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Improving the Jerk

Bill Starr offers up some drills for blasting past plateaus on your jerk.

By Bill Starr

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Staff/CrossFit Journal

In the last two decades, a large number of strength coaches and a smattering of personal trainers came to the conclusion that by inserting a high-skill lift in their athletes' programs, the athletes became quicker, more coordinated and overall stronger than before. In addition, the newly acquired strength transferred directly to any sport.

1 of 9

Those with a background in Olympic lifting already knew this, and some of us had been urging athletes to include at least one of those lifts in their routines for many years. The problem was, however, that the strength coaches and personal trainers didn't know how to perform full snatches, full cleans or jerks, so they shied away from them in fear of doing more harm than good. That's understandable, but at the same time they were neglecting their athletes. What they needed to do was find someone who knew how to do the Olympic movements and have that person teach them how to do the lifts.

At the same time, I believe just about anyone can learn very quickly how to do a jerk. It's a natural move, and I have taught youngsters how to do it correctly in a matter of minutes. Youngsters and females are easy to teach because they have excellent flexibility in their shoulders, something many older athletes do not have. Because of this flexibility, they're able to rack the weight properly across their shoulders at the start of the lift and drive it into the correct position overhead at the finish.

Teaching someone the jerk is rather simple, but jerking a heavy weight is a different matter altogether. This is why I hold off on having an athlete do jerks until I'm sure that he has developed a sufficient amount of strength in his upper body to be able to jerk and hold a demanding poundage. After that, I put him or her on a steady diet of the quick lift.

A Primer on Presses and Push Presses

The exercise I use to strengthen the shoulder girdle is the overhead press. It's perfect for establishing a solid foundation from which to move on to jerks. The presses help not only in the strength department, but they also enable the lifter to get the feel of the proper line of flight of the bar from his shoulders to lockout. A heavy overhead press utilizes the arms much more so than jerks, but making the muscles responsible for pressing considerably stronger will bring dividends for jerks once the weights start to get really heavy.

In the press, your grip will be exactly the same as the one you will use for the jerk. Where you grip the bar depends to a large extent on shoulder width, so it may take a bit of trial and error before you find the one that fits you exactly. For most, however, this method of finding the right grip works best: extend your thumbs on an Olympic bar so that they barely touch the smooth center part of the bar.

Racking the bar across your shoulders correctly is most important for both the press and jerk and is somewhat different for both of those lifts. In both, the bar must rest across your frontal deltoids and not be allowed to touch your clavicles (collarbones). This can be accomplished simply by elevating your shoulder girdle by shrugging it upward. That will create a nice pad of muscle on which to set the bar.

When you're pressing, your elbows should be lower than when you jerk, about halfway between having them straight down and parallel to the floor. I'll explain further about the elbows for the jerk later on. Do all your pressing while standing, and you can either clean the weight first or take it from a rack. Oddly enough, it's actually easier to press a weight after cleaning it than it is to take it off a rack, but when teaching a beginner how to press, I have him take it off the rack so he can pay closer attention to the small form points.



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Before attempting to jerk weight, Bill Starr recommends you practice presses and push presses.

Pressing starts with the feet. They should be shoulder width apart and firmly planted on the floor. Take the weight off the rack and step back, then set your feet. Every muscle in your body has to be extremely tight throughout the pressing movement, from your feet to your neck. Make sure your wrists are locked and cannot flex at all during the execution of the lift. Lock your eyes straight ahead and keep them that way from start to finish. There is a tendency in beginners to follow the bar upward with their eyes, but this is a mistake because it forces them to lean backward, and you don't want to do that because it can be stressful to your lower back.

Take a deep breath, hold it and drive the bar upward off your shoulders. The bar needs to travel very close to your face—almost touching your nose—and as it passes the top of your head, guide your head into the gap you've created. This will allow you to keep the bar over your power base. Continue to exert pressure on the moving bar

until you have locked it out overhead. The position of the bar at lockout should be on a line directly over the back of your head. Exhale and inhale at that point. Don't merely hold the bar overhead; exert pressure up against it. When you do this, you'll feel the muscles in your entire back, hips, glutes and legs tighten up. That's what you want.

When you either inhale or exhale during any exercise, your diaphragm is forced to relax, and this diminishes your power base.



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Keeping the bar directly over your power base is critical in any overhead movement.

Lower the bar back to your shoulders in a controlled manner with your knees locked. They will stay locked throughout the press. When you bend your knees during a press, it's called a push press, which is a valuable exercise for helping the jerk as well—just not in the formative stage.

