Throw

INTRODUCTION :

There are four throwing events in the athletics competition. They are shot put, Discus throw, Hammer throw and Javelin throw. All these four events are recognized by the International Association of Athletics Federation and they are important athletics events in the Olympic, world Athletics championship and continental championship.

SHOT PUT

Hold : The shot resting on the base of the fingers and the fingers flex slightly apart.

Stance : The athlete stands at the rear of the circle his back facing the direction of throw with the foot at shoulder apart. His body remains upright bending his throwing arm at the elbow resting the implement on his shoulder.

Glide : The thrower leans his body forward and at the same time bends his supporting leg (right one) raising the other leg behind in order to balance the body on the supporting leg. The free leg is now bent and brought close to the supporting leg.

The free leg(left one) kicks rapidly backward in the direction of throw, followed immediately by the straightening of the supporting leg and its successive snatching up underneath the body with the knee bent. In these movements the supporting leg slides on the flat of the foot, bringing the thrower firmly on his right foot in the centre of the circle while his left foot immediately comes down against the stopboard without changing the position of his upper body (6,7).

The legs straighten rapidly, the trunk lift and slightly rotates and the shoulders, arm and finally throwing hand drive forward in succession forming the kinetic chain that will give the implement the highest possible initial speed and the most favourable release angle. The athlete does a rapid scissor of the legs, changing his weight with a small jump from the left leg on the right. This will prevent himself falling out of the front of the circle.

DISCUS :

1. Grip : Put the Discus on the non-throwing hand(left hand) for support. Your throwing hand is on top of the discus with your fingers evenly spread. The top knuckle of his four fingers should touch the rim with his finger tips over the sides. Alternatively place his index and middle fingers together when evenly spacing the remaining fingers.

2. Stance: The thrower stands at the back edge of the circle with his back to the direction of the throw. The legs should be astride wider than the shoulder width, knee and waist slightly bent.

3. Turn : The athlete swing his throwing arm several times and having carried out these preliminaries swings, he bring his leg and feet into action.

He keeps the throwing hand with the Discus as far from his body as possible . The thrower shifts his body weight over the left leg bending it and turning the leg itself outward and he picks up the right foot to swing around the left leg thereby the left foot drives quickly across the circle. The right foot lands in the centre, the swing left leg near to the front of the ring. The release throwing arms trails fairly wide of the body, encouraging maximum possible speed of movement of the throw.

4. Throw : The final or the drive phase starts from this position with a rapid extension of the leg on the throwing arm side that is the back leg with a violent outward swing of the throwing arm extended as much as possible brought forwards by the straightening and advancement of the chest. The forward leg with the foot pointed functions as a support while the arm finally whips forward to complete the kinetic chain initiated by extending the back leg, continue by the hips and the shoulders and concluded by flexing of forearm on the upper arm and the hand on the forearm.

5. **Reverse ;** At the moment of release from the fingers the Discus should have reached the maximum initial velocity for the optimal angle of elevation imparted by the index fingers of the hand. To slow down the body's momentum placing of the back foot (R) in place of the supporting foot (L) slowing down the speed of rotation. This is known as reverse.

HAMMER

Hold : The athlete takes hold of the implement by the handle with his gloved hand with the upper edge of the handle resting across the joints of hips middle or end phalanxes and the other hand overlapping the first.

Stance: He takes his stance with the back facing the direction of throw, his legs slightly apart, his knees bent and his feet closing (touching) the rim at the back of the circle.

Preliminary Swing : The athlete performs a few pendulum swings and continues the preliminary swings which is ratationary movement using only the arms and upper body. It gives speed before starting the turns.

Most athletes at present use two preliminary swings and three turns. The preliminary swing slightly inclined, so that the implement is swinging up and down. These rising and falling phase are known as high point and low point.

Transition : After the preliminary swing the athlete goes into transition at the moment when the Hammer head passes through the low point which occurs in front of him slightly towards the direction of the knee of the pushing leg.

Turn : As soon as the hammer head began to turn orbit. The athlete raise the ball of his supporting foot and pivots on the heel while the other foot turns on the flat, pushing towards the circle, then lift and follows the Hammers round. When the Hammer head reaches the high point of the orbit the athlete tilts on the outside edge of his supporting foot and comes down on to the flat of the same foot. The Hammer head goes into the downward phase of its orbit and pushing foot quickly makes contact with the back of the circle, this contact must occur before the hammer head overtakes the axis between the two feet. When the hammer head reaches the low point and again the first turn is complete and the second begins which is performed in the same way but at a higher speed and with a more marked inclination of the plane of orbit, this continues three or four turns according to the technique adopted.

Releasing : At the end of the last turn, when the hammer head is still behind the hip axis and the pushing foot is coming to the ground, the final or delivery phase begins. This performed by turning and straightening the leg and strongly stretching the spine, the arms well extended from the shoulder and the fingers release the grip.

Reverse : The athlete change his leg over to get out of the twisted position in which he has delivered the hammer assuming a reverse position as that of Discus throw.

JAVELIN :

Grip : The Javelin should be held firmly in the grove of palm. The Finnish Athlete grip the cord between the thumb and the middle finger. The Americans use the thumb and the index finger to grip the cord whereas in the Fork style the cord is being kept between the index finger and the middle finger.

Carry : The Javelin should be carried just above the head or the right of the head behind the ear. The upper arms is kept parallel to the ground, elbow flexed to 90^{o} and is pointed forward.

Approach: The run up will be of 14-17 strides holding the Javelin he accelerates gradually into a horizontal speed.

Withdraw : After running 10-20 strides, he withdraws the Javelin in preparation for the throw, turning and gradually leaning his trunk to the rear to adopt a powerful pulling position.

Cross Step :-The change in the angle of the trunk is particularly marked during the so called “Cross Step” immediately prior to the throwing stride.

In this phase with the push of the left foot the pelvic axis turns outwards through 20^{0} and aligns with the shoulder axis and the right foot point 30^{0} from the direction of the run up.

Lay Back Phase : The lay-back phase starts by landing on the right foot with knee bent but taking on extended stride on the other followed by a straightening of the first leg, while the shoulder and throwing arm are kept in arc. It will consist of the kinetic chain of foot - knee- hips-shoulder to whip forward.

Delivery: The final delivery phase, firmly supported on the front leg requires the throwing shoulder to whip forward with all the joints concerned transferring the maximum possible velocity to the implement for the optimum release angle.

Reverse : The thrower performs a reverse action by bringing the back leg forward, he will lift his supporting leg up and back, it will recover his balance, he will keep himself behind the line.

Conclusion :

- With the introduction of scientific and systematic training the performance of the athletics in the throwing events have been increased in the last century.