Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18006-01</td>
<td>1/8&quot; thk., 5052 Aluminum Sheet</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18006-02</td>
<td>1.5&quot; x .125&quot; thk. Square Tubing, 6063 Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>GE-18006-03</td>
<td>1.5&quot; x .125&quot; thk. Square Tubing, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GE-18006-04</td>
<td>1/8&quot; thk., 5052 Aluminum Sheet</td>
<td>2</td>
</tr>
</tbody>
</table>

**Dimensions:**
- 2x 2.25
- 33.00
- 21.50
- 30.00
- 26.00
- 9.13

**Title:** Roller Base

**Notes:**
- 1/16
- 1° BEND
- .01
- .001

**Interpret Geometric Tolerancing Per:**

**Application:**

**Comments:**

**Scale:** 1:8

**Weight:**

**Sheet:** 1 of 3
Weld 3 sides at base of tube, 2 places

SECTION A-A

3 Sides of tube. 4 Places

SECTION B-B

Dimensions are in inches, tolerances: fractional 1/16, angular ±1° bend 1°, two place decimal .01, three place decimal .001.
Item 1: GE-18006-01  
**Quantity:** 2  
**Material:** 1/8" Thick, 5052 Aluminum Sheet

Item 2: GE-18006-02  
**Quantity:** 4  
**Material:** 1-1/2" x .125" thick. Square Tubing, 6063 Aluminum

Item 3: GE-18006-03  
**Quantity:** 4  
**Material:** 1-1/2" x .125" thick. Square Tubing, 6063 Aluminum

Item 4: GE-18006-04  
**Quantity:** 2  
**Material:** 1/8" Thick, 5052 Aluminum Sheet

**Title:** Roller Base

---

**UNLESS OTHERWISE SPECIFIED:**  
DIMENSIONS ARE IN INCHES  
TOLERANCES: FRACTIONAL ± 1/32  
ANGULAR AND 1/8" BEND ± 1°  
THREE PLACE DECIMAL ± .001

**INTERPRET GEOMETRIC TOLERANCING PER:**  
SOLIDWORKS

**Q.A.**  
MFG APPR.  
ENG APPR.  
CHECKED  
DRAWN

---

**APPLICATION**  
USED ON  
DO NOT SCALE DRAWING

---

**PROPRIETARY AND CONFIDENTIAL**  
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
No weld penetration permissible on inside surface of item 4

No weld on bottom of tube Typ.
Item: GE-18007-01
Material: 1.75” x .125” thk. Square Tube, 6063 Aluminum
Scale 1:1
QTY: 2

Item: GE-18007-02
Material: 1.75” x .125” thk. Square Tube, 6063 Aluminum
Scale 1:1
QTY: 2

3X Ø .27 THRU ALL to be drilled at time of installation of GE-18134

3X Ø .27 THRU ALL to be drilled at time of installation of GE-18134
Item: GE-18007-03
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
Scale: 1:1
QTY: 2

Item: GE-18007-04
Material: 1.25" Schedule 40 Pipe, 6061 Aluminum
Scale: 1:1
QTY: 2
Item: GE-18007-05
Material: 10 Gauge 5052 Aluminum Sheet
Scale: 1:3
Qty: 2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/16
ANGULAR: MAX. 1° BEND
TWO PLACE DECIMAL: ±.01
THREE PLACE DECIMAL: ±.001

TOLERANCING PER:

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL:

NOTE:

DRAWN
CHECKED
ENG. APPR.
WRAP. APPR.

Q.A.

COMMENTS:

APPLICATION
DO NOT SCALE DRAWING

FINISH
MATERIAL

REFERENCE GEOMETRIC TOLERANCING PER:

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® AND REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Item: GE-18007-06
Material: 10 Gauge 5052 Aluminum Sheet
Scale 1:5
QTY: 2
Item: GE-18007-07
Material: 10 Gauge 5052 Aluminum Sheet
Scale: 1:5
Qty: 1
Notes:
1. Material: 1/4" thk. clear polycarbonate
2. Remove all burrs and sharp edges
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18009-01</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18009-02</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18009-03</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18009-04</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
Item: GE-18009-01
Quantity: 2
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum

Item: GE-18009-02
Quantity: 2
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

Item: GE-18009-03
Quantity: 1
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

Item: GE-18009-04
Quantity: 1
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum
Notes:
1. Material: 1/4" thk. clear polycarbonate
2. Remove all burrs and sharp edges

REVISIONS

<table>
<thead>
<tr>
<th>ZONE</th>
<th>REV.</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>12, 13</td>
<td>1</td>
<td>33.25 was 33.75, 20.75 was 20.25</td>
<td>10/30/17</td>
<td>DAF</td>
</tr>
</tbody>
</table>

APPLICATION

PROPRIETARY AND CONFIDENTIAL, THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.

END-view

D A

C B

A
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18011-01</td>
<td>3&quot; x .25&quot; thk. Angle, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18011-02</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18011-03</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>GE-18011-04</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>GE-18011-05</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>GE-18011-06</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>

No weld penetration on inside of tubes

No weld penetration on inside of tube

Portal Frame - Left

DIMENSIONS ARE IN INCHES

FRACTIONAL TOLERANCES

1/16

TOLERANCE: ANGULAR MACH 1° BEND

TWO PLACE DECIMAL .01

THREE PLACE DECIMAL .001

Proprietary and Confidential

The information contained in this drawing is the sole property of FIRST®. Any reproduction in part or as a whole without the written permission of FIRST® is prohibited.

Portal Frame - Left

TITLE: Portal Frame - Left

SCALE: 1:16

WEIGHT:}

Sheet 1 of 3
**Item 1: GE-18011-01**  
QTY: 1  
Material: 3" x .25" thk. Angle, 6061 Aluminum

**Item 1: GE-18011-04**  
QTY: 4  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

**Item 1: GE-18011-02**  
QTY: 2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum

**Item 1: GE-18011-05**  
QTY: 2  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

**Item 1: GE-18011-03**  
QTY: 3  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

**Item 1: GE-18011-06**  
QTY: 1  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum
No weld penetration on inside of tube

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18012-01</td>
<td>3&quot; x .25&quot; thk. Angle, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18012-02</td>
<td>1.75&quot; x .125 thk. Square Tubing, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18012-03</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>GE-18012-04</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>GE-18012-05</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>GE-18012-06</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
Item: GE18012-01
Qty: 1
Material 3" x .25" thick Angle, 6061 Aluminum

Item: GE18012-02
Qty: 2
Material 1.75" x .125" thick Square Tubing, 6061 Aluminum

Item: GE18012-03
Qty: 3
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum

Item: GE18012-04
Qty: 4
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum

Item: GE18012-05
Qty: 2
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum

Item: GE18012-06
Qty: 1
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18013-1</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6063 Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>GE-18013-2</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6063 Aluminum</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>GE-18013-3</td>
<td>.25&quot; thk. Plate, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GE-18013-4</td>
<td>1.25&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>GE-18013-5</td>
<td>1&quot; OD x 0.095&quot; thk. Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
No weld penetration permissible on inside surface of item 4

No weld penetration permissible on inside surface of item 5
Item: GE-18013-1  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 8

Item: GE-18013-2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 8
Item: GE-18013-3
Material: 0.25" thk. Plate, 6061 Aluminum
QTY: 2

Item: GE-18013-4
Material: 1.25" Schedule 40 Pipe, 6061 Aluminum
QTY: 4
Item: GE-18013-5
Material: 1" OD x 0.095" thk. tube, 6061 Aluminum
QTY: 1

Switch Arm
No weld permissible Typ.

