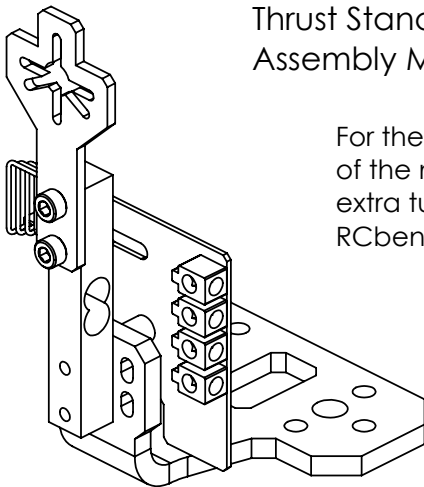


# RCbenchmark.com

## Thrust Stand Series 1520 Assembly Manual 1.05

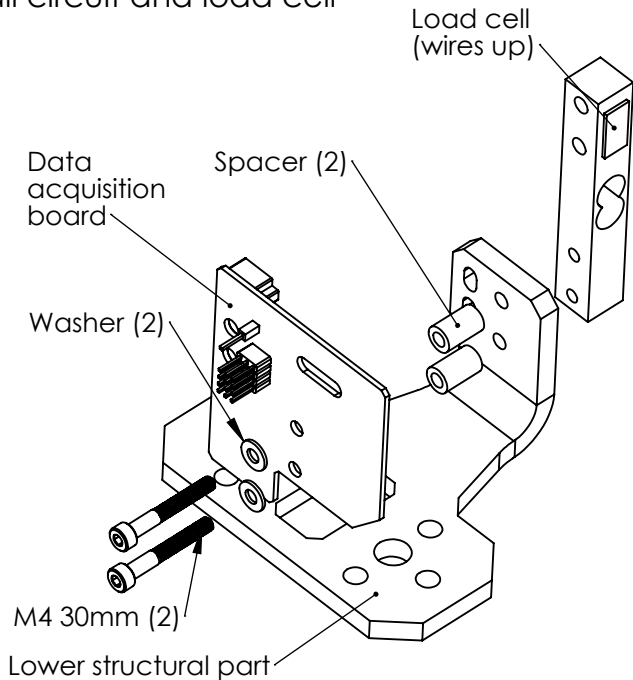
For the latest version  
of the manual and  
extra tutorials, please visit  
[RCbenchmark.com](http://RCbenchmark.com)



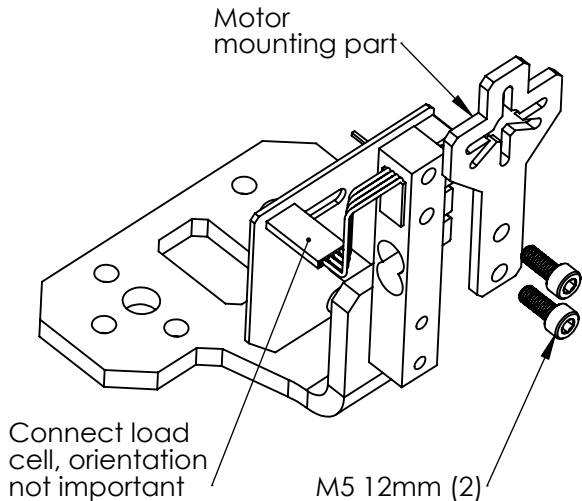
## Safety instructions

- 1) Do not work alone.
- 2) Always wear safety goggles.
- 3) When testing, use a safety enclosure around the test device.
- 4) Never stand in the plane of rotation of the propeller.
- 5) High currents can cause fires and burns. Use wires rated for the current used.
- 6) Do not reverse polarity. Damage will occur.
- 7) Do not short the circuit or the power source.
- 8) Do not use voltages over 35V.
- 9) Always disconnect the power source before manipulating the equipment.

① Install circuit and load cell

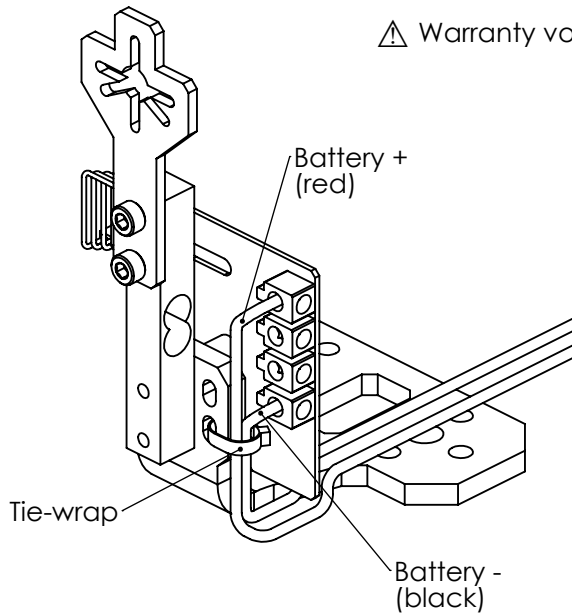


② Install motor mounting part



### ③ Install power cables

⚠ Warranty void if reversed!