Make sure the bar is in the correct position on your frontal deltoids and every body part is once again tight before you do your next rep. Take another breath and press the bar overhead again. Remember, you need to hold your breath during the press. When you either inhale or exhale during any exercise, your diaphragm is forced to relax, and this diminishes your power base.

The most common mistakes beginners make in the press are as follows: following the flight of the bar with their eyes, placing one foot in front of the other, and knee kicking the bar off their shoulders to get a stronger start. When pressing, your feet must be on a line and planted into the floor, not one ahead of the other. Many do this because it makes it easier to maintain balance while the bar is moving overhead, but it's incorrect because it places an uneven stress on your lower back and hips.



Staff/CrossFit Journal

Push presses can prepare you to generate the power needed to lock out a heavy jerk.

As soon as you drive the bar upward with the knee kick, you cannot allow the bar to float even for a nanosecond. You must follow through immediately.

Five sets of 5 is the best formula at the beginning, then after form has improved and the strength base is more solid, 2 sets of 5 followed by 3-6 sets of 3 works well.

Next, I have the athlete do push presses so as to get the feel of bending the knees and learning how to vault the bar upward off his shoulders. Everything is the same as for military pressing: grip, locked wrists, foot positioning, eye position—with all muscles taut and ready for action. The dip should not be exaggerated. If you dip too deeply, say to a quarter squat, you will not have as much thrust as when you only take a short dip. The move out of that dip should be like a boxing punch: short and powerful. When the weights are light, you will be able to drive the bar from your shoulders all the way to lockout in one fast motion. But once they start to get heavy, you're going to have to pay close attention to your follow-through.

As soon as you drive the bar upward with the knee kick, you cannot allow the bar to float even for a nanosecond. You must follow through immediately, providing power right in behind the momentum you've created at the start. On a push press, once you drive the bar upward, lock your knees again. This forces you to use your arm and shoulder strength to finish the lift. This is what you want, because that added strength will enable you to handle more weight in the jerk. You should have to press it out the final 4 inches, then hold it overhead for a 4- or 5-second count. This is a great way to enhance overhead support strength, which you're going to need a lot of in order to handle the heavy jerks.

Do push presses in threes. I like the lower reps because when the bar is lowered to the shoulders, it always slips out of the ideal starting position just a tad. On reps 4 and 5, the bar may have slipped down too far for you to drive it upward in the correct line, so just stay with triples, or in some cases doubles.



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In a push jerk or split jerk, athletes must work to keep the torso absolutely erect. Any forward inclination can send the bar out of the proper line.

The Jerk

Once you've learned the push press, the push jerk is a snap. It's the same motion as the push press, but now you want the bar to go from the start to complete lockout in one fast motion. On the push jerk, you'll bend your knees at the start, relock at the conclusion of the drive, then rebend them as you dip under the bar. This, by the way, is a legal jerk in Olympic competition, and some of the best in the world use this style of jerking. If you feel more comfortable using the push jerk rather than the split jerk, by all means do so.

At the '68 Olympics in Mexico City, I was riding in a bus from the Olympic Village to the training center with the 198-lb. champion from Hungary, Arpad Nemessanyi. Through an interpreter, I asked him why he used the push jerk instead of the more conventional split style. His answer: "I can lift more." Made sense. He jerked 413 1/4, third highest in his class.

The advantage of the push jerk is you don't have to move your feet. The disadvantage is that you do not have a way to control the bar if it's a bit forward or backward. This means your line has to be absolutely perfect. On the split style a jerk can be saved if it's only a little out of line, but this doesn't happen with the push jerk, which makes the start even more critical for push jerks, although it's also most important for the success of a split jerk.

To make certain that the start is absolutely correct, you must dip straight down. When weights get near max, there is a tendency to lean forward, and this will result in the weight being driven out front. You should not lean at all during the dip, but rather keep your torso rigidly erect. This can only be achieved with practice, and often a great deal of it.

In an earlier piece for *CrossFit Journal*, [Mastering the Jerk](#) in June of 2009, I went over the various form points for doing a split jerk, but I want to briefly review them in case the reader didn't see that article.

After a couple of months of doing presses, push presses and push jerks, you should have the first part of the lift down pat. Now what you have to learn is how to move your feet, which so happens to be the most difficult part of that quick lift because it entails a quick switch of mental keys from driving the bar off your shoulders with 100 percent effort to moving one foot forward and the other backward in less time than it takes to blink. Not only must your feet move fast, but they also must end up planted exactly where they need to be.