No weld penetration permissible on inside surface of item 4

No weld penetration permissible on inside surface of item 5
Item: GE-18014-1
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
Scale: 1:1
QTY: 4

Item: GE-18014-2
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
Scale: 1:1
QTY: 6
Item: GE-18014-3
Material: 0.25" thk. Plate, 6061 Aluminum
Scale: 1:2
QTY: 2

Item: GE-18014-4
Material: 1.25" Schedule 40 Pipe, 6061 Aluminum
Scale: 1:2
QTY: 4
Item: GE-18014-5
Material: 1" OD x 0.095" thk. Tube, 6061 Aluminum
Scale: 1:2
QTY: 4

Item: GE-18014-6
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
Scale: 1:2
QTY: 2

Scale Arm

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
- FRACTIONAL: ±1/16
- ANGULAR: ±1° BEND
- TWO PLACE DECIMAL: ±.01
- THREE PLACE DECIMAL: ±.001

INTERPRET GEOMETRIC TOLERANCING PER:

DRAWN
CHECKED
ENG APPR.
MFG APPR.

Q.A.
COMMENTS:

APPLICATION
DO NOT SCALE DRAWING

First Robotics®

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.
ITEM NO. | PART NUMBER | DESCRIPTION | QTY. 
--- | --- | --- | --- 
1 | GE-18015-01 | 2" x .125" thk. Angle, 6063 Aluminum | 1 
2 | GE-18015-02 | 1-7/16" Round Bar, 6061 Aluminum | 2 
3 | GE-18015-03 | 1-1/2" x .125" thk. Angle, 6063 Aluminum | 1 

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES 
TOLERANCES:
FRACTIONAL: 1/16 
ANGULAR: 1° BEND 
TWO PLACE DECIMAL: .01 
THREE PLACE DECIMAL: .001 

APPLICATION 
USED ON NEXT ASSY 

PROPRIETARY AND CONFIDENTIAL 
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Item: GE-18015-01
Qty: 1
Material: 2" x .125" thk. Angle, 6063 Aluminum

Item: GE-18015-02
Qty: 2
Material: 1-7/16" Round Bar, 6061 Aluminum

Item: GE-18015-03
Qty: 1
Material: 1-1/2" x .125" thk. Angle, 6063 Aluminum

Drilled after welding 4 places

Φ .625 THRU

Top Rail,
Exchange

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL

1/16

ANGULAR:

1°  BEND

TWO PLACE DECIMAL

.01

THREE PLACE DECIMAL

.001

APPLICATION

USED ON

REFER TO

DO NOT SCALE DRAWING

FINISH

MATERIAL

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS

QUALITY

Q.A.

COMMENTS

DO NOT SCALE DRAWING

TOPICS:

REVISED

DRAWN

CHECKED

ENG APPR.

MFG APPR.

NAME DATE

TITLE:

REVDWG. NO.

SCALE: 1:4

WEIGHT:

Sheet 2 of 2
ITEM NO. | PART NUMBER | DESCRIPTION | QTY.
--- | --- | --- | ---
1 | GE-18016-1 | 1.75" x .125" thk. Square Tube, 6063 Aluminum | 2
2 | GE-18016-2 | 1.75" x .125" thk. Square Tube, 6063 Aluminum | 2
3 | GE-18016-3 | 1.75" x .125" thk. Square Tube, 6063 Aluminum | 4
4 | GE-18016-4 | 1.75" x .125" thk. Square Tube, 6063 Aluminum | 4
5 | GE-18016-5 | 1.75" x .125" thk. Square Tube, 6063 Aluminum | 2

REVISIONS

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
--- | --- | --- | --- | ---
4-B3 | 2 | Added hole to GE-18016-3 | 11/6/2017 | CPO
A4, B3, B4, B5 | 3 | Added two of part GE-18016-5 to replace two GE-18016-1 | 11/21/2017 | CPO

Switch Frame
No weld permissible on face of Item 3 (4x)
Item: GE-18016-1  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 2

Item: GE-18016-2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 2

Switch Frame
Item: GE-18016-3  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 4

Item: GE-18016-4  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 4
Item: GE-18016-5
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
Scale: 1:3
QTY: 2

Switch Frame
Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.

Plate Side Wall

Scale: 1:3
Weight:
Sheet 1 of 1

Material: 1/4" thick, clear polycarbonate.
Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.

**REVISIONS**

<table>
<thead>
<tr>
<th>ZONE</th>
<th>REV.</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1, B1</td>
<td>2</td>
<td>Moved location of 4 countersunk holes. Removed 8 holes.</td>
<td>11/17/2017</td>
<td>CPO</td>
</tr>
<tr>
<td>A1</td>
<td>3</td>
<td>Added missing dimension.</td>
<td>1/12/2018</td>
<td>CPO</td>
</tr>
</tbody>
</table>
Notes:
1. Material: 1/4" thick, black HDPE
2. Surface: Textured, Orange Peel
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/16" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/8" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges
Notes:
1. Material: 3/4" Rotary Shaft, 1045 Steel
2. Finish: Clear Zinc
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges
Notes:
1. Material: 1" Schedule 40 Pipe, 6061 Aluminum
2. Remove all burrs and sharp edges
Note:
1. 80-20 aluminum extrusion
2. Remove all burrs and sharp edges
Notes:
1. 1/8" smooth HDPE, red or blue
2. Remove burrs and sharp edges
# Bill of Material

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18032-01</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18032-02</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18032-03</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube 6063 Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>GE-18032-05</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>GE-18032-04</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>GE-18032-06</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube 6063 Aluminum</td>
<td>2</td>
</tr>
</tbody>
</table>
Item Number: GE-18032-01
Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum
Remove Sharp Edges and Burrs
QTY: 2

Item Number: GE-18032-02
Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum
Remove Sharp Edges and Burrs
QTY: 2

Vault Base

Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum
Remove Sharp Edges and Burrs
QTY: 2

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES  TOLERANCES:
1/16"  FRACTIONAL
1°  ANGULAR  1/16"  BEND
.01  TWO PLACE DECIMAL
.001  THREE PLACE DECIMAL

INTERPRET GEOMETRIC TOLERANCING PER:

UNLESS OTHERWISE SPECIFIED:

2X .88 Thru All
2X .25 Thru All
2X .132 Thru All

2X .88
2X .132
2X .25

Item Number: GE-18032-01
Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum
Remove Sharp Edges and Burrs
QTY: 2

