

ROBINSON PILOT SAFETY TRAINING: ESSENTIAL FOR REDUCING RISKS

Rotor & Wing safety columnist visits
Robinson plant for a first-hand look
at the facilities in Torrance, Calif.

By Keith Cianfrani

As mentioned in my August column, "Safety Goes Hand in Glove with Mission" (page 52), I had the opportunity to attend the Robinson Helicopter Company Pilot Safety Course and fly the R22 and R66 at the end of the program. The course is four to five days long including the aircraft flights. I was assigned the task of taking the course and evaluating it from a safety perspective. Since I have never flown a Robinson product before this trip, I was not sure what to expect. Hopefully, my prejudices over the years flying larger aircraft such as Sikorsky UH-60 Black Hawks and S-76 helicopters would not interfere with my opinion of the R66 and the safety course.

There were approximately 55 students attending the course including many new flight instructors, a contingency of pilots from Mexico (including a Mexican Government aviation certification official), a father and daughter from Massachusetts (the daughter was on her way to the Air

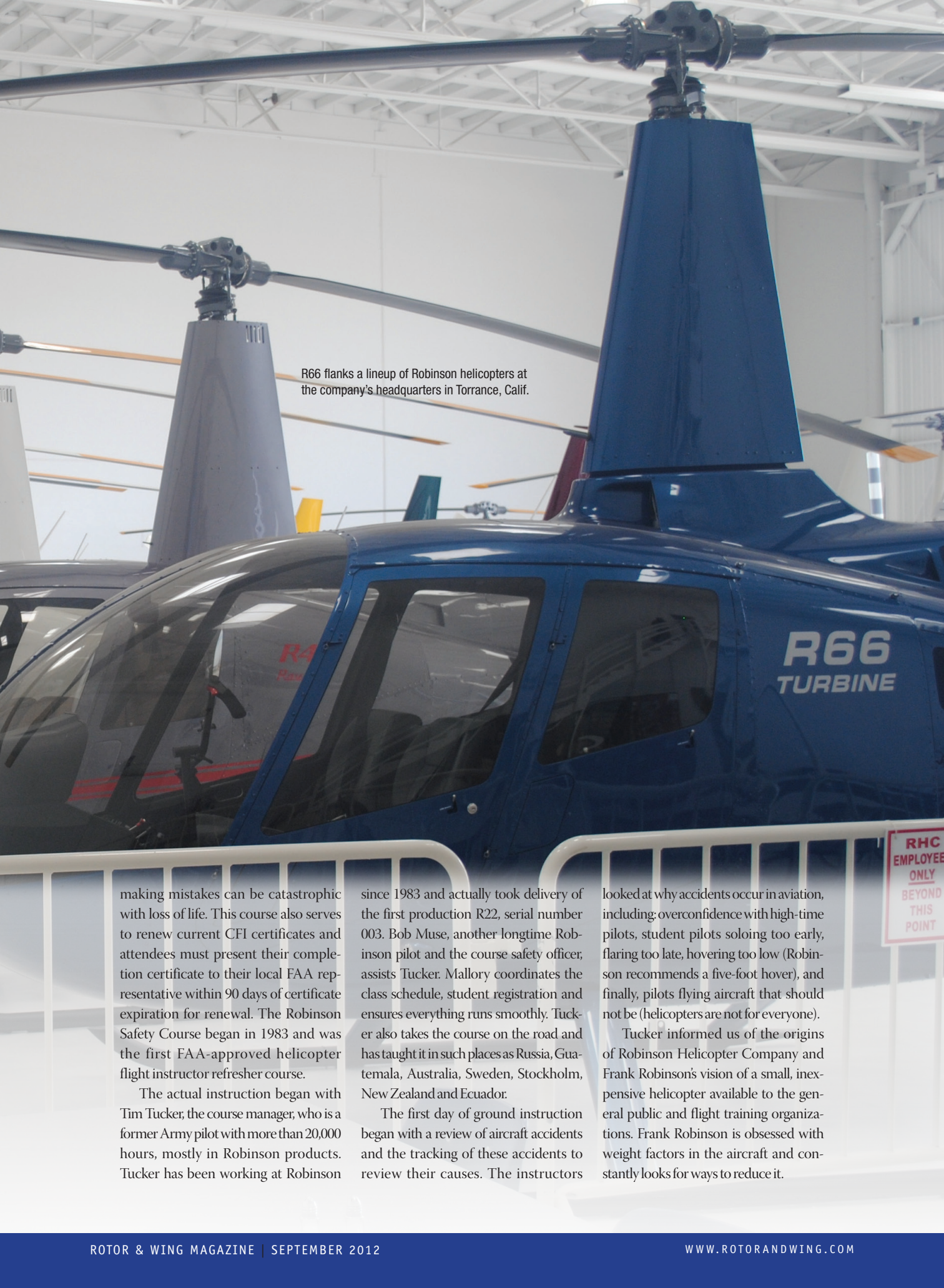
Force Academy), several mechanics with pilot ratings and private pilots who paid their own way (approximately \$500) while looking to learn more about the aircraft and the aviation industry. The youngest attendee was a 19-year-old flight student. Many students were veterans and who took advantage of the post-9/11 GI bill to receive flight training. There were also students from several other foreign countries such as Sweden, Switzerland and Japan.

