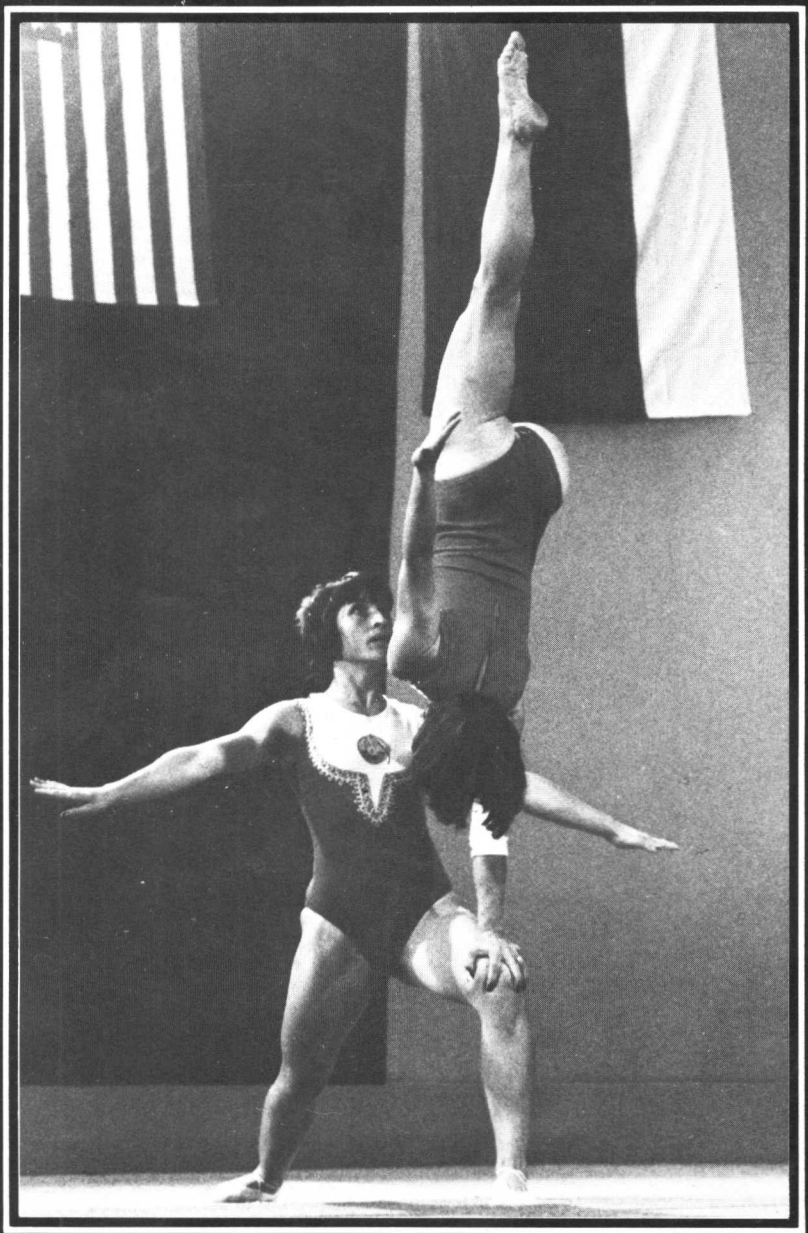
# Acrobatics Book

by Jack Wiley



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# Other Books by Jack Wiley

*Fiberglass Kit Boats*
*The Unicycle Book*
*Basic Circus Skills*
*Modifying Fiberglass Boats*
*Boat Living*
*The Tumbling Book*

# Contents

# 1

# Learning Sports Acrobatics

# 1

# History: From Ancient Entertainment to Popular Sport

Aerobatics dates so far back that no one can say with certainty when it first began. Drawings before the dawn of recorded history depict acrobatics in China and Egypt over 4,000 years ago, but almost certainly they were being performed before any written records were kept.

In its early stages of evolution, acrobatics was probably a play activity. From that time, by a course that can only be hypothesized, it developed into a performing art that has sustained itself in various forms and degrees of popularity throughout history. Acrobatics was performed as court entertainment for royalty, included in performances of traveling bands of entertainers in medieval times, and more recently formed the basis of circus and stage acts.

The term *acrobatics*, like the word *gymnastics*, has been used to describe many different activities. The partner and group events in modern sports acrobatics competition amount to a limited, specialized form of acrobatics, just as modem competitive gymnastics is a limited, specialized form of gymnastics. This point must be kept in mind when considering the development of modern competitive sports acrobatics.

Acrobatics has probably long played a role outside the professional realm, but the exact nature of this role has been difficult to trace. Treating acrobatics as a competitive sport

seems to be of fairly recent origin, but it is possible that some form of acrobatics competition took place long ago. Modem sports acrobatics, like springboard and platform diving, gymnastics, trampolining, and other similar sporting events, are subjectively judged, and competition in these sports is of more recent origin than in activities that can be scored more objectively. For reasons not altogether clear, however, development and acceptance of sports acrobatics competition on national, international, and world levels lagged behind these sports.

Perhaps one factor that slowed the development of competitive sports acrobatics was the inability to reduce acrobatics to some specific and manageable area that could be standardized into competitive events. Most special apparatus have been eliminated (trapeze bars, teeter boards, tightwires). In recent times some attempts have been made to add events requiring special apparatus (e.g., pedestal acrobatics), but these have not caught hold, probably because of the large overlap with gymnastics and expansion into too many events. At the present time, the only events besides the partner and group events included in world competition are men's and women's acrobatic jumps (individual tumbling done on a special long springy platform covered with mats).

Modern sports acrobatics seems to have evolved from many different directions, the most important ones being offshoots of professional and amateur performing arts acrobatics and gymnastics.

Russia has been instrumental in developing and promoting modem sports acrobatics. In 1939, a national meeting was held, and official acrobatics events were formulated; the first USSR National Championships were held the same year. This competition was for men only, the partner and group acrobatics events were men's pairs and fours (individual tumbling was also an event). There were ninety competitors. Competition for women was added in 1940.

From that point onward, the popularity of sports acrobatics competition spread to other countries, including Poland, Bulgaria, West Germany, Switzerland, Great Britain, the United States, and the People's Republic of China. In 1973, the

International Federation of Sports Acrobatics was formed, and the first World Sports Acrobatics Championships were held in Moscow in 1974. In 1975, the ftrst World Cup Acrobatics Championships were staged in Widnau, Switzerland. The second World Championships were in Saarbrucken, Germany, in 1976; and the second World Cup in Katowice, Poland, in 1977.

Sports acrobatics has caught on in the United States, with clubs and teams spreading across the country. In 1975, the United States Sports Acrobatics Federation (USSAF) was formed and accepted as a member of the International Federation of Sports Acrobatics. The ftrst National Sports Acrobatics Championships were held in the United States in 1976, the second in 1977, with the best performers going on to compete in the World Championships and the World Cup.

However, forms of competition in partner and group acrobatics had been held on a smaller scale in sections of the United States previous to this. For example, doubles tumbling and hand balancing was included as an event in gymnastics competition on the Paciftc Coast from the middle 19305 until 1949.

In 1977, the USSAF established a sports acrobatics center complete with an extensively equipped gymnasium in Santa Monica, California, as a training center for performers and for holding clinics and workshops for coaches and judges.

## WHO CAN DO SPORTS ACROBATICS?

Sports acrobatics, even at a fairly elementary level, requires considerable physiological and psychological abilities and thus is not recommended for everyone. Most children and young adults have the necessary fttness to perform at least elementary acrobatics, but adults, especially beyond the college age, should approach the activity with considerable caution and select phases of the activity carefully.

Sports acrobatics, as deftned for the purposes of this book, requires at least two performers, either of the same or opposite sex. Many factors, such as size, weight, and skill level, are important in teaming performers into pairs and groups for competition. However, at the beginning level it is important for

performers to learn to work with a number of different partners and groups. At higher levels, more specialization is required, with individual pairs and groups spending many hours training together as units for world-class competition.

Sports acrobatics seems equally suited for males and females. Physiological and psychological differences between the sexes have a bearing on the aspect of acrobatics in which each sex excels. For example, women tend to excel in flexibility and rhythmical work, whereas men usually dominate in feats requiring great strength:' However, there is much overlapping.

Acrobatics on an informal level can be ideal for young children, with more formal and advanced work added when they become physiologically and psychologically ready for it. Acrobatics should always be fun and challenging for the participants. When this is no longer the case, they should discontinue the activity and find something else more to their liking. However, this is seldom a problem, as most people find sports acrobatics to be fun and challenging.

Because of the requirement of having to work closely with at least one other person, partner and group acrobatics, as covered in this book, generally become of greater interest to both boys and girls when they reach the age of about eleven or twelve. Individual tumbling and balancing of the "play" gymnastics type seem to work better for younger ages.

Sports acrobatics is sometimes used for improving physical fitness. However, I have found it best to discourage persons in poor physical condition, especially those who are extremely overweight or lacking in strength, from participating in sports acrobatics, or at least to carefully control the parts they perform. For example, an overweight person might be the bottom person on certain balancing and tossing stunts, but not the top person or somersaulter. However, by selecting the role to be played, there is a place for small people, large people, and every size in between. In general, I recommend a fairly high fitness level before participation. Lose the weight or gain the strength before taking up sports acrobatics.

For recreational and fitness purposes, the participant need have only enough potential to pursue the activity safely. For those who aspire to reach a high level of skill, potential should

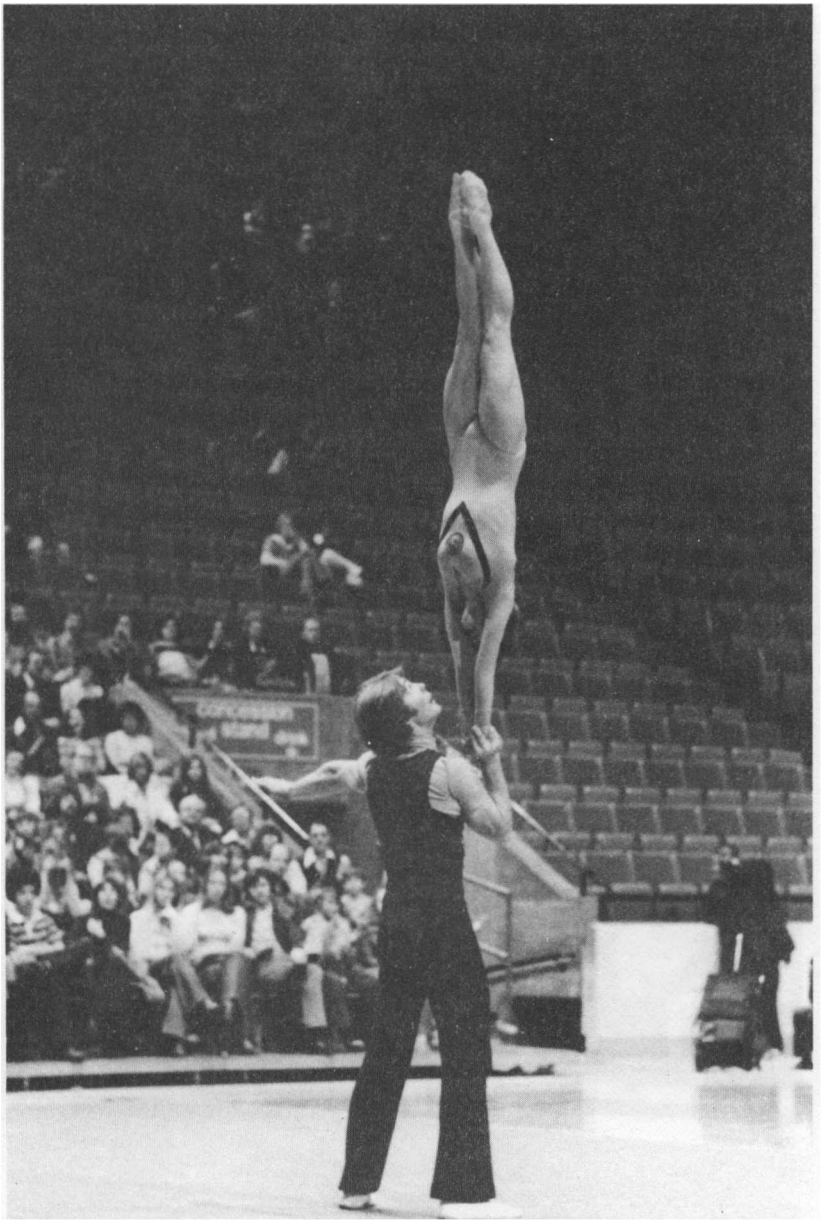


**Fig. 1-1. World champion USSR mixed pairs demonstrate a balance element. (Courtesy *AcroSports* magazine)**

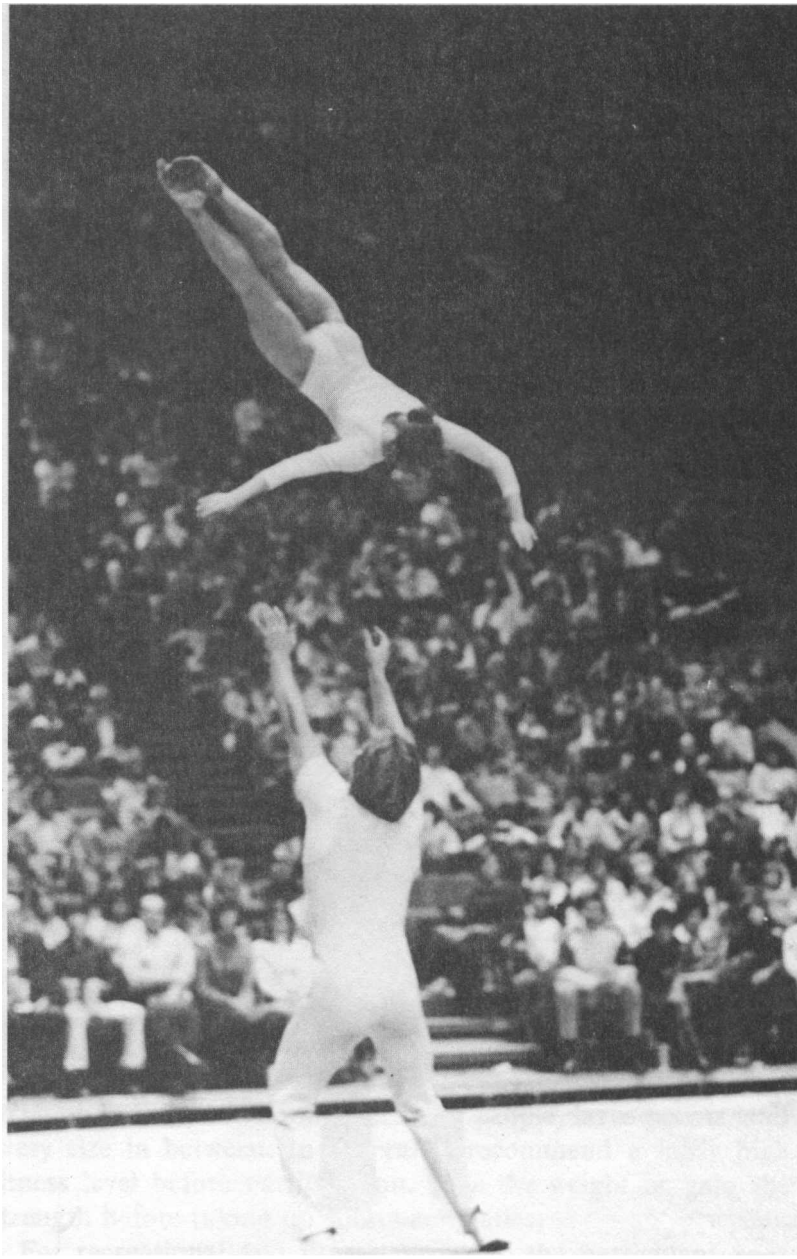


**Fig. 1-2. World champion USSR mixed pairs perform a tempo element. (Courtesy *AcroSports* magazine)**

be considered more carefully. As more and more people take up this activity, the quality of performance at the top competitive levels increases, and it takes greater natural talent to reach the world-class level. And this potential must be combined with modem coaching and training methods and facilities.

The material presented in this book is intended for performers, coaches, judges, spectators, and all others who have an interest in sports acrobatics. No prior knowledge about the activity is assumed. Instructional material starts at the most basic level. Stunts were selected that represent a sound basis for sports acrobatics, and then progress gradually to more advanced work. Considerable emphasis is placed on combining individual elements into competitive routines.

While the material is geared primarily for competitive sports acrobatics, it is also useful to those who participate for recreation, or in cheerleading, or performing in exhibitions or acts. The principles are essentially the same.

# 2

# Clothing, Equipment, and Workout Areas

Proper clothing, equipment, and workout areas, whether for practice or competition, are extremely important for the safety and enjoyment of participants in sports acrobatics.

## CLOTHING

The basic clothing for men is gymnastics pants or shorts and shirts; for women, leotards. For both sexes, soft-soled gymnastics shoes are worn, never hard-soled running or basketball shoes.

For both sexes, sweat shirts and pants are highly desirable for warming up, tapering down, and periods between intense activity. Appearance of uniforms becomes very important only in competition, much less so for learning-and practice. Clothing should always be comfortable and not hinder movement or present any other safety hazards.

## EQUIPMENT

### Floor Mats

The basic item of equipment is a floor mat with 12 meters by 12 meters of working area. (The actual mat should be larger than this, with the working area marked off by a boundary line.) In most cases, standard gymnastics floor exercise mats are used for sports acrobatics. Although it is best to have one large

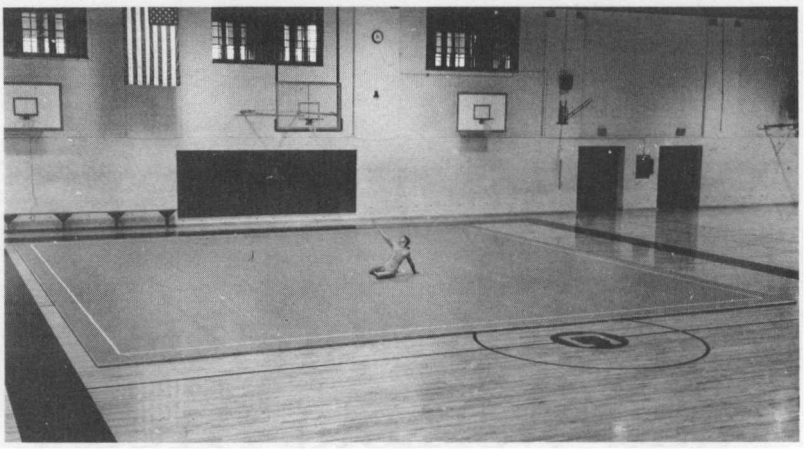


Fig. 2-1. The basic item of equipment for sports acrobatics is a floor mat with 12 meters by 12 meters of working area.

mat, the area can be made up of more than one mat provided they can be connected together securely.

The mat is the main piece of equipment for practicing and learning competitive sports acrobatics and for competition. However, smaller mats can be used for learning the basics of sports acrobatics, with mats about 1.2 meters by 2.5 meters being about the minimum practical size.

Because landing and rebound qualities of mats depend on thickness and composition, it is difficult to make any meaningful statements about how thick mats should be. Some of the synthetic rubber mats are satisfactory when as thin as three centimeters; other mats over six centimeters thick and padded with felt or certain types of animal hair are unsatisfactory.

At the present time there are no generally accepted standards for rating a mat's landing and rebound qualities. This problem becomes more complicated by the fact that better landing qualities may mean poorer rebound, and vice versa. When selecting mats, make certain that they provide for safe landings, yet give secure footing and good rebound for jumping stunts.

The landing and rebound qualities of mats also vary to some extent with the qualities of the flooring over which they are placed. Basketball courts, for example, frequently have some

rebound qualities in the flooring because they are built over beams that have some spring. Over concrete flooring, special mats may be required to give desired landing and rebound qualities and necessary safety.

The working surface of the mat should give firm footing. This may be by nature of the surface of the mat itself or by a special canvas cover that is placed over the mat and securely attached around the edges.

A regulation sports acrobatics mat is, of course, expensive, usually costing from about $3000-5000. However, this main item of equipment, or suitable substitutes, is usually available in most gymnasiums from other sports, such as gymnastics and wrestling.

**Landing and Training Mats**

A special landing mat, which is placed on top of the regular mat to absorb landing shock, is allowed in competition and is also frequently used for training purposes. A typical landing mat is 1.5 meters by 3 meters or larger and 20 to 30 centimeters thick. Thus, it must be neither too soft nor too hard. The principle is similar to that of high jump and pole-vaulting landing pads, the latter allowing safe landings on the back from heights of over eighteen feet. Indeed, jumps from high buildings have been made safely into thick landing mats.

Early landing mats were simply pits or nets or bags filled with blocks of foam rubber. The composition of the padding has been improved since then, and near ideal landing mats are now available from a number of manufacturers (see Appendix).

The basic fundamentals of sports acrobatics can be learned without using a landing mat, although it is a very desirable training and safety aid, but for intermediate and advanced work it becomes almost an essential.

**Spotting Belts and Mechanics**

Some spotting belts are worn by the performer, and the ropes from the sides are held by two spotters, one on each side of the performer. This works okay up to a point, but for many stunts spotting by this method is difficult, awkward, and sometimes unsafe.

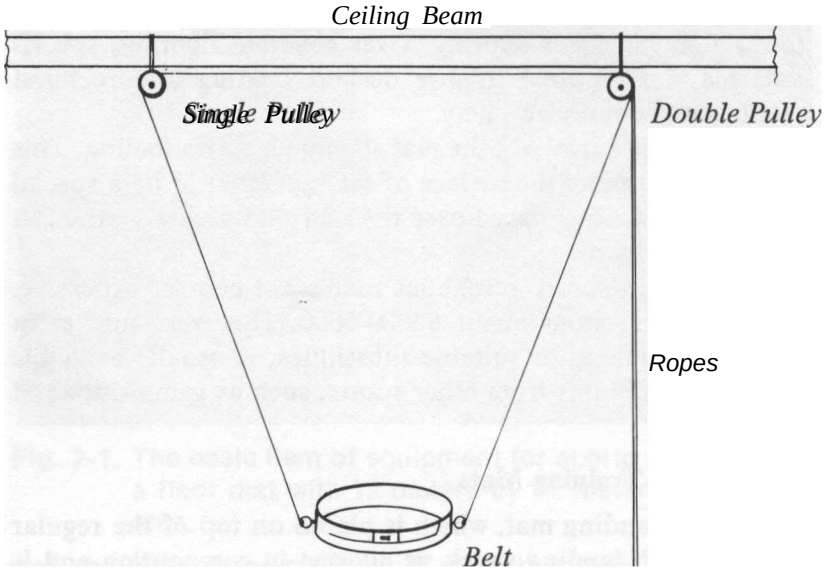



Fig. 2-2. Overhead mechanic.

A much better arrangement is an overhead mechanic (Fig. 2-2). Properly set up, this gives a mechanical advantage to the spotter, allowing safe and controlled spotting even on advanced and difficult stunts.

In addition to the stationary overhead mechanic, there is a travelling overhead mechanic with additional pulleys that allow the entire rig to move horizontally. This is desirable for some advanced specialized sports acrobatics skills, but for most uses, the stationary mechanic will suffice, and will serve for all of the stunts covered in this book.

Two types of belts are useful, the regular belt (Fig. 2-3) and twisting belt (Fig. 2-4). There are also a number of twisting belts on the market that have heavy metal rings and bearings or slides, but I have found the type shown in Fig. 2-4 to be much better for partner and group sports acrobatics, as the metal rings on the other types present a constant safety hazard, especially the danger of a belt worn by one person hitting another person.

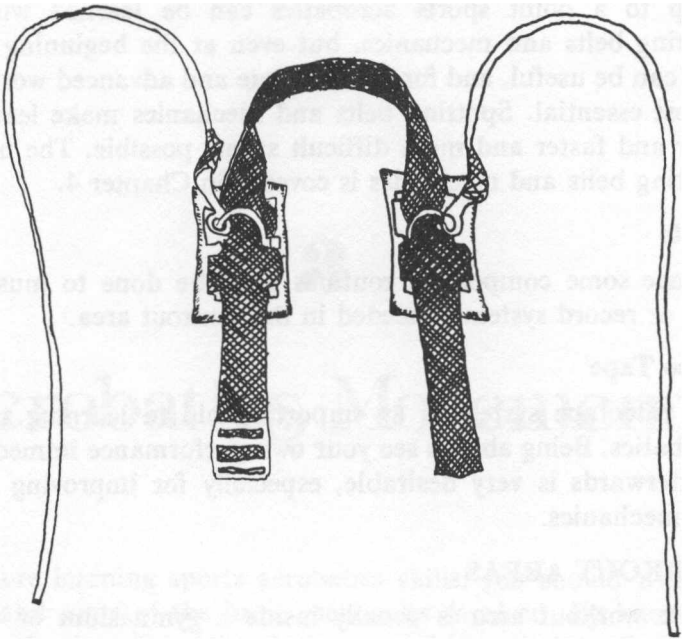


Fig. 2-3. Regular spotting belt. (Courtesy Gym Master Company)

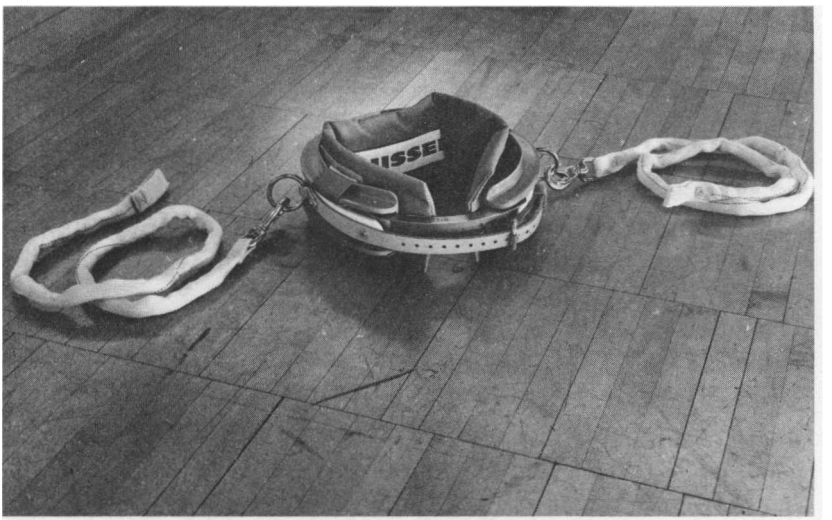


Fig. 2-4. Twisting belt. (Courtesy Nissen Corporation)

Up to a point sports acrobatics can be learned without spotting belts and mechanics, -but even at the beginning level they can be useful, and for intermediate and advanced work are almost essential. Spotting belts and mechanics make learning safer and faster and more difficult stunts possible. The use of spotting belts and mechanics is covered in Chapter 4.

### Music

Since some competitive routines must be done to music, a tape or record system isneeded in the workout area.

### Video Tape

A videotape system is an important aid to learning sports acrobatics. Being able to see your own performance immediately afterwards is very desirable, especially for improving form and mechanics.

## WORKOUT AREAS

The workout area is usually inside a gymnasium or other suitable building where there is a large open area of flooring with adequate ceiling height; adequacy depends on the level of skill and events, with men's fours requiring the greatest overhead working area for four-high pyramids and tosses (three persons tossing one person, for example can result in flights of great height). As a general rule, the ceiling should be high enough above the mat so that regardless of the stunts performed, contacting the ceiling is impossible.

There should be adequate free area, usually ten feet or more, on all sides of the floor mat. Never work with the mat adjacent to a wall or other obstruction. The one exception to this is when the mat is deliberately placed next to a wall for learning stunts such as the handstand.

In the United States there are thousands of gymnasiums and auditoriums that are suitable for sports acrobatics with little or no modifications. Because the floor mats are often bulky and heavy to move about, the floor mats should be left set up all the time, but many successful programs have been conducted where the mat must be taken up and stored between workouts, so the permanent setup is not absolutely essential.

# 3

# Acrobatics Movements

Before learning sports acrobatics skills, you should understand some of the basic mechanics involved. By knowing the mechanics of holding balance positions and performing somersaults and other flight movements, skills can be learned more readily. However, the purpose here is not to go into complicated formulas or present a course in biomechanics, but rather to present some of the main principles involved in easy-to-understand language.

The mechanics of partner and group sports acrobatics are complicated by the fact that two or more people must work together. Movement must be coordinated among the performers who are working together. Compare thisto an apparatus event in gymnastics, where the apparatus is relatively fixed and the mechanics and coordination involve a single person.

**BALANCE**

Balance elements, such as a high hand-to-hand stand used in sports acrobatics, are rarely, if ever, completely static or held without movement. When, for example, a balance position is held for, say, three to five seconds, there is usually at least some slight movement. In a high hand-to-hand balance, the top person may be fairly "locked out," while the bottom person is making the necessary movements to keep the top person in

balance, rather like balancing a broom in the palm of the hand. Thus, what are generally considered to be stationary balance positions are in reality balance in motion, but with the balance corrections as subtle as possible to give the appearance that static or stationary balance is being maintained.

To maintain balance, the center of gravity must be kept over the base of support, as shown in Fig. 3-1. This is easier to accomplish with a large base of support than a small one.

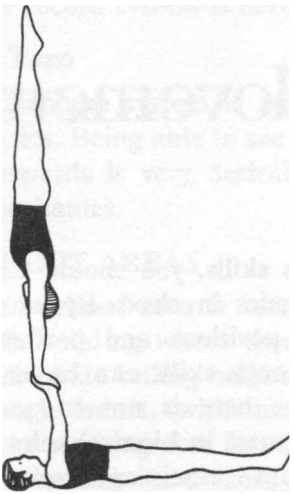


Fig. 3-1. To maintain balance, center of gravity is kept over base of support.
Fig. 3-2. Standing on shoulders.

To maintain balance on a handstand, all corrections in balance must be made by muscle contractions and thus changes in the shape of the body. The amount of correction that can be made is quite limited if the base of support cannot be moved. If, for example, the person overbalances past the point where changes in body shape can return the center of gravity back over the base of support, balance is no longer possible. The balance might be saved, however, by moving the base of support, that is, by walking forward on the hands. In this case, the base of support itself is moved, but the same thing could be accomplished on a sliding platform by moving the platform.

It is interesting to note at this point that even simple standing is not static in the sense of, say, the static balance of a chair. Muscular contractions are constantly taking place to make balance corrections, although we generally do not have to think about them; they became automatic and reflexive long before we can remember how we learned them.

When doing partner and group acrobatic balance stunts, some balance positions are more like standing than holding a handstand. Standing on a person's shoulders, as shown in Fig. 3-2, is a fairly easy balance position. The two performers are locked together more or less into a single unit. The bottom person must simply hold the top person in a set position and maintain standing balance. If balance is lost slightly, correction could be made by one or both persons changing body shape, but because this could result in confusion, the bottom person generally makes the movements necessary to maintain balance or to bring the top person back in balance.

When balance is lost beyond a certain point, however, it cannot be regained without moving the base of support, in this case, by the bottom man moving his feet or stepping in the direction that the center of gravity (total center of gravity of both persons) is falling, similar to bringing a pole balanced on the palm of the hand back into balance by moving the hand in the direction the pole is falling. The principle is the same as regaining standing balance by moving the feet. If you start to fall forward, you walk forward, stepping the feet back under the center of gravity.

The main principle in sports acrobatics is that, as the person(s) being balanced start to fall, the bottom person should move the base of support back under the center of gravity.

The mechanics of many stunts in sports acrobatics become greatly complicated by the fact that balance is usually maintained by a combination of changing body shapes and movement of the base of support. In many cases, the bottom person keeps the feet stationary, but shifts the base of support between performers. With three performers on, say, a three-high shoulder balance, as shown in Fig. 3-3, a second layer of movement may be taking place between the middle and top persons.

Fig. 3-3. Three-high standing on shoulders.

As a general rule, balance is best maintained by the bottom person, with the top person or persons fairly stationary, but relaxed rather than rigid. In some cases, it is considered bad form (from a judging and scoring point of view) for the bottom person to have foot movement. On a high hand-to-hand stand, for example, the balance should be maintained by slight movements, or without movement, of the bottom person's hands and arms to perform the stunt in the best possible form for competition. Movement of the bottom person's feet to save balance might be considered poor execution or a form break (this is discussed more fully in the Appendix).

It should be noted that some balance positions are quite stable in some directions, very delicate in others. In such cases, efforts to maintain balance can be concentrated in directions where balance is least stable.

A larger base of support generally means that balance is easier and the difficulty rating for the stunt will be lower. A low hand-to-hand stand, with the bottom person on his or her back, is easier than a high hand-to-hand stand, with the bottom for supporting one person on shoulders is easier than one person supporting two people on shoulders in a similar manner.

A second type of balancing used extensively in sports acrobatics might be termed *balance in motion.* A press up into a handstand is an example of this. During the press up the center of gravity must remain over the base of support, and when correctly done, the person could halt all motion at any point during the press up and be in stationary balance.

Another example of balance in motion is doing a high hand-to-hand stand on two hands and then shifting to a one-arm balance. Balance must be maintained during the shifting, and in this case both performers are involved in the balance in motion.

## TEMPO OR TUMBLING

A different type of mechanics relates to what are called *tempo* or *tumbling* movements. When contact between performers is lost and one or more performers are in flight, the movements become quite distinct from stationary balance or balance in motion as described above. However, on stunts where contact is loosely maintained, it is sometimes difficult to place a stunt in a specific category.

Some stunts involved rolling or pivoting movements with some contact maintained between performers during part or all of the stunt. A second type involves free-flight of one or more performers. During the free flight, somersaulting and twisting actions may be performed.

These two types of stunts are covered separately below, but keep in mind that many stunts fall between the two types or have characteristics of both.

### Rolling and Pivoting Movements

A *front roll* is an example of a rolling stunt. The front handspring demonstrates pivoting action. Figure 3-4 shows a rolling type stunt done in sports acrobatics. The basic principle is to lose balance so that the body rolls over. Some pivoting action is

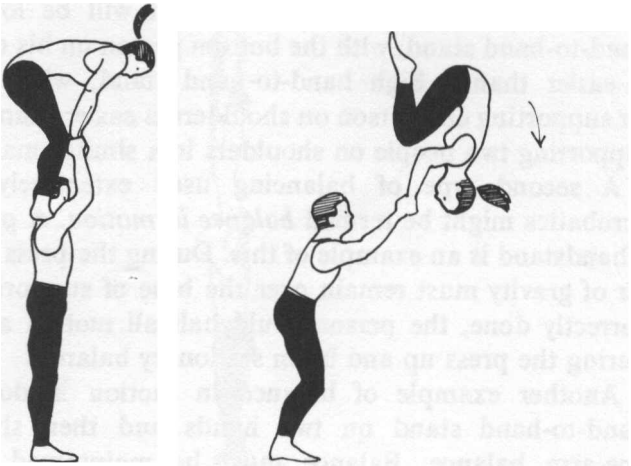


Fig. 3-4. Rolling stunt.

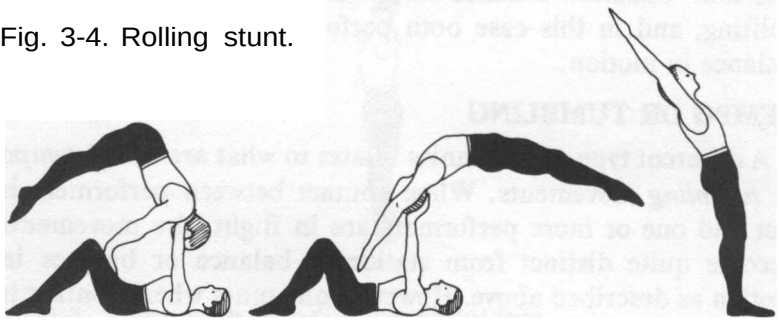


Fig. 3-5. Pivoting stunt.

also involved, and there may even be a time when the contact between performers is relaxed to the point where one person is in flight except for the ineffective contact between performers.

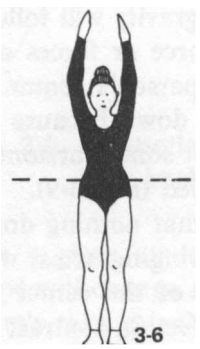
Figure 3-5 shows an example of a pivoting stunt. The top performer moves through a range of movement while being pivoted about the shoulders. There is some rolling action, too, and a short flight between loss of contact between partners and landing. The top performer lands in a standing, balanced position. Thus, while the main action is pivoting, a number of different mechanics are involved in this single stunt. Also, a number of stunts start with a balance position, then go into a rolling or pivoting movement, and vice versa.