Item Number: GE-18032-02
Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum
Remove Sharp Edges and Burrs
QTY: 2

Vault Base
Item Number: GE-18032-03
Material: 1 3/4" 6063 Aluminum Square Tube
Remove Sharp Edges and Burrs
QTY: 4

Item Number: GE-18032-04
Material: 1 3/4" 6063 Aluminum Square Tube
Remove Sharp Edges and Burrs
QTY: 2
Item Number: GE-18032-05
Material: 1 3/4" 6063 Aluminum Square Tube
Remove Sharp Edges and Burs
QTY: 2
Item Number: GE-18032-06
Material: 1 3/4" 6063 Aluminum Square Tube
Remove Sharp Edges and Burs
QTY: 2
Note
1. 1/8” thk. clear Polycarbonate
2. Remove sharp edges and burrs
Note
1. 1/8" thk. smooth HDPE, blue or red
2. Remove sharp edges and burrs
Notes:
1. 1/8" thk. smooth HDPE, red or blue
2. Remove sharp edges and burrs
Notes:
1. 1/8" thk. clear polycarbonate
2. Remove all sharp edges and burrs
Notes
1. 1/8" thk. clear polycarbonate
2. Remove all sharp edges and burrs
Notes:
1. 1/4" thk. clear polycarbonate
2. Remove all sharp edges and burrs
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18039-01</td>
<td>1&quot; Schedule 40 Aluminum Pipe</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18039-02</td>
<td>1 1/4&quot; Schedule 40 Aluminum Pipe</td>
<td>1</td>
</tr>
</tbody>
</table>

**Vault Support Pipes**

**Title:** Vault Support Pipes

**Scale:** 1:4

**Proprietary and Confidential:**

The information contained in this drawing is the sole property of FIRST®. Any reproduction in whole or part without the written permission of FIRST® is prohibited.
Notes:
1. GE-18039-01
2. 1" Schedule 40 Aluminum Pipe
Notes:
1. GE-18039-01
2. 1 1/4" Schedule 40 Aluminum Pipe
Notes:
1. 1" Schedule 40 Aluminum Pipe
2. Remove all sharp edges and burrs
Notes:
1. 1/8" thk. clear polycarbonate
2. Remove all sharp edges and burrs
Notes:
1. 1/4" thk. smooth HDPE, red or blue
2. Remove all sharp edges and burrs
Notes:
1. 1/8" thk. clear polycarbonate
2. Remove all sharp edges and burrs
<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 1/4&quot; thk. clear polycarbonate</td>
</tr>
<tr>
<td>2. Remove all sharp edges and burrs</td>
</tr>
</tbody>
</table>

---

### Vault Polycarbonate Top Base

**UNLESS OTHERWISE SPECIFIED:**

- **DIMENSIONS ARE IN INCHES**
- **TOLERANCES:**
  - **FRACTIONAL**
  - **ANGULAR AND 1/16" BEND**
  - **TWO PLACE DECIMAL**
  - **THREE PLACE DECIMAL**

**TOLERANCING PER:**

**INTERPRET GEOMETRIC TOLERANCING PER:**

**FINISH**

**MATERIAL**

**APPLICATION**

**USED ON**

**DO NOT SCALE DRAWING**

---

**ZONE** | **REV.** | **DESCRIPTION** | **DATE** | **APPROVED**
--- | --- | --- | --- | ---
A3 | 1 | Hole moved to 24" (centered); countersunk all .25" holes | 11/16/2017 | MXS
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18047-01</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18047-02</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>ITEM NO.</td>
<td>PART NUMBER</td>
<td>DESCRIPTION</td>
<td>QTY.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>GE-18047-01</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18047-02</td>
<td>1 3/4&quot;, 1/8&quot; Thick Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
</tbody>
</table>
Item Number: GE-18047-01
Material: 1 3/4", 1/8" Thick Square Tube, 6063 Aluminum
Qty: 2

Item Number: GE-18047-02
Material: 1 3/4", 1/8" Thick Square Tube, 6063 Aluminum
Qty: 2

Vault Top Frame

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRAC TOLERANCE +1/16
ANGULAR AND 90° BEND
TWO PLACE DECIMAL
THREE PLACE DECIMAL

INTERPRET GEOMETRIC
TOLERANCING PER:

PROPERTY AND CONFIDENTIAL:
THE INFORMATION CONTAINED IN THE DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Notes:
1. Material: 1-1/2" 1/8" Thick Aluminum Angle
2. Remove all burrs and sharp edges
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18051-01</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18051-02</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>GE-18051-03</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>GE-18051-04</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>GE-18051-05</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>GE-18051-06</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
No weld penetration on inside of tube

Both ends of tube, 3 places

1/4

No weld penetration on inside of tube

Both ends of tube, 3 places

1/4

Both ends of tube, 2 places

1/4

Both ends of tube

1/4

2 places
| Item: GE-18051-01 | Qty: 1  
| Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum |
|------------------|------|
| Item: GE-18051-02 | Qty: 3  
| Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum |
|------------------|------|
| Item: GE-18051-03 | Qty: 3  
| Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum |
|------------------|------|
| Item: GE-18051-04 | Qty: 3  
| Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum |
|------------------|------|
| Item: GE-18051-05 | Qty: 1  
| Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum |
|------------------|------|
| Item: GE-18051-06 | Qty: 1  
<p>| Material: 1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum |</p>
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18052-01</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18052-02</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18052-03</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GE-18052-04</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>GE-18052-05</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>2</td>
</tr>
</tbody>
</table>
Item: GE-18052-01  
Qty: 1  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum

Item: GE-18052-02  
Qty: 2  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum

Item: GE-18052-03  
Qty: 2  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum

Item: GE-18052-04  
Qty: 1  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

Item: GE-18052-05  
Qty: 2  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18053-01</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18053-02</td>
<td>1.75&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18053-03</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>ITEM NO.</td>
<td>PART NUMBER</td>
<td>DESCRIPTION</td>
<td>QTY.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>GE-18054-1</td>
<td>2&quot; x .25&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18054-2</td>
<td>2&quot; x .25&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18054-3</td>
<td>2&quot; x .25&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GE-18054-4</td>
<td>2&quot; x .25&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>GE-18054-5</td>
<td>2&quot; x .25&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>GE-18054-6</td>
<td>1-1/4&quot; Schedule 40 Pipe, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>GE-18054-7</td>
<td>2&quot; x .25&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
</tbody>
</table>

Top of item 6 tangent to top face of item 7

Scale Frame

Scale: 1:6

Dimensions are in inches

Angles: MACH 1° BEND

Tolerances:
- Fractional: 1/16
- Two place decimal: .01
- Three place decimal: .001

Application:
- Used on NEXT ASSY

Proprietary and Confidential
The information contained in this drawing is the sole property of FIRST. Any reproduction in part or as a whole without the written permission of FIRST is prohibited.
Item: GE-18054-1  
Material: 2" x .25" thk. Square Tube, 6061 Aluminum  
Scale: 1:5  
QTY: 2

