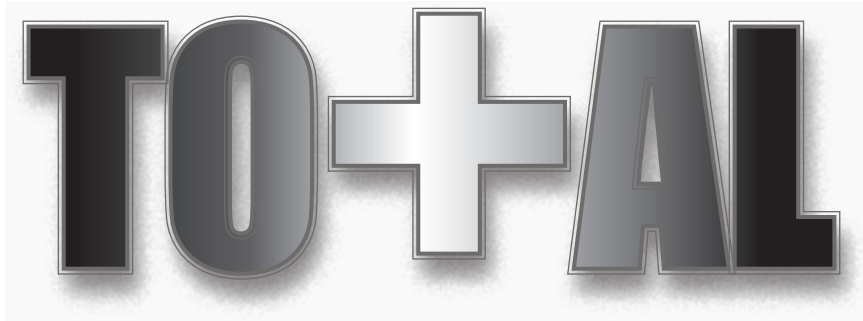


the **CrossFit**



~ Mark Rippetoe ~

There is room on this planet for another approach to testing absolute strength. And it apparently falls on my broad, hairy shoulders to announce the development of a different way to do it.

Coach Glassman discussed this with me recently, in a conversation about increasing CrossFit's strength base. We have talked many times about the fact that people who come to CrossFit from a strength-training background tend to perform better in the key aspects of the program. When you're stronger, metabolic conditioning is easier and endurance stuff (i.e., 5k or 10k runs) is about the same—and workouts like "Diane" (three rounds, at 21-15-9 reps, of 225-pound deadlifts and handstand push-ups) are just not possible without a considerable amount of strength. In essence, it is easier for a lifter to improve his or her time on "Diane" than it is for a runner to develop the ability even to finish the workout without scaling it back to a very light weight. So the conversation focused on a way to work more strength into the program while maintaining the CrossFit approach to it.

Powerlifting has been very successful in its approach to strength testing and training, but it is plagued with what some consider to be significant problems. I have great respect for powerlifting, having competed, coached, and announced in power meets for 20 years. Without belaboring the issue or attempting any judgment beyond these comments, I see two main problems with it. First, the use of equipment that enables otherwise impossible weights

to be lifted inflates the total. "Raw" meets, where the only equipment allowed is a belt, address this issue. But the second problem remains: the bench press. It requires special equipment, it cannot be done with limit weights safely without spotters, and it is not a very functional exercise since it is performed while lying on a bench that supports the weight during the movement.

The way to bring more strength to the CrossFit approach is with the CrossFit Total. The CrossFit Total is the sum of the best of three attempts at the squat, the press, and the deadlift, the three most effective lifts in existence for developing and testing functional strength.

All three lifts are done while standing on the floor. They require minimal and inexpensive equipment. They are not technique-dependent to the extent of the Olympic lifts, yet they require technical proficiency beyond mere passing familiarity. They are safe when performed correctly, since they can all be performed without spotters—alone in a garage if necessary. In a meet situation, the lack of spotters for two of the lifts speeds the progress of the meet and reduces personnel requirements. The lack of expensive personal equipment reduces the investment necessary for participation. But most importantly, the CrossFit Total more accurately reflects the level of functional strength available to an athlete than any other test available.

The CrossFit Total *(continued...)*

Judging the press has been a problem before. The clean and press was the first of the three lifts in weightlifting until it was eliminated from competition in 1972. It became a problem because the lifters figured out a way to incorporate a multiple torso whip along with a radical layback into the movement, making it into a type of dynamic bench press from a standing position. Apparently this posed an insurmountable problem to the federation, who thought the meet was too long with three lifts anyway. The CrossFit Total's press rules will not permit excessive layback, as we'll see later. And since we are not doing a clean and press, we are not redoing an older lift with previously set records and an already established strategy. We will have to develop our own.

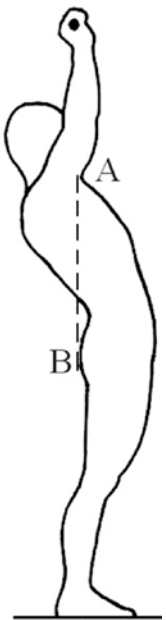
The press can be done out of the same racks that were used in the squat, thus eliminating the need for a separate apparatus for the lift. It also needs no spotters, since a miss is just walked back into the rack, or in an emergency dropped on the platform without anyone getting killed. So the whole three-lift test can be done with a bar and plates, one set of stands or a power rack, and a platform. In fact, the test can be done alone if necessary, since people who are used to squatting alone have already developed a way to handle a miss, either in the power rack or by dumping the bumper-plate-loaded bar off the back safely. This greatly simplifies individual testing as well as organized competition.

