

# CLEANING UP

By Allen Hedrick, MA, CSCS\*D



Cleanest man in the world: Hossein Reza Zadeh cleans 263 kg (579.8 pounds), then jerks it for a world record.

**W**hether you're a die-hard strength athlete or an athlete in any other sport that requires strength and power, you have a huge list of exercises to choose from when it comes to enhancing your sport-specific performance. This choice becomes more manageable if you adhere to some specific guidelines. The most critical factor is training specificity: you should select exercises based on appropriate movement patterns rather than only on muscle

## 12 steps to learn how to effectively perform a most critical exercise

involvement. And because in most athletic events power is a more important component than strength, it's important to choose exercises that positively affect power development. According to these guidelines, the clean heads the top of your list.

**PROGRESSIVE LESSONS**

Some of you, seeing the clean at the top of the list, will feel anything but elation. It's true that performing a clean correctly is more difficult than doing a curl or bench press. But that shouldn't dissuade you, because there's a way to learn how to perform a clean that'll turn you into a cleaning machine (well, not really, there will be lots of chalk flying).

Though we have found the techniques described here very successful at the U.S. Air Force Academy, this is not the only way you can learn how to clean; other methods have merit. But the main reason I like our approach is because it recognizes that a clean, either a full squat clean from the floor or from a hang position, is a complex movement. It's therefore best taught in steps, with each step building upon the previous one. What happens is that you end up learning how to clean in sequential components, making the learning process less difficult.

**BY THE STEPS**

We use a 12-step process to teach the clean. Breaking it down this way gives you the most effective learning opportunities and the greatest chance of translating cleaning power into athletic power.

**Step 1: Education**

Admittedly, perfecting this exercise can take a long time. However, once you understand the main reasons for incorporating this movement into your training, the whole process becomes easier. Here are the benefits of learning how to clean:

- It's performed from a standing (athletic) position just the way you perform your sport
- It involves most of the major muscle groups in the body
- It requires triple extension at the ankle, knee, and hip, an action required in many athletic movements (jumping, sprinting, tackling, etc.)
- It demands that you recruit the involved muscle mass in a synchronized pattern, again similar to what occurs in many athletic movements
- It develops explosive power
- It develops strength

**Step 2: Modeling**

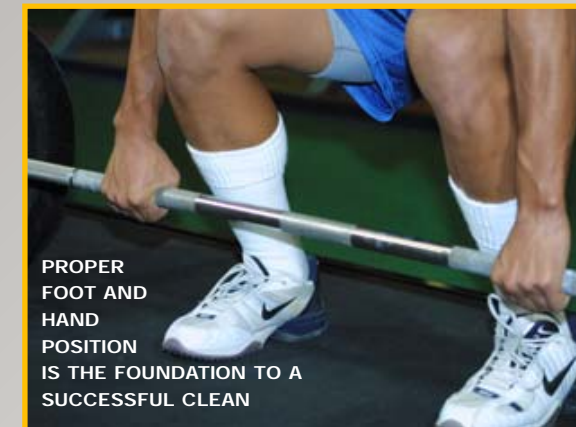
Admit to yourself that you might not have any idea what a *correct* clean looks like. It's important for you to see some properly performed repetitions in order to enhance the learning process.<sup>2</sup>



COACH HEDRICK IS ENHANCING MYCAL'S LEARNING BY MODELING PROPER TECHNIQUE.

**Step 3: Foot Position**

The movement involved in performing a clean has been described as very similar to performing a vertical jump.<sup>1</sup> So it makes sense that you establish a good jump position with the feet as a starting point to perform the rest of the movement correctly. To accomplish this, step back from the bar and then step forward as if to perform a two-footed maximum vertical jump. Rather than actually jumping off the floor, freeze in that two-footed jump position. Most of the time you'll have put yourself in a good starting position.



PROPER FOOT AND HAND POSITION IS THE FOUNDATION TO A SUCCESSFUL CLEAN

**Step 4: Hand Position**

When the jump position is established, your feet will normally be shoulder-width apart. To establish the correct hand position, place your hands on the bar slightly farther apart than the legs in a palms-back position with your thumbs pointed toward the center of the body. The tips of your thumbs should just touch the legs. This provides a good starting position that may be adjusted slightly based on individual preference.



**Step 5: Grip**

Because of the advantage of improved grip strength on the bar, we require our athletes to use the hook grip (thumb wrapped around the bar, fingers wrapped around the thumb). You may find this technique uncomfortable at first and may resist it. But the initial discomfort will subside within the first few weeks if you consistently use this grip.

