

BACK SQUAT

It's one thing to be able to air squat and box squat, it's an entirely different thing to squat with a weight on your back. Spend a day at the zoo shouldering your three-year-old and you'll know what I'm talking about.

Once you understand the universal laws of squatting and you've practiced the movement with the air and box squat, you need to up the ante on your positions and add load. With additional weight on your torso and hips, small errors that may go unnoticed in the air squat and box squat become obvious, making it another way to diagnose poor movement patterns. Not only that, adding a barbell to the equation changes the level of trunk stiffness and torsion force that is applied to the movement, which translates to more complex actions.

This is the idea: If you're air squatting you might be managing 30 to 40 percent torque and tension levels. While this is great for simple tasks, the stabilization demands don't transfer to more dynamic movements. For example, jumping and landing or squatting with a heavy load requires much higher levels of trunk stiffness and torsion force. If you never challenge your setup and your movement with larger loads, generating higher levels of force is difficult.

The back squat involves a lot of complex steps: Take the barbell out of the rack, walk back and assume a squat stance, execute the movement, walk forward, re-rack the weight. It takes skill, practice, and razor sharp focus to perform each step correctly. To ingrain the correct movement patterning and reduce errors, it's important that you go through the same load-order sequence. The idea is to minimize the variability of your movement so that you can preserve the quality of your position with each transitory step. If you take the bar out of the rack seventeen different ways, you're going to start your squat seventeen different ways.

This is not to say that you shouldn't change the bar position or change your squat stance from time to time. Those changes are fine—just be sure to practice the same step-by-step setup every time you lift. If you

step back with your left foot first, then do that every single time. That way, when you're tired, under stress, or in competition, you don't make fundamental mistakes because you've ingrained the same motor pattern over and over again. It's instinctual.

To shorten your learning curve, I broke down the back squat into three phases: lift out (taking the barbell out of the rack), walking back, and then squatting. It's worth mentioning that the lift out and walk back are universal steps used in lifts that require you to take a barbell out of the rack—the front squat, overhead squat, strict-press, push-press, push-jerk, split-jerk.

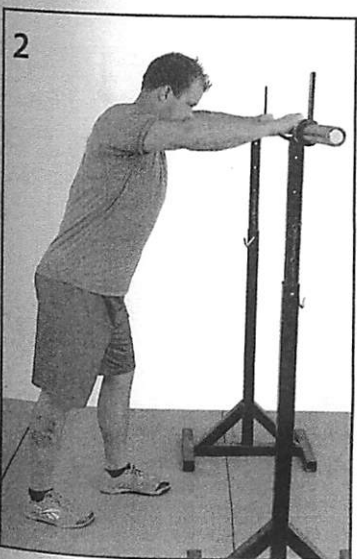
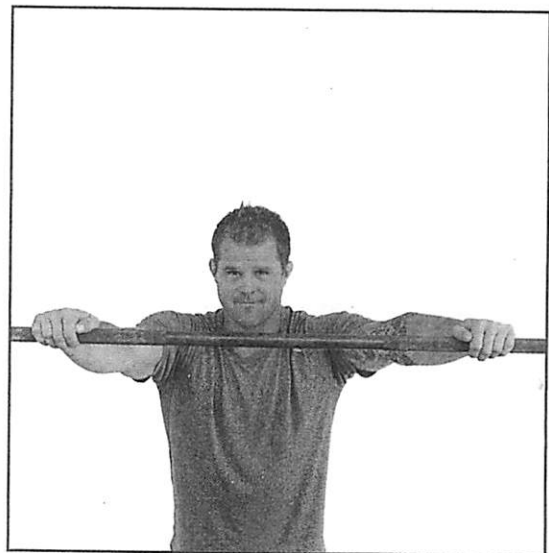
Phase 1: Lift Out (The 6-Inch Squat)

Anytime you take a barbell out of a rack, you have to set your shoulders and get your belly tight before adding a load to your spine. It's a perfect example of the tunnel concept: If you take the bar out of the rack and your spine is disorganized, or your hips are in a bad position, it's impossible to reclaim a good position.

