



**SOUTH AFRICAN NATIONAL
EQUESTRIAN FEDERATION**

VAULTING RULES

JULY 2011 – 5th Edition

PART TWO

APPENDICES A TO P

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PART TWO

APPENDICES

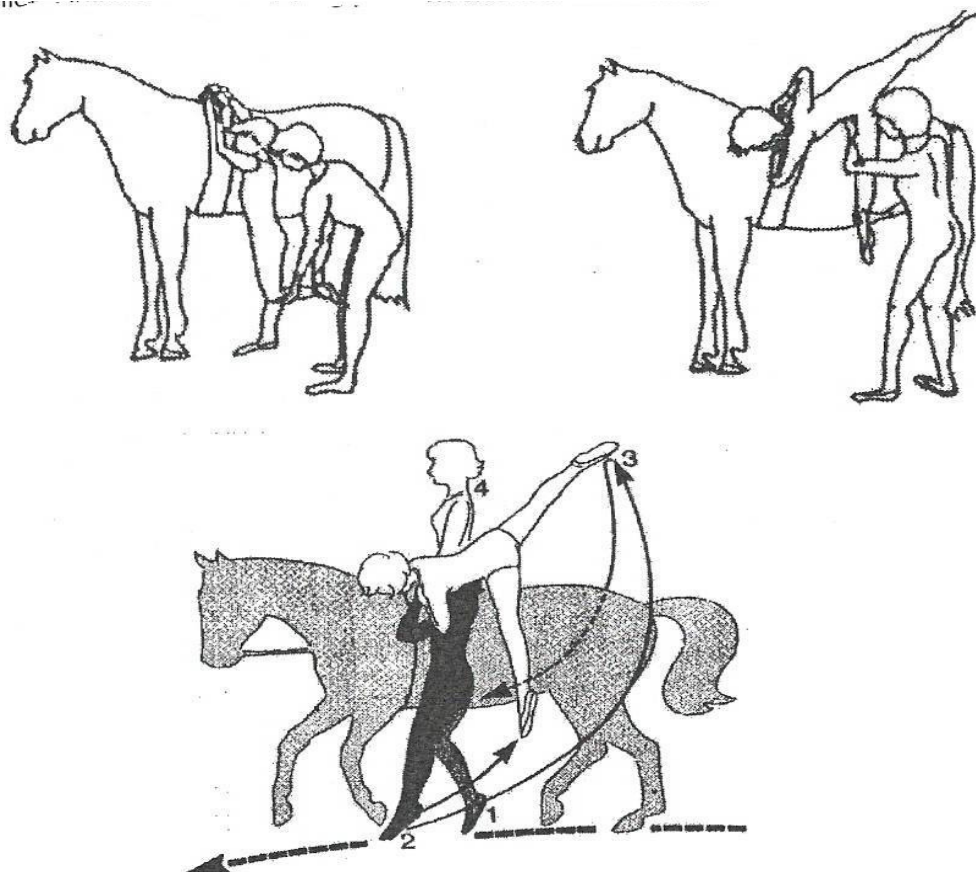
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**APPENDIX A - Required Compulsory Exercises
(SEE CURRENT FEI REGULATIONS FOR B AND A COMPULSORIES AND A GRADE
TECHNICAL TEST)**

Compulsory exercises for E Grade (WALK)

1. Assisted Vault-on

The vaulter has to walk in the same rhythm as the horse (if left leg of vaulter is in front, the left leg of the horse must be in front). The vaulter must look in the direction the horse is walking. He/she must jump with the correct technique, although helped by an assistant: that is, the toes pointed and powerfully swinging up the right leg straight in the air. The shoulders stay parallel with the shoulders of the horse. The hip must be higher than the horse's back. The left leg stays straight down to reach a split position. The right leg sinks down when it is at the highest point in the air so that the vaulter glides into the correct sitting position close to the surcingle.



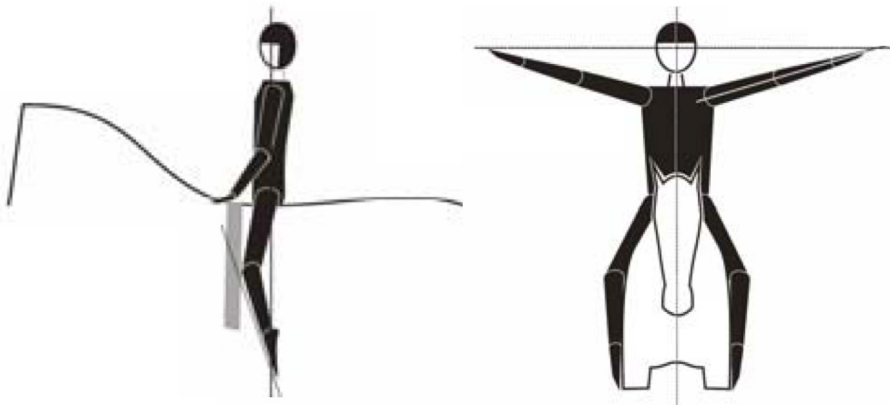
2. Basic Seat (STATIC EXERCISE)

The vaulter sits astride, erect and centred immediately behind the surcingle at the deepest point of the horse's back, with the weight distributed equally across both seat bones, stomach stretched. The vaulter swings his/her hips in rhythm with the horse in a soft, relaxed manner.

The vaulter's shoulders and hips are parallel to the grips and the horse's shoulders.

The vaulter's arms are extended and stretched outward along the frontal plane with the tips of the fingers at eye level.

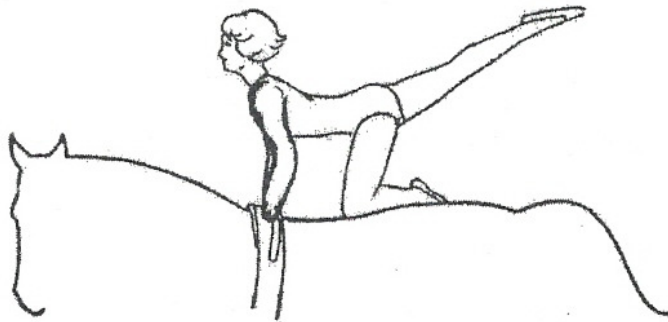
The vaulter's legs are stretched downwards and in contact with the horse, forming a straight vertical line through the shoulder, hip and heel: the fronts of the shins and pointed feet form a straight line facing nearly forwards.



Upon completion of the exercise, after four canter strides, the vaulter takes the grips with both hands simultaneously.

3. Half-flag (Static Exercise)

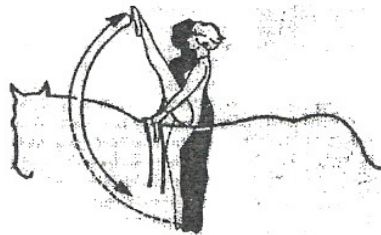
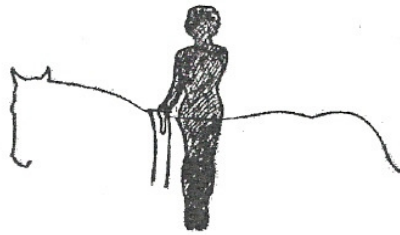
Out of sitting position the vaulter swings softly up to the kneeling position, landing first with the tops of the feet and then with the knees. From this position the vaulter shifts the left leg SLIGHTLY diagonally across the horse's back. The weight is spread evenly across the leg. The lower leg remains in contact with the horse's back from knee to toe, with the weight evenly distributed. Head remains up facing forward. The right leg is raised and stretched to an even horizontal line (shoulder, back and buttock in one line). Arms must be bent. Both hands hold the grips. Shoulders are directly above the grips and hips and shoulders are parallel to the ground. The right leg should not move and the exercise should be held for 4 walk strides.



Upon completion of the static exercise, the vaulter pushes the weight onto his/her arms, moves the left leg down, and slides softly into the astride seat.

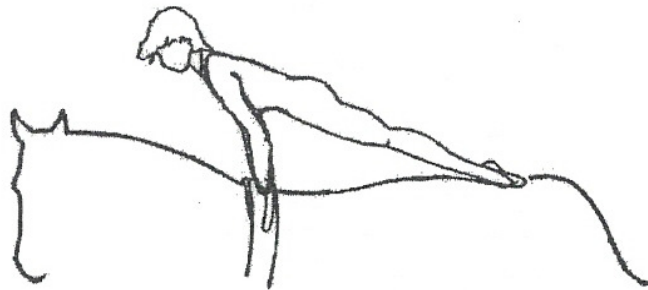
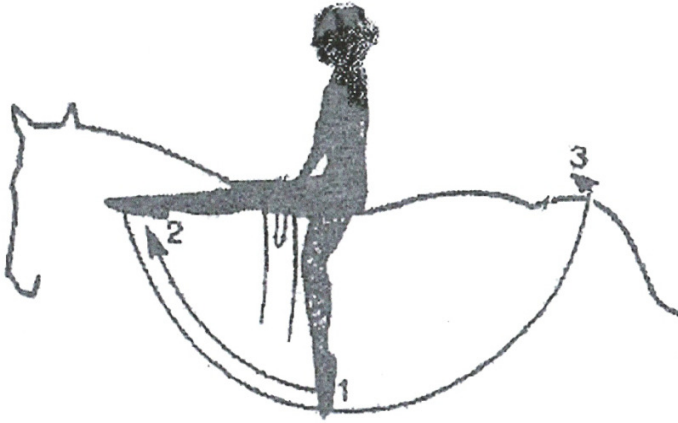
4. Leg over (Dynamic Exercise)

The right leg is stretched and carried in a high, wide arc, (semi-circle) over the grips and neck of the horse until it is next to the left leg. The leg must be straight and the toes must be pointed. The left leg should not move, it should stay next to the surcingle. The vaulter must close the legs and look to the inside. The vaulter then returns in similar fashion to the forward seat astride and then repeats the exercise with the left leg to the outside. The upper body stays erect, centred, and should be vertical in each phase. Head & body rotate with each pass of the leg. Each phase is performed smoothly in a four-stride count. Both seat bones remain in contact with the horse.



