

# 第一阶段作业

# 造火车





Built in web server

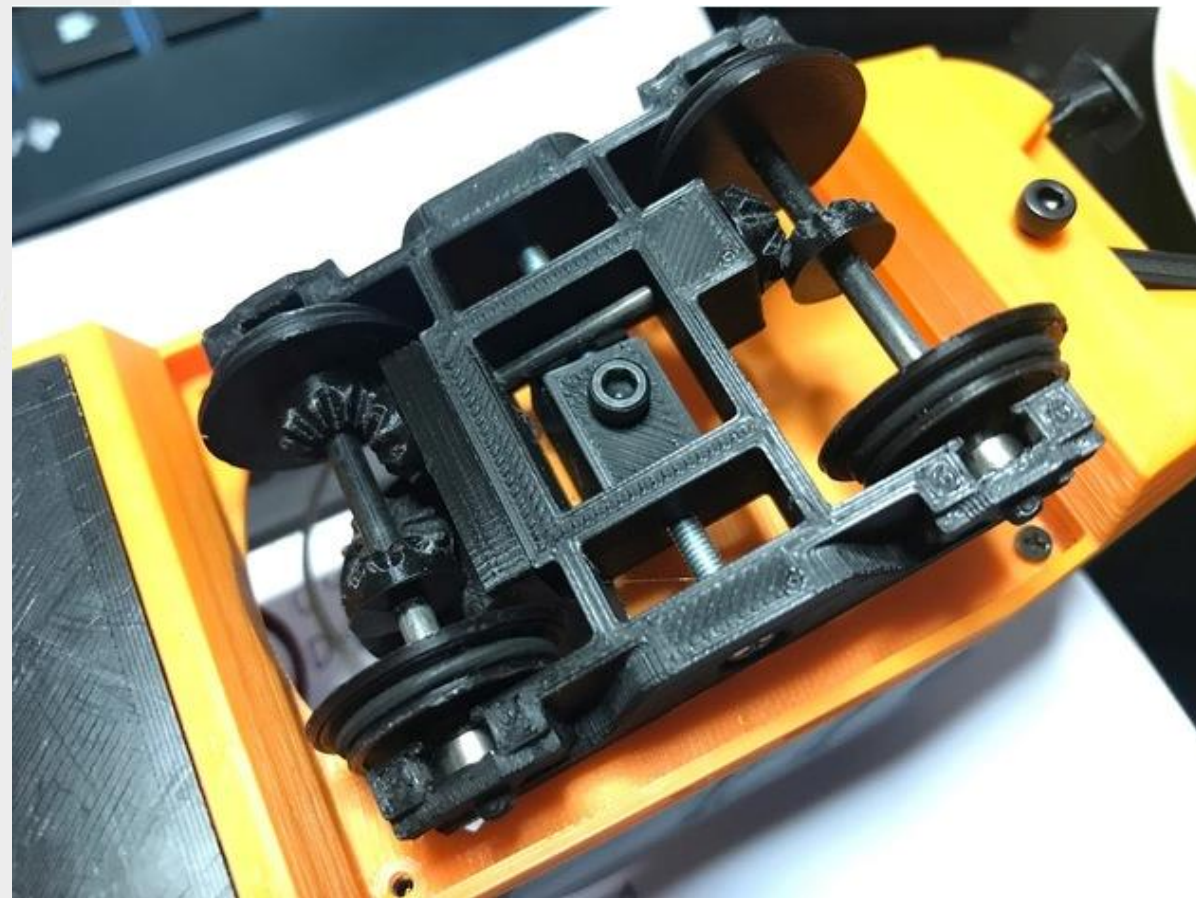