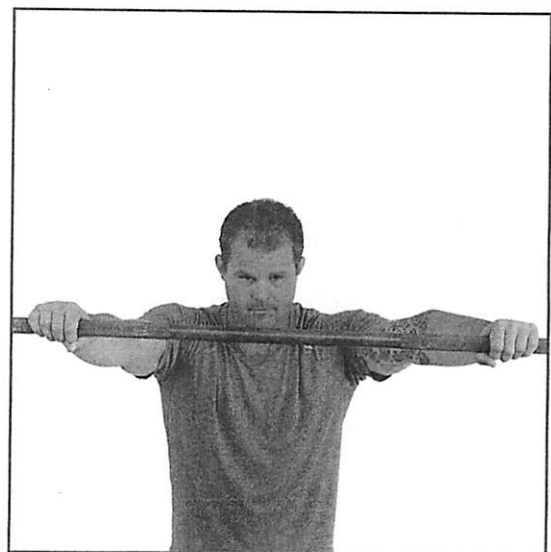
The first phase, which is essentially a 6-inch vertical squat, sets the tone for the rest of the lift. Most injuries and missed lifts relate back to errors made in this phase, so it's imperative that it's done right. If you don't perform a good lift out, reset the bar and start from scratch. Additionally, make sure to set the rack to a height that allows for a good lift out, which is roughly chest level.



Find a comfortable distance for your grip. Personally, I like to position my hands just outside shoulder-width. As with stance, grip distance is different for everyone and is predicated on mobility and frame size. The key is to form a grip that allows you to create sufficient external rotation force and tension in your upper back and shoulders. Put simply, it's a grip that allows you to keep your wrists straight and your elbows underneath your shoulders.



Once you set your hands, create torque in your shoulders. To accomplish this, pull back on the barbell and create an external rotation force by creating torque off the bar. Imagine trying to break or bend the bar with your hands. It's important to mention that you can hook your thumb under or over the bar. Personally, I prefer the thumb under grip because it allows me to generate a stronger torsion force off the bar.

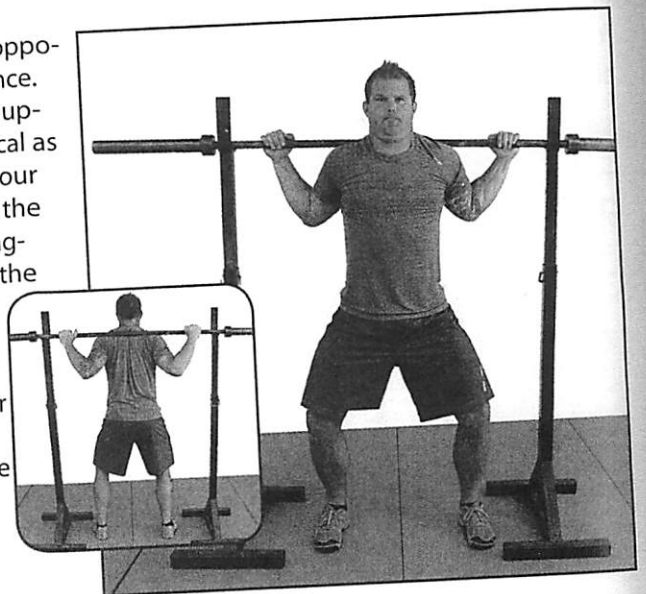




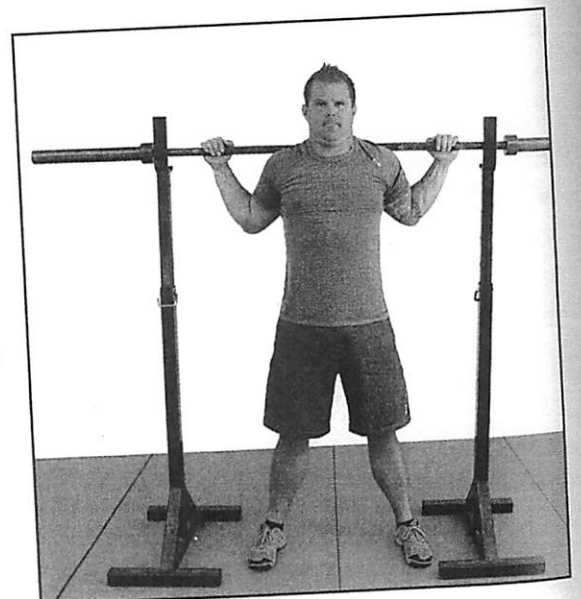
3 With your shoulders set and your upper back tight, step underneath the barbell, positioning the bar somewhere on the mass of your deltoids, otherwise referred to as the spine of your scapula. (To learn more about barbell positioning, see Jesse Burdick Shelf Test on page 101, and high bar back squat on page 102.) Whether the bar is high or low, the goals are the same: create as much torque in your shoulders and tension in your upper back as possible. As you step under the bar, screw your foot into the ground to create a stable hip position. Take your time. The barbell isn't just riding on your back. You want to make it part of your body.