Item: GE-18054-2  
Material: 2" x .25" thk. Square Tube, 6061 Aluminum  
Scale: 1:6  
QTY: 2

Scale Frame
Item: GE-18054-3
Material: 2" x .25" thk. Square Tube, 6061 Aluminum
Scale: 1:1
QTY: 2

Item: GE-18054-4
Material: 2" x .25" thk. Square Tube, 6061 Aluminum
Scale: 1:1
QTY: 2
Item: GE-18054-5
Material: 2" x .25" thk. Square Tube, 6061 Aluminum
Scale: 1:1
QTY: 2

Item: GE-18054-6
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum
Scale: 1:1
QTY: 2
Item: GE-18054-7
Material: 2" x .25" thk. Square Tube, 6061 Aluminum
Scale: 1:1
QTY: 2

Dimensions are in inches
Tolerances:
FRACTIONAL
1/16 ANGULAR: MACH 1°
TWO PLACE DECIMAL .01
THREE PLACE DECIMAL .001

Scale Frame

Scale: 1:1
Weight: UNLESS OTHERWISE SPECIFIED:

Comments:
Q.A.
MFG APPR.
ENG APPR.
CHECKED
DRAWN
FINISH
MATERIAL

UNLESS OTHERWISE SPECIFIED:

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Notes:
1. Material: 1/8" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/8" thick, black HDPE.
2. Surface: Smooth texture.
3. Remove all burrs and sharp edges.
Notes:
1. Material: 1/8" thick, black HDPE.
2. Surface: Smooth texture.
3. Remove all burrs and sharp edges.
Notes:
1. Material: 1/8" thick, black HDPE.
2. Surface: Smooth texture.
3. Remove all burrs and sharp edges.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>Default/ QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18061</td>
<td>Platform Top</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18062</td>
<td>Platform Top Notch</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18063</td>
<td>Platform Short Side</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18064</td>
<td>Platform Long Side</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>GE-18065</td>
<td>Platform Long Side Middle</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>GE-18066</td>
<td>Platform Brace, Long Side</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>GE-18067</td>
<td>Platform Brace, Long Side 2</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>GE-18068</td>
<td>Platform Brace, Short Side 1</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>GE-18069</td>
<td>Platform Brace, Mid Section</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>GE-18070</td>
<td>Platform Angle, Short Side</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>GE-18071</td>
<td>Platform Angle, Long Side</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>GE-18072</td>
<td>Platform Angle, Long Side Middle</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>GE-18073</td>
<td>Platform Short Side Mirrored</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>GE-18074</td>
<td>Platform Long Side Mirrored</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>GE-18105</td>
<td>Platform Brace, Short Side 2</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>flat_hex_25_20_1</td>
<td>Steel Hex Flat Head Screw,</td>
<td>1/4&quot;-20 x 1&quot; long, fully threaded</td>
</tr>
<tr>
<td>17</td>
<td>nylock_25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>11</td>
</tr>
</tbody>
</table>

**REVISIONS**

<table>
<thead>
<tr>
<th>ZONE</th>
<th>REV.</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-A4</td>
<td>1</td>
<td>Changed part number called out in note to match displayed part.</td>
<td>1/12/2018</td>
<td>CPO</td>
</tr>
</tbody>
</table>
Notes:
Bolt Item 10 to Item 3 using Items 16 and 17. Repeat steps for the following Items, using Items 16 and 17 to fasten:

<table>
<thead>
<tr>
<th>HDPE</th>
<th>Aluminum Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 4</td>
<td>Item 11</td>
</tr>
<tr>
<td>Item 5</td>
<td>Item 12</td>
</tr>
<tr>
<td>Item 13</td>
<td>Item 10</td>
</tr>
<tr>
<td>Item 14</td>
<td>Item 11</td>
</tr>
</tbody>
</table>

Notes:
Slot Items 6, 7, 8, 9, 15 together.
Notes:
Attach Items 1 and 2 using hook and loop.

Notes:
Attach Items 3, 4, 5, 13, and 14 by sliding the aluminum angles into the slots on Items 6, 7, 8, 9, 15.
Notes:
1. Material: 1/2" thk. HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. textured HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. textured HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. textured HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges

6X Cut relief/dogbone if necessary to maintain square corner

Engraved "5" near end of part
Notes:
1. Material: 1/2” thk. HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges

6X Cut relief/dogbone if necessary to maintain square corner

Engraved "1" near end of part

Notes:
1. Material: 1/2" thk. HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges

4X Cut relief/dogbone if necessary to maintain square corner

Engrave "3" near end of part
Notes:
1. Material: 1" x 1" x .125" thick angle, 6061 aluminum
2. Remove all burrs and sharp edges
Notes:
1. Material: 1" x 1" x .125" thick angle, 6061 aluminum
2. Remove all burrs and sharp edges
Notes:
1. Material: 1" x 1" x .125" thick angle, 6061 aluminum
2. Remove all burrs and sharp edges
Notes:
1. Material: 1/2" thk. HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges
### Notes:
1. Material: 1/2" thick HDPE, red or blue
2. Surface: Matte texture
3. Remove all burrs and sharp edges

<table>
<thead>
<tr>
<th>ZONE</th>
<th>REV.</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3</td>
<td>1</td>
<td>Changed number and location of holes; decreased length of part</td>
<td>11/30/17</td>
<td>JRF</td>
</tr>
</tbody>
</table>
Notes:
1. Material: 3" x 2" x 1/8" thk. Rectangular Tube, 6061 Aluminum.
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1" x 1" x 1/8" thk. 90 degree angle, 6061 Aluminum.
2. Remove all burrs and sharp edges.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18077-1</td>
<td>2&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18077-2</td>
<td>2&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
ITEM: GE-18077-1
Material: 2" x .125" thk. Square Tube, 6061 Aluminum
Scale: 1:2
QTY: 2

ITEM: GE-18077-2
Material: 2" x .125" thk. Square Tube, 6061 Aluminum
Scale: 1:2
QTY: 1
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18078-1</td>
<td>3&quot; x 2&quot; x .125&quot; thk. Rectangular Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18078-2</td>
<td>2&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18078-3</td>
<td>2&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18078-4</td>
<td>2&quot; x .125&quot; thk. Square Tube, 6061 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
Item: GE-18078-1
Material: 3" x 2" x .125" thk. Rectangular Tube, 6061 Aluminum
Scale: 1:2
QTY: 1

Item: GE-18078-2
Material: 2" x .125" thk. Square Tube, 6061 Aluminum
Scale: 1:2
QTY: 2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/16
ANGULAR: ±1° BEND
TWO PLACE DECIMAL: ±.01
THREE PLACE DECIMAL: ±.001

INTERPRET GEOMETRIC TOLERANCING PER:
DIN

APPLICATION
DO NOT SCALE DRAWING

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS
DRAWING IS THE SOLE PROPERTY OF
FIRST®. ANY REPRODUCTION IN PART
OR AS A WHOLE WITHOUT THE WRITTEN
PERMISSION OF FIRST® IS PROHIBITED.
Item: GE-18078-3
Material: 2" x .125" thk. Square Tube, 6061 Aluminum
Scale: 1:2
QTY: 1

