Type the instruction in the space below:

Change all set manoeuvres with the text shown below:

1.1. Double Immelmann K=4.0

MA performs a half inside loop immediately followed by a half roll to upright flight. After a straight flight of about 20 meters MA performs a half outside loop, again immediately followed by a half roll to upright flight.

1.2 Double roll backwards K=4.5

MA enters in upright backward flight and performs two consecutive axial rolls.

1.3 4-point roll K=4.5

MA enters in upright forward flight and then performs 4 quarter rolls, separated each by a recognizable straight segment of the same duration.

1.4 Outside loop with half rolls K=5.0

MA performs a half roll to inverted flight, followed by a recognizable straight segment and then enters an outside loop (upward). After the loop, MA flies another recognizable straight segment, followed by a half roll to upright flight**.**

1.5 Inverted horizontal eight K=5.0

MA enters in inverted forward flight parallel to the judges' line, performs a 90°-turn to a straight flight above the centre line and then performs a horizontal eight, consisting of two 360° circles.

The manoeuvre is not intended as a hover manoeuvre. In case of low flying speed and banking angle less than 45deg, a maximum of 15 points can be given.

1.6 Backward knife edge pirouette K=5.5

MA enters in upright backward flight, transitions to a slight ascent (max 15°) and performs a quarter roll. After a recognizable straight segment MA performs a 360°-pirouette, followed by another straight segment and a quarter roll in opposite direction to the first to upright backward flight.

1.7 Four pushed half flips K=5.5

MA hovers in upright position, then performs four half pushed flips (forward) each separated by a hovering of 2 seconds. MA maintains its position during the manoeuvre.

1.8 Tic-toc (Metronome) K=6.0

MA hovers and then is rotated (Nose up) about 135°. It then starts rotating alternately about the lateral axis by about 90° forward or backward. Both 45° positions have to be reached at least three times. The tail rotor stays almost in the same position during the manoeuvre**.**

1.9 360°-turn with roll K=6.0

MA enters in upright forward flight and performs a quarter (inside) loop to a vertical climb. Just before the stall, MA performs a 360°-pirouette to a vertical (backward) dive, followed by another quarter (inside) loop to upright flight and an axial backward roll.

1.10 Backward loop K=6.5

MA enters in upright backward flight and performs an inside loop with the tail always pointing in flight direction.

1.11 4-point roll backwards K=6.5

MA enters in upright backward flight and then performs 4 quarter rolls, separated each by a recognizable straight segment of the same duration. The tail of the MA always points in the flight direction.

1.12 Inverted backwards horizontal eight K=7.0

MA enters in inverted backward flight parallel to the judges' line, performs a 90°-turn to a straight flight above the centre line and then performs a horizontal eight, consisting of two 360° circles with the tail always pointing in flight direction.

1.13 Rolling circle K=7.5

MA performs a horizontal circle while it performs consecutive axial rolls. MA speed, rolling rate and the radius of the circle should be constant.

1.14 4 rainbows with half rolls K=7.5

MA performs a rainbow (a semicircle with the lateral axis always vertical to the flight path) to a recognizable stop, then a stationary half roll to another stop. Then it enters another rainbow to a stop on the position of the start of the manoeuvre, followed by another half roll and continues like that, until four rainbows and four half rolls are completed.

1.15 Funnel K=7.5

MA enters in inverted flight and performs a quarter pirouette. MA then performs three superimposed circles in lateral inverted flight with the rotor disk tilt at least 45 degree from a horizontal plane. The diameter of the circles should be at least 10 meters.

1.16 Snake K=8.0

MA enters in upright backward flight and then describes a sinuous line by alternately performing upright and inverted circle segments of equal diameter and length. There should be at least four complete circle segments and the length of the manoeuvre should be at least 50 meters.

1.17 Triple pirouetting flip K=8.0

MA hovers and then starts pirouetting. At the same time or after one pirouette the MA starts to flip three times while it continues to perform pirouettes. There should be at least one pirouette during each 360° flip (2 pirouettes are shown in the drawing). Both rotations should have a constant rate and the MA maintains its position during the manoeuvre.

1.18 Cuban eight backwards K=8.0

MA enters in upright backward flight and performs a 5/8 inside loop to a 45°-descent. It performs a half roll, followed by a ¾ inside loop and another half roll in 45°.descent. MA then finishes the first partial loop to upright backward flight. The tail of the MA always points in the flight direction.

1.19 Pirouetting loop K=8.0

MA enters in upright flight and starts performing pirouettes. Then it performs an inside loop while constantly rotating about the yaw axis. During the loop there have to be at least 2, max 6 pirouettes. The pirouettes should be distributed equal on the loop.

1.20 Backward rolling circle K=9.0

MA enters in backward flight and performs a horizontal circle while it performs consecutive axial rolls. MA speed, rolling rate and the radius of the circle should be constant and the tail of the MA always points in the flight direction.

