

# *Maneuvers Explained*

## *by sick*

### **Lead Pursuit**

The first thing you need to know how to do is lead a target. This is what will let you gain on a target, achieve a guns solution, and shoot him from the sky. Any encounter will end with one plane achieving lead pursuit on the other; make sure you are the pursuer and you will never lose. Easier said than done, of course. Lead pursuit means aiming the nose of your airplane at the place where your opponent *will be*, instead of where he currently is. The ideal lead pursuit position is that place where squeezing your trigger will cause your lead hose to intersect perfectly with your opponent. If the enemy is violently maneuvering, it will be difficult to maintain this guns solution. In the Pony, it is better to conserve your energy and come around for another pass than to blow your airspeed trying to turn and stay behind your target. Take a shot if you have one, but pull up and overshoot the target if necessary, and come back around for seconds.

### **Lag Pursuit**

This is where you point the nose of your airplane where your opponent *was*. At first this may not seem very useful, but its this technique that will make you a killer. Lag pursuit will allow you to maximize your turn rate (degrees per second) rather than trying to compete with turn radius (how big around your turn is). Lag pursuit is also the best way to pursue an enemy that turns poorly who decides to turn anyway to get away from you. You will let him bleed his airspeed, while you maintain yours. Eventually, he will be unable to sustain his turn, and you can pull lead and kill him. In the Pony, try to keep lag pursuit in the vertical or oblique planes. Avoid flat turns; if one starts, switch to a yo-yo or pitchback to conserve energy.

### **Loop**

Your first vertical maneuver to master should be the simple loop. To do this, just pull back on the stick. Your nose will rise, keep rising, point straight up, and eventually come back down and you will end up going exactly where you where going in the first place. If your desperate you can do a loop at 200 kias, but to be safe a Pony driver should keep 250 kias under his belt (300 kias is even better, and not that hard to arrange in a Mustang). A loop isn't really a vertical circle; its actually a funny egg shape, with your tightest turn at the top of the loop. That's because gravity is pulling your nose down the most then, tightening your turn with a little help from mother nature. In the Pony, use the loop as your first energy conserving move. After a guns pass and an overshoot, loop around and come in for another pass. Remember not to yank back on the stick. A gentle loop is best.

### **Immelman**

An Immelman starts like a loop, but when you get to the top, don't pull over into the second half of the loop. Instead, roll your plane upright. You will have changed direction 180 degrees, and gained altitude at the expense of airspeed. Note that an Immelman is not a good defensive maneuver. You present a slow, planform target, and are far too predictable. Instead, use an Immelman to set up an attack. In the Pony, an Immelman is a nice way to recover from a

successful kill, among other things, to bring back some altitude and let you pick out your next target from above.

### **Split-S**

A split-s is like an upside-down Immelman. You perform it by rolling your plane upside-down, then pulling back on the stick. When you are again flying level, 180 degrees from your beginning course, you've completed the maneuver. The split-s bleeds energy, because it sacrifices airspeed in a turn and also sacrifices altitude. In some circumstances its a viable defensive move, but in most case its used to set up an attack. Cruising over the furball, the Pony driver picks a target that is straggling, separated from his friends. If the target is headed the same direction as the Pony, our hero dives on him. If headed the opposite direction, our hero can split-s onto his tail, pursue him in lag, and when distance closes and the dive begins to flatten out, pull lead and fill the target with lead.

### **Lead Turn**

When two planes approach and merge, head-on or close to it, the normal tendency is to take the head on shot, and when you have passed the enemy, reverse and try and get on his tail. This is futile, and leads to a lot of collisions and pointless head-on deaths. Instead, reverse *before* the merge, and only take a long range head-on snapshot, if you take any head-on shot at all. What will happen is that you will have begun your reversal before your opponent, giving you a rate advantage. This means you have gained angles on him, and the fight will begin to your advantage. In a Pony, a lead turn should be oblique or pure vertical, that is, an Immelman, pitchback or high yo-yo. This will conserve energy as well as gain you angles. A note about head-ons in the Pony: don't. The 'Stang is neither particularly durable nor particularly heavily armed. At best, you will be taking a coin flipping chance at death, and fifty-fifty odds to live aren't what we're looking for.

### **Pitchback**

This is essentially an obliquely executed Immelman. This means that instead of being wings level when you pull up, you are at some angle of bank. This will accomplish a few things. First, it will generate horizontal as well as vertical displacement, meaning that you are sacrificing a little energy in order to make what would look like from the top a very tight horizontal turn. Second, the off angle will make your plane much more difficult to track. As a result, most Immelman's in combat should really be pitchbacks. In a Pony, the pitchback can be an excellent recovery move after a guns pass, in preparation for another attack. It conserves energy, gains altitude, and turns your plane all in one fell swoop. It can also be an effective defensive maneuver, particularly against a poor turner like an FW or a Jug.

