0,5.9633435,4.5458807,5.9633435,4.5458807,6.0366981,	179P	165
4.6192353,0,0;	179P	166
202,171,177,179,5.4448123,4.0273495,.7120531,173,175,0,0;	181P	167
212,1,6,.3288600,.0609000,1,1.5707963,0.0,0,0,6.8264465,	183P	168
3.4030139,0.0,6H85.179,0,0;	183P	169
214,1,.1500000,.0500000,0.0,7.4360137,3.6497102,7.4360137,	185P	170
3.6497103,0,0;	185P	171
214,1,.1500000,.0500000,0.0,7.4026967,4.4412337,7.4026967,	187P	172
4.4412337,0,0;	187P	173
106,1,3,0.0,7.3206811,3.7471029,7.3206811,3.7471029,7.5315171,	189P	174
3.5690623,0,0;	189P	175

106,1,3,0.0,7.5073437,4.5458807,7.5073437,4.5458807,7.4910850,	191P	176
4.5296221,0,0;	191P	177
202,183,189,191,6.9888124,4.0273495,.5853207,185,187,0,0;	193P	178
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,1.1058791,	195P	179
1.8199995,0.0,7H85.1793,0,0;	195P	180
214,1,.1500000,.0500000,0.0,1.1659350,1.2216534,1.3919861,	197P	181
1.7590941,0,0;	197P	182
214,1,.1500000,.0500000,0.0,1.1103433,2.5423430,1.3922339,	199P	183
1.9417878,0,0;	199P	184
106,1,3,0.0,.7516278,1.5715137,.7516278,1.5715137,1.2614386,	201P	185
1.1470056,0,0;	201P	186
106,1,3,0.0,.9382913,2.3702906,.9382913,2.3702906,1.1987316,	203P	187
2.6307313,0,0;	203P	188
202,195,201,203,.4197590,1.8517594,.9766332,197,199,0,0;	205P	189
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,3.4781609,	207P	190
1.8836700,0.0,7H85.1794,0,0;	207P	191
214,1,.1500000,.0500000,0.0,3.5390949,1.2660912,3.4084319,	209P	192
1.1383944,0,0;	209P	193
214,1,.1500000,.0500000,0.0,3.4846301,2.5600204,3.3436981,	211P	194
2.6762850,0,0;	211P	195
106,1,3,0.0,3.1399088,1.6031842,3.1399088,1.6031842,3.6345984,	213P	196
1.1854433,0,0;	213P	197
106,1,3,0.0,3.3265714,2.4019615,3.3265714,2.4019615,3.5730184,	215P	198
2.6484088,0,0;	215P	199
202,207,213,215,2.8080406,1.8834301,.9568427,209,211,0,0;	217P	200
212,1,7,.3897600,.0609000,1,1.5707963,0.0,0,0,6.3890426,	219P	201
1.4712123,0.0,7H85.1792,0,0;	219P	202
214,1,.1500000,.0500000,0.0,5.1029579,2.3936551,5.2380745,	221P	203
2.5166299,0,0;	221P	204
214,2,.1500000,.0500000,0.0,5.1427211,1.4490310,6.1781426,	223P	205
1.5016623,6.3281426,1.5016623,0,0;	223P	206
106,1,3,0.0,5.5650342,2.0034576,5.5650342,2.0034576,5.0074541,	225P	207
2.4743026,0,0;	225P	208
106,1,3,0.0,5.5703717,1.8766816,5.5703717,1.8766816,5.0543327,	227P	209
1.3606427,0,0;	227P	210
202,219,225,227,5.6366620,1.9429719,.6985381,221,223,0,0;	229P	211
212,1,6,.3282600,.0609000,1,1.5707963,0.0,0,0,7.3094230,	231P	212
2.7152557,0.0,6H85.179,0,0;	231P	213
214,1,.1500000,.0500000,0.0,7.8516844,1.3763279,7.8516846,	233P	214
1.3763281,0,0;	233P	215
214,1,.1500000,.0500000,0.0,7.8016917,2.5640013,7.8016917,	235P	216
2.5640013,0,0;	235P	217
106,1,3,0.0,7.5125309,1.6627255,7.5125309,1.6627255,7.9471879,	237P	218
1.2956301,0,0;	237P	219
106,1,3,0.0,7.6991934,2.4615030,7.6991934,2.4615030,7.8900300,	239P	220
2.6523897,0,0;	239P	221
202,231,237,239,7.1806622,1.9429715,.8782686,233,235,0,0;	241P	222
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,.9173290,.0833981,	243P	223
0.0,7H85.1793,0,0;	243P	224
214,1,.1500000,.0500000,0.0,1.0071373,-.4867494,1.2085609,	245P	225
.0225094,0,0;	245P	226
214,1,.1500000,.0500000,0.0,.9582702,.6742086,1.1985497,	247P	227

ADIM TEST CASE 2

1H,,1H,,,5HADIM2,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG
 810827.122507,,,,;

										S		
124	1	1	1	0	0	0	0	0	0	D	1	
124	0	0	2	0						OD	2	
212	3	1	1	0	0	1	0	0	1	1	D	3
212	0	0	2	0							OD	4
214	5	1	1	0	0	1	0	0	1	1	D	5
214	0	0	2	3							OD	6
214	7	1	1	0	0	1	0	0	1	1	D	7
214	0	0	2	3							OD	8
106	9	1	1	0	0	1	0	1	1	1	D	9
106	0	0	2	40							OD	10
106	11	1	1	0	0	1	0	1	1	1	D	11
106	0	0	2	40							OD	12
202	13	1	1	0	0	1	0	0	0	1	D	13
202	0	0	1	0							OD	14
212	14	1	1	0	0	1	0	0	1	1	D	15
212	0	0	2	0							OD	16
214	16	1	1	0	0	1	0	0	1	1	D	17
214	0	0	2	3							OD	18
214	18	1	1	0	0	1	0	0	1	1	D	19
214	0	0	2	3							OD	20
106	20	1	1	0	0	1	0	1	1	1	D	21
106	0	0	2	40							OD	22
106	22	1	1	0	0	1	0	1	1	1	D	23
106	0	0	2	40							OD	24
202	24	1	1	0	0	1	0	0	0	1	D	25
202	0	0	1	0							OD	26
212	25	1	1	0	0	1	0	0	1	1	D	27
212	0	0	2	0							OD	28
214	27	1	1	0	0	1	0	0	1	1	D	29
214	0	0	2	3							OD	30
214	29	1	1	0	0	1	0	0	1	1	D	31
214	0	0	2	3							OD	32
106	31	1	1	0	0	1	0	0	1	1	D	33
106	0	0	2	40							OD	34
106	33	1	1	0	0	1	0	1	1	1	D	35
106	0	0	2	40							OD	36
202	35	1	1	0	0	1	0	0	0	1	D	37
202	0	0	1	0							OD	38
212	36	1	1	0	0	1	0	0	1	1	D	39
212	0	0	2	0							OD	40
214	38	1	1	0	0	1	0	0	1	1	D	41
214	0	0	2	3							OD	42
214	40	1	1	0	0	1	0	0	1	1	D	43
214	0	0	2	3							OD	44
106	42	1	1	0	0	1	0	1	1	1	D	45
106	0	0	2	40							OD	46
106	44	1	1	0	0	1	0	1	1	1	D	47
106	0	0	2	40							OD	48
202	46	1	1	0	0	1	0	0	0	1	D	49

202	0	0	1	0				0D	50
212	47	1	1	0	0	1	0 0 1 1	D	51
212	0	0	2	0				OD	52
214	49	1	1	0	0	1	0 0 1 1	D	53
214	0	0	2	3				OD	54
214	51	1	1	0	0	1	0 0 1 1	D	55
214	0	0	2	3				OD	56
106	53	1	1	0	0	1	0 0 1 1	D	57
106	0	0	2	40				OD	58
106	55	1	1	0	0	1	0 0 1 1	D	59
106	0	0	2	40				OD	60
202	57	1	1	0	0	1	0 0 0 1	D	61
202	0	0	1	0				OD	62
212	58	1	1	0	0	1	0 0 1 1	D	63
212	0	0	2	0				OD	64
214	60	1	1	0	0	1	0 0 1 1	D	65
214	0	0	2	3				OD	66
214	62	1	1	0	0	1	0 0 1 1	D	67
214	0	0	2	3				OD	68
106	64	1	1	0	0	1	0 0 1 1	D	69
106	0	0	2	40				OD	70
106	66	1	1	0	0	1	0 1 1 1	D	71
106	0	0	2	40				OD	72
202	68	1	1	0	0	1	0 0 0 1	D	73
202	0	0	1	0				OD	74
212	69	1	1	0	0	1	0 0 1 1	D	75
212	0	0	2	0				OD	76
214	71	1	1	0	0	1	0 0 1 1	D	77
214	0	0	2	3				OD	78
214	73	1	1	0	0	1	0 0 1 1	D	79
214	0	0	2	3				OD	80
106	75	1	1	0	0	1	0 1 1 1	D	81
106	0	0	2	40				OD	82
106	77	1	1	0	0	1	0 0 1 1	D	83
106	0	0	2	40				OD	84
202	79	1	1	0	0	1	0 0 0 1	D	85
202	0	0	1	0				OD	86
212	80	1	1	0	0	1	0 0 1 1	D	87
212	0	0	2	0				OD	88
214	82	1	1	0	0	1	0 0 1 1	D	89
214	0	0	2	3				OD	90
214	84	1	1	0	0	1	0 0 1 1	D	91
214	0	0	2	3				OD	92
106	86	1	1	0	0	1	0 1 1 1	D	93
106	0	0	2	40				OD	94
106	88	1	1	0	0	1	0 1 1 1	D	95
106	0	0	2	40				OD	96
202	90	1	1	0	0	1	0 0 0 1	D	97
202	0	0	1	0				OD	98
212	91	1	1	0	0	1	0 0 1 1	D	99
212	0	0	2	0				OD	100
214	93	1	1	0	0	1	0 0 1 1	D	101

214	0	0	2	3					0D	102			
214	95	1	1	0	0	1	0	0	1	1	D	103	
214	0	0	2	3							0D	104	
106	97	1	1	0	0	1	0	0	0	1	1	D	105
106	0	0	2	40								0D	106
106	99	1	1	0	0	1	0	0	0	1	1	D	107
106	0	0	2	40								0D	108
202	101	1	1	0	0	1	0	0	0	0	1	D	109
202	0	0	1	0								0D	110
212	102	1	1	0	0	1	0	0	0	1	1	D	111
212	0	0	2	0								0D	112
214	104	1	1	0	0	1	0	0	0	1	1	D	113
214	0	0	2	3								0D	114
214	106	1	1	0	0	1	0	0	0	1	1	D	115
214	0	0	2	3								0D	116
106	108	1	1	0	0	1	0	0	0	1	1	D	117
106	0	0	2	40								0D	118
106	110	1	1	0	0	1	0	0	0	1	1	D	119
106	0	0	2	40								0D	120
202	112	1	1	0	0	1	0	0	0	0	1	D	121
202	0	0	1	0								0D	122
212	113	1	1	0	0	1	0	0	0	1	1	D	123
212	0	0	2	0								0D	124
214	115	1	1	0	0	1	0	0	0	1	1	D	125
214	0	0	2	3								0D	126
214	117	1	1	0	0	1	0	0	0	1	1	D	127
214	0	0	2	3								0D	128
106	119	1	1	0	0	1	0	0	0	1	1	D	129
106	0	0	2	40								0D	130
106	121	1	1	0	0	1	0	0	0	1	1	D	131
106	0	0	2	40								0D	132
202	123	1	1	0	0	1	0	0	0	0	1	D	133
202	0	0	1	0								0D	134
212	124	1	1	0	0	1	0	0	0	1	1	D	135
212	0	0	2	0								0D	136
214	126	1	1	0	0	1	0	0	0	1	1	D	137
214	0	0	2	3								0D	138
214	128	1	1	0	0	1	0	0	0	1	1	D	139
214	0	0	2	3								0D	140
106	130	1	1	0	0	1	0	0	0	1	1	D	141
106	0	0	2	40								0D	142
106	132	1	1	0	0	1	0	0	0	1	1	D	143
106	0	0	2	40								0D	144
202	134	1	1	0	0	1	0	0	0	0	1	D	145
202	0	0	1	0								0D	146
212	135	1	1	0	0	1	0	0	0	1	1	D	147
212	0	0	2	0								0D	148
214	137	1	1	0	0	1	0	0	0	1	1	D	149
214	0	0	2	3								0D	150
214	139	1	1	0	0	1	0	0	0	1	1	D	151
214	0	0	2	3								0D	152
106	141	1	1	0	0	1	0	1	1	1	1	D	153

106	0	0	2	40				0D	154
106	143	1	1	0	0	1	0 0 1 1	D	155
106	0	0	2	40				OD	156
202	145	1	1	0	0	1	0 0 0 1	D	157
202	0	0	1	0				OD	158
212	146	1	1	0	0	1	0 0 1 1	D	159
212	0	0	2	0				OD	160
214	148	1	1	0	0	1	0 0 1 1	D	161
214	0	0	2	3				OD	162
214	150	1	1	0	0	1	0 0 1 1	D	163
214	0	0	2	3				OD	164
106	152	1	1	0	0	1	0 1 1 1	D	165
106	0	0	2	40				OD	166
106	154	1	1	0	0	1	0 0 1 1	D	167
106	0	0	2	40				OD	168
202	156	1	1	0	0	1	0 0 0 1	D	169
202	0	0	1	0				OD	170
212	157	1	1	0	0	1	0 0 1 1	D	171
212	0	0	2	0				OD	172
214	159	1	1	0	0	1	0 0 1 1	D	173
214	0	0	2	3				OD	174
214	161	1	1	0	0	1	0 0 1 1	D	175
214	0	0	2	3				OD	176
106	163	1	1	0	0	1	0 1 1 1	D	177
106	0	0	2	40				OD	178
106	165	1	1	0	0	1	0 0 1 1	D	179
106	0	0	2	40				OD	180
202	167	1	1	0	0	1	0 0 0 1	D	181
202	0	0	1	0				OD	182
212	168	1	1	0	0	1	0 0 1 1	D	183
212	0	0	2	0				OD	184
214	170	1	1	0	0	1	0 0 1 1	D	185
214	0	0	2	3				OD	186
214	172	1	1	0	0	1	0 0 1 1	D	187
214	0	0	2	3				OD	188
106	174	1	1	0	0	1	0 1 1 1	D	189
106	0	0	2	40				OD	190
106	176	1	1	0	0	1	0 1 1 1	D	191
106	0	0	2	40				OD	192
202	178	1	1	0	0	1	0 0 0 1	D	193
202	0	0	1	0				OD	194
212	179	1	1	0	0	1	0 0 1 1	D	195
212	0	0	2	0				OD	196
214	181	1	1	0	0	1	0 0 1 1	D	197
214	0	0	2	3				OD	198
214	183	1	1	0	0	1	0 0 1 1	D	199
214	0	0	2	3				OD	200
106	185	1	1	0	0	1	0 0 1 1	D	201
106	0	0	2	40				OD	202
106	187	1	1	0	0	1	0 1 1 1	D	203
106	0	0	2	40				OD	204
202	189	1	1	0	0	1	0 0 0 1	D	205

202	0	0	1	0				0D	206
212	190	1	1	0	0	1	0 0 1 1	D	207
212	0	0	2	0				OD	208
214	192	1	1	0	0	1	0 0 1 1	D	209
214	0	0	2	3				OD	210
214	194	1	1	0	0	1	0 0 1 1	D	211
214	0	0	2	3				OD	212
106	196	1	1	0	0	1	0 0 1 1	D	213
106	0	0	2	40				OD	214
106	198	1	1	0	0	1	0 1 1 1	D	215
106	0	0	2	40				OD	216
202	200	1	1	0	0	1	0 0 0 1	D	217
202	0	0	1	0				OD	218
212	201	1	1	0	0	1	0 0 1 1	D	219
212	0	0	2	0				OD	220
214	203	1	1	0	0	1	0 0 1 1	D	221
214	0	0	2	3				OD	222
214	205	1	1	0	0	1	0 0 1 1	D	223
214	0	0	2	3				OD	224
106	207	1	1	0	0	1	0 0 1 1	D	225
106	0	0	2	40				OD	226
106	209	1	1	0	0	1	0 1 1 1	D	227
106	0	0	2	40				OD	228
202	211	1	1	0	0	1	0 0 0 1	D	229
202	0	0	1	0				OD	230
212	212	1	1	0	0	1	0 0 1 1	D	231
212	0	0	2	0				OD	232
214	214	1	1	0	0	1	0 0 1 1	D	233
214	0	0	2	3				OD	234
214	216	1	1	0	0	1	0 0 1 1	D	235
214	0	0	2	3				OD	236
106	218	1	1	0	0	1	0 0 1 1	D	237
106	0	0	2	40				OD	238
106	220	1	1	0	0	1	0 1 1 1	D	239
106	0	0	2	40				OD	240
202	222	1	1	0	0	1	0 0 0 1	D	241
202	0	0	1	0				OD	242
212	223	1	1	0	0	1	0 0 1 1	D	243
212	0	0	2	0				OD	244
214	225	1	1	0	0	1	0 0 1 1	D	245
214	0	0	2	3				OD	246
214	227	1	1	0	0	1	0 0 1 1	D	247
214	0	0	2	3				OD	248
106	229	1	1	0	0	1	0 1 1 1	D	249
106	0	0	2	40				OD	250
106	231	1	1	0	0	1	0 1 1 1	D	251
106	0	0	2	40				OD	252
202	233	1	1	0	0	1	0 0 0 1	D	253
202	0	0	1	0				OD	254
212	234	1	1	0	0	1	0 0 1 1	D	255
212	0	0	2	0				OD	256
214	236	1	1	0	0	1	0 0 1 1	D	257

214	0	0	2	3				0D	258
214	238	1	1	0	0	1	0 0 1 1	D	259
214	0	0	2	3				0D	260
106	240	1	1	0	0	1	0 1 1 1	D	261
106	0	0	2	40				0D	262
106	242	1	1	0	0	1	0 1 1 1	D	263
106	0	0	2	40				0D	264
202	244	1	1	0	0	1	0 0 0 1	D	265
202	0	0	1	0				0D	266
212	245	1	1	0	0	1	0 0 1 1	D	267
212	0	0	2	0				0D	268
214	247	1	1	0	0	1	0 0 1 1	D	269
214	0	0	2	3				0D	270
214	249	1	1	0	0	1	0 0 1 1	D	271
214	0	0	2	3				0D	272
106	251	1	1	0	0	1	0 1 1 1	D	273
106	0	0	2	40				0D	274
106	253	1	1	0	0	1	0 1 1 1	D	275
106	0	0	2	40				0D	276
202	255	1	1	0	0	1	0 0 0 1	D	277
202	0	0	1	0				0D	278
212	256	1	1	0	0	1	0 0 1 1	D	279
212	0	0	2	0				0D	280
214	258	1	1	0	0	1	0 0 1 1	D	281
214	0	0	2	3				0D	282
214	260	1	1	0	0	1	0 0 1 1	D	283
214	0	0	2	3				0D	284
106	262	1	1	0	0	1	0 1 1 1	D	285
106	0	0	2	40				0D	286
106	264	1	1	0	0	1	0 1 1 1	D	287
106	0	0	2	40				0D	288
202	266	1	1	0	0	1	0 0 0 1	D	289
202	0	0	1	0				0D	290
124,-.0154156,.3826427,.9237676,0.0,-.9975144,.0576423,								1P	1
-.0405229,0.0,-.0687538,-.9220965,.3808031,0.0,0,0;								1P	2
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,								3P	3
6.7500000,0.0,7H270.000,0,0;								3P	4
214,1,.1500000,.0500000,0.0,13.1775412,5.8224588,13.1708072,								5P	5
6.6841708,0,0;								5P	6
214,1,.1500000,.0500000,0.0,12.3224588,5.8224588,12.8461883,								7P	7
6.8469345,0,0;								7P	8
106,1,3,0.0,13.3162913,5.6837087,13.3162913,5.6837087,								9P	9
13.2659296,5.7340704,0,0;								9P	10
106,1,3,0.0,12.1837087,5.6837087,12.1837087,5.6837087,								11P	11
12.2340704,5.7340704,0,0;								11P	12
202,3,9,11,12.7500000,6.2500000,.6046346,5,7,0,0;								13P	13
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.2500000,0.0,								15P	14
0.0,7H225.000,0,0;								15P	15
214,1,.1500000,.0500000,0.0,10.0939196,-.6878392,10.5127277,								17P	16
-.0982342,0,0;								17P	17
214,1,.1500000,.0500000,0.0,9.0204363,.2431879,10.4981652,								19P	18
.1779113,0,0;								19P	19

106,1,3,0.0,10.0419263,-.5838525,10.0419263,-.5838525,	21P	20
10.1498213,-.7996426,0,0;	21P	21
106,1,3,0.0,8.9110609,.2796464,8.9110609,.2796464,8.9018509,	23P	22
.2827164,0,0;	23P	23
202,15,21,23,9.7500000,0.0,.7690277,17,19,0,0;	25P	24
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.5000000,	27P	25
2.0000000,0.0,7H225.000,0,0;	27P	26
214,1,.1500000,.0500000,0.0,10.2056059,1.0887882,10.7639457,	29P	27
1.9010157,0,0;	29P	28
214,1,.1500000,.0500000,0.0,8.7835139,2.3221620,10.7528776,	31P	29
2.1792215,0,0;	31P	30
106,1,3,0.0,10.0419263,1.4161475,10.0419263,1.4161475,	33P	31
10.2615076,.9769848,0,0;	33P	32
106,1,3,0.0,8.9110609,2.2796464,8.9110609,2.2796464,8.6649285,	35P	33
2.3616905,0,0;	35P	34
202,27,33,35,9.7500000,2.0000000,1.0187658,29,31,0,0;	37P	35
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.2500000,	39P	36
4.0000000,0.0,7H225.000,0,0;	39P	37
214,1,.1500000,.0500000,0.0,10.0939196,3.3121608,10.5127277,	41P	38
3.9017660,0,0;	41P	39
214,1,.1500000,.0500000,0.0,9.0204363,4.2431879,10.4981651,	43P	40
4.1779116,0,0;	43P	41
106,1,3,0.0,10.0419263,3.4161475,10.0419263,3.4161475,	45P	42
10.1498213,3.2003574,0,0;	45P	43
106,1,3,0.0,8.9110609,4.2796464,8.9110609,4.2796464,8.9018509,	47P	44
4.2827164,0,0;	47P	45
202,39,45,47,9.7500000,4.0000000,.7690277,41,43,0,0;	49P	46
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,10.2500000,	51P	47
6.5000000,0.0,7H225.000,0,0;	51P	48
214,1,.1500000,.0500000,0.0,10.1171928,5.5156143,10.5564698,	53P	49
6.4041407,0,0;	53P	50
214,1,.1500000,.0500000,0.0,3.9710664,6.5096446,10.4565812,	55P	51
6.6682056,0,0;	55P	52
106,1,3,0.0,10.0419263,5.6661475,10.0419263,5.6661475,	57P	53
10.1730945,5.4038109,0,0;	57P	54
106,1,3,0.0,8.9110609,6.5296464,8.9110609,6.5296464,8.8524810,	59P	55
6.5491730,0,0;	59P	56
202,51,57,59,9.7500000,6.2500000,.8210682,53,55,0,0;	61P	57
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,	63P	58
2.7500000,0.0,7H270.000,0,0;	63P	59
214,1,.1500000,.0500000,0.0,13.3409027,1.4090973,13.2171124,	65P	60
2.6929199,0,0;	65P	61
214,1,.1500000,.0500000,0.0,12.1590973,1.4090973,12.8062794,	67P	62
2.8337653,0,0;	67P	63
106,1,3,0.0,13.3162913,1.4337087,13.3162913,1.4337087,	69P	64
13.4292910,1.3207090,0,0;	69P	65
106,1,3,0.0,12.1837087,1.4337087,12.1837087,1.4337087,	71P	66
12.0707090,1.3207090,0,0;	71P	67
202,63,69,71,12.7500000,2.0000000,.8356626,65,67,0,0;	73P	68
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,	75P	69
4.7500000,0.0,7H270.000,0,0;	75P	70
214,1,.1500000,.0500000,0.0,13.3409028,3.4090972,13.2171053,	77P	71

4.6929249,0,0;	77P	72
214,1,.1500000,.0500000,0.0,12.1590972,3.4090972,12.8062877,	79P	73
4.8337649,0,0;	79P	74
106,1,3,0.0,13.3162913,3.4337087,13.3162913,3.4337087,	81P	75
13.4292912,3.3207088,0,0;	81P	76
106,1,3,0.0,12.1837087,3.4337087,12.1837087,3.4337087,	83P	77
12.0707088,3.3207088,0,0;	83P	78
202,75,81,83,12.7500000,4.0000000,.8356628,77,79,0,0;	85P	79
212,1,7,.4080300,.0609000,1,1.5707963,0.0,0,0,12.7500000,	87P	80
.7500000,0.0,7H270.000,0,0;	87P	81
214,1,.1500000,.0500000,0.0,13.3409027,-.5909027,13.2171124,	89P	82
.6929199,0,0;	89P	83
214,1,.1500000,.0500000,0.0,12.1590973,-.5909027,12.8062794,	91P	84
.8337653,0,0;	91P	85
106,1,3,0.0,13.3162913,-.5662913,13.3162913,-.5662913,	93P	86
13.4292910,-.6792910,0,0;	93P	87
106,1,3,0.0,12.1837087,-.5662913,12.1837087,-.5662913,	95P	88
12.0707090,-.6792910,0,0;	95P	89
202,87,93,95,12.7500000,0.0,.8356626,89,91,0,0;	97P	90
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,1.3335195,	99P	91
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214,1,.1500000,.0500000,0.0,1.4129652,5.5212946,1.6220727,	101P	93
6.0315438,0,0;	101P	94
214,1,.1500000,.0500000,0.0,1.3618900,6.7347125,1.6174298,	103P	95
6.2142524,0,0;	103P	96
106,1,3,0.0,1.0592672,5.8199757,1.0592672,5.8199757,1.5084687,	105P	97
5.4406467,0,0;	105P	98
106,1,3,0.0,1.2459306,6.6187529,1.2459306,6.6187529,1.4502783,	107P	99
6.8231009,0,0;	107P	100
202,99,105,107,.7273991,6.7002216,.8973057,101,103,0,0;	109P	101
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,3.7858014,	111P	102
6.1401320,0.0,7H85.1795,0,0;	111P	103
214,1,.1500000,.0500000,0.0,3.8469553,5.5143649,3.7162957,	113P	104
5.3866646,0,0;	113P	105
214,1,.1500000,.0500000,0.0,3.7924764,6.8086880,3.6515481,	115P	106
6.9249570,0,0;	115P	107
106,1,3,0.0,3.4475477,5.8516462,3.4475477,5.8516462,3.9424585,	117P	108
5.4337167,0,0;	117P	109
106,1,3,0.0,3.6342111,6.6504234,3.6342111,6.6504234,3.8808649,	119P	110
6.8970763,0,0;	119P	111
202,111,117,119,3.1156802,6.1318932,.9571335,113,115,0,0;	121P	112
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,5.4941936,	123P	113
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214,1,.1500000,.0500000,0.0,4.9675483,6.6129165,5.1033343,	125P	115
6.7351517,0,0;	125P	116
214,2,.1500000,.0500000,0.0,5.0057302,5.7057691,5.2832936,	127P	117
5.5388007,5.4332936,5.5388007,0,0;	127P	118
106,1,3,0.0,5.4084452,6.2405977,5.4084452,6.2405977,4.8720451,	129P	119
6.6935649,0,0;	129P	120
106,1,3,0.0,5.4137822,6.1138211,5.4137822,6.1138211,4.9173418,	131P	121
5.6173807,0,0;	131P	122
202,123,129,131,5.4800725,6.1801114,.6708214,125,127,0,0;	133P	123

212,1,6,.3349500,.0609000,1,1.5707963,0.0,0,0,7.0992069,	135P	124
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214,1,.1500000,.0500000,0.0,7.5983694,5.6951459,7.5983694,	137P	126
5.6951460,0,0;	137P	127
214,1,.1500000,.0500000,0.0,7.5555836,6.7116229,7.5555836,	139P	128
6.7116228,0,0;	139P	129
106,1,3,0.0,7.3559408,5.8998650,7.3559408,5.8998650,7.6938728,	141P	130
5.6144979,0,0;	141P	131
106,1,3,0.0,7.5426034,6.6986427,7.5426034,6.6986427,7.6439719,	143P	132
6.8000113,0,0;	143P	133
202,135,141,143,7.0240726,6.1801114,.7516703,137,139,0,0;	145P	134
212,1,7,.3897500,.0609000,1,1.5707963,0.0,0,0,1.3302597,	147P	135
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214,1,.1500000,.0500000,0.0,1.4018294,3.3481638,1.6171509,	149P	137
3.8627899,0,0;	149P	138
214,1,.1500000,.0500000,0.0,1.3489565,4.6042754,1.6158312,	151P	139
4.0454843,0,0;	151P	140
106,1,3,0.0,1.0240077,3.6672140,1.0240077,3.6672140,1.4973330,	153P	141
3.2675161,0,0;	153P	142
106,1,3,0.0,1.2106713,4.4659909,1.2106713,4.4659909,1.4373450,	155P	143
4.6926637,0,0;	155P	144
202,147,153,155,.6921390,3.9474597,.9288789,149,151,0,0;	157P	145
212,1,7,.3358500,.0609000,1,1.5707963,0.0,0,0,3.8625412,	159P	146
4.0193701,0.0,7H85.1793,0,0;	159P	147
214,1,.1500000,.0500000,0.0,3.8984568,3.2883423,3.7691025,	161P	148
3.1593199,0,0;	161P	149
214,1,.1500000,.0500000,0.0,3.8375103,4.7362208,3.6977707,	163P	150
4.8539159,0,0;	163P	151
106,1,3,0.0,3.4122883,3.6988844,3.4122883,3.6988844,3.9939605,	165P	152
3.2076946,0,0;	165P	153
106,1,3,0.0,3.5989513,4.4976620,3.5989513,4.4976620,3.9258987,	167P	154
4.8246092,0,0;	167P	155
202,159,165,167,3.0804195,3.9791300,1.0706880,161,163,0,0;	169P	156
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,5.0241055,	171P	157
3.3770704,0.0,7H85.1794,0,0;	171P	158
214,2,.1500000,.0500000,0.0,5.9888410,3.5679451,5.7952855,	173P	159
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214,1,.1500000,.0500000,0.0,5.9483098,4.5308470,5.8036153,	175P	161
4.6423942,0,0;	175P	162
106,1,3,0.0,5.7766815,3.7471037,5.7766815,3.7471037,6.0843445,	177P	163
3.4872973,0,0;	177P	164
106,1,3,0.0,5.9633435,4.5458807,5.9633435,4.5458807,6.0366981,	179P	165
4.6192353,0,0;	179P	166
202,171,177,179,5.4448123,4.0273495,.7120531,173,175,0,0;	181P	167
212,1,6,.3288600,.0609000,1,1.5707963,0.0,0,0,6.8264465,	183P	168
3.4030139,0.0,6H85.179,0,0;	183P	169
214,1,.1500000,.0500000,0.0,7.4360137,3.6497102,7.4360137,	185P	170
3.6497103,0,0;	185P	171
214,1,.1500000,.0500000,0.0,7.4026967,4.4412337,7.4026967,	187P	172
4.4412337,0,0;	187P	173
106,1,3,0.0,7.3206811,3.7471029,7.3206811,3.7471029,7.5315171,	189P	174
3.5690623,0,0;	189P	175

106,1,3,0.0,7.5073437,4.5458807,7.5073437,4.5458807,7.4910850,	191P	176
4.5296221,0,0;	191P	177
202,183,189,191,6.9888124,4.0273495,.5853207,185,187,0,0;	193P	178
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,1.1058791,	195P	179
1.8199995,0.0,7H85.1793,0,0;	195P	180
214,1,.1500000,.0500000,0.0,1.1659350,1.2216534,1.3919861,	197P	181
1.7590941,0,0;	197P	182
214,1,.1500000,.0500000,0.0,1.1103433,2.5423430,1.3922339,	199P	183
1.9417878,0,0;	199P	184
106,1,3,0.0,.7516278,1.5715137,.7516278,1.5715137,1.2614386,	201P	185
1.1410056,0,0;	201P	186
106,1,3,0.0,.9382913,2.3702906,.9382913,2.3702906,1.1987316,	203P	187
2.6307313,0,0;	203P	188
202,195,201,203,.4197590,1.8517594,.9766332,197,199,0,0;	205P	189
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,3.4781609,	207P	190
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214,1,.1500000,.0500000,0.0,3.5390949,1.2660912,3.4084319,	209P	192
1.1383944,0,0;	209P	193
214,1,.1500000,.0500000,0.0,3.4846301,2.5600204,3.3436981,	211P	194
2.6762850,0,0;	211P	195
106,1,3,0.0,3.1399088,1.6031842,3.1399088,1.6031842,3.6345984,	213P	196
1.1854433,0,0;	213P	197
106,1,3,0.0,3.3265714,2.4019615,3.3265714,2.4019615,3.5730184,	215P	198
2.6484088,0,0;	215P	199
202,207,213,215,2.8080406,1.8834301,.9568427,209,211,0,0;	217P	200
212,1,7,.3897600,.0609000,1,1.5707963,0.0,0,0,6.3890426,	219P	201
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214,1,.1500000,.0500000,0.0,5.1029579,2.3936551,5.2380745,	221P	203
2.5166299,0,0;	221P	204
214,2,.1500000,.0500000,0.0,5.1427211,1.4490310,6.1781426,	223P	205
1.5016623,6.3281426,1.5016623,0,0;	223P	206
106,1,3,0.0,5.5650342,2.0034576,5.5650342,2.0034576,5.0074541,	225P	207
2.4743026,0,0;	225P	208
106,1,3,0.0,5.5703717,1.8766816,5.5703717,1.8766816,5.0543327,	227P	209
1.3606427,0,0;	227P	210
202,219,225,227,5.6366620,1.9429719,.6985381,221,223,0,0;	229P	211
212,1,6,.3288600,.0609000,1,1.5707963,0.0,0,0,7.3094230,	231P	212
2.7152557,0.0,6H85.179,0,0;	231P	213
214,1,.1500000,.0500000,0.0,7.8516844,1.3763279,7.8516846,	233P	214
1.3763281,0,0;	233P	215
214,1,.1500000,.0500000,0.0,7.8016917,2.5640013,7.8016917,	235P	216
2.5640013,0,0;	235P	217
106,1,3,0.0,7.5125309,1.6627255,7.5125309,1.6627255,7.9471879,	237P	218
1.2956801,0,0;	237P	219
106,1,3,0.0,7.6991934,2.4615030,7.6991934,2.4615030,7.8900800,	239P	220
2.6523897,0,0;	239P	221
202,231,237,239,7.1806622,1.9429715,.8782686,233,235,0,0;	241P	222
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,.9173290,.0833881,	243P	223
0.0,7H85.1793,0,0;	243P	224
214,1,.1500000,.0500000,0.0,1.0071373,-.4867494,1.2085609,	245P	225
.0225094,0,0;	245P	226
214,1,.1500000,.0500000,0.0,.9582702,.6742086,1.1985497,	247P	227

