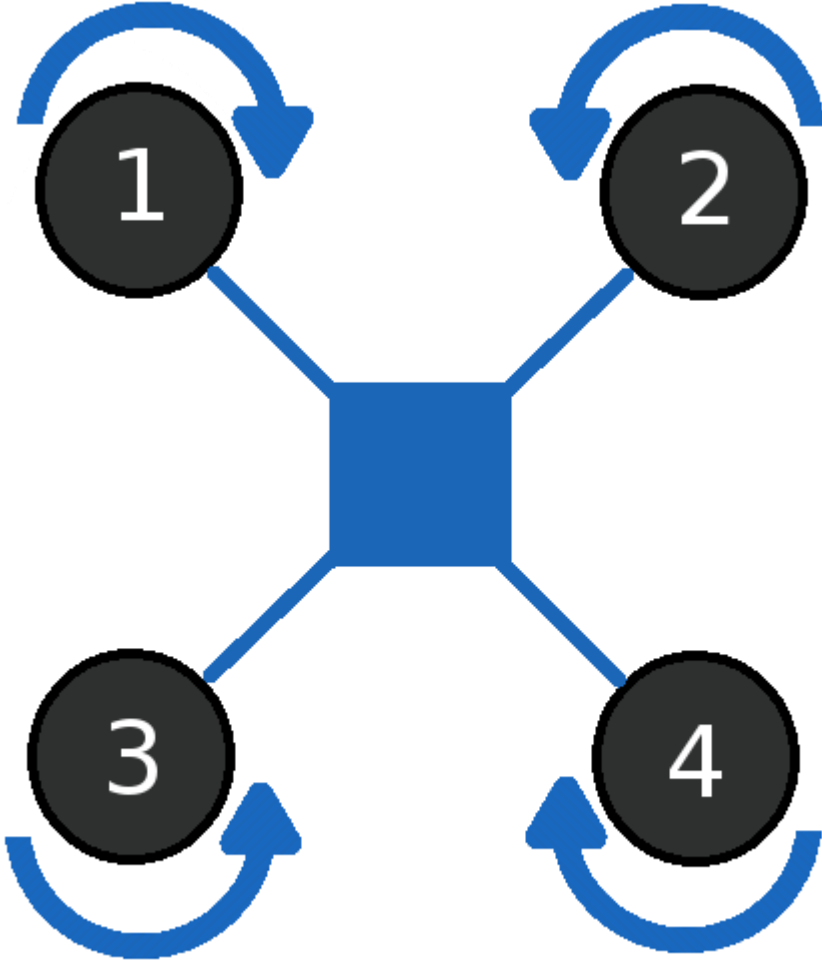
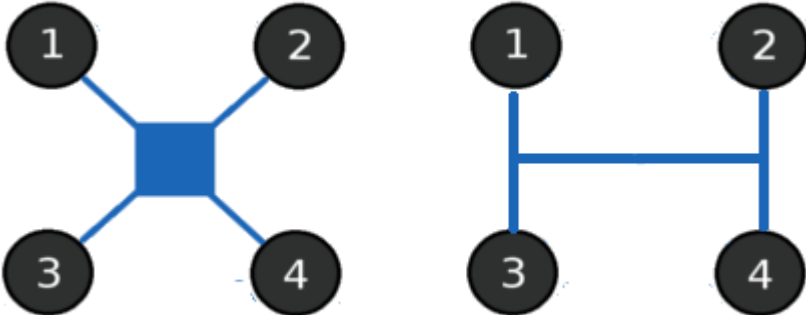
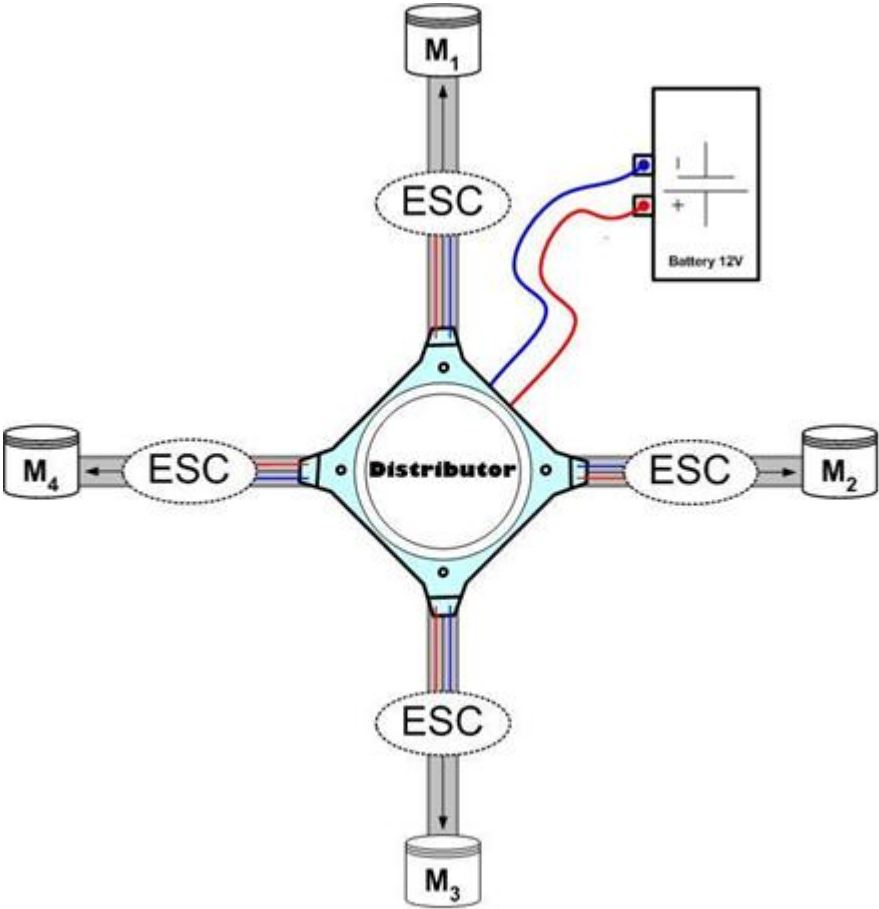


Chapter 1: Introduction to Quadcopters



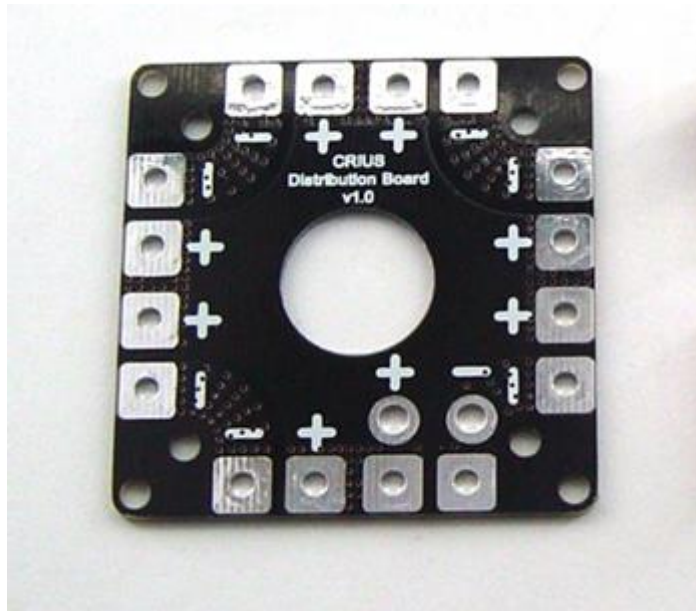


Chapter 2: Hardware Overview







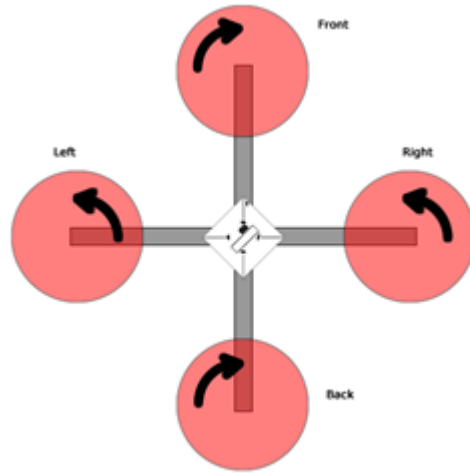
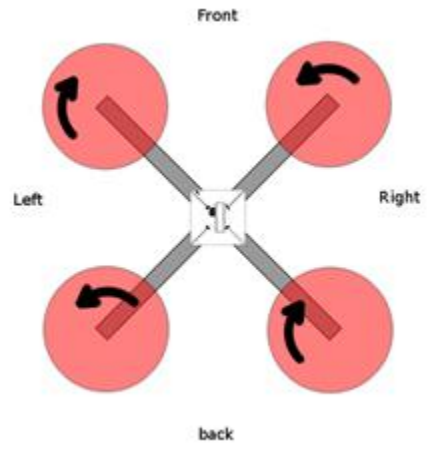




