# Fundamental KvKs Routines 2.5

## Navigation

To make things easier to read, we color code **clicking** in `red`, **tracking** in `blue`, **switching** in `purple`, **movement-clicking** in `orange`, **movement-tracking** in `yellow`, **movement-switching** in `magenta`.

1. Want to understand the theory behind aiming? Read our aim journey.
2. Still looking for answers? Check our advice faq.
3. Check out our benchmarks here.
4. Join our discord for more help or information.
5. Follow our twitter to stay up to date.
6. Check out our game specific routines and our issue-specific routines.

## Planning your Training

It's important to approach the included routines with a complete understanding of their role, and additionally the role of the benchmarks that they pertain to. Taking part in Voltaic's aim training resources means you intend to improve your mouse control ability through consistent training that pushes you towards several small achievable goals. These goals take the form of our Benchmarks, which assign a rank based on the highest score you garner in a given scenario. It's important to keep in mind that it is up to you, as a player looking to be more proficient, to ensure the benchmark scores you achieve are honest representations of your ability. Your goal shouldn't be to improve solely at our ranking system by overfocusing the benchmarks, but rather honing all aspects related to aim training in its entirety.

With this in mind it becomes evident that Voltaic's Benchmark scenarios should not be the bulk of your training, and finding scenarios that challenge you at your respective level without being debilitatingly difficult becomes a new focus. The Fundamental routines provided here are meant to serve exactly this purpose, providing players with skill-specific routines that serve as spaces where they can work on their weaknesses. When this is coupled with periodically assessing mouse control propensity on our benchmarks, a completely built-out baseline for a training routine can be established.

It's important to reiterate the significance behind playing routines for training that are optimally balanced for a player's specific difficulty. If a scenario is too difficult but continues to be a part of someone's practice, that person will begin to reframe their play for success in the scenario itself, subsequently adopting practices that are highly unlikely to translate to their game of choice. Every bit of improvement made and lessons learned within aim training should apply to a greater scope of concepts that can then be overlaid onto multiple relevant situations.

# Mouse Control Mainstays

When training on the fundamental routines, improvement has to be brought on by deliberate identification of mistakes, and a base understanding of correct principles to adhere to. Practicing with this mindset allows a player to lay a strong foundation early, so they can carve out their own preferred styles and regimen down the line. The common subcategories identified within mouse control training all have principles that work for multiple scenarios of the same type, an overview of which can be seen here:

### DYNAMIC CLICKING

Reading target movements and hit confirming before attempting an elimination make tracking single-click targets much easier to deal with. It's easy to oversimplify movements to their larger and more obvious motions while being unaware of slight changes in depth or speed, and minor direction changes. Smooth target to target transitions will make these movements much easier to perceive, and should prevent disorientation by switching too abruptly or haphazardly.

### STATIC CLICKING

Pushing improvement in static will be brought on by ensuring a continuous balance of speed and accuracy as you progress, while observing details that influence a player's ability to achieve both. Maintaining straight initial flicks, underflicking as much as possible, and attempting to land initial flicks within clusters are keys to success that will prove useful down the line.

### PRECISE TRACKING

Direction changes will be relatively infrequent, and when they do happen they will usually be predictable. Minor changes in speed and depth will be the primary adjustments needed once the simpler strafing motions are initially understood. As with most subcategories, correctly tracking a target with these behaviors is highly dependent on well-refined smoothness.

### REACTIVE TRACKING

Typically an intimidating category for newer players, reactive scenarios stress-test both your smoothness and perception. The stark changes in speed and direction are intentionally present to influence you to overreact and thus inadvertently force multiple adjustments from a single movement. Attempt to find opportunities to undertrack your target and position your crosshair within the target such that you have a buffer to react to sudden direction changes.

### SPEED SWITCHING

Targets within these scenarios are intentionally larger, so that eliminations can become more frequent and influence more switches as a result. Landing your initial flick on each target whenever possible and smoothly tracking its path will be the main aspects of a successful run. Micro-corrections should be few and far between, and partially damaged bots should be avoided whenever possible.

### EVASIVE SWITCHING

Where speed switches lean more toward the accuracy of your switches and less on the smooth tracking once the initial flick has been landed, evasive is meant to assess the opposite conditions. Your transition to smoothness upon coming out of your initial flick should ideally be both seamless and immediate.

# Instructions for Strafe Routines

Traditional Kovaak's movement scenarios can cause players to develop bad habits by unintentionally rewarding movement that favors mirroring opponents or using movement techniques that will make it very easy to predict and hit. Although this routine does not train proper dodging, practicing specifically as directed in this routine, will help a player develop hand independence[1], in order to more efficiently deal damage to others while avoiding damage themselves. We recommend some basic levels of mouse control to get the most out of this routine, as adding movement adds complexity, but we think these scenarios are easy enough that all skill levels should give them a shot.

**Play the scenarios as directed in this document for the most benefit.**

Important
The scenarios underneath and the benchmarks are subject to change. Our goal is to keep this document up-to-date with scenarios that we recommend.

**Disclaimer:** The benchmarks and skill ranks are merely an indication, and you shouldn't insist on playing a routine that's too hard for you. Work your way up so you develop the right habits, rather than speeding through the ranks.

# Frequently Asked Questions

1. **Q: Why are the benchmarks and fundamental routines different?**
   a. The benchmarks are meant to measure your skill and the fundamental routines are meant for improvement, hence why there are no score targets for them. Using traditional education as an example, think of the benchmarks as tests or quizzes and the fundamentals as lessons where the bulk of your learning is done.
2. **Q: How many scores do I need in a certain benchmark rank to advance?**
   a. The scores and their associated ranks are decided by a combination of score targets for each rank and our brand new energy system. Please refer to the benchmarks progression sheet and benchmarks guide in our resources channel for specifics on how these work.
3. **Q: Why are there no Strafe Routines for Gold and below?**
   a. At this level you still need to develop your fundamental mouse control and it's not worth adding another variable. Especially when your core skills are not developed at an acceptable level.
4. **Q: How do I know which fundamental routines correlate to which rank? What routine should I be playing?**
   a. When making the fundamental routines we wanted to make sure that each scenario was hard enough to be challenging, without being so difficult that it's out of reach for the player practicing on it. As a general rule it's usually best to play the routine associated with the rank you're currently benchmarking at, but in the end it's just a guideline. If you think the optimal difficulty balance presides within a different level of routine, whether harder or easier, then feel free to give it a shot. Just make sure as you sample other levels of routine you're honest with yourself about your limitations when training.
5. **Q: Can I mix in other scenarios to this playlist or use scenarios I find here for other playlists?**
   a. Of course! Variety is an import factor in training properly as it keeps you engaged and makes your improvement journey fun and interesting. If you're worried about specifics, feel free to check our recommended scenarios sheet available in our #resources channel.

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[1] Hand Independence - Using your left and right hand independently - Being able to correctly track targets with your mouse, while accounting for simultaneous movement inputs on your keyboard

# IRON ⚡

**Novice level** - start here if you're a completely new, unranked or **Iron** on the benchmarks.

To advance to the next rank, complete the **Bronze** benchmarks

## COMPLETE ROUTINE

**Duration:** 65 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

> KOVAAKSFINISHINGGREENADVENTURE

1. Centering 90 Easy+ No Strafes or Thin Aiming Long Iron - **3 runs**
    a. **Description:** Thin horizontal strafing targets that change directions.
    b. **How:** Focus on being as smooth as possible and reacting quickly to the directional changes.
    c. **Why:** This slower version should help you transition into the more challenging version because it helps develop your horizontal smoothness tracking and reactivity at a beginner level.
2. Air Voltaic Far Long Strafes Very Easy - **3 runs**
    a. **Description:** Track a far air target with long strafes.
    b. **How:** Focus on being smooth while reacting to the directional changes.
    c. **Why:** This slow version helps you learn how to track a far target with long horizontal strafes with some verticality at a beginner level.
3. Air Voltaic Close Long Strafes Very Easy - **3 runs**
    a. **Description:** Track a close target with quick horizontal strafes and gradual height changes.
    b. **How:** Focus on being smooth while reacting to the direction swaps
    c. **Why:** This slow version helps you learn how to track a close target with long horizontal strafes with some verticality at a beginner level.
4. GP Far Long Strafes Easy - **3 runs**
    a. **Description:** Far strafing horizontal targets with long strafes.
    b. **How:** Focus on reacting to the direction swaps, do not try to predict the bot.
    c. **Why:** Helps you learn how to track a far horizontal strafing target at a beginner level.
5. GP Close Long Strafes Easy - 3 **runs**
    a. **Description:** Close strafing horizontal targets with long strafes.
    b. **How:** Focus on reacting to the directional changes, do not try to predict the bot
    c. **Why:** Helps you learn how to track a very close horizontal strafing target at a beginner level.
6. Kindaclose Fast Strafes Iron - **3 runs**
    a. **Description:** Horizontal target with fast strafes.
    b. **How:** Focus on reacting quickly to the bot without predicting. Pretend the bot is going to strafe forever, then when it switches directions, react as fast as you can.
    c. **Why:** Improves horizontal smoothness and reactivity that simulates a lot of movements you see in game.
7. B90TI Iron - **3 runs**
    a. **Description:** Large target in a 90 degree map with a predictable arc pattern.
    b. **How:** Focus on being precise by keeping your crosshair on the target as much as you can.
    c. **Why:** Helps practice your vertical precise tracking at a beginner level.
8. Smoothbot Iron - **4 runs**
    a. **Description:** Arm aiming and 360 tracking through the air.
    b. **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.

     c.    **Why:** This scenario helps practice your 360 tracking, and starts getting you into the habit of using your whole mouse pad including awkward angles when tracking.

9. `Pasu Voltaic Iron` - **5 runs**
     a.    **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
     b.    **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
     c.    **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

10. `B90 Voltaic Iron` - **5 runs**
     a.    **Description:** One shot kill targets that bounce in a 90 degree map.
     b.    **How:** Focus on hitting the target when it's at its apex (highest point), and avoid reloading.
     c.    **Why:** The time scale and larger bots make it easier for you to start getting a little understanding of crosshair placement by placing your crosshair near the apex of the bots.

11. `Tamspeed 2bp Iron` or `Tile Spheres 90 Strafing` - **5 runs**
     a.    **Description:** Tamspeed 2bp Iron is a semi-fast clicking scenario with 2 targets down a hall that strafe left and right. Tile Spheres 90 Strafing has horizontal strafing targets in a 90 degree map.
     b.    **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.
     c.    **Why:** This scenario teaches how to micro flick between two moving targets efficiently at a beginner level.

12. `Pokeball ww3t Voltaic Iron` - **5 runs**
     a.    **Description:** 3 large targets on a wide wall that have instant regenerative health.
     b.    **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Make a quick micro-adjustment after your initial flick if needed. While you are performing this micro-adjustment, have the next target in mind.
     c.    **Why:** Targets are big enough to help with the lack of precision beginners usually have to make practicing speed switching possible at a beginner level. Helps with precision and speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another.

13. `Wide Wall 3 Targets TE` - **5 runs**
     a.    **Description:** 3 Large static targets on a wide wall.
     b.    **How:** Focus on keeping straight lines when going from target to target and keeping high accuracy.
     c.    **Why:** This version helps build some of the fundamentals of static targets by starting off with larger targets than the original version. As you improve, targets will begin to get smaller.

14. `1w2t TE Reload` - **5 runs**
     a.    **Description:** 2 Large static targets on a wall.
     b.    **How:** Focus on keeping straight lines when going from target to target and keeping high accuracy.
     c.    This version helps build some of the fundamentals of static targets by starting off with larger targets than the original version to help. As you improve, targets will begin to get smaller.

15. `B90T Voltaic Easy Very Slow` or `kinTS Voltaic Iron` - **5 runs**
     a.    **Description:** B90T Voltaic Easy Very Slow is a 90 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Iron is a larger angle switching scenario against fast and evasive targets.
     b.    **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.
     c.    **Why:** These targets are slow and large.. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles.