5. **Swing to push-up** (Dynamic Exercise)

From the basic seat astride, the vaulter swings straight legs forward, shifting weight onto the back of his/her seat bones. Then, in time with the horse's gait, the vaulter swings his/her stretched legs backwards, landing softly with both extended feet on the horse's croup with a straight body – no hollowing of the back.



6. Stand (static exercise)

From seat astride, the vaulter comes softly to kneel simultaneously with both legs and immediately hops softly to both feet. The head remains up, looking forward. The feet remain stationary with the weight evenly distributed over the entire sole of the foot throughout the exercise; the feet are hip-width apart and point forward. The grips are released simultaneously as the vaulter rises into a high standing position, forming a straight line through the shoulder, hip and heel. The knees are relaxed, slightly bent, and flexing to compensate for the horse's movement. Immediately the arms are extended and stretched outward along the frontal plane with the tips of the fingers at eye level.



Upon completion of the exercise, after four strides, the arms are lowered alongside the body and the vaulter takes the grips simultaneously with both hands, with the head remaining up and looking forward in preparation for the dismount.

7. Flank to Outside Dismount (Dynamic Exercise)

A straight axis of the body that nearly reaches the vertical is the essence of the optimal mechanics of the flank. A straight line continues from the arms through the body to the feet. A straight body axis is the main criterion for judging: an arched back can be deceiving and can simulate a higher elevation.

From seat astride, the stretched legs are swung upward to reach a handstand position with the arms extended to attain maximum elevation. At maximum arm extension, the vaulter pushes off against the grips and as a result of shoulder repulsion attains additional elevation and maximum flight, landing to the outside (right of the horse), facing forward, on both feet. The horse should not be touched during the dismount. The whole movement should be done in the rhythm of the horse's stride.



Compulsory exercises for D Grade (CANTER)

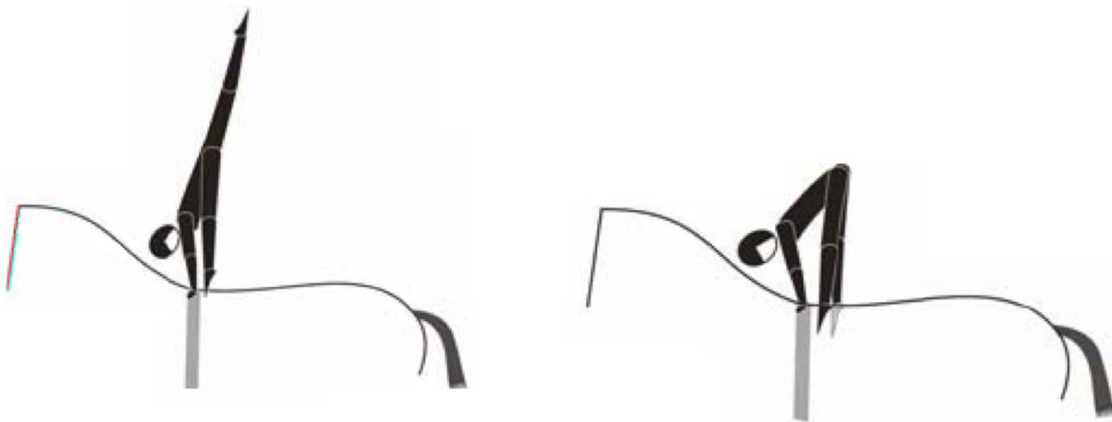
1. Vault-On (dynamic exercise in 4 phases)

The vault-on leads to the basic seat [front-ways seat] on the horse. It comprises 4 phases:

1. Jump phase
2. Swing phase
3. Stem phase
4. Lowering phase

The vaulter runs along the lunge line towards the horse's inside shoulder, beginning to canter in rhythm with the horse's forelegs. Prior to the vaulter's taking hold of the grips, the axis of his/her shoulders should be parallel with the axis of the horse's shoulders. After taking hold of the grips, the vaulter jumps forward with both feet together in order to create energy.

After the vaulter jumps onto both feet, the right leg is immediately swung up as high as possible, lifting the pelvis higher than the head, while the left leg remains stretched down. The hips should not be tilted.



When the pelvis is at the highest possible point, the vaulter lowers the stretched right leg and pulls with the arms to land softly, erect and centred in seat astride with the upper body vertical. The toes should be pointed throughout.

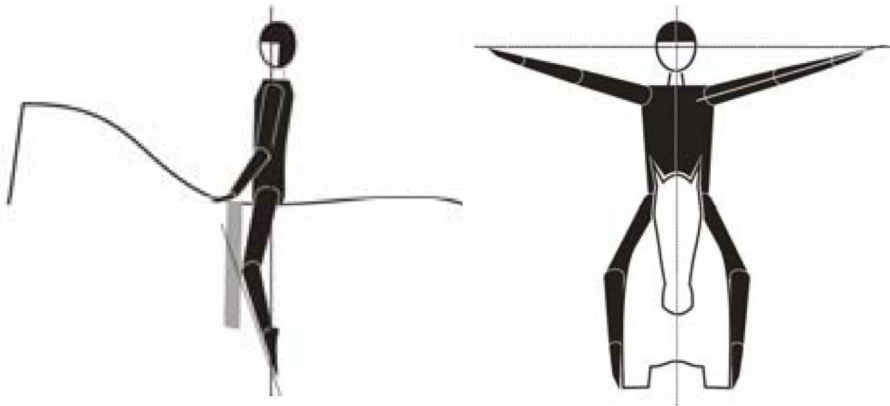
2. Basic Seat (STATIC EXERCISE)

The vaulter sits astride, erect and centred immediately behind the surcingle at the deepest point of the horse's back, with the weight distributed equally across both seat bones, stomach stretched. The vaulter swings his/her hips in rhythm with the horse in a soft, relaxed manner.

The vaulter's shoulders and hips are parallel to the grips and the horse's shoulders.

The vaulter's arms are extended and stretched outward along the frontal plane with the tips of the fingers at eye level.

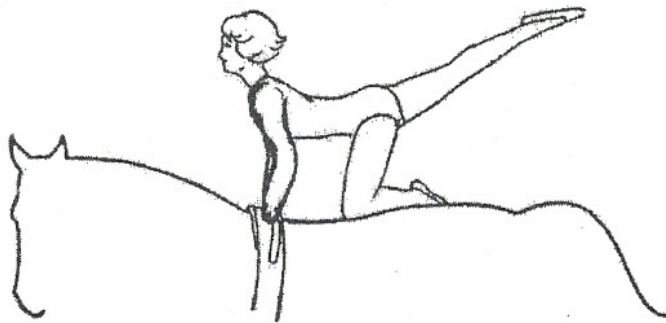
The vaulter's legs are stretched downwards and in contact with the horse, forming a straight vertical line through the shoulder, hip and heel: the fronts of the shins and pointed feet form a straight line facing nearly forwards.



Upon completion of the exercise, after four canter strides, the vaulter takes the grips with both hands simultaneously.

3. Half-flag (Static Exercise)

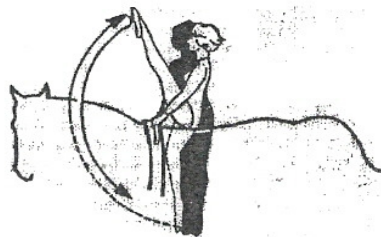
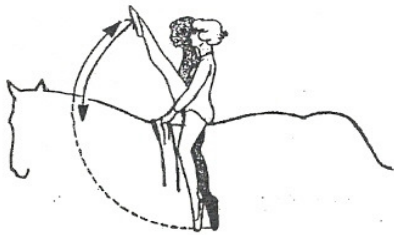
Out of sitting position the vaulter swings softly up to the kneeling position, landing first with the tops of the feet and then with the knees. From this position the vaulter shifts the left leg SLIGHTLY diagonally across the horse's back. The weight is spread evenly across the leg. The lower leg remains in contact with the horse's back from knee to toe, with the weight evenly distributed. Head remains up facing forward. The right leg is raised and stretched to an even horizontal line (shoulder, back and buttock in one line). Arms must be bent. Both hands hold the grips. Shoulders are directly above the grips and hips and shoulders are parallel to the ground. The right leg should not move and the exercise should be held for 4 canter strides.



Upon completion of the static exercise, the vaulter pushes the weight onto his/her arms, moves the left leg down, and slides softly into the astride seat.

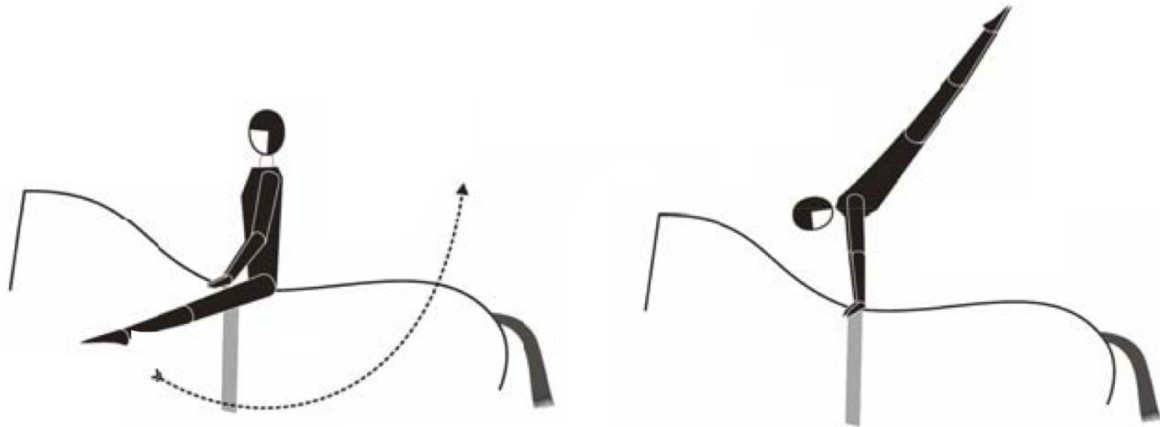
4. Leg over (Dynamic Exercise)

The right leg is stretched and carried in a high, wide arc, (semi-circle) over the grips and neck of the horse until it is next to the left leg. The leg must be straight and the toes must be pointed. The left leg should not move, it should stay next to the surcingle. The vaulter must close the legs and look to the inside. The vaulter then returns in similar fashion to forward sit and then repeats the exercise with the left leg to the outside. The upper body stays erect, centred, and should be vertical in each phase. Head & body rotate with each pass of the leg. Each phase is performed smoothly in a four-stride count. Both seat bones must remain in contact with the horse.



