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Parkour Basics Part 4: The Tic-Tac and Wall Run

Jesse Woody

Parkour is inherently vertical. For most of the rest of the population, the only vertical movement involves elevators or stairs, but for the traceur, every vertical surface is an opportunity to choose a different path. There are numerous techniques for scaling the vertical objects that lie throughout the urban environment (and innumerable techniques for surmounting those found in nature). Learning the basics of the tic-tac and wall run will give you a good understanding of the transference of momentum from the horizontal plane up and over the various vertical obstacles you may encounter.

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Fit to Eat: Peak of Summer Dinner

— Benjamin Sims —

PEAK OF SUMMER DINNER

Roasted Pork Chops
with
Corn, Cherry Tomato, & Basil Salad

Roasted Figs with Thyme

Four 4-block servings

Here on the west coast of the United States, we are blessed with bountiful year-round agriculture, and there is always a farmers' market nearby with fresh natural ingredients. Nevertheless, when the summer crops peak at this time of year I am always taken aback and overwhelmed by the sheer quantity and variety of delicious fruit and vegetables to be had and the ability of the sun to create so much sweetness and nourishment. Menus almost write themselves.

At the peak of the summer bounty, faced with the dilemma of choice, it is always a challenge to stick with my style of using few ingredients. But because everything is so fresh and available, I can just pick a few favorite items and keep the preparations simple, clean, and easy, letting their essential flavors come through.



Roasted Pork Chops

This recipe describes brining the pork chops for at least 24 hours before cooking. If you don't have the time, you can skip the first step and simply roast them fresh (but you will notice a difference once you brine them).

4 pork chops
(~6 oz. each with the bone in,
or ~4 oz. each with no bone)
1 Tbsp Olive oil
1 quart water
1/2 cup salt
1/2 cup sugar
2 oz. white wine
2 bay leaves
6 juniper berries
1/2 bunch rinsed thyme sprigs

I like to brine the pork chops for at least 24 hours, to make them more tender and juicy and add to the flavor. To do so, place all the ingredients except the pork and olive oil into a pot and bring to a simmer. You don't want to over intensify the flavors so cook for only 10 or 15 minutes; then remove from the heat and let cool. This is your brine. Once the brine has cooled to room temperature, put the chops into it and refrigerate for one day. My brine recipe is on the mild side so that at the restaurant I can keep the pork in for longer if I need to without it getting too salty or sweet.

Remove the pork chops from the refrigerator and let them come up to room temperature. Remove the chops from the brine, dry it off with a towel, and let it sit out for 20 minutes on a towel. Preheat the oven to 450 degrees.

When you are almost ready to eat (the meat takes about 10 to 15 minutes to cook), heat a large ovenproof sauté pan over medium high heat. (The pan needs to be big enough to accommodate all the chops; if it's not, heat two pans.) When the pan is hot, add the olive oil and swirl so that it coats the bottom, and then carefully lay the chops in the pan to brown, 2 to 3 minutes per side. Once they are in the pan, the less you touch them, the better. You can tell from their edges how they are browning.

When they turn golden, flip them and brown the other side. Once both sides are lightly browned, pour off most of the excess fat from the pan and put in the oven. Bake for 3 minutes on each side.

Peak of Summer Dinner

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Corn, Cherry Tomato, and Basil Salad

6 ears of corn
2 baskets of cherry tomatoes
Small handful of fresh basil
2 Tbsp good olive oil
2 tsp red wine vinegar
Salt and black pepper to taste

Boil 1 quart of salted water. Remove the husks and wipe the silky threads from the corn. Carefully cut off the kernels of corn



with a sharp knife. (I like to lay the cob flat on a towel and slice across it. The towel collects the stray bits.) Add the kernels to the boiling water and boil for 2 minutes.

Drain, rinse in cool water, and leave in a colander to drip dry.

Rinse and halve the cherry tomatoes. (I start the slice at the little hole where the stem was, as this gives the knife something to grip.) Cut the basil into thin strips, or chiffonade by stacking a few leaves, rolling them lengthwise, and then slicing the roll as thinly as you can.

In a large bowl mix together the corn, tomatoes, basil, oil, and vinegar and season with salt and pepper to taste. Chill until you are ready to serve the salad with the pork chops.

Roasted Figs with Thyme

6 beautiful ripe figs
12 sprigs of thyme, rinsed
1 Tbsp olive oil
Salt and pepper

Rinse the figs and cut in half through the stem; place the figs cut side up in a pan with shallow sides. Drizzle with olive oil, sprinkle with salt and pepper and place a sprig of thyme on each half.

Roast in a 450° oven for about 10 minutes. If you put them in the oven when you start cooking the pork, everything will be hot at the same time.

You can serve the roasted figs on the same plate as the pork and salad or serve them in a separate dish. They are good enough to eat by themselves before or after the pork, but you should also try them together; it's a wonderful combination.



Benjamin Sims is chef at Ristorante Avanti in Santa Cruz, CA (and a regular at CrossFit Santa Cruz). He graduated from the California Culinary Academy in 1996 and has trained and cooked in the San Francisco Bay Area, Italy, and London.

Parkour Basics

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The tic-tac is the foundation of these vertical movements, being a quick and efficient method for applying the momentum from your run along the ground to any number of objects that may aid in your ascent. In its most basic form, a tic-tac is nothing more than making your last step before take-off a boost off an object that gives you extra height and/or distance to make your next move faster or more efficient. You can use anything from small walls to benches or stumps. You should attempt to create a seamless transition between your approach run, your first step onto the object, and your final leap from it. Practicing this basic idea on a small retaining wall is a great way to learn the movement pattern of the tic-tac, as you can dial in running speed and coordination by creating a cadence that you follow for each successive step, ending in a powerful boost from the top of the wall into the air. From there it's a matter of focusing on your landing and retreat as you continue on your way.

Once you learn to take advantage of any small obstacle that can add a boost, you can move to the more unlikely technique

of using vertical surfaces to transfer the momentum from your run into a vertical path. Keeping a consistent running cadence, you will use your final horizontal step to boost yourself up toward the vertical surface in a lunge, then press down and out when your foot comes in contact with the obstacle, maximizing the vertical gain as much as possible on this step. With this technique you can overcome an obstacle or boost yourself to a higher level to continue on your way.

Learning the basics of the tic-tac and wall run will give you a good understanding of the transference of momentum from the horizontal plane up and over the various vertical obstacles you may encounter.

The precise balance between the vertical push to gain height and the horizontal push against the wall to maintain traction is of utmost importance, yet it is also highly individual. The proportion of these two factors can vary a bit depending on the properties of the surface, the traction of your footwear, and your own strength, coordination, and flexibility. In general, I find it best to shoot for a perfect 50/50 mix of vertical and horizontal push, resulting in what would amount to a 45-degree angle of trajectory relative to the ground.

As you quickly explode from this powerful step onto the vertical surface, you should turn your head toward your path of travel and continue the striding motion by propelling your trailing knee and your hands up and out in the direction you intend to continue. The steps for all good jumps and landings (as discussed in last month's issue) apply here, as you will tuck in the air and then extend toward the ground as you approach your landing area. Roll, crouch, or transition directly back into a run as the situation dictates and you'll be on your way.



