Introduction

As the saying goes, the most rewarding activities are also often the most challenging, and flying helicopters certainly fits into that category. Indeed, merely hovering a helicopter has been compared to trying to balance a marble on top of a bowling ball. Therefore, those who become successful heli pilots really have something to be proud of.

The accelerated training techniques featured in this program were born out of the familiar adage that if you want to be successful at something, study and model yourself after those who are already highly successful. So whether you seek the feeling of accomplishment that learning to fly helicopters provides, or the satisfaction that comes from improving your flying skills, this program presents the flying techniques shared by those who fly with the greatest ease to enable pilots of all skills levels to achieve their goals in the shortest amount of time possible.

While it's true that the new generation of entry level *fixed pitch* helicopters have never been easier to fly, flying more agile *collective (adjustable) pitch* helis is a skill that requires a lot of practice, but the practice cannot be haphazard or pilots risk developing bad habits that will impair learning and future success. The fact that you have purchased this book demonstrates the commitment necessary to become a successful helicopter pilot, and when combined with simulator practice, you'll experience significantly greater confidence and fewer mistakes in the real world.

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Outline of Instruction - The Sim Advantage

Much of the challenge flying helicopters stems from the fact that pilots often have to manipulate all four controls at the same time (compare the average airplane pilot uses only two controls most of the time). Fortunately, training on a simulator allows a heli pilot to learn the controls independently before putting them all together. Plus, modern flight simulators are so realistic that the skills developed on the sim translate directly to the real world, so whether flying in a sim or the real world, the approaches are the same.

This program will occasionally compare and contrast heli and airplane flying styles to provide additional context to the lesson. For example, while there are often many nuances involved in perfecting most skills, achieving success usually comes down to just a few key factors. Comparing airplane and heli flying helps to highlight those requirements:

Example #1. A proficient airplane pilot makes fewer control inputs as his skills improve due to the fact that his inputs become so precise that there's little or no need for additional corrections. That is why it is said in competition that "the guy who makes the fewest moves, wins!" Furthermore, high performance airplanes are prone to remaining in the same attitude whenever the controls are neutralized. Helicopters, on the other hand, do not stay in one place or attitude for very long without inputs from the pilot and deviations tend to become greater if not quickly corrected. Therefore, helicopter pilots inherently have to make constant corrections throughout the duration of the flight.

Example #2. A proficient airplane pilot performs each maneuver repeating control inputs that produce basically the same result each time, thus enabling a good airplane pilot to pro-actively control what the plane does rather than reacting to it. The role of hand-eye-coordination flying airplanes is primarily to put the finishing touches on the maneuvers. Due to the tendency of helicopters to constantly change position and the fact that each maneuver attempt requires it's own unique set of corrections, helicopter pilots have to rely on vision and reflexes to constantly react to what the heli is doing.

FYI. The one area where heli and airplane flying is similar is, unless you're performing aerobatics, crashes are usually the result of holding in control inputs too long. Therefore, a successful heli pilot varies the size of his inputs depending on the response he wants, but keeps the majority of his inputs brief to avoid over-controlling.

About the Manual

The majority of Almost Ready & Ready to Fly helicopters already come with reliable gyros, servos, motors, etc. right out of the box, and all the mainstream helicopter and radio manufacturers do a good job explaining how to setup a helicopter, therefore, there's no need to rehash that information here. The setup information presented in this program is intended to help optimize the handling of your heli for maximum learning in the shortest amount of time. If you're interested in trying to squeeze more performance out your helis, check out the numerous websites featuring discussions on heli setups and trouble-shooting.

The principle focus of this flight training program centers on the piloting techniques that will enable you to get the most out of your simulator and real world stick time. To make the information easier to locate during your training, each page is designed to stand on its own and features a summary Key Point To Remember (KPTR) at the bottom to aid retention.

Section I of this manual (Setup and Ground School) introduces terminology and describes the setup and trimming techniques aimed at improving the handling of both entry level (fixed pitch) single rotor helis as well as more capable collective (adjustable) pitch helis. Ground School then addresses optimum transmitter handling techniques followed by the fundamental helicopter control techniques required to hover and maneuverer upright.

Note: This program will forgo discussing entry level "coaxial" helis because they are so inherently stable that they almost fly themselves, but mostly because the control techniques required to fly them are in many ways contrary to the techniques used to fly more agile single rotor helis. Specifically, coaxial helis typically require you to hold in inputs to get them to maneuver, which is a habit to be avoided when hovering single rotor helis. Thanks to modern heli software and design, a typical entry level single rotor heli is nearly as stable as a coaxial heli, but features enough agility to allow control techniques closer to those used to fly collective pitch helicopters. Thus, whether hovering a fixed pitch single rotor heli or a more agile collective pitch heli, the control approaches are basically the same.

Section II (Flight Training) features a step-by-step practice outline based on the timeless crawl-walk-run approach intended to produce maximum results in the shortest amount of time while establishing the foundation required for greater aerobatic success in **Section III**. Note: Pilots using this manual for aerobatic training are encouraged to review Sections I & II for important terminology that sets the stage for later lessons, as well as to make certain that the most efficient techniques are being used before tackling aerobatics.

Online information sources: www.horizonhobby.com • www.rcuniverse.com
www.flyinggiants.com • www.helifreak.com • www.rcheliwiki.com

KPTR: The aim of this program is to instill habits that compliment long term success.

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Utilize the ☑ Check boxes to keep track of your progress and current areas of practice.