The doors opened early (7:30 a.m.) with course administrator Mallory Kohler graciously conducting registration and processing. We picked up our books and

headed into the classroom, where introduction started promptly at 8 a.m.

The Course

The course began with an introduction by Kurt Robinson, president and CEO of Robinson Helicopter Company and son of company founder Frank Robinson. Kurt welcomed us all to the course and explained why it's important to enhance pilot safety awareness through education and training. He also spoke about why aviation is a dangerous profession and if we don't adhere to the guidelines of the aircraft and other aviation requirements,



R66 flanks a lineup of Robinson helicopters at the company's headquarters in Torrance, Calif.

making mistakes can be catastrophic with loss of life. This course also serves to renew current CFI certificates and attendees must present their completion certificate to their local FAA representative within 90 days of certificate expiration for renewal. The Robinson Safety Course began in 1983 and was the first FAA-approved helicopter flight instructor refresher course.

The actual instruction began with Tim Tucker, the course manager, who is a former Army pilot with more than 20,000 hours, mostly in Robinson products. Tucker has been working at Robinson

since 1983 and actually took delivery of the first production R22, serial number 003. Bob Muse, another longtime Robinson pilot and the course safety officer, assists Tucker. Mallory coordinates the class schedule, student registration and ensures everything runs smoothly. Tucker also takes the course on the road and has taught it in such places as Russia, Guatemala, Australia, Sweden, Stockholm, New Zealand and Ecuador.

The first day of ground instruction began with a review of aircraft accidents and the tracking of these accidents to review their causes. The instructors

looked at why accidents occur in aviation, including: overconfidence with high-time pilots, student pilots soloing too early, flaring too late, hovering too low (Robinson recommends a five-foot hover), and finally, pilots flying aircraft that should not be (helicopters are not for everyone).

Tucker informed us of the origins of Robinson Helicopter Company and Frank Robinson's vision of a small, inexpensive helicopter available to the general public and flight training organizations. Frank Robinson is obsessed with weight factors in the aircraft and constantly looks for ways to reduce it.

RHC
EMPLOYEE
ONLY
BEYOND
THIS
POINT



Kurt Robinson and the R66.

We then discussed how reviewing and analyzing these accidents helps Robinson develop this course to help pilots with their decision making skills when it comes to flying Robinson products. Prior to the establishment of this safety course the fatal accident statistics in the R22 were approximately:

Student Solo	36%
Dual Instruction	21%
Weather-related	14%
Fuel Exhaustion	14%
Ferry Flights	14%

These accident statistics drastically decreased for the Robinson products after the introduction of the pilot safety course. This represents the true value of the course.

Human error/pilot error causes most (60-80 percent) of these accidents. This includes lack of experience, lack of safety training, poor judgment and poor decision-making, night and bad weather operations, non-instrument rated pilots flying in instrument conditions, newness to the aircraft and non-professional pilots. In my opinion, as a matter of definition, Robinson re-defined the helicopter market by making their product affordable to many aviation enthusiasts. I investigated many accidents in civilian aviation and unfortunately, many aircraft owners have more money than good sense.

Although I had a personal tour of the facility and production operations, our first day also included a tour of the factory. This is important to me, as I always look for examples of safety integration in production operations. Of course, we were given safety glasses along with a safety brief prior to the tour. This tour served to indicate to me that Safety Risk Management (SRM) is alive and well on the factory floor. The buildings were

extremely clean, clutter-free and well-organized.

On the second day, our class separated into two groups—one with pilots qualified in the R22/R44 and the other in the R66. I went with the R66 group. Tim began with a review and discussion of the circumstances surrounding the first flight of the R66 in August 2007 by Chief Test Pilot Doug Tompkins. The R66 received its type certificate on Oct. 25, 2010. Robinson updates changes to their manuals similar to the way the Army does. Then we reviewed the flight dynamics of the R66 and the aspects of autorotation and discussed aircraft dynamics at low airspeeds and low altitude. We also studied the high-velocity charts. It's essential for pilots to review and know this.

