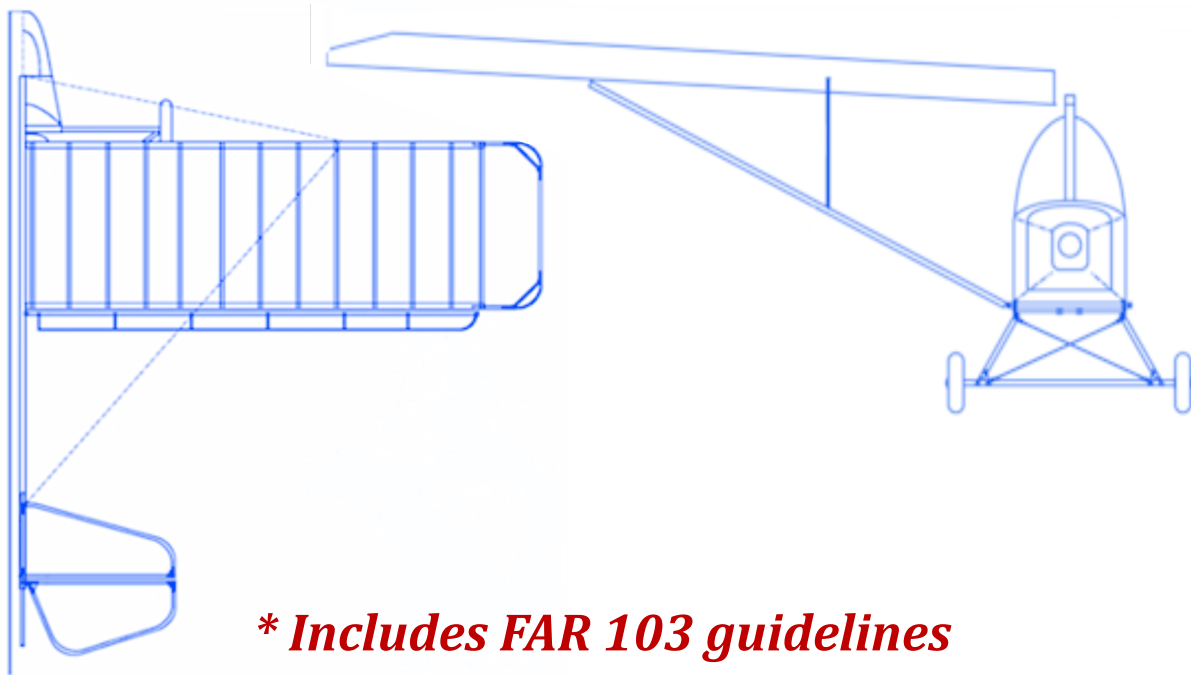


# Affordaplane

Aircraft Plans

***Updates 2019***

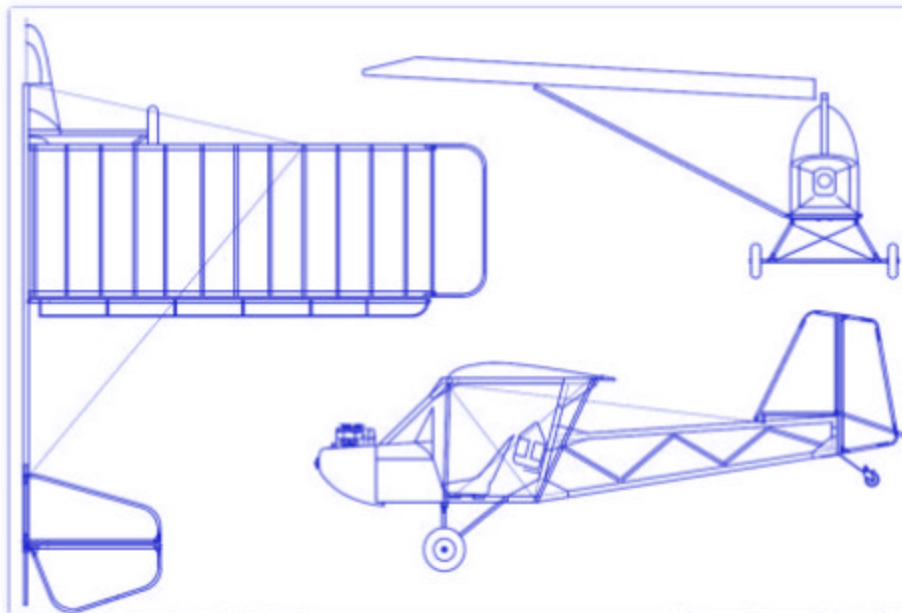


***\* Includes FAR 103 guidelines***



## Affordaplane Updates 2019

Empty Weight: 254 pounds  
Gross Weight: 540 pounds  
Wing Span: 27.5 feet  
Wing Area: 117 Sq. feet  
Length 17 feet, 3 inches  
Height: 5 feet  
Fuel Capacity: 5 gallons  
Engine: 35 to 40 hp  
Stall: 27 mph  
Cruise 65 mph  
Vne: 85 mph  
Takeoff Roll: 150 feet  
Landing Roll: 150 feet  
Build Time: Approx. 250 hours



**Website:** [affordaplane.com](http://affordaplane.com)

**Email:** [afford@affordaplane.com](mailto:afford@affordaplane.com)

**Affordaplane parts:** [aplaneparts.com](http://aplaneparts.com)

**Facebook group for Affordaplane:**

[facebook.com/groups/affordaplane](https://facebook.com/groups/affordaplane)

Hello!

As Affordaplane Aircraft enters its twentieth year in business, I would like to thank our customers and new visitors to our little world of grass roots aviation at its best.

The A-Plane is built from plans, and many hundreds have successfully flown. The complete plans set has a builders manual, blueprints, materials list, and many photos.

The following drawings allow current plans holders to have the most up to date plans without having to purchase a new set. These show how to build your Affordaplane as an FAR 103 legal ultralight, and still be able to use a motor up to 75 pounds in weight. They also include complete fuselage drawings in CAD, both original and 103, including the gussets. I also go into detail about what it takes to make your airplane FAR 103 compliant.

**New visitors** feel free to look over the plans, it will give you an idea of what our full plans sets are like. And be sure to check out the Affordaplane Plans page for more information.

These updates go with a set of plans. Do not try and build an Affordaplane from just these updates.

**These drawings supersede all previous drawings.**

If you are interested in the Affordaplane you should check out our facebook group. The link is listed above.

Special thanks to Phil Pillera for his help.

Thanks and blue skies!

Dave Edwards

Affordaplane Aircraft



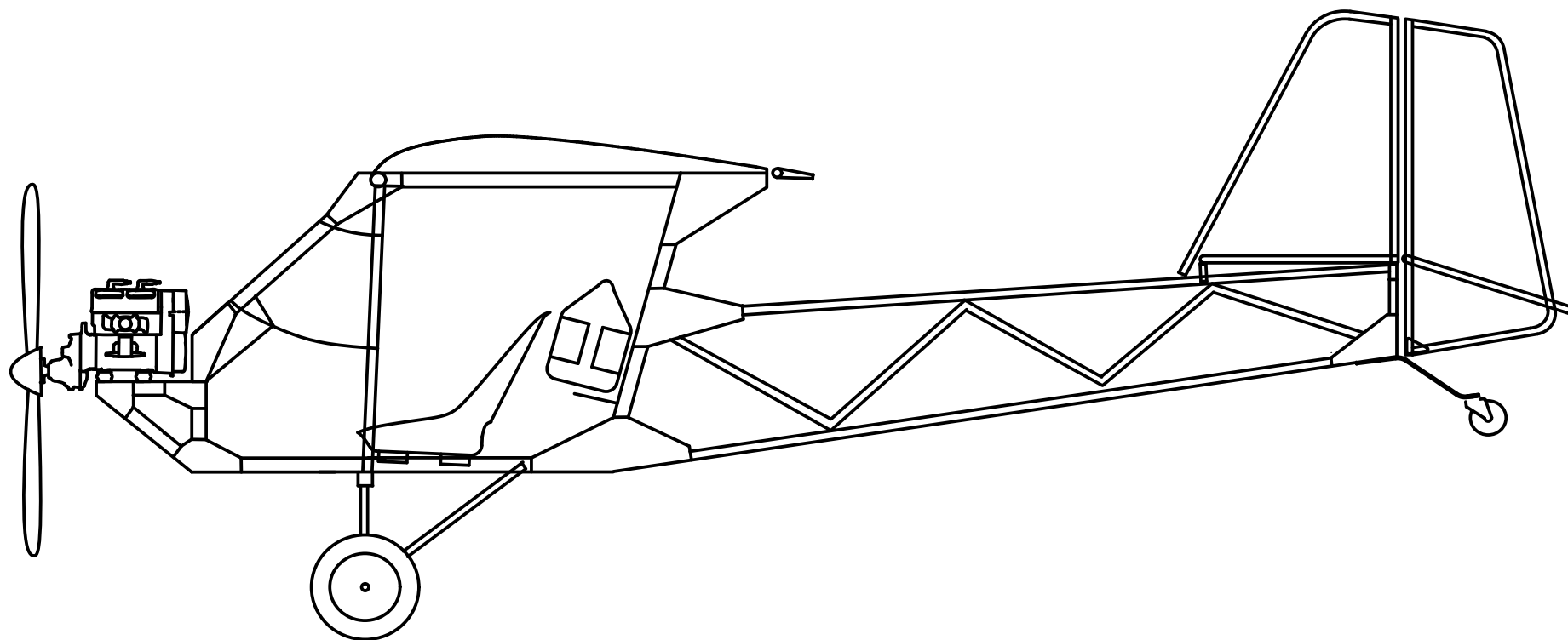
## Affordaplane 103 Guidelines

As with any ultralight, you have to watch your weight during construction. Do not deviate from the plans, or add unnecessary weight. The Affordaplane 103 fuselage is shown in the following drawings. This fuselage differs from the traditional one by using 1 inch by 2 inch square tubing for the rear fuselage. If you are building a 103 version, you should follow these steps:

- 1) Build the Affordaplane 103 fuselage shown in these drawings.
- 2) Do not add the cockpit area. This saves building a cowling, and the associated weight. Simply build the cockpit floor (page 9 of the drawings in the plans). You will want to reinforce the forward part of the floor with rivets. That is shown in a drawing. You can add a small windscreen and instrument pod as shown in the following drawings.
- 3) Use light weight wheels such as the Azusalite brand. Do not use wheelbarrow tires, they are too heavy.
- 4) Use very little paint. You can easily add five pounds of paint to this airplane. You just want to fill the weave of the fabric and finish with a thin shiny top coat.
- 5) Foam wings weigh more than aluminum rib ones. For a 103 airplane, use the aluminum ribs.
- 6) You must use a motor that weighs under 75 pounds complete.

## Affordaplane 103 Drawings

The following pages are for the 103 Affordaplane. This includes the fuselage drawing with dimensions, and the gussets with dimensions. Also included are the windscreen details, and instrument pod.



## AFFORDAPLANE

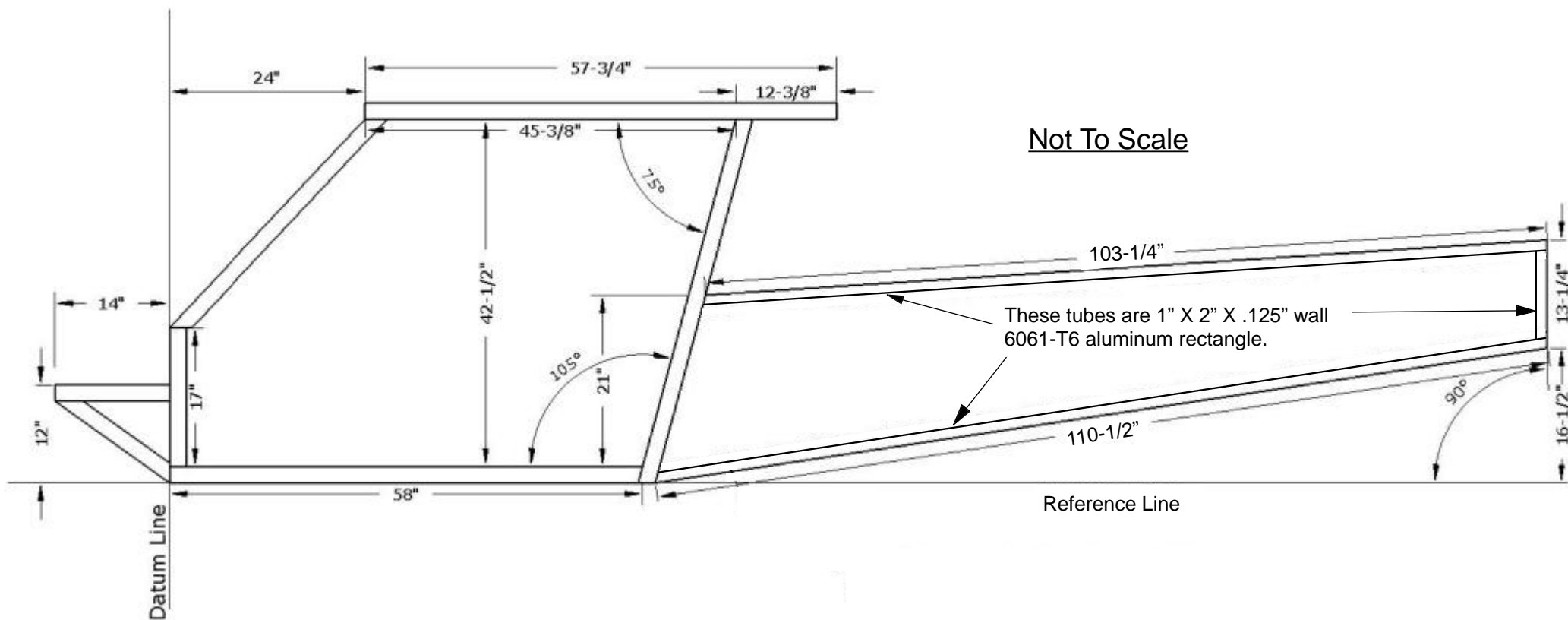
**Description:**

103 Side Profile

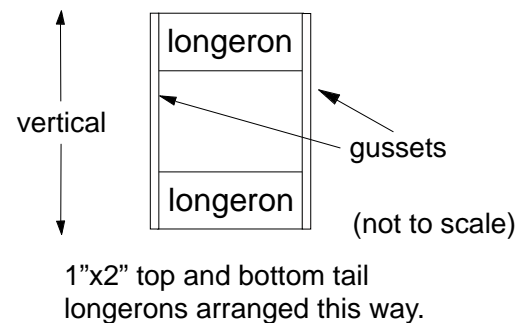
Copyright 2019 by  
Dave Edwards

Drawing#





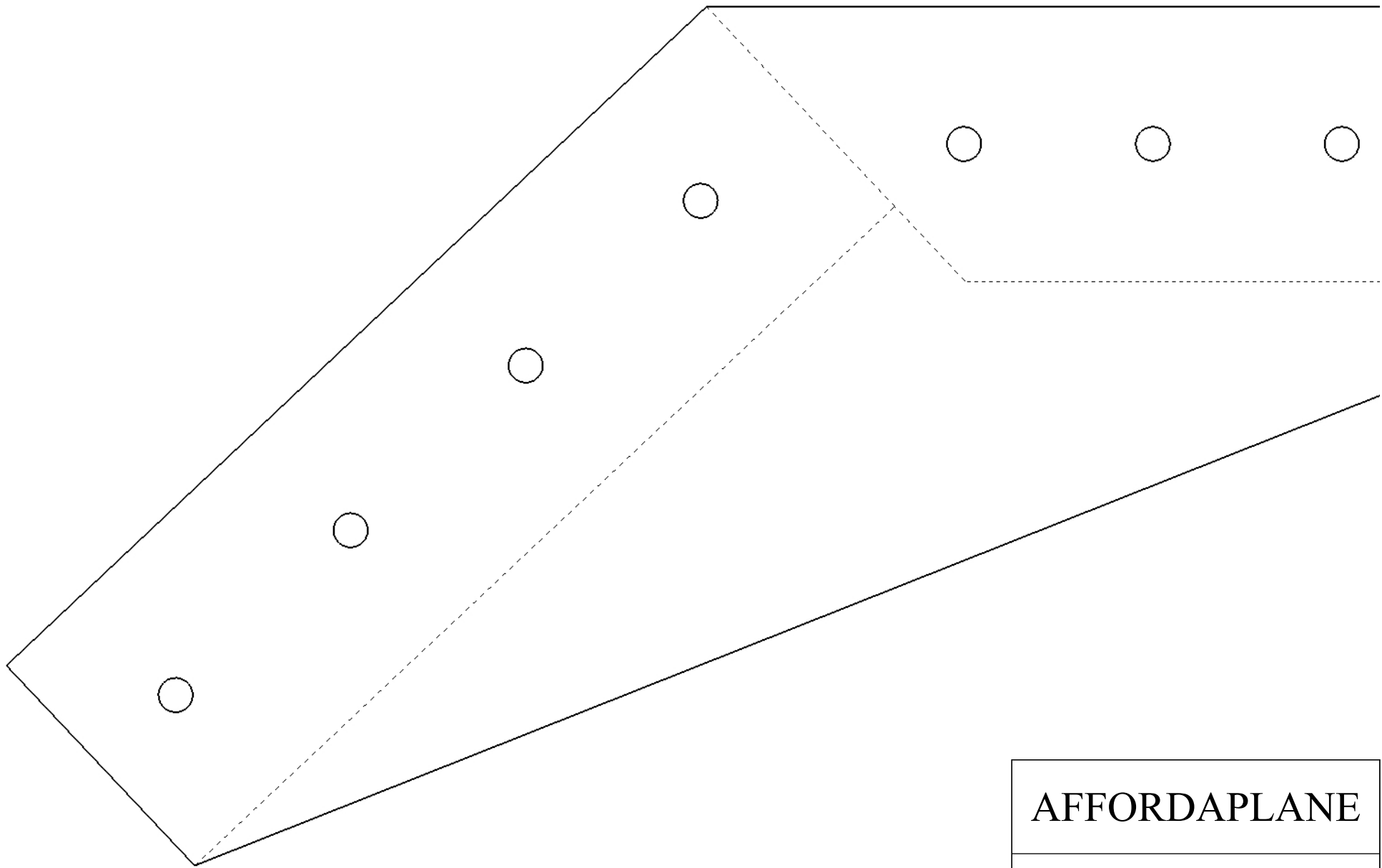
All square tube except for the three 1"x2" tail pieces are 2"x2" x .125 wall 6061-T6 aluminum square tube.