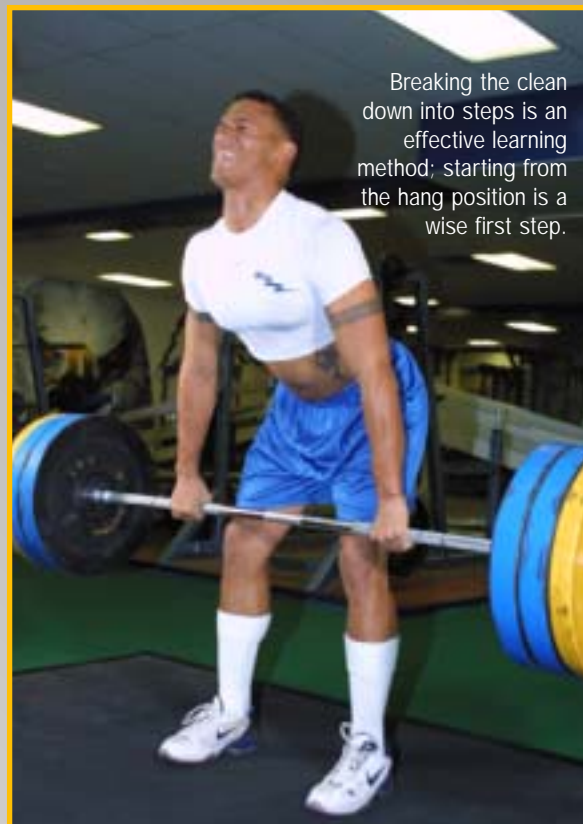
**Step 6: Start Position**

To make the learning process easier, start by learning the clean from a hang above the knee position. After performing the movement for several weeks from this position, you can begin performing the movement from the floor.

## ON SETS, REPS, AND INTENSITY

Once we get through the teaching phase, we always have our athletes perform at least 4 sets of any Olympic-style exercise throughout off-season training. We are big believers in the benefits of performing the Olympic-style exercises, and we emphasize these benefits by always performing multiple sets of these types of exercises. Early in off-season training, we will occasionally go as high as 7 repetitions on the Olympic-style exercises. The number of reps will gradually drop as we go through the cycles of off-season training, gradually going as low as performing singles during our power cycles.

In terms of training intensities, we base our training weights on the athlete's ability to complete the required number of reps in good form and not on a percentage system. Obviously, performing 7 reps in good form will require a much lower training intensity (in terms of poundage on the bar) than will performing singles, where training intensities may reach 100% or above. All of our workouts start with at least one Olympic-style exercise. We always perform our Olympic-style exercises first in the workout so the emphasis can be on quick, explosive efforts. As a result, our athletes may be performing an Olympic-style exercise as frequently as four times per week, depending on what sport and position they play and where in the yearly training cycle they are. It needs to be pointed out that when our athletes are lifting four times per week, two of their four workouts are performed entirely with dumbbells, including the Olympic-style exercises.



Breaking the clean down into steps is an effective learning method; starting from the hang position is a wise first step.

To establish the correct start position from the hang, get your feet and hand position set and then perform a deadlift. From there, slide the bar down your thighs to a position just above your kneecap, moving into a good jump position. Your head should be up, your back arched, and your shoulders slightly in front of the bar.

Establishing the "shoulders in front of the bar" position typically requires the greatest amount of practice at this point. The most frequent mistake is that you may place yourself in a position with your shoulders behind the bar. In attempting to correct this position, you may change the height of the bar on the legs. A better way to achieve the correct position is to reduce the degree of flexion at the knee joints, which has the effect of shifting the shoulders in front of the bar.

### Note: Time spent at each step

Each of the previous steps can be accomplished relatively quickly. Most athletes need just minor coaching to this point, although establishing the

correct start position in step 6 may require additional practice. However, steps 7 through 12 will require more thorough coaching for most of you. At the Air Force Academy, we generally have the athletes perform 3x5 of each step before moving to the next step, but we never move to the next step until the athlete can perform each step correctly. For most athletes, 3x5 provides enough opportunity to get a good handle on performing the movement correctly; some athletes require significantly more time. The key is not to advance until your performance warrants doing so. The last thing you want is to build on incorrect technique or position, which will lead to additional problems down the road. I wish I could provide you with more specific guidelines on how long to stay at each step, but this is where your own experience, and the attention of a good coach, must be your guide.

## Step 7: Jump Shrug



Cue: shoulders to ears

From the start position just described, jump straight up so that your hips are fully extended, your back is flat, your head is up, and your toes are

*Breaking the lift down into components gives you the most effective learning opportunity with the greatest chance of translating cleaning power into athletic power.*

pointed. At the top of this position, you violently shrug your shoulders straight up, keeping your arms straight and attempting to cover your ears with your shoulders. Make sure that you don't initiate this shrugging action too soon—it should occur only at the top of the jump.

## Step 8: Low Pull

Once you reach the top of the jump shrug position, begin to bend your elbows, keeping them above your wrists and the bar tight to the body, and elevate the bar to the navel.

## Step 9: High Pull

Continue the low pull into a high pull so that the bar reaches breastbone (sternum) height. Keep your elbows over your wrists and the bar tight to the body.

## CLEANING INSTRUCTION

### SAMPLE PROGRAM

Presented below is a six-week program designed for those of you who want to learn how to clean or get back on track to doing a clean with perfect technique. The emphasis is on learning correct clean technique while strengthening the muscle groups involved in performing the movement and surrounding musculature.