16. `patTS Voltaic Iron` or `voxTS Voltaic Iron` - **5 runs**

a.  **Description:** patTS Voltaic Iron is a 180 scenario that involves slow, low-ttk and long strafing targets. voxTS Voltaic Iron is a very low-ttk and slow strafing 180 horizontal target switching scenario.
b.  **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
c.  **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# BRONZE ⚡

**Novice level** - start here if you're a beginner or **Bronze** on the benchmarks.

To advance to the next rank, complete the **Silver** benchmarks

## COMPLETE ROUTINE

**Duration:** 65 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

**KOVAAKSFLANKINGGREENPISTOL**

1.  Centering 90 Easy No Strafes or Thin Aiming Long Bronze - **3 runs**
    a.  **Description:** Track very thin targets that make long strafes
    b.  **How:** Focus on being as smooth as possible and fast on direction swapping
    c.  **Why:** This slower version should help you transition into the more challenging version because it helps develop your horizontal smoothness tracking and reactivity at a beginner level.
2.  Air Voltaic Far Long Strafes Easy - **3 runs**
    a.  **Description:** Track a far target with long strafes and directional changes.
    b.  **How:** Focus on being smooth while reacting to the direction swaps
    c.  **Why:** This slow version helps you learn how to track a far target with long horizontal and vertical strafes.
3.  Air Voltaic Close Long Strafes Easy - **3 runs**
    a.  **Description:** Track a close target with quick horizontal strafes and gradual height changes.
    b.  **How:** Focus on being smooth while reacting to the direction swaps
    c.  **Why:** This slow version helps you learn how to track an up close target with quick horizontal directional changes and occasional verticality that increases in height gradually. This is to help develop your reactivity at a beginner level, and begin getting used to tracking a target that may have you move your mouse at an uncomfortable position on your mousepad.
4.  GP Far Long Strafes - **2 runs**
    a.  **Description:** Ground plaza far bot that has horizontal strafes.
    b.  **How:** Focus on reacting to the direction swaps, do not try to predict the bot
    c.  **Why:** This scenario helps you develop your horizontal reactivity and tracking.
5.  GP Close Long Strafes - **2 runs**
    a.  **Description:** Ground plaza close bot that has horizontal strafes.
    b.  **How:** Focus on reacting to the direction swaps, do not try to predict the bot
    c.  **Why:** Helps with up-close horizontal tracking.
6.  Kindaclose Fast Strafes Bronze - **4 runs**
    a.  **Description:** Horizontal Fast Strafing targets that are fairly close**.**
    b.  **How:** Focus on reacting quickly to the bot without predicting. Pretend the bot is going to strafe forever, then when it switches directions, react as fast as you can.
    c.  **Why:** Improves horizontal smoothness and reactivity that simulates a lot of movements you see in game.
7.  PGTI Vertical Bronze - **4 runs**
    a.  **Description:** Features a target that moves exclusively vertically.
    **b.**  **How:** Focus on being precise without resetting your mouse often or at all if possible.
    c.  **Why:** Helps practice your vertical tracking and smoothness at a beginner level.
8.  Smoothbot Bronze - **4 runs**
    a.  **Description:** Arm aiming and 360 tracking through the air.
    **b.**  **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.

c. **Why:** This scenario helps practice your 360 tracking, and starts getting you into the habit of using your whole mouse pad when tracking.

9. `Pasu Voltaic Bronze` - **5 runs**
   a. **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
   b. **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
   c. **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

10. `B90 Voltaic Bronze` - **5 runs**
    a. **Description:** Bounce 90 degrees that features bots with a predictable arc pattern.
    b. **How:** Focus on hitting the Target when it's at his apex, be accurate to avoid reloading
    c. **Why:** The time scale and larger bots make it easier for you to start learning fundamentals and get a little understanding of crosshair placement by placing your crosshair near the apex of the bots.

11. `Tamspeed 2bp Bronze` - **5 runs**
    a. **Description:** A semi-fast clicking scenario with 2 targets down a hall that strafe left and right.
    b. **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.
    c. **Why:** This scenario teaches how to micro flick between two moving targets efficiently.

12. `Pokeball ww3t Voltaic Iron` - **5 runs**
    a. **Description:** 3 large targets on a wide wall that have instant regenerative health.
    b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Make a quick micro-adjustment after your initial flick if needed. While you are performing this micro-adjustment, have the next target in mind.
    c. **Why:** Targets are big enough to help with the lack of precision beginners usually have to make practicing speed switching possible at a beginner level. Helps with precision and speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another.

13. `ww3t Voltaic Larger` - **5 runs**
    a. **Description:** 3 Large static targets on a wide wall.
    b. **How:** Focus on keeping straight lines when going from target to target and keeping high accuracy.
    c. **Why:** This is a slight step up from the iron routine. The targets are slightly smaller to place a greater emphasis on precision.

14. `1w4ts 30% larger` - **5 runs**
    a. **Description:** 4 still small, but slightly larger, static targets on a wall.
    b. **How:** Focus on keeping straight lines when going from target to target and keeping high accuracy. Fast flick, then micro-correct while thinking about the next target you will make a fast flick towards.
    c. This version helps build some of the fundamentals of static targets by starting off with larger targets than the original version to help with the lack of precision beginners will usually have. As you improve, targets will begin to get smaller.

15. `B90T Voltaic Easy Slow` or `kinTS Voltaic Bronze` - **5 runs**
    a. **Description:** B90T Voltaic Easy Slow is a 90 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Bronze is a larger angle switching scenario against fast and evasive targets.
    b. **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.
    c. **Why:** These bots get harder to track due to their size and speed. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles.

16. `patTS Voltaic Bronze` or `voxTS Voltaic Bronze` - **5 runs**

Aim Training routines by [Voltaic](#)

a. **Description:** patTS Voltaic Bronze is a 180 scenario that involves slow, low-ttk and long strafing targets. voxTS Voltaic Bronze is a very low-ttk and slow strafing 180 horizontal target switching scenario.
b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# SILVER ⚡

**Novice level** - start here if you're a beginner or **Silver** on the benchmarks.

To advance to the next rank, complete the **Gold** benchmarks

## COMPLETE ROUTINE

**Duration:** 65 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

> **KOVAAKSFLASHINGHARDFORCEBUY**

1. Centering I 90 no strafes - **2 runs**
   a. **Description:** Horizontal strafing target in a 90 degree map that does not change directions until it reaches the wall.
   b. **How:** Focus on being as smooth as possible by not tensing and relaxing your wrist and arm when tracking the target.
   c. **Why:** This slow and invincible version should help you transition into the more challenging version because it helps develop your horizontal smoothness tracking.
2. Air Voltaic Easy Invincible 2 - **3 runs**
   a. **Description:** Track an air target with verticality and quick horizontal strafes
   b. **How:** Focus on being as smooth and reactive as possible on the directional changes of the target
   c. **Why:** This easy version helps develop your smoothness and reactive tracking at an amateur level to help get you ready for the harder version.
3. Air Voltaic Easy Invincible 1 - **2 runs**
   a. **Description:** Track a distant target with long strafes that move diagonally, vertically, and horizontally
   b. **How:** Focus on being as smooth as possible and reacting quickly to the directional changes
   c. **Why:** This easy version helps you develop your smoothness tracking and ability to react to directional changes at a beginner level to help you get ready for more challenging versions
4. Ground Plaza Voltaic Easy Invincible 2 - **3 runs**
   a. **Description:** Track a thin, invincible, and up close target that strafes horizontally with occasional stops
   b. **How:** Focus on being as smooth as possible and reactive on the directional changes and stops the target occasionally does. Do your best not to predict the target.
   c. **Why:** This larger and invincible version should help you transition into the more challenging version because it helps develop your horizontal smoothness tracking and reactivity.
5. Ground Plaza Voltaic Easy Invincible 1 - **3 runs**
   a. **Description:** Track a horizontal target that dashes and changes directions quickly.
   b. **How:** Focus on being as smooth as possible and reactive when the target blinks and changes directions.
   c. **Why:** This easy version should help you transition into the more challenging version because it helps develop your horizontal smoothness tracking and reactivity.
6. Kindaclose Fast Strafes Silver - **4 runs**
   a. **Description:** Up close fast and long strafes.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones.
   c. **Why:** Improves horizontal smoothness and reactivity that simulates a lot of movements you see in game.
7. PGTI Vertical Silver - **4 runs**

a.  **Description:** Features a target that has very long strafes.
    b.  **How:** Focus on being precise without resetting your mouse often or at all if possible.
    c.  **Why:** Great for improving your smoothness tracking. They get you to start getting used to using most of your mousepad, so you may find yourself on awkward parts of your mousepad you've hardly used before.

8.  Smoothbot Silver - **4 runs**
    a.  **Description:** Arm aiming and 360 tracking through the air.
    b.  **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.
    c.  **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.

9.  Pasu Voltaic Silver - **5 runs**
    a.  **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
    b.  **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
    c.  **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

10. B180 Voltaic Silver  or  Popcorn Voltaic Silver  - **5 runs**
    a.  **Description:** B180 Voltaic Silver is a 180 degree map with 4 bots that have predictable arc movement. Popcorn Voltaic Silver has a full 360 degree map with small targets and predictable arc movements and  height variances.
    b.  **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex and focus on not reloading as much as possible.
    c.  **Why:** The time scale and larger targets make it easier for you to continue getting a grasp of the fundamentals of crosshair placement by placing your crosshair near the apex of the targets. As you improve, the time scale and bot size will decrease, so minimizing the amount of times your reload and improving your precision now will be very beneficial.

11. Tamspeed 2bp Silver - *5 runs*
    a.  **Description:** A semi-fast clicking scenario with 2 targets down a hall that strafe left and right.
    b.  **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.
    c.  **Why:** This scenario teaches how to micro flick between two moving targets efficiently.

12. Pokeball 1w4t shrink  - **5 runs**
    a.  **Description:** 4 targets with instant regenerative health that decrease in size as you eliminate them. The scenario is on a square wall. Kill all 120 bots to complete the scenario.
    b.  **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Make a quick micro-adjustment after your initial flick if needed. While you are performing this micro-adjustment, have the next target in mind.
    c.  **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another.

13. ww3t Voltaic - **5 runs**
    a.  **Description:** 3 medium sized static targets on a wide wall.
    b.  **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
    c.  **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.

14. 1w4ts Voltaic - **5 runs**
    a.  **Description: 4** Small Static targets on a wall.

b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to avoid missing too much. Make a fast flick, then micro-adjust while thinking about the next large fast flick that you are going to make.

c. **Why:** These scenarios emphasize micro correction, micro flicking, and cluster practice at a beginner level.

15. B180T Voltaic Silver or kinTS Voltaic Silver - **5 runs**

a. **Description:** B180T Voltaic Silver is a 180 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Silver is a larger angle switching scenario against fast and evasive targets.

b. **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.

c. **Why:** These bots get harder to track due to their size and speed. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles

16. patTS Voltaic Silver or voxTS Voltaic Silver - **5 runs**

a. **Description:** patTS Voltaic Silver is a 180 scenario that involves slow, low-ttk and long strafing targets. voxTS Voltaic Silver is a very low-ttk and slow strafing 180 horizontal target switching scenario.

b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.

c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# GOLD ⚡

**Novice level** - start here if you're an advanced beginner or **Gold** on the benchmarks.

To advance to the next rank, complete the **Platinum** benchmarks

## COMPLETE ROUTINE

**Duration:** ~65 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

### KOVAAKSFLICKINGHORIZONTALCHAMPION

1. Thin Gauntlet Gold - **2 runs**
   a. **Description:** Slightly Easier version of Thin Gauntlet to practice horizontal tracking.
   b. **How:** Focus on being as smooth as possible and fast on direction swapping.
   c. **Why:** This Version helps practice your horizontal smoothness at an amateur level.
2. PGTI Voltaic Gold or B180TI Voltaic - **4 runs**
   a. **Description:** PGTI Voltaic Gold and B180T Voltaic feature a bot with a predictable arc pattern except PGTI Voltaic Gold has more verticality.
   b. **How:** focus on being smooth and precise against vertical angles on a relatively small target
   c. **Why:** Great for improving your smoothness tracking. These scenarios get you to start using most of your mousepad, so you may find yourself on awkward parts of your mousepad you've hardly used before.
3. Smoothbot Voltaic Easy - **4 runs**
   a. **Description:** Arm aiming and 360 tracking through the air.
   b. **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.
   c. **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.
4. Kindaclose Fast Strafes or Close Fast Strafes Easy Invincible - **4 runs**
   a. **Description:** Kindaclose Fast Strafes is a decently difficult to hit invincible bot that maintains close but not in your face distances. Close Fast Strafes Easy Invincible Easy to hit up close fast strafing bot.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones. Do not predict direction changes.
   c. **Why:** Improves horizontal smoothness and reactivity that simulates a lot of movements you see in game.
5. Ground Plaza Voltaic Easy - **2 runs**
   a. **Description:** Track horizontal targets that dash and change directions quickly.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones.
   c. **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes
6. Air Voltaic Easy or Air Voltaic AIO Easy - **2 or 4 runs respectively**
   a. **Description:** Air Voltaic Easy is tracking larger Air bots that have different dodge patterns Air Voltaic AIO Easy is tracking an invincible larger Air bot that has many different dodge patterns

Aim Training routines by Voltaic

b. **How:** Focus on smoothness in between small reactions to a bot that changes direction fairly slowly. Be able to react quickly when the bot does change direction without over-flicking, then track smoothly until the next directional change

c. **Why:** Improves vertical and horizontal reactivity and smoothness.

7. Pasu Voltaic Easy - **5 runs**
   a. **Description:** A click timing scenario that features bots that strafe diagonally and has erratic strafes against a wall.
   b. **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
   c. **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

8. Popcorn Voltaic Easy or B180 Voltaic Easy - **5 runs**
   a. **Description:** B180 Voltaic Easy is a 180 degree map with 4 bots that have predictable arc movement. Popcorn Voltaic Easy has a full 360 degree map with small targets and predictable arc movements and height variances.
   b. **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex and focus on not reloading as much as possible.
   c. **Why:** The time scale and larger targets make it easier for you to continue getting a grasp of the fundamentals of crosshair placement by placing your crosshair near the apex of the targets. These versions are slightly more difficult than the previous rank.