.2052020,0,0;	247P	228
106,1,3,0.0,.6830777,-.2130974,.6830777,-.2130974,1.1026408,	249P	229
-.5673972,0,0;	249P	230
106,1,3,0.0,.8697411,.5856799,.8697411,.5856799,1.0466586,	251P	231
.7625968,0,0;	251P	232
202,243,249,251,.3512089,.0671486,.8585134,245,247,0,0;	253P	233
212,1,7,.4019400,.0609000,1,1.5707963,0.0,0,0,3.1773295,	255P	234
.1458504,0.0,7H85.1794,0,0;	255P	235
214,1,.1500000,.0500000,0.0,3.2839415,-.3561670,3.1502479,	257P	236
-.4806873,0,0;	257P	237
214,1,.1500000,.0500000,0.0,3.2403780,.6787810,3.0966931,	259P	238
.7916258,0,0;	259P	239
106,1,3,0.0,3.0310769,-.1426350,3.0310769,-.1426350,3.3794449,	261P	240
-.4368149,0,0;	261P	241
106,1,3,0.0,3.2177395,.6561427,3.2177395,.6561427,3.3287663,	263P	242
.7671694,0,0;	263P	243
202,255,261,263,2.6992087,.1376110,.7653295,257,259,0,0;	265P	244
212,1,7,.3958500,.0609000,1,1.5707963,0.0,0,0,4.7031802,	267P	245
-.5973330,0.0,7H85.1795,0,0;	267P	246
214,2,.1500000,.0500000,0.0,5.6679149,-.3997418,5.4743603,	269P	247
-.5668830,5.3243603,-.5668830,0,0;	269P	248
214,1,.1500000,.0500000,0.0,5.6214326,.7045106,5.4786027,	271P	249
.8184356,0,0;	271P	250
106,1,3,0.0,5.3758932,-.1531452,5.3758932,-.1531452,5.7634184,	273P	251
-.4803896,0,0;	273P	252
106,1,3,0.0,5.5625551,.6456324,5.5625551,.6456324,5.7098208,	275P	253
.7928991,0,0;	275P	254
202,267,273,275,5.0440249,.1271007,.8165793,269,271,0,0;	277P	255
212,1,6,.3288600,.0609000,1,1.5707963,0.0,0,0,6.8689485,	279P	256
-.5844389,0.0,6H85.179,0,0;	279P	257
214,1,.1500000,.0500000,0.0,7.2677093,-.3763738,7.2677093,	281P	258
-.3763738,0,0;	281P	259
214,1,.1500000,.0500000,0.0,7.2215309,.7206866,7.2215309,	283P	260
.7206866,0,0;	283P	261
106,1,3,0.0,6.9797512,-.1332080,6.9797512,-.1332080,7.3632129,	285P	262
-.4570216,0,0;	285P	263
106,1,3,0.0,7.1664137,.6655694,7.1664137,.6655694,7.3099192,	287P	264
.3090750,0,0;	287P	265
202,279,285,287,6.6478825,.1470380,.8112615,281,283,0,0;	289P	266
S 1G 2D 290P 266	T	1

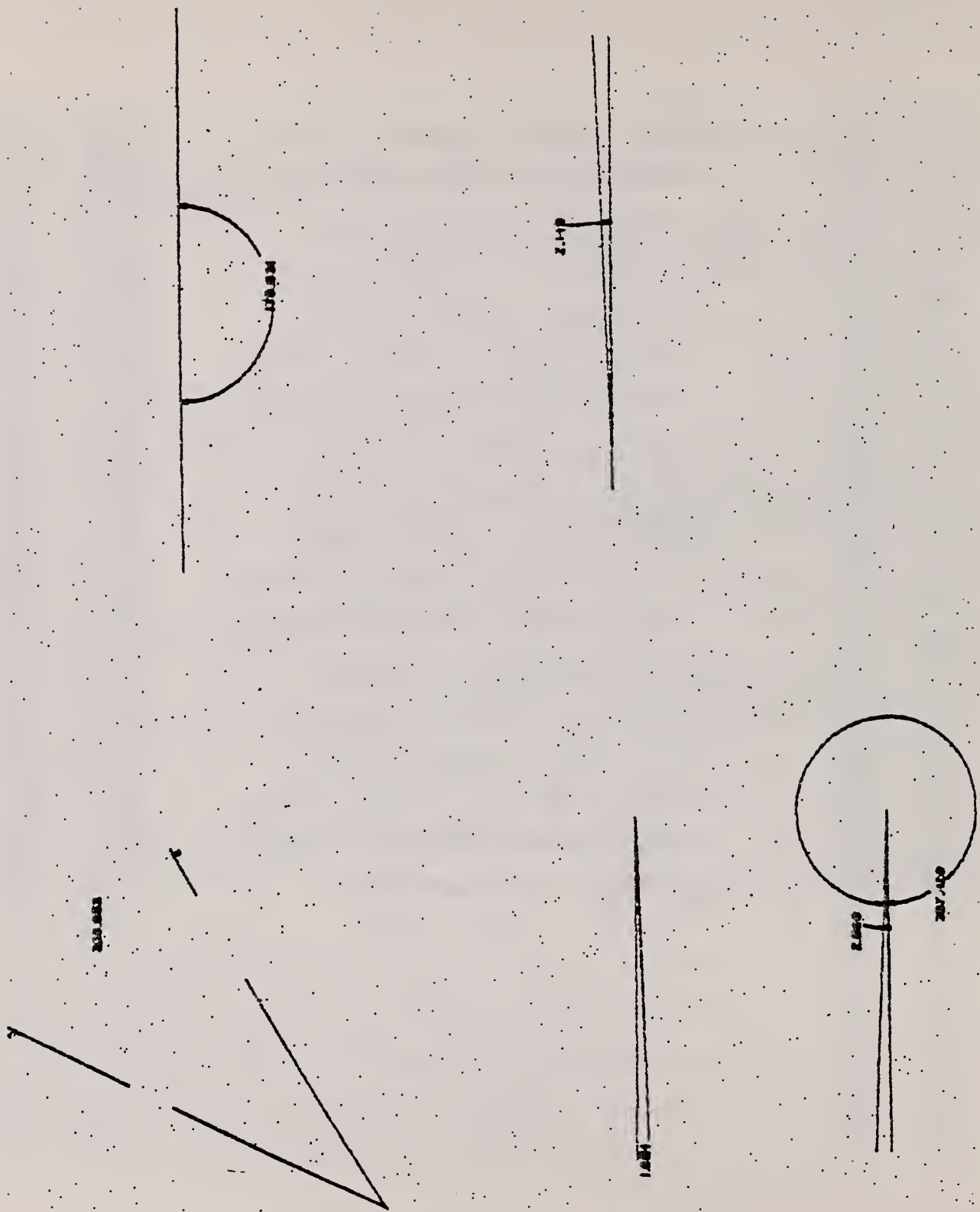


Figure 3.3.9-5 Angular Dimension Cases 3 and 4 (with lines)
 Case 3: Rotation (0°, 0°, 0°) Case 4: Rotation (11°, 22°, 33°)

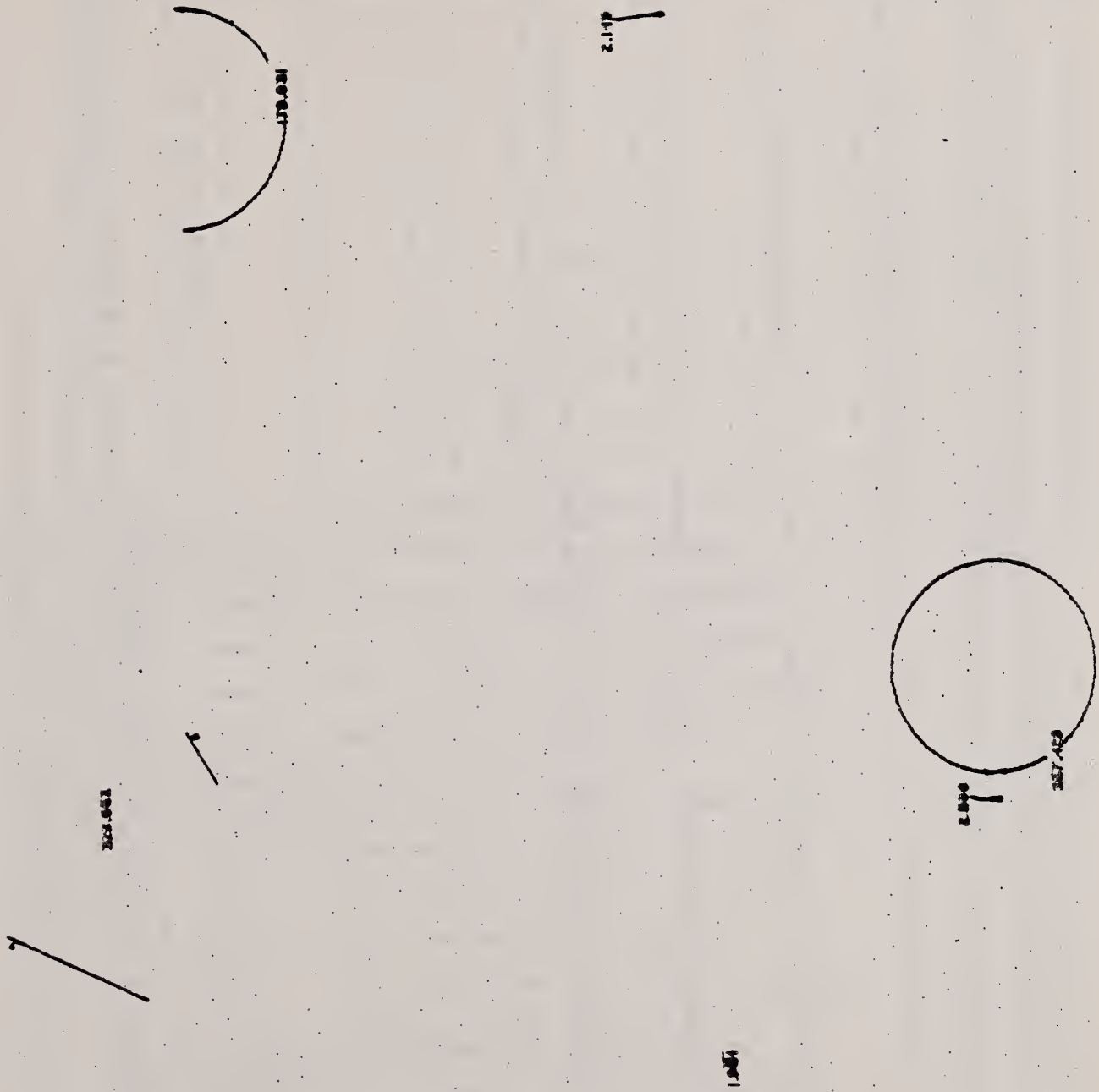


Figure 3.3.9-6 Angular Dimension Cases 3 and 4 (actual part)

ADIM TEST CASE 3								S	1
1H,,1H,,,5HADIM3,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG								G	1
810827.122606,,,,;									2
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0				OD	2
212	3	1	1	0	0	1	0 0 1 1	D	3
212	0	0	2	0				OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3				OD	6
214	7	1	1	0	0	1	0 0 1 1	D	7
214	0	0	2	3				OD	8
106	9	1	1	0	0	1	0 1 1 1	D	9
106	0	0	2	40				OD	10
106	11	1	1	0	0	1	0 1 1 1	D	11
106	0	0	2	40				OD	12
202	13	1	1	0	0	1	0 0 0 1	D	13
202	0	0	1	0				OD	14
212	14	1	1	0	0	1	0 0 1 1	D	15
212	0	0	2	0				OD	16
214	16	1	1	0	0	1	0 0 1 1	D	17
214	0	0	2	3				OD	18
214	18	1	1	0	0	1	0 0 1 1	D	19
214	0	0	2	3				OD	20
106	20	1	1	0	0	1	0 0 1 1	D	21
106	0	0	2	40				OD	22
106	22	1	1	0	0	1	0 0 1 1	D	23
106	0	0	2	40				OD	24
202	24	1	1	0	0	1	0 0 0 1	D	25
202	0	0	1	0				OD	26
212	25	1	1	0	0	1	0 0 1 1	D	27
212	0	0	2	0				OD	28
214	27	1	1	0	0	1	0 0 1 1	D	29
214	0	0	2	3				OD	30
214	29	1	1	0	0	1	0 0 1 1	D	31
214	0	0	2	3				OD	32
106	31	1	1	0	0	1	0 0 1 1	D	33
106	0	0	2	40				OD	34
106	33	1	1	0	0	1	0 1 1 1	D	35
106	0	0	2	40				OD	36
202	35	1	1	0	0	1	0 0 0 1	D	37
202	0	0	1	0				OD	38
212	36	1	1	0	0	1	0 0 1 1	D	39
212	0	0	2	0				OD	40
214	38	1	1	0	0	1	0 0 1 1	D	41
214	0	0	2	3				OD	42
214	40	1	1	0	0	1	0 0 1 1	D	43
214	0	0	2	3				OD	44
106	42	1	1	0	0	1	0 1 1 1	D	45
106	0	0	2	40				OD	46
106	44	1	1	0	0	1	0 1 1 1	D	47
106	0	0	2	40				OD	48
202	46	1	1	0	0	1	0 0 0 1	D	49

202	0	0	1	0					OD	50	
212	47	1	1	0	0	1	0	0	1	D	51
212	0	0	2	0						OD	52
214	49	1	1	0	0	1	0	0	1	D	53
214	0	0	2	3						OD	54
214	51	1	1	0	0	1	0	0	1	D	55
214	0	0	2	3						OD	56
106	53	1	1	0	0	1	0	1	1	D	57
106	0	0	2	40						OD	58
106	55	1	1	0	0	1	0	1	1	D	59
106	0	0	2	40						OD	60
202	57	1	1	0	0	1	0	0	0	D	61
202	0	0	1	0						OD	62
212	58	1	1	0	0	1	0	0	1	D	63
212	0	0	2	0						OD	64
214	60	1	1	0	0	1	0	0	1	D	65
214	0	0	2	3						OD	66
214	62	1	1	0	0	1	0	0	1	D	67
214	0	0	2	3						OD	68
106	64	1	1	0	0	1	0	1	1	D	69
106	0	0	2	40						OD	70
106	66	1	1	0	0	1	0	1	1	D	71
106	0	0	2	40						OD	72
202	68	1	1	0	0	1	0	0	0	D	73
202	0	0	1	0						OD	74
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,										1P	1
1.0000000,0.0,0,0;										1P	2
212,1,7,.7360000,.1560000,1,1.5707963,0.0,0,0,9.7659798,										3P	3
3.1625695,0.0,7H179.831,0,0;										3P	4
214,1,.1500000,.0500000,0.0,7.9445788,5.0871626,9.9548096,										5P	5
3.1922900,0,0;										5P	6
214,1,.1500000,.0500000,0.0,11.8118275,5.1565377,10.8410751,										7P	7
3.4475394,0,0;										7P	8
106,1,3,0.0,4.5023680,5.0203238,4.5023680,5.0203238,7.8196024,										9P	9
5.0847359,0,0;										9P	10
106,1,3,0.0,16.2026584,5.2288150,16.2026584,5.2288150,										11P	11
11.9368106,5.1585951,0,0;										11P	12
202,3,9,11,9.8781519,5.1247077,1.9339375,5,7,0,0;										13P	13
212,1,7,1.0608000,.1560000,1,1.5707963,0.0,0,0,-3.0394285,										15P	14
6.7518706,0.0,7H326.853,0,0;										15P	15
214,1,.1500000,.0500000,0.0,-4.6677636,8.5493691,-4.6677627,										17P	16
8.5493692,0,0;										17P	17
214,1,.1500000,.0500000,0.0,-1.0990795,5.2368504,-1.0990797,										19P	18
5.2368508,0,0;										19P	19
106,1,3,0.0,-5.8518827,6.1529373,-5.8518827,6.1529373,										21P	20
-4.6123899,8.6614350,0,0;										21P	21
106,1,3,0.0,-1.9059879,4.7604312,-1.9059879,4.7604312,-.9914409,										23P	22
5.3004030,0,0;										23P	23
202,15,21,23,-8.4487181,.8974361,8.5350866,17,19,0,0;										25P	24
212,1,5,.4864000,.1560000,1,1.5707963,0.0,0,0,-7.7697778,										27P	25
-4.4404740,0.0,5H1.984,0,0;										27P	26
214,1,.1500000,.0500000,0.0,-7.2654505,-4.2080320,-7.2654505,										29P	27

-4.2080307,0,0;	29P	28
214,1,.1500000,.0500000,0.0,-7.2585234,-4.4484209,-7.2585236,	31P	29
-4.4484201,0,0;	31P	30
106,1,3,0.0,-7.1065645,-4.2062057,-7.1065645,-4.2062057,	33P	31
-7.3904423,-4.2094687,0,0;	33P	32
106,1,3,0.0,-7.0808301,-4.4402197,-7.0808301,-4.4402197,	35P	33
-7.3833905,-4.4541840,0,0;	35P	34
202,27,33,35,-.3205132,-4.1282053,6.9453959,29,31,0,0;	37P	35
212,1,5,.6396000,.1560000,1,1.5707963,0.0,0,0,10.9063444,	39P	36
-2.6749942,0.0,SH2.149,0,0;	39P	37
214,1,.1500000,.0500000,0.0,11.5155231,-3.6310084,11.4372584,	41P	38
-2.7734415,0,0;	41P	39
214,1,.1500000,.0500000,0.0,11.5101315,-3.4346487,11.5101314,	43P	40
-3.4346487,0,0;	43P	41
106,1,3,0.0,15.2190965,-3.5988032,15.2190965,-3.5988032,	45P	42
11.6405184,-3.6299214,0,0;	45P	43
106,1,3,0.0,15.2446404,-3.2619545,15.2446404,-3.2619545,	47P	44
11.6349981,-3.4288745,0,0;	47P	45
202,39,45,47,6.2791958,-3.6765418,5.2365255,41,43,0,0;	49P	46
212,1,5,.7176000,.1560000,1,1.5707963,0.0,0,0,-3.0077527,	51P	47
-8.7907066,0.0,SH2.580,0,0;	51P	48
214,1,.1500000,.0500000,0.0,-2.5673502,-9.2751873,-2.5673502,	53P	49
-9.2751869,0,0;	53P	50
214,1,.1500000,.0500000,0.0,-2.5678348,-9.3828250,-2.5252591,	55P	51
-8.8886105,0,0;	55P	52
106,1,3,0.0,-7.3038775,-9.1471730,-7.3038775,-9.1471730,	57P	53
-2.6923046,-9.2718101,0,0;	57P	54
106,1,3,0.0,-7.3038965,-9.4681596,-7.3038965,-9.4681596,	59P	55
-2.6928145,-9.3850769,0,0;	59P	56
202,51,57,59,-.1779904,-9.3397646,2.3902323,53,55,0,0;	61P	57
212,1,7,1.0452000,.1560000,1,1.5707963,0.0,0,0,-2.4164591,	63P	58
-10.5645876,0.0,7H357.420,0,0;	63P	59
214,1,.1500000,.0500000,0.0,-2.0859765,-9.3741428,-1.8444463,	65P	60
-10.2695590,0,0;	65P	61
214,1,.1500000,.0500000,0.0,-2.0855896,-9.2882078,-1.5782240,	67P	62
-10.6362750,0,0;	67P	63
106,1,3,0.0,-7.3038965,-9.4681596,-7.3038965,-9.4681596,	69P	54
-2.2109562,-9.3763947,0,0;	69P	65
106,1,3,0.0,-7.3038775,-9.1471730,-7.3038775,-9.1471730,	71P	66
-2.2105440,-9.2848307,0,0;	71P	67
202,63,69,71,-.1779899,-9.3397646,1.9082963,65,67,0,0;	73P	68
S 1G 2D 74P 68 T 1		

ADIM TEST CASE 4

1H,,1H;,,5HADIM4,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.C000000,1,4HINCH,0,,13HG
 810827.122620,,,,;

										S		
124	1	1	1	0	0	0	0	0	0	0	G	1
124	0	0	2	0							OD	2
212	3	1	1	0	0	1	0	0	1	1	D	3
212	0	0	2	0							OD	4
214	5	1	1	0	0	1	0	0	1	1	D	5
214	0	0	2	3							OD	6
214	7	1	1	0	0	1	0	0	1	1	D	7
214	0	0	2	3							OD	8
106	9	1	1	0	0	1	0	1	1	1	D	9
106	0	0	2	40							OD	10
106	11	1	1	0	0	1	0	1	1	1	D	11
106	0	0	2	40							OD	12
202	13	1	1	0	0	1	0	0	0	1	D	13
202	0	0	1	0							OD	14
212	14	1	1	0	0	1	0	0	1	1	D	15
212	0	0	2	0							OD	16
214	16	1	1	0	0	1	0	0	1	1	D	17
214	0	0	2	3							OD	18
214	18	1	1	0	0	1	0	0	1	1	D	19
214	0	0	2	3							OD	20
106	20	1	1	0	0	1	0	0	1	1	D	21
106	0	0	2	40							OD	22
106	22	1	1	0	0	1	0	0	1	1	D	23
106	0	0	2	40							OD	24
202	24	1	1	0	0	1	0	0	0	1	D	25
202	0	0	1	0							OD	26
212	25	1	1	0	0	1	0	0	1	1	D	27
212	0	0	2	0							OD	28
214	27	1	1	0	0	1	0	0	1	1	D	29
214	0	0	2	3							OD	30
214	29	1	1	0	0	1	0	0	1	1	D	31
214	0	0	2	3							OD	32
106	31	1	1	0	0	1	0	0	1	1	D	33
106	0	0	2	40							OD	34
106	33	1	1	0	0	1	0	1	1	1	D	35
106	0	0	2	40							OD	36
202	35	1	1	0	0	1	0	0	0	1	D	37
202	0	0	1	0							OD	38
212	36	1	1	0	0	1	0	0	1	1	D	39
212	0	0	2	0							OD	40
214	38	1	1	0	0	1	0	0	1	1	D	41
214	0	0	2	3							OD	42
214	40	1	1	0	0	1	0	0	1	1	D	43
214	0	0	2	3							OD	44
106	42	1	1	0	0	1	0	1	1	1	D	45
106	0	0	2	40							OD	46
106	44	1	1	0	0	1	0	1	1	1	D	47
106	0	0	2	40							OD	48
202	46	1	1	0	0	1	0	0	0	1	D	49

202	0	0	1	0					0D	50
212	47	1	1	0	0	1	0 0 1 1		D	51
212	0	0	2	0					0D	52
214	49	1	1	0	0	1	0 0 1 1		D	53
214	0	0	2	3					0D	54
214	51	1	1	0	0	1	0 0 1 1		D	55
214	0	0	2	3					0D	56
106	53	1	1	0	0	1	0 1 1 1		D	57
106	0	0	2	40					0D	58
106	55	1	1	0	0	1	0 1 1 1		D	59
106	0	0	2	40					0D	60
202	57	1	1	0	0	1	0 0 0 1		D	61
202	0	0	1	0					0D	62
212	58	1	1	0	0	1	0 0 1 1		D	63
212	0	0	2	0					0D	64
214	60	1	1	0	0	1	0 0 1 1		D	65
214	0	0	2	3					0D	66
214	62	1	1	0	0	1	0 0 1 1		D	67
214	0	0	2	3					0D	68
106	64	1	1	0	0	1	0 1 1 1		D	69
106	0	0	2	40					0D	70
106	66	1	1	0	0	1	0 1 1 1		D	71
106	0	0	2	40					0D	72
202	68	1	1	0	0	1	0 0 0 1		D	73
202	0	0	1	0					0D	74
124, .8165318, .5346325, -.2178168, 0.0, -.4450338, .8232620, .3523988,									1P	1
0.0, .3677241, -.1908090, .9101489, 0.0, 0.0,									1P	2
212, 1, 7, .7360000, .1560000, 1, 1, 1.5707963, 0.0, 0.0, 9.7659798,									3P	3
3.1625695, 0.0, 7H179.831, 0.0,									3P	4
214, 1, .1500000, .0500000, 0.0, 7.9445788, 5.0871626, 9.9548096,									5P	5
3.1922900, 0.0,									5P	6
214, 1, .1500000, .0500000, 0.0, 11.8118275, 5.1565377, 10.8410751,									7P	7
3.4475394, 0.0,									7P	8
106, 1, 3, 0.0, 4.5023680, 5.0203238, 4.5023680, 5.0203238, 7.8196024,									9P	9
5.0847359, 0.0,									9P	10
106, 1, 3, 0.0, 16.2026584, 5.2288150, 16.2026584, 5.2288150,									11P	11
11.9368106, 5.1585951, 0.0,									11P	12
202, 3, 9, 11, 9.8781519, 5.1247077, 1.9339375, 5, 7, 0.0,									13P	13
212, 1, 7, 1.0608000, .1560000, 1, 1, 1.5707963, 0.0, 0.0, -3.0394285,									15P	14
6.7518706, 0.0, 7H326.853, 0.0,									15P	15
214, 1, .1500000, .0500000, 0.0, -4.6677636, 8.5493691, -4.6677627,									17P	16
8.5493692, 0.0,									17P	17
214, 1, .1500000, .0500000, 0.0, -1.0990795, 5.2368504, -1.0990797,									19P	18
5.2368508, 0.0,									19P	19
106, 1, 3, 0.0, -5.8519827, 6.1529373, -5.8519827, 6.1529373,									21P	20
-4.6123899, 8.6614350, 0.0,									21P	21
106, 1, 3, 0.0, -1.9059879, 4.7604312, -1.9059879, 4.7604312, -9914409,									23P	22
5.3004030, 0.0,									23P	23
202, 15, 21, 23, -8.4487181, .8974361, 8.5350866, 17, 19, 0.0,									25P	24
212, 1, 5, .4864000, .1560000, 1, 1, 1.5707963, 0.0, 0.0, -7.7697778,									27P	25
-4.4404740, 0.0, 5H1.984, 0.0,									27P	26
214, 1, .1500000, .0500000, 0.0, -7.2654505, -4.2080320, -7.2654505,									29P	27

-4.2080307,0,0;	29P	29
214,1,.1500000,.0500000,0.0,-7.2585234,-4.4484209,-7.2585236,	31P	29
-4.4484201,0,0;	31P	30
106,1,3,0.0,-7.1065645,-4.2062057,-7.1065645,-4.2062057,	33P	31
-7.3904423,-4.2094687,0,0;	33P	32
106,1,3,0.0,-7.0808301,-4.4402197,-7.0808301,-4.4402197,	35P	33
-7.3833905,-4.4541840,0,0;	35P	34
202,27,33,35,-.3205132,-4.1282053,6.9453959,29,31,0,0;	37P	35
212,1,5,.6396000,.1560000,1,1.5707963,0.0,0,0,10.9063444,	39P	36
-2.6749942,0.0,5H2.149,0,0;	39P	37
214,1,.1500000,.0500000,0.0,11.5155231,-3.6310084,11.4372584,	41P	38
-2.7734415,0,0;	41P	39
214,1,.1500000,.0500000,0.0,11.5101315,-3.4346487,11.5101314,	43P	40
-3.4346487,0,0;	43P	41
106,1,3,0.0,15.2190965,-3.5988032,15.2190965,-3.5988032,	45P	42
11.6405184,-3.6299214,0,0;	45P	43
106,1,3,0.0,15.2446404,-3.2619545,15.2446404,-3.2619545,	47P	44
11.6349981,-3.4288745,0,0;	47P	45
202,39,45,47,6.2791958,-3.6765418,5.2365255,41,43,0,0;	49P	46
212,1,5,.7175000,.1560000,1,1.5707963,0.0,0,0,-3.0077527,	51P	47
-8.7907066,0.0,5H2.580,0,0;	51P	48
214,1,.1500000,.0500000,0.0,-2.5673502,-9.2751873,-2.5673502,	53P	49
-9.2751869,0,0;	53P	50
214,1,.1500000,.0500000,0.0,-2.5678348,-9.3828250,-2.5252591,	55P	51
-8.8886105,0,0;	55P	52
106,1,3,0.0,-7.3038775,-9.1471730,-7.3038775,-9.1471730,	57P	53
-2.6923046,-9.2718101,0,0;	57P	54
106,1,3,0.0,-7.3038965,-9.4681596,-7.3038965,-9.4681596,	59P	55
-2.6928145,-9.3850769,0,0;	59P	56
202,51,57,59,-.1779904,-9.3397646,2.3902323,53,55,0,0;	61P	57
212,1,7,1.0452000,.1560000,1,1.5707963,0.0,0,0,-2.4164591,	63P	58
-10.5645876,0.0,7H357.420,0,0;	63P	59
214,1,.1500000,.0500000,0.0,-2.0859765,-9.3741428,-1.8444463,	65P	60
-10.2695590,0,0;	65P	61
214,1,.1500000,.0500000,0.0,-2.0855896,-9.2832078,-1.5782240,	67P	62
-10.6362750,0,0;	67P	63
106,1,3,0.0,-7.3038965,-9.4681596,-7.3038965,-9.4681596,	69P	64
-2.2109562,-9.3763947,0,0;	69P	55
106,1,3,0.0,-7.3038775,-9.1471730,-7.3038775,-9.1471730,	71P	66
-2.2105440,-9.2848307,0,0;	71P	67
202,63,69,71,-.1779899,-9.3397646,1.9082963,55,67,0,0;	73P	68
S 1G 2D 74P 68 T 1		

3.3.10 Diameter Dimension

The diameter dimensions contain subentities which include leaders, arc center points and general notes.

The following conventions were followed:

- general note subentities to be single string with no box rotation
- leaders to have one, two, or three segments

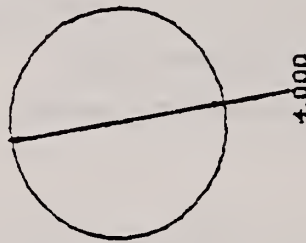
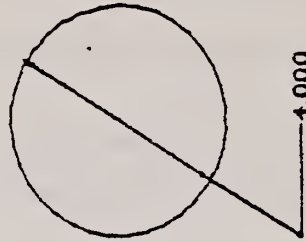
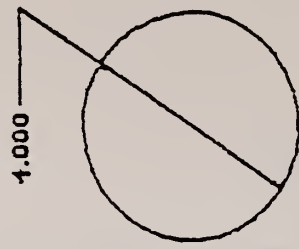
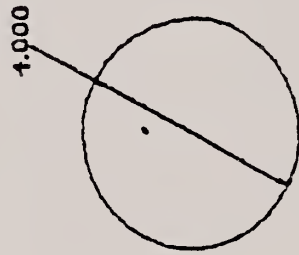
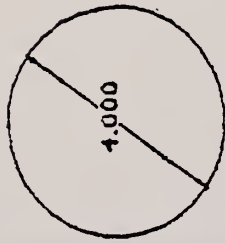
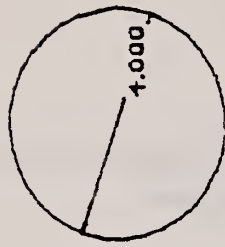
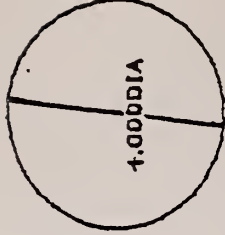
Case 1 (Figures 3.3.10-1 and 3.3.10-2) tests the following:

- text in, arrows in configuration
- text out, arrows out configuration
- single segment leaders
- multiple segment leaders

Case 2

- This is identical to Case 1 except non-model space with rotation (-25.86° , 158.76° , 33.48°) is used per section 3.0

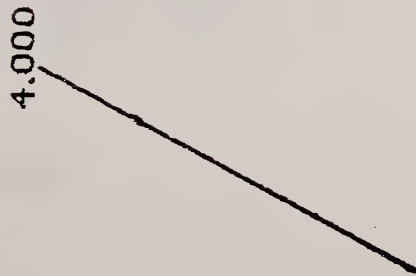
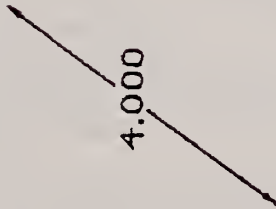
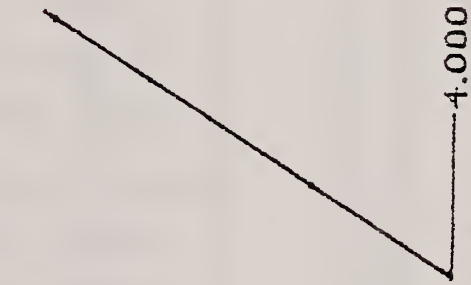
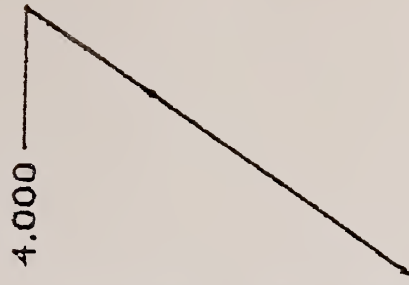
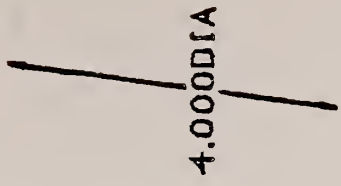
TEXT IN/
ARROWS IN
(SINGLE SEGMENT
LEADERS)



TEXT OUT/
ARROWS IN
(MULTIPLE SEGMENT
LEADERS)

3.10-2

Figure 3.3.10-1 Diameter Dimension Cases 1 and 2 (with annotation)
Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)
Case 2: Rotation ($-25.86^\circ, 158.76^\circ, 33.48^\circ$)



3.10-3

Figure 3.3.10-2 Diameter Dimension Cases 1 and 2 (actual part)

DDIM TEST CASE 1								S	1
1H,,1H,,,5HDDIM1,4HCIIN,6H2.1.3 ,16,8,24,3,56,,1.0000000,1,4HINCH,0,,13HG								G	1
810827.122705,,,,;									2
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0	0	0		OD	2
212	3	1	1	0	0	1	0 0 1 1	D	3
212	0	0	2	0	0	0		OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3	0	0		OD	6
214	7	1	1	0	0	1	0 0 1 1	D	7
214	0	0	2	3	0	0		OD	8
206	9	1	1	0	0	1	0 0 0 1	D	9
206	0	0	1	0	0	0		OD	10
212	10	1	1	0	0	1	0 0 1 1	D	11
212	0	0	2	0	0	0		OD	12
214	12	1	1	0	0	1	0 0 1 1	D	13
214	0	0	2	3	0	0		OD	14
214	14	1	1	0	0	1	0 0 1 1	D	15
214	0	0	2	3	0	0		OD	16
206	16	1	1	0	0	1	0 0 0 1	D	17
206	0	0	1	0	0	0		OD	18
212	17	1	1	0	0	1	0 0 1 1	D	19
212	0	0	2	0	0	0		OD	20
214	19	1	1	0	0	1	0 0 1 1	D	21
214	0	0	2	3	0	0		OD	22
214	21	1	1	0	0	1	0 0 1 1	D	23
214	0	0	2	3	0	0		OD	24
206	23	1	1	0	0	1	0 0 0 1	D	25
206	0	0	1	0	0	0		OD	26
212	24	1	1	0	0	1	0 0 1 1	D	27
212	0	0	2	0	0	0		OD	28
214	26	1	1	0	0	1	0 0 1 1	D	29
214	0	0	2	3	0	0		OD	30
214	28	1	1	0	0	1	0 0 1 1	D	31
214	0	0	2	3	0	0		OD	32
206	30	1	1	0	0	1	0 0 0 1	D	33
206	0	0	1	0	0	0		OD	34
212	31	1	1	0	0	1	0 0 1 1	D	35
212	0	0	2	0	0	0		OD	36
214	33	1	1	0	0	1	0 0 1 1	D	37
214	0	0	2	3	0	0		OD	38
214	35	1	1	0	0	1	0 0 1 1	D	39
214	0	0	2	3	0	0		OD	40
206	37	1	1	0	0	1	0 0 0 1	D	41
206	0	0	1	0	0	0		OD	42
212	38	1	1	0	0	1	0 0 1 1	D	43
212	0	0	2	0	0	0		OD	44
214	40	1	1	0	0	1	0 0 1 1	D	45
214	0	0	2	3	0	0		OD	46
214	42	1	1	0	0	1	0 0 1 1	D	47
214	0	0	2	3	0	0		OD	48
206	44	1	1	0	0	1	0 0 0 1	D	49

