Read This First

Apply H2 Hybrid UAV Generator for extremely long endurance as following steps:

1. Getting Started

2. Operation

3. Maintenance

4. Trouble Shooting

Specifications

<table>
<thead>
<tr>
<th>H2</th>
<th>Weight</th>
<th>4.0kg(8.8lbs) w/o Accessories / 5.2kg(11.5lbs) Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>1.8kW(2.4hp) Continuous / 2.0kW(2.6hp) Max. Power</td>
<td></td>
</tr>
<tr>
<td>Dimension (L x W x H)</td>
<td>260 x 312 x 325 mm/10 x 12 x 12 in</td>
<td></td>
</tr>
<tr>
<td>Applicable UAV Types</td>
<td>Multicopters &amp; VTOL Fix-wings</td>
<td></td>
</tr>
<tr>
<td>Max. Take-off Weight</td>
<td>18kg (39.7lbs) or UAV suggested</td>
<td></td>
</tr>
<tr>
<td>Output Voltage</td>
<td>12 S (49V)</td>
<td></td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>750 g/kw·h (hovering 1.5 L/h)</td>
<td></td>
</tr>
<tr>
<td>Service Temperature</td>
<td>-20 ~ 40 °C /-4 ~ 104 °F</td>
<td></td>
</tr>
<tr>
<td>Ceiling (above the sea)</td>
<td>2000 m</td>
<td></td>
</tr>
<tr>
<td>Rotating direction</td>
<td>Clock wise (view from starter)</td>
<td></td>
</tr>
</tbody>
</table>

Connecting to H2 Controller

Fuel

Using Fuel Mixer to mix gasoline and oil

Troubleshooting

1. Filling gasoline (octane over 95)

2. Filling oil *** until Mixer mark

3. Up side down to mix the fuel

**Using recommended 2 cycle engine oil or JASO FC/FD ISO-L-EGD grade oil

**NOTE: default mount is suspended. Other modes may lead to damage failures

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*Fig1* Illustration of installing the H2 under the tank. *Fig2* Illustration of the filter and controller. *Fig3* Illustration of the choke lever. *Fig4* Illustration of rotating direction and pushing the button.

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**Important**: Over chocking may cause starting difficulty due to wet spark plug. In this case change spark plug or dry it, and try to start again.
1. Before starting make sure the controller LED working as the Three position switch, referring to Trouble shooting.
2. Switch the three-position switch to "run", and monitoring the UAV input voltage.
3. Voltage should be at 49 ± 1V
4. Run H2 for 1 minute for warm up.
5. Take-off by moving throttle or running Auto-pilot program
6. Voltage may drop 2±3 V when encounters air turbulence or maneuver. If the voltage drop rapidly to under 45 V

**Maintenance**

- Correct maintenance is necessary to keep H2 high performance.
- H2 controller lamp blinks "green and red". H2 is reaching the maintenance cycle (50 hours). H2 is still able to start. Please follow the MAINTENANCE in separate manual.

**Important**

- If H2 is NOT maintained at every 50 hours cycle, it will lead to performance degradation.
- The controller lamp stops to blink "green and red" 2 hours after every 50 hours cycle.

### Trouble Shooting

<table>
<thead>
<tr>
<th>1) unable to start</th>
<th>LED</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>Switch is not on &quot;idle&quot;</td>
<td>Switch to &quot;idle&quot;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2) lack of power or unstable running</th>
<th>LED</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water in fuel, wrong, poor fuel quality or mixed longer than 2 months</td>
<td>Change with proper fuel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor oil quality</td>
<td>Change with good oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2 controller failure</td>
<td>Contact us</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fuel out may completely damage H2. Monitor fuel level with given sensor and land before fuel ran out. DISPLAY is optional for fuel level sensor incompatible flight controller like DjiA3**

**Important**

- H2 has "EMERGENCY STOP" bottom.

**Gasoline is flammable! At the end of the day or during long-distance transport, the fuel tank should be emptied. Fuel shall be properly stored.**

### Carburetor Cleaning

Dirty operating environment (dusty) or unfiltered fuel can lead to clogging of carburetor and lack of power. It can be solved by simple carburetor cleaning.
1. Remove fuel pump cover screw and pump cover
2. Clean diaphragm and fuel inlet using carburetor cleaner
3. Reassemble the pump cover and make sure gasket and diaphragm direction is correct.

**NOTES**

- Do NOT disassemble carburetor from H2. Only remove pump cover and clean diaphragm and fuel inlet.

### Multirotor

<table>
<thead>
<tr>
<th>H2 UAV Engine Hybrid Multitotor Power Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motor</strong></td>
</tr>
<tr>
<td>Dji E2000Pro</td>
</tr>
<tr>
<td>Tmotor28x10S</td>
</tr>
<tr>
<td>Tmotor28x10H</td>
</tr>
<tr>
<td>Tmotor28x10L</td>
</tr>
<tr>
<td>Tmotor28x8</td>
</tr>
<tr>
<td>Tmotor28x8</td>
</tr>
<tr>
<td>Oii E5000</td>
</tr>
</tbody>
</table>

**Before starting make sure the controller LED working as the Three position switch. If LED doesn't work, please check your RC receiver channel configuration.**

**LED**

- Off: Stop
- Solid green: Idle
- Flashing green & keeps: Voltage lower than 46 V
- Off: Run
- Flashing red: Voltage lower than 47V
- Flashing red: Stop, Idle & Run
- #6 wire not connected

**Accessories**

- Starter Rubber
- Starter Battery
- Oil
- Spark Plug
- Spark Plug screw
- 3.5 liter default fuel tank
- Fuel Filter
- Fuel Pipe (Fuel in blue)
- Fuel Pipe (Fuel out in yellow)
- Fuel Mixer
- LiPo Battery 4S 1800mah 75C
- Fuel Level Sensor
- Air Filter
- 4.3 liter square fuel tank (optional)