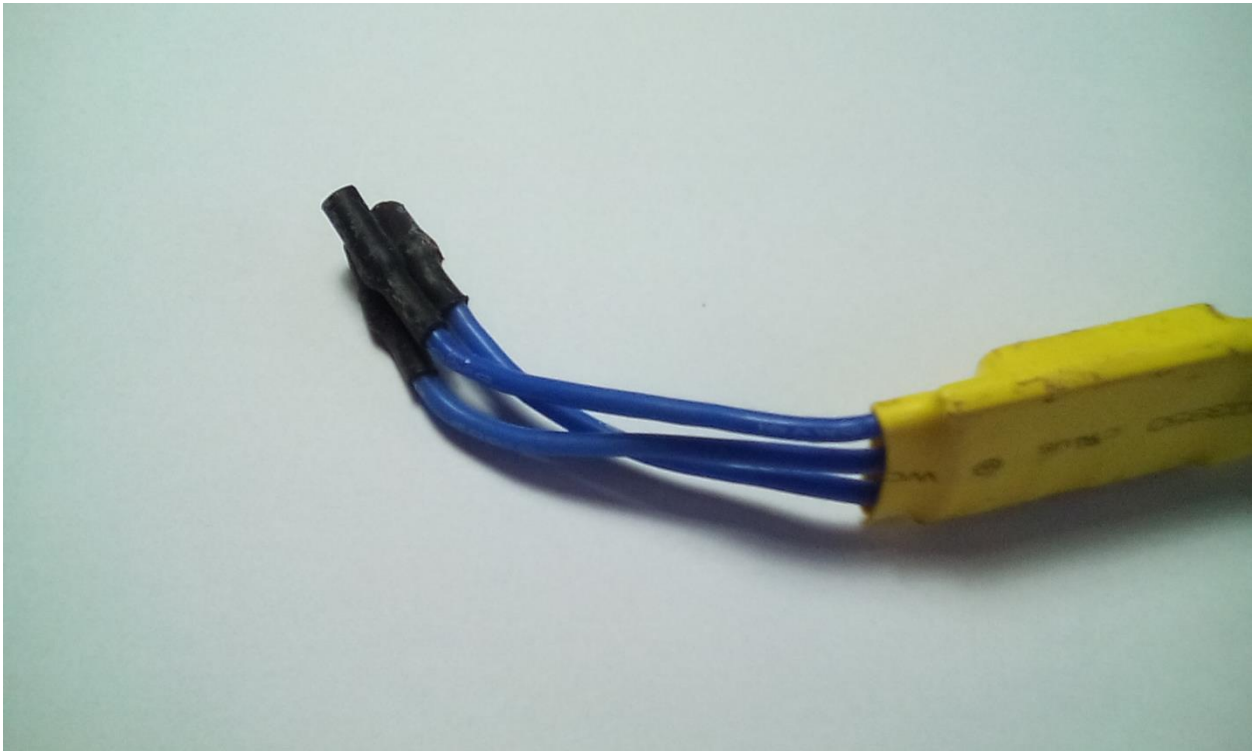


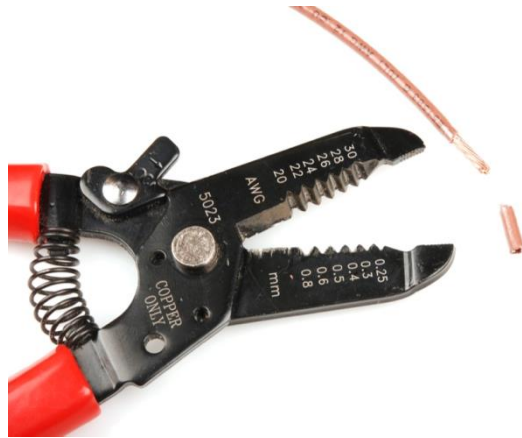
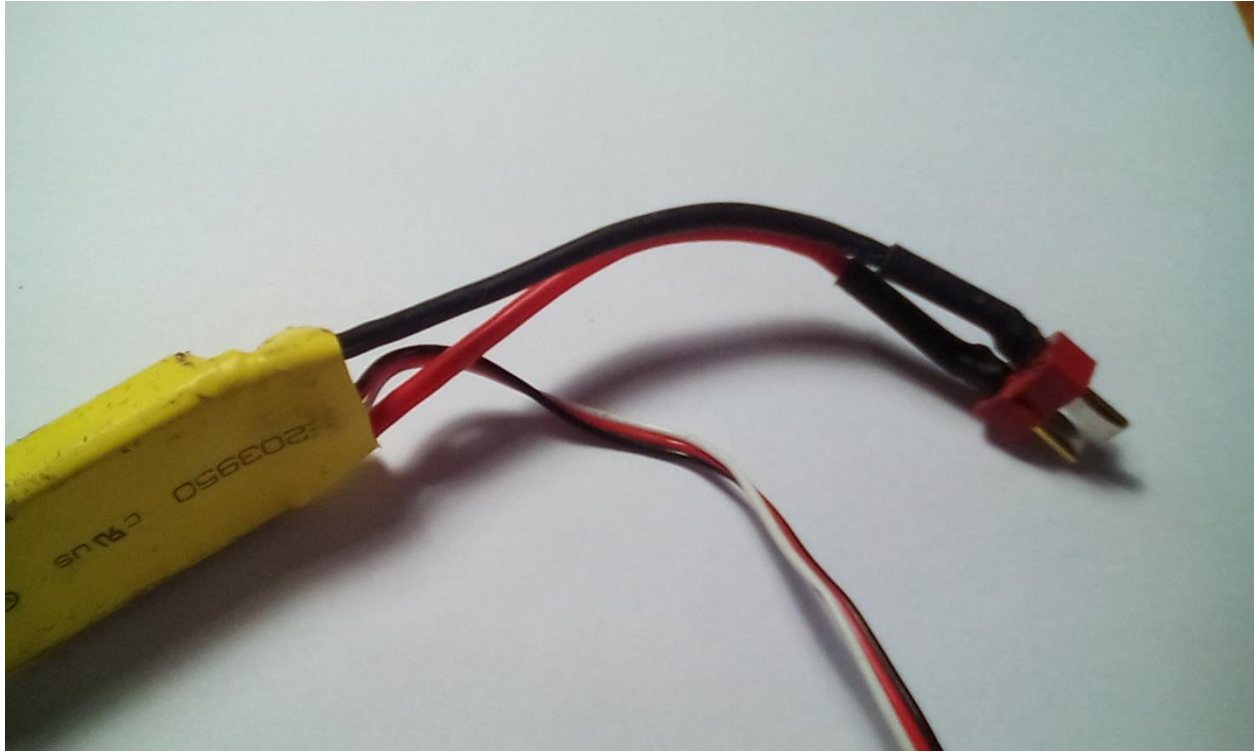
Chapter 3: Creating a Frame