## AFFORDAPLANE

Description: 103  
Fuselage Tube Layout

Drawing #2

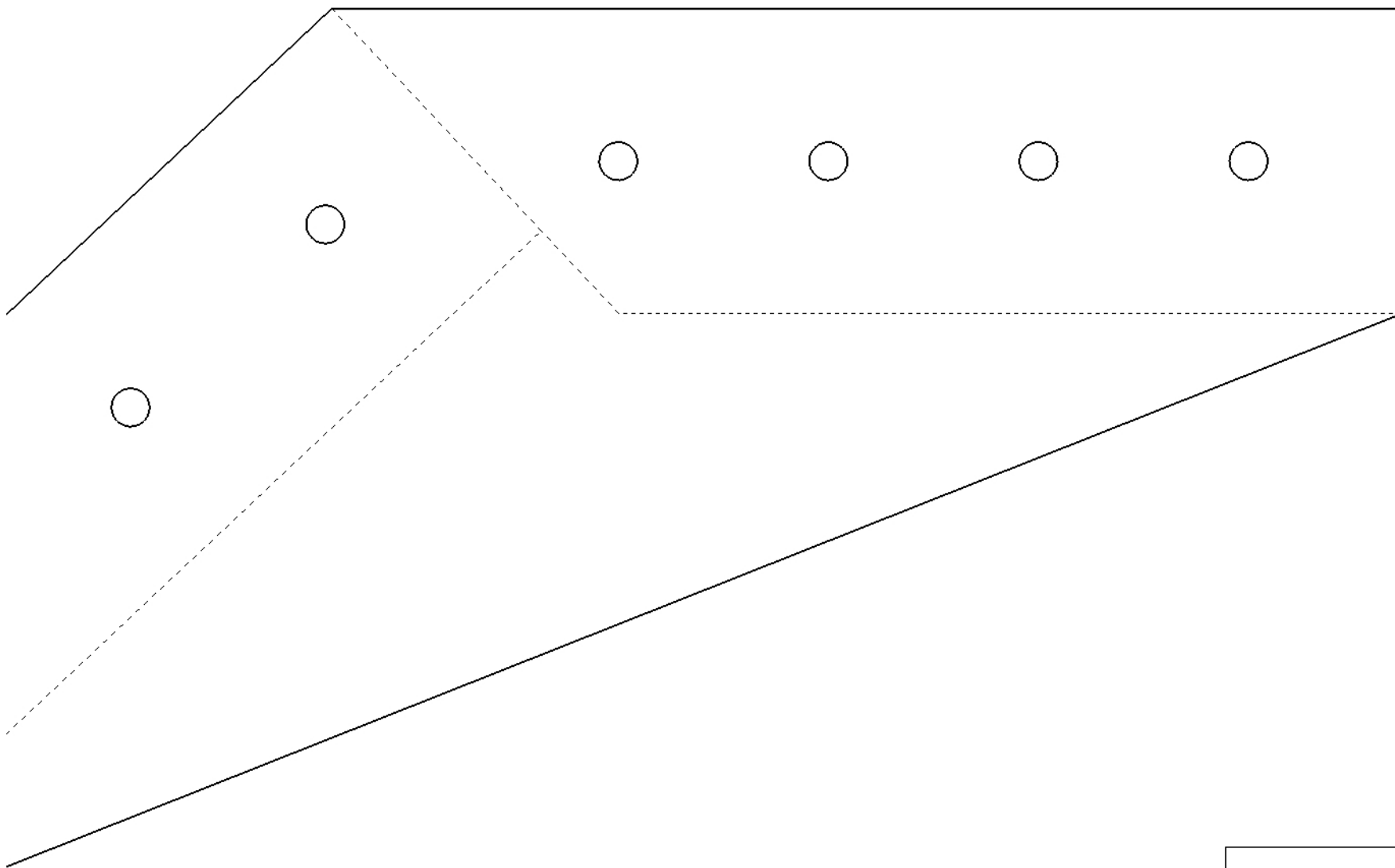


Full size

AFFORDAPLANE

Description:  
Gusset A Part 1

Drawing #40

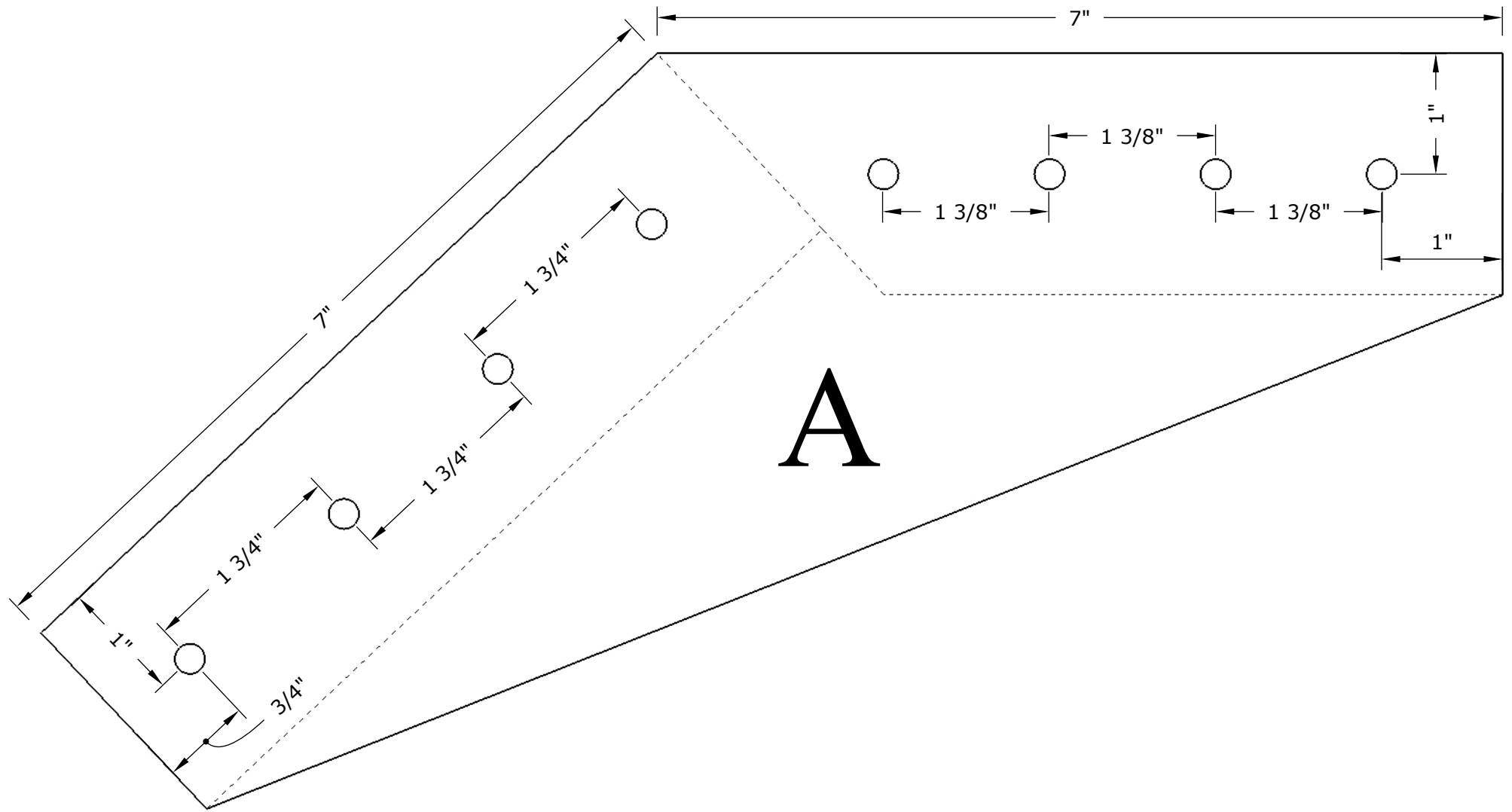


Full size

AFFORDAPLANE

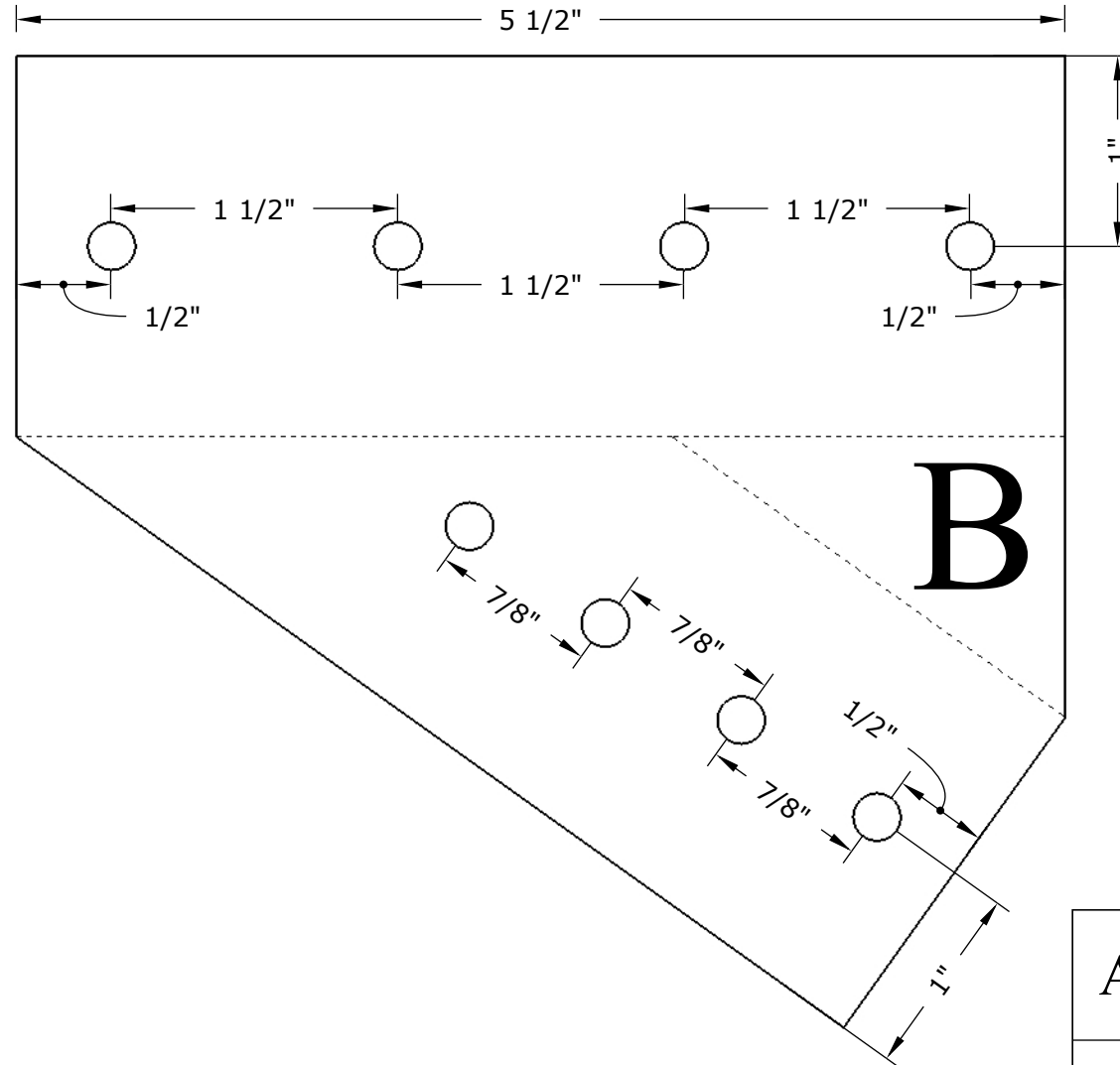
Description:  
Gusset A Part 2

Drawing #41



Not full size

AFFORDAPLANE
Description: Gusset A Dimensions
Drawing #42

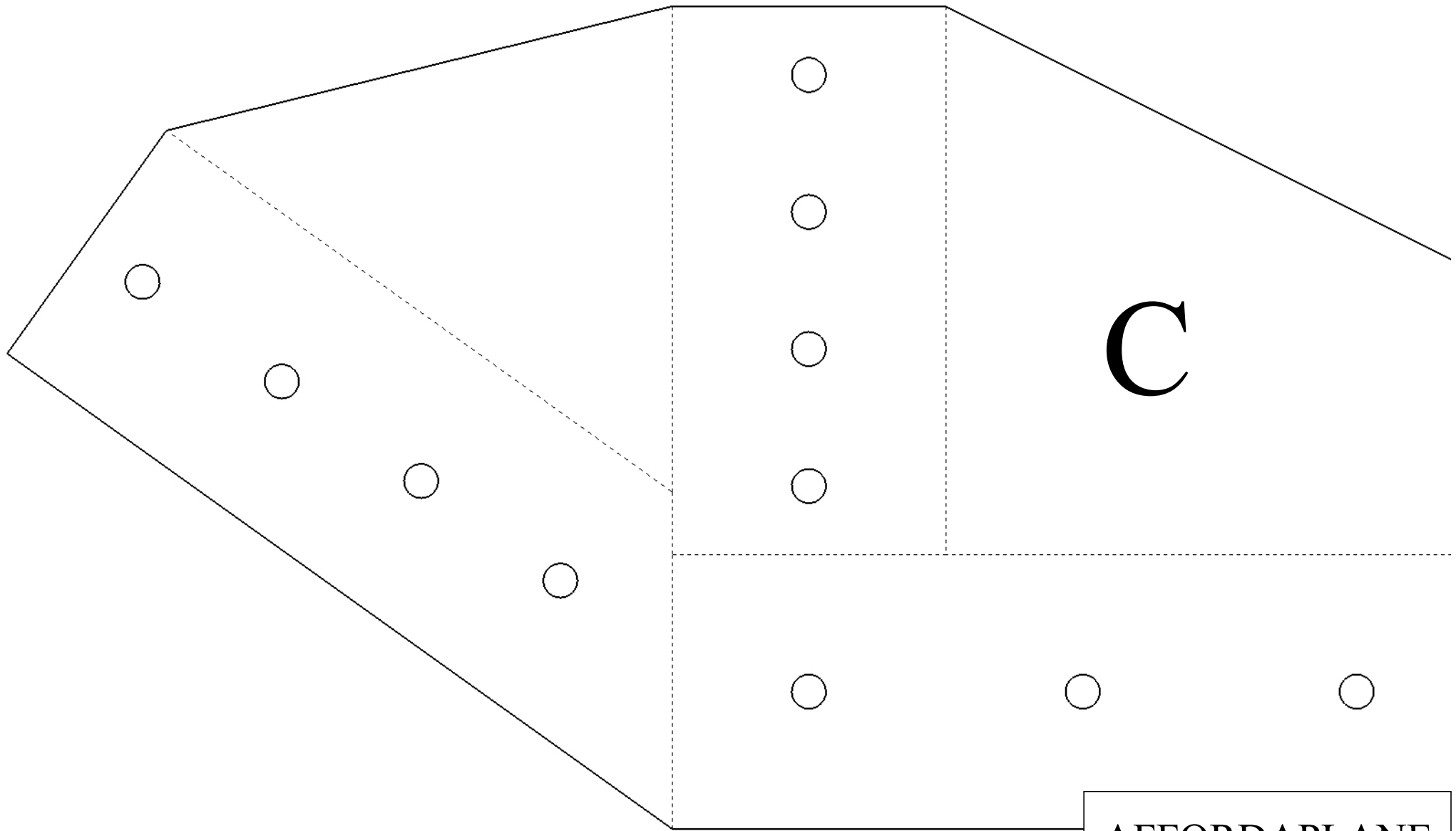


Full size

AFFORDAPLANE

Description:  
Gusset B Dimensions

Drawing #43

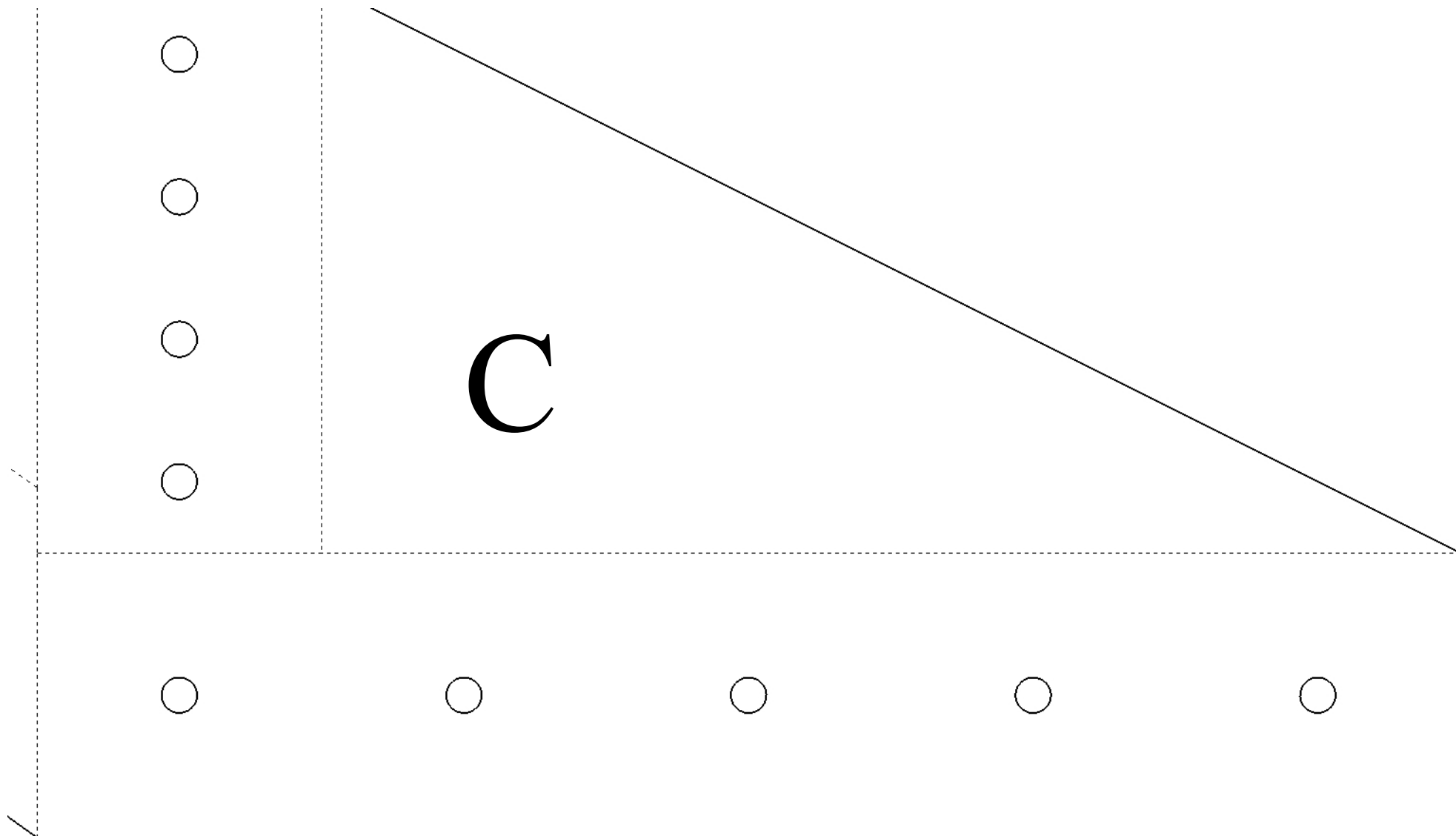


Full size

AFFORDAPLANE

Description:  
Gusset C Part 1

Drawing #44

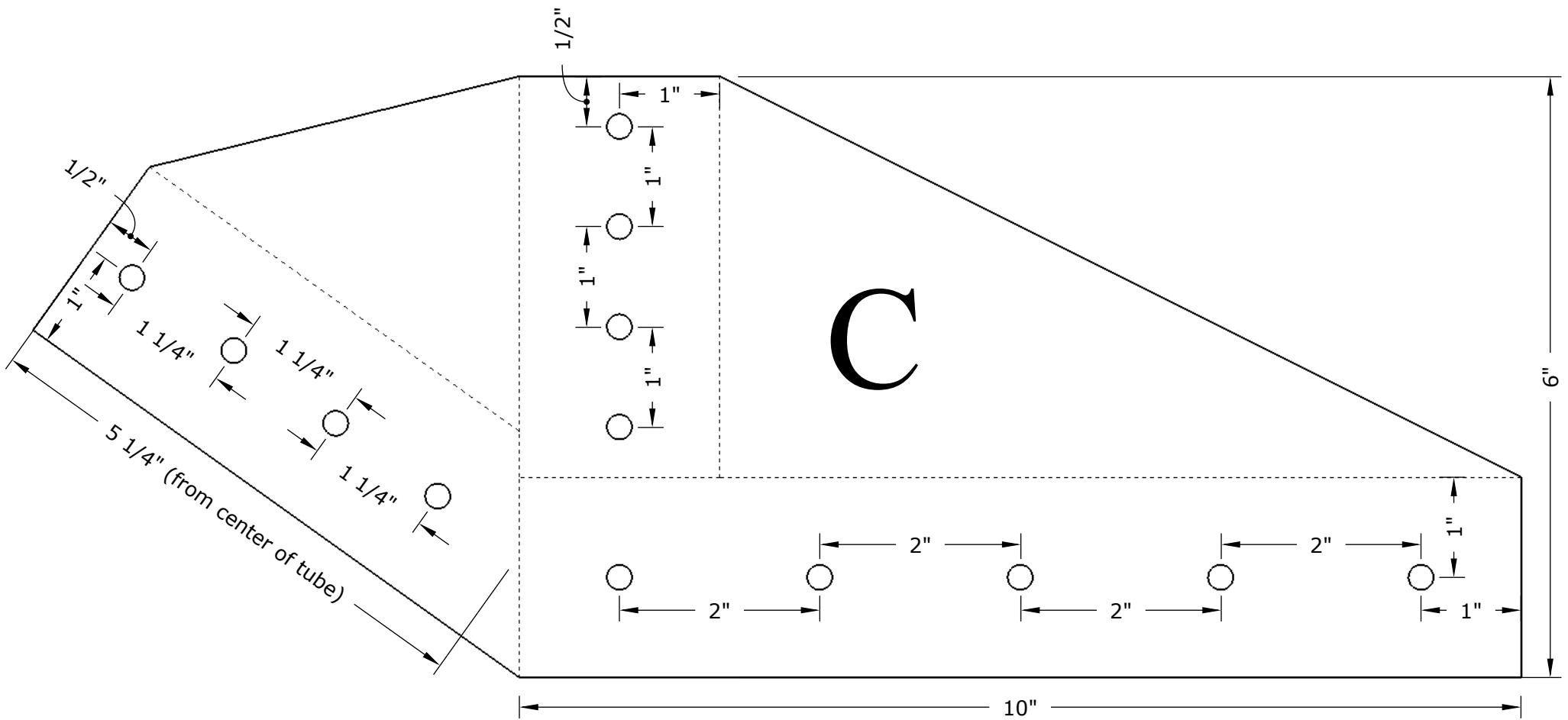


Full size

AFFORDAPLANE

Description:  
Gusset C Part 2

Drawing #45



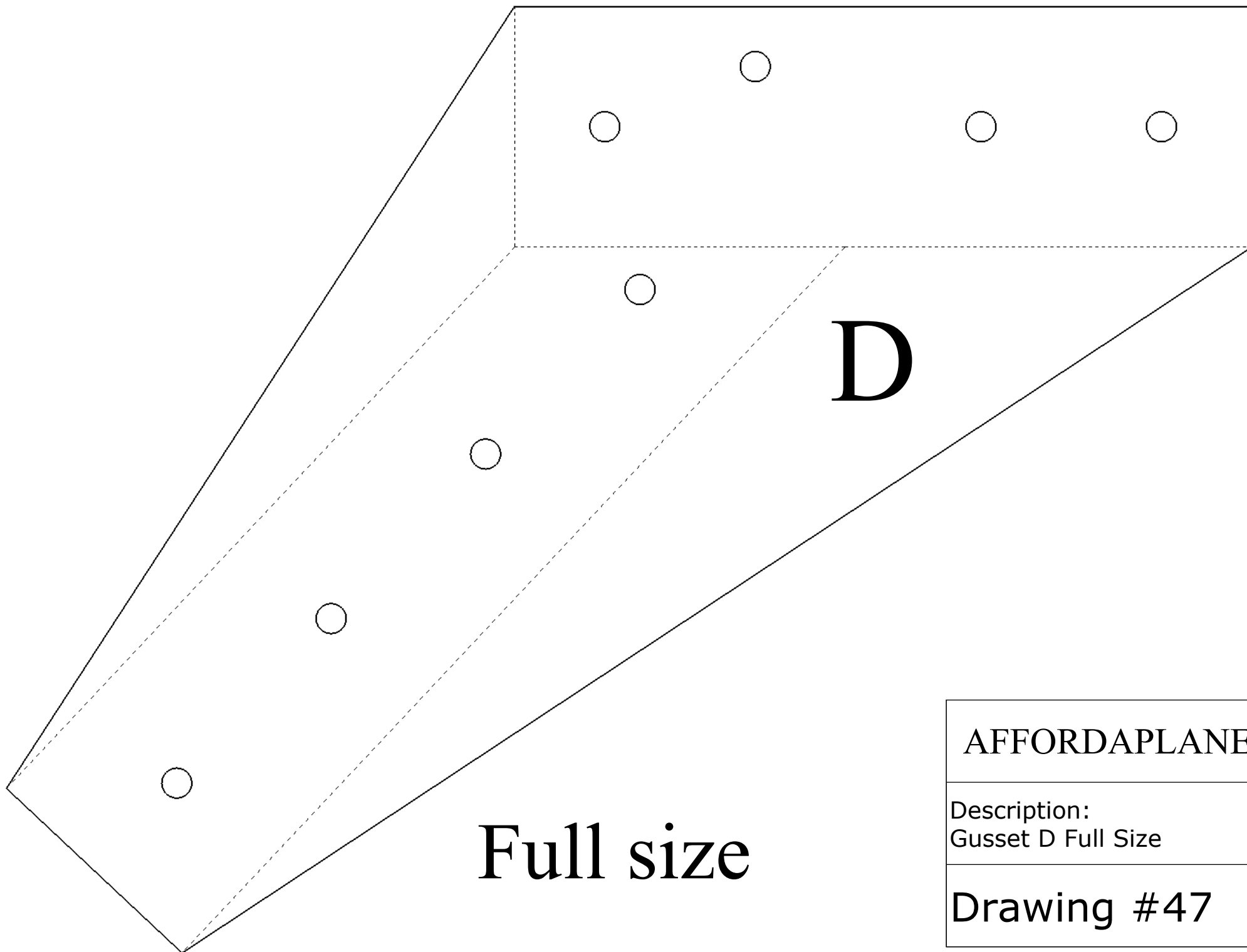
Not full size