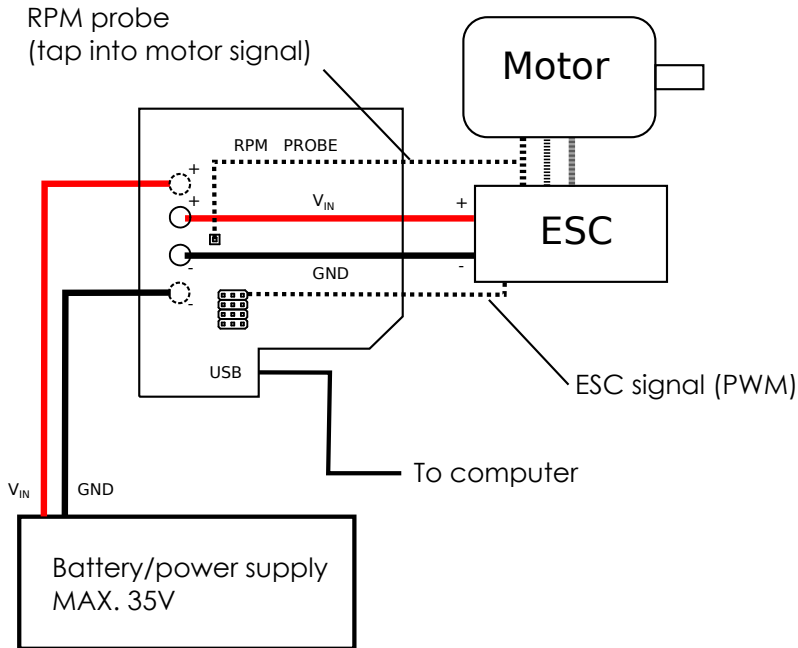


#### ④ Software installation (Chrome app)

- 1) Go to [rcbenchmark.com/learning-center/app-download/](http://rcbenchmark.com/learning-center/app-download/) to install the app.
- 2) Launch the application from your computer.
- 3) Connect the device to a computer using the USB cable.
- 4) Press the "Connect" button in the app as seen below.



⑤ Power system schematic



## ⑥ Install ESC

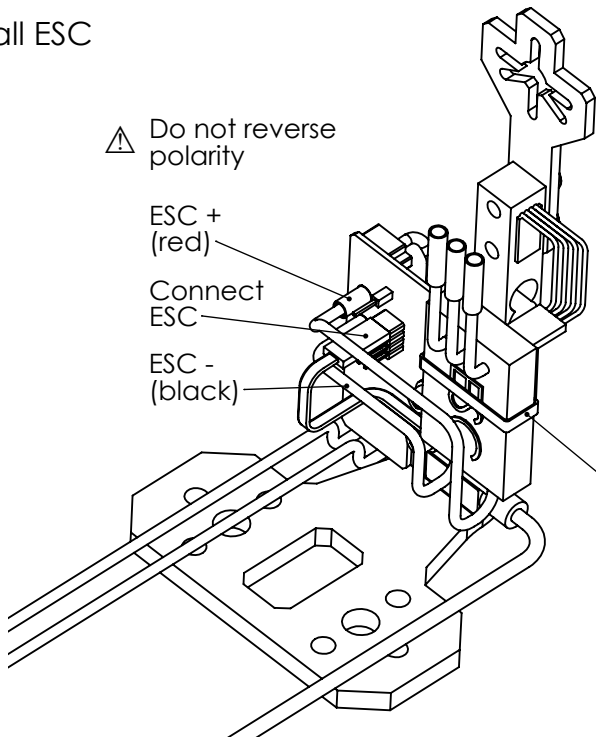
⚠ Do not reverse polarity

ESC +  
(red)

Connect  
ESC

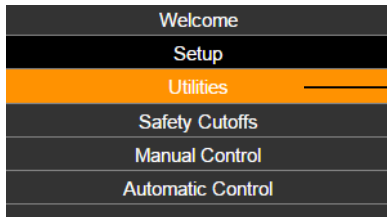
ESC -  
(black)

Attach  
ESC with  
tie-wrap





## ⑦ Calibration



1) Go to the "Utilities" tab.

### Calibration



2) Calibrate the thrust.

Calibration never performed

### Option A: using factory calibration coefficient

In the calibration wizard, choose the option "Calibrate using calibration coefficient". Then, enter the calibration coefficient on your load cell.

## Option B: using a user-provided calibration weight

In the calibration wizard, choose the option "Calibrate using a user-provided test weight". Follow the instructions. Recalibrate the device if it has been disassembled, if the wires have been moved, or every 2 months.