5. Forward Swing (DYNAMIC EXERCISE)

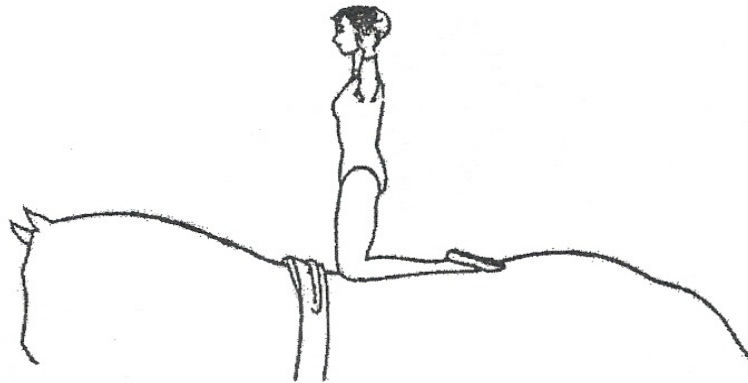
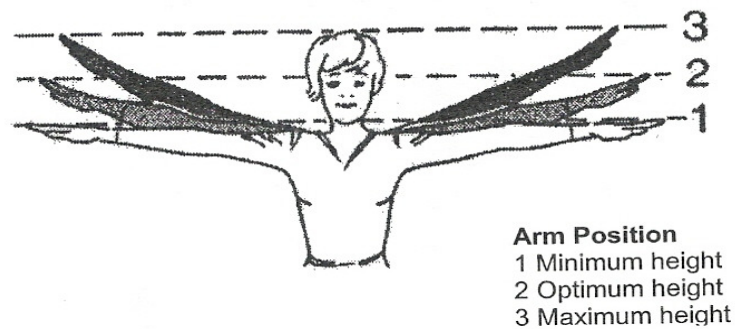
From seat astride, the stretched legs are lifted forwards towards the horse's shoulders, shifting the weight onto the backs of the seat bones. The open, stretched legs are then swung backwards and upwards, in time with the horse's movement, so as nearly to reach a handstand position with the legs shoulder-width apart and the arms extended alongside the ears to attain maximum elevation.



The vaulter completes the exercise by landing softly through a pike, erect and centred in seat astride.

6. Kneel (Static Exercise)

Out of sitting position the vaulter swings softly up to the kneeling position in the deepest part of the horse's back. The vaulter must land first with the top of the feet and then with his/her knees. The lower legs, from knee to toe remains in contact with the horse's back. The lower legs lie on each side of the horse's spine. The vaulter leaves the grips and gets into an upright body position. The arms are stretched out to the sides with the hands in a straight line with the vaulters ears/eyes. The left arm is slightly lower than the right. The vaulter must look straight forward. This position must be held for 4 canter strides.



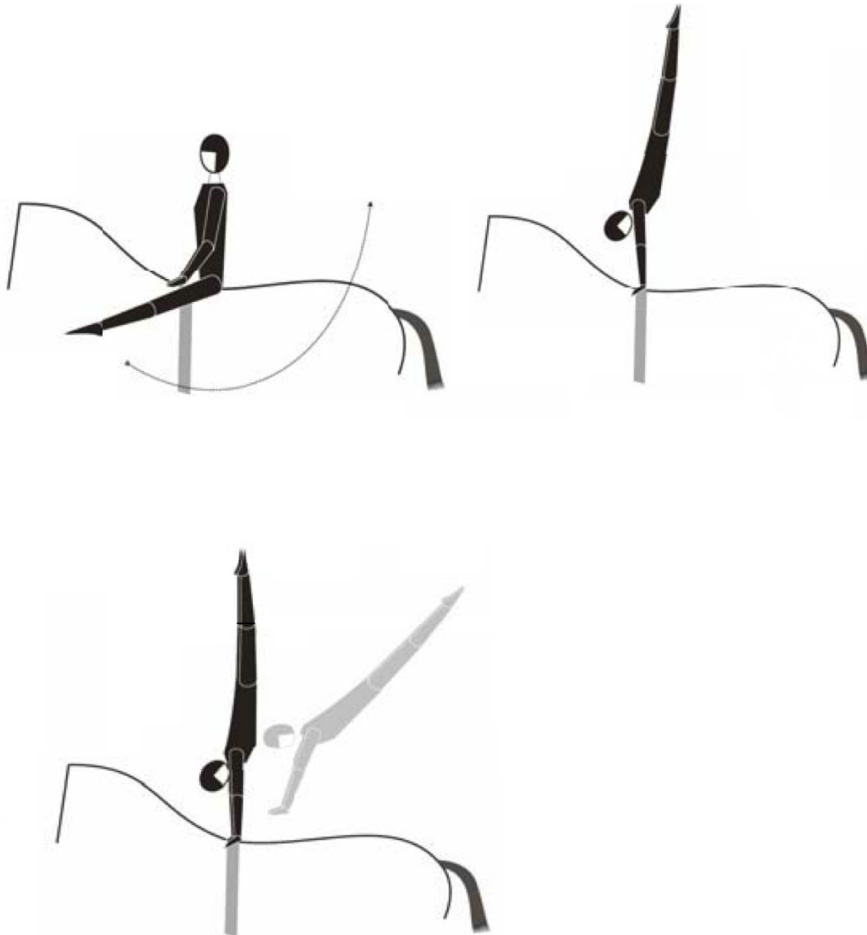
Upon completion of the static exercise, the vaulter moves softly into the astride seat.

7. Flank to Outside Dismount

(DYNAMIC EXERCISE)

A straight axis of the body that nearly reaches the vertical is the essence of the optimal mechanics of the flank. A straight line continues from the arms through the body to the feet. A straight body axis is the main criterion for judging: an arched back can be deceiving and can simulate a higher elevation.

From seat astride, the stretched legs are swung upward to reach a handstand position with the arms extended to attain maximum elevation. At maximum arm extension, the vaulter pushes off against the grips and as a result of shoulder repulsion attains additional elevation and maximum flight, landing to the outside (right of the horse), facing forward, on both feet. The horse should not be touched during the dismount. The whole movement should be done in the rhythm of the horse's stride.



Compulsory Exercises for C Grade (CANTER)

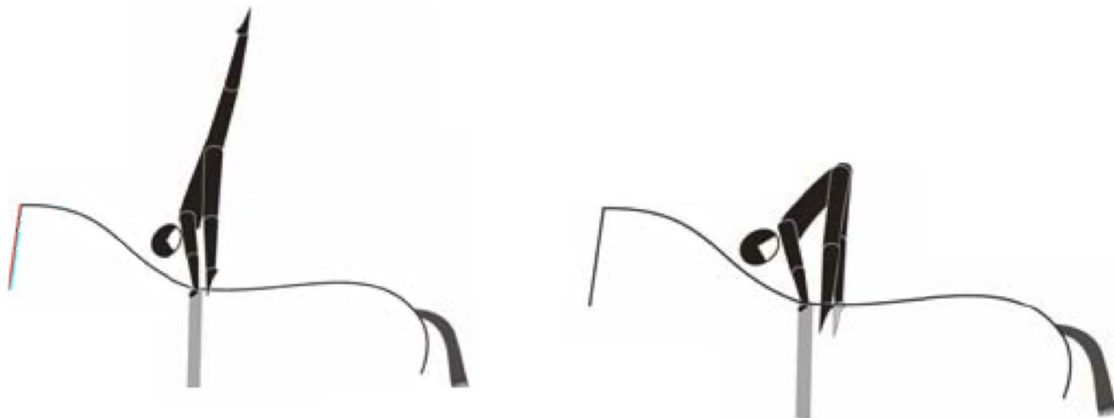
1. Vault On (Dynamic Exercise in 4 phases)

The vault-on leads to the basic seat [frontways seat] on the horse. It comprises 4 phases:

1. Jump phase
2. Swing phase
3. Stem phase
4. Lowering phase

The vaulter runs along the lunge line towards the horse's inside shoulder, beginning to canter in rhythm with the horse's forelegs. Prior to the vaulter's taking hold of the grips, the axis of his/her shoulders should be parallel with the axis of the horse's shoulders. After taking hold of the grips, the vaulter jumps forward with both feet together in order to create energy.

After the vaulter jumps onto both feet, the right leg is immediately swung up as high as possible, lifting the pelvis higher than the head, while the left leg remains stretched down. The hips should not be tilted.



When the pelvis is at the highest possible point, the vaulter lowers the stretched right leg and pulls with the arms to land softly, erect and centred in seat astride with the upper body vertical. The toes should be pointed throughout.

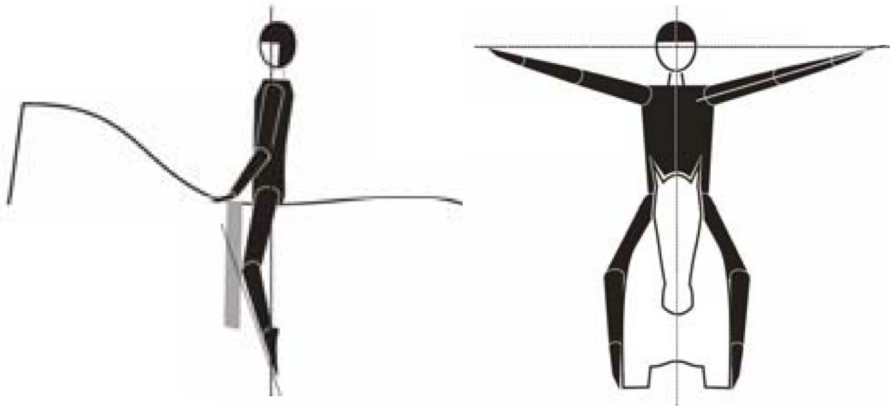
2. Basic Seat (Static Exercise)

The vaulter sits astride, erect and centred immediately behind the surcingle at the deepest point of the horse's back, with the weight distributed equally across both seat bones, stomach stretched. The vaulter swings his/her hips in rhythm with the horse in a soft, relaxed manner.

