

# Precision Aerobatics Challenge 50

- flight report

by Trent Collins



Immediately after laying eyes on the Challenge 50 for the first time I knew this was going to be a great machine. The metal head block, metal auto hub and metal pitch arm showed that this machine meant business straight out of the box.

After an inspection of the Challenge 50, I was very impressed with the level of 'standard' parts that came with the ARF package deal. The fibreglass canopy and carbon fibre blades put the Challenge into a class of its own when it comes to 50 size ARF models. No other kit comes with these as standard which shows the value for money aspect of the Challenge 50. With a metal head block, there was no flex in the head which meant there would be no flutter during hard 3D manoeuvres and the Challenge would have a rock solid hover. The metal pitch arm again reduces flex to ensure better pitch response during flight. As standard, the Challenge 50 comes with a metal auto hub, unlike many other 50 size machines which come with a one way gear. With all these standard features I didn't expect to need any upgrades at all.

After a quick check over the Challenge 50 to ensure the radio setup and control linkages were ready for flight, normal and 3D flight modes were programmed into the transmitter. Radio gear used included 4 x JR DS811 servos, a JR R600 receiver, a JR X378 transmitter and a Futaba GY401 with S9253 tail servo. The pitch ranges chosen were -5, 6, 9 for normal mode and -10,-6,0,6,10 for 3D flight. Achieving a 20 degrees pitch range on the Challenge 50 was surprisingly easy. The Challenge 50 has a total pitch range of approx 30 degrees without any binding in the head, making 3D pitch curve setups a breeze. For the test flight, approx 50% travel was used on cyclic controls and the GY401 was setup as per the norm. I also setup the throttle hold curve to be the same as the 3D curve so I could test the carbon blades with some autos.

In typical O.S. fashion, the OS 50SXH started first time and settled into a sweet idle. Spooling up slowly, just to check everything was ok, showed plenty of power coming from the OS 50 and after a quick control check the Challenge was lifted off into a steady hover. With the blades perfectly in track, the hover was rock solid and I felt comfortable straight away. The GY401 was working perfectly with the Challenge 50 tail setup and it was quite easy to



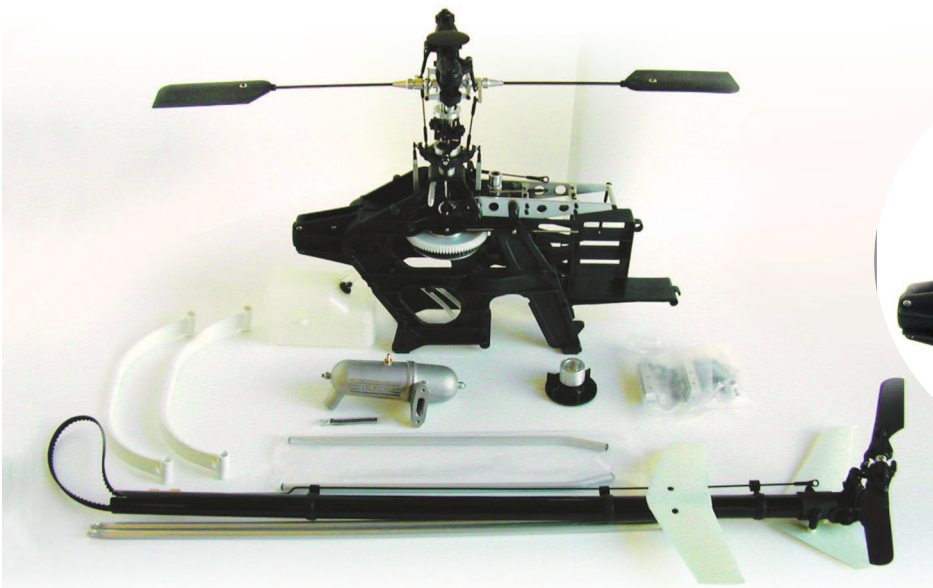
hover "hands off" facing any direction. Hovering side on showed the nice lines of the fibreglass canopy and after a few fuel tanks at hovering flight it was time to expand the flight envelope.

Starting with some short climbs and returns to check the engine tune and low end pickup I headed out on some circuits. The first thing I noticed was the steadiness of the model in the air, it felt and looked more like a 60 size machine than a 50 sized machine. Control response was smooth and precise, and with a small amount of exponential on the cyclic the Challenge was very nice to fly. Some high speed circuits showed the ability to retain speed and I expect the Challenge to perform quite well at F3C type manoeuvres. Some hovering for photos followed by a complete check of the control linkages at the conclusion of the flight to ensure everything was still tight was carried out.

