

1 POTENTIOMETER AS ANGLE SENSOR

1.1 Tasks:

1. Add the potentiometer to the shaft of barrier gate. You can follow the instructions in the [video](#).

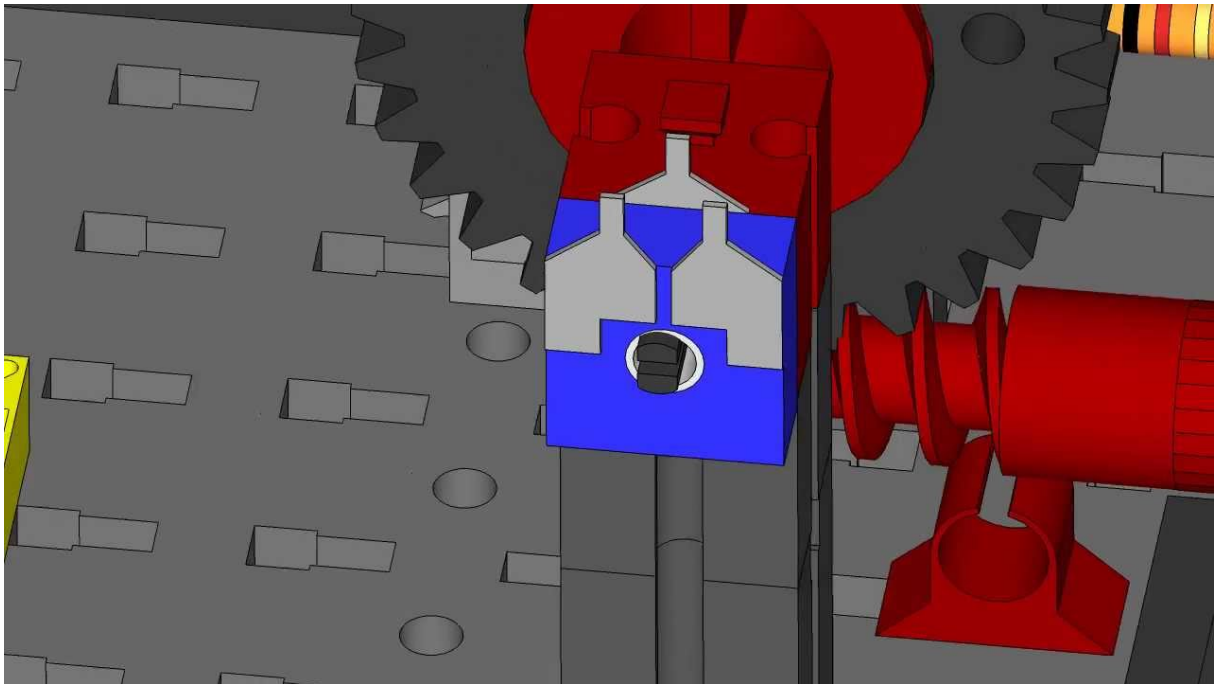


Figure 1: Adding potentiometer as an angle sensor.

2. Test the potentiometer values with next program:

```
1 void setup() {  
2   Serial.begin(9600);  
3 }  
4  
5 void loop() {  
6   Serial.println(analogRead(A3));  
7   delay(100);  
8 }
```

3. Change the functions for lifting and lowering the barrier gate to use potentiometer readings instead of switch and time controlled movement.

```
1  [+] void setup() {
2  [+] void loop() {
3  [+] void manualGateControll(){
4  [+] void stopTheGate(){
5  [-] void moveGateUp() {
6      int gate_orientation = analogRead(POTENTIOMETER_PIN);
7      while (gate_orientation < 750){
8          digitalWrite(MOTOR_PIN_1, HIGH);
9          digitalWrite(MOTOR_PIN_2, LOW);
10         gate_orientation = analogRead(POTENTIOMETER_PIN);
11     }
12     stopTheGate();
13 }
14 [+] void moveGateDown() {
```

4. Advanced: Calculate the angle of barrier gate from the analog readings of potentiometer.

1.2 Questions:

1. What is the value of the angle sensor when the barrier gate is in the upper orientation...
2. ... and in lower orientation.

1.3 Summary:

1.3.1 <++>

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1.4 Issues:

1.4.1 <++>

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