

## APPENDIX L

### REQUIRED ELEMENTS FOR TECHNICAL ROUTINES, HIGHLIGHT AND FREE COMBINATION

Amendments to this Appendix L are the responsibility of the Rules Committee. The Rules Committee can modify this Appendix by recommending changes to the Board of Directors for approval.

#### ARTICLE 1

#### GENERAL REQUIREMENTS

**1.01 Supplementary elements may be added.** Placement is optional. Other than that the specified required elements are performed in the order designated, there are no restrictions on content or choreography. Required elements may be separated by optional components.

**1.02 Figure elements** shall be executed according to the requirements described in **Figure Rules III, IV & V**. Unless otherwise specified in the description, all elements shall be executed high and controlled, in uniform motion, with each section clearly defined. Technical routine figure elements shall be evaluated using the same criteria as for a Figure competition. Where uniform motion is required, it may be at the tempo of the music. Pauses which are not allowed in figure/movement description may not be added. Example: A *Combined Spin* with short pauses after each 180° turn to fit with the accents in the music would not meet the requirements.

**1.03 Penalties in Technical Routines:** See USSS Rule OD 3.6.2.

- A. When a mistake occurs in a required element, including a *Continuous Spin*, OD 3.6.1.2 shall apply.

**1.04 Procedures for all Technical routines, except Novice:**

- A. If 1 or more judge(s) on the Elements panel, has entered a zero for any element or portion of an element, the Event Referee will review the official video. If the required element has been executed correctly, then the average of the scores of the other remaining judges shall be computed and shall be considered the missing score(s). This shall be calculated to the nearest 0.1 point. See USSS Rule OD 4.1.2.4 for Methods of Scoring.
- If the required element has not been performed correctly, the Event Referee shall instruct the scorers to record zeros for that element for each judge.
- B. If 1 or more Elements judge(s) enters a score for an incorrect element, the Event Referee shall check the official video and make sure it was incorrect. If incorrect, the Event Referee shall change the Elements judges' scores to zeros.
- C. If 1 or more judge(s), by reason of illness or other unforeseen circumstances, has given no score for a routine, the average of the scores of the other remaining judges shall be computed and shall be considered as the missing score(s). This shall be calculated to the nearest 0.1 point.

**1.05 General Comments:**

- A. All Technical required elements must be performed in the order listed. It is strongly recommended, for clarity of judgment that required elements are separated by other content.
- B. For all competitions, there shall be an allowance of 15 seconds plus or minus the allotted time limit. (Exception: There is no minimum time limit of the allotted time for Masters routines. See USSS Rules MS 2.6.2 and MS 2.7.2.)

- C. If more than one Cadence Action is performed, they may not be separated by another movement done in unison (e.g. a synchronized stroke or hybrid movement cannot separate two cadence actions). However, the 1st cadence action may begin with competitor 1 and the 2nd action may begin with either competitor 8 or competitor 1. A subsequent cadence action may or may not start before the previous one is complete.
- D. A circle should be well-defined with all competitors on the circumference of the circle, equidistant from a common center point, demonstrating symmetry in spacing, positions and action (e.g. facing in, facing out or facing around the circle). If all competitors face the same wall, this pattern might not be recognized as a circle by the Event Referee.
- E. Judging: Intermediate, Junior, Senior, and Masters Required elements # 1-5 shall be judged within the Elements Score. Novice required elements are judged according to OD 2.6.2.5.
- F. For additional Masters general requirements for Technical Routines, see USSS Rule MS 2.8.

**1.06 Specific Requirements:** See USSS Rule OD 3.6.2.

- A. For Intermediate, Junior, Senior and Masters Solos, Duets, Mixed Duets and Trios only, Required Elements # 1-5 shall be performed parallel to the sides of the pool where the panels of judges are seated.
- B. Novice Technical routines:
  - 1. For Novice Technical Duets, Technical Mixed Duets and Technical Trios, with the exception of the deck work and entry, all elements, required and supplementary, must be performed simultaneously and facing the same direction by all competitors (e.g. they must face the same wall or diagonal). They may not face each other or away from each other. Mirror actions are not permitted (e.g. one competitor cannot lift her left arm “mirroring” the other competitor lifting her right arm).
  - 2. For Novice Technical Teams, with the exception of the deck work and entry, all elements, required and supplementary, must be performed simultaneously and facing the same direction by all Team members. Variations in propulsion and direction facing are permitted only during underwater pattern changes. Mirror actions are not permitted.
- C. For Intermediate Duet, Mixed Duet, Trio and Team Free Routines with Required Technical Elements, all elements must be performed simultaneously and facing the same direction by all competitors. Mirror actions are not permitted during Technical Elements. See Section 1.06 A above.
- D. Junior and Senior Technical routines:
  - 1. For Junior and Senior Technical Duets, with the exception of the deck work, entry and Required Element # 6, all elements, required and supplementary, must be performed simultaneously and facing the same direction by both competitors (e.g. they must face the same wall or diagonal). They may not face each other or away from each other. Mirror actions are not permitted (e.g. one competitor cannot lift her left arm “mirroring” the other competitor lifting her right arm). See Section 1.06 A above.
  - 2. For Junior and Senior Technical Mixed Duets, Required Elements # 1-5 must be performed simultaneously and facing the same direction. See Section 1.06 A above.
  - 3. For Junior and Senior Technical Teams, with the exception of the deck work, entry, the Acrobatic Movements and the Cadence Action, all elements, required and supplementary, must be performed simultaneously and facing the same direction by all Team members. Variations in propulsion and direction facing are permitted only during underwater pattern changes, underwater actions and making and finishing a circle. Mirror actions are not permitted with exception of the circle.

- E. For Collegiate Technical Category A and B, a compulsory routine with 4 Senior or Junior Team Technical Elements shall be determined by the High Performance Director, the Collegiate Chair and the Collegiate Technical Chair.
1. A preliminary video of the routine segment will be released to the coaches and judges prior to the USAS Convention. Final changes to the video will be decided by the Collegiate Chair, the Collegiate Technical Chair and the High Performance Director. If changes are made, an updated video and count sheet will be posted within 30 days following the conclusion of the USAS Convention.
  2. The time requirement for the compulsory routine will be 1:30 with an allowance of 15 seconds plus or minus the allotted time limit.
  3. The routine will be performed individually by each student-athlete.
  4. Student-athletes must perform the compulsory routine in accordance with the published video and count sheet. During the Technical Elements, performing the incorrect leg or turning the incorrect direction shall result in a zero score for that particular element.
  5. Judges shall award scores for the performance of the Technical Elements only. Adherence to the published count sheet for the Technical Elements shall be taken into consideration as a judging factor.
  6. The Figure scoring system shall be utilized to determine the results. For scoring purposes, see Note.
  7. For Application of Penalties/Procedures: See Sections 1.03 and 1.04 above.
- F. Masters Technical routines:
1. For Masters Technical Duets and Trios, with the exception of the deck work, entry and as noted in the Joined Action, all elements, required and supplementary, must be performed simultaneously and facing the same direction by all competitors. Variations in propulsion and direction facing are permitted during pattern changes.
  2. For Masters Technical Teams, with the exception of the deck work, entry, the Cadence Action and as noted in the Joined Action, all elements, required and supplementary, must be performed simultaneously and facing the same direction by all Team members. Team members need not face the same direction in the circle pattern. Variations in propulsion and direction facing are permitted during pattern changes. Mirror actions are not permitted except as specified in the description of the elements.

## NOVICE REQUIRED TECHNICAL ELEMENTS

<p><b>NOVICE SOLO, DUET/MIXED DUET, TRIO AND TEAM (1:30)</b> Required elements 1-5 must be performed in the order listed.</p>
<p><b>1. Head First Standard Scull in <u>Back Layout Position</u>.</b></p>
<p><b>2. Figure #310 Somersault, Back Tuck, to the completion of at least a 90° rotation.</b></p>
<p><b>3. Side flutter on either side, followed by an arm sweep to a <u>Front Layout Position</u>, followed by a pull into a <u>Surface Front Pike Position</u>.</b></p>
<p><b>4. <u>Split Position</u>.</b></p>
<p><b>5. Figure #101 Ballet Leg, Single, while traveling.</b></p>
<p><b>6. <u>Required Strokes</u>.</b> Any two of the three listed strokes must be performed in the routine. The strokes may appear in any order and at any point in the routine. Each stroke must be performed with at least three repetitions with no intervening actions. The proper kick must be done with the proper arm strokes. The three listed strokes are:</p> <ul style="list-style-type: none"><li>a. Breaststroke: Head may be in or out.</li><li>b. Backstroke: Stops at top of the arm stroke are allowed.</li><li>c. Sidestroke: Head up or down.</li></ul>
<p><b>7. With the exception of the deck work and entry, all elements – required and supplementary – must be performed simultaneously and facing the same direction by all competitors. For Team routines, variations in propulsion and direction facing are permitted only during underwater pattern changes. Mirror actions are not permitted. See Section 1.06 B.</b></p>

## INTERMEDIATE FREE ROUTINE WITH REQUIRED TECHNICAL ELEMENTS

<b>INTERMEDIATE SOLO (2:00), DUET/MIXED DUET/TRIO (2:30) AND TEAM (3:00)</b> Required elements 1-5 must be performed in the order listed.
1. Figure #348 Tower. [DD 1.9]
2. Boost - a rapid, head-first rise, with a maximum amount of the body above the surface of the water. One arm must be lifted above the surface as the body reaches maximum height. The Boost is begun with the body totally underwater or with the back of the head and/or torso flush with the surface. The Boost is completed upon total submergence. [DD 1.3]
3. Figure #360 Walkover, Front. [DD 1.9]
4. Figure #101 Ballet Leg, Single. [DD 1.6]
5. Figure #301 Barracuda. [DD 1.9]
6. All elements must be performed simultaneously and facing the same direction by all competitors. Mirror actions are not permitted during Technical Elements. See Section 1.06 C

**Note.** For scoring purposes, the Intermediate Elements should be listed in the Integrated Sports Systems scoring program as follows:

Element # 1 - Tower

Element # 2 – Boost

Element # 3 – Walkover, Front

Element # 4 - Ballet Leg, Single

Element # 5 - Barracuda

**JUNIOR/FINA REQUIRED TECHNICAL ELEMENTS**  
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<p><b>JUNIOR/FINA SOLO (2:00)</b>            Required elements 1-5 must be performed in the order listed.</p>	<p><b>JUNIOR/FINA DUET (2:20)</b>            Required elements 1-5 must be performed in the order listed.</p>
<p>1. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <b>Barracuda Airborne Split</b> is executed [DD 2.5]</p>	<p>1. Starting in a <b>Vertical Position</b>, a <i>Full Twist</i> is executed as one leg is lowered to a <b>Bent Knee Vertical Position</b>. Continuing in the same direction, an additional <i>Full Twist</i> is completed, as the bent knee is extended to a <b>Vertical Position</b>. Followed by a <i>Continuous Spin of 720°</i> (2 rotations) is executed. [DD 2.2]</p>
<p>2. Starting in a <b>Vertical Position</b>, the body rotates 360° as the legs are lowered symmetrically to assume a <b>Split Position</b>. Continuing in the same direction an additional rotation of 360° is completed as the legs are raised symmetrically to assume a <b>Vertical Position</b>. Followed by a <i>Continuous Spin 1080°</i> (3 rotations) in the same direction. [DD 2.5]</p>	<p>2. From a <b>Back Layout Position</b>, a straight leg is lifted to a <b>Ballet Leg Position</b>. The shin of the horizontal leg is drawn along the surface to assume a <b>Surface Flamingo Position</b>. The bent knee is straightened to a <b>Surface Ballet Leg Double Position</b>. Maintaining the legs vertical, the body submerges to a submerged <b>Back Pike Position</b> until the feet are just below the surface. Executing a 360° rotation the body rises to the surface simultaneously lowering one leg with foot at the surface to assume a <b>Surface Flamingo Position</b>. The horizontal leg is straightened horizontally to a <b>Ballet Leg Position</b>. The vertical leg is lowered straight to a <b>Back Layout Position</b>. Head first travel is allowed during the Ballet Leg sequence. [DD 2.9]</p>
<p>3. <u>141 – Stingray</u>. A Flamingo is executed to a <b>Surface Flamingo Position</b>, traveling head first. With the ballet leg maintaining its vertical position, the hips are lifted as the trunk unrolls while the bent leg moves with the knee at the surface to assume a <b>Fishtail Position</b>. The horizontal leg is lifted in an arc over the surface. As it passes the vertical leg which moves symmetrically, a 180° rotation is started and is completed as a <b>Split Position</b> is assumed. A <i>Walkout Front</i> is executed. [DD 3.2]</p> <p><b>FINA clarification:</b> From a <b>Fishtail Position</b>, the horizontal leg is lifted. As it passes the vertical leg, a 180° rotation is started, and it becomes the back leg in the <b>Split Position</b>. (i.e. A left horizontal leg lifted becomes a split with the left leg back and the right leg forward.)</p>	<p>3. Starting and maintaining a <b>Fishtail Position</b>, with the horizontal leg leading toward the vertical leg, 2 rapid rotations (720°) are executed. [DD 1.8]</p>

<p>4. Starting in a <b>Vertical Position</b>, a <i>Combined Spin of 720°</i> (2 rotations + 2 rotations) is executed. [DD 1.9]</p>	<p>4. A Cyclone is executed to a <b>Vertical Position</b>. A <i>Half Twist</i> is executed. Continuing in the same direction an additional rotation of 180° is executed as the legs are symmetrically opened to assume a <b>Split Position</b>. A <i>Walkout Front</i> is executed. [DD 3.0]</p>
<p>5. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Barracuda Spin 360°</i> is executed. [DD 2.0]</p>	<p>5. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Flying Fish</i> is executed. [DD 2.5]</p>
	<p>6. The routine must contain a lift, jump or throw. This may be placed anywhere in the routine.</p> <p><b>FINA clarification:</b> Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If the Acrobatic Movement does not fully submerge with all competitors, it does result in a <u>0.5</u> penalty.</p>
	<p>7. With the exception of the deck work, entry and the lift, jump or throw, all elements - required and supplementary - must be performed simultaneously and facing the same direction by both competitors. Mirror actions are not permitted. See Section 1.06 D.</p> <p><b>FINA clarification:</b> The direction of propulsion may vary as long as all competitors are facing the same direction.</p>

**JUNIOR/FINA REQUIRED TECHNICAL ELEMENTS** (continued)  
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<p><b>JUNIOR/FINA MIXED DUET (2:20)</b> Required elements 1-5 must be performed in the order listed.</p>
<p>1. From a <b>Front Pike Position</b>, the legs are lifted to a <b>Vertical Position</b> as a rotation of 360° is executed. [DD 1.5]</p>
<p>2. <b>Ballet Leg Sequence.</b> A <i>Ballet Leg is assumed</i> followed by a rapid exchange to <i>assume the opposite Ballet Leg</i> as the vertical leg is lowered straight to horizontal. The horizontal leg is bