

RC Ornithopter

Two Day Workshop

Venue : JNTUH College of Engineering
Hyderabad

Date : Feb 25-26th 2020

What is this Workshop about?

Ever wondered how it feels to design your own drone and see it Fly in to the sky flapping its own wings ? Then Take a Break and come to learn new things on RC ORNITHOPTER Workshop.

This workshop by AMZ gives you an opportunity to understand the theory behind the functioning of Ornithopter. It makes you innovate by coming up with your own design of an RC Ornithopter and fabricate it from scratch. An interactive lecture session and design session helps you design your own drone.

Course Highlights

- Design, Build & Test your first RC Ornithopter from scratch
- Learn the basic engineering concepts & principles of flight along with design of a flapping mechanism.
- Implement a design and control system for the ornithopter.
- Build the ornithopter and see the magic of the bird's flying mechanism.

Program Schedule

Day 1

Sessions

01

Engineering principle & Concept of Physics

Understanding Bio-mimicry engineering and design parameters.

- Biomimicry Engineering.
- Flapping mechanisms & Calculations.
- Design of Gear box.
- Stability and power source selection.

02

Electrical Connections & types of components

Learning electric circuitry and basics of transmitter & receiver.

- Type of motor & battery.
- Electric Speed controller.
- Basics of transmitter and receiver.
- Understanding electric circuit.

03

Design and applications

Designing the component and understanding the applications.

- Laser cutting CNC concepts.
- Description of 3d printed part.
- Assembly of different parts.
- Material selection.

04

Table testing

Giving life to the component & testing.

- Applications of Ornithopter.
- Table testing the component.

Day 2

Sessions

05

Assembly of Ornithopter

Assembling the component with all the knowledge obtained.

- Material selection.
- Assembly of different parts using fastener.

06

Testing & Modification

Freedom to the bird!

- Making necessary adjustments.
- Flying the bird into the skies.

Kit Content

- | | | | |
|-----------------------------------|----------------------|-------------------------------|-----|
| • Laser cut body. | - 1 | • Brushless DC motor | - 1 |
| • Metal gears. | - 1 set | • Electronic speed controller | - 1 |
| • 3D printed gear box. | - 1 set | • Li-po battery | - 1 |
| • Micro tie-rod. | - 4 sets | • Servo motor | - 2 |
| • Laser cut wings & Tail support. | - 1 set | • Transmitter | - 1 |
| • Fastener Kit. | | • Receiver | - 1 |
| • Nylon fabric. | - 0.5 m ² | • Tool kit | - 1 |

Parts listed above apart from Gear box, electrical items, transmitter and receiver will be given away along with body of the bird with wings and tail.

All the above components will be given during workshop in groups of 5 students.

Why AMZ?

- 1) Amz Automotive is one of the organizer of India Baja professional off road racing.
- 2) Amz Automotive is the organizer of Rally car Design Challenge for engineering Student.
- 3) Amz Automotive Is the Organizer of Lm karting Dirt kart racing.
- 4) Amz Automotive Provide technical support at Ultimate Desert Challenge and Desert Storm (Maruti Suzuki motorsport)
- 5) Apart from Training, Amz has Other vertical in Manufacturing, production and development
 - A) Amk industry.
 - B) EDMRC.
 - C) Wepiat.pvt.ltd

Benefits

• CERTIFICATION:-

All the Participants will get ISO 9001: 2015 certificate of Participation.

- Certification will be in association with following companies

1. **Polaris Motor**
2. **Indian Motorcycle**
3. **Xtra premium (Indian oil sub company)**
4. **AMK Industry.**
5. **Steel Bird**
6. **AMZ Automotive**
7. **RCDC INDIA**

- Workshop will be delivered by Ex Marshall Engineer of Formula one France & Race official of Maruti Suzuki Motor Storm.

- Winners of the workshop will get internship opportunities under AMZ automotive group.
- Merit certificate along with gifts & goodies will be given to the winners of workshop.

Registration

- Register with the initial amount of Rs. 500/- and pay the rest Rs. 1,000/- at the time you visit the workshop.
- You can register either through website or you can directly call one of our coordinators.
- Registration amount can also be paid in total through online payment.

Online Portal

Participants have access to an exclusive online portal to:

- View status of registered and attended workshops
- View study material for workshops

For any further details regarding workshop and other events in our fest,

Contact :

- 1) P. Thriveni. : +91 79897 43332
- 2) P. Vaishnav : +91 86866 02134

Website: <http://www.connaissance-jntuh.com/workshop>

Winners of the Workshop will get internship opportunities under AMZ Automotive group and additional gifts and goodies will also be awarded.

Regards
Team Connaissance