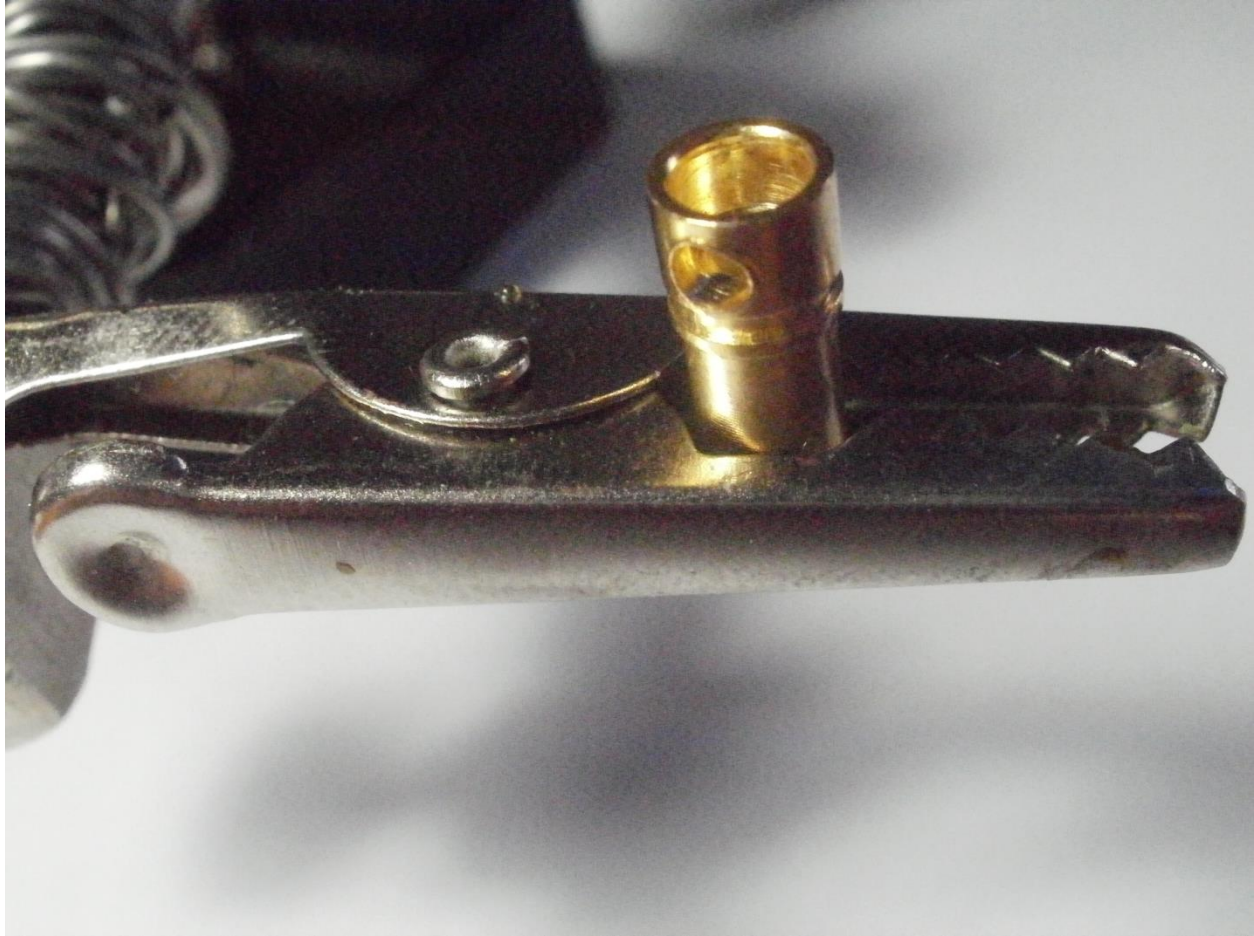


Chapter 4: Soldering the Electronics

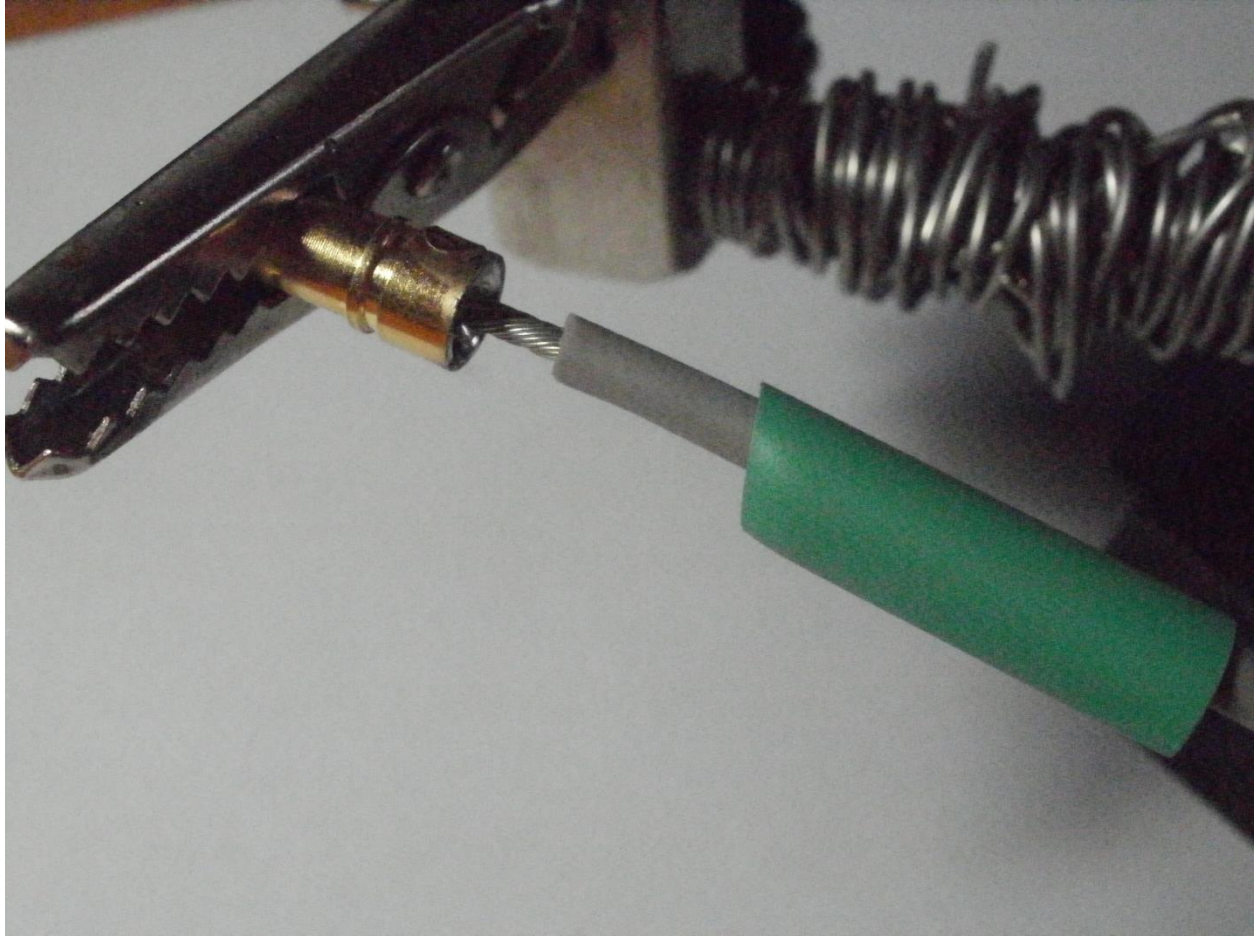






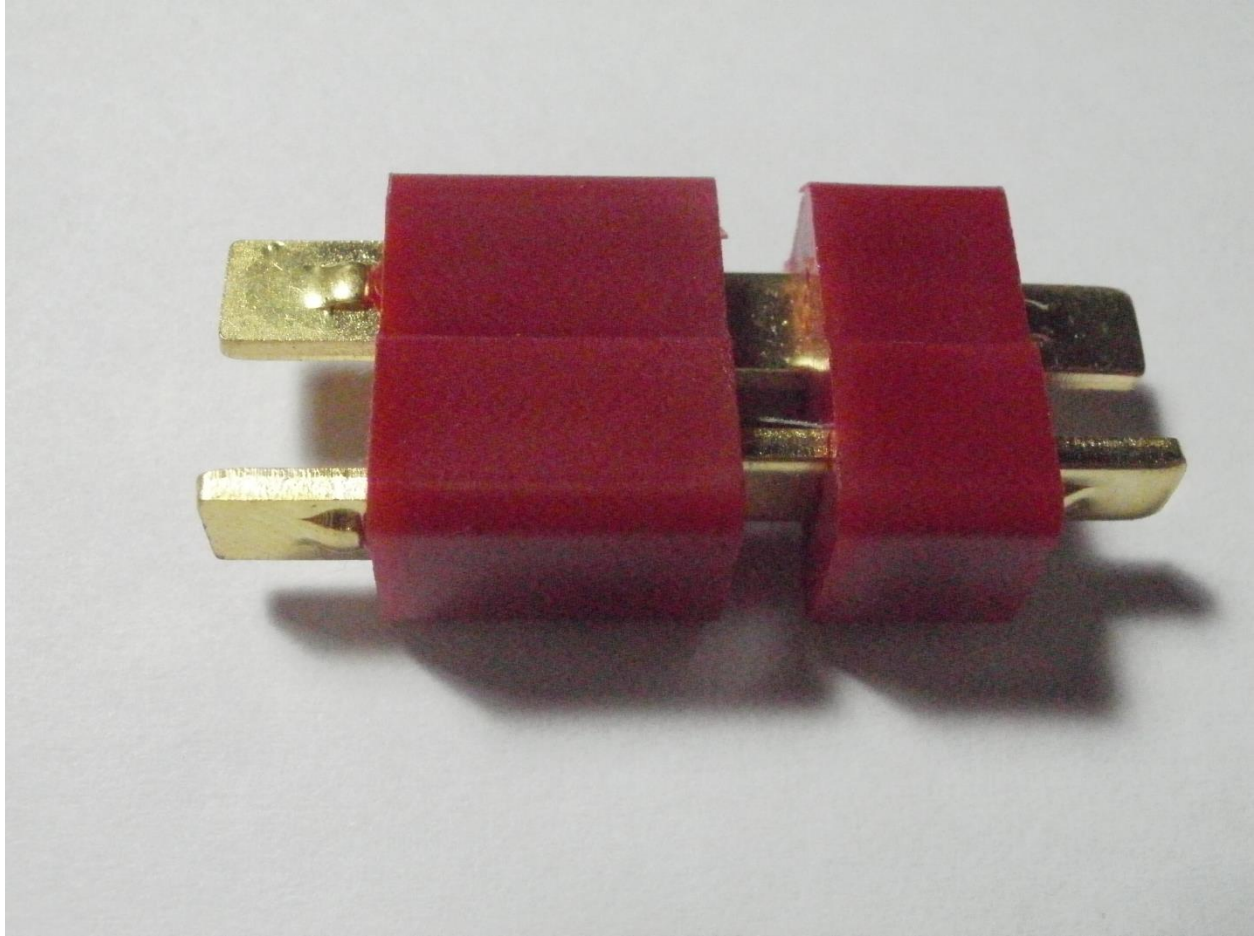