AFFORDAPLANE

Description:  
Gusset C Dimensions

Drawing #46

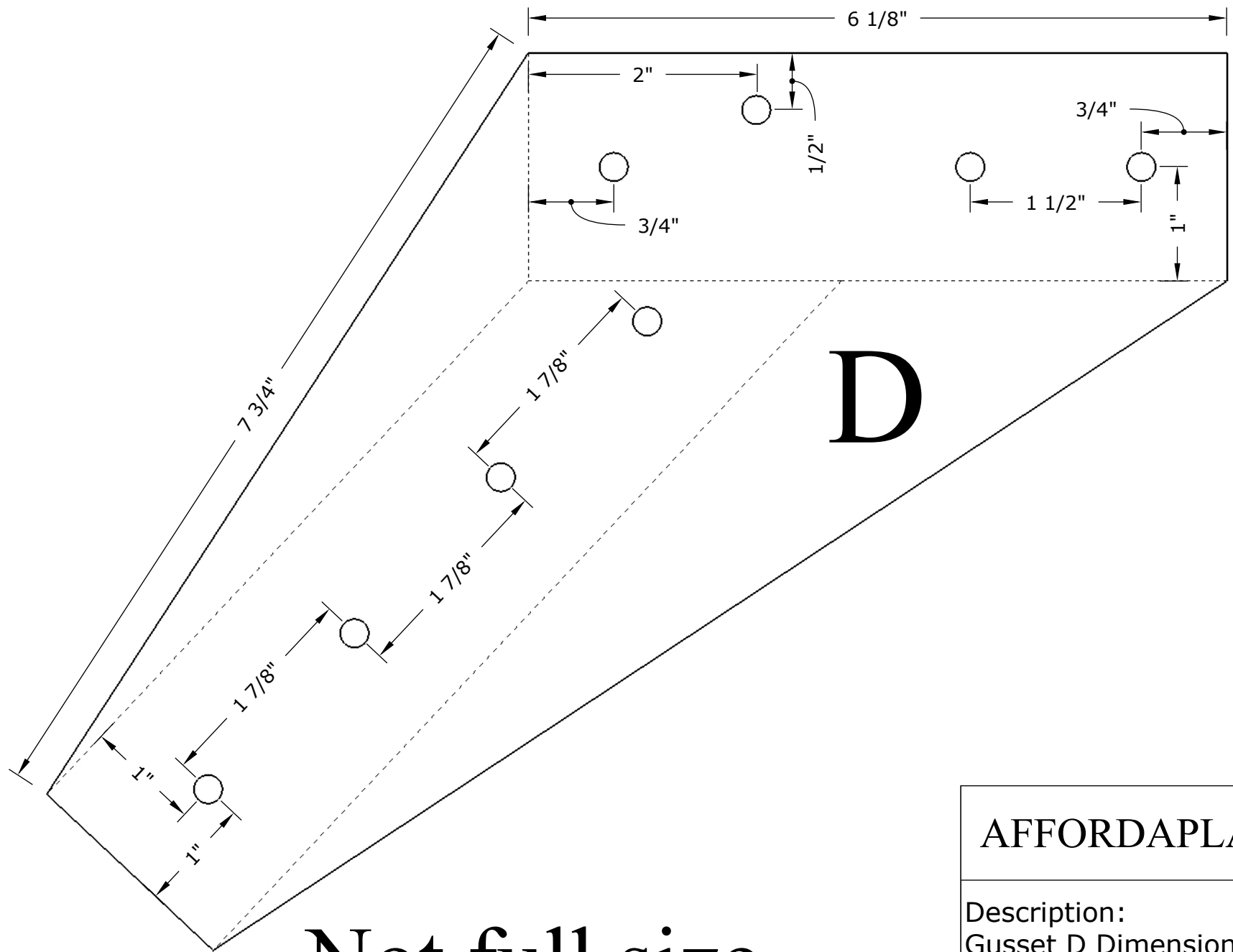




AFFORDAPLANE

Description:  
Gusset D Full Size

Drawing #47

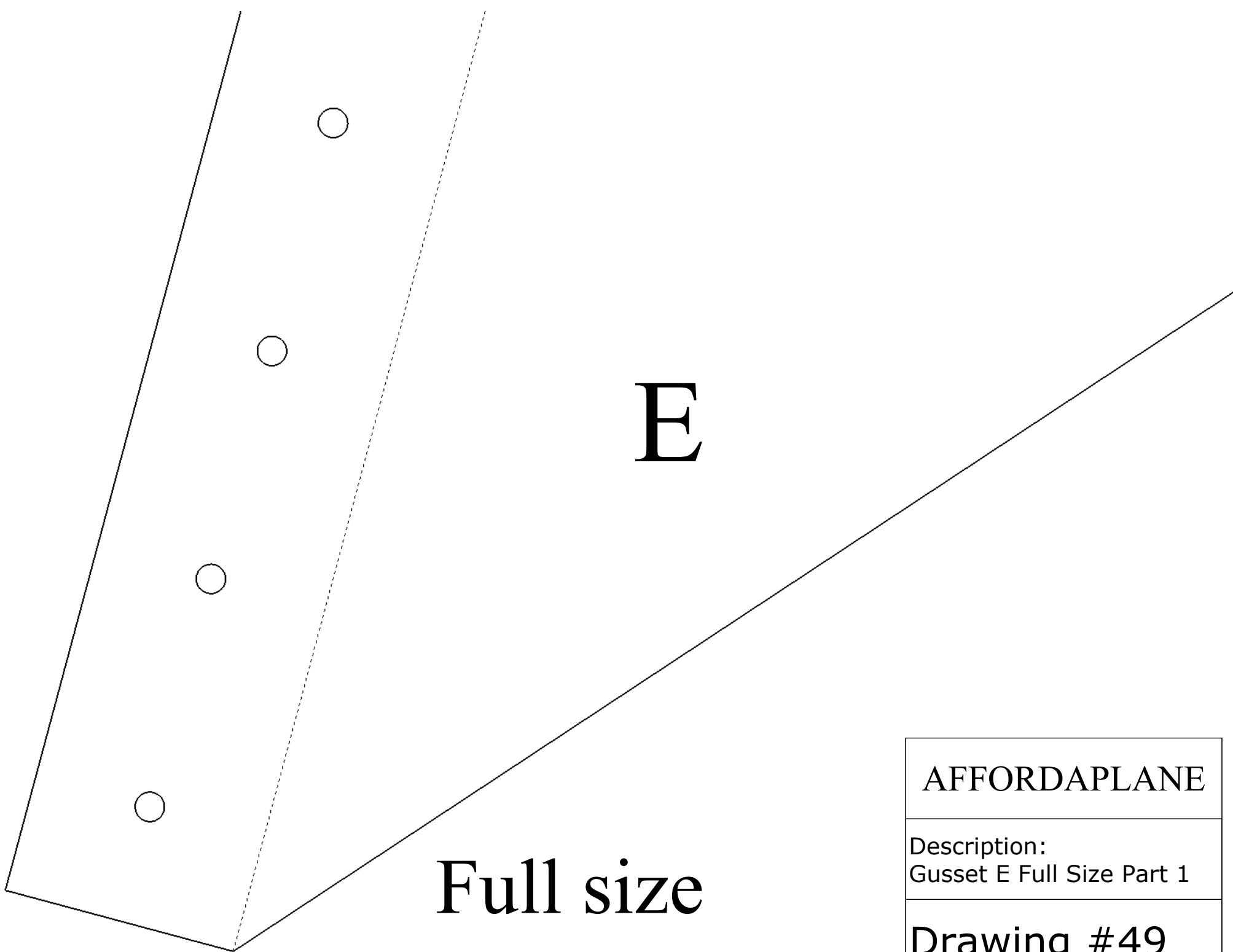


Not full size

AFFORDAPLANE

Description:  
Gusset D Dimensions

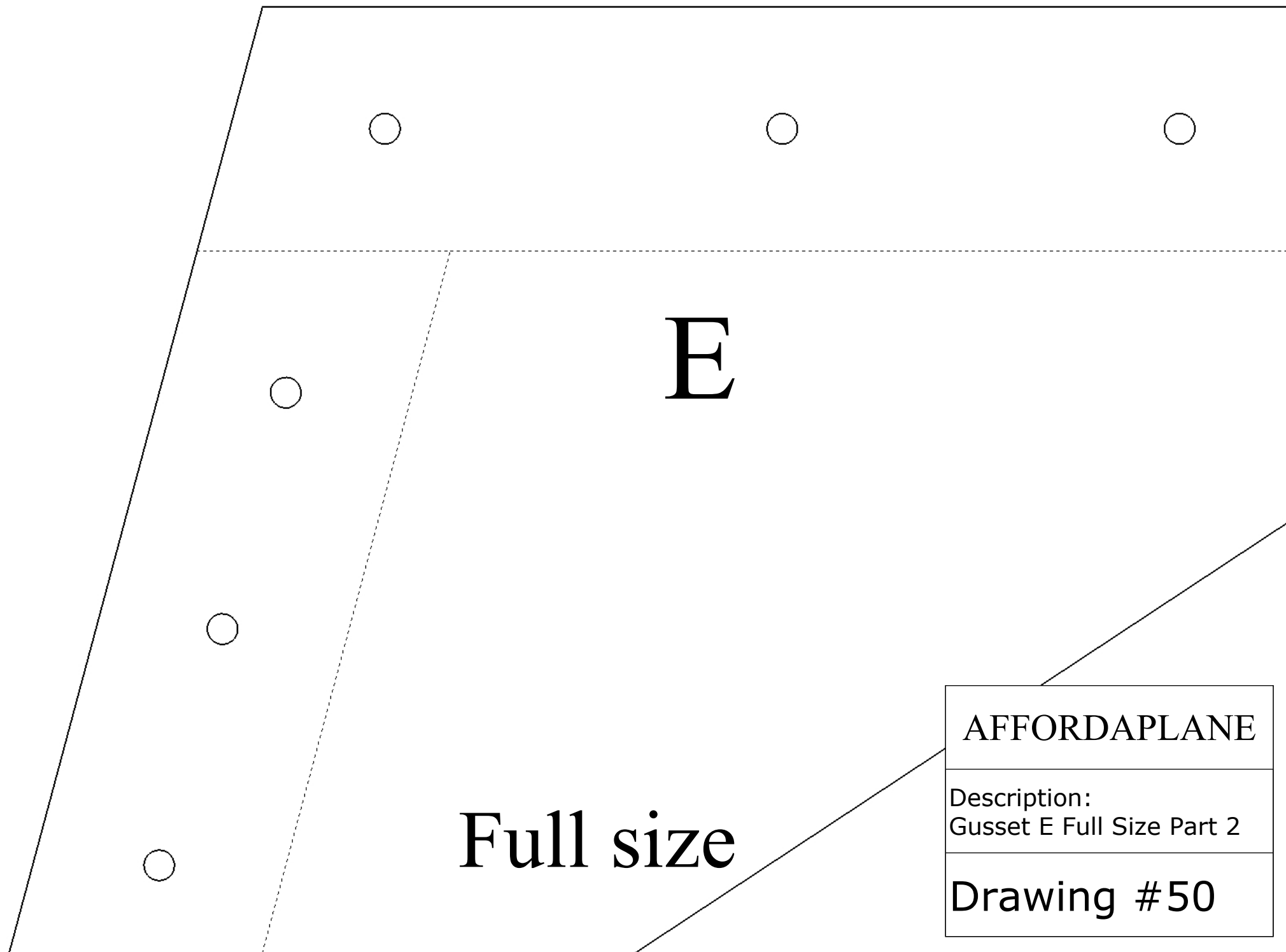
Drawing #48



AFFORDAPLANE

Description:  
Gusset E Full Size Part 1

Drawing #49



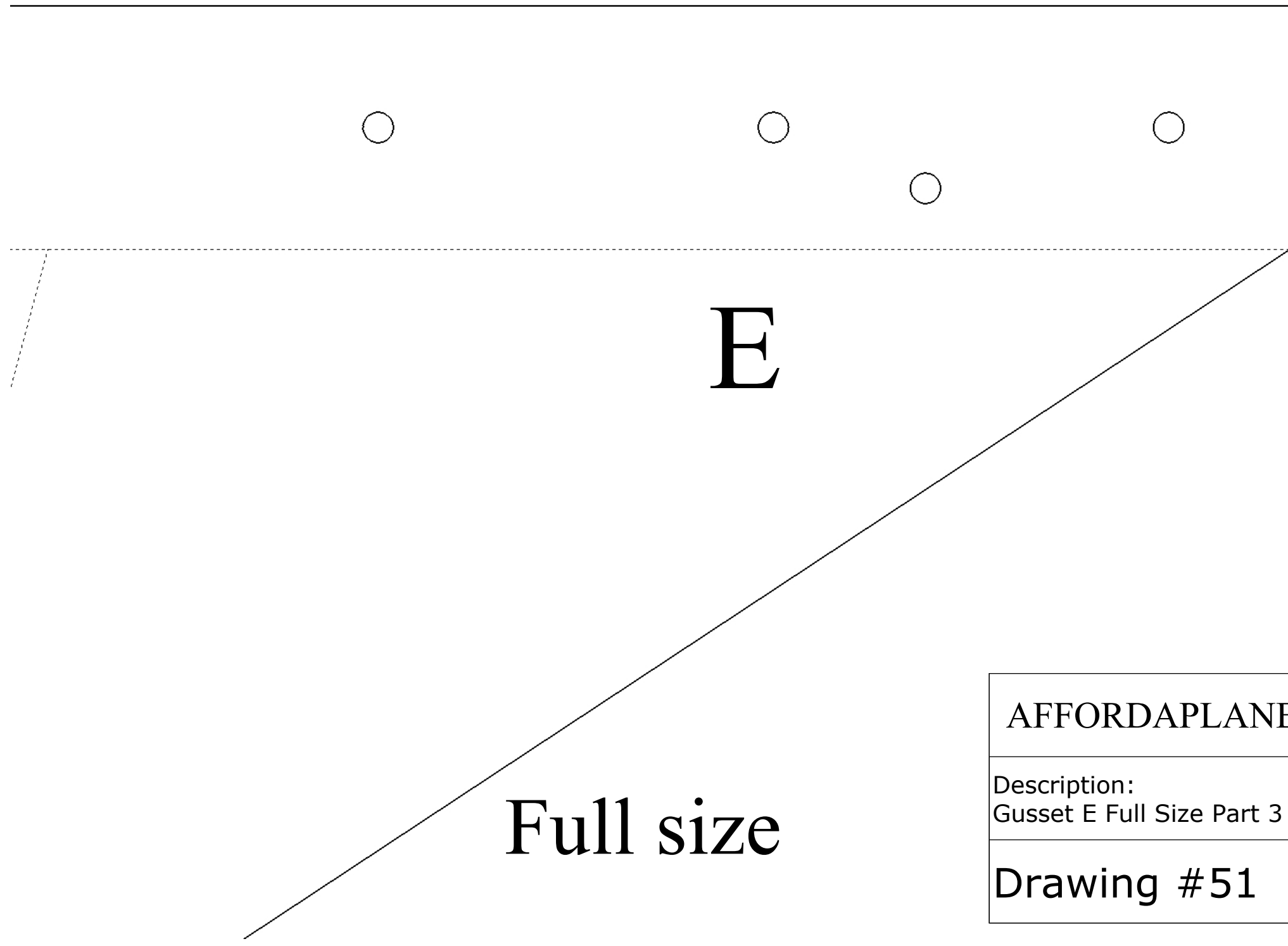
E

Full size

AFFORDAPLANE

Description:  
Gusset E Full Size Part 2

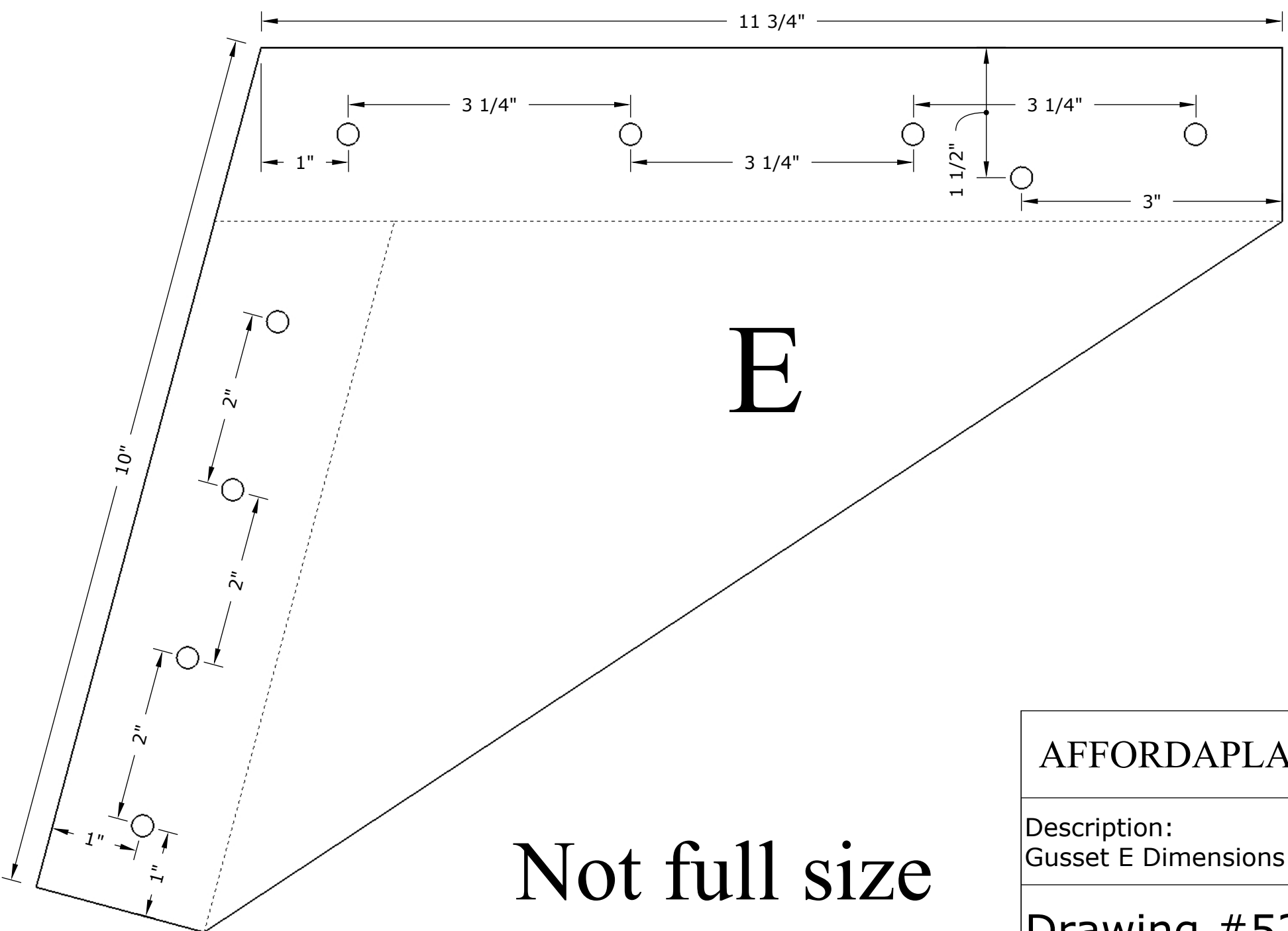
Drawing #50



E

Full size

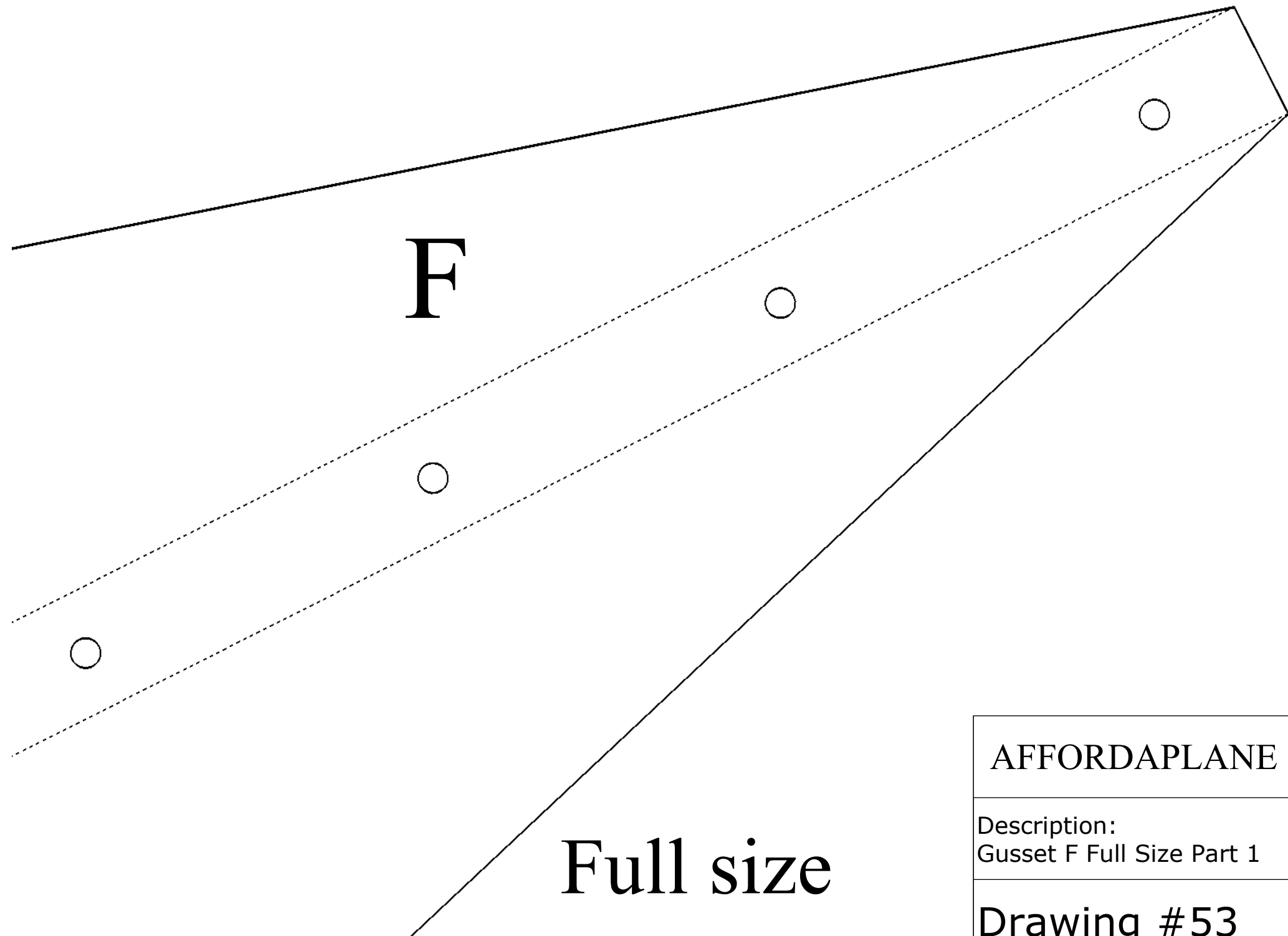
AFFORDAPLANE
Description: Gusset E Full Size Part 3
Drawing #51



E

Not full size

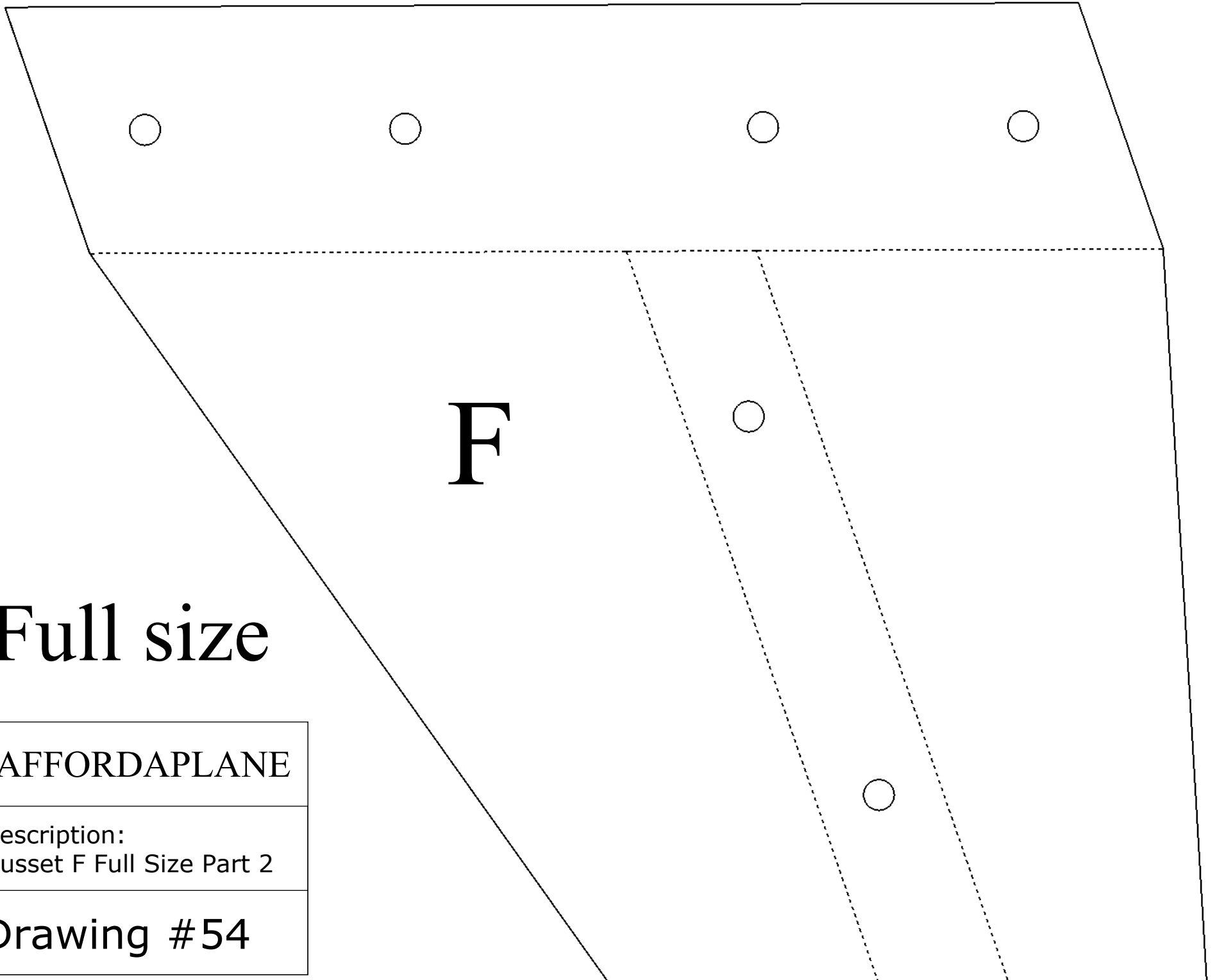
AFFORDAPLANE
Description: Gusset E Dimensions
Drawing #52