9. Tamspeed 2bp Gold - **5 runs**
   a. **Description:** A semi-fast clicking scenario with 2 targets down a hall that strafe left and right.
   b. **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.
   c. **Why:** This scenario teaches how to micro flick between two moving targets efficiently.

10. Pokeball Frenzy Auto Wide Wall 4 Targets Small - **5 runs**
    a. **Description:** 4 small targets on a wide wall that have instant regenerative health.
    b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Make a quick micro-adjustment after your initial flick if needed. While you are performing this micro-adjustment, have the next target in mind.
    c. **Why:** Helps with not over-flicking during static clicking scenarios or aiming at static targets in games

11. ww3t Voltaic Smaller or Wide Wall 3 Targets - **5 runs**
    a. **Description:** ww3t Voltaic Smaller is 3 smaller sized static targets on a wide wall. Wide Wall 3 Targets is very similar but the wall is a bit closer to you
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to avoid missing too much. Make a fast flick, then micro-adjust while thinking about the next large fast flick that you are going to make.
    c. **Why:** Helps practice micro corrections, micro flicking, and clusters.

12. 1w4ts Voltaic or 1w2ts reload or 1w4t shrink - **5 runs**
    a. **Description:** 1w4ts Voltaic consists of one wall and 4 small static targets that will instant spawn upon being eliminated. 1w2ts reload has 2 small static targets that will instantly spawn upon being eliminated. 1w4t shrink contains 4 targets that will become smaller as you progress through the scenario.
    b. **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run. Make a fast flick, then micro-adjust while thinking about the next large fast flick that you are going to make.
    c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.

13. B180T Voltaic Easy or kinTS Voltaic Easy - **5 runs**

Aim Training routines by Voltaic

a. **Description:** B180T Voltaic Easy is a 180 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Easy is a larger angle switching scenario against fast and evasive targets

b. **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.

c. **Why:** These bots get harder to track due to their size and speed. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles

14. patTS Voltaic Easy or voxTS Voltaic Easy - **5 runs**

a. **Description:** patTS Voltaic Easy is a 180 scenario that involves slow, low-ttk and long strafing targets. voxTS Voltaic is a very low-ttk and slow strafing 180 horizontal target switching scenario.

b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.

c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# PLATINUM ⚡

**Intermediate level** - start here if you're a sub-intermediate FPS Player or **Platinum** on the benchmarks.

To advance to the next rank, complete the **Diamond** benchmarks

## COMPLETE ROUTINE

**Duration**: ~65 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

> **KOVAAKSGEARINGHORIZONTALWEAPONLEVEL**

1. Thin Gauntlet V2 - **2 runs**
   a. **Description:** Horizontal strafing targets with different movement patterns. Some are more precision oriented, and some focus more on reactivity.
   b. **How:** Focus on being as smooth as possible and fast when switching directions
   c. **Why:** This version of Thin Gauntlet helps practice your horizontal smoothness and reactivity at an intermediate level.
2. PGTI Voltaic Easy or B360TI Voltaic - **4 runs**
   a. **Description:** PGTI Voltaic Easy and B360TI Voltaic feature a bot with a predictable arc pattern except PGTI Voltaic Easy has more verticality.
   b. **How:** Focus on being smooth and precise against vertical angles on a relatively small target
   c. **Why:** Great for improving your smoothness tracking. These scenarios get you to start using most of your mousepad, so you may find yourself on awkward parts of your mousepad you've hardly used before.
3. Smoothsphere Easy - **3 runs**
   a. **Description:** Track a small dot as it flies around you at various distance and speed.
   b. **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.
   c. **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.
4. Controlsphere Platinum - **3 runs**
   a. **Description:** Track a small gently jumping bot as it flies around you at varying distance and speed.
   b. **How:** Be smooth and react to the directional changes of the target. Try not to overcorrect/overshoot.
   c. **Why:** Improves your horizontal and vertical smoothness tracking.
5. Ground Plaza Voltaic Easy - **2 runs**
   a. **Description:** Track horizontal targets that dash and change directions quickly.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones.
   c. **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes
6. Close Fast Strafes Invincible - **3 runs**
   a. **Description:** Easy to hit up close fast strafing
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones. Do not predict direction changes

    c. **Why:** Improves horizontal smoothness and reactivity that simulates a lot of movements you see in game.

7. `Air Voltaic Easy` or `Air Voltaic AIO Easy` - **2 or 4 runs respectively**
    a. **Description:** Air Voltaic Easy is tracking larger Air bots that have different dodge patterns Air Voltaic AIO Easy is tracking an invincible larger Air bot that has many different dodge patterns
    b. **How:** Focus on smoothness in between small reactions to a bot that changes direction fairly slowly. Be able to react quickly when the bot does change direction without over-flicking, then track smoothly until the next directional change
    c. **Why:** Improves vertical and horizontal reactivity and smoothness.

8. `Pasu Voltaic Intermediate` - **5 runs**
    a. **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
    b. **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
    c. **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

9. `Popcorn Voltaic Intermediate` or `B180 Voltaic Intermediate` - **5 runs**
    a. **Description:** B180 Voltaic Intermediate is a 180 degree map with 4 bots that have predictable arc movement. Popcorn Voltaic Intermediate has a full 360 degree map with small targets and predictable arc movements and height variances.
    b. **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex and focus on not reloading as much as possible.
    c. **Why:** The larger targets make it easier for you to continue learning crosshair placement and reading the bot's pattern at an appropriate level.

10. `Tamspeed 2bp Platinum` - **5 runs**
    a. **Description:** A semi-fast clicking scenario with 2 targets down a hall that strafe left and right.
    b. **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.
    c. **Why:** This scenario teaches how to micro flick between two moving targets efficiently.

11. `Pokeball Frenzy Auto Wide Wall 4 Targets Extra Small` - **5 runs**
    a. **Description:** 4 targets on a wide wall that have instant regenerative health.
    b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Make a quick micro-adjustment after your initial flick if needed. While you are performing this micro-adjustment, have the next target in mind.
    c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another.

12. `ww3t Voltaic 50% smaller` or `ww4t Varied` or `Wide Wall 4 Targets Small` - **5 runs**
    a. **Description:** ww3t Voltaic 50% smaller consists of a wide wall and 3 small targets. ww4t Varied is a wide wall with 4 targets that will decrease in size as you play through the scenario. Wide Wall 4 Targets Small consists of a wide wall and 4 small static targets that will instant spawn upon being eliminated.
    b. **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run. Make a fast flick, then micro-adjust while thinking about the next large fast flick that you are going to make.
    c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.

13. `1w4ts_truste Raspberry` or `1w2ts reload smallflicks` - **5 runs**
    a. **Description:** 1w4ts_truste Raspberry is 1w4ts but the bots spawn in clusters . 1w2ts reload smallflicks 2 small static targets that spawn relatively close together.
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision.

      c.    **Why:** Helps practice micro corrections, micro flicking, and cluster practice.

14. `B360T Voltaic Easy` or `kinTS Voltaic Easy` - **5 runs**
      a.    **Description:** B360T Voltaic Easy is a 360 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Easy is a larger angle switching scenario against fast and evasive targets.
      b.    **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.
      c.    **Why:** These bots get harder to track due to their size and speed. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles

15. `patTS Voltaic 360 Easy` or `voxTS Voltaic` - **5 runs**
      a.    **Description:** patTS Voltaic is a 180 scenario that involves slow, low-ttk and long strafing targets. voxTS Voltaic is a very low-ttk and slow strafing 180 horizontal target switching scenario.
      b.    **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
      c.    **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# PLATINUM STRAFE

**Duration:** ~37 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

**KOVAAKSNAMEDROPPINGSILVERHEAVEN**

Make sure to read Instructions for Strafe Routines and the instructions for each scenario below, to play these scenarios properly.

Despite this section being optional, we do highly recommend playing these as they develop your hand independence and various strafe aim techniques. Movement-based mouse control is an entirely different discipline from other forms with extreme prevalence in modern games.

Avoid playing the scenarios below for high scores, the objective here is to yield the best practice possible, playing for high scores for most of these scenarios will provide little to no benefit.

- Pistol Strafe Gallery Platinum *- 2 minutes*
  - **Description:** Three cylinder shaped bots with spherical heads strafe over a plane with stairs and different elevations.
  - **How:** Keep moving during the entirety of the scenario while going for headshots (hitting the spheres on top of the cylinder) exclusively. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate higher ttk click-type targets all whilst strafing.
- Air Dodge TS Platinum *- 2 minutes*
  - **Description:** Five spherical bots that move in sporadic directions similar to the **tracking** equivalent of Air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple evasive targets in quick succession all whilst strafing.
- Arc Dodge Switch Platinum *- 2 minutes*
  - **Description:** Six spherical bots that leap slowly, and mostly vertically in the air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple vertical-biased targets in quick succession all whilst strafing.
- XY Tracking Dodge Platinum *- 2 minutes*
  - **Description:** Fundamental Strafe Aim scenario with a spherical bot that strafes on a XY Axis.
  - **How:** Track the bot while staying in motion during the entirety of the scenario, try to strafe in a way to make it easy to track the bot and switch directions when the bar has filled up to keep being rewarded with movement scoring.
  - **Why:** Develops core Strafing Fundamentals such as hand independence and mirroring/anti-mirroring.

## How to play AngleStrafe, SkyStrafe and BounceStrafe

In these three scenarios above, MBS scoring is used - by default you should see a bar that fills up as you move. The amount of movement score you get is based on the time spent strafing before changing direction. As long as you change direction while the bar is green, you get maximum movement score. The bar is green between 3% and 100% filled. If you keep moving while the bar is full, you don't get any score. The score is capped to a

value that is easy to reach (200 for AngleStrafe & BounceStrafe 1000 for SkyStrafe) as long as you move throughout the scenario. You should find ways to move in ways that make aiming relatively easy, while ensuring your movement is honest to how you may navigate in your respective game.

- VT AngleStrafe Intermediate - *2 minutes*
  - **Description:** Slow moving bots travel in straight lines with either random or collision based direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
  - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT BounceStrafe Intermediate - *2 minutes*
  - **Description:** Bots leap in mid-low arcs with reasonably paced and random direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
  - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT SkyStrafe Intermediate - *2 minutes*
  - **Description:** A single invincible bot makes fast and sporadic X/Y/Z strafes while the player navigates the space as they shoot.
  - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid overreacting to direction changes and strafe with intention to account for your self imposed changes in direction.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- Revolving Tracking - *2 minutes*
  - **Description:** The player slowly moves in a figure-eight pattern around two stationary bots, passing through a threshold at the center to indicate which bot should be focused.
  - **How:** Keep the crosshair on the target by using your arm to smoothly track across your entire mousepad. Do not reposition until you are forced to switch targets
  - **Why:** Arm warm up scenario that will help with becoming more comfortable on all areas of your mousepad, and understanding the physical mouse movements required to circle strafe a target
- Pole Long Dodge - *3 minutes*
  - **Description:** Extremely simple scenario with a stationary pole as the target, and the ability to move anywhere on the map
  - **How:** Ignore your score and the movement bar. Move however you want but keep your crosshair on the target. Try to practice close and far distances. Move more erratically for a more difficult challenge. If you are unable to move erratically and still hit a high %, keep practicing this routine and coming back to the scenario.
  - **Why:** Being able to hit a stationary target while strafing in all directions with your keyboard hand is a critical step. We must be able to do this before we can also start to hit a moving or dodging target. A stationary target will also help you easily notice smoothness problems when strafing in these directions, so be on the lookout for a jumpy crosshair.
- Close LS Dodge Platinum - *3 minutes*
  - **Description:** Full range of movement scenario with a long strafing target.
  - **How:** Play this by holding left **OR** right strafe, and only left or right strafe, for the entire bot. Switch strafe direction when you kill a bot. This should cause you to circle the bot.

- **Why:** I like playing this scenario, in the described way, a bit more than revolving tracking strafes because you learn how your own inputs with the keyboard and mouse will transition your aim from mirroring to anti-mirroring a target. Be mindful of this transition into anti-mirroring and circling the target.

## How to play Cycle Strafes Long, Circle Strafes Fast and 3D Mid Dodge

**Pay Attention to the Movement Bar for these 4 Scenarios**:
These scenarios are the heart of the training and where most of the hand independence problems will show up. The scenarios present a relatively easy to track target, but the scenarios get very complex when we pair this tracking with very specific movement/strafing instructions.

The secret to these scenarios is making sure you get the specific movement correct. You will end up holding the left or right strafe until the movement bar switches green, then you will hold the opposite strafe direction and repeat. You can pay attention to the movement bar or enable sounds on when you should change your strafe direction in order to understand the movement rhythm. While doing this you will be required to track the target with your mouse hand, independently of how you are moving.

- Cycle Strafes Long Platinum - *4 minutes*
- Circle Strafes Long Varied Platinum - *3 minutes*
- Circle Strafes Fast Platinum - *3 minutes*
- 3D Mid Dodge Platinum - *3 minutes*

## How to play PatStrafe

In the scenario above, conditional distance traveled scoring is used and is capped to 1000. In short, as long as you don't mirror every bot 100% of the time, you will reach the score cap. In theory, reaching maximum movement score requires you to anti-mirror for at least about 30-40% of the time.