Free Flight

If contact with the mat is lost by jumping or springing from it or a person is free in the air from a jump from or toss by another person or persons, he or she is said to be in *free flight.* This may be a simple flight, with little or no rotation, or it may involve rotations about one or more axes.

Somersaulting generally takes place on the transverse or lateral axis, as shown in Fig. 3-6. The direction of rotation can be either forward or backwards. Less frequently, the rotation is about the dorsoventral axis (Fig. 3-7), such as when doing a side somersault. It is also possible for the body to rotate on any axis between these, or with the axis at an angle.

When the body rotates on a vertical or long body axis, as shown in Fig. 3-8, it is called *twisting.* Twisting can be done with or without somersaulting.





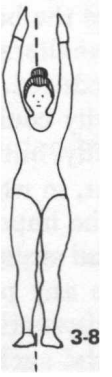



Fig. 3-6. Transverse or lateral axis for front and back somersaulting.

Fig. 3-7. Dorsoventral axis for side somersaulting.

Fig. 3-8. Vertical or long body axis for twisting.

Free flight is accomplished in several different ways in partner and group sports acrobatics. One way is for a person to jump or spring into the air from the mat from a standing position, a run, or from a tumbling build-up sequence. A second way is for a person to jump off a partner's shoulders,

with or without a somersault, with the bottom person not providing any help. A third method is for a person to toss or pitch another person.

Frequently, these methods are used in combination, such as a person jumping or springing from the ground or another person at the same time as being tossed or pitched, such as added spring being given to the top person by the bottom person on a jump or somersault from top person standing on bottom person's shoulders.

The fact that long flight times are possible by starting at higher levels (such as from a person's shoulders) and using both jumping and tossing, sometimes with two or three persons tossing one person, makes possible many spectacular somersaulting and twisting feats.

To effectively accomplish stunts involving free flight, it is important to understand a few of the basic mechanics involved. Once the body is in free flight, the center of gravity will follow an unalterable path as long as no outside force or forces are introduced. During a jump or somersault, a person's center of gravity could conceivably go straight up and down because of gravity, but almost always there will be at least some horizontal flight, in which case a parabolic path is followed (Fig. 3-9).

The important mechanic to understand is that nothing done in the air, such as changing body shape or swinging arms, will have any practical effect on the flight path of the center of gravity-air resistance has only a negligible effect (in contrast to sports such as sky diving, for example, when it is very significant). In other words, the desired flight path must be achieved before contact with mat or partner(s) is lost. Once in free flight, there is nothing that can be done to change it.

Somersaulting and twisting are rotations about the center of gravity. Once in free flight, the body has only a certain amount of somersaulting or twisting spin, called *angular momentum*, and there is nothing that can be done to get more or less of it while in free flight. Thus, not only must the desired flight path of the center of gravity be established before contact with mat or partner is lost, but also the amount of angular momentum.

Changes in body shape, however, do have a definite effect on how the given amount of angular momentum is used. And

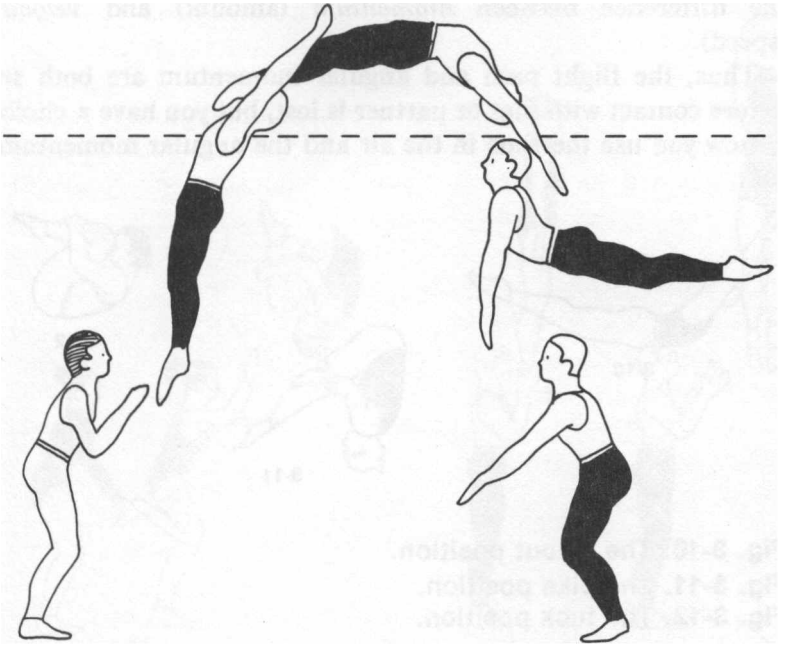


Fig. 3·9. Parabolic flight path of center of gravity during high toss back somersault.

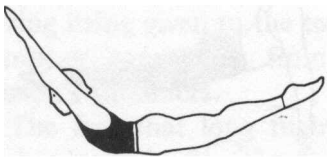
with a given amount of angular momentum, changing body shape will change *speed* of spin or rotation.

Let's take a look at three body positions commonly used in sports acrobatics, the *layout* (Fig. 3-10), the *pike* (Fig. 3-11), and the *tuck* (Fig. 3-12). If while somersaulting in each position, a person has the same amount of angular momentum, the speed of spin will be fastest in the tuck, next fastest in the pike, and slowest in the layout. This generally makes a tuck somersault easier to accomplish (or possible with less angular momentum). Thus, in competition the tuck position is generally given a lower difficulty rating than the same somersault done in a layout position.

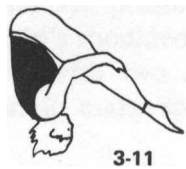
The angular momentum of the body is conserved. Thus, by shortening the radius of gyration, the spin or angular velocity must be speeded up. Lengthening the radius of gyration slows the spin or angular velocity. The main thing to understand is

the difference between *momentum* (amount) and *velocity* (speed).

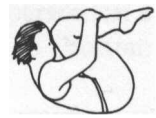
Thus, the flight path and angular momentum are both set before contact with mat or partner is lost, but you have a choice of how you use the time in the air and the angular momentum.



3-10



3-11



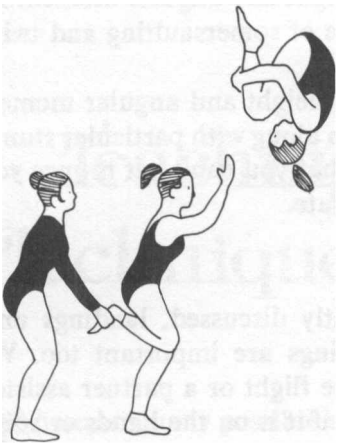
3-12

Fig. 3·10. The layout position.
Fig. 3·11. The pike position.
Fig. 3·12. The tuck position.

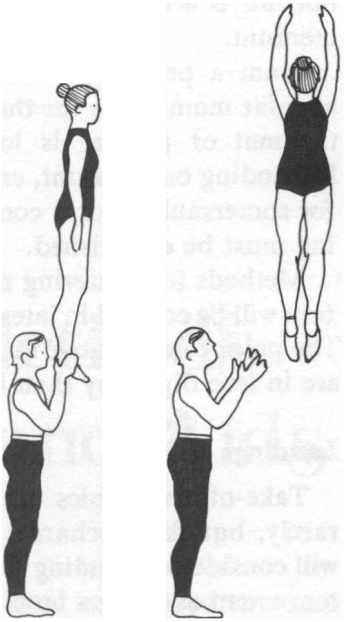
You cannot start angular momentum once in free flight, or change the amount. This means that if you jump or are tossed into free flight without any angular momentum or body rotation, you cannot start any. Thus, establishing angular momentum before contact with mat or partner is lost is extremely important in sports acrobatics. The idea that a good somersault begins straight up with no angular momentum and the somersault is started at the peak of the flight is not true in practice.

Figure 3-13 shows a method by which angular momentum for a somersault is established; figure 3-14 shows a way to establish twisting angular momentum. Both somersaulting and twisting angular momentum can be established at the same time.

Although opinions vary on the relationships between angular momentum of somersaulting and twisting, most research indicates that angular momentum can be transferred from one axis to another, but the same total amount remains. If a somersault is started without twist, and twisting is added in the air, the angular momentum on the somersaulting axis will be less, and thus part is transferred to the twisting axis.



3-13



3-14

Fig. 3-13. Establishing angular momentum for ankle toss front somersault.
Fig. 3-14. Establishing twisting angular momentum.

Because moving one part of the body in free flight in one direction causes an equal and opposite reaction in the opposite direction, a somersaulting body can be caused to tilt on the somersaulting axis. This will cause the somersaulting body to start twisting. Space does not permit discussion of the mechanics involved; the interested reader should consult a standard reference on mechanics.

Twisting by action-reaction is often described as a method of establishing total angular momentum while in free flight. Available evidence, however, indicates that angular momentum is transferred from a somersaulting axis, rather than total angular momentum being created per se, which would seem impossible without any available force, such as is the situation of the person in free flight. Action-reaction alone, without total angular momentum of somersaulting, allows some turning of the body,

but this is accomplished without establishing total angular momentum.

From a practical point of view, establishing the necessary angular momentum for the particular stunt before contact with the mat or partner is lost seems to be the key mechanic. Depending on the stunt, enough height and angular momentum for somersaulting or a combination of somersaulting and twisting must be established.

Methods for achieving necessary height and angular momentum will be covered in later chapters along with particular stunts. The point to remember for now is that you can't get it once you are in free flight; by then it is too late.

**Landings**

Take-off mechanics are frequently discussed, landings only rarely, but the mechanics of landings are important too. We will consider any ending from a free flight or a partner assisted movement as being a landing, even if it is on the hands or some other part of the body than the feet.

Feet-first landings from high positions and high flights generally involve absorbing some of the shock by bending the knee at landing, and even a distance of a foot or less is significant. The body fall is gradually slowed over a distance. Regular floor mats used in sports acrobatics and landing mats perform a similar function.

# 4

# Teaching Methods, Techniques, and Aids

There are many possible approaches to learning partner and group sports acrobatics. Since practice time represents an investment, you will want to use this time in the most effective manner.

## GETTING STARTED

Regardless of the level on which you eventually intend to pursue sports acrobatics, the first step is to learn the basic fundamentals. If your purpose is solely for fun and recreation, you may never go beyond the basic fundamentals; for competition you will probably want to go on to intermediate and advanced elements and routines. Regardless, the learning process begins with the basics.

As few as two people can get together and learn on their own, but it is generally better if there are more people. With more people, better spotting is generally possible. More people allows working with a variety of partners, which seems advantageous in the beginning stages, and work with more than two people, such as a women's trio or a men's fours. However, in the beginning stages, I suggest that you also do stunts with other numbers of performers and combinations of sexes, rather than just sticking to those used in competition.

While it is probably best to start under-the guidance of an experienced teacher or coach, this is not absolutely necessary, and with the present limited number of trained teachers and coaches of sports acrobatics, not always possible. Next best is a teacher or coach of related activities, such as tumbling or gymnastics, who wants to branch off into sports acrobatics. Experienced performers are also often helpful for working with novice performers. Probably least desirable, but still workable, is a group of interested people who want to learn to get together and start practicing. Simply follow the basic progression given in this book. However, I suggest that you progress more slowly than is generally possible with an experienced teacher or coach, and that you spend considerable time learning spotting techniques and that all members of the group learn to spot as well as perform.

Getting started seems to be the key. Once a sports acrobatics group is going, you are likely to draw in some experienced performers and perhaps even someone who will help out in the role of teacher or coach. In many communities there are people, such as former circus and stage performers and gymnasts, who are looking for an activity like sports acrobatics.

Because sports acrobatics is a relatively new sport, there aren't many classes and clubs available yet, but the number is growing. I suggest that you check around to see if there is anything available in your area. Sports acrobatics is being added to a growing number of school, recreation, YMCA, and community center programs. A few private schools now offer classes in this activity, often along with gymnastics, tumbling, and trampoline. A few colleges and universities now offer classes in sports acrobatics, and some even have demonstration and competitive teams. Others are adding sports acrobatics to their programs.

But again, if nothing is presently available in your area, you can get started anyway. Essentially, all you need is a place to practice, a floor mat, and helpful but not absolutely essential, landing mats and spotting equipment.

Once a group is going, everything else usually falls into place. A club or team can be formed, and new members added. Other people will see you practicing and want to join the group. Once

you reach the stage where you can give exhibitions and demonstrations, and you don't have to be very advanced to do this successfully, you will have an ideal method for interesting others.

## WORKOUTS

Workouts for beginners follow the same general format for a group of people working out on their own and for class situations with a teacher or coach. Workouts for intermediate and advanced competitors, although frequently more individualized, generally follow a similar format.

The basic format is: (1) warmup, (2) body of workout, (3) special exercises, and (4) tapering down at the conclusion of the session.

With appropriate modifications, this format is suitable for individuals, classes, and practice sessions for exhibition and competitive teams.

### Warmup

The basic purpose of this part of the workout is to warm up gradually so that muscles have time to stretch and loosen gradually to prepare for the greater tension and strain that will follow during the body of the workout. (The purpose here is not to build 'endurance which comes later during the special exercises, but to loosen up gradually.)

Wear a sweatshirt and sweat pants over your practice and competitive uniforms for warming up.

- Begin with walking and jogging with arm swinging. The arm swinging is done in a variety of directions to involve a number of different muscle groups. The intensity gradually increases to bring the body's circulation to a higher level.
- Next, do jumping exercises, such as side-straddle-hops, and support and strength movements, such as squat thrusts.
- This is followed by a series of flexibility exercises: backbend, standing and sitting toe-touching with legs together and straddled, trunk twisting movements, and even toe-pointing.
- Finally, use easy individual and partner sports acrobatics elements, gradually moving into the body of the workout.

**Body of Workout**

This is the main part of the practice session, a time spent perfecting previously learned elements and routines and learning new ones. Instructions for learning and perfecting elements and routines are given in following chapters, and these should make up the body of each workout session, with selection of specific material to be included depending on condition and skill level of the participants.

**Special Exercises**

Immediately following the body of most workout sessions, include special exercises for improving flexibility, strength, and endurance. An alternate method, favored by some teachers and coaches, is to do the special exercises at workouts completely separate from the regular sports acrobatics training. However, if the total amount of workout time is limited, as is usually the case, it is much more economical to include the special exercises in the regular practice sessions.

Bottom performers, especially men but also some world-class women performers, frequently do weight training to develop strength. Many middle and top performers also use weight training, especially to strengthen muscles used for pressing up to handstands and other stunts. A weight training manual should be consulted for methods and exercises to fit your particular needs. Opinions against women using weight training seem to be changing somewhat, and more and more women athletes seem to be including this in their training programs.

If weight training is done, it should be done in workout sessions separate from the regular practice times.

Most all sports acrobatics performers do at least some strength and support exercises, and these can be done during the special exercise sessions. Typical are situps, pushups, handstand pushups (frequently with feet against a wall), chinups, and dips (on parallel bars). To a certain extent, these exercises can also be used to improve short-term endurance with fast and intense work.

Working on routines in practice is generally a sort of endurance workout in itself, at least up to the time limits of the routines performed. However, I like to supplement this with additional endurance exercises, especially jogging and running.

This can be alternated with fast walking with arm-swinging movements.

### Tapering Down

The final part of the workout consists of exercises of gradually decreasing intensity, sort of a reverse of warming up. The purpose is to cool down slowly rather than stop abruptly immediately following hard exercise.

It could be argued, of course, that this is not really necessary. Although research is somewhat vague, there is at least some evidence that tapering down, like warming up, is beneficial. Tapering down also brings a workout to a close at a set time.

While the specific exercises used can vary, running, jogging, and walking with arm swinging is usually used. The main thing is to use exercises that gradually decrease in intensity.

The tapering down period need not be long. Five to ten minutes is about right. With any shorter period it is difficult to have any real effect. Any longer and it can get boring.

## ORGANIZING WORKOUTS

Whether you learn on your own with one or more other performers, or with help of a teacher or coach, the practice sessions need to be organized if maximum results are to be achieved in a reasonable time. Just working on the stunts you feel like doing when you feel like doing them does not result in economical use of time and thus is generally not suitable for anything beyond the fun and recreational level. If you learn without a teacher or coach, you should still plan your practice sessions using the basic workout plan given above.

### Classes

For class situations, especially for beginners, it is best to have enough mat space so that everyone can practice at the same time. This can be a large single mat, or a number of smaller ones that can be placed together or arranged separately with space between mats. Quick demonstrations can be given from a location in front, but generally these should be kept short and to the point. The most successful teachers keep everyone actively participating rather than standing around waiting for turns or listening to long and involved lectures.

To use the class time to the best possible advantage use the basic workout plan given above. It leaves much room for creativity on the part of the teacher, and the skilled teacher will be able to keep the classes fun, interesting, challenging, and safe.

Two or three one-to-two hour class sessions a week are about right for most beginners, but even less class time each week will work as long as the classes are organized for maximum participation. A typical one-and-a-half hour class might include 20 minutes of warmup, SO minutes for the body of the workout, 10 minutes for special exercises, and 10 minutes for tapering down. Many physical education programs have shorter class periods than this, in which case the time spent on the individual parts of the class session can be reduced accordingly, increasing the amount and intensity of the participation if possible.

**Coaching Situations**

The line between teaching and coaching is, of course, difficult to draw. For our purposes here, coaching is specifically for training a team for exhibitions, demonstrations, or competitions. In general, coaching involves organizing training sessions, motivating, teaching mechanics, spotting (covered later in this chapter), and a number of other factors not easy to identify. The ideal coach would have a high level of skill in doing all of these things, but in practice, most coaches are strong in some areas, weaker in others.

Although most practice sessions follow the basic workout plan given in this chapter, there are many variations, probably almost as many as there are coaches. Because it is almost impossible to determine the one best training method (if such a thing exists), the trend is usually to copy the methods used by the most successful coaches, at least to the extent that these methods can be identified and used by others. Of course, some of the top coaches keep their methods secret. And it seems to me that the success of many coaches is due to their personalities rather than anything unique about their methods.

Training for competition requires special considerations: the highest levels of performance must be achieved for competitions, and generally some competitions are considered to be

more important than others. To complicate the matter, high level competitions often have, in addition to regular routines (called "optional" exercises), "compulsory" exercises, and time must be spent perfecting these.

Motivation, either from yourself or by a coach, is extremely important. A coach who is a good motivator can often take a performer who has good potential to the championship level. To reach a high level of competitive excellence generally takes hundreds of practice hours over a period of years, and a performer will need intense motivation to do this.

There is a danger of too much motivation in certain situations, especially if a person does not have outstanding potential, something that is difficult to determine. Driving a performer too near his or her maximum potential for too long a period of time sometimes results in body damage or injury, not to mention psychological frustrations.

Another important coaching technique is being able to teach mechanics. A coach should have a thorough knowledge of how individual elements and exercises are performed, including the techniques and mechanics. Most important, however, is being able to impart this information to the performers. This does not mean, however, that the coach needs to be able to perform the skills, or for that matter, ever could. The fact is that many successful coaches never were competitors in this activity. Some outstanding coaches did not even become interested in sports acrobatics until past the age when it was practical for them to learn the skills themselves. On the other hand, many champion competitors go on to become great coaches. The point is, being able to understand technique and mechanics and impart this information to the students that is most important, rather than being able to perform.

It is my feeling that the most important aspect of sports acrobatics is the creative element. The sports acrobatics arena, the floor mat and the area above, can be thought of as a playground or stage. Within this area, within the confines of rules and so on, is much room for creativity, a world where the limits are not really known, and it seems to me that this is really what sports acrobatics is all about-the artistic aspect.

## USE OF TRAINING AIDS AND SPOTrING METHODS

Performers, teachers, and coaches all need to know how to use training aids and how to spot for effective learning and safety.

### Use of Landing and Training Mat

Landing and training mats are valuable aids to learning sports acrobatics. Safe landings can be made on parts of the body other than the feet, and ankles and feet are largely protected from injury from poor landings. This makes the mat useful for many learning and training situations.

For example, a landing mat about thirty centimeters thick can be used for learning a front somersault by first doing easy somersaults over to a back landing, then gradually working up to the point where the stunt can be done feet-to-feet.

A word of caution, however. A training mat should not be thought of as a device that will enable you to "try anything". It is still possible to injure yourself, so use the training mat with discretion.

The landing mat is extremely useful for jumping down from high places and landing from high places. Using the mat will greatly reduce the stress placed on the performers, and will allow more repetitions during each practice session.

In addition to being useful for many learning and training situations, landing mats are allowed in competition, and most world-class competitors are presently using them, especially for dismounting from high pyramids and landing from high tosses. (The use and placement of landing and training mats for specific stunts will be covered along with the stunts in later chapters.)

### Hand Spotting

Hand spotting can be used for learning many new stunts and performing particularly difficult ones. Hand spotting is giving assistance and protecting a performer from injury by hand. One or more spotters can be used. It can be used in a number of ways:

• *Catching a performer who does or starts a stunt improperly.* This technique, however, is often easier said than done, and

generally the spotter must be at a considerable strength and weight advantage over the performer and have great speed of movement to do this effectively.

• *Slowing the fall of the performer.* This method is perhaps more practical in most spotting situations, especially when used in combination with a landing or training mat. One or more spotters can carry a performer through the motions of a stunt. This might be called "overspotting," and is sometimes used when a new movement is first attempted.

• *Assisting the performer.* In this way, the stunt can be safely performed, yet the performer will still get the feel of doing as much as possible of the stunt on his or her own.

In actual practice, most spotting involves combinations of the above techniques, and specific stunts often involve specific spotting techniques. Spotting is often considered an art, and many teachers and coaches have their own ideas about the best method. In any case, effective spotting is an aid to both learning and safety.

For group stunts, a separate spotter is frequently used for each performer, or all performers except for the bottom person on some stunts. In some cases, the performers themselves can serve as spotters, and this technique is used during competitive routines when no spotters other than the performers themselves are allowed.

Although it is obvious that teachers and coaches of sports acrobatics should be skilled spotters, it is certainly also a good idea for performers also to learn to spot, and that this training should begin early in the learning process, right along with the basic fundamentals. This will allow performers to alternate easier spotting tasks while teachers and coaches concentrate their efforts on more difficult spotting.

In any case, spotting is a skill that takes practice to learn. Skilled spotters are always in demand. The main method used for learning to spot seems to be to start with easy stunts that require little or no spotting and then gradually work up to more difficult ones. In the early stages of learning to spot, you should give slightly more assistance than is actually needed. The one thing you don't want to do is drop a performer; they may lose confidence in you.

## Overhead Mechanic

Although the ropes attached to a spotting belt can be held by two spotters, there is not very much use for this technique in sports acrobatics. Much better is the overhead mechanic (see Chapter 2). The overhead mechanic gives the spotter mechanical advantage and control over the performer; it is an essential piece of equipment, at least beyond the basic level.

The spotter must control the slack in the ropes so that spotting can be applied asrequired, This often requires taking up and letting out rope very rapidly, which takes practice to do well. The great advantage of the overhead mechanic over other spotting methods, such as spotting by hand, is that the performer can be allowed to do the stunt without assistance, that is, with slight slack in the ropes, but assistance can still be given, that is, the spotter can intervene if necessary at any point during the stunt.

A regular nontwisting belt will serve for most basic and intermediate partner and group sports acrobatics work. A twisting belt of the type without heavy metal rings (see Chapter 2) is useful, and perhaps essential, for many advanced stunts, especially somersaults with twists.

When first learning to spot with the overhead mechanic, I suggest that you give more assistance to the performer than is actually needed. The main skill to master is keeping most of the slack out of the ropes so that heavy spotting can be applied quickly if needed.

Methods for using the overhead mechanic on specific stunts are covered in later chapters.

# 5

# Individual Fundamentals

Because this is a book about partner and group sports acrobatics, it may seem unusual to begin instruction with individual stunts. The reason is that fundamental movements and balance positions are easier and safer to learn alone before trying similar movements with one or more partners. Also, individual elements are often used in partner and group routines as lead-ins to partner and group elements.

A number of individual balancing and tumbling or tempo stunts form the basics of partner and group sports acrobatics. Learning as many of these stunts as possible will be helpful for all sports acrobatics performers, and especially for those who will be primarily top or middle persons (those who will be doing handstands and somersaults). However, it should be pointed out that in top-level competition, bottom persons or understanders frequently do advanced individual stunts during partner and group exercises.

It is necessary to learn only a few individual stunts before starting partner work. Thus, beginners should start both the individual balancing and tumbling or tempo progressions in this chapter; then after learning a few stunts in each of these categories go on to both the progressions for pairs balancing (Chapter 6) and pairs tumbling and tempo (Chapter 1). Thus, after a few individual stunts have been learned, the beginner

will be working on four different progressions during each workout session.

Many of the individual stunts included in this chapter are used directly in partner and group work. In most cases I have found it easiest and safest to learn the individual stunts alone first, even though related partner or group stunts may be easier. For example, a foot toss back somersault, a partner stunt, may be easier to perform than an individual standing back somersault, but it is generally safest to learn the standing back somersault first. The same principle applies to the handstand, as compared to a partner hand-to-hand, and so on.

Even though the stunts in this chapter are individual stunts, you will need at least one other person to serve as a spotter. The spotter can be another person who is learning sports acrobatics too, trading off the spotting and performing roles. This arrangement of working in pairs for learning individual stunts is ideal for class situations.

All of the skills in this chapter should be learned on suitable mats.

## BALANCING

### Squat Head Balance

The base is a three-point triangle with the fingers pointed forward and the hands flat on the mat. Legs are positioned on upper arms, with the knees outside the arms. Slowly bring toes off mat and hold balance position on head and hands, as shown in Fig. 5-1. Toes should be pointed. Try to hold balance position for about five or six seconds. To come down, slowly lower toes to mat and rock back until weight is on feet.

On this and other balancing stunts, it is important to keep in mind that going into the balance position (mounting) and coming out of it (dismounting) are part of the stunt and should be done smoothly and with the best form possible.

The squat head balance is relatively easy because the center of gravity is low and the base of support is fairly large. A common difficulty is not forming a large three-point base. With hands in line with or nearly in line with the head, holding balance becomes much more difficult.

Squat Hand Balance

Begin with squat head balance, as described above. Then slowly rock back and bring head off mat. Hold balance on hands with head off mat, as shown in Fig. 5-2. Toes should be pointed. The point should be stressed right from the beginning that *whatever is done-good form or bad-is likely to become habit.*

Fig. 5-1. Squat head balance.

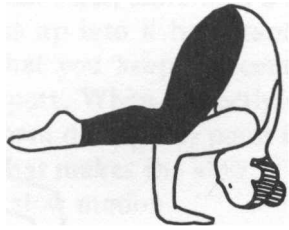


Fig. 5-2. Squat hand balance.

To dismount, slowly rock back to feet with control.

Another method of going into the squat hand balance is to assume a squat position with legs outside arms. Then simply rock forward and lift feet off mat. Hold squat hand balance.

Try to hold the balance position for about five or six seconds. This is generally more difficult than the squat head balance because the base of support is smaller, the center of gravity is higher, and it takes more strength to support the body on the arms alone.

Headstand

*Use a spotter.* A large three-point base is important. Fingers should point forward and hands should be flat on mat. Kick up to headstand position and have spotter catch feet. Straighten or slightly arch body (no pike or tuck) and point toes, as shown in Fig. 5-3. Good form is important, and it should be practiced right from the start so that it will become habit. It should be noted that "good" form refers to what is considered good form in competition. In some cases it may be easier to perform a

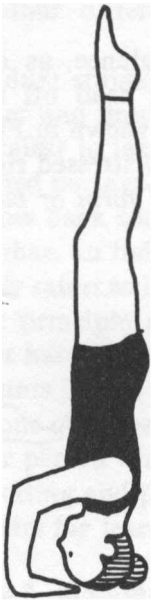


**Fig.** 5-3. The headstand.

stunt with bad form, but this should be avoided as it can become habit and will be difficult to correct later.

After holding balance for five or six seconds with the spotter holding your ankles to keep you from overbalancing, return feet to mat, one before the other in the same manner as kicking up.

Continue practicing until you can hold a headstand consistently for five or six seconds without spotter's help, but with spotter standing by to prevent overbalancing.

After learning the front roll (covered later in this chapter), you can do a front roll from the headstand if you overbalance, and you will no longer need a spotter.

Maintaining balance on the regular headstand is generally mechanically more difficult than on the squat head balance, even though both stunts have the same base of support, because the center of gravity is higher on the regular headstand.

Kicking up to a headstand is usually the easiest method of going into the stunt. A number of more difficult methods follow. Continue as far as possible in this progression at this

time. Then skip to the next progression and return to the rest of the headstand progression later.

Next, learn a tuck jump with feet and knees together into a headstand. When you can do this with control, try the same thing using less and less jumping action. To do this, you will need to get your hips, and thus your center of gravity, well forward over your head.

The next skill is an actual pressup or slow, nonkicking or nonjumping action into the headstand. First, start with a squat head balance, then slowly tuck press up into a headstand. To do this, rock the hips forward so that you keep the center of gravity directly over the base of support. When correctly done, you should be able to stop all movement during any point in the pressup and be in balance. This is what makes the slow pressup action possible, sort of a balance in slow motion.

Slightly more difficult is a tuck pressup into a headstand. The knees and feet are together. Bring the toes slowly off the mat by moving hips overhead, and move slowly, smoothly, into the headstand. A common difficulty is not getting the hips far enough overhead. To move slowly and with control, the body's center of gravity must be kept near the center of the base of support.

More difficult is a straddle pressup into a headstand. The importance of doing straddle flexibility exercises and having good straddle flexibility will become apparent on this stunt. On the ftrst attempts, use a slight jumping action from the straddle position with hands and head in headstand position. Continue practice until the pressup can be doneby bringing the toes slowly off the mat. The main mechanic to keep in mind is that the hips must be forward overhead far enough to keep the center of gravity over the base of support during the entire pressup, including the time when the straddle-pike is extended into a straddle-arch position. The legs are then brought together into a regular headstand.

Note that pressups are essentially battles to control the location of the body's center of gravity in relation to the base of support. Of course, it takes a certain amount of strength and flexibility, and often one of these qualities can make up for weakness in the other. Of course, if the straddle pressup to a

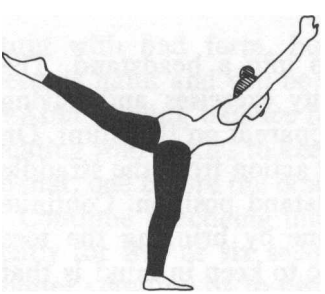
headstand comes very easy for you, emphasizing the mechanics may seem unimportant at this point. But they will become important on more difficult stunts that follow.

Still more difficult is a pike or straight-leg, bent-hip pressup into a headstand. This is similar to the straddle pressup, except the legs and feet are together. Good hip flexibility is even more important with the legs together. Remember that form counts all during the pressup, so keep the legs straight and together and the toes pointed throughout.

The three main pressups, the tuck, the straddle, and the pike, are used for going into a number of different balance positions and are frequently used in partner and group sports acrobatics.

### Standing Balance Positions on One Foot

Figures 5-4 to 5-6 show balance positions on one foot. These are usually only used by women in sports acrobatics competition. Some of these, such as the arabesque with foot touching head, require considerable flexibility. When practicing these



5-4

5-5

5-6

Fig. 5-4. Regular arabesque.
Fig. 5-5. Arabesque with foot touching head.
Fig. 5-6. One-foot stand.

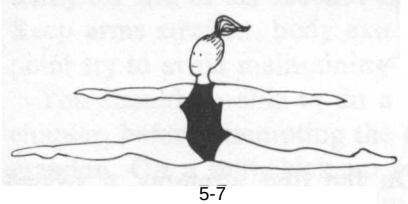
skills, try to make a smooth transition from a stand on two feet to the balance position, then again back to two feet after holding the balance position for about five or six seconds.

These balance positions are sometimes called *scales* and

*poises,* and in some cases the flexibility element is equally or more important than balance.

SpHts

Splits are commonly used only by women in sports acrobatics competition. The two main types are *regular* (Fig. 5-7) and *straddle* (Fig. 5-8). Flexibility is generally the most important element; maintaining balance is fairly easy. Flexibility exercises for learning splits should be started early in the learning progression by girls and women who desire to learn these skills.



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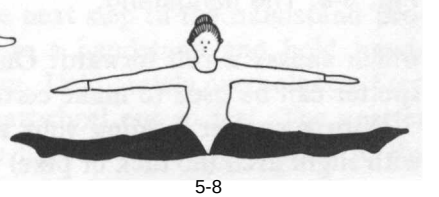


5-8

Fig. 5-7. Regular splits.
Fig. 5-8. Straddle splits.

Some girls and women seem to have natural flexibility and these stunts can be learned quickly; others find them much more difficult or, especially in the case of straddle splits, even impossible.

Handstands

This is probably the most frequently used balance element in partner and group sports acrobatics, and a number of even more difficult stunts are variations of the regular handstand. Thus, the handstand is an extremely important basic fundamental to learn for use in partner and group sports acrobatics.

Begin by using a spotter to catch the ankles. Kick up into a handstand position. The correct body position for the handstand is shown in Fig. 5-9. Arms should be kept straight and head up (looking forward). A common mistake is to duck head,

Fig. 5-9. The handstand.

which causes a roll forward. On the ftrst attempts, a second spotter can be used to make certain that this does not happen.

With a spotter holding your ankles, extend into a position with slight arch (no tuck or pike) with legs straight and together and toes pointed. Arms should be fully extended. Try to extend the toes, and thus the whole body, as high as possible toward the ceiling. Too much arch is generally considered undesirable on a regular handstand, although slightly more arch seems to be acceptable in women's competition than men's.

When coming back down, return to mat one foot at a time. Remember that going into and coming out of the handstand counts as part of the stunt and good form should be maintained. Continue practicing with the spotter until you can kick right up into a good handstand position.

Next, place a mat adjacent to a wall. Place hands about shoulder-width from the wall. (It will take a little experimenting to get the distance that is right for you.) Then, using two spotters, one on each side positioned at the knees, kick up to a handstand. Keep your head up looking forward at wall. Do not duck your head or roll forward toward wall. Keep your arms extended or "locked out." Hold the handstand with feet against the wall. Hold for five or six seconds, then come down one foot at a time.

Continue practice on this until the handstand can be held

with feet against the wall without spotters. When you can kick up, hold, and come back down alone, then try to hold a handstand with feet slightly away from the wall. To do this, hold the handstand with feet against wall. Then bring one foot slightly away from the wall. Next bring second foot away from wall and place it beside first foot. Try to hold balance. If balance is lost over (feet moving toward wall), return feet to wall. If balance is lost under (toward direction you kicked up), come down to the mat one foot at a time.

Continue practice on this until balance can be held consistently for five or six seconds with the feet away from the wall. Keep arms straight, body extended, and toes pointed. At this point try to avoid maintaining balance by bending arms.

You should be able to do a *cartwheel*, covered later in this chapter, before attempting the next step in the handstand progression. On a mat, kick up to a handstand and hold handstand with the help of a spotter. Deliberately overbalance. Step forward with one hand and cartwheel out to feet. The spotter should assist by holding your hips and moving around to the side as you cartwheel.

This is the basic recovery from overbalancing a handstand; it is used extensively in learning partner and group sports acrobatics. Continue practice on this recovery until you can do it with control without a spotter. The action should become automatic so that you can do it when overbalancing accidentally without having to think about it.

Make certain that you are landing on your feet only every time you land from the cartwheel out. When you are able to do this, you are ready to try to hold a handstand position in the open without a spotter. Kick up to a handstand and try to hold your balance. Remember to extend body and use good form, with legs extended and toes pointed. If you underbalance, come back down onto one foot. If you overbalance, cartwheel out to your feet.

When overbalancing, it is also possible to save balance by walking forward on hands, but this method may develop bad habits. Most partner and group stunts will not allow movement of your hands (walking). Try to hold the handstand with your hands stationary. Subtle balance corrections are still possible by

finger and hand pressure and changes in the amount of body extension. Underbalance can also be saved by bending arms, but I suggest that this not be done, as it can quickly develop into an undesirable habit. Bending arms to maintain balance on a handstand is generally considered a form break in competition.

After learning to hold a handstand fairly consistently in the open without a spotter, try tuck jumping from both feet into a handstand. Gradually use less and less jump, but still make it up to a good handstand and hold balance for five or six seconds with good form. You can also try coming back down as slowly as possible to both feet, instead of one at a time, as was done previously.