AFFORDAPLANE

Description:  
Gusset F Full Size Part 1

Drawing #53



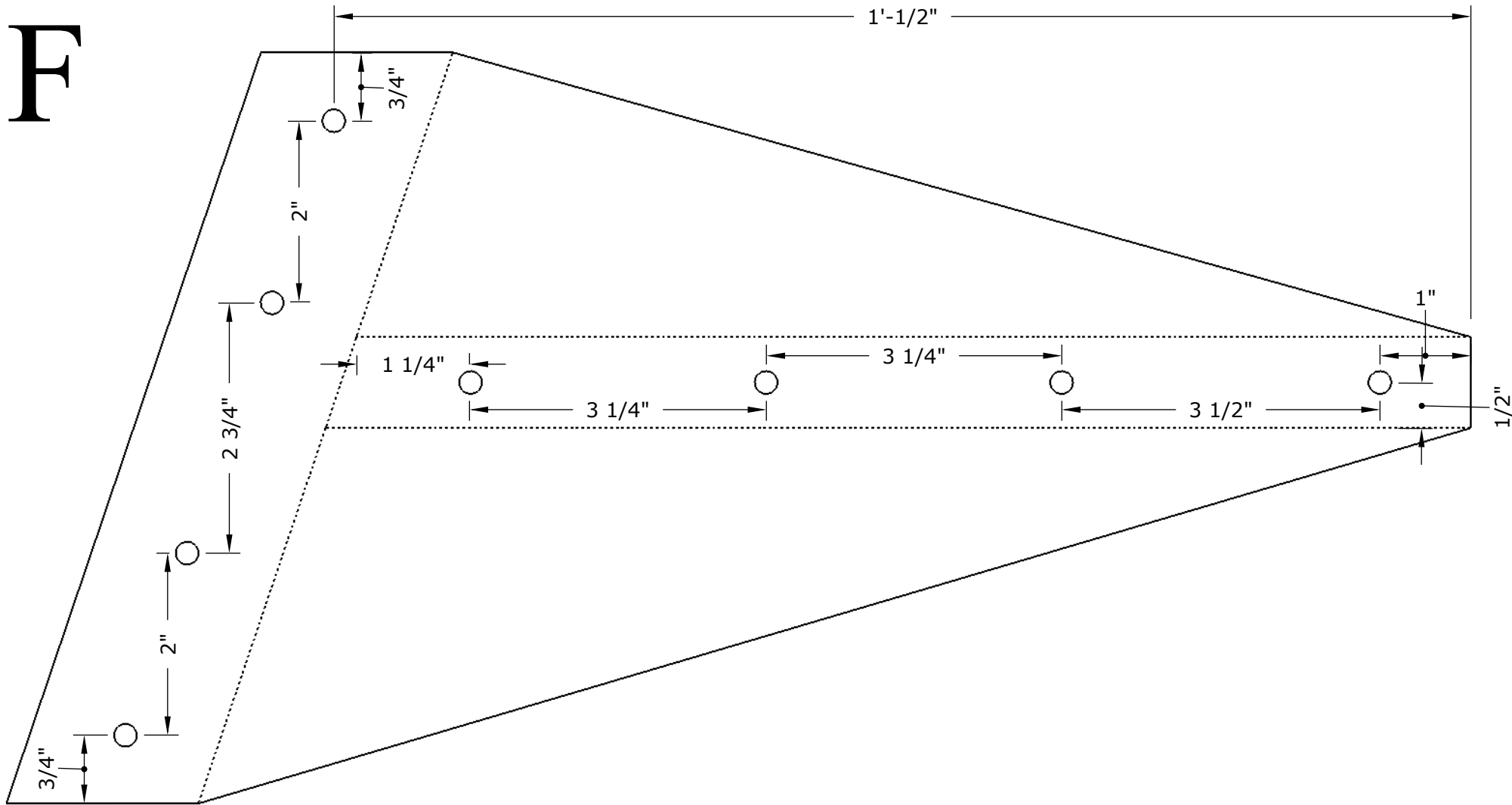
Full size

AFFORDAPLANE

Description:  
Gusset F Full Size Part 2

Drawing #54





Not full size

AFFORDAPLANE

Description:  
Gusset F Dimensions

Drawing #55

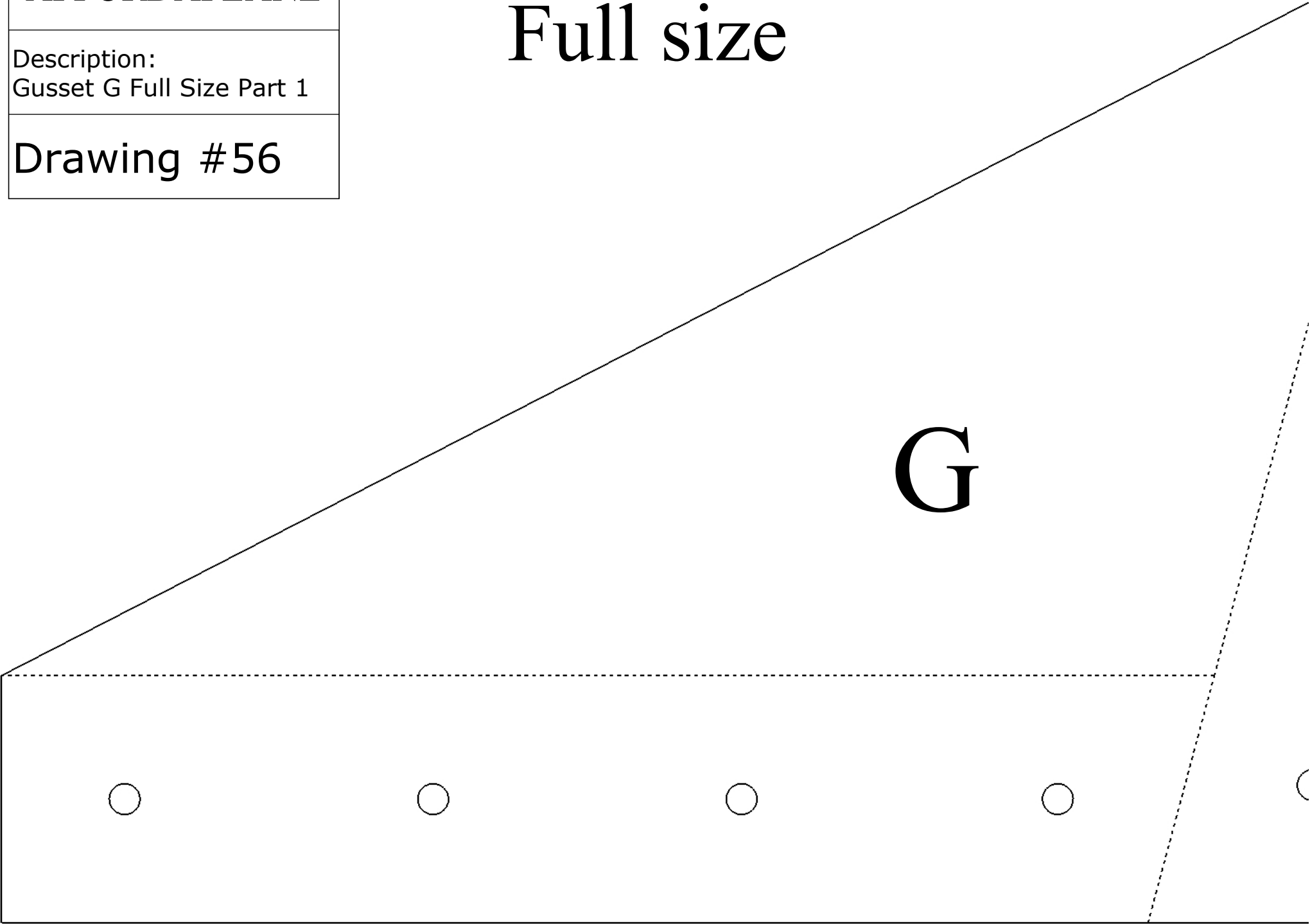
AFFORDAPLANE

Description:  
Gusset G Full Size Part 1

Drawing #56

Full size

G



AFFORDAPLANE

Description:  
Gusset G Full Size Part 2

Drawing #57

Full size

G



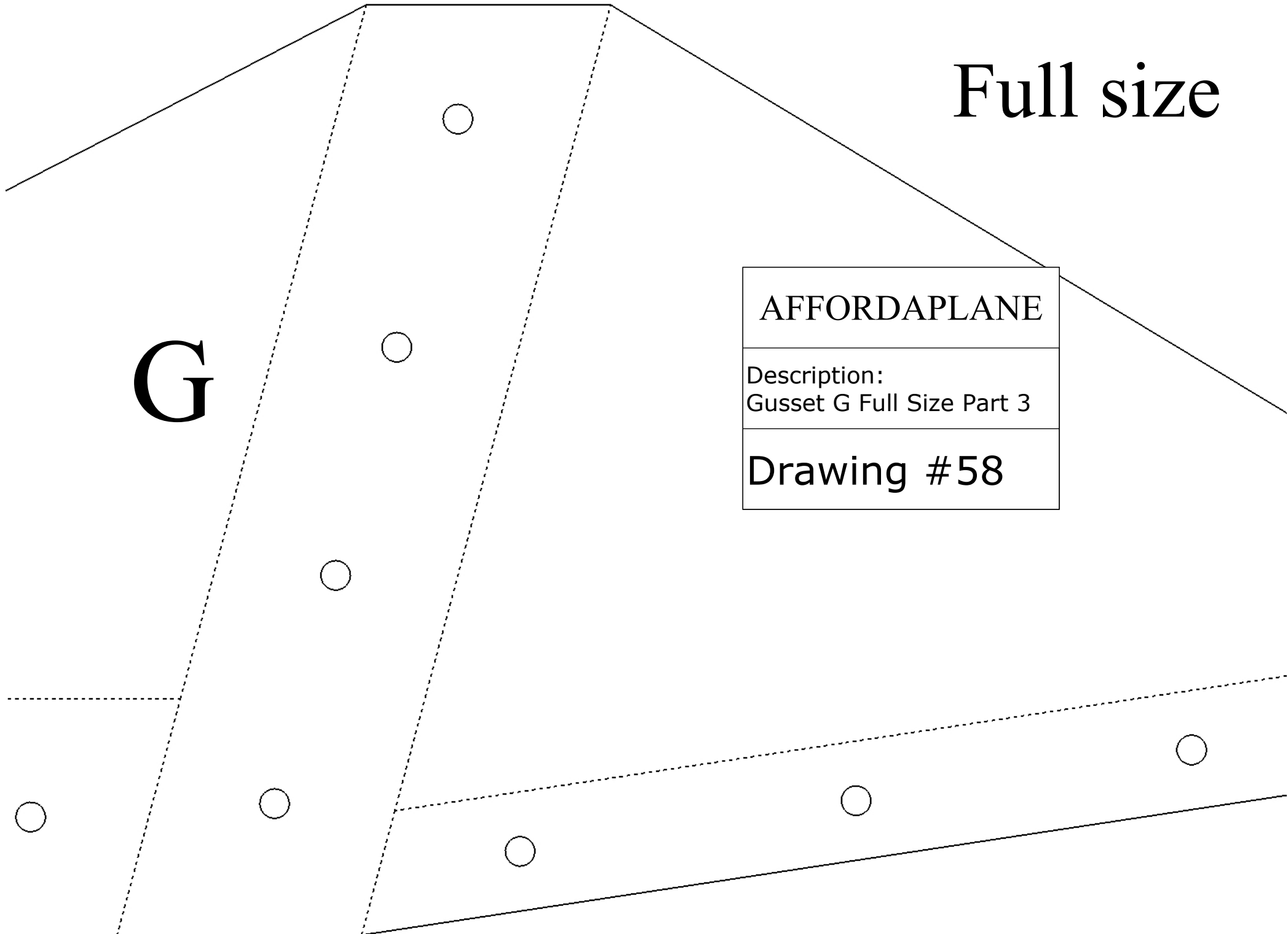
Full size

G

AFFORDAPLANE

Description:  
Gusset G Full Size Part 3

Drawing #58



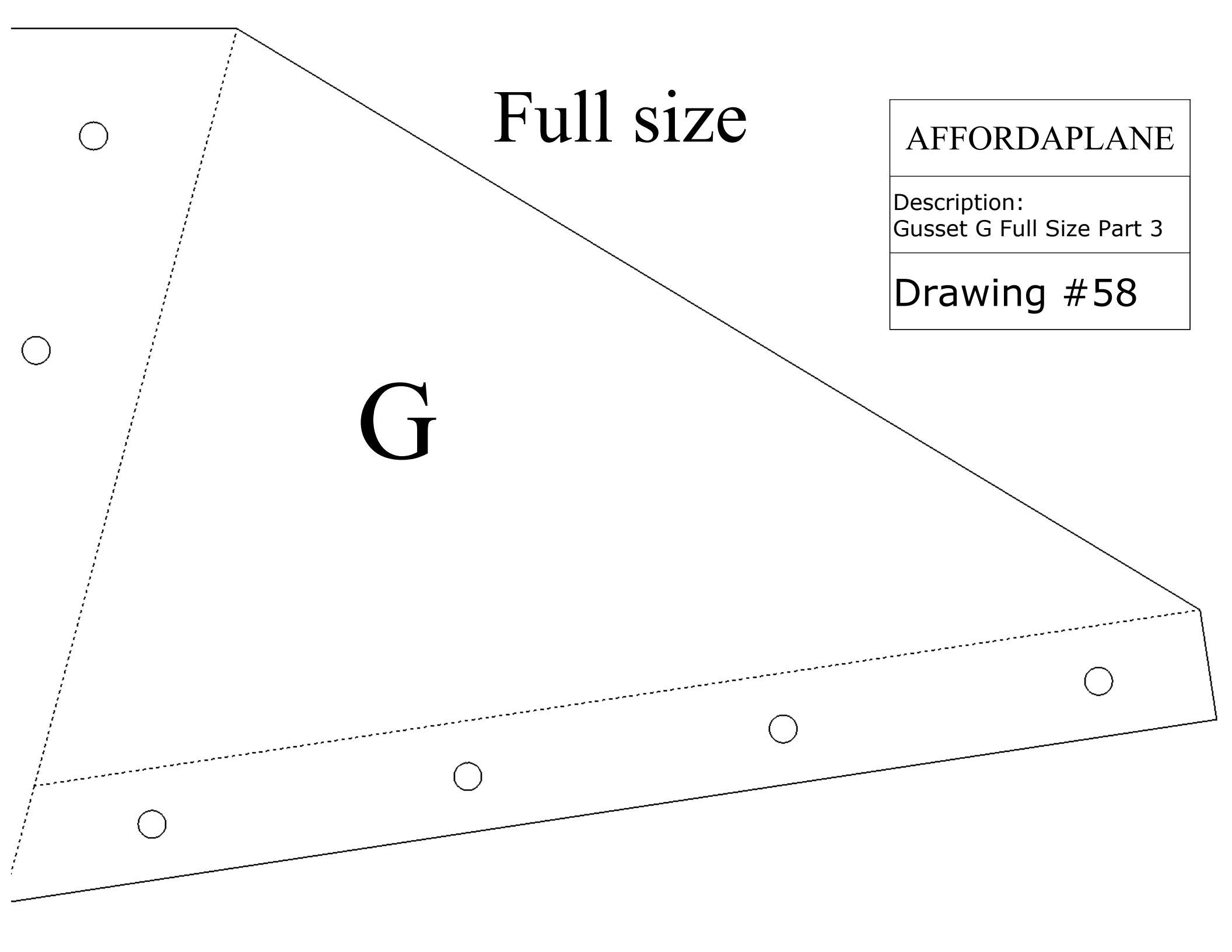
Full size

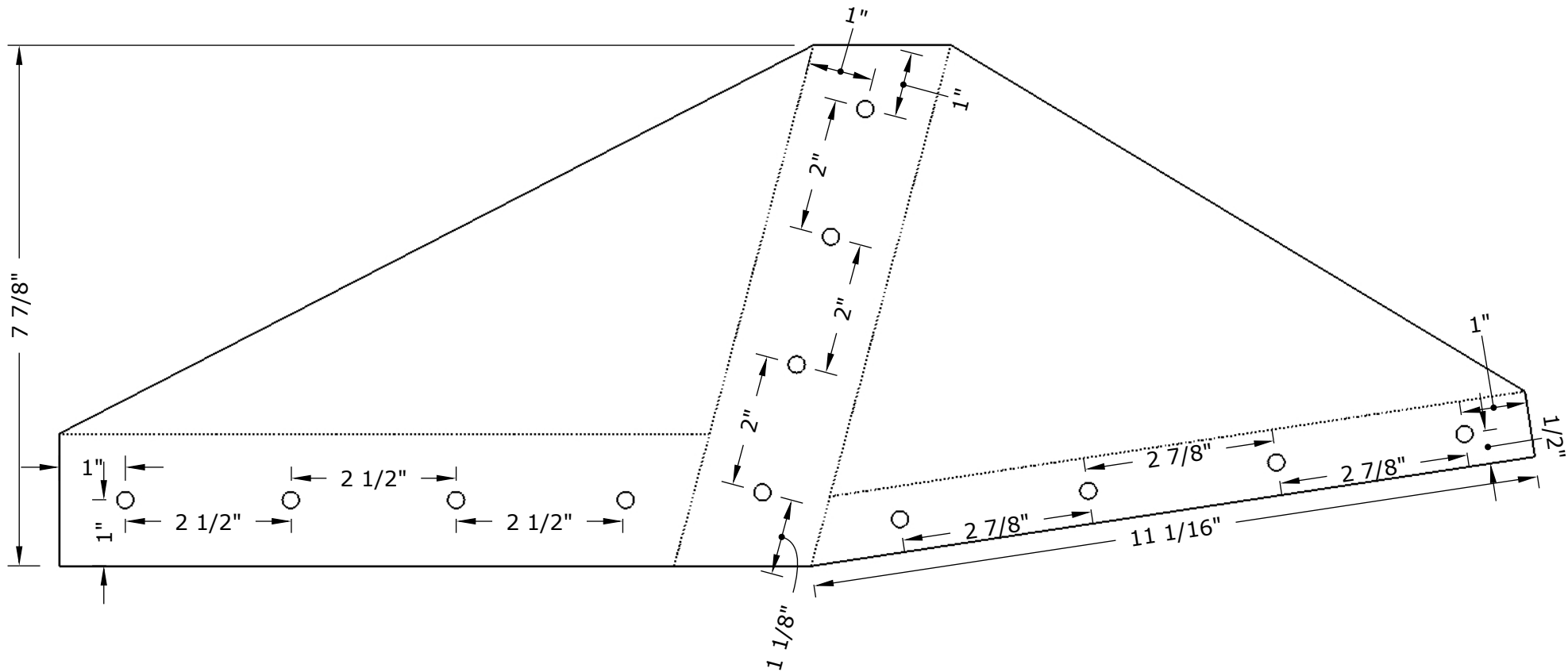
AFFORDAPLANE

Description:  
Gusset G Full Size Part 3

Drawing #58

G





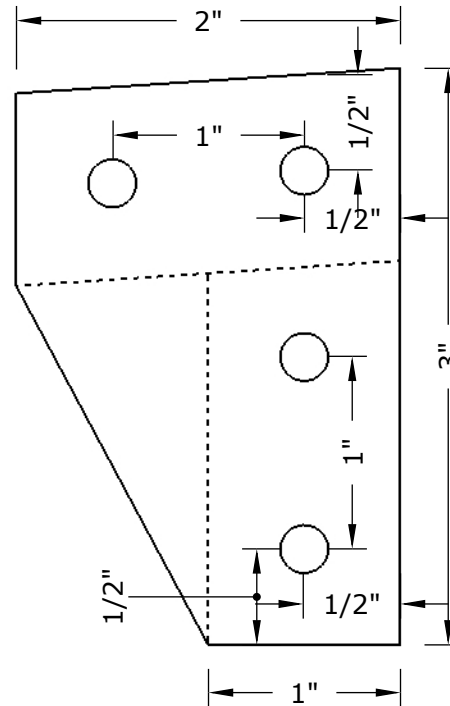
Not full size

AFFORDAPLANE

Description:  
Gusset G Dimensions

Drawing #60

# H



## Full size

AFFORDAPLANE

Description:  
Gusset H Dimensions

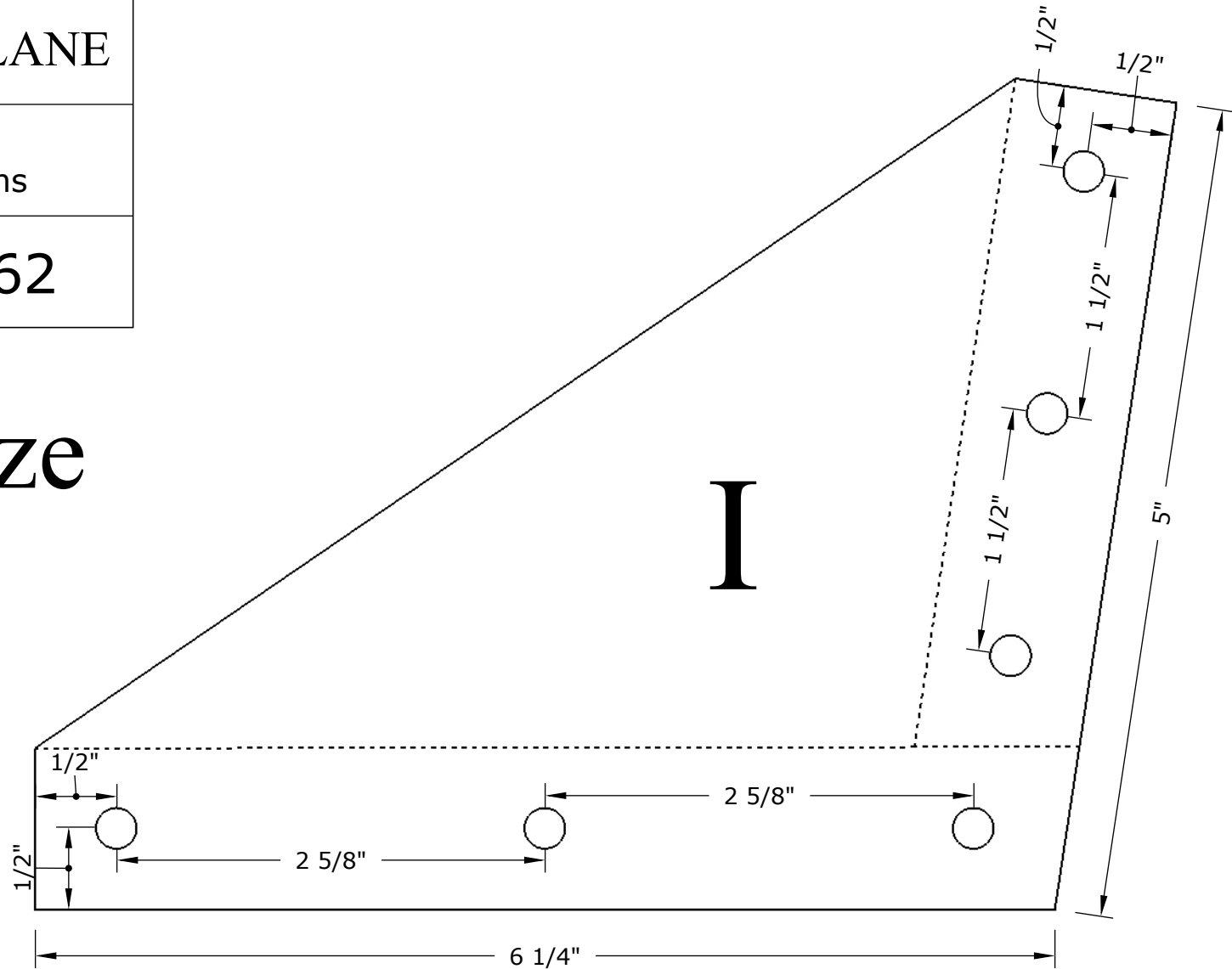
Drawing #61

# AFFORDAPLANE

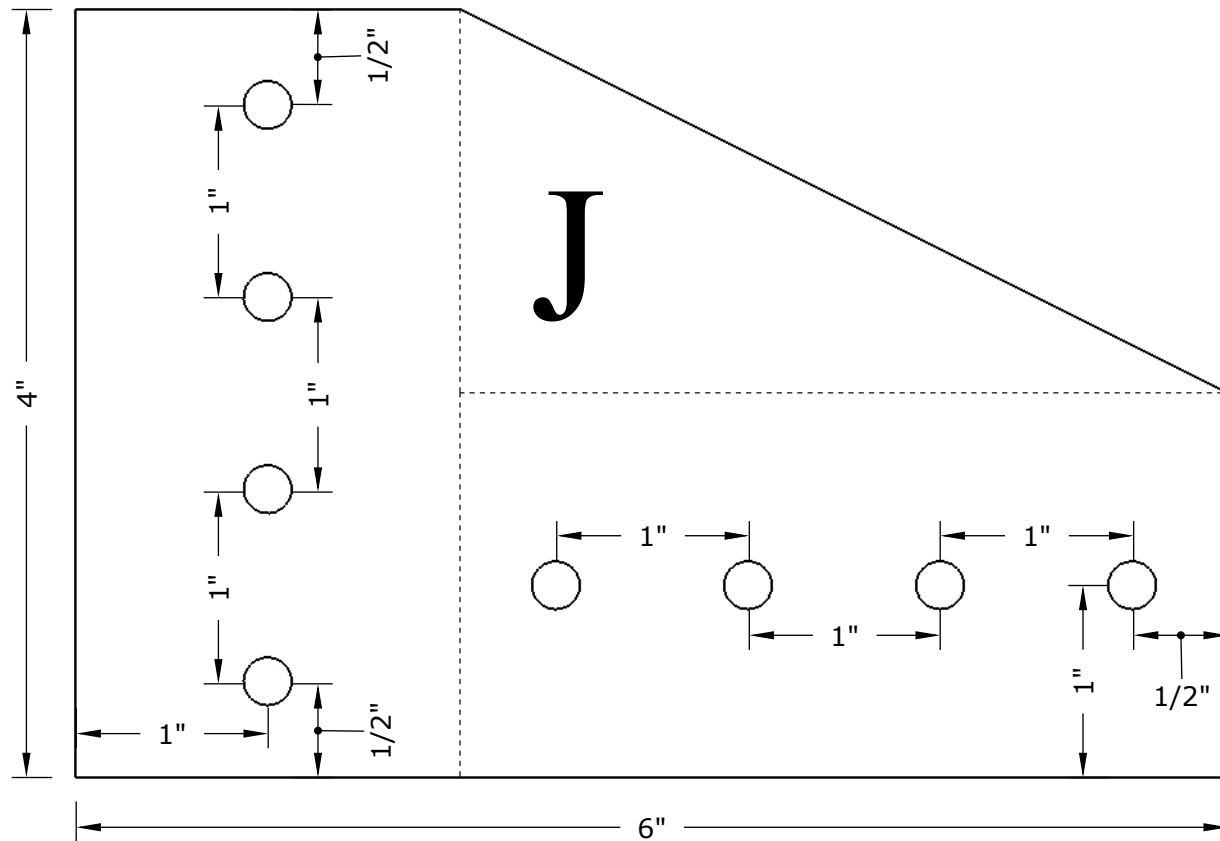
Description:  
Gusset I Dimensions

Drawing #62

## Full size





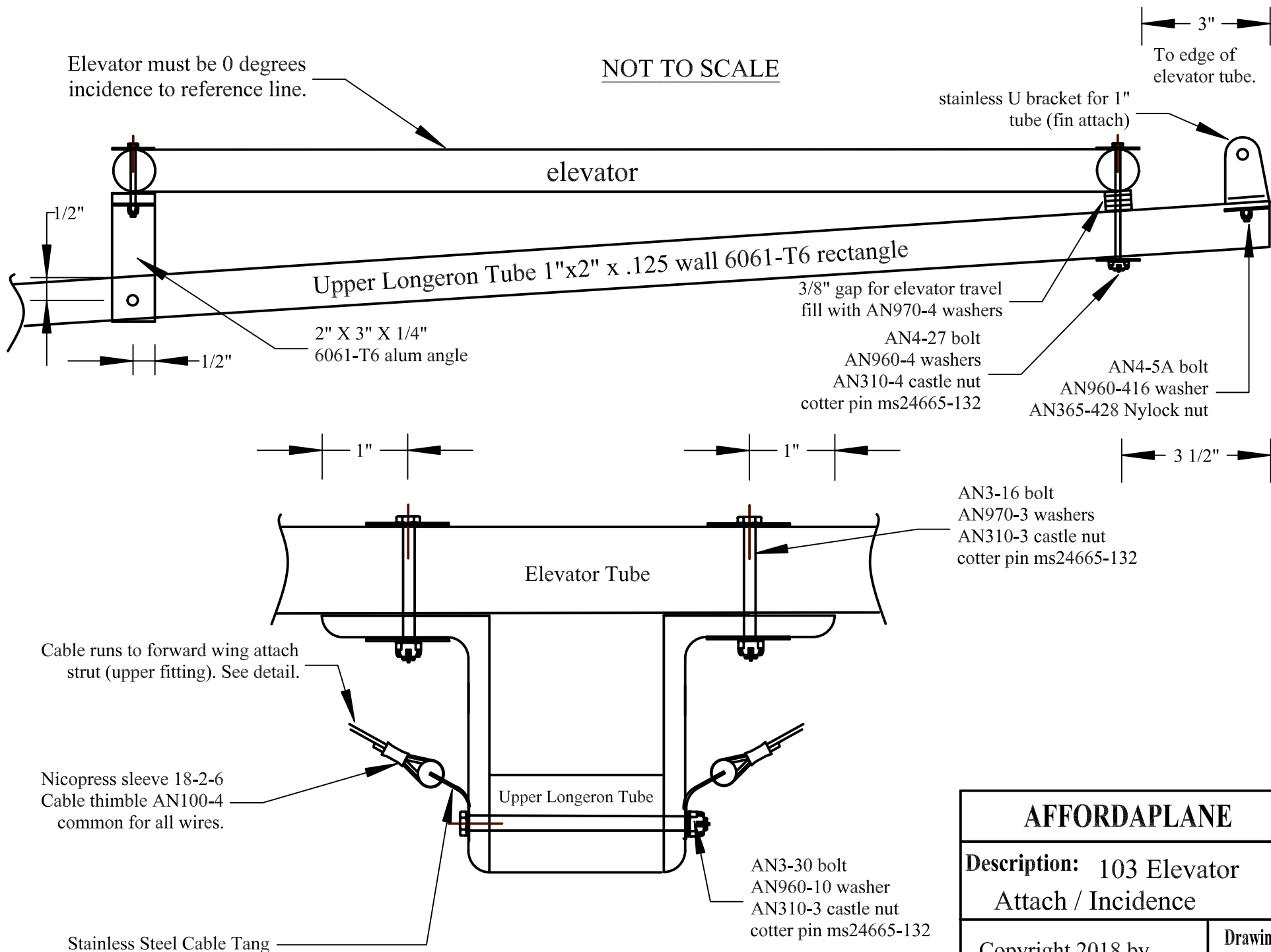


Full size

AFFORDAPLANE

Description:  
Gusset J Dimensions

Drawing #63



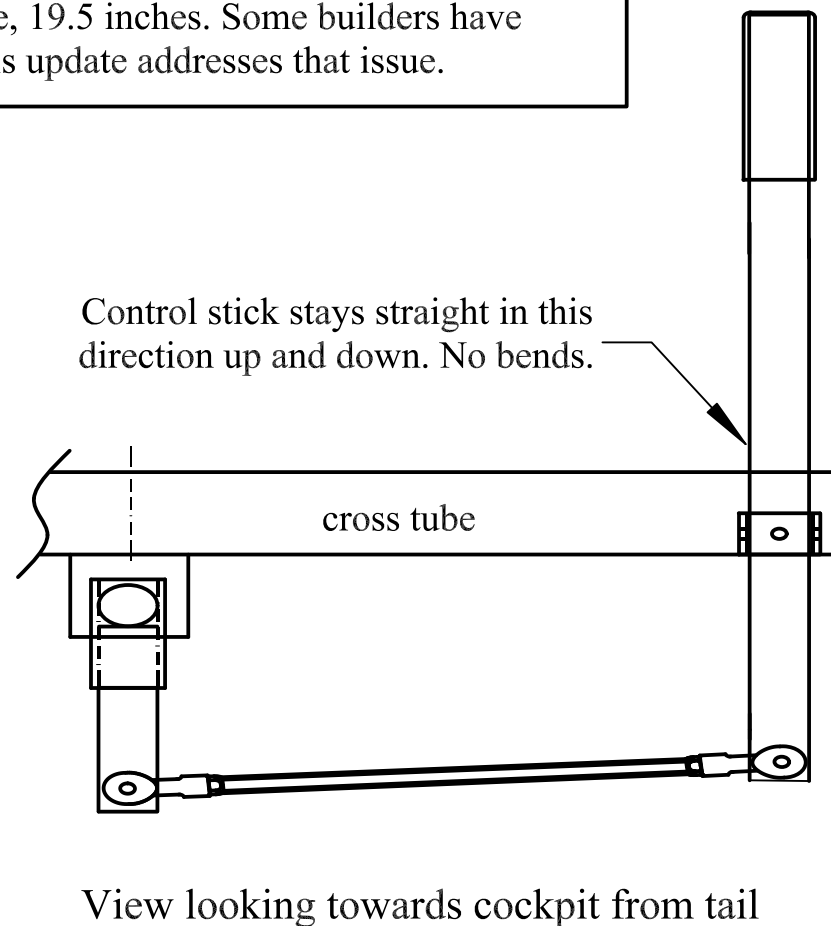
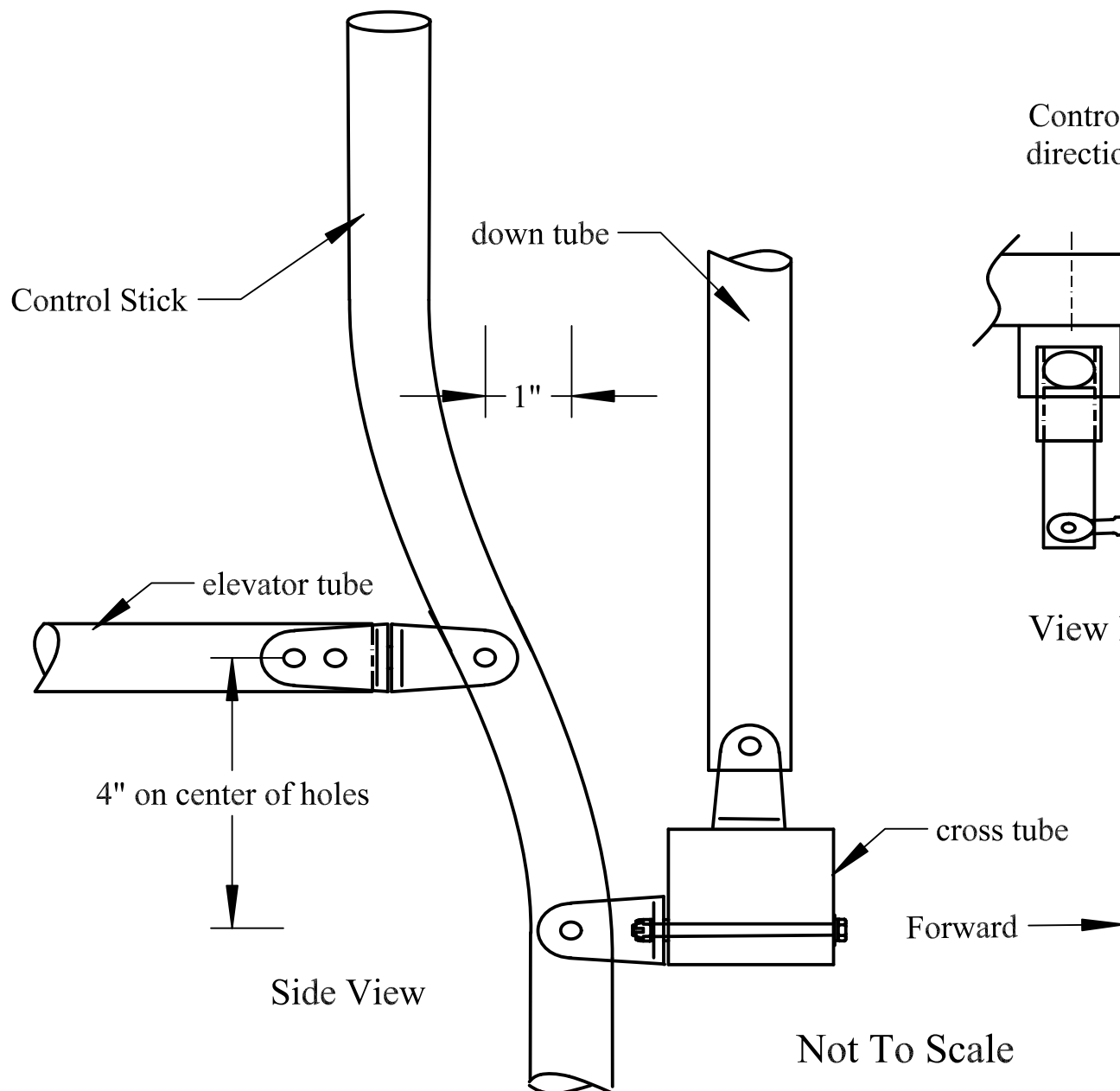
## AFFORDAPLANE

**Description:** 103 Elevator  
Attach / Incidence

Copyright 2018 by  
Dave Edwards