In practice you will get an anti-mirror score while you are unintentionally anti-mirroring anyway. If you only mirror during the run, you will not reach the movement score cap. If you only anti-mirror you will easily reach score cap but your accuracy will suffer. You should mix up your movement and focus on accuracy.

- VT PatStrafe Platinum - *2 minutes*
  - **Description:** A single bot makes fast and sporadic strafes on a flat surface and continuously respawns after it's eliminated, all while the player navigates the space as they shoot.
  - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid making predictions and strafe with intention to account for your self imposed changes in direction.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.

# DIAMOND ⚡

**Intermediate level** - start here if you're intermediate or **Diamond** on the benchmarks.

To advance to the next rank, complete the **Jade** benchmarks

## COMPLETE ROUTINE

**Duration:** ~65 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

> **KOVAAKSGHOSTPEEKINGHUGENIGHTFALL**

1. **Centering II 180** or **Smooth Thin Strafes** - **3 runs**
   a. **Description:** Targets that change directions quickly, and have relatively fast horizontal strafes.
   b. **How:** Focus on being as smooth as possible and react quickly to the directional change of the target.
   c. **Why:** These scenarios continue to help improve your **Precise** tracking.
2. **PGTI Voltaic Slower - 80%** or **B360TI Voltaic Smaller** - **3 runs**
   a. **Description:** PGTI Voltaic Slower - 80% and B360TI Voltaic feature a bot with a predictable arc pattern except PGTI Voltaic 80% has more verticality.
   b. **How:** Focus on being smooth and precise against vertical angles on a relatively small target
   c. **Why:** Great for improving your smoothness tracking. These scenarios get you to start using most of your mousepad, so you may find yourself on awkward parts of your mousepad you've hardly used before.
3. **Smoothsphere Diamond** - **3 runs**
   a. **Description:** Track a small dot as it flies around you at various distance and speed.
   b. **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.
   c. **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.
4. **Controlsphere Diamond** - **3 runs**
   a. **Description:** Track a small gently jumping bot as it flies around you at varying distance and speed.
   b. **How:** Be smooth and react to the directional changes of the target. Try not to overcorrect/overshoot.
   c. **Why:** Improves your horizontal and vertical smoothness tracking.
5. **VSS Close-Mid Long** - **3 runs**
   a. **Description:** Hard to hit small target that accelerates relatively quickly. Strafes diagonally and horizontally.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones. Do not predict direction changes.
   c. **Why:** Improves horizontal smoothness and reactivity that simulates a lot of movements you see in game.
6. **Ground Plaza Voltaic** - **2 runs**
   a. **Description:** Track horizontal targets that dash and change directions quickly.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones.

Aim Training routines by [Voltaic](#)

c. **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes

7. `Air Voltaic` or `Air Voltaic AIO` - **2 or 5 runs respectively**
   a. **Description:** Air Voltaic is tracking larger Air bots that have different dodge patterns Air Voltaic AIO is tracking an invincible larger Air bot that has many different dodge patterns
   b. **How:** Focus on smoothness in between small reactions to a bot that changes direction fairly slowly. Be able to react quickly when the bot does change direction without over-flicking, then track smoothly until the next directional change
   c. **Why:** Improves vertical and horizontal reactivity and smoothness.

8. `Pasu Voltaic Intermediate` - **5 runs**
   a. **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
   b. **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
   c. **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

9. `Popcorn Voltaic Intermediate` or `B180 Voltaic Intermediate` - **5 runs**
   a. **Description:** B180 Voltaic Intermediate is a 180 degree map with 4 bots that have predictable arc movement. Popcorn Voltaic Intermediate has a full 360 degree map with small targets and predictable arc movements and height variances.
   b. **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex and focus on not reloading as much as possible.
   c. **Why:** The larger targets make it easier for you to continue learning crosshair placement and reading the bot's pattern at an appropriate level.

10. `Tamspeed 2bpes` - **5 runs**
    a. **Description:** 2 evasive targets down a long hallway that will spawn instantly as they are destroyed
    b. **How:** Work on the timing of your clicks and spreading focus across two targets
    c. **Why:** This will help teach you the timing part of click timing as the bots are small and evasive enough where you will need to click with confidence and sometimes lead the bots in order to effectively eliminate them.

11. `Pokeball 1w4ts 30%` - **5 runs**
    a. **Description:** 4 small static targets that require more than 1 hit to destroy
    b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Make a quick micro-adjustment after your initial flick if needed. While you are performing this micro-adjustment, have the next target in mind.
    c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another.

12. `Wide Wall 4 Targets 30% Smaller` or `ww2t voltaic 50% smaller` - **5 runs**
    a. **Description:** Wide Wall 4 Targets 30% Smaller consists of a very wide wall and 4 small static targets that will instant spawn upon being eliminated. ww2t voltaic 50% smaller contains a wide wall with 2 relatively small static targets
    b. **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target
    c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.

13. `1w4ts Voltaic 30% smaller` or `10 Sphere Hipfire Extra Small` - **5 runs**
    a. **Description:** 1w4ts Voltaic 30% smaller is 4 extremely small static targets where there is a reload not an accuracy penalty. 10 Sphere Hipfire Extra Small is a cluster of 10 extremely small targets

    b.   **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision.

    c.   **Why:** Helps practice micro corrections, micro flicking, and cluster practice.

14. B360T Voltaic or kinTS Voltaic - **5 runs**

    a.   **Description:** B360T Voltaic is a 360 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Smooth is a larger angle switching scenario against fast and evasive targets.

    b.   **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.

    c.   **Why:** These bots get harder to track due to their size and speed. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles

15. patTS Voltaic or voxTargetSwitch 30% Smaller +2 - **5 runs**

    a.   **Description:** patTS Voltaic is a 180 scenario that involves slow, low-ttk and long strafing targets. voxTargetSwitch 30% Smaller +2 Is voxTS with smaller targets and two more additional targets added into the scenario.

    b.   **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.

    c.   **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

16. Midrange Long Strafes V2 - *2 minutes*

    a.   **Description:** Tracking a target at mid-range that switches direction quickly, but not very often

    b.   **How:** Keep your crosshair on the target, focusing on smoothness and quick direction changes

    c.   **Why:** An easy 180 scenario to warm up your hand, wrist, and arm

# DIAMOND STRAFE

**Duration:** ~37 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

> **KOVAAKSPICKINGSMOOTHOPTIC**

Make sure to read Instructions for Strafe Routines and the instructions for each scenario below, to play these scenarios properly.

Despite this section being optional, we do highly recommend playing these as they develop your hand independence and various strafe aim techniques. Movement-based mouse control is an entirely different discipline from other forms with extreme prevalence in modern games.

Avoid playing the scenarios below for high scores, the objective here is to yield the best practice possible, playing for high scores for most of these scenarios will provide little to no benefit.

- Pistol Strafe Gallery Diamond - *2 minutes*
    - **Description:** Three cylinder shaped bots with spherical heads strafe over a plane with stairs and different elevations.
    - **How:** Keep moving during the entirety of the scenario while going for headshots (hitting the spheres on top of the cylinder) exclusively. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
    - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate higher ttk click-type targets all whilst strafing.
- Air Dodge TS Diamond - *2 minutes*
    - **Description:** Five spherical bots that move in sporadic directions similar to the **tracking** equivalent of Air.
    - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
    - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple evasive targets in quick succession all whilst strafing.
- Arc Dodge Switch Diamond - *2 minutes*
    - **Description:** Six spherical bots that leap slowly, and mostly vertically in the air.
    - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
    - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple vertical-biased targets in quick succession all whilst strafing.
- XY Tracking Dodge Diamond - *2 minutes*
    - **Description:** Fundamental Strafe Aim scenario with a spherical bot that strafes on a XY Axis.
    - **How:** Track the bot while staying in motion during the entirety of the scenario, try to strafe in a way to make it easy to track the bot and switch directions when the bar has filled up to keep being rewarded with movement scoring.
    - **Why:** Develops core Strafing Fundamentals such as hand independence and mirroring/anti-mirroring.

## How to play AngleStrafe, SkyStrafe and BounceStrafe

In these three scenarios above, MBS scoring is used - by default you should see a bar that fills up as you move. The amount of movement score you get is based on the time spent strafing before changing direction. As long as you change direction while the bar is green, you get maximum movement score. The bar is green between 3% and 100% filled. If you keep moving while the bar is full, you don't get any score. The score is capped to a

value that is easy to reach (200 for AngleStrafe & BounceStrafe 1000 for SkyStrafe) as long as you move throughout the scenario. You should find ways to move in ways that make aiming relatively easy, while ensuring your movement is honest to how you may navigate in your respective game.

- VT AngleStrafe Diamond *- 2 minutes*
    - **Description:** Slow moving bots travel in straight lines with either random or collision based direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
    - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
    - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT BounceStrafe Diamond *- 2 minutes*
    - **Description:** Bots leap in mid-low arcs with reasonably paced and random direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
    - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
    - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT SkyStrafe Diamond *- 2 minutes*
    - **Description:** A single invincible bot makes fast and sporadic X/Y/Z strafes while the player navigates the space as they shoot.
    - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid overreacting to direction changes and strafe with intention to account for your self imposed changes in direction.
    - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- Revolving Tracking *- 2 minutes*
    - **Description:** The player slowly moves in a figure-eight pattern around two stationary bots, passing through a threshold at the center to indicate which bot should be focused.
    - **How:** Keep the crosshair on the target by using your arm to smoothly track across your entire mousepad. Do not reposition until you are forced to switch targets
    - **Why:** Arm warm up scenario that will help with becoming more comfortable on all areas of your mousepad, and understanding the physical mouse movements required to circle strafe a target
- Pole Long Dodge *- 3 minutes*
    - **Description:** Extremely simple scenario with a stationary pole as the target, and the ability to move anywhere on the map
    - **How:** Ignore your score and the movement bar. Move however you want but keep your crosshair on the target. Try to practice close and far distances. Move more erratically for a more difficult challenge. If you are unable to move erratically and still hit a high %, keep practicing this routine and coming back to the scenario.
    - **Why:** Being able to hit a stationary target while strafing in all directions with your keyboard hand is a critical step. We must be able to do this before we can also start to hit a moving or dodging target. A stationary target will also help you easily notice smoothness problems when strafing in these directions, so be on the lookout for a jumpy crosshair.
- Close LS Easy Dodge *- 3 minutes*
    - **Description:** Full range of movement scenario with a long strafing target.
    - **How:** Play this by holding left **OR** right strafe, and only left or right strafe, for the entire bot. Switch strafe direction when you kill a bot. This should cause you to circle the bot

- ○ **Why:** I like playing this scenario, in the described way, a bit more than revolving tracking strafes because you learn how your own inputs with the keyboard and mouse will transition your aim from mirroring to anti-mirroring a target. Be mindful of this transition into anti-mirroring and circling the target.

## How to play Cycle Strafes Long, Circle Strafes Fast and 3D Mid Dodge

These scenarios are the heart of the training and where most of the hand independence problems will show up. The scenarios present a relatively easy to track target, but the scenarios get very complex when we pair this tracking with very specific movement/strafing instructions.

The secret to these scenarios is making sure you get the specific movement correct. You will end up holding the left or right strafe until the movement bar switches green, then you will hold the opposite strafe direction and repeat. You can pay attention to the movement bar or enable sounds on when you should change your strafe direction in order to understand the movement rhythm. While doing this you will be required to track the target with your mouse hand, independently of how you are moving.

**Pay Attention to the Movement Bar for these 4 Scenarios**:
- Cycle Strafes Long - *4 minutes*
- Circle Strafes Long Varied Easy - *3 minutes*
- Circle Strafes Fast - *3 minutes*
- 3D Mid Dodge Diamond - *3 minutes*

## How to play PatStrafe

In the scenario above, conditional distance traveled scoring is used and is capped to 1000. In short, as long as you don't mirror every bot 100% of the time, you will reach the score cap. In theory, reaching maximum movement score requires you to anti-mirror for at least about 30-40% of the time.

In practice you will get an anti-mirror score while you are unintentionally anti-mirroring anyway. If you only mirror during the run, you will not reach the movement score cap. If you only anti-mirror you will easily reach score cap but your accuracy will suffer. You should mix up your movement and focus on accuracy.

- VT PatStrafe Diamond - *2 minutes*
  - ○ **Description:** A single bot makes fast and sporadic strafes on a flat surface and continuously respawns after it's eliminated, all while the player navigates the space as they shoot.
  - ○ **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid making predictions and strafe with intention to account for your self imposed changes in direction.
  - ○ **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.