The vaulter's shoulders and hips are parallel to the grips and the horse's shoulders.

The vaulter's arms are extended and stretched outward along the frontal plane with the tips of the fingers at eye level.

The vaulter's legs are stretched downwards and in contact with the horse, forming a straight vertical line through the shoulder, hip and heel: the fronts of the shins and pointed feet form a straight line facing nearly forwards.



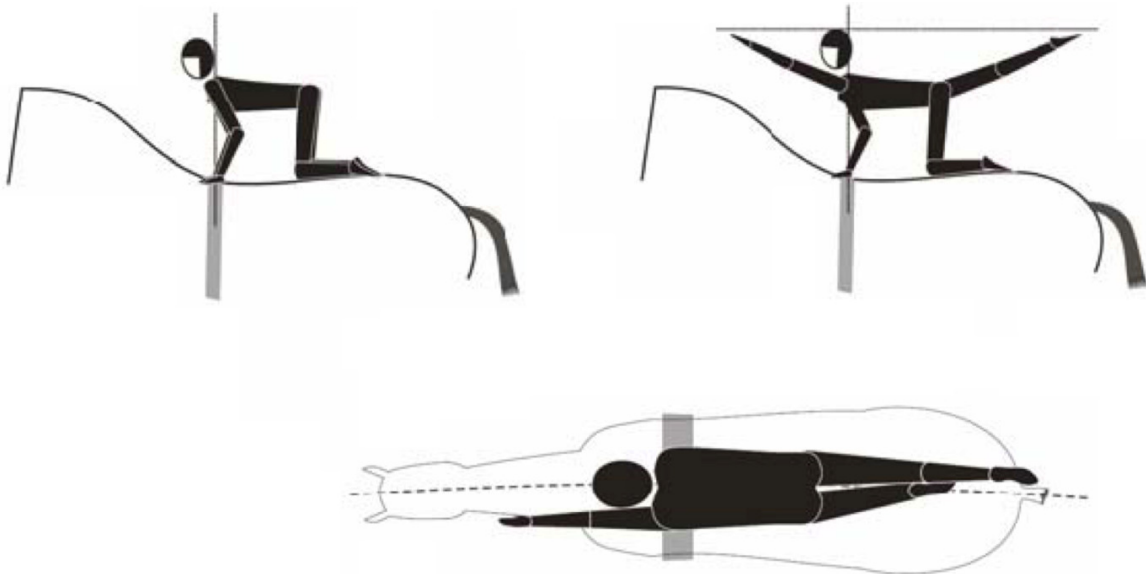
Upon completion of the exercise, after four canter strides, the vaulter takes the grips with both hands simultaneously.

3. Flag (Static Exercise)

From seat astride the vaulter comes to kneel with both legs simultaneously. The weight is spread equally over the lower legs.

The lower left leg, from knee to toe, remains in permanent contact with the horse's back. The head remains up, facing forward. The right leg and left arm are raised simultaneously and stretched to an even horizontal line (at least above the vaulter's shoulder and hip, ideally to a horizontal line from fingertip through head level to toes). The right hand holds the grip. The shoulders are directly above the grips and hips and shoulders are parallel to the ground. There is an even arc in the vaulter's body from the hand through to the foot.

Upon completion of the exercise, the vaulter simultaneously takes the right leg and left arm down, takes the grip, pushes the weight onto both arms, then stretches the left leg down and slides softly into seat astride.



4 Half-Mill (Frontways to Rearways)

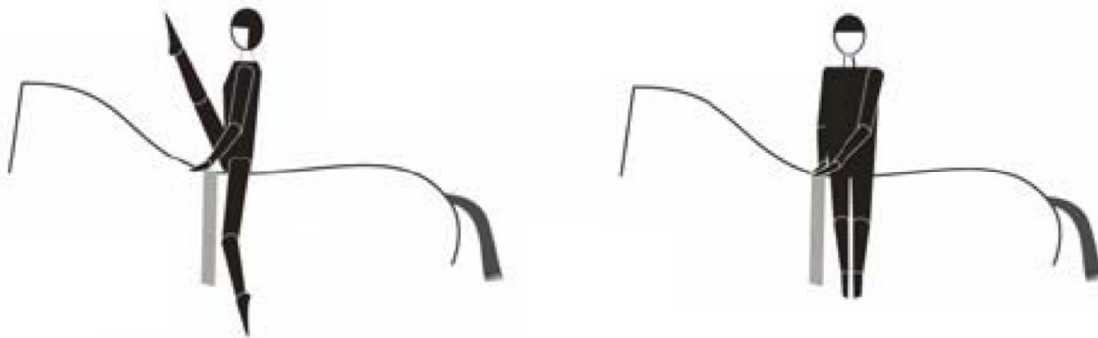
(DYNAMIC EXERCISE IN 2 PHASES:

phase 1 is performed in a 4-stride count, FOLLOWED immediately by phase 2)

The half-mill has two phases. The vaulter may not abandon his seat position during either phase. Each leg is stretched and carried over the horse in a high, wide arc (like a semi-circle), while the opposite leg remains stationary, down and in contact with the horse. The upper body stays erect, centred, and nearly vertical in each phase. Head and body turn to follow the movement with each pass of the leg.

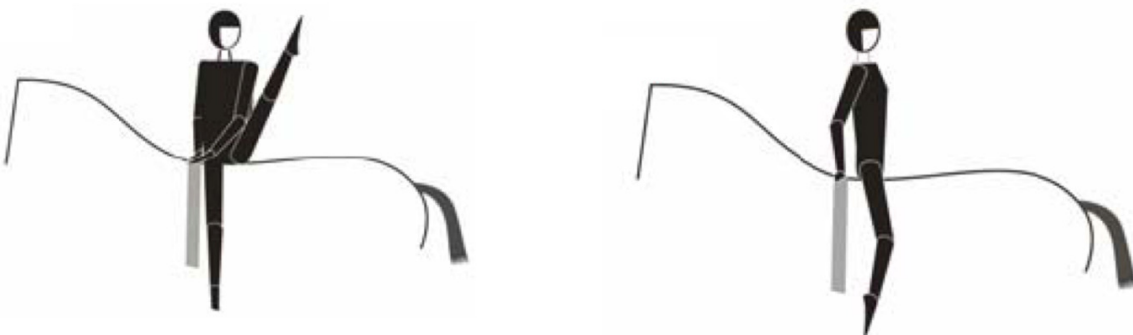
Phase 1 (Frontways to Rearways)

The right leg is carried over the horse's neck. Each grip is released and retaken in turn as the leg passes. Phase 1 ends with the vaulter sitting in a sideways seat inside position, facing at right angles to the axis of the shoulders, legs together and in contact with the horse.



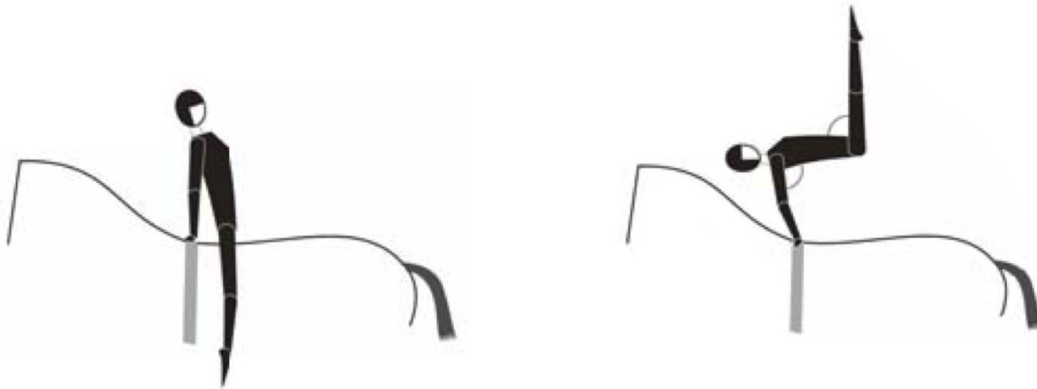
Phase 2 (Frontways to Rearways)

The left leg is carried over the horse's croup. Phase 2 ends with the vaulter sitting facing backwards [rearways]. The hands change position on the grips.



5 Backward Swing (Swing Rearways) (Dynamic Exercise)

From a backwards seat [seat rearways] on the horse, the vaulter lightens the weight slightly off the seat-bones and briefly stretches shoulders and legs into an arc tension (see left picture below), then swings stretched legs upward, with the hips and feet reaching the highest possible point at the same time with the legs closed. The arms are extended to attain maximum elevation and the angle between arms and torso is as great as possible.



The vaulter returns softly to a backwards seat (seat rearways).

6 **Half-Mill (Rearways to Frontways)**

(DYNAMIC EXERCISE IN 2 PHASES:

phase 1 is performed in a 4-stride count, followed immediately by phase 2)

The half-mill has two phases. The vaulter may not abandon his seat position during either phase. Each leg is stretched and carried over the horse in a high, wide arc (like a semi-circle), while the opposite leg remains stationary, down and in contact with the horse. The upper body stays erect, centred, and nearly vertical in each phase. Head and body turn to follow the movement with each pass of the leg.

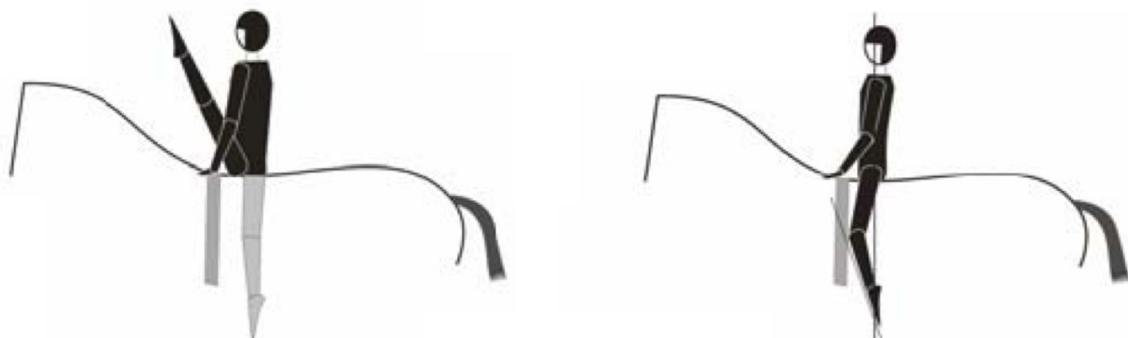
Phase 1 (Rearways to Frontways)

The right leg is carried over the croup. Phase 1 ends with the vaulter sitting in a sideways seat outside position facing at right angles to the axis of the shoulders, legs together and in contact with the horse. The hands change position on the grips.