206	0	0	1	0				0D	50
212	45	1	1	0	0	1	0 0 1 1	D	51
212	0	0	2	0				0D	52
214	47	1	1	0	0	1	0 0 1 1	D	53
214	0	0	2	3				0D	54
214	49	1	1	0	0	1	0 0 1 1	D	55
214	0	0	2	3				0D	56
206	51	1	1	0	0	1	0 0 0 1	D	57
206	0	0	1	0				0D	58
124,1,0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,								1P	1
1.0000000,0.0,0,0;								1P	2
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-7.5000000,								3P	3
2.5000000,0.0,5H4.000,0,0;								3P	4
214,1,.1500000,.0500000,0.0,-8.1236267,.8454127,-7.0678113,								5P	5
2.4000002,0,0;								5P	6
214,1,.1500000,.0500000,0.0,-5.8762851,4.1544089,-6.7621890,								7P	7
2.8499999,0,0;								7P	8
206,3,5,7,-6.9999559,2.4999108,0,0;								9P	9
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,0.0,2.0000000,								11P	10
0.0,5H4.000,0,0;								11P	11
214,1,.1500000,.0500000,0.0,-2.3903754,3.1530671,-.0661823,								13P	12
2.3499999,0,0;								13P	13
214,1,.1500000,.0500000,0.0,1.3903035,1.8467474,1.2361328,								15P	14
1.9000000,0,0;								15P	15
206,11,13,15,-.5000359,2.4999073,0,0;								17P	16
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-12.5000000,								19P	17
-1.5000000,0.0,5H4.000,0,0;								19P	18
214,3,.1500000,.0500000,0.0,-13.3404798,-2.5064119,-13.4999123,								21P	19
-4.5000467,-13.2500000,-1.3750000,-12.7500000,-1.3750000,0,0;								21P	20
214,1,.1500000,.0500000,0.0,-13.6593447,-6.4936816,-13.4999123,								23P	21
-4.5000467,0,0;								23P	22
206,19,21,23,-13.4999123,-4.5000467,0,0;								25P	23
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-7.0000000,								27P	24
-8.0000000,0.0,5H4.000,0,0;								27P	25
214,3,.1500000,.0500000,0.0,-7.4339069,-6.4524032,-7.0000978,								29P	26
-4.5000176,-7.7500000,-7.8750000,-7.2500000,-7.8750000,0,0;								29P	27
214,1,.1500000,.0500000,0.0,-6.5662886,-2.5476321,-7.0000978,								31P	28
-4.5000176,0,0;								31P	29
206,27,29,31,-7.0000978,-4.5000176,0,0;								33P	30
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-.5000000,								35P	31
-8.0000000,0.0,5H4.000,0,0;								35P	32
214,3,.1500000,.0500000,0.0,-1.5195628,-6.2206090,-.4999143,								37P	33
-4.5000505,-2.5000000,-7.8750000,-.6000000,-7.8750000,0,0;								37P	34
214,1,.1500000,.0500000,0.0,.5197343,-2.7794931,-.4999143,								39P	35
-4.5000505,0,0;								39P	36
206,35,37,39,-.4999143,-4.5000505,0,0;								41P	37
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,4.5000000,								43P	38
-1.5000000,0.0,5H4.000,0,0;								43P	39
214,3,.1500000,.0500000,0.0,6.5780690,-2.8154324,5.4999166,								45P	40
-4.4999166,7.5000000,-1.3750000,5.8499999,-1.3750000,0,0;								45P	41
214,1,.1500000,.0500000,0.0,4.4217641,-6.1844608,5.4999166,								47P	42
-4.4999166,0,0;								47P	43

206,43,45,47,5.4999166,-4.4999466,0,0;	49P	44
212,1,8,1.9250000,.2500000,1,1.5707963,0.0,0,0,5.5000000,	51P	45
2.0000000,0.0,8H4.000DIA,0,0;	51P	46
214,1,.1500000,.0500000,0.0,6.7115493,4.4887428,6.4839445,	53P	47
2.3500000,0,0;	53P	48
214,1,.1500000,.0500000,0.0,6.2882600,.5112029,6.4360556,	55P	49
1.9000000,0,0;	55P	50
206,51,53,55,6.4999046,2.4999729,0,0;	57P	51
S 1G 2D 58P 51	T	1

DDIM TEST CASE 2

									S	
1H,,1H;,,5HDDIM2,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG										1
810827.122719,,,,;									G	2
124	1	1	1	0	0	0	0 0 0 0	D		1
124	0	0	2	0				OD		2
212	3	1	1	0	0	1	0 0 1 1	D		3
212	0	0	2	0				OD		4
214	5	1	1	0	0	1	0 0 1 1	D		5
214	0	0	2	3				OD		6
214	7	1	1	0	0	1	0 0 1 1	D		7
214	0	0	2	3				OD		8
206	9	1	1	0	0	1	0 0 0 1	D		9
206	0	0	1	0				OD		10
212	10	1	1	0	0	1	0 0 1 1	D		11
212	0	0	2	0				OD		12
214	12	1	1	0	0	1	0 0 1 1	D		13
214	0	0	2	3				OD		14
214	14	1	1	0	0	1	0 0 1 1	D		15
214	0	0	2	3				OD		16
206	16	1	1	0	0	1	0 0 0 1	D		17
206	0	0	1	0				OD		18
212	17	1	1	0	0	1	0 0 1 1	D		19
212	0	0	2	0				OD		20
214	19	1	1	0	0	1	0 0 1 1	D		21
214	0	0	2	3				OD		22
214	21	1	1	0	0	1	0 0 1 1	D		23
214	0	0	2	3				OD		24
206	23	1	1	0	0	1	0 0 0 1	D		25
206	0	0	1	0				OD		26
212	24	1	1	0	0	1	0 0 1 1	D		27
212	0	0	2	0				OD		28
214	26	1	1	0	0	1	0 0 1 1	D		29
214	0	0	2	3				OD		30
214	28	1	1	0	0	1	0 0 1 1	D		31
214	0	0	2	3				OD		32
206	30	1	1	0	0	1	0 0 0 1	D		33
206	0	0	1	0				OD		34
212	31	1	1	0	0	1	0 0 1 1	D		35
212	0	0	2	0				OD		36
214	33	1	1	0	0	1	0 0 1 1	D		37
214	0	0	2	3				OD		38
214	35	1	1	0	0	1	0 0 1 1	D		39
214	0	0	2	3				OD		40
206	37	1	1	0	0	1	0 0 0 1	D		41
206	0	0	1	0				OD		42
212	38	1	1	0	0	1	0 0 1 1	D		43
212	0	0	2	0				OD		44
214	40	1	1	0	0	1	0 0 1 1	D		45
214	0	0	2	3				OD		46
214	42	1	1	0	0	1	0 0 1 1	D		47
214	0	0	2	3				OD		48
206	44	1	1	0	0	1	0 0 0 1	D		49

206	0	0	1	0					OD	50	
212	45	1	1	0	0	1	0	0	1	D	51
212	0	0	2	0						OD	52
214	47	1	1	0	0	1	0	0	1	D	53
214	0	0	2	3						OD	54
214	49	1	1	0	0	1	0	0	1	D	55
214	0	0	2	3						OD	56
206	51	1	1	0	0	1	0	0	0	D	57
206	0	0	1	0						OD	58
124,-.7774290,-.5141294,-.3623211,0.0,-.6281896,.6634107,										1P	1
.4065283,0.0,.0313596,.5436527,-.8387246,0.0,0,0;										1P	2
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-7.5000000,										3P	3
2.5000000,0.0,5H4.000,0,0;										3P	4
214,1,.1500000,.0500000,0.0,-8.1236267,.8454127,-7.0678113,										5P	5
2.4000002,0,0;										5P	6
214,1,.1500000,.0500000,0.0,-5.8762851,4.1544089,-6.7621890,										7P	7
2.8499999,0,0;										7P	8
206,3,5,7,-6.9999559,2.4999108,0,0;										9P	9
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,0.0,2.0000000,										11P	10
0.0,5H4.000,0,0;										11P	11
214,1,.1500000,.0500000,0.0,-2.3903754,3.1530671,-.0661823,										13P	12
2.3499999,0,0;										13P	13
214,1,.1500000,.0500000,0.0,1.3903035,1.8467474,1.2361828,										15P	14
1.9000000,0,0;										15P	15
206,11,13,15,-.5000359,2.4999073,0,0;										17P	16
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-12.5000000,										19P	17
-1.5000000,0.0,5H4.000,0,0;										19P	18
214,3,.1500000,.0500000,0.0,-13.3404798,-2.5064119,-13.4999123,										21P	19
-4.5000467,-13.2500000,-1.3750000,-12.7500000,-1.3750000,0,0;										21P	20
214,1,.1500000,.0500000,0.0,-13.6593447,-6.4936816,-13.4999123,										23P	21
-4.5000467,0,0;										23P	22
206,19,21,23,-13.4999123,-4.5000467,0,0;										25P	23
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-7.0000000,										27P	24
-8.0000000,0.0,5H4.000,0,0;										27P	25
214,3,.1500000,.0500000,0.0,-7.4339069,-6.4524032,-7.0000978,										29P	26
-4.5000176,-7.7500000,-7.8750000,-7.2500000,-7.8750000,0,0;										29P	27
214,1,.1500000,.0500000,0.0,-6.5662886,-2.5476321,-7.0000978,										31P	28
-4.5000176,0,0;										31P	29
206,27,29,31,-7.0000978,-4.5000176,0,0;										33P	30
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,-.5000000,										35P	31
-8.0000000,0.0,5H4.000,0,0;										35P	32
214,3,.1500000,.0500000,0.0,-1.5195628,-6.2206080,-.4999143,										37P	33
-4.5000505,-2.5000000,-7.8750000,-.6000000,-7.8750000,0,0;										37P	34
214,1,.1500000,.0500000,0.0,.5197343,-2.7794931,-.4999143,										39P	35
-4.5000505,0,0;										39P	36
206,35,37,39,-.4999143,-4.5000505,0,0;										41P	37
212,1,5,1.1500000,.2500000,1,1.5707963,0.0,0,0,4.5000000,										43P	38
-1.5000000,0.0,5H4.000,0,0;										43P	39
214,3,.1500000,.0500000,0.0,6.5780690,-2.8154324,5.4999166,										45P	40
-4.4999466,7.5000000,-1.3750000,5.8499999,-1.3750000,0,0;										45P	41
214,1,.1500000,.0500000,0.0,4.4217641,-6.1844608,5.4999166,										47P	42
-4.4999466,0,0;										47P	43

206,43,45,47,5.4999166,-4.4999466,0,0;	49P	44
212,1,8,1.9250000,.2500000,1,1.5707963,0.0,0,0,5.5000000,	51P	45
2.0000000,0.0,2H4.000DIA,0,0;	51P	46
214,1,.1500000,.0500000,0.0,6.7115493,4.4887428,6.4839445,	53P	47
2.3500000,0,0;	53P	48
214,1,.1500000,.0500000,0.0,6.2882600,.5112029,6.4360556,	55P	49
1.9000000,0,0;	55P	50
206,51,53,55,6.4999046,2.4999729,0,0;	57P	51
S 1G 2D 58P 51 T 1		

3.3.11 General Label

The general labels contain subentities which include leaders and general notes.

Case 1 (Figures 3.3.11-1 and 3.3.11-2) tests the following:

- leader from head of text
- leader from tail of text
- single leader labels
- multiple leader labels
- leaders with variable horizontal segments

Case 2

- This is identical to Case 1 except non-model space with rotation (45° , 99° , 1°) is used per section 3.0

Case 3 (Figures 3.3.11-3 and 3.3.11-4) tests the following:

- rotated labels with leader from head of text
- rotated labels with leader from tail of text
- rotated labels with multiple leaders
- rotated labels with variable horizontal segments

Case 4

- This is identical to Case 3 except non-model space with rotation (90° , 33° , 100°) is used per section 3.0

SINGLE LEADER

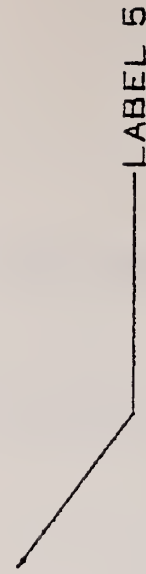


LEADER FROM HEAD

MULTIPLE LEADER



VARIABLE LEADER



LABEL 2



LEADER FROM TAIL

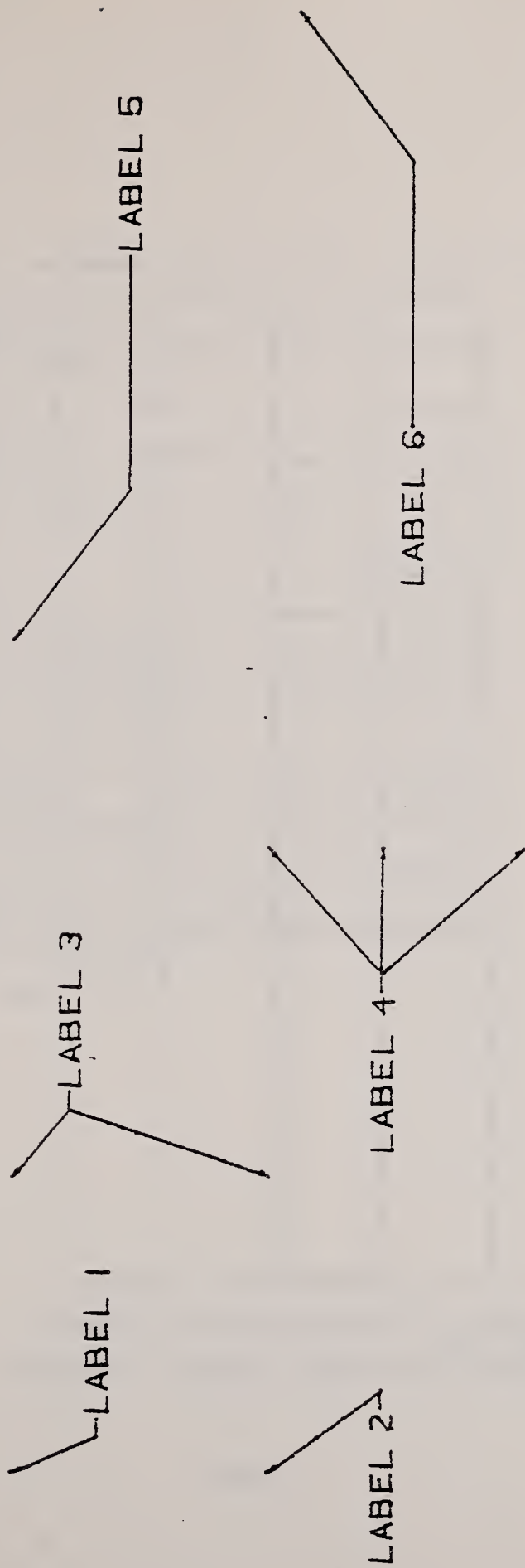
LABEL 4



LABEL 6



Figure 3.3.11-1 General Label Cases 1 and 2 (with annotation)
Case 1: Rotation ($0^{\circ}, 0^{\circ}, 0^{\circ}$)
Case 2: Rotation ($45^{\circ}, 99^{\circ}, 1^{\circ}$)



3.11-3

Figure 3.3.11-2 General Label Cases 1 and 2 (actual part)

LABEL CASE 1								S	1
1H,,1H;,,6HLABEL1,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G								G	1
H810827.122837,,,,;									2
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0				OD	2
212	3	1	1	0	0	1	0 0 1 1	D	3
212	0	0	2	0				OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3				OD	6
210	7	1	1	0	0	1	0 0 0 1	D	7
210	0	0	1	0				OD	8
212	8	1	1	0	0	1	0 0 1 1	D	9
212	0	0	2	0				OD	10
214	10	1	1	0	0	1	0 0 1 1	D	11
214	0	0	2	3				OD	12
210	12	1	1	0	0	1	0 0 0 1	D	13
210	0	0	1	0				OD	14
212	13	1	1	0	0	1	0 0 1 1	D	15
212	0	0	2	0				OD	16
214	15	1	1	0	0	1	0 0 1 1	D	17
214	0	0	2	3				OD	18
214	17	1	1	0	0	1	0 0 1 1	D	19
214	0	0	2	3				OD	20
210	19	1	1	0	0	1	0 0 0 1	D	21
210	0	0	1	0				OD	22
212	20	1	1	0	0	1	0 0 1 1	D	23
212	0	0	2	0				OD	24
214	22	1	1	0	0	1	0 0 1 1	D	25
214	0	0	2	3				OD	26
214	24	1	1	0	0	1	0 0 1 1	D	27
214	0	0	2	3				OD	28
214	26	1	1	0	0	1	0 0 1 1	D	29
214	0	0	2	3				OD	30
210	28	1	1	0	0	1	0 0 0 1	D	31
210	0	0	1	0				OD	32
212	29	1	1	0	0	1	0 0 1 1	D	33
212	0	0	2	0				OD	34
214	31	1	1	0	0	1	0 0 1 1	D	35
214	0	0	2	3				OD	36
210	33	1	1	0	0	1	0 0 0 1	D	37
210	0	0	1	0				OD	38
212	34	1	1	0	0	1	0 0 1 1	D	39
212	0	0	2	0				OD	40
214	36	1	1	0	0	1	0 0 1 1	D	41
214	0	0	2	3				OD	42
210	38	1	1	0	0	1	0 0 0 1	D	43
210	0	0	1	0				OD	44
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,								1P	1
1.0000000,0.0,0.0;								1P	2
212,1,7,2.4200002,.3500000,1,1.5707963,0.0,0.0,-10.5480003,								3P	3
-1.1750001,0.0,7HLABEL 2,0,0;								3P	4
214,2,-.1500000,.0500000,0.0,-9.0000000,1.0000000,-7.5999999,								5P	5

-1.0000000,-7.9000001,-1.0000000,0,0;	5P	6
210,3,1,5,0,0;	7P	7
212,1,7,2.2800002,.3500000,1,1.5707963,0.0,0,0,-8.0000000,	9P	8
3.3250000,0.0,7HLABEL 1,0,0;	9P	9
214,2,.1500000,.0500000,0.0,-9.0000000,5.5000000,-8.3999996,	11P	10
4.0000000,-8.1000004,4.0000000,0,0;	11P	11
210,9,1,11,0,0;	13P	12
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,-2.5000000,	15P	13
4.3249998,0.0,7HLABEL 3,0,0;	15P	14
214,2,.1500000,.0500000,0.0,-4.0000000,5.5000000,-2.9000001,	17P	15
4.5000000,-2.5999999,4.5000000,0,0;	17P	16
214,2,.1500000,.0500000,0.0,-4.0000000,1.0000000,-2.9000001,	19P	17
4.5000000,-2.5999999,4.5000000,0,0;	19P	18
210,15,2,17,19,0,0;	21P	19
212,1,7,2.4900002,.3500000,1,1.5707963,0.0,0,0,-3.5830004,	23P	20
-1.1750001,0.0,7HLABEL 4,0,0;	23P	21
214,2,.1500000,.0500000,0.0,1.5000000,1.0000000,-.6000000,	25P	22
-1.0000000,-.9000000,-1.0000000,0,0;	25P	23
214,2,.1500000,.0500000,0.0,1.5000000,-1.0000000,-.6000000,	27P	24
-1.0000000,-.9000000,-1.0000000,0,0;	27P	25
214,2,.1500000,.0500000,0.0,1.5000000,-3.5000000,-.6000000,	29P	26
-1.0000000,-.9000000,-1.0000000,0,0;	29P	27
210,23,3,25,27,29,0,0;	31P	28
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,11.5000000,	33P	29
3.3250000,0.0,7HLABEL 5,0,0;	33P	30
214,2,.1500000,.0500000,0.0,5.0000000,5.5000000,7.5000000,	35P	31
3.5000000,11.4000006,3.5000000,0,0;	35P	32
210,33,1,35,0,0;	37P	33
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,5.9169998,	39P	34
-1.6750001,0.0,7HLABEL 6,0,0;	39P	35
214,2,.1500000,.0500000,0.0,15.5000000,.5000000,13.0000000,	41P	36
-1.5000000,8.6000004,-1.5000000,0,0;	41P	37
210,39,1,41,0,0;	43P	38
S 1G 2D 44P 38	T	1

LABEL TEST CASE 2

										S	
1H,,1H;,,6HLABEL2,4HCIIN,6H2.1.3	,16,8,24,3,56,,1.0000000	,1,4HINCH,0,,13G									1
H810827.122851,,,,;										G	2
124	1	1	1	0	0	0	0	0	0	D	1
124	0	0	2	0						OD	2
212	3	1	1	0	0	1	0	0	1	D	3
212	0	0	2	0						OD	4
214	5	1	1	0	0	1	0	0	1	D	5
214	0	0	2	3						OD	6
210	7	1	1	0	0	1	0	0	0	D	7
210	0	0	1	0						OD	8
212	8	1	1	0	0	1	0	0	1	D	9
212	0	0	2	0						OD	10
214	10	1	1	0	0	1	0	0	1	D	11
214	0	0	2	3						OD	12
210	12	1	1	0	0	1	0	0	0	D	13
210	0	0	1	0						OD	14
212	13	1	1	0	0	1	0	0	1	D	15
212	0	0	2	0						OD	16
214	15	1	1	0	0	1	0	0	1	D	17
214	0	0	2	3						OD	18
214	17	1	1	0	0	1	0	0	1	D	19
214	0	0	2	3						OD	20
210	19	1	1	0	0	1	0	0	0	D	21
210	0	0	1	0						OD	22
212	20	1	1	0	0	1	0	0	1	D	23
212	0	0	2	0						OD	24
214	22	1	1	0	0	1	0	0	1	D	25
214	0	0	2	3						OD	26
214	24	1	1	0	0	1	0	0	1	D	27
214	0	0	2	3						OD	28
214	26	1	1	0	0	1	0	0	1	D	29
214	0	0	2	3						OD	30
210	28	1	1	0	0	1	0	0	0	D	31
210	0	0	1	0						OD	32
212	29	1	1	0	0	1	0	0	1	D	33
212	0	0	2	0						OD	34
214	31	1	1	0	0	1	0	0	1	D	35
214	0	0	2	3						OD	36
210	33	1	1	0	0	1	0	0	0	D	37
210	0	0	1	0						OD	38
212	34	1	1	0	0	1	0	0	1	D	39
212	0	0	2	0						OD	40
214	36	1	1	0	0	1	0	0	1	D	41
214	0	0	2	3						OD	42
210	38	1	1	0	0	1	0	0	0	D	43
210	0	0	1	0						OD	44
124,-.1564105,-.0027302,-.9876884,0.0,.6859540,.7191879,										1P	1
-.1106158,0.0,.7106355,-.6948103,-.1106158,0.0,0,0;										1P	2
212,1,7,2.4200002,.3500000,1,1.5707963,0.0,0,0,-10.5480003,										3P	3
-1.1750001,0.0,7HLABEL 2,0,0;										3P	4
214,2,.1500000,.0500000,0.0,-9.0000000,1.0000000,-7.5999999,										5P	5

-1.0000000,-7.9000001,-1.0000000,0,0;	5P	6
210,3,1,5,0,0;	7P	7
212,1,7,2.2800002,.3500000,1,1.5707963,0.0,0,0,-3.0000000,	9P	8
3.8250000,0.0,7HLABEL 1,0,0;	9P	9
214,2,.1500000,.0500000,0.0,-9.0000000,5.5000000,-8.3999996,	11P	10
4.0000000,-8.1000004,4.0000000,0,0;	11P	11
210,9,1,11,0,0;	13P	12
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,-2.5000000,	15P	13
4.3249998,0.0,7HLABEL 3,0,0;	15P	14
214,2,.1500000,.0500000,0.0,-4.0000000,5.5000000,-2.9000001,	17P	15
4.5000000,-2.5999999,4.5000000,0,0;	17P	16
214,2,.1500000,.0500000,0.0,-4.0000000,1.0000000,-2.9000001,	19P	17
4.5000000,-2.5999999,4.5000000,0,0;	19P	18
210,15,2,17,19,0,0;	21P	19
212,1,7,2.4900002,.3500000,1,1.5707963,0.0,0,0,-3.5830004,	23P	20
-1.1750001,0.0,7HLABEL 4,0,0;	23P	21
214,2,.1500000,.0500000,0.0,1.5000000,1.0000000,-.6000000,	25P	22
-1.0000000,-.9000000,-1.0000000,0,0;	25P	23
214,2,.1500000,.0500000,0.0,1.5000000,-1.0000000,-.6000000,	27P	24
-1.0000000,-.9000000,-1.0000000,0,0;	27P	25
214,2,.1500000,.0500000,0.0,1.5000000,-3.5000000,-.6000000,	29P	26
-1.0000000,-.9000000,-1.0000000,0,0;	29P	27
210,23,3,25,27,29,0,0;	31P	28
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,11.5000000,	33P	29
3.3250000,0.0,7HLABEL 5,0,0;	33P	30
214,2,.1500000,.0500000,0.0,5.0000000,5.5000000,7.5000000,	35P	31
3.5000000,11.4000006,3.5000000,0,0;	35P	32
210,33,1,35,0,0;	37P	33
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,5.9169998,	39P	34
-1.6750001,0.0,7HLABEL 6,0,0;	39P	35
214,2,.1500000,.0500000,0.0,15.5000000,.5000000,13.0000000,	41P	36
-1.5000000,9.6000004,-1.5000000,0,0;	41P	37
210,39,1,41,0,0;	43P	38
S 1G 2D 44P 38	T	1

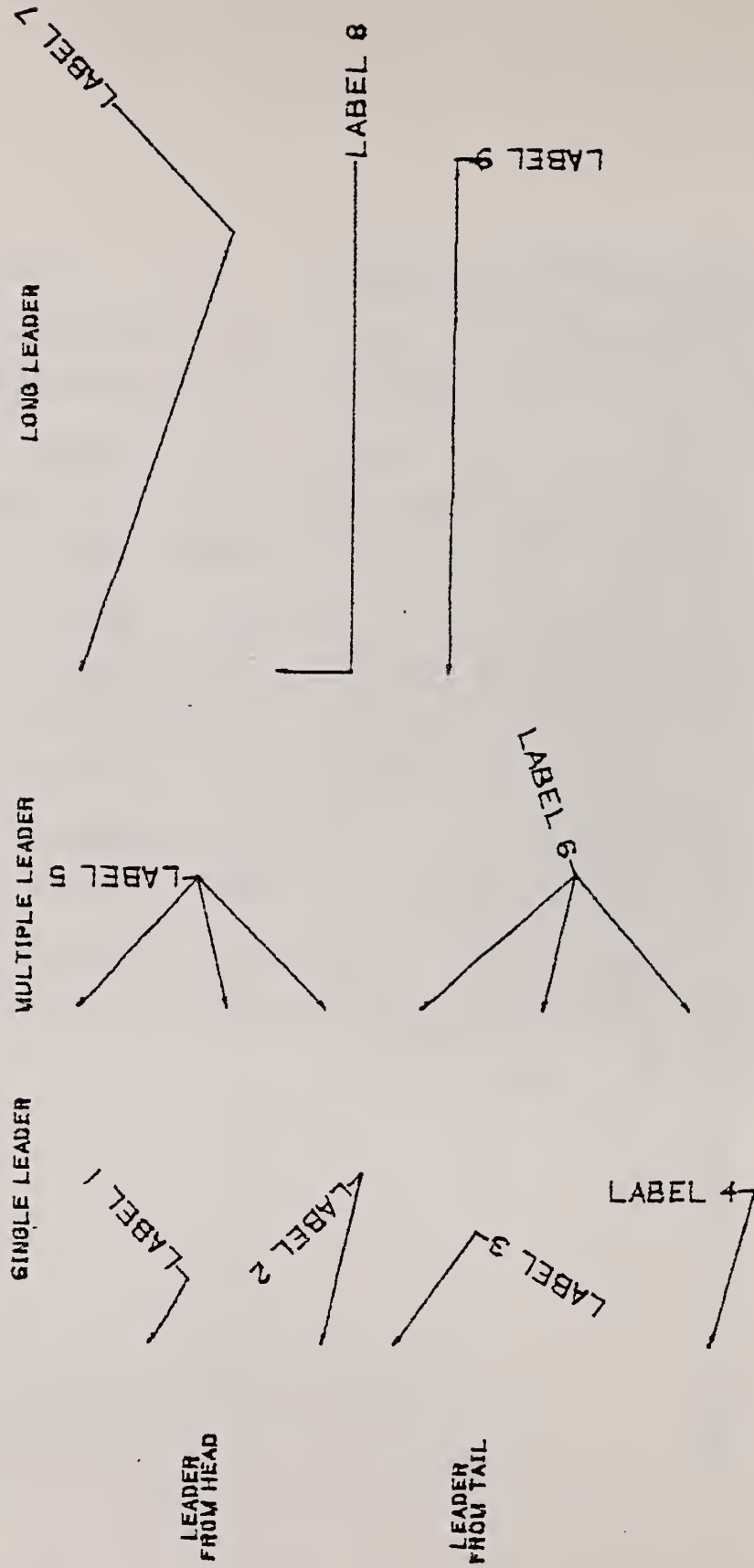


Figure 3.3.11-3 General Label Cases 3 and 4 (with annotation)

Case 3: Rotation ($0^\circ, 0^\circ, 0^\circ$)

Case 4: Rotation ($90^\circ, 33^\circ, 100^\circ$)

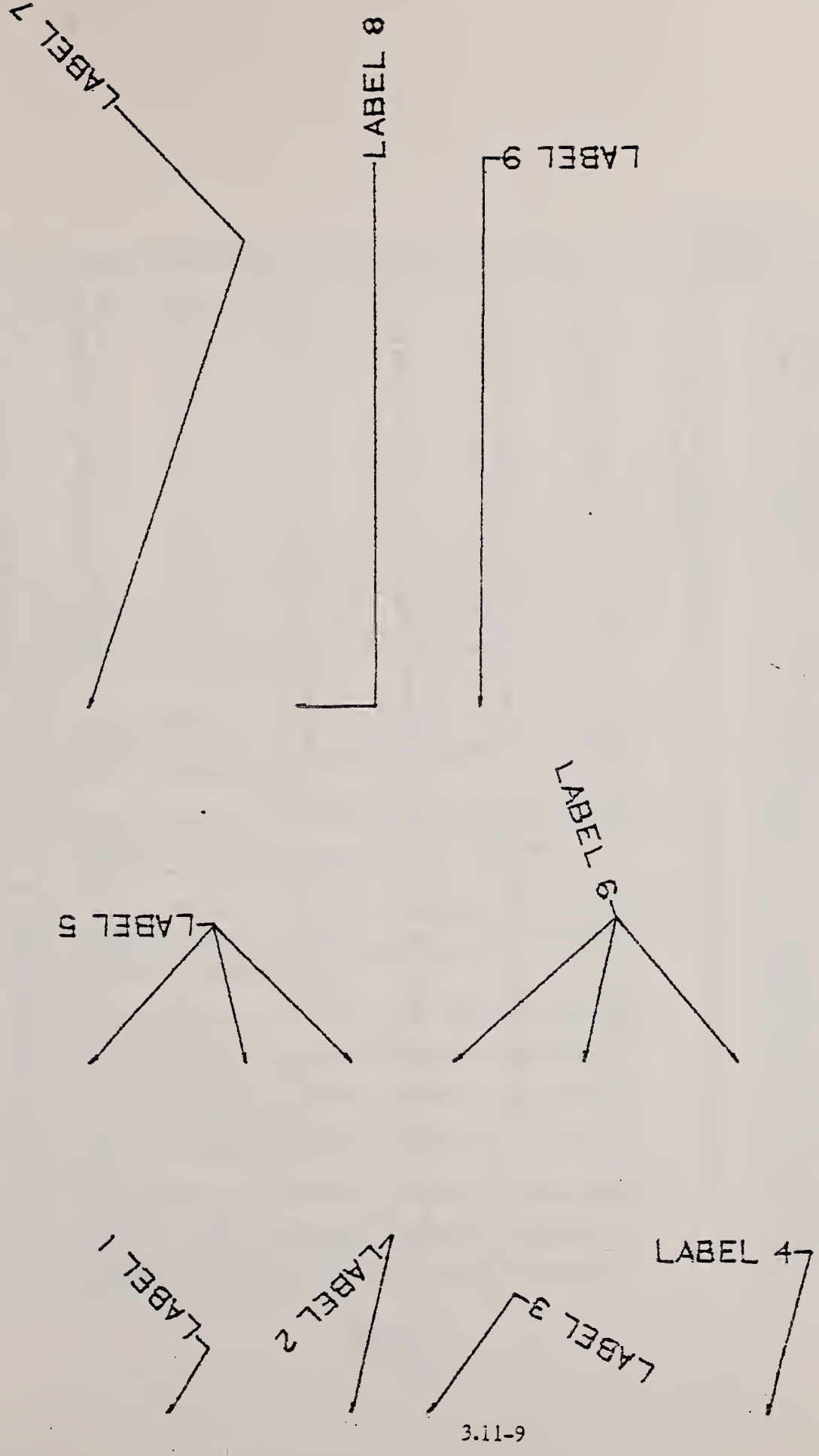


Figure 3.3.11-4 General Label Cases 3 and 4 (actual part)

LABEL TEST CASE 3								S	1
1H,,1H;,,6HLABEL3,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G								G	1
H810827.122906,,,,;									2
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0	0	0		OD	2
212	3	1	1	0	0	1	0 0 1 1	D	3
212	0	0	2	0	0	0		OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3	0	0		OD	6
210	7	1	1	0	0	1	0 0 0 1	D	7
210	0	0	1	0	0	0		OD	8
212	8	1	1	0	0	1	0 0 1 1	D	9
212	0	0	2	0	0	0		OD	10
214	10	1	1	0	0	1	0 0 1 1	D	11
214	0	0	2	3	0	0		OD	12
210	12	1	1	0	0	1	0 0 0 1	D	13
210	0	0	1	0	0	0		OD	14
212	13	1	1	0	0	1	0 0 1 1	D	15
212	0	0	2	0	0	0		OD	16
214	15	1	1	0	0	1	0 0 1 1	D	17
214	0	0	2	3	0	0		OD	18
210	17	1	1	0	0	1	0 0 0 1	D	19
210	0	0	1	0	0	0		OD	20
212	18	1	1	0	0	1	0 0 1 1	D	21
212	0	0	2	0	0	0		OD	22
214	20	1	1	0	0	1	0 0 1 1	D	23
214	0	0	2	3	0	0		OD	24
210	22	1	1	0	0	1	0 0 0 1	D	25
210	0	0	1	0	0	0		OD	26
212	23	1	1	0	0	1	0 0 1 1	D	27
212	0	0	2	0	0	0		OD	28
214	25	1	1	0	0	1	0 0 1 1	D	29
214	0	0	2	3	0	0		OD	30
214	27	1	1	0	0	1	0 0 1 1	D	31
214	0	0	2	3	0	0		OD	32
214	29	1	1	0	0	1	0 0 1 1	D	33
214	0	0	2	3	0	0		OD	34
210	31	1	1	0	0	1	0 0 0 1	D	35
210	0	0	1	0	0	0		OD	36
212	32	1	1	0	0	1	0 0 1 1	D	37
212	0	0	2	0	0	0		OD	38
214	34	1	1	0	0	1	0 0 1 1	D	39
214	0	0	2	3	0	0		OD	40
214	36	1	1	0	0	1	0 0 1 1	D	41
214	0	0	2	3	0	0		OD	42
214	38	1	1	0	0	1	0 0 1 1	D	43
214	0	0	2	3	0	0		OD	44
210	40	1	1	0	0	1	0 0 0 1	D	45
210	0	0	1	0	0	0		OD	46
212	41	1	1	0	0	1	0 0 1 1	D	47
212	0	0	2	0	0	0		OD	48
214	43	1	1	0	0	1	0 0 1 1	D	49