4 Step underneath the bar with your opposite foot and assume your squat stance. The goal is to create tension in your upper back and get your torso as vertical as possible. To accomplish this, press your neck back into the bar, eyes level at the start, and then twist your arms, bringing your elbows down underneath the bar—pulling your shoulders back and maintaining as much external rotation torque as possible. As you do this, squeeze your butt, get your belly tight, align your ribcage over your pelvis, screw your feet into the ground, and shove your knees out as far as possible.



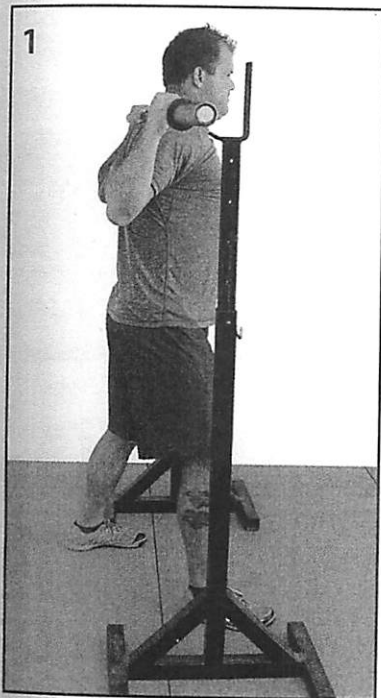
5 With your spine braced in a neutral position, your shoulders and back tight, and your torso as vertical as possible, extend your knees and lift the weight out of the rack.



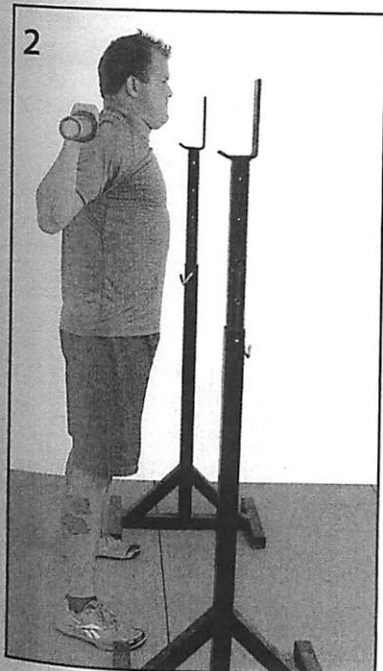
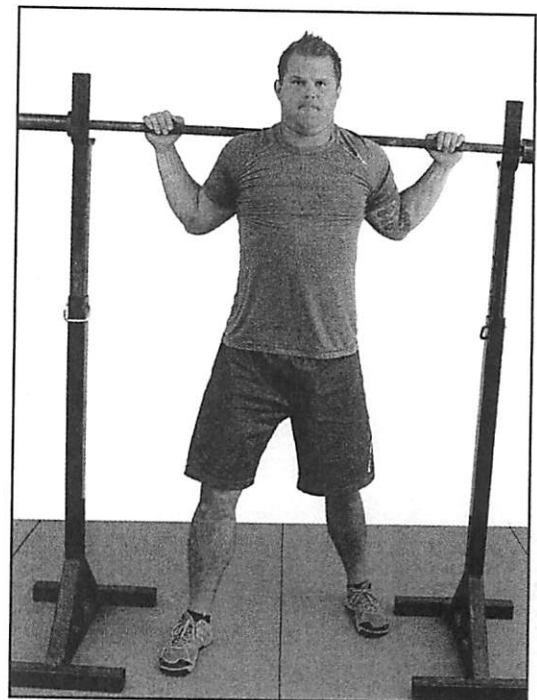
Phase 2: Walk Back

Walking with a significant weight on your back is a tricky endeavor. This is why the lift out is so important; it sets up the efficacy of the walk back. If you lift out with a disorganized spine, walking back is only going to make your bad position worse.