Rules

The rules for the lifts will need to be simple and well understood by everybody, both the lifters and people in the position of judging them, so we're all on the same page. The idea is that when you post a CrossFit Total, yours will be done to the same standards as everyone else's. The lifts must be easy to judge, easy to understand, and as difficult to corrupt as possible. By starting out with a clear picture of what we want and don't want from a CrossFit Total, many millions of hours of bitching, hard feelings, and confusion can be averted. It must be understood that good form in the lifts is inherent in the rules for testing them.

The order for performing the three lifts will be squat, press, and then deadlift. The best single attempt for each of the three lifts are added together for the CrossFit Total. There is no time limit for each lift or for the length of the session in which they are all performed, but they must all be performed during one session—i.e., you cannot leave the area to rest or perform other activities between the three lifts. Multiple progressions to the best attempt are not allowed; do not work up to your best squat, then change an item of equipment or clothing and work up to it again to try to better your first effort.

Press Rules



The press is also done from the racks. The bar is held in both hands in front of the neck, taken out of the rack and walked back away from the rack. No contact with the rack is permitted until the bar is replaced in the racks. Once the stance is assumed it cannot change until the lift is completed. The starting position must be upright, with the knees and hips fully extended and the chest up. The bar must be in contact with the top of the shoulders or the chest, whichever individual flexibility permits. After the starting position is correctly assumed, the bar is pressed overhead until the elbows are completely extended, with the bar in a position directly above the ears. Once this position has been attained, the bar is lowered back to the front of the shoulders and walked back into the rack and replaced.

Any halt in the upward motion of the bar, identified as the part of the bar between the hands, constitutes a missed attempt, as does any change in the position of the feet against the floor during the attempt, any bending of the knees, or excessive backward lean of the torso as identified by A) the position of the most anterior aspect of the armpit, B) the most posterior aspect of the buttocks, C) the plane formed by a straight line between these two points, and D) the movement of that plane to a position behind the vertical. Any deliberate attempt to raise the bar counts as an attempt. Spotters are not permitted for this lift.

Deadlift Rules



The deadlift is performed with the bar on the platform or floor. The lifter assumes a position facing the bar, with the bar parallel to the lifter's frontal plane. The bar is gripped with both hands, and pulled with one continuous uninterrupted movement until the lifter is standing erect with knees and hips fully extended, the chest up and shoulders back. Once this position is attained and the bar is motionless, the bar is lowered under control with both hands back to the ground. The bar may not be dropped.

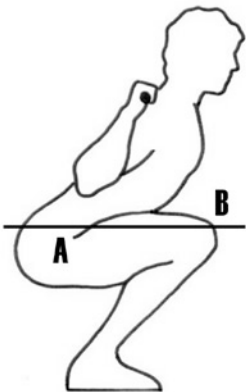
Any halt in the upward motion of the bar constitutes a missed attempt, as does failure to assume a fully erect position with both knees and hips extended. Any attempt to raise the bar counts as an attempt.

The equipment that can be used is minimal. A belt of any type can be worn but is not required. Knee wraps or sleeves are permitted, but if they are used they must be left on for the entire duration of the session in which the lift is performed—e.g., they must be put on before the squat is warmed up and left in place until the last squat attempt is completed. Wrist wraps are permitted; lifting straps are not.

Any type of footwear may be worn, although a formal contest would require an actual shoe of some type. The shirt should be a close-fitting stretch material, like a t-shirt or a golf shirt, tight enough that the back position can be clearly observed during the press. Close-fitting shorts will allow the bottom position in the squat to be observed. Long pants are not permitted, and neither the shirt nor the shorts can have any supportive characteristics whatsoever. Singlets are not allowed.