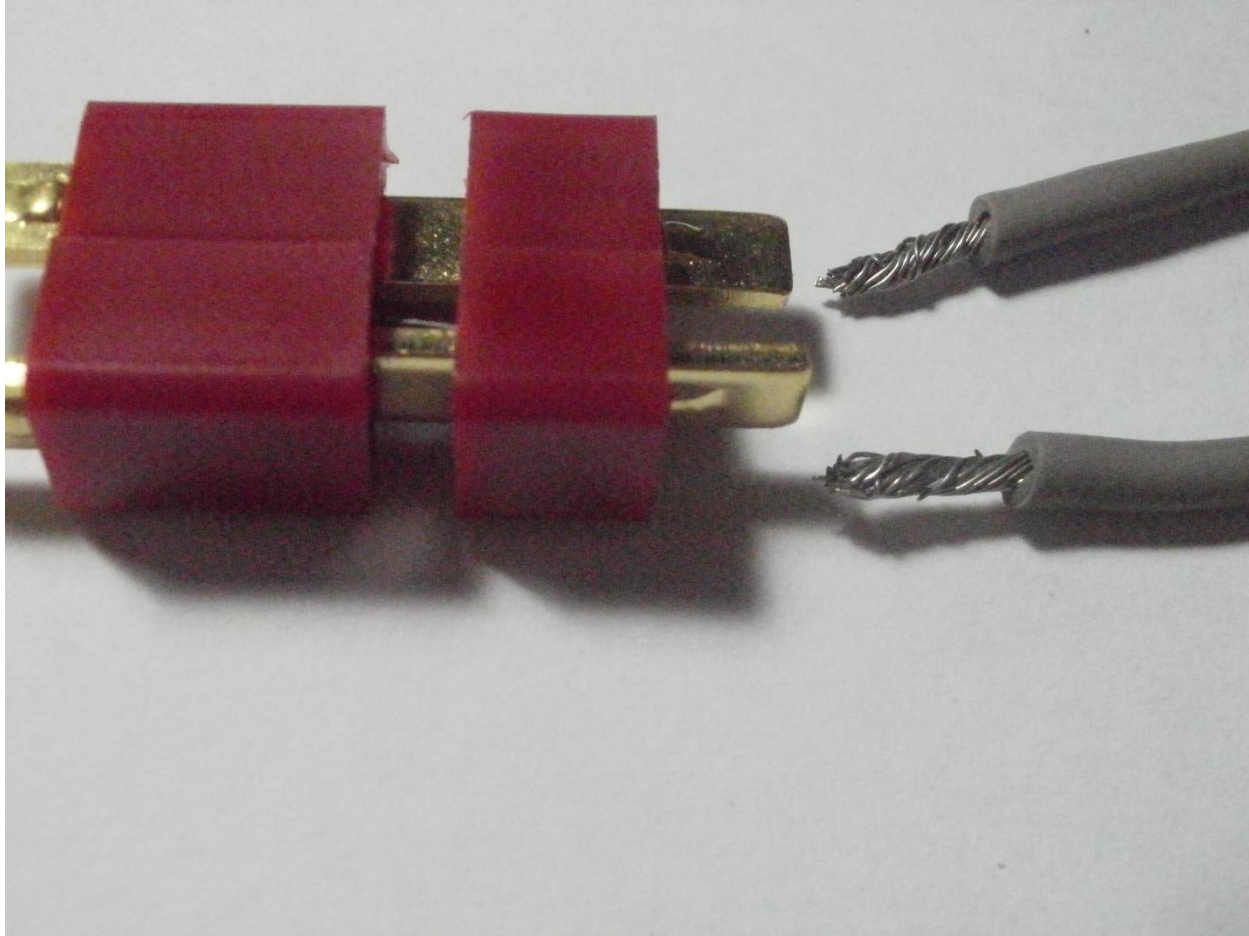


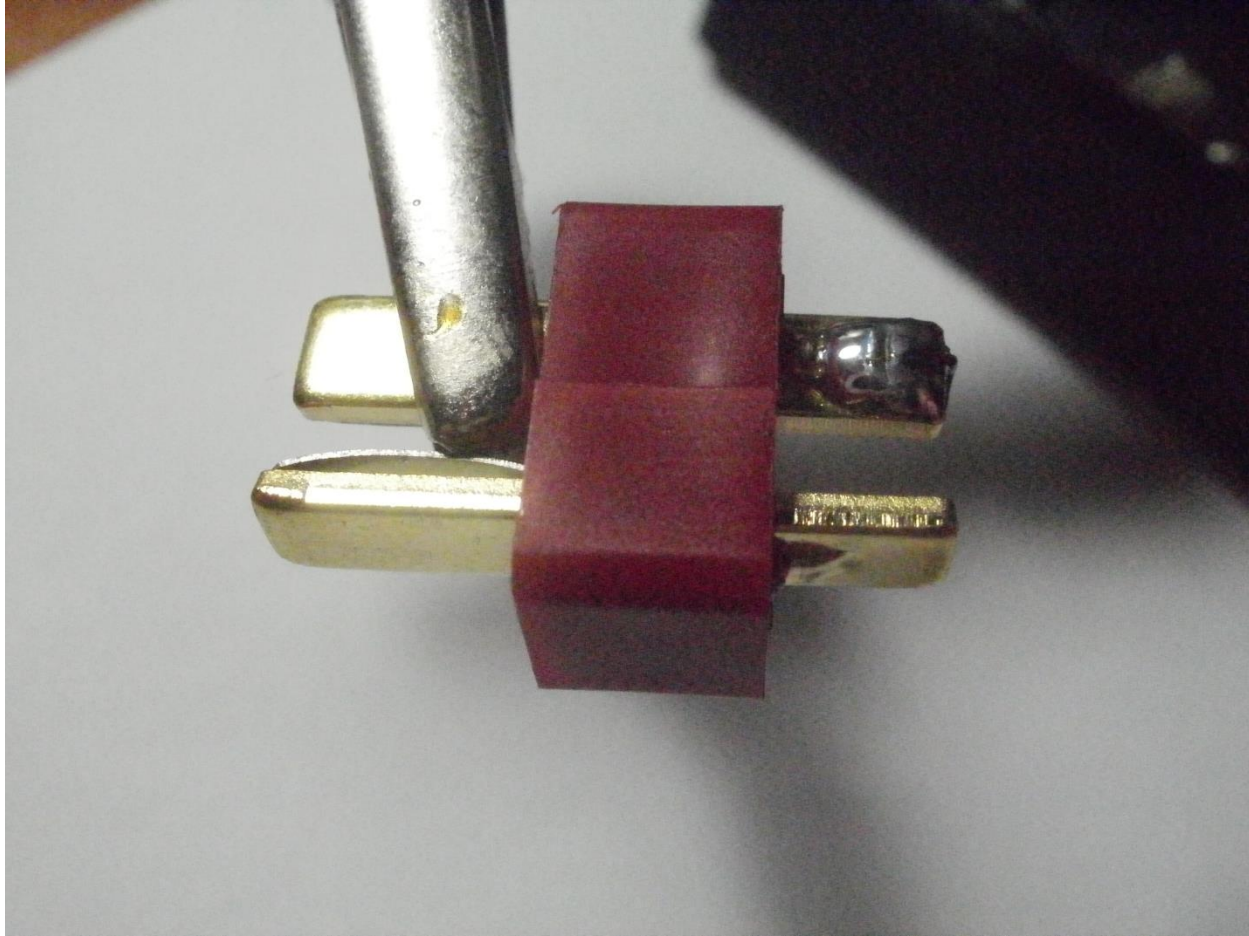


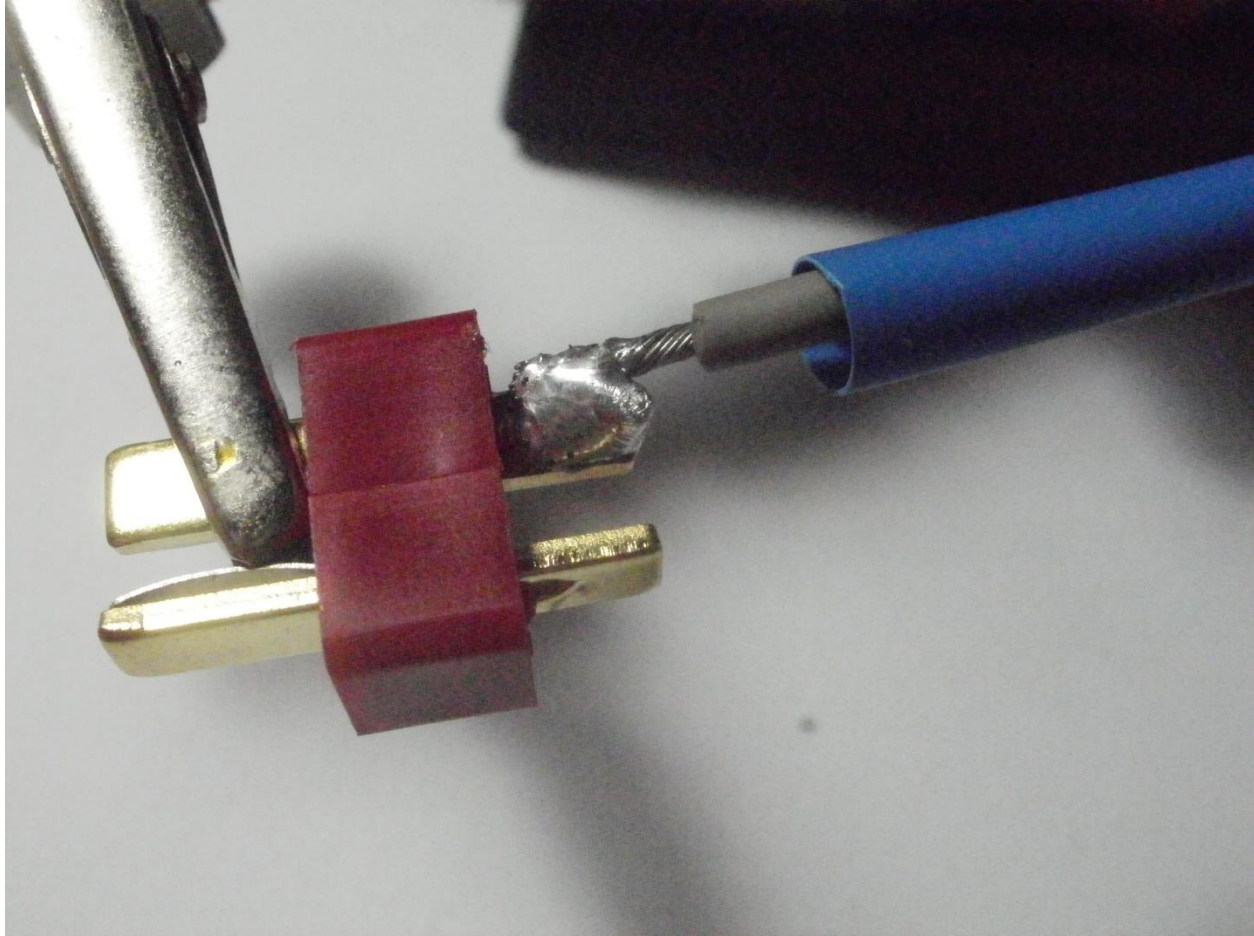


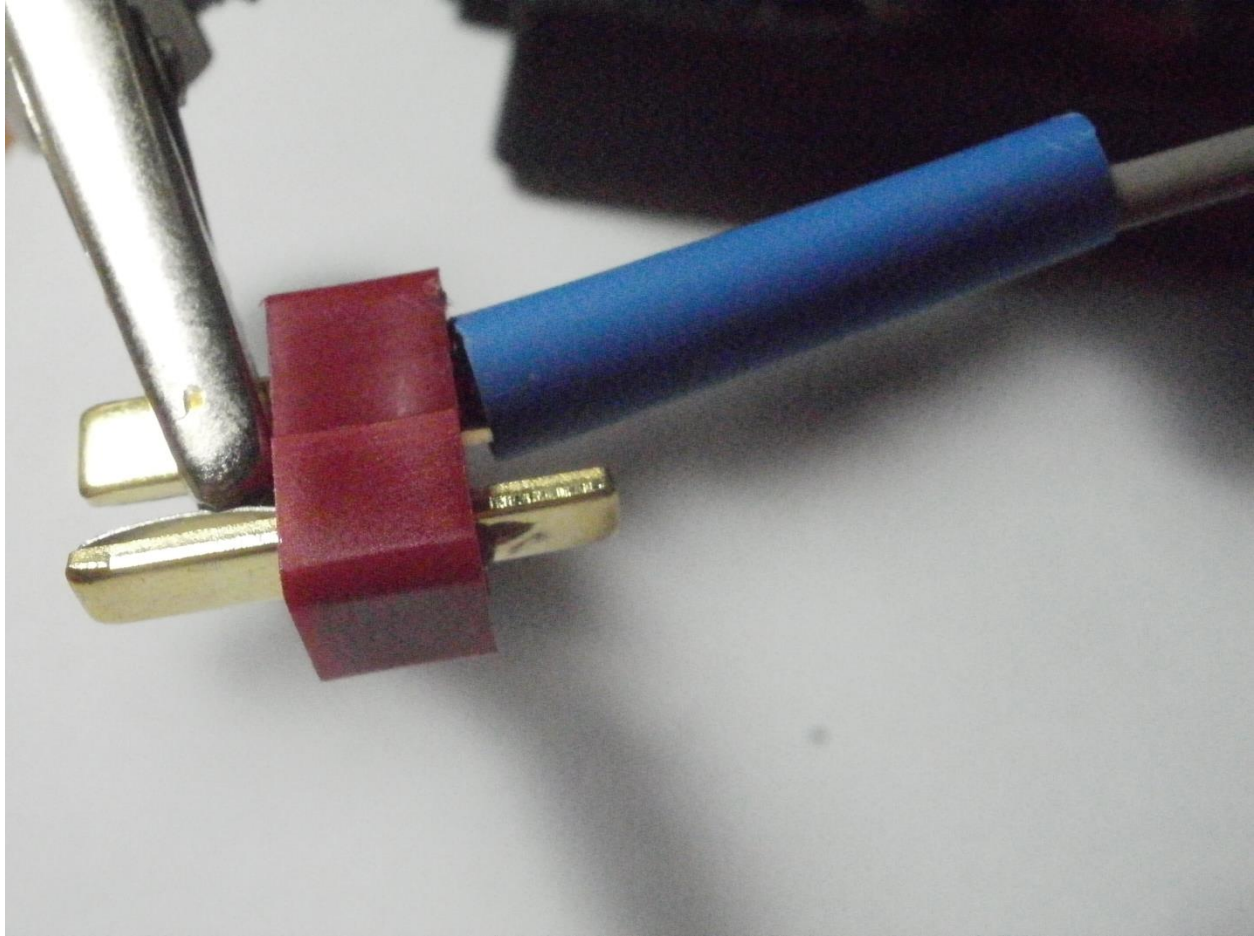


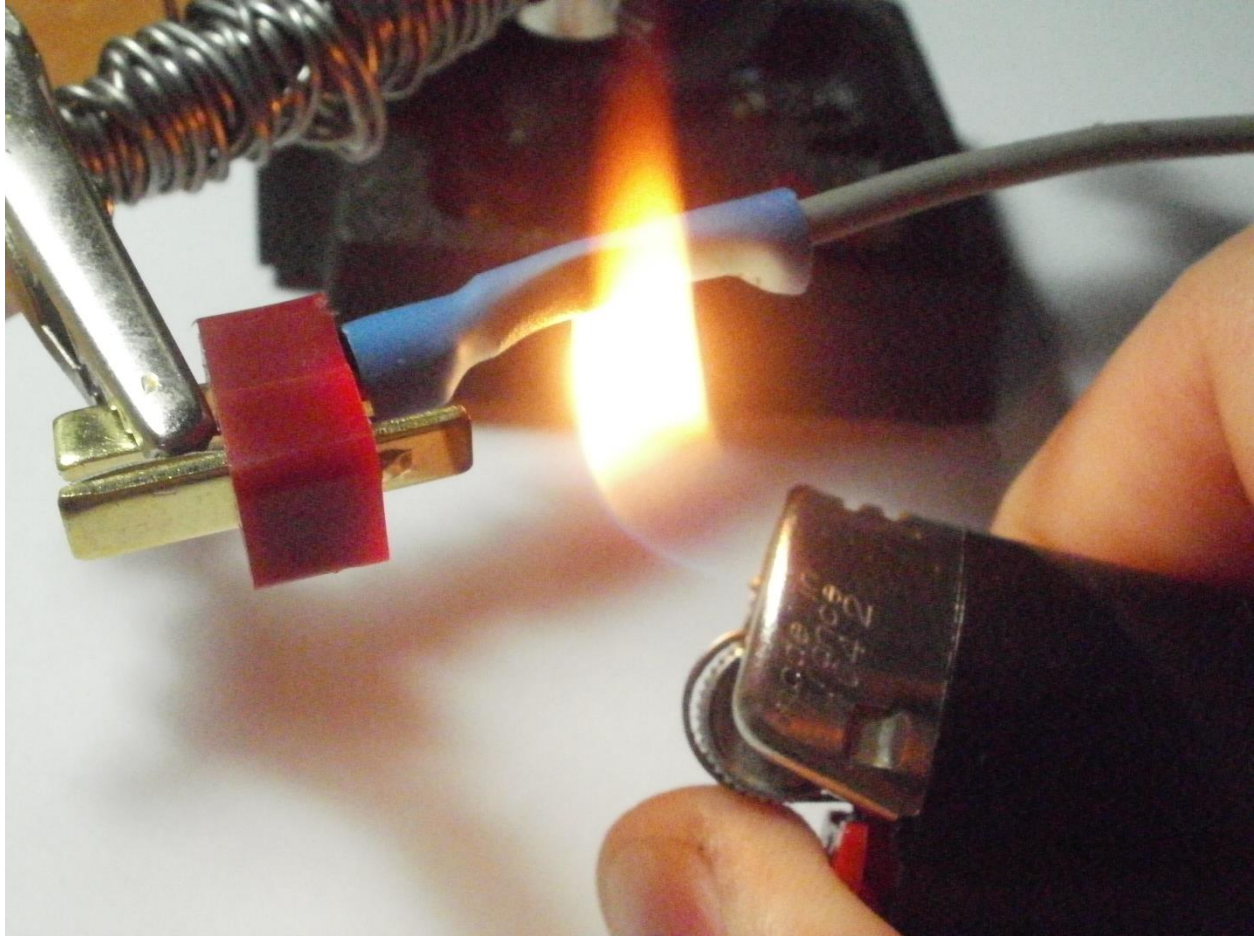