Drawing#  
26

The control stick is curved back 1 inch as shown in this drawing. This allows the stick to fully clear the down tubes in front of the stick. The length remains the same, 19.5 inches. Some builders have reported that they wanted more clearance for down elevator. This update addresses that issue.

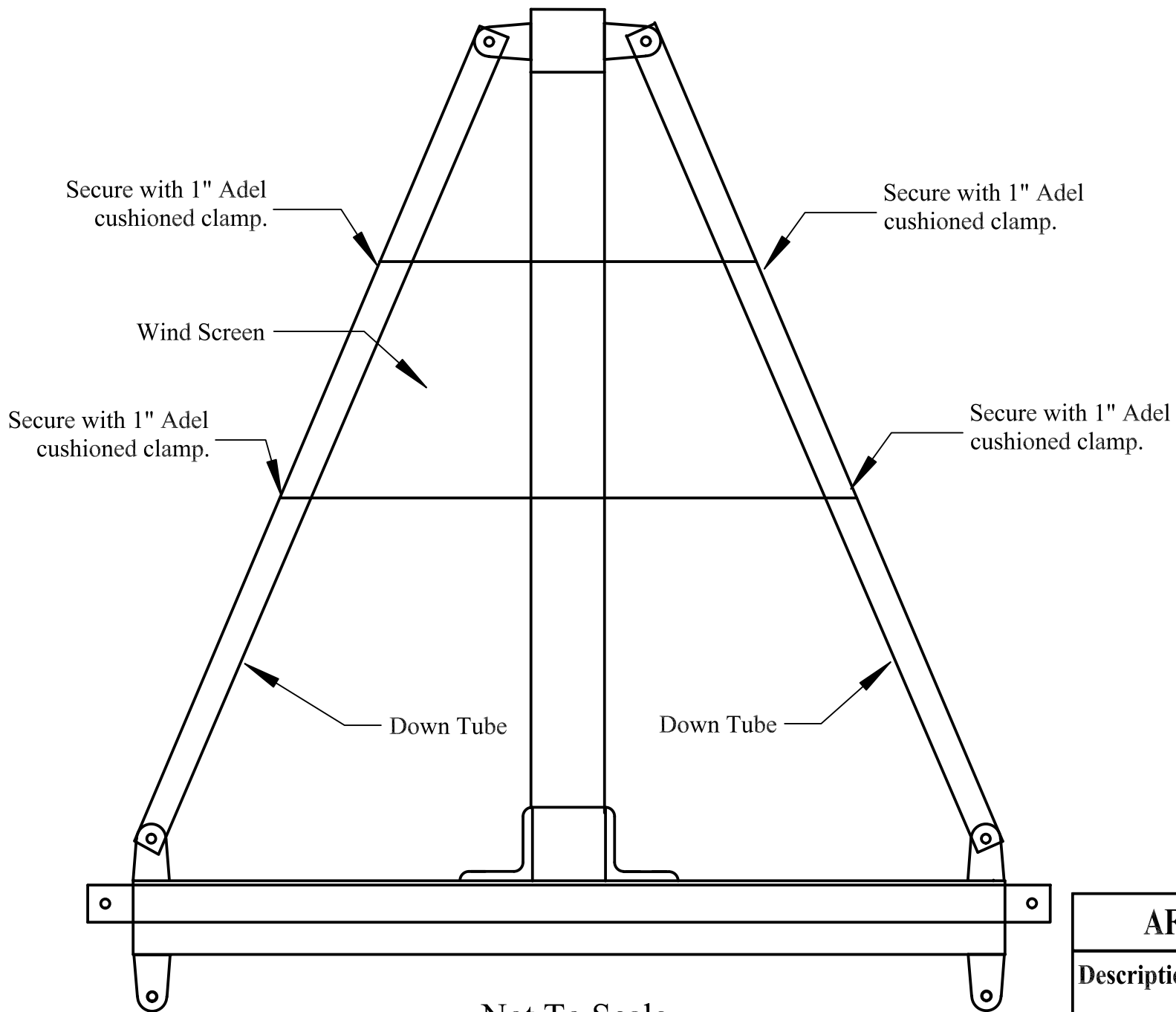


## AFFORDAPLANE

Description:  
Control Stick Update

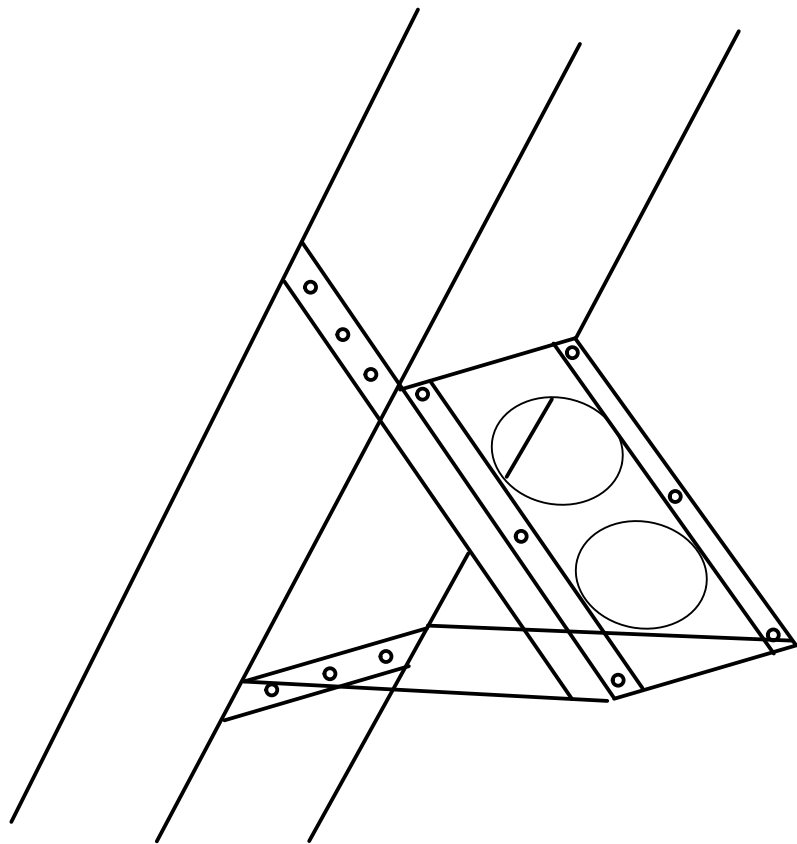
Copyright 2019 by  
Dave Edwards

Drawing#

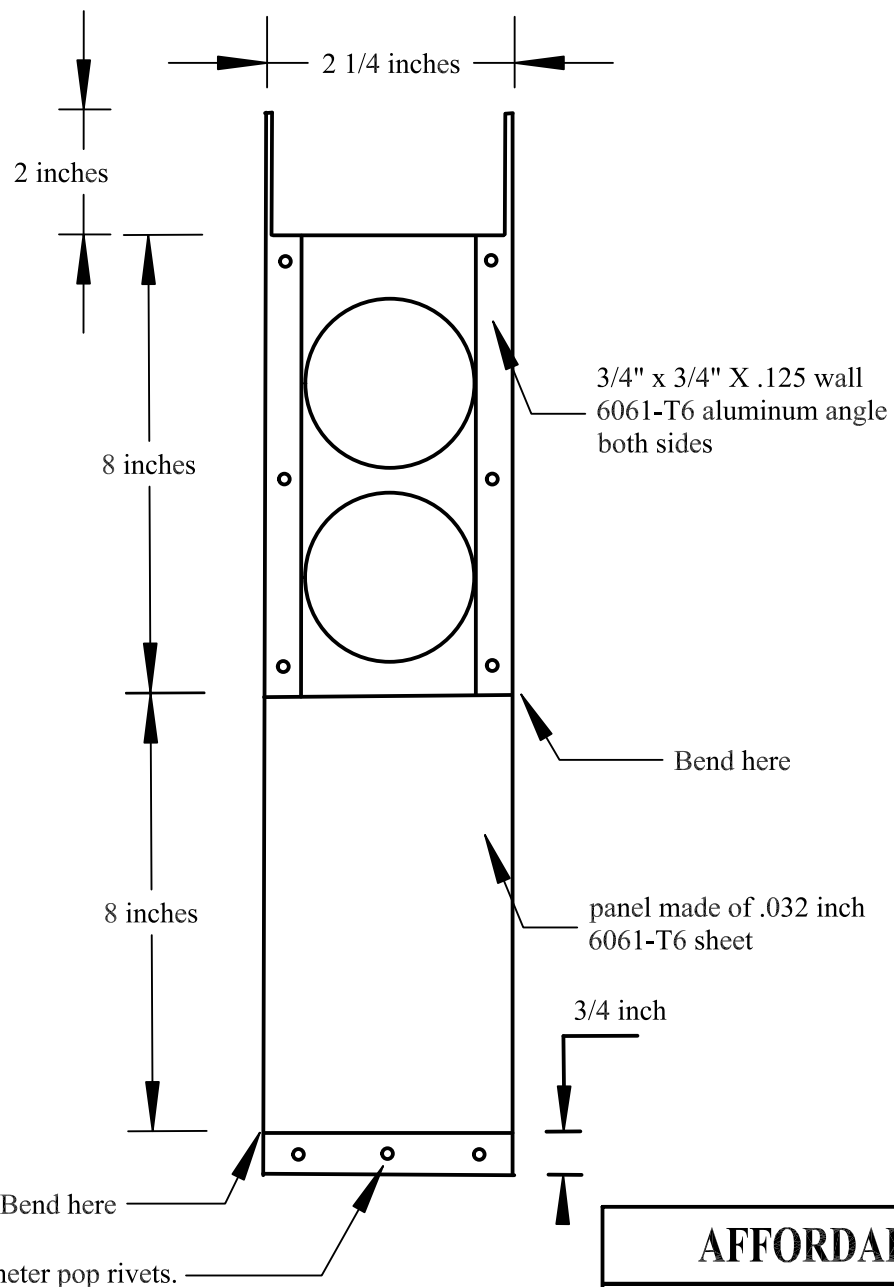
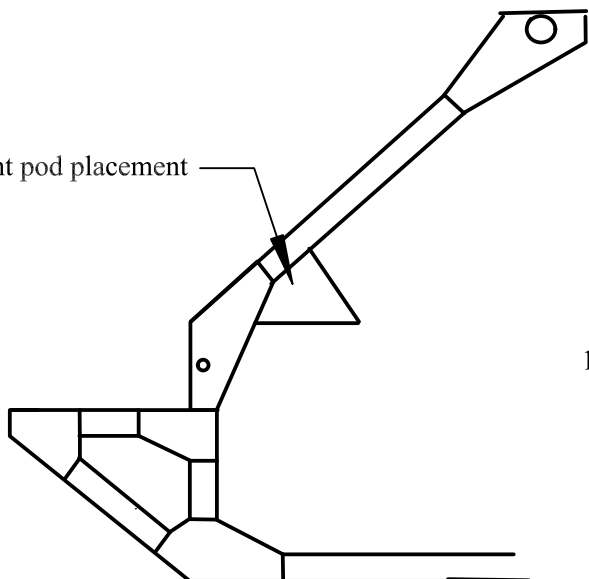


Not To Scale

<b>AFFORDAPLANE</b>	
<b>Description:</b> 103 Windscreen	
Copyright 2019 by Dave Edwards	<b>Drawing#</b>



instrument pod placement



Not To Scale

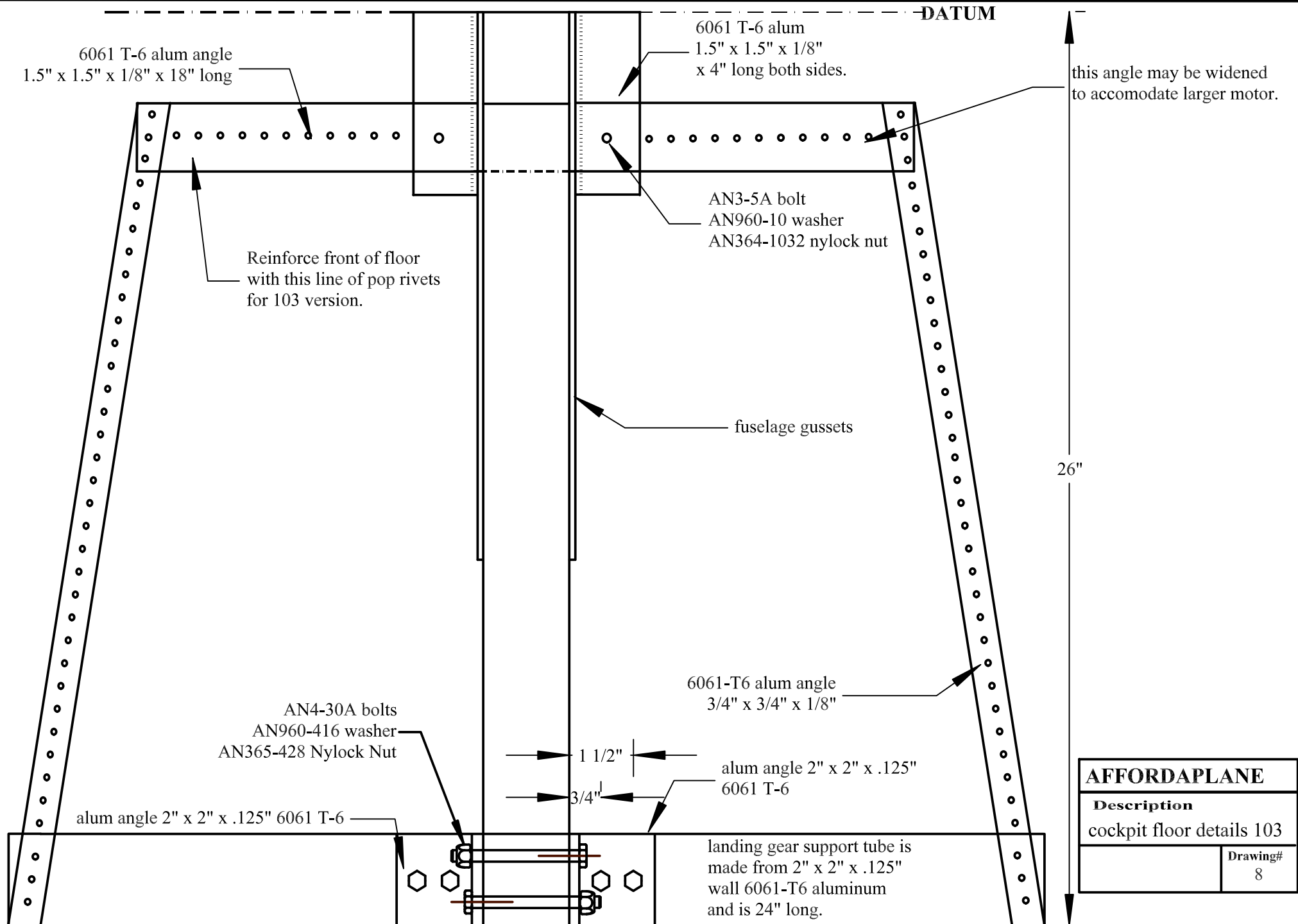
## AFFORDAPLANE

Description:

103 instrument pod

Copyright 2019 by  
Dave Edwards

Drawing#



## AFFORDAPLANE

### Description

cockpit floor details 103

Drawing#

8



## Full Size Fuselage Drawing with Gussets

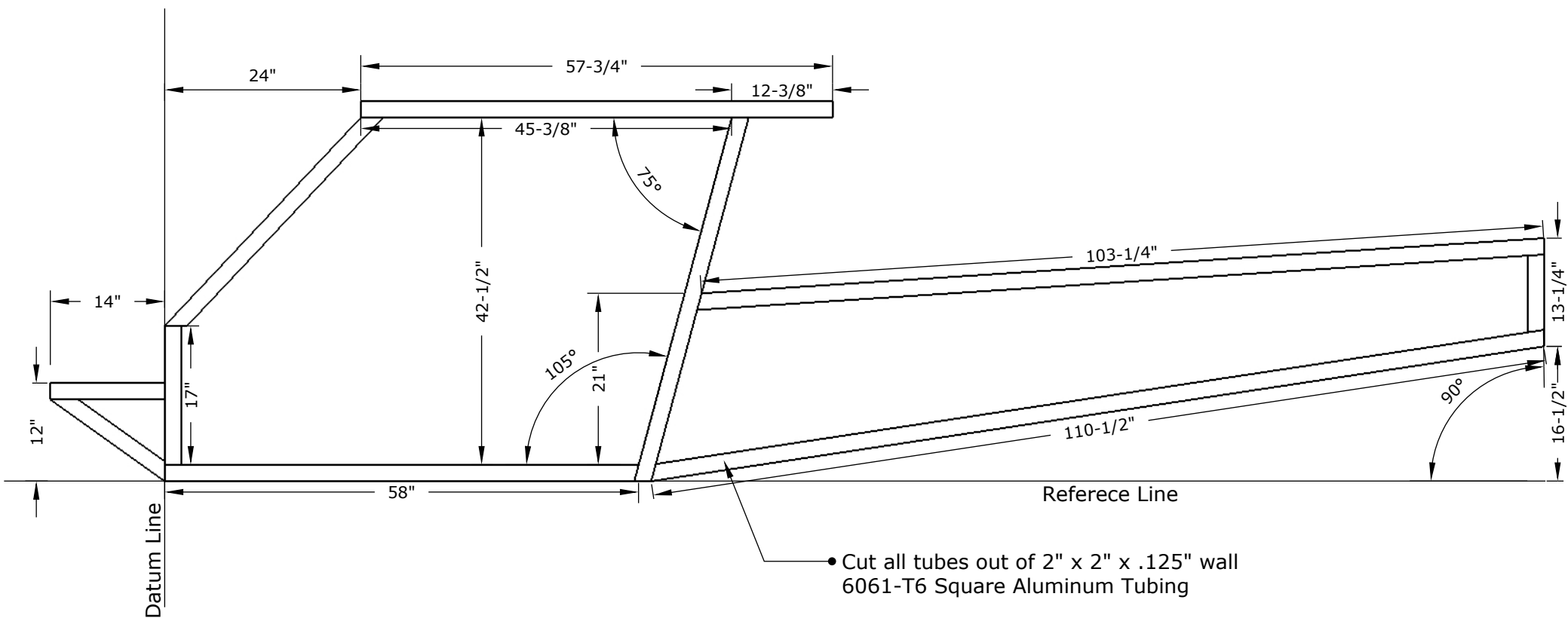
If you are building a Light Sport Aircraft, or using a larger motor than 75 pounds in weight, we recommend using the original fuselage. This fuselage uses 2" x 2" x .125 inch wall 6061-T6 square tube.

These drawings allow people to use the precut gusset kits offered by [aplaneparts.com](http://aplaneparts.com). The following pages contain the fuselage drawing with dimensions, and the gussets with dimensions.