Pressing up into handstands is important for many stunts used in acrobatics. First try a squat hand balance and press up into a handstand from there. Your arms will be bent and straighten just as you reach the handstand position. Have a spotter assist you by your hips on the first attempts.

The main mechanic to learn is getting your center of gravity far enough over your head by moving hips forward so that center of gravity remains directly over base of support (your hands).

When you can do a pressup from a squat hand balance without assistance from a spotter, try to do a tuck pressup, as shown in Fig. 5-10. Assume squat tuck position with knees and feet

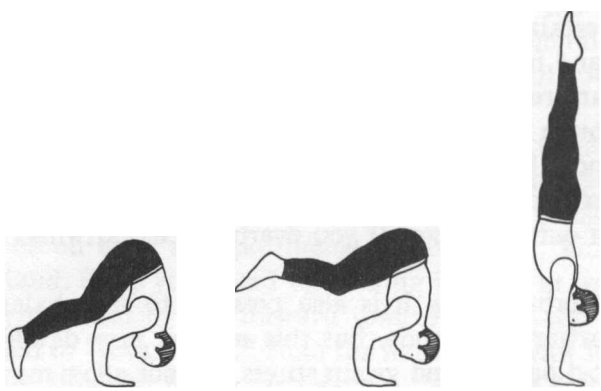


Fig. 5·10. Tuck pressup with bent arms to handstand.

together between arms. Use bent arms. At first, jump slightly from feet at the start. Continue practice until you can begin by slowly lifting toes off mat. When done correctly, action should be done slowly and smoothly.

At this point in the progression you might want to try handstands on a rolled up mat or on the end of low parallel bars or pedestals. If you do, *always have a mat underneath.* If you overbalance, do a quarter tum out, similar to the cartwheel stepout done previously, except this time you will not be able to step forward with one hand.

It should be mentioned that there is another method of recovery from overbalancing a handstand, a front roll out, but this is not very useful for most partner and group sports acrobatics, as it cannot be done from high places, or at least this is usually impractical.

The above balancing skills will enable you to perform many basic partner and group sports acrobatics balancing elements. If you haven't started on partner work yet, as detailed in later chapters, do so now and then come back to the more advanced individual balance stunts covered below as you go along. From this point onward the balancing stunts become much more difficult, and it usually takes considerable time to learn these.

The bent-arm tuck pressup is the basic one, but other more difficult pressups are frequently used in partner and group sports acrobatics. The following are arranged in approximate order of difficulty.

**ADVANCED BALANCE STUNTS**

The straddle pressup with bent arms is usually the easiest of advanced balance stunts. The sequence is shown in Fig. 5-11. Assume straddle position with hands positioned on mat. Rise up on your toes and slowly lift them off the mat by moving hips forward. It is important to move into an even deeper pike position, rather than straightening out the body at the hips. Continue slow and smooth action up to a straddle handstand position. Arms straighten just as this position is reached. Bring legs together and hold handstand for five or six seconds.

Good form should be maintained throughout, and not just while you are holding the handstand. A common mistake is to

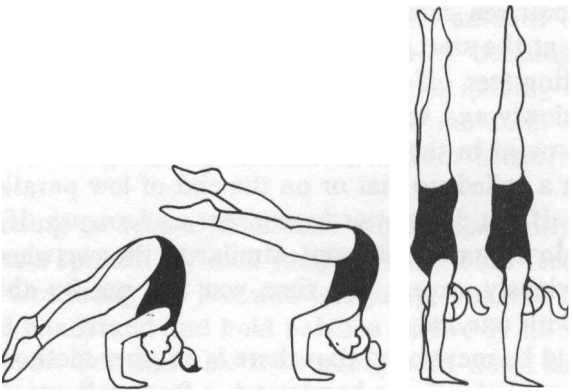


Fig. 5-11. Straddle pressup with bent arms to handstand.

bend the legs or not to keep the toes pointed during the press-up. Bent legs can make the pressup easier, but this is considered a form break in competition.

Also try a slow straddle back down to feet. Starting from a regular handstand, straddle legs, then slowly pike back down to feet. See if you can pause and hold balance with your toes about an inch off the mat. Also, see if you can reverse directions and press back up without touching toes to floor.

Next in the progression is a tuck pressup with straight arms. This increases the difficulty over using bent arms. Arms should be locked out straight. Hips must move well forward overhead at start to get the center of gravity over the base of support. This pressup, like most pressups, involves both flexibility and strength, and a large amount of one of these factors can often make up for a lesser amount of the other. Women frequently use a large element of flexibility; men, a large element of strength.

A variation is to tuck press back down to feet with straight arms. Also try to come back down until feet are about an inch from touching mat, then press back up to handstand again.

A straddle pressup to a handstand with straight arms is next. This stunt is often called a "straight-arm, straight-leg, straddle pressup." This increases the difficulty (as compared to bent arms), because more flexibility is generally required. It takes good flexibility of hips to get center of gravity over base of

support to bring feet off mat without jumping. A spotter assisting you by holding your hips is often helpful for learning.

Even more difficult are straight-leg pressups with the feet together. First, try a straight-leg, bent-hip, bent-arm pressup to a handstand. Legs together, as compared to straddled, make it more difficult to get hips over far enough to have center of gravity over base of support.

Next, try a straight-leg, bent-hip, straight-arm pressup to a handstand, as shown in Fig. 5-12. The straight arms obviously add to the difficulty.

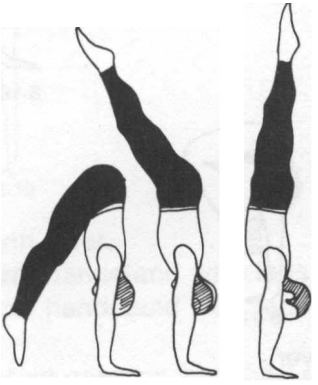
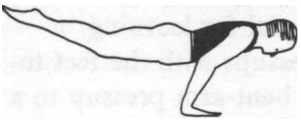


**Fig.** 5·12. Straight-leg, bent-hlp, straight-arm pressup to handstand.

## OTHER HANDSTAND POSmONS

In addition to the regular handstand, a number of other positions are used, some fairly easy, some extremely difficult. Figure 5-13 shows a bent-arm lever, which is fairly elementary. Doing a straight-body pressup from the bent-arm lever, however, is fairly difficult. Handstand splits, used mainly by women, are shown in Fig. 5-14. Fig. 5-15 shows the stag position, again used mainly by women. A horizontal handstand or *planche,* used mainly by men, is shown in Fig. 5-16. Women often do flexibility positions during handstands, such as touching feet to head, as shown in Fig. 5-17.

The above are the main balance positions done on two hands that are used in partner and group sports acrobatics, but again it should be pointed out that they are not the only ones.



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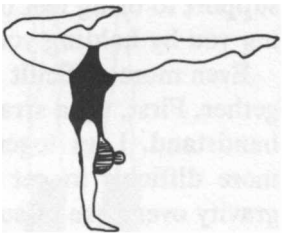

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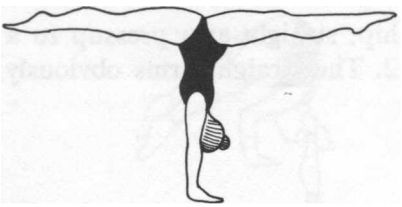

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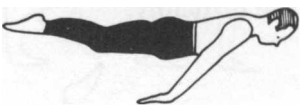

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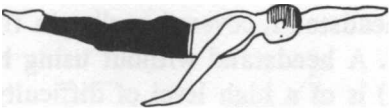
5-17

Fig. 5·13. Bent-arm lever.
Fig. 5·14. Handstand with splits.
Fig. 5·15. Handstand with stag position.
Fig. 5·16. Horizontal handstand or planche.
Fig. 5·17. Handstand with deep arch and feet touching head.

## One-Arm Stands

Because the base of support is very small, balancing on one hand is generally much more difficult than similar balance position on two hands. The one-arm lever (Fig. 5-18) is one of the easier one-arm stands because the elbow rests against the body and the center of gravity is quite low.

A one-arm handstand can be held with legs straddled (Fig. 5-19) or together (Fig. 5-20). Most performers feel that balance is easier with the legs straddled, so in the early learning stages you should start with the legs straddled. Begin in a regular handstand. Straddle legs. Rock legs over one arm, usually right arm for right-handed performers, and shift weight to the one arm. With only fingers of the other hand in contact with mat,



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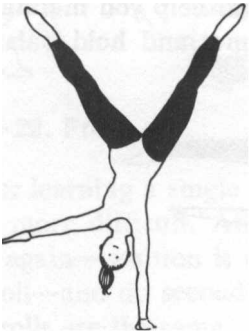

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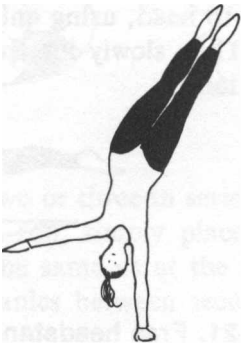


5-20

Fig. 5·18. One-arm lever.
Fig. 5·19. One-arm handstand with legs straddled.
Fig. 5·20. One-arm handstand with legs together.

find balance point on one arm and then slowly lift fingers from mat and extend free arm outward. Try to hold balance position on one arm for five or six seconds.

Most likely this won't be possible on the first try, so try again. Then again. Eventually, you will be able to hold the balance position for a time. Continue to practice until you hold the balance consistently. When consistency is achieved you may not even know what you are doing differently than when you couldn't hold your balance. It is that sort of stunt. Once you learn it, however, you won't find too many others who can duplicate your skill, so this stunt is well worth the time and effort it takes to master it.

The one-arm handstand, although quite difficult, is a fairly safe stunt. On some stunts covered later, the primary difficulty is the risk, or a combination of risk and skill.

Even more difficult is a one-arm planche. One-arm pressups to one-arm handstands and even one-arm planches are used by a few top sports acrobatics performers, usually men.

### Free Headstand

The regular headstand, covered earlier in this chapter, is an elementary skill. A headstand without using hands (free headstand, Fig. 5-21) is of a high level of difficulty. A possible approach to learning this stunt is to do a regular headstand, shift weight to head, using only fingertips to help you maintain balance. Then slowly lift fingers from mat and hold balance on head alone.

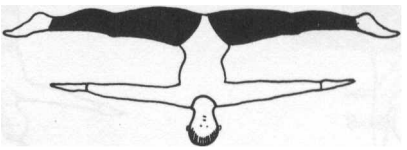


Fig. 5-21. Free headstand.

## TUMBLING OR TEMPO

Tumbling is a very broad subject; only a few of the individual stunts will be discussed here. However, because tumbling plays a large role in partner and group sports acrobatics, both as individual sequences between partner and group stunts and as basic elements in partner and group work, such as tossing a performer into a somersault, as much individual tumbling as possible should be learned by anyone who intends to compete in sports acrobatics competition. A suggested reference is this author's *The Tumbling Book* (David McKay Company, Inc., 1978).

*The stunts that follow should be learned on mats unless otherwise noted.*

### Front RoD

The sequence is shown in Fig. 5-22. Begin in a squat position with feet and knees together and hands flat on mat shoulder-width apart. Fingers point forward. Roll forward and lower body with arms slowly to mat. As you roll on back, move hands from mat to tuck position with hands on knees. Roll up to feet. Good form (pointed toes and knees together) should be practiced right from the start.

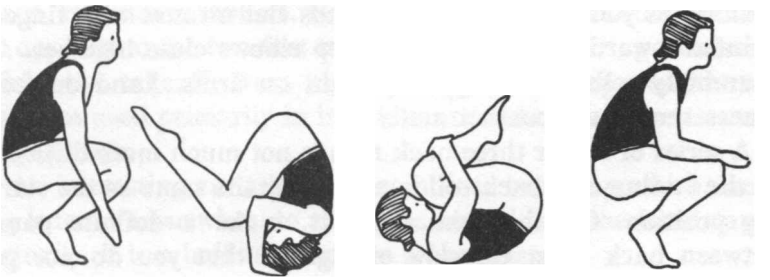


Fig. 5-22. Front roll.

After learning a single front roll, two or three in series is not much more difficult. After the first roll, simply place hands down again-position is essentially the same as at the start of first roll-and do second roll. Mechanics between second and third rolls are the same.

A walking and running approach can also be used, only a slow walk should be used at this stage of the progression, and this only after a front roll from a squat position can be done well. Walk slowly forward, hurdle and land on both feet, pause, assume squat starting position for front roll, and do front roll. Gradually eliminate pause and make action into roll all one smooth action.

Over a number of practice sessions, gradually add a diving action, but don't get carried away. Good form and control are more important than seeing how high you can go or how much distance you can cover.

Back Roll

Assume squat position with feet and legs together and hands on mat in front of you, as shown in Fig. 5-23. Maintain a tuck

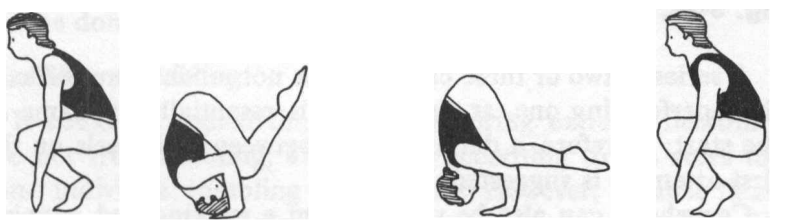


Fig. 5-23. Back roll.

position as you roll back. Place hands flat on mat with fingers pointed toward your shoulders. Keep elbows close together. As your body rolls over, support weight on arms. Land on feet. Knees should not contact mat.

A series of two or three back rolls is not much more difficult, as the ending of a back roll is essentially the same as the starting position. On the first attempts, make a definite pause between back rolls. Go slow enough so that you do not get mixed up in the mechanics and can maintain good form and control.

Cartwheel

The cartwheel can be done facing either side. Some performers learn both directions, others concentrate on the direction that feels most natural. Begin by doing a cartwheel action, only stepping around the side. When correctly done, you should end facing the same side as at the start. Gradually bring legs more and more overhead until you are doing a regular cartwheel, as shown in Fig. 5-24. Work on good form, with legs extended and toes pointed. Action of hands and feet should follow an even one, two, three, four pattern like the spokes of a cart wheel.

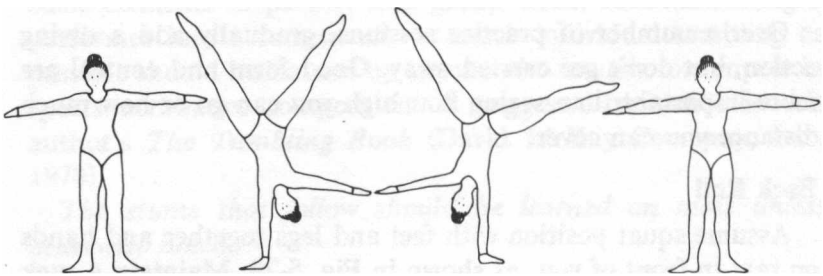


Fig. 5-24. Cartwheel.

A series of two or three cartwheels is not much more difficult than performing one, as the ending is essentially the same as the start; therefore, a definite pause between cartwheels on the first attempts is suggested.

Cartwheels can also be started from a walking and running approach. Begin with a slow walking approach. Take a short hop or skip-step on one foot as the other foot is brought for-

ward. Execute cartwheel. Notice that this is a one-foot takeoff, as opposed to the two-foot takeoff used for the diving front roll. These two takeoffs from walking and running approaches are the ones used primarily in individual tumbling and sports acrobatics work.

An interesting variation that combines tumbling and balancing is to do a cartwheel to a handstand and hold the handstand. Actually, it is a half-cartwheel to a handstand.

### Roundoff

The roundoff starts similar to the cartwheel, except that halfway over, the feet are brought together and the feet snap down to a landing in the direction opposite to the start. You can practice the ending by kicking up to a handstand, then snapping down to both feet. Hands should be off mat by the time you land on feet.

After learning a good standing roundoff, try it from a walking approach. Gradually work up to a running approach.

The roundoff is used to change a forward run into backward tumbling, and thus is a key tumbling stunt. Back handsprings and back somersaults (covered later in this chapter) can be done from a roundoff.

### Front Handspring

Use two spotters on the first attempts. Action is basically kicking up to a handstand, arching over to a backbend, and arching up to a stand with arms and head kept back. A common mistake is to tuck up for the landing. With the help of the two spotters, practice in slow motion first. Gradually speed up the action and add a walking approach with a skip-step and one-foot takeoff. Continue practice until the front handspring can be done alone with a good standing landing.

### Flexlbllity TumbUng

It could be argued that stunts requiring extreme flexibility are not true tumbling, at least not according to the rules for some individual tumbling competitions. However, because flexibility tumbling is frequently used in partner and group sports acrobatics, especially by women, some of the main stunts are covered below:

1. *Front limbar over.* Kick up to a handstand. Arch over to back bend. Arch up to a stand.

2. *Back limbar over.* From a stand, arch over backwards to a back bend. Push off feet to a handstand and come down from handstand position to both feet.

3. *Front walkover.* Kick up to a handstand. Arch over to a back bend with one foot landing and other leg forward in air. Come to a stand on one leg with other leg forward.

4. *Back walkover.* Stand with one leg forward. Arch over backwards to a back bend. With one leg leading, bring legs overhead, passing through handstand position. Foot that was forward at start contacts mat first. Step back on other foot.

5. *Advanced flexibility tumbling.* There are a number of more advanced moves, such as the aerial front walkover, that should be in the repertoire of women who aspire to an advanced competitive level.

**Back Handspring**

Although the mechanics of the back handspring (Fig. 5-25) may be more difficult than those of a standing back somersault, learning the back handspring first generally makes it possible to learn both stunts faster, or at least with the correct mechanics.

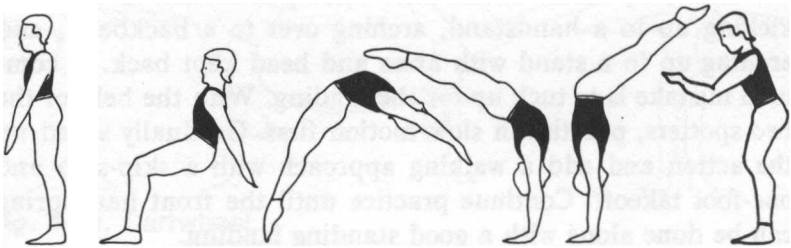


**Fig.** 5·25. Back handspring.

To learn a back handspring, you can use two experienced hand spotters or, perhaps better, an overhead mechanic. Sit back, throw arms and head back into arch, land on hands, and snap down to feet. As you learn the correct mechanics and gain

confidence, gradually decrease the amount of spotting until the back handspring can be done alone.

The back handspring can also be done from a roundoff.

Back Somenault

Standing back somersaults can be first attempted in either a tuck (Fig. 5-26) or whipover (Fig. 5-27) position.

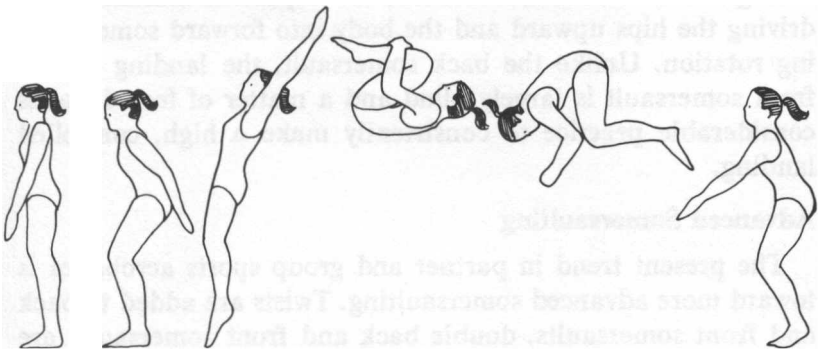


Fig. 5-26. Back somersault in tuck position.

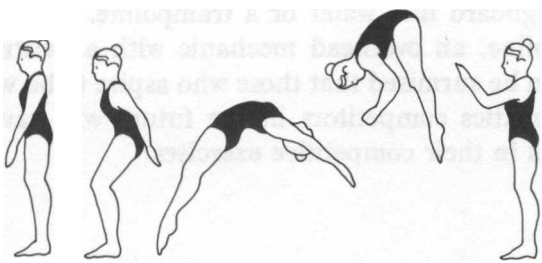


Fig. 5-27. Back somersault in whipover position.

To learn, use either two experienced hand spotters or an overhead mechanic. Gradually decrease the amount of spotting as mechanics are learned, until you can do the stunt alone.

Back somersaults can also be done in pike and layout positions, but are quite difficult from a standing takeoff. It is probably helpful to practice back somersaults on a trampoline, as this gives a greater flight time, similar to many tossing somersaults used in partner and group sports acrobatics.

**Front Somersault**

There are a number of approaches to learning this movement. One way is to learn on a trampoline. Another is to do it with the takeoff on a regular mat and the landing on a thick landing or training mat. Still another method is to learn in the overhead mechanic.

Regardless of the method used, the important mechanics are driving the hips upward and the body into forward somersaulting rotation. Unlike the back somersault, the landing on the front somersault is largely blind and a matter of feel. It takes considerable practice to consistently make a high, controlled landing.

**Advanced Somersaulting**

The present trend in partner and group sports acrobatics is toward more advanced somersaulting. Twists are added to back and front somersaults, double back and front somersaults are performed, and even double somersaults with twists. These stunts are, of course, quite advanced.

To learn these advanced somersaulting and twisting skills, use a springboard into water or a trampoline. For learning on the trampoline, an overhead mechanic with a twisting belt is ideal. It can be surmised that those who aspire to be world-class sports acrobatics competitors in the future will have to have these stunts in their competitive exercises.

# 2
# Skills for Pairs

# 8

# Balancing Elements

The emphasis in this chapter is on balancing elements for men's pairs, women's pairs, and mixed pairs. Tumbling and tempo elements are treated separately in Chapter 7, and routines or exercises for both balancing and tumbling and tempo elements in Chapter 8.

The stunts covered in this chapter primarily involve balancing elements, although many have moving actions into or out of them. Some stunts begin or end in a balance hold with a tumbling or tempo type move out of it, and these movements are arbitrarily placed where they seem most appropriate in either this chapter or Chapter 7. These two chapters each begin with basic partner (pairs) elements and progress gradually up to advanced elements. The assumption is made that the performers have already learned corresponding individual fundamentals covered in Chapter S. For example, the top performer should already be able to do an individual handstand before attempting a low hand-to-hand balance with a partner, and so on. Most performers will want to start on both the balancing (this chapter) and tumbling and tempo (next chapter) progressions at the same time. Equally important are combining elements into routines or exercises, as covered in Chapter 8, and this should be started as soon as about six balancing and tumbling and tempo partner elements have been learned.

To simplify the descriptions in this book, I will designate the bottom person, usually the larger and stronger of the pair, Performer *A.* The usually smaller top person is designated Performer *B.* Unless mention is' made otherwise, the stunts covered in this chapter are suitable for men's pairs, women's pairs, and mixed pairs. Of course, some stunts are more suitable for certain pairs than others. In many cases it seems a good idea for beginners, if size and strength differences are not too great, to learn to be both top (B) and bottom (.4) person. In mixed pairs, the woman performer is almost always the Performer *B* in competition, although this need not always be the case for beginners.

## ELEMENTARY BALANCE ELEMENTS

### Handstand with Partner Assist

This was used in individual balancing as a step toward learning a handstand, but now we will use it as a starting element for pairs. Performers *A* and *B* stand facing each other. (Good posture is important and should be practiced right from the start. How you look before and after stunts is important too.) Performer *B* places hands on mat and kicks up to a handstand. Performer *A* catches *B's* ankles and then straightens arms. Hold balance position with good form (B should have legs straight and together and toes pointed, *A* should have arms extended and good posture) for about five or six seconds. Performer *A* then releases *B's* ankles, and *B* returns to feet.

Try to make all movements into and out of the balance position as smooth and neat as possible. In competition, everything you do from the start of a routine or exercise to the fmish is judged, not just the balance position itself.

### Front Swan or Arch on Feet

Performer *A* assumes position on back. How *A* goes into this position is important; for example, a half front roll stopping on back could be used. Performer *B* stands as shown in Fig. 6-1. Performers join hands. Performer *A* places feet against *B.* Performer *A* straightens legs. *B* assumes swan or arch position and releases hands from *A* and holds swan or arched body position with arms extended outward, legs straight and together, and toes

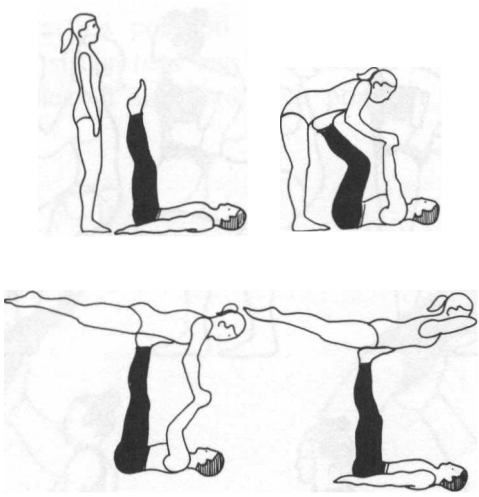


Fig. 6-1. Front swan or arch on feet.

pointed, for about five or six seconds. Performers regrasp hands. Performer *A* lowers *B's* feet to mat.

A variation is for *B* to mount without hand hold with *A*. *B* jumps directly into swan or arch position. This adds slightly to the difficulty.

Standing on Knees Facing Forward

The balance position is shown in Fig. 6-2. To mount, Performer *A* stands behind *B* holding *B* by waist. *B* holds *A's* wrists. Performer *A* lifts *B* upward. *B* places feet,"one at a time, on *A's* knees. This can also be done both feet at once with *A* lifting *B*. Performer *A* switches hands, one at a time, to *B's* legs above the knees. Performer *B* leans forward with legs straight and body arched with arms extended outward. Dismount is reverse of mounting, with *A* assisting *B* by waist.

At first, *B* can tell *A* when he or she is ready to dismount, but with practice working with a partner, dismount would automatically take place a set number of seconds after the balance position is started or else silent signals, such as a slight knee-bend action, can be used.

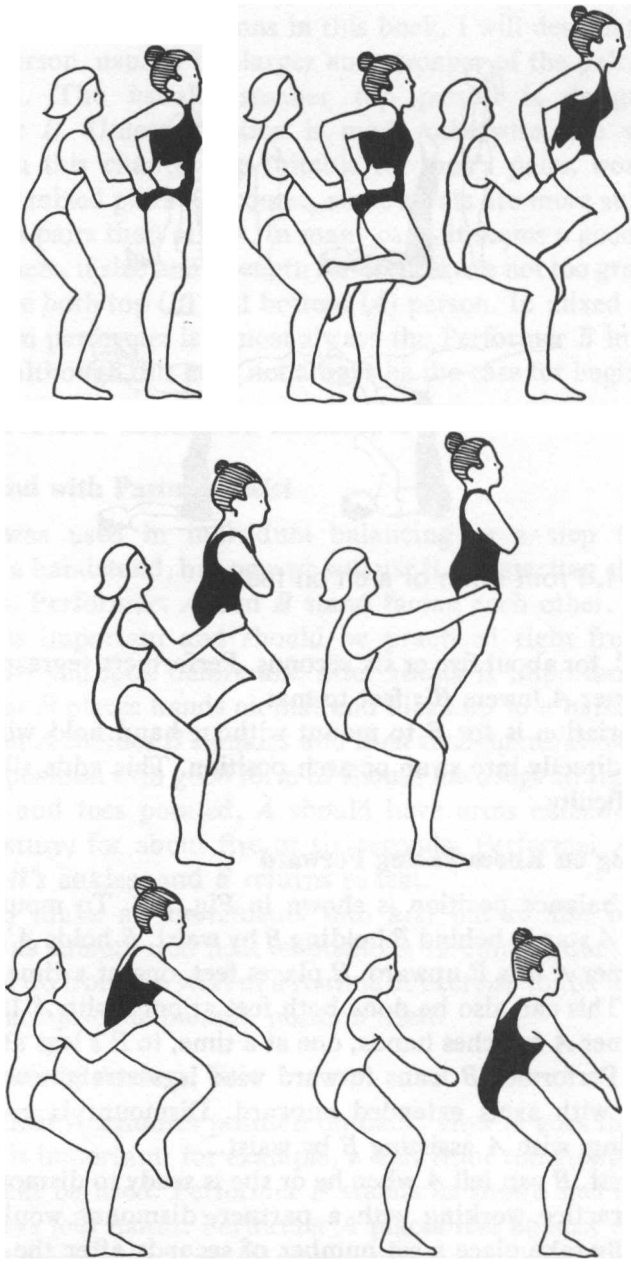


**Fig. 6-2. Standing on knees facing forward.**

**Back Arch on Feet**

Assume starting position shown **in** Fig. 6-3. Grasp hands. Performer *A* straightens legs and pulls *B* into arched position. Hands are released and back arch position with good form is

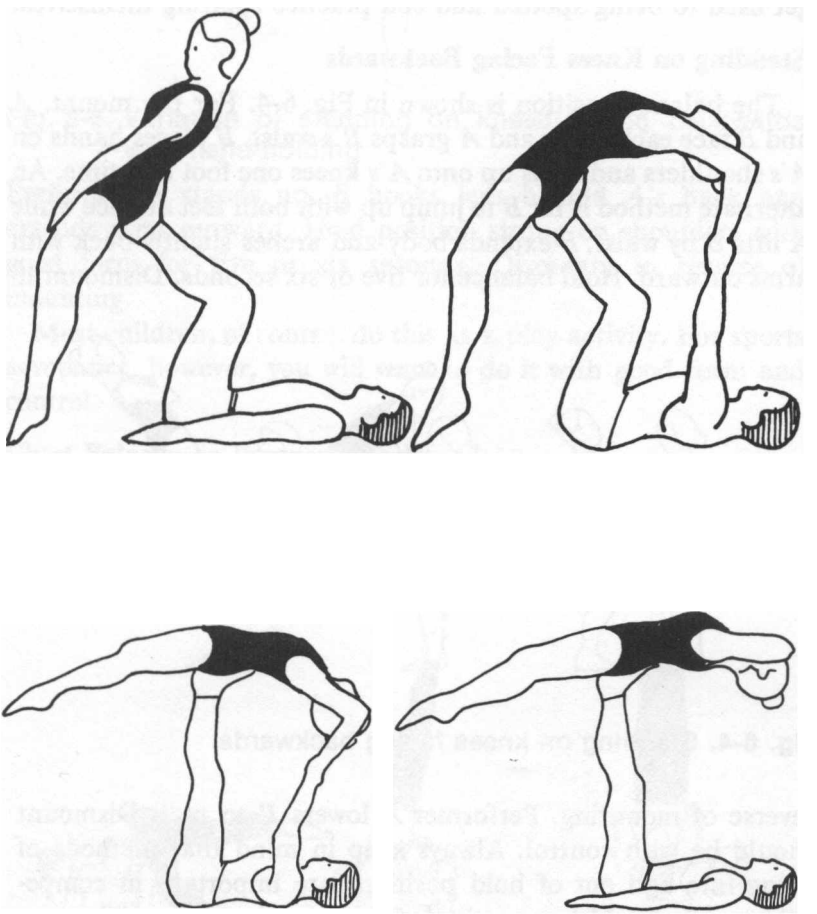


**Fig. 6-3. Back arch on feet.**

held. Dismount is reverse of mounting, with or without rejoining hands. Dismount should be with control. Remember to use good form on the mounting and dismounting, as well as the balance position itself.

Although you probably won't need a spotter on this stunt, it is a good idea to use one on the first attempts. The performers can get used to being spotted and can practice spotting themselves.

### Standing on Knees Facing Backwards

The balance position is shown in Fig. 6-4. For the mount, *A* and *B* face each other and *A* grasps *B's* waist. *B* places hands on *A's* shoulders and steps up onto *A's* knees one foot at a time. An alternate method is for *B* to jump up with both feet at once while *A* lifts *B* by waist. *B* extends body and arches slightly back with arms outward. Hold balance for five or six seconds. Dismount in

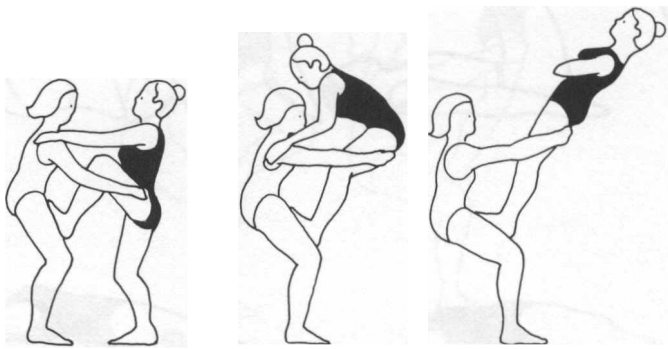


Fig. 6-4. Standing on knees facing backwards.

reverse of mounting. Performer *A* lowers *B* to mat. Dismount should be with control. Always keep in mind that methods of going into and out of hold positions are important in competition, and should be practiced right from the beginning.

A variation of this stunt with hand holding is shown in Fig. 6-5.

### Sitting on Shoulden

Performer *A* stands behind *B* facing same direction. Performer *A* bends forward and *B* straddles legs over *A's* neck.

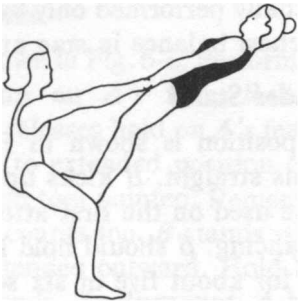


Fig. 6-5. Variation of standing on knees facing backwards with hand-holding.

Performer *A* stands up. *B* hooks legs behind *A's* back and extends arms outward. Hold position sitting on shoulders with good form for five or six seconds. Dismount in reverse of mounting.

Most children, of course, do this as a play activity. For sports acrobatics, however, you will want to do it with good form and control.

Chest Balance on Partner's Back

The balance position is shown in Fig. 6-6. *B* kicks up to chest balance. A spotter should be used on the first attempts to prevent overbalancing by *B*. *B* holds balance position with good form for

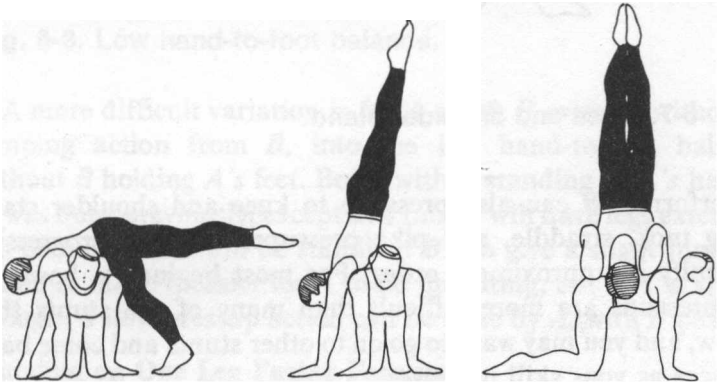


Fig. 6-6. Chest balance on partner's back.

five or six seconds. Legs should be together and toes pointed. Dismount by coming back down one foot ahead of the other one, the reverse of kicking up.

Variations, usually performed only by a woman in *B* position, are to hold the chest balance in stag and split leg positions.

Knee and Shoulder Stand

The balance position is shown in Fig. 6-7. Both *A* and *B* should keep arms straight. *B* kicks up to shoulder balance. A spotter should be used on the first attempts to prevent *B* from possible overbalancing. *B* should hold knee and shoulder stand with good form for about five or six seconds. *B* dismounts by coming back down one"foot at a time.

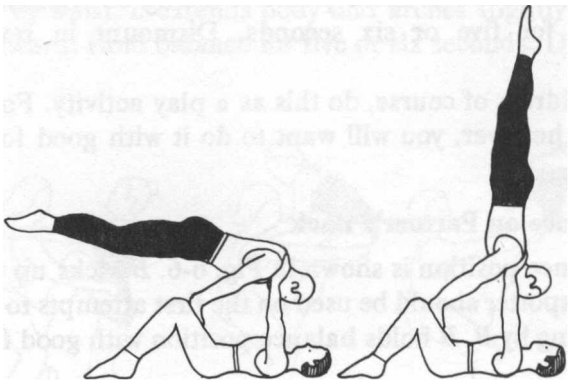


Fig. 6-7. Knee and shoulder stand.

