

Exercise 18: Linear Patterns

Create feature patterns in this part using a Linear Pattern.

This lab uses the following skills:

- *Linear Pattern* on page 163.
- *Skipping Instances* on page 165.



Procedure

Open an existing part.

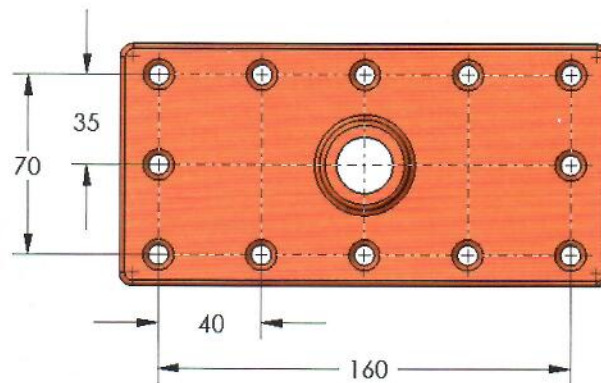
- 1 **Open the part *Linear Pattern*.**

The part includes the “seed” feature used in the patterns.



- 2 **Linear pattern.**

Create a pattern using the seed feature. Use the dimensions below.



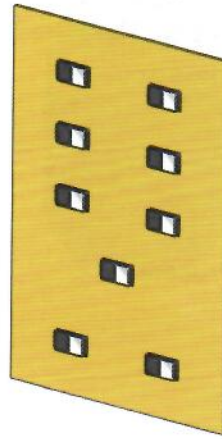
- 3 **Save and close the part.**

**Exercise 19:
Sketch Driven
Patterns**

Create feature patterns using a Sketch Driven Pattern. The model is an elevator panel.

This lab uses the following skills:

- *Sketch Driven Patterns* on page 183.

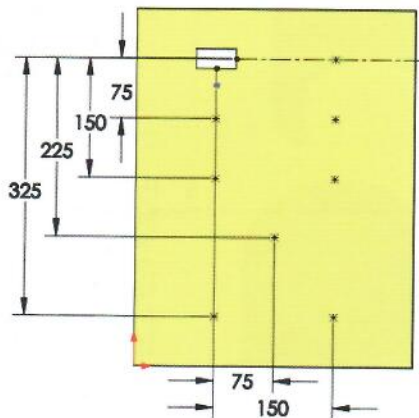
**Procedure**

Open an existing part.

- 1 **Open the part *Sketch Driven Pattern*.**
The part includes the “seed” feature used in the pattern.



- 2 **Sketch driven pattern.**
Use the dimensions shown to define the sketch. Use the sketch to create a sketch driven pattern.
- 3 **Save and close the part.**



Thanks to Marcus Brown of MLC CAD Systems for submitting this example.

Exercise 20: Skipping Instances

Complete this part using the information and dimensions provided.

This lab reinforces the following skills:

- *Linear Pattern* on page 163.
- *Skipping Instances* on page 165.
- *Mirror Patterns* on page 177.

Units: **millimeters**

Procedure

1 New part.

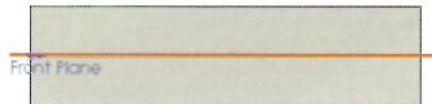
Create a new mm part

2 Base feature.

Create a block

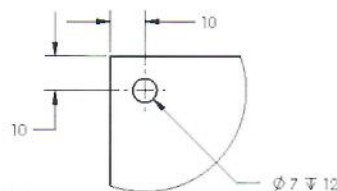
75mmx380mmx20mm.

It will be useful to have a plane centered along the long direction.



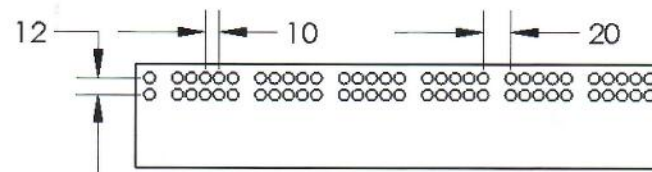
3 Seed.

Create the seed feature using the Hole Wizard and an ANSI MM drill.



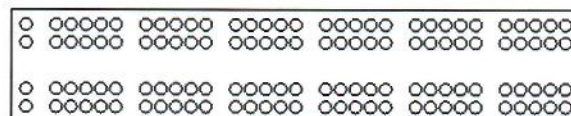
4 Pattern.

Pattern the hole, skipping instances as shown in the diagram below.



5 Pattern of a pattern.

Mirror the pattern to create a symmetrical arrangement of holes.



6 Change.

Change the hole to **4mm** diameter and rebuild.

7 Save and close the part.

**Exercise 21:
Linear and
Mirror Patterns**

Complete this part using the information and dimensions provided.

This lab reinforces the following skills:

- *Linear Pattern* on page 163.
- *Mirror Patterns* on page 177.
- *Patterning a Solid Body* on page 178.

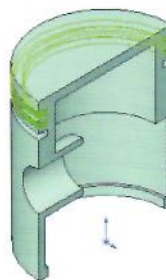
**Procedure**

Open an existing part.

- 1 Open the part **Linear & Mirror**.

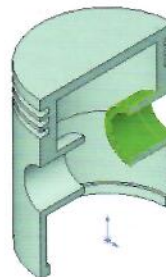
- 2 **Linear pattern.**

Using the existing feature, create a **Linear Pattern** that results in three grooves that are spaced **0.20"**.



- 3 **Mirror features.**

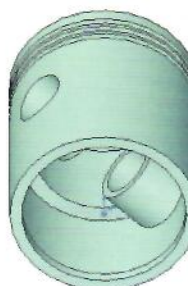
Using a single pattern feature, create the duplicate boss and cut as shown.



- 4 **Symmetry.**

Use a third pattern feature to create the full model from the half model using **Bodies to Mirror**.

- 5 **Save and close the part.**



Exercise 22: Circular Patterns

Complete this part using the information and dimensions provided.

This lab reinforces the following skills:

- *Circular Patterns* on page 169.

Procedure

Open the existing part *Circular*.
Use an equally spaced circular pattern to pattern the cut and fillet for 12 total instances.