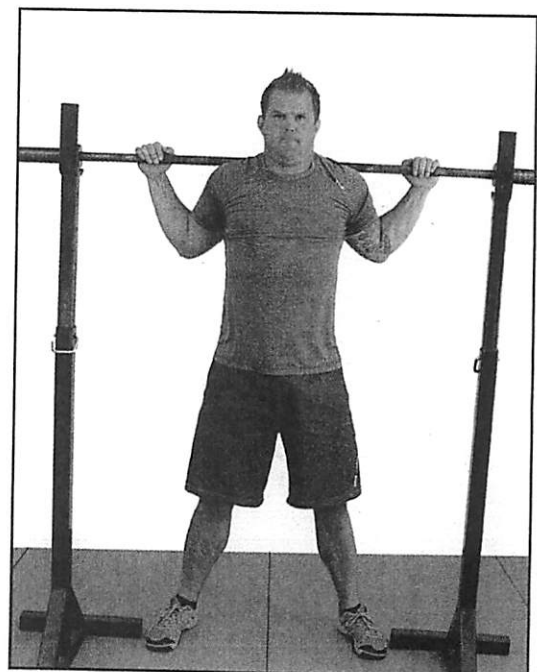
To prevent this, execute a good lift out and walk back in the same pattern every time you back squat. For example, after I lift the weight out of the rack, I always step back with my left foot, step back with my right foot, and then establish my squat stance. The steps are short and deliberate. Don't walk ten feet from the rack, look down at your feet as you establish your stance, or do anything that will compromise trunk and upper back stiffness.



After you've lifted the bar out of the rack, step straight back. The key is to take a short and straight step. Unless you're transitioning into a wider stance, try to keep the same distance as your lift out stance to reduce the variability of your movement. All the same rules apply: Your belly is tight, your spine is neutral, and your back and shoulders are on tension.

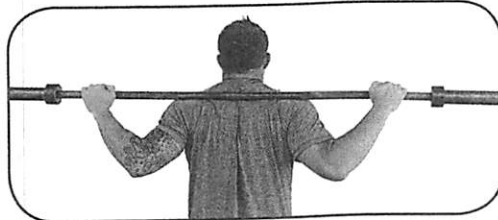


Step back with your opposite foot. Try to position your feet in your squat stance as you step back. The less you have to shift and adjust your stance, the better.

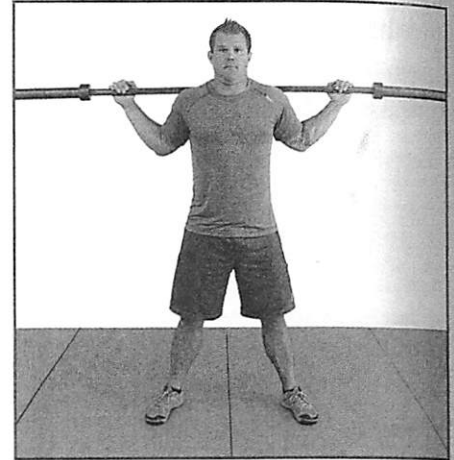


Phase 3: Squat

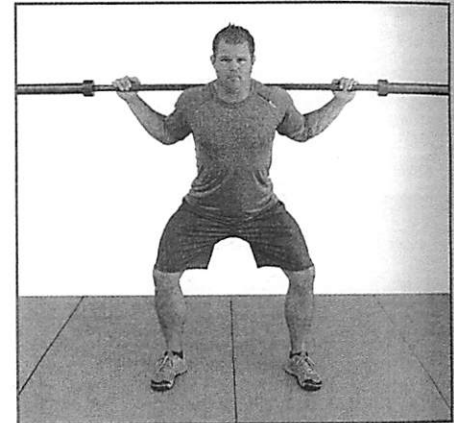
After you've taken the weight out of the rack, walked back, and established your squat stance, you're ready to perform the third piece of the movement sequence, which is the squat. Aside from managing a heavier load and organizing your arms in a different position, the back squat is performed in the same manner as the air squat.



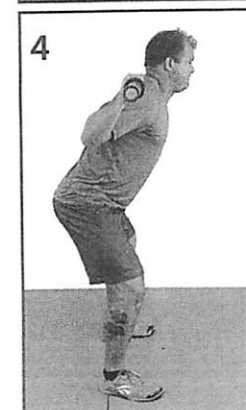
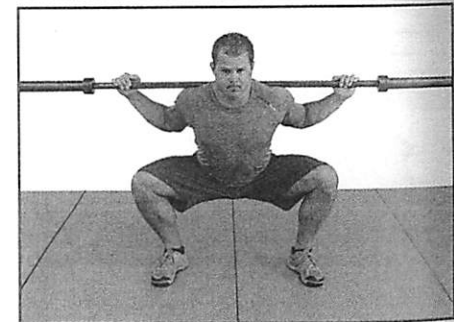
Once you've established your squat stance, squeeze your butt, screw your feet into the ground, and turn your knees out. Your shoulders and upper back should be tight, with wrists straight, head pressed back, and your elbows positioned underneath or slightly behind the bar to support the load. Nothing should have changed from the lift out phase.



