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moved the stick to the left, the left aileron would rise and the right one would be depressed, this would cause the ship to bank to the left but the right or down aileron has more drag than the left one and as the ship banked to the left, the nose would swing to right or in the opposite direction of our intended turn. To counteract this drag of the down aileron or adverse yaw, as it is called, we apply left rudder coordinated with left aileron. The big mystery is how much. Well, it seems to me that if lift makes our sailplane turn, then as soon as it starts to bank, a little bit of lift is acting in the direction of the turn and the nose should start to swing on the horizon. Slowly at first, increasing its speed as the bank is increased and decreasing its speed as the bank is decreased. The movement of the nose along the horizon should slow down and finally stop just as the wings are again level. We achieve this movement by coordinating pressure on the rudder and stick to get the desired results.

If we don't use rudder, the nose will at first swing in the opposite direction of the turn but the lift of the wings will then drag the ship into the turn. However, it will be a slipping turn and your body will lean toward the low side and the ball of your turn and bank indicator will slide to the low side. The reason for the slip is that although the ship is turning, it is not turning fast enough for the degree of bank. If our nose stays on a fixed point as we establish our bank and then starts to swing on the horizon, this is because we used some rudder but not enough. If the nose is stopped on a point on the horizon and held there while we roll out of our turn, we are using too much rudder. We have stopped the ship from turning while lift was still acting in the direction of the turn. When we roll into our turn, part of our lift immediately goes to pull us around the turn and if we don't do something to create more, we will lose altitude.

We create more lift by increasing the back pressure on the stick, thus, increasing the angle of attack of the wings. The steeper the bank the more back pressure it takes. As we create more lift in the turn to make up for the lost vertical component, we must remember that we are also increasing the drag, the stalling speed, and decreasing our airspeed. When we roll out of the turn, we gradually ease off this back pressure to keep excess lift we have created from acting vertically and causing our nose to rise above the horizon.

Once our ship is established in its turn, it will try to stay there if it is a stable ship and we have completely neutralized the controls. After our bank is as steep as we want it, we stop it by bringing the stick back till the bank stops increasing. We must remember that when the ailerons are neutral, we have no adverse yaw; therefore, we have no further need of the rudder. In fact, if we hold a little of our previously applied rudder pressure, it will yaw or skid the ship toward the center of the turn, pulling the nose down. The best way to treat the rudder pedals in a turn is to lift your toes from them on occasion to make sure you are not holding a little pressure. If left alone, the rudder will streamline itself to the turn. The only pressures necessary in the turn are the back pressure and a little opposite aileron to take care of the over-banking tendency. The over-banking tendency is caused because the outside wing is traveling a larger circle and therefore moving faster. Since it is

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