# JADE ⚡

**Intermediate level** - start here if you're a mid-intermediate FPS Player or **Jade** on the benchmarks.

To advance to the next rank, complete the **Master** benchmarks

## COMPLETE ROUTINE

**Duration:** ~66 minutes - Copy & Paste share code underneath via Online Playlist tab on KovaaKs

### KOVAAKSGLIDINGINDIGOFACTION

1. [MCA-5] Auto Balanced Long Strafes or Smooth Thin Strafes Raspberry - **3 runs**
   a. **Description:** [MCA-5] Auto Balanced Long Strafes is a series of horizontal strafing bots with health regen that gradually increases in speed after each kill. Smooth Thin Strafes Raspberry features an invincible strafing bot which adds some vertical dodging requiring smooth horizontal and vertical angles.
   b. **How:** Focus on being as smooth as possible and fast on direction swapping.
   c. **Why:** These scenarios continue to help improve your precise and reactive tracking.
2. Popcorn Gauntlet Raspberry or PGTI Voltaic - **1 or 5 run(s) respectively**
   a. **Description:** PGTI Voltaic features a bot with a predictable arc pattern and Popcorn Gauntlet Raspberry is a gauntlet scenario featuring a series of bots with varying heights, speeds, and sizes.
   b. **How:** Focus on being smooth and precise against both horizontal and vertical angles on a relatively small target
   c. **Why:** These scenarios help practice your horizontal and vertical precise tracking.
3. Smoothsphere - **3 runs**
   a. **Description:** Track a small dot as it flies around you at various distance and speed.
   b. **How:** Track the target as precisely as possible. Do your best to minimize the amount of times you reset your mouse.
   c. **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.
4. Controlsphere - **3 runs**
   a. **Description:** Track a small, slow moving bot at varying distances and speeds.
   b. **How:** Be smooth and react to the direction changes of the target. Try not to overcorrect/overshoot.
   c. **Why:** Improves your horizontal and vertical smoothness tracking.
5. Flicker Plaza - **2 runs**
   a. **Description:** A Ground Plaza type scenario where you must be smooth and reactive against horizontal bots that blink frequently.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Be reactive to blinks, but stay smooth and reacquire the target accurately.
   c. **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes.
6. Midrange Short Strafes Invincible Raspberry - **3 runs**
   a. **Description:** Track a mid-ranged bot that strafes horizontally with a combination of short and long strafes.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Commit to the direction the bot is going and track it in one smooth motion rather than multiple small ones.

      c.    **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes.

7.   `Air CELESTIAL` or `Air Voltaic Invincible 7` - **2 or 5 runs respectively**
      a.    **Description:** Air CELESTIAL is a Gauntlet scenario of air bots that each vary in distance and movement. Some are more reactive than others. Air Voltaic Invincible 7 is the invincible version of the seventh bot in Air Voltaic.
      b.    **How:** Focus on being reactive and smooth against both horizontal and vertical angles on close and far targets. Do not predict.
      c.    **Why:** Improves your smoothness and reactivity against both horizontal and vertical moving bots.

8.   `Pasu Voltaic 360` - **5 runs**
      a.    **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
      b.    **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
      c.    **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

9.   `Popcorn Voltaic` or `B180 Voltaic` - **5 runs**
      a.    **Description:** B180 Voltaic is a 180 degree map with 4 bots that have predictable arc movement. Popcorn Voltaic has a full 360 degree map with small targets and predictable arc movements and  height variances.
      b.    **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex and focus on not reloading as much as possible.
      c.    **Why:** The larger targets make it easier for you to continue learning crosshair placement and reading the bot's pattern at an appropriate level.

10.  `Tamspeed 2bpes` - **5 runs**
      a.    **Description:** A semi-fast clicking scenario with 2 small targets down a hall that strafe left and right.
      b.    **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.
      c.    **Why:** This scenario teaches how to micro flick between two moving targets efficiently.

11.  `1w4t_vbr Raspberry` - **5 runs**
      a.    **Description:** Four static targets that spawn on one wall and make very subtle movements.
      b.    **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
      c.    **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.

12.  `Wide Wall 2 Targets Extra Small` or `ww2t voltaic 50% smaller` - **5 runs**
      a.    **Description:** Wide Wall 2 Targets Extra Small consists of a very wide wall and 2 extremely small static targets that will instant spawn upon being eliminated. ww2t voltaic 50% smaller contains a wide wall with 2 relatively small static targets
      b.    **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
      c.    **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.

13.  `1w2tes` or `1w4ts Voltaic 50% smaller` - **5 runs**
      a.    **Description:** 1w2tes consists of a wall and 2 extremely small static targets that will instant spawn upon being eliminated. 1w4ts Voltaic 50% smaller 4 very small static targets that will instant spawn upon being eliminated

b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.

c. **Why:** Helps practice micro corrections, micro flicking, and cluster practice.

14. `B360T Voltaic Jade` or `kinTS Voltaic Smooth` - **5 runs**

a. **Description:** B360T Voltaic Jade is a 360 degree switching scenario that involves slightly faster and slightly smaller bouncing targets. kinTS Voltaic Smooth is a larger angle switching scenario against fast and evasive targets that regenerate health

b. **How:** Focus on being as smooth as possible while staying on the target. When the target is eliminated, switch to the target that is the closest to your crosshair.

c. **Why:** These bots get harder to track due to their size and speed. The larger angles could put you in awkward positions on your mousepad. These scenarios will help you practice these larger angles

15. `patTS Voltaic 360` or `voxTS Viscose Varied` - **5 runs**

a. **Description:** patTS Voltaic 360 is a 360 scenario that involves slow, low-ttk and long strafing targets. voxTS Viscose Varied Is voxTS with a few bad spawns removed and the targets shrink as you progress through the scenario

b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.

c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# JADE STRAFE

**Duration:** ~37 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

<div style="background-color:#7fff00">**KOVAAKSPERFECTINGSMOOTH1V1**</div>

Make sure to read Instructions for Strafe Routines and the instructions for each scenario below, to play these scenarios properly.

Despite this section being optional, we do highly recommend playing these as they develop your hand independence and various strafe aim techniques. Movement-based mouse control is an entirely different discipline from other forms with extreme prevalence in modern games.

Avoid playing the scenarios below for high scores, the objective here is to yield the best practice possible, playing for high scores for most of these scenarios will provide little to no benefit.

- Pistol Strafe Gallery Jade *- 2 minutes*
  - **Description:** Three cylinder shaped bots with spherical heads strafe over a plane with stairs and different elevations.
  - **How:** Keep moving during the entirety of the scenario while going for headshots (hitting the spheres on top of the cylinder) exclusively. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate higher ttk click-type targets all whilst strafing.
- Air Dodge TS Jade *- 2 minutes*
  - **Description:** Five spherical bots that move in sporadic directions similar to the **tracking** equivalent of Air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple evasive targets in quick succession all whilst strafing.
- Arc Dodge Switch Jade *- 2 minutes*
  - **Description:** Six spherical bots that leap slowly, and mostly vertically in the air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple vertical-biased targets in quick succession all whilst strafing.
- XY Tracking Dodge Jade *- 2 minutes*
  - **Description:** Fundamental Strafe Aim scenario with a spherical bot that strafes on a XY Axis.
  - **How:** Track the bot while staying in motion during the entirety of the scenario, try to strafe in a way to make it easy to track the bot and switch directions when the bar has filled up to keep being rewarded with movement scoring.
  - **Why:** Develops core Strafing Fundamentals such as hand independence and mirroring/anti-mirroring.

## How to play AngleStrafe, SkyStrafe and BounceStrafe

In these three scenarios above, MBS scoring is used - by default you should see a bar that fills up as you move. The amount of movement score you get is based on the time spent strafing before changing direction. As long as you change direction while the bar is green, you get maximum movement score. The bar is green between 3% and 100% filled. If you keep moving while the bar is full, you don't get any score. The score is capped to a

value that is easy to reach (200 for AngleStrafe & BounceStrafe 1000 for SkyStrafe) as long as you move throughout the scenario. You should find ways to move in ways that make aiming relatively easy, while ensuring your movement is honest to how you may navigate in your respective game.

- VT AngleStrafe Jade **- *2 minutes***
    - **Description:** Slow moving bots travel in straight lines with either random or collision based direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
    - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
    - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT BounceStrafe Jade **- *2 minutes***
    - **Description:** Bots leap in mid-low arcs with reasonably paced and random direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
    - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
    - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT SkyStrafe Jade **- *2 minutes***
    - **Description:** A single invincible bot makes fast and sporadic X/Y/Z strafes while the player navigates the space as they shoot.
    - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid overreacting to direction changes and strafe with intention to account for your self imposed changes in direction.
    - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- Revolving Tracking Thin **- *2 minutes***
    - **Description:** The player slowly moves in a figure-eight pattern around two stationary bots, passing through a threshold at the center to indicate which bot should be focused.
    - **How:** Keep the crosshair on the target by using your arm to smoothly track across your entire mousepad. Do not reposition until you are forced to switch targets
    - **Why:** Arm warm up scenario that will help with becoming more comfortable on all areas of your mousepad, and understanding the physical mouse movements required to circle strafe a target
- Pole Long Dodge **- *3 minutes***
    - **Description:** Extremely simple scenario with a stationary pole as the target, and the ability to move anywhere on the map
    - **How:** Ignore your score and the movement bar. Move however you want but keep your crosshair on the target. Try to practice close and far distances. Move more erratically for a more difficult challenge. If you are unable to move erratically and still hit a high %, keep practicing this routine and coming back to the scenario.
    - **Why:** Being able to hit a stationary target while strafing in all directions with your keyboard hand is a critical step. We must be able to do this before we can also start to hit a moving or dodging target. A stationary target will also help you easily notice smoothness problems when strafing in these directions, so be on the lookout for a jumpy crosshair.
- Close LS Dodge Jade **- *3 minutes***
    - **Description:** Full range of movement scenario with a long strafing target.
    - **How:** Play this by holding left **OR** right strafe, and only left or right strafe, for the entire bot. Switch strafe direction when you kill a bot. This should cause you to circle the bot

- **Why:** I like playing this scenario, in the described way, a bit more than revolving tracking strafes because you learn how your own inputs with the keyboard and mouse will transition your aim from mirroring to anti-mirroring a target. Be mindful of this transition into anti-mirroring and circling the target.

## How to play Cycle Strafes Long, Circle Strafes Fast and 3D Mid Dodge

**Pay Attention to the Movement Bar for these 4 Scenarios**:
These scenarios are the heart of the training and where most of the hand independence problems will show up. The scenarios present a relatively easy to track target, but the scenarios get very complex when we pair this tracking with very specific movement/strafing instructions.

The secret to these scenarios is making sure you get the specific movement correct. You will end up holding the left or right strafe until the movement bar switches green, then you will hold the opposite strafe direction and repeat. You can pay attention to the movement bar or enable sounds on when you should change your strafe direction in order to understand the movement rhythm. While doing this you will be required to track the target with your mouse hand, independently of how you are moving.

- Cycle Strafes Long Jade - *4 minutes*
- Circle Strafes Long Varied Jade - *3 minutes*
- Circle Strafes Fast Jade - *3 minutes*
- 3D Mid Dodge Jade - *3 minutes*

## How to play PatStrafe

In the scenario above, conditional distance traveled scoring is used and is capped to 1000. In short, as long as you don't mirror every bot 100% of the time, you will reach the score cap. In theory, reaching maximum movement score requires you to anti-mirror for at least about 30-40% of the time.

In practice you will get an anti-mirror score while you are unintentionally anti-mirroring anyway. If you only mirror during the run, you will not reach the movement score cap. If you only anti-mirror you will easily reach score cap but your accuracy will suffer. You should mix up your movement and focus on accuracy.

- VT PatStrafe Intermediate - *2 minutes*
  - **Description:** A single bot makes fast and sporadic strafes on a flat surface and continuously respawns after it's eliminated, all while the player navigates the space as they shoot.
  - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid making predictions and strafe with intention to account for your self imposed changes in direction.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.

# MASTER

**Intermediate to Advanced level** - start here if you're an intermediate to advanced FPS Player or **Master** on the benchmarks.

To advance to the next rank complete the **Grandmaster** benchmarks

## COMPLETE ROUTINE

**Duration:** ~90 minutes - Copy & Paste share code underneath via Online Playlist tab on KovaaKs

**KOVAAKSGRIEFINGINVINCIBLECAMO**

1. Smooth Thin Strafes Master - **2 runs**
   a. **Description:** Features an invincible horizontally strafing bot with some vertical dodging requiring smooth horizontal and vertical angles.
   b. **How:** Focus on being as smooth as possible and staying smooth when swapping directions. Try not to overflick when swapping directions and keep your wrist loose enough to account for verticality.
   c. **Why:** This scenario helps improve your precise and reactive tracking and is a great warmup.
2. VAI 1 Master & VAI 15 Master - **2 runs each**
   a. **Description:** Features an invincible strafing bot at different angles depending on the series number.
   b. **How:** Track the bot smoothly back and forth from one end of the map to the other. Focus on using your arm and avoid anchoring your wrist to your mousepad.
   c. **Why:** These scenarios improve your smoothness at different angles. VAI 1 and 15 in particular are awkward angles that are not often trained.
3. Popcorn Gauntlet Raspberry Master - **1 run**
   a. **Description:** This is a gauntlet scenario featuring a series of bots with varying heights, speeds, and sizes.
   b. **How:** Focus on being smooth and precise against both horizontal and vertical angles on relatively small targets.
   c. **Why:** This scenario helps practice your horizontal and vertical precise tracking, particularly on large angle arcs.
4. Smoothsphere Master - **2 runs**
   a. **Description:** Track a small target as it flies around you at various distances and speeds.
   b. **How:** Track the target as precisely as possible with your arm and make minor corrections with your wrist. Do your best to minimize the amount of times you reset your mouse.
   c. **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.
5. Controlsphere Master - **2 runs**
   a. **Description:** Track a small, slow moving bot at varying distances and speeds.
   b. **How:** Be smooth and try to read the movement of the target, its pauses, its acceleration and deceleration and adapt your mouse movement to it.
   c. **Why:** Improves your horizontal and vertical smoothness tracking as well as your reading skills.
6. Air Angelic 7 Smaller fixed - **2 runs**
   a. **Description:** Track a quickly moving short strafe bot close to you.
   b. **How:** Smoothly reacquire the target as it changes direction while refraining from overflicking on your readjustments. Stay alert and try to react to direction changes as fast as possible.
   c. **Why:** Improves horizontal and diagonal reactivity.