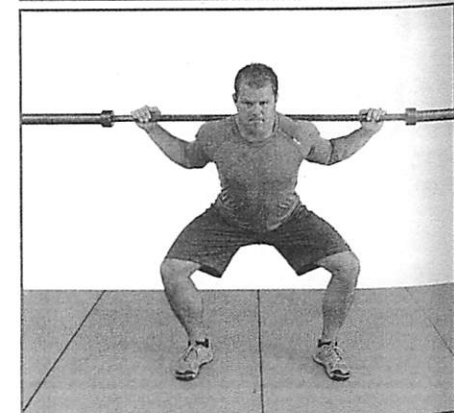
Keeping your back flat and your shins as vertical as possible, reach your hamstrings back.



Still driving your knees out, lower into bottom position until your hips pass below your knee crease, or until your thighs are parallel with the floor. To maintain maximum knees-out force, think about pulling yourself into the bottom position.

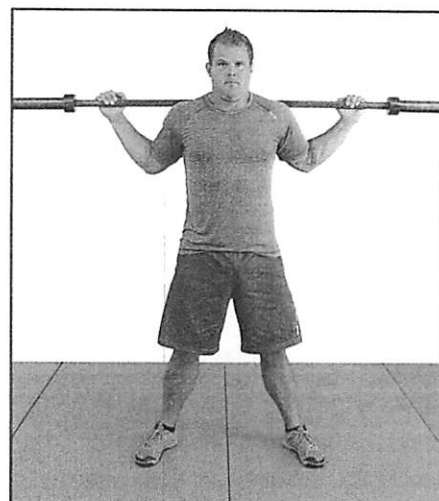


The moment you reach end-range, pull your shins to vertical and stand up.





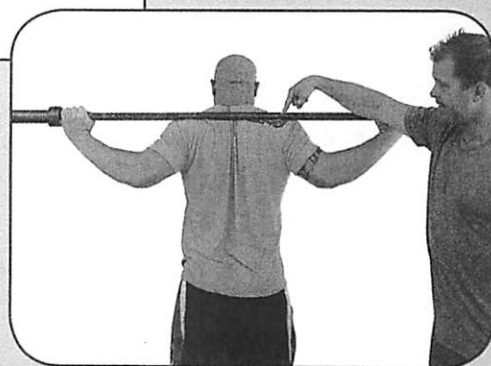
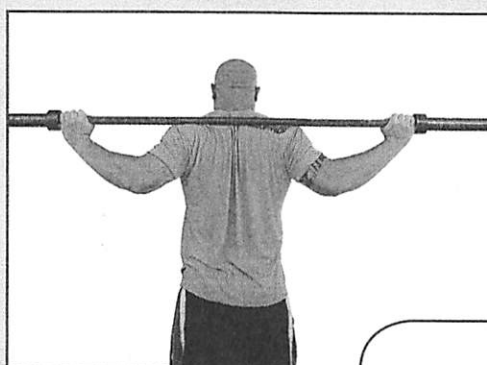
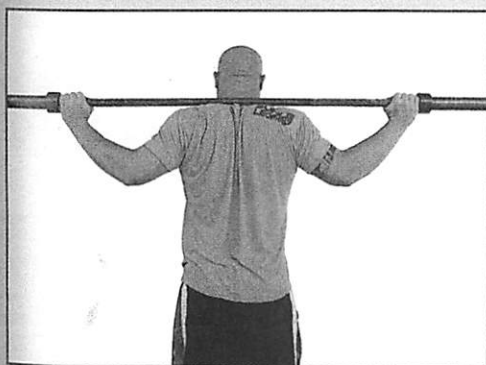
As you stand up, squeeze your butt and reestablish the start position.



Jesse Burdick's "Back Squat" Shelf Test

There are clearly many possible positions for the bar on your back, but all will be ultimately categorized as low bar or high bar. The low bar back squat (performed in a more athletic stance, not a wide powerlifter stance) allows you to tilt your torso forward and load tension in your posterior chain (hamstrings and hips). The high bar back squat requires a more upright torso and shifts more demand onto your quadriceps. The former is typical of most powerlifters (although the only way to support 1000-plus pounds on your back is with an upright torso), while the latter is common with Olympic lifters. While it's good to learn and practice both variations, you're probably going to gravitate toward one rather than the other, which is fine as long as you can perform both.

