

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH:		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
		NAME		SIGNATURE		DATE					
DRAWN		L. Maden								TITLE: Overview of the whole robot assembly	
CHK'D											
APPV'D											
MFG											
Q.A											
										DWG NO. Robot-final-assembly	
										A3	

Robot-final-assembly

Line sensor rod
mounted here

other gears fixed
between bolt and
nyloc nut

plastic washers
between door
mount

Hot glued to servo adapter

Trim adapter to
approximately 2cm
radius (avoid collision
between adapter and
bolts mounting the servo)

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TOLERANCES:
LINEAR:
ANGULAR:

FINISH:

DEBURR AND
BREAK SHARP
EDGES

DO NOT SCALE DRAWING

REVISION

	NAME	SIGNATURE	DATE		
DRAWN	Katie M				
CHK'D					
APPV'D					
MFG					
Q.A					

TITLE:

MATERIAL:

DWG NO.

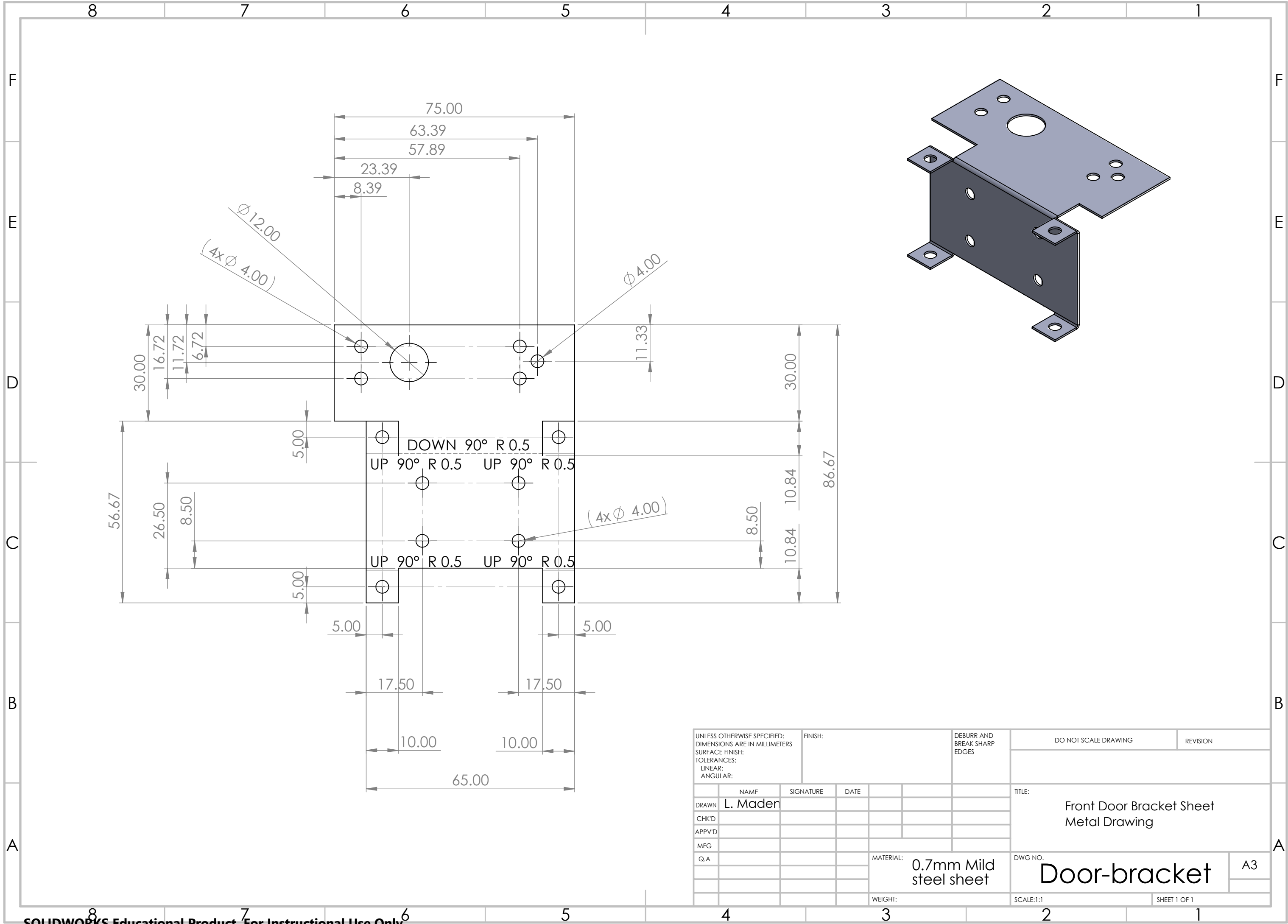
Door-assembly

A4

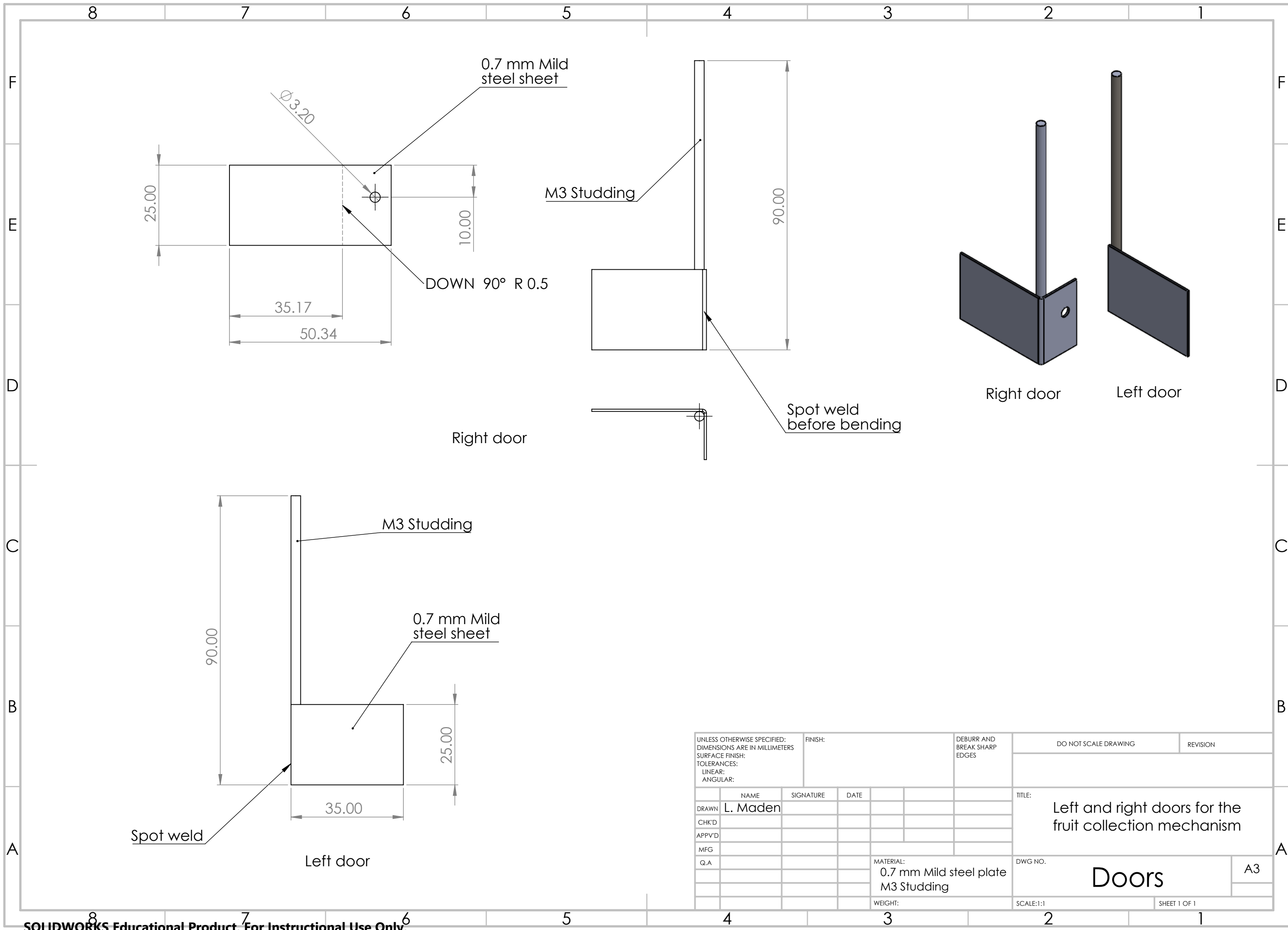
WEIGHT:

SCALE:1:2

SHEET 1 OF 1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH:		DEBURR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION			
		NAME		SIGNATURE		DATE							
DRAWN		L. Maden								TITLE: Front Door Bracket Sheet Metal Drawing			
CHK'D													
APPV'D													
MFG													
Q.A													
						MATERIAL: 0.7mm Mild steel sheet		DWG NO.		Door-bracket		A3	
						WEIGHT:		SCALE:1:1		SHEET 1 OF 1			



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		NAME		SIGNATURE		DATE				TITLE: Left and right doors for the fruit collection mechanism			
DRAWN		L. Maden											
CHK'D													
