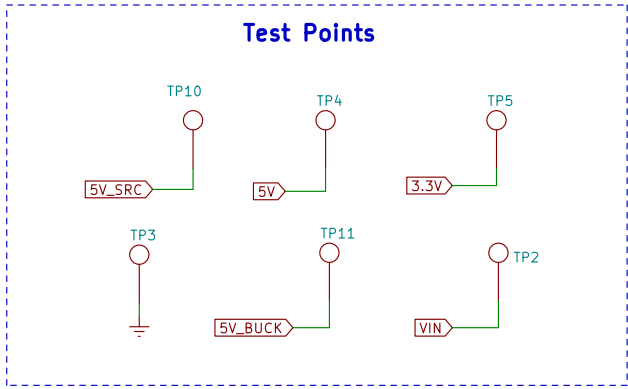
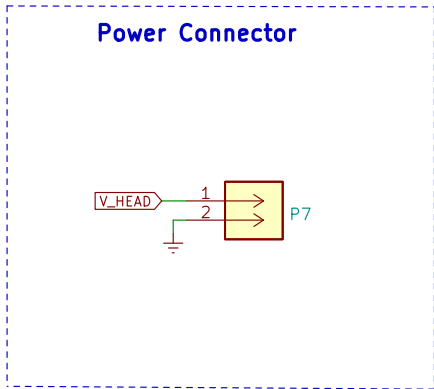
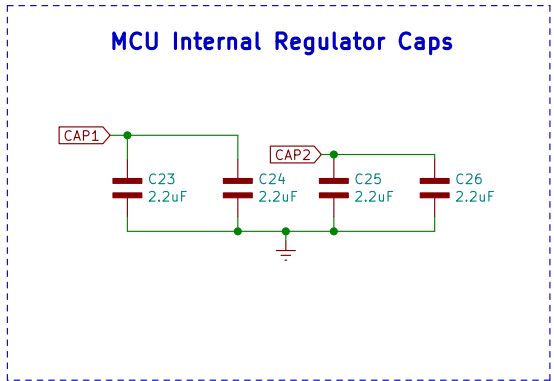
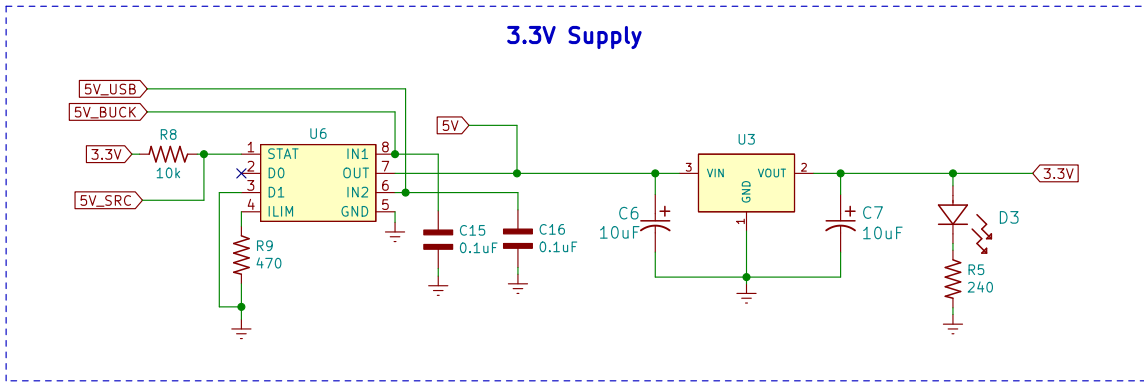
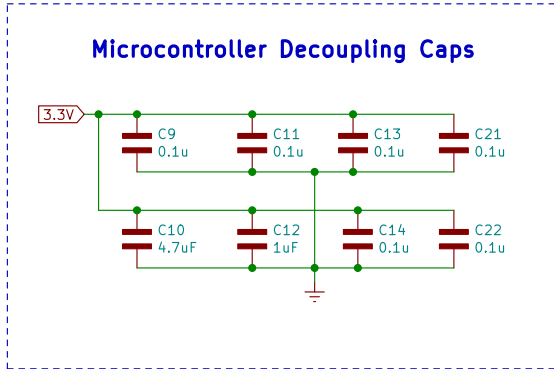
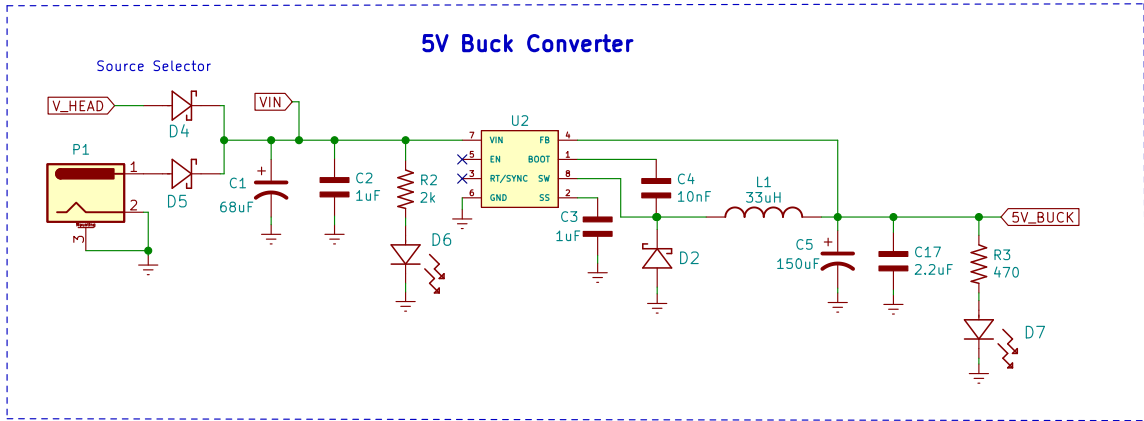