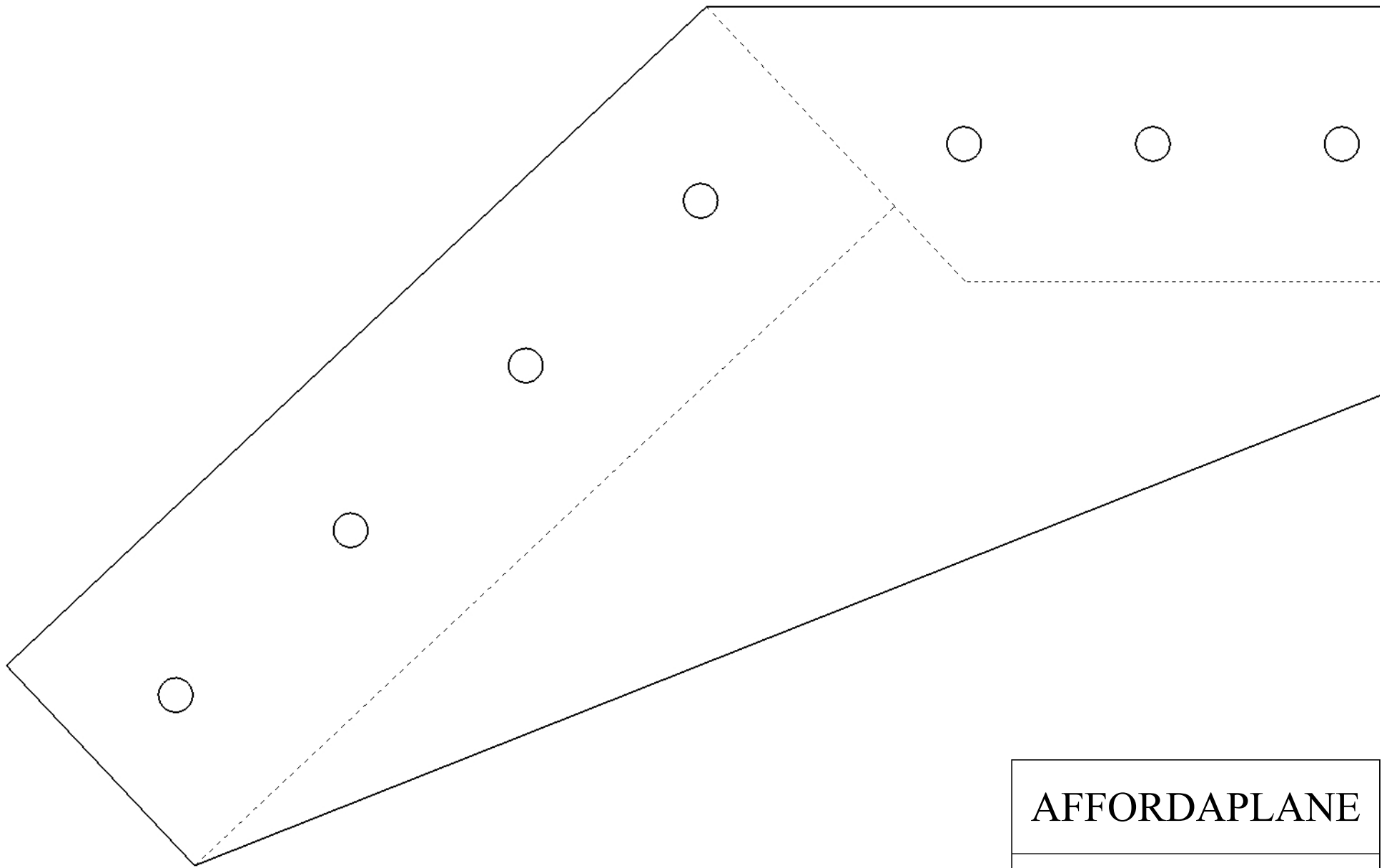
# AFFORDAPLANE

Description:  
Fuselage Tube Layout

## Drawing #2





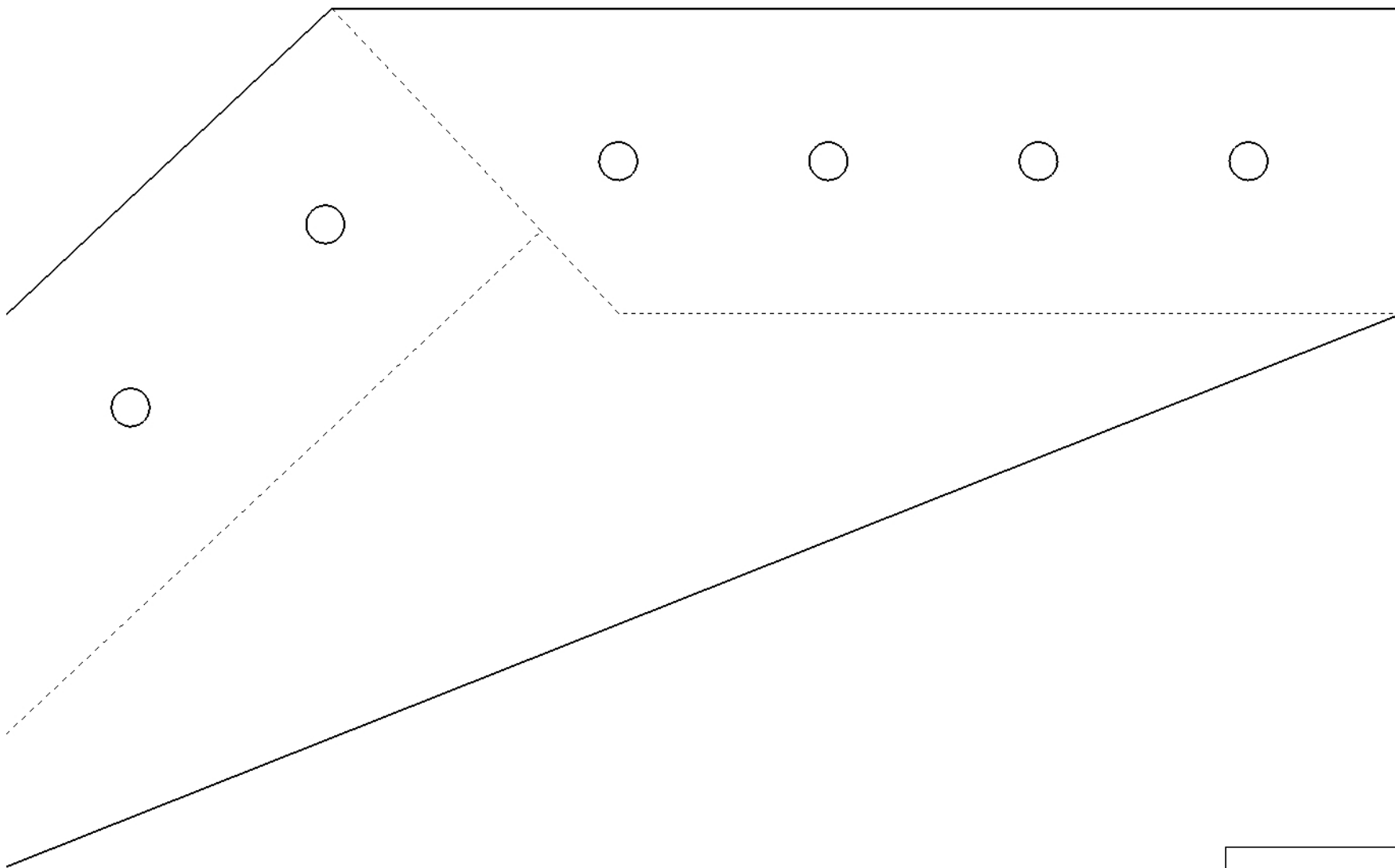


Full size

AFFORDAPLANE

Description:  
Gusset A Part 1

Drawing #40

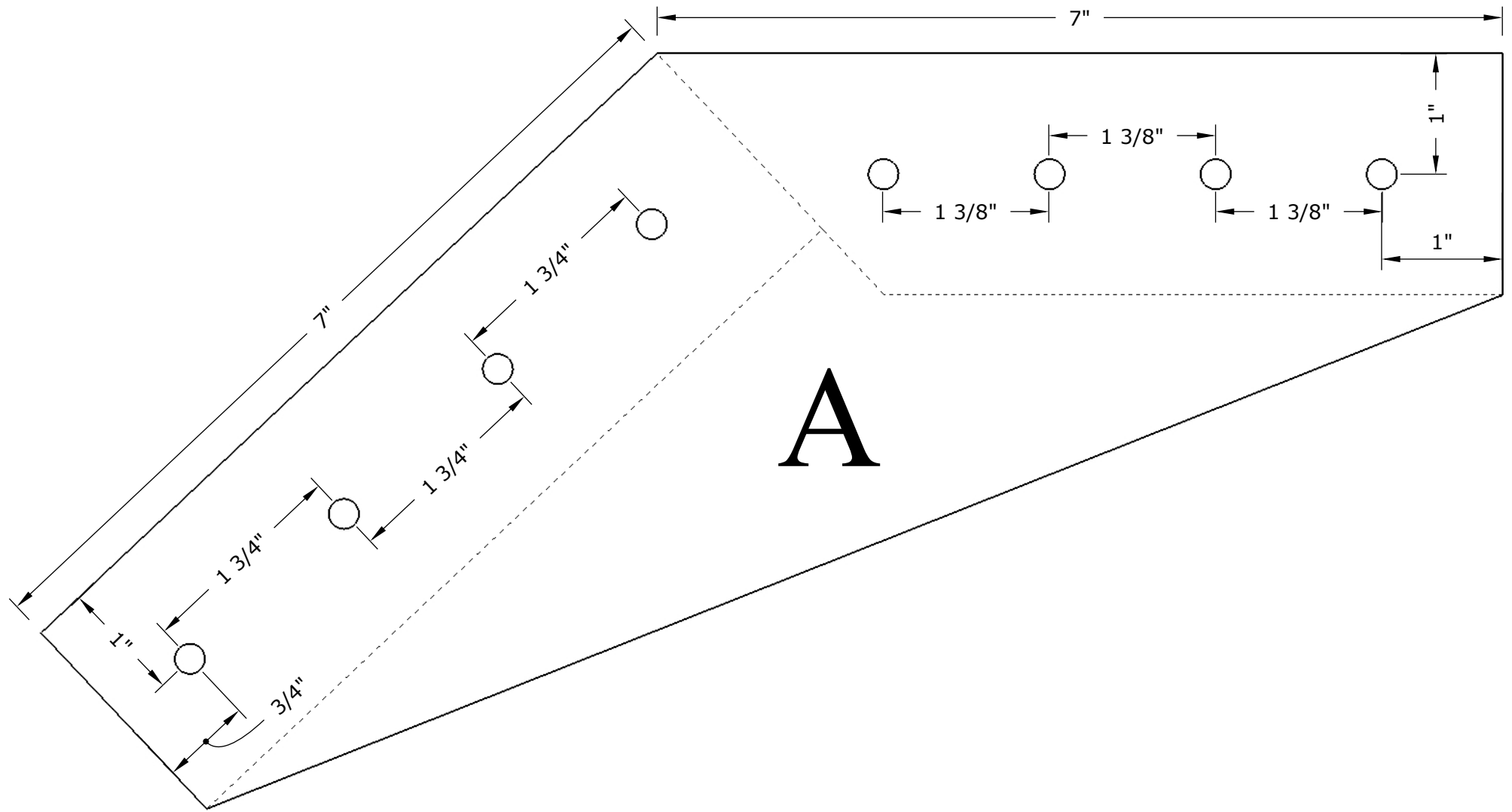


Full size

AFFORDAPLANE

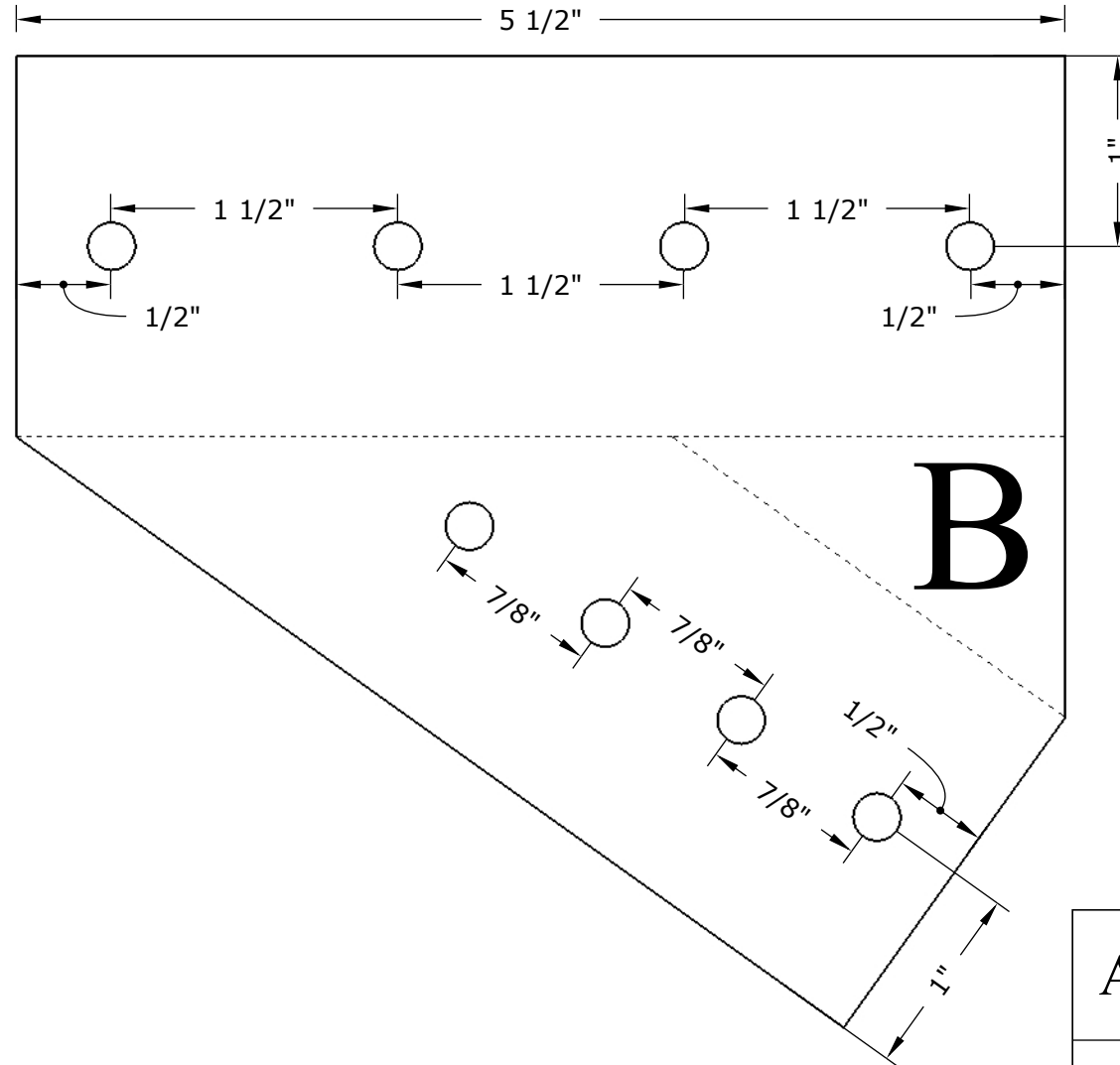
Description:  
Gusset A Part 2

Drawing #41



Not full size

AFFORDAPLANE
Description: Gusset A Dimensions
Drawing #42

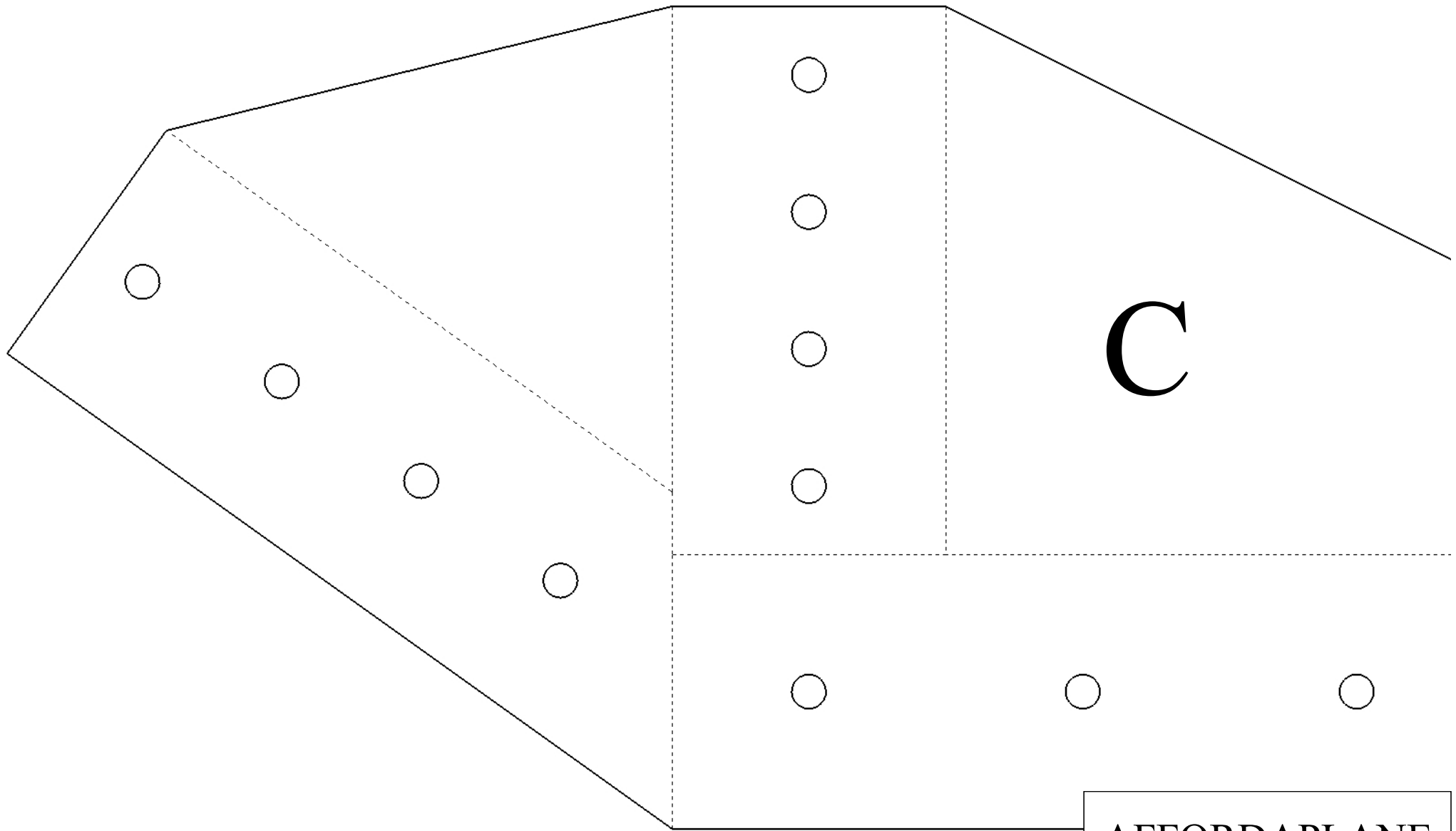


Full size

AFFORDAPLANE

Description:  
Gusset B Dimensions

Drawing #43

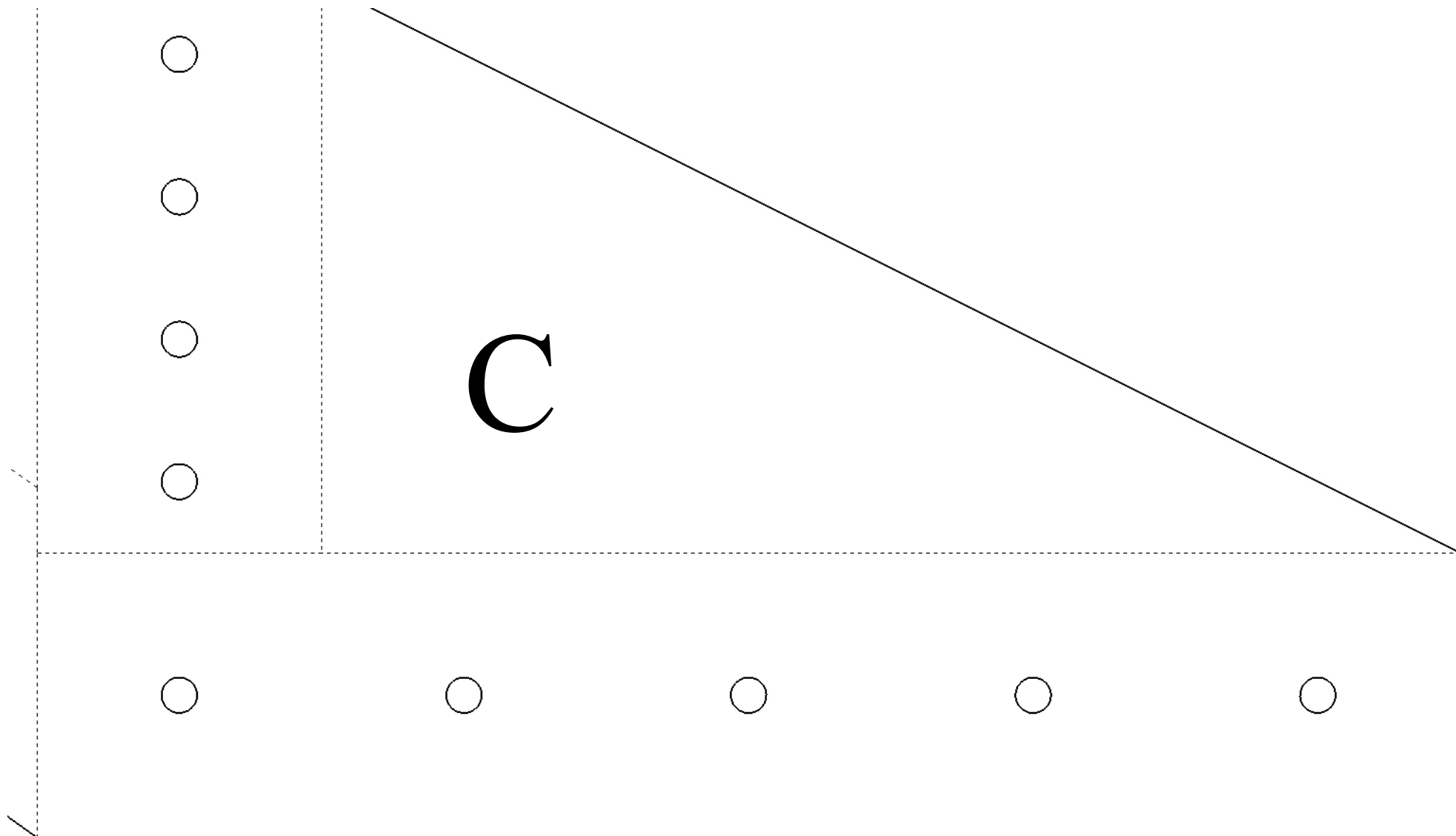


Full size

AFFORDAPLANE

Description:  
Gusset C Part 1

Drawing #44

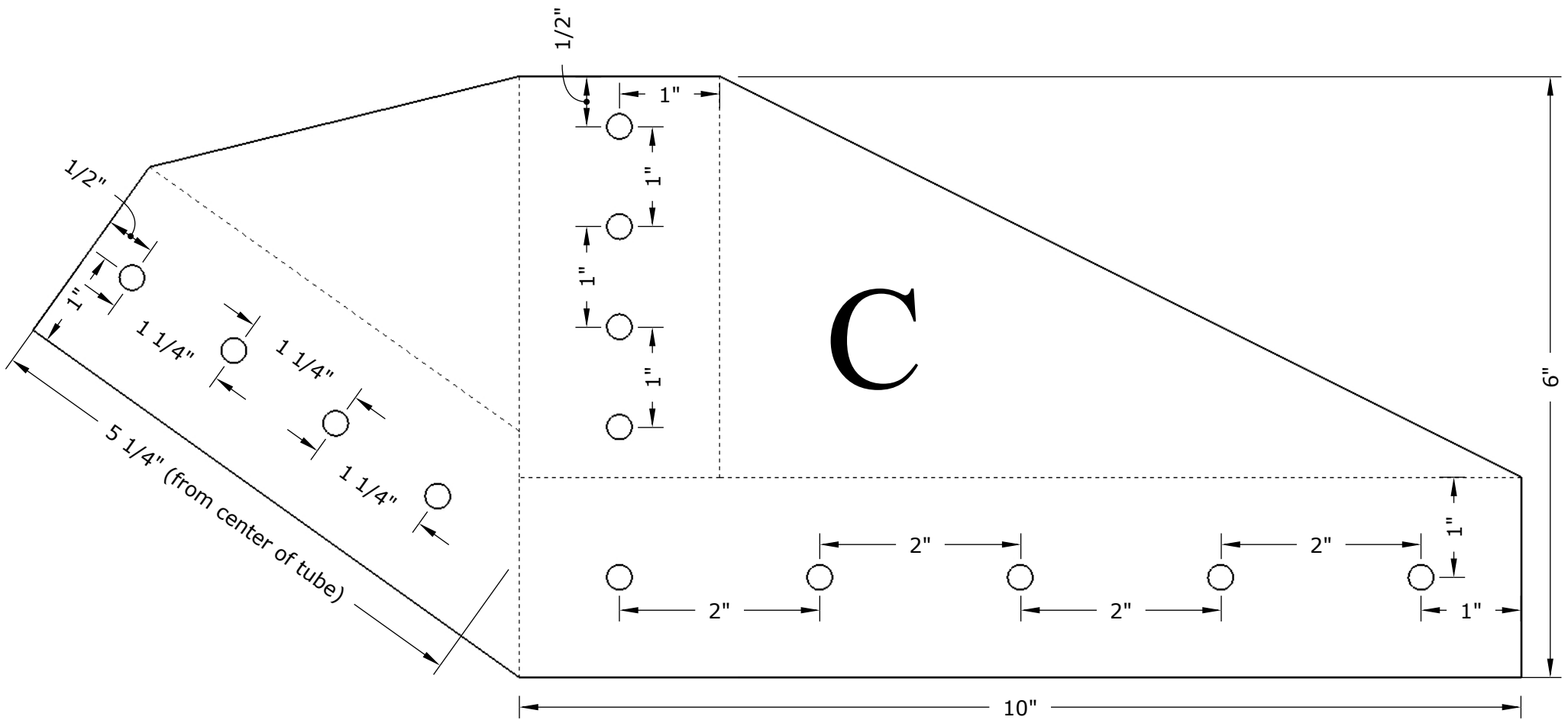


Full size

AFFORDAPLANE

Description:  
Gusset C Part 2

Drawing #45

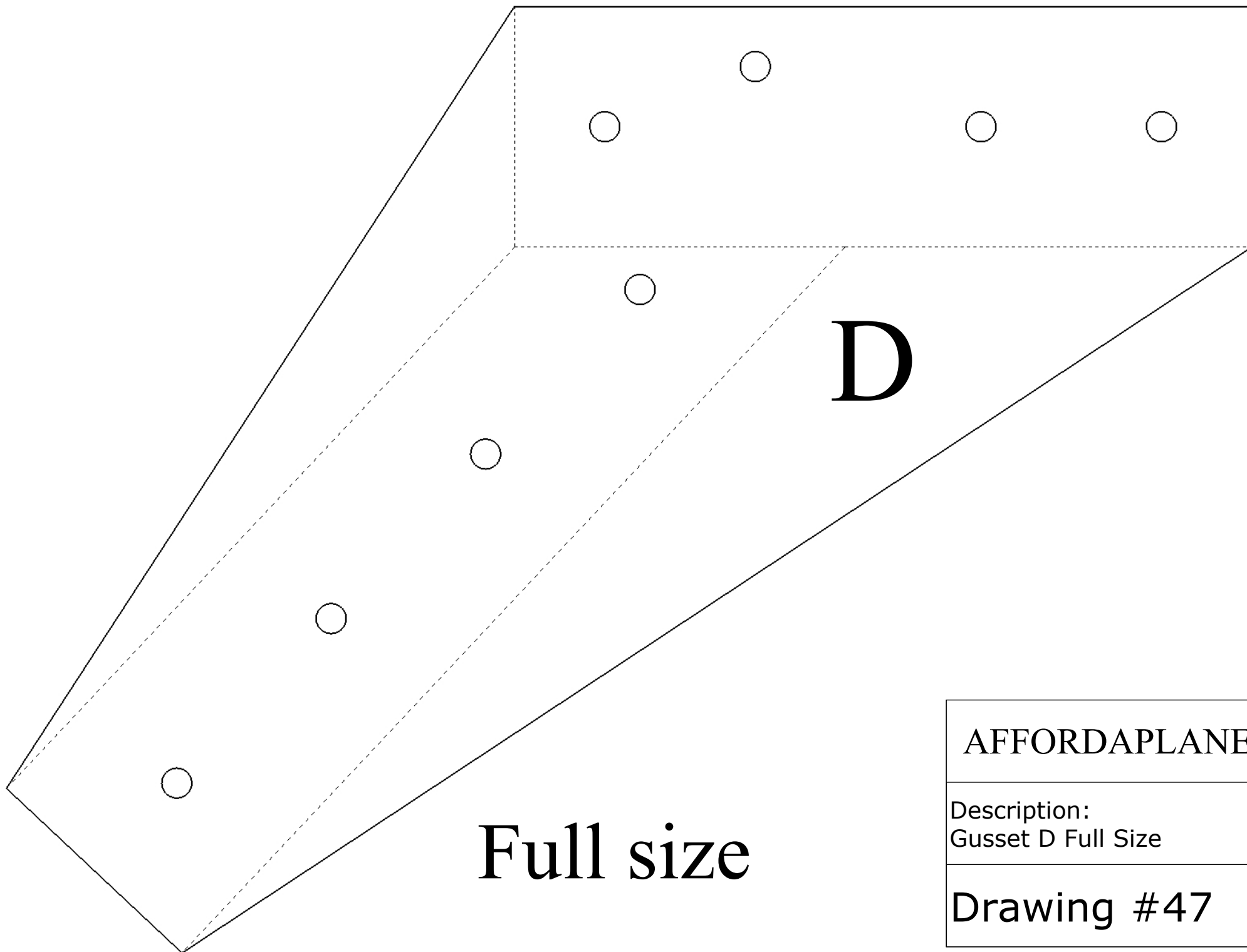


Not full size

AFFORDAPLANE

Description:  
Gusset C Dimensions

Drawing #46



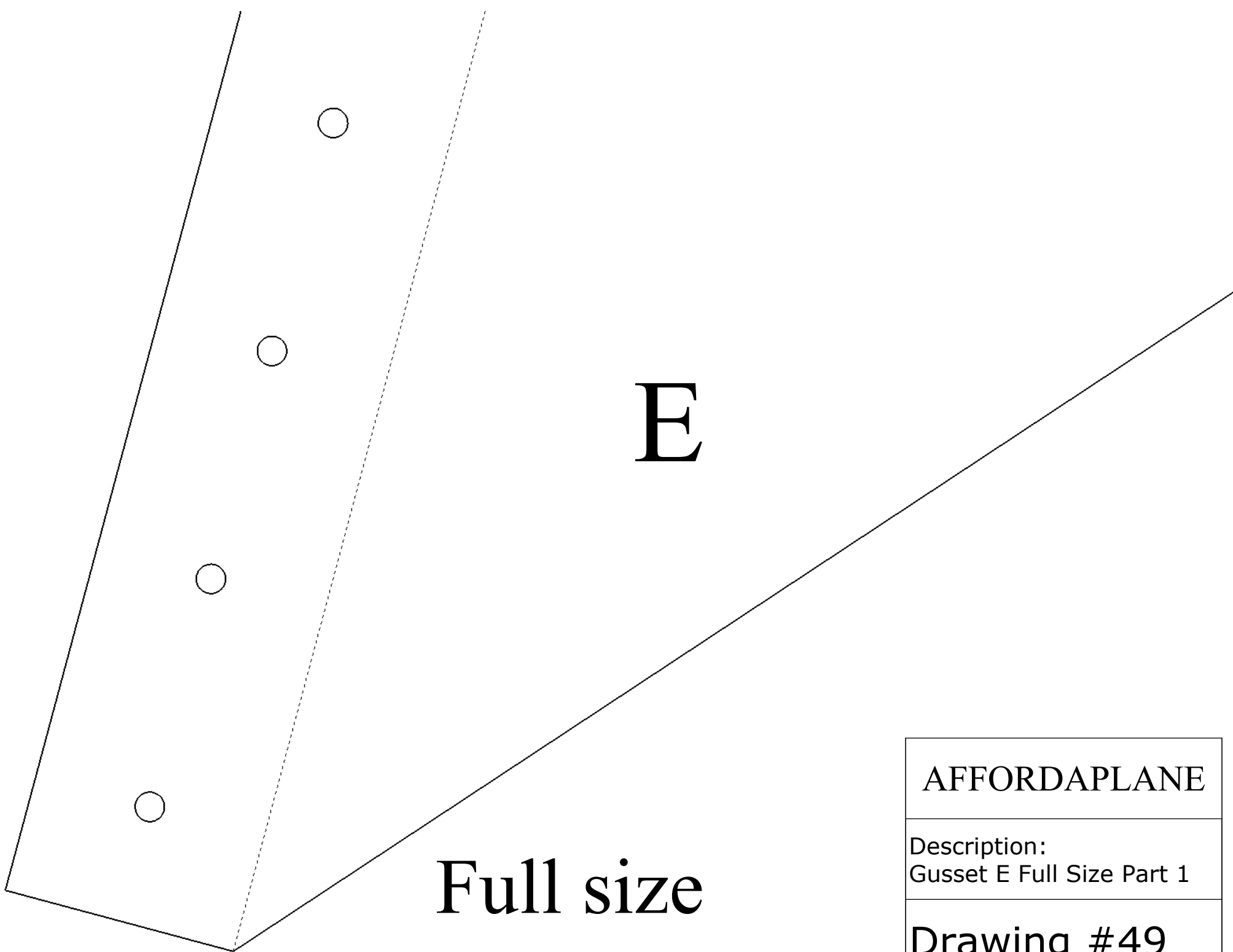
AFFORDAPLANE

Description:  
Gusset D Full Size

Drawing #47



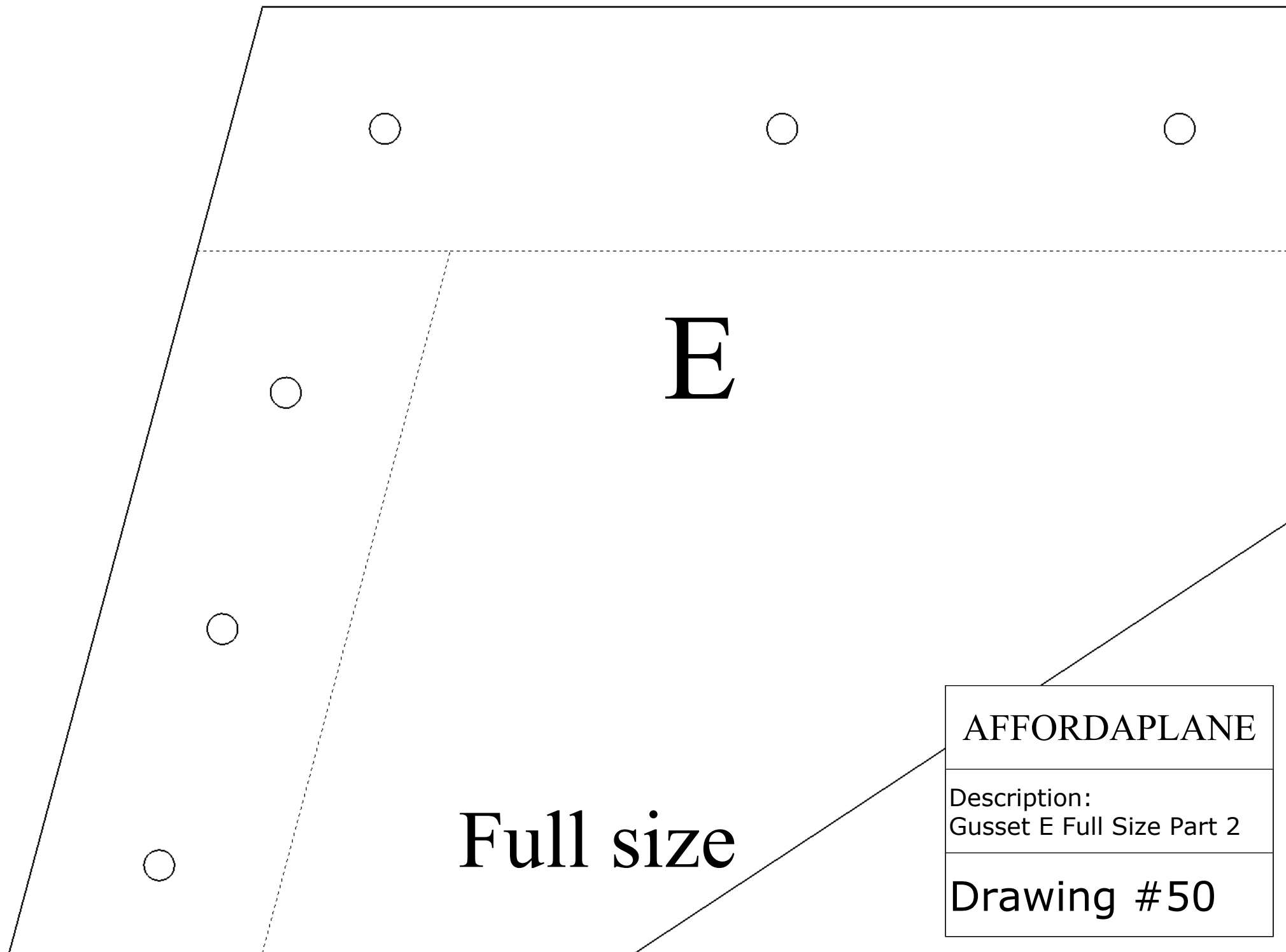




AFFORDAPLANE