214	0	0	2	3					0D	50
210	45	1	1	0	0	1	0 0 0 1		D	51
210	0	0	1	0					0D	52
212	46	1	1	0	0	1	0 0 1 1		D	53
212	0	0	2	0					0D	54
214	48	1	1	0	0	1	0 0 1 1		D	55
214	0	0	2	3					0D	56
210	50	1	1	0	0	1	0 0 0 1		D	57
210	0	0	1	0					0D	58
212	51	1	1	0	0	1	0 0 1 1		D	59
212	0	0	2	0					0D	60
214	53	1	1	0	0	1	0 0 1 1		D	61
214	0	0	2	3					0D	62
210	55	1	1	0	0	1	0 0 0 1		D	63
210	0	0	1	0					0D	64
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,									1P	1
1.0000000,0.0,0,0;									1P	2
212,1,7,2.2800002,.3500000,1,1.5707963,.7853981,0,0,-3.3762560,									3P	3
4.3762560,0.0,7HLABEL 1,0,0;									3P	4
214,2,.1500000,.0500000,0.0,-10.0000000,5.0000000,-3.7828426,									5P	5
4.4292893,-8.5707111,4.4292893,0,0;									5P	6
210,3,1,5,0,0;									7P	7
212,1,7,2.4200002,.3500000,1,1.5707963,2.3387411,0,0,-6.8741155,									9P	8
1.1215653,0.0,7HLABEL 2,0,0;									9P	9
214,2,.1500000,.0500000,0.0,-10.0000000,1.5000000,-6.7221365,									11P	10
.9280660,-6.9305344,.9280660,0,0;									11P	11
210,9,1,11,0,0;									13P	12
212,1,7,2.4550002,.3500000,1,1.5707963,1.0471975,0,0,-9.1399450,									15P	13
-4.3244443,0.0,7HLABEL 3,0,0;									15P	14
214,2,.1500000,.0500000,0.0,-10.0000000,0.0,-7.7999997,									17P	15
-1.9133974,-7.9499998,-1.9133974,0,0;									17P	16
210,15,1,17,0,0;									19P	17
212,1,7,2.4900002,.3500000,1,1.5707963,4.7123887,0,0,-7.1750002,									21P	18
-4.4169998,0.0,7HLABEL 4,0,0;									21P	19
214,2,.1500000,.0500000,0.0,-10.0000000,-6.5000000,-7.0000000,									23P	20
-7.0999999,-7.0000000,-7.0999999,0,0;									23P	21
210,21,1,23,0,0;									25P	22
212,1,7,2.4550002,.3500000,1,1.5707963,1.5707962,0,0,-.8249998,									27P	23
4.5000000,0.0,7HLABEL 5,0,0;									27P	24
214,2,.1500000,.0500000,0.0,-3.5000000,6.5000000,-1.0000000,									29P	25
4.4000001,-1.0000000,4.4000001,0,0;									29P	26
214,2,.1500000,.0500000,0.0,-3.5000000,3.5000000,-1.0000000,									31P	27
4.4000001,-1.0000000,4.4000001,0,0;									31P	28
214,2,.1500000,.0500000,0.0,-3.5000000,1.5000000,-1.0000000,									33P	29
4.4000001,-1.0000000,4.4000001,0,0;									33P	30
210,27,3,29,31,33,0,0;									35P	31
212,1,7,2.4550002,.3500000,1,1.5707963,3.4906584,0,0,1.8673725,									37P	32
-2.4521160,0.0,7HLABEL 6,0,0;									37P	33
214,2,.1500000,.0500000,0.0,-3.5000000,-.5000000,-.8758771,									39P	34
-3.5342021,-.5939693,-3.5342021,0,0;									39P	35
214,2,.1500000,.0500000,0.0,-3.5000000,-3.0000000,-.8758771,									41P	36
-3.5342021,-.5939693,-3.5342021,0,0;									41P	37

214,2,.1500000,.0500000,0.0,-3.5000000,-6.0000000,-.8758771,	43P	38
-3.5342021,-.5939693,-3.5342021,0,0;	43P	39
210,37,3,39,41,43,0,0;	45P	40
212,1,7,2.4550002,.3500000,1,1.5707963,.7853981,0,0,14.1237440,	47P	41
5.8762560,0.0,7HLABEL 7,0,0;	47P	42
214,2,.1500000,.0500000,0.0,3.0000000,6.5000000,11.5000000,	49P	43
5.9292893,13.9292889,5.9292893,0,0;	49P	44
210,47,1,49,0,0;	51P	45
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,13.0000000,	53P	46
.9250000,0.0,7HLABEL 8,0,0;	53P	47
214,2,.1500000,.0500000,0.0,3.0000000,2.5000000,3.0000000,	55P	48
1.0000000,12.8999996,1.0000000,0,0;	55P	49
210,53,1,55,0,0;	57P	50
212,1,7,2.4550002,.3500000,1,1.5707963,1.5707962,0,0,13.1750002,	59P	51
-4.0830007,0.0,7HLABEL 9,0,0;	59P	52
214,2,.1500000,.0500000,0.0,3.0000000,-1.0000000,13.0000000,	61P	53
-1.4000000,13.0000000,-1.4000000,0,0;	61P	54
210,59,1,61,0,0;	63P	55
S 1G 2D 64P 55 T 1		

LABEL TEST CASE 4

										S		
1H,,1H;,,6HLABEL4,4HCIIN,6H2.1.3										13G	1	
H810827.122920,,,,;										G	2	
124	1	1	1	0	0	0	0	0	0	0	D	1
124	0	0	2	0	0					0D		2
212	3	1	1	0	0	1	0	0	1	1	D	3
212	0	0	2	0	0					0D		4
214	5	1	1	0	0	1	0	0	1	1	D	5
214	0	0	2	3						0D		6
210	7	1	1	0	0	1	0	0	0	1	D	7
210	0	0	1	0	0					0D		8
212	8	1	1	0	0	1	0	0	1	1	D	9
212	0	0	2	0	0					0D		10
214	10	1	1	0	0	1	0	0	1	1	D	11
214	0	0	2	3						0D		12
210	12	1	1	0	0	1	0	0	0	1	D	13
210	0	0	1	0	0					0D		14
212	13	1	1	0	0	1	0	0	1	1	D	15
212	0	0	2	0	0					0D		16
214	15	1	1	0	0	1	0	0	1	1	D	17
214	0	0	2	3						0D		18
210	17	1	1	0	0	1	0	0	0	1	D	19
210	0	0	1	0	0					0D		20
212	18	1	1	0	0	1	0	0	1	1	D	21
212	0	0	2	0	0					0D		22
214	20	1	1	0	0	1	0	0	1	1	D	23
214	0	0	2	3						0D		24
210	22	1	1	0	0	1	0	0	0	1	D	25
210	0	0	1	0	0					0D		26
212	23	1	1	0	0	1	0	0	1	1	D	27
212	0	0	2	0	0					0D		28
214	25	1	1	0	0	1	0	0	1	1	D	29
214	0	0	2	3						0D		30
214	27	1	1	0	0	1	0	0	1	1	D	31
214	0	0	2	3						0D		32
214	29	1	1	0	0	1	0	0	1	1	D	33
214	0	0	2	3						0D		34
210	31	1	1	0	0	1	0	0	0	1	D	35
210	0	0	1	0	0					0D		36
212	32	1	1	0	0	1	0	0	1	1	D	37
212	0	0	2	0	0					0D		38
214	34	1	1	0	0	1	0	0	1	1	D	39
214	0	0	2	3						0D		40
214	36	1	1	0	0	1	0	0	1	1	D	41
214	0	0	2	3						0D		42
214	38	1	1	0	0	1	0	0	1	1	D	43
214	0	0	2	3						0D		44
210	40	1	1	0	0	1	0	0	0	1	D	45
210	0	0	1	0	0					0D		46
212	41	1	1	0	0	1	0	0	1	1	D	47
212	0	0	2	0	0					0D		48
214	43	1	1	0	0	1	0	0	1	1	D	49

214	0	0	2	3					0D	50		
210	45	1	1	0	0	1	0	0	0	1	D	51
210	0	0	1	0							0D	52
212	46	1	1	0	0	1	0	0	1	1	D	53
212	0	0	2	0							0D	54
214	48	1	1	0	0	1	0	0	1	1	D	55
214	0	0	2	3							0D	56
210	50	1	1	0	0	1	0	0	0	1	D	57
210	0	0	1	0							0D	58
212	51	1	1	0	0	1	0	0	1	1	D	59
212	0	0	2	0							0D	60
214	53	1	1	0	0	1	0	0	1	1	D	61
214	0	0	2	3							0D	62
210	55	1	1	0	0	1	0	0	0	1	D	63
210	0	0	1	0							0D	64
124,-.1456336,.8259293,-.5446391,0.0,-.0945756,.5363647,											1P	1
.8386707,0.0,.9848077,.1736481,0.0,0.0,0.0;											1P	2
212,1,7,2.2800002,.3500000,1,1.5707963,.7853981,0,0,-8.3762560,											3P	3
4.3762560,0,0,7HLABEL 1,0,0;											3P	4
214,2,.1500000,.0500000,0.0,-10.0000000,5.0000000,-8.7828426,											5P	5
4.4292893,-8.5707111,4.4292893,0,0;											5P	6
210,3,1,5,0,0;											7P	7
212,1,7,2.4200002,.3500000,1,1.5707963,2.3387411,0,0,-6.8741155,											9P	8
1.1215653,0.0,7HLABEL 2,0,0;											9P	9
214,2,.1500000,.0500000,0.0,-10.0000000,1.5000000,-6.7221365,											11P	10
.9280660,-6.9305344,.9280660,0,0;											11P	11
210,9,1,11,0,0;											13P	12
212,1,7,2.4550002,.3500000,1,1.5707963,1.0471975,0,0,-9.1399450,											15P	13
-4.3244443,0.0,7HLABEL 3,0,0;											15P	14
214,2,.1500000,.0500000,0.0,-10.0000000,0.0,-7.7999997,											17P	15
-1.9133974,-7.9499998,-1.9133974,0,0;											17P	16
210,15,1,17,0,0;											19P	17
212,1,7,2.4900002,.3500000,1,1.5707963,4.7123887,0,0,-7.1750002,											21P	18
-4.4169998,0.0,7HLABEL 4,0,0;											21P	19
214,2,.1500000,.0500000,0.0,-10.0000000,-6.5000000,-7.0000000,											23P	20
-7.0999999,-7.0000000,-7.0999999,0,0;											23P	21
210,21,1,23,0,0;											25P	22
212,1,7,2.4550002,.3500000,1,1.5707963,1.5707962,0,0,-.8249998,											27P	23
4.5000000,0.0,7HLABEL 5,0,0;											27P	24
214,2,.1500000,.0500000,0.0,-3.5000000,6.5000000,-1.0000000,											29P	25
4.4000001,-1.0000000,4.4000001,0,0;											29P	26
214,2,.1500000,.0500000,0.0,-3.5000000,3.5000000,-1.0000000,											31P	27
4.4000001,-1.0000000,4.4000001,0,0;											31P	28
214,2,.1500000,.0500000,0.0,-3.5000000,1.5000000,-1.0000000,											33P	29
4.4000001,-1.0000000,4.4000001,0,0;											33P	30
210,27,3,29,31,33,0,0;											35P	31
212,1,7,2.4550002,.3500000,1,1.5707963,3.4906584,0,0,1.8673725,											37P	32
-2.4521160,0.0,7HLABEL 6,0,0;											37P	33
214,2,.1500000,.0500000,0.0,-3.5000000,-.5000000,-.8758771,											39P	34
-3.5342021,-.5939693,-3.5342021,0,0;											39P	35
214,2,.1500000,.0500000,0.0,-3.5000000,-3.0000000,-.8758771,											41P	36
-3.5342021,-.5939693,-3.5342021,0,0;											41P	37

214,2,.1500000,.0500000,0.0,-3.5000000,-6.0000000,-.8758771,	43P	38
-3.5342021,-.5939693,-3.5342021,0,0;	43P	39
210,37,3,39,41,43,0,0;	45P	40
212,1,7,2.4550002,.3500000,1,1.5707963,.7853981,0,0,14.1237440,	47P	41
5.8762560,0.0,7HLABEL 7,0,0;	47P	42
214,2,.1500000,.0500000,0.0,3.0000000,6.5000000,11.5000000,	49P	43
5.9292893,13.9292889,5.9292893,0,0;	49P	44
210,47,1,49,0,0;	51P	45
212,1,7,2.4550002,.3500000,1,1.5707963,0.0,0,0,13.0000000,	53P	46
.8250000,0.0,7HLABEL 8,0,0;	53P	47
214,2,.1500000,.0500000,0.0,3.0000000,2.5000000,3.0000000,	55P	48
1.0000000,12.8999996,1.0000000,0,0;	55P	49
210,53,1,55,0,0;	57P	50
212,1,7,2.4550002,.3500000,1,1.5707963,1.5707962,0,0,13.1750002,	59P	51
-4.0830007,0.0,7HLABEL 9,0,0;	59P	52
214,2,.1500000,.0500000,0.0,3.0000000,-1.0000000,13.0000000,	61P	53
-1.4000000,13.0000000,-1.4000000,0,0;	61P	54
210,59,1,61,0,0;	63P	55
S	T	I
IG		
2D		
64P		
55		



3.3.12 General Note

The following conventions were followed:

- CV originated text only
- all text has a font characteristic of 1
- slant angle is 0°
- non-mirror condition

Case 1 (Figure 3.3.12-1) tests the following:

- Full alphabetic, numeric, and special character set
- Multi-line text notes
- Text at positive and negative rotation angles

Case 2

- This is identical to Case 1 except non-model space with rotation (30° , 45° , 77°) is used per section 3.0

Case 3 (Figures 3.3.12-2 through 3.3.12-5) tests the following:

- large text height (100 in)
- text at positive and negative rotation angles
- long text strings (> 400 characters)
- small text height (.001 in)

Case 4

- This is identical to Case 3 except non-model space with rotation (45° , 45° , 45°) is used per section 3.0

ABCDEFGHIJKLMN OPQRSTUVWXYZ

1234567890

!@#\$%^&()*+,-./

LINE 1
LINE 2
LINE 3
LINE 4

TEXT AT AN ANGLE

MORE TEXT AT AN ANGLE

Figure 3.3.12-1 General Note Cases 1 and 2 (actual part)

Case 1: Rotation (0°, 0°, 0°)

Case 2: Rotation (30°, 45°, 77°)


```

GENERAL NOTE CASE 2
1H,,1H;,,,6HGNOTE2,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810827.122750,,,,;
    124      1      1      1      0      0      0      0 0 0 0 0  D      1
    124      0      0      2      0      0      0      0 0 0 0 0  OD     2
    212      3      1      1      0      0      1      0 0 0 1  D      3
    212      0      0      2      0      0      0      0 0 0 0  OD     4
    212      5      1      1      0      0      1      0 0 0 1  D      5
    212      0      0      2      0      0      0      0 0 0 0  OD     6
    212      7      1      1      0      0      1      0 0 0 1  D      7
    212      0      0      2      0      0      0      0 0 0 0  OD     8
    212      9      1      1      0      0      1      0 0 0 1  D      9
    212      0      0      6      0      0      0      0 0 0 0  OD    10
    212     15      1      1      0      0      1      0 0 0 1  D    11
    212      0      0      2      0      0      0      0 0 0 0  OD    12
    212     17      1      1      0      0      1      0 0 0 1  D    13
    212      0      0      2      0      0      0      0 0 0 0  OD    14
124,.1590645,.6889837,-.7071068,0.0,-.7642970,.5393053,.3535534,
0.0,.6249390,.4842018,.6123725,0.0,0,0;
212,1,26,29.4000000,1.0000000,1,1.5707963,0.0,0,0,-9.8846159,
2.0256412,0.0,26HABCDEFGHIJKLMNCPQRSTUVWXYZ,0,0;
212,1,10,10.0000000,1.0000000,1,1.5707963,0.0,0,0,-9.5904703,
-1.9306393,0.0,10H1234567890,0,0;
212,1,16,13.1000000,1.0000000,1,1.5707963,0.0,0,0,-9.2979488,
-5.2946324,0.0,16H!"#$%&()*+,-./,0,0;
212,4,6,5.2000000,1.0000000,1,1.5707963,0.0,0,0,-8.8445415,
-11.1158066,0.0,6HLINE 1,6,5.6000000,1.0000000,1,1.5707963,0.0,
0,0,-8.8445415,-12.6158066,0.0,6HLINE 2,6,5.7000000,1.0000000,1,
1.5707963,0.0,0,0,-8.8445415,-14.1158066,0.0,6HLINE 3,6,
5.8000000,1.0000000,1,1.5707963,0.0,0,0,-8.8445415,-15.6158066,
0.0,6HLINE 4,0,0;
212,1,16,16.8000000,1.0000000,1,1.5707963,.5235988,0,0,
4.6699367,-10.6477723,0.0,16HTEXT AT AN ANGLE,0,0;
212,1,21,22.4000000,1.0000000,1,1.5707963,-.7853981,0,0,
4.4359198,-14.6260605,0.0,21HMORE TEXT AT AN ANGLE,0,0;
S      1G      2D      14P      18      T      1

```

VERY LARGE TEXT HEIGHT

+

Figure 3.3.12-2 General Note Cases 3 and 4 (actual part)

Case 3: Rotation ($0^{\circ}, 0^{\circ}, 0^{\circ}$)

Case 4: Rotation ($45^{\circ}, 45^{\circ}, 45^{\circ}$)

ROTATED 0 DEGREES
 ROTATED 30 DEGREES
 ROTATED 45 DEGREES
 ROTATED 90 DEGREES
 ROTATED 135 DEGREES
 ROTATED 180 DEGREES
 ROTATED 225 DEGREES
 ROTATED 270 DEGREES
 ROTATED 315 DEGREES
 ROTATED -45 DEGREES
 ROTATED -90 DEGREES
 ROTATED -180 DEGREES
 ROTATED -270 DEGREES

Figure 3.3.12-3 General Note Cases 3 and 4 (rotated text magnified)

THIS IS A VERY LONG CHARACTER STRINGGGGG

Note: Not all the "G's" in this note
are shown in this figure



TEXT WITH HEIGHT
.001 INSIDE BOX

Figure 3.3.12-4 General Note Cases 3 and 4 (long text magnified)

VERY SMALL TEXT HEIGHT

Figure 3.3.12-5 General Note Cases 3 and 4 (small text magnified)


```

GENERAL NOTE CASE 3
1H,,1H;,,6HGN0TE3,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810827.122803,,,,;
124 1 1 1 0 0 0 0 0 0 0 D 1
124 0 0 2 0 0 0 0 0 0 0 OD 2
212 3 1 1 0 0 1 0 0 0 1 D 3
212 0 0 2 0 0 0 0 0 0 0 OD 4
212 5 1 1 0 0 1 0 0 0 1 D 5
212 0 0 2 0 0 0 0 0 0 0 OD 6
212 7 1 1 0 0 1 0 0 0 1 D 7
212 0 0 2 0 0 0 0 0 0 0 OD 8
212 9 1 1 0 0 1 0 0 0 1 D 9
212 0 0 2 0 0 0 0 0 0 0 OD 10
212 11 1 1 0 0 1 0 0 0 1 D 11
212 0 0 2 0 0 0 0 0 0 0 OD 12
212 13 1 1 0 0 1 0 0 0 1 D 13
212 0 0 2 0 0 0 0 0 0 0 OD 14
212 15 1 1 0 0 1 0 0 0 1 D 15
212 0 0 2 0 0 0 0 0 0 0 OD 16
212 17 1 1 0 0 1 0 0 0 1 D 17
212 0 0 2 0 0 0 0 0 0 0 OD 18
212 19 1 1 0 0 1 0 0 0 1 D 19
212 0 0 2 0 0 0 0 0 0 0 OD 20
212 21 1 1 0 0 1 0 0 0 1 D 21
212 0 0 2 0 0 0 0 0 0 0 OD 22
212 23 1 1 0 0 1 0 0 0 1 D 23
212 0 0 2 0 0 0 0 0 0 0 OD 24
212 25 1 1 0 0 1 0 0 0 1 D 25
212 0 0 2 0 0 0 0 0 0 0 OD 26
212 27 1 1 0 0 1 0 0 0 1 D 27
212 0 0 2 0 0 0 0 0 0 0 OD 28
212 29 1 1 0 0 1 0 0 0 1 D 29
212 0 0 2 0 0 0 0 0 0 0 OD 30
212 31 1 1 0 0 1 0 0 0 1 D 31
212 0 0 2 0 0 0 0 0 0 0 OD 32
212 33 1 1 0 0 1 0 0 0 1 D 33
212 0 0 9 0 0 0 0 0 0 0 OD 34
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,
1.0000000,0.0,0,0,0; 1P 1
212,1,22,2340.0000000,100.0000000,1,1.5707963,0.0,0,0, 3P 2
-10.7564106,2.0256412,0.0,22HVERY LARGE TEXT HEIGHT,0,0; 3P 3
212,1,22,.0236000,.0010000,1,1.5707963,0.0,0,0,14.1943779, 5P 4
-50.5557480,0.0,22HVERY SMALL TEXT HEIGHT,0,0; 5P 5
212,1,17,18.4000000,1.0000000,1,1.5707963,0.0,0,0,19.0201511, 7P 6
-90.9595032,0.0,17HROTATED 0 DEGREES,0,0; 7P 7
212,1,18,19.5000000,1.0000000,1,1.5707963,.5235988,0,0, 9P 8
19.0201511,-90.9595032,0.0,18HROTATED 30 DEGREES,0,0; 9P 9
212,1,18,19.5000000,1.0000000,1,1.5707963,.7853981,0,0, 11P 10
19.0201511,-90.9595032,0.0,18HROTATED 45 DEGREES,0,0; 11P 11
212,1,18,19.5000000,1.0000000,1,1.5707963,1.5707963,0,0, 13P 12
19.0201511,-90.9595032,0.0,18HROTATED 90 DEGREES,0,0; 13P 13
212,1,19,20.2000000,1.0000000,1,1.5707963,2.3561945,0,0, 15P 14

```


GENERAL NOTE CASE 4

1H,,1H;,,,6HGNOTE4,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810827.122824,,,,;

										S		
124	1	1	1	0	0	0	0	0	0	G	1	
124	0	0	2	0						D	2	
212	3	1	1	0	0	1	0	0	0	1	D	3
212	0	0	2	0						0D	4	
212	5	1	1	0	0	1	0	0	0	1	D	5
212	0	0	2	0						0D	6	
212	7	1	1	0	0	1	0	0	0	1	D	7
212	0	0	2	0						0D	8	
212	9	1	1	0	0	1	0	0	0	1	D	9
212	0	0	2	0						0D	10	
212	11	1	1	0	0	1	0	0	0	1	D	11
212	0	0	2	0						0D	12	
212	13	1	1	0	0	1	0	0	0	1	D	13
212	0	0	2	0						0D	14	
212	15	1	1	0	0	1	0	0	0	1	D	15
212	0	0	2	0						0D	16	
212	17	1	1	0	0	1	0	0	0	1	D	17
212	0	0	2	0						0D	18	
212	19	1	1	0	0	1	0	0	0	1	D	19
212	0	0	2	0						0D	20	
212	21	1	1	0	0	1	0	0	0	1	D	21
212	0	0	2	0						0D	22	
212	23	1	1	0	0	1	0	0	0	1	D	23
212	0	0	2	0						0D	24	
212	25	1	1	0	0	1	0	0	0	1	D	25
212	0	0	2	0						0D	26	
212	27	1	1	0	0	1	0	0	0	1	D	27
212	0	0	2	0						0D	28	
212	29	1	1	0	0	1	0	0	0	1	D	29
212	0	0	2	0						0D	30	
212	31	1	1	0	0	1	0	0	0	1	D	31
212	0	0	2	0						0D	32	
212	33	1	1	0	0	1	0	0	0	1	D	33
212	0	0	9	0						0D	34	
124	.5000001	.5000000	-.7071068	0.0	-.1464466	.8535534	.5000000			1P	1	
0.0	.8535534	-.1464466	.5000001	0.0	0.0	0.0				1P	2	
212	1,22,2340.0000000	100.0000000	1,1.5707963	0.0	0.0	0.0				3P	3	
-10.7564106	2.0256412	0.0	22HVERY LARGE TEXT HEIGHT	0,0;						3P	4	
212	1,22,.0236000	.0010000	1,1.5707963	0.0	0.0	0.0	14.1943779			5P	5	
-50.5557480	0.0	22HVERY SMALL TEXT HEIGHT	0,0;							5P	6	
212	1,17,18.4000000	1.0000000	1,1.5707963	0.0	0.0	0.0	19.0201511			7P	7	
-90.9595032	0.0	17HROTATED 0 DEGREES	0,0;							7P	8	
212	1,13,19.5000000	1.0000000	1,1.5707963	.5235988	0.0	0.0				9P	9	
19.0201511	-90.9595032	0.0	18HROTATED 30 DEGREES	0,0;						9P	10	
212	1,18,19.5000000	1.0000000	1,1.5707963	.7853981	0.0	0.0				11P	11	
19.0201511	-90.9595032	0.0	18HROTATED 45 DEGREES	0,0;						11P	12	
212	1,18,19.5000000	1.0000000	1,1.5707963	1.5707963	0.0	0.0				13P	13	
19.0201511	-90.9595032	0.0	18HROTATED 90 DEGREES	0,0;						13P	14	
212	1,19,20.2000000	1.0000000	1,1.5707963	2.3561945	0.0	0.0				15P	15	

3.3.13 Linear Dimension

The linear dimensions contain subentities which include leaders, witness lines and general notes.

The following conventions were followed:

- general note sub-entities to be single text string with no box rotation

Case 1 (Figures 3.3.13-1 through 3.3.13-4) tests the following:

- text in, arrows in configuration
- text in, arrows out configuration
- text out, arrows out configuration
- text out, arrows in configuration
- no witness lines suppressed
- first witness line suppressed
- second witness line suppressed
- both witness lines suppressed
- vertical and horizontal orientations

Case 2

- This is identical to Case 1 except non-model space with rotation $(-40.80^{\circ}, -7.24^{\circ}, -8.31^{\circ})$ is used per Section 3.0

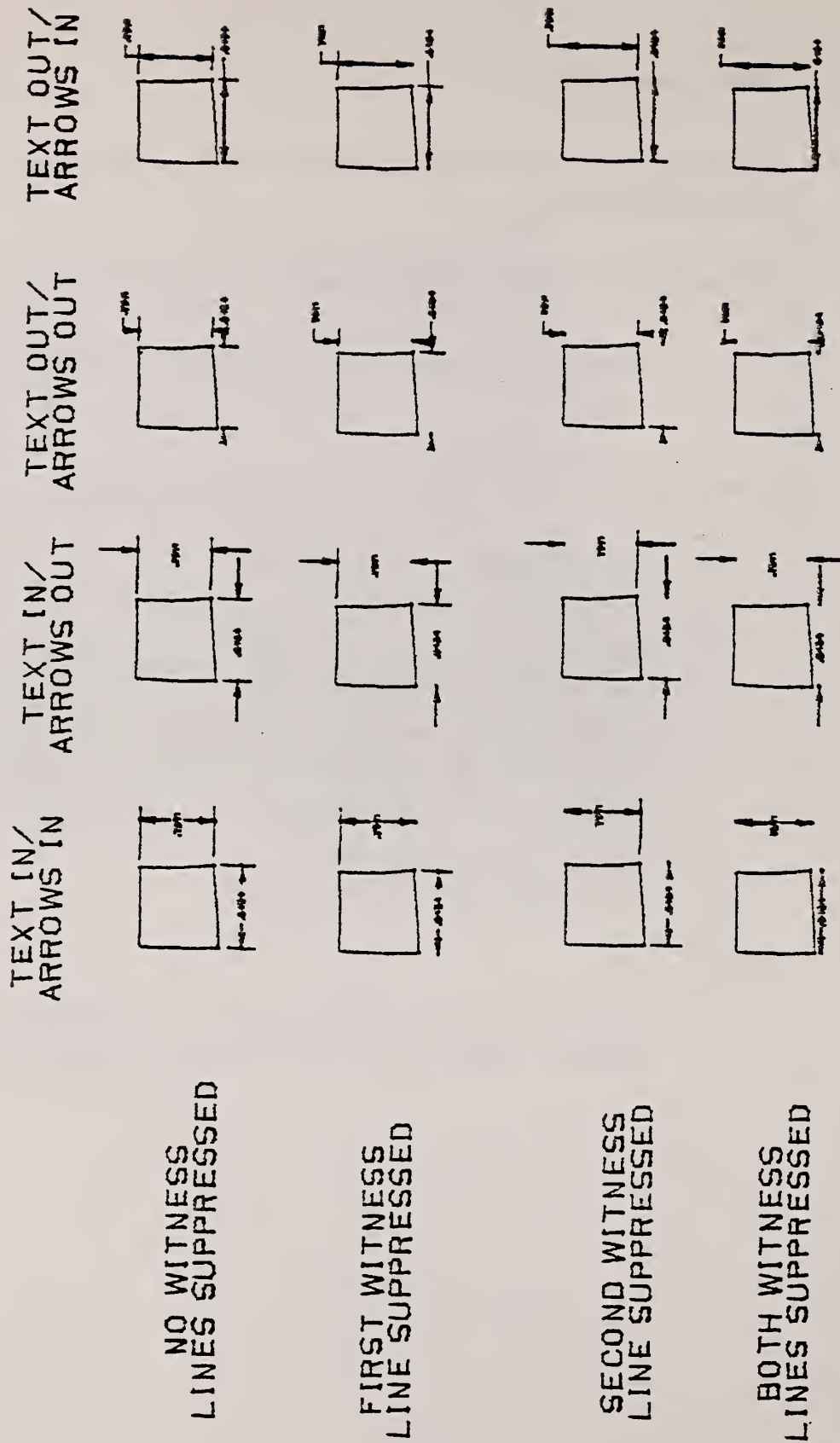


Figure 3.3.13-1 Linear Dimension Cases 1 and 2 (with annotation)
 Case 1: Rotation (0°, 0°, 0°)
 Case 2: Rotation (-40.80°, -7.24°, -8.31°)

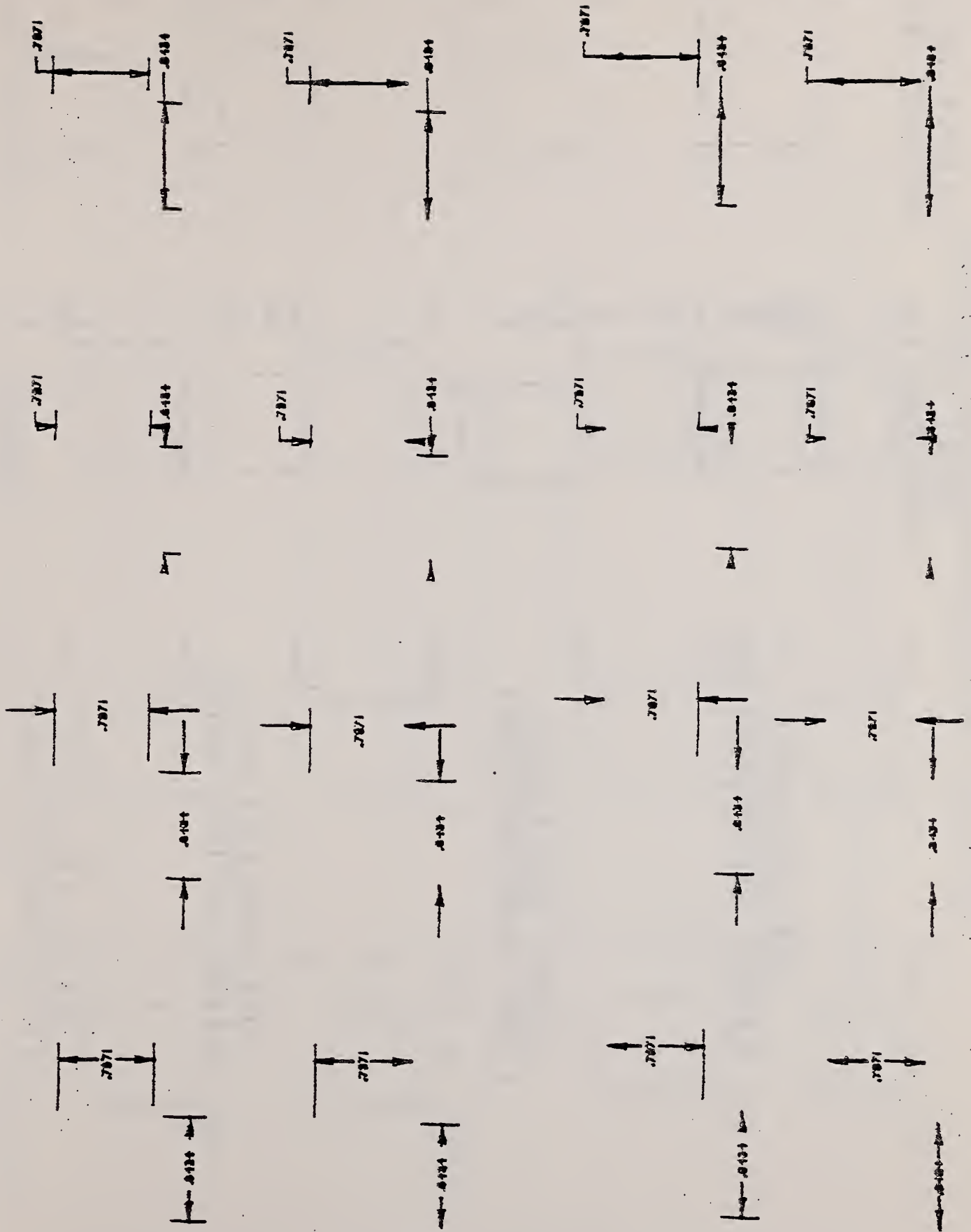
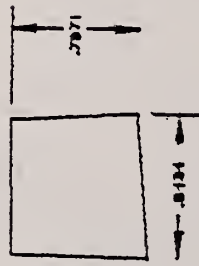
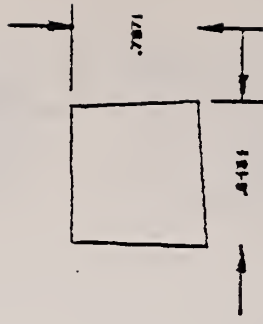
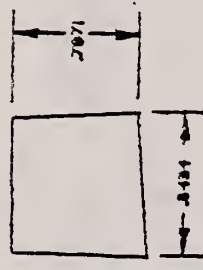
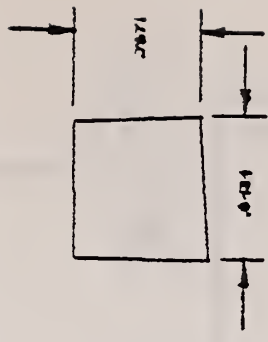


Figure 3.3.13-2 Linear Dimension Cases 1 and 2 (actual part)

