RCbenchmark.com

Thrust Stand Series 1520
Assembly Manual 1.04

For the latest version of the manual and extra tutorials, please visit 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

- Load cell (wires up)
- Data acquisition board
- Spacer (2)
- Washer (2)
- M4 30mm (2)
- Lower structural part
2. Install motor mounting part

- Connect load cell, orientation not important
- Motor mounting part
- M5 12mm (2)
3. Install power cables

⚠ Warranty void if reversed!
Software installation (Chrome app)

1) Go to www.goo.gl/ydok1q to install the app.
2) Launch the Chrome app 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*.

Note: Chrome app updates are automatic.

*If a new COM port does not appear when you connect the device (as seen in the image below), you may need to install a driver. For driver installation support, visit: rcbenchmark.com/installation-and-drivers/.
Power system schematic

RPM probe (tap into motor signal)

Motor

ESC signal (PWM)

To computer

Battery/power supply
MAX. 35V
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.

2) Calibrate the thrust.

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

⚠ Check polarity

Connect electrical RPM probe to one phase of the motor

While the thrust sensor is bidirectionnal, 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

You can send us feedback and bug reports anonymously directly from the app in the "Welcome" tab.
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 functionnality. 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.
We also carry the 1580 Series dynamometer which can also measure:

- Torque
- Temperature
- Vibration
- Motor winding resistance

Available for purchase now at RCbenchmark.com

Need to measure torque?
Need motor efficiency data?
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

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 (≈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)