Description:  
Gusset E Full Size Part 1

Drawing #49



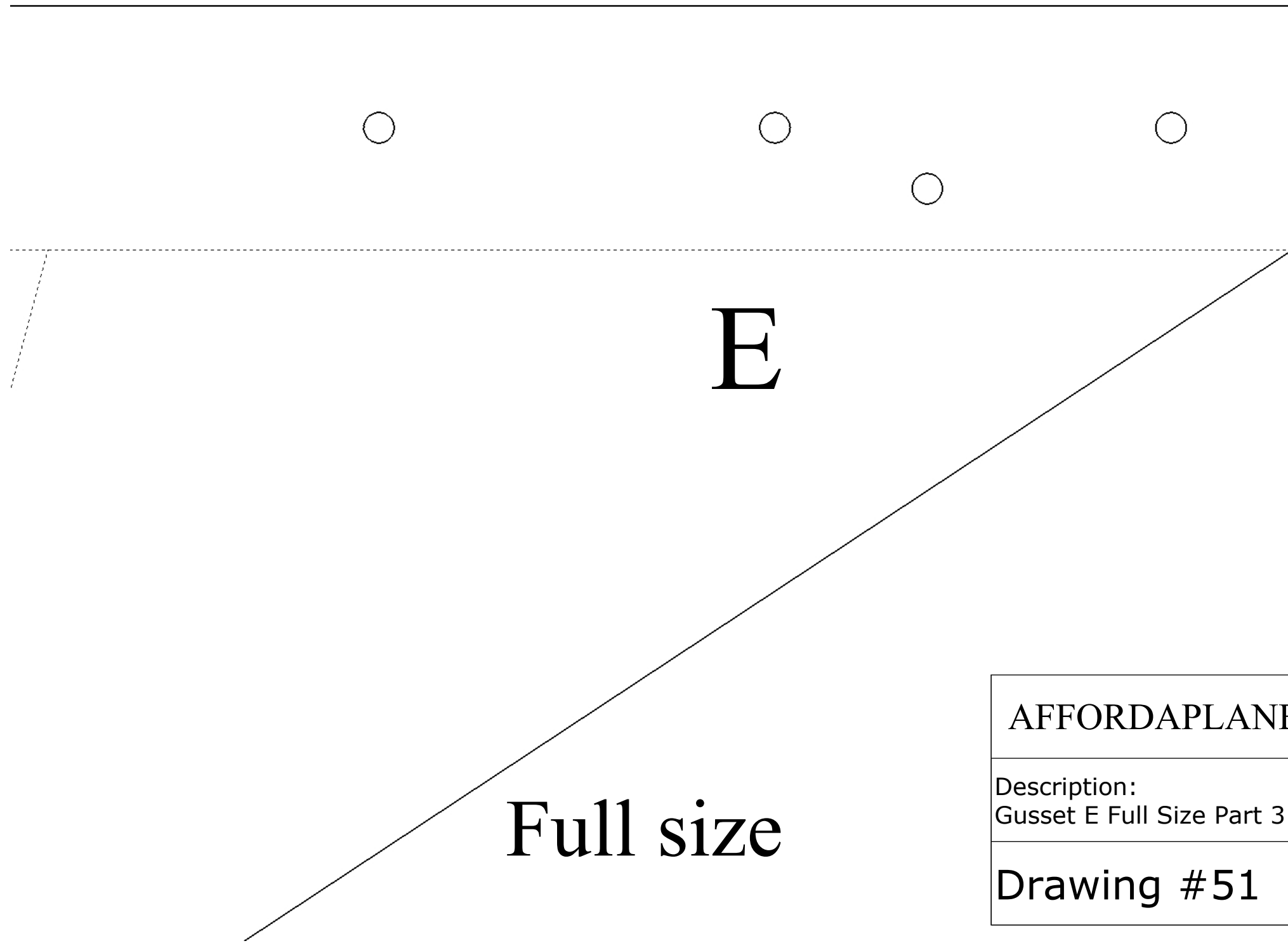
E

Full size

AFFORDAPLANE

Description:  
Gusset E Full Size Part 2

Drawing #50



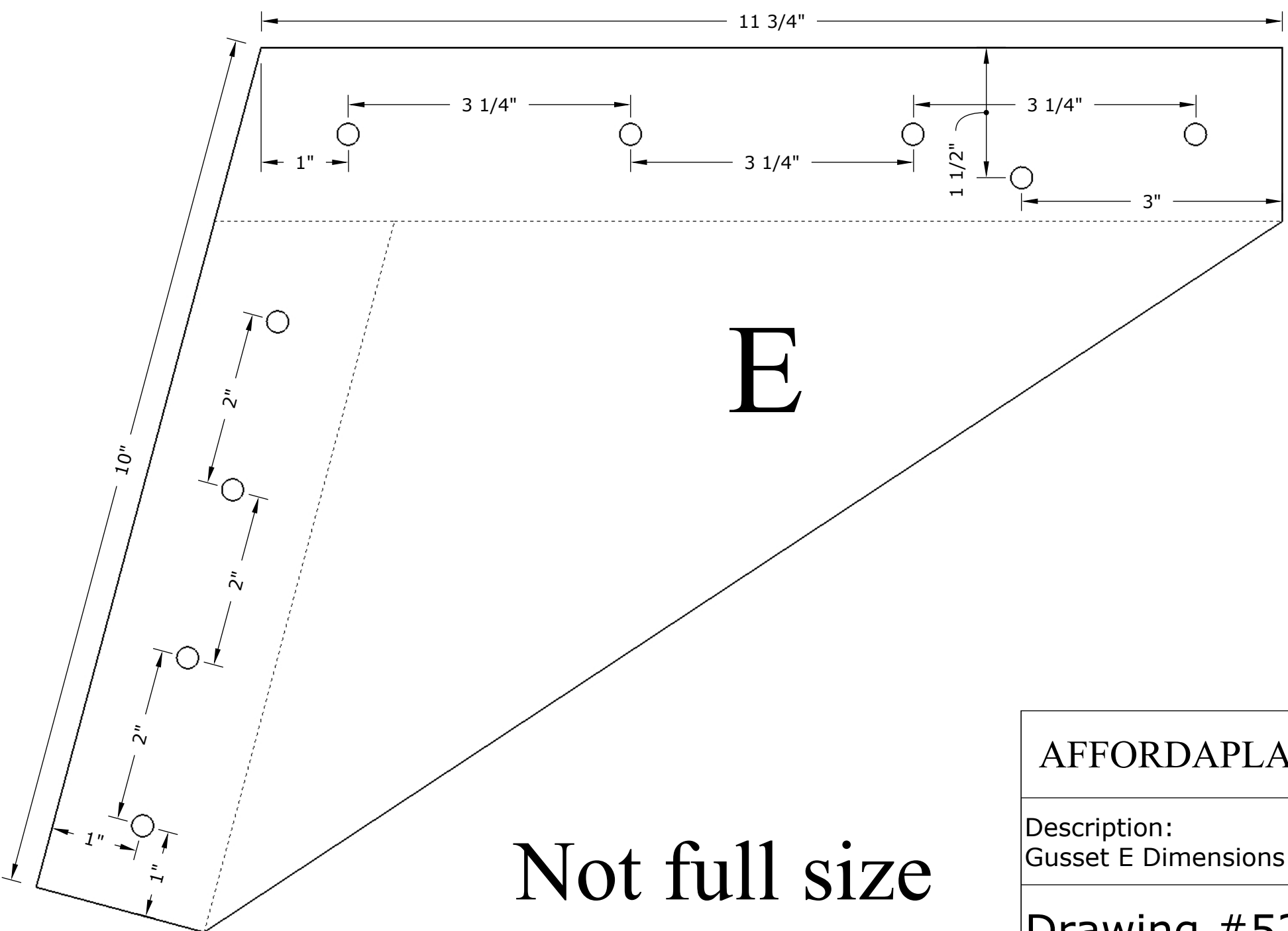
E

Full size

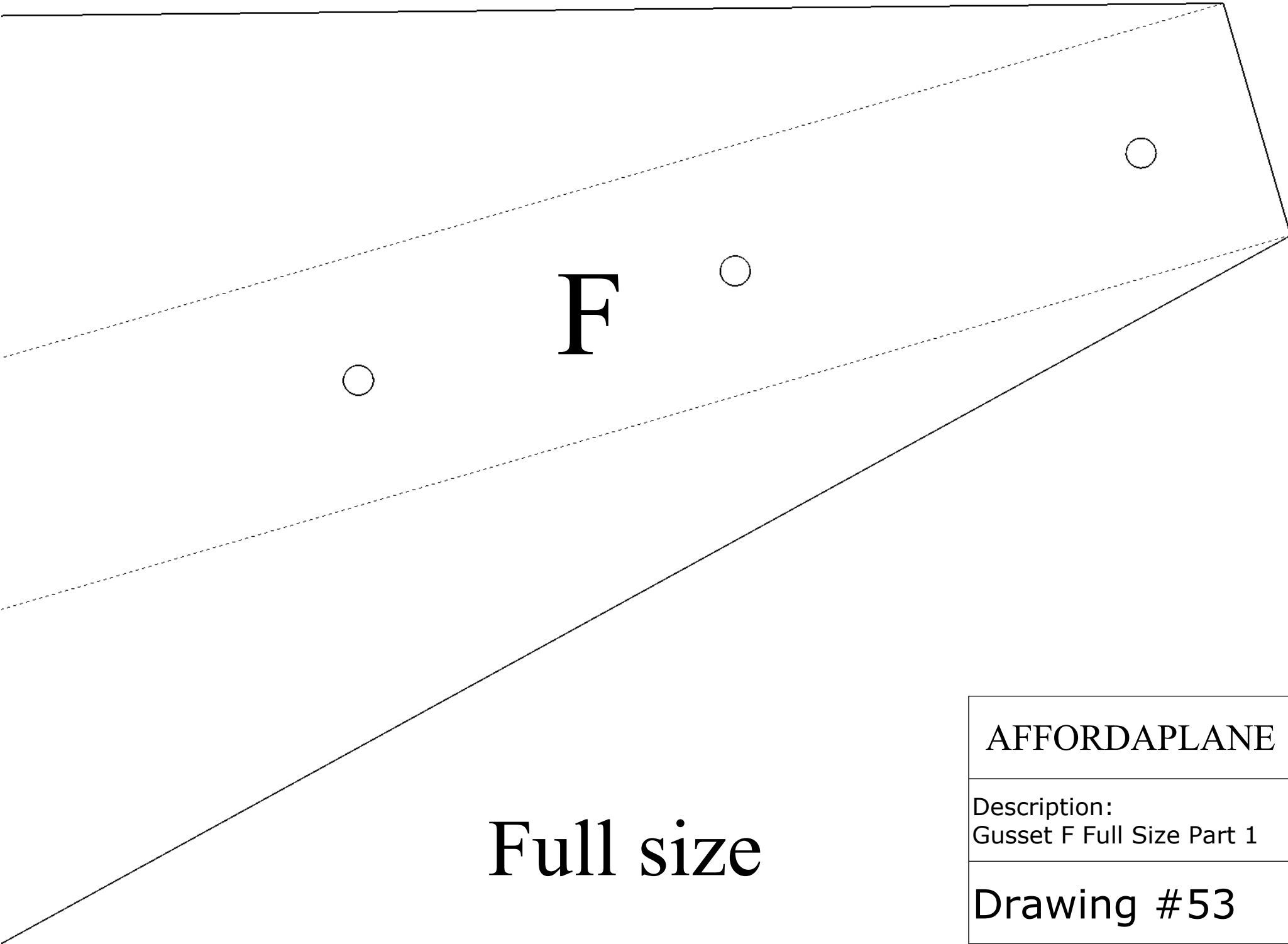
AFFORDAPLANE

Description:  
Gusset E Full Size Part 3

Drawing #51



AFFORDAPLANE
Description: Gusset E Dimensions
Drawing #52



F

Full size

AFFORDAPLANE
Description: Gusset F Full Size Part 1
Drawing #53



A technical drawing of a gusset, labeled 'F'. The drawing shows a large, irregular shape with a horizontal top edge and a vertical right edge. The left edge is a diagonal line. A horizontal dashed line runs across the upper portion of the shape. Two diagonal dashed lines extend from the horizontal dashed line down towards the bottom right corner. There are five circular holes: four are arranged in a horizontal row along the top edge, and one is located in the lower right area of the shape. The letter 'F' is printed in a large, bold, serif font in the center of the drawing.