1 Run directly at a wall that is slightly higher than body height using even, powerful steps and a steady cadence.

2 Take your final step about three feet away from the base of the wall. Lean your upper body slightly forward and try to maximize your vertical momentum.

3 Carry your momentum all the way to the beginning of your pull.

4 Once you master the transition into the pull, you will find your way into a quick support on top of the wall.

5 Kip your hips rearward to go directly into your topout

6 Apply the basics of vaulting technique to carry you up and over the wall.

Parkour Basics

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It takes a bit of practice to find the proper coordination for this movement, but as the pieces begin to come together you'll begin to realize the amazing the amount of height and distance you can obtain with the tic-tac. The trick is essentially to maximize your vertical gain and use this to sustain momentum through your finishing leap and on into your chosen direction.

Once you begin to grasp the concept of the tic-tac, two more movements become possible: the pop or tap vault, which uses a quick step on a medium-sized wall to boost you directly into a vault, and a wall run, in which you use one or more steps

to gain vertical height up a taller object, most often to grab the top, perform a quick top-out, and continue on your way. Though we have been making a gradual progression from ground-level to ever-higher paths, the wall-run seems to be more of a stepping-stone to the pop-vault than vice versa. Once you grasp the technique for overcoming taller objects, the transition to the faster technique on smaller obstacles will come much easier.

If you have mastered the balance of vertical and horizontal thrust required for maximizing your travel in a tic-tac, the wall run is merely a matter of applying this technique in a slightly different plane of

motion. To execute it, run directly at a wall that is slightly higher than body height using even, powerful steps. A steady cadence on your approach leads to better coordination as you reach the obstacle. Take your final step about three feet away from the base of the object. If you were standing still, you could place your foot on the wall at about hip level with only a slight forward lean. As you propel yourself toward the wall, your upper body will lean slightly forward and you will be trying to maximize your momentum up and over the top. As your foot makes contact with the wall, all the basics of the tic-tac apply, as you will attempt to maximize your vertical momentum by creating the perfect mix of



Approach a wall or small object with speed and confidence; maintain a steady cadence in your steps.

Make your last step on the ground a powerful lunge. The perfect mix of traction and vertical gain for your step on a vertical surface takes lots of practice.

As you boost off of the wall, turn your head in the direction of travel and propel your trailing knee up and toward your intended direction.

Tuck in the air, then extend to meet the ground before absorbing the impact.

Parkour Basics

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horizontal and vertical thrust. Your body will begin to move away from the wall, but the vertical gain you created will allow you to grab for the top edge. If the coordination is spot-on, you will be able to retain your upward momentum to the point where you begin to pull your upper body toward the top.

At this point, your lead leg will be moving straight down. Bring your trailing leg up, bending at the knee and using its traction on the wall to counter-balance the pull of your hands. As you begin your upper-body pull, press down with this foot as much as traction will allow while kipping your lead leg back and up at the hip. If you coordinate all of these separate elements correctly, you should be able to carry your momentum from the approach, into the wall, upward at the wall, and directly into the beginning of your pull. From there, your kip will continue to boost you in a vertical direction as you pull your hands toward your chest while pulling your elbows behind you (imagine the transition of a muscle-up). If you get the coordination right, you will quickly transition into a support on top of the wall. As you become more adept at this movement, these separate pieces will come together as one smooth action, putting you on top of some surprisingly tall objects more easily than you may imagine.

Once you master the wall run, the transition to a pop vault will be relatively easy, since it's essentially the same movement pattern performed powerfully on a smaller wall. As you boost into the support, your kip will carry your hips above the top of the wall, and then the basics of all vaulting technique will take over as you tuck your knees up, elevate your hips, push off with your arms, and then extend toward the landing area and carry on your way.

These few basic movements will open up new and exciting possibilities for the paths you can choose within your environment. Once you are free of the obstructions that constrain you to the average horizontal plane, you can begin to imagine the potential for unhindered motion at any time, and through any area of your choosing.



The Power Clean

— Mark Rippetoe —

When I first started lifting seriously, I had the good fortune to meet Bill Starr in the weight room at what was then Midwestern University in Wichita Falls, Texas. I was a snotty-nosed little smartass at the time and despite the fact that I knew absolutely nothing then about either training or being an effective smartass, I presumed that I did. Bill taught me about both.

I had been training—or, rather, working out—with a guy on faculty at the school, not getting much accomplished. We were doing half-squats. There, I said it, and I'm happy to get it off my chest. In my defense, I didn't know any better, and the other guy, who should have, didn't either. It is truly a m a z i n g w h a t interesting things novices left to their own devices in the weight room will decide to do.

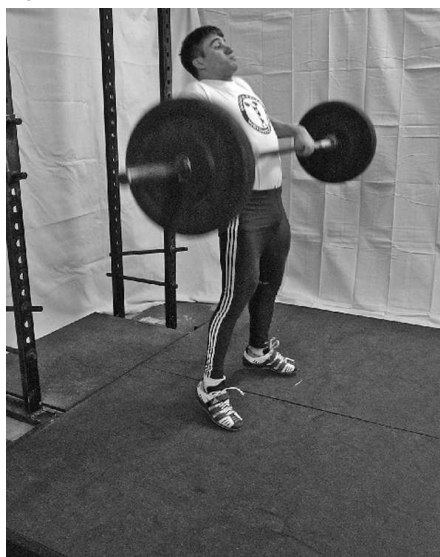
I was "training" by myself one afternoon in the dead of summer in 1979 when I ran into Bill in the weight room. He was in town dealing with family in the aftermath of our famous tornado of April 10 that year. Things were still rather hectic, and I had run in for a workout at what was not my normal time. I saw the unfamiliar face on my way in, and wondered who the long-haired guy was (the Falls is a smaller town than its population would indicate). I began the workout with my cute little partial squats and had gotten up to 225 when he asked me, while I was still under the bar, "Just what in the hell are those things you're doing there?" I tried to explain to the new guy what a squat was, and over the course of the next few minutes became aware of the fact that this was probably not a "new guy."

Now, Bill is not one to beat you over the head with advice. He has never been nearly as concerned with being listened to as I used to be. I have learned over the years

why he is not. How is it in my best interest for an 18-year-old kid, or for that matter a 45-year-old football coach, to believe me when I say that squats should be done below parallel? Or that presses are a better exercise for sports than bench presses? Or why snatches are important for powerlifters? I guess that at some level it is important just to be right, but the older I get, the less important it is that everyone else recognize that I am. Bill knows what he knows, and he offered to help me, if I would listen. But his feelings were not hurt

when I was stubborn. He was past all that. I am trying to get that way.

Bill worked with me for several years while he was here. He was in town more often then. I value the things he taught me. One of those things was to try to be more receptive to instruction. One day while we were benching at David Anderson's gym he tried to explain some



fine point of technique that had eluded me, and for some reason I wasn't trying very hard to learn. He stepped back and said, "You know, it would be better if you would get more coachable." I thought about that a lot, and I have tried to get and stay more coachable. This requires that I be mindful of the fact that I have many things to learn, even—maybe especially—about things I think I already know.