1	2	3	4	5	6
A					A
B					B
C					C
D					D
1	2	3	4	5	6

Sheet: /Sensors/ File: Sensors.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (6.0.2)	Id: 4/4	



Author: Colton Acosta  
**Sun Devil Rocketry**

Sheet: /Power/  
 File: power.kicad\_sch

**Title: Engine Microcontroller Power Supply**

Size: A4	Date:	Rev: 1.0
KiCad E.D.A. kicad (6.0.2)	Id: 6/4	

## SD Card

The diagram illustrates the wiring for an SD card interface. The SD card is shown with its pins labeled P1 through P9. The connections are as follows:

- P1: Connected to 3.3V.
- P2: Connected to SD\_SS.
- P3: Connected to FLASH\_MOSI.
- P4: Connected to FLASH\_SCK.
- P5: Connected to FLASH\_MISO.
- P6: Connected to SD\_DETECT.
- P7: Connected to 3.3V through a 10k resistor (R10).
- P8: Connected to 3.3V.
- P9: Connected to 3.3V.

The SD card also has pins labeled DAT2, DAT3/CD, CMD, VDD, CLK, VSS, DAT0, DAT1, and DETECT. The SD card is connected to a microcontroller (P4) via a 10k resistor (R10). The microcontroller is connected to the SD card via a 10k resistor (R10). The microcontroller is connected to the SD card via a 10k resistor (R10).

### Ignition

The diagram illustrates the Ignition circuit. It features a green wire connected to VIN, which passes through a P2A connector and an Ematch. The green wire then splits: one branch goes through a 3k resistor (R4) to a node connected to FIRE and TP8; the other branch goes through a 1k resistor (R6) to a node connected to E\_CONT. The FIRE node is also connected to a 1uF capacitor (C18) and a 100k resistor (R7), which are both grounded. TP8 is connected to the base of a transistor Q1, which is also grounded. The emitter of Q1 is connected to the 100k resistor (R7). The collector of Q1 is connected to the 3k resistor (R4) and the 100k resistor (R7).

**Ignition Continuity**

The diagram shows a circuit for monitoring ignition continuity. A 3.3V source is connected to a green wire that splits to two resistors, R12 (10k) and R11 (10k). R12 is connected to the SP\_CONT signal, which is also connected to pins 5 and 6 of the P2C connector (Solid Propellant Continuity). R11 is connected to the NOZ\_CONT signal, which is also connected to pins 3 and 4 of the P2B connector (Nozzle Continuity). Both P2C and P2B have ground connections.

## Test Points

The diagram illustrates the test points for the USB and FLASH components. It shows six test points (TP6, TP7, TP9, TP12, TP13) connected to various pins. TP13 is connected to USB\_SUSPEND. TP12 is connected to FLASH\_MOSI. TP6 is connected to FLASH\_SS. TP9 is connected to FLASH\_SCK. TP7 is connected to FLASH\_MISO.

```
graph TD; TP13((TP13)) --- USB_SUSPEND[USB_SUSPEND]; TP12((TP12)) --- FLASH_MOSI[FLASH_MOSI]; TP6((TP6)) --- FLASH_SS[FLASH_SS]; TP9((TP9)) --- FLASH_SCK[FLASH_SCK]; TP7((TP7)) --- FLASH_MISO[FLASH_MISO];
```

The diagram shows the connection of a Flash memory chip (U4) to an ATmega32 microcontroller. The chip is represented by a yellow rectangle with pins 1 through 8. The connections are as follows:

- Pin 1 (\*CE) is connected to FLASH\_SS.
- Pin 2 (SO) is connected to FLASH\_MISO.
- Pin 3 (\*WP) is connected to FLASH\_WP.
- Pin 4 (VSS) is connected to ground.
- Pin 5 (SI) is connected to FLASH\_MOSI.
- Pin 6 (SCK) is connected to FLASH\_SCK.
- Pin 7 (\*HOLD) is connected to FLASH\_HOLD.
- Pin 8 (VDD) is connected to 3.3V.

## Valve Controller Serial Interface

The diagram illustrates the wiring for the Valve Controller Serial Interface. A 5V power supply is connected to pin 1 of a 4-pin connector labeled P6. Pin 2 is connected to the ValveCtrl\_TX signal line, pin 3 to the ValveCtrl\_RX signal line, and pin 4 is connected to ground. The connector is shown as a yellow rectangle with four pins, and the labels for the signal lines are in red boxes.

<b>Title:</b>		
Size: A4	Date:	<b>Rev:</b>
KiCad E.D.A. kicad (6.0.2)		Id: 6/4