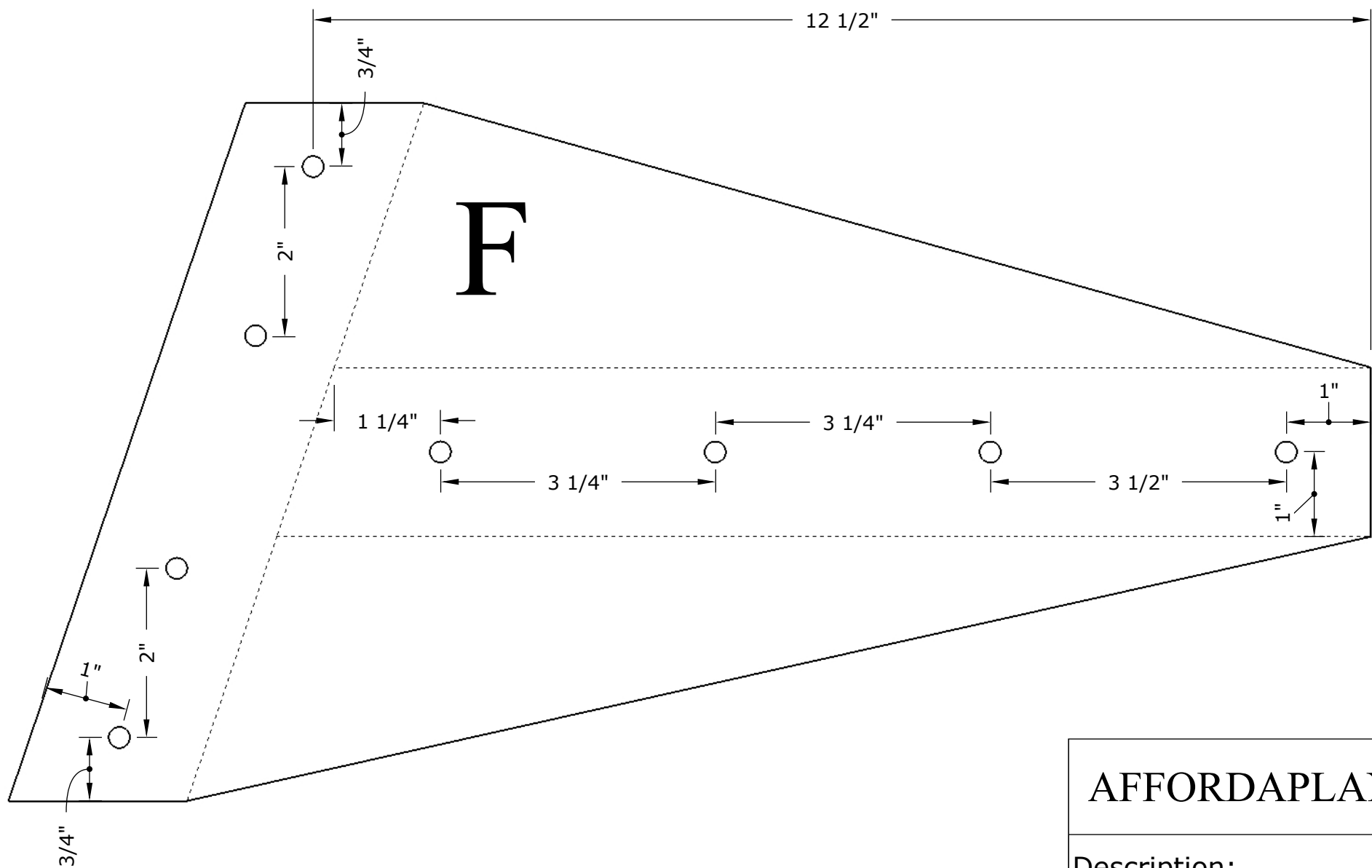
**F**

Full size

AFFORDAPLANE

Description:  
Gusset F Full Size Part 2

Drawing #54



Not full size

AFFORDAPLANE
Description: Gusset F Dimensions
Drawing #55



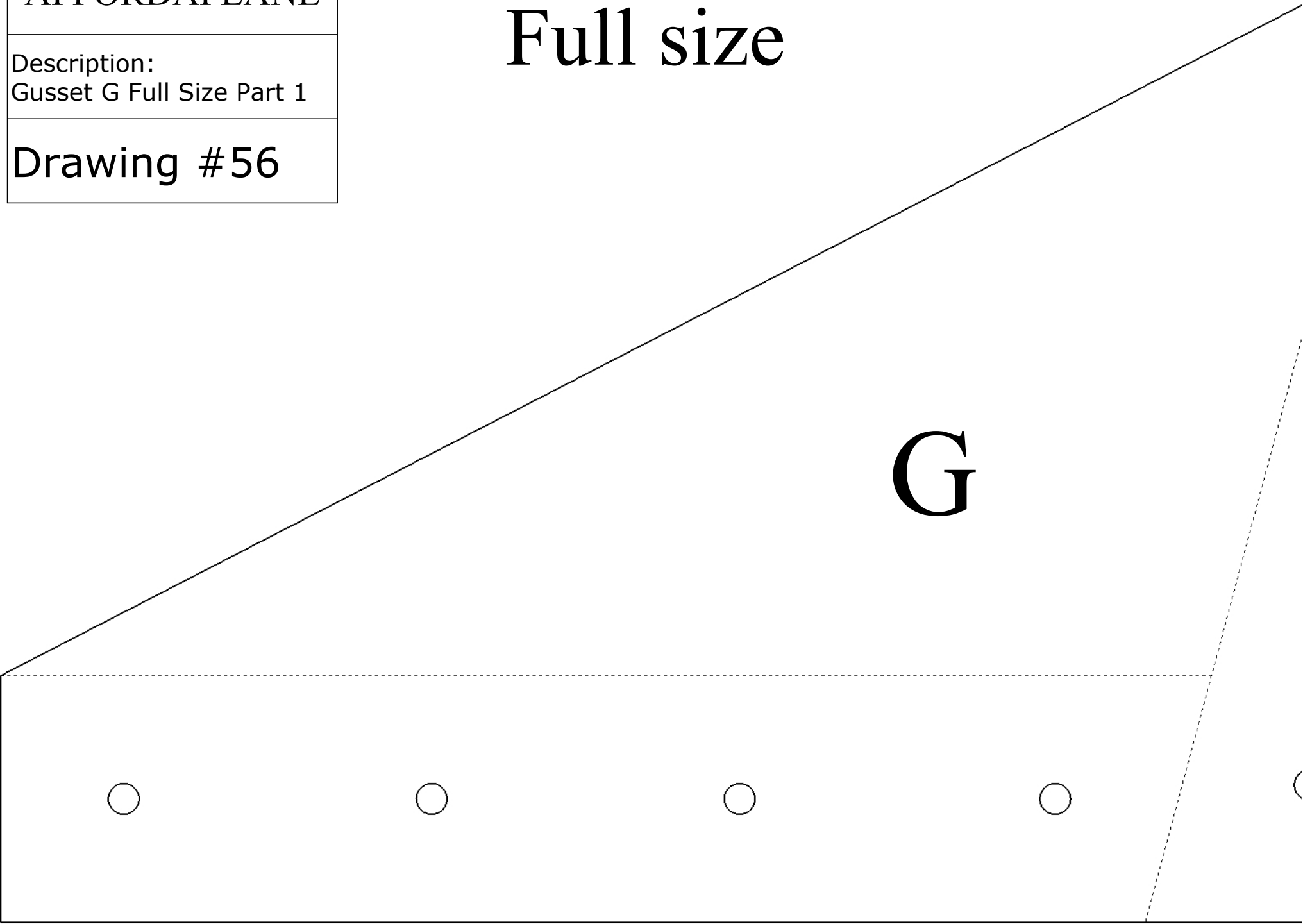
AFFORDAPLANE

Description:  
Gusset G Full Size Part 1

Drawing #56

Full size

G



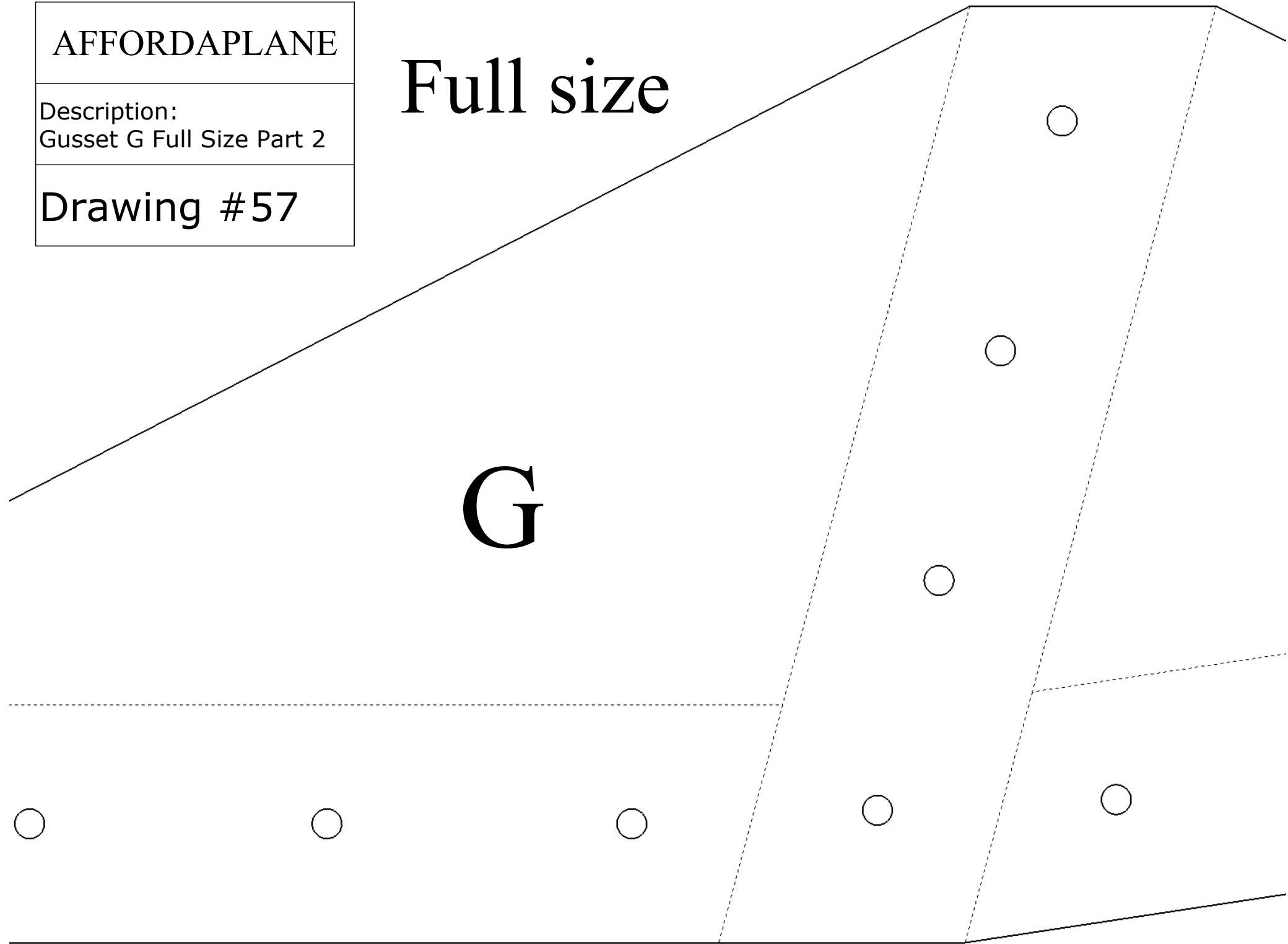
AFFORDAPLANE

Description:  
Gusset G Full Size Part 2

Drawing #57

Full size

G



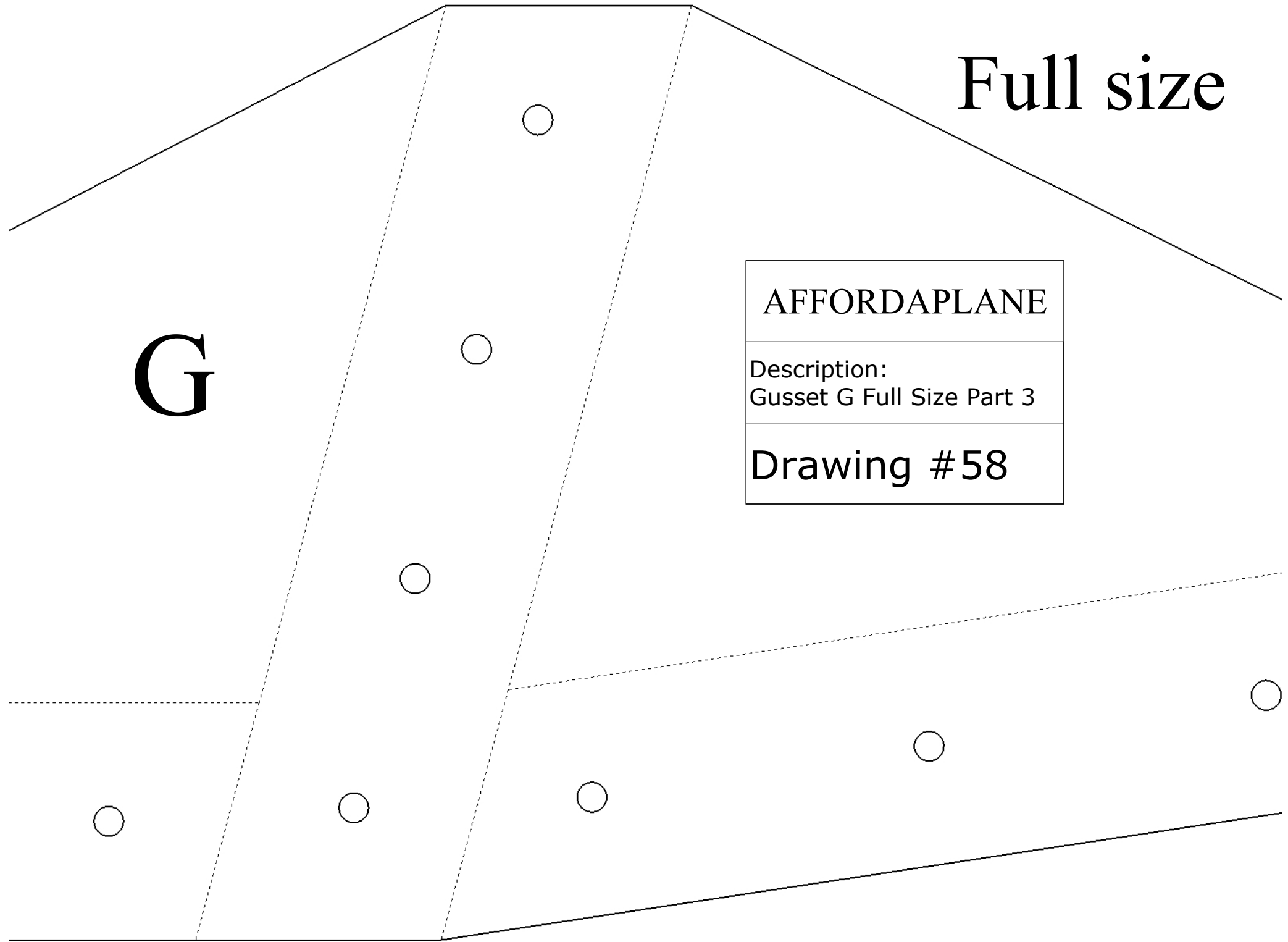
Full size

G

AFFORDAPLANE

Description:  
Gusset G Full Size Part 3

Drawing #58



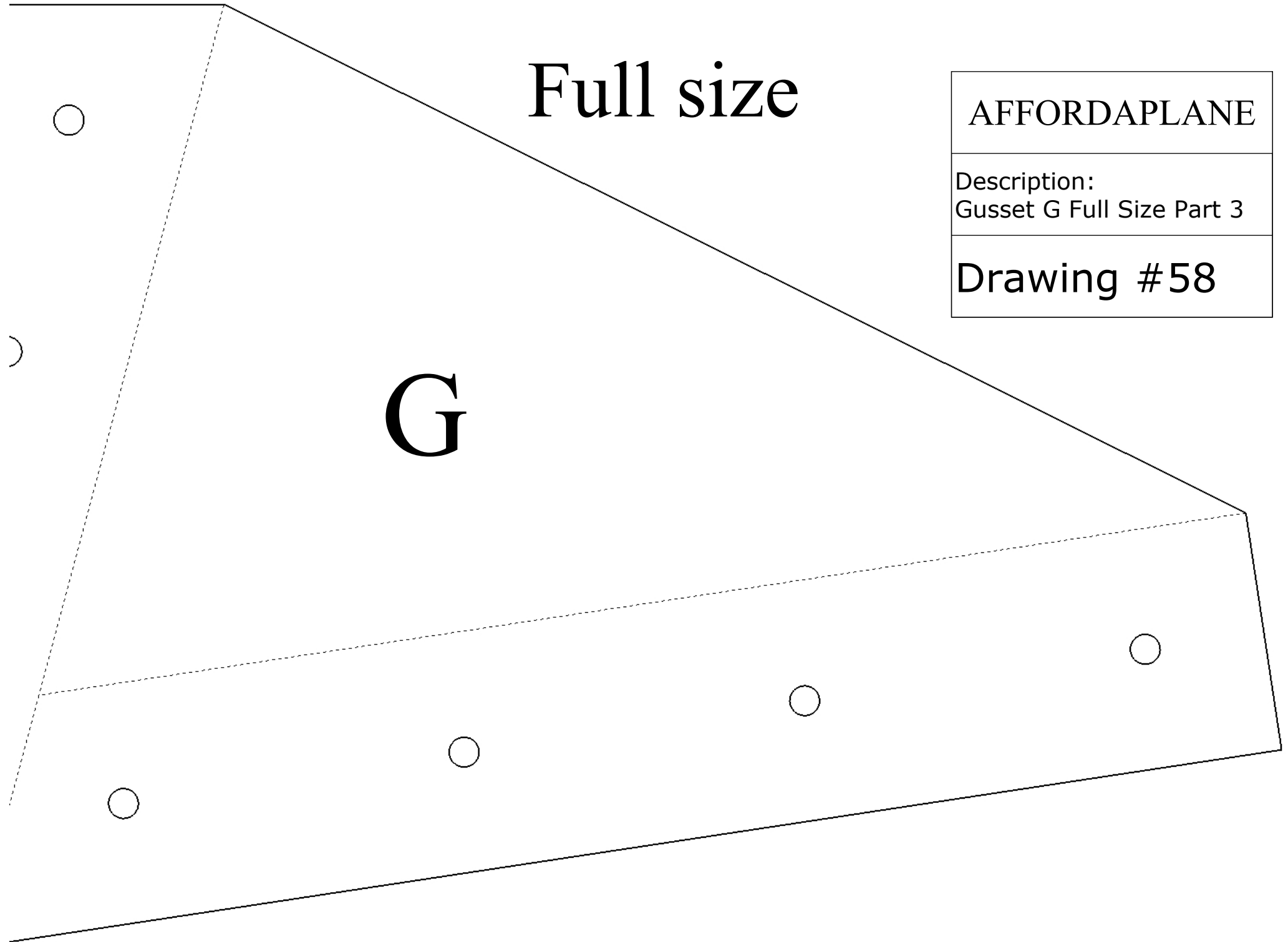
Full size

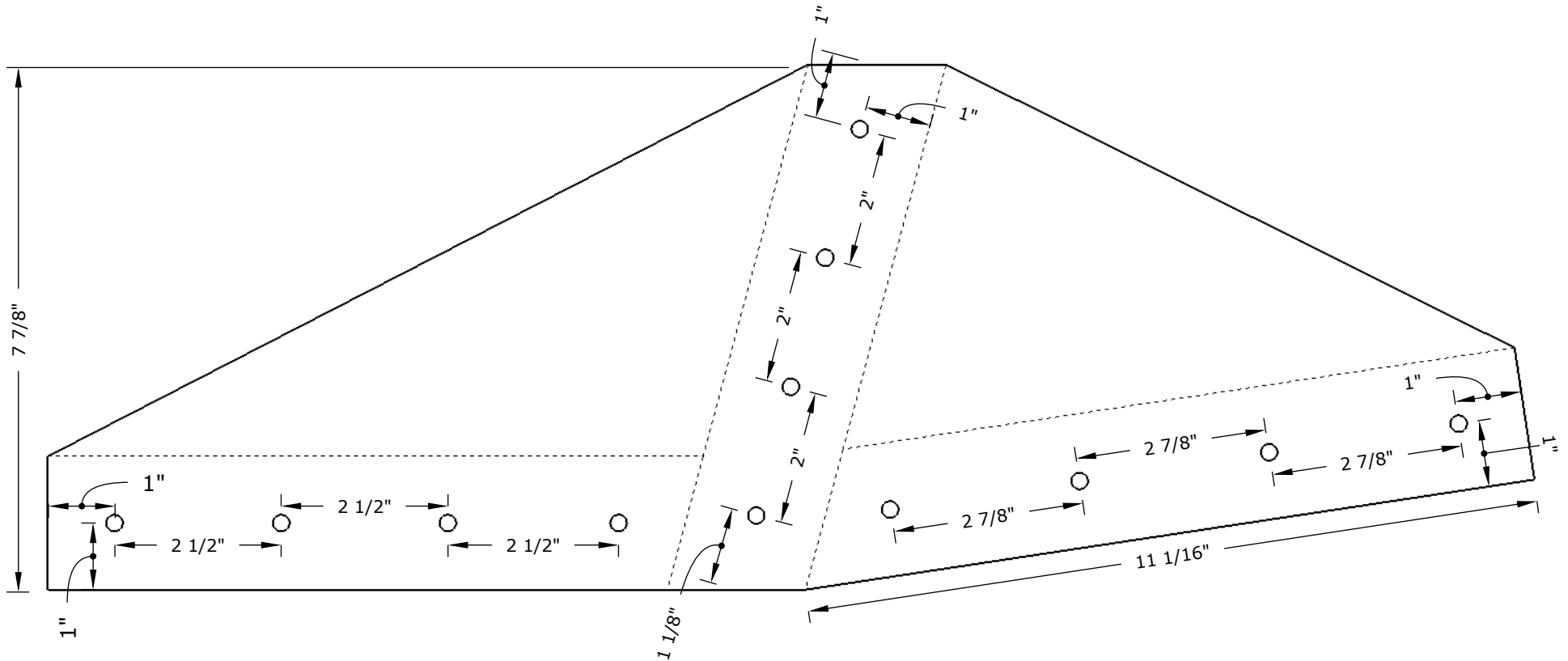
AFFORDAPLANE

Description:  
Gusset G Full Size Part 3

Drawing #58

G





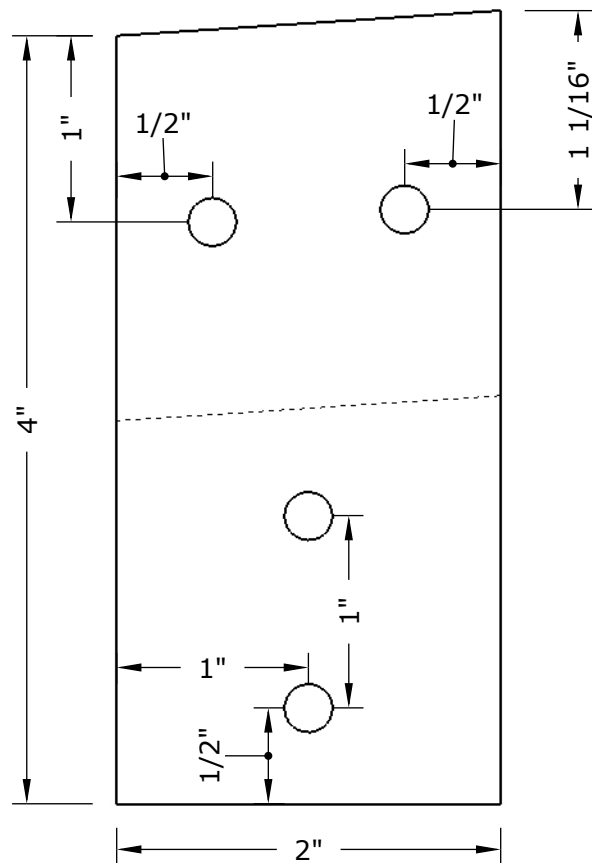
Not full size

AFFORDAPLANE

Description:  
Gusset G Dimensions

Drawing #60

# H



## Full size

AFFORDAPLANE

Description:  
Gusset H Dimensions

Drawing #61

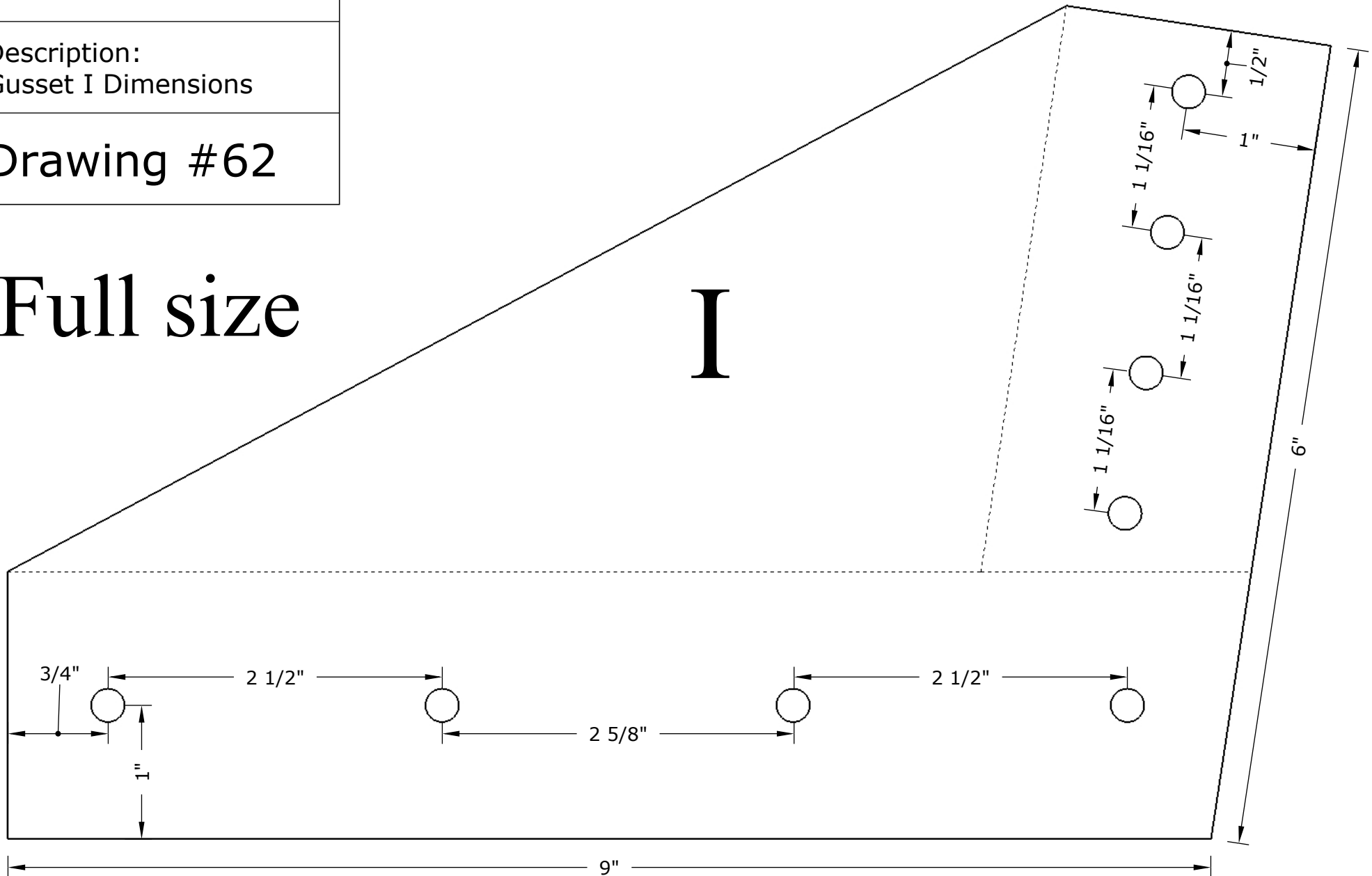
# AFFORDAPLANE

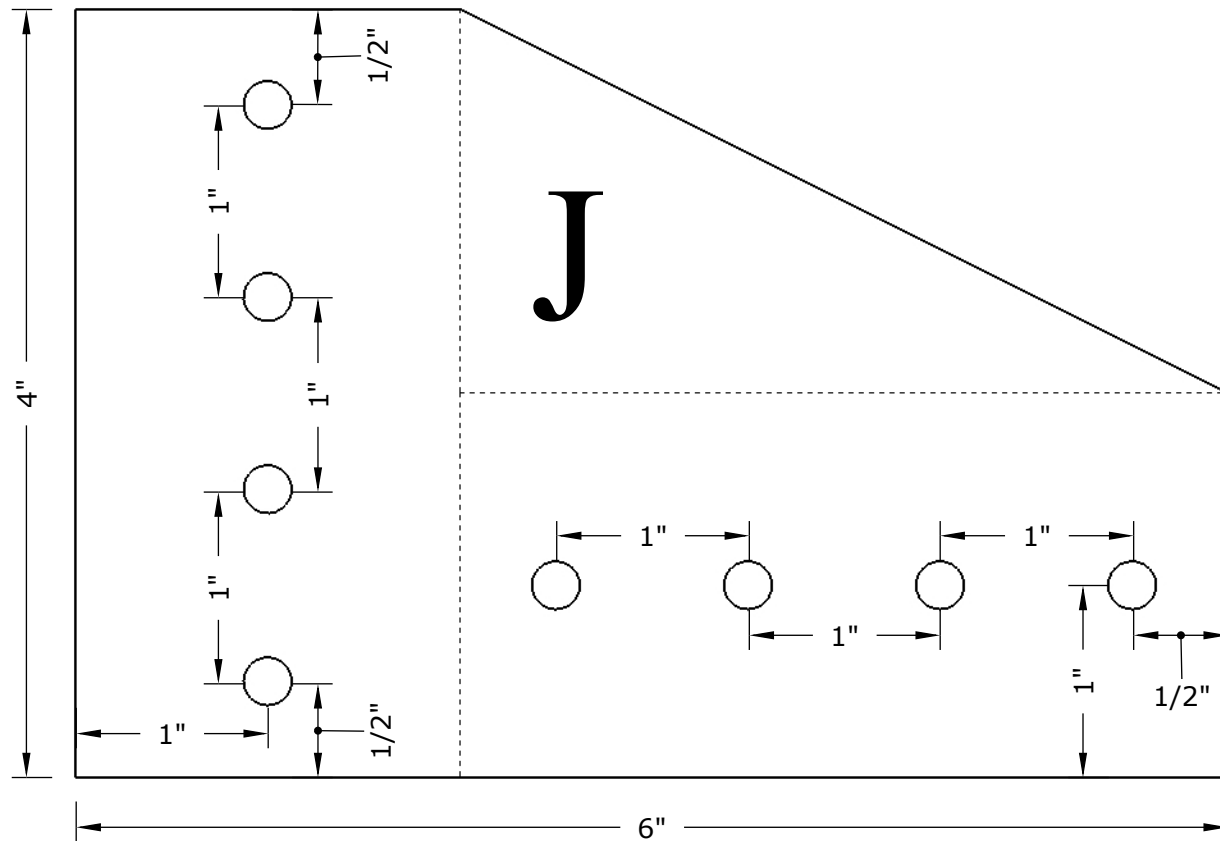
Description:  
Gusset I Dimensions

Drawing #62

## Full size

# I





Full size

AFFORDAPLANE

Description:  
Gusset J Dimensions

Drawing #63