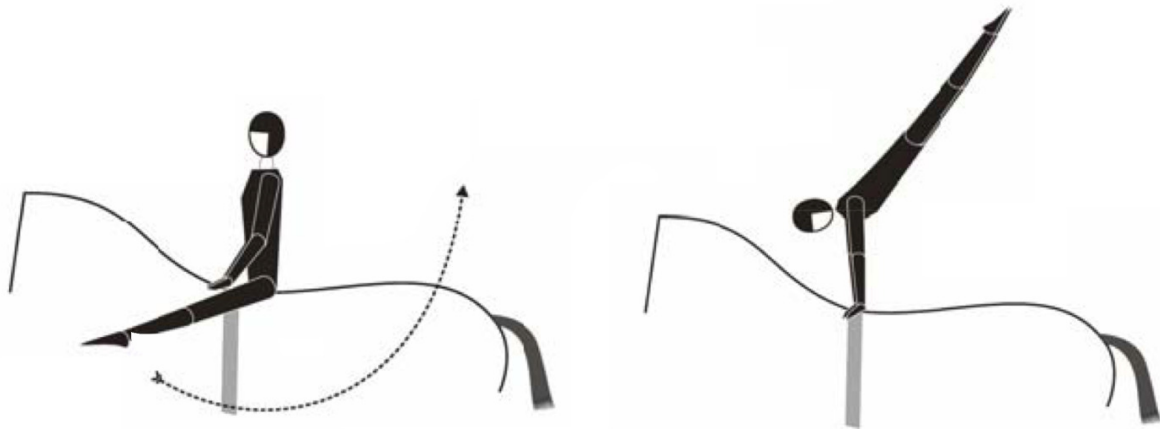
Phase 2 (Rearways to Frontways)

The left leg is carried over the horse's neck. Each grip is released and retaken in turn as the leg passes. Phase 2 ends with the vaulter facing forwards in astride position.



7 Forward Swing (Dynamic Exercise)

From seat astride, the stretched legs are lifted forwards towards the horse's shoulders, shifting the weight onto the backs of the seat bones. The open, stretched legs are then swung backwards and upwards, in time with the horse's movement, so as nearly to reach a handstand position with the legs shoulder-width apart and the arms extended alongside the ears to attain maximum elevation.



The vaulter completes the exercise by landing softly through a pike, erect and centred in seat astride.

8 Stand (Static Exercise)

From seat astride, the vaulter comes softly to kneel simultaneously with both legs and immediately hops softly to both feet. The head remains up, looking forward. The feet remain stationary with the weight evenly distributed over the entire sole of the foot throughout the exercise; the feet are hip-width apart and point forward. The grips are released simultaneously as the vaulter rises into a high standing position, forming a straight line through the shoulder, hip and heel. The knees are relaxed, slightly bent, and flexing to compensate for the horse's movement. Immediately the arms are extended and stretched outward along the frontal plane with the tips of the fingers at eye level.



Upon completion of the exercise, after four strides, the arms are lowered alongside the body and the vaulter takes the grips simultaneously with both hands. The head remains up, looking forward, while the vaulter slides smoothly with straight legs into an astride position.

9 Flank to outside Dismount (Dynamic Exercise)

A straight axis of the body that nearly reaches the vertical is the essence of the optimal mechanics of the flank. A straight line continues from the arms through the body to the feet. A straight body axis is the main criterion for judging: an arched back can be deceiving and can simulate a higher elevation.

From seat astride, the stretched legs are swung upward to reach a handstand position with the arms extended to attain maximum elevation. At maximum arm extension, the vaulter pushes off against the grips and as a result of shoulder repulsion attains additional elevation and maximum flight, landing to the outside (right of the horse), facing forward, on both feet. The horse should not be touched during the dismount. The whole movement should be done in the rhythm of the horse's stride.



Compulsory Exercises for A or B Grade (CANTER)

See Current FEI Vaulting Rules

Technical Exercises for A Grade (CANTER)

See Current FEI Vaulting Rules

APPENDIX B Required Freestyle Exercises

NOTE: a movement from the compulsory test may not be used in the free test in the same grade, unless it is performed in a different direction or position.

NOTE: this list gives some of the most common exercises from the required freestyle tests for grades E to C, but must not be taken as exhaustive.

Arabesque/Split Stand on Horse

It is a static exercise on one foot with the other leg extended up from the hip at an angle of between 90 and 180 degrees.

The weight is evenly balanced between the supporting foot and hand/s with shoulders and hips parallel to the horse.

Backward Flag on Neck

It is a static exercise, performed on the neck facing backwards.

The shoulders are directly over the hands. The supporting leg is crossed over the neck (knee not touching surcingle) the weight is evenly distributed between the leg and the arm/s.

Bridge

Cartwheel

It is a dynamic exercise, in the form of a handspring around the sagittal axis.

Change of Direction

It is a change in the direction in which the vaulter is facing. Possible directions are back, forward, in, out, up and down.

Free Backward Bench

It is a static exercise.

Both hands are extended straight behind back facing away from body. This movement is performed in the either direction, with one foot remaining on back of pad or on horse's croup or neck and the body is lifted off horse with the back facing the horse's back. While balancing weight between hands and foot, the free leg is extended up from the hip and the supporting leg should form a right angle at the knee. The arms and back should form a right angle with a straight line from the shoulder to the knee. The shoulders are over or slightly behind the hands.

Free Stand in Loop

It is a static exercise. It may be performed forwards or backwards or to either side. It may be performed on the inside or the outside of the horse.

The vaulter stands on one foot with the other leg extended at an angle of 90 to 180 degrees.

Handstand

This is a static exercise where the body weight is balanced on the arms in any direction. The body should be perpendicular to the horse, with a straight line from foot to hip to shoulder.

Hang

It is a static exercise.

A hang is an exercise where the shoulder axis is below the holding point. The body load is transferred via the upper or lower limbs to the holding points, whereas pressure is exerted on them by pulling.

Jumping Exercise

It is a dynamic exercise.

A jump on the horse is an element where the body lifts off the support i.e. the centre of gravity gains height against the force of gravitation. It may be a ground jump.

Kneel / 1Leg

Lie Position

It is a static exercise.

The direction is sideways, lying flat across the horse on the stomach or the back, with a straight line from shoulder to hip to heel.

Prince Sit

It is a static exercise that may be performed forwards, backwards or to either side.

The weight is balanced evenly between front and back leg, with the upper body perpendicular to the horse, with right angles at the knees. The back leg lies flat and crosses the horse's midline. The hands may not touch the equipment or the horse.

Push Up

May be performed forwards (except at D Grade), backwards or to either side. It is a static exercise.

The weight is balanced evenly between hands and quads with the shoulders directly over or slightly in front of the hand, with a straight line from the shoulder to the hip to heel.

Roll Movement

It is a dynamic exercise, over the shoulder axis in any direction or orientation maintaining contact.

If performed as a means of mount or dismount, it will be scored as one movement only.

Shoulder Stand on Neck

It is a static exercise.

The body weight is balanced on top of shoulder and neck on inside or outside of horse. The body should be perpendicular to the horse, with a straight line from foot to hip to shoulder.

Splits

It is a static exercise and may be performed forwards or backwards.

The seat bones should be in contact with the horse with an erect posture and the legs split at an angle of at least 180 degrees with the knees straight.

Split Stand on Horse

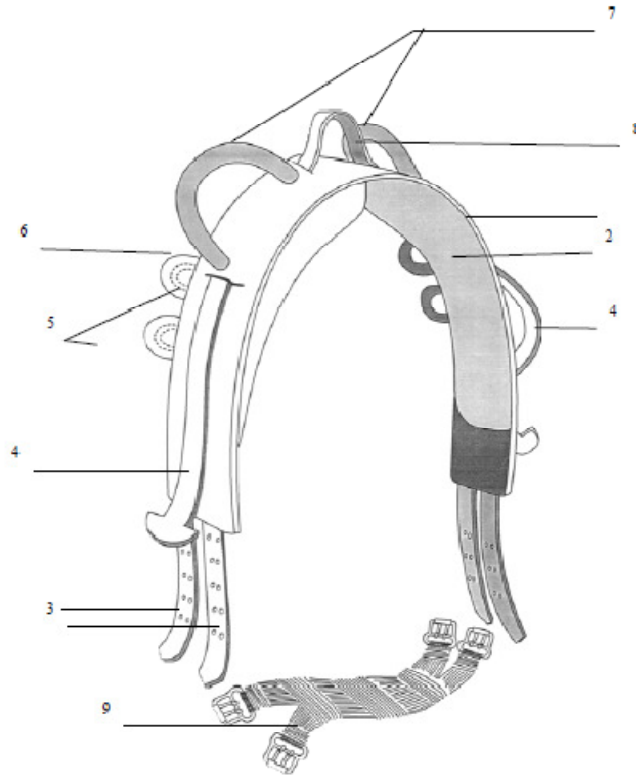
See Arabesque/ Split Stand on Horse

Stand

This is a static exercise and may be performed in any position other than that stipulated in the compulsory movements.

APPENDIX C Equipment

THE VAULTING SURCINGLE



1. Outside leather surface
2. Leather-covered padding
3. Girth points
4. Cossack loop
5. D-rings for side-reins
6. D-ring safe
7. Grips (shape of grips is not defined)
8. Auxiliary holding strap
9. Girth

The surcingle has two solid handles (grips) with a loop on either side. One short extra leather loop may be fixed between the inner edges of the grips.