Item: GE-18078-4
Material: 2" x .125" thk. Square Tube, 6061 Aluminum
Scale: 1:2
QTY: 1
Notes:
1. Material: 1/4" thick, 6061 Aluminum
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges

Material: 1/4" thick, clear polycarbonate

INTERPRET GEOMETRIC TOLERANCING PER:
- Dimensions are in inches
- Tolerances:
  - Fractional: 1/16
  - Angular: Mach 1° Bend
  - Two place decimal: .01
  - Three place decimal: .001

APPLICATION USED ON NEXT ASSY

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges
Notes:
1. Material: 1/8" thick, clear polycarbonate
2. Remove all burrs and sharp edges
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges
Notes:
1. Material: 1/8" thick, clear polycarbonate
2. Remove all burrs and sharp edges
Notes:
1. Material: 1/8" thick, clear polycarbonate
2. Remove all burrs and sharp edges

REVISIONS

<table>
<thead>
<tr>
<th>ZONE</th>
<th>REV.</th>
<th>DESCRIPTION</th>
<th>DATE</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3</td>
<td>A</td>
<td>Added notch</td>
<td>12/2/2017</td>
<td>DAF</td>
</tr>
</tbody>
</table>
Notes:
1. Material: 1" Schedule 40 Pipe, 6061 Aluminum
2. Remove all burrs and sharp edges
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18087-1</td>
<td>1.75&quot; x .125&quot; Thk. Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18087-2</td>
<td>1.75&quot; x .125&quot; Thk. Square Tube, 6063 Aluminum</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18087-3</td>
<td>1.75&quot; x .125&quot; Thk. Square Tube, 6063 Aluminum</td>
<td>1</td>
</tr>
</tbody>
</table>
Item: GE-18087-1
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
QTY: 2

Item: GE-18087-2
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
QTY: 2

Item: GE-18087-3
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum
QTY: 1
Notes:
1. Material: 1" Schedule 40 Pipe, 6061 Aluminum
2. Remove all burrs and sharp edges
Notes:
1. Description: 1-3/8 Dia. Conveyor Roller, for 30" frame width
2. Material: Galvanized Steel
3. Source: McMaster-Carr
4. Item#: 2282T25
Notes:
1. Material: Aluminum
2. Vendor: AndyMark
3. Remove all burrs or sharp edges

Dimensions are in inches.

Material: Aluminum
Vendor: AndyMark
Remove all burrs or sharp edges

Churro, 14"
Notes:

1. Material: 3/4" Schedule 40 Pipe, White PVC
2. Remove all burrs and sharp edges
Notes:
1. Description: End Cap for 3/4" Schedule 40 Pipe
2. Material: White PVC
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges.
Notes:
1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges.
Notes:
1. Description: 2-Bolt Flange Bearing 3/4" Bore Dia.
2. Source: Grainger
3. Item #: 36UX95
4. Equivalent substitutions allowed
Notes:
1. Description: Rotary Speed Limiter, Opening for Square shaft, 1437 in.-oz Maximum Torque
2. Source: McMaster-Carr
3. Item #: 6597K24
4. Equivalent substitutions allowed

Notes:
1. Description: Rotary Speed Limiter, Opening for Square shaft, 1437 in.-oz Maximum Torque
2. Source: McMaster-Carr
3. Item #: 6597K24
4. Equivalent substitutions allowed
Notes:
1. Description: Nylon Unthreaded Spacer
2. Source: McMaster-Carr
3. Item#: 94639A891
4. Equivalent substitutions allowed
Notes:
1. Description: Nylon Unthreaded Spacer
2. Source: McMaster-Carr
3. Item#: 94639A889
4. Equivalent substitutions allowed
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>Default/QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18009</td>
<td>Exchange Frame</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18006</td>
<td>Roller Base</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18008</td>
<td>Roller Tunnel</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18015</td>
<td>Top Rail, Exchange</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>2282T25</td>
<td>Roller, Conveyor</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>GE-18010</td>
<td>Exchange Plastic</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>GE-18101</td>
<td>Assembly, Chute</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>GE-18127</td>
<td>Ramp, Exchange</td>
<td>1</td>
</tr>
</tbody>
</table>
Notes:
1. Attach Item 1 to field perimeter.
2. Place Item 8 in front of Item 1.
3. Place Item 2 behind Item 1, with rails centered on the opening.
4. Center item 3 on rollers, flush with edges of guard and rail.

Notes:
1. Attach Item 7 to Item 6 using cable ties.
2. Add Item 4.

Notes:
1. Attach Item 6 to Item 1 using cable ties.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18025</td>
<td>Chute Body</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18093</td>
<td>End Cap, PVC</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18092</td>
<td>Handle, Chute</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18091</td>
<td>Churro, 14&quot;</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>GE-18027</td>
<td>Pusher Panel</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>GE-18130</td>
<td>Chute Back Wall</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>hex_.25_20_.75</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 3/4&quot; long, fully threaded</td>
<td>2</td>
</tr>
</tbody>
</table>
Step 1: Fix Item 1 to station.

Step 2: Add Item 4 and attach using Item 7 (qty: 2).

Step 3: Attach Item 5 using cable ties to Item 4.
Step 4:
Attach Item 3 with Item 2 (endcaps). Use cable ties to secure to Item 5.

Attach Item 7 using cable ties around Item 1 and Item 4.
Notes:
1. Material: 1/2" HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges

Engrave "2" near end of part
Notes:
1. Materials: 3" x 2" x 1/8" thk. Rectangular Tube, 6063 Aluminum
2. Remove all burrs and sharp edges
Notes:
1. Material: 1.25" x .5" Low-carbon Steel Bar
2. Remove all burrs and sharp edges
### Notes:
1. Attach Item 2 to field perimeter.
2. Attach Item 1 to Item 2 using cable ties.
3. Attach Item 3 to Item 1 using cable ties.

### Items

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>Default/ QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18004</td>
<td>Panel, Portal</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18011</td>
<td>Portal Frame - Left</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18101</td>
<td>Assembly, Chute</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**Portal - Left**

**Title:** Portal - Left

**Size:** DWG. NO. B

**Rev:** GE-18108

**Scale:** 1:12

**Weight:**

**Sheets:** 1 of 1

**Comments:**

**Drawing Information:**
- **Drawing:** B/GE-18108
- **Scale:** 1:12
- **Weight:**
- **Sheets:** 1 of 1

**Interpret Geometric Tolerancing Per:**

**Dimensional Tolerances:**
- **Fractional:** 1/16
- **Angular:** MACH 1° BEND
- **Two Place Decimal:** .01
- **Three Place Decimal:** .001

**Material:**

**Application:**
- **Next Assy:**
- **Used On:**
- **Drawing:**
- **Comment:** DO NOT SCALE DRAWING

---

**UNLESS OTHERWISE SPECIFIED:**
- **Dimensions are in inches**
- **Tolerances:**
  - Fractional: 1/16
  - Angular: MACH 1° BEND
  - Two Place Decimal: .01
  - Three Place Decimal: .001