Performer *B* can also press up to knee and shoulder stand using tuck, straddle, and pike pressups, with the progressive difficulty in approximate order. For most beginners, however, the pressups are more difficult than many of the stunts that follow, and you may want to go on to other stunts and come back to these as your skill improves.

Three variations used mainly by women in *B* position are holding balance positions in stag, split, and arch or backbend position with feet touching head, the latter requiring considerable flexibility.

Low Hand-to-Foot Balance

Performers start as shown in Fig. 6-8. Performer *A* lifts, with *B* assisting by pushing up on *A's* feet, *B* to straight arm hand-to-foot position. *B* releases hold on *A's* feet and stands up. Performer *A* lowers feet to extended position on mat with legs straight, feet together, and toes pointed. Remember, the form of the bottom or *A* person counts too. *B* stands with good posture with arms at sides or extended outward. Hold balance position for about five or six seconds. To dismount, *A* brings legs up, *B* holds *A's* feet and assists while *A* lowers *B's* feet back to mat.

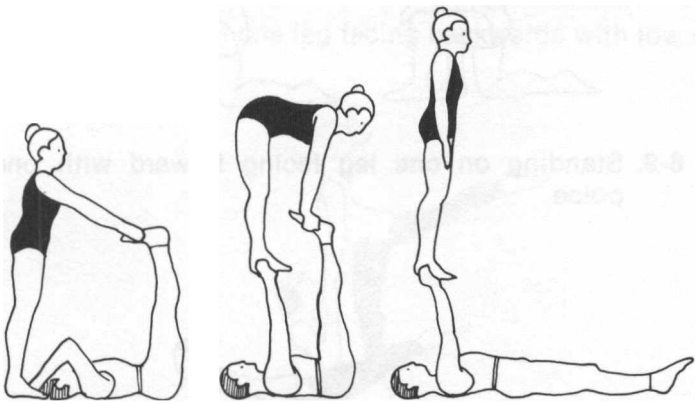


Fig. 6-8. Low hand-to-foot balance.

A more difficult variation is for *A* to lift *B,* with or without a jumping action from *B,* into the low hand-to-foot balance without *B* holding *A's* feet. Begin with *B* "standing in *A's* hands, as was done previously, except this time *A* will have legs extended flat on mat and *B* will be standing. *B* can give a slight jumping action to make it easier for *A* to do the lifting, but if *A* is strong enough, a slow pressup action can be done by *A,* with *B* passive.

Standing on One Leg Facing Forward

The balance position with a one-leg poise is shown in Fig. 6-9. Slightly more difficult is a deep arabesque, as shown in Fig. 6-10. These stunts are usually done only with a woman in the *B* position.

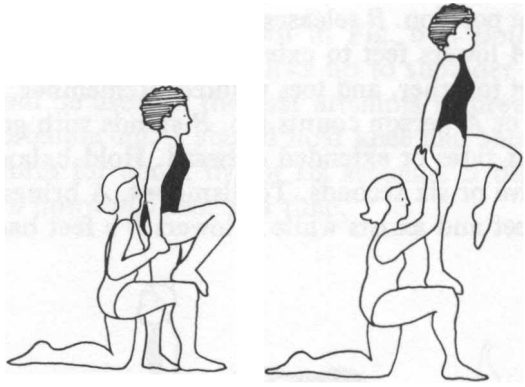


Fig. 6-9. Standing on one leg facing forward with one-leg poise.

Fig. 6-10. Standing on one leg facing forward with deep arabesque.

Standing on One Leg Facing Backwards

Figure 6-11 shows the balance position with a low arabesque. A variation is a deep arabesque (Fig. 6-12). Slightly more difficult is with one hand free. These stunts are usually only done with a woman performer in the *B* position.

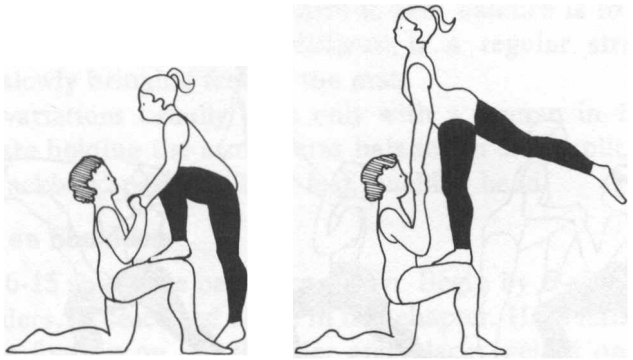


**Fig. 6-11.** Standing on one leg facing backwards with low arabesque.

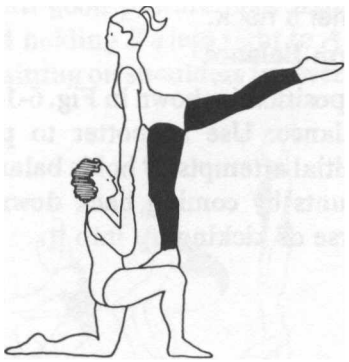


**Fig. 6-12.** Standing on one leg facing backwards with deep arabesque.

### Back Arch on One Leg with Other Foot Hooked on Partner's Neck

This is another stunt where the *B* position is usually with a woman performer. Begin with standing on one leg facing backwards (performers face each other), as described above, except *A* has back leg extended with knee off mat. *B* hooks free foot on *A's* neck, as shown in Fig. 6-13. *A* holds *B's* leg, and *B* arches back. Hold balance position for about five or six seconds before returning to standing on one leg and dismounting. A variation is without *A* holding *B's* leg. Use a spotter when first attempting this.

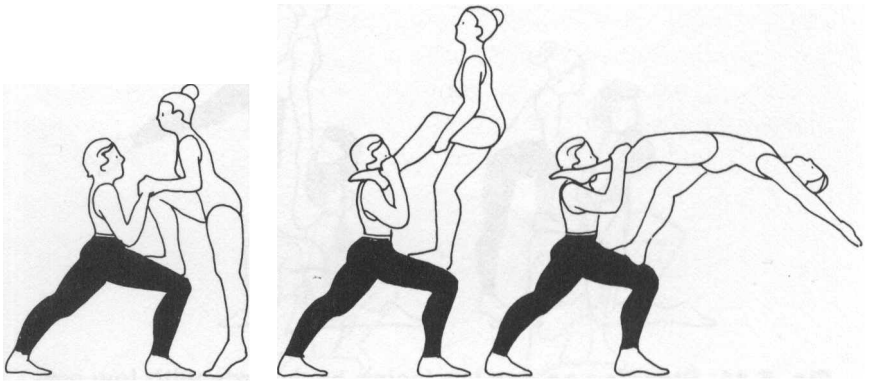


Fig. 6-13. Back arch on one leg with other foot hooked on partner's neck.

Low Arm·to·Arm Balance

The balance position is shown in Fig. *6-14.B* kicks up into low arm-to-arm balance. Use a spotter to prevent *B* from over-balancing on initial attempts. *B* holds balance position with good form. *B* dismounts by coming back down one foot before the other, the reverse of kicking up into it.

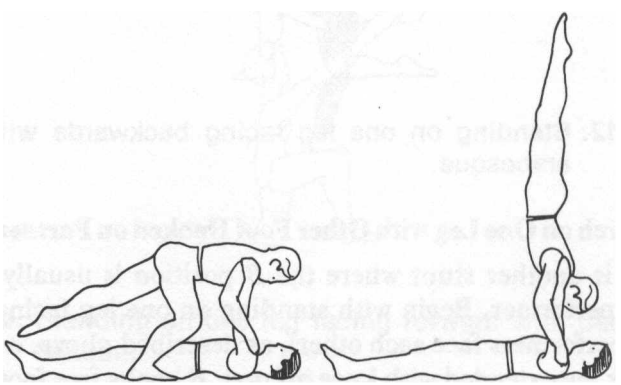


Fig. 6-14. Low arm-to-arm balance.

A variation is to transfer from a knee and shoulder stand (described above) to a low arm-to-ann. Transfer is made one arm at a time. Similarly, a switch back to a knee and shoulder stand can be made.

Another way to go into a low arm-to-arm balance is to do a jump straddle pressup. More difficult is a regular straddle pressup, slowly bringing feet off the mat.

Three variations usually done only with a woman in the *B* position are holding the arrn-to-arrn balance in stag, split, and arch or backbend positions with feet touching head.

**Standing on Shoulders**

Figure 6-15 shows the balance position. Begin by *B* sitting on *A's* shoulders, as described above in this chapter. Hold hands. *B* places one foot up on *A's* shoulder and places weight on that foot. *B* moves other foot to *A* 's other shoulder. *B* stands up. One hand at a time is released. Performer *A* transfers each hand to a grasp position behind *B's* legs. *B* stands with arms at sides or extended outwards with good posture. The balance position is made more stable by *A* holding *B's* legs tight to *A's* head. To dismount. first return to sitting on shoulders in reverse of mounting.

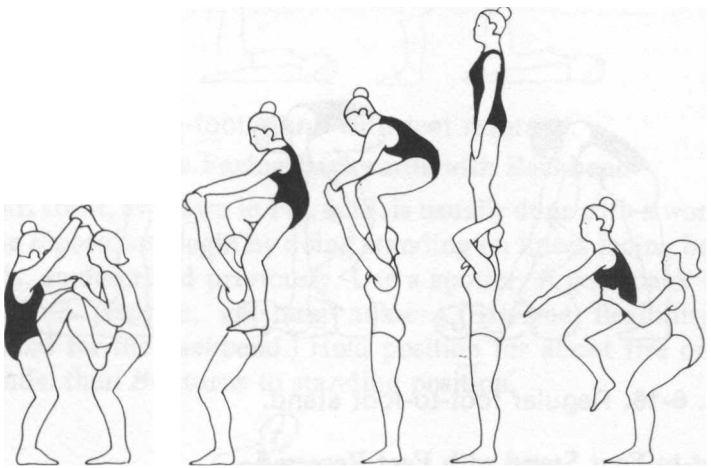


**Fig. 6-15.** Standing on shoulders.

Another method of getting into the standing on shoulders is for *B* to stand behind *A*. *B* places hands in *A's* hands and one foot on corresponding thigh of *A*. *B* steps up to *A's* shoulders and finally to a full standing position with *A* holding *B* behind legs. Hold balance position. To dismount, hold hands. Then *B* jumps off forward, assisted by *A* for a controlled landing.

Similar to this method of mounting is the calf stepup. *B* steps one foot onto *A's* calf, then other foot up to *A's* shoulder, and finally the foot from calf to *A's* other shoulder.

A more difficult variation of the two-high standing on shoulders, regardless of method of mounting, is to hold the balance position without *A* holding *B's* legs. Both performers can have arms at sides or extended outward.

Regular Feet-to-Feet Stand

Begin as shown in Fig. 6-16. Performer *A* pulls *B* up as *B* steps to feet. Hands are released. *B* stands up as *A* straightens legs. Performer *A* places arms at sides. Hold balance five or six seconds. To dismount, reverse the steps of mounting.

Balance is easier if *B* is relaxed rather than rigid. However, *B* should still maintain good standing posture.

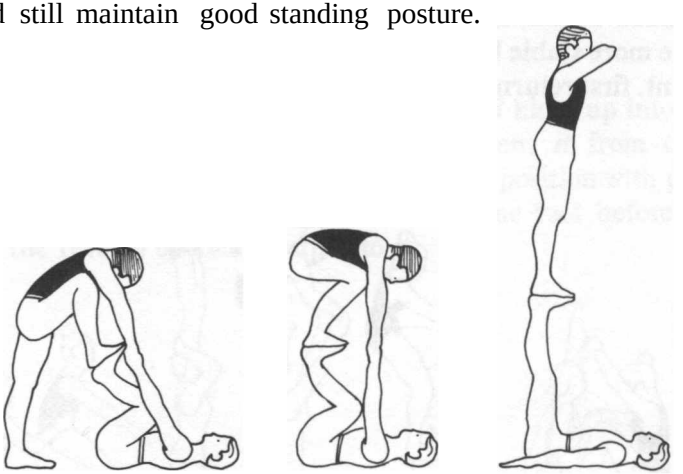


Fig. 6-16. Regular foot-to-foot stand.

Foot-te-Feot Stand with Feet Reversed

Figure 6-17 shows the balance position. Begin with a low hand-to-foot balance with *B* holding *A's* ankles. Switch to foot-to-foot stand with feet reversed. *B* then releases hand holds and stands up. *B* dismounts by jumping off forward.

A spotter should be used on the first attempts.

More difficult is to make the switch from the low hand-to-foot balance to foot-to-foot stand without *B* holding *A's* ankles.

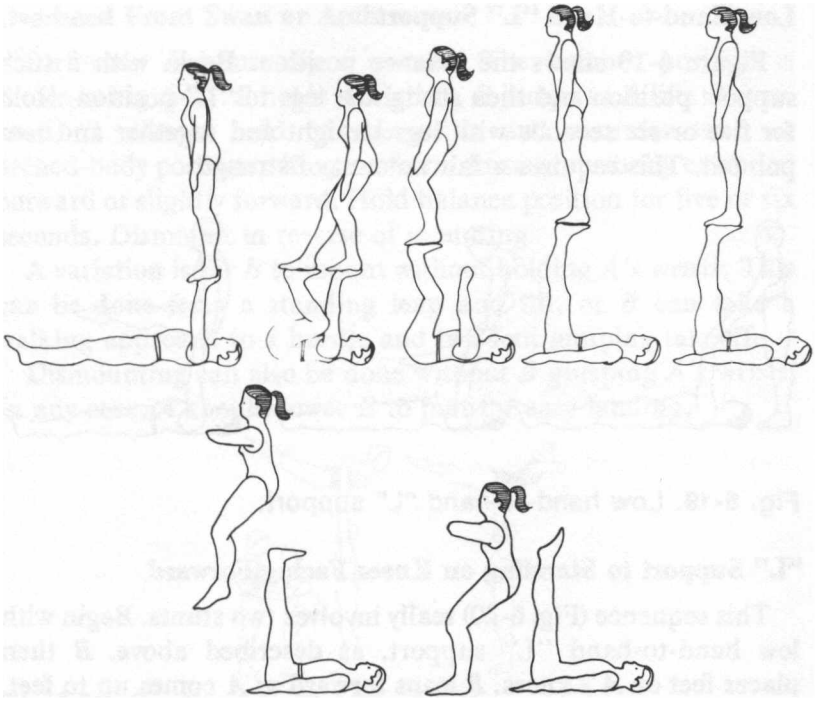


**Fig. 6-17.** Foot-to-foot stand with feet reversed.

**Standing on Knees Facing Backwards with Backbend**

This stunt, as shown in Fig. 6-18, is usually done with a woman in the *B* position. Begin by doing standing on knees facing backwards, as described previously. Use a spotter. *B* goes back into backbend position, grasping ankles. (Extreme flexibility is required for the backbend.) Hold position for about five or six seconds, then *B* returns to standing position.

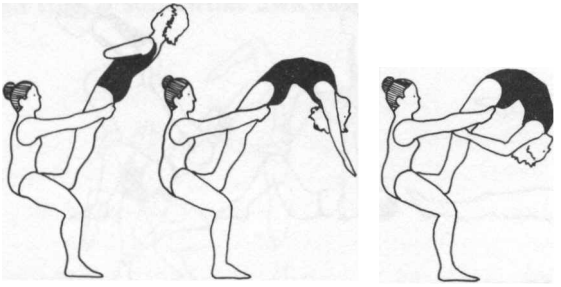


**Fig. 6-18.** Standing on knees facing backwards with backbend.

### Low Hand-to-Hand "L" Support

Figure 6-19 shows the balance position. Begin with a tuck support position and then straighten legs to "L" position. Hold for five or six seconds with legs straight and together and toes pointed. This requires a fair amount of strength.

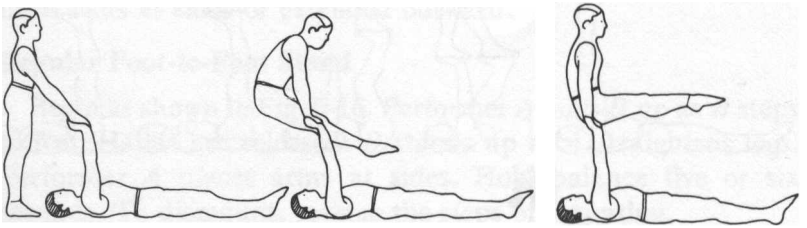


**Fig. 6-19.** Low hand-to-hand "L" support.

### "L" Support to Standing on Knees Facing Forward

This sequence (Fig. 6-20) really involves two stunts. Begin with low hand-to-hand "L" support, as described above. *B* then places feet on *A's* knees. *B* leans forward as *A* comes up to feet. Standing on knees facing forward can be held as shown, or *A* can switch hands, one at a time, to *B's* legs for regular standing on knees facing forward balance position.

Try to make the transition from one stunt to the other as smooth as possible. Although this combination is fairly easy, it usually takes considerable practice to do it well.

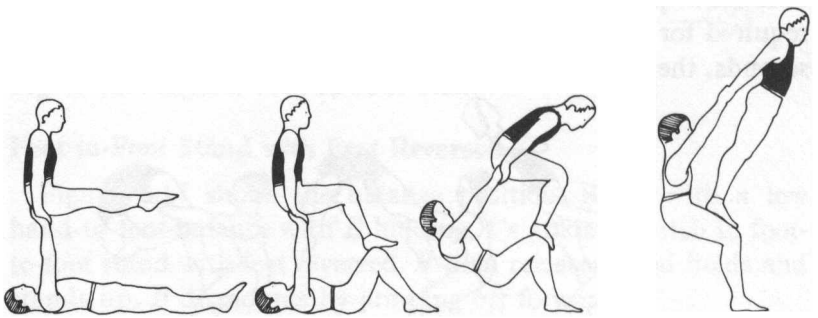


**Fig. 6-20.** "L" support to standing on knees facing forward.

Overhead Front Swan or Arch

Performer *B* is usually a woman. The balance position is shown in Fig. 6-21. *B* holds *A's* wrists. *B* jumps as *A* lifts *B* overhead. *B* releases hold on *A's* wrists and assumes swan or arched-body position with good form. Arms are usually extended outward or slightly forward. Hold balance position for five or six seconds. Dismount in reverse of mounting.

A variation is for *B* to mount without holding *A's* wrists. This can be done from a standing leap and lift, or *B* can take a walking approach to a hurdle and two foot jumping takeoff.

Dismounting can also be done without *B* grasping *A's* wrists. In any case, *A* should lower *B* to mat for easy landing.

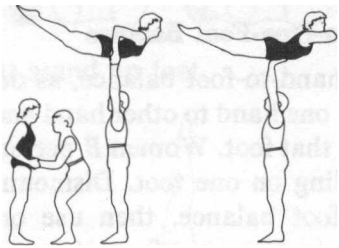


Fig. 6-21. Overhead front arch or swan.

Overhead Back Arch

Performer *B* is usually a woman. The balance position is shown in Fig. 6-22. To mount, *B* leaps as *A* lifts. Hold overhead back arch with good form. Dismount in reverse of mounting.

More advanced is for *A* to hold *B* with one hand by releasing hand from leg. Position is shown in Fig. 6-23.

Another variation is for *A* to support *B* with both hands on back, although this is somewhat awkward.

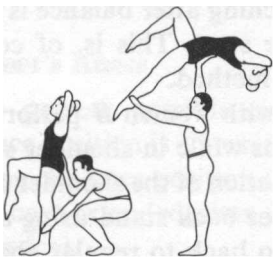


Fig. 6-22. Overhead back arch with leg hold.

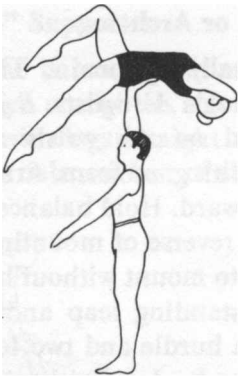


Fig. 6·23. Overhead back arch without leg hold.

Low Two-Bands-to-One-Foot Balance

Begin with low hand-to-foot balance, as described previously. Performer *A* shifts one hand to other hand and single foot of *B* as *B* shifts balance to that foot. Women *B* performers frequently do poises while standing on one foot. Dismount by going back to regular hand to foot balance, then use one of the methods covered previously to dismount from there.

Shoulder Stand on Feet

Begin as shown in Fig. 6-24. Jump tuck into shoulder and hand balance. *B* then transfers arms, one at a time, to *A's* feet. Hold balance position with good form for five or six seconds. Dismount by *B* tucking back down to feet or by coming down to side of *A* one foot ahead of the other.

A variation is to do a slow tuck pressup into the balance position. Straddle and pike pressups can also be done. It's also possible to go to shoulder stand on feet directly, without the hand holding and hand switching after balance is achieved, by having *B* hold *A's* legs at the start. This is, of course, usually more difficult than the first method.

Variations popular with women *B* performers are stag, split, and back bend positions while in shoulder stand on feet.

A more difficult variation of the shoulder stand on feet is for *A* to extend body to upper back stand using arms for support, as shown in Fig. 6-25. Go back to regular shoulder stand on feet before dismounting.

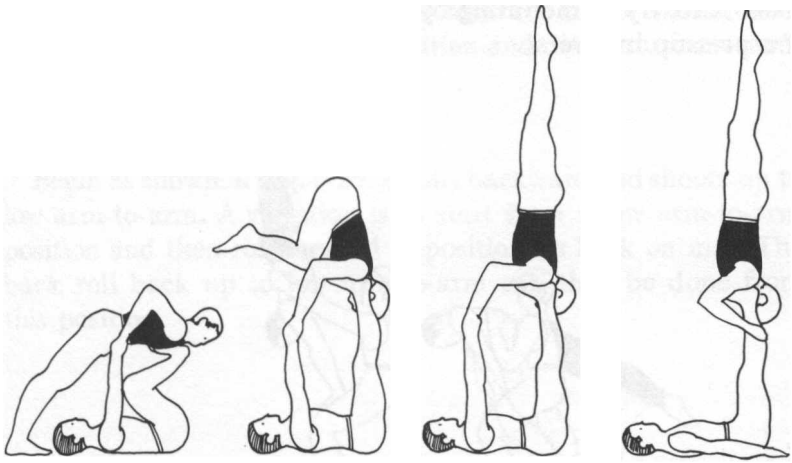


Fig. 6-24. Shoulder stand on feet.

Fig. 6-25. Variation of shoulder stand on feet with bottom person in upper back stand.

Handstand on Partner's Knees

Use a spotter to prevent possible overbalancing on initial attempts. The balance position is shown in Fig. 6-26. *B* kicks up to handstand position. Balance position is held with good form. Performer *A* should have extended arms. Dismount by *B* coming back down onto one foot.

Pressups into the handstand on partner's knees can also be

done. Also, try dismounting by slowly lowering body down, sort of a pressup in reverse.

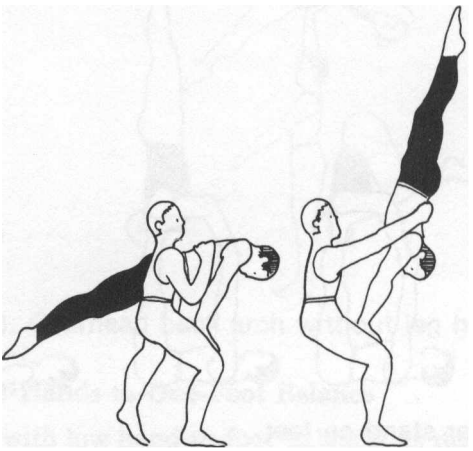


Fig. 6-26. Handstand on partner's knees.

"V"·Sit on Partner's Feet

The balance position is shown in Fig. 6-27. Begin by *B* sitting on partner's feet. *B* can be facing either direction. *B* then does "V" position and holds balance with legs straight and toes pointed.

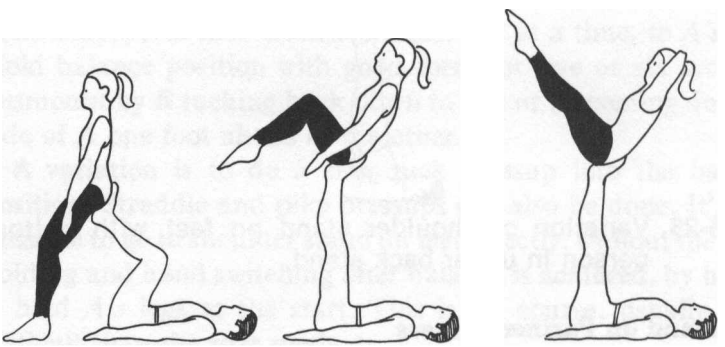


Fig. 6-27. "V"-sit on partner's feet.

mgh "V"·Sit on Partner's Hands

Begin with overhead back arch with *A* holding *B* (usually a woman) with both hands. *B* then assumes "V" -sit position (Fig.

6-28) and holds balance with good form for five or six seconds. Return to overhead back arch position and dismount from there as was described previously.

Back Roll to Low Arm·to·Arm

Begin as shown in Fig. 6-29. *B* rolls backward and shoots up to low arm-to-arm. A variation is to start from a low arm-to-arm position and then roll forward to position on back on mat. The back roll back up to low arm-to-arm can then be done from this position.

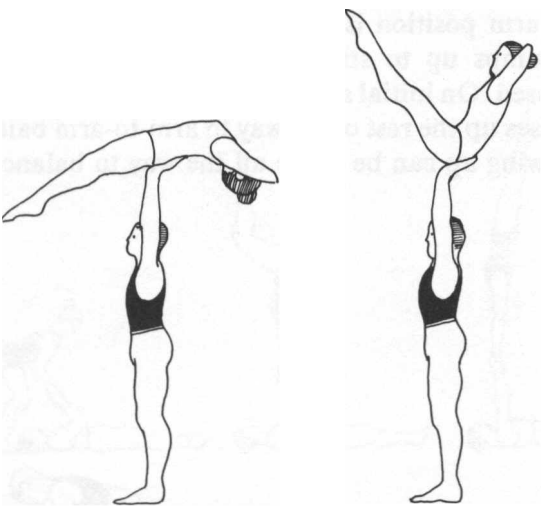


Fig. 6·28. High "V"-sit on partner's hands.

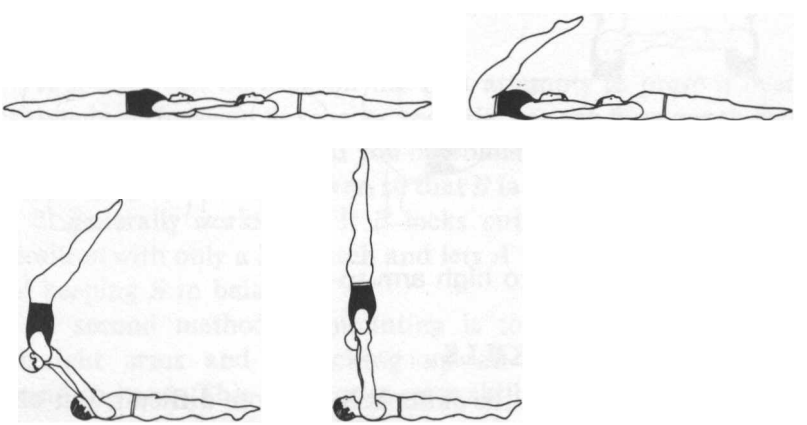


Fig. 6·29. Back roll to low arm-to-arm.

mgh Ann·to·Ann

The main difficulty is getting into the balance position. One method is for *B* to jump from ground into tuck pressup as *A* lifts *B* overhead. Pressup the rest of the way to arm-to-arm balance position. Hold with good form for five or six seconds. Dismount is reverse of mounting. Performer *A* should lower *B* to mat. On initial attempts, use a spotter. Recovery from overbalancing is for *A* to make a half turn, reversing *B* so that *B* can come down safely onto feet.

A second method of mounting is a swing up, as shown in Fig. 6-30. The arm position is assumed with *A* and *B* facing each other. *B* jumps up to straddle position on *A's* chest. Swing motion is used. On initial attempts, *A* swings *B* into tuck position and *B* presses up the rest of the way to arm-to-arm balance. With practice, swing up can be made all the way to balance position.

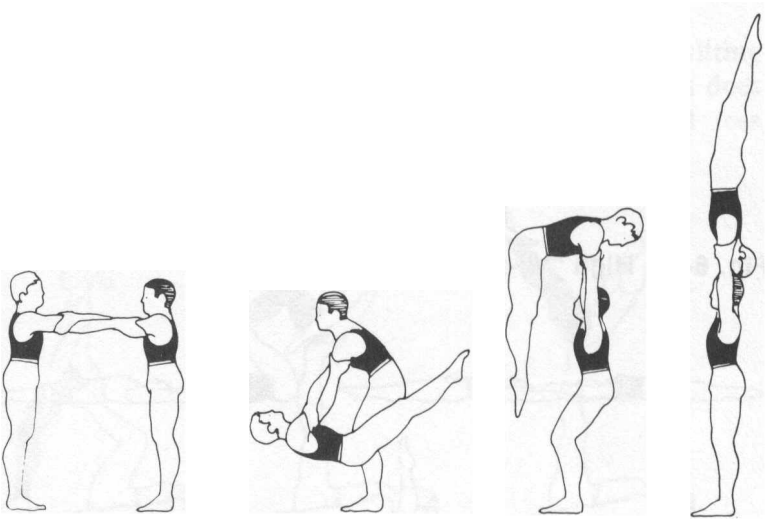


Fig. 6-30. Swing up to high arm-to-arm.

## INTERMEDIATE SKILLS

From this point on the skills become more difficult, but also more challenging.

Low Hand-to-Hand

This requires that *B* be able to do a good individual handstand on a mat. A number of methods are used for mounting. If *A* is considerably stronger and larger than *B,* the method shown in Fig. 6-31 is usually easiest to start with. Partners hold hands with hooked thumbs. *B* kicks up into handstand as *A* straightens arms. Timing on this is important. The kickup must aid *A* in straightening arms, yet allow *B* to get all the way up to handstand position.

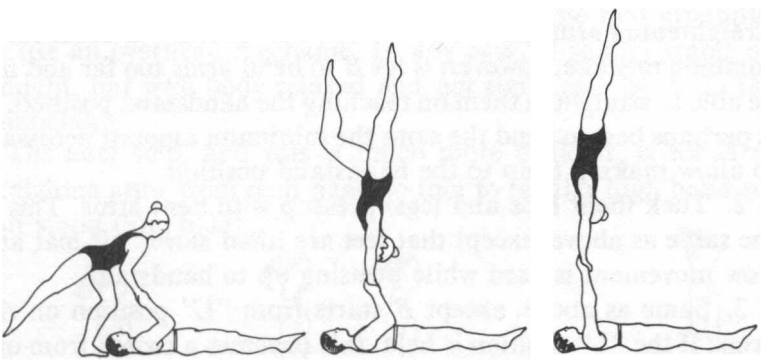


Fig. 6-31. Kick up to low hand-to-hand.

A spotter can be used on the first attempts to prevent overbalancing. However, as soon as possible, use the turn out to feet, as described in Chapter S, if you overbalance. This must be done with enough control, however, so that *B* lands off to the side of *A.*

It generally works best if *B* locks out in a good handstand position with only a little arch and lets *A* take care of the matter of keeping *B* in balance.

A second method of mounting is to start with *A* having straight arms and *B* kicking up all the way to the low hand-to-hand. This requires greater skill on the part of *B,* as a more powerful kickup is required to make it all the way up to the

handstand position, but *A* need not be as strong as required for the first method of getting into the handstand.

It is extremely important that the partners learn to work together. On this stunt, *A* can take care of much of the balancing, but *B* must be able to get up into a good handstand position. Also, it is important to keep in mind that there are many stunts where *B* must maintain balance on a fixed base, or where *A* is unable to provide movement of the base to control the balance of *B.*

The following is a suggested progression into more advanced methods of mounting:

1. Jump tuck pressup to low hand-to-hand, with *A* having straight arms throughout. *B* uses bent arms while going up, straightening arms just as the handstand position is reached. A common mistake, however, is for *B* to bend arms too far and not be able to straighten them on reaching the handstand position. It is perhaps best to bend the arms the minimum amount necessary to allow making it up to the handstand position.

2. Tuck (bent hips and legs) pressup with bent arms. This is the same as above, except that feet are lifted slowly off mat and slow movement is used while pressing up to handstand.

3. Same as above, except *B* starts from "L" position on *A's* arms. If the "L" position is held, this becomes a switch from one balance position to another.

4. Straddle pressup with bent arms. *B* starts with straddled legs on mat and slowly brings toes off mat.

S. Straight-leg, bent-hip, bent-arm pressup. This can be done from mat and from an "L" position. This method is frequently used in competition. While still fairly easy, it gives a much better impression than a tuck pressup.

6. Tuck pressup with straight arms. This is seldom used in competitive routines, but is a good leadup for the next pressup.

7. Starting from an "L" position on *A's* arms, straight-leg, bent-hip, straight-arm pressup.

8. Straight or arched body, bent-arm pressup. This is extremely difficult.

Variations in the low hand-to-hand that are usually only done by women *B* performers are stag position, splits, and deep arch or backbend touching feet to head. In some cases, two or more of

these will be used in sequence during a single low hand-to-hand. For example, a woman *B* performer might kick up to a low hand-to-hand, then go into a stag position, switch to splits, then arch back into deep arch and touch feet to head.

High Hand-to-Foot Stand

First practice with bent arms, as shown in fig. 6-32. *B* first stands on *A's* shoulders. Performer *A* removes hands from *B's* legs and places hands forward of *B's* feet. *B* steps forward, one foot at a time, to *A's* hands. Hold balance for five or six seconds. Then dismount by *B* stepping back one foot at a time to standing on shoulders. An alternate dismount is jumping off forward from the bent arm hand-to-foot and landing on landing or training mat. In addition, spotters should be used on the first attempts. Or use an overhead mechanic. In any case, *B* should stand up straight, but with body relaxed and not rigid, and let *A* do the balancing.

The next step, and this is much more difficult, is for *A* to straighten arms from bent hand-to-foot to regular high hand-to-foot stand (Fig. 6-33).

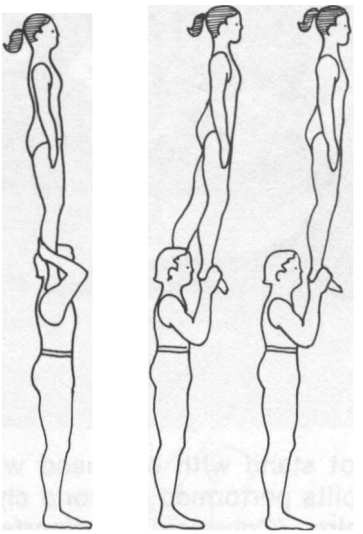


Fig. 6-32. High hand-to-foot stand with bent arms.

Fig. 6-33. High hand-to-foot stand with straight arms.

Even more difficult is to start from a low hand-to-foot stand, then for *A* to stand up by sitting up, usually lowering *B* to bent-arm position in the process, twisting feet and legs under body, then standing up. Finally, *A* straightens arms until *B* is in regular high hand-to-foot stand.

A difficult variation, usually only done with a woman in *B* position, is for *B,* while in a high hand-to-foot stand to do a backbend and grasp ankles. The performers should be able to do this easily in a low hand-to-foot stand before attempting it on the high one. Also, spotters should be used. Fig. 6-34 shows the stunt with *A* in splits.

Fig. 6-34. High hand-to-foot stand with backbend with bottom person in splits performed by world champion USSR mixed pairs. (Courtesy *AcroSports* magazine)

Handstand on Top of Backbend

Figure 6-35 shows the balance position. A variety of methods can be used by *B* for going up into the handstand. The easiest is usually a kickup or jump tuck pressup. More difficult are regular pressups, such as a straight-leg, bent-hip, bent-arm pressup.

Back Lever on Thighs

Figure 6-36 shows the balance position. This is most often done by two men performers. *B* tucks legs, then straightens them out to back lever position.

More difficult is to pike into back lever, without bending legs while going into it.