Those who are trying to learn proper technique on the split jerk figure out right away that this lift is not a matter of raw strength, such as a heavy squat or deadlift. Rather, it's a matter of utilizing several athletic attributes simultaneously: timing, coordination, speed and strength. This is why it's so difficult to jerk a heavy weight, and it's the very reason why this lift is so beneficial to athletes—it greatly enhances those attributes. Become skilled in the jerk and you will be more proficient in all the other athletic activities you take part in.

Timing is critical. When the bar is at its highest point, you must move. Any hesitation and you will not be able to finish the lift.

When you dip and drive the bar upward off your shoulders, you must climb high on your toes at the conclusion of the drive before you move your feet. This serves two functions: by involving your calves you can give the bar an extra jolt, making it jump at the top of the drive, and you can move faster when you're on your toes than you can when you're flat-footed. Timing is critical. When the bar is at its highest point, you must move. Any hesitation and you will not be able to finish the lift. To add to this test of strength, your feet not only must move fast, but they must also hit exactly where you want them to hit.

One of the best ways to improve your jerk is to do a shitload of them.

Again, the jerks start with the feet. They must be shoulder width and on a line. It's not unusual to see an Olympic lifter take a step or two as he comes out of a squat clean to control the weight but then forget to take a moment to make sure his feet are on a line before he attempts to jerk the weight. Invariably, this will cause him to miss the lift, especially if it's close to his limit.

It's purely an individual matter as to which foot is selected to move forward and which one goes backward. It's similar to being left-handed or right-handed. Your brain will tell you what you need to do, although I have seen some rare animals who could use either leg with equal competency. Bill March was one of those specimens.

Choose what feels natural. Your front foot will only move forward about, well, a foot. In contrast, your rear foot will travel much further because that is your lever leg. One of the things you need to learn early on is to land your rear foot on your toes and not plant flat on the floor or allow it to turn to one side or the other. This is a common mistake of almost every beginner and needs to be corrected right away because eventually it will keep you from jerking heavy poundages.

Editor's note: The following section contains technique tips that differ from those given at Mike Burgener's Olympic Lifting seminars. Athletes are advised to consider all expert opinions.

As I said, the front foot only moves a short distance. You want to make sure your knee is out in front of your toes. If you shoot your front foot way out front so that your foot leads your knee, you're no longer in a stable position, and this also puts a huge amount of stress on the knee. When you hit the bottom of the split, you should be in the same mechanical position as if you are doing a lunge, although not quite as deep. Your lead leg is bent, but the trailing leg is straight.

Jerk ... (continued)

In addition, both feet have to hit the floor at the exact same time. If one hits before the other, it will have an adverse affect on the lockout because your base is shaky. The only way to achieve this timing is to drill, drill and drill some more.

There's more. Your front foot must move directly forward and not swing inward or outward at all. Same goes for the rear foot: straight back. Few can do this correctly in the beginning, so what I do is mark the two places where the feet are going to end up at the bottom of the split with chalk, and after each split, I have the lifter check to see if he hit those marks before he finishes his recovery. Once you start to get the feel of where to plant your feet, you'll hit those marks every time.

How deep should the split be? No deeper than it has to be. One of the greatest jerkers I ever saw was a lifter I introduced to the sport of Olympic lifting, Rick Holbrook. He took a short dip, exploded the bar upward with such force that he only had to take a small split and the bar was locked out. That's a tremendous advantage. Recovery from a small split is a hell of a lot easier than a very deep one. On the other hand, I've seen lifters split so low that they looked like they were doing a split snatch. They, too, were exceptions to the norm.

One final remark about foot movement. The feet should slam into the floor as opposed to merely being placed on the floor. The two keys that Bob Bednarski used for his jerks were drive the bar off the shoulders as hard as possible and slam the front foot into the platform. If Barski cleaned a weight, you could bet your house that he would jerk it.

There are different opinions concerning recovery from the deep split. Shallow ones, like Holbrook did, are no problem. You just stand up. But when a max attempt has you pinned in that deep split, you need to know how to recover without losing the weight overhead. Your first move is with your back foot, not your front one. If you slide that front foot back, there's no way for you to keep the bar from crashing forward. Ease your back foot forward a few inches, then do the same with your front foot, then a bit more with the back foot and so on and so forth until you have it under control. All the while you must be extending pressure up into the bar to keep it in the proper position as you stand up and get your feet back onto the same line. This is a requirement for the lift in competition.