The best back squatters in the world will adopt a more "low-ish" position for the bar during their squatting. The key is to find a comfortable and tight position for the barbell on your upper back. To find the sweet spot, perform this simple test:



Position a PVC pipe or barbell on your back with your hands spaced far enough apart so that you can get your wrists vertical and your elbows underneath the bar. Then, slide the bar up and down the meat of your upper back (thoracic spine) and shoulders (deltoids, scapula) to find the tightest position. For some that might be a high bar position while for others a low bar position. (For most people, that's just above the scapula and on the deltoids.) You don't want it too high on your neck above your traps (cervical spine) or below the meat of your external rotators (back of your shoulders). Remember, you should have enough range-of-motion to place the bar anywhere. But, when it comes time to have a squat-off dance fight, adopt the best and most effective position for you.

FRONT SQUAT

Imagine picking up a keg of beer and lowering it back down to the ground. Can you do that without ripping apart your knees or back? If you know how to front squat, yes, you can.

Lifting a keg of beer, a couch, a bag of charcoal, your kid: Most lifting-related tasks that we perform on a daily basis require picking something up or lowering something to the ground with the load supported in the front of the body. What's more, the majority of these tasks require the torso to remain upright. The front squat is a great example of a gym movement that transfers to the tasks of daily life.

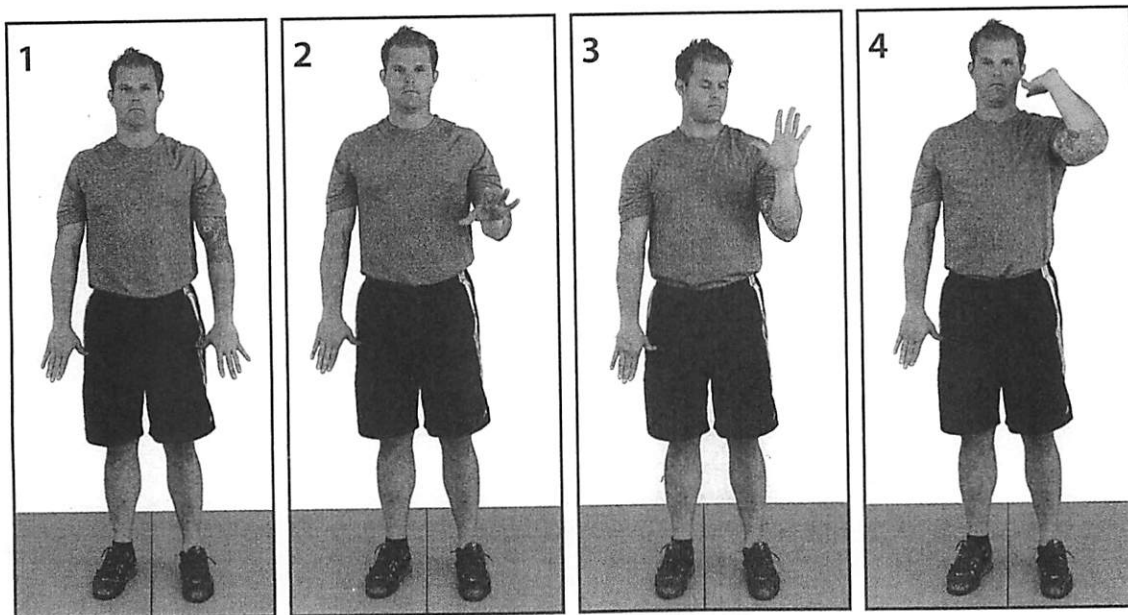
The front squat will ferret out shortages in shoulder, hip, quad, and ankle range-of-motion—weaknesses an athlete may be able to hide during the air or back squat. In an air or back squat, the athlete can tilt his chest forward and reach his hips farther back, giving the hips, hamstrings, and ankles some breathing room. The upright-torso demands of the front squat will reveal these mobility limitations and, once addressed, present opportunities for snagging more performance.

The front squat is a progression to category 3 movements, specifically the clean and jerk—pulling a weight from the ground to shoulder level in one movement and then pressing the weight overhead.