Those of us who worked with Billy all learned the power versions of the Olympic lifts, even if we were powerlifters. Among those, of course, was the power clean. It took me just one workout to get pretty good at it. He was a good teacher. We didn't do the squat clean, and I didn't ask why, since I actually didn't know what it was until later. Power cleans worked just fine for what we needed: learning to apply power in the pull, for purposes of improving

The Power Clean

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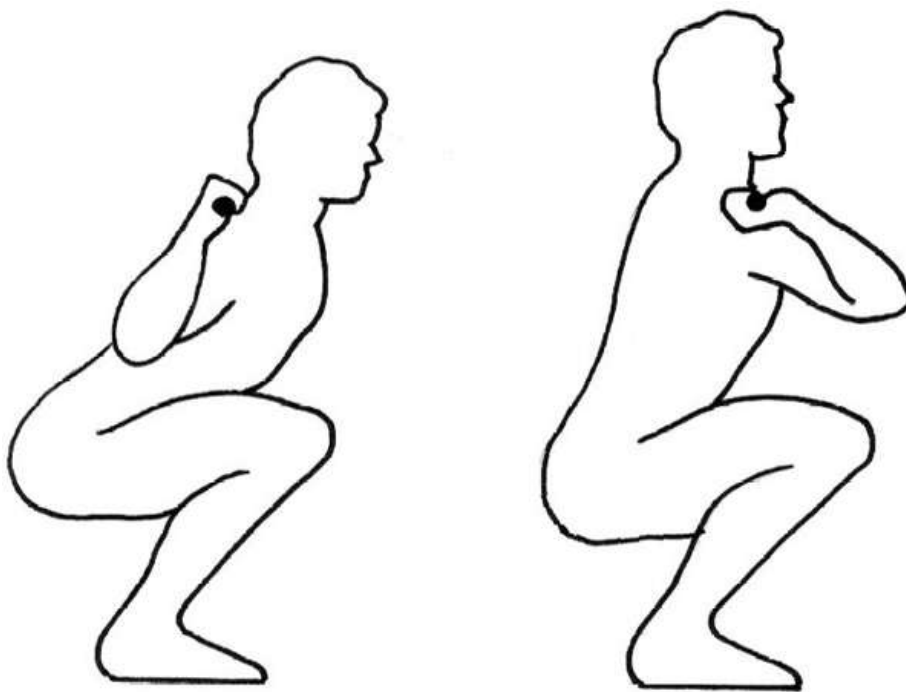
our deadlifts. He deals with them in his famous book *The Strongest Shall Survive*.

I have now been coaching the Olympic lifts for almost twenty years and am well aware that the full squat clean is a very important movement, both for motor skill development and for full-body conditioning. Learning it is important, since it is complicated, and learning complicated things improves the ability to learn. But I still teach the power clean to my novices first, just like Bill did.

This is not because I can't teach the squat clean to inexperienced lifters. I can, and I have. But I choose not to because I think it interferes with learning the squat correctly.

The front squat—the “squat” part of the squat clean—and the back squat are two very different movements that happen to be similar enough to cause problems for a novice lifter. The back squat depends on hip drive for power out of the bottom, and relies on an initial hip extension. This is accomplished by reaching back with the hips, which places the back at an angle quite a bit forward of the vertical. The form I teach places the bar on the back, below the traps, right below the spine of the scapula, allowing the hips to be driven straight up out of the bottom very efficiently if the back is at the proper angle. The bar/squatter system is in balance with a heavy weight when the bar is over the middle of the foot, and for most people this happens when the hips are back, the knees are just in front of the toes, and the back is at about 45 degrees. I don't like the traditional high-bar, or Olympic, back squat specifically because the longer lever arm produced by the higher bar position and the resulting higher torque on the lower back reduces the efficiency of the hip drive. (For more on the back squat, see *CrossFit Journal* issue 44 or my book *Starting Strength*.)

The front squat depends on a nearly vertical back angle, since the bar is carried on the front of the shoulders. The most efficient back angle is as nearly vertical as possible, since any forward lean increases rotational torque against the lower back and predisposes the lifter to drop the bar. The



The bottom positions of the back and front squats. Note the hip/knee relationships and the different back angles. Illustration by Lon Kilgore, PhD.

cue for the front squat is “chest up” or “elbows up,” which makes the back stay vertical. The bar in a back squat is wedged in between the back and the hands, and is much harder to drop; a front squat is so easy to drop that spotting the movement is both unnecessary and dangerous. The bar still gets driven up out of the bottom with a hip extension, since that's what has to happen to stand up, but this occurs without the benefit of a back angle that allows the hips to be consciously driven up. Hips are easier to drive up when they are back away from the heels, and this is why the back squat allows the use of much heavier weights, at least when it is done correctly.

The full squat style does indeed make the clean easier to rack, since the act of dropping under the bar to receive it with a front squat produces a faster elbow rotation. But for a novice trainee who is not an Olympic lifting prospect, I am more interested in a correct back squat than a fast rack in the clean. I can fix slow elbows later, but I want the back squat to be right from the beginning. The front squat and the back squat are very different movements, true, but not for a novice. To

a person unfamiliar with them, they are both just squatting down very low with the bar. If the full squat clean is taught along with the back squat the first couple of weeks, the vast majority of novice lifters end up doing a back squat with a vertical back, knees way out over the toes and no hip drive. If you decide to teach the squat clean, it is much better, I think, to wait a month until the back squat is automatic, so that the front squat part of the squat clean can be kept separate in the lifter's motor mind.

In fact, I'll go out on a limb here and say that Olympic lifters should probably learn to back squat with a low bar position, since it allows the use of heavier weights. After all, why do Olympic lifters do the back squat? It is not a contested lift. The front squat is another exercise anyway. The high back angle of the Olympic squat is not reproduced in the pull of either the snatch or the clean. In fact, weightlifting coaches advise their athletes to keep the back angle as high as possible in their back squats precisely to reduce the low back torque that the long lever arm produces, and this angle ends up being more vertical than that used on either of the pulls. It's like

The Power Clean

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trying to make the back squat into a slightly different version of the front squat. But that misses the point of the back squat. Olympic lifters squat to get their hips, legs, trunk, and back strong, like everybody else does. Since the low bar position allows the use of heavier weights in a position more similar to that of the pulls, and works the low back at an angle more useful for the pull, I submit that it is better for weightlifters, and everyone, to do it this way.