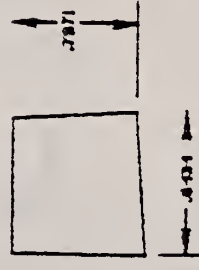
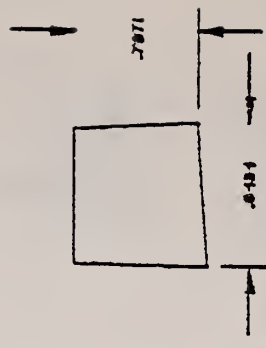
TEXT IN/
ARROWS OUT

TEXT IN/
ARROWS IN

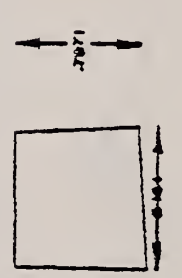
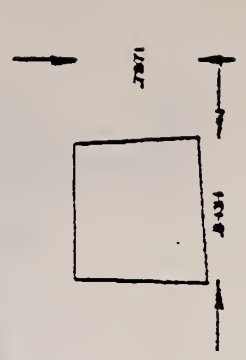
NO WITNESS
LINES SUPPRESSED



FIRST WITNESS
LINE SUPPRESSED



SECOND WITNESS
LINE SUPPRESSED



BOTH WITNESS
LINES SUPPRESSED

Figure 3.3.13-3 Linear Dimension Cases 1 and 2 (left side magnified)

TEXT IN/
ARROWS OUT

TEXT OUT/
ARROWS OUT

TEXT OUT/
ARROWS IN

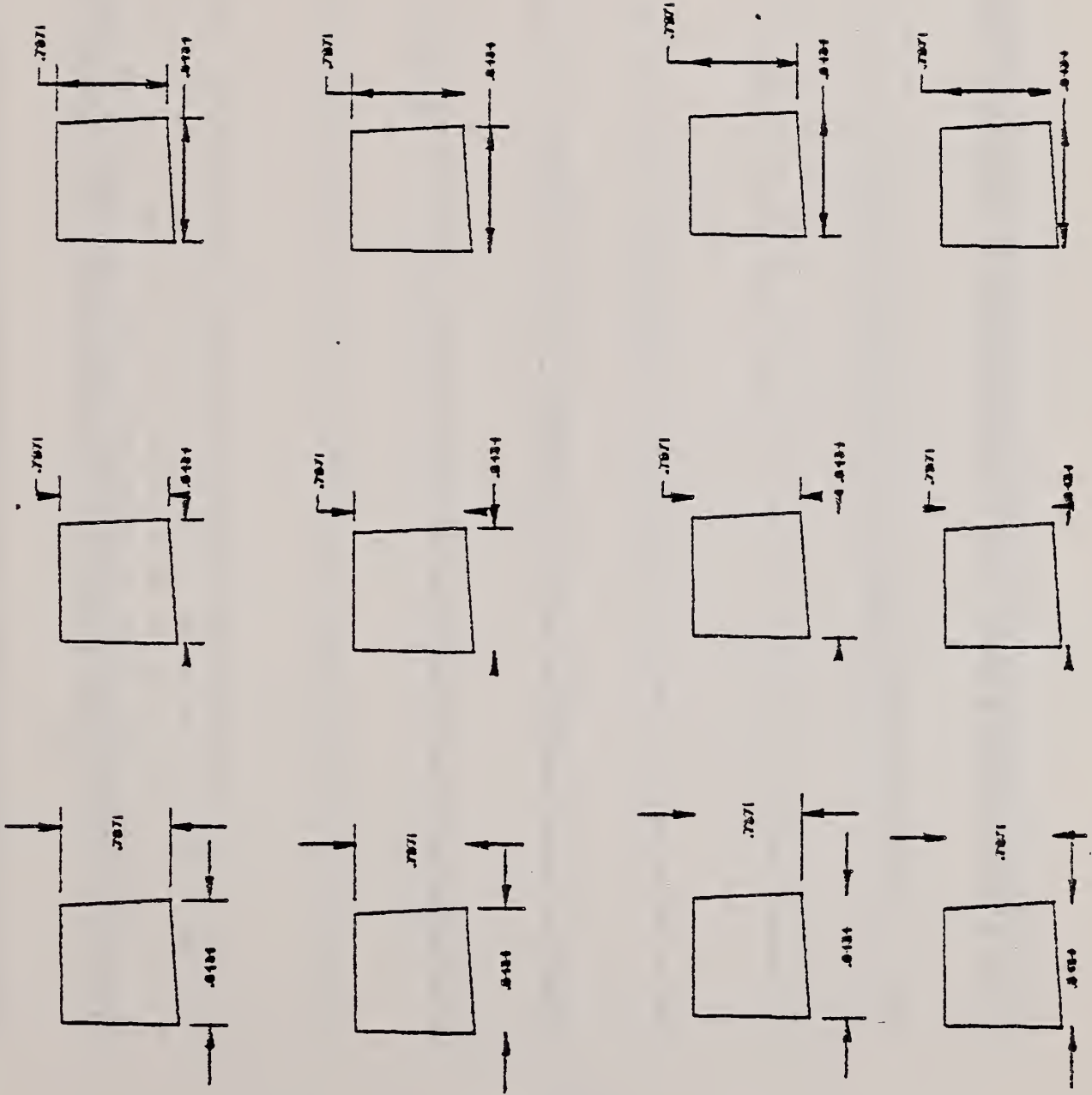


Figure 3.2.13-4 Linear Dimension Cases 1 and 2 (right side magnified)

```

LDIM TEST CASE 1
1H,,1H;,,5HLDIM1,4HCIIN,6H2.1.3 ,16,8,24,8;56,,1.0000000,1,4HINCH,0,,13HG
810927.122938,,,,;

```

									S	
										1
									G	2
124	1	1	1	0	0	0	0 0 0 0	D		1
124	0	0	2	0	0	0		OD		2
212	3	1	1	0	0	1	0 0 1 1	D		3
212	0	0	2	0	0	0		OD		4
214	5	1	1	0	0	1	0 0 1 1	D		5
214	0	0	2	3	0	0		OD		6
214	7	1	1	0	0	1	0 0 1 1	D		7
214	0	0	2	3	0	0		OD		8
106	9	1	1	0	0	1	0 0 1 1	D		9
106	0	0	2	40	0	0		OD		10
106	11	1	1	0	0	1	0 0 1 1	D		11
106	0	0	2	40	0	0		OD		12
216	13	1	1	0	0	1	0 0 0 1	D		13
216	0	0	1	0	0	0		OD		14
212	14	1	1	0	0	1	0 0 1 1	D		15
212	0	0	2	0	0	0		OD		16
214	16	1	1	0	0	1	0 0 1 1	D		17
214	0	0	2	3	0	0		OD		18
214	18	1	1	0	0	1	0 0 1 1	D		19
214	0	0	2	3	0	0		OD		20
106	20	1	1	0	0	1	0 0 1 1	D		21
106	0	0	2	40	0	0		OD		22
106	22	1	1	0	0	1	0 0 1 1	D		23
106	0	0	2	40	0	0		OD		24
216	24	1	1	0	0	1	0 0 0 1	D		25
216	0	0	1	0	0	0		OD		26
212	25	1	1	0	0	1	0 0 1 1	D		27
212	0	0	2	0	0	0		OD		28
214	27	1	1	0	0	1	0 0 1 1	D		29
214	0	0	2	3	0	0		OD		30
214	29	1	1	0	0	1	0 0 1 1	D		31
214	0	0	2	3	0	0		OD		32
106	31	1	1	0	0	1	0 0 1 1	D		33
106	0	0	2	40	0	0		OD		34
106	33	1	1	0	0	1	0 0 1 1	D		35
106	0	0	2	40	0	0		OD		36
216	35	1	1	0	0	1	0 0 0 1	D		37
216	0	0	1	0	0	0		OD		38
212	36	1	1	0	0	1	0 0 1 1	D		39
212	0	0	2	0	0	0		OD		40
214	38	1	1	0	0	1	0 0 1 1	D		41
214	0	0	2	3	0	0		OD		42
214	40	1	1	0	0	1	0 0 1 1	D		43
214	0	0	2	3	0	0		OD		44
106	42	1	1	0	0	1	0 0 1 1	D		45
106	0	0	2	40	0	0		OD		46
106	44	1	1	0	0	1	0 0 1 1	D		47
106	0	0	2	40	0	0		OD		48
216	46	1	1	0	0	1	0 0 0 1	D		49

216	0	0	1	0					OD	50		
212	47	1	1	0	0	1	0	0	1	1	D	51
212	0	0	2	0							OD	52
214	49	1	1	0	0	1	0	0	1	1	D	53
214	0	0	2	3							OD	54
214	51	1	1	0	0	1	0	0	1	1	D	55
214	0	0	2	3							OD	56
106	53	1	1	0	0	1	0	1	1	1	D	57
106	0	0	2	40							OD	58
106	55	1	1	0	0	1	0	0	1	1	D	59
106	0	0	2	40							OD	60
216	57	1	1	0	0	1	0	0	0	1	D	61
216	0	0	1	0							OD	62
212	58	1	1	0	0	1	0	0	1	1	D	63
212	0	0	2	0							OD	64
214	60	1	1	0	0	1	0	0	1	1	D	65
214	0	0	2	3							OD	66
214	62	1	1	0	0	1	0	0	1	1	D	67
214	0	0	2	3							OD	68
106	64	1	1	0	0	1	0	1	1	1	D	69
106	0	0	2	40							OD	70
106	66	1	1	0	0	1	0	0	1	1	D	71
106	0	0	2	40							OD	72
216	68	1	1	0	0	1	0	0	0	1	D	73
216	0	0	1	0							OD	74
212	69	1	1	0	0	1	0	0	1	1	D	75
212	0	0	2	0							OD	76
214	71	1	1	0	0	1	0	0	1	1	D	77
214	0	0	2	3							OD	78
214	73	1	1	0	0	1	0	0	1	1	D	79
214	0	0	2	3							OD	80
106	75	1	1	0	0	1	0	1	1	1	D	81
106	0	0	2	40							OD	82
106	77	1	1	0	0	1	0	0	1	1	D	83
106	0	0	2	40							OD	84
216	79	1	1	0	0	1	0	0	0	1	D	85
216	0	0	1	0							OD	86
212	80	1	1	0	0	1	0	0	1	1	D	87
212	0	0	2	0							OD	88
214	82	1	1	0	0	1	0	0	1	1	D	89
214	0	0	2	3							OD	90
214	84	1	1	0	0	1	0	0	1	1	D	91
214	0	0	2	3							OD	92
106	86	1	1	0	0	1	0	1	1	1	D	93
106	0	0	2	40							OD	94
106	88	1	1	0	0	1	0	0	1	1	D	95
106	0	0	2	40							OD	96
216	90	1	1	0	0	1	0	0	0	1	D	97
216	0	0	1	0							OD	98
212	91	1	1	0	0	1	0	0	1	1	D	99
212	0	0	2	0							OD	100
214	93	1	1	0	0	1	0	0	1	1	D	101

214	0	0	2	3					OD	102
214	95	1	1	0	0	1	0 0 1 1	D		103
214	0	0	2	3				OD		104
106	97	1	1	0	0	1	0 0 1 1	D		105
106	0	0	2	40				OD		106
106	99	1	1	0	0	1	0 1 1 1	D		107
106	0	0	2	40				OD		108
216	101	1	1	0	0	1	0 0 0 1	D		109
216	0	0	1	0				OD		110
212	102	1	1	0	0	1	0 0 1 1	D		111
212	0	0	2	0				OD		112
214	104	1	1	0	0	1	0 0 1 1	D		113
214	0	0	2	3				OD		114
214	106	1	1	0	0	1	0 0 1 1	D		115
214	0	0	2	3				OD		116
106	108	1	1	0	0	1	0 0 1 1	D		117
106	0	0	2	40				OD		118
106	110	1	1	0	0	1	0 1 1 1	D		119
106	0	0	2	40				OD		120
216	112	1	1	0	0	1	0 0 0 1	D		121
216	0	0	1	0				OD		122
212	113	1	1	0	0	1	0 0 1 1	D		123
212	0	0	2	0				OD		124
214	115	1	1	0	0	1	0 0 1 1	D		125
214	0	0	2	3				OD		126
214	117	1	1	0	0	1	0 0 1 1	D		127
214	0	0	2	3				OD		128
106	119	1	1	0	0	1	0 0 1 1	D		129
106	0	0	2	40				OD		130
106	121	1	1	0	0	1	0 1 1 1	D		131
106	0	0	2	40				OD		132
216	123	1	1	0	0	1	0 0 0 1	D		133
216	0	0	1	0				OD		134
212	124	1	1	0	0	1	0 0 1 1	D		135
212	0	0	2	0				OD		136
214	126	1	1	0	0	1	0 0 1 1	D		137
214	0	0	2	3				OD		138
214	128	1	1	0	0	1	0 0 1 1	D		139
214	0	0	2	3				OD		140
106	130	1	1	0	0	1	0 0 1 1	D		141
106	0	0	2	40				OD		142
106	132	1	1	0	0	1	0 1 1 1	D		143
106	0	0	2	40				OD		144
216	134	1	1	0	0	1	0 0 0 1	D		145
216	0	0	1	0				OD		146
212	135	1	1	0	0	1	0 0 1 1	D		147
212	0	0	2	0				OD		148
214	137	1	1	0	0	1	0 0 1 1	D		149
214	0	0	2	3				OD		150
214	139	1	1	0	0	1	0 0 1 1	D		151
214	0	0	2	3				OD		152
106	141	1	1	0	0	1	0 1 1 1	D		153

106	0	0	2	40					OD	154	
106	143	1	1	0	0	1	0	1	1	D	155
106	0	0	2	40					OD	156	
216	145	1	1	0	0	1	0	0	0	D	157
216	0	0	1	0					OD	158	
212	146	1	1	0	0	1	0	0	1	D	159
212	0	0	2	0					OD	160	
214	148	1	1	0	0	1	0	0	1	D	161
214	0	0	2	3					OD	162	
214	150	1	1	0	0	1	0	0	1	D	163
214	0	0	2	3					OD	164	
106	152	1	1	0	0	1	0	1	1	D	165
106	0	0	2	40					OD	166	
106	154	1	1	0	0	1	0	1	1	D	167
106	0	0	2	40					OD	168	
216	156	1	1	0	0	1	0	0	0	D	169
216	0	0	1	0					OD	170	
212	157	1	1	0	0	1	0	0	1	D	171
212	0	0	2	0					OD	172	
214	159	1	1	0	0	1	0	0	1	D	173
214	0	0	2	3					OD	174	
214	161	1	1	0	0	1	0	0	1	D	175
214	0	0	2	3					OD	176	
106	163	1	1	0	0	1	0	1	1	D	177
106	0	0	2	40					OD	178	
106	165	1	1	0	0	1	0	1	1	D	179
106	0	0	2	40					OD	180	
216	167	1	1	0	0	1	0	0	0	D	181
216	0	0	1	0					OD	182	
212	168	1	1	0	0	1	0	0	1	D	183
212	0	0	2	0					OD	184	
214	170	1	1	0	0	1	0	0	1	D	185
214	0	0	2	3					OD	186	
214	172	1	1	0	0	1	0	0	1	D	187
214	0	0	2	3					OD	188	
106	174	1	1	0	0	1	0	1	1	D	189
106	0	0	2	40					OD	190	
106	176	1	1	0	0	1	0	1	1	D	191
106	0	0	2	40					OD	192	
216	178	1	1	0	0	1	0	0	0	D	193
216	0	0	1	0					OD	194	
212	179	1	1	0	0	1	0	0	1	D	195
212	0	0	2	0					OD	196	
214	181	1	1	0	0	1	0	0	1	D	197
214	0	0	2	3					OD	198	
214	183	1	1	0	0	1	0	0	1	D	199
214	0	0	2	3					OD	200	
106	185	1	1	0	0	1	0	0	1	D	201
106	0	0	2	40					OD	202	
106	187	1	1	0	0	1	0	0	1	D	203
106	0	0	2	40					OD	204	
216	189	1	1	0	0	1	0	0	0	D	205

216	0	0	1	0				0D	206
212	190	1	1	0	0	1	0 0 1 1	D	207
212	0	0	2	0				0D	208
214	192	1	1	0	0	1	0 0 1 1	D	209
214	0	0	2	3				0D	210
214	194	1	1	0	0	1	0 0 1 1	D	211
214	0	0	2	3				0D	212
106	196	1	1	0	0	1	0 0 1 1	D	213
106	0	0	2	40				0D	214
106	198	1	1	0	0	1	0 0 1 1	D	215
106	0	0	2	40				0D	216
216	200	1	1	0	0	1	0 0 0 1	D	217
216	0	0	1	0				0D	218
212	201	1	1	0	0	1	0 0 1 1	D	219
212	0	0	2	0				0D	220
214	203	1	1	0	0	1	0 0 1 1	D	221
214	0	0	2	3				0D	222
214	205	1	1	0	0	1	0 0 1 1	D	223
214	0	0	2	3				0D	224
106	207	1	1	0	0	1	0 0 1 1	D	225
106	0	0	2	40				0D	226
106	209	1	1	0	0	1	0 0 1 1	D	227
106	0	0	2	40				0D	228
216	211	1	1	0	0	1	0 0 0 1	D	229
216	0	0	1	0				0D	230
212	212	1	1	0	0	1	0 0 1 1	D	231
212	0	0	2	0				0D	232
214	214	1	1	0	0	1	0 0 1 1	D	233
214	0	0	2	3				0D	234
214	216	1	1	0	0	1	0 0 1 1	D	235
214	0	0	2	3				0D	236
106	218	1	1	0	0	1	0 0 1 1	D	237
106	0	0	2	40				0D	238
106	220	1	1	0	0	1	0 0 1 1	D	239
106	0	0	2	40				0D	240
216	222	1	1	0	0	1	0 0 0 1	D	241
216	0	0	1	0				0D	242
212	223	1	1	0	0	1	0 0 1 1	D	243
212	0	0	2	0				0D	244
214	225	1	1	0	0	1	0 0 1 1	D	245
214	0	0	2	3				0D	246
214	227	1	1	0	0	1	0 0 1 1	D	247
214	0	0	2	3				0D	248
106	229	1	1	0	0	1	0 1 1 1	D	249
106	0	0	2	40				0D	250
106	231	1	1	0	0	1	0 0 1 1	D	251
106	0	0	2	40				0D	252
216	233	1	1	0	0	1	0 0 0 1	D	253
216	0	0	1	0				0D	254
212	234	1	1	0	0	1	0 0 1 1	D	255
212	0	0	2	0				0D	256
214	236	1	1	0	0	1	0 0 1 1	D	257

214	0	0	2	3					0D	258		
214	238	1	1	0	0	1	0	0	1	1	D	259
214	0	0	2	3							0D	260
106	240	1	1	0	0	1	0	1	1	1	D	261
106	0	0	2	40							0D	262
106	242	1	1	0	0	1	0	0	1	1	D	263
106	0	0	2	40							0D	264
216	244	1	1	0	0	1	0	0	0	1	D	265
216	0	0	1	0							0D	266
212	245	1	1	0	0	1	0	0	1	1	D	267
212	0	0	2	0							0D	268
214	247	1	1	0	0	1	0	0	1	1	D	269
214	0	0	2	3							0D	270
214	249	1	1	0	0	1	0	0	1	1	D	271
214	0	0	2	3							0D	272
106	251	1	1	0	0	1	0	1	1	1	D	273
106	0	0	2	40							0D	274
106	253	1	1	0	0	1	0	0	1	1	D	275
106	0	0	2	40							0D	276
216	255	1	1	0	0	1	0	0	0	1	D	277
216	0	0	1	0							0D	278
212	256	1	1	0	0	1	0	0	1	1	D	279
212	0	0	2	0							0D	280
214	258	1	1	0	0	1	0	0	1	1	D	281
214	0	0	2	3							0D	282
214	260	1	1	0	0	1	0	0	1	1	D	283
214	0	0	2	3							0D	284
106	262	1	1	0	0	1	0	1	1	1	D	285
106	0	0	2	40							0D	286
106	264	1	1	0	0	1	0	0	1	1	D	287
106	0	0	2	40							0D	288
216	266	1	1	0	0	1	0	0	0	1	D	289
216	0	0	1	0							0D	290
212	267	1	1	0	0	1	0	0	1	1	D	291
212	0	0	2	0							0D	292
214	269	1	1	0	0	1	0	0	1	1	D	293
214	0	0	2	3							0D	294
214	271	1	1	0	0	1	0	0	1	1	D	295
214	0	0	2	3							0D	296
106	273	1	1	0	0	1	0	0	1	1	D	297
106	0	0	2	40							0D	298
106	275	1	1	0	0	1	0	1	1	1	D	299
106	0	0	2	40							0D	300
216	277	1	1	0	0	1	0	0	0	1	D	301
216	0	0	1	0							0D	302
212	278	1	1	0	0	1	0	0	1	1	D	303
212	0	0	2	0							0D	304
214	280	1	1	0	0	1	0	0	1	1	D	305
214	0	0	2	3							0D	306
214	282	1	1	0	0	1	0	0	1	1	D	307
214	0	0	2	3							0D	308
106	284	1	1	0	0	1	0	0	1	1	D	309

106	0	0	2	40					OD	310	
106	286	1	1	0	0	1	0	1	1	D	311
106	0	0	2	40						OD	312
216	288	1	1	0	0	1	0	0	0	D	313
216	0	0	1	0						OD	314
212	289	1	1	0	0	1	0	0	1	D	315
212	0	0	2	0						OD	316
214	291	1	1	0	0	1	0	0	1	D	317
214	0	0	2	3						OD	318
214	292	1	1	0	0	1	0	0	1	D	319
214	0	0	2	3						OD	320
106	295	1	1	0	0	1	0	0	1	D	321
106	0	0	2	40						OD	322
106	297	1	1	0	0	1	0	1	1	D	323
106	0	0	2	40						OD	324
216	299	1	1	0	0	1	0	0	0	D	325
216	0	0	1	0						OD	326
212	300	1	1	0	0	1	0	0	1	D	327
212	0	0	2	0						OD	328
214	302	1	1	0	0	1	0	0	1	D	329
214	0	0	2	3						OD	330
214	304	1	1	0	0	1	0	0	1	D	331
214	0	0	2	3						OD	332
106	306	1	1	0	0	1	0	0	1	D	333
106	0	0	2	40						OD	334
106	308	1	1	0	0	1	0	1	1	D	335
106	0	0	2	40						OD	336
216	310	1	1	0	0	1	0	0	0	D	337
216	0	0	1	0						OD	338
212	311	1	1	0	0	1	0	0	1	D	339
212	0	0	2	0						OD	340
214	313	1	1	0	0	1	0	0	1	D	341
214	0	0	2	3						OD	342
214	315	1	1	0	0	1	0	0	1	D	343
214	0	0	2	3						OD	344
106	317	1	1	0	0	1	0	1	1	D	345
106	0	0	2	40						OD	346
106	319	1	1	0	0	1	0	1	1	D	347
106	0	0	2	40						OD	348
216	321	1	1	0	0	1	0	0	0	D	349
216	0	0	1	0						OD	350
212	322	1	1	0	0	1	0	0	1	D	351
212	0	0	2	0						OD	352
214	324	1	1	0	0	1	0	0	1	D	353
214	0	0	2	3						OD	354
214	326	1	1	0	0	1	0	0	1	D	355
214	0	0	2	3						OD	356
106	328	1	1	0	0	1	0	1	1	D	357
106	0	0	2	40						OD	358
106	330	1	1	0	0	1	0	1	1	D	359
106	0	0	2	40						OD	360
216	332	1	1	0	0	1	0	0	0	D	361

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212	333	1	1	0	0	1	0 0 1 1	D	363
212	0	0	2	0				0D	364
214	335	1	1	0	0	1	0 0 1 1	D	365
214	0	0	2	3				0D	366
214	337	1	1	0	0	1	0 0 1 1	D	367
214	0	0	2	3				0D	368
106	339	1	1	0	0	1	0 1 1 1	D	369
106	0	0	2	40				0D	370
106	341	1	1	0	0	1	0 1 1 1	D	371
106	0	0	2	40				0D	372
216	343	1	1	0	0	1	0 0 0 1	D	373
216	0	0	1	0				0D	374
212	344	1	1	0	0	1	0 0 1 1	D	375
212	0	0	2	0				0D	376
214	346	1	1	0	0	1	0 0 1 1	D	377
214	0	0	2	3				0D	378
214	348	1	1	0	0	1	0 0 1 1	D	379
214	0	0	2	3				0D	380
106	350	1	1	0	0	1	0 1 1 1	D	381
106	0	0	2	40				0D	382
106	352	1	1	0	0	1	0 1 1 1	D	383
106	0	0	2	40				0D	384
216	354	1	1	0	0	1	0 0 0 1	D	385
216	0	0	1	0				0D	386
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3.7370736,0,0;								5P	6
214,1,.1500000,.0500000,0.0,.2199411,3.7370734,.0381899,								7P	7
3.7370735,0,0;								7P	8
106,1,3,0.0,-.6234555,3.8810318,-.6234555,3.8810318,-.6234555,								9P	9
3.6120737,0,0;								9P	10
106,1,3,0.0,.2199411,3.9435048,.2199411,3.9435048,.2199411,								11P	11
3.6120734,0,0;								11P	12
216,3,5,7,9,11,0,0;								13P	13
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,2.3729501,								15P	14
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214,1,.1500000,.0500000,0.0,2.1125445,3.8010736,1.9064388,								17P	16
3.8010736,0,0;								17P	17
214,1,.1500000,.0500000,0.0,2.9559417,3.8010736,3.1696933,								19P	18
3.8010736,0,0;								19P	19
106,1,3,0.0,2.1125445,3.9370313,2.1125445;3.9370313,2.1125445,								21P	20
3.6760736,0,0;								21P	21
106,1,3,0.0,2.9559417,3.9995050,2.9559417,3.9995050,2.9559417,								23P	22
3.6760736,0,0;								23P	23
216,15,17,19,21,23,0,0;								25P	24
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,5.7529502,								27P	25
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214,1,.1500000,.0500000,0.0,4.6925449,3.9770741,4.5652793,								29P	27

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214,2,.1500000,.0500000,0.0,5.5359416,3.9770741,5.5900502,	31P	29
3.9770741,5.6986499,3.9770744,0,0;	31P	30
106,1,3,0.0,4.6925449,3.9450312,4.6925449,3.9450312,4.6925449,	33P	31
3.8520741,0,0;	33P	32
106,1,3,0.0,5.5359416,4.0075045,5.5359416,4.0075045,5.5359416,	35P	33
3.8520741,0,0;	35P	34
216,27,29,31,33,35,0,0;	37P	35
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,9.5289497,	39P	36
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106,1,3,0.0,8.2559404,4.0315061,8.2559404,4.0315061,8.2559404,	47P	44
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216,39,41,43,45,47,0,0;	49P	46
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214,1,.1500000,.0500000,0.0,.1639414,1.6370744,-.0098102,	55P	51
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106,1,3,0.0,.1639414,1.8035065,.1639414,1.8035065,.1639414,	59P	55
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216,51,53,55,57,59,0,0;	61P	57
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214,1,.1500000,.0500000,0.0,2.8999419,1.6690743,3.0816940,	67P	62
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106,1,3,0.0,2.0565453,1.8595064,2.0565453,1.8595064,2.0565453,	69P	64
1.5440743,0,0;	69P	65
106,1,3,0.0,2.8999419,1.8595064,2.8999419,1.8595064,2.8999419,	71P	66
1.5440743,0,0;	71P	67
216,63,65,67,69,71,0,0;	73P	68
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214,2,.1500000,.0500000,0.0,5.4799418,1.7570742,5.6620498,	79P	73
1.7570742,5.7706494,1.7570742,0,0;	79P	74
106,1,3,0.0,4.6365452,1.8675066,4.6365452,1.8675066,4.6365452,	81P	75
1.6320742,0,0;	81P	76
106,1,3,0.0,5.4799418,1.8675066,5.4799418,1.8675066,5.4799418,	83P	77
1.6320742,0,0;	83P	78
216,75,77,79,81,83,0,0;	85P	79

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1.7970741,7.7782421,1.7970741,8.4506493,1.7970741,0,0;	89P	83
214,1,.1500000,.0500000,0.0,8.1999407;1.7970741,7.7782421,	91P	84
1.7970741,0,0;	91P	85
106,1,3,0.0,7.3565435,1.8915074,7.3565435,1.8915074,7.3565435,	93P	86
1.6720741,0,0;	93P	87
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214,1,.1500000,.0500000,0.0,.2719398,-.8709253,.1221898,	103P	95
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216,99,101,103,105,107,0,0;	109P	101
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214,1,.1500000,.0500000,0.0,3.0079403,-.8229253,3.1336907,	115P	106
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106,1,3,0.0,2.1645436,-.6469661,2.1645436,-.6469661,2.1645436,	117P	108
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106,1,3,0.0,3.0079403,-.6469661,3.0079403,-.6469661,3.0079403,	119P	110
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216,111,113,115,117,119,0,0;	121P	112
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,5.7969503,	123P	113
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106,1,3,0.0,5.5879402,-.6389657,5.5879402,-.6389657,5.5879402,	131P	121
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216,123,125,127,129,131,0,0;	133P	123
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,8.5329494,	135P	124
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-.6469253,0,0;	137P	127
214,3,.1500000,.0500000,0.0,8.3079386,-.6469253,7.8862398,	139P	128
-.6469253,7.8862398,-.6469253,8.4786491,-.6469253,0,0;	139P	129
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216,135,137,139,141,143,0,0;	145P	134
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106,1,3,0.0,.1959399,-1.9916750,.1959399,-1.9916750,.1959399,	155P	143
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216,147,149,151,153,155,0,0;	157P	145
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,2.3489499,	159P	146
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214,1,.1500000,.0500000,0.0,2.0885434,-2.4749253,1.8824368,	161P	148
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214,1,.1500000,.0500000,0.0,2.9319401,-2.4749253,3.1456903,	163P	150
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106,1,3,0.0,2.0885434,-1.9436753,2.0885434,-1.9436753,2.0885434,	165P	152
-2.5999253,0,0;	165P	153
106,1,3,0.0,2.9319401,-1.9436753,2.9319401,-1.9436753,2.9319401,	167P	154
-2.5999253,0,0;	167P	155
216,159,161,163,165,167,0,0;	169P	156
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,5.6409497,	171P	157
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214,1,.1500000,.0500000,0.0,4.6685438,-2.4429251,4.5412782,	173P	159
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214,2,.1500000,.0500000,0.0,5.5119405,-2.4429251,5.3458312,	175P	161
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106,1,3,0.0,4.6685438,-1.9116751,4.6685438,-1.9116751,4.6685438,	177P	163
-2.5679251,0,0;	177P	164
106,1,3,0.0,5.5119405,-1.9116751,5.5119405,-1.9116751,5.5119405,	179P	165
-2.5679251,0,0;	179P	166
216,171,173,175,177,179,0,0;	181P	167
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,8.4459953,	183P	168
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214,1,.1500000,.0500000,0.0,8.2319393,-2.4101831,7.8102407,	187P	172
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106,1,3,0.0,7.3885422,-1.8789331,7.3885422,-1.8789331,7.3885422,	189P	174
-2.5351831,0,0;	189P	175
106,1,3,0.0,8.2319393,-1.8789331,8.2319393,-1.8789331,8.2319393,	191P	176
-2.5351831,0,0;	191P	177
216,183,185,187,189,191,0,0;	193P	178
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.5227866,	195P	179
4.4041305,0.0,5H.7971,0,0;	195P	180
214,1,.1500000,.0500000,0.0,.6802565,4.0372548,.6802565,	197P	181
4.3498306,0,0;	197P	182
214,1,.1500000,.0500000,0.0,.6802565,4.8343368,.6802565,	199P	183

4.5127311,0,0;	199P	184
106,1,3,0.0,.3136918,4.0372548,.3136918,4.0372548,.8052565,	201P	185
4.0372548,0,0;	201P	186
106,1,3,0.0,.2759593,4.8343368,.2759593,4.8343368,.8052565,	203P	187
4.8343368,0,0;	203P	188
216,195,197,199,201,203,0,0;	205P	189
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.2907867,	207P	190
4.4521308,0.0,SH.7971,0,0;	207P	191
214,1,.1500000,.0500000,0.0,3.4482570,4.0932550,3.4482570,	209P	192
3.7886791,0,0;	209P	193
214,1,.1500000,.0500000,0.0,3.4482570,4.8903365,3.4482570,	211P	194
5.2199416,0,0;	211P	195
106,1,3,0.0,3.0496922,4.0932550,3.0496922,4.0932550,3.5732570,	213P	196
4.0932550,0,0;	213P	197
106,1,3,0.0,3.0119591,4.8903365,3.0119591,4.8903365,3.5732570,	215P	198
4.8903365,0,0;	215P	199
216,207,209,211,213,215,0,0;	217P	200
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214,1,.1500000,.0500000,0.0,5.6927762,4.1012545,5.6927762,	221P	203
3.9739889,0,0;	221P	204
214,2,.1500000,.0500000,0.0,5.6927762,4.8983369,5.6927762,	223P	205
5.0588365,5.8013759,5.0588365,0,0;	223P	206
106,1,3,0.0,5.6296926,4.1012545,5.6296926,4.1012545,5.8177762,	225P	207
4.1012545,0,0;	225P	208
106,1,3,0.0,5.5919585,4.8983369,5.5919585,4.8983369,5.8177762,	227P	209
4.8983369,0,0;	227P	210
216,219,221,223,225,227,0,0;	229P	211
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.6423426,	231P	212
5.0227971,0.0,SH.7971,0,0;	231P	213
214,3,.1500000,.0500000,0.0,8.4794426,4.1252561,8.4794426,	233P	214
4.5237970,8.4794426,5.0499473,8.5880423,5.0499473,0,0;	233P	215
214,1,.1500000,.0500000,0.0,8.4794426,4.9223380,8.4794426,	235P	216
4.5237970,0,0;	235P	217
106,1,3,0.0,8.3496914,4.1252561,8.3496914,4.1252561,8.6044426,	237P	218
4.1252561,0,0;	237P	219
106,1,3,0.0,8.3119574,4.9223380,8.3119574,4.9223380,8.6044426,	239P	220
4.9223380,0,0;	239P	221
216,231,233,235,237,239,0,0;	241P	222
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.5067868,	243P	223
2.2739091,0.0,SH.7971,0,0;	243P	224
214,1,.1500000,.0500000,0.0,.6642568,1.8972565,.6642568,	245P	225
2.2196094,0,0;	245P	226
214,1,.1500000,.0500000,0.0,.6642568,2.6943388,.6642568,	247P	227
2.3825092,0,0;	247P	228
106,1,3,0.0,.2199603,1.8972565,.2199603,1.8972565,.7892568,	249P	229
1.8972565,0,0;	249P	230
106,1,3,0.0,.2199603,2.6943388,.2199603,2.6943388,.7892568,	251P	231
2.6943388,0,0;	251P	232
216,243,245,247,249,251,0,0;	253P	233
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.1734543,	255P	234
2.3183541,0.0,SH.7971,0,0;	255P	235