**INTERPRET GEOMETRIC TOLERANCING:**

**PROJECTED AND CONFIDENTIAL:**

**The information contained in this drawing is the sole property of FIRST®. Any reproduction in part or as a whole without the written permission of FIRST® is prohibited.**

**抽像数据：**
- **Dimensions:** 1:12
- **Weight:**
- **Sheets:** 1 of 1

**Interpret Geometric Tolerancing:**

**Dimensional Tolerances:**
- **Fractional:** 1/16
- **Angular:** MACH 1° BEND
- **Two Place Decimal:** .01
- **Three Place Decimal:** .001

**Material:**

**Application:**
- **Next Assy:**
- **Used On:**
- **Drawing:**
- **Comment:** DO NOT SCALE DRAWING

**UNLESS OTHERWISE SPECIFIED:**
- **Dimensions are in inches**
- **Tolerances:**
  - Fractional: 1/16
  - Angular: MACH 1° BEND
  - Two Place Decimal: .01
  - Three Place Decimal: .001

**INTERPRET GEOMETRIC TOLERANCING:**

**PROJECTED AND CONFIDENTIAL:**

**The information contained in this drawing is the sole property of FIRST®. Any reproduction in part or as a whole without the written permission of FIRST® is prohibited.**
Notes:
1. Attach Item 2 to field perimeter.
2. Attach Item 1 to Item 2 using cable ties.
3. Attach Item 3 to Item 1 using cable ties.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18051</td>
<td>Side Frame, Fence</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18052</td>
<td>End Frame, Fence</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18080</td>
<td>Fence Polycarb, Middle</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GE-18081</td>
<td>Fence Polycarb, Outer Side</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>GE-18082</td>
<td>Fence Polycarb, Inner Side</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>GE-18083</td>
<td>Fence Polycarb, Outer End</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>GE-18084</td>
<td>Fence Polycarb, Inner End</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>GE-18085</td>
<td>Fence Polycarb, Guard</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>GE-18111</td>
<td>Connecting Frame Assembly</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>GE-18115</td>
<td>Vision Fence Polycarbonate</td>
<td>2</td>
</tr>
</tbody>
</table>
Notes:
1. Place Item 1 (qty 2).
2. Slide Item 9 (qty: 4) into either end of Item 1.
3. Slide Item 2 (qty: 2) into Item 9.
Notes:
1. Attach Items 3 (qty: 2), 4 (qty: 4), 6 (qty: 2) with cable ties on top of panel and through vertical supports, and hook and loop on bottom.

Notes:
1. Attach Items 5 (qty: 2), 7 (qty: 2), 10 (qty: 2) with cable ties through top holes and around vertical supports.
2. Attach Item 8 (qty: 4) with hook and loop.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>Def. Unit/Qt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18053</td>
<td>Connecting Frame, Fence</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18086</td>
<td>Fence Pin</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>rivet_.1875_.376-.5</td>
<td>3/16&quot; Aluminum Rivet, .376-.5 Grip Range</td>
<td>4</td>
</tr>
<tr>
<td>ITEM NO.</td>
<td>PART NUMBER</td>
<td>DESCRIPTION</td>
<td>QTY.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>GE-18016</td>
<td>Switch Frame</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18024</td>
<td>Switch Base Cover Polycarbonate</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18026</td>
<td>Switch/Scale Arm Shaft</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18098</td>
<td>Switch Shaft Spacer</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>GE-18110</td>
<td>Fence Assembly</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>GE-18113</td>
<td>Switch Fence Brace Assembly</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>GE-18114</td>
<td>Switch Arm Assembly</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>GE-18121</td>
<td>Basket Assembly</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>GE-18122</td>
<td>Bearing/Damper Assembly</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>hex_.25_20_2.75_partial</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 2-3/4&quot; long, partially threaded</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>nylock_.25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>hex_.25_20_1.5</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 1-1/2&quot; long, fully threaded</td>
<td>3</td>
</tr>
</tbody>
</table>
Notes:
1. Slide Item 3 (the shaft) through tube on Item 7. Slide Item 4 (qty: 2) to either end of Item 3.
2. Align the shaft to the bearing and dampers of Item 9. Bolt Item 9 (qty: 2) to Item 1 using Items 10 (qty: 8) and 11 (qty: 8).
Notes:
1. Align Item 3 (the shaft) through the tube of Item 7 and secure alignment using Items 11 (qty: 3) and 12 (qty: 3).
2. Slide Item 6 (qty: 2) into Item 1.
3. Attach Items 2 to Item 1 using cable ties.

Notes:
1. Slide Item 8 (qty: 2) onto the pins on Item 7.
2. (Not pictured) Build Item 5 around the assembly, following assembly drawings for GE-18110.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>Default/ QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18088</td>
<td>Switch Fence Brace Pin</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18087</td>
<td>Switch Fence Brace</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>rivet..1875..376-.5</td>
<td>3/16&quot; Aluminum Rivet, .376-.5 Grip Range</td>
<td>4</td>
</tr>
<tr>
<td>ITEM NO.</td>
<td>PART NUMBER</td>
<td>DESCRIPTION</td>
<td>QTY.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>GE-18013</td>
<td>Switch Arm</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18028</td>
<td>Plate Mount Pin</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>rivet_.1875_.251-.375</td>
<td>3/16&quot; Aluminum Rivet, .251-.375 Grip Range</td>
<td>4</td>
</tr>
</tbody>
</table>
Notes:
1. Fasten Item 2 (qty: 4) to Item 1, using Item 3 (qty: 4).
Notes:
1. Retroreflective tape to be applied to both sides of GE-18082.
2. It is expected that the top and bottom of the tape will be partially obscured during assembly. The amount of tape visible may also vary with viewing angle.
Notes:
1. Description: Cable Shield Cord Cover
2. Source: Electriduct
3. Item #: CSX-3 Black
4. Equivalent substitutions allowed

- Dimensions are in inches. Tolerance: 1/16
- Angular 45° bend, one place decimal.
- Three place decimal, 1° bend.

UNLESS OTHERWISE SPECIFIED:

NAME DATE

DRAWN CHECKED ENG, APPR.