### **High Yo-Yo**

This is somewhere between a break turn and a pitchback. It is executed by banking your plane significantly before pulling back on the stick, but not so much that you are making a flat turn. It trades more energy than the pitchback, but a lot less than the flat turn. It also turns you much more than a pitchback, and is very useful when pursuing an opponent when you have too much closure. You can conserve that airspeed by putting it in the altitude bank, as well as tightening your horizontal turn by putting a portion of the vector in the vertical. This is a great guns solution

move for the Pony. A high yo-yo will often let the Pony driver pull lead on an otherwise slower and better turning enemy.

### **Low Yo-Yo**

The opposite of a high yo-yo, the low yo-yo begins by banking your airplane nose low before pulling back on the stick, but not so nose low as to turn it into a split-s. Instead of trading airspeed for altitude, you trade altitude for airspeed. This will increase closure, as well as gaining you angles by inscribing a portion of your turn in the vertical instead of the horizontal. This is an important move when pursuing a high speed bandit that is arcing away from you. By dropping nose low you can gain speed and angles at the same time, and use the Pony's speed and reasonable climb to close on the target.

### **Chandelle**

The Chandelle is nothing more than a gentle climbing turn. Its use in combat, however, is more complicated than it may at first seem. Some aircraft, particularly the Bf109, can use a Chandelle to climb out of an opponents reach, cause them to stall, and then dive to the attack. In the Pony, however, with its decidedly non-stellar climb rate, the Chandelle is best used as a preparatory move. A Chandelle or a series of Chandelles over a furball can gain you significant altitude without a loss in airspeed, and will keep you over the fight and able to observe it while you look for a straggler to dive on. This is a good time to mention that the ideal Pony bounce hits a target from at least 3000 feet above, and hits a target that is separated from the main fight, hopefully by d30 or more. This will let you make a series of guns passes without agonizing overly about a wild-card bandit.

### **Cuban**

This starts like an Immelman or a pitchback, but when your nose is pointed straight up or close to it, roll the plane 180 degrees and keep pulling back on the stick. You will come back down on whatever you just pulled away from. A half cuban ends there. A full cuban involves continuing to pull back on the stick, ending with a split-s type move. The full cuban can be an effective defensive maneuver, as long as you have the airspeed to not be a sitting duck during the initial pull up. A half cuban is a great way to manage closure on a slower target when you don't know which direction or if he's going to break. It will conserve energy like a high yo-yo, but won't commit you to turning in any particular direction.

### **Hammerhead**

This begins like an Immelman, but when the nose is pointed straight up, in the pure vertical, stop pulling up, and just go straight up. Keep doing this until your airspeed has fallen to about 50 kias. At this point, apply full rudder, and your airplane will slew to the side, and will very quickly end up pointed straight down. In the Pony, rudder authority is only average, so you may have to manage your slew with stick input as well. This is a great maneuver to pull on a slower opponent who thinks he can follow you in your zoom climb. He will run out of steam below you, and your sudden reversal at the top will allow you to set up a beautiful high side guns pass. The drawback is that if an unseen wild-card bandit happens to be nearby when you are at the top of your zoom, you are a sitting duck. Stay aware of your surroundings, though, and the hammerhead can get you kills you never dreamed of.

### **Tailslide**

This begins like a hammerhead, but when your airspeed is dropping, don't kick the rudder. Instead, try and keep your nose pointed straight up as your airspeed first falls to zero, and then your airplane begins to drop backwards towards the ground. During the slide, you can reverse with almost any control input, roll, pitch or yaw. The plane so desperately wants to fly forward rather than backward that you will reverse in a split second. The primary use of the tailslide is to confuse the hell out of the enemy. A plane flying backwards is hard to shoot at, since it defies normal notions of lead. But in general, this is a surprise factor maneuver. If the enemy isn't surprised, you are stuck their hanging in mid-air with little to no airspeed, and you make a fine target.

### **Lag Displacement Roll**

This is a complicated maneuver, but if mastered, will bring you much success. When closing on an opponent and he breaks away from you, roll *away* from him and pull up. Continue your roll as you pull up, so that at some point your lift vector is actually pointed back right at the enemy. At this point, pull into him. This will allow you to follow an opponent's radical break turn with a roll and a dive, conserving energy and allowing a plane with poor flat turn performance to use its vertical performance, roll, and speed to pull lead on a breaking target. This is a great maneuver to use during a guns pass, either to follow up on the initial pass or to pursue a target that breaks your guns solution.

### **Defensive Spiral**

This is the only purely defensive maneuver detailed here. If you are in imminent danger, roll your plane so that its obliquely inverted, and pull hard. Keep the nose low, and every now and then roll under so that your turn reverses. You will pick up speed and present a terrificly difficult target to track. The Pony's combination of high speed and good high speed maneuverability lets it perform this with aplomb. When your opponent either loses ground or angles and can no longer follow you, use your speed to extend from the fight. If you can reverse and come back with an energy advantage, do so, otherwise its time to disengage.