Aim Training routines by Voltaic

7. `Air NUNS AIO Insane` - **2 runs**
   a. **Description:** Track a moderately sized quickly moving bot that changes movement patterns randomly.
   b. **How:** Try not to overshoot when correcting for strafes. Stay smooth on your reacquisition of the target and focus on reacquiring accurately rather than quickly. Doing so will ensure you don't start predicting and that your transitions when the bot changes movement patterns are good.
   c. **Why:** Improves horizontal and vertical smoothness and reactivity as well as your discipline when tracking (reading movement and adjusting for it rather than blindly reacting to direction changes).
8. `Flicker XYZ` - **2 runs**
   a. **Description:** Track a bot that moves slightly and blinks frequently.
   b. **How:** Read the movement of the bot and smoothly acquire the target following a blink. Land softly and accurately on target and don't dwell on reacting quickly to the movement of the bot. After acquisition, continue to watch the bot and read its movement carefully as it will blink again. Stay smooth after landing on target.
   c. **Why:** Improves reading skills and tracking on blinking and fast moving targets.
9. `FuglaaXYZ Voltaic Less Blinks Master` - **2 runs**
   a. **Description:** Track a bot that moves smoothly and blinks infrequently.
   b. **How:** Read the movement of the bot and smoothly track it as it changes directions. Acquire the bot smoothly after each blink and follow through knowing that it will continue to move. Stay smooth after landing on target.
   c. **Why:** Improves reading skills and tracking at various diagonal angles.
10. `Trackstop Master` - **2 runs**
    a. **Description:** Track a smoothly moving bot that can short strafe or long strafe and will stop at various intervals.
    b. **How:** Track the bot as it strafes left and right and be ready to stop at any moment. Once it begins moving again, focus on accurate and smooth reacquisition rather than fast reacquisition.
    c. **Why:** Teaches you to not predict as the bot will travel a varied distance before stopping and can stop for a varied time.
11. `Flicker Plaza No strafes Dash Master` - **1 run**
    a. **Description:** Track a series of bots that dashes horizontally and stays still in between dashes.
    b. **How:** Track the bot smoothly as it dashes attempting to hit it while it's dashing. React quickly to the dash but stay controlled and don't overflick/overshoot the dash.
    c. **Why:** Teaches you to not predict as the bot will travel a varied distance before stopping. Teaches discipline as you may be tempted to react quickly but doing so will result in poor learning.
12. `Flicker Plaza Hard` - **1 run**
    a. **Description:** A Ground Plaza type scenario where you must be smooth and reactive against horizontal bots that blink frequently.
    b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Be reactive to blinks, but stay smooth and reacquire the target accurately.
    c. **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes.
13. `VSS Close-Mid Long Master` - **2 runs**
    a. **Description:** Track a horizontally strafing bot that changes its speed and distance from you periodically.
    b. **How:** Stay smooth while tracking the bot and pay attention to where your crosshair is on the bot. Try to keep your crosshair centered on the bot so that you can keep up with it as it speeds up or slows down.
    c. **Why:** Teaches you to stay reactive instead of predicting as the bot can move at various speeds and distances from you.
14. `Midrange Fast Strafes Invincible Raspberry v2` - **2 runs**

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a. **Description:**  Track a fast, horizontally strafing invincible bot.
b. **How:** Stay smooth during the long strafes and make sure not to overflick on strafes. Focus on the target so that you can read its movement and react quickly to its direction changes. Prioritize accurate reacquisition over speed.
c. **Why:**  This bot will simulate a lot of what you will find in game from a dodging perspective as well as a speed perspective. This will teach that you need to have a good balance between being reactive with direction changes as well as smooth during long strafes

15. `Glider GOATED` - **2 runs**
a. **Description:** Track invincible targets that slowly descend while long strafing left and right. Targets respawn at the top after their cycle.
b. **How:** Focus on mostly moving your arm and let your wrist make minor adjustments to account for inaccuracies when using your arm.
c. **Why:** Trains smoothness on descending targets—particularly with your arm since it's difficult to use only your wrist/fingers when moving down.

16. `Smoothbot Unvincible Goated Master` - **2 runs**
a. **Description:** Track an invincible target that flies and glides smoothly around the map.
b. **How:** Track the bot smoothly as it flies into the air using your arm. Focus on mostly moving your arm and let your wrist make minor adjustments to account for inaccuracies when using your arm.
c. **Why:** Trains smoothness on large angles focusing on arm smoothness.

17. `Leap 180TI Master` - **2 runs**
a. **Description:** Track a fast moving invincible bouncing bot around a 180 degree map.
b. **How:** Focus on always keeping the crosshair moving and tracking the bot through it's entire arc.
c. **Why:** Helps with micro-adjustments while smooth tracking.

18. `Precision XYZ Master` - **2 runs**
a. **Description:** Track a bot that can move in any direction within a zone directly in front of you. This version features a smaller bot.
b. **How:** Be quick with reactions as the direction changes of the bot are very quick. Smoothly track the long strafes to do as much damage as possible.
c. **Why:** This scenario is very good at training tracking in all directions within small angles directly in front of the player.

19. `1w4t Pasu Raspberry Master` - **5 runs**
a. **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.
b. **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.
c. **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

20. `Popcorn VT Goated` or `Leap 180 Master` - **5 runs**
a. **Description:** Popcorn VT Goated has a full 360 degree map with small targets and predictable arc movements and height variances per bot. Leap 180 Master is a 180 degree map with 4 bots that have predictable but fast arc movement.
b. **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex.
c. **Why:** The smaller targets on popcorn force you to be more precise and read the bot's pattern at an appropriate level. Leap 180 targets move faster than bounce 180 and force you to read movement faster.

21. `psalmTS angelic click` - **5 runs**
a. **Description:** A clicking scenario with 5 targets across a 180 degree map. The targets move horizontally and diagonally.
b. **How:** Focus on moving from target to target with smooth motions. Pay attention to your next target so you can intercept it and be ready to microadjust if it changes direction or if you miss.
c. **Why:** Teaches you to move from target to target in a wide map while maintaining accuracy.

22. `1w6ts_trustechain Raspberry` - **2 runs**
    a. **Description:** The scenario features 6 small targets that spawn relatively close to each other
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.
    c. **Why:** This scenario helps practice increasing your speed on clusters while still forcing you to maintain precision and accuracy.
23. `Pokeball Frenzy Auto 1w2ts` - **2 runs**
    a. **Description:** 1 wall with 2 static targets that spawn immediately after being eliminated.
    b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.
    c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another. The 2 target version benefits your macro flicking.
24. `1w2ts reload` - **2 runs**
    a. **Description:** 1w2ts features consists of a wall and 2 extremely small static targets that will instant spawn upon being eliminated.
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.
    c. **Why:** Helps practice micro corrections, micro flicking, and cluster practice.
25. `1w4ts reload 30% smaller` - **2 runs**
    a. **Description:** 1w4ts reload 30% smaller is 4 very small static targets where there is a reload not an accuracy penalty. This version emphasizes precision.
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision.
    c. **Why:** Helps practice micro corrections, micro flicking, and cluster practice. This version emphasizes precision.
26. `1w3ts 30% larger` - **2 runs**
    a. **Description:** 1w3ts 30% Larger is 3 small static targets where there is a reload not an accuracy penalty. This version emphasizes more speed since the targets are slightly larger.
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision.
    c. **Why:** Helps practice micro corrections, micro flicking, and cluster practice.
27. `1wall4targets TE Reload` - **2 runs**
    a. **Description:** 4 large static targets that spawn on a wall. The targets respawn immediately upon being eliminated.
    b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.
    c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation. This scenario emphasizes speed, and will force you to move your arm quickly due to the rapidly increasing size of the bots. Therefore it helps greatly with helping you increase your speed while playing static. This version of 1w4ts greatly emphasizes speed. Since the targets are large, it should help you increase your speed when playing static.
28. `Pokeball Frenzy Auto Wide Wall 2 Targets` - **2 runs**
    a. **Description:** 1 wide wall with 2 static targets that spawn immediately after being eliminated.
    b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.

c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another. The 2 target version benefits your macro flicking.

29. `ww2t Voltaic` **- 2 runs**
   a. **Description:** This task consists of a very wide wall and 2 extremely small static targets that will instant spawn upon being eliminated.
   b. **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
   c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation. This 2 target version benefits your macro flicking.

30. `Pokeball 5 Sphere Hipfire Small` **- 2 runs**
   a. **Description:** 1 wall with 5 static targets that spawn immediately after being eliminated.
   b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.
   c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another. This scenario specifically helps practice your micro flicking.

31. `10 Sphere Hipfire Small Fixed Reload` **- 2 runs**
   a. **Description:** 10 Sphere Hipfire Small is a cluster of 10 small targets.
   b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision.
   c. **Why:** Helps practice micro corrections, micro flicking, and cluster practice.

32. `fuglaab180t Master` or `kinTS Voltaic small 200%` **- 5 runs**
   b. **Description:** fuglaab180t Master is a 180 degree switching scenario with targets that bounce in a predictable arc and have a high ttk. kinTS Voltaic small 300% is a larger angle switching scenario against fast and evasive targets that have a very high ttk.
   c. **How:** Focus on being as smooth as possible while staying on the target. For kinTS, switch to the target closest to your crosshair for each kill with one smooth motion, attempting to intercept its path. For fuglaab180t, move to a target that's at its apex or about to reach its apex. Follow through on the arc attempting to hit it even at the bottom of the arc.
   d. **Why:** These bots get harder to track due to their size and speed. The larger angles will help you train your mouse control on different parts of your mousepad.

33. `patTS Static Small NR no body` or `voxTS Static Small NR` **- 5 runs**
   a. **Description:** patTS Static Small NR and voxTS Static Small NR are scenarios that feature static targets on a map with large angles.
   b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
   c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

34. `patTS Voltaic 30% Smaller` or `voxTS Voltaic s3 30% smaller` **- 5 runs**
   a. **Description:** patTS Voltaic s3 30% Smaller is a 180 scenario that involves slow, low-ttk and long strafing targets. These targets are slightly smaller than the original version. voxTS Voltaic 30% smaller is voxTS with a few spawns removed and the targets are slightly smaller than the original version.
   b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
   c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

Aim Training routines by [Voltaic](Voltaic)

# MASTER STRAFE

**Duration:** ~37 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

**KOVAAKSPEAKINGSLOWFULLBUY**

Make sure to read Instructions for Strafe Routines and the instructions for each scenario below, to play these scenarios properly.

Despite this section being optional, we do highly recommend playing these as they develop your hand independence and various strafe aim techniques. Movement-based mouse control is an entirely different discipline from other forms with extreme prevalence in modern games.

Avoid playing the scenarios below for high scores, the objective here is to yield the best practice possible, playing for high scores for most of these scenarios will provide little to no benefit.

- Pistol Strafe Gallery Master  - *2 minutes*
  - **Description:** Three cylinder shaped bots with spherical heads strafe over a plane with stairs and different elevations.
  - **How:** Keep moving during the entirety of the scenario while going for headshots (hitting the spheres on top of the cylinder) exclusively. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate higher ttk click-type targets all whilst strafing.
- Air Dodge TS Master  - *2 minutes*
  - **Description:** Five spherical bots that move in sporadic directions similar to the tracking equivalent of Air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple evasive targets in quick succession all whilst strafing.
- Arc Dodge Switch Master  - *2 minutes*
  - **Description:** Six spherical bots that leap slowly, and mostly vertically in the air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple vertical-biased targets in quick succession all whilst strafing.
- XY Tracking Dodge Master  - *2 minutes*
  - **Description:** Fundamental Strafe Aim scenario with a spherical bot that strafes on a XY Axis.
  - **How:** Track the bot while staying in motion during the entirety of the scenario, try to strafe in a way to make it easy to track the bot and switch directions when the bar has filled up to keep being rewarded with movement scoring.
  - **Why:** Develops core Strafing Fundamentals such as hand independence and mirroring/anti-mirroring.

## How to play AngleStrafe, SkyStrafe and BounceStrafe

In these three scenarios above, MBS scoring is used - by default you should see a bar that fills up as you move. The amount of movement score you get is based on the time spent strafing before changing direction. As long as you change direction while the bar is green, you get maximum movement score. The bar is green between 3% and 100% filled. If you keep moving while the bar is full, you don't get any score. The score is capped to a

value that is easy to reach (200 for AngleStrafe & BounceStrafe 1000 for SkyStrafe) as long as you move throughout the scenario. You should find ways to move in ways that make aiming relatively easy, while ensuring your movement is honest to how you may navigate in your respective game.