## ⑧ Secure all wires, the ESC, and the device

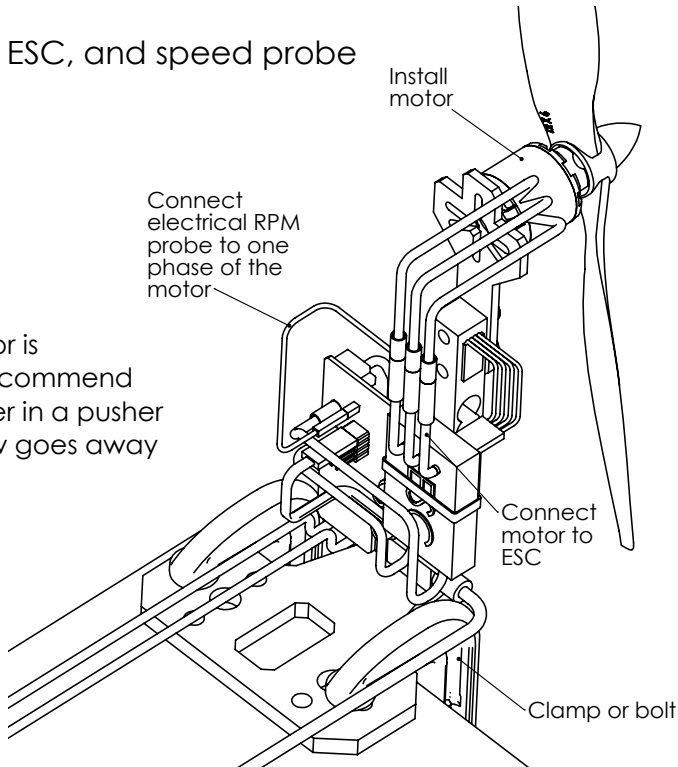
Secure all wires and the ESC using tie-wraps or double-sided tape.

Secure the device to a table using c-clamps or bolts.


## ⑨ Install motor, ESC, and speed probe

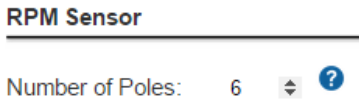
While the thrust sensor is bidirectional, we recommend installing the propeller in a pusher configuration (airflow goes away from the table).

⚠ Check polarity



## 10 Speed measurement

In the "Setup" tab of the app, indicate the number of poles for the motor you are using. Press the  icon for help on pole counting.



## 11 Support and suggestions

For additional information, check our website's FAQ and tutorials, or contact us at [support@rcbenchmark.com](mailto:support@rcbenchmark.com)

You can send us feedback and bug reports anonymously directly from the app in the "Welcome" tab.

## 12 Motor and propeller testing

You can manually control the motor for your tests and record your data manually or continuously. These options are available in the "Manual Control" tab.

You can also use the supplied scripts in the "Automatic Control" tab to test and record motor data automatically.

If you have special testing requirements, you can use our very powerful scripting functionality. You have access to the full power of Javascript, can control the thrust stand, export data, and much more through our API. Example applications include power system comparison or pass/fail test for production.



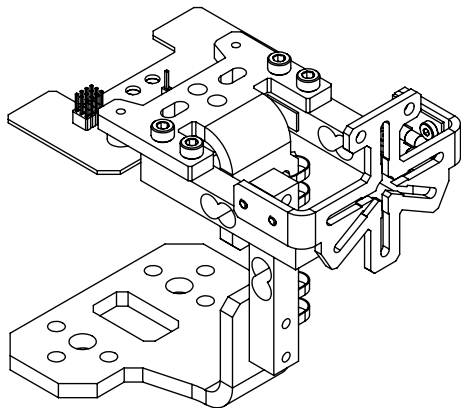
Dynamometer Series 1580

Need to measure torque?  
Need motor efficiency data?

We also carry the 1580 Series  
dynamometer which can  
also measure:

- Torque
- Temperature
- Vibration
- Motor winding resistance

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# Warranty

RCbenchmark products are fully tested and inspected before shipping. This product is covered by a one year warranty on manufacturing defects. If needed, contact us at:

[warranty@rcbenchmark.com](mailto:warranty@rcbenchmark.com)

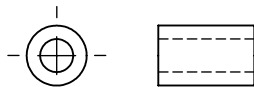
The warranty does not cover misuse, product modifications, and reverse polarity connections.

Thank you for choosing RCbenchmark.

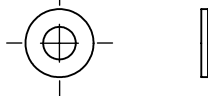
## INCLUDED

- Assembly manual (1)
- Measurement circuit (1)
- Motor mounting parts (2)
- Lower structural part (1)
- Power cables (2 x 2.5ft)
- Load cell 5 kg (1)
- Tie-wraps ( $\approx 10$ )
- Hex keys (2)
- Washers to install motors (1 bag)
- USB cable (1)
- RPM probes (1 + 1 extra)

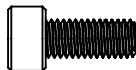
-Spacers (2)



-Washers (2)



-M5 12mm (2)



-M4 30mm (2)