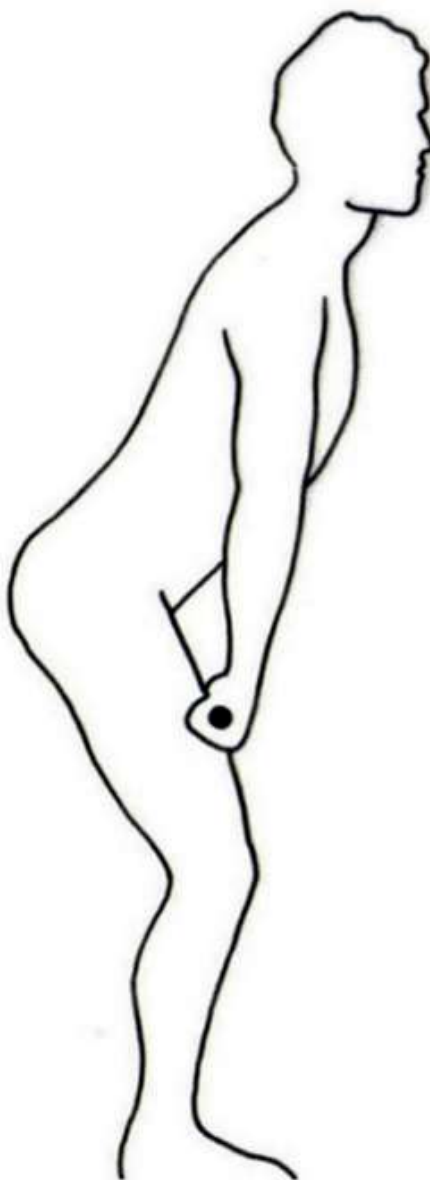
While I'm at it, deadlifts would be good for weightlifters too. Some critics have argued that heavy deadlifts slow the clean pull off the floor. It seems to me, though, that if the deadlift is trained enough to get it up to about 150 percent of the clean, it would speed up the clean quite a bit. Weightlifting does involve strength after all, at least at the international level. But—I'll say it for you—what the hell does Rippetoe know?

Excuse the digression. We were talking about the power clean.

The power clean teaches explosion. It cannot be done slowly. And since it involves a longer pull than the squat clean, it emphasizes the finish, where the maximum hip, knee, and ankle extension occurs, without the added complication of the front squat part of the movement. The reason the clean is so critical to sports performance training is that it is a scalable way to develop power. There will be a weight, however light or heavy, that the athlete can handle correctly. That weight can be gradually increased, enabling athletes of any level of advancement to increase power production. Since athletics depends so heavily on the ability to exert force rapidly, the clean is a very useful tool for all athletes. I like power cleans better, for the reasons discussed above.

The power clean is best thought of as a jump with the bar in the hands, followed immediately by an upward forward slam of the elbows to rack it on the shoulders. It is much easier to learn from the hang position;

learning it off the floor tends to understate the importance of the explosive phase at the top. In fact, the reason the power clean is an important assistance exercise for weightlifters is that it teaches the "finish" of the pull at the top, that last little bit of extension that must be done before going under the bar. If the first thing learned is the jump, the trainee has a better chance of keeping the power part of the movement foremost in importance.



The jumping, or "second pull," position for the power clean. Hips and knees are unlocked, elbows are straight, and the jump will take the bar straight up.

Illustration by Lon Kilgore, PhD.

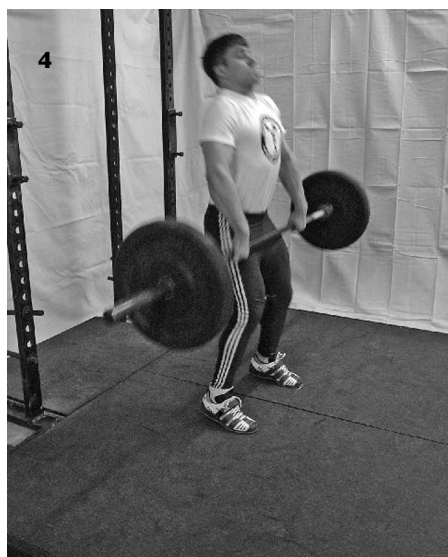
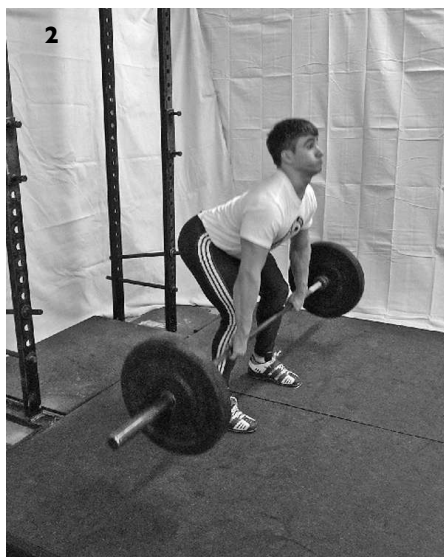
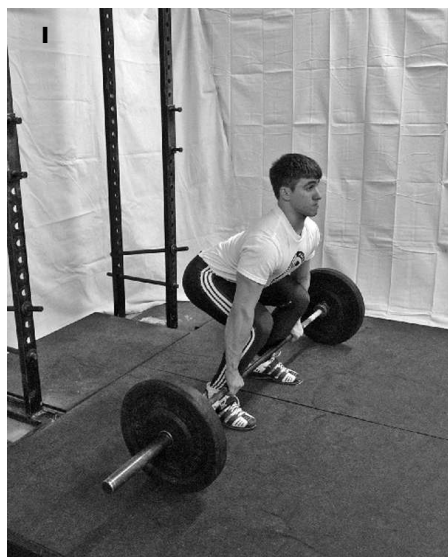
The most important position is what I refer to as the "jumping" position. It is the point at which the bar touches the thigh when both the hips and knees are unlocked and the arms are still straight. It is the point at which Olympic lifters start what they call the scoop or second pull. If the bar touches this point every time the clean is pulled, the back will be vertical enough that the jump, and the bar, will go straight up without going forward. If the clean is first learned from this point, with a jump and a slam of the elbows, it is easy to gradually lower it down the legs to the floor, reinforcing the jumping position each time the bar slides back up the legs.

There are just a few important things to keep in mind. First, the bar always leaves the thighs on the way up from the jumping position. This means that the bar will be touching (but not crashing into) the thighs at that point, and as a result is not out away from the body when the jump starts. Second, the elbows are kept straight until after the jump begins. Pulling with bent elbows is a terribly common, unproductive habit that causes some of the pulling force to be absorbed in the straightening-out of the bent elbow. This results in highly variable pulling efficiencies, with differing amounts of force being transferred to the bar. Likewise, the third important thing to remember is that the back must be held flat, as rigid and tight as possible so that efficient, predictable, reproducible force transmission between the hips/legs and the bar takes place. The hips and legs are the motor of the clean, and the back is the transmission; a slipping clutch (i.e., bent arms) means lost power at the wheels.