214,1,.1500000,.0500000,0.0,3.3309245,1.9532561,3.3309245,	257P	236
1.6424580,0,0;	257P	237
214,1,.1500000,.0500000,0.0,3.3309245,2.7503386,3.3309245,	259P	238
3.0737228,0,0;	259P	239
106,1,3,0.0,2.9559598,1.9532561,2.9559598,1.9532561,3.4559245,	261P	240
1.9532561,0,0;	261P	241
106,1,3,0.0,2.9559598,2.7503386,2.9559598,2.7503386,3.4559245,	263P	242
2.7503386,0,0;	263P	243
216,255,257,259,261,263,0,0;	265P	244
212.1.5..1226300,.0543000,1,1.5707963,0.0,0,0,5.7490096,	267P	245
2.9850202,0.0,5H.7971,0,0;	267P	246
214,1,.1500000,.0500000,0.0,5.5861096,1.9612564,5.5861096,	269P	247
1.8339908,0,0;	269P	248
214,2,.1500000,.0500000,0.0,5.5861096,2.7583389,5.5861096,	271P	249
3.0121703,5.6947093,3.0121703,0,0;	271P	250
106,1,3,0.0,5.5359597,1.9612564,5.5359597,1.9612564,5.7111096,	273P	251
1.9612564,0,0;	273P	252
106,1,3,0.0,5.5359597,2.7583389,5.5359597,2.7583389,5.7111096,	275P	253
2.7583389,0,0;	275P	254
216,267,269,271,273,275,0,0;	277P	255
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.5890093,	279P	256
2.9316869,0.0,5H.7971,0,0;	279P	257
214,3,.1500000,.0500000,0.0,8.4261093,1.9852574,8.4261093,	281P	258
2.3837985,8.4261093,2.9588370,8.5347090,2.9588370,0,0;	281P	259
214,1,.1500000,.0500000,0.0,8.4261093,2.7823396,8.4261093,	283P	260
2.3837985,0,0;	283P	261
106,1,3,0.0,8.2559586,1.9852574,8.2559586,1.9852574,8.5511093,	285P	262
1.9852574,0,0;	285P	263
106,1,3,0.0,8.2559586,2.7823396,8.2559586,2.7823396,8.5511093,	287P	264
2.7823396,0,0;	287P	265
216,279,281,283,285,287,0,0;	289P	266
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.6334534,	291P	267
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-.1826127,0,0;	293P	270
214,1,.1500000,.0500000,0.0,.7909234,.2503400,.7909234,	295P	271
-.0197127,0,0;	295P	272
106,1,3,0.0,.3656907,-.5467421,.3656907,-.5467421,.9159234,	297P	273
-.5467421,0,0;	297P	274
106,1,3,0.0,.3656907,.2503400,.3656907,.2503400,.9159234,	299P	275
.2503400,0,0;	299P	276
216,291,293,295,297,299,0,0;	301P	277
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.3890090,	303P	278
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214,1,.1500000,.0500000,0.0,3.5464792,-.4907423,3.5464792,	305P	280
-.7988717,0,0;	305P	281
214,1,.1500000,.0500000,0.0,3.5464792,.3063399,3.5464792,	307P	282
.6323927,0,0;	307P	283
106,1,3,0.0,3.1016908,-.4907423,3.1016908,-.4907423,3.6714792,	309P	284
-.4907423,0,0;	309P	285
106,1,3,0.0,3.1016908,.3063399,3.1016908,.3063399,3.6714792,	311P	286
.3063399,0,0;	311P	287

216,303,305,307,309,311,0,0;	313P	288
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,5.8578987,	315P	289
.5027984,0.0,5H.7971,0,0;	315P	290
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-.6100077,0,0;	317P	292
214,2,.1500000,.0500000,0.0,5.6949987,.3143407,5.6949987,	319P	293
.5299483,5.8035984,.5299483,0,0;	319P	294
106,1,3,0.0,5.6816912,-.4827421,5.6816912,-.4827421,5.8199987,	321P	295
-.4827421,0,0;	321P	296
106,1,3,0.0,5.6816912,.3143407,5.6816912,.3143407,5.8199987,	323P	297
.3143407,0,0;	323P	298
216,315,317,319,321,323,0,0;	325P	299
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.8045654,	327P	300
.4672429,0.0,5H.7971,0,0;	327P	301
214,3,.1500000,.0500000,0.0,8.6416655,-.4587413,8.6416655,	329P	302
-.0601999,8.6416655,.4943928,8.7502651,.4943928,0,0;	329P	303
214,1,.1500000,.0500000,0.0,8.6416655,.3383414,8.6416655,	331P	304
-.0601999,0,0;	331P	305
106,1,3,0.0,8.4016895,-.4587413,8.4016895,-.4587413,8.7666655,	333P	306
-.4587413,0,0;	333P	307
106,1,3,0.0,8.4016895,.3383414,8.4016895,.3383414,8.7666655,	335P	308
.3383414,0,0;	335P	309
216,327,329,331,333,335,0,0;	337P	310
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.5245647,	339P	311
-2.0283127,0.0,5H.7971,0,0;	339P	312
214,1,.1500000,.0500000,0.0,.6820347,-2.3987420,.6820347,	341P	313
-2.0826126,0,0;	341P	314
214,1,.1500000,.0500000,0.0,.6820347,-1.6016597,.6820347,	343P	315
-1.9197126,0,0;	343P	316
106,1,3,0.0,.1507847,-2.3987420,.1507847,-2.3987420,.8070347,	345P	317
-2.3987420,0,0;	345P	318
106,1,3,0.0,.1507847,-1.6016597,.1507847,-1.6016597,.8070347,	347P	319
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216,339,341,343,345,347,0,0;	349P	321
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.2267876,	351P	322
-1.9823684,0.0,5H.7971,0,0;	351P	323
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-2.6473156,0,0;	353P	325
214,1,.1500000,.0500000,0.0,3.3842578,-1.5456599,3.3842578,	355P	326
-1.2160515,0,0;	355P	327
106,1,3,0.0,2.8530078,-2.3427420,2.8530078,-2.3427420,3.5092578,	357P	328
-2.3427420,0,0;	357P	329
106,1,3,0.0,2.8530078,-1.5456599,2.8530078,-1.5456599,3.5092578,	359P	330
-1.5456599,0,0;	359P	331
216,351,353,355,357,359,0,0;	361P	332
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,5.7845654,	363P	333
-1.4505347,0.0,5H.7971,0,0;	363P	334
214,1,.1500000,.0500000,0.0,5.6216655,-2.3347421,5.6216655,	365P	335
-2.4620077,0,0;	365P	336
214,2,.1500000,.0500000,0.0,5.6216655,-1.5376594,5.6216655,	367P	337
-1.4233847,5.7302651,-1.4233847,0,0;	367P	338
106,1,3,0.0,5.0904155,-2.3347421,5.0904155,-2.3347421,5.7466655,	369P	339

-2.3347421,0,0;	369P	340
106,1,3,0.0,5.0904155,-1.5376594,5.0904155,-1.5376594,5.7466655,	371P	341
-1.5376594,0,0;	371P	342
216,363,365,367,369,371,0,0;	373P	343
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.6067867,	375P	344
-1.3972015,0.0,5H.7971,0,0;	375P	345
214,3,.1500000,.0500000,0.0,8.4438868,-2.3107412,8.4438868,	377P	346
-1.9121998,8.4438868,-1.3700516,8.5524864,-1.3700516,0,0;	377P	347
214,1,.1500000,.0500000,0.0,8.4438868,-1.5136584,8.4438868,	379P	348
-1.9121998,0,0;	379P	349
106,1,3,0.0,7.9126368,-2.3107412,7.9126368,-2.3107412,8.5688868,	381P	350
-2.3107412,0,0;	381P	351
106,1,3,0.0,7.9126368,-1.5136584,7.9126368,-1.5136584,8.5688868,	383P	352
-1.5136584,0,0;	383P	353
216,375,377,379,381,383,0,0;	385P	354
S 1G 2D 386P 354	T	1


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LDIM TEST CASE 2
1H,,1H;,,5HLDIM2,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG
810827.123027,,,,;

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212	0	0	2	0				OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3				OD	6
214	7	1	1	0	0	1	0 0 1 1	D	7
214	0	0	2	3				OD	8
106	9	1	1	0	0	1	0 0 1 1	D	9
106	0	0	2	40				OD	10
106	11	1	1	0	0	1	0 0 1 1	D	11
106	0	0	2	40				OD	12
216	13	1	1	0	0	1	0 0 0 1	D	13
216	0	0	1	0				OD	14
212	14	1	1	0	0	1	0 0 1 1	D	15
212	0	0	2	0				OD	16
214	16	1	1	0	0	1	0 0 1 1	D	17
214	0	0	2	3				OD	18
214	18	1	1	0	0	1	0 0 1 1	D	19
214	0	0	2	3				OD	20
106	20	1	1	0	0	1	0 0 1 1	D	21
106	0	0	2	40				OD	22
106	22	1	1	0	0	1	0 0 1 1	D	23
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212	0	0	2	0				OD	28
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214	0	0	2	3				OD	30
214	29	1	1	0	0	1	0 0 1 1	D	31
214	0	0	2	3				OD	32
106	31	1	1	0	0	1	0 0 1 1	D	33
106	0	0	2	40				OD	34
106	33	1	1	0	0	1	0 0 1 1	D	35
106	0	0	2	40				OD	36
216	35	1	1	0	0	1	0 0 0 1	D	37
216	0	0	1	0				OD	38
212	36	1	1	0	0	1	0 0 1 1	D	39
212	0	0	2	0				OD	40
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214	0	0	2	3				OD	42
214	40	1	1	0	0	1	0 0 1 1	D	43
214	0	0	2	3				OD	44
106	42	1	1	0	0	1	0 0 1 1	D	45
106	0	0	2	40				OD	46
106	44	1	1	0	0	1	0 0 1 1	D	47
106	0	0	2	40				OD	48
216	46	1	1	0	0	1	0 0 0 1	D	49

216	0	0	1	0				0D	50
212	47	1	1	0	0	1	0 0 1 1	D	51
212	0	0	2	0				OD	52
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214	0	0	2	3				OD	54
214	51	1	1	0	0	1	0 0 1 1	D	55
214	0	0	2	3				OD	56
106	53	1	1	0	0	1	0 1 1 1	D	57
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106	55	1	1	0	0	1	0 0 1 1	D	59
106	0	0	2	40				OD	60
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214	60	1	1	0	0	1	0 0 1 1	D	65
214	0	0	2	3				OD	66
214	62	1	1	0	0	1	0 0 1 1	D	67
214	0	0	2	3				OD	68
106	64	1	1	0	0	1	0 1 1 1	D	69
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106	66	1	1	0	0	1	0 0 1 1	D	71
106	0	0	2	40				OD	72
216	68	1	1	0	0	1	0 0 0 1	D	73
216	0	0	1	0				OD	74
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214	71	1	1	0	0	1	0 0 1 1	D	77
214	0	0	2	3				OD	78
214	73	1	1	0	0	1	0 0 1 1	D	79
214	0	0	2	3				OD	80
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106	0	0	2	40				OD	84
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216	0	0	1	0				OD	86
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214	0	0	2	3				OD	90
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216	0	0	1	0				OD	98
212	91	1	1	0	0	1	0 0 1 1	D	99
212	0	0	2	0				OD	100
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214	0	0	2	3					OD	102
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214	0	0	2	3				OD		104
106	97	1	1	0	0	1	0 0 1 1	D		105
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106	99	1	1	0	0	1	0 1 1 1	D		107
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212	102	1	1	0	0	1	0 0 1 1	D		111
212	0	0	2	0				OD		112
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214	0	0	2	3				OD		114
214	106	1	1	0	0	1	0 0 1 1	D		115
214	0	0	2	3				OD		116
106	108	1	1	0	0	1	0 0 1 1	D		117
106	0	0	2	40				OD		118
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216	0	0	1	0				OD		122
212	113	1	1	0	0	1	0 0 1 1	D		123
212	0	0	2	0				OD		124
214	115	1	1	0	0	1	0 0 1 1	D		125
214	0	0	2	3				OD		126
214	117	1	1	0	0	1	0 0 1 1	D		127
214	0	0	2	3				OD		128
106	119	1	1	0	0	1	0 0 1 1	D		129
106	0	0	2	40				OD		130
106	121	1	1	0	0	1	0 1 1 1	D		131
106	0	0	2	40				OD		132
216	123	1	1	0	0	1	0 0 0 1	D		133
216	0	0	1	0				OD		134
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212	0	0	2	0				OD		136
214	126	1	1	0	0	1	0 0 1 1	D		137
214	0	0	2	3				OD		138
214	128	1	1	0	0	1	0 0 1 1	D		139
214	0	0	2	3				OD		140
106	130	1	1	0	0	1	0 0 1 1	D		141
106	0	0	2	40				OD		142
106	132	1	1	0	0	1	0 1 1 1	D		143
106	0	0	2	40				OD		144
216	134	1	1	0	0	1	0 0 0 1	D		145
216	0	0	1	0				OD		146
212	135	1	1	0	0	1	0 0 1 1	D		147
212	0	0	2	0				OD		148
214	137	1	1	0	0	1	0 0 1 1	D		149
214	0	0	2	3				OD		150
214	139	1	1	0	0	1	0 0 1 1	D		151
214	0	0	2	3				OD		152
106	141	1	1	0	0	1	0 1 1 1	D		153

106	0	0	2	40					0D	154		
106	143	1	1	0	0	1	0	1	1	D	155	
106	0	0	2	40						0D	156	
216	145	1	1	0	0	1	0	0	0	1	D	157
216	0	0	1	0							0D	158
212	146	1	1	0	0	1	0	0	1	1	D	159
212	0	0	2	0							0D	160
214	148	1	1	0	0	1	0	0	1	1	D	161
214	0	0	2	3							0D	162
214	150	1	1	0	0	1	0	0	1	1	D	163
214	0	0	2	3							0D	164
106	152	1	1	0	0	1	0	1	1	1	D	165
106	0	0	2	40							0D	166
106	154	1	1	0	0	1	0	1	1	1	D	167
106	0	0	2	40							0D	168
216	156	1	1	0	0	1	0	0	0	1	D	169
216	0	0	1	0							0D	170
212	157	1	1	0	0	1	0	0	1	1	D	171
212	0	0	2	0							0D	172
214	159	1	1	0	0	1	0	0	1	1	D	173
214	0	0	2	3							0D	174
214	161	1	1	0	0	1	0	0	1	1	D	175
214	0	0	2	3							0D	176
106	163	1	1	0	0	1	0	1	1	1	D	177
106	0	0	2	40							0D	178
106	165	1	1	0	0	1	0	1	1	1	D	179
106	0	0	2	40							0D	180
216	167	1	1	0	0	1	0	0	0	1	D	181
216	0	0	1	0							0D	182
212	168	1	1	0	0	1	0	0	1	1	D	183
212	0	0	2	0							0D	184
214	170	1	1	0	0	1	0	0	1	1	D	185
214	0	0	2	3							0D	186
214	172	1	1	0	0	1	0	0	1	1	D	187
214	0	0	2	3							0D	188
106	174	1	1	0	0	1	0	1	1	1	D	189
106	0	0	2	40							0D	190
106	176	1	1	0	0	1	0	1	1	1	D	191
106	0	0	2	40							0D	192
216	178	1	1	0	0	1	0	0	0	1	D	193
216	0	0	1	0							0D	194
212	179	1	1	0	0	1	0	0	1	1	D	195
212	0	0	2	0							0D	196
214	181	1	1	0	0	1	0	0	1	1	D	197
214	0	0	2	3							0D	198
214	183	1	1	0	0	1	0	0	1	1	D	199
214	0	0	2	3							0D	200
106	185	1	1	0	0	1	0	0	1	1	D	201
106	0	0	2	40							0D	202
106	187	1	1	0	0	1	0	0	1	1	D	203
106	0	0	2	40							0D	204
216	189	1	1	0	0	1	0	0	0	1	D	205

216	0	0	1	0				OD	206
212	190	1	1	0	0	1	0 0 1 1	D	207
212	0	0	2	0				OD	208
214	192	1	1	0	0	1	0 0 1 1	D	209
214	0	0	2	3				OD	210
214	194	1	1	0	0	1	0 0 1 1	D	211
214	0	0	2	3				OD	212
106	196	1	1	0	0	1	0 0 1 1	D	213
106	0	0	2	40				OD	214
106	198	1	1	0	0	1	0 0 1 1	D	215
106	0	0	2	40				OD	216
216	200	1	1	0	0	1	0 0 0 1	D	217
216	0	0	1	0				OD	218
212	201	1	1	0	0	1	0 0 1 1	D	219
212	0	0	2	0				OD	220
214	203	1	1	0	0	1	0 0 1 1	D	221
214	0	0	2	3				OD	222
214	205	1	1	0	0	1	0 0 1 1	D	223
214	0	0	2	3				OD	224
106	207	1	1	0	0	1	0 0 1 1	D	225
106	0	0	2	40				OD	226
106	209	1	1	0	0	1	0 0 1 1	D	227
106	0	0	2	40				OD	228
216	211	1	1	0	0	1	0 0 0 1	D	229
216	0	0	1	0				OD	230
212	212	1	1	0	0	1	0 0 1 1	D	231
212	0	0	2	0				OD	232
214	214	1	1	0	0	1	0 0 1 1	D	233
214	0	0	2	3				OD	234
214	216	1	1	0	0	1	0 0 1 1	D	235
214	0	0	2	3				OD	236
106	218	1	1	0	0	1	0 0 1 1	D	237
106	0	0	2	40				OD	238
106	220	1	1	0	0	1	0 0 1 1	D	239
106	0	0	2	40				OD	240
216	222	1	1	0	0	1	0 0 0 1	D	241
216	0	0	1	0				OD	242
212	223	1	1	0	0	1	0 0 1 1	D	243
212	0	0	2	0				OD	244
214	225	1	1	0	0	1	0 0 1 1	D	245
214	0	0	2	3				OD	246
214	227	1	1	0	0	1	0 0 1 1	D	247
214	0	0	2	3				OD	248
106	229	1	1	0	0	1	0 1 1 1	D	249
106	0	0	2	40				OD	250
106	231	1	1	0	0	1	0 0 1 1	D	251
106	0	0	2	40				OD	252
216	233	1	1	0	0	1	0 0 0 1	D	253
216	0	0	1	0				OD	254
212	234	1	1	0	0	1	0 0 1 1	D	255
212	0	0	2	0				OD	256
214	236	1	1	0	0	1	0 0 1 1	D	257

214	0	0	2	3				0D	258
214	238	1	1	0	0	1	0 0 1 1	D	259
214	0	0	2	3				0D	260
106	240	1	1	0	0	1	0 1 1 1	D	261
106	0	0	2	40				0D	262
106	242	1	1	0	0	1	0 0 1 1	D	263
106	0	0	2	40				0D	264
216	244	1	1	0	0	1	0 0 0 1	D	265
216	0	0	1	0				0D	266
212	245	1	1	0	0	1	0 0 1 1	D	267
212	0	0	2	0				0D	268
214	247	1	1	0	0	1	0 0 1 1	D	269
214	0	0	2	3				0D	270
214	249	1	1	0	0	1	0 0 1 1	D	271
214	0	0	2	3				0D	272
106	251	1	1	0	0	1	0 1 1 1	D	273
106	0	0	2	40				0D	274
106	253	1	1	0	0	1	0 0 1 1	D	275
106	0	0	2	40				0D	276
216	255	1	1	0	0	1	0 0 0 1	D	277
216	0	0	1	0				0D	278
212	256	1	1	0	0	1	0 0 1 1	D	279
212	0	0	2	0				0D	280
214	258	1	1	0	0	1	0 0 1 1	D	281
214	0	0	2	3				0D	282
214	250	1	1	0	0	1	0 0 1 1	D	283
214	0	0	2	3				0D	284
106	262	1	1	0	0	1	0 1 1 1	D	285
106	0	0	2	40				0D	286
106	264	1	1	0	0	1	0 0 1 1	D	287
106	0	0	2	40				0D	288
216	266	1	1	0	0	1	0 0 0 1	D	289
216	0	0	1	0				0D	290
212	267	1	1	0	0	1	0 0 1 1	D	291
212	0	0	2	0				0D	292
214	269	1	1	0	0	1	0 0 1 1	D	293
214	0	0	2	3				0D	294
214	271	1	1	0	0	1	0 0 1 1	D	295
214	0	0	2	3				0D	296
106	273	1	1	0	0	1	0 0 1 1	D	297
106	0	0	2	40				0D	298
106	275	1	1	0	0	1	0 1 1 1	D	299
106	0	0	2	40				0D	300
216	277	1	1	0	0	1	0 0 0 1	D	301
216	0	0	1	0				0D	302
212	278	1	1	0	0	1	0 0 1 1	D	303
212	0	0	2	0				0D	304
214	280	1	1	0	0	1	0 0 1 1	D	305
214	0	0	2	3				0D	306
214	282	1	1	0	0	1	0 0 1 1	D	307
214	0	0	2	3				0D	308
106	284	1	1	0	0	1	0 0 1 1	D	309

106	0	0	2	40				0D	310
106	286	1	1	0	0	1	0 1 1 1	D	311
106	0	0	2	40				0D	312
216	288	1	1	0	0	1	0 0 0 1	D	313
216	0	0	1	0				0D	314
212	289	1	1	0	0	1	0 0 1 1	D	315
212	0	0	2	0				0D	316
214	291	1	1	0	0	1	0 0 1 1	D	317
214	0	0	2	3				0D	318
214	293	1	1	0	0	1	0 0 1 1	D	319
214	0	0	2	3				0D	320
106	295	1	1	0	0	1	0 0 1 1	D	321
106	0	0	2	40				0D	322
106	297	1	1	0	0	1	0 1 1 1	D	323
106	0	0	2	40				0D	324
216	299	1	1	0	0	1	0 0 0 1	D	325
216	0	0	1	0				0D	326
212	300	1	1	0	0	1	0 0 1 1	D	327
212	0	0	2	0				0D	328
214	302	1	1	0	0	1	0 0 1 1	D	329
214	0	0	2	3				0D	330
214	304	1	1	0	0	1	0 0 1 1	D	331
214	0	0	2	3				0D	332
106	306	1	1	0	0	1	0 0 1 1	D	333
106	0	0	2	40				0D	334
106	308	1	1	0	0	1	0 1 1 1	D	335
106	0	0	2	40				0D	336
216	310	1	1	0	0	1	0 0 0 1	D	337
216	0	0	1	0				0D	338
212	311	1	1	0	0	1	0 0 1 1	D	339
212	0	0	2	0				0D	340
214	313	1	1	0	0	1	0 0 1 1	D	341
214	0	0	2	3				0D	342
214	315	1	1	0	0	1	0 0 1 1	D	343
214	0	0	2	3				0D	344
106	317	1	1	0	0	1	0 1 1 1	D	345
106	0	0	2	40				0D	346
106	319	1	1	0	0	1	0 1 1 1	D	347
106	0	0	2	40				0D	348
216	321	1	1	0	0	1	0 0 0 1	D	349
216	0	0	1	0				0D	350
212	322	1	1	0	0	1	0 0 1 1	D	351
212	0	0	2	0				0D	352
214	324	1	1	0	0	1	0 0 1 1	D	353
214	0	0	2	3				0D	354
214	326	1	1	0	0	1	0 0 1 1	D	355
214	0	0	2	3				0D	356
106	328	1	1	0	0	1	0 1 1 1	D	357
106	0	0	2	40				0D	358
106	330	1	1	0	0	1	0 1 1 1	D	359
106	0	0	2	40				0D	360
216	332	1	1	0	0	1	0 0 0 1	D	361

216	0	0	1	0					0D	362	
212	333	1	1	0	0	1	0	0	1	D	363
212	0	0	2	0						0D	364
214	335	1	1	0	0	1	0	0	1	D	365
214	0	0	2	3						0D	366
214	337	1	1	0	0	1	0	0	1	D	367
214	0	0	2	3						0D	368
106	339	1	1	0	0	1	0	1	1	D	369
106	0	0	2	40						0D	370
106	341	1	1	0	0	1	0	1	1	D	371
106	0	0	2	40						0D	372
216	343	1	1	0	0	1	0	0	0	D	373
216	0	0	1	0						0D	374
212	344	1	1	0	0	1	0	0	1	D	375
212	0	0	2	0						0D	376
214	346	1	1	0	0	1	0	0	1	D	377
214	0	0	2	3						0D	378
214	348	1	1	0	0	1	0	0	1	D	379
214	0	0	2	3						0D	380
106	350	1	1	0	0	1	0	1	1	D	381
106	0	0	2	40						0D	382
106	352	1	1	0	0	1	0	1	1	D	383
106	0	0	2	40						0D	384
216	354	1	1	0	0	1	0	0	0	D	385
216	0	0	1	0						0D	386
124	.9816048	-.1433713	.1260818	0.0	.1909240	.7371206	-.6482291			1P	1
0.0	0.0	.6603768	.7509344	0.0	0.0					1P	2
212	1	S	.1606400	.0543000	1	1.5707963	0.0	0.0		3P	3
3.7099235	0.0	5H.8434	0.0							3P	4
214	1	.1500000	.0500000	0.0	-.6234555	3.7370737	-.3853501			5P	5
3.7370736	0.0									5P	6
214	1	.1500000	.0500000	0.0	.2199411	3.7370734	.0381899			7P	7
3.7370735	0.0									7P	8
106	1	3	0.0	-.6234555	3.8810318	-.6234555	3.8810318	-.6234555		9P	9
3.6120737	0.0									9P	10
106	1	3	0.0	.2199411	3.9435048	.2199411	3.9435048	.2199411		11P	11
3.6120734	0.0									11P	12
216	3	S	7,9,11	0.0						13P	13
212	1	S	.1606400	.0543000	1	1.5707963	0.0	0.0		15P	14
3.7739236	0.0	5H.8434	0.0							15P	15
214	1	.1500000	.0500000	0.0	2.1125445	3.8010736	1.9064388			17P	16
3.8010736	0.0									17P	17
214	1	.1500000	.0500000	0.0	2.9559417	3.8010736	3.1696933			19P	18
3.8010736	0.0									19P	19
106	1	3	0.0	2.1125445	3.9370313	2.1125445	3.9370313	2.1125445		21P	20
3.6760736	0.0									21P	21
106	1	3	0.0	2.9559417	3.9995050	2.9559417	3.9995050	2.9559417		23P	22
3.6760736	0.0									23P	23
216	15	17,19,21,23	0.0							25P	24
212	1	S	.1606400	.0543000	1	1.5707963	0.0	0.0		27P	25
3.9499242	0.0	5H.8434	0.0							27P	26
214	1	.1500000	.0500000	0.0	4.6925449	3.9770741	4.5652793			29P	27

3.9770741,0,0;	29P	29
214,2,.1500000,.0500000,0.0,5.5359416,3.9770741,5.5900502,	31P	29
3.9770741,5.6986499,3.9770744,0,0;	31P	30
106,1,3,0.0,4.6925449,3.9450312,4.6925449,3.9450312,4.6925449,	33P	31
3.8520741,0,0;	33P	32
106,1,3,0.0,5.5359416,4.0075045,5.5359416,4.0075045,5.5359416,	35P	33
3.8520741,0,0;	35P	34
216,27,29,31,33,35,0,0;	37P	35
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,8.5289497,	39P	36
3.9659240,0.0,5H.8434,0,0;	39P	37
214,3,.1500000,.0500000,0.0,7.4125433,3.9930739,7.8342419,	41P	38
3.9930739,7.8342419,3.9930742,8.4746494,3.9930742,0,0;	41P	39
214,1,.1500000,.0500000,0.0,8.2559404,3.9930739,7.8342419,	43P	40
3.9930739,0,0;	43P	41
106,1,3,0.0,7.4125433,3.9690323,7.4125433,3.9690323,7.4125433,	45P	42
3.8680739,0,0;	45P	43
106,1,3,0.0,8.2559404,4.0315061,8.2559404,4.0315061,8.2559404,	47P	44
3.8680739,0,0;	47P	45
216,39,41,43,45,47,0,0;	49P	46
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,-.3790502,	51P	47
1.6099244,0.0,5H.8434,0,0;	51P	48
214,1,.1500000,.0500000,0.0,-.6794549,1.6370744,-.4333502,	53P	49
1.6370744,0,0;	53P	50
214,1,.1500000,.0500000,0.0,.1639414,1.6370744,-.0098102,	55P	51
1.6370744,0,0;	55P	52
106,1,3,0.0,-.6794549,1.8035065,-.6794549,1.8035065,-.6794549,	57P	53
1.5120744,0,0;	57P	54
106,1,3,0.0,.1639414,1.8035065,.1639414,1.8035065,.1639414,	59P	55
1.5120744,0,0;	59P	56
216,51,53,55,57,59,0,0;	61P	57
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,2.3489499,	63P	58
1.6419244,0.0,5H.8434,0,0;	63P	59
214,1,.1500000,.0500000,0.0,2.0565453,1.6690743,1.8184404,	65P	60
1.6690743,0,0;	65P	61
214,1,.1500000,.0500000,0.0,2.8999419,1.6690743,3.0816940,	67P	62
1.6690743,0,0;	67P	63
106,1,3,0.0,2.0565453,1.8595064,2.0565453,1.8595064,2.0565453,	69P	64
1.5440743,0,0;	69P	65
106,1,3,0.0,2.8999419,1.8595064,2.8999419,1.8595064,2.8999419,	71P	66
1.5440743,0,0;	71P	67
216,63,65,67,69,71,0,0;	73P	68
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,5.8249497,	75P	69
1.7299243,0.0,5H.8434,0,0;	75P	70
214,1,.1500000,.0500000,0.0,4.6365452,1.7570742,4.5092796,	77P	71
1.7570742,0,0;	77P	72
214,2,.1500000,.0500000,0.0,5.4799418,1.7570742,5.6620498,	79P	73
1.7570742,5.7706494,1.7570742,0,0;	79P	74
106,1,3,0.0,4.6365452,1.8675066,4.6365452,1.8675066,4.6365452,	81P	75
1.6320742,0,0;	81P	76
106,1,3,0.0,5.4799418,1.8675066,5.4799418,1.8675066,5.4799418,	83P	77
1.6320742,0,0;	83P	78
216,75,77,79,81,83,0,0;	85P	79

212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,8.5049496,	87P	80
1.7699242,0.0,5H.8434,0,0;	87P	81
214,3,.1500000,.0500000,0.0,7.3565435,1.7970741,7.7782421,	89P	82
1.7970741,7.7782421,1.7970741,8.4506493,1.7970741,0,0;	89P	83
214,1,.1500000,.0500000,0.0,8.1999407,1.7970741,7.7782421,	91P	84
1.7970741,0,0;	91P	85
106,1,3,0.0,7.3565435,1.8915074,7.3565435,1.8915074,7.3565435,	93P	86
1.6720741,0,0;	93P	87
106,1,3,0.0,8.1999407,1.8915074,8.1999407,1.8915074,8.1999407,	95P	88
1.6720741,0,0;	95P	89
216,87,89,91,93,95,0,0;	97P	90
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,-.2470502,	99P	91
-.8980753,0.0,5H.8434,0,0;	99P	92
214,1,.1500000,.0500000,0.0,-.5714565,-.8709253,-.3013502,	101P	93
-.8709253,0,0;	101P	94
214,1,.1500000,.0500000,0.0,.2719398,-.8709253,.1221898,	103P	95
-.8709253,0,0;	103P	96
106,1,3,0.0,-.5714565,-.7029657,-.5714565,-.7029657,-.5714565,	105P	97
-.9959253,0,0;	105P	98
106,1,3,0.0,.2719398,-.7029657,.2719398,-.7029657,.2719398,	107P	99
-.9959253,0,0;	107P	100
216,99,101,103,105,107,0,0;	109P	101
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,2.5129499,	111P	102
-.8500753,0.0,5H.8434,0,0;	111P	103
214,1,.1500000,.0500000,0.0,2.1645436,-.8229253,1.8704371,	113P	104
-.8229253,0,0;	113P	105
214,1,.1500000,.0500000,0.0,3.0079403,-.8229253,3.1336907,	115P	106
-.8229253,0,0;	115P	107
106,1,3,0.0,2.1645436,-.6469661,2.1645436,-.6469661,2.1645436,	117P	108
-.9479253,0,0;	117P	109
106,1,3,0.0,3.0079403,-.6469661,3.0079403,-.6469661,3.0079403,	119P	110
-.9479253,0,0;	119P	111
216,111,113,115,117,119,0,0;	121P	112
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,5.7969503,	123P	113
-.7860753,0.0,5H.8434,0,0;	123P	114
214,1,.1500000,.0500000,0.0,4.7445436,-.7589253,4.6172780,	125P	115
-.7589253,0,0;	125P	116
214,2,.1500000,.0500000,0.0,5.5879402,-.7589254,5.6340504,	127P	117
-.7589254,5.7426500,-.7589253,0,0;	127P	118
106,1,3,0.0,4.7445436,-.6389657,4.7445436,-.6389657,4.7445436,	129P	119
-.8839253,0,0;	129P	120
106,1,3,0.0,5.5879402,-.6389657,5.5879402,-.6389657,5.5879402,	131P	121
-.8839254,0,0;	131P	122
216,123,125,127,129,131,0,0;	133P	123
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,8.5329494,	135P	124
-.6740752,0.0,5H.8434,0,0;	135P	125
214,1,.1500000,.0500000,0.0,7.4645410,-.6469253,7.8862398,	137P	126
-.6469253,0,0;	137P	127
214,3,.1500000,.0500000,0.0,8.3079386,-.6469253,7.8862398,	139P	128
-.6469253,7.8862398,-.6469253,8.4786491,-.6469253,0,0;	139P	129
106,1,3,0.0,7.4645410,-.6149648,7.4645410,-.6149648,7.4645410,	141P	130
-.7719253,0,0;	141P	131

106,1,3,0.0,8.3079386,-.6149648,8.3079386,-.6149648,8.3079386,	143P	132
-.7719253,0,0;	143P	133
216,135,137,139,141,143,0,0;	145P	134
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,-.3630502,	147P	135
-2.5500751,0.0,5H.8434,0,0;	147P	136
214,3,.1500000,.0500000,0.0,-.6474565,-2.5229250,-.2257583,	149P	137
-2.5229250,-.2257583,-2.5229251,-.4173502,-2.5229251,0,0;	149P	138
214,1,.1500000,.0500000,0.0,.1959399,-2.5229250,-.2257583,	151P	139
-2.5229250,0,0;	151P	140
106,1,3,0.0,-.6474565,-1.9916750,-.6474565,-1.9916750,-.6474565,	153P	141
-2.6479250,0,0;	153P	142
106,1,3,0.0,.1959399,-1.9916750,.1959399,-1.9916750,.1959399,	155P	143
-2.6479250,0,0;	155P	144
216,147,149,151,153,155,0,0;	157P	145
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,2.3489499,	159P	146
-2.5020752,0.0,5H.8434,0,0;	159P	147
214,1,.1500000,.0500000,0.0,2.0885434,-2.4749253,1.8824368,	161P	148
-2.4749253,0,0;	161P	149
214,1,.1500000,.0500000,0.0,2.9319401,-2.4749253,3.1456903,	163P	150
-2.4749253,0,0;	163P	151
106,1,3,0.0,2.0885434,-1.9436753,2.0885434,-1.9436753,2.0885434,	165P	152
-2.5999253,0,0;	165P	153
106,1,3,0.0,2.9319401,-1.9436753,2.9319401,-1.9436753,2.9319401,	167P	154
-2.5999253,0,0;	167P	155
216,159,161,163,165,167,0,0;	169P	156
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,5.6409497,	171P	157
-2.4700751,0.0,5H.8434,0,0;	171P	158
214,1,.1500000,.0500000,0.0,4.6685438,-2.4429251,4.5412782,	173P	159
-2.4429251,0,0;	173P	160
214,2,.1500000,.0500000,0.0,5.5119405,-2.4429251,5.5458312,	175P	161
-2.4429251,5.5866494,-2.4429252,0,0;	175P	162
106,1,3,0.0,4.6685438,-1.9116751,4.6685438,-1.9116751,4.6685438,	177P	163
-2.5679251,0,0;	177P	164
106,1,3,0.0,5.5119405,-1.9116751,5.5119405,-1.9116751,5.5119405,	179P	165
-2.5679251,0,0;	179P	166
216,171,173,175,177,179,0,0;	181P	167
212,1,5,.1606400,.0543000,1,1.5707963,0.0,0,0,8.4459953,	183P	168
-2.4373329,0.0,5H.8434,0,0;	183P	169
214,3,.1500000,.0500000,0.0,7.3885422,-2.4101831,7.8102407,	185P	170
-2.4101831,7.8102407,-2.4101830,8.3916950,-2.4101830,0,0;	185P	171
214,1,.1500000,.0500000,0.0,8.2319393,-2.4101831,7.8102407,	187P	172
-2.4101831,0,0;	187P	173
106,1,3,0.0,7.3885422,-1.8789331,7.3885422,-1.8789331,7.3885422,	189P	174
-2.5351831,0,0;	189P	175
106,1,3,0.0,8.2319393,-1.8789331,8.2319393,-1.8789331,8.2319393,	191P	176
-2.5351831,0,0;	191P	177
216,183,185,187,189,191,0,0;	193P	178
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.5227866,	195P	179
4.4041305,0.0,5H.7971,0,0;	195P	180
214,1,.1500000,.0500000,0.0,.6802565,4.0372548,.6802565,	197P	181
4.3498306,0,0;	197P	182
214,1,.1500000,.0500000,0.0,.6802565,4.8343368,.6802565,	199P	183