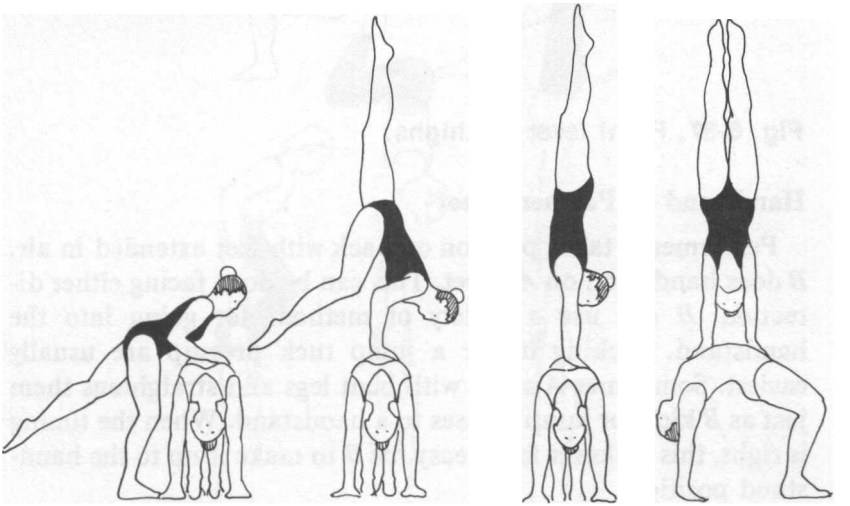


Fig. 6-35. Handstand on top of backbend.

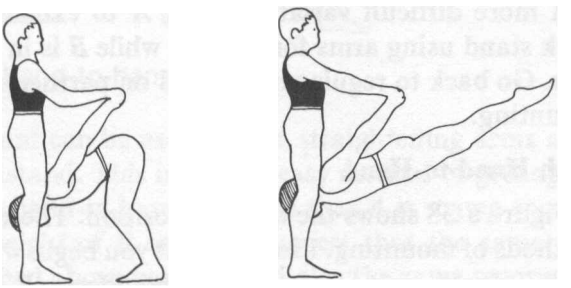


Fig. 6-36. Back lever on thighs.

**Front Lever on Thigh.**

The balance position is shown in Fig. 6-37. Begin with *B* sitting on mat in front of *A,* who is standing. Grasp hands. *B* positions head. Performer *A* leans back and pulls on *B's* arms. *B* straightens body into front lever.

This stunt is most often done by two men performers, but some women's pairs and mixed pairs have also learned it.

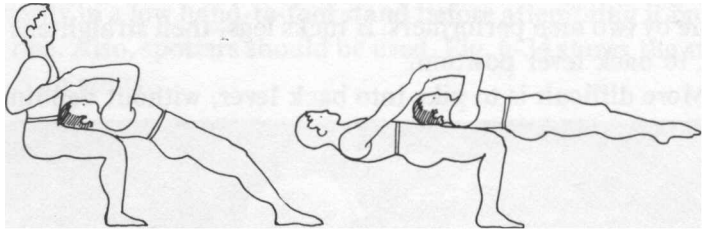


**Fig. 6-37.** Front lever on thighs.

**Handstand on Partner's Feet**

Performer *A* takes position on back with feet extended in air. *B* does handstand on *A's* feet. This can be done facing either direction. *B* can use a variety of methods for going into the handstand. Kicking up or a jump tuck pressup are usually easiest. Sometimes *A* starts with bent legs and straightens them just as *B* kicks or jump presses to a handstand. When the timing is right, this makes it fairly easy for *B* to make it up to the handstand position.

Regular pressups, such as the tuck, straddle, and pike, can also be used for going into the handstand.

A more difficult variation is for *A* to extend body to upper back stand using arms for support while *B* is in handstand position. Go back to regular handstand on partner's feet before dismounting.

**High Hand-to-Hand**

Figure 6-38 shows the balance position. There are a variety of methods of mounting. I suggest that you begin with *A* using bent arms placed just forward of shoulders. *B* stands on *A's* shoulders, grasps *A's* hands with hooked thumbs, and kicks up

to a handstand on *A's* bent arms. This is a high hand-to-hand with *A's* arms in bent, rather than extended overhead, position.

Use a landing or training mat over the regular mat. If *B* underbalances or dismounts, I suggest coming down to feet on mat behind *A* rather than trying to return feet to *A's* shoulders. If *B* overbalances, use a tum out recovery to a landing on landing or training mat. Performer *A* can control *B's* fall to make a soft and controlled landing by giving arm support.

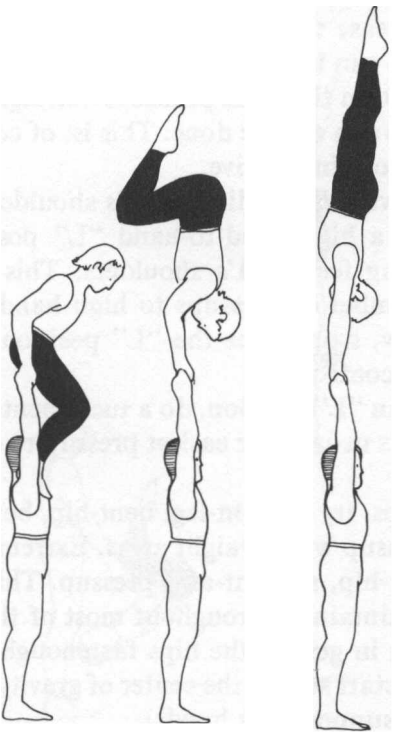


Fig. 6-38. High hand-to-hand.

The same mount can be used with *A* straightening arms as *B* kicks up to handstand. This is a fairly easy method of getting up to a regular high hand-to-hand provided that *A* is strong enough to handle the weight of *B* easily. I suggest that the same dismount as described above be used, and also the same recovery if *B* overbalances.

Although some disagree, it generally works best if *B* locks out in a good handstand position and lets *A* take care of the balancing.

Next, with *B* standing on *A's* shoulders with *A's* arms extended overhead, *B* assumes hand-hold position and does a jump tuck pressup to a regular high hand-to-hand. Try to make the action as smooth as possible. Remember that form is important on the way up, and not just while holding the handstand.

Gradually decrease the amount of jump until a regular tuck, bent-arm pressup can be made by *B* slowly lifting feet from *A's* shoulders. Start from the same position, a straight-leg, bent-hip, bent-arm pressup can also be done. This is, of course, more difficult, but also more impressive.

Next, starting with *B* standing on *A's* shoulders, grasp hands and *B* goes into a high hand-to-hand "L" position. *B* comes down by returning feet to *A's* shoulders. This is the starting position for a number of pressups to high hand-to-hand handstands that follow, so practice the "L" position until it can be done easily with control.

Starting from an "L" position, do a tuck, bent-arm pressup to handstand. This is usually the easiest pressup to do from an "L" position.

As skill develops, try straight-leg, bent-hip, bent-arm pressup. Also try tuck pressup with straight arms. Extremely difficult is a straight-leg, bent-hip, straight-arm pressup. This is impressive, as the pike is maintained throughout most of the pressup. The main difficulty is in getting the hips far enough overhead from the "L" position start so that the center of gravity of *B* performer is above base of support *(A's* hands).

Another mount for a high hand-to-hand is for *B* to stand in front *ofA. B* jumps as *A* lifts. *B* goes either directly into pressup or else goes first to an "L" position, then presses up to a handstand. A variety of pressups are possible.

A fairly advanced move, especially if *A* and *B* are near the same size, is to start in a low hand-to-hand, then *A* sits up, usually dropping *B* down to a bent-arm base, works feet under body, and stands up. Performer *A* can then straighten arms to a high hand-to-hand.

Still another method of going into a high hand-to-hand is a cannonball (Fig. 6-39). This could also be considered a flight or tempo move, so has been placed arbitrarily here with balance elements. Begin as shown. Performer *A* swings *B* back between legs. *B* holds tuck during back swing, then shoots up to handstand position on forward swing. This stunt, of course, is much easier when *A* is considerably larger than *B.* If the performers are near the same size, the timing will have to be just right for *B* to reach the handstand position.

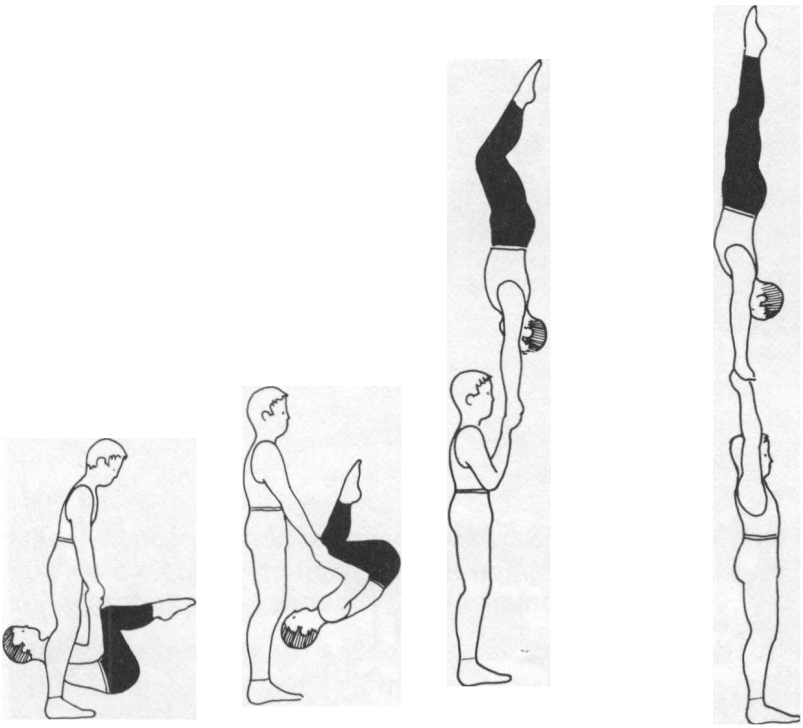


**Fig.** 6-39. Cannonball to high hand-to-hand.

A closely related stunt is a hand-to-hand with *A* in the splits, as shown in Fig. 6-40. Extremely impressive is to start with a regwar high hand-to-hand, then *A* lowers into splits. A variation of this stunt is with *A* holding *B* with *A's* arms bent. This requires less strength than many of the other hand-to-hand stunts described above.

Fig. 6·40. High hand-to-hand with bottom person in splits and top person in stag position performed by Bulgarian women's pair. (Courtesy *AcroSports)*

It should be pointed out that only a few of the possible variations and methods of mounting and dismounting high hand-to-hand balances have been described here. Others with tempo or tumbling elements are covered in chapter 7, but these are only some ofthe main methods used. There are hundreds of others, and perhaps others will be invented. Part of sports acrobatics is being creative, and there's plenty of room for that in the case of hand-to-hand balances.

## ADVANCED SKILLS

Advanced skills often become very specialized, and it may take hours of practice to master some of these elements.

High One-Arm-to-One-Foot Stands

One-arm-to-one-foot stands are shown in Figs. 6-41 and 6-42. A variety of methods can be used for mounting and dismounting. In most cases, the *B* performers are women. One way of

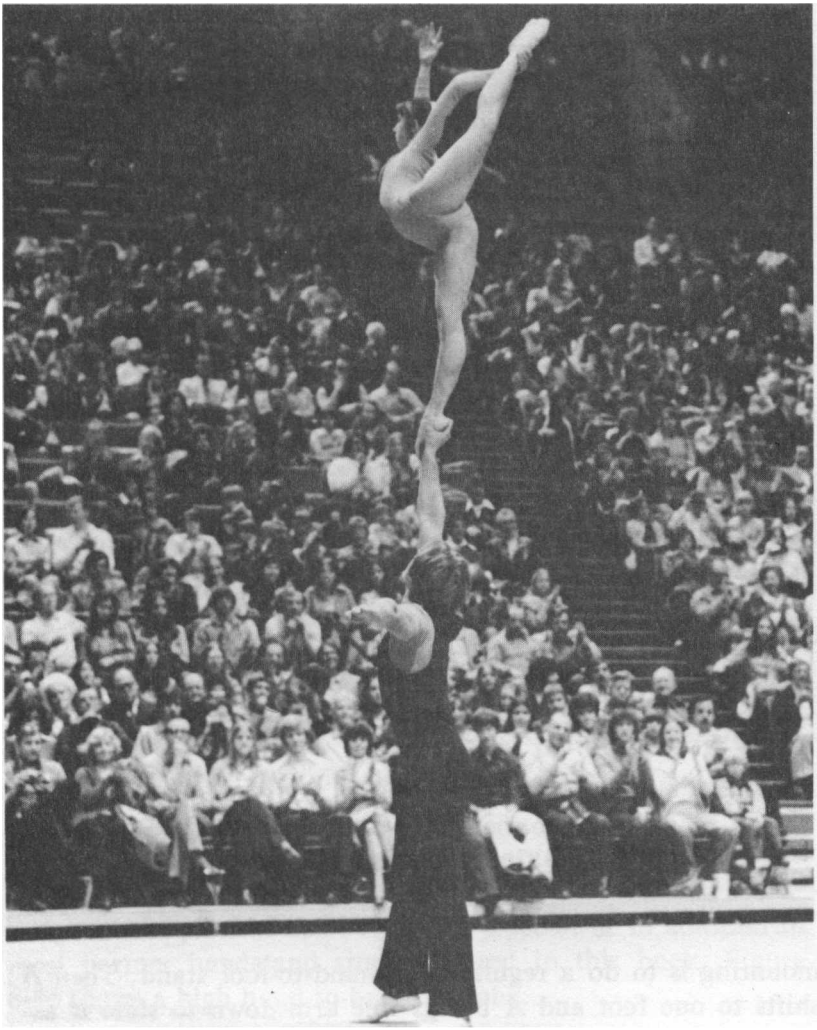


Fig. 6-41. One-arm-to-one-foot stand with deep arch performed by world champion USSR mixed pairs. (Courtesy *AcroSports* magazine)

Fig. 6-42. One-arm-to-one-foot stand with top person in back scale performed by world champion USSR mixed pairs. (Courtesy *AcroSports* magazine)

mounting is to do a regular high hand-to-foot stand. Then *B* shifts to one foot and *A* brings free arm down to side. *B* assumes poise position, as desired. Dismount by *B* going back to high hand-to-foot stand and then jumping down forward, with *A* catching *B* by waist to slow landing, as was described previously.

One-Arm Handstands

A variety of one-arm handstands from various holds are possible. Figure 6-43 shows a high one-arm hand-to-hand.

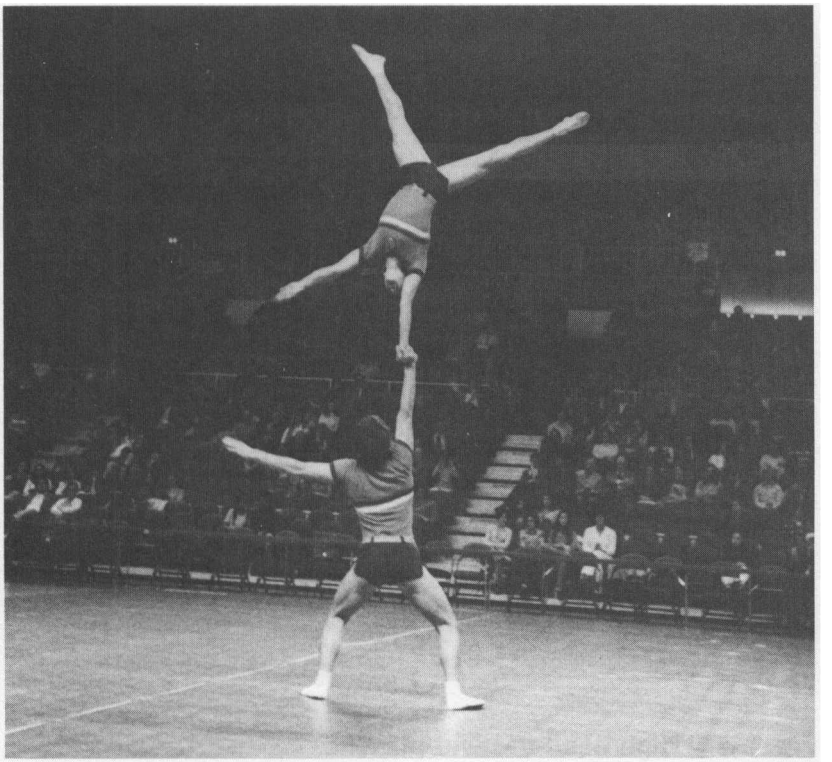


Fig. 6-43. High one-arm hand-to-hand performed by world champion USSR men's pairs. (Courtesy *AcroSports* magazine)

Two-Arm Planches

A two-arm planche can be used in place of or in addition to most partner handstand stunts covered in this book. Figure 6-44 shows a high hand-to-hand planche.

One-Arm Planches

One-arm planches are possible from a variety of hand and head holds. These are all of a high level of difficulty.

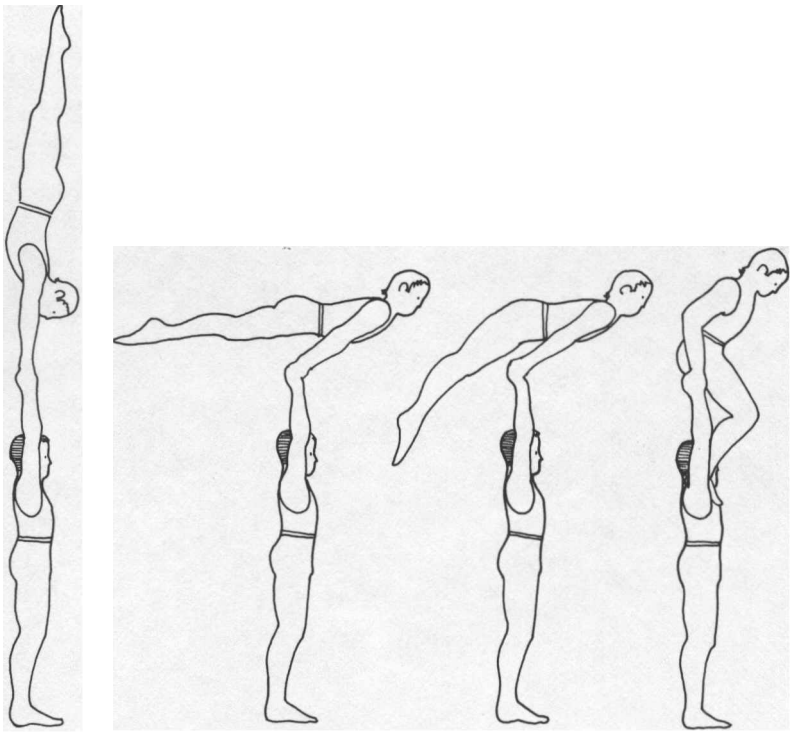


Fig. 6-44. High hand-to-hand planche.

Hand-to-Head Balance

This is extremely difficult. Performer *A* can be in a variety of positions, one of which is shown in Fig. 6-45.

Other Advanced Skills

This is only a sampling of the possibilities for advanced balancing elements. Others, such as one-arm press ups to one-arm handstands and planches, are now being used in world-class competition by many men performers.

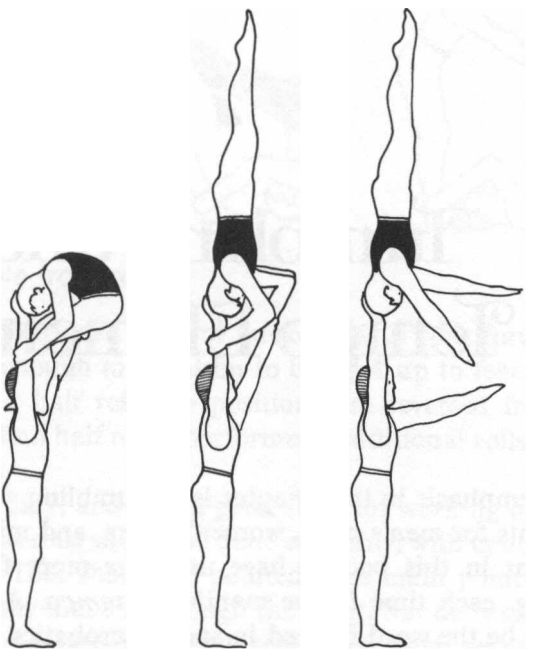


**Fig. 6·45. Hand-to-head balance.**

# Tumbling and Tempo Elements

The emphasis in this chapter is on tumbling and tempo elements for men's pairs, women's pairs, and mixed pairs. To this point in this book I have used the more familiar term, *tumbling,* each time I have mentioned *tempo.* Actually *tempo* seems to be the word favored in sports acrobatics. It means elements and routines where movement dominates, such as swinging, pivoting, free flight, handspringing, and somersaulting with or without twisting. As well might be imagined, there are some stunts where it is difficult to decide whether the tempo or balance element dominates. An example of this is a difficult somersaulting stunt that ends in an equally difficult balance hold. However, most stunts of this nature have either the tempo or balance parts of greater difficulty, and can easily be placed in one category or the other. Those on the line have been arbitrarily placed here in either the previous chapter (balancing) or this chapter (tempo).

## ELEMENTARY TEMPO ELEMENTS

### Double Front Roll

The sequence is shown in Fig. 7-1. Performers start as shown, with *A* on back (arbitrary on this stunt, since both performers play the same roles). Performer *A* brings feet down with knees

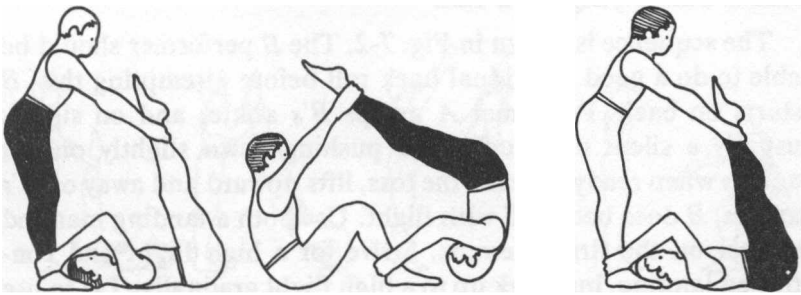


Fig. 7-1. Double front roll.

bent and feet positioned close to buttocks as *B* rolls forward. *B* must roll with enough momentum to bring *A* up to feet. At the completion of a half roll, the positions are reversed from the start, and a second half roll is performed. Additional rolls can be added in series.

This is fairly easy, and thus a good stunt for working on form. The double front rolls should be done smoothly, with control and good leg form. Toes should be pointed. The main point is that you must not only make it through the stunt, but do it so that it looks as good as possible. And remember that getting into starting positions and out of them again after the movements are considered part of the stunt.

Double Back Roll

Thestarting position is the same as for the double front roll. This time *B* tucks and rolls backwards, pulling *A's* feet over in back roll and positioning *A's* feet close to *B's* shoulders. This placement of feet is a key to doing this stunt well. When *A* completes back roll, positions are reversed, and a second half roll (of the double back roll) is performed. Additional double back rolls can be added in series. I suggest that you concentrate on form and control, however, rather than seeing how fast you can go or how many you can do in series.

It is also possible to do a double front roll, then go immediately into a double back roll. Remember that each person must do a roll to make one complete double roll and that the *A* and *B* positions are arbitrary on double rolls, because performers alternate top and bottom positions on each complete double roll.

### Ankle Toss Flying Back Roll

The sequence is shown in Fig. 7-2. The *B* performer should be able to do a good individual back roll before attempting this. *B* starts on back. Performer *A* grasps *B's* ankles and on signal, usually a silent one, such as *A* pushing down slightly on *B's* ankles when ready to make the toss, lifts upward and away on *B's* ankles. *B* does back roll with flight. Use both a landing mat and spotter on the first attempts. Strive for a high flight and controlled landing, but work up to a high flight gradually. Try to use good form right from the start so that this will become habit. Legs should be together and toes pointed during the flight.

### Back-to-Back Pullover

Figure 7-3 shows the sequence. Performers *A* and *B* start back to back. Arms are hooked together. Performer *A* should bend knees slightly as *B* leans over backwards. Performer *A* lifts and pulls *B* over in somersault action. Use spotters and landing mat on first attempts. Strive to use good form; *B* should make controlled landing.

A variation of about equal difficulty is to use clasped hands (Fig. 7-4) instead of hooked arms. The rest of the stunt is essentially the same as before, although this method looks less awkward.

While learning these skills, try to make the lead up to each stunt as neat as possible.

### Knee and Shoulder Spring

Figure 7-5 shows the sequence. *B* does a front handspring action from *A's* knees and hands. This handspring action is suggested rather than just a front roll motion because the handspring looks much better and is really not much more difficult. Also, the roll tends to lead to bad habits.

Use two spotters and landing mat on first attempts. *B* walks forward, does skip step, and starts handspring action. Performer *A* assists by pushing *B's* shoulders. Timing is important. *B's* flight position should be arched with head back, like a good individual front handspring, rather than tuck.

The knee and shoulder spring can also be done from a standing start off one foot (kickup action) or two feet, and even

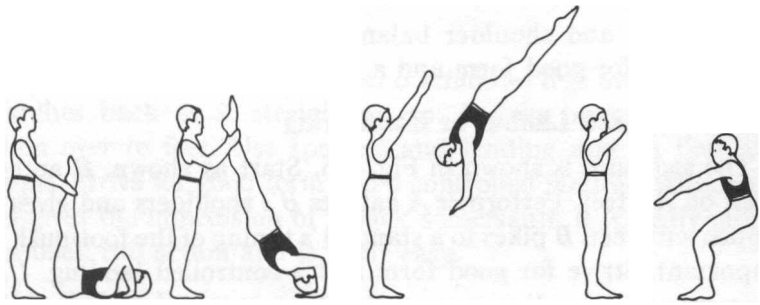


Fig. 7-2. Ankle toss flying back roll.

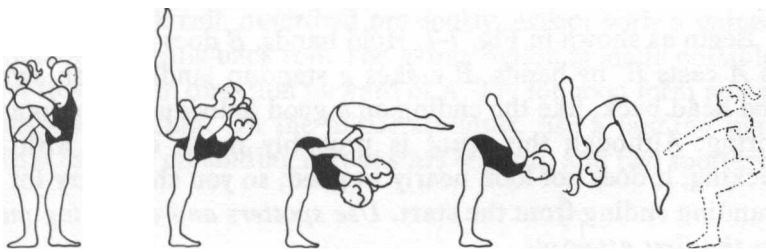


Fig. 7-3. Back-to-back pullover with hooked arms.

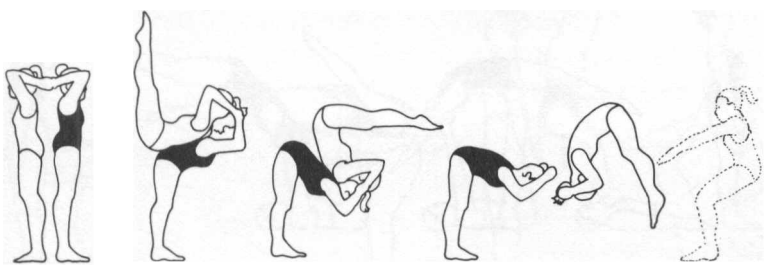


Fig. 7-4. Back-to-back pullover with clasped hands.

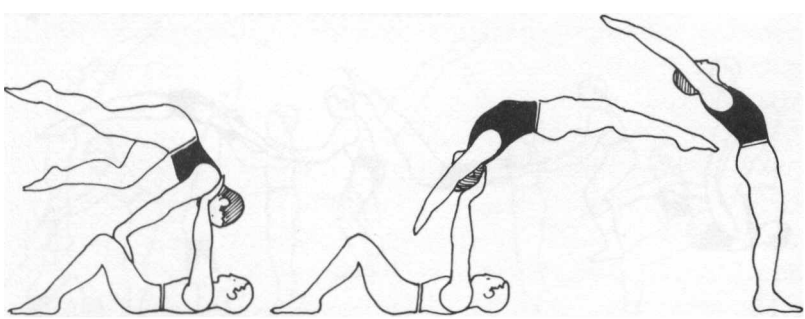


Fig. 7-5. Knee and shoulder spring.

from a knee and shoulder balance. Regardless of the method used, strive for good form and a controlled landing.

Foot Push Back Limbar or Handspring

The sequence is shown in Fig. 7-6. Start as shown. *B* arches back on *A's* feet. Performer *A* catches *B's* shoulders and gives *B* a push with feet. *B* pikes to a stand. *A's* timing ofthe foot-push is important. Strive for good form and a controlled landing. *Use spotters and a landing mat on the first attempts.*

Partner Cast to Feet

Begin as shown in Fig. 7-7. Hold hands. *B* does kickup action as *A* casts *B* by hands. *B* makes a standup landing with arms and head back, like the ending on a good individual front handspring. Although this stunt is probably much easier with *B* tucking, it does not look nearly as good, so you should try for a standing ending from the start. *Use spotters and a landing mat on the first attempts.*

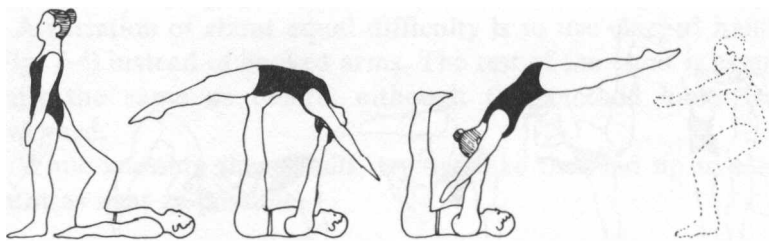


Fig. 7-6. Foot push back limbar 'or handspring.

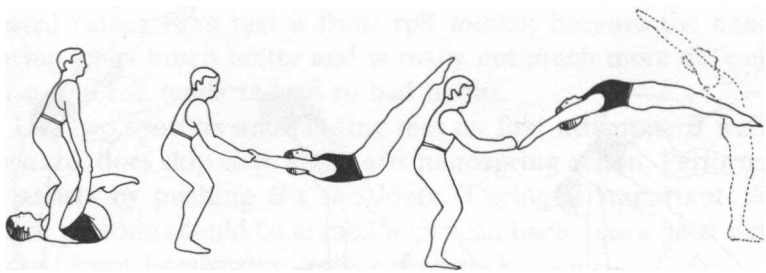


Fig. 7-7. Partner cast to feet.

Neck Lift Back Somersault

Figure 7-8 shows the sequence. *B* straddles legs over *A's* neck. *B* arches back as *A* straightens up. *B* does back somersault action over to feet. Use spotters and landing mat on first attempts. Strive for good form and a controlled landing. Although this gives the impression of a back somersault, it is really more of a back roll action and is fairly easy.

Ankle Pickup Forward

The sequence is shown in Fig. 7-9. This is similar to the ankle toss flying back roll, described previously, except with a gainer action on the flying back roll. The gainer action is made possible by *A* tossing *B* in direction forward of *A*. Try for good form and a controlled landing. On the initial attempts, use a landing mat with *B* on back on landing mat at start of stunt, and two spotters.

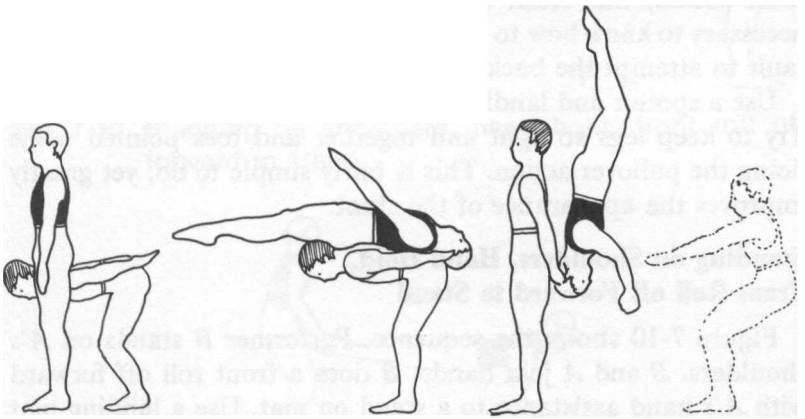


Fig. 7-8. Neck lift back somersault.

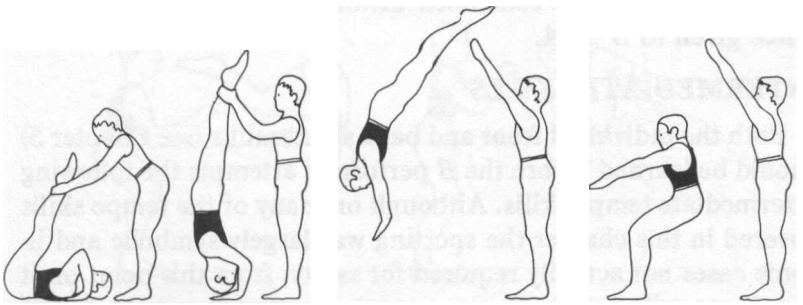


Fig. 7-9. Ankle pickup forward.

**Standing on Shoulden, FaIl Forwud to Feet, Front Rolls**

Performer *B* stands on *A's* shoulders, as described in Chapter 6. *A* and *B* start to fall forward as a unit, like a falling pole. At last instant, *B* jumps to feet. Both *A* and *B* do simultaneous front rolls. The main idea is to make it look like balance is being lost. However, keep in mind that the front rolls are started from the feet. This is not a diving roll by *B* from *A's* shoulders. On the first attempts, use spotters and a landing mat.

**Back Pullover or Somenau1t over Arm**

Performer *B* grasps arm of *A.* Performer *A* places other arm under *B's* knees. Performer *A* lifts *B's* knees and holds other arm steady while *B* does pullover or back somersault action over *A's* arms. The action is similar to a back pullover done on a low horizontal bar. Even though there appears to be a back somersault action, this stunt is fairly easy, and by no means is it necessary to know how to do an individual standing back somersault to attempt the back pullover or somersault over arm.

Use a spotter and landing mat on first attempts at this stunt. Try to keep legs straight and together and toes pointed while doing the pullover action. This is fairly simple to do, yet greatly improves the appearance of the stunt.

**Standing on Shoulden, Hand Hold,**
**Front Roll off Forward to Stand**

Figure 7-10 shows the sequence. Performer *B* stands on *A's* shoulders. *B* and *A* join hands. *B* does a front roll off forward with *A's* hand assistance to a stand on mat. Use a landing mat and two spotters on the initial attempts. A key to doing this stunt smoothly and with a controlled dismount landing is the assistance given to *B* by *A.*

## INTERMEDIATE SKILLS

Both the individual front and back somersaults (see Chapter 5) should be learned before the *B* performer attempts the following intermediate tempo skills. Although on many of the tempo skills covered in this chapter the spotting was largely symbolic and in some cases not actually required for safety, from this point on it becomes very important.

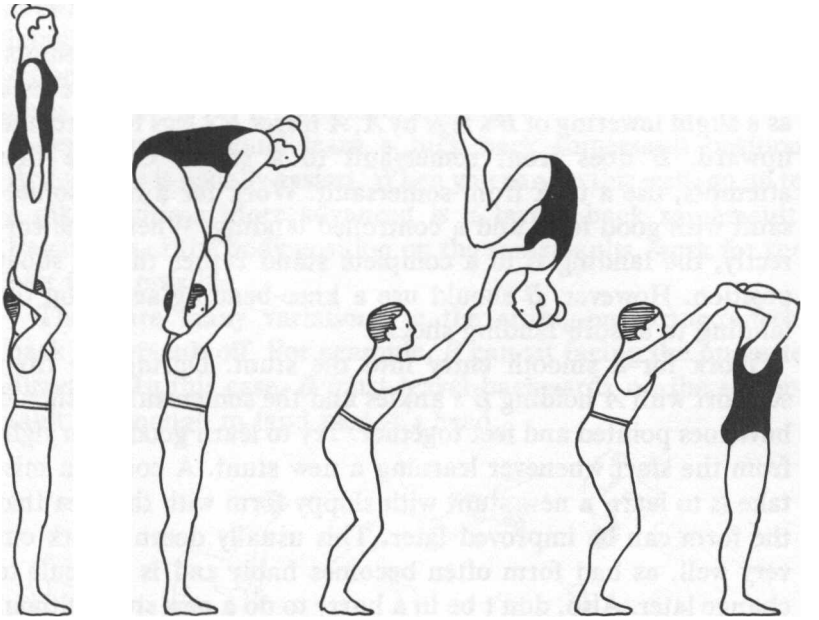


Fig. 7-10. Standing on shoulders, hand hold, front roll off forward to stand.