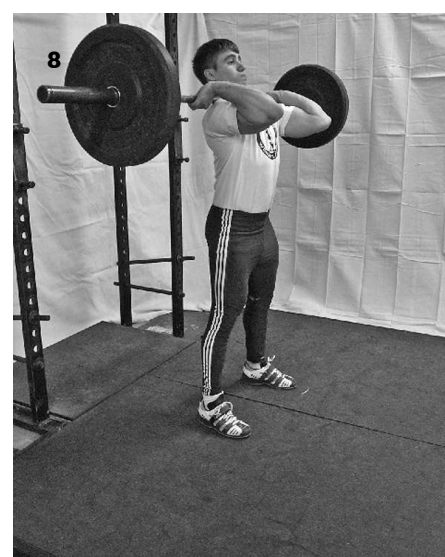
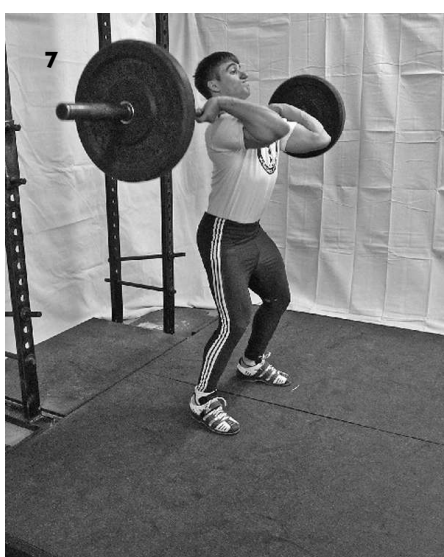
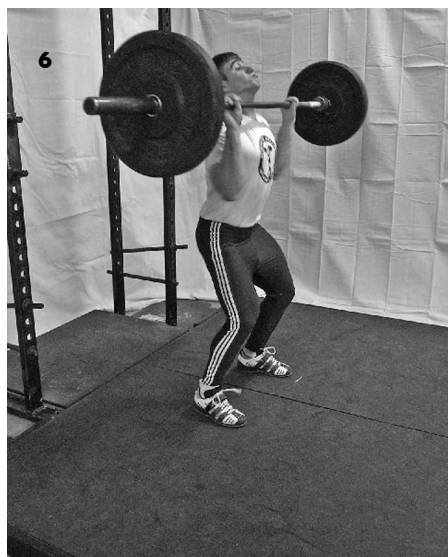
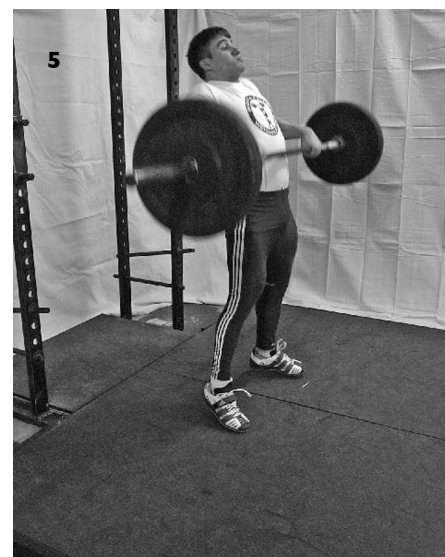
It makes sense to me to separate the learning of the squat and the squat clean. Think of the power clean as the separator, if it helps. I think the result will be a better squat, and just as useful a clean. But you don't have to listen to me.

The Power Clean

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“The reason the clean is so critical to sports performance training is that it is a scalable way to develop power.”



The Grinder

CrossFit Fragmentary Order #1, "FRELEN"

CFHQ
Santa Cruz, CA
USA

01 Aug 06

OPS 02

FRAGO 01 to OPORD 01 – OP GRINDER

Ref: A. OPORD 01 01 Jul 06

Task Organization: Annex A

1. SITUATION

No change.

2. MISSION

"FRELEN": 4 rounds: run 400m / 15 thrusters / 15 pull-ups

3. EXECUTION

a. Concept of Operations.

- (1) Intent. Complete four rounds of the exercises as quickly as possible in a safe manner. This is an individual "task-specific" team workout. Each individual's time will be recorded. The purpose of this workout is to develop cohesion and combat fitness under fatigue conditions through shared hardship, challenges, and competition.
- (2) Scheme of maneuver. Each squad will be divided into two teams of four or five. Each team will have one 25mm ammo can (70 lbs.) and pull-up bar per person conducting the workout. This is the preferred equipment ratio. However, the minimum requirement would be two 25mm ammo cans and one pull-up bar per team of four. All the teams will start at the same time from the same location. Individuals will run 400m, returning to the start point. Upon completion of the run, they will conduct 15 thrusters with the ammo can; once the 15 thrusters are complete, they will execute 15 pull-ups. The first round will end after the 15 pull-ups are completed. Rounds 2, 3, and 4 are executed in the exact same order. Each exercise must be completed before moving on the next one—i.e., you must finish all 15 thrusters before starting the 15 pull-ups. However, each exercise may be broken up into sets as desired—e.g., three sets of 5 pull-ups to complete the required 15, or a set of 7 and a set of 8 thrusters. If a soldier is unable to complete 15 pull-ups on his own, spotting will be permitted. However, spotting will be executed by supporting the back of the person doing pull-ups, not by supporting his feet (Ref Annex C), and only by a team member who is also conducting pull-ups.

CrossFit Fragmentary Order #1, "FRELEN"

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As soon as the spotter completes his 15th pull-up and transitions to the run, or when he is returning from the run and starting thrusters, he is no longer able to provide assistance. Therefore, if three members of the team have completed their four rounds, and the last member of the team is having difficulty with his final set of pull-ups, he will not be able to obtain any assistance from his teammates. The priority for pull-ups from least assistance to most, is 1) regular pull-ups, 2) jumping pull-ups, 3) negative pull-ups, and 4) partner-assisted pull-ups. The method used by persons completing the required pull-ups will be noted on the score sheet (regular, jumping, negative, or assisted).

- (3) Main Effort. The safety of all personnel, and the development of unit cohesion and combat fitness through shared challenge and hardship.
- (4) End State. The safe and successful completion of all exercises by each individual in the squad, and the company prepared to carry on with further training.

b. Coordinating Instructions.

- (1) Team Organization. Squad leaders can organize the each team however they want. It is a leadership decision on how best to deploy each team to accomplish the mission. If the squads cannot be grouped into fire teams of four, add a fifth soldier to the team. The points scored by each individual are added together to obtain the team's and squad's total points.
- (2) 25mm Ammo Can Thrusters. For safety reasons, it is imperative that the 25mm ammo can be lifted from the ground by the proper technique. The ammo can must be placed on the ground upside down (so that the lid of the ammo can is on the ground). With his back held in the proper deadlift position, the lifter deadlifts the ammo can to the hang position, where it remains inverted, with the lid facing the ground. From the hang position, he cleans the ammo can to the rack position (the thruster start position). It is during this transition, from the hang to the racked position, that the ammo can rotates 180 degrees (to end with the lid facing up). This is the start position for the thrusters (Ref. Annex C).
- (3) Scaling. The workout can be conducted in PT gear or full battle gear to include vests with plates, depending on the fitness levels of your soldiers. The two pieces of equipment required—25mm ammo can and pull-up bars—are for austere conditions. If you have the resources, you can use two 35-lb. dumbbells or a 70-lb. Olympic bar and weights. The weight of the equipment or number of reps can be increased or decreased based on the skill level of your troops.
- (4) Scoring. The finish time for each individual will be recorded and ranked from first to last (fastest time in first place and slowest time in last place). The team and squad's standing will be obtained by adding together each individual's ranking: first place receives one point, tenth place receives ten points, and seventeenth place receives 17 points. The squad with the lowest

CrossFit Fragmentary Order #1, "FRELEN"

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combined ranking, or finishing times, wins. Therefore, if the four members of a team finish in third, sixth, ninth, and fifteenth place, their team score would be 33 points. This scoring method provides flexibility and allows platoon and company leadership to obtain standings for each individual and for each team or squad. During the execution of FRELEN, a person could have the fastest individual time and be on the slowest team. Team dynamics and cohesion will play a key role in the results of the workout. Annex D provides an example of a team score sheet.