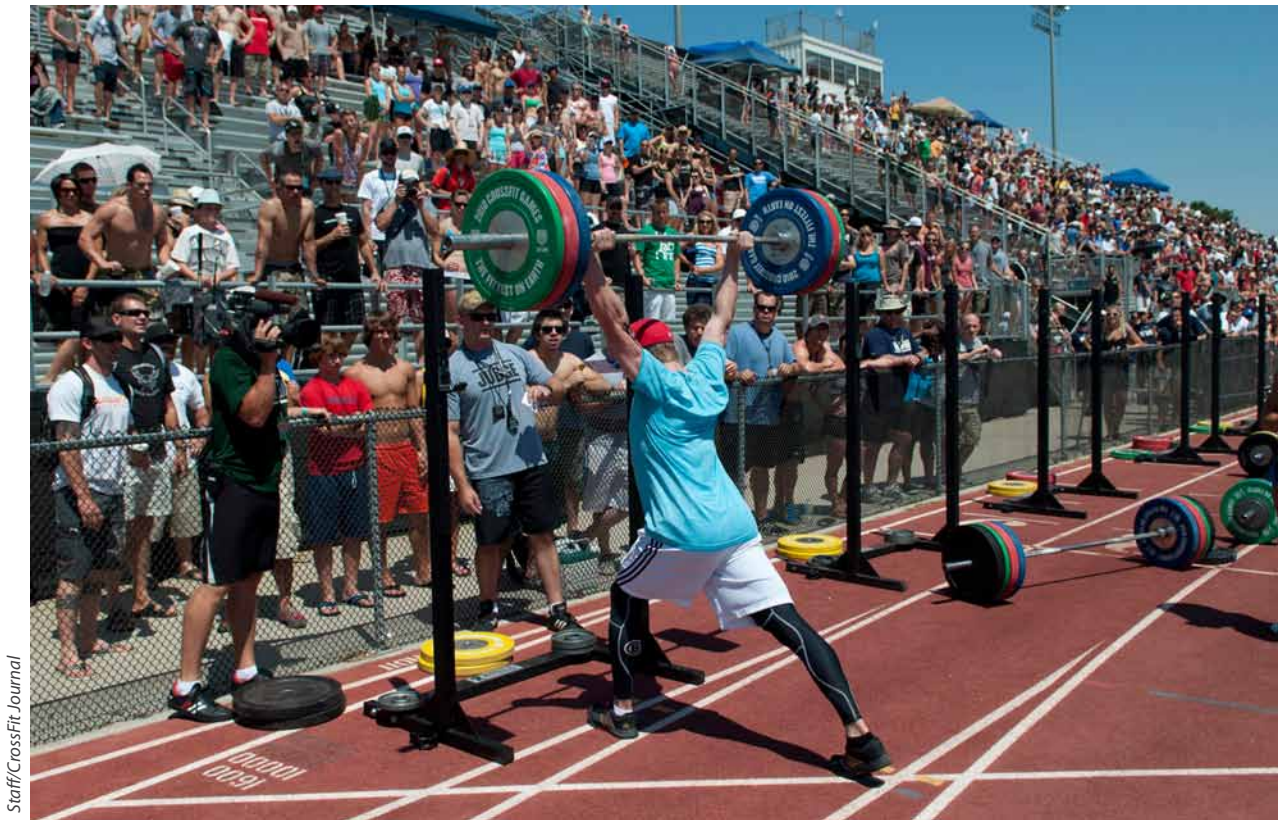
A note on upper-arm positioning for the jerk. Your elbows need to be higher than they are for a press, at parallel or just below that. This is necessary because more weight is handled in the jerk and you want all of it to be on your shoulders and not your arms.

One of the best ways to improve your jerk is to do a shitload of them. To learn foot placement and foot speed, practice shadow lifting with a light bar or broomstick. This you can do on non-lifting days or at night. You should eventually be able to hit your marks with your eyes closed.



Staff/CrossFit Journal

Recovering from a jerk gets harder when you go deeper.



Staff/CrossFit Journal

D.J. Wickham jerks big weight at the 2010 CrossFit Games.

Drill for Skill

Now for some exercises to help you jerk more weight.