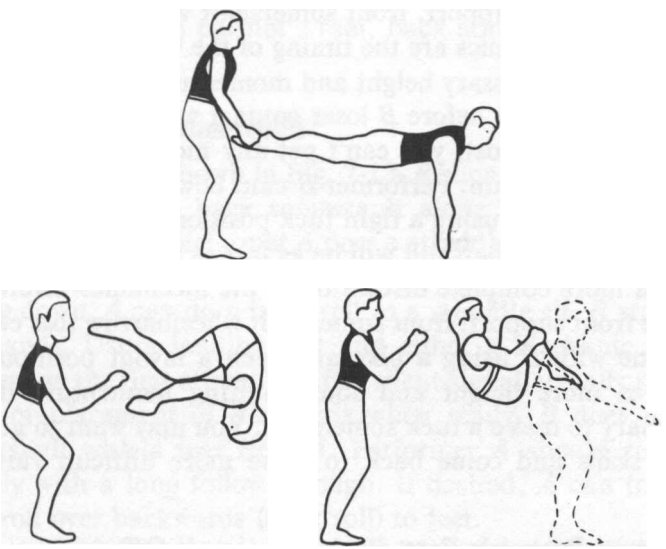


Fig. 7-11. Front support, front somersault wheelbarrow toss.

**Front Support, Front Somenault Wheelbarrow Toss**

Use two spotters and a landing mat on the first attempts. Begin as shown in Fig. 7-11. On signal, usually a silent one such as a slight lowering of *B'* s legs by *A, A* tosses *B's* legs forward and upward. *B* does front somersault to a stand. On the first attempts, use a tuck front somersault. Work for a high somersault with good form and a controlled landing. When done correctly, the landing is to a complete stand rather than a squat position. However, B..should use a knee-bending action on the landing to absorb landing shock.

Work for a smooth entry into the stunt. During the front support with *A* holding *B's* ankles and the somersault, *B* should have toes pointed and feet together. Try to learn good form right from the start whenever learning a new stunt. A common mistake is to learn a new stunt with sloppy form with the idea that the form can be improved later. This usually doesn't work out very well, as bad form often becomes habit and is difficult to change later. Also, don't be in a hurry to do a new stunt without spotters. Continue with assistance from spotters until the correct mechanics and good form become habit and you can execute them without really having to think about them.

On the front support, front somersault wheelbarrow toss, the important mechanics are the timing of the toss and good hip lift by *B* so that necessary height and momentum for a good somersault are achieved before *B* loses contact with mat and partner. Once contact is lost, you can't get any more height or somersaulting momentum. Performer *B* can, however, make the most of a poor start by using a tight tuck position so that the speed or velocity of the somersault will be as fast as possible (see Chapter 3 for a more complete discussion of the mechanics involved).

The front support, front somersault wheelbarrow toss can also be done with *B* using a pike and even a layout position. This requires more height and somersaulting momentum than is necessary to make a tuck somersault. You may want to go on to other skills and come back to these more difficult variations later.

**Sitting.on.Partner' s-Feet, Back Somenault Off**

Performer *B* sits on *A's* feet with *B's* feet in *A's* hands, as

shown in Fig. 7-12. Using two spotters and a landing mat on the initial attempts, *B* arches back and *A* gives a vigorous foot push. *B* does back somersault over to landing on feet on mat. Use good form and work for a controlled landing.

Performer *B* should learn a tuck back somersault position first, as this is usually easiest. When you can do this well, go on to a pike position. More advanced is a layout back somersault. Regardless of the body position on the somersaults, work for the best form possible.

There are many variations to the sitting-on-partner's-feet, back somersault off. For example, *B* can sit facing the opposite direction. In this case, *B* must travel backwards on the somersault far enough to land past *A's* head.

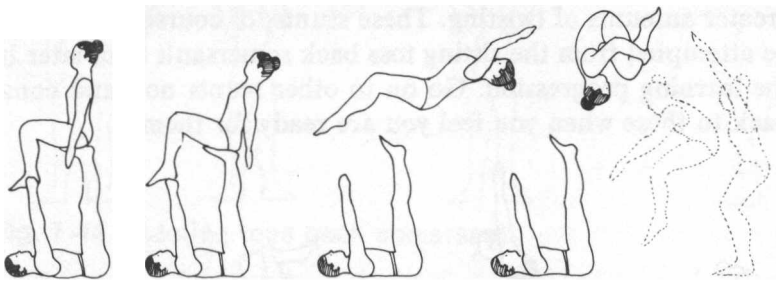


Fig. 7-12. Sitting on partner's feet, back somersault off.

### Sitting TOil Back Somenault

The sequence is shown in Fig. 7-13. *B* should be able to do an individual standing back somersault alone before attempting this partner stunt. Performer *A* does a straddle sit with arms forward and palms of hands turned upward. Rather than just sitting down, *A* can do a front roll to a straddle sit. *B* stands in *A's* hands. Use a landing mat and either a mechanic or two spotters on the first attempts. After silent signal, usually a movement or placement of *B's* hands when ready, *B* does a back somersault with a toss from *A.* Performer *A* should toss vigorously with a long follow through. If desired, *A* can toss and then roll over backwards (back roll) to feet.

On the initial attempts, a tuck or whip over back somersault is usually easiest. After these two types have been learned, other

back somersaults, such as pike and layout positions with twists (considerably more advanced) can be learned, but usually over a long period of time. Most performers go on to other stunts, then come back to these more difficult variations of the sitting toss back somersault as their skill improves.

The overhead mechanic is ideal for learning these stunts. For twisting work, use a twisting belt with the overhead mechanic. The usual twisting progression is to begin with a back somersault with a half-twist. This can be an early twist (e.g., a half-twist into a front somersault) or late twist (started after mat has been sighted when halfway over on the somersault). More difficult is a back somersault with a full twist. Also possible are back somersaults with one-and-a-half twists, double-twists, and even greater amounts of twisting. These stunts, of course, should not be attempted from the sitting toss back somersault until later in the learning progression. Go on to other stunts now and come back to these when you feel you are ready for them

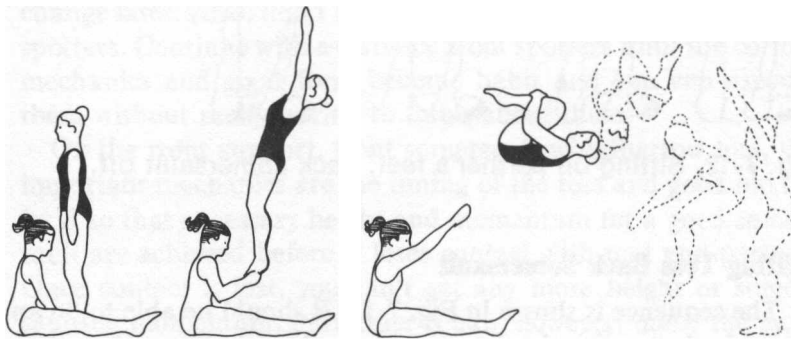


**Fig.** 7-13. Sitting toss back somersault.

**Side-Leg To•• Back Somenault**

Begin as shown in Fig. 7-14. Performer *A* has one hand on *B's* ankle, other hand on *B's* back. A slightly more difficult variation is for *A* to have this hand on *B's* upper leg instead of back. *B* keeps leg that he or she is being tossed from straight. This is important, as otherwise *A* will not be able to give a good toss. *B* has inside hand on*A 's* shoulder, as shown. Use a landing mat or either a hand spotter or overhead mechanic on first attempts. On

signal, such as slight lowering of *B's* leg, *A* tosses Band *B* does back somersault over to feet. On first attempts, use a whip over or tuck back somersault. Gradually work up over a period of time to more difficult pike and layout back somersaults.

This is an unusual toss in that the *A* performer can actually spot *B* on the back somersault. It is rare for a toss to have the *A* performer in such a good position for spotting. In fact, this feature should be noted and taken advantage of.

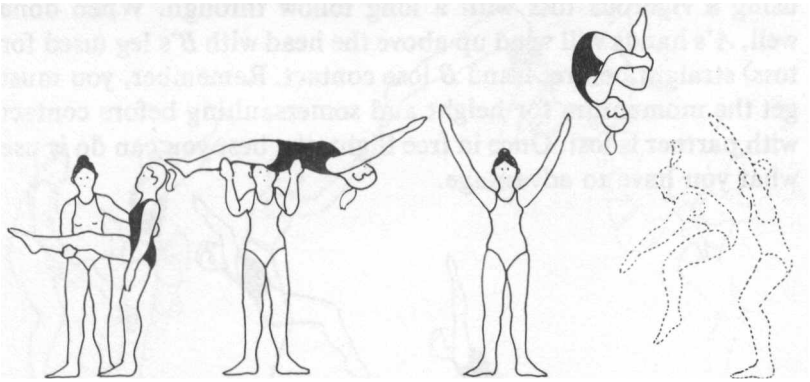


**Fig. 7-14.** Side-leg toss back somersault.

**IDgh TOil Back Somenault**

The stunt is shown in Fig. 7-15. This is a very popular toss, because the somersault can be very high and impressive when done close to the maximum. Performer *A* stands as shown with hands cupped (fingers can be laced or one hand above the other, as preferred). *B* stands away from *A,* facing *A* and walks toward *A. B* places one foot for toss in *A's* cupped hands and hands on *A's* shoulders. *B* straightens leg and extends body as *B* tosses with long follow through. The follow through is extremely important in getting maximum height. The toss must be timed with the leg extension of *B. B* does back somersault. Use a landing mat and overhead mechanic or two experienced hand spotters for learning this toss.

You might begin with a tuck back somersault and progress gradually over a period of time to pike and layout positions. Twisting-back-somersaults can also be done, but because these are more advanced moves, most performers will want to go on to other stunts now and come back to these later.

The high-toss-back-somersault is a very important tempo stunt in the learning progression. Because ofthe great height and somersaulting momentum possible, this basic stunt is used in a variety of ways for more advanced work in both partner and group sports acrobatics. Therefore, you should spend considerable time on this element and learn to do it with good form and control. Key points in doing a high somersault are coordinating the timing of *B's* leg straightening with *A's* toss, and *A* using a vigorous toss with a long follow through. When done well, *A's* hands will wind up above the head with *B's* leg (used for toss) straight before *A* and *B* lose contact. Remember, you must get the momentum for height and somersaulting before contact with partner is lost. Once in free flight, the best you can do is use what you have to advantage.

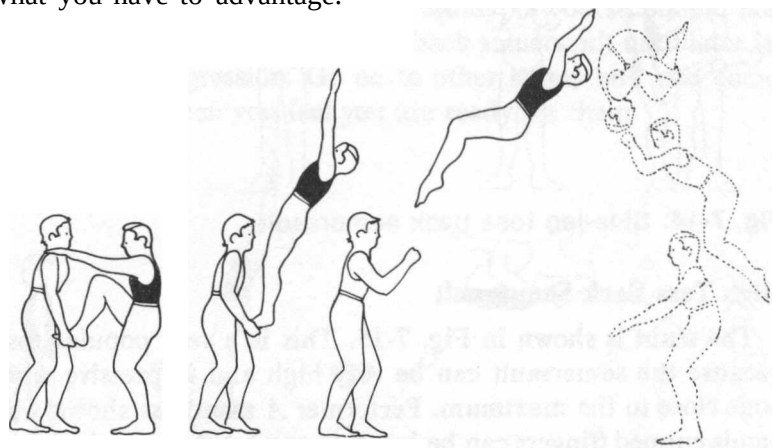


Fig. 7-15. High toss back somersault.

Ankle Toss Front Somenault

Begin as shown in Fig. 7-16. On first attempts, use landing mat and spotters. *B* should be able to do a front somersault in individual tumbling before attempting this partner stunt. On signal, *B* does front somersault as *A* tosses. *B* completes front somersault and lands standing on feet.

The ankle-toss-front-somersault is generally easiest in a tuck position. When this can be done well, try a pike-front-somersault. More difficult is a front-somersault-with-twisting. First comes a front somersault with a half twist or a *brandy* (with an

early half twist with eyes maintaining sight of mat during entire stunt). Front somersaults with full, one-and-a-half, and even greater amounts of twisting are also possible. The twisting stunts can be learned in an overhead mechanic with a twisting belt. However, because the twisting stunts are fairly advanced, you will probably want to go on to other stunts and return to these later.

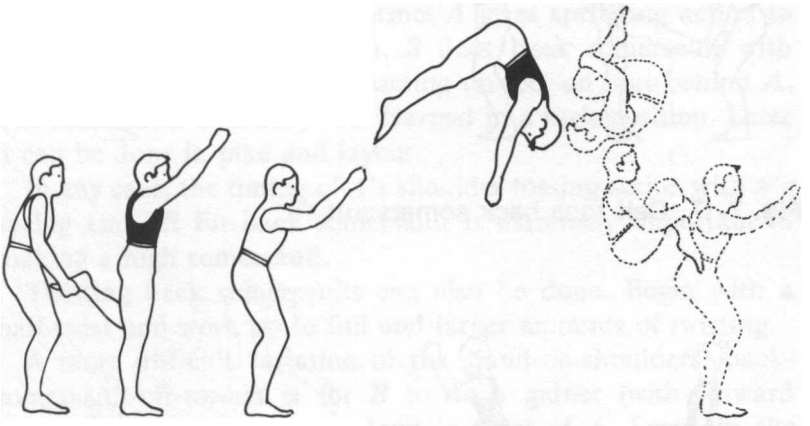


Fig. 7-16. Ankle toss front somersault.

## Calf Toss Back Somenault

The sequence is shown in Fig. 7-17. *B* keeps leg straight while *A* tosses. The somersault is generally easiest in tuck position. Use landing mat and either overhead mechanic or two experienced hand spotters on first attempts.

When the calf-toss-back-somersault in a tuck position can be done with good form and control, pike and layout somersaults can be attempted.

## Front Somenault from SItting on Partner's Feet

The basic sequence is shown in Fig. 7-18. This is generally more difficult than a back somersault from partner's feet, as covered previously.

Performer *B* sits on partner's feet. Performer *A* gives foot push and *B* does front somersault and lands standing on mat. A tuck somersault is usually easiest. A pike can also be done.

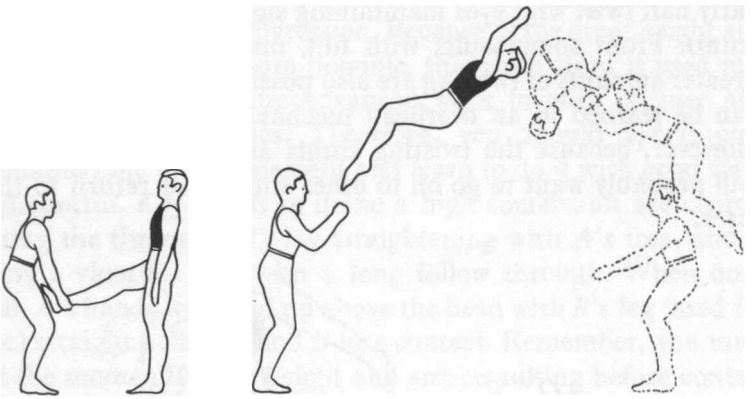


**Fig. 7-17.** Calf toss back somersault.

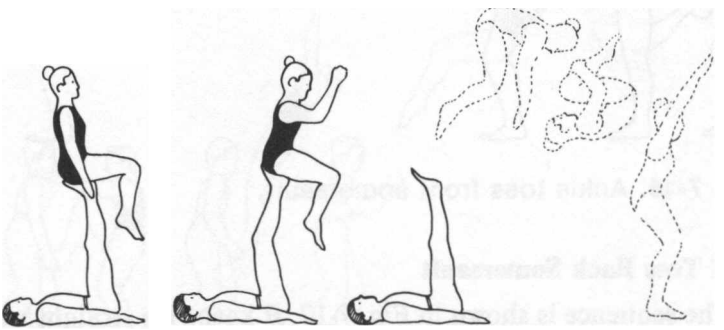


**Fig. 7-18.** Front somersault from sitting on partners feet.

A variation of this stunt is for *B* to sit on *A's* feet in the opposite direction to that shown in Fig. 7-18. The travel forward by *B* must be great enough for *B* to land on mat well beyond *A's* head.

In any case, use a landing mat and either an overhead mechanic or two experienced hand spotters. Landing mats are extremely important for front somersaults, as low landings on just the regular mat can be painful and even cause injuries. Do not be ashamed to use a landing mat. They are even allowed in competition, and the best performers in the world are using them.

ADVANCED SKILLS

From this point the skills become more difficult. These elements should only be attempted by those who have a firm foundation in the skills covered up to this point.

Stand-on-Shoulden, Back-Somenault-Off-to-Mat

Learn with aid of overhead mechanic and landing mat. *B* stands on *A's* shoulders. Performer *A* gives springing action to *B* by leg and shoulder action. *B* does back somersault with backward travel and lands standing on feet on mat behind *A*. The somersault is usually first learned in a tuck position. Later it can be done in pike and layout.

In any case, the timing of *A's* shoulder tossing action with *B's* spring and lift for back somersault is extremely important in making a high somersault.

Twisting back somersaults can also be done. Begin with a half-twist and work up to full and larger amounts of twisting.

A more difficult variation of the stand-on-shoulders, back-somersault-off-to-mat is for *B* to do a gainer (with forward travel) back somersault and land in front of *A*. Learn in the mechanic. Begin with a tuck back somersault and work up to pike and layout. Even more difficult are twisting gainer back somersaults.

Stand on Partner'. Feet, Back Somersault Off to Mat

From a foot-to-foot stand, *B* does back somersault off to mat, as shown in Fig. 7-19. Use a landing mat and overhead mechanic on first attempts. Begin with a tuck back somersault and work up to pike and layout positions over a period of time. Performer *A* gives strong foot-push.

A variation is for *B* to face the opposite direction from that shown in Fig. 7-19 and do the back somersault off to the mat. Again, this can be done in tuck, pike, and layout positions.

A more difficult variation with *B* facing either direction is for *B* to do a gainer back somersault. Learn in the overhead mechanic.

Stand-on-Partner'.-Feet, Front-Somenault-Off-to-Mat

From a foot-to-foot stand, *B* does front somersault off to mat,

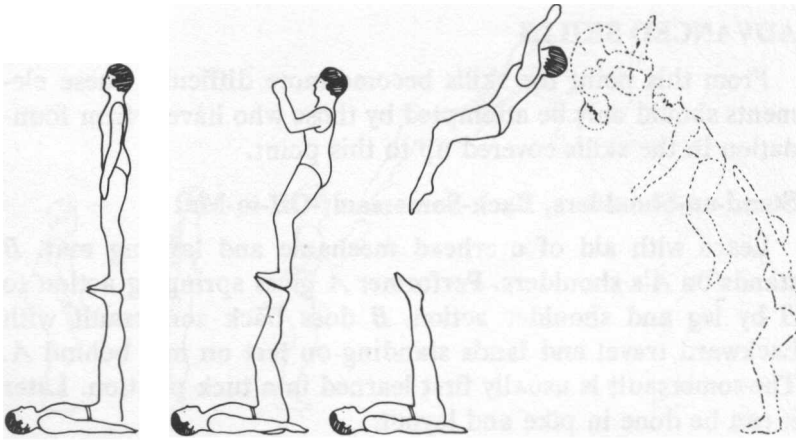


Fig. 7-19. Stand on partner's feet, back somersault off to mat.

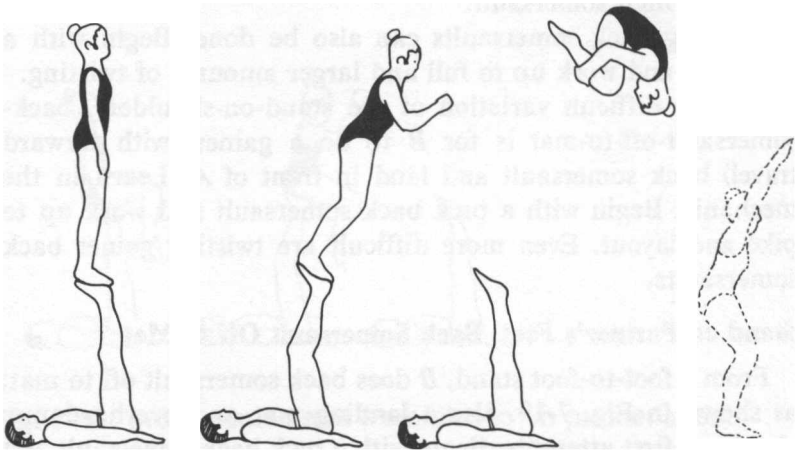


Fig. 7-20. Stand on partner's feet, front somersault off to mat.

as shown in Fig. 7-20. Use a landing mat and overhead mechanic on first attempts. You might start with a tuck front somersault and later try it in pike position. The timing of the foot-push by *A* is extremely important in making a good front somersault. The landing is usually slightly more difficult on this stunt than the back somersault from a stand on partner's feet described above.

A variation is for *B* to face the opposite direction from that shown in Fig. 7-20.

High Bent-Arm Hand-to-Foot, Back Somenault Off to Mat

The sequence is shown in Fig. 7-21. Performer *A* holds *B* in high bent-arm hand-to-foot. Performer *A* can give considerable tossing action on this stunt, making possible an extremely high back somersault. *B* starts back somersault as *A* tosses. The somersault can be tuck, pike, or layout. You should learn in the overhead mechanic, as hand spotting is extremely difficult on this stunt. Also, use a landing mat.

Twisting back somersaults can also be done. Begin with a half-twist and, when this is mastered, learn a full twist. Back somersaults with a larger amount of twisting are also possible from the high bent-arm, hand-to-foot stand.

A more difficult variation is for *B* to do a gainer back somersault off. For this, *B* usually faces the opposite direction to that shown in Fig. 7-21, then lands forward of *A* facing in the same direction.

Stand on Shoulden, Back Somenault to Shoulden

Figure 7-22 shows the sequence. This stunt is quite difficult and usually requires considerable practice to perfect. *B* stands on A's shoulders and does back somersault, aided by springing action from *A,* and lands back on A's shoulders. Use an overhead mechanic for learning. Leg and shoulder tossing action by *A* is important to give'B a high enough back somersault so that landing can be made on A's shoulders.

This somersault is usually done in a tuck position, but it is also possible in pike and layout positions.

Stand on Partner's Feet, Back Somersault to Partner's Feet

Learn in an overhead mechanic. Performer *B* stands on A's feet, as shown in Fig. 7-23. *B* does back somersault and lands standing on A's feet. This, of course, is a small landing platform, and the reason why this somersault has a high difficulty rating.

A more difficult stunt is two back somersaults in sequence or swing, the first landing back on A's feet, the second off to the mat.

Feet-to-feet back somersaults are usually done in a tuck position, but pike and layout are also possible. Even more difficult

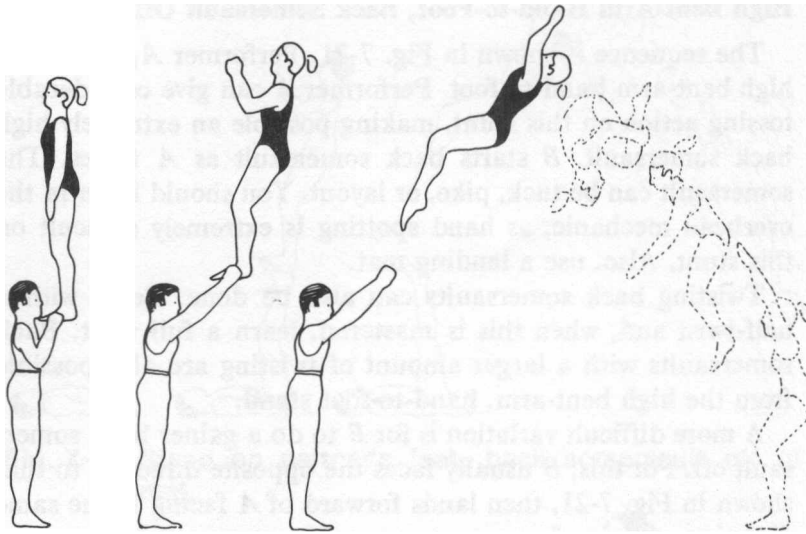


Fig. 7-21. High bent-arm hand-to-foot, back somersault off to mat.

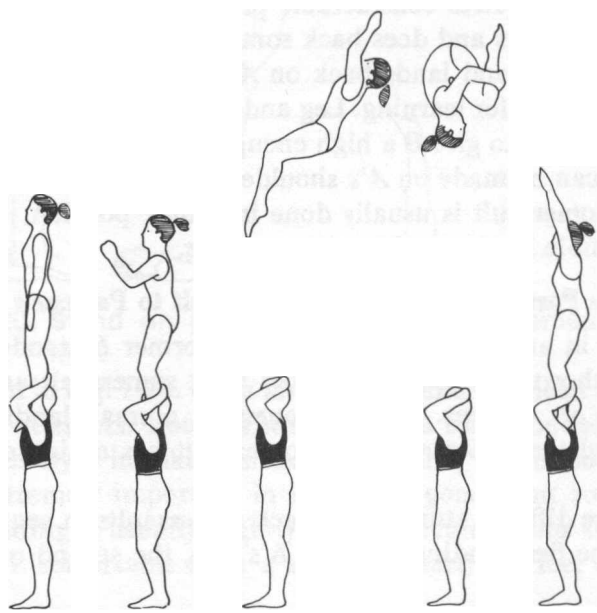


Fig. 7-22. Stand on shoulders, back somersault to shoulders.

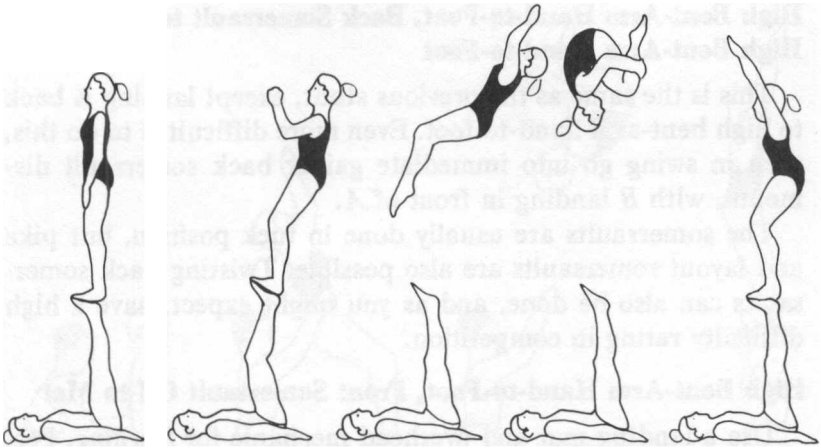


Fig. 7-23. Stand on partner's feet, back somersault to partner's feet.

are twisting back somersaults. These are usually with full or double twists rather than endings with half twists.

Stand on Partner'. Feet, Front Somersault to Partner'. Feet

This is usually more difficult than the back somersault, as the landing is more blind for *B. B* does front somersault with leg push assist from *A* and lands back on *A's* feet.

Another possibility is a front with a half-twist or brandy, landing back on *A's* feet facing the opposite direction. Use an overhead mechanic with a twisting belt for learning this one.

Also possible, but extremely difficult, is a stand on partner's feet, front somersault with one-and-a-half twists to partner's feet.

High Bent·Arm Hand-to-Feet, Back Somersault to Stand on Partner'. Shoulden

Learn in the overhead mechanic. From a bent-arm hand-to-foot with *A* and *B* facing same direction, *A* tosses as *B* does back somersault. *B* lands standing on *A's* shoulders.

Usual progression is to do tuck back somersault first, then pike, and finally layout. Twisting back somersaults are also possible.

**mgh Bent-Arm Hand-to-Foot, Back Somenault to mgh Bent-Arm Hand-to-Foot**

This is the same as the previous stunt, except landing is back to high bent-arm hand-to-foot. Even more difficult is to do this, then in swing go into immediate gainer back somersault dismount, with *B* landing in front of *A.*

The somersaults are usually done in tuck position, but pike and layout somersaults are also possible. Twisting back somersaults can also be done, and as you might expect, have a high difficulty rating in competition.

**HIgh Bent-Arm Hand-to-Foot, Front Somenault Off to Mat**

Use a landing mat and overhead mechanic for learning. Performers *A* and *B* face same direction, with *B* in high bent-arm hand-to-foot stand. Performer *A* gives tossing action as Binitiates front somersault. *B* does front somersault and lands standing on mat.

The front somersault can be done in tuck or pike positions.

More difficult are front somersaults with half- and one-and-a-half twists. For learning these, use an overhead mechanic and twisting belt.

**HaIf-Back-Somenault from Mat to Bent-Arm mgh Hand-to-Hand**

The half-back-somersault is usually done from a running approach and a roundoff or a roundoff and back handspring. At the half-somersault position, *A* steps under *B* and catches *B* in bent-arm high hand-to-hand. The somersault is usually done in a layout position.

Hlp **Toss Back Somenault to Stand on Partner'. Shoulden**

Figure 7-24 shows the sequence. Performer *A* tosses *B* from just below waist level. Performer *B* does back tuck somersault and lands on A's shoulders. This takes a powerful toss by *A* to get the necessary height for *B* to complete the somersault and land on A's shoulders.

I have only seen this done in tuck position, but it might be possible in pike or even layout.

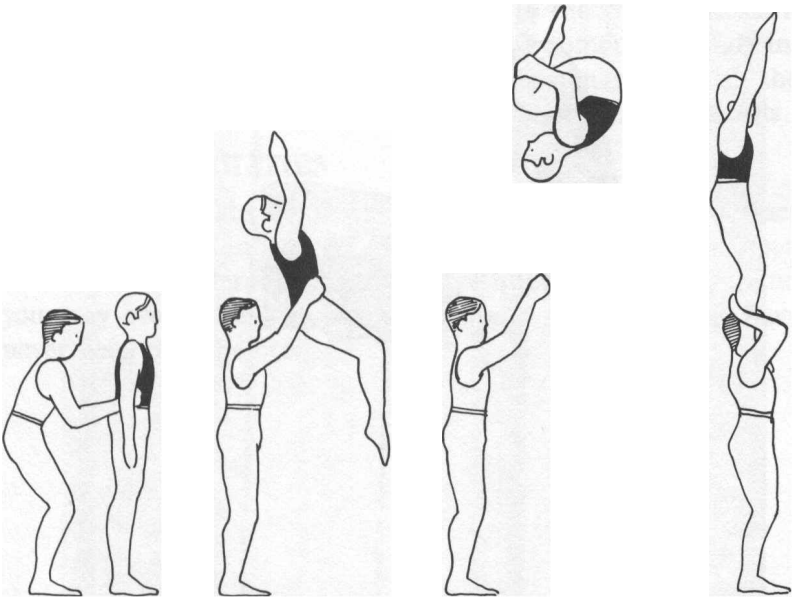


Fig. 7-24. Hip toss back somersault to stand on partner's shoulders.

Double Somersaults

Double somersaults from various tosses are being done by more and more pairs at high levels of sports acrobatics competition. Two fairly common tosses into double back somersaults are the high toss and high bent-arm hand-to-foot toss. Double back somersaults are being done not only in tuck position, but also in pike and layout.

Twisting Double Somersaults

Even more difficult are twisting double somersaults, and a number of pairs, especially men's pairs, are using these in world-class competition. I suggest learning the particular twisting double somersault first on a trampoline or springboard into water. On the first attempts with a toss in partner sports acrobatics, use a landing mat and an overhead mechanic with a twisting belt. Some twisting double somersaults include a full

Fig. 7-25. Somersault performed at great height by world class mixed pairs. (Courtesy *AcroSports* magazine)

twisting double back with the fuil twist in the first somersault (full in, back out) or a half-twist in each somersault (half in, half out) and a half-twisting, double-front somersault with the half-twist in the first (half in) or second (half out) somersaults.

## OTHER POSSIBILITIES

Some of the main elements used to make up tempo routines for pairs' events in sports acrobatics competition have been detailed in this chapter, but there are hundreds of others, and you may even be able to think up some new ones that have never been done before.

# 8

# Routines

The partner balancing and tempo elements covered in Chapters 6 and 7, along with variations and original stunts, can be combined into hundreds of competitive routines. The emphasis in this book is on competitive or "sports" acrobatics routines, but using the same principles with appropriate modifications, routines for demonstrations, acts, cheerleading, and so on can also be created.

## COMPETITIONS

There are three pairs events: men's pairs, women's pairs, and mixed pairs. These are separate competitions: Men's pairs compete only against other men's pairs, and so on. In high levels of competition, there are both compulsory (prescribed) and optional exercises. The compulsory exercises are drawn up by governing bodies and distributed ahead of time. All competitors in an event do the same compulsory exercises.

The performers or coaches themselves invent the optional exercises. All pairs in a competition will do different optional exercises.

At high levels of competition, two kinds of optional exercises are used in each pairs event. One emphasizes balancing or static elements, the other tempo. However, at this point begin-

ners should not be overly concerned about this duality; they should use both types of elements in their routines.

After basic elements can be formed into elementary combinations of balancing and tempo elements, performers can start learning the more technical aspects of competitive rules (see Appendix, and then gradually, as skill levels improve, work up to more advanced exercises that meet these rules.

Besides transition from one element into another, many factors become important for more advanced competitive routines: dance, choreography, individual tumbling sequences between partner elements, and even the size difference between partners of a pair team. Some of the competitive exercises are done to music.

Sports acrobatics competition, at least on the international level, is relatively new, and the rules and trends of the sport are undergoing many changes and revisions. Therefore, more advanced competitors should obtain copies of the latest rules from the United States Sports Acrobatics Federation and also keep abreast of the latest trends in the sport through *Aero-Sports* magazine.

## ELEMENTARY ROUTINES

Routines or exercises are combinations of elements. These should be combined in an effective manner so that one element flows into the next. The basic principle is to combine two elements from Chapters 6 and 7 and work on the transition between them. Of course, some elements combine easily with others and others don't, so selection and arrangement of elements are important.

Here's an example. Begin with standing on knees facing forward, as detailed in Chapter 6 and illustrated in Fig. 6-2. After holding the balance position for five or six seconds with good form, *A* places head between *B's* legs and lifts *B* up to a position sitting on *A's* shoulders. Hold the balance position for five or six seconds. Performers *A* and *B* then join hands and *B* moves to standing on *A's* shoulders. Hands are released and *A* switches grasp to *B's* legs. The standing-on-shoulders balance position is held for five or six seconds with good form (Fig.

6-15). Performers then do fall-forward-to-feet front rolls, as described in Chapter 7.

Or, instead of the fall-forward dismount, do a hand-hold, front-roll-off-forward-to-stand, as described in Chapter 7 and illustrated in Fig. 7-10.

Another way to start this short routine would be for both performers to run forward and do simultaneous cartwheels (individual) in such a manner that the landings are positioned to make a smooth transition to the mount for the first partner element, the standing onknees facing forward.

These same basic ideas can be applied to forming hundreds of different routines. A complete beginners' routine will probably contain five to ten elements. The main point to keep in mind is that routines are basically just elements combined together in an aesthetic manner.

Following are some sample short routines, but keep in mind that these are only intended to get you started. By all means, start using your own ideas as soon as possible. I'll use the same names for the elements as used in Chapters 6 and 7, so if you don't recall what these stunts are, refer to these chapters for assistance.

**Sample Short Routines** (Pain)

Start with a *double front roll.* Go through it one complete time so that *A* will end on back. *B* then stands on *A's* hands and switches ankle grasp to *A's* feet. Go into low hand-to-foot balance and hold balance position for five or six seconds. *B* then grasps *A's* feet and switches feet one at a time to foot-to-foot position, then releases hands and stands up. Balance position is held for five or six seconds. Performer *B* then dismounts forward by jumping off to mat. Performer *A* does individual back roll to feet at the same time, starting the roll just after *B's* feet leave *A's* feet.

Essentially, the routine is a double front roll, low hand-to-foot balance, foot-to-foot stand, and jump dismount by *B* and back roll dismount by *A*.

In a similar manner, hundreds of elementary exercises can be created by using the elementary skills covered in Chapters 5, 6, and 7. At this point you will probably want to put together an

Fig. 8-1. Balance element In competitive routine by a USSR women's pair. (Courtesy *AcroSports* magazine)

exercise containing five to ten elements, with about half from the balancing category and half of a tempo nature. Generally, even though individual skills of balancing and especially tumbling are used to smooth the flow of partner routines, these are not counted as elements of the exercises.

