

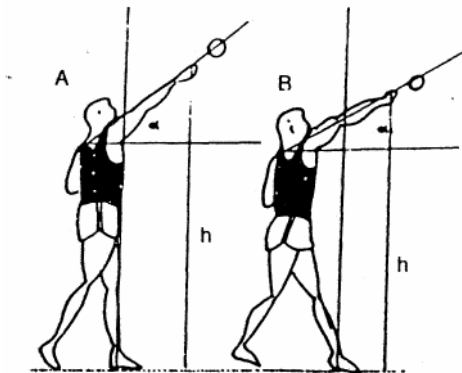
SHOT PUT: IMPROVING THE GLIDE

By Merv Kemp

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At any gathering of a group of throwers it is almost certain that the topic of conversation will soon turn to strength levels. In fact many throwers seem to have an obsession with strength and neglect the development of technique and their general athleticism. Being able to bench press over 200kg may be of little value to the athlete if he can standing long jump only 2.30m.

The critical determinant of distance achieved is release velocity and, while this factor is related to an athlete's strength level, we should remember the obvious fact that the relationship is through the athlete's ability to apply that strength. A faulty technique results in an inefficient application of strength. The diagrams below illustrate some common technique problems at the point of release (fig. 1).



As can be seen in fig. 1, the position A is superior to position B for several reasons:

- The release point X is slightly further beyond the stop board which means that the acceleration path will be longer and a higher release velocity achieved.
- The point of release is higher (h) in A than B.
- The angle of release (α) is greater in A than B.

Release positions such as B, shown above, are often the result of a poor glide leading to an unsatisfactory power position. Coaches need to look beyond the symptoms of the problem and seek to remedy the causes. That is to say that

once we recognize the inadequacies of the release position, we should go back to the push off phase of the glide to see why the poor release has come about.

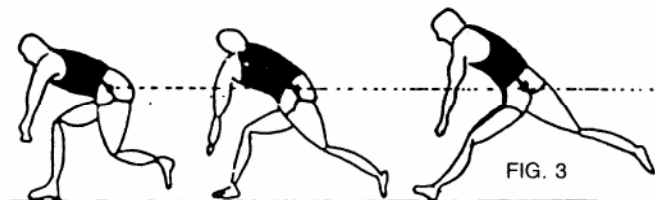
A failing observed among a number of our shot putters, particularly the girls, is the tendency to push off from the toes rather than to be pushing back over the heel (fig. 2).



Pushing off from the toes invariably results in the athlete prematurely raising the C of G because it causes the athlete to move their back clockwise around the hips, thereby assuming a very upright position in the centre of the circle.

A feature of the well performed Eastern bloc putters is their ability to keep the trunk low as they come across the circle. To achieve this, the push off is over the heel. The aim is to move quickly, stay low and move backwards and across the circle. Too many of our throwers push off the toes and move up rather than across. A poor delivery position is the result.

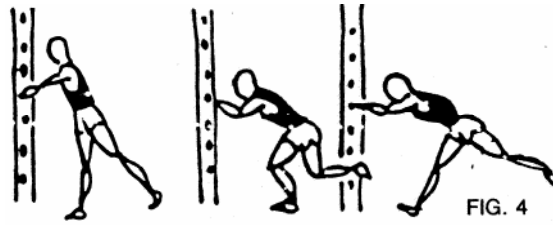
In a well executed glide the hips will not rise as the athlete completes the push off and the upper body makes a noticeably low angle with the push off leg (fig. 3).



A characteristic feature of many good throwers nowadays is that they hold themselves on a bent right leg almost until the left leg is fully extended. Only then is the push off complete with the right leg. The sequence then is for the free swinging leg to come forward until the knees are almost in line then for the left leg to move back first before the right leg starts its push. At the moment the push off is completed the athlete's trunk and swing leg make almost a straight line.

Illustrated below are some imitative drills which may assist in overcoming the problems mentioned above.

Using wall bars for support the athlete drops into a tuck position then pushes back first with the left leg, then with the right. By holding onto the bars the athlete is able to keep a good deal of weight over the right leg while imitating the push off (fig. 4).



A useful imitation drill to learn the push-off over the heel is to assume a wide stance as shown in fig. 5 and then to extend the right leg, pushing back over the heel and pulling the right leg under to establish the power position.



Another drill for the push off is shown in fig. 6. Commencing from a double support tuck position extend the left leg back then the right, working over the heel. Ensure that the trunk remains low, facing the rear and that much of the body weight is over the right leg. To keep the shoulders closed make sure the left arm remains behind the body and points downwards. This drill can be combined with that shown in fig. 5 to bring the athlete back into a double support position.



Finally the athlete imitates the whole gliding action. Points to emphasize are:

- left leg lead
- push off over the right heel
- full extension backward of the legs
- left arm/shoulder
- move across, not up, and stay low
- pull right leg under the body

Get the athlete to perform the above imitation a couple of times before attempting an actual put. After the put, analyze what happened with the athlete then repeat the imitation 2-3 times more before attempting another throw. Each time look for

the athlete to be achieving the above emphasized points, but remember that the athlete can only work on two of those points at any one time. It is impossible to think about all the points during the short time it takes to perform the imitation.