**Intensity:** Select a resistance that allows completion of the full number of required repetitions on each set prior to increasing the resistance.

**Pace:** Olympic-style exercises are performed explosively. All other exercises lift in two seconds, lower in three seconds.

**Rest:** Two and a half minutes between Olympic-style exercises and sets; two minutes between all other exercises.

**Sets/Repetitions:**

Week 1: TB=4x4, CL=4x6, AL=3x8  
 Week 2: TB=4x6, CL=4x8, AL=3x8  
 Week 3: TB=4x4, CL=4x6, AL=3x8  
 Week 4: TB=4x6, CL=4x8, AL=3x8  
 Week 5: TB=4x4, CL=4x6, AL=3x8  
 Week 6: TB=4x6, CL=4x8, AL=3x8

Key: TB = total body, CL = core lift  
 AL = auxiliary exercises

MONDAY	WEDNESDAY	FRIDAY
<b>TOTAL BODY</b> Hang squat clean, TB	<b>TOTAL BODY</b> Push press, TB	<b>TOTAL BODY</b> Hang squat clean, TB
<b>LOWER BODY</b> Squat, CL Romanian deadlift, CL	<b>CHEST</b> Bench press, CL	<b>LOWER BODY</b> Front squat, CL
<b>TRUNK</b> Weighted crunch Weighted back extension	<b>TRUNK</b> Weighted twist crunch Weighted twist	<b>TRUNK</b> Weighted V-up Back extension
<b>UPPER BACK</b> Upright row, CL Pulldown, CL	<b>SHOULDERS</b> Shoulder press, CL Incline press, CL	<b>UPPER BODY</b> Seated row, CL

**Further Explanation**

Select your training resistance based on your ability to complete the full number of required repetitions in good form on each set. When that task has been accomplished, you can increase the resistance the next time you perform that set and repetition scheme (note that the sets and reps repeat every two weeks). For example, if you perform your 4 sets of 4 repetitions in good form with 150 pounds in week 1, you can increase the weight by five to ten pounds in week 3 when you repeat the 4x4 set and rep scheme.

The repetitions vary each week to force you to adjust the training resistance. For example, if you perform sets of 4 at 150 pounds in week 1, the resistance during week 2 might be 140 pounds when performing sets of 6.

Generally, repetitions on the Olympic-style exercises are kept at 6 or below. The

Olympic-style exercises are technically difficult to perform, are highly fatiguing due to the large amount of muscle mass involved, and should be performed with a great deal of speed and quickness. It's therefore important to keep the reps at this low range.

The Olympic-style exercises are always performed first in the workout. Because of the need for speed and quickness and the high technical demands of the exercises, it is important to perform these exercises first in the workout, rather than going into these exercises fatigued from other exercises.

Exercises are divided into three categories in the workout: total body (TB), core lift (CL), and auxiliary lift (AL). Total body exercises are any of the Olympic-style exercises. A core lift is any multi-joint exercise, such as a squat or bench press. In contrast, an auxiliary lift is any single-joint exercise, such as a biceps curl.

## CLEANING INSTRUCTION



squat position. For greatest effectiveness, sit back at the hips, heels on the floor and knees behind the toes, when moving into this semi-squat

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position. At the top of the high pull, as you begin moving into the clean position, release the hook grip position so that the elbows are high and the bar is caught on the fingertips and delts. In this catch position, your head is up, your back is flat, and your elbows are high.

## Step 10: Clean

Once the bar is at chest height, pull your shoulders under the bar, dropping into a semi-



## Step 11: Adjusting Foot Position

As you catch the bar, you may keep your feet in position. However, when you perform full squat cleans, you will find that, to be able to fluidly drop into this parallel squat position, you may need to shift your feet to a slightly wider position as you go through the catch. To accomplish this, shift the feet into a slightly wider position at the moment that full hip extension occurs. Be sure, however, that you don't put your feet into a super-wide position.

## CLEANING INSTRUCTION

# Step 12: Squat Clean

After moving through the clean and adjusting the foot position, you fluidly drop into a parallel squat position. At the bottom of this position, your head and elbows are up, your back is flat, and your heels are on the floor. At this point you move into a standing position, maintaining the upright position just described. From here you return the barbell to the platform.

### CLEANED UP

Besides following this step-by-step approach to this exercise, you should realize that a qualified instructor can be invaluable in your training. A variety of methods to learn this exercise have been proposed, and each offers certain benefits. But this stepwise approach provides the most comprehensive and effective training.

### REFERENCES

1. Garhammer, J., and R. Gregor. Propulsion forces as a function of intensity for weightlifting and vertical jumping. *Journal of Applied Sports Science Research* 6(3):129-134, 1992.
2. Magill, R.A. *Motor Learning: Concepts and Applications*. 3rd ed. Dubuque, IA: Wm. C. Brown Publishers, 1985.



MODEL ID: