

0.1 POTENTIOMETER AS ANGLE SENSOR

0.1.1 Tasks:

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

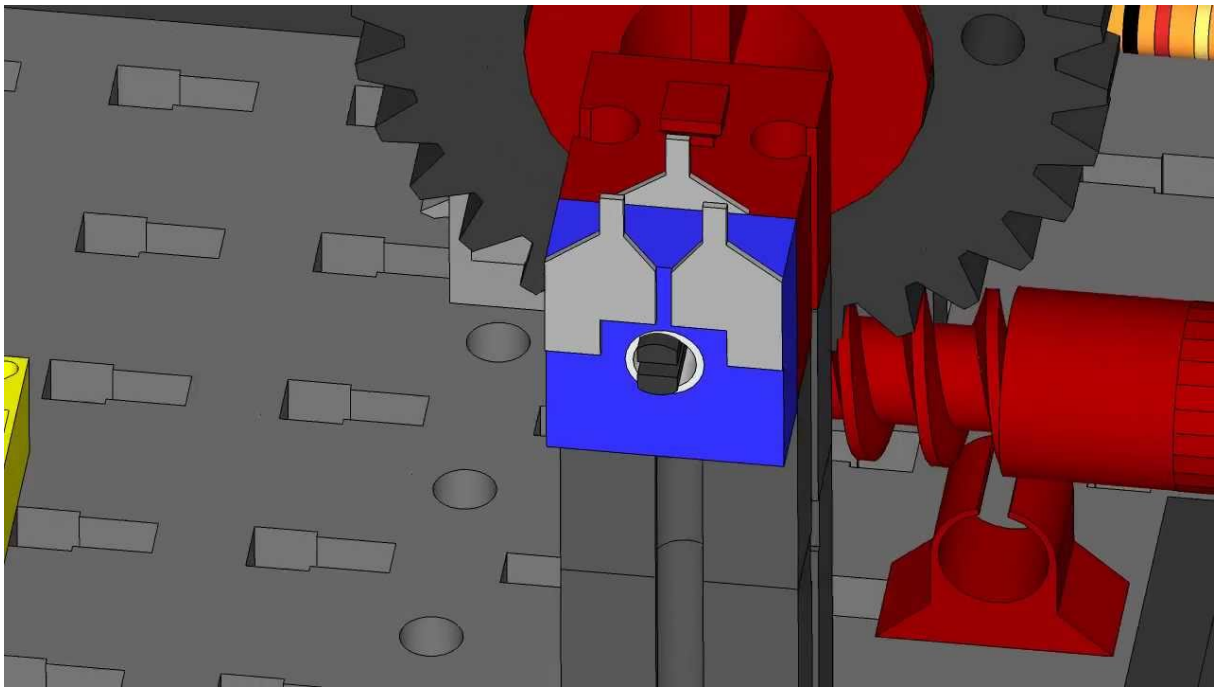


Figure 1: Adding potentiometer as an angle sensor.

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.

0.1.2 Questions:

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

0.1.3 Summary:

0.1.3.1 <++> <++>

0.1.4 Issues:

0.1.4.1 <++> <++>