Front Rack Position

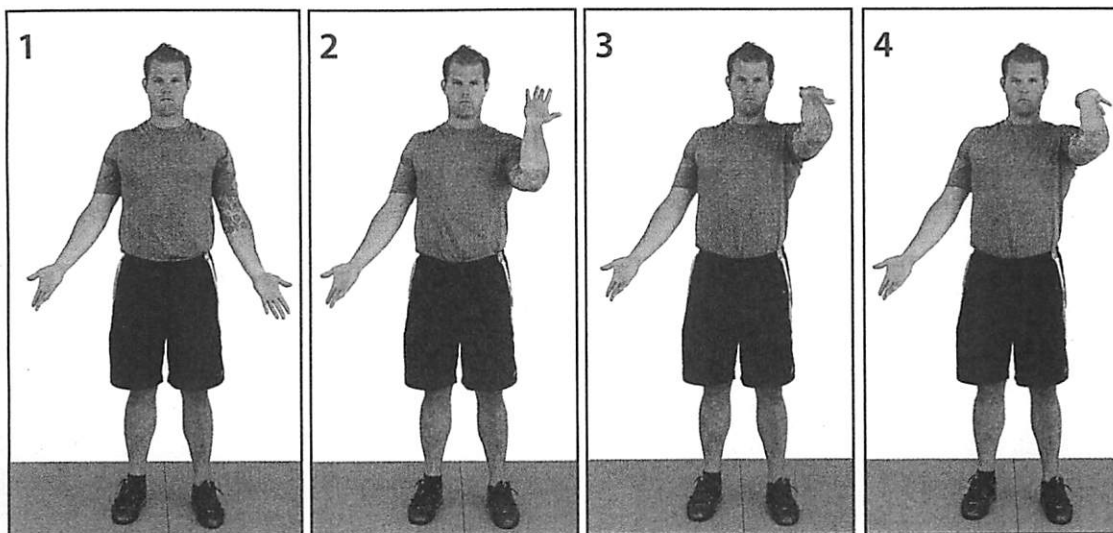
Whether you receive the bar in the clean or take it out of a rack, the priority is the same: Organize your shoulders into a stable position by creating external rotation torque with your arms. Failure to do this results in a rounded upper back. Upper back tension and external rotation torque are what you're after. Grip is the place to start.

The conventional method for establishing an ideal grip is to measure a thumb's distance from your hip-bone. As you can see from the photos, raising your arms from this spot can cause your shoulders to internally rotate and the elbows to flare out, leaving you unsecured. A better bet is to align your wrists with your elbows to build a supportive platform.



In most cases, when you use the conventional front rack setup method to find your grip, it forces you into a compensated position. As you can see, my grip is too narrow, making it impossible to get my elbows inline with my wrists, which is necessary to support the load and create external rotation torque.

This is how you do it. Turn your palm toward the front of your body, curl your hand to your shoulder, raise your elbow to a 90-degree angle, and then flip your palm toward the sky. (Sometimes it's helpful to have a Superfriend give you an assist by directly manipulating you into this position). You may require a dash of fine-tuning, but this technique will start to get you dialed in on grip width.

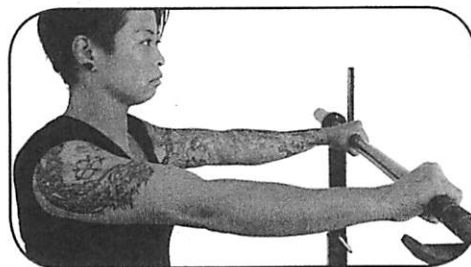
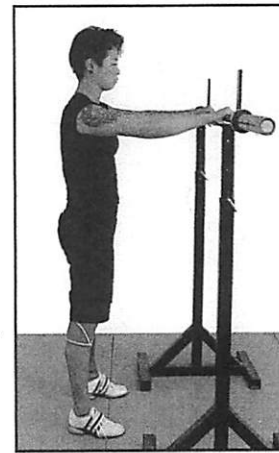


If you flex your arm with your palm forward (externally rotated position), your elbow will deviate out to the side, putting the wrist in line with the elbow. This also sets your shoulders in a stable position, allowing you to maximize torque. As with your squat stance, you may have to tinker around to find the most comfortable and stable position. In most cases, these adjustments are made based on arm length and shoulder mobility. Note: For a more detailed description of the lift out and walk back, refer to the similar phases in the back squat section (see page 96).

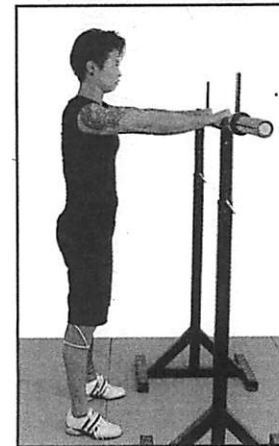
Phase 1: Lift Out



Grip the bar with your hands positioned far enough apart so that you can create a stable shoulder position.

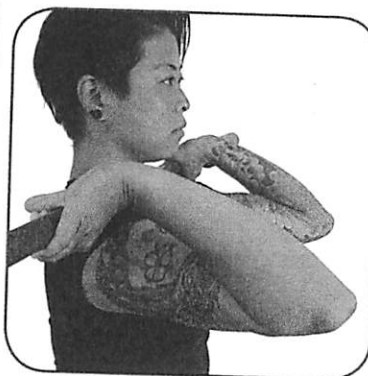


Screw your hands into the bar to light up external rotation torque.