MEASUREMENT INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

INTERPRET GEOMETRIC TOLERANCING PER:

DIMENSIONS ARE IN INCHES TOLERANCE:

FRACTIONAL 1/16
ANGULAR 45° 1° BEND
TWO PLACE DECIMAL 1.01
THREE PLACE DECIMAL 0.001

QUALITY

APPLICATION DO NOT SCALE DRAWING

REVISIONS

ZONE REV. DESCRIPTION DATE APPROVED
B1, B3 1 Miter cut moved to opposite end of part. Some dimensions updated for accuracy. 2/12/2018 CPO
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18020</td>
<td>Scale Side Cover Polycarbonate</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18076</td>
<td>Scale Angle Brace</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>flat_hex_.25_20_1</td>
<td>Steel Hex Flat Head Screw, 1/4&quot;-20 x 1&quot; long, fully threaded</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>nylock_.25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>8</td>
</tr>
<tr>
<td>ITEM NO.</td>
<td>PART NUMBER</td>
<td>DESCRIPTION</td>
<td>Default/Qty.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>1</td>
<td>GE-18022</td>
<td>Scale Outrigger Side Cover Polycarbonate</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>GE-18026</td>
<td>Switch/Scale Arm Shaft</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18054</td>
<td>Scale Frame</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18055</td>
<td>Outrigger Top Polycarbonate</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>GE-18057</td>
<td>Scale Side HDPE</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>GE-18058</td>
<td>Scale Top HDPE</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>GE-18060</td>
<td>Platform</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>GE-18075</td>
<td>Scale Base Outrigger</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>GE-18099</td>
<td>Scale Shaft Spacer</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>GE-18106</td>
<td>Scale Lockout Bar</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>GE-18119</td>
<td>Scale Side Cover Polycarbonate Sub Assembly</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>GE-18121</td>
<td>Basket Assembly</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>GE-18122</td>
<td>Bearing/Damper Assembly</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>GE-18123</td>
<td>Outrigger Assembly</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>GE-18125</td>
<td>Scale Arm Assembly</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>hex_.5_13_5</td>
<td>Steel Hex Head Screw, 1/2&quot;-13 x 5&quot; long, fully threaded</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>hexnut_.5_13</td>
<td>Steel Hex Nut, 1/2&quot;-13</td>
<td>12</td>
</tr>
<tr>
<td>18</td>
<td>hex_.25_20_1.5</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 1-1/2&quot; long, fully threaded</td>
<td>3</td>
</tr>
<tr>
<td>19</td>
<td>nylock_.25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>19</td>
</tr>
<tr>
<td>20</td>
<td>hex_.25_20_4.5_partial</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 4-1/2&quot; long, partially threaded</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>flat_phil_.25_20_2.75</td>
<td>Steel Phillips Flat Head Screw, 1/4&quot;-20 x 2-3/4&quot; long, fully threaded</td>
<td>12</td>
</tr>
<tr>
<td>22</td>
<td>flat_phil_.25_20_5</td>
<td>Steel Phillips Flat Head Screw, 1/4&quot;-20 x 5&quot; long, fully threaded</td>
<td>8</td>
</tr>
<tr>
<td>23</td>
<td>wing_.25_20</td>
<td>Steel Wing Nut, 1/4&quot;-20, 31/64 Base Diameter</td>
<td>8</td>
</tr>
<tr>
<td>24</td>
<td>washer_split_.26_.487</td>
<td>Steel Split Lock Washer for 1/4&quot; Screw</td>
<td>8</td>
</tr>
<tr>
<td>25</td>
<td>GE-18131</td>
<td>Scale Wear Protector</td>
<td>4</td>
</tr>
</tbody>
</table>
Notes:
1. Attach Items 8 (qty: 2) to Item 3 using Items 19 and 20.
2. Attach Items 14 (qty: 2) to Item 3 using Items 22, 23, and 24.
3. Bolt Items 16 (qty: 4) and 17 (qty: 12) through Item 3.
Notes:

1. Slide Item 2 (the shaft) through the tube on Item 15. Slide Items 9 (qty: 2) to either side of Item 2.

2. Align the shaft to the bearings and dampers of Item 13 (qty: 2). Bolt Items 13 to Item 3 using Items 21 and 23. Please note that Items 13 go to the inside of the frame of Item 3.
Notes:
1. Align Item 2 (the shaft) through the tube of Item 17 and secure alignment using Items 18 (qty: 3) and 19 (qty: 3).
2. Slide Items 12 (qty: 2) onto the pins of Item 15.
3. Attach Items 11 to Item 3 using hook and loop.
4. Attach Items 1 to Items 14 using hook and loop.
Notes:
1. Attach items 5 and 6 to item 3 using hook and loop.
2. Attach items 4 to item 16 using hook and loop.
3. Build items 7 (not shown) around the base of the Scale Assembly. See Assembly Drawing GE-18060 for details.
4. Attach items 25 (qty. 4) to the underside of item 25 using double sided tape.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18007</td>
<td>Scale Plate</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18018</td>
<td>Plate Front Wall</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18019</td>
<td>Plate Side Wall</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GE-18017</td>
<td>Plate Back Wall</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>GE-18021</td>
<td>Scale and Switch Basket, Plate</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>hex_.25_20_.75</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 3/4&quot; long, fully threaded</td>
<td>22</td>
</tr>
<tr>
<td>7</td>
<td>nylock_.25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>34</td>
</tr>
<tr>
<td>8</td>
<td>GE-18134</td>
<td>Plate Gusset Brace</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>hex_.25_20_2.25_part</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 2-1/4&quot; long, partially threaded</td>
<td>12</td>
</tr>
</tbody>
</table>
Step 1:
Acquire GE-18007 part.
Confirm all lights are mounted properly
(not pictured).
Attach GE-18134 (qty. 4) as shown
using items 7 and 9.

Step 2:
Place GE-18021 onto the
assembly, textured side up.

Step 3:
Attach the four plate walls to
the assembly. The bolt heads
should be on the outside of the
assembly.
Notes:
1. Bolts should not be fully tightened until mounted with a Switch/Scale Arm Shaft (GE-18026).
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18078</td>
<td>Outrigger Wing Diagonal</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18077</td>
<td>Outrigger Wing Horizontal</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18079</td>
<td>Outrigger Wing Plate</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>hex_.25_20_2.75_parti</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 2-3/4&quot; long, partially threaded</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>nylock_.25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>6</td>
</tr>
<tr>
<td>ITEM NO.</td>
<td>PART NUMBER</td>
<td>DESCRIPTION</td>
<td>Default/ QTY.</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1</td>
<td>GE-18014</td>
<td>Scale Arm</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18023</td>
<td>Scale Arm Cover Polycarbonate</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>GE-18028</td>
<td>Plate Mount Pin</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>rivet_.1875_.251-.375</td>
<td>3/16&quot; Aluminum Rivet, .251-.375 Grip Range</td>
<td>4</td>
</tr>
</tbody>
</table>

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

FRACTIONAL: 1/16

ANGULAR: 1°  BEND

TWO PLACE DECIMAL: .01

THREE PLACE DECIMAL: .001

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

APPLICATION

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® AND REPRODUCTION IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Note: 1. Attach Item 3 (qty: 4) to Item 1 using Item 4 (qty: 4).