Squat Rules

The squat must be done from the squat stands or power rack. The bar must be placed on the back and walked out to clear the rack completely. No contact with the rack is permitted until the bar is replaced in the rack. Once the bar is lowered, the stance cannot change until the bar is to be racked. The starting position must be completely upright, with the knees and the hips fully extended and with the chest up. The hips are lowered until the top surfaces of both of the legs at the hip joint are lower than the knees, and then the bar is lifted back up. The bottom position is identified by A) the apex of the crease in the shorts formed as the hips are lowered, B) the surface of the top of the patella, C) the plane formed by a straight line between the



two, and D) the dipping of the hip end of that plane below horizontal. The finish position is the same as the starting position, and the athlete must return to it before the bar is racked. When the finish position is secure, the bar must be walked back into the rack and successfully replaced.

Any halt in the upward motion of the whole bar, identified at its position on the back rather than at its ends, constitutes a missed attempt, as does any change in position of the feet against the floor during the squat. Any deliberate attempt to lower the bar counts as an attempt. No more than two spotters are permitted, and they are not allowed to touch the bar during the attempt, which is finished only after the bar is successfully replaced in the racks. The spotters are permitted to steady the racks, and to take the bar if the lifter loses control of it. Any touching of either the bar or the lifter by any spotter invalidates the attempt.

The process

Now that we know exactly what we're doing, we need to figure out the best way to do it. For people not used to doing single maximum attempts, some tips on how best to safely do them are in order. After a warm-up, the squat will be performed first. Some squatting with the empty bar should have been included in

the general warm-up so that the knees, hips, back, and shoulders are not too terribly surprised. Anyone in a position to attempt a legitimate CrossFit Total should be familiar enough with their capabilities on the lifts to have a fairly good idea of just what might be possible for a one-rep max (1RM). This number is what you warm up intending to do. A meet situation will involve three attempts, and this is a good way to determine a true 1RM.

The CrossFit Total *(continued...)*

The first attempt would be a weight you know you can do for a heavy set of three. The second attempt would be a weight you know without any doubt that you could do for a single, having just done the first attempt. And the third attempt is the weight you want to do, based on your performance on the previous two attempts. If you have made a mistake setting your first attempt, the next two will need to be adjusted, but you should know what you can triple, and this will always be a safe first attempt. And since you know this weight, you know what weights to use to warm up for it: you'll use the lightest weight that you normally start with for your first warm-up when you train, and 90% of the first attempt for the last warm-up, with either three or four relatively even increments in between these two. For instance, warm-ups for a 405-pound first attempt on the squat would be:

135 x 5
185 x 3
225 x 2
275 x 1
325 x 1
365 x 1

If you don't have a damn good idea of what you can do for a heavy triple, you don't need to be doing a CrossFit Total yet.

After the squat, rest a while (long enough to rest, not long enough to get cold) and follow the same procedure with the press. Since press numbers will be much lighter, the warm-ups will be closer together, and you might choose to use fewer intermediate warm-ups. This is fine, since the squat has provided quite a bit of systemic warmup, if not actual fatigue. After a rest and a drink following the press, the deadlift warm-up might be abbreviated even further, with a heavier first warmup and only two or three intermediate sets before the first attempt.

Done correctly, the CrossFit Total is perhaps our best tool for telling us the things we need to know about a very important aspect of our training. It is my sincerest hope that it also makes a contribution to the training of athletes currently outside our community and functions as a way to introduce them to our methods, and to the good people of CrossFit.

Here are some basic precautions that need to be followed for safety:

1) Don't be stupid.

Don't total if you're injured to the extent that a total will aggravate the problem. This will cost you in at least training time, and possibly time off of work if you're ultra-stupid.

2) Don't be greedy.

Learn to recognize the difference between greed and ambition, and be merely ambitious.

3) Don't be pig-headed.

If your first attempt tells you that you need to lower your second, do so, without a misplaced sense of diminished self-worth. It's a test, and it's designed to measure what's there, not create something that's not. That's what training is for.

Mark Rippetoe is the owner of [Wichita Falls Athletic Club/CrossFit Wichita Falls](#). He has 28 years experience in the fitness industry and 10 years as a competitive powerlifter. He has been certified as an NSCA Certified Strength and Conditioning Specialist since 1985 and is a USA Weightlifting Level III Coach and Senior Coach, as well as a USA Track and Field Level I Coach. He has published articles in the *Strength and Conditioning Journal*, is a regular contributor to the *CrossFit Journal*, and is the author of the book [Starting Strength: A Simple and Practical Guide for Coaching Beginners](#) and the forthcoming [Practical Programming for Strength Training](#).

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