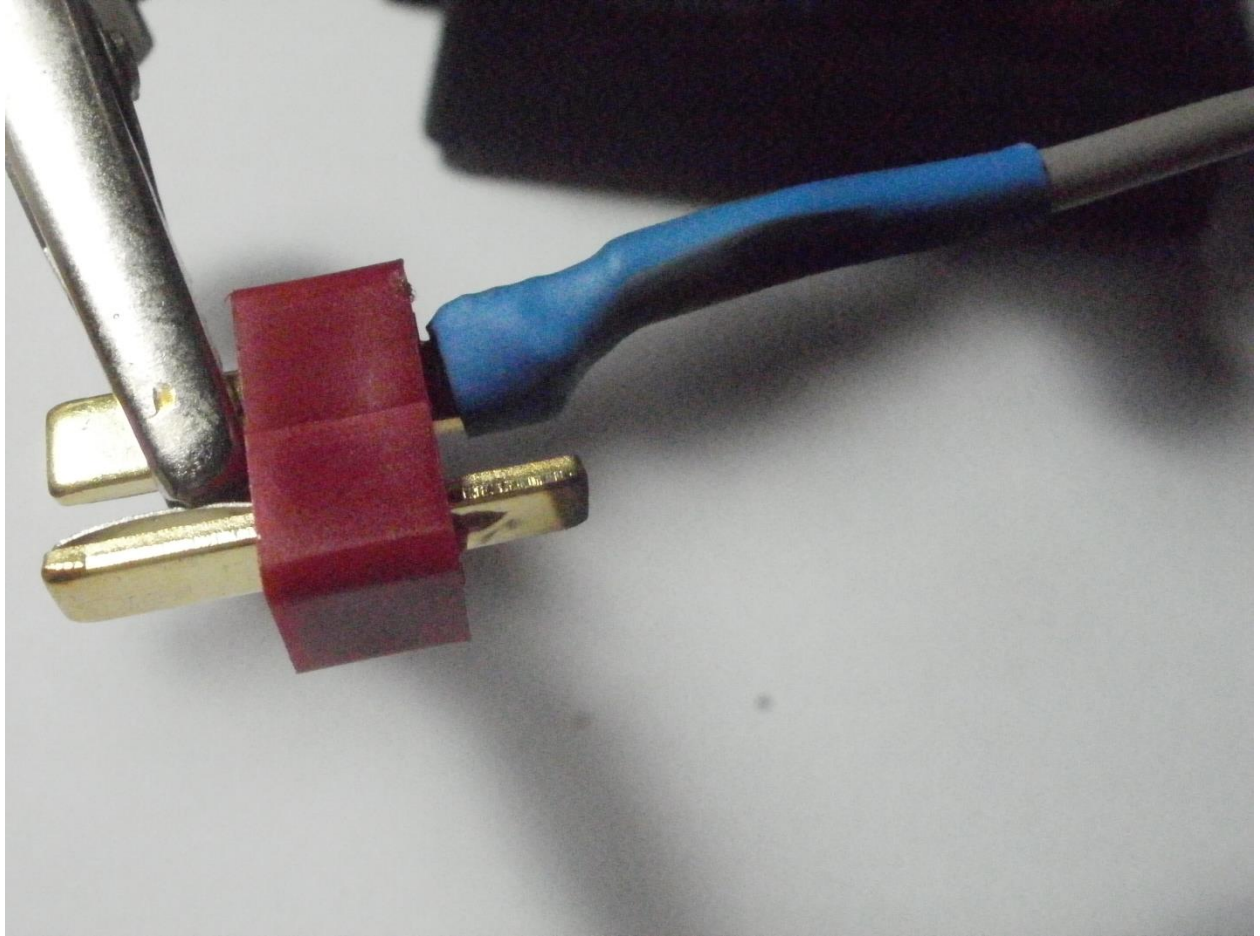


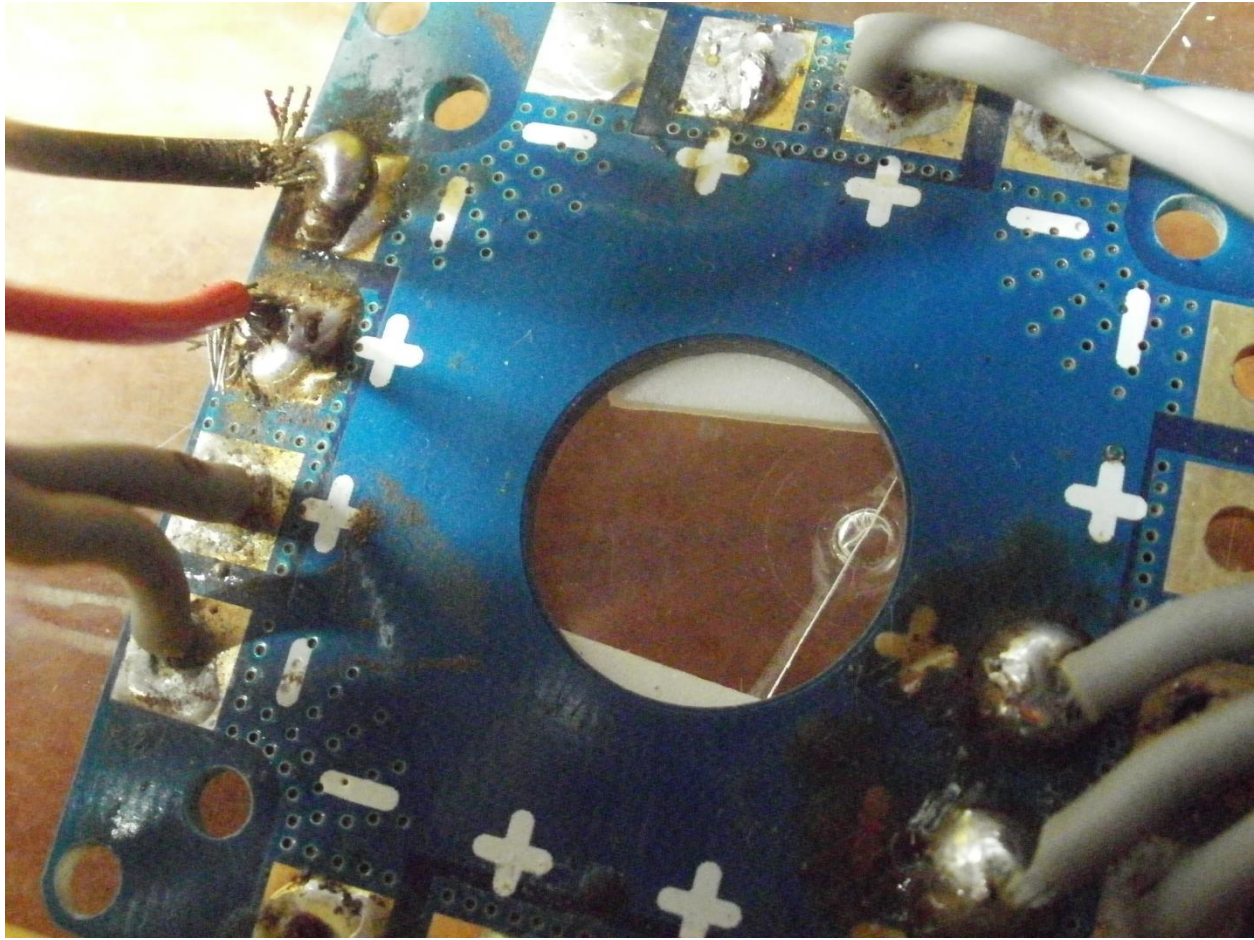




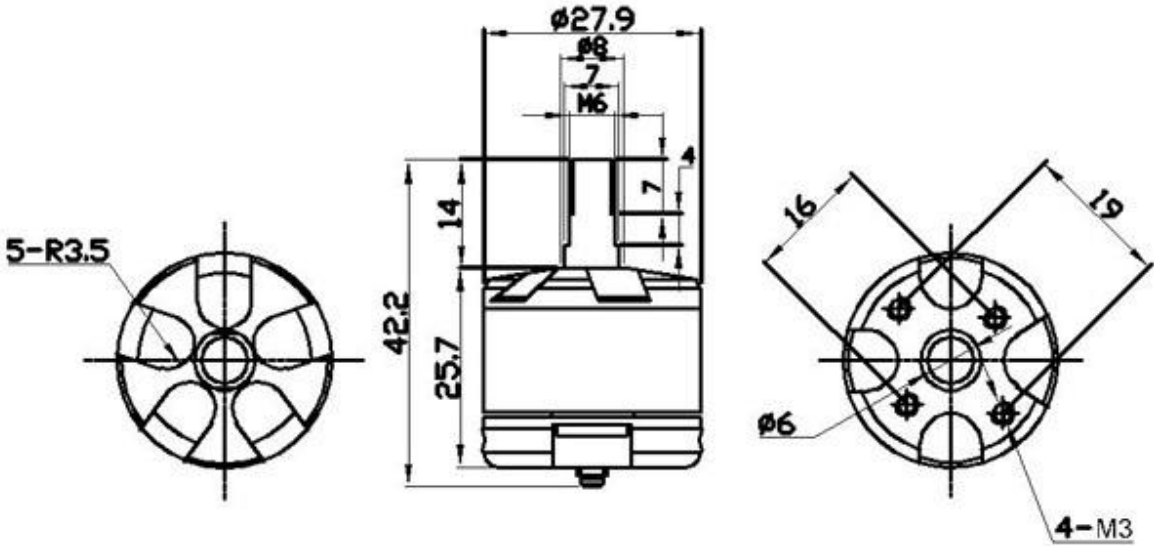
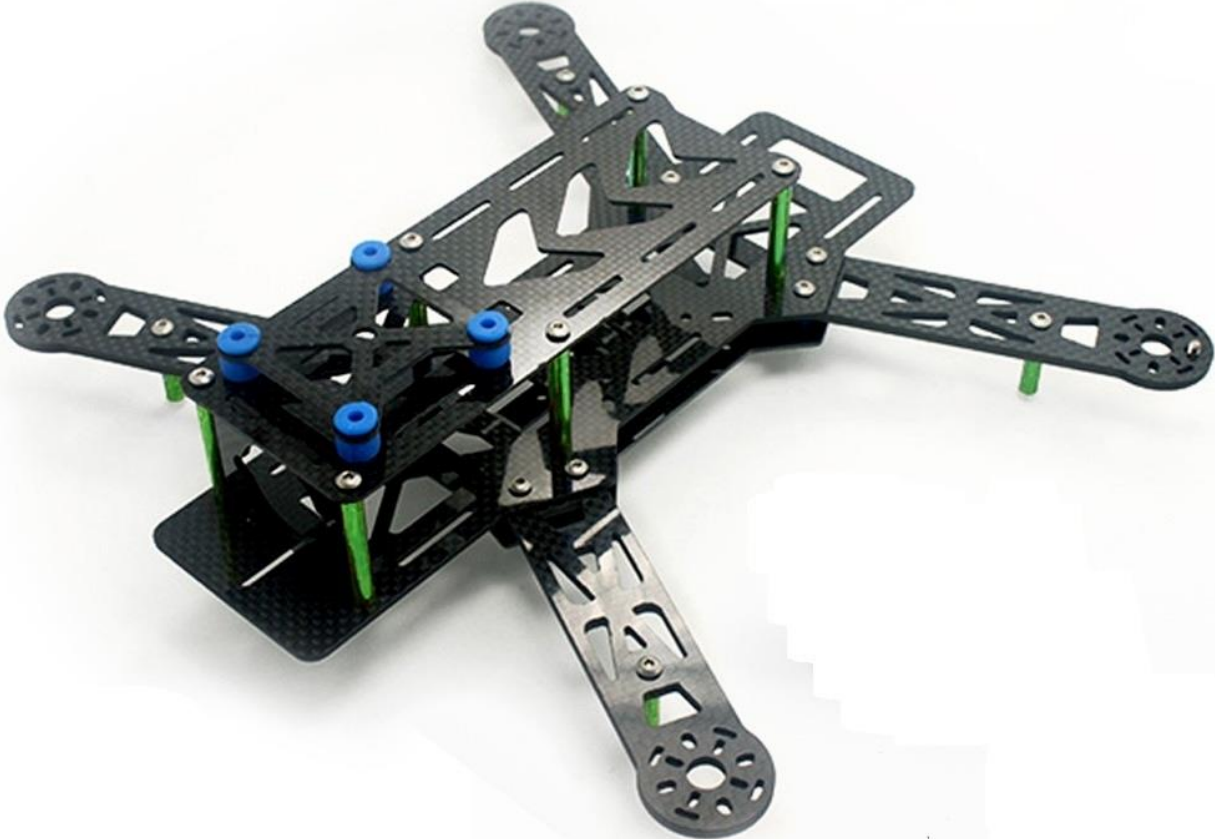