4.5127311,0,0;	199P	184
106,1,3,0.0,.3136918,4.0372548,.3136918,4.0372548,.8052565,	201P	185
4.0372548,0,0;	201P	186
106,1,3,0.0,.2759593,4.8343368,.2759593,4.8343368,.8052565,	203P	187
4.8343368,0,0;	203P	188
216,195,197,199,201,203,0,0;	205P	189
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.2907867,	207P	190
4.4521308,0.0,5H.7971,0,0;	207P	191
214,1,.1500000,.0500000,0.0,3.4482570,4.0932550,3.4482570,	209P	192
3.7886791,0,0;	209P	193
214,1,.1500000,.0500000,0.0,3.4482570,4.8903365,3.4482570,	211P	194
5.2199416,0,0;	211P	195
106,1,3,0.0,3.0496922,4.0932550,3.0496922,4.0932550,3.5732570,	213P	196
4.0932550,0,0;	213P	197
106,1,3,0.0,3.0119591,4.8903365,3.0119591,4.8903365,3.5732570,	215P	198
4.8903365,0,0;	215P	199
216,207,209,211,213,215,0,0;	217P	200
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,5.8556762,	219P	201
5.0316863,0.0,5H.7971,0,0;	219P	202
214,1,.1500000,.0500000,0.0,5.6927762,4.1012545,5.6927762,	221P	203
3.9739889,0,0;	221P	204
214,2,.1500000,.0500000,0.0,5.6927762,4.8983369,5.6927762,	223P	205
5.0588365,5.8013759,5.0588365,0,0;	223P	206
106,1,3,0.0,5.6296926,4.1012545,5.6296926,4.1012545,5.8177762,	225P	207
4.1012545,0,0;	225P	208
106,1,3,0.0,5.5919585,4.8983369,5.5919585,4.8983369,5.8177762,	227P	209
4.8983369,0,0;	227P	210
216,219,221,223,225,227,0,0;	229P	211
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.6423426,	231P	212
5.0227071,0.0,5H.7971,0,0;	231P	213
214,3,.1500000,.0500000,0.0,8.4794426,4.1252561,8.4794426,	233P	214
4.5237970,8.4794426,5.0499473,8.5880423,5.0499473,0,0;	233P	215
214,1,.1500000,.0500000,0.0,8.4794426,4.9223380,8.4794426,	235P	216
4.5237970,0,0;	235P	217
106,1,3,0.0,8.3496914,4.1252561,8.3496914,4.1252561,8.6044426,	237P	218
4.1252561,0,0;	237P	219
106,1,3,0.0,8.3119574,4.9223380,8.3119574,4.9223380,8.6044426,	239P	220
4.9223380,0,0;	239P	221
216,231,233,235,237,239,0,0;	241P	222
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.5067868,	243P	223
2.2739091,0.0,5H.7971,0,0;	243P	224
214,1,.1500000,.0500000,0.0,.6642568,1.8972565,.6642568,	245P	225
2.2196094,0,0;	245P	226
214,1,.1500000,.0500000,0.0,.6642568,2.6943388,.6642568,	247P	227
2.3825092,0,0;	247P	228
106,1,3,0.0,.2199603,1.8972565,.2199603,1.8972565,.7892568,	249P	229
1.8972565,0,0;	249P	230
106,1,3,0.0,.2199603,2.6943388,.2199603,2.6943388,.7892568,	251P	231
2.6943388,0,0;	251P	232
216,243,245,247,249,251,0,0;	253P	233
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.1734543,	255P	234
2.2183541,0.0,5H.7971,0,0;	255P	235

214,1,.1500000,.0500000,0.0,3.3309245,1.9532561,3.3309245,	257P	236
1.6424580,0,0;	257P	237
214,1,.1500000,.0500000,0.0,3.3309245,2.7503386,3.3309245,	259P	238
3.0737228,0,0;	259P	239
106,1,3,0.0,2.9559598,1.9532561,2.9559598,1.9532561,3.4559245,	261P	240
1.9532561,0,0;	261P	241
106,1,3,0.0,2.9559598,2.7503386,2.9559598,2.7503386,3.4559245,	263P	242
2.7503386,0,0;	263P	243
216,255,257,259,261,263,0,0;	265P	244
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,5.7490096,	267P	245
2.9850202,0.0,5H.7971,0,0;	267P	246
214,1,.1500000,.0500000,0.0,5.5861096,1.9612564,5.5861096,	269P	247
1.8339908,0,0;	269P	248
214,2,.1500000,.0500000,0.0,5.5861096,2.7583389,5.5861096,	271P	249
3.0121703,5.6947093,3.0121703,0,0;	271P	250
106,1,3,0.0,5.5359597,1.9612564,5.5359597,1.9612564,5.7111096,	273P	251
1.9612564,0,0;	273P	252
106,1,3,0.0,5.5359597,2.7583389,5.5359597,2.7583389,5.7111096,	275P	253
2.7583389,0,0;	275P	254
216,267,269,271,273,275,0,0;	277P	255
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.5890093,	279P	256
2.9316869,0.0,5H.7971,0,0;	279P	257
214,3,.1500000,.0500000,0.0,8.4261093,1.9852574,8.4261093,	281P	258
2.3837985,8.4261093,2.9588370,8.5347090,2.9588370,0,0;	281P	259
214,1,.1500000,.0500000,0.0,8.4261093,2.7823396,8.4261093,	283P	260
2.3837985,0,0;	283P	261
106,1,3,0.0,8.2559586,1.9852574,8.2559586,1.9852574,8.5511093,	285P	262
1.9852574,0,0;	285P	263
106,1,3,0.0,8.2559586,2.7823396,8.2559586,2.7823396,8.5511093,	287P	264
2.7823396,0,0;	287P	265
216,279,281,283,285,287,0,0;	289P	266
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.6334534,	291P	267
-.1283129,0.0,5H.7971,0,0;	291P	268
214,1,.1500000,.0500000,0.0,.7909234,-.5467421,.7909234,	293P	269
-.1826127,0,0;	293P	270
214,1,.1500000,.0500000,0.0,.7909234,.2503400,.7909234,	295P	271
-.0197127,0,0;	295P	272
106,1,3,0.0,.3656907,-.5467421,.3656907,-.5467421,.9159234,	297P	273
-.5467421,0,0;	297P	274
106,1,3,0.0,.3656907,.2503400,.3656907,.2503400,.9159234,	299P	275
.2503400,0,0;	299P	276
216,291,293,295,297,299,0,0;	301P	277
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.3890090,	303P	278
-.1283129,0.0,5H.7971,0,0;	303P	279
214,1,.1500000,.0500000,0.0,3.5464792,-.4907423,3.5464792,	305P	280
-.7988717,0,0;	305P	281
214,1,.1500000,.0500000,0.0,3.5464792,.3063399,3.5464792,	307P	282
.6333937,0,0;	307P	283
106,1,3,0.0,3.1016908,-.4907423,3.1016908,-.4907423,3.6714792,	309P	284
-.4907423,0,0;	309P	285
106,1,3,0.0,3.1016908,.3063399,3.1016908,.3063399,3.6714792,	311P	286
.3063399,0,0;	311P	287

216,303,305,307,309,311,0,0;	313P	288
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,5.8578987,	315P	289
.5027984,0.0,5H.7971,0,0;	315P	290
214,1,.1500000,.0500000,0.0,5.6949987,-.4827421,5.6949987,	317P	291
-.6100077,0,0;	317P	292
214,2,.1500000,.0500000,0.0,5.6949987,.3143407,5.6949987,	319P	293
.5299483,5.8035984,.5299483,0,0;	319P	294
106,1,3,0.0,5.6816912,-.4827421,5.6816912,-.4827421,5.8199987,	321P	295
-.4827421,0,0;	321P	296
106,1,3,0.0,5.6816912,.3143407,5.6816912,.3143407,5.8199987,	323P	297
.3143407,0,0;	323P	298
216,315,317,319,321,323,0,0;	325P	299
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.8045654,	327P	300
.4672429,0.0,5H.7971,0,0;	327P	301
214,3,.1500000,.0500000,0.0,8.6416655,-.4587413,8.6416655,	329P	302
-.0601999,8.6416655,.4943928,8.7502651,.4943928,0,0;	329P	303
214,1,.1500000,.0500000,0.0,8.6416655,.3383414,8.6416655,	331P	304
-.0601999,0,0;	331P	305
106,1,3,0.0,8.4016895,-.4587413,8.4016895,-.4587413,8.7666655,	333P	306
-.4587413,0,0;	333P	307
106,1,3,0.0,8.4016895,.3383414,8.4016895,.3383414,8.7666655,	335P	308
.3383414,0,0;	335P	309
216,327,329,331,333,335,0,0;	337P	310
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,.5245647,	339P	311
-2.0283127,0.0,5H.7971,0,0;	339P	312
214,1,.1500000,.0500000,0.0,.6820347,-2.3987420,.6820347,	341P	313
-2.0826126,0,0;	341P	314
214,1,.1500000,.0500000,0.0,.6820347,-1.6016597,.6820347,	343P	315
-1.9197126,0,0;	343P	316
106,1,3,0.0,.1507847,-2.3987420,.1507847,-2.3987420,.8070347,	345P	317
-2.3987420,0,0;	345P	318
106,1,3,0.0,.1507847,-1.6016597,.1507847,-1.6016597,.8070347,	347P	319
-1.6016597,0,0;	347P	320
216,339,341,343,345,347,0,0;	349P	321
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,3.2267876,	351P	322
-1.9838684,0.0,5H.7971,0,0;	351P	323
214,1,.1500000,.0500000,0.0,3.3842578,-2.3427420,3.3842578,	353P	324
-2.6473156,0,0;	353P	325
214,1,.1500000,.0500000,0.0,3.3842578,-1.5456599,3.3842578,	355P	326
-1.2160515,0,0;	355P	327
106,1,3,0.0,2.8530078,-2.3427420,2.8530078,-2.3427420,3.5092578,	357P	328
-2.3427420,0,0;	357P	329
106,1,3,0.0,2.8530078,-1.5456599,2.8530078,-1.5456599,3.5092578,	359P	330
-1.5456599,0,0;	359P	331
216,351,353,355,357,359,0,0;	361P	332
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,5.7845654,	363P	333
-1.4505347,0.0,5H.7971,0,0;	363P	334
214,1,.1500000,.0500000,0.0,5.6216655,-2.3347421,5.6216655,	365P	335
-2.4620077,0,0;	365P	336
214,2,.1500000,.0500000,0.0,5.6216655,-1.5376594,5.6216655,	367P	337
-1.4233847,5.7302651,-1.4233847,0,0;	367P	338
106,1,3,0.0,5.0904155,-2.3347421,5.0904155,-2.3347421,5.7466655,	369P	339

-2.3347421,0,0;	369P	340
106,1,3,0.0,5.0904155,-1.5376594,5.0904155,-1.5376594,5.7466655,	371P	341
-1.5376594,0,0;	371P	342
216,363,365,367,369,371,0,0;	373P	343
212,1,5,.1226300,.0543000,1,1.5707963,0.0,0,0,8.6067867,	375P	344
-1.3972015,0.0,SH.7971,0,0;	375P	345
214,3,.1500000,.0500000,0.0,8.4438868,-2.3107412,8.4438868,	377P	346
-1.3121998,8.4438868,-1.3700516,8.5524864,-1.3700516,0,0;	377P	347
214,1,.1500000,.0500000,0.0,8.4438868,-1.5136584,8.4438868,	379P	348
-1.5136584,0,0;	379P	349
106,1,3,0.0,7.9126368,-2.3107412,7.9126368,-2.3107412,8.5688868,	381P	350
-2.3107412,0,0;	381P	351
106,1,3,0.0,7.9126368,-1.5136584,7.9126368,-1.5136584,8.5688868,	383P	352
-1.5136584,0,0;	383P	353
216,375,377,379,381,383,0,0;	385P	354
S 1G 2D 386P 354	T	1



3.3.14 Radius Dimension

The radius dimensions contain subentities which include leaders, arc center points and general notes.

The following conventions were followed:

- general note sub-entities to be single text string with no box rotation
- leaders to have two or three segments

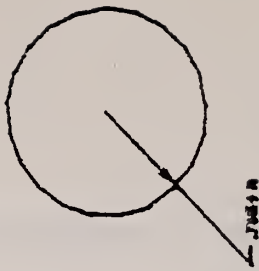
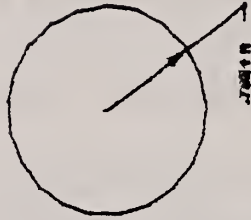
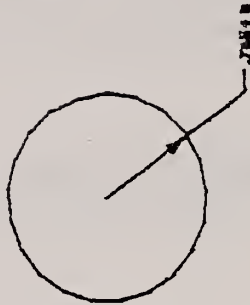
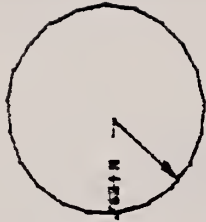
Case 1 (Figures 3.3.14-1 and 3.3.14-2) tests the following:

- text in, arrows in configuration
- text out, arrows in configuration
- variable length horizontal leader segments
- leader originating from head of text
- leader originating from tail of text

Case 2

- This is identical to Case 1 except non-model space with rotation (-60.34° , 3.63° , 2.06°) is used per section 3.0

TEXT IN/
ARROWS IN



TEXT OUT/
ARROWS IN

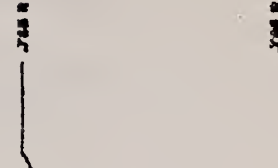
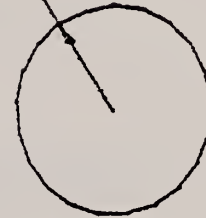
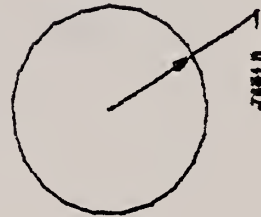


Figure 3.3.14-1 Radius Dimension Cases 1 and 2 (with annotation)

Case 1: Rotation $(0^\circ, 0^\circ, 0^\circ)$

Case 2: Rotation $(-60.34^\circ, 3.63^\circ, 2.06^\circ)$

Case 1: Rotation (-60.34°, 3.63°, 2.06°)
Case 2: Rotation (-60.34°, 3.63°, 2.06°)

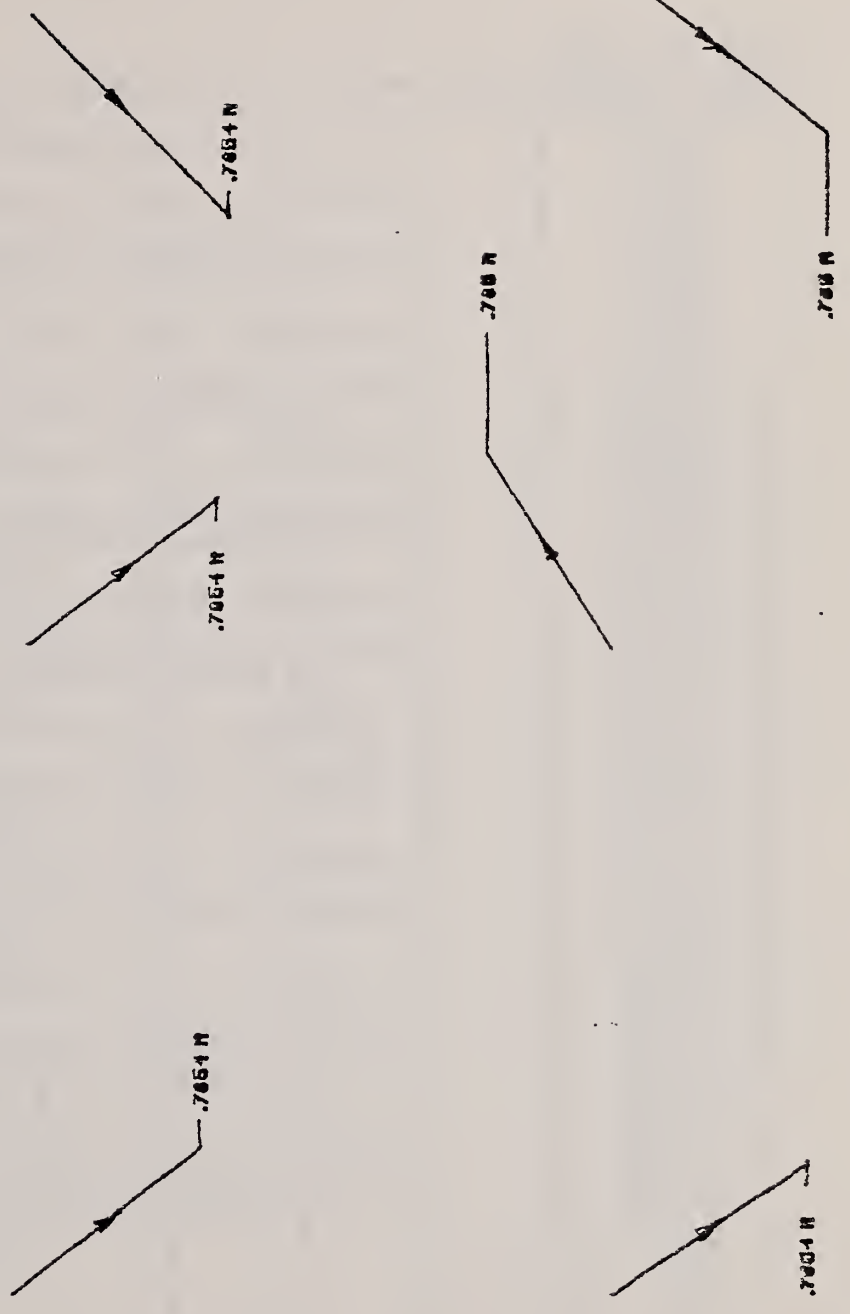
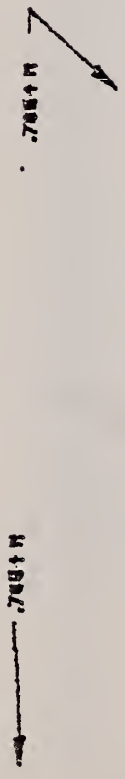


Figure 3.3.14.2 Radius Dimension Cases 1 and 2 (actual part)

RDIM TEST CASE 1										S	1	
1H,,1H;,,5HRDIM1,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG											1	
810827.123148,,,,;										G	2	
124	1	1	1	0	0	0	0	0	0	0	D	1
124	0	0	2	0						0D		2
212	3	1	1	0	0	1	0	0	1	1	D	3
212	0	0	2	0						0D		4
214	5	1	1	0	0	1	0	0	1	1	D	5
214	0	0	2	3						0D		6
222	7	1	1	0	0	1	0	0	0	1	D	7
222	0	0	1	0						0D		8
212	8	1	1	0	0	1	0	0	1	1	D	9
212	0	0	2	0						0D		10
214	10	1	1	0	0	1	0	0	1	1	D	11
214	0	0	2	3						0D		12
222	12	1	1	0	0	1	0	0	0	1	D	13
222	0	0	1	0						0D		14
212	13	1	1	0	0	1	0	0	1	1	D	15
212	0	0	2	0						0D		16
214	15	1	1	0	0	1	0	0	1	1	D	17
214	0	0	2	3						0D		18
222	17	1	1	0	0	1	0	0	0	1	D	19
222	0	0	1	0						0D		20
212	18	1	1	0	0	1	0	0	1	1	D	21
212	0	0	2	0						0D		22
214	20	1	1	0	0	1	0	0	1	1	D	23
214	0	0	2	3						0D		24
222	22	1	1	0	0	1	0	0	0	1	D	25
222	0	0	1	0						0D		26
212	23	1	1	0	0	1	0	0	1	1	D	27
212	0	0	2	0						0D		28
214	25	1	1	0	0	1	0	0	1	1	D	29
214	0	0	2	3						0D		30
222	27	1	1	0	0	1	0	0	0	1	D	31
222	0	0	1	0						0D		32
212	28	1	1	0	0	1	0	0	1	1	D	33
212	0	0	2	0						0D		34
214	30	1	1	0	0	1	0	0	1	1	D	35
214	0	0	2	3						0D		36
222	32	1	1	0	0	1	0	0	0	1	D	37
222	0	0	1	0						0D		38
212	33	1	1	0	0	1	0	0	1	1	D	39
212	0	0	2	0						0D		40
214	35	1	1	0	0	1	0	0	1	1	D	41
214	0	0	2	3						0D		42
222	37	1	1	0	0	1	0	0	0	1	D	43
222	0	0	1	0						0D		44
212	38	1	1	0	0	1	0	0	1	1	D	45
212	0	0	2	0						0D		46
214	40	1	1	0	0	1	0	0	1	1	D	47
214	0	0	2	3						0D		48
222	42	1	1	0	0	1	0	0	0	1	D	49

222	0	0	1	0	OD	50
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,					1P	1
1.0000000,0.0,0,0;					1P	2
212,1,7,.3185600,.0654000,1,1.5707963,0.0,0,0,2.1867423,					3P	3
5.1707363,0.0,7H.7654 R,0,0;					3P	4
214,3,.1500000,.0500000,0.0,1.6395237,5.6704168,1.1796277,					5P	5
6.2822447,1.9905422,5.2034359,2.1213422,5.2034359,0,0;					5P	6
222,3,5,1.1796277,6.2822447,0,0;					7P	7
212,1,7,.3185600,.0654000,1,1.5707963,0.0,0,0,4.8446350,					9P	8
5.0808229,0.0,7H.7654 R,0,0;					9P	9
214,3,.1500000,.0500000,0.0,5.2303839,5.5779562,4.7724924,					11P	10
6.1912851,5.5771151,5.1135225,5.4463148,5.1135225,0,0;					11P	11
222,9,11,4.7724924,6.1912851,0,0;					13P	12
212,1,7,.3185600,.0654000,1,1.5707963,0.0,0,0,7.3218365,					15P	13
5.0108891,0.0,7H.7654 R,0,0;					15P	14
214,3,.1500000,.0500000,0.0,7.7043066,5.6335106,8.2402897,					17P	15
6.1799164,7.1256361,5.0435886,7.2564363,5.0435886,0,0;					17P	16
222,15,17,8.2402897,6.1799164,0,0;					19P	17
212,1,7,.3185600,.0654000,1,1.5707963,0.0,0,0,1.1881292,					21P	18
1.6041441,0.0,7H.7654 R,0,0;					21P	19
214,3,.1500000,.0500000,0.0,1.5900917,2.1570453,1.1796277,					23P	20
2.8030782,1.9206092,1.6368442,1.7898092,1.6368442,0,0;					23P	21
222,21,23,1.1796277,2.8030782,0,0;					25P	22
212,1,7,.3185600,.0654000,1,1.5707963,0.0,0,0,1.2453539,					27P	23
9.4113960,0.0,7H.7654 R,0,0;					27P	24
214,2,.1500000,.0500000,0.0,.4092200,9.4117279,1.0491536,					29P	25
9.4440956,1.1799538,9.4440956,0,0;					29P	26
222,27,29,1.1736424,9.4503927,0,0;					31P	27
212,1,7,.3185600,.0654000,1,1.5707963,0.0,0,0,3.8433030,					33P	28
9.3314724,0.0,7H.7654 R,0,0;					33P	29
214,2,.1500000,.0500000,0.0,4.1367135,8.8636198,4.5757833,					35P	30
9.3641720,4.4449830,9.3641720,0,0;					35P	31
222,33,35,4.6414399,9.4390230,0,0;					37P	32
212,1,6,.2466200,.0654000,1,1.5707963,0.0,0,0,6.5733256,					39P	33
3.4967549,0.0,6H.765 R,0,0;					39P	34
214,3,.1500000,.0500000,0.0,5.3853970,3.2309401,4.7529535,					41P	35
2.7998343,5.8233256,3.5294549,6.4733257,3.5294549,0,0;					41P	36
222,39,41,4.7529535,2.7998343,0,0;					43P	37
212,1,6,.2466200,.0654000,1,1.5707963,0.0,0,0,6.5733256,					45P	38
1.4967549,0.0,6H.765 R,0,0;					45P	39
214,3,.1500000,.0500000,0.0,8.0509501,2.1821518,8.5029516,					47P	40
2.7998343,7.5733261,1.5294548,7.0317178,1.5294548,0,0;					47P	41
222,45,47,8.5029516,2.7998343,0,0;					49P	42
S 1G 2D 50P 42 T 1						

RDIM TEST CASE 2								S	1
1H,,1H;,,5HRDIM2,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13HG								G	2
810827.123218,,,,;								D	1
124	1	1	1	0	0	0	0 0 0 0	D	1
124	0	0	2	0				OD	2
212	3	1	1	0	0	1	0 0 1 1	D	3
212	0	0	2	0				OD	4
214	5	1	1	0	0	1	0 0 1 1	D	5
214	0	0	2	3				OD	6
222	7	1	1	0	0	1	0 0 0 1	D	7
222	0	0	1	0				OD	8
212	8	1	1	0	0	1	0 0 1 1	D	9
212	0	0	2	0				OD	10
214	10	1	1	0	0	1	0 0 1 1	D	11
214	0	0	2	3				OD	12
222	12	1	1	0	0	1	0 0 0 1	D	13
222	0	0	1	0				OD	14
212	13	1	1	0	0	1	0 0 1 1	D	15
212	0	0	2	0				OD	16
214	15	1	1	0	0	1	0 0 1 1	D	17
214	0	0	2	3				OD	18
222	17	1	1	0	0	1	0 0 0 1	D	19
222	0	0	1	0				OD	20
212	18	1	1	0	0	1	0 0 1 1	D	21
212	0	0	2	0				OD	22
214	20	1	1	0	0	1	0 0 1 1	D	23
214	0	0	2	3				OD	24
222	22	1	1	0	0	1	0 0 0 1	D	25
222	0	0	1	0				OD	26
212	23	1	1	0	0	1	0 0 1 1	D	27
212	0	0	2	0				OD	28
214	25	1	1	0	0	1	0 0 1 1	D	29
214	0	0	2	3				OD	30
222	27	1	1	0	0	1	0 0 0 1	D	31
222	0	0	1	0				OD	32
212	28	1	1	0	0	1	0 0 1 1	D	33
212	0	0	2	0				OD	34
214	30	1	1	0	0	1	0 0 1 1	D	35
214	0	0	2	3				OD	36
222	32	1	1	0	0	1	0 0 0 1	D	37
222	0	0	1	0				OD	38
212	33	1	1	0	0	1	0 0 1 1	D	39
212	0	0	2	0				OD	40
214	35	1	1	0	0	1	0 0 1 1	D	41
214	0	0	2	3				OD	42
222	37	1	1	0	0	1	0 0 0 1	D	43
222	0	0	1	0				OD	44
212	38	1	1	0	0	1	0 0 1 1	D	45
212	0	0	2	0				OD	46
214	40	1	1	0	0	1	0 0 1 1	D	47
214	0	0	2	3				OD	48
222	42	1	1	0	0	1	0 0 0 1	D	49

222	0	0	1	0	0D	50
124,	.9973390,	.0360059,	-.0633904,	0.0,-.0729025,	.4925772,	1P 1
-.	8672098,	0.0,0.0,	.8695235,	.4938914,	0.0,0,0;	1P 2
212,	1,7,	.3185600,	.0654000,	1,1.5707963,	0.0,0,0,2.1867423,	3P 3
5.	1707363,	0.0,7H.7654	R,0,0;			3P 4
214,	3,	.1500000,	.0500000,	0.0,1.6395237,	5.6704168,	5P 5
6.	2822447,	1.9905422,	5.2034359,	2.1213422,	5.2034359,	5P 6
222,	3,5,	1.1796277,	6.2822447,	0,0;		7P 7
212,	1,7,	.3185600,	.0654000,	1,1.5707963,	0.0,0,0,4.8446350,	9P 8
5.	0808229,	0.0,7H.7654	R,0,0;			9P 9
214,	3,	.1500000,	.0500000,	0.0,5.2303839,	5.5779562,	11P 10
6.	1912851,	5.5771151,	5.1135225,	5.4463148,	5.1135225,	11P 11
222,	9,11,	4.7724924,	6.1912851,	0,0;		13P 12
212,	1,7,	.3185600,	.0654000,	1,1.5707963,	0.0,0,0,7.3218365,	15P 13
5.	0108891,	0.0,7H.7654	R,0,0;			15P 14
214,	3,	.1500000,	.0500000,	0.0,7.7043066,	5.6335106,	17P 15
6.	1799164,	7.1256361,	5.0435886,	7.2564363,	5.0435886,	17P 16
222,	15,17,	8.2402897;	6.1799164,	0,0;		19P 17
212,	1,7,	.3185600,	.0654000,	1,1.5707963,	0.0,0,0,1.1881292,	21P 18
1.	6041441,	0.0,7H.7654	R,0,0;			21P 19
214,	3,	.1500000,	.0500000,	0.0,1.5900917,	2.1570468,	23P 20
2.	8030782,	1.9206092,	1.6368442,	1.7898092,	1.6368442,	23P 21
222,	21,23,	1.1796277,	2.8030782,	0,0;		25P 22
212,	1,7,	.3185600,	.0654000,	1,1.5707963,	0.0,0,0,1.2453539,	27P 23
9.	4113960,	0.0,7H.7654	R,0,0;			27P 24
214,	2,	.1500000,	.0500000,	0.0,.4092200,	9.4117279,	29P 25
9.	4440956,	1.1799538,	9.4440956,	0,0;		29P 26
222,	27,29,	1.1736424,	9.4503927,	0,0;		31P 27
212,	1,7,	.3185600,	.0654000,	1,1.5707963,	0.0,0,0,3.8433030,	33P 28
9.	3314724,	0.0,7H.7654	R,0,0;			33P 29
214,	2,	.1500000,	.0500000,	0.0,4.1367135,	8.8636198,	35P 30
9.	3641720,	4.4449830,	9.3641720,	0,0;		35P 31
222,	33,35,	4.6414399,	9.4390230,	0,0;		37P 32
212,	1,6,	.2466200,	.0654000,	1,1.5707963,	0.0,0,0,6.5733256,	39P 33
3.	4967549,	0.0,6H.765	R,0,0;			39P 34
214,	3,	.1500000,	.0500000,	0.0,5.3853970,	3.2309401,	41P 35
2.	7998343,	5.8233256,	3.5294549,	6.4733257,	3.5294549,	41P 36
222,	39,41,	4.7529535,	2.7998343,	0,0;		43P 37
212,	1,6,	.2466200,	.0654000,	1,1.5707963,	0.0,0,0,6.5733256,	45P 38
1.	4967549,	0.0,6H.765	R,0,0;			45P 39
214,	3,	.1500000,	.0500000,	0.0,8.0509501,	2.1821518,	47P 40
2.	7998343,	7.5733261,	1.5294548,	7.0317178,	1.5294548,	47P 41
222,	45,47,	8.5029516,	2.7998343,	0,0;		49P 42
S	1G	2D	50P	42	T	1



3.3.15 Leader

The following conventions were followed:

- solid font
- arrowhead FORM=3
- Z displacement set to 0

Case 1 (Figure 3.3.15-1) tests the following:

- independent leaders with variable lengths

Subordinate leaders are also tested in the label and angular, diameter, linear, and radius dimension cases.

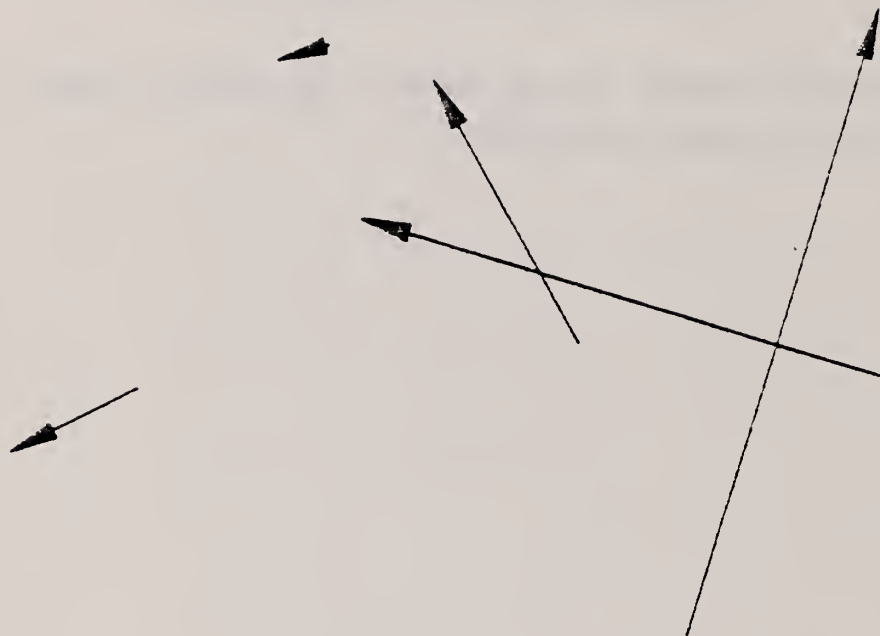


Figure 3.3.15-1 Leader Case 1 (actual part)
Case 1: Rotation (0° , 0° , 0°)

```

LEADER TEST CASE 1
1H,,1H;,,,7HLEADER1,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,
0,,13H810714.085817,,,,;
124      1      1      1      0      0      0      0 0 0 0 0 D
124      0      0      2      0      0      0      0 MTX1 0D
214      3      1      1      0      0      1      0 0 0 0 1 D
214      0      0      2      3      0      0      0 0D
214      5      1      1      0      0      1      0 0 0 1 D
214      0      0      2      3      0      0      0 0D
214      7      1      1      0      0      1      0 0 0 1 D
214      0      0      2      3      0      0      0 CD
214      9      1      1      0      0      1      0 0 0 1 D
214      0      0      2      3      0      0      0 0D
214      11     1      1      0      0      1      0 0 0 1 D
214      0      0      2      3      0      0      0 CD
124,1.0000000,0.0,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,
1.0000000,0.0,0,0,0;
214,2,.1600000,.1280000,0.0,1.5519998,2.3839998,2.1759996,
2.7039995,2.1759996,2.7039995,0,0;
214,2,.1600000,.1280000,0.0,2.8319998,4.2799997,3.0799994,
4.3520002,3.0799994,4.3520002,0,0;
214,2,.1600000,.1280000,0.0,3.5999994,4.1920004,4.3280001,
2.9519997,4.3280001,2.9519997,0,0;
214,2,.1600000,.1280000,0.0,5.7760000,4.5679998,4.8959999,
1.5599999,4.8959999,1.5599999,0,0;
214,2,.1600000,.1280000,0.0,3.2559996,3.5279994,5.8479996,
2.8079996,5.8479996,2.8079996,0,0;
S      1G      2D      12P      12      T

```


3.3.16 Section

Data case not available.