Maintaining as much torque as possible, step directly underneath the bar with one foot. Twist the same-side arm underneath the barbell so that the plane between the shoulder and the arm is parallel to the ground. The idea is to wind up your shoulder to create more tension in your upper back.



Step in with your opposite foot. Assume a squat stance. As you do this, twist your arm underneath the barbell to establish the front rack position. The bar should be resting on your shoulders and fingers. Note: That doesn't mean you want your shoulders forward to support the weight.



Keeping your elbows high to maintain torque, screw your feet into the ground, drive your knees out laterally, and lift the bar straight out of the rack.

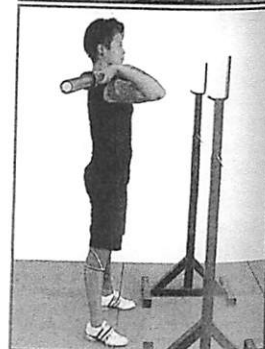
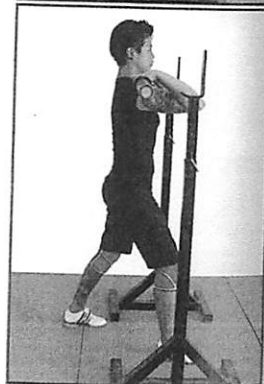
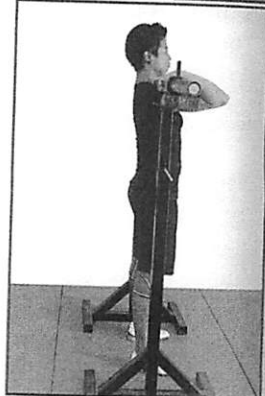


Phase 2: Walk Back

Step straight back. Again, step back with the same foot every single time.

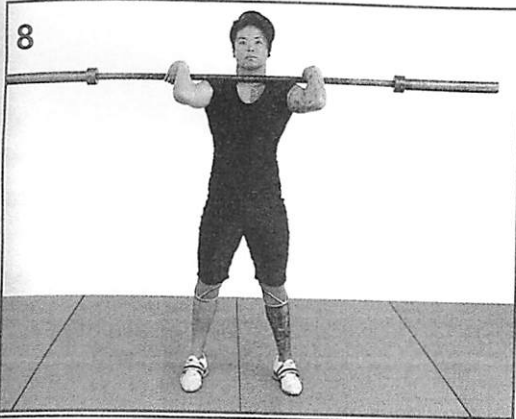


Step your opposite foot back and assume your squat stance. Make your steps short and deliberate.

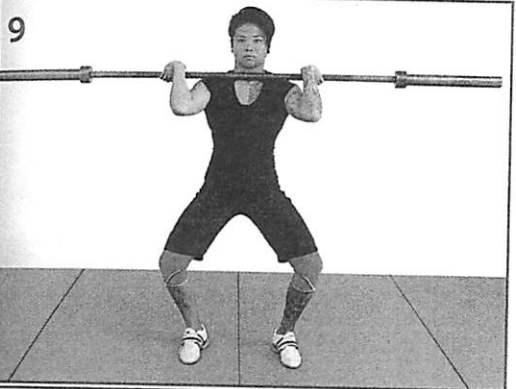


Phase 3: Front Squat

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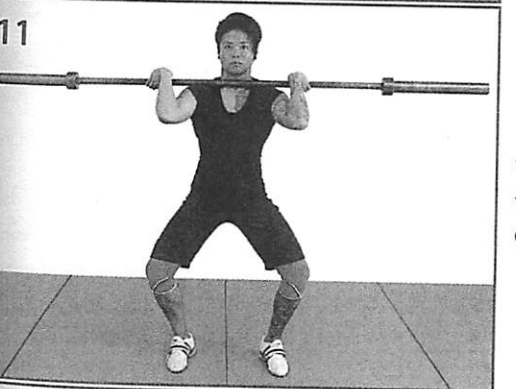
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Get organized: Squeeze your butt, get your belly tight, and screw your feet into the ground to create tension in your hips.

Keeping your elbows up, drive your knees out laterally, draw your hamstrings back slightly, and lower your hips between your feet. Keep your head back and eyes fixed straight ahead to lock in torque and tension.

Pressing your knees outward, lower into the bottom of the squat. Keep elbows high and tension on.

With an upright torso, drive out of the bottom position. The ascent should mimic the descent.

As you stand upright, squeeze your butt and reestablish the top position.