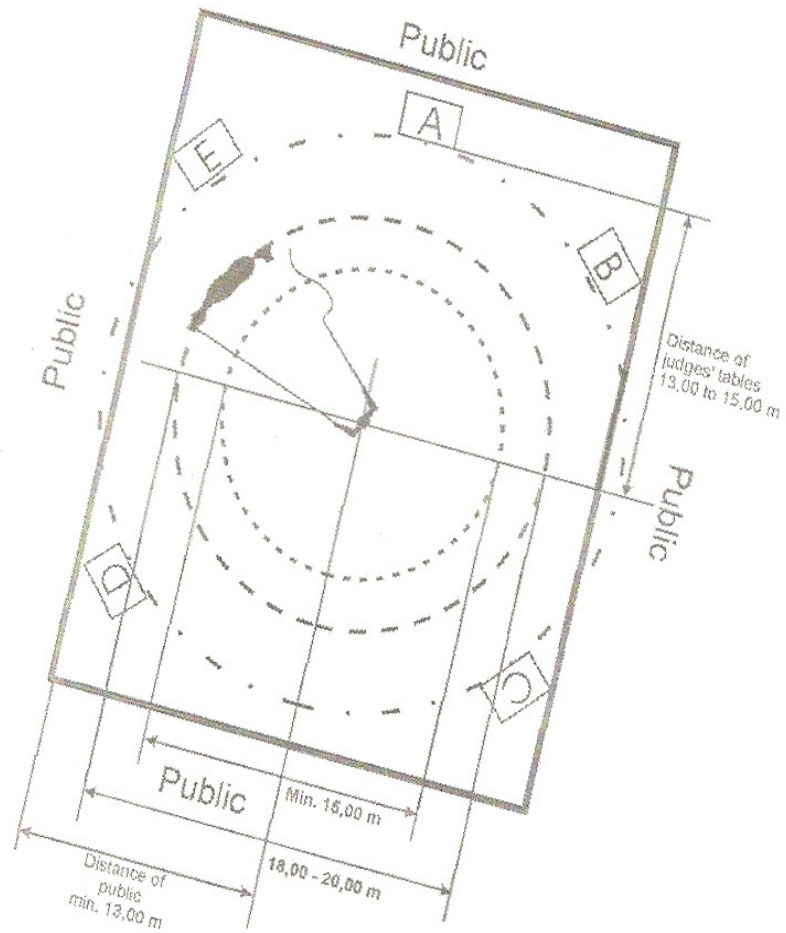
Adjustable grips are not allowed.

No grips/handles, straps or loops other than those described above are allowed.

APPENDIX D Arena

VAULTING ARENA

If indoors, the ceiling must be five metres above the ground.



APPENDIX E - Grading and Grading Points

1. No national grading points are awarded in E Grade:
A province may choose to award grading points in E Grade for use within that province. A vaulter may upgrade to D Grade at any time.
2. Once a vaulter has been awarded **10** points in D Grade, he/she may not compete in E Grade and he/she must upgrade to D Grade
3. When a vaulter has been awarded 10 points in D Grade he/she may upgrade to C Grade but must upgrade once he/she has been awarded 15 points in D Grade.
4. Once a vaulter has been awarded 5 points in C grade he/she may upgrade to B Grade but must upgrade once he/she has been awarded 15 points in C Grade.
- 4A. Once a vaulter has obtained 10 points in B Grade he/she may upgrade to A Grade but must upgrade once he/she has been awarded 15 points in B Grade
- 4B. An individual vaulter who has obtained a score of 6.00 or higher at a CVI International show or SA CN status FEI Qualifier shall be eligible to compete only in the highest grade offered in SA
5. A vaulter who has achieved a total score of 6.00 or higher in a compulsory round at a CVI international show or a SA CN Status FEI Qualifier as a team member, shall be eligible to compete only in full canter classes as an individual in South Africa, and may compete in lower grade teams in South Africa as long as their individual grading allows for it.
6. A vaulter who wishes to upgrade, and has enough points to do so, must inform his or her Provincial body in writing.
7. Grading points shall be awarded only at official National Competitions, Provincial Competitions and Grading Days held under the auspices of a Provincial Body.
8. Grading points will be awarded only for recognized Individual Competitions, that is, competitions that follow the normal format of compulsory movements and freestyle movements over two rounds. Participation in pairs, pas de deux or team classes does not attract grading points.
9. A vaulter may be downgraded by one grade, if he/she has not been awarded any points within the previous 12 months. This request shall be made in writing to the vaulter's Provincial body.
10. The Vaulting Technical Committee shall from time to time review grading issues and publish the points at which vaulters in grades D to A may and must be upgraded.

11. The age groups shall be as per the current SANEF Vaulting age classifications
(Rule 71.2.2 and 71.2.3)

12. Grading points shall be awarded as follows:

5.50 to below 6.00	=	1 pt
6.00 to below 6.50	=	2 pts
6.50 to below 7.00	=	3 pts
7.00 to below 7.50	=	4 pts
7.50 and above	=	5 pts

APPENDIX F Horse Usage

1. In one competition day, no horse shall be used for more than 14 canter rounds of one minute each or the equivalent (for example, 7 canter rounds of two minutes each) and 24 walk rounds of two minutes each or the equivalent (for example, 48 walk rounds on one minute each).

2. If a horse is used for fewer than 14 minutes of canter, it may be used for an additional two minutes of walk for each minute less than 14 that it canters in that day.

3. However, no matter how few walk rounds it is used for, a horse may never be used for more than 14 minutes of canter rounds in one competition day.

4. If a horse entered is unable to compete due to veterinary reasons, another horse already entered may then be used and the canter rounds may be extended up to a maximum of 16 canter rounds in a day. This request will only be considered upon the receipt of a Veterinary Certificate and will be at the discretion of the Ground Jury.

APPENDIX G Horse Scoring & Table

SCORE	3	5	7	10
Regularity	Not in 3 beats throughout the entire performance. Lateral strides	Not always regular, some strides not in clear three beats. Flat canter, no clear moment of suspension. (earthbound strides)	Regular strides in clear three beats with a clear moment of suspension but some loss of rhythm.	Absolute regular strides in clear three beats throughout the entire performance with a clear moment of suspension.
Suppleness, Looseness	No suppleness shown most of the time with a high degree of tension and resistance	Not supple enough. Lacks elasticity. Moments of tension.	Fairly good elasticity.	Excellent elasticity throughout the body during entire performance.
Contact	Not accepting the bit. Extremely heavy on the side reins and/or lunge line	Very heavy on the side reins and/or lunge line. Consistently behind the vertical. Not steady on the bit and in head carriage.	Light contact but head carriage is not always quiet. A bit tight in the neck for a moment.	Light and steady, line of the nose in front of the vertical. Showing excellent natural self carriage with the poll as the highest point.
Impulsion	Without any energy and the desire to move forward	Lacking energy, engagement behind and ground cover.	Fairly good energy, activity and engagement of the hindquarters.	Very energetic and active strides with well engaged hind legs.
Straightness	Always very crooked. Clear outside bend in the neck.	Often crooked and lacks bend	Fairly straight	Completely straight
Gathering*	Horse is very unbalanced, extremely down hill.	Tempo is very fast. Engagement, activity, self-carriage and natural balance are very limited. Canter looks tired, flat or croup is high.	Should show better natural balance, carry more weight behind and show more uphill tendency.	Active hind legs landing clearly in front of the prints of the front feet and carry weight. Giving the impression of an excellent natural balance with freedom in the shoulders and lightness of the forehead and an uphill tendency.
Submission*	A lot of resistance and not enough under the lunge's control.	There is some resistance.	Without resistance	Without resistance

- Shortening the frame on the way to collection

The scoring of the horse begins with entry to the arena in Team competition and as of the first touching of the grips in Individual and Pas-de-Deux competition. The scoring of the horse ends at the exit of the arena in Team Competition and at the last vault-off in Individual competition.

The working canter is a pace between a collected canter and a medium canter, in which a horse is ready for collected movement, showing natural balance while remaining "on the bit", going forward with even, light and active strides and good hock action. The expression "good hock action" underlines the importance of the impulsion originating from the activity of the hindquarters.

Aims of the working canter:

To demonstrate the natural balance in the canter in all movements.

Essence of the working canter:

- The regularity of the three beat rhythm with a clear moment of suspension
- The light and steady contact with the line of the nose in front of the vertical and the "poll" as the highest point.
- The suppleness throughout the body and the elasticity.
- The energy, activity, self- carriage, natural balance and uphill tendency.

APPENDIX H Abbreviations of Judges' Comments

1H – 1 st Half	H – Head	SK – Security
2H – 2 nd Half	HH – Hit Horse	SP – Suppleness
AL – Alignment	K – Kneel	SS – Side Seat
AB – Arched Back	KZ – Knees	ST – Stiff
A – Arms	LH – Lands Heavily	SX – Stretch
AS – Assistance	LD – Late Dismount	T – Timing
B – Balance	L – Legs	TG – Touched Ground
C – Collapse	LA – Legs Apart	TH – Touched Horse
CD – Come Down	LF – Legs Forward	TI – Turned in
CT – Control	MX – Mechanics	TR – Transition
D – Dismount	M – Mount	TW – Time Wasted
DL – Down Leg	NC – Not Clear of Horse	TZ – Toes
E – Elevation	NH – Not Held	UE – Uneven Elevation
X – Extension	OC – Off Centre	UR – Uneven Rhythm
O – Fall	OH – Off Horse	UW – Uneven Width
OD – Fall After Dismount	PD – Pad	W – Wrap
FT – Feet	PK – Pike	GENERAL PERFORMANCE
FL – Flight	P – Posture	+++ Excellent
F – Form	Q – Quick	++ Very Good
FK – Frog Kick	R – Repeat	+ Good
FH – Front High	SC – Scope	Satisfactory
G – Ground jump	SH – Shoulders	- Marginal
HZ – Hands	SL – Slow	-- Bad

APPENDIX I Deductions and Some Judging Criteria

Individual Competitions

Further descriptions, explanations & interpretations will be found in the relevant sections of the rules.