3.3.17 Witness Line

The witness line contains one or more line segments associated with drafting entities (angular dimension and linear dimension). The test for witness lines is part of the tests for angular and linear dimensions.

The following conventions were followed:

- IF parameter set to 1
- N parameter set to 3
- solid font
- witness line is subordinate only

3.3.18 Associativity Instance

Case 1 (Figure 3.3.18-1) tests the following:

- a single group composed of 10 points

Case 2 (Figure 3.3.18-2) tests the following:

- grouping (association) of line and point entities
- 7 levels of nesting

Each subtree in the figure represents a grouping with the level of the subtree representing the level of group nesting.

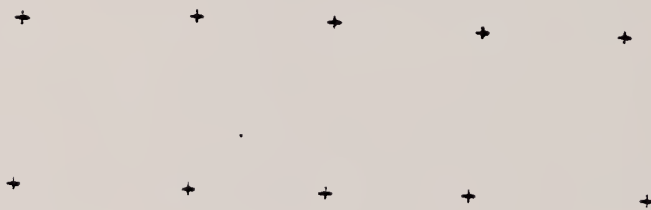


Figure 3.3.18-1 Associativity Instance Case 1 (actual part)
Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)

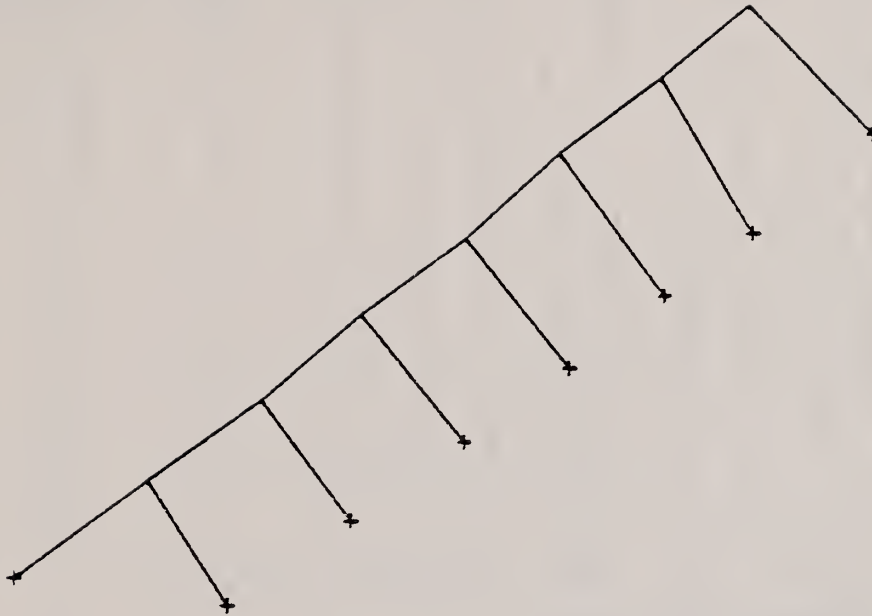


Figure 3.3.18-2 Associativity Instance Case 2 (actual part)

Case 1: Rotation ($0^\circ, 0^\circ, 0^\circ$)

```

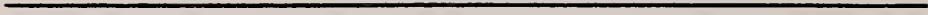
GROUP TEST CASE 1
1H,,1H;,,6HGROUPL,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810713.191823,,,,;
402      1      1      1      0      0      0      0 0 0 0 D 1
402      0      0      2      1      0      0      0      0D 2
116      3      1      1      0      0      0      0 0 1 0 D 3
116      0      0      1      0      0      0      0 P 1D 4
116      4      1      1      0      0      0      0 0 1 0 D 5
116      0      0      1      0      0      0      0 P 2D 6
116      5      1      1      0      0      0      0 0 1 0 D 7
116      0      0      1      0      0      0      0 P 3D 8
116      6      1      1      0      0      0      0 0 1 0 D 9
116      0      0      1      0      0      0      0 P 4D 10
116      7      1      1      0      0      0      0 0 1 0 D 11
116      0      0      1      0      0      0      0 P 5D 12
116      8      1      1      0      0      0      0 0 1 0 D 13
116      0      0      1      0      0      0      0 P 6D 14
116      9      1      1      0      0      0      0 0 1 0 D 15
116      0      0      1      0      0      0      0 P 7D 16
116     10      1      1      0      0      0      0 0 1 0 D 17
116      0      0      1      0      0      0      0 P 8D 18
116     11      1      1      0      0      0      0 0 1 0 D 19
116      0      0      1      0      0      0      0 P 9D 20
116     12      1      1      0      0      0      0 0 1 0 D 21
116      0      0      1      0      0      0      0 P 10D 22
402,10,  3,  5,  7,  9, 11, 13, 15, 17, 19, 21,0,0; 1P 1
116,2.2159996,3.5919995,0.0,0,1,1,0; 3P 3
116,3.0639997,3.6239996,0.0,0,1,1,0; 5P 4
116,3.7279997,3.6159997,0.0,0,1,1,0; 7P 5
116,4.4480000,3.5839996,0.0,0,1,1,0; 9P 6
116,5.1359997,3.5839996,0.0,0,1,1,0; 11P 7
116,2.1999998,2.7759995,0.0,0,1,1,0; 13P 8
116,3.0479994,2.7759995,0.0,0,1,1,0; 15P 9
116,3.7119994,2.7759995,0.0,0,1,1,0; 17P 10
116,4.4080000,2.7839994,0.0,0,1,1,0; 19P 11
116,5.2720003,2.7839994,0.0,0,1,1,0; 21P 12
S      1G      2D      22P      12      T      1

```


402	0	0	1	1	0	0		0D	50
116	26	1	1	0	0	0	0 0 1 0	D	51
116	0	0	1	0	0	0	P	7D	52
116	27	1	1	0	0	0	0 0 1 0	D	53
116	0	0	1	0	0	0	P	8D	54
110	28	1	1	0	0	0	0 0 1 0	D	55
110	0	0	1	0	0	0	L13	0D	56
110	29	1	1	0	0	0	0 0 1 0	D	57
110	0	0	1	0	0	0	L14	0D	58
402,4,	3,	5,	7,	9,0,0;				1P	1
116,5.7119999,	4.1840000,	0.0,0,1,1,0;						3P	2
110,4.6960001,	4.4480000,	0.0,5.1199999,	4.7919998,	0.0,1,1,0;				5P	3
110,5.1199999,	4.7919998,	0.0,5.7119999,	4.1840000,	0.0,1,1,0;				7P	4
402,4,	11,	13,	15,	17,1,1,0;				9P	5
116,5.1359997,	3.7199993,	0.0,0,1,9,0;						11P	6
110,4.2080002,	4.0959997,	0.0,4.6960001,	4.4480000,	0.0,1,9,0;				13P	7
110,4.6960001,	4.4480000,	0.0,5.1359997,	3.7199993,	0.0,1,9,0;				15P	8
402,4,	19,	21,	23,	25,1,9,0;				17P	9
116,4.7119999,	3.4239993,	0.0,0,1,17,0;						19P	10
110,3.7599993,	3.6959996,	0.0,4.2080002,	4.0959997,	0.0,1,17,0;				21P	11
110,4.2080002,	4.0959997,	0.0,4.7119999,	3.4239993,	0.0,1,17,0;				23P	12
402,4,	27,	29,	31,	33,1,17,0;				25P	13
116,4.2559996,	3.0799994,	0.0,0,1,25,0;						27P	14
110,3.2559996,	3.3359995,	0.0,3.7599993,	3.6959996,	0.0,1,25,0;				29P	15
110,3.7599993,	3.6959996,	0.0,4.2559996,	3.0799994,	0.0,1,25,0;				31P	16
402,4,	35,	37,	39,	41,1,25,0;				33P	17
116,3.7519994,	2.7279997,	0.0,0,1,33,0;						35P	18
110,2.7759995,	2.9279995,	0.0,3.2559996,	3.3359995,	0.0,1,33,0;				37P	19
110,3.2559996,	3.3359995,	0.0,3.7519994,	2.7279997,	0.0,1,33,0;				39P	20
402,4,	43,	45,	47,	49,1,33,0;				41P	21
116,3.2079997,	2.3519998,	0.0,0,1,41,0;						43P	22
110,2.7759995,	2.9279995,	0.0,2.2319994,	2.5439997,	0.0,1,41,0;				45P	23
110,2.7759995,	2.9279995,	0.0,3.2079997,	2.3519998,	0.0,1,41,0;				47P	24
402,4,	51,	53,	55,	57,1,41,0;				49P	25
116,2.6159997,	1.9519999,	0.0,0,1,49,0;						51P	26
116,1.5920000,	2.0799994,	0.0,0,1,49,0;						53P	27
110,1.5920000,	2.0799994,	0.0,2.2319994,	2.5439997,	0.0,1,49,0;				55P	28
110,2.2319994,	2.5439997,	0.0,2.6159997,	1.9519999,	0.0,1,49,0;				57P	29
S	1G	2D	58P	29				T	1

3.3.19 Line Fonts

The four line fonts of solid, dashed, phantom, and centerline are tested in various entity tests including those for lines, arcs, and conics. The fonts are defined qualitatively only and no data concerning exact dash and gap lengths is included. Thus the display of these fonts on different systems may appear differently. Examples of the different fonts are shown in Figure 3.3.19-1.



SOLID



DASHED



PHANTOM



CENTERLINE

Figure 3.3.19-1 Examples of Line Fonts

3.3.20 Levels

Case 1 (Figures 3.3.20-1 and 3.3.20-2) tests the following:

- levels 0-15 contain one point on each level (point label/subscript corresponds to the level it resides on)

LEVEL 12 LEVEL 13 LEVEL 14 LEVEL 15

LEVEL 8 LEVEL 9 LEVEL 10 LEVEL 11

LEVEL 4 LEVEL 5 LEVEL 6 LEVEL 7

LEVEL 0 LEVEL 1 LEVEL 2 LEVEL 3

Figure 3.3.20-1 Level Case 1 (with annotation and all levels visible)
Case 1: Rotation (0° , 0° , 0°)

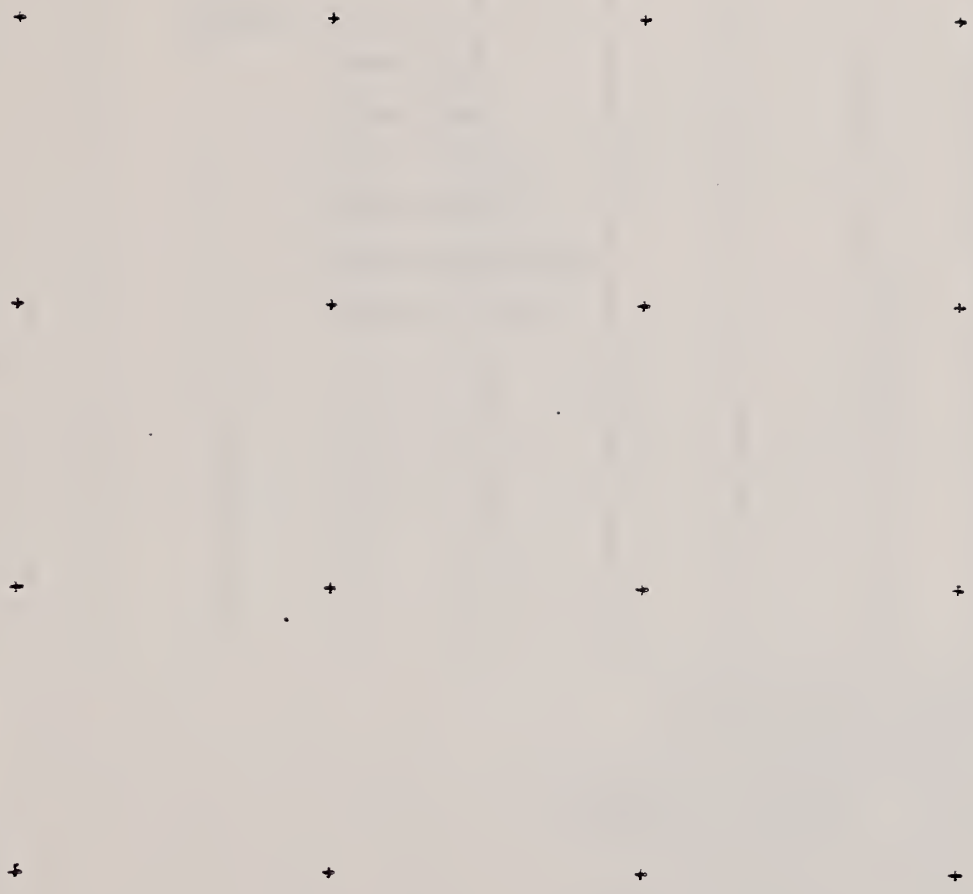


Figure 3.3.20-2 Level Case 1 (actual part with all levels visible)

LEVEL TEST CASE 1											S	1	
1H,,1H;,,6HLEVEL1,4HCIIN,6H2.1.2 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G												1	
H810713.191719,,,,;												2	
116	1	1	1	1	0	0	0	0	0	0	D	1	
116	0	0	1	0	0	0	P				1D	2	
116	2	1	1	2	0	0	0	0	0	0	D	3	
116	0	0	1	0	0	0	P				2D	4	
116	3	1	1	3	0	0	0	0	0	0	D	5	
116	0	0	1	0	0	0	P				3D	6	
116	4	1	1	4	0	0	0	0	0	0	D	7	
116	0	0	1	0	0	0	P				4D	8	
116	5	1	1	5	0	0	0	0	0	0	D	9	
116	0	0	1	0	0	0	P				5D	10	
116	6	1	1	6	0	0	0	0	0	0	D	11	
116	0	0	1	0	0	0	P				6D	12	
116	7	1	1	7	0	0	0	0	0	0	D	13	
116	0	0	1	0	0	0	P				7D	14	
116	8	1	1	8	0	0	0	0	0	0	D	15	
116	0	0	1	0	0	0	P				8D	16	
116	9	1	1	9	0	0	0	0	0	0	D	17	
116	0	0	1	0	0	0	P				9D	18	
116	10	1	1	10	0	0	0	0	0	0	D	19	
116	0	0	1	0	0	0	P				10D	20	
116	11	1	1	11	0	0	0	0	0	0	D	21	
116	0	0	1	0	0	0	P				11D	22	
116	12	1	1	12	0	0	0	0	0	0	D	23	
116	0	0	1	0	0	0	P				12D	24	
116	13	1	1	13	0	0	0	0	0	0	D	25	
116	0	0	1	0	0	0	P				13D	26	
116	14	1	1	14	0	0	0	0	0	0	D	27	
116	0	0	1	0	0	0	P				14D	28	
116	15	1	1	15	0	0	0	0	0	0	D	29	
116	0	0	1	0	0	0	P				15D	30	
116	16	1	1	0	0	0	0	0	0	0	D	31	
116	0	0	1	0	0	0	P				0D	32	
116,1.0000000,0.0,0.0,0.0,0.0,0.0;												1P	1
116,2.0000000,0.0,0.0,0.0,0.0,0.0;												3P	2
116,3.0000000,0.0,0.0,0.0,0.0,0.0;												5P	3
116,0.0,1.0000000,0.0,0.0,0.0;												7P	4
116,1.0000000,1.0000000,0.0,0.0,0.0;												9P	5
116,2.0000000,1.0000000,0.0,0.0,0.0;												11P	6
116,3.0000000,1.0000000,0.0,0.0,0.0;												13P	7
116,0.0,2.0000000,0.0,0.0,0.0;												15P	8
116,1.0000000,2.0000000,0.0,0.0,0.0;												17P	9
116,2.0000000,2.0000000,0.0,0.0,0.0;												19P	10
116,3.0000000,2.0000000,0.0,0.0,0.0;												21P	11
116,0.0,3.0000000,0.0,0.0,0.0;												23P	12
116,1.0000000,3.0000000,0.0,0.0,0.0;												25P	13
116,2.0000000,3.0000000,0.0,0.0,0.0;												27P	14
116,3.0000000,3.0000000,0.0,0.0,0.0;												29P	15
116,0.0,0.0,0.0,0.0,0.0,0.0;												31P	16
S	1G	2D	32P	16							T	1	

3.3.21 BLANK Status

Case 1 (Figure 3.3.21-1) tests the following:

- Blanked geometry
 - points
 - lines
 - conics

- Blanked annotation
 - general note
 - general label
 - linear dimension
 - radius dimension
 - diameter dimension
 - angular dimension

GEOMETRY



ANNOTATION

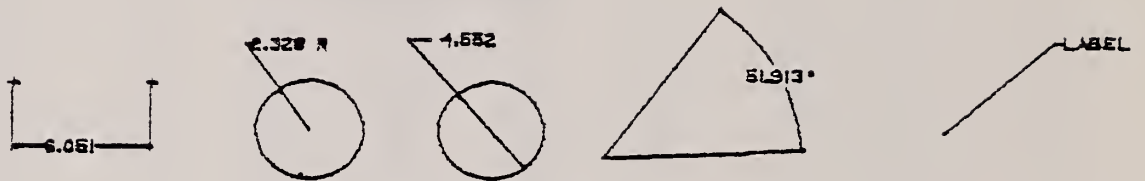


Figure 3.3.21-1 Blank Status Case 1 (actual entities are blanked)
Case 1: Rotation 0° , 0° , 0°

```

BLANK TEST CASE 1
1H,,1H;,,6HBLANK1,4HCIIN,6H2.1.3 ,16,8,24,8,56,,1.0000000,1,4HINCH,0,,13G
H810827.122634,,,,;

```

116	1	1	1	0	0	0	0	1	0	0	D	1	
116	0	0	1	0	0	0		P			1D	2	
110	2	1	1	0	0	0		0	1	0	0	D	3
110	0	0	1	0	0	0		L1			0D	4	
110	3	1	2	0	0	0		0	1	0	0	D	5
110	0	0	1	0	0	0		L2			0D	6	
110	4	1	3	0	0	0		0	1	0	0	D	7
110	0	0	1	0	0	0		L3			0D	8	
124	5	1	1	0	0	0		0	0	0	0	D	9
124	0	0	2	0	0	0					0D	10	
100	7	1	3	0	0	9		0	1	0	0	D	11
100	0	0	2	0	0			A1			0D	12	
100	9	1	2	0	0	9		0	1	0	0	D	13
100	0	0	2	0	0			A2			0D	14	
100	11	1	1	0	0	9		0	1	0	0	D	15
100	0	0	2	0	0			A3			0D	16	
100	13	1	1	0	0	9		0	1	0	0	D	17
100	0	0	2	0	0			C1			0D	18	
100	15	1	2	0	0	9		0	1	0	0	D	19
100	0	0	2	0	0			C2			0D	20	
100	17	1	3	0	0	9		0	1	0	0	D	21
100	0	0	2	0	0			C3			0D	22	
104	19	1	3	0	0	9		0	1	0	0	D	23
104	0	0	2	1	0			ELP1			0D	24	
104	21	1	3	0	0	9		0	1	0	0	D	25
104	0	0	2	3	0			PRB1			0D	26	
104	23	1	3	0	0	9		0	1	0	0	D	27
104	0	0	2	2	0			HYP1			0D	28	
212	25	1	3	0	0	9		0	1	0	1	D	29
212	0	0	2	0	0			TX1			0D	30	
212	27	1	3	0	0	9		0	1	0	1	D	31
212	0	0	2	0	0			TX2			0D	32	
116	29	1	3	0	0	0		0	1	0	0	D	33
116	0	0	1	0	0			P			2D	34	
116	30	1	3	0	0	0		0	1	0	0	D	35
116	0	0	1	0	0			P			3D	36	
212	31	1	3	0	0	9		0	0	1	1	D	37
212	0	0	2	0	0						0D	38	
214	33	1	3	0	0	9		0	1	1	1	D	39
214	0	0	2	3	0						0D	40	
214	35	1	3	0	0	9		0	1	1	1	D	41
214	0	0	2	3	0						0D	42	
106	37	1	3	0	0	9		0	0	1	1	D	43
106	0	0	2	40	0						0D	44	
106	39	1	3	0	0	9		0	0	1	1	D	45
106	0	0	2	40	0						0D	46	
216	41	1	3	0	0	9		0	1	0	1	D	47
216	0	0	1	0	0						0D	48	
100	42	1	1	0	0	9		0	1	0	0	D	49

100	0	0	2	0			C4	OD	50
212	44	1	3	0	0	9	0 1 1 1	D	51
212	0	0	2	0			RD1	OD	52
214	46	1	3	0	0	9	0 1 1 1	D	53
214	0	0	2	3			RD1	OD	54
222	48	1	3	0	0	9	0 1 0 1	D	55
222	0	0	1	0			RD1	OD	56
100	49	1	1	0	0	9	0 1 0 0	D	57
100	0	0	2	0			C5	OD	58
212	51	1	1	0	0	9	0 1 1 1	D	59
212	0	0	2	0			DD1	OD	60
214	53	1	1	0	0	9	0 1 1 1	D	61
214	0	0	2	3			DD1	OD	62
214	55	1	1	0	0	9	0 1 1 1	D	63
214	0	0	2	3			DD1	OD	64
206	57	1	1	0	0	9	0 1 0 1	D	65
206	0	0	1	0			DD1	OD	66
110	58	1	1	0	0	0	0 1 0 0	D	67
110	0	0	1	0			L4	OD	68
110	59	1	1	0	0	0	0 1 0 0	D	69
110	0	0	1	0			L5	OD	70
212	60	1	1	0	0	9	0 0 1 1	D	71
212	0	0	2	0				OD	72
214	62	1	1	0	0	9	0 0 1 1	D	73
214	0	0	2	3				OD	74
214	64	1	1	0	0	9	0 0 1 1	D	75
214	0	0	2	3				OD	76
106	66	1	1	0	0	9	0 0 1 1	D	77
106	0	0	2	40				OD	78
106	68	1	1	0	0	9	0 0 1 1	D	79
106	0	0	2	40				OD	80
202	70	1	1	0	0	9	0 0 0 1	D	81
202	0	0	1	0				OD	82
212	71	1	1	0	0	9	0 1 1 1	D	83
212	0	0	2	0			LAL	OD	84
214	73	1	1	0	0	9	0 1 1 1	D	85
214	0	0	2	3			LAL	OD	86
210	75	1	1	0	0	9	0 1 0 1	D	87
210	0	0	1	0			LAL	OD	88
116,-10.6025648,5.8974361,0.0,0,0,0;								1P	1
110,-8.4743595,5.9487181,0.0,-5.9102569,6.0512824,0.0,0,0;								3P	2
110,-8.4230776,4.9487181,0.0,-5.7307696,5.0256410,0.0,0,0;								5P	3
110,-8.4487181,3.7435899,0.0,-5.5256414,3.9487181,0.0,0,0;								7P	4
124,1.0000000,0.0,0.0,0.0,0.0,1.0000000,0.0,0.0,0.0,0.0,								9P	5
1.0000000,0.0,0,0;								9P	6
100,0.0,-2.5169556,2.7672675,-1.1153853,3.2051289,-3.9102570,								11P	7
3.2307684,0,0;								11P	8
100,0.0,-2.4836469,3.5267518,-.7307704,4.6153851,-4.3717956,								13P	9
4.3589732,0,0;								13P	10
100,0.0,-2.4062176,4.6114097,-.4230777,5.7435904,-4.5256414,								15P	11
5.4615389,0,0;								15P	12
100,0.0,4.1410255,5.0769234,6.1410255,5.0769234,6.1410255,								17P	13

5.0769218,0,0;	17P	14
100,0.0,4.1410255,5.0769234,5.6410255,5.0769234,5.6410255,	19P	15
5.0769222,0,0;	19P	16
100,0.0,4.1410255,5.0769234,5.1410255,5.0769234,5.1410255,	21P	17
5.0769226,0,0;	21P	18
104,1.0000000,.1430511E-05,4.0000000,-22.2051351,-41.4359137,	23P	19
229.5753583,0.0,12.1025639,5.1794868,12.1025639,5.1794863,0,0;	23P	20
104,.4706643E-28,-.1372100E-13,1.0000000,-1.0000000,-9.7435904,	25P	21
38.6831063,0.0,15.9487181,3.8717952,15.9487181,5.8717952,0,0;	25P	22
104,.2500000,0.0,-1.0000000,-10.0128202,8.9230776,79.3512408,	27P	23
0.0,22.8540668,3.4615381,22.8540668,5.4615378,0,0;	27P	24
212,1,8,6.9750006,.7500001,1,1.5707963,0.0,0,0,-19.5641041,	29P	25
4.1025643,0.0,8HGEOMETRY,0,0;	29P	26
212,1,10,8.1750006,.7500001,1,1.5707963,0.0,0,0,-20.0256424,	31P	27
-6.9743590,0.0,10HANNOTATION,0,0;	31P	28
116,-12.8974361,-6.3589745,0.0,0,0,0;	33P	29
116,-6.8461547,-6.3076921,0.0,0,0,0;	35P	30
212,1,5,2.0500000,.5000000,1,1.5707963,0.0,0,0,-11.4615393,	37P	31
-9.5897436,0.0,5H6.051,0,0;	37P	32
214,1,.1500000,.0500000,0.0,-12.8974361,-9.3397436,-11.5615396,	39P	33
-9.3397436,0,0;	39P	34
214,1,.1500000,.0500000,0.0,-6.8461547,-9.3397436,-9.2215395,	41P	35
-9.3397436,0,0;	41P	36
106,1,3,0.0,-12.8974361,-6.4527245,-12.8974361,-6.4527245,	43P	37
-12.8974361,-9.4647436,0,0;	43P	38
106,1,3,0.0,-6.8461547,-6.4014421,-6.8461547,-6.4014421,	45P	39
-6.8461547,-9.4647436,0,0;	45P	40
216,37,39,41,43,45,0,0;	47P	41
100,0.0,.0568982,-8.4683762,2.3846251,-8.4683762,2.3846251,	49P	42
-8.4683780,0,0;	49P	43
212,1,7,3.1500000,.5000000,1,1.5707963,0.0,0,0,-2.3846159,	51P	44
-4.6666665,0.0,7H2.328 R,0,0;	51P	45
214,3,.1500000,.0500000,0.0,-1.2475616,-6.5405025,.0568982,	53P	46
-8.4683762,-2.6846156,-4.4166665,-2.3846159,-4.4166665,0,0;	53P	47
222,51,53,.0568982,-8.4683762,0,0;	55P	48
100,0.0,8.0008917,-8.5078821,10.2770360,-8.5078821,10.2770360,	57P	49
-8.5078839,0,0;	57P	50
212,1,5,2.2500000,.5000000,1,1.5707963,0.0,0,0,5.8717942,	59P	51
-4.4102564,0.0,5H4.552,0,0;	59P	52
214,3,.1500000,.0500000,0.0,6.5423788,-6.7605034,8.0010023,	61P	53
-8.5078883,4.3717942,-4.1602564,5.3717942,-4.1602564,0,0;	61P	54
214,1,.1500000,.0500000,0.0,9.4596258,-10.2552131,8.0010023,	63P	55
-8.5078583,0,0;	63P	56
208,59,61,63,8.0010023,-8.5078583,0,0;	65P	57
110,19.2051277,-9.4871798,0.0,12.9487171,-9.7435894,0.0,0,0;	67P	58
110,12.9487171,-9.7435894,0.0,16.8974361,-4.2564101,0.0,0,0;	69P	59
212,1,6,2.4500000,.5000000,1,1.5707963,0.0,0,0,19.1538467,	71P	60
-6.1025639,0.0,6H51.913,0,0;	71P	61
214,1,.1500000,.0500000,0.0,21.6179676,-9.3882931,20.9768944,	73P	62
-6.4526159,0,0;	73P	63
214,1,.1500000,.0500000,0.0,18.0167206,-2.7010416,20.3860303,	75P	64
-8.2749734,0,0;	75P	65

106,1,3,0.0,19.2987991,-9.4833408,19.2987991,-9.4833408,	77P	66
21.7428628,-9.3831745,0,0;	77P	67
106,1,3,0.0,16.9521960,-4.1803153,16.9521960,-4.1803153,	79P	68
18.0897337,-2.5995818,0,0;	79P	69
202,71,77,79,12.9487171,-9.7435894,8.6765280,73,75,0,0;	81P	70
212,1,5,2.6500000,.5000000,1,1.5707963,0.0,0,0,33.0091972,	83P	71
-4.4573960,0.0,5HLABEL,0,0;	83P	72
214,2,.1500000,.0500000,0.0,27.8572350,-8.5579443,32.6091995,	85P	73
-4.2073960,32.9091988,-4.2073960,0,0;	85P	74
210,83,1,85,0,0;	87P	75
S 1G 2D 88P 75	T	1

3.3.22 Labels/Subscripts

Case 1 (Figures 3.3.22-1 and 3.3.22-2) tests the following

- Points with label/subscripts with the following conditions:
 - Label/subscripts with one through six characters
 - Label/subscripts with all alphabetic characters
 - Label/subscripts with all numeric characters

Other test cases also contain entities with label/subscripts.

LABEL ONLY		SUBSCRIPT ONLY				BOTH LABEL SUBSCRIPT
A	+	I	+	+	P	IIIII
AB	+	II	+	+	PT	IIII
ABC	+	III	+	+	PNT	III
ABCD	+	IIII	+	+	PONT	II
ABCDE	+	IIIII	+	+	POINT	I
ADCDEF	+	IIIIII	+	+	IIIABC	

Figure 3.3.22-1 Label/Subscript Case 1 (with annotation)

Case 1: Rotation (0° , 0° , 0°)

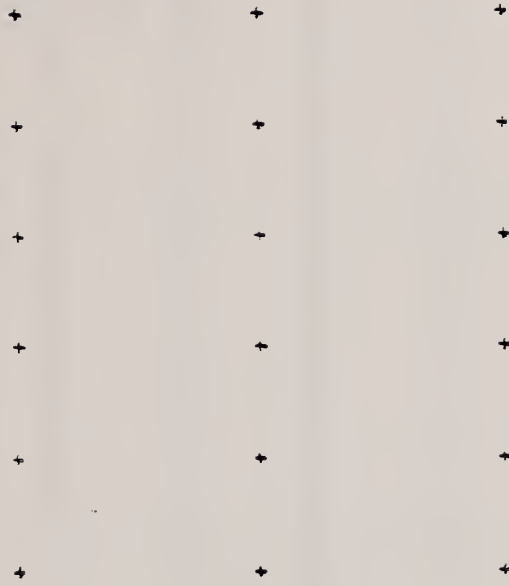


Figure 3.3.22-2 Label/Subscript Case 1 (actual part) :

LABEL/SUBSCRIPT TEST CASE 1										S		
1H,,1H;,,9HLABELSUB1,4HCIIN,6H2.1.2	,16,8,24,8,56,,1.0000000,1,4HINCH,0,G										1	
,13H810806.092106,,,,;											2	G
116	1	1	1	3	0	0	0	0	0	0	1	D
116	0	0	1	0	0	0	0	0	A	0D	2	
116	2	1	1	3	0	0	0	0	0	0	3	D
116	0	0	1	0	0	0	0	0	AB	0D	4	
116	3	1	1	3	0	0	0	0	0	0	5	D
116	0	0	1	0	0	0	0	0	ABC	0D	6	
116	4	1	1	3	0	0	0	0	0	0	7	D
116	0	0	1	0	0	0	0	0	ABCD	0D	8	
116	5	1	1	3	0	0	0	0	0	0	9	D
116	0	0	1	0	0	0	0	0	ABCDE	0D	10	
116	6	1	1	3	0	0	0	0	0	0	11	D
116	0	0	1	0	0	0	0	0	ABCDEF	0D	12	
116	7	1	1	3	0	0	0	0	0	0	13	D
116	0	0	1	0	0	0	0	0	0	1D	14	
116	8	1	1	3	0	0	0	0	0	0	15	D
116	0	0	1	0	0	0	0	0	0	11D	16	
116	9	1	1	3	0	0	0	0	0	0	17	D
116	0	0	1	0	0	0	0	0	0	111D	18	
116	10	1	1	3	0	0	0	0	0	0	19	D
116	0	0	1	0	0	0	0	0	0	1111D	20	
116	11	1	1	3	0	0	0	0	0	0	21	D
116	0	0	1	0	0	0	0	0	0	11111D	22	
116	12	1	1	3	0	0	0	0	0	0	23	D
116	0	0	1	0	0	0	0	0	0	111111D	24	
116	13	1	1	3	0	0	0	0	0	0	25	D
116	0	0	1	0	0	0	0	0	111ABC	0D	26	
116	14	1	1	3	0	0	0	0	0	0	27	D
116	0	0	1	0	0	0	0	0	POINT	1D	28	
116	15	1	1	3	0	0	0	0	0	0	29	D
116	0	0	1	0	0	0	0	0	PONT	11D	30	
116	16	1	1	3	0	0	0	0	0	0	31	D
116	0	0	1	0	0	0	0	0	PNT	111D	32	
116	17	1	1	3	0	0	0	0	0	0	33	D
116	0	0	1	0	0	0	0	0	PT	1111D	34	
116	18	1	1	3	0	0	0	0	0	0	35	D
116	0	0	1	0	0	0	0	0	P	11111D	36	
116,-6.0000000,5.0000000,0.0,0,0,0;											1	1P
116,-6.0000000,4.0000000,0.0,0,0,0;											2	3P
116,-6.0000000,3.0000000,0.0,0,0,0;											3	5P
116,-6.0000000,2.0000000,0.0,0,0,0;											4	7P
116,-6.0000000,1.0000000,0.0,0,0,0;											5	9P
116,-6.0000000,0.0,0.0,0,0,0;											6	11P
116,-4.0000000,5.0000000,0.0,0,0,0;											7	13P
116,-4.0000000,4.0000000,0.0,0,0,0;											8	15P
116,-4.0000000,3.0000000,0.0,0,0,0;											9	17P
116,-4.0000000,2.0000000,0.0,0,0,0;											10	19P
116,-4.0000000,1.0000000,0.0,0,0,0;											11	21P
116,-4.0000000,0.0,0.0,0,0,0;											12	23P
116,-2.0000000,0.0,0.0,0,0,0;											13	25P

116,-2.0000000,1.0000000,0.0,0,0,0;
116,-2.0000000,2.0000000,0.0,0,0,0;
116,-2.0000000,3.0000000,0.0,0,0,0;
116,-2.0000000,4.0000000,0.0,0,0,0;
116,-2.0000000,5.0000000,0.0,0,0,0;
S 1G 2D 36P 18

27P 14
29P 15
31P 16
33P 17
35P 18
T 1

REFERENCES

- A. Y14.26M-1981 American National Standard Engineering Drawing and Related Documentation Practices (sections 2 through 4 of this document were derived from the Initial Graphics Exchange Specification Version 1.0.)
- B. Boeing Document D6-42705-210 Geometric Data Base File and Entity Format Standard
- C. 79-1847 Boeing's CAD/CAM Integrated Information Network
AIAA Aircraft System and Technology Meeting, August 1979

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11. ABSTRACT <i>(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)</i> <p>This document contains a library of benchmark tests to be used to verify the interface capability possible with the Initial Graphics Exchange Specification (IGES) (Reference A). IGES provides a common data format to facilitate the exchange of data between different Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) systems.</p> <p>The test cases outlined in this document provide data for software modules which translate IGES format to and from the format of a particular CAD/CAM system. The geometric and drafting entities contained in these parts comprise only a limited portion of all IGES entities and are intended to demonstrate some capabilities of an IGES translator on an individual entity basis. This set of tests does not constitute a test of compliance with any existing or proposed standardization of IGES. Subsequent tests with more complex parts should be made to insure the suitability of the processors for a user's production environment.</p>			
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