Note: 1. Attach Item 2 (qty: 4) to Item 1 with cable ties after the rest of GE-18120 is assembled.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18031</td>
<td>Vault HDPE Bottom Side</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>GE-18032</td>
<td>Vault Base</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>GE-18035</td>
<td>Vault HDPE Bottom Back</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18036</td>
<td>Vault Polycarbonate Middle Insert</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>GE-18037</td>
<td>Vault Polycarbonate Backstop</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>GE-18038</td>
<td>Vault Polycarbonate Bottom Floor</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>GE-18039</td>
<td>Vault Support Pipes</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>GE-18040</td>
<td>Vault Middle Support Pipes</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>GE-18045</td>
<td>Vault Polycarbonate Bottom Front</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>GE-18047</td>
<td>Vault Top Frame</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>GE-18129</td>
<td>Vault Top Assembly</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Vault_Button</td>
<td>SS Ring-Grip Quick-Release Pin, 1/4&quot; diameter, 2&quot; long</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>pin_quick_ring_25_2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>hex_25_20_.75</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 3/4&quot; long, fully threaded</td>
<td>12</td>
</tr>
<tr>
<td>15</td>
<td>nyllock_25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>12</td>
</tr>
</tbody>
</table>
Notes:
1. Attach Items 4 using cable ties around poles.
2. Attach Items 1 using Item 13 and hook and loop. Items 13 should also go through Item 2.
3. Attach Item 9 using hook and loop.

Vault Assembly

UNLESS OTHERWISE SPECIFIED:
- DIMENSIONS ARE IN INCHES
- TOLERANCES:
  - FRACTIONAL: 1/16
  - ANGULAR: 1°
  - THREE PLACE DECIMAL: .001
  - TWO PLACE DECIMAL: .01
- INTERPRET GEOMETRIC TOLERANCING PER:

PROPRIETARY AND CONFIDENTIAL
- THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.

 Vault Assembly

UNLESS OTHERWISE SPECIFIED:
- DIMENSIONS ARE IN INCHES
- TOLERANCES:
  - FRACTIONAL: 1/16
  - ANGULAR: 1°
  - THREE PLACE DECIMAL: .001
  - TWO PLACE DECIMAL: .01
- INTERPRET GEOMETRIC TOLERANCING PER:

PROPRIETARY AND CONFIDENTIAL
- THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Notes:
1. Attach Item 5 using cable ties around poles.
2. Attach Item 3 using hook and loop.

Notes:
1. Place Item 11 onto the Vault, in alignment with Items 7.
ITEM NO. | PART NUMBER | DESCRIPTION | Default/ QTY. |
--- | --- | --- | --- |
1 | GE-18127-01 | 1/4" thk. Polycarb, clear | 1 |
2 | GE-18127-02 | 2"x4" Pine | 1 |
3 | GE-18127-03 | 1/2" AC Plywood | 1 |
4 | GE-18127-04 | 2"x4" Pine | 2 |
5 | GE-18127-05 | 1/2" AC Plywood | 2 |
6 | GE-18127-06 | 1/8" thk. HDPE, red or blue | 1 |
7 | GE-18127-07 | 1/8" thk. HDPE, red or blue | 2 |

Note: Attach 2" hook fastener here
Item: GE-18127-01
Material: 1/4\" thk. clear polycarbonate
QTY: 1

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/16
ANGULAR (AND 45° BEND): ±1°
TWO PLACE DECIMAL: ±.01
THREE PLACE DECIMAL: ±.001

UNLESS OTHERWISE SPECIFIED:
SCALE: 1:4
WEIGHT:

Revised Drawing:
MFG. APPRO.
ENG. APPRO.
CHECKED
DRAWN

FINISH
MATERIAL
INTERPRET GEOMETRIC
TOLERANCING PER:

UNLESS OTHERWISE SPECIFIED:

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.
Item: GE-18127-02
Material: 2"x4" Pine
QTY: 1

Item: GE-18127-03
Material: 1/2" AC Plywood
QTY: 1

Dimensions are in inches.
Tolerances:
- Fractional: 1/16
- Angular and 1° Bend: 1°
- Two Place Decimal: ±.01
- Three Place Decimal: ±.001

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED:

NAME DATE

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

APPLICATION

DO NOT SCALE DRAWING

Ramp, Exchange

GE-18127

FIRST®

PROPERTY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.

A A
B B
Item: GE-18127-06
Material: 1/8" thk. smooth HDPE, red or blue
QTY: 2

Item: GE-18127-07
Material: 1/8" thk. smooth HDPE, red or blue
QTY: 2

Ramp, Exchange

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/16
ANGULAR AND 1° BEND ± 1°
TWO PLACE DECIMAL ± .01
THREE PLACE DECIMAL ± .001

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

PROPERTY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®.
ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN
PERMISSION OF FIRST® IS PROHIBITED.
Step 1: Attach Item 2 and Item 4 (qty: 2) to Item 1 using wood screws through the holes in Item 1.

Step 2: Attach Item 3 and Item 5 (qty: 2) to Item 4 and Item 2 using wood screws.

Step 3: Attach Item 6 and Item 7 (qty: 2) to Item 5 and Item 6 using double stick tape.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GE-18033</td>
<td>Vault polycarbonate Top Front Face</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GE-18034</td>
<td>Vault HDPE Top Side</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>GE-18044</td>
<td>Vault HDPE Top</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>GE-18041</td>
<td>Vault Polycarbonate Top Backside</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>GE-18046</td>
<td>Vault Polycarbonate Top Base</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>GE-18048</td>
<td>80-20 Extrusion</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>GE-18048</td>
<td>Vault Bracket</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>flat_hex_.25_20_1</td>
<td>Steel Hex Flat Head Screw, 1/4&quot;-20 x 1&quot; long, fully threaded</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>nylock_.25_20</td>
<td>Steel Nylon-Insert Locknut, 1/4&quot;-20</td>
<td>16</td>
</tr>
<tr>
<td>10</td>
<td>hex_.25_20_.75</td>
<td>Steel Hex Head Screw, 1/4&quot;-20 x 3/4&quot;</td>
<td>19</td>
</tr>
</tbody>
</table>
Notes:
1. Use Item 10 to fasten Item 3 and Item 5 to Item 6 (qty. 7)
2. Use Item 10 and 9 to fasten item 7 bracket with 4
3. Repeat with Item 5 face
Notes:
1. Finish attaching top and faces using Items 10 and 7

Notes:
1. Attach Item 2 using cable ties
2. Repeat on opposite side
Notes:
1. Material: 1/8" thk. clear polycarbonate
2. Remove all burrs and sharp edges

Dimensions are in inches
Tolerances:
Fractional ±1/16
Angular (MAX 1°) Bend ±1°
Two Place Decimal ±.01
Three Place Decimal ±.001

Material: 1/8" thk. clear polycarbonate

Chute Back Wall
Notes:
1. Material: 1/4" thk. HDPE
2. Remove all burrs and sharp edges
Notes:
1. Description: Cable Protector, 1-Channel, Black, 25 ft. x 3/4"H, Max. Cable Dia.: 1/2"
2. Source: Grainger
3. Item #: 5D687
4. Equivalent substitutions allowed
Notes:
1. Description: Cable Protector, 1-Channel, Black, 25 ft. x 3/4"H, Max. Cable Dia.: 1/2"
2. Source: Grainger
3. Item #: 5D687
4. Equivalent substitutions allowed
Notes:
1. Material: 10 Gauge 5052 Aluminum
2. Remove all burrs and sharp edges.