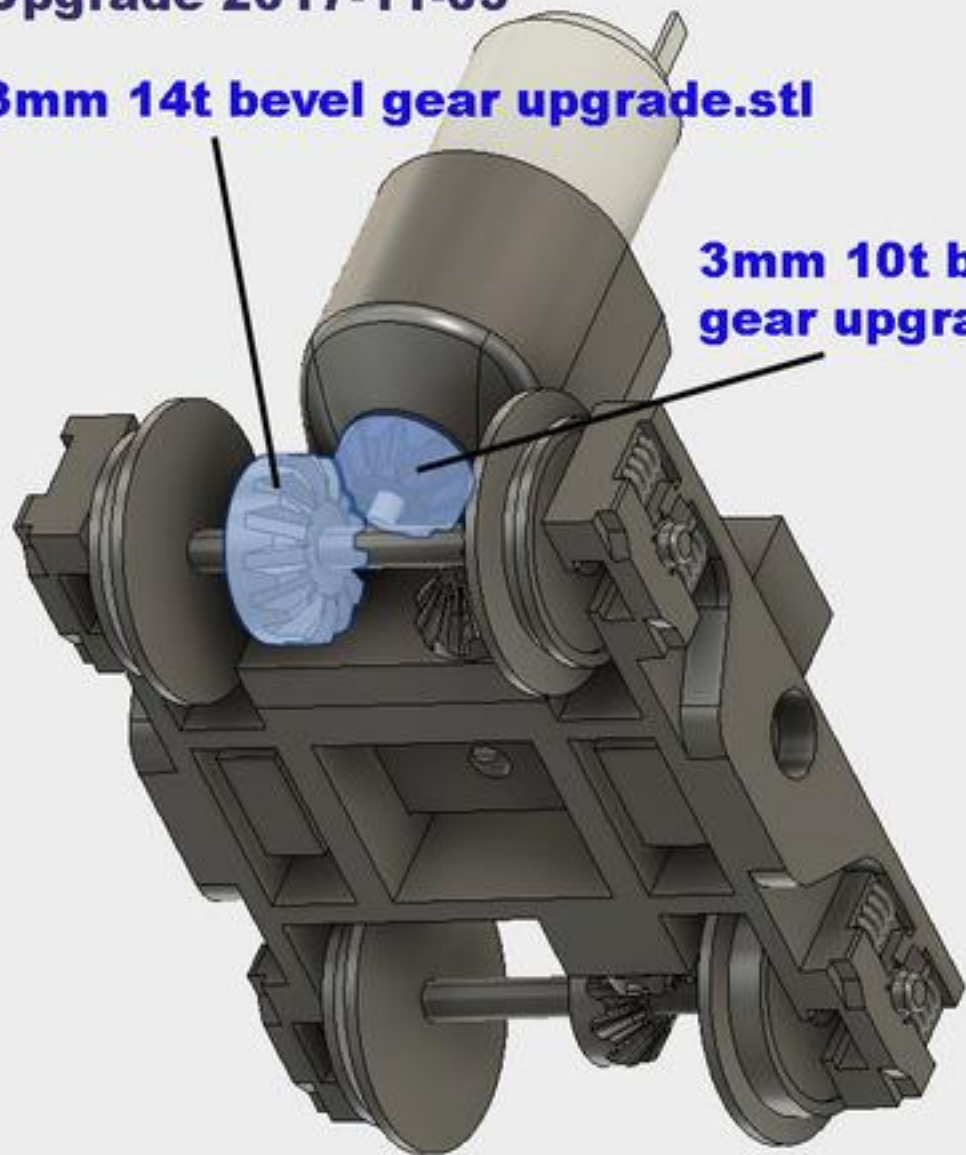