By making minor variations to the skills covered, it is often possible to smooth the flow from one element to another. Suppose, for example, that you want to go from a low hand-to-foot position to sitting on partner's feet facing the opposite direc-

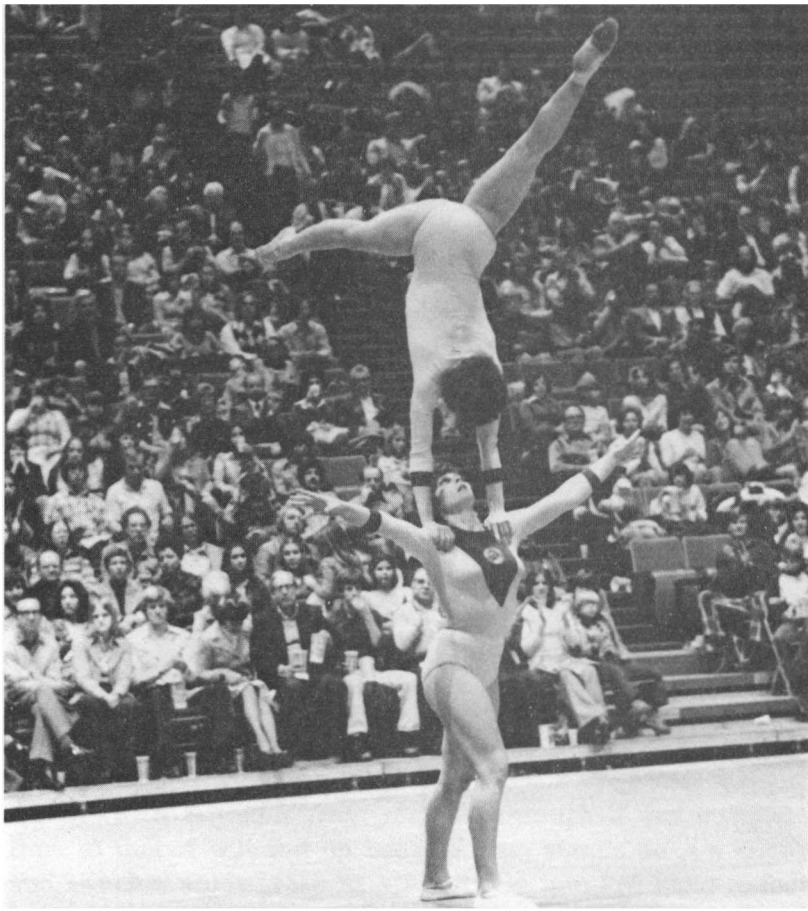


Fig. 8-2. Routines are essentially elements combined together in an effective manner. (Courtesy *AcroSports* magazine)

tion. A simple half-twist or tum, as shown in Fig. 8-3, is one possibility for doing this without returning feet to mat.

Which brings us to another point. Whenever possible, you should try to combine skills so that the *B* performer does not have to return to a stand on the mat. In high levels of competition, the *B* performer is generally only allowed to return to feet on the mat once in the routine, usually in the middle of the exercise, without point deductions. Additional foot contact results in deductions from the score. (For additional information,

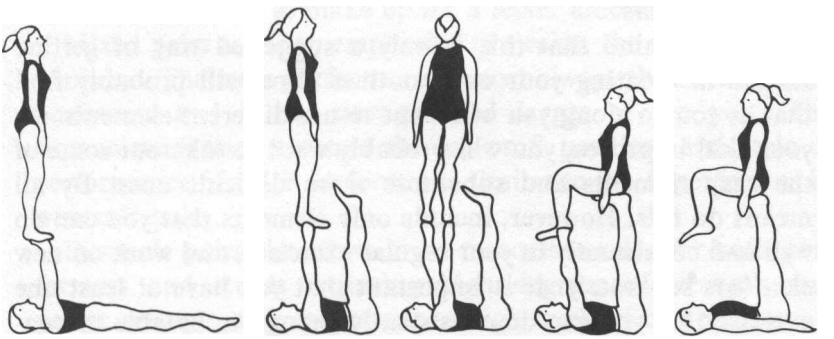


Fig. 8·3. Transition move from low hand-to-foot position to sitting on partner's feet facing opposite direction.

including exceptions to this, see Appendix). For now, the main thing to realize is that partner exercises, once started, are primarily going from one element to another without *B* returning to the mat.

Using only elementary skills, it is quite limiting to follow this rule to the letter, especially with elementary tempo elements, but beginners should keep the rule in mind, and whenever practical, combine elements without *B* returning to the mat. Practicing an elementary exercise containing ten elements, *B* should return to stand on mat no more than three or four times.

For practice, at least to get you started, take the following three balancing elements:

(1) front swan or arch on feet
(2) knee and shoulder stand
(3) standing on shoulders

and the following three tempo elements:

(a) knee and shoulder spring
(b) ankle toss flying back roll
(c) standing on shoulders, hand hold, front roll off forward to stand

and combine these in any order to form a six-element routine. If you cannot do one or more of these skills, substitute other skills in their place. Also, you can use individual skills to smooth the flow of your routine, but do not count them as additional elements.

Keep in mind that this is only a suggested way of getting started in creating your own routines. You will probably find that as you go along you will want to use different elements. As your skill improves, you will probably want to take out some of the easy elements and substitute more difficult ones. By all means do this. However, include only elements that you can do well and consistently in your regular exercises, and work on new elements separately. It is important that you have at least one exercise that you can do consistently enough to be able to concentrate on form and flow, rather than worrying about whether you are even going to be able to do certain skills.

## INTERMEDIATE AND ADVANCED EXERCISES

By continuing the above progression, you will eventually be including intermediate and advanced elements in your routines. At one point you will probably have an exercise with one balancing or tempo intermediate element and the rest elementary elements. When this routine can be done well, you will probably want to add a second intermediate element and perhaps take out one of the elementary elements. And so on. Keep in mind, however, that you should add difficulty *only as fast as this can be done without sacrificing control and form.* And you should be able to do your regular exercises repeatedly in practice. If you cannot, it generally means that you have included too much difficulty for your present skill level. Do not make the mistake of thinking that if you cannot do an exercise consistently in practice, "psyched up" for competition you will be able to do it. This seldom works in sports acrobatics where *how* you do it, as well as what you do, counts in the scoring.

To this point we have assumed that the exercises done by women's pairs, mixed pairs, and men's pairs are all essentially the same, but actually there are important differences, and these become more and more apparent as the level of difficulty increases.

In women's pairs, a high degree of importance is placed on feminine grace, dancing, and poise; elements requiring extreme strength, such as planches, are generally not used. Flexibility is often used instead of strength in elements where a high degree of one can be used to make up for a lesser amount of the other.

Mixed pairs tends to emphasize two roles, the masculine and feminine. The male performer is almost always the bottom or *A* performer and is the stronger and larger of the pair. The woman performer assumes the top or *B* position, and style of performance of the *B* performer is similar to the *B* performer in women's pairs.

In men's pairs the stress is on masculine roles for both performers and stunts requiring high degrees of strength and power are extremely important in high levels of competition.

Let's look at some examples of combining elements into routines for each of the pairs events, keeping in mind the above points.

## WOMEN'S PAIRS ROUTINES

An exercise might begin with individual dance, flexibility, or tumbling moves done in synchronization. For example, both *A* and *B* might work parallel to each other a few feet apart and both begin with a run and skipstep to roundoff, back handspring. Or the paths might be changed slightly so that the performers end up in position for the start of the first partner stunt, which is, let's say, a low hand-to-hand (first partner element). Performer *B* kicks or presses into low hand-to-hand and holds balance position for five or six seconds. She then comes down to tuck arm support and brings "legs between arms and places feet on *A's* legs. Performer *A* stands as *B* leans forward and they go into standing-on-partner's-knees-facing-forward. The position is held for five or six seconds (second element). Without dismounting, *B* turns to standing on one leg facing backwards (toward partner; this is third element). Performer *B* holds balance with deep arabesque while holding only one hand of *A*. Again without dismounting, *B* goes to standing-on-partner's-shoulders. This is the fourth element. Performers then hold hands and *B* does front-roll-off-forward-to-stand (fifth element). An alternate, more difficult, ending from the standing-

on-partner's-shoulders would be a back somersault off to mat.

This could be the end of the routine, or performers could do dance or flexibility movements, then continue on with a second sequence of five elements without touching the mat by *B* performer until landing from dismount on last element.

Although competitive routines often contain only five or six elements, these must be quite difficult to make the routine a reasonable length of time, usually between one and two minutes. You can work on an exercise that takes about one-and-a-half minutes, even if if takes more than five elements to make the routine this long. However, by the same token, your routine should not go much longer than this either.

**MIXED PAIRS**

A roundoff, back handspring beginning in synchronization, as described for women's pairs, might also be used at the beginning. Performer *B* could then do a mount to standing on *A's* shoulders. Hold. This is the first element. Performer *B* then steps forward one foot at a time to *A's* hands (It has arms bent and just forward of shoulders). The balance position is held for five or six seconds (second element). Performer *A* then straightens arms to regular high hand-to-foot, which is held for five or six seconds (third element). Performer *B* then goes into a backbend and grasps her ankles and the position is held for five or six seconds (fourth element). Performer *B* returns to stand in high hand-to-foot. Performer *A* then lowers *B* to high bent arm hand-to-foot. (This time it doesn't count as an element, as it is a repeat.) Then, *B* does a gainer-back-somersault-dismount-to-stand-on-mat (fifth element).

This could be the end of the routine, or *A* could do an individual tumbling sequence and *B* flexibility tumbling or dance movements to new position on mat, then a second sequence of elements combined so that *B* does not land on mat until landing from the last element of the sequence.

The routine stresses masculine qualities of Performer *A* and feminine qualities of Performer *B.*

MEN'S **PAIRS**

We'll make this one a sample of a difficult routine. Perform-

er *B* runs and does roundoff into half layout back somersault to high bent-arm hand-to-hand with *A.* This is the first element. In same bent-arm position by *A, B* shifts to one-arm handstand and holds for five or six seconds (second element). Performer *B* goes back to regular handstand (repeat). Performer *A* straightens arms to regular high hand-to-hand position, and Blowers body to planche position and holds five or six seconds (third element). Performer *B* then lowers legs to standing on *A's* shoulders, but the stand is not held for the required length of time and does not count as an element (also, it's too easy in comparison to the other elements). Performer *B* then does a back somersault and lands standing on *A's* shoulders again (fourth element). In swing, *B* does gainer back somersault to standing landing on mat (fifth element).

This routine has been loaded with strength and power moves to emphasize masculine qualities.

**CREATIVE ASPECTS**

The material above should give you ideas for creating your own exercise. However, the specific elements used in these routines are intended only as samples, and you should by all means invent an original exercise, putting in the elements that you and your partner can do best. There's almost an endless number of possible routines, so you can really let your creative imagination go to work here.

# 3

# Group Skills

# 9

# Women's Trios

Women's trio can be started after learning some elementary partner work. Three women working together can often do elements of greater difficulty than is possible for two, and there are also elementary stunts that are no more difficult than the elementary stunts done by pairs.

Although the trio elements and exercises covered in this chapter are primarily geared for women, some of the elements can also be done by men and used, with appropriate modifications, in competition in men's fours.

The descriptions that will follow use performer *A* as bottom person, performer *B* as middle person, and performer *C* as top person. In general, the largest and strongest woman of the trio will be A, *B* is lighter than *A,* and *C* is lightest. On some stunts the positions are rather arbitrary, but on others they become extremely important. In many cases, Performer *B* alternates between roles similar to *A* and *B* in partner work, that is, on some stunts she is the bottom person who holds or tosses another person, on others she will do balance positions or somersaulting.

This chapter includes two separate progressions, one for balancing and the other for tempo. These can both be started at the same time.

## ELEMENTARY BALANCING

It should be noted that many trio elements are similar to partner elements.

### Dual Handstand Formation

Figure 9-1 shows the balance position. Performer *A* stands between Band *C.* Performers Band *C* kick up to handstands at the same time. Performer *A* catches Band *C* by ankles, as shown. Balance position is held for five or six seconds. Performer *A* then releases ankles, and Band *C* return to mat at the same time.

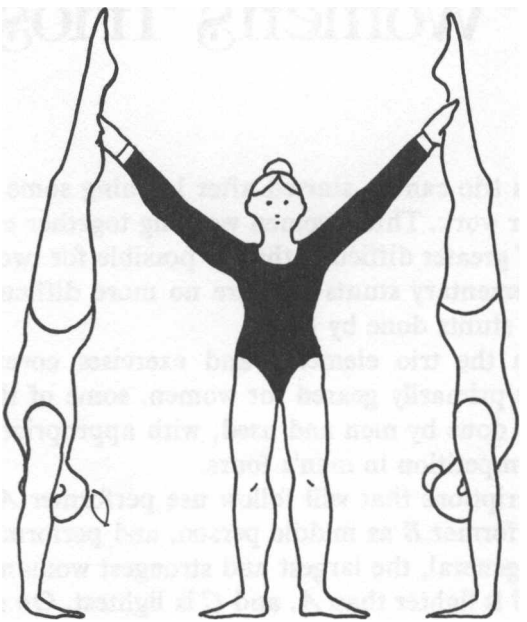


Fig. 9·1. Dual handstand formation.

The mounting and dismounting should be made as smooth as possible. The kicking up to handstands, as described above, is usually easiest, but press-ups can also be used. In the balance position, both handstands should have equal arch and *A's* arms should be extended. The mounting and dismounting should be synchronized.

Stand on Partners' Knees

Performers *A* and Bassist *C* by hands or waist up to balance position shown in Fig. 9-2. Performers *A* and *B* shift hands to *Cs* legs. Performer *C* arches forward and holds balance position with good form. Arms of all performers should form pleasing pattern. To dismount, *C* jumps off forward to stand on mat.

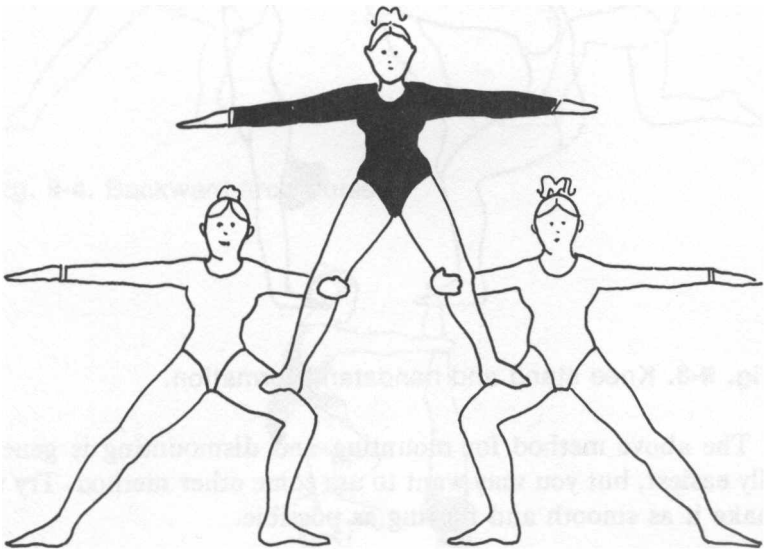


Fig. 9-2. Stand on partners' knees.

Knee Stand and Handstand Formation

The balance position is shown in Fig. 9-3. Performer *B* mounts to knee stand on *A's* knees, as was done in partner work. *C* kicks up to handstand to ankle hold by *B,* as shown. The balance position should be held for about five or six seconds. Dismount by *B* releasing *Cs* ankles and *C* returning to feet. *B* then jumps off forward to stand on feet.

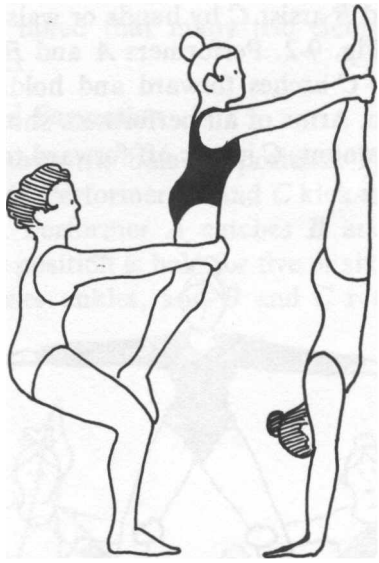


Fig. 9-3. Knee stand and handstand formation.

The above method for mounting and dismounting is generally easiest, but you may want to use some other method. Try to make it as smooth and flowing as possible.

Backward Arch Poise

Hundreds of poises that essentially add a third performer to a partner stunt are possible. Figure 9-4 shows a sample. Mounting and dismounting methods are extremely important. Form, grace, and body control are often more important on these stunts than difficulty factors, as many of these poises are quite easy.

Sitting on Shoulden and Bandstand Formation

The balance position is shown in Fig. 9-5. Performer *B* mounts first to position sitting on A's shoulders. Performer C then kicks up to handstand with ankle hold by *B.* The balance position is held with good form for about five or six seconds. Dismount by C returning to feet first. Performer *B* can then dismount by one of the methods used in partner work.

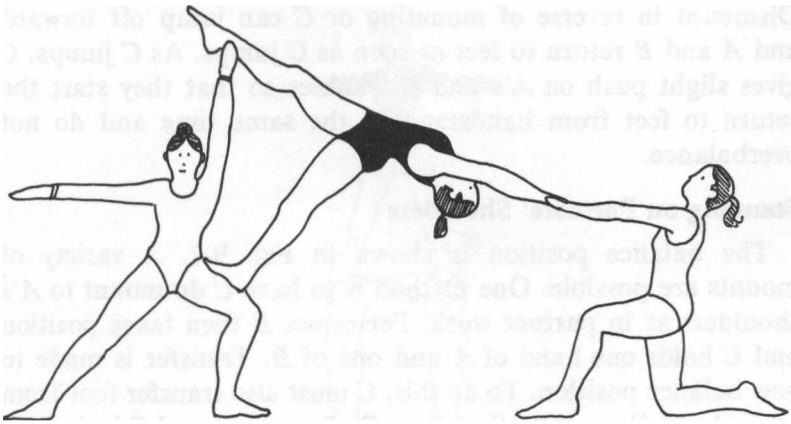


Fig. 9·4. Backward arch poise.

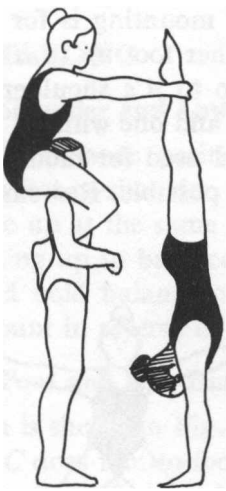


Fig. 9·5. SItting on shoulders and handstand formation.

Standing on Necks of Partners Doing Handstands

Figure 9-6 shows the balance position. Begin with *A* and *B* kicking up to handstands at the same time and C catching ankles (one ankle of each partner). Performer C then steps up onto partners' necks one foot at a time. The balance position is held with the handstands in good form and *Cs* arms extended.

Dismount in reverse of mounting or C can jump off forward and *A* and *B* return to feet as soon as C jumps. As C jumps, C gives slight push on *A's* and *B's* ankles so that they start the return to feet from handstand at the same time and do not overbalance.

### Standing on Parlnen' ShouIden

The balance position is shown in Fig. 9-7. A variety of mounts are possible. One method is to have C do mount to *A's* shoulders as in partner work. Performer *B* then takes position and C holds one hand of *A* and one of *B.* Transfer is made to new balance position. To do this, C must also transfer foot from one side of *A's* neck to the other. Performers *A* and *B* lock arms and C stands with arms at sides or outstretched. To dismount, C holds one hand with *A* and one with *B* and jumps off forward to stand on mat.

A second method of mounting is for C to use *A's* leg as a step, with C placing other foot up to *B's* shoulder. Other foot then goes from step up to *A's* shoulder. While doing this, C holds one hand with *A* and one with *B.*

Regardless of method used for mounting, try to make it as smooth and flowing as possible. Remember, the mount counts as part of the stunt.

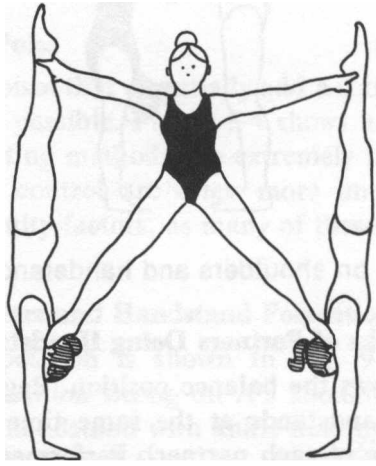


Fig. 9·6. Standing on necks of partners doing handstands.

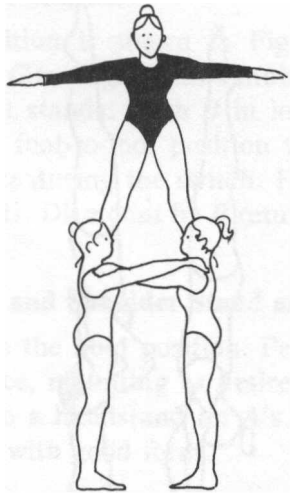


Fig. 9-7. Stand Ing on partners' shoulders.

## INTERMEDIATE BALANCING

### Simultaneous Feet-to-Shoulder and Low Ann·to·Ann Stands

Figure 9-8 shows the balance position. Performer *B* does arm-to-arm and *C* does feet-to-shoulder. Performer *B* can go up first, or Band *C* can go up at the same time. Mounting can be by kicking up or pressing up to balance positions. If possible, both performers should hold balance positions with the same amount of arch. Dismount in reverse of the mounting.

### Simultaneous Feet-to-Feet and Low Hand-to-Feet Stands

The balance position is shown in Fig. 9-9. Performer *B* does low hand-to-hand and *C* does foot-to-foot. Performer *C* mounts first to foot-to-foot, using one of methods from partner work. *B* then mounts to low hand-to-foot.

### Sitting Three-Higb

Begin by *C* mounting and sitting on *B's* shoulders as is done in partner balancing. Performer *A* stands behind *B* and places neck between *B's* legs. Performer *A* then stands up, lifting *B* and *C* to a three-high sitting formation. Balance position is held with all performers with outstretched arms. Dismounting is reverse of mounting.

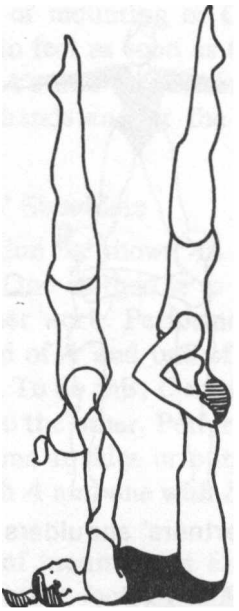


**Fig. 9-8.** Simultaneous feet-to-shoulder and low arm-to-arm stands.

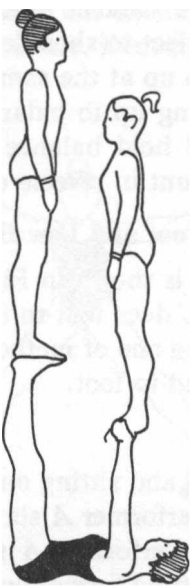


**Fig. 9-9.** Simultaneous foot-to-foot and low hand-to-foot stands.

**Double Foot-to-Foot Balance**

The balance position is shown in Fig. 9-10. One way to mount is for Band C to begin with simultaneous low hand-to-foot and foot-to-foot stands. With *B* in low hand-to-foot position, *B* steps up to foot-to-foot position with C. Performer C gives hand assistance during the switch. Hold balance position for five or six seconds. Dismount by *B* returning to low hand-to-foot stand.

**Simultaneous Knee and Shoulder Stand and Handstand on Knees**

Figure 9-11 shows the hold position. Performer *B* does knee and shoulder balance, mounting as desired. Performer C then kicks or presses into a handstand on *A's* knees. Balance position should be held with good form.

**Simultaneous Low Hand-to-Hand and Foot-to-Foot Stands**

The balance position is shown in Fig. 9-12. Performer *A* assumes the base position. Performer *B* does foot-to-foot balance. Performer C kicks up or presses up into handstand. Performer *B* catches and holds *Cs* ankles with extended arms. Hold balance position with good form for about five or six seconds before dismounting.

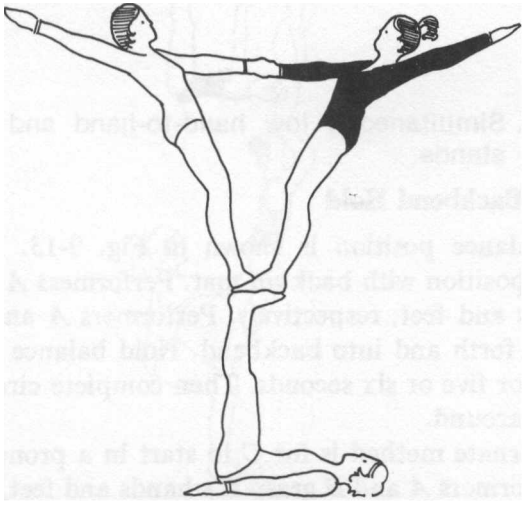


**Fig. 9-10.** Double foot-to-foot balance.

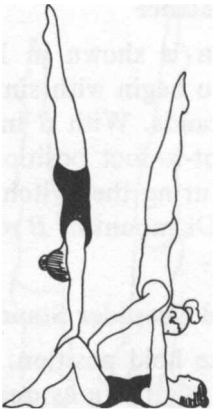


**Fig. 9-11.** Simultaneous knee and shoulder stand and handstand on knees.

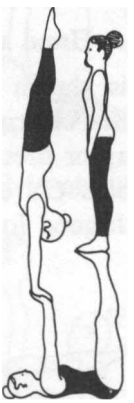


**Fig. 9-12.** Simultaneous low hand-to-hand and foot-to-foot stands.

**Swing to Backbend Hold**

The balance position is shown in Fig. 9-13. Performer C starts in position with back on mat. Performers *A* and *B* grasp *Cs* hands and feet, respectively. Performers *A* and *B* swing C back and forth and into back bend. Hold balance in backbend position for five or six seconds. Then complete circle by swinging C on around.

An alternate method is for C to start in a prone position on mat. Performers *A* and *B* grasp *Cs* hands and feet, respectively. This time *A* and *B* will reverse directions and face outward when C is in backbend.

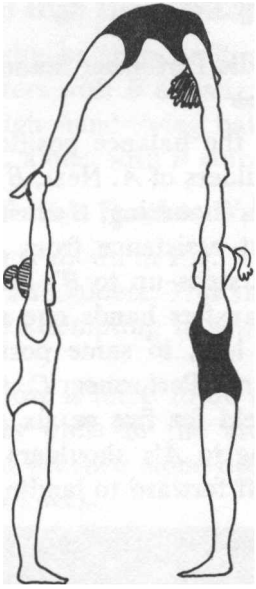


Fig. 9-13. High hand-to-foot and hand-to-hand backbend hold. Swing to backbend hold.

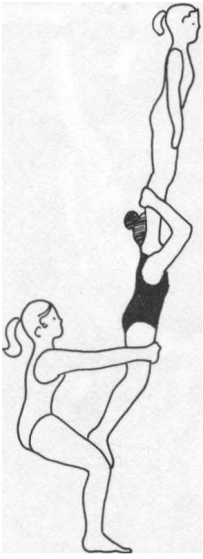


Fig. 9-14. Three-high with middle performer standing on bottom person's knees.

AnV ANCED BALANCING

Three High with Middle Performer Standing on Bottom Person's Knees

Figure 9-14 shows the balance position. Performer *C* first does standing on shoulders of *A.* Next, *B* goes into standing on knees of *A.* While *B* is mounting, *C* must maintain balance on *A's* shoulders without assistance from *A.* Performer *C* then grasps *B's* hands and steps up to *B's* shoulders one foot at a time. Performer *B* transfers hands one at a time as Band *C* release hands to *Cs* legs, to same position used on regular standing on shoulders. Performer *C* then stands and the balance position is held for five or six seconds. Dismounting can be by *C* returning to *A's* shoulders or by *C* holding *B's* hands and jumping off forward to landing mat.

Standing on Knees and Bent·Arm IDgh Hand-to-Hand

The balance position is shown in Fig. 9-15. Begin as in above stunt, except that *C* kicks up or presses to bent-arm high hand-to-hand from standing on *A's* shoulders to *B's* hands. To dismount, *C* can return feet to *A's* or *B's* shoulders.

The handstand can also be held with *Cs* legs in split or stag positions.

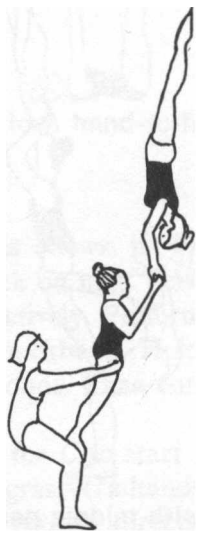


Fig. 9-15. Standing on knees and bent-arm high hand-to-hand.

**Standing on Knees and High** Hand-to-Leg **Balance**

Figure 9-16 shows the balance position. Performer C can mount from *B's* shoulders with *B* already in knee stand. However, going into the high hand-to-leg balance should first be practiced with Band C alone, with *B* standing on the mat.

**Standing on Knees and High Hand-to-Waist Arch Stand**

The balance position is shown in Fig. 9-17. Main difficulty is for C to mount from *B's* shoulders. This should be practiced by Band C alone before attempting it with *B* standing on *A's* knees.

A variation of the above is for C to do a deep arch to backbend and grasp ankles while in the arch balance position. Again, Band C should practice alone before attempting stunt with *B* standing on *A's* knees.

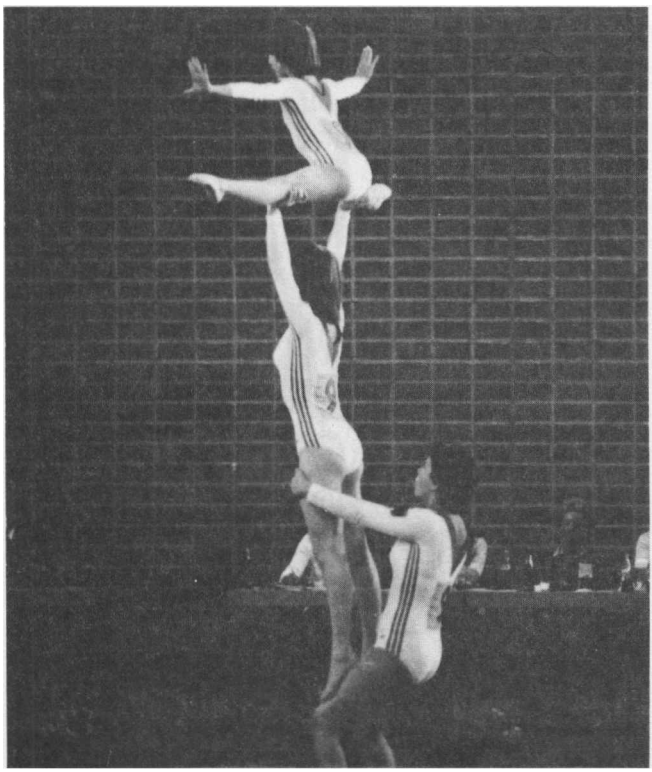


**Fig. 9-16.** Standing on knees and high hand-to-leg balance. (Courtesy *AcroSports* magazine)

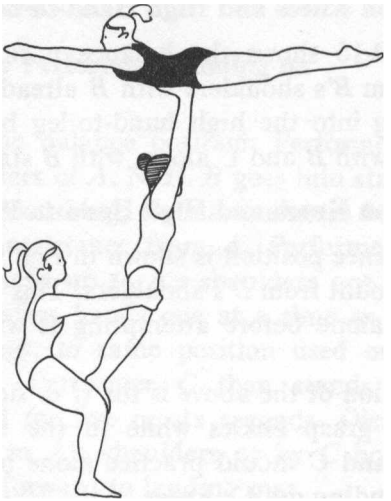


**Fig. 9-17.** Standing on knees and high hand-to-waist arch stand.

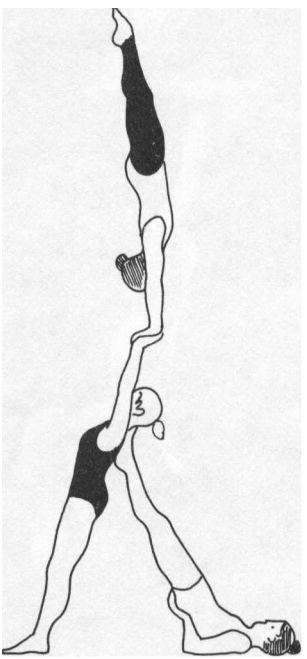


**Fig. 9-18.** Elbow and shoulder balance support for high hand-to-hand.

Elbow and Shoulder Balance Support for High Hand-to-Hand

Figure 9-18 shows the balance position. The high hand-to-hand with holder, which can be *A* or *B,* with bent arms can be learned first. More difficult is the regular high hand-to-hand, as shown.

Handstands on Knees and Arms

The stunt is shown in Fig. 9-19. Performer *B* first does handstand on *A's* knees, as in partner acrobatics. Performer *C* then presses up to a handstand on *A's* arms.

A variation is for *B* to do a deep arch handstand, as shown in Fig. 9-20. This presents a neat appearance when *B's* legs are approximately horizontal while in the balance position.

Standing Three-High

Figure 9-21 shows the balance position. A variety of methods of mounting can be used. You should start by doing a sitting three-high. Performer *B* then stands up. Finally, *C* goes to stand. Dismount in reverse of mounting.

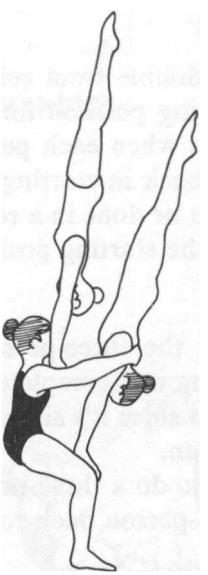


Fig. 9-19. Handstands on knees and arms.

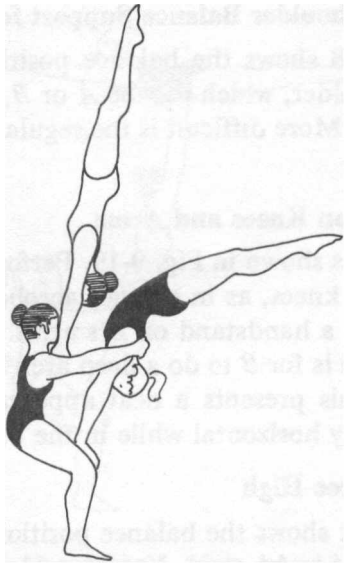


**Fig. 9-20.** Handstand on knees with deep arch and handstand on arms.

## ELEMENTARY TEMPO

### Three-Person Front Roll

This is similar to the double front roll in partner work. Figure 9-22 shows the starting position for the three-person front roll. One complete roll is when each performer has done front roll and performers are back in starting position again.

Two complete rolls can be done in a row, as the ending of the first one is the same as the starting position.

### Three-Person Back Roll

Start the same as for the three-person front roll, only roll backwards. After learning one complete roll, try two in a row, which is no more difficult since it's simply a matter of repeating the same action over again.

Another possibility is to do a three-person front roll, then go immediately into a three-person back roll, or vice versa.

### Assisted Front Somersault

Performers *A* and *B* hold Cs arms. Performer *C* does front

**Fig. 9·21. Standing thre&-high.**

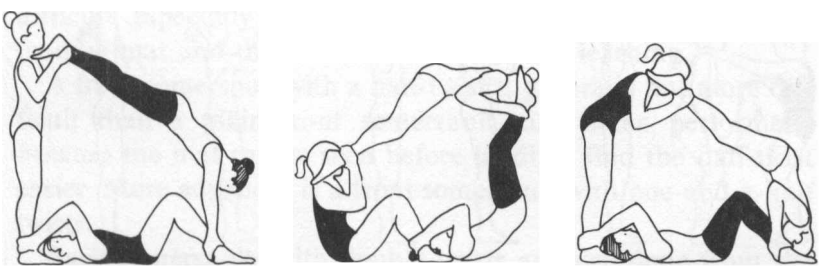


**Fig. 9·22.** Three-person **front roll.**

somersault with arm assist either from a standing or slow running start. Performer C lands on feet. Somersault can be tuck or pike, as desired. Performer C should use good form during the somersault, with toes pointed and feet and knees together.

## INTERMEDIATE TEMPO

### Sitting Basket Back Somersault Toss

Performers *A* and *B* form a basket with arms. Performer C sits in basket, arches backward, and does back somersault with toss from *A* and *B*. The somersault can be tuck, pike, whipover, or layout, as desired. For learning, use a landing mat and either an overhead mechanic or two hand spotters. With practice, *A* and *B* can both toss and spot. This is a fairly easy back somersault, as a considerable amount of the somersaulting is actually completed before C loses contact with *A* and *B*. Performer C should strive for good form during the somersault and a controlled landing. At first, a low toss should be used. As control and confidence are gained, gradually increase height of toss.