- (5) Safety. Ensure that all equipment is checked and serviceable before conducting the workout. Safety is every member's responsibility. All participants must be competent in the exercises before doing the workout.
- (6) Follow-on Tasks. The next workout will require a 400-meter running route, .50-cal ammo cans filled with sand, and individual flak vests (with or without ballistic plates). The preferred ratio is two .50-cal ammo cans for each soldier; however, if this is not possible, two .50-cal ammo cans for every two soldiers is the minimum. If you cannot obtain .50-cal ammo cans, two 50-lb. dumbbells can be substituted.

3. SERVICE SUPPORT

a. Equipment Weights

Ammo Can Nomenclature	Quantity / Size	Type	Weight	Contents
Cart 25mm APFSDS-T	30 rds	PA125	70 lbs	Sand

- b. Equipment Requirements. Each four-man fire team will require four 25mm ammo cans (70 lbs. each) and four pull-up bars.
- c. Time Recording. One stopwatch, writing material to record each individual's time, and nominal roll score sheet.

4. COMMAND AND SIGNAL

- a. Timer/Score Recorder. Only one timekeeper is required for all squads and fire teams. This soldier will record the times of all individuals when they finish the workout. He is positioned where the thrusters and pull-ups will be done (the start/stop line for the run) for command and control purposes. All fire teams begin the workout on his command. When individuals complete all the exercises, they inform the timekeeper, who records all times. If the soldier uses jumping pull-ups or receives assistance to complete the workout, it is noted on the score sheet. The intent is for all troops to complete the pull-ups unassisted and as prescribed. Due to the nature of the workout, if a team is working together, they could finish the last set of pull-ups within seconds of each other. It is recommended that at least one person per fire team start his stopwatch to act as a backup in case the primary timekeeper's stopwatch fails.

CrossFit Fragmentary Order #1, "FRELEN"

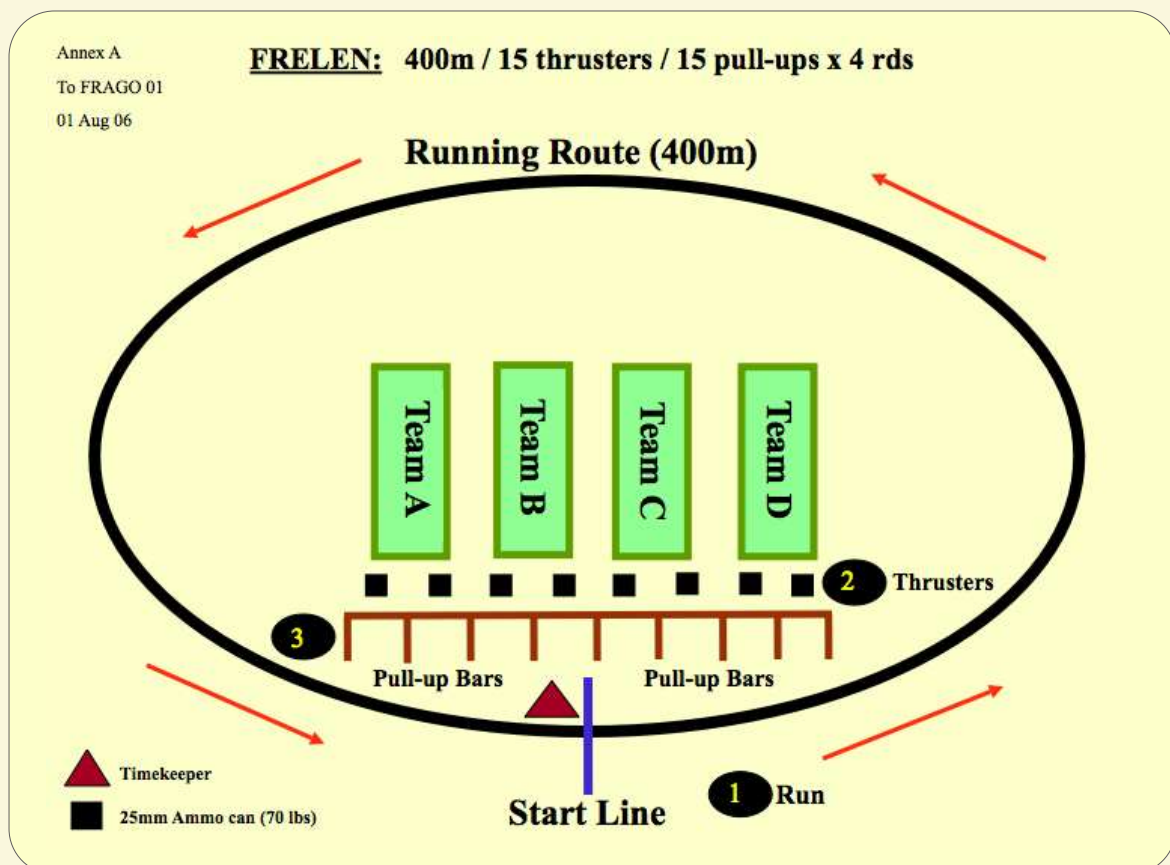
...continued from page 12

- b. Instructor/Coach. To ensure proper conduct of the workout, use of correct exercise form, and safety of execution, a designated member of the platoon can fill this billet. An injured soldier who cannot participate in the PT or another member of the company can also perform this duty. Although not preferred, the platoon leader or platoon sergeant can also serve in this key position, especially if the target training audience is the individual squads. The command team can conduct the workout before platoon PT or at another time throughout the day. Once they have completed it, they can post their times against the rest of the platoon.

