

Some people have been able to hover in as little as one day after spending time on a simulator!

#### 11) Can a Model Helicopter Glide?

Just like the full-scale, in case the engine quits or even if the pilot wishes to intentionally “glide” the helicopter, this is easily accomplished and is called “Auto-Rotation”.

This maneuver requires the pilot to initially apply negative pitch to the main blades in order to keep the head speed up. As the model gets nearer to the ground, positive pitch is added gradually and the energy that is stored in the spinning rotor is used to slow the decent and allow a gentle touch down. Although it sounds simple, this is a maneuver that takes a lot of practice time to master.

#### 12) Where can I fly a Model Helicopter?

Model Helicopters are not toys. If they are flown recklessly they are potentially dangerous to you and any spectators.

It is strongly recommended that you join a club and learn to fly at the club field where there is not only ample safe space, but also help and assistance while you are learning your new hobby! Most new pilots think that they can learn to hover in their back yard, but ample space for safety reasons and some consideration for your neighbors is necessary — and it is highly discouraged due to safety reasons.

#### 13) How much do they cost?

Depending on the type of kit, the engine and radio combinations, the cost can vary quite a bit.

Costs will range from \$700 to \$1000 to start out. A good starting point is with a .30 size Pod and Boom machine and a 6 channel radio. This combination will allow you to learn with minimal cost and still provide you the opportunity to advance as your skills improve.

As with any hobby, the amount that you can spend is determined by how much you want to spend.

#### 14) Where can I buy a R/C Model Helicopter?

If you are starting out it is recommended that you start out by buying from a reputable Hobby Shop or Dealer. There are numerous Hobby Shops located in this area and they are listed in the Phone Book. You can also order by Mail Order or over the internet, but your local Hobby Shop or Dealer will be able to better service your needs after the sale if you should have any questions or need any

A word about buying a used R/C Helicopter — it is best if you avoid buying your first R/C Helicopter used to reduce the risk of disappointment. Once you have gained some experience, you will know what to look for (and check out) and can buy from fellow club members or at trade shows.

#### 15) Is there a Club?

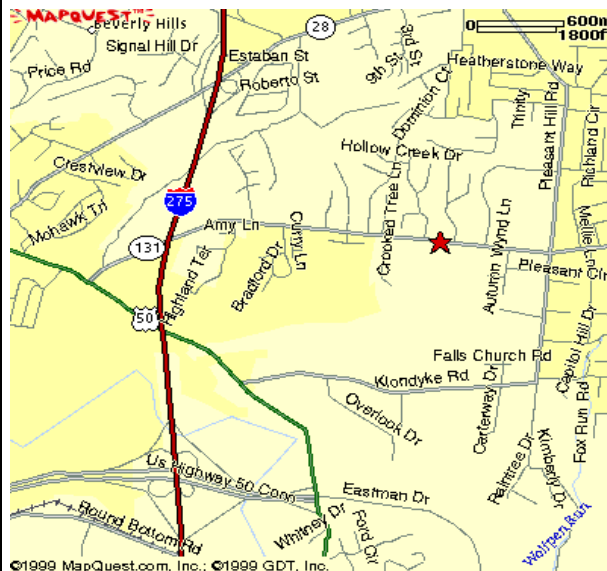
As I stated at the beginning of this brochure, we are the Tri-State Model Helicopter Club and we fly at the location that is shown on the map below.

We also have a web site [WWW.TSHC.ORG](http://WWW.TSHC.ORG) and you are encouraged to visit us there to find out more about how to visit or contact us.

#### IN CLOSING.....

Thanks for reading about this exciting hobby! I hope that we have answered most of your questions with this informative brochure. I would encourage you to join us on the web and to come out and see first hand what this great hobby is all about.

With all of the recent innovation, this is an exciting time to be in the hobby of R/C Helicopters!!!



Tri-State Helicopter Club  
1033 St. Rte 131,  
Milford, OH.



The Right Printer. The Right People.

## TriState Helicopter Club



Hello! Thank you for showing an interest in the great (and growing) hobby of Radio Controlled Model Helicopters!

As a method of introduction to you, we are called the

### Tri-State Helicopter Club

We were founded in February of 1992 by a small group of radio controlled helicopter enthusiasts. The club has grown to over 30 members and meets monthly to discuss all matters that are helicopter in nature.

New members are always welcome.

We meet at **1033 St. Rte 131, Milford, OH** on the Second Tuesday of each month starting at 7:30.