- VT AngleStrafe Master - *2 minutes*
  - **Description:** Slow moving bots travel in straight lines with either random or collision based direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
  - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT BounceStrafe Master - *2 minutes*
  - **Description:** Bots leap in mid-low arcs with reasonably paced and random direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
  - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT SkyStrafe Master - *2 minutes*
  - **Description:** A single invincible bot makes fast and sporadic X/Y/Z strafes while the player navigates the space as they shoot.
  - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid overreacting to direction changes and strafe with intention to account for your self imposed changes in direction.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- Revolving Tracking Thin - *2 minutes*
  - **Description:** The player slowly moves in a figure-eight pattern around two stationary bots, passing through a threshold at the center to indicate which bot should be focused.
  - **How:** Keep the crosshair on the target by using your arm to smoothly track across your entire mousepad. Do not reposition until you are forced to switch targets
  - **Why:** Arm warm up scenario that will help with becoming more comfortable on all areas of your mousepad, and understanding the physical mouse movements required to circle strafe a target
- Pole Long Dodge - *3 minutes*
  - **Description:** Extremely simple scenario with a stationary pole as the target, and the ability to move anywhere on the map
  - **How:** Ignore your score and the movement bar. Move however you want but keep your crosshair on the target. Try to practice close and far distances. Move more erratically for a more difficult challenge. If you are unable to move erratically and still hit a high %, keep practicing this routine and coming back to the scenario.
  - **Why:** Being able to hit a stationary target while strafing in all directions with your keyboard hand is a critical step. We must be able to do this before we can also start to hit a moving or dodging target. A stationary target will also help you easily notice smoothness problems when strafing in these directions, so be on the lookout for a jumpy crosshair.
- Close LS Dodge Master - *3 minutes*
  - **Description:** Full range of movement scenario with a long strafing target.
  - **How:** Play this by holding left **OR** right strafe, and only left or right strafe, for the entire bot. Switch strafe direction when you kill a bot. This should cause you to circle the bot

- **Why:** I like playing this scenario, in the described way, a bit more than revolving tracking strafes because you learn how your own inputs with the keyboard and mouse will transition your aim from mirroring to anti-mirroring a target. Be mindful of this transition into anti-mirroring and circling the target.

## How to play Cycle Strafes Long, Circle Strafes Fast and 3D Mid Dodge

**Pay Attention to the Movement Bar for these 4 Scenarios**:
These scenarios are the heart of the training and where most of the hand independence problems will show up. The scenarios present a relatively easy to track target, but the scenarios get very complex when we pair this tracking with very specific movement/strafing instructions.

The secret to these scenarios is making sure you get the specific movement correct. You will end up holding the left or right strafe until the movement bar switches green, then you will hold the opposite strafe direction and repeat. You can pay attention to the movement bar or enable sounds on when you should change your strafe direction in order to understand the movement rhythm. While doing this you will be required to track the target with your mouse hand, independently of how you are moving.

- Cycle Strafes Long Master - *4 minutes*
- Circle Strafes Long Varied Master - *3 minutes*
- Circle Strafes Fast Master - *3 minutes*
- 3D Mid Dodge - *3 minutes*

## How to play PatStrafe

In the scenario above, conditional distance traveled scoring is used and is capped to 1000. In short, as long as you don't mirror every bot 100% of the time, you will reach the score cap. In theory, reaching maximum movement score requires you to anti-mirror for at least about 30-40% of the time.

In practice you will get an anti-mirror score while you are unintentionally anti-mirroring anyway. If you only mirror during the run, you will not reach the movement score cap. If you only anti-mirror you will easily reach score cap but your accuracy will suffer. You should mix up your movement and focus on accuracy.

- VT PatStrafe Intermediate - *2 minutes*
  - **Description:** A single bot makes fast and sporadic strafes on a flat surface and continuously respawns after it's eliminated, all while the player navigates the space as they shoot.
  - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid making predictions and strafe with intention to account for your self imposed changes in direction.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.

# GRANDMASTER

**Advanced level** - start here if you're an advanced FPS Player or Grandmaster on the benchmarks.

No advancements, continue playing this playlist to keep your skills sharp or play variations of similar scenarios.

## COMPLETE ROUTINE

**Duration:** ~90 minutes - Copy & Paste share code underneath via Online Playlist tab on KovaaKs

**KOVAAKSHEADSHOTTINGINVINCIBLETANK**

1. **Smooth Thin Strafes Grandmaster** - **2 runs**
   a. **Description:** Features an invincible horizontally strafing bot with some vertical dodging requiring smooth horizontal and vertical angles.
   b. **How:** Focus on being as smooth as possible and staying smooth when swapping directions. Try not to overflick when swapping directions and keep your wrist loose enough to account for verticality.
   c. **Why:** This scenario helps improve your precise and reactive tracking and is a great warmup.
2. **VAI 1 Grandmaster** & **VAI 15 Grandmaster** - **2 runs each**
   a. **Description:** Features an invincible strafing bot at different angles depending on the series number.
   b. **How:** Track the bot smoothly back and forth from one end of the map to the other. Focus on using your arm and avoid anchoring your wrist to your mousepad.
   c. **Why:** These scenarios improve your smoothness at different angles. VAI 1 and 15 in particular are awkward angles that are not often trained.
3. **Popcorn Gauntlet Raspberry Grandmaster** - **1 run**
   a. **Description:** This is a gauntlet scenario featuring a series of bots with varying heights, speeds, and sizes.
   b. **How:** Focus on being smooth and precise against both horizontal and vertical angles on relatively small targets.
   c. **Why:** This scenario helps practice your horizontal and vertical precise tracking, particularly on large angle arcs.
4. **Smoothsphere Grandmaster** - **2 runs**
   a. **Description:** Track a small target as it flies around you at various distances and speeds.
   b. **How:** Track the target as precisely as possible with your arm and make minor corrections with your wrist. Do your best to minimize the amount of times you reset your mouse.
   c. **Why:** This scenario helps practice your 360 tracking and precise tracking. This scenario also teaches you how to use most of your mousepad when tracking a target, and tracking at awkward angles.
5. **Controlsphere Grandmaster** - **2 runs**
   a. **Description:** Track a small, slow moving bot at varying distances and speeds.
   b. **How:** Be smooth and try to read the movement of the target, its pauses, its acceleration and deceleration and adapt your mouse movement to it.
   c. **Why:** Improves your horizontal and vertical smoothness tracking as well as your reading skills.
6. **Air Angelic 7 Grandmaster** - **2 runs**
   a. **Description:** Track a quickly moving short strafe bot close to you.
   b. **How:** Smoothly reacquire the target as it changes direction while refraining from overflicking on your readjustments. Stay alert and try to react to direction changes as fast as possible.
   c. **Why:** Improves horizontal and diagonal reactivity.

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7. Air NUNS AIO Grandmaster - **2 runs**
   a. **Description:** Track a moderately sized quickly moving bot that changes movement patterns randomly.
   b. **How:** Try not to overshoot when correcting for strafes. Stay smooth on your reacquisition of the target and focus on reacquiring accurately rather than quickly. Doing so will ensure you don't start predicting and that your transitions when the bot changes movement patterns are good.
   c. **Why:** Improves horizontal and vertical smoothness and reactivity as well as your discipline when tracking (reading movement and adjusting for it rather than blindly reacting to direction changes).

8. Flicker XYZ Grandmaster - **2 runs**
   a. **Description:** Track a bot that moves slightly and blinks frequently.
   b. **How:** Read the movement of the bot and smoothly acquire the target following a blink. Land softly and accurately on target and don't dwell on reacting quickly to the movement of the bot. After acquisition, continue to watch the bot and read its movement carefully as it will blink again. Stay smooth after landing on target.
   c. **Why:** Improves reading skills and tracking on blinking and fast moving targets.

9. FuglaaXYZ Voltaic Less Blinks Grandmaster - **2 runs**
   a. **Description:** Track a bot that moves smoothly and blinks infrequently.
   b. **How:** Read the movement of the bot and smoothly track it as it changes directions. Acquire the bot smoothly after each blink and follow through knowing that it will continue to move. Stay smooth after landing on target.
   c. **Why:** Improves reading skills and tracking at various diagonal angles.

10. Trackstop Grandmaster - **2 runs**
   a. **Description:** Track a smoothly moving bot that can short strafe or long strafe and will stop at various intervals.
   b. **How:** Track the bot as it strafes left and right and be ready to stop at any moment. Once it begins moving again, focus on accurate and smooth reacquisition rather than fast reacquisition.
   c. **Why:** Teaches you to not predict as the bot will travel a varied distance before stopping and can stop for a varied time.

11. Flicker Plaza No Strafes Dash Grandmaster - **2 runs**
   a. **Description:** Track a series of bots that dashes horizontally and stays still in between dashes.
   b. **How:** Track the bot smoothly as it dashes attempting to hit it while it's dashing. React quickly to the dash but stay controlled and don't overflick/overshoot the dash.
   c. **Why:** Teaches you to not predict as the bot will travel a varied distance before stopping. Teaches discipline as you may be tempted to react quickly but doing so will result in poor learning.

12. Flicker Plaza Grandmaster - **2 runs**
   a. **Description:** A Ground Plaza type scenario where you must be smooth and reactive against horizontal bots that blink frequently.
   b. **How:** Focus on the target so that you can read its movement and react quickly to its direction changes. Be reactive to blinks, but stay smooth and reacquire the target accurately.
   c. **Why:** Improves your horizontal smoothness and reactivity to help you react quickly to directional changes.

13. VSS Close-Mid Long 30% Smaller - **2 runs**
   a. **Description:** Track a horizontally strafing bot that changes its speed and distance from you periodically.
   b. **How:** Stay smooth while tracking the bot and pay attention to where your crosshair is on the bot. Try to keep your crosshair centered on the bot so that you can keep up with it as it speeds up or slows down.
   c. **Why:** Teaches you to stay reactive instead of predicting as the bot can move at various speeds and distances from you.

14. Midrange Fast Strafes Invincible Grandmaster - **2 runs**

22.
    a.   **Description:** Track a fast, horizontally strafing invincible bot.

    b.   **How:** Stay smooth during the long strafes and make sure not to overflick on strafes. Focus on the target so that you can read its movement and react quickly to its direction changes. Prioritize accurate reacquisition over speed.

    c.   **Why:** This bot will simulate a lot of what you will find in game from a dodging perspective as well as a speed perspective. This will teach that you need to have a good balance between being reactive with direction changes as well as smooth during long strafes

15. `Glider GOATED Hard` - **2 runs**

    a.   **Description:** Track invincible targets that slowly descend while long strafing left and right. Targets respawn at the top after their cycle.

    b.   **How:** Focus on mostly moving your arm and let your wrist make minor adjustments to account for inaccuracies when using your arm.

    c.   **Why:** Trains smoothness on descending targets—particularly with your arm since it's difficult to use only your wrist/fingers when moving down.

16. `Smoothbot Unvincible Small Goated` - **2 runs**

    a.   **Description:** Track an invincible target that flies and glides smoothly around the map.

    b.   **How:** Track the bot smoothly as it flies into the air using your arm. Focus on mostly moving your arm and let your wrist make minor adjustments to account for inaccuracies when using your arm.

    c.   **Why:** Trains smoothness on large angles focusing on arm smoothness.

17. `Leap 180TI Grandmaster` - **2 runs**

    a.   **Description:** Track a fast moving invincible bouncing bot around a 180 degree map.

    b.   **How:** Focus on always keeping the crosshair moving and tracking the bot through it's entire arc.

    c.   **Why:** Helps with micro-adjustments while smooth tracking.

18. `Precision XYZ Grandmaster` - **2 runs**

    a.   **Description:** Track a bot that can move in any direction within a zone directly in front of you. This version features a smaller bot.

    b.   **How:** Be quick with reactions as the direction changes of the bot are very quick. Smoothly track the long strafes to do as much damage as possible.

    c.   **Why:** This scenario is very good at training tracking in all directions within small angles directly in front of the player.

19. `1w4t Pasu Raspberry Grandmaster` - **5 runs**

    a.   **Description:** A click timing scenario that features bots that strafe horizontally, diagonally, vertically, and has erratic strafes against a wall.

    b.   **How:** Focus on smooth motions from bot to bot. Pay attention to the strafes and read the bot, adjust your crosshair and click.

    c.   **Why:** Improves your reading skills, so you can more effectively and efficiently eliminate targets with erratic movement.

20. `Popcorn VT Goated` or `Leap 180 Grandmaster` - **5 runs**

    a.   **Description:** Popcorn VT Goated has a full 360 degree map with small targets and predictable arc movements and height variances per bot. Leap 180 Grandmaster is a 180 degree map with 4 bots that have predictable but fast arc movement.

    b.   **How:** Focus on hitting as many targets as possible while reading them and working on your crosshair placement. Usually, you'll want to go for targets that are at their apex.

    c.   **Why:** The smaller targets force you to be more precise and read the bot's pattern at an appropriate level.