**Upgrade 2017-11-05**

**3mm 14t bevel gear upgrade.stl**

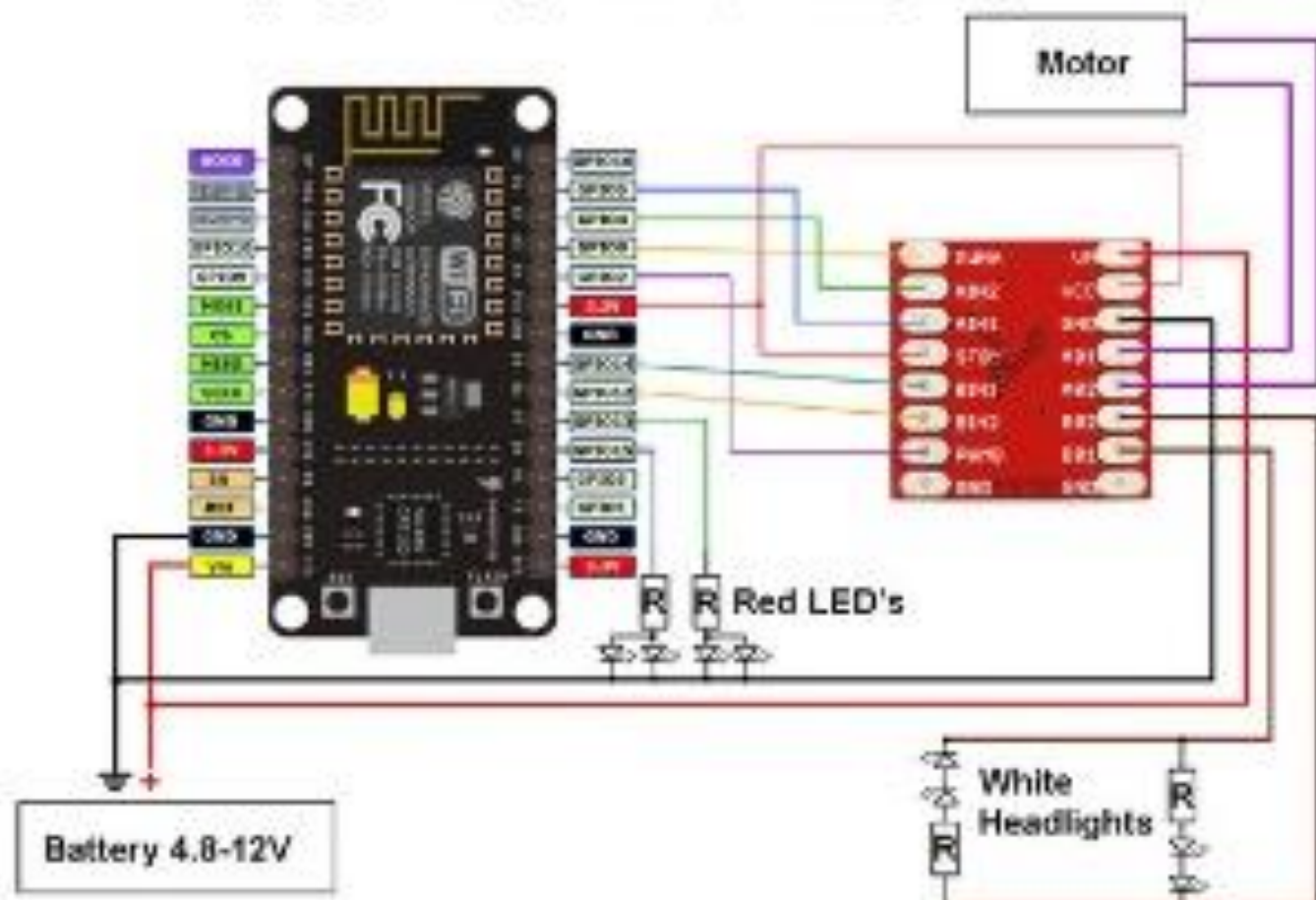
**3mm 10t bevel  
gear upgrade.stl**





## OS-Railway Wifi NodeMCU schematic

This schematic can be used for any of the OS-Railway locomotives. Adapt the number of LED's. The resistor values need to be adapted to the LED's of choice. Connect everything BEFORE you instal it, to check polarity for motor and LED's.