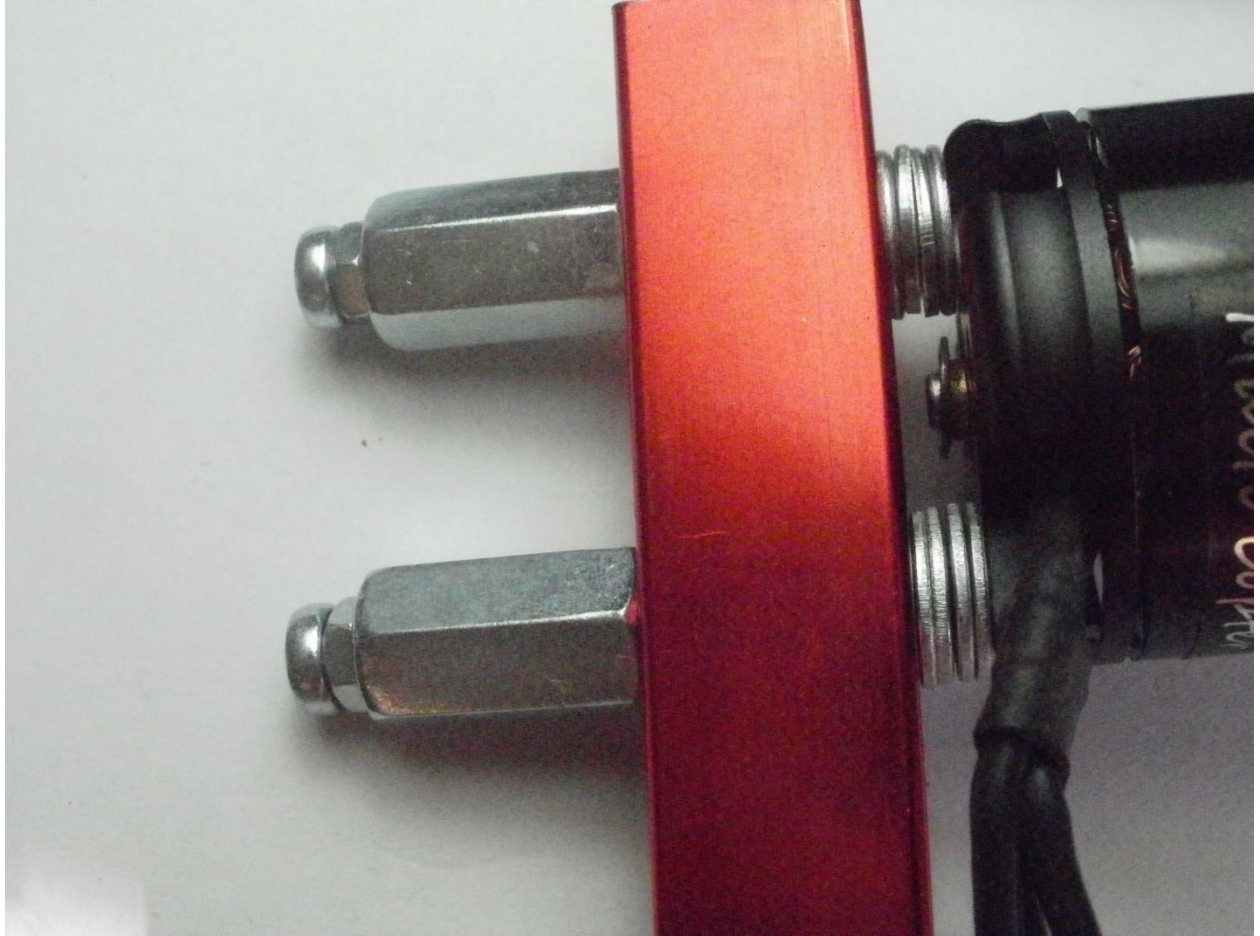


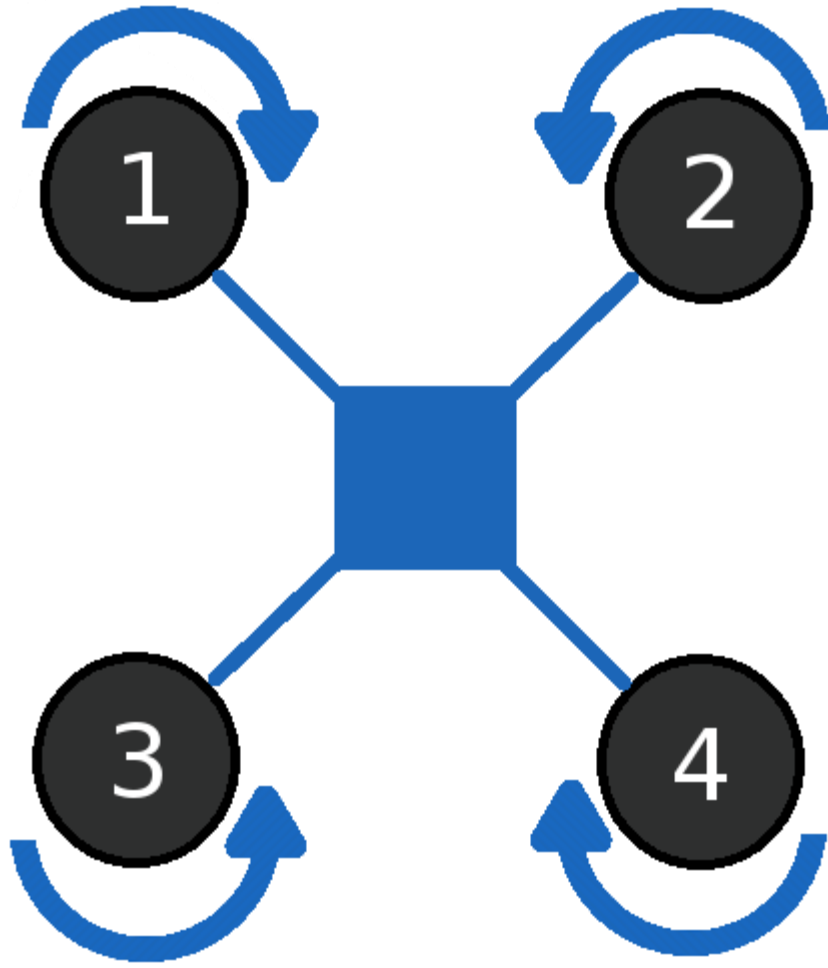


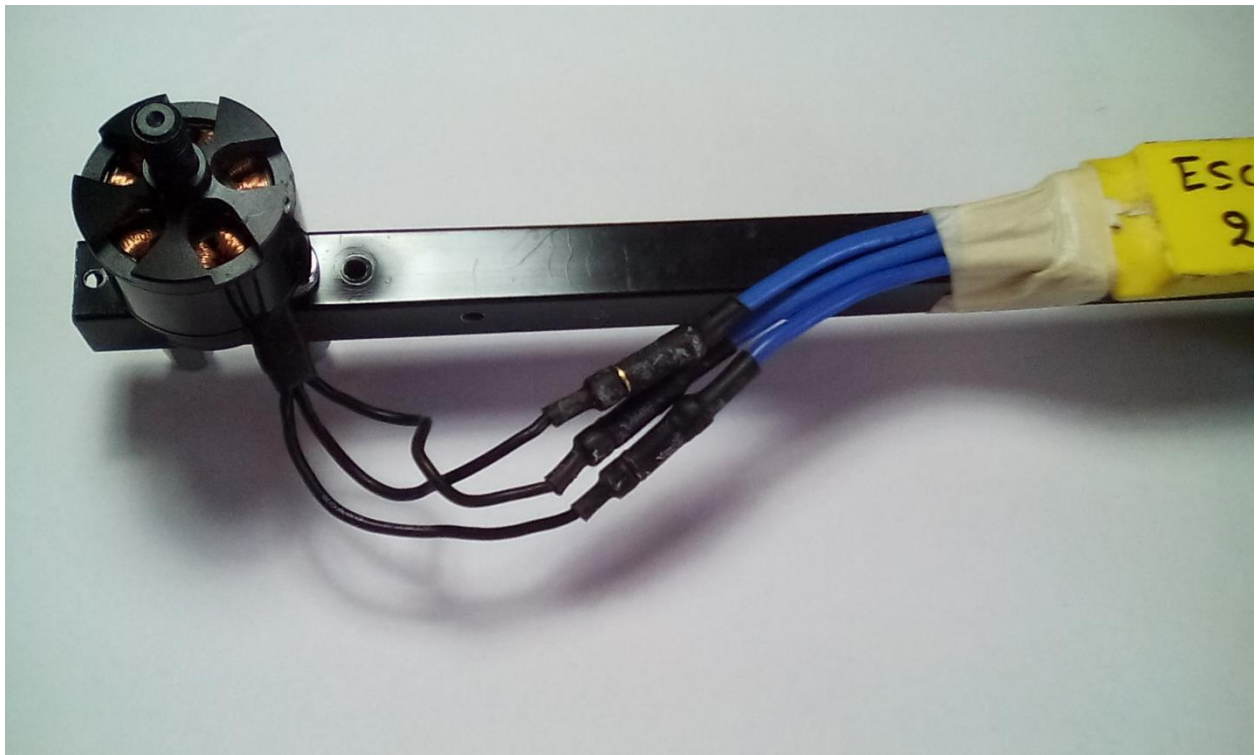
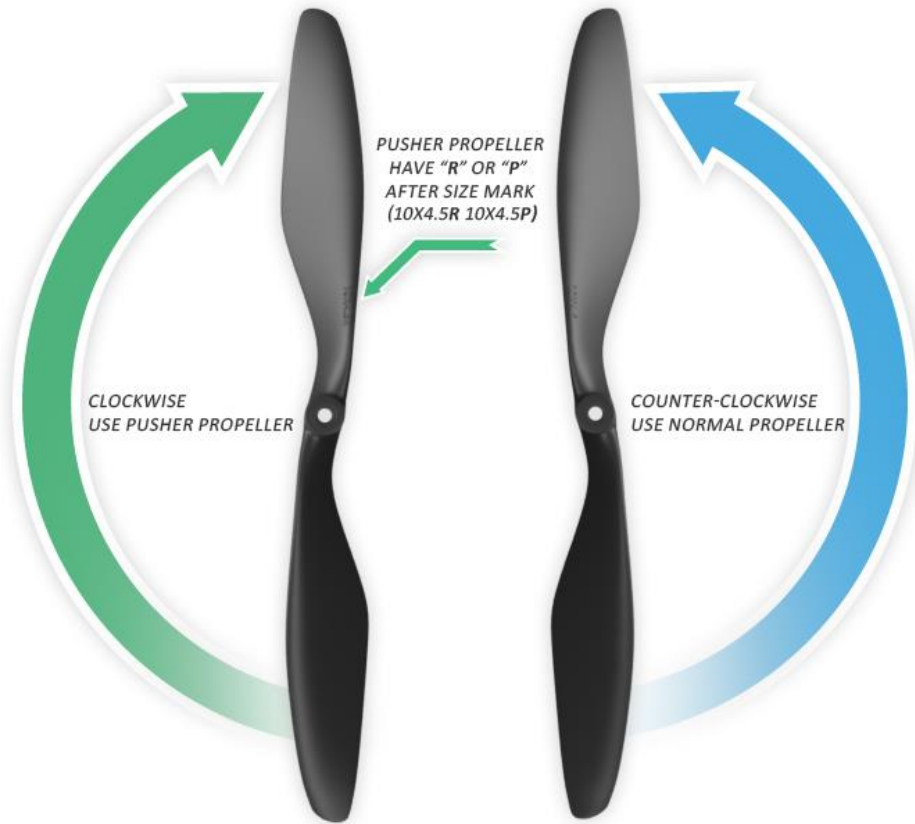
Chapter 5: Electronics Installation