On day three, we examined the major components of the R66 with Pat Cox, chief maintenance technician for Robinson. Cox has worked for RHC for many years and is knowledgeable with the company's products. He's also a pilot. The R66 has less maintenance requirements with the Rolls-Royce RR300 turbine engine than the R22 or R44. The main rotor system was made simpler, and lighter. The R66 is a result of engineering with information gained from previous accidents and incidents. The turbine engine is angled 37 degrees in the rear to allow for a rear storage compartment and a little more headroom. Some of the attendees flew after the classroom instruction. The rest of the pilots flew the next day. I went up with Tucker in the afternoon. After a pre-flight and a few traffic patterns, we departed the airport and headed for the Long Beach area.

Finally, on day four, the instructors conducted a review followed by an end of course test. Following the test, we once again met with the instructor pilots to prepare for our flights. Tucker made arrangements for me to fly the R22 so I could compare the two aircraft.

The Aircraft

This was my first time flying a Robinson product. The R66 was easy to start while monitoring the N1 and tempera-

ture gauges. Although I've never flown an aircraft with the famous Robinson "T" handle cyclic, and was not sure I would like it, I found it very easy to get used to. By the way, the reason Frank Robinson developed the "T" handle cyclic was primarily to increase lateral cyclic control (almost 11 inches), although it does make it easier to enter and exit the aircraft.

Sitting in and flying the R22 was a little tight, but the R66 was a real pleasure to fly. It was similar to flying a Jet Ranger. It performed well even during touch-down autorotations. The R66 cabin is noticeably wider than the R44 and interior width of the cabin increased by almost 8 inches, giving passengers more shoulder room up front and a third forward facing seat in the back. The hydraulically boosted cyclic collective will make you feel like you're flying in a larger aircraft. The control offered excellent feedback and response to commands.

Organization

Robinson employs more than 1,300 people. This includes five production pilots and two safety course pilots. They also employ pilots in administrative positions such as Monica Reich and Pat Cox who fly ferry flights on as needed basis. Robinson recruits other qualified instructors in the Torrance area to fly with the additional pilots in the course.

The manufacturer delivers approximately 11 to 12 aircraft a week. They produce approximately six R66s, four R44s and two R22s per week. Robinson crossed the 10,000-helicopter delivery mark in November 2011. While attend-



Keith Cianfrani (left) gets a lesson in the Rolls-Royce RR300.



Class photo of recent graduates of Robinson's pilot training course in Torrance.

ing the course, I talked to several operators who took delivery of their aircraft and went through the pre-delivery tasks. One was located in Canada and he took delivery of his 40th Robinson helicopter.

When an operator purchases a Robinson helicopter they must meet strict ferry requirements prior to release of the aircraft. These requirements are an excellent way to ensure pilots are qualified and current prior to accepting an aircraft for flight.

As for the operations, I was very pleased to observe an organization that "lives the safety culture" and does what it takes to ensure a safe working environment. Robinson cares about safety, and recognizes employees for longevity including a helicopter flight at the five and 10-year anniversary of employment. From what the employ-

ees told me, working at Robinson is like working for family.

On the last day, I sat down with Kurt Robinson and discussed my findings and opinions. I expressed that I was glad to see a positive safety climate involving his employees. They feel that they have "ownership" in the company and that what they do, contributes to its success. I expressed that the company practices the Army's "Leader Server Concept" where the leaders serve their subordinates and resources them for success, thus making them and the organization successful.

Final Thoughts

Robinson practices good safety risk management, which is a fundamental part of a Safety Management System (SMS). By doing this, they help prevent

personal injury, ensure a safe working environment, sustain public confidence, and help prevent property and environment damage. The Pilot Safety Course is a good example of safety risk management. This enables the company to sustain profitability.

My overall opinion of the course and Robinson Helicopter was very favorable. The course was conducted professionally and is well organized. The instructors are knowledgeable and experienced in aviation and Robinson products. The course reminded me of other safety courses I've attended throughout my career with the Army. I learned more than I expected. The overall positive safety attitude of RHC was also impressive. It's very refreshing to see that SMS is alive and well in a production helicopter company. 🚁

ROBINSON HELICOPTER COMPANY

2901 Airport Drive, Torrance, CA 90505 USA
 phone: 310-539-0508 fax: 310-539-5198
www.robinsonheli.com