# ESP8266

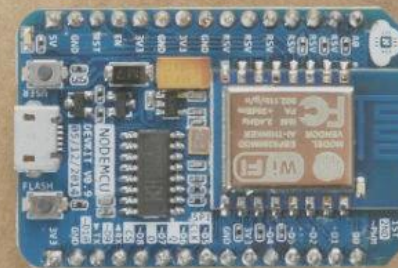
低功耗、高集成度的 Wi-Fi 芯片

仅需 7 个外围元器件

超宽工作温度范围：-40°C 至 +125°C

ESP8285 - ESP8266 内封 8 Mbit Flash

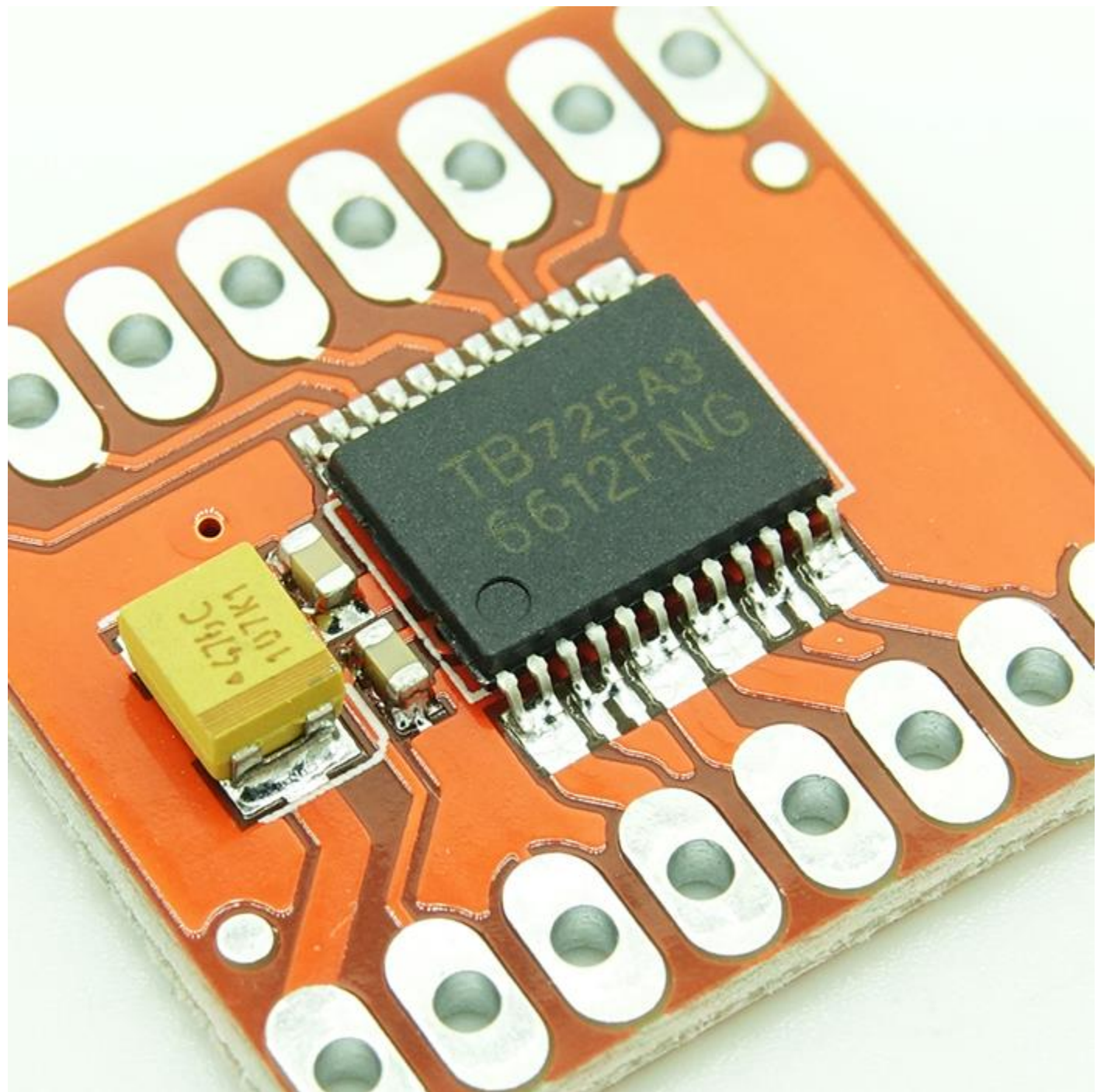
NodeMCU



<https://github.com/esp8266/Arduino>

# TB6612FNG

motor driver





# 3D打印问题

- 翘
- 调平
- 填充率（材料密度）
- 尺寸
- 支撑

# 控制

- 8266
- 安装core support
- Blink
- 测试程序
- 驱动板

# <https://github.com/esp8266/Arduino>

## Installing with Boards Manager

Starting with 1.6.4, Arduino allows installation of third-party platform packages using Boards Manager. We have packages available for Windows, Mac OS, and Linux (32 and 64 bit).