Because the start is so important, the stronger you can make it the better. Jerk starts are a way to overload the muscles and attachments responsible for setting the bar in motion off your shoulders. They're done in the same way as push presses and push jerks, but the bar is only going to travel to the top of your head once you load up the bar—and not even that high in some cases. Let's say your best jerk is 300 lb. Begin the jerk starts with 275 and do 3 reps, then move to 300 and do another 3 reps, and proceed on from there until you are handling close to 400 or more. You will learn to put a charge in the bar to make it climb as high as possible and, when it reaches its apex, you should attempt to hold it there for a brief moment, then ease it back to your shoulders. Do your best not to let it crash back onto your shoulders because you'll be using a great deal more than what you usually rack across your frontal deltoids.

When you can do these with power and are able to drive the bar in the correct line every time, your start is going to be stronger. However, all the mechanics have to be exact or these won't do much good, so pay attention to your technique and gear up for them. They're tough, but nobody ever promised easy in strength training.

Getting considerably stronger in the split is also a huge asset, so these two versions of the same exercise are most beneficial. Inside a power rack, set the pins at a place slightly lower than you actually go in a deep split. Get in the split position with your arms locked out and stand up with the weight. Start out with moderate poundages until you understand what muscles to contract and how to move your feet in order to recover. Then keep adding weight until you're unable to get all the way up. Record how much you used and improve on that next time you do the exercise.

The other version will allow you to handle a great deal more weight but is somewhat easier in that you're not going to recover. The bar is in the same position as before. If you could stand up with, say 350 lb., start this exercise with at least 400. Get in a deep split and move the bar off the pins and hold it for a 6-second count or more. Keep adding weight until the welder man enters the picture and the bar cannot be moved at all.

To give you an idea of how much can be used in these exercises, there were several York lifters who could do 650 lb., all of them capable of jerking 400. When that final attempt to break the bar from the pins fails, stay with it and turn it into an isometric hold for an 8-12 count.

I believe jerks are one of the very best exercises in all of strength training.

Should your lockout be lagging behind, these will help: set the pins in the power rack way up high, about 2-3 inches below where you would be at the completion of a jerk. Lock your body extremely tight, bend your knees, break the weight off the pins, lock it out and hold it for a count. Keep adding weight until you fail and, once again, record that number and do more the next time around.

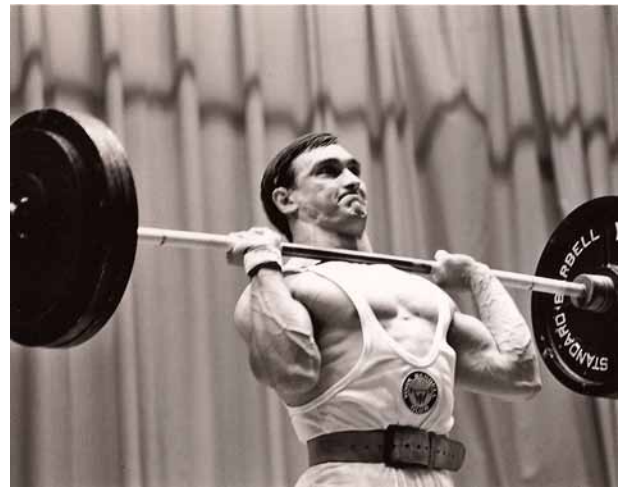
Lastly, this exercise was done by many of the York lifters who had trouble locking out the bar far enough back so they could hold it as they recovered. I was one of them because my shoulders tended to tighten up during competition. Do jerks behind the neck. While I'm very much against behind the neck presses and behind-the-neck chins or pulldowns on a lat machine, behind-the-neck jerks are permissible for intermediate and advanced strength athletes. I do not recommend them for beginners. There's lots of other stuff they can do to improve their jerks.

What behind-the-neck jerks do is allow the lifter to handle more weight than in the regular jerk, and it teaches him to drive the bar up and slightly back. These, too, need to be overloaded, so a 300-lb. jerker should think in terms of handling 325 to 350.

Battle the Jerk—and Win

I believe jerks are one of the very best exercises in all of strength training. They're most useful for anyone just wanting to stay in excellent shape and are essential to those athletes who want to excel in their chosen sports. Strength coaches and personal trainers need to take the time to learn how to do this high-skill exercise so they can teach it to their students.

I always found jerks challenging, and whenever I won the battle, it was extremely satisfying. Make jerks a part of your training program and you'll be glad you did because they strengthen every part of your body from your feet to your abs to your shoulders and arms. You can't ask much more from an exercise.



About the Author

*Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr is the author of the books **The Strongest Shall Survive: Strength Training for Football** and **Defying Gravity**, which can be found at [The Aasgaard Company Bookstore](http://TheAasgaardCompanyBookstore.com).*