APPV'D													
MFG													
Q.A													
						MATERIAL: 0.7 mm Mild steel plate M3 Studding		DWG NO.		Doors		A3	
						WEIGHT:		SCALE:1:1		SHEET 1 OF 1			

Manufacturing Notes

Front sensor mount

The line following sensors and LDR sensor are mounted on one of the doors at the front by a rod screwed through a tab on the door. The line following sensors slide along the rod which gives electrical teams ease to alter the sensors to improve the performance.

The LDR sensor is attached to the rod by a plate however with no obvious and easy mounting solution the actual sensor is held in place by hot glue. The position of the plate can be altered however the LDR is typically in a fixed position pointing directly at the fruit.

Ultrasound sensor mount

The ultrasound sensor although having holes in the structure to allow it to be mounted the small screw size wasn't available therefore a sophisticated mount wasn't feasible. The ultrasound sensor is mounted to the shortest tab via hot glue. The connector for the circuit which is attached to the sensor is fairly bulky so sits on top of the tab ensuring that the sensor remains flat to the surface.

Door bracket

This part is fairly fiddly to manufacture by hand especially when cutting the tabs that hold the doors in place. However the section that holds together the gear plate and the door mount doesn't need to be completely true to design as some material can be lost during the manufacturing as long as the plates are still connected. For example filling the cut line rather than using a saw will make manufacturing easier.