1.21 Waltz K=8.5

MA enters in inverted flight and performs a quarter pirouette (tail turns to circle centre) to enter a funnel. After a quarter funnel MA performs a complete smaller funnel (max. half diameter of the first) then continues with another quarter larger funnel, followed again by a complete smaller funnel etc. After the larger funnel is completed there is again a complete smaller funnel, followed immediately by another quarter pirouette to the exit in inverted flight. The diameter of the large funnel should be at least 20 meters.

1.22 Double 4-point Tic-toc K=8.0

MA hovers and then is rotated (Nose up) 135°. It then starts rotating alternately about the lateral axis for about 45° in each direction. Both 45°-positions have to be reached one time (ie one tic-toc) and then the MA performs a quarter pirouette. It performs another tic-toc in this position, then again performs another quarter pirouette and so on, until it performed two complete pirouettes while

executing tic-tocs. The quarter pirouette can either be performed just when the model reaches one of the 2 end positions, or integrated in the movement back, before the next tic-toc is performed.

1.23 Pirouetting funnel K=8.5

MA enters in inverted flight and then starts pirouetting whereas it performs three superimposed circles in lateral inverted flight with the rotor disk tilt at least 45 degree from a horizontal plane. The diameter of the circles should be at least 10 meters and there should be at least three pirouettes during each circle.

1.24 Four point tic-toc reversal K=9.0

MA hovers with the tail to the judges' line and is brought to vertical position (Nose up) about 135°. It then starts rotating alternately about the lateral axis for about 45° in each direction. Both 45°-positions have to be reached one time (i.e. one tictoc) and then the MA performs a quarter pirouette in clockwise direction. It performs another complete tictoc in this position, then again performs another quarter pirouette in clockwise direction and so on. After the MA has performed a complete pirouette, the MA starts immediately a second 4-time tictoc in anti-clockwise direction. The MA maintains its position during the manoeuvre.

1.25 Pirouetting globe K=9.0

MA enters in upright flight and then performs four pirouetting loops. During each loop, the flight path is changed in a way, that the next loop is rotated about 45° (seen from above) until a complete globe has been described. The MA exits the manoeuvre at the same altitude but in opposite direction to the beginning. During each loop, the MA must
perform at least two pirouettes.

1.26 Duus Iglo K=9.0

Viewed from above, the manoeuvre shows an X. The centre point of the X is on the centre line. MA enters in 1 of the 4 outer points in the X in upright hovering and boom pointing to centre of X. Model then performs half pulled rainbow, while also doing an integrated half pirouette. Top of rainbow must be the centre of the X. Here model makes sharp quarter aileron roll, and completes second half of the rainbow while making another integrated half pirouette until model hovers inverted shortly. The boom still points to centre of the X, but now in another of the 4 outer points. Same sequence is then repeated 3 more times, until MA is back at starting point. Notice hovering is inverted after first and third sequence.

1.27 Rolling Circle Tail Reversal K=9.5

MA enters in forward upright flight parallel to judge line. Immediately after passing centreline, MA starts a horizontal rolling circle. After each quarter of the circle, MA performs half elevator flip. After half flip the roll input direction must be changed. After complete circle and four half flips, MA exits in forward upright flight. Speed and height of MA must be constant during complete manoeuvre.

1.28 Funnel with half rolls K=9.5

MA enters in inverted flight and performs a quarter pirouette. MA then performs three superimposed circles in lateral inverted flight with the rotor disk tilt at least 45 degree from a horizontal plane. After each half funnel except the last the MA performs a half roll. After three funnels (and five half rolls) the MA exits in upright flight. The diameter of the circles should be at least 10 meters.

1.29 Pirorainbow X reversal K=11.5

MA hovers over the centre line with an angle of 45°, then enters the manoeuvre with a rainbow, a not stationary flip that follows an arched flight path of at least 10 meters length. During the rainbow the MA performs one pirouette in each direction, with the reverse on the top of the rainbow. Then another rainbow (with pirouette reversal) leads back to the starting point. MA then continues with these rainbows alternately about the longitudinal and the lateral axis, until the four outer points of an X (viewed from above) are reached and MA hovers where it started the manoeuvre. MA does not perform any part of pirouettes, when hovering in the centre. During the stops at the four outer points, rotor disk must be horizontal but there should be no hovering.

cont/…

1.30 Pirouetting globe reversal K=10.0

MA enters in upright flight and then performs four pirouetting loops. During each loop, the flight path is changed continually in a way that the low point is passed rotated about 45° (seen from above) until a complete globe has been described.

After each loop the pirouetting direction is changed. The MA exits the manoeuvre at the same altitude but in opposite direction to the beginning. During each loop, the MA must perform at least two pirouettes.