General causes for elimination of an individual: applicable at all times	Entering the arena with more than the horse, longeur, vaulters and assistant where permitted.
	Vaulting on a horse that is obviously injured or unsound.
	Abusing the horse.
	If the ground jury considers that a vaulter is tall and/or heavy for the size and build of the horse.
	Exceeding the horse's limits for horse use on the day: after the horse has reached its limit, all additional vaulters scheduled to vault on that horse shall be eliminated.
	Using equipment other than compulsory or optional equipment.
	Not entering the arena within two minutes of the judge's call to do so.
	Not commencing performing within 30 seconds of the judge's signal to do so.
	Dress other than defined.
	Approaching the horse before the previous vaulter has begun the dismount.
Unauthorised assistance (see 73.11.2) other than assistance to prevent an accident (such assistance may nevertheless attract a deduction).	

Individual Compulsory	
- 1	Each movement held less than 4
	For each rhythm failure in the mill/leg over
	Failing to kneel before stand
	Leaning on neck in flag
	Landing other than on both feet
up to - 2	Time wasted more than 2 strides
	(D & C) Grips to vault-on 5 paces
	(B & A) Grips to vault-on 2 paces
	Landing heavily on horse
	Fall after dismount
- 2	Repeating all or part of an exercise
	Retaking the grips
	Repeating only one phase of an exercise
	Fall between 2 exercises (deduction from 1st)
0	Fall in exercise
	All/part of exercise omitted (see <i>Guidelines for Judges</i>)
	Exercises in wrong order not corrected
	Repeating whole or part of an exercise twice
	Retaking grips twice
	Exercise done in incorrect gait or leg and not repeated

Individual Competitions

Further descriptions, explanations & interpretations will be found in the relevant sections of the rules.

Individual Freestyle: Horse	
Paces	Regular Circle (15m or More)
Cadence	Longeur
Carriage & Schooling	Equipment & Appearance
Obedience	Entry, Exit & Salutes
- up to 0.5	Wrong tension of lunge rein Horse passive to aids
- up to 1.0	Horse not straight
	Circle less than 15m diameter
	Incorrect lungeing
	Longeur incorrectly dressed
	Horse overladen (less than 165kg)
	Time taken to adjust tack (except permitted adjustment of side-reins)
E	Horse incorrectly equipped

Individual Freestyle: Difficulty	
5.0	Maximum score for all exercises performed
+ 5.0	Extra risk
- 0.5	(E & D) Ea prescribed move not performed

Individual Freestyle: Composition			
Technical (6 pts)		Artistic (4 pts)	
4 pts	2 pts	2 pts	2 pts
Dynamic	Risk	Fluency	Interpretation of Music
Static		Harmony	
All Directions		Rhythm	Harmony
		Highlights	
Changes		Lows	Charisma
		Tension	
High/Low		Transitions	
Different Types	Mounts/Dismounts		
	Originality		
	Consideration for Horse		

Individual Freestyle: Performance	
- 0.1-0.5	Minor fault
- 0.6-0.9	Medium faults
- 1.0	Major faults
- 0.5-1.0	Fall after dismount
- up to 2	Fall (clock not stopped)
- 2.0	Fall (clock stopped)
E	3 rd fall

Mixed Team competitions

Further descriptions, explanations and interpretations will be found in the relevant sections of the rules.

General causes for elimination of a team: applicable at all times	Entering the arena with more than the nominated horse, longeur, vaulters, alternate vaulter and assistant where permitted
	Vaulting on a horse that is obviously injured or unsound
	Abusing the horse
	Exceeding the horse's limits for horse use on the day.
	Using equipment other than compulsory or optional equipment.
	Not entering the arena within two minutes of the judge's call to do so.
	Not commencing performing within 30 seconds of the judge's signal to do so.
	Dress other than defined.
Unauthorised assistance (see 73.11.2) other than assistance to prevent an accident (such assistance may nevertheless attract a deduction).	

Team Freestyle: Difficulty - E & D GRADE	
5.0	Maximum score for all exercise performed
+ 5.0	Difficult movements with a high risk factor
- 0.5	(E & D) Each prescribed move not performed

Team Freestyle: Composition	
-1.0	For the absence of a number from any vaulter entering the competition arena
- 2.0	Each vaulter not performing min 1 exercise + mount-on

Team Freestyle: Performance	
- 0.1	Each fall after landing
- 0.3	Fall of each vaulter or group of vaulters
- 0.5-1.0	Severe fall onto the horse
- 1	Beginning exercise (except dismount) after bell*
0	For each repeated exercise
	For any compulsory exercise
	Any exercise (except dismounts) begun after bell*
*NB: The team attracts NO penalties if it finishes the exercise it is engaged with when the bell goes and then immediately performs its dismounts. If it begins a new exercise after the bell and before dismounting, then the team will receive 0 for both that exercise and the dismount, AND be penalised by -1.	

Mixed Team competitions

Further descriptions, explanations and interpretations will be found in the relevant sections of the rules.

Team Freestyle: Horse & Gen. Impression	
Horse (9 pts)	Gen. Imp. (1 pts)
Paces Cadence Carriage & Schooling Obedience Regular Circle (15m Or More) Longeur Equipment & Appearance Entry, Exit & Salutes	Matching Outfits Entry, Exit & Salutes
Deductions	
- up to 1	Circle less than 15m
	Horse labouring or overladen (less than 165kg)
	Audible instructions to vaulters
	Each team member not wearing number
E	More than 3 vaulters on horse at once
	More than 165kg on horse

Team Compulsory	
- 1	Each movement held less than 4
	For each rhythm failure in the mill/leg over
	Failing to kneel before stand
	Leaning on neck in flag
	Landing other than on both feet
up to - 2	Time wasted more than 2 strides
	(D & C) Grips to vault-on 5 paces
	(B & A) Grips to vault-on 2 paces
	Landing heavily on horse
	Fall after dismount
- 2	Repeating all or part of an exercise
	Retaking the grips
	Vaulters in incorrect order
	Fall between 2 exercises (deduction from 1 st exercise)
0	Fall in exercise
	All/part of exercise omitted (see <i>Guidelines for Judges</i>)
	Exercises in wrong order not corrected
	Repeating all or part of an exercise twice
	Retaking grips twice
	Exercise done in incorrect gait or leg and not repeated
Exercise/s begun after bell	
E	Illegal use of alternate vaulter

APPENDIX J Time limits

1. Timing for an individual vaulter always begins when the vaulter touches the grip/s and ends with the time limit.
2. Timing for pairs, pas de deux, groups or teams begins when the first vaulter touches the grip/s and ends with the time limit.
3. If the signal is given to stop a test for any reason, the timing is stopped until the judge at A gives the signal to resume.
4. The following time limits are observed:

Compulsory		Freestyle	
Individual	no time limit		1 min
Pair / pas de deux	n/a		2 min
Group of 3 or 4	n/a		3 min
Team of 6	6 min		4 min
Team of 7	7 min		4 min 15 sec
Team of 8	8 min		4 min 30 sec
Team of 7	7 min	Team of 6	4 min

APPENDIX K Officials

JUDGES

- 1) All persons who are members of recognised panels of officials, whether Provincial, National, or FEI International, shall be members of a Provincial body.
- 2) The use of judges on the necessary panels is obligatory at all Events that are used for grading purposes. Dispensation from this provision may be granted if approved by the National Technical Committee.
- 3) While it is preferable to use three judges at all competitions, the following criteria must be adhered to:
 - ◆ Training & E grade must use two Provincial judges of that level or one National judge at Provincial shows.
 - ◆ D grade must have two judges (of which two must be Provincial judges of that level or higher) at Provincial Shows.
 - ◆ C grade must have three judges (of which one must be a National judge and two at Provincial C grade level or higher) at Provincial Shows.
 - ◆ B grade must have three judges (at least two of which must be National judges and one at Provincial B grade level) at Provincial Shows.
 - ◆ A grade must have three judges (at least two of which must be National judges and one at Provincial A grade level) at Provincial Shows.
 - ◆ At all Provincial Championships there must be three judges (of which two must be National judges and one at Provincial level (all grades) irrespective of the Level judged.
 - ◆ All National classes must have three National judges for C, B and A level. D grade must have two judges (of which one must be a National judge and one Provincial Judge of C grade level or higher).
Dispensation from this provision may be granted if approved by the National Technical Committee.

TIMEKEEPERS

- 1) Timekeepers need to be familiar with the contents of Appendix I.
- 2) At Provincial events the senior judge may act as timekeeper.
- 3) At National Events a separate timekeeper must be appointed.

RECORDERS

- 1) It is recommended that one Recorder per judge be appointed at Provincial Events. If more than one judge is used an Overall recorder must be used to collate the results.
- 2) At National Events one Recorder per judge and an Overall Recorder should be used. A minimum of two Overall Recorders should be used.

MARSHALS

It is strongly recommended that at least one marshal be on duty at all times at all shows.

**COMPOSITION OF THE GROUND JURIES FOR THE SOUTH AFRICAN:
MIXED TEAM CHAMPIONSHIP
UNDER 14 & OPEN INDIVIDUAL TEAM COMPETITION
UNDER 14 & OPEN INDIVIDUAL CHAMPIONSHIPS**

- 1) A minimum of two National judges (from different Provinces) and one International judge OR three National judges (from three different Provinces) shall be used to judge all Qualifying and National Team and Individual classes at the South African Championships.
- 2) See also 77.4, 78.4 & 79.4.