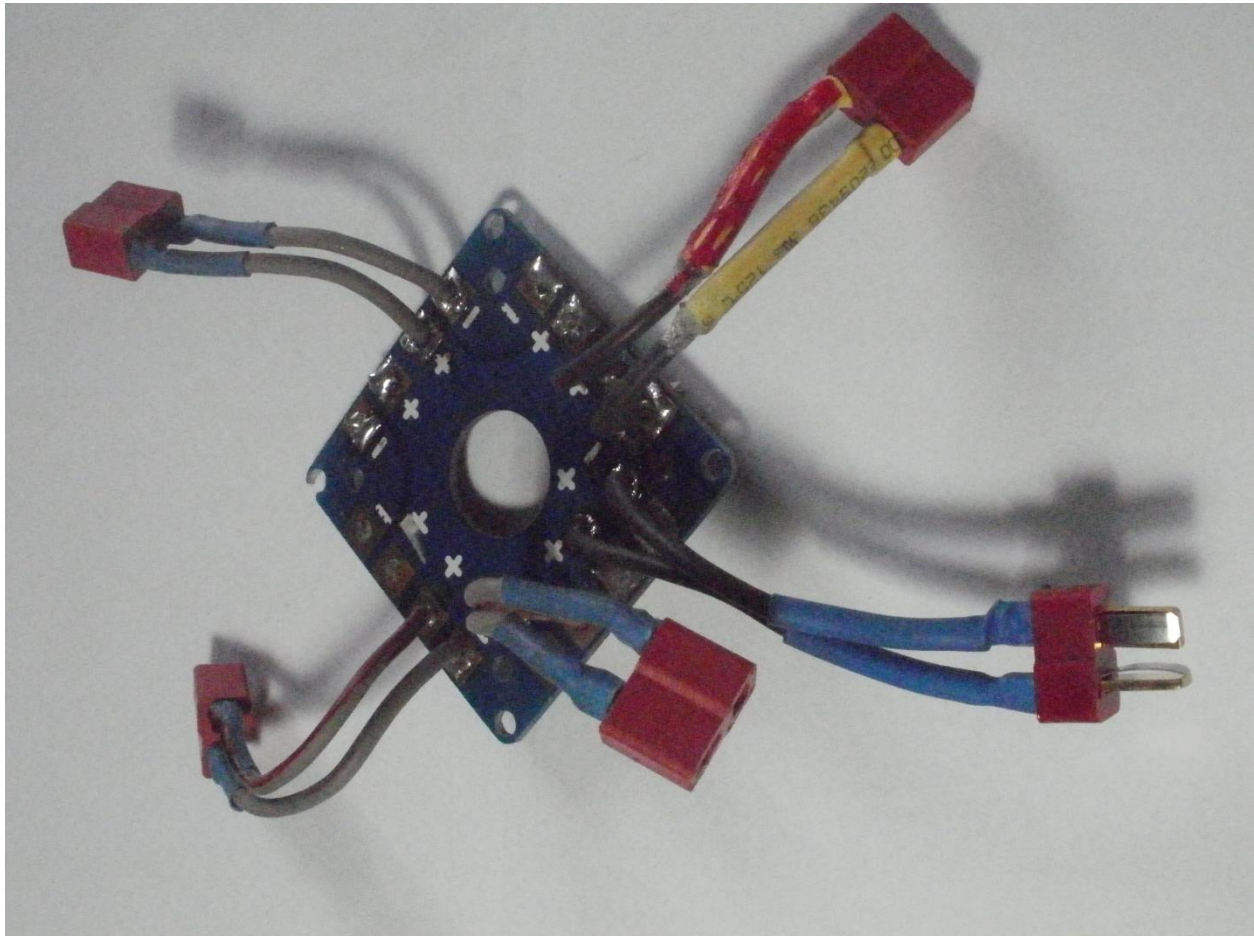
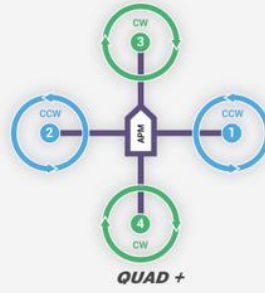


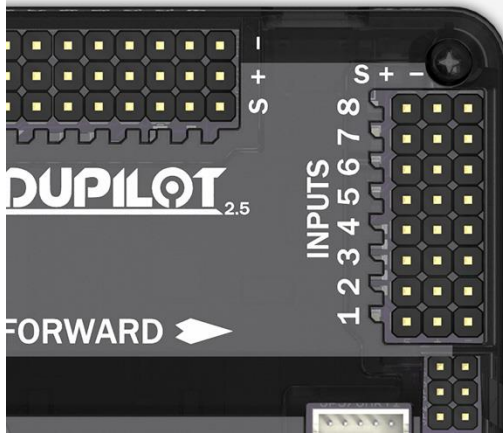










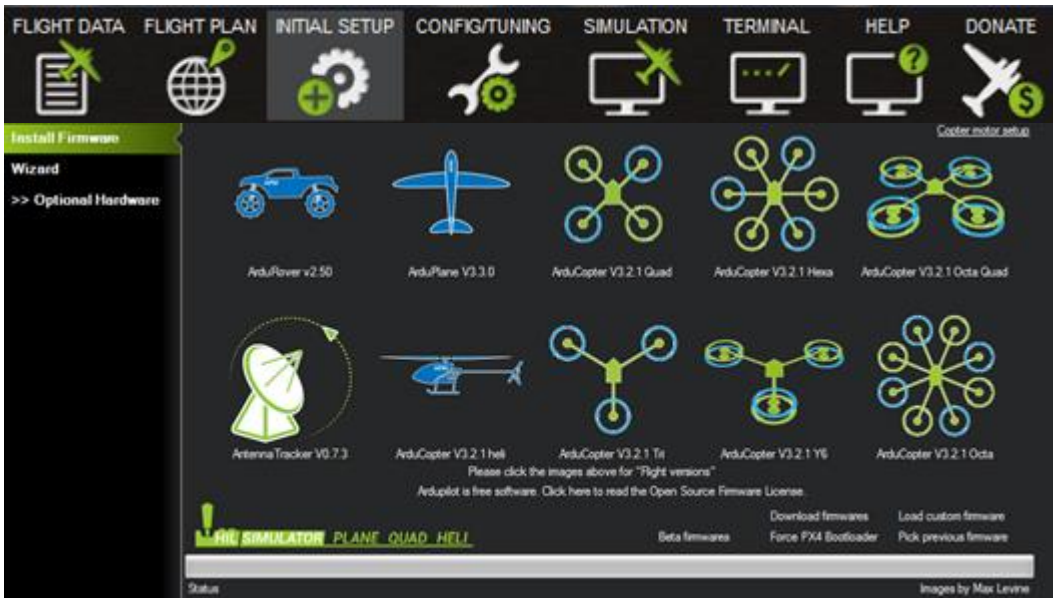


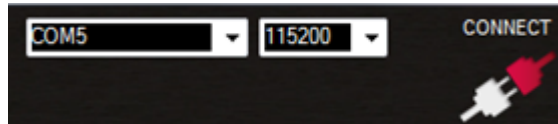
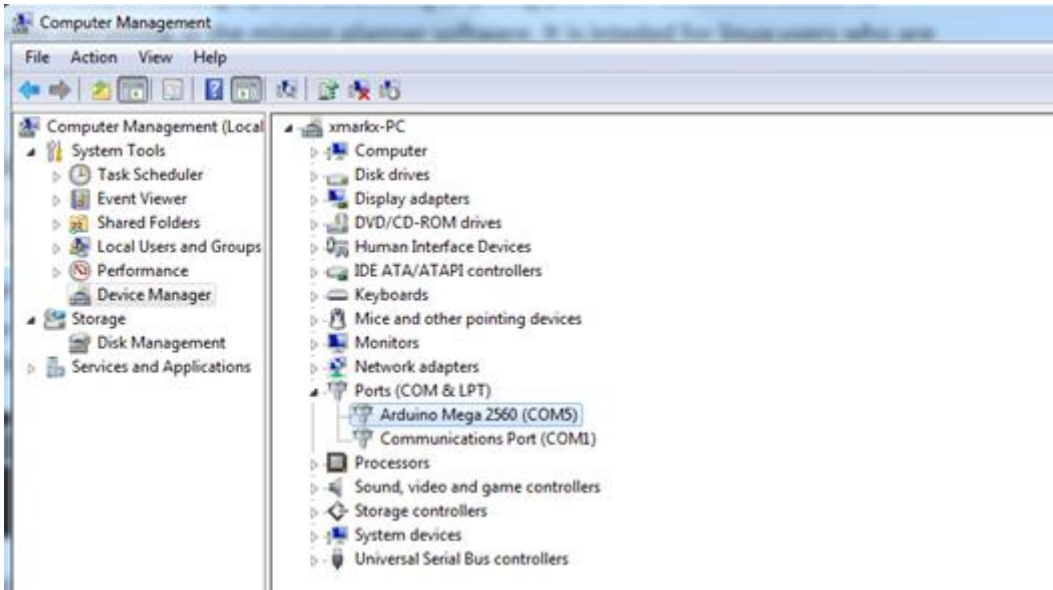
CONNECT TO CORRESPONDING CHANNELS OF RC RECEIVER

- 8 AUX 4 (OPTIONAL)
- 7 AUX 3 (OPTIONAL)
- 6 AUX 2 (OPTIONAL)
- 5 AUX 1 (MODE SWITCH)
- 4 YAW / RUDDER
- 3 THROTTLE
- 2 PITCH / ELEVATOR
- 1 ROLL / AILERON



