

STS Strength Testing Protocols

Body weight should be recorded, with shoes and any clothes which will be worn in the Chin up assessment if applicable.

Warm up

Aims:

- to prepare the body to lift a heavy weight 1-8 times
- Not to cause any fatigue or muscle damage

One or two sub maximal warm up sets are recommended with 60-80% estimated 3 rep max weight. Reps should be 60-80% of the number expected and maximal rest between sets is encouraged to allow full recovery.

Upper Body Pull

Reverse Grip Chin Ups

For athletes who can perform one or more chin ups to protocol described.

Body weight must be taken no more than 15minutes before or within 15minutes of performing the chin ups in the exact same clothing that is worn during the test.

One or two sub maximal warm up sets are recommended with 60-80% body weight. Reps should be 60-80% of the number expected and maximal rest between sets should be allowed to recover.

Setup with:

- Palms facing back towards chest holding bar or handles at a comfortable width.
- Knees bent to 90 degrees and hips fully extended with a straight line from shoulders through hips to knees.

Test Process:

1. Start at the bottom of the rep with elbows fully extended and body as low as it will go.
2. The pull up should be fast and no wait is required at the top of each rep. The top of each rep requires the athlete to have the lowest part of their chin above the highest point of the hands.
3. The lowering phase is controlled and there should be no jerky movements at the bottom of each rep.
4. Repeat until no more full reps can be performed, maintaining the described protocol.

Additional Notes:

- The only movement assisting the chin up itself should be at the shoulders and elbows.
- No swinging is allowed and if no spotter is available, the athlete must cease any swinging at the bottom of each rep by waiting in the hang position. A spotter may assist in swing prevention but apply no vertical force.

Record number of reps performed and weight used.

Seated or Kneeling Wide Front Prone Pull-down with bar or separated handles: for athletes who cannot perform one or more chin ups to protocol described.

Setup with:

- Hands facing away from chest
- Lower body weighed down so it cannot leave the ground/seat.
- Torso vertical with no backward lean.
- Chest up, shoulders down.
- Bar as high as possible without hips raising from seat/kneeling position.

Test process:

1. Pull bar/handles down until knuckles get to just below chin height.
2. Control bar/handles back up to setup position.
3. Repeat process until described technique cannot be maintained.

Additional Notes:

- Keep elbows directly under hands.
- Do not allow elbows to come back.
- Do not allow any torso movement.

Finding test weight:

1. Perform one set of 6-8reps with approximately 70% max. Rest for 90secs.
If unsure use around 40% of body weight. Do not go past 7/10 intensity.
2. Perform one set of 3-5 reps with approximately 85% max.
If unsure use increase weight depending on how hard previous weight was. If you performed 6 and rated it a 6 then increase by around 12kg.
3. Perform a set of 3 reps at next weight over previous warm up set and rate from 1-10. If over 8 then rest and use same weight to lift as many reps as possible with that weight.

Record number of reps performed and weight used.

Lower Body Push

Barbell Half Squats

Setup with:

- Feet shoulder width apart, knees unlocked and bar across muscles of upper back, not on the spine.
- Hips forward, looking straight ahead with belly button pulled in towards spine and chest up.
- Keep weight through heels or evenly spread through foot.

Test process:

1. Maintain high chest while sitting hips back and down with control, until knees bend to 90 degrees.
Assessor calls “yip” signalling depth reached.
2. Athlete drives up through hips and knees to finish the rep in a vertical torso position.
3. Repeat process until failure.

Additional Notes:

- Failure can be any form of stopping the set:
 - Client cannot finish the rep with the described technique
 - Client decides not to perform another rep
- Control movement down and drive up strong
- Padding may be applied to the bar for comfort
- Horizontal safety bars should be positioned just below the lowest bar position of the rep.
- One spotter should be used when tester deems appropriate. Especially when rack is more than a metre from test location. Most gym members will be happy to help but should be encouraged not to assist unless athlete gives the cue.
- Any rep which is not completed to the described depth or with the use of assistance is not to be counted.

Finding test weight:

1. Perform one set of 5-8 reps with approximately 70% max. Rest for 90secs.
If unsure use around 60% of body weight. Do not go past 7/10 intensity.
2. Perform one set of 3-5 reps with approximately 85% max.
If unsure increase weight depending on how hard previous weight was. If you performed 6 reps and rated it a 6 then increase by around 40kg.
3. Perform a set of 3 reps at a weight over previous warm up set and rate from 1-10.
 - a. If over 8 or then rest and use same weight to lift as many reps as possible with that weight.
 - b. If under 8 increase by 5kg per side.
4. Continue step 3 until final weight and rep number are decided.

Record number of reps performed and weight used.

Upper Body Push

Barbell Bench Press

Setup with:

- Hands at 90 degrees when at bottom of rep
- Bottom of rep is when bar comes within 2cm of chest but does not touch at nipple height.
- Feet elevated, allowing lower back to lie flat or in neutral position

Test process:

1. Tester helps athlete unrack bar and control at the top of rep.
Assessor calls “yip” signalling depth reached.
2. Athlete lowers bar down to bottom of rep, with control, tester calls “yip”.
3. Athlete presses bar back up to start position.
4. Repeat process until failure.

Additional Notes:

- Failure can be any form of stopping the set:
 - Client cannot finish the rep with the described technique
 - Client decides not to perform another rep
- Control movement down and drive up strong
- If bar stops progress upwards for more than 1 second then tester should help bar up and record previous rep as max for that weight.
- Any rep which is not completed to the described depth or with the use of assistance is not to be counted.

Finding test weight:

1. Perform one set of 5-8reps with approximately 70% max. Rest for 90secs.
If unsure use around 40% of body weight. Do not go past 7/10 intensity.
2. Perform one set of 3-5 reps with approximately 85% max.
If unsure increase weight depending on how hard previous weight was. If you performed 6 reps and rated it a 6 then increase by around 40kg.
3. Perform a set of 3 reps at a weight heavier than previous warm up set and rate from 1-10.
 - a. If over 8 or then rest and use same weight to lift as many reps as possible with that weight.
 - b. If under 8 increase by 2.5-5kg per side.
4. Continue step 3 until final weight and rep number are decided.

Record number of reps performed and weight used.