Annexes:

Annex A Workout diagram
 Annex B Equipment
 Annex C Exercises
 Annex D Sample score sheet

Annex A Workout Diagram



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Annex B Equipment



Ammunition Canister



Pull-up Bars

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Annex C Exercises



Demo Pickup



Demo Thruster

CrossFit Fragmentary Order #1, “FRELEN”

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Annex C Exercises (cont'd)



“Frelen” in action



“Frelen” in action

CrossFit Fragmentary Order #1, "FRELEN"

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Annex D Sample Score Sheet

Annex D
to FRAGO 01
1-Aug-06

TM A Names	Frelen Time	Points	Cindy Rounds	Points	Gagetown Time	Points	Total Points	Rank
H	12:17	4					4	4
K	12:14	3					3	3
L	12:13	2					2	2
R	12:27	11					11	11
S	12:30	12					12	12
							32 (1)	32

TM B Names	Frelen Time	Points	Cindy Rounds	Points	Gagetown Time	Points	Total Points	Rank
S	12:27	11					11	11
R	12:24	9					9	9
W	12:18	5					5	5
P	12:19	6					6	6
W	12:25	10					10	10
							41 (3)	41

TM C Names	Frelen Time	Points	Cindy Rounds	Points	Gagetown Time	Points	Total Points	Rank
M	12:25	10					10	10
V	12:32	13					13	13
H	12:22	8					8	8
H	12:10	1					1	1
M	12:20	7					7	7
							39 (2)	39

TM D Names	Frelen Time	Points	Cindy Rounds	Points	Gagetown Time	Points	Total Points	Rank
S	13:43	18					18	18
R	13:15	14					14	14
M	13:23	15					15	15
M	13:29	16					16	16
L	13:41	17					17	17
							80 (4)	80



The Swing

— Roger Harrell —

Generating and maximizing swing has application in a wide variety of activities and sports. From a gymnastics perspective, swing generally means swinging your body on an apparatus, but the principles and techniques apply to swinging objects with your body as well.

There are four fundamental factors involved with maximizing swing: maximizing momentum in the downward phase, maintaining momentum throughout the swing, maximizing the application of force against gravity in the upward phase, and minimizing loss of speed in the upward phase. All four factors are affected dramatically by body mechanics. Proper mechanics can make an enormous swing effortless, and improper mechanics will reduce a potential swing to a wiggle.

Maximizing momentum in the downward phase of the swing involves keeping your center of mass as far as possible from your anchor point (your hands). Moving your center of gravity an inch or two away from the anchor point can have an enormous impact on the outcome of the swing. Maintaining momentum throughout the

swing is all about proper mechanics. This is where “staying tight” is critical. It is far easier to swing a stick 360 degrees from vertical to vertical than it is to do the same with a rope. With a rope a lot of momentum will be lost in oscillations in the rope; this loss is not experienced in the stick. Movement in the body being swung should occur only if it generates force in the direction of the swing, moves the center of mass away from the anchor point during the downward phase of the swing, or moves the center of mass closer to the anchor point during the upward phase.

Maximizing the application of force against gravity on the upward phase of the swing can take many forms. It could mean a well timed “tap,” or kick against gravity. It could mean shifting the center of gravity off the centripetal line of force which results in a pumping of the swing. It could mean proper positioning so you can push the swing upward. In the case of two or more anchor points (as with support swings on parallel bars) it can also mean proper application of a push in the direction of the swing.

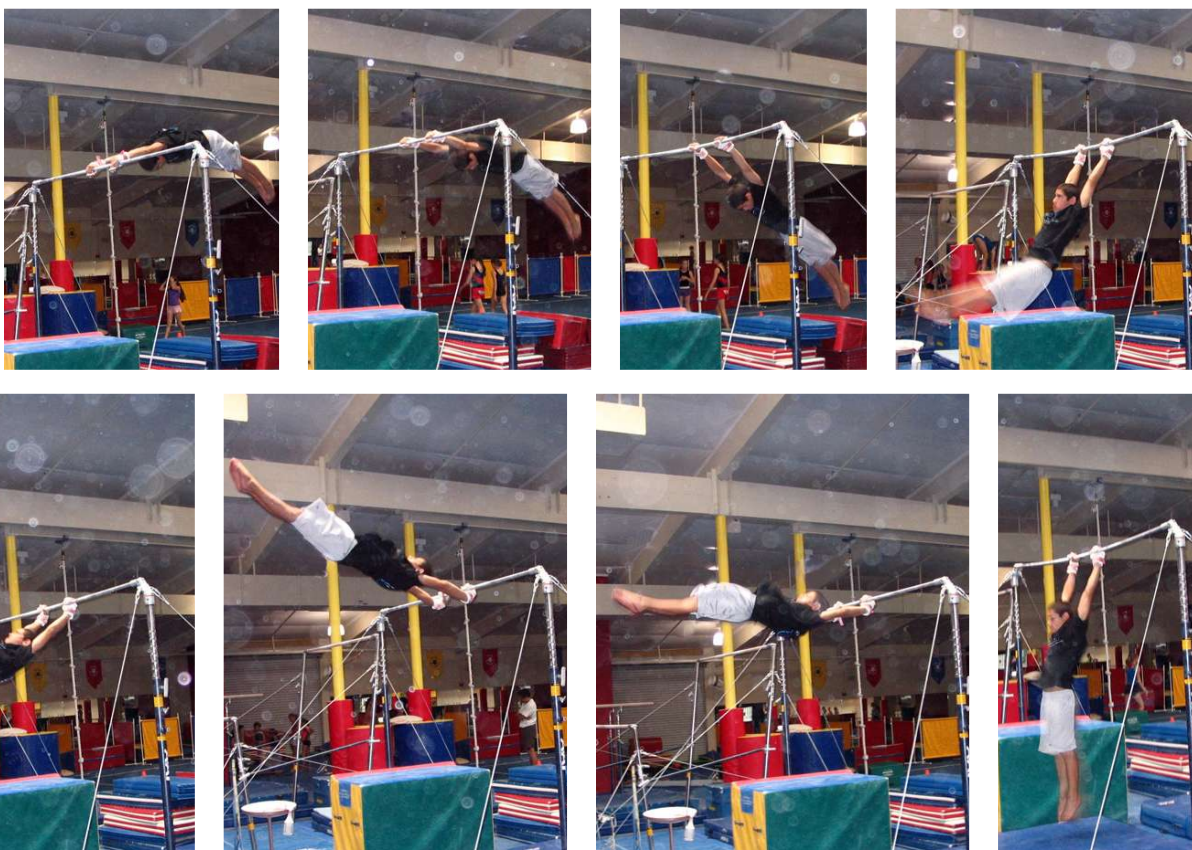
Minimizing the loss of speed in the upward phase of the swing often involves shortening the radius of rotation. Bringing your center of gravity closer to the anchor point will increase the speed of rotation, assuming no external forces are involved.

A brief note on hand care: As you begin swinging you will find that your hands will not be able to handle the abuse. To minimize friction, try not to squeeze the object you are hanging on. Instead, just hook over the object with your fingers. Keeping your hand hooked rather than gripping tightly will greatly reduce the friction on the bar and allow you to practice longer without ripping.

Tap swing

The most common swing is from a single fixed bar. The most effective mechanism for this swing is called a tap swing. During the downward phase of the forward swing your body should be kept hollow and extended. Push away from the bar and ensure that your shoulders are active and

Tap swing



The Swing

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pressed up into your ears. As the swing passes through vertical you should allow a small arch with the primary extension being in your chest and shoulders. After the swing passes vertical, kick your toes toward the ceiling—not forward, but up, toward the ceiling. After the kick, pull back on the bar to fully extend your shoulders for the return swing.

The rearward swing will be essentially a reverse of the forward swing. On the downward swing, the shoulders should be fully extended and the body slightly arched. As the swing passes vertical, the body will hollow slightly, followed by a heel tap. After the heel tap, push down on the bar and hollow as the swing rises, then push against the bar to extend and prepare for the downward swing.

To get started, initiate the swing by lifting your legs upward and forward. Once you have a small swing going, start to work on the tap swing. Initially just try to relax and feel the timing of the swing. Then, as your feel for the timing improves, you can begin to put more into the swing.

As your swing grows you will find it increasingly difficult to hang onto the bar at the end of the rearward swing. Your hands can slide around the bar only when your fingers are following away from the swing; therefore, you must shift your grip at the end of every rearward swing. At the high point of the rearward swing there is a moment of weightlessness. This is the point when you should regrasp the bar and prepare for your next swing. In the extreme this opening of the hands in the rearward swing can become a “peel,” an involuntary release of the bar that most gymnasts have experienced at one time or another. Peeling can be avoided with proper hand placements and gripping technique. Once your swings exceed horizontal you will need to overgrip the bar at the end of the forward swing. As you swing, allow your wrists to flex instead of allowing your hands to slide around the bar. Focus on keeping your fingers on top of the bar to avoid peeling. Gymnastics grips will help tremendously if you find it increasingly difficult to hang onto the bar. With grips it is possible to swing nearly to handstand in the forward swing without peeling in the rearward swing.

The mechanics involved in the tap swing are primarily about timing. Once you’ve got the timing and mechanics down, you can generate a very large swing can be generated with very little effort. The tap swing eventually becomes a giant, which is a swing from handstand to handstand on a high bar, completely around the bar in either direction.

Support swing

A support swing is swinging in a free support between two fixed objects. From this position a swing can approach vertical in the forward swing and reach a handstand in the rearward swing. Working support swings builds support stability, strength, and shoulder mobility.

Start practicing the swing focusing on keeping your body completely straight. Your body should maintain a straight line from your shoulders to your toes. Do not pike in the forward swing, and do not arch in the rearward swing. The goal is not to see how high your feet can go, but to swing

Support swing



The Swing

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your entire body efficiently and effectively, as a unit.

In the support your elbows should be turned so that the inside of your elbows are facing forward. This dramatically increases stability and will help prevent buckling as you swing through the bottom.

Once both your forward and rearward swings approach horizontal, you should start practicing the shrug. Through the bottom of the swing shrug your shoulders; then extend them at the top of both forward and rearward swings. This shrug allows for a very dynamic push at the peak of each swing, adding significant power to the movement. Practice the shrug by performing swings with relaxed, shrugged shoulders through the arc of the swing, and then, as it reaches its peak, extend your shoulders. This shrug and push gives additional upward force to the swing enabling greater function.

If you are performing your support swings on parallel bars there is an important skill to learn before attempting to reach a handstand. You should be comfortable with a forward roll on the bars. A forward roll is the safest way to bail out of a handstand that falls forward. Practice forward rolls by first kneeling on the bars. Your knees will be slightly outside the bars and your feet on the inside. Place your hands as close to your knees as possible. Lean forward and lift your hips, stick your elbows out so your upper arms rest on the bars. Push off your legs and roll over your arms, constantly pressing your shoulders toward the floor to lock the shoulders into a "shelf" to support you. You will need to let go of the bars as you roll over, but this is a very natural reaction. At the end of the roll you will be in an upper arm support on the bars. Yes, this is uncomfortable, but it's a necessary skill. The discomfort decreases as you get more proficient with the movement.

As the rearward swing approaches handstand, be sure to maintain a hollow body and push with your shoulders. Done properly this will ensure that the swing stops in the handstand. An arched swing leading with the heels, with the head out can easily swing past the handstand

requiring a forward roll or other method of bailing out. A proper hollow swing to handstand will settle in the handstand regardless of how much momentum is behind it. If anything the swing will hop as it reaches vertical as the momentum is upward and not forward. A swing to handstand should be just an extension of a normal support swing. If you have to change your body alignment to get to the handstand, then the mechanics of your swing are not correct and you should continue to practice a proper swing before attempting to swing to handstand.

Ring swing

Ring swing

A correct and effective swing on rings takes significantly longer to learn than an effective swing on a bar. A swing on rings is a double pendulum, a very complex system that demands very good timing and body alignment. Proper body tension and maintaining pressure on the rings is critical.

From a hang position on the rings, initiate the swing by kicking your feet forward and backward. Hang relaxed in the shoulders



The Swing

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so you can begin to feel the natural period of the swing. As the timing becomes apparent you can begin to drive the swing more aggressively. Consciously squeeze your heels together, particularly in the rearward swing.

From the horizontal position in the front, your shoulders should be pushed back and your body extended as much as possible without arching. If your rearward swing is arched when you reach the bottom there will be a significant downward jerk. This jerk is not only uncomfortable but also decreases momentum and severely limits your swing. Maintain a slight hollow until the rearward swing passes through the bottom. At this point an aggressively kick your heels toward the ceiling (that is, direct the kick up and back, not just back). As the swing rises to the back, keep your chest pressed downward and shoulders open and slightly out to the sides. Maintain pressure on the rings throughout. The rings should also be turned out (pronated, or thumbs inward). This turnout allows a greater range of motion in the shoulders and will allow you to put downward pressure on the rings earlier in the swing than if your hands were not turned out. As the swing peaks, the rings should be brought together and pushed as far forward as possible to prepare for the forward swing.

The beginning of the forward phase of the swing is a reversal of the beginning of the rearward swing. From the face-down horizontal position at the back of the swing, arch your body lightly, press the rings forward as much as possible and push your chest down and slightly forward. Maintain this position until the swing passes through the bottom. As the swing reaches vertical it should turn over rapidly as you drive your toes toward the ceiling. Be sure to turn over by kicking your feet and maintaining a tight body. This turnover must be driven by the kick and not by pulling the rings forward. The rings should

be pressed back as the swing turns over. After the turnover, drive your toes toward the ceiling and press the rings back (away from the top of your head) aggressively. At this point the swing should be traveling nearly vertical, and you should be aggressively pressing the rings back and slightly outward. This pressure will drive the swing upward. Do not bend your arms; this pressure is a push, not a pull. As your swing reaches horizontal in the forward swing, the rings will need to be turned in (supinated, or thumbs out) to enable you to push down on the rings as the swing rises above the rings. After the swing peaks in the front, extend away from the rings as much as possible to prepare for the rearward swing.

Mastering these three basic swings can take a significant amount of time, though the fitness benefits of practicing them can be realized immediately. Once you have begun to develop a feel for proper swing mechanics you will find yourself using swings to navigate various obstacles quickly and effortlessly. For those pursuing formal gymnastics, proper swing mechanics are essential to all high-difficulty dynamic skills on these events. Whenever you get a chance, pay attention to how individuals swing in a variety of situations. Try to understand the purpose behind the mechanics you see; adopt what is useful.



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