### Pitch to High Arch Position

Performer *B* pitches C overhead, as shown in Fig. 9-23. The toss is similar to that used for the high toss back somersault in partner acrobatics. Performer *A* catches C in high arch position. The arch is held with good form for five or six seconds.

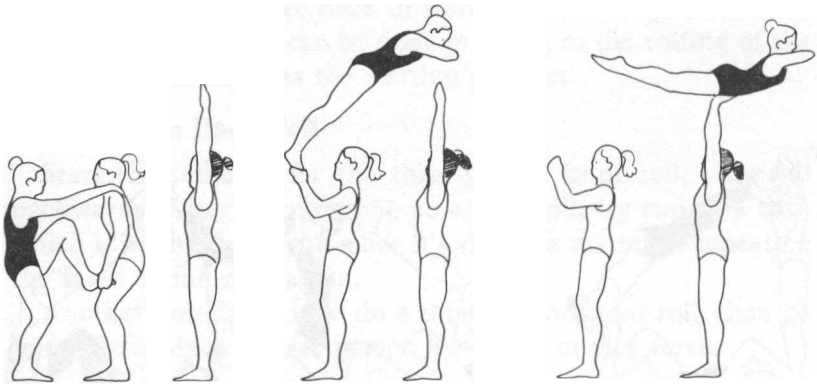


**Fig. 9-23.** Pitch to high arch position.

**Basket Foot Toss Back Somersault**

Performer C jumps feet up onto basket, using hands on heads of *A* and *B* to maintain balance. On signal, usually a silent one, *A* and *B* toss and C does high back somersault. Use a landing mat and overhead mechanic on the first attempts. The back somersault can be done in tuck, pike, and layout positions.

**AnV ANCED TEMPO**

**Stand on Shoulders, Back Somersault to Shoulders of Other Performer**

Performer C stands on *B's* shoulders. On signal, *B* gives leg and shoulder toss to C, who does back somersault and lands on *A's* shoulders. Learn in the overhead mechanic. The back somersault is usually done in the tuck position.

**IDgh Toss Back Somersault, Land on Shoulders of Other Performer**

Performer *A* does high toss of C, who does high back somersault and lands standing on shoulders of *B*. Learn in the overhead mechanic. The somersault is usually easiest in the tuck position, but can also be done in pike and layout.

**Basket Foot Toss to Advanced Somersaulting**

Advanced somersaulting can be done from basket foot toss, as described previously for a back somersault. A back somersault with a full twist is a starter. Learn in the overhead mechanic with a twisting belt.

A front somersault from basket foot "toss is generally more difficult, especially the landing, than a back somersault. Use a landing mat and the overhead mechanic for learning.

A front somersault with a half-twist is generally not more difficult than a plain front somersault, and some performers, because the mat can be seen before landing, find the half-twist easier. More advanced is a front somersault with one-and-a-half twist$.

Back somersaults with double twists are also done from the basket foot toss. Some women's trios are now doing double somersaults, and some even double somersaults with twists.


Fig. 9-24. **Warming up for women's trio competition. (Courtesy *AcroSports* magazine)**

**Basket Foot Toss to Landing on Basket**

For this, C usually works without hand contact with *A* and *B.* The basket is used as a sort of trampoline. One possibility is for C to do a back somersault and land standing again in the basket. More difficult is a back somersault to basket, second back somersault off to mat. Gainer somersaults are also done in a similar manner for dismounting.

## WOMEN'S TRIO ROUTINES

After you learn a few trio elements, you will probably want to put them together into a routine or exercise. Although high-level competition usually requires that all three performers be involved in a stunt to be considered an element in women's trio exercises, beginners may ignore this rule and use partner elements so that they can include at least five partner and trio elements in a single routine. Also, some partner stunts, such as the knee and shoulder spring, can be done in series, the first over one partner, the second over the other.

The principles of forming a routine or exercise are essentially the same as those given for partner work in Chapter 8, with the obvious exception that you now have three performers. You will probably want to set your routine to music, and you may even want to give it a theme.

# to

# Men§ Fours

Men's fours or four men working together in sports acrobatics elements and exercises can be started after some elementary partner work has been learned. While four men working together can often do elements of greater difficulty than is possible for two, there are also elementary stunts that are no more difficult than the elementary stunts done by pairs.

The descriptions that follow will use Performer *A* as bottom person, Performer *B* as next to bottom, Performer C as next level above *B,* and Performer *D* as top person. In general, *A* will be the largest and strongest person, with the other three men progressively smaller, with C the smallest and lightest. On some stunts the positions are rather arbitrary, but on others they become extremely important. Performers Band C must be able to perform roles as both understanders and somersaulters.

This chapter includes separate progressions for balancing and tempo. These can both be started at the same time.

## ELEMENTARY BALANCING

It should be noted that many elements in men's fours make use of partner elements.

Sitting on Shoulders Handstand Formation

Figure 10-1 shows the balance position. Begin by *D* mounting and sitting on *A's* shoulders. Performers Band *C* then kick up to handstands and the balance position is held with good form. Performer *D's* arms should be extended, and Band *C* should hold handstands with approximately equal arch.

Standing on Knees and Knee and Shoulder Stand Formation

The balance position is shown in Fig. 10-2. Performer *B* first does mount to standing on *A's* knees. Performer *D* then does knee and shoulder stand with *C* holding. Performer *B* holds *D's* ankles with extended arms. Hold balance position for five or six seconds before dismounting.

A variation is for *D* to do arm-to-arm balance with *C* instead of knee and shoulder stand.

Arm·to·Arm Formation

Figure 10-3 shows the balance position. Performer *A* first assumes position on mat on back. Performer *B* does arch back to *A's* feet. Performers *C* and *D* press up to arm-to-arm balances at the same time. The arm-to-arm stands should have approximately equal arch and should be held for five or six seconds with good form before dismounting.

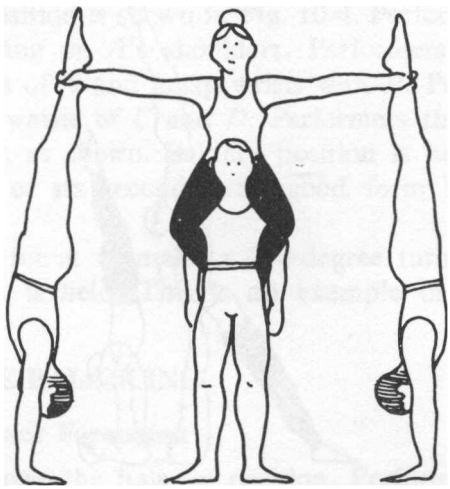


Fig. 10-1. Sitting on shoulders handstand formation.

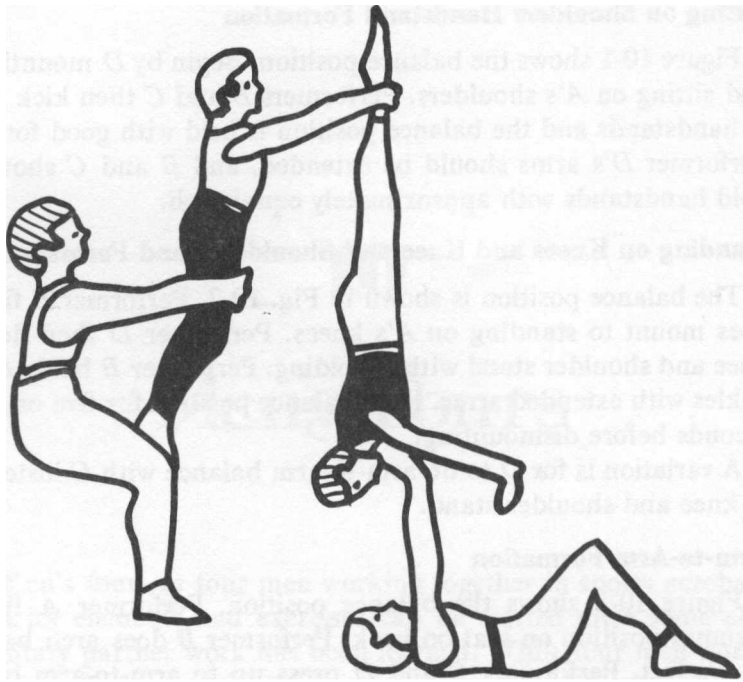


**Fig. 10-2.** Standing on knees and knee and shoulder stand formation.

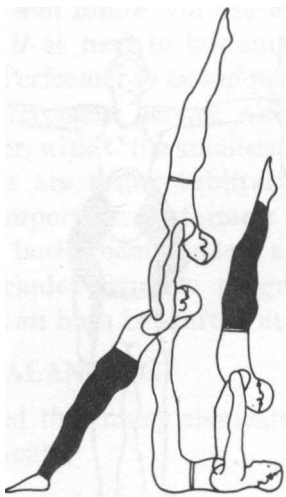


**Fig. 10-3.** Arm-to-arm formation.

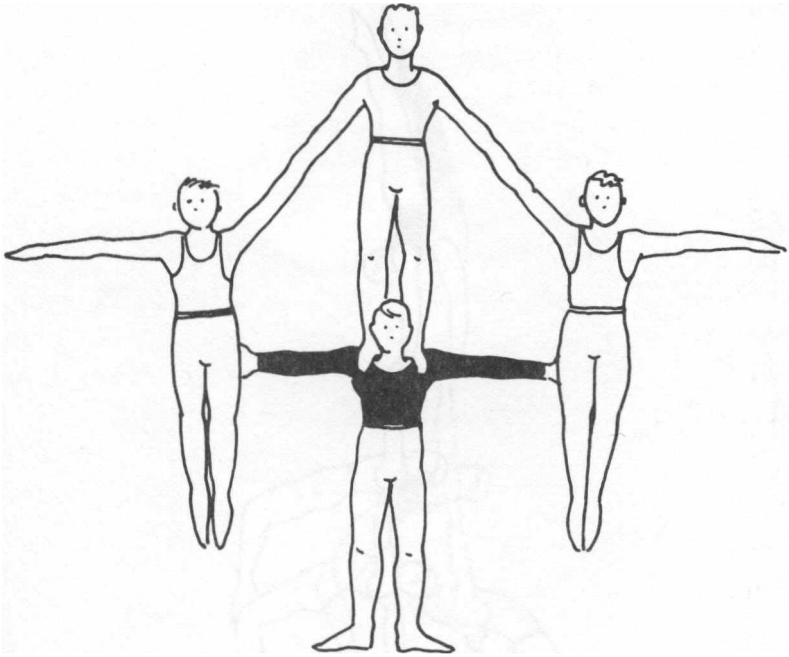


**Fig. 10-4.** Standing on shoulders spread formation.

**Standing on Shoulders Spread Formation**

The balance position is shown in Fig. 10-4. Performer *B* first mounts to standing on *A's* shoulders. Performers *C* and *D* stand to the sides of *A* and grasp wrists with *B.* Performer *A* places hands on waists of *C* and *D.* Performers then go into spread formation, as shown. Balance position is held for approximately five or six seconds with good form before dismounting.

A variation is for *A* to make a 360-degree turn while the spread formation is held. This is an example of a moving pyramid.

## INTERMEDIATE BALANCING

Hand-to-Hand **Stack Formation**

Figure 10-5 shows the balance position. Performer *A* first takes position on back on mat. Then *B* takes position shown,

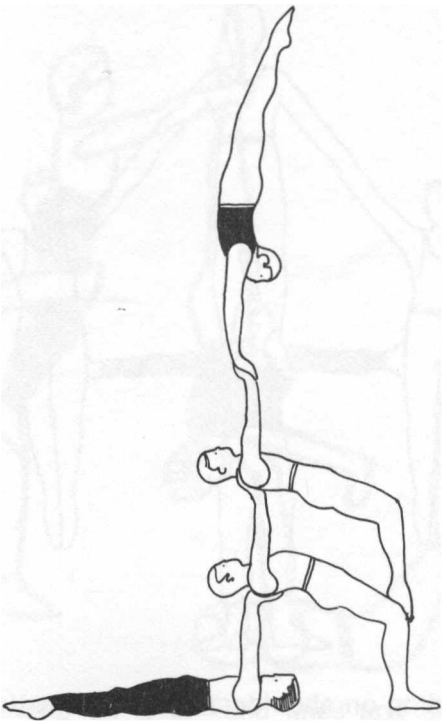


**Fig. 10-5.** Hand-to-hand stack formation.

followed by C taking same position on *B.* Then *D* presses up to a hand-to-hand handstand on C. The handstand is held for five or six seconds with good form before dismounting.

A main difficulty with this stunt is for *D* to get into handstand position. One method is for *D* to hold *C's* hands and use shoulders of Band C as steps. Then *D* presses up to handstand. A variation is for *D* to first do an "L" support position, then press up to the handstand.

**Foot and Hand Stack Formation**

The balance position is shown in Fig. 10-6. Performer *B* begins by doing back arch position on *A's* feet. Then C mounts to hand-to-foot (facing opposite regular direction) with *A* and arches back to shoulder support by *B.* Then *D* holds hands with C and mounts by using *B's* shoulder as a step. Performer Cs

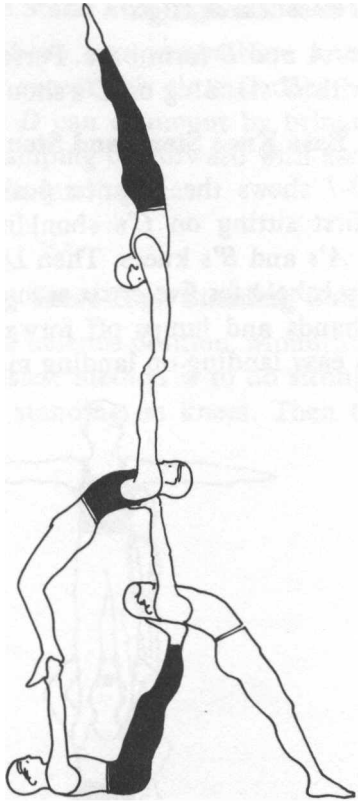


Fig. 10-6. Foot and hand stack formation.

shoulder can be used as second step. Then *D* presses up into hand-to-hand handstand position. The balance position is held for about five or six seconds. Performer *D* can dismount by pressing back down to "L" support position and then dismounting forward to landing mat.

Standlng Three High

Even though this is a three person stunt, it should be learned as it is the basis for more advanced skills. Learn with *B* as bottom person, C as middle, and *D* as top. Easiest method to mount is usually by starting with a three high sitting. Then C stands up. Finally *D* stands up to form the standing three high.

**Two-Person Base Three High**

Performers *A* and *B* form base. Performer C stands on their shoulders, with *D* standing on *Cs* shoulders.

**Two-Person Base Knee Stand and Standing on Shoulders**

Figure 10-7 shows the balance position. Performer *D* can mount by first sitting on *Cs* shoulders. Then C mounts to standing on *A's* and *B's* knees. Then *D* stands up and the balance position is held for five or six seconds. For dismounting, *D* grasps *Cs* hands and jumps off forward, with C slowing the jump for an easy landing on landing mat.

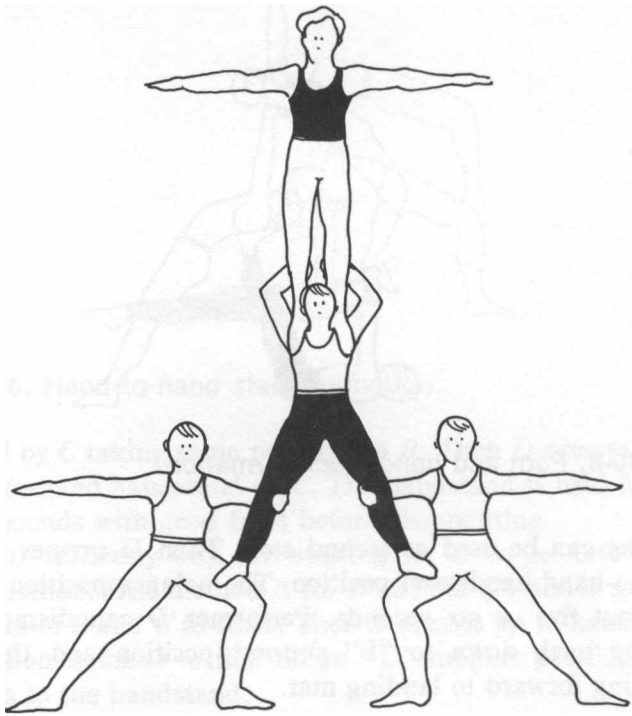


**Fig. 10-7.** Two-person base knee stand and standing on shoulders.

Another method of mounting is for *D* to first stand on *A's* and *B's* shoulders. Then C mounts to standing on knees. Performer *D* grasps *Cs* hands and climbs up onto *Cs* shoulders. This method is somewhat more difficult, but generally gives a neater appearance.

**Two-Person Base Knee Stand and High Hand-to-Hand**

This is similar to above two-person base knee stand and standing on shoulders, except this time *D* does high hand-to-hand on C. Performer *D* can dismount by bringing body between arms and then jumping off forward with assistance from C. Performer *D* lands on landing mat.

**AnV ANCED BALANCING**

**Knee Stand Supporting Three-High Standing Column**

Figure 10-8 shows the balance position. Mounting is extremely difficult. Perhaps easiest method is to do sitting three high, which then mounts to standing on knees. Then C stands up. Finally, *D* stands up.

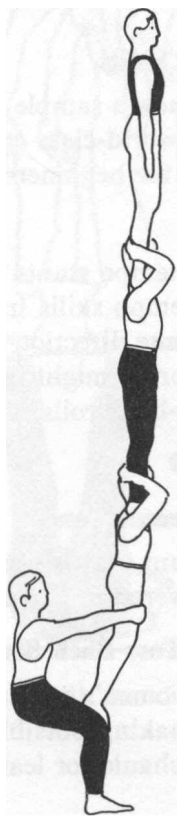


**Fig. 10-8.** Knee stand supporting three-high standing column.

In international competition a number of men's fours, instead of mounting with sitting on shoulders, make a growing column of "steps" as top persons climb up.

**Knee Stand Supporting Two-Blgh Standing and Blgh Hand-to-Hand**

This is the same as above, except this time *D* does a high hand-to-hand with *C.* A bent-arm high hand-to-hand is easiest, but some men's fours manage a regular high hand-to-hand with straight arms. ..

**Standlng Four High**

Standing four-high columns are used in world-class competition. Some groups manage to mount without sitting on shoulders.

**Other Advanced Balancing Skills**

Figures 10-9 and 10-10 show a sample of balancing skills that are presently being used in world-class competition. Needless to say, these elements are not for beginners.

**ELEMENTARY TEMPO**

A number of elementary tempo stunts for men's fours can be formed by doing partner tempo skills in pairs simultaneously, either side-by-side in the same direction or crossing. For example, a knee and shoulder spring might be done in this manner, or double-front and double-back rolls.

**INTERMEDIATE TEMPO**

**Sitting Basket Back Somenault Toss**

This is a three-person stunt that is useful for more advanced stunts. The technique is covered in Chapter 8.

**Three-Person Basket Foot Toss Back Somersault**

This is the same as in women's trio, except this time three persons form the basket, making possible an even higher toss. Use a landing mat and mechanic for learning.

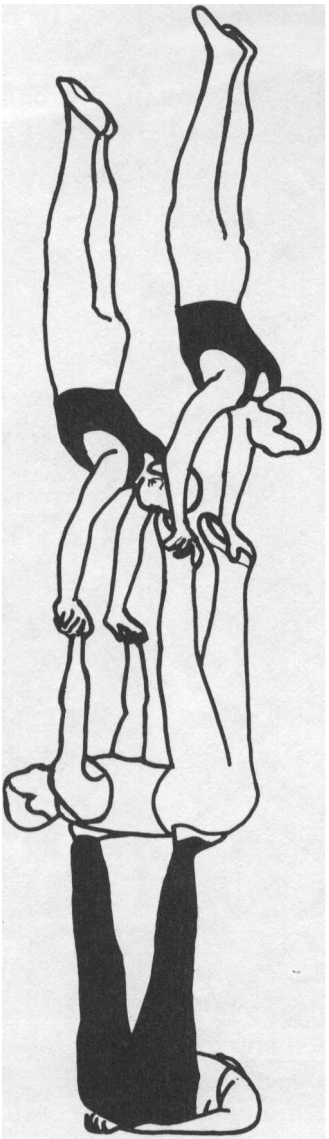


**Fig. 10-9. Foot-ta-back with hand-to-hand and foot-to-hand stands.**

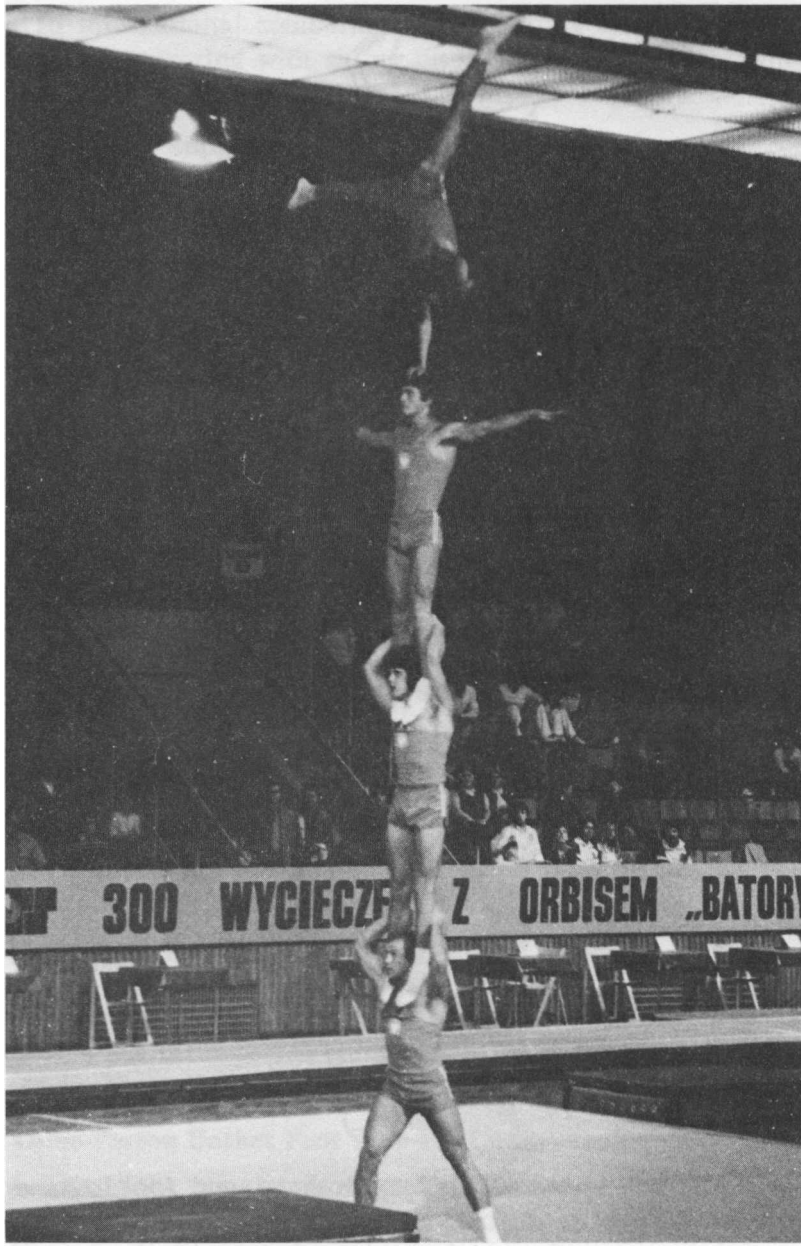



**Fig. 10-10.** Three-high standing with one-arm hand-to-head on top. (Courtesy *AcroSports* magazine)

**Two-Person Basket Toss Back Somersault to Landing on Shoulders of Other Performer**

Performers *A* and *B* form basket and do foot toss to *D,* who does back somersault and lands standing on shoulders of C. A tuck back somersault is probably easiest, but because of the great height possible, pike and layout somersaults can also be done. It generally takes considerable practice to make this consistently.

**Two-Person Basket Toss Front Somersault with a Half Twist or Brandy to Landing on Shoulders of Other Performer**

This is similar to above skill, except *A* and *B* face the opposite direction in relation to C, and *D* does a front somersault with a half-twist or brandy instead of a back somersault.

**Other Variations of Two-Person Basket Toss Somersault to Landing-on-Shoulders**

In a manner similar to the above two skills, gainer back somersaults and back somersaults with full- and double-twists can also be performed.

**ADVANCED TEMPO**

The use of four persons makes a number of extremely difficult feats possible.

**Three-Person Basket Foot Toss to Advanced Somersaulting With and Without Twisting**

Use a landing mat for these skills and learn in the overhead mechanic, using a regular belt for the nontwisting stunts and a twisting belt for those with twisting. A double back somersault can be done in tuck, pike, and layout positions, or combinations, such as the first somersault layout and the second tuck. More difficult are twisting double-back and double-front somersaults. Examples of these are the full-twisting double-back somersault and the double-front somersault with a half-twist.

The three-person basket can also be used like a trampoline, with *D* somersaulting and landing standing on the basket again. For example, *D* might do a back somersault to landing back on basket, then a second back somersault to landing on

mat. Or the second back somersault might be a gainer back somersault. Performer *D* can also do a front somersault with a half-twist or brandy to landing back on basket.

### Series of Back Somenaults on Shoulden

Performers *A, B,* and *C* line up with about four feet space between them. Performer *D* mounts and stands on *A's* shoulders. Then *D* does back somersault and lands on *B's* shoulders. Next *D* does second back somersault and lands on *Cs* shoulders. Then *D* dismounts by doing back somersault from *Cs* shoulders to landing on landing mat. Use the overhead mechanic for learning this series.

A variation is for *D* to do the first back somersault of the series from a bent-arm hand-to-foot stand instead of standing on shoulders.

By using somersaults with twists, many other combinations and variations are possible.

### Two-Penon Basket Toss to Advanced Somersaulting Landing on Shoulden of Other Performer

Many advanced somersaults are possible, such as front and back somersaults with twists, double-back somersaults, and even double somersaults with twists. Use the overhead mechanic for learning these advanced skills.

### Other Advanced Tempo Elements

The present level of difficulty in men's fours tempo work at the world-class level is almost unbelievable. Typical is doing simultaneous somersaults from high pyramids, such as the stunt shown in Fig. 10-11. It takes many hours of practice to perfect a stunt at this level of difficulty.

## MEN'S FOURS ROUTINES

After you learn a few elements, you will probably want to form a routine or exercise. Although high-level competition usually requires that all four performers be involved in a stunt to be considered an element in men's fours, beginners should ignore this rule and also use partner and trio elements, because otherwise it will be difficult to learn enough elements to put together a complete exercise.

You should keep the difficulty down to the point where you can consistently go all the way through your exercise, then add new elements as you perfect them to the point where you can do them consistently. A common mistake is to make the routines so difficult that the performers have to concentrate on just getting through the routine, rather than working on good form and the flow of the exercise.

The principles of forming a routine or exercise are essentially the same as those given.for partner work in Chapter 8, with the obvious exception that you now have four performers.

# Appendices

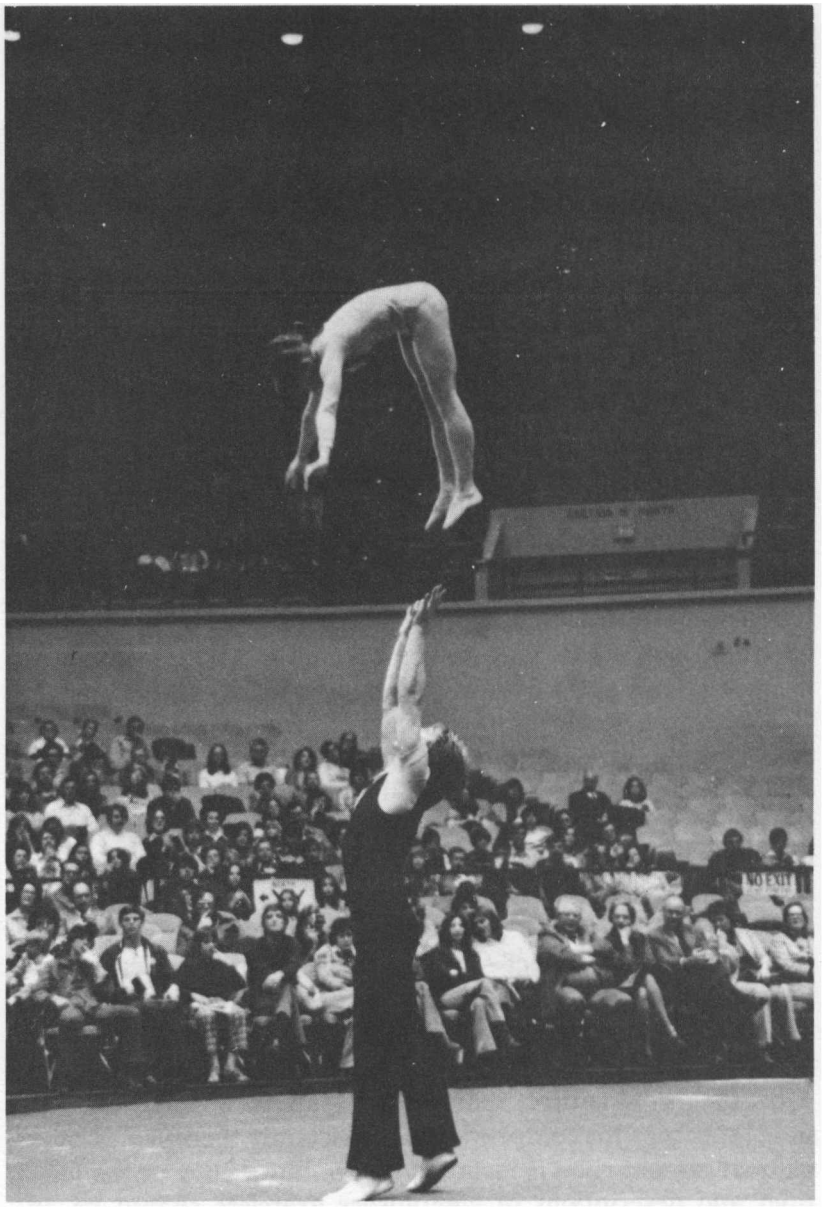
# Competition: Rules and Scoring

Sports acrobatics is under the jurisdiction of the International Federation of Sports Acrobatics (IPSA). The partner and group events used in competition are men's pairs (two men), women's pairs (two women), mixed pairs (a man and a woman), women's trios (three women) and men's fours (four men). Competitive routines are made up mainly of balancing elements (such as a high hand-to-hand stand) and tumbling or tempo elements (such as one performer foot tossing another into a back somersault). No apparatus outside of floor mats are used in actual competition.

World, international, and national competition-that is, the competitive sport aspect-is relatively new. The International Federation of Sports Acrobatics did not even come into being until 1973, although sports acrobatics competition dates back to earlier than this, especially in the USSR (see Chapter 1).

Because competitive sports acrobatics is a relatively new sport, the rules for competition are constantly modified. A summary of present rules is included below, but a copy of the latest rules and descriptions of compulsory exercises should be obtained from the United States Sports Acrobatics Federation (see Appendix for address).

The IFSA has established rules for uniform and objective conduct of international sports acrobatics competitions. These



App. 1. World champion USSR mixed pairs performing competitive routine. (Courtesy *AcroSports* magazine)

rules and modifications are also used for competitions within countries.

There are actually seven events, two of which-men's tumbling or acrobatic jumps and women's tumbling or acrobatic jumps-are individual events and are not treated in this book (the reader is referred to *The Tumbling Book* by Jack Wiley, David McKay Publishing Company, 1978). The other five events-women's pairs, men's pairs, mixed pairs, women's trio, and men's fours-are the partner and group events and covered in this book.

In international competition, the performers in each event do two compulsory or prescribed exercises and two optional exercises in the preliminary competition and two additional optional exercises in the finals. The top six places in each event advance from the preliminaries to the finals. Both final optional scores are added to the average of the highest compulsory scores to determine the rankings in the finals.

**GENERAL RULES**

To compete in adult competition, competitors must be at least 15 years old at the beginning of the competition year.

• Men competitors must wear gym shirt, shorts or gymnastics trousers, and gymnastic or acrobatic shoes. Women must wear leotards.

• Compulsory exercises are prescribed by the IFSA. Generally, there is a new exercise for each event each year. The prescribed exercises are divided into parts with a difficulty rating given for each of these. If an element is left out, a deduction is made of not less than 0.5 points; if an element is included that is not in the exercise, a deduction of 1.0 point is made. In some cases, such as in the formation of pyramids, elements may be executed in a variety of ways.

• Exercises begin when partners first touch. Competitors are allowed to continue their exercise even if they have a break (miss or fail to perform an element). Elements that are repeated in an exercise are given a difficulty value only once.

• The first compulsory and optional exercises in the preliminaries and the first optional in the finals are balance routines.

• The second compulsory and optional exercises in the pre-

1iminaries and second optional in the finals are made up of tempo elements.

**SCORING**

In the complete rules, the International Federation of Sports Acrobatics gives elements difficulty ratings. Elements of superior difficulty are Group I elements; those of less difficulty are Group II elements. Group I have a difficulty rating of 0.4 and Group II of 0.2.

A routine must have at least five elements. At least three of these must be Group II and one Group I to avoid deductions of one point for the omission of each Group II element and two points for omission of a Group I element. An exercise that contains the minimum difficulty as stated above is 9.0, and may be higher if Group I elements are substituted for Group II.

**JUDGING**

A chief judge and five regular judges form the judging panel. The chief judge has the responsibility for assessing the difficulty rating (maximum difficulty rating is 10.0) and timing the duration of held positions (in general, a balance position must be held at least three seconds to receive full value) and exercises. He also evaluates the scores given by the other judges, and he may ask one or more of them to adjust their scores so that they do not differ from the arithmetic mean by more than 0.3 if the mean is 9.5 or higher, 0.5 if the mean is between 9.0 and 9.5, and 1.0 if the mean is 8.95 or lower.

The other judges evaluate execution of the exercise on the basis of 10.0 less deductions for technical faults and composition and general impression faults.

Deductions for technical faults are to 0.1 for slight, to 0.3 for substantial, to 0.5 for gross, and to 1.0 for omission. Deductions for composition and general impression faults are to 0.1 for slight, to 0.2 for substantial, and to 0.3 for gross.

The middle score of the five regular judges is the final one.

**A Final Note**

Since the rules are presently being revised, especially in regard to deductions, difficulty ratings, content of exercises, and

use of musical accompaniment, competitors should keep abreast of the latest rules and trends. A good way to do this is to read *AcroSports* magazine, the official publication of the United States Sports Acrobatics Federation.

# **For Further** Exploration,

**Organizations**

International Federation of Sports Acrobatics, c/o Stoll Sotirov, President of IFSA, Bd, Tolboukhine 18, Sofia, Bulgaria.

The United States Sports Acrobatics Federation, 410 Broadway, Santa Monica, California 90406.

**Publications**

*AcroSports* magazine, the official publication of the United States Sports Acrobatics Federation. Published by Sundby Sports Publications, 410 Broadway, Santa Monica, California 90406.

**Equipment Sources**

The following companies offer equipment for sports acrobatics, including floor mats, landing and training mats, overhead mechanics, regular and twisting belts, shoes, and uniforms:

Gym Master Company, 3200 South Zuni Street, Englewood, Colorado 80110.

Nissen Corporation, 930 27th Avenue, S.W., Cedar Rapids, Iowa 52406.

Porter Equipment Company, 9555 Irving Park Road, Schiller Park, lllinois 60176.

# About the Author

Jack Wiley is the author of seven books, including *The Unicycle Book, Basic Circus Skills,* and *The Tumbling Book.* He earned his doctorate degree in exercise physiology at the University of Illinois, where he also taught for several years. His college athletic career in gymnastics culminated in a second-place ftnish in tumbling in the 1959 NCAA National Gymnastics Championships. He lives in Stockton, California, where he is presently at work on *The Men's Gymnastics Book,* to be published by World Publications in 1979.

$3.95

# Acrobatics Book

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**The Acrobatics Book** is the first comprehensive manual on the sport. Beginning at the most basic level, the completely illustrated material gradually progresses to more advanced stunts.

The book is also extremely useful for cheerleading, exhibition performances, and just pure fun.

Jack Wiley is the author of **Basic Circus Skills** and **The Tumbling Book.** His clear, direct style and illustrated techniques are invaluable aids for performers, coaches, judges, spectators—everyone who wishes to become a part of this exciting sport or to simply appreciate its beauty.

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