21. `Psalm Clicking Small` - **5 runs**

    a.   **Description:** A semi-fast clicking scenario with 2 small targets down a hall that strafe left and right.

    b.   **How:** Focus the target that is the closest to your crosshair to minimize ttk. Be accurate to avoid missing too much.

    c.   **Why:** This scenario teaches how to micro flick between two moving targets efficiently.

22. `1w6ts_trustechain Raspberry` - **2 runs**

a. **Description:** The scenario features 6 small targets that spawn relatively close to each other
   b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.
   c. **Why:** This scenario helps practice increasing your speed on clusters while still forcing you to maintain precision and accuracy.
23. Pokeball Frenzy Auto 1w2ts **- 2 runs**
   a. **Description:** 1 wall with 2 static targets that spawn immediately after being eliminated.
   b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.
   c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another. The 2 target version benefits your macro flicking.
24. 1w2ts reload **- 2 runs**
   a. **Description:** 1w2ts features consists of a wall and 2 extremely small static targets that will instant spawn upon being eliminated.
   b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.
   c. **Why:** Helps practice micro corrections, micro flicking, and cluster practice.
25. Pokeball Frenzy Auto Wide Wall 2 Targets **- 2 runs**
   a. **Description:** 1 wide wall with 2 static targets that spawn immediately after being eliminated.
   b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.
   c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another. The 2 target version benefits your macro flicking.
26. ww2t Voltaic **- 2 runs**
   a. **Description:** This task consists of a very wide wall and 2 extremely small static targets that will instant spawn upon being eliminated.
   b. **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
   c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation. This 2 target version benefits your macro flicking.
27. Pokeball 5 Sphere Hipfire Small **- 2 runs**
   a. **Description:** 1 wall with 5 static targets that spawn immediately after being eliminated.
   b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.
   c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another. This scenario specifically helps practice your micro flicking.
28. 12 Sphere Hipfire 30% Smaller **- 2 runs**
   a. **Description:** 1 wall with 12 static targets that spawn immediately after being eliminated.
   b. **How:** Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
   c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation.
29. Pokeball Frenzy Auto 1w4ts **- 2 runs**

a. **Description:** 1 wide wall with 4 static targets that spawn immediately after being eliminated.
   b. **How:** Hold down the shoot button, focus on switching targets as fast as possible while not overflicking and keeping a straight line from target to target. Take extra time on micro adjustments. While you are performing this micro-adjustment, have the next target in mind.
   c. **Why:** Helps with precision and Speed target acquisition skills, a good way to build up fundamental habits and make clean switches from one target to another.

30. `fuglaaPressure NoReload` - **2 runs**
   a. **Description:** This scenario features 4 static targets on one wall that increase in size rapidly. The targets will respawn immediately once eliminated.
   b. **How:** The targets increase size rapidly, do not let the targets hit you or you will lose score. Prioritize the targets that are closer to you. Do your best to keep straight lines when going from target to target. Flick to your target, and spend time micro correcting as quickly as you can to keep high accuracy throughout the run.
   c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation. This scenario emphasizes speed, and will force you to move your arm quickly due to the rapidly increasing size of the bots. Therefore it helps greatly with helping you increase your speed while playing static.

31. `1wall4targets TE Reload` - **2 runs**
   a. **Description:** 4 large static targets that spawn on a wall. The targets respawn immediately upon being eliminated.
   b. **How:** Focus on keeping straight lines when going from target to target and making sure you're on the target before clicking to maintain precision. Focus on the next flick during the micro corrections so you can be more prepared to land accurately on or near the target.
   c. **Why:** Focusing on keeping straight lines, flicking, and micro correcting as quickly as you can helps minimize wasted mouse movement and improves your kill confirmation. This scenario emphasizes speed, and will force you to move your arm quickly due to the rapidly increasing size of the bots. Therefore it helps greatly with helping you increase your speed while playing static. This version of 1w4ts greatly emphasizes speed. Since the targets are large, it should help you increase your speed when playing static.

32. `B180T Voltaic Grandmaster` or `kinTS Voltaic small 300%` - **5 runs**
   a. **Description:** B180T Voltaic Grandmaster is a 180 degree switching scenario with targets that bounce in a predictable arc and have regenerating health. kinTS Voltaic small 300% is a larger angle switching scenario against fast and evasive targets that have a very high ttk.
   e. **How:** Focus on being as smooth as possible while staying on the target. For kinTS, switch to the target closest to your crosshair for each kill with one smooth motion, attempting to intercept its path. For B180T, move to a target that's at its apex or about to reach its apex. Your target viability depends on how far the target is from your crosshair and how fast you can kill it before it reaches the bottom part of its arc.
   f. **Why: Why:** These bots get harder to track due to their size and speed. The larger angles will help you train your mouse control on different parts of your mousepad.

33. `patTS Static Small NR no body` or `voxTS Static Small NR` - 5 runs
   a. **Description:** patTS Static Small NR and voxTS Static Small NR are scenarios that feature static targets on a map with large angles.
   b. **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
   c. **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

34. `patTS Voltaic 30% Smaller Smooth` or `voxTS Voltaic 30% Smaller Smooth` - **5 runs**
   a. **Description:** patTS Voltaic 30% Smaller Smooth is a 180 scenario that involves slow, low-ttk and long strafing targets. These targets are slightly smaller than the original version. voxTS Voltaic 30% Smaller Smooth Is voxTS with a few bad spawns removed and the targets are slightly smaller than the original version. Both of these scenarios have regen targets.

b.  **How:** Focus on smoothly tracking each bot with as little jitter as possible before switching to the next one. Try to make smooth and clean motions that land directly from one target to another.
c.  **Why:** This trains your target acquisition speed and accuracy, so that you can switch targets faster and more accurately.

# GRANDMASTER STRAFE

**Duration:** ~37 minutes - *Copy & Paste share code underneath via Online Playlist tab on KovaaKs*

**KOVAAKSPATROLLINGSLIPPERYPRECISION**

Make sure to read Instructions for Strafe Routines and the instructions for each scenario below, to play these scenarios properly.

Despite this section being optional, we do highly recommend playing these as they develop your hand independence and various strafe aim techniques. Movement-based mouse control is an entirely different discipline from other forms with extreme prevalence in modern games.

Avoid playing the scenarios below for high scores, the objective here is to yield the best practice possible, playing for high scores for most of these scenarios will provide little to no benefit.

- Pistol Strafe Gallery Grandmaster *- 2 minutes*
  - **Description:** Three cylinder shaped bots with spherical heads strafe over a plane with stairs and different elevations.
  - **How:** Keep moving during the entirety of the scenario while going for headshots (hitting the spheres on top of the cylinder) exclusively. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate higher ttk click-type targets all whilst strafing.
- Air Dodge TS Grandmaster *- 2 minutes*
  - **Description:** Five spherical bots that move in sporadic directions similar to the **tracking** equivalent of Air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple evasive targets in quick succession all whilst strafing.
- Arc Dodge Switch Grandmaster *- 2 minutes*
  - **Description:** Six spherical bots that leap slowly, and mostly vertically in the air.
  - **How:** Strafe while tracking each target for a short duration, and then switch to the next target as fast as possible. Try to mix up your strafes, avoid mirroring the entire time. The objective is to yield the best practice not the highest scores.
  - **Why:** Develops hand independence, target acquisition and improves ability to properly read and eliminate multiple vertical-biased targets in quick succession all whilst strafing.
- XY Tracking Dodge Grandmaster *- 2 minutes*
  - **Description:** Fundamental Strafe Aim scenario with a spherical bot that strafes on a XY Axis.
  - **How:** Track the bot while staying in motion during the entirety of the scenario, try to strafe in a way to make it easy to track the bot and switch directions when the bar has filled up to keep being rewarded with movement scoring.
  - **Why:** Develops core Strafing Fundamentals such as hand independence and mirroring/anti-mirroring.

## How to play AngleStrafe, SkyStrafe and BounceStrafe

In these three scenarios above, MBS scoring is used - by default you should see a bar that fills up as you move. The amount of movement score you get is based on the time spent strafing before changing direction. As long as you change direction while the bar is green, you get maximum movement score. The bar is green between 3% and 100% filled. If you keep moving while the bar is full, you don't get any score. The score is capped to a

value that is easy to reach (200 for AngleStrafe & BounceStrafe 1000 for SkyStrafe) as long as you move throughout the scenario. You should find ways to move in ways that make aiming relatively easy, while ensuring your movement is honest to how you may navigate in your respective game.

- VT AngleStrafe Advanced **- *2 minutes***
  - **Description:** Slow moving bots travel in straight lines with either random or collision based direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
  - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT BounceStrafe Advanced **- *2 minutes***
  - **Description:** Bots leap in mid-low arcs with reasonably paced and random direction changes. The player is intended to navigate the space as they shoot and their four round magazine reloads per elimination.
  - **How:** Hit confirmations and smooth switches remain as mainstays here, the only added variable is accounting for your strafes. Move with intent and avoid building patterns in your strafes to accurately mimic evasive strafes that may be executed in-game.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- VT SkyStrafe Advanced **- *2 minutes***
  - **Description:** A single invincible bot makes fast and sporadic X/Y/Z strafes while the player navigates the space as they shoot.
  - **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid overreacting to direction changes and strafe with intention to account for your self imposed changes in direction.
  - **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.
- Revolving Tracking Extra Thin **- *2 minutes***
  - **Description:** The player slowly moves in a figure-eight pattern around two stationary bots, passing through a threshold at the center to indicate which bot should be focused.
  - **How:** Keep the crosshair on the target by using your arm to smoothly track across your entire mousepad. Do not reposition until you are forced to switch targets
  - **Why:** Arm warm up scenario that will help with becoming more comfortable on all areas of your mousepad, and understanding the physical mouse movements required to circle strafe a target
- Pole Long Dodge **- *3 minutes***
  - **Description:** Extremely simple scenario with a stationary pole as the target, and the ability to move anywhere on the map
  - **How:** Ignore your score and the movement bar. Move however you want but keep your crosshair on the target. Try to practice close and far distances. Move more erratically for a more difficult challenge. If you are unable to move erratically and still hit a high %, keep practicing this routine and coming back to the scenario.
  - **Why:** Being able to hit a stationary target while strafing in all directions with your keyboard hand is a critical step. We must be able to do this before we can also start to hit a moving or dodging target. A stationary target will also help you easily notice smoothness problems when strafing in these directions, so be on the lookout for a jumpy crosshair.
- Close LS Dodge Grandmaster **- *3 minutes***
  - **Description:** Full range of movement scenario with a long strafing target.
  - **How:** Play this by holding left **OR** right strafe, and only left or right strafe, for the entire bot. Switch strafe direction when you kill a bot. This should cause you to circle the bot

- ○ **Why:** I like playing this scenario, in the described way, a bit more than revolving tracking strafes because you learn how your own inputs with the keyboard and mouse will transition your aim from mirroring to anti-mirroring a target. Be mindful of this transition into anti-mirroring and circling the target.

## How to play Cycle Strafes Long, Circle Strafes Fast and 3D Mid Dodge

**Pay Attention to the Movement Bar for these 4 Scenarios**:
These scenarios are the heart of the training and where most of the hand independence problems will show up. The scenarios present a relatively easy to track target, but the scenarios get very complex when we pair this tracking with very specific movement/strafing instructions.

The secret to these scenarios is making sure you get the specific movement correct. You will end up holding the left or right strafe until the movement bar switches green, then you will hold the opposite strafe direction and repeat. You can pay attention to the movement bar or enable sounds on when you should change your strafe direction in order to understand the movement rhythm. While doing this you will be required to track the target with your mouse hand, independently of how you are moving.

- Cycle Strafes Long Grandmaster - *4 minutes*
- Circle Strafes Long Varied Grandmaster - *3 minutes*
- Circle Strafes Fast Grandmaster - *3 minutes*
- 3D Mid Dodge Grandmaster - *3 minutes*

## How to play PatStrafe

In the scenario above, conditional distance traveled scoring is used and is capped to 1000. In short, as long as you don't mirror every bot 100% of the time, you will reach the score cap. In theory, reaching maximum movement score requires you to anti-mirror for at least about 30-40% of the time.

In practice you will get an anti-mirror score while you are unintentionally anti-mirroring anyway. If you only mirror during the run, you will not reach the movement score cap. If you only anti-mirror you will easily reach score cap but your accuracy will suffer. You should mix up your movement and focus on accuracy.

- VT PatStrafe Advanced - *2 minutes*
  - ○ **Description:** A single bot makes fast and sporadic strafes on a flat surface and continuously respawns after it's eliminated, all while the player navigates the space as they shoot.
  - ○ **How:** Transfer previously learned reactivity principles to this movement scenario. Avoid making predictions and strafe with intention to account for your self imposed changes in direction.
  - ○ **Why:** Adds movement aiming as a layer on top of the isolated mouse control principles that are to be learned prior to this.

# Credits

Below are people who have provided feedback or have assisted in creating these routines.

- [Empyrean](#) - Scenario/Routine Conception & Creation, Writing, Formatting
- [Hasin](#) - Scenario/Routine Conception & Creation, Writing, Formatting
- [Krascsi](#) - Routine Conception & Creation
- [HotRodRe](#) - Writing
- [Grissom](#) - Writing
- [BecKz](#) - Writing
- [sini](#) - Scenario Conception, Feedback, Formatting, GFX