- Install the current upstream **Arduino IDE at the 1.8 level or later**. The current version is at the [Arduino website](#).

- **Start Arduino and open Preferences window.**

- Enter [http://arduino.esp8266.com/stable/package\\_esp8266com\\_index.json](http://arduino.esp8266.com/stable/package_esp8266com_index.json) into ***Additional Board Manager URLs*** field. You can add multiple URLs, separating them with commas.

- Open Boards Manager from **Tools > Board menu and install esp8266 platform** (and don't forget to select your ESP8266 board from Tools > Board menu after installation).



OSR\_Hectorrail\_WifiAP

```
int LED_HB1 = 12; // High
```

```
int LED_HDL = 2; //PWM fo
```

```
int motor_AIN1 = 5; //GPIO
```

```
int motor_AIN2 = 4; //GPIO
```

```
int motor_PWM = 0; //GPIO0
```

```
TimerObject *timer1 = new
```

```
ESP8266WebServer server(
```

```
/*  
 *  
 * Server IP address is:  
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 */
```

```
 * Server IP address is:  
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 * This is the web page s  
 * It uses Ajax to send c  
 * the page can be made m  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

```
 *  
 * When you have connecte  
 *  
 */
```

首选项

设置 网络

项目文件夹位置

C:\Users\maker\Documents\Arduino

浏览

编辑器语言

系统预设

(需要重启 Arduino)

编辑器字体大小

14

界面缩放:

☒ 自动调整

100%

(需要重启 Arduino)

显示详细输出:

☐ 编译☐ 上传

编译器警告:

无

☐ 显示行号☐ 启用代码折叠☒ 上传后验证代码☐ 使用外部编辑器☒ 启动时检查更新☒ 保存时更新项目文件的扩展名 (.pde -> .ino)☒ 当验证或上传时保存附加开发板管理器网址: [http://arduino.esp8266.com/stable/package\\_esp8266com\\_index.json](http://arduino.esp8266.com/stable/package_esp8266com_index.json)

在首选项中还有更多选项可以直接编辑

C:\Users\maker\AppData\Local\Arduino15\preferences.txt

(只能在 Arduino 未运行时进行编辑)

好

取消

文件/首选项/

附加开发板管理器网址

好





OSR\_Hectorrail\_WifiAP

```
int LED_HB1 = 12; // High beam side 1 GPIO14
```

```
int LED_HDL = 2; //PWM for he
```

```
int motor_AIN1 = 5; //GPIO5
```

```
int motor_AIN2 = 4; //GPIO4
```

```
int motor_PWM = 0; //GPIO0
```

```
TimerObject *timer1 = new Time
```

```
ESP8266WebServer server(80);
```

```
/*  
*****  
*  
* Server IP address is: http  
*  
* When you have connected yo  
*  
*/
```

```
*/
```

```
void handleRoot() {
```

```
/*  
*****  
* This is the web page sent  
* It uses Ajax to send comm  
* the page can be made much more graphically complex without suffering from long reloading delays.  
*/
```

```
String html = "<html> <header> <style type=\"text/css\"> body { background: #595B82; } #header { height: 30px; margin-left: 2px; margin-right
```

```
<
```

```
at cc.arduino.utils.network.FileDownloader.downloadFile(FileDownloader.java:170)
```

```
at cc.arduino.utils.network.FileDownloader.downloadFile(FileDownloader.java:170)
```



工具/开发板/开发板管理器

搜索8266

安装

好