During the warmer months we generally fly on the weekends (Saturday and Sunday) and we also try to come out and fly as a group prior to the club meeting at the same location—so please come by!



The following are answers to the most commonly asked questions about Radio Controlled Model Helicopters—and hopefully will provide you with a reasonable overview of this exciting and challenging hobby!

**1) Where did it all begin?**

Helicopters are fascinating machines. In the full size world, it wasn't until well after fixed wing flight had been mastered that Igor Sikorski unlocked the secrets of controllable helicopter flight in the late 1930's.

**2) What sizes do R/C helicopters come in?**

Generally, model Helicopters come in either .30 (4" rotor diameter and a weight of 6 lbs) or .60 size (5" rotor diameter and a weight of 11 lbs.) There are some miniature R/C helicopters that can fit in the palm of your hand and others that take two people to lift—so the size is only relative to your imagination!

**3) What types of models are there?**

Without a doubt the most impressive type of R/C model Helicopter is one that is built after its' full size counterpart, but R/C Model Helicopters are ca-



able of aerobatic flight that is impossible to do in the full scale version.

Most people start out with a "Pod and Boom" type model which has an open structure. The advantage to these type of models are that the mechanics are



easily accessible for maintenance and are easier to repair in case of a mishap.

**4) What type of engines power these models?**

As we mentioned earlier, the capacity is normally either .30 (1.2 HP) or .60 (2.2 HP) size. These are traditionally two-stroke glow plug motors and although they look similar to the fixed wing versions, there are important differences. One of the main differences is the size of the heat sink (head) which is larger to dissipate more heat and another is the carburetor which is designed to provide accurate throttle control at 50% power, where most of the flying is done.



**5) What type of fuel do I need?**

The most common fuel for glow plug powered Helicopter engines is a mixture of methanol, nitro methane and oil. Modern fuels tend to use a synthetic oil compound which produces cleaner burning. The ratio of each ingredient varies depending on the performance required and it is usually the nitro methane compound that is adjusted. A common mixture would include 70% methanol, 15% oil and 15% (from 0% to 30%) nitro methane.

**6) What type of Radio is required?**

Ideally, 5 servo's (a geared electric motor and control arm that control a particular function) are required to fly Radio Controlled Model Helicopters. The 5 servo's control the 1. Throttle, 2. Tail-Rotor (rudder), 3. Collective Pitch (main rotor angle, or rate of climb), 4. Fore/Aft Cyclic and 5. Left/Right Cyclic. These last two functions initiate the forward/backward and side to side movement of the helicopter while it is hovering or in flight.

**7) What is the range of the radio?**

The effective range of a Model Helicopter Radio is about 1/2 mile (2600'). This may not seem far but the real limit



**8) What is a Gyro and do I need one?**

Gyro's or *Gyroscopes* are used to stabilize the tail of a model. Without the gyro, the tail tends to swing violently from side to side and is easily affected by wind gusts.

As the name suggests, a gyro consists of a fast spinning flywheel which senses any movement of the Helicopter and stabilizes (corrects) it. There are also electronic versions of gyro's that have no moving parts and are more accurate than their mechanical counterparts.

**9) How long does a tank of fuel last?**

The length of time that a Model Helicopter can fly is limited by the size (capacity) of the fuel tank and the size of the motor. The flight time can vary from 12 to 20 minutes—which is quite long enough due to the high level of concentration that is required while you are flying.

**10) Is it hard to fly a Model Helicopter?**

The basic answer is no. However, the longer answer is dependant on the type of kit that you choose and getting the right amount of help as you learn the basics of model Helicopter flight.

The time that it takes varies on your ability and the amount of time that you have to spend practicing. Typical times are about 2 months (assuming you practice at least once a week).

Hovering is the first step and all maneuvers start from that point. Figure 8's are next and are used to develop your confidence in controlling the Helicopter as it is flying towards you. From that point the sky's the limit!

There are various aides to minimize the risk to the Model Helicopter while you are learning. These include wooden (or carbon fiber) sticks that allow you to do some limited hard landings and minimize the likelihood of the model helicopter from flipping over from a wrong control input by the pilot. There are also quite a few excellent computer simulation programs that are dedicated to the Radio Control Helicopter. These simulate the control inputs that a pilot gives while flying an R/C Helicopter and are not the same as a game joystick. These computer programs allow you to practice in your home when it's too wet to go to the field or if you want to try something new. It's always better to try it on a simulator first so you reduce the potential damage to your model.