Chapter 6: Flight Controller Setup





Install Firmware

Wizard

>> Mandatory Hardware

Frame Type

Accel Calibration

Compass

Radio Calibration

Flight Modes

FailSafe

>> Optional Hardware

3DR Radio

Battery Monitor

Compass/Motor Calib

Sonar

Airspeed

Optical Flow

OSD

Camera Gimbal

Antenna tracker

Motor Test

Bluetooth Setup

Parachute

Frame Type

Plus

X, YSA

V

H

YSA

NOTE: X and H are NOT interchangeable the prop rotation changes

NOTE: This is the YSA and prop rotation changes from the old YSA

Default Settings

Load the default settings for standard frame types

3DR_AERO_M.param

Load Params

FLIGHT PLAN
INITIAL SETUP
CONFIGURING
SIMULATION
TERMINAL
HELP
DONATE

COM23
115200
DISCONNECT

>> Mandatory Hardware

Frame Type

Compass

Accel Calibration

Radio Calibration

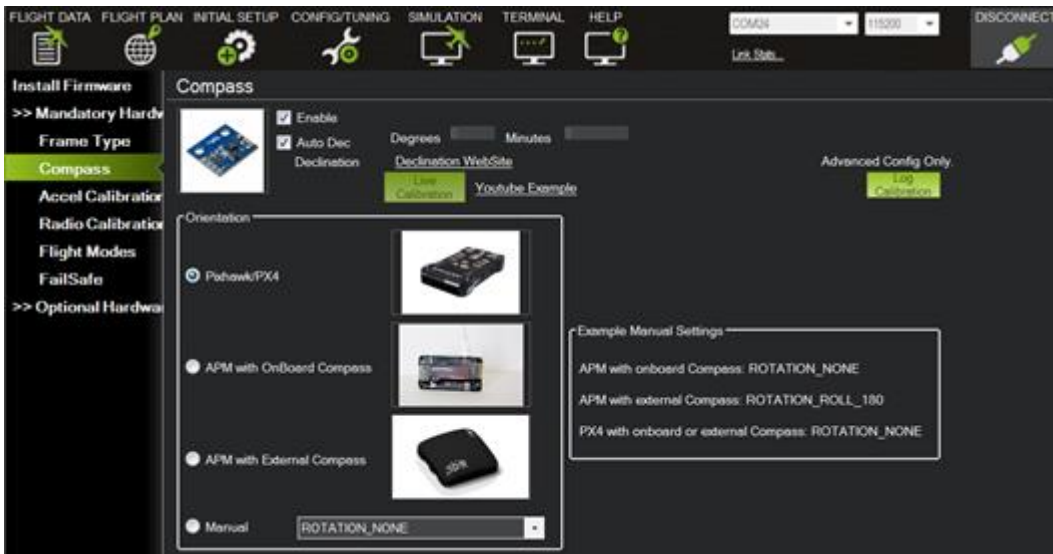
>> Optional Hardware

Plus

X

V

H



Install Firmware

Wizard

>> **Mandatory Hardware**

Frame Type

Accel Calibration

Compass

Radio Calibration

Flight Modes

FailSafe

>> **Optional Hardware**

3DR Radio

Battery Monitor

Compass/Motor Calib

Sonar

Airspeed

Optical Flow

OSD

Camera Gimbal

Antenna tracker

Motor Test

Bluetooth Setup

Parachute

Flight Modes	Command	Value	Units	Options
Geofence	AHRS_ORIENTATION	0		0 None 1 Yaw45 2 Yaw90 3 Yaw135 4 Yaw180 5 Yaw225 6 Yaw270 7 Yaw315 8 Roll180 9 Roll180Yaw45 10 Roll180Yaw90 11 Roll180Yaw135 12 Pitch180 13 Roll180Yaw225 14 Roll180Yaw270 15 Roll180Yaw315 16 Roll90 17 Roll90Yaw45 18 Roll90Yaw90 19 Roll90Yaw135 20 Roll270 21 Roll270Yaw45 22 Roll270Yaw90 23 Roll270Yaw135 24 Roll90 25 Pitch270 26 Pitch180Yaw90 27 Pitch180Yaw270 28 Roll90Pitch90 29 Roll180Pitch90 30 Roll270Pitch90 31 Roll90Pitch180 32 Roll270Pitch180 33 Roll90Pitch270 34 Roll180Pitch270 35 Roll270Pitch270 36 Roll90Pitch180Yaw90 37 Roll90Yaw270
Extended Tuning	AHRS_YAW_F	0.1		0 1 0.4
Standard Params	ARMING_CHECK	0		0 Disabled 1 Enabled -3 Skip Baro -5 Skip Compass -8 Skip GPS -17 Skip IMU -33 Skip Params-Sonar -45 Skip RC 127 Skip Voltage
Advanced Params	COMPASS_AUTODGC	0		0 Disabled 1 Enabled
Full Parameter List	COMPASS_DEC	0	Radians	-3.142 3.142
Full Parameter Tree	COMPASS_EXTERNAL	0		0 Internal 1 External
Planner	COMPASS_LEARN	0		0 Disabled 1 Enabled
	COMPASS_MOT_X	0	Offset per Amp or at Full Throttle	-1000 1000
	COMPASS_MOT_Y	0	Offset per Amp or at Full Throttle	-1000 1000
	COMPASS_MOT_Z	0	Offset per Amp or at Full Throttle	-1000 1000
	COMPASS_MOTCT	0		0 Disabled 1 Use Throttle 2 Use Current
	COMPASS_OFS_X	0		-400 400
	COMPASS_OFS_Y	0		-400 400
	COMPASS_OFS_Z	0		-400 400
	COMPASS_ORIENT	0		0 None 1 Yaw45 2 Yaw90 3 Yaw135 4 Yaw180 5 Yaw225 6 Yaw270 7 Yaw315 8 Roll180 9 Roll180Yaw45 10 Roll180Yaw90 11 Roll180Yaw135 12 Pitch180 13 Roll180Yaw225 14 Roll180Yaw270 15 Roll180Yaw315 16 Roll90 17 Roll90Yaw45 18 Roll90Yaw90 19 Roll90Yaw135 20 Roll270 21 Roll270Yaw45 22 Roll270Yaw90 23 Roll270Yaw135 24 Roll90 25 Pitch270 26 Pitch180Yaw90 27 Pitch180Yaw270 28 Roll90Pitch90 29 Roll180Pitch90 30 Roll270Pitch90 31 Roll90Pitch180 32 Roll270Pitch180 33 Roll90Pitch270 34 Roll180Pitch270 35 Roll270Pitch270 36 Roll90Pitch180Yaw90 37 Roll90Yaw270 38 Yaw25Pitch68Pitch90
	COMPASS_USE	0		0 Disabled 1 Enabled
	MAG_ENABLE	1		0 Disabled 1 Enabled

Chapter 7: Flight Instructions

APM-Copter Flight Ops Checklist

v1.0

PREFLIGHT

Groundstation

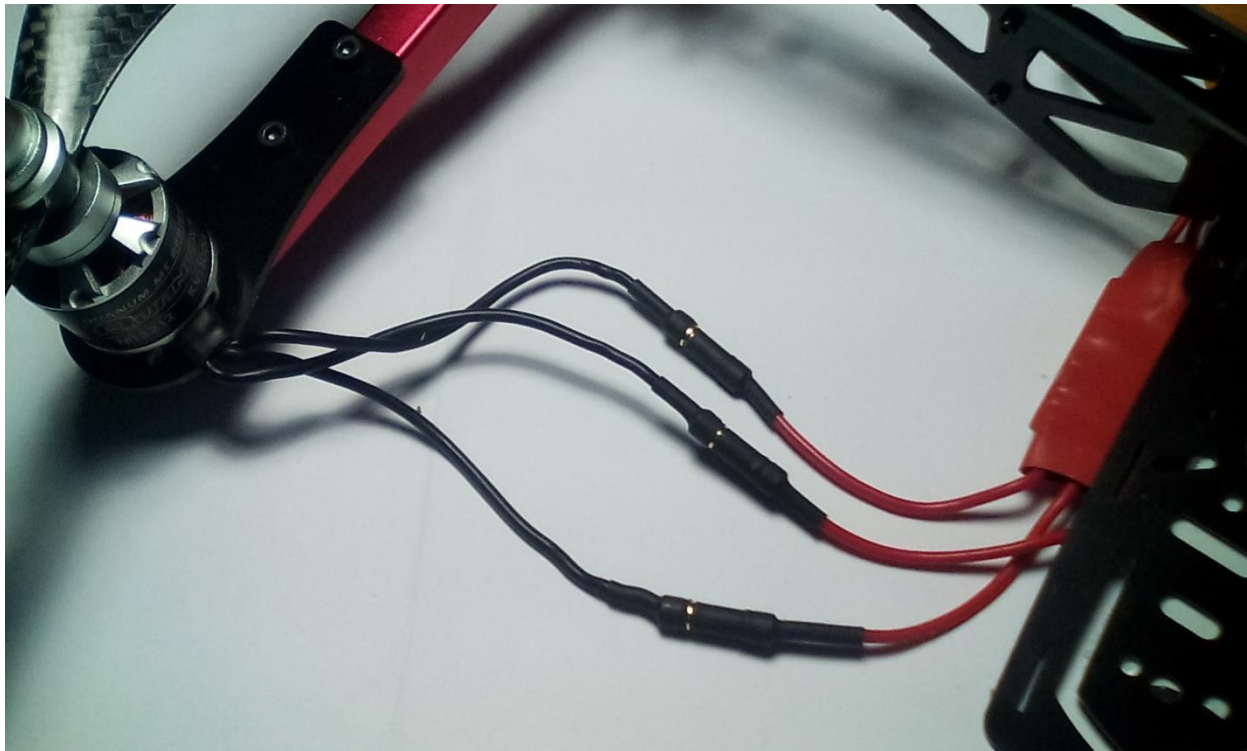
Laptop..... Power On
Laptop Battery..... Confirm Battery Lifespan
Mission Planner..... Start
Telemetry Module..... Connect USB
Telemetry Module Antenna..... Orient Vertically
Com Settings..... Com Port Select, Baud 57600

Aircraft

Airframe/Landing Gear..... No Damage
Props..... Secure, Undamaged, Correct Direction
Motors..... Secure, Undamaged
ESCs..... Secure, Undamaged
GPS Receiver & Cable..... Secured
RC Rx & Connections..... Secured
RC Satellite Rx and cable..... Secured
Telemetry Module & Cable..... Secured
APM..... Secured
APM Connections..... Verify All secured
Battery..... Install in AV
Velcro Battery Straps..... Secure

FLIGHT

RC Tx..... Verify Throttle at Minimum
RC Tx..... Power On
RC Tx..... Verify Battery Voltage
RC Tx..... Verify Correct Model Selected
RC Tx Mode Switch..... Stabilize
Aircraft..... Place at RTL Location
Battery..... Connect (Don't move AV)
Telemetry Comms..... Connect with MP
Battery Cables..... Secure
RC Rx Antennas..... Straight
Telemetry Antenna..... Straight & Vertical
Telemetry Signal Strength..... >75%
Pitch & Roll AV.. Ensure Correct response on AH
Airspeed..... Verify 0 (+/-3)
Home Altitude..... Set
Altitude..... Verify 0 (+/-3)
Battery Voltage..... Fully Charged
GPS..... 3D Fix
Flight Plan..... Verify







Chapter 8: Cameras and Extra Functions



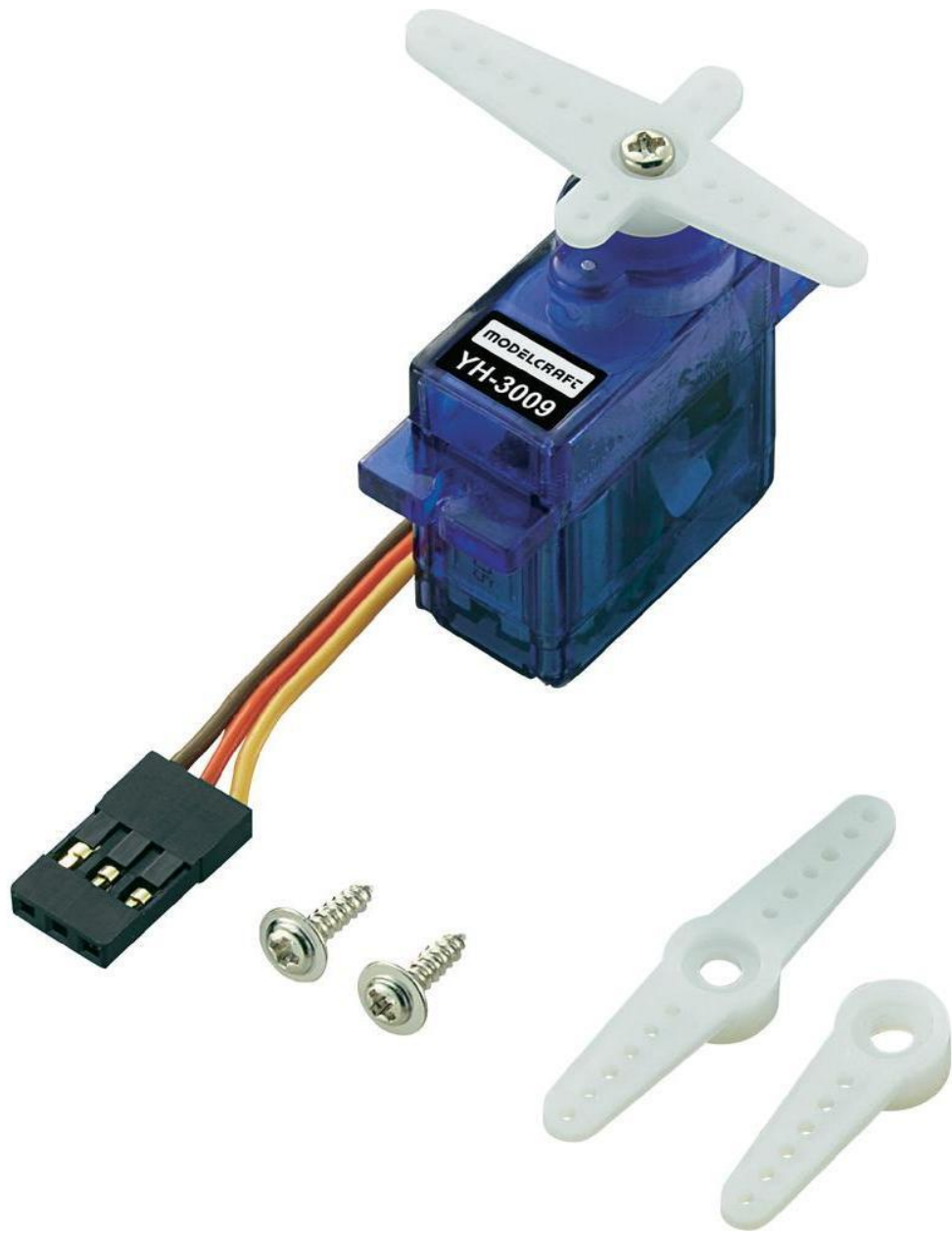


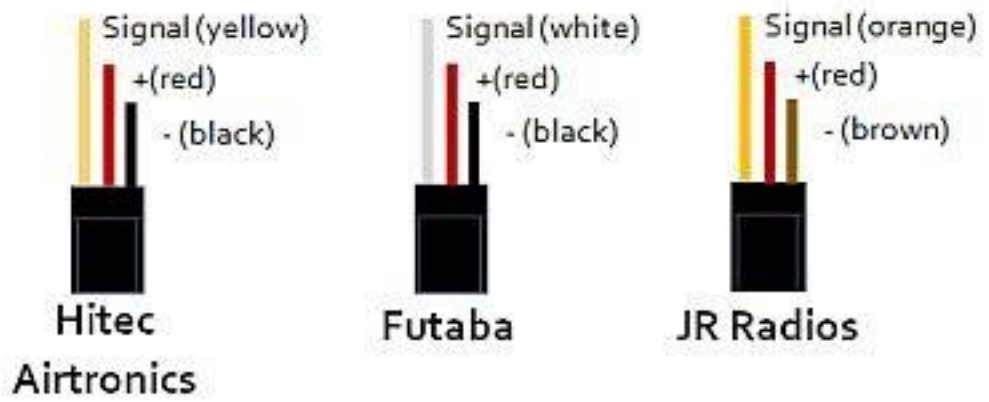
















Chapter 9: Repair and Maintenance



