

```
#include <TimerOne.h>
volatile int gear1=1;
volatile int gear2=0;
volatile int gear3=0;
volatile int gear4=0;

void ShiftIndicator(int gear) {
  if(gear==1) {
    //A0-> a
    digitalWrite(A0,0);
    //A1 -> b
    digitalWrite(A1,1);
    //A2 -> DP
    digitalWrite(A2,0);
    // A3-> C
    digitalWrite(A3,1);
    //A4 -> D
    digitalWrite(A4,0);
    //A5 -> E
    digitalWrite(A5,0);
    //7 -> G
    digitalWrite(7,0);
    //8 -> F
    digitalWrite(8,0);
  }
  if(gear==2) {
    //A0-> a
    digitalWrite(A0,1);
    //A1 -> b
    digitalWrite(A1,1);
    //A2 -> DP
    digitalWrite(A2,0);
    // A3-> C
    digitalWrite(A3,0);
    //A4 -> D
    digitalWrite(A4,1);
    //A5 -> E
    digitalWrite(A5,1);
    //7 -> G
    digitalWrite(7,1);
    //8 -> F
    digitalWrite(8,0);
  }
  if(gear==3) {
    //A0-> a
    digitalWrite(A0,1);
    //A1 -> b
    digitalWrite(A1,1);
    //A2 -> DP
```

```
digitalWrite(A2,0);
// A3-> C
digitalWrite(A3,1);
//A4 -> D
digitalWrite(A4,1);
//A5 -> E
digitalWrite(A5,0);
//7 -> G
digitalWrite(7,1);
//8 -> F
digitalWrite(8,0);
}
if(gear==4){
//A0-> a
digitalWrite(A0,0);
//A1 -> b
digitalWrite(A1,1);
//A2 -> DP
digitalWrite(A2,0);
// A3-> C
digitalWrite(A3,1);
//A4 -> D
digitalWrite(A4,0);
//A5 -> E
digitalWrite(A5,0);
//7 -> G
digitalWrite(7,1);
//8 -> F
digitalWrite(8,1);
}
if(gear==0){
//A0-> a
digitalWrite(A0,0);
//A1 -> b
digitalWrite(A1,0);
//A2 -> DP
digitalWrite(A2,1);
// A3-> C
digitalWrite(A3,0);
//A4 -> D
digitalWrite(A4,0);
//A5 -> E
digitalWrite(A5,0);
//7 -> G
digitalWrite(7,0);
//8 -> F
digitalWrite(8,0);
}
}
```

```
void gear() {
    digitalWrite(6, HIGH);
    //Fine Tuning
    delayMicroseconds(70);
    gear1=digitalRead(2);
    gear2=digitalRead(3);
    gear3=digitalRead(4);
    gear4=digitalRead(5);

    digitalWrite(6, LOW);
}
```

```
void setup() {
    // put your setup code here, to run once:
    for(int i=2;i<6;i++){
        pinMode(i, INPUT);
    }
    pinMode(6, OUTPUT);
    digitalWrite(6, HIGH);

    pinMode(A0, OUTPUT);
    pinMode(A1, OUTPUT);
    pinMode(A2, OUTPUT);
    pinMode(A3, OUTPUT);
    pinMode(A4, OUTPUT);
    pinMode(A5, OUTPUT);
    pinMode(7, OUTPUT);
    pinMode(8, OUTPUT);

    Timer1.initialize(1000);
    Timer1.attachInterrupt(gear);
    Serial.begin(115200);
}
```

```
void loop() {
    if(gear1==1){
        Serial.println("1st");
        ShiftIndicator(1);
    }
    if(gear2==1){
        Serial.println("2nd");
        ShiftIndicator(2);
    }
    if(gear3==1){
        Serial.println("3rd");
        ShiftIndicator(3);
    }
    if(gear4==1){
```

```
Serial.println("4th");  
ShiftIndicator(4);  
}  
if(gear1==0 && gear2==0 && gear3==0 && gear4==0){  
Serial.println("Neutral");  
ShiftIndicator(0);  
}  
}
```