## 3D Flying

Next up it was time to check the 3D performance. At a safe height the 3D flight mode was selected and after some small adjustments to the pitch and throttle curves the Challenge 50 was ready to roll. With the carbon blades and the





standard paddles the Challenge took everything I could throw at it. I can honestly say that I love the standard paddles that come with the Challenge. The rolls were perfectly axial with no engine bogging. It was quite easy to string together 20 plus rolls without losing head speed. Inverted hover was solid as a rock and could be entered by either flipping or rolling into place. Over subsequent flights the Challenge showed its ability to perform more complex manoeuvres like death spirals, tic tocs and tornadoes. With the carbon blades and the OS 50 on full song, the Challenge has plenty of pull, and a lot of torque to get through those pitch intensive manoeuvres.

### Auto Rotation

Next it was time to check the Challenge in an auto. Wow those blades really carry some energy. It was quite easy to auto down, pull back on cyclic to stop forward movement in front of the pilots box, feed in some pitch to climb a little, spin the tail around 180 degrees and set her down gently. It's not very often that you can do that with a 50 size machine.

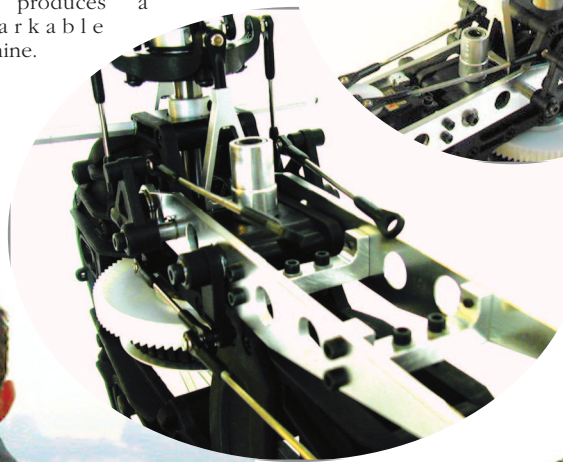
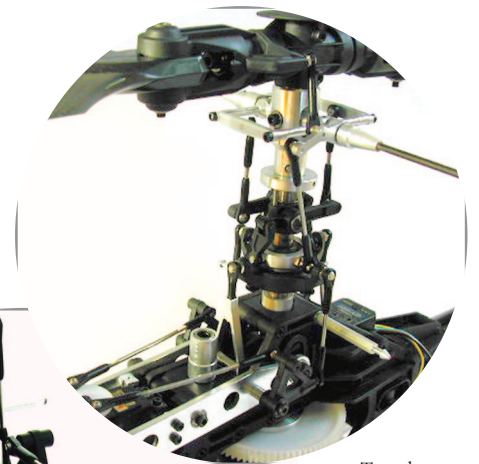
What impresses me the most is that the guys at Precision Aerobatics are open to sugges-

tions and recommendations to design modifications and improvements. This is really the only helicopter on the market where you can request design/hardware changes and be told straight away if your recommendation is being utilized on the next production run. Precision Aerobatics are also carrying a full range of spares to compliment the Challenge 50, and more importantly the spare parts are reasonably priced.

### Impressions

As a comparison, currently I fly another brand, highly modified 50. I have installed a full metal head, am currently using white Fury paddles amongst a myriad of other upgrades, all of which have cost me a small fortune. I have my cyclic movement set to max deflection, just before it binds. On the Challenge I had the standard paddles and approx 50% swash movement and I much preferred the flight performance of the Challenge 50. The Challenge feels very stable, more stable than my other 50, it runs super smooth and I am very impressed with its 3D performance. The combination of the paddles and head that come standard on the Challenge really produces a remarkable machine.

Subsequent weekends have shown that the Challenge 50 has hit the market as one of the new mid sized powerful models that you can take out for a gently fly around, or a good old fashioned thrashing. Is it often difficult to sum up a model as most people have already decided on which helicopter or brand is for them. Still, here's my own thoughts. The value for money that the Challenge offers is second to none out of any deal currently available on the market. All that metal is both very functional and also provides that "bling bling" appeal we are always after. The fibreglass canopy and carbon blades really set this model apart from the rest, and as far as the flying performance goes, it will do anything straight out of the box and most importantly doesn't need any upgrades.



The Challenge 50 is definitely worth a second look whether you're a learner or an experienced flyer alike.