APPENDICE L – POINTS TABLE FOR CANTER PAIRS
DEGREE OF DIFFICULTY - FREE TEST

Only the 10 most difficult moves will be considered

D – EXERCISES 1.0 POINTS

M – EXERCISES 0.5 POINTS

E – EXERCISES 0.0 POINTS

<i>D EXERCISES</i>		<i>M EXERCISES</i>		<i>TOTAL</i>
<i>NO</i>	<i>SCORE</i>	<i>NO</i>	<i>SCORE</i>	<i>SCORE</i>
10	10.0	0	0.0	10.0
9	9.0	1	0.5	9.5
8	8.0	2	1.0	9.0
7	7.0	3	1.5	8.5
6	6.0	4	2.0	8.0
5	5.0	5	2.5	7.5
4	4.0	6	3.0	7.0
3	3.0	7	3.5	6.5
2	2.0	8	4.0	6.0
1	1.0	9	4.5	5.5
0	0.0	10	5.0	5.0

**APPENDIX M – POINTS TABLE FOR C - A GRADE
DEGREE OF DIFFICULTY - FREE TEST-MIXED TEAMS**

D – EXERCISES 0.40 POINTS

M – EXERCISES 0.30 POINTS

E – EXERCISES 0.20 POINTS

<i>D EXERCISES</i>		<i>M EXERCISES</i>		<i>TOTAL</i>	<i>E EXERCISES</i>	
<i>NO</i>	<i>SCORE</i>	<i>NO</i>	<i>SCORE</i>	<i>SCORE</i>	<i>NO</i>	<i>SCORE</i>
25	10.0	0	0.0	10.0	0	0.0
24	9.6	1	0.3	9.9	1	0.2
23	9.2	2	0.6	9.8	2	0.4
22	8.8	3	0.9	9.7	3	0.6
21	8.4	4	1.2	9.6	4	0.8
20	8.0	5	1.5	9.5	5	1.0
19	7.6	6	1.8	9.4	6	1.2
18	7.2	7	2.1	9.3	7	1.4
17	6.8	8	2.4	9.2	8	1.6
16	6.4	9	2.7	9.1	9	1.8
15	6.0	10	3.0	9.0	10	2.0
14	5.6	11	3.3	8.9	11	2.2
13	5.2	12	3.6	8.8	12	2.4
12	4.8	13	3.9	8.7	13	2.6
11	4.4	14	4.2	8.6	14	2.8
10	4.0	15	4.5	8.5	15	3.0
9	3.6	16	4.8	8.4	16	3.2
8	3.2	17	5.1	8.3	17	3.4
7	2.8	18	5.4	8.2	18	3.6
6	2.4	19	5.7	8.1	19	3.8
5	2.0	20	6.0	8.0	20	4.0
4	1.6	21	6.3	7.9	21	4.2
3	1.2	22	6.6	7.8	22	4.4
2	0.8	23	6.9	7.7	23	4.6
1	0.4	24	7.2	7.6	24	4.8
0	0.0	25	7.5	7.5	25	5

APPENDIX N – POINTS TABLE (E-D GRADE INDIVIDUAL DEGREE OF DIFFICULTY)

	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
M0	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
M1	0.2	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	
M2	0.4	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	
M3	0.6	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.6		
M4	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.8		
M5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0		
M6	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7			
M7	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9			
M8	1.6	2.1	2.6	3.1	3.6	4.1	4.6				
M9	1.8	2.3	2.8	3.3	3.8	4.3	4.8				
M10	2.0	2.5	3.0	3.5	4.0	4.5	5.0				

	R1+D0	R1+D1	R1+D2	R1+D3	R1+D4	R1+D5	R1+D6	R1+D7	R1+D8
M0	0.7	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7
M1	0.9	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9
M2	1.1	1.6	2.1	2.6	3.1	3.6	4.1	4.6	
M3	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.8	
M4	1.5	2.0	2.5	3.0	3.5	4.0	4.5		
M5	1.7	2.2	2.7	3.2	3.7	4.2	4.7		
M6	1.9	2.4	2.9	3.4	3.9	4.4	4.9		
M7	2.1	2.6	3.1	3.6	4.1	4.6			
M8	2.3	2.8	3.3	3.8	4.3	4.8			
M9	2.5	3.0	3.5	4.0	4.5	5.0			
M10	2.7	3.2	3.7	4.2	4.7				

	R2+D0	R2+D1	R2+D2	R2+D3	R2+D4	R2+D5	R2+D6	R2+D7	
M0	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	
M1	1.6	2.1	2.6	3.1	3.6	4.1	4.6		
M2	1.8	2.3	2.8	3.3	3.8	4.3	4.8		
M3	2.0	2.5	3.0	3.5	4.0	4.5	5.0		
M4	2.2	2.7	3.2	3.7	4.2	4.7			
M5	2.4	2.9	3.4	3.9	4.4	4.9			
M6	2.6	3.1	3.6	4.1	4.6				
M7	2.8	3.3	3.8	4.3	4.8				
M8	3.0	3.5	4.0	4.5	5.0				
M9	3.2	3.7	4.2	4.7					
M10	3.4	3.9	4.4	4.9					

	R3+D0	R3+D1	R3+D2	R3+D3	R3+D4	R3+D5			
M0	2.1	2.6	3.1	3.6	4.1	4.6			
M1	2.3	2.8	3.3	3.8	4.3	4.8			
M2	2.5	3.0	3.5	4.0	4.5	5.0			
M3	2.7	3.2	3.7	4.2	4.7				
M4	2.9	3.4	3.9	4.4	4.9				
M5	3.1	3.6	4.1	4.6					
M6	3.3	3.8	4.3	4.8					
M7	3.5	4.0	4.5	5.0					
M8	3.7	4.2	4.7						
M9	3.9	4.4	4.9						
M10	4.1	4.6							

**APPENDIX O – POINTS TABLE (C GRADE) INDIVIDUALS
DEGREE OF DIFFICULTY - FREE TEST**

	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
M0	0.0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0
M1	0.4	1.3	2.2	3.1	4.0	4.9	5.8	6.7	7.6	8.5	
M2	0.8	1.7	2.6	3.5	4.4	5.3	6.2	7.1	8.0		
M3	1.2	2.1	3.0	3.9	4.8	5.7	6.6	7.5			
M4	1.6	2.5	3.4	4.3	5.2	6.1	7.0				
M5	2.0	2.9	3.8	4.7	5.6	6.5					
M6	2.4	3.3	4.2	5.1	6.0						
M7	2.8	3.7	4.6	5.5							
M8	3.2	4.1	5.0								
M9	3.6	4.5									
M10	4.0										

	R1+D0	R1+D1	R1+D2	R1+D3	R1+D4	R1+D5	R1+D6	R1+D7	R1+D8	R1+D9
M0	1.3	2.2	3.1	4.0	4.9	5.8	6.7	7.6	8.5	9.4
M1	1.7	2.6	3.5	4.4	5.3	6.2	7.1	8.0	8.9	
M2	2.1	3.0	3.9	4.8	5.7	6.6	7.5	8.4		
M3	2.5	3.4	4.3	5.2	6.1	7.0	7.9			
M4	2.9	3.8	4.7	5.6	6.5	7.4				
M5	3.3	4.2	5.1	6.0	6.9					
M6	3.7	4.6	5.5	6.4						
M7	4.1	5.0	5.9							
M8	4.5	5.4								
M9	4.9									

		R2+D0	R2+D1	R2+D2	R2+D3	R2+D4	R2+D5	R2+D6	R2+D7	R2+D8
M0		2.6	3.5	4.4	5.3	6.2	7.1	8.0	8.9	9.8
M1		3.0	3.9	4.8	5.7	6.6	7.5	8.4	9.3	
M2		3.4	4.3	5.2	6.1	7.0	7.9	8.8		
M3		3.8	4.7	5.6	6.5	7.4	8.3			
M4		4.2	5.1	6.0	6.9	7.8				
M5		4.6	5.5	6.4	7.3					
M6		5.0	5.9	6.8						
M7		5.4	6.3							
M8		5.8								

			R3+D0	R3+D1	R3+D2	R3+D3	R3+D4	R3+D5	R3+D6
M0			3.9	4.8	5.7	6.6	7.5	8.4	9.3
M1			4.3	5.2	6.1	7.0	7.9	8.8	9.7
M2			4.7	5.6	6.5	7.4	8.3	9.2	
M3			5.1	6.0	6.9	7.8	8.7		
M4			5.5	6.4	7.3	8.2			
M5			5.9	6.8	7.7				
M6			6.3	7.2					
M7			6.7						

APPENDIX P - POINTS TABLE (B - A GRADE) INDIVIDUALS
DEGREE OF DIFFICULTY - FREE TEST

	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
M0	0.0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0
M1	0.4	1.3	2.2	3.1	4.0	4.9	5.8	6.7	7.6	8.5	
M2	0.8	1.7	2.6	3.5	4.4	5.3	6.2	7.1	8.0		
M3	1.2	2.1	3.0	3.9	4.8	5.7	6.6	7.5			
M4	1.6	2.5	3.4	4.3	5.2	6.1	7.0				
M5	2.0	2.9	3.8	4.7	5.6	6.5					
M6	2.4	3.3	4.2	5.1	6.0						
M7	2.8	3.7	4.6	5.5							
M8	3.2	4.1	5.0								
M9	3.6	4.5									
M10	4.0										

	R1+D0	R1+D1	R1+D2	R1+D3	R1+D4	R1+D5	R1+D6	R1+D7	R1+D8	R1+D9
M0	1.3	2.2	3.1	4.0	4.9	5.8	6.7	7.6	8.5	9.4
M1	1.7	2.6	3.5	4.4	5.3	6.2	7.1	8.0	8.9	
M2	2.1	3.0	3.9	4.8	5.7	6.6	7.5	8.4		
M3	2.5	3.4	4.3	5.2	6.1	7.0	7.9			
M4	2.9	3.8	4.7	5.6	6.5	7.4				
M5	3.3	4.2	5.1	6.0	6.9					
M6	3.7	4.6	5.5	6.4						
M7	4.1	5.0	5.9							
M8	4.5	5.4								
M9	4.9									

		R2+D0	R2+D1	R2+D2	R2+D3	R2+D4	R2+D5	R2+D6	R2+D7	R2+D8
M0		2.6	3.5	4.4	5.3	6.2	7.1	8.0	8.9	9.8
M1		3.0	3.9	4.8	5.7	6.6	7.5	8.4	9.3	
M2		3.4	4.3	5.2	6.1	7.0	7.9	8.8		
M3		3.8	4.7	5.6	6.5	7.4	8.3			
M4		4.2	5.1	6.0	6.9	7.8				
M5		4.6	5.5	6.4	7.3					
M6		5.0	5.9	6.8						
M7		5.4	6.3							
M8		5.8								

			R3+D0	R3+D1	R3+D2	R3+D3	R3+D4	R3+D5	R3+D6
M0			3.9	4.8	5.7	6.6	7.5	8.4	9.3
M1			4.3	5.2	6.1	7.0	7.9	8.8	9.7
M2			4.7	5.6	6.5	7.4	8.3	9.2	
M3			5.1	6.0	6.9	7.8	8.7		
M4			5.5	6.4	7.3	8.2			
M5			5.9	6.8	7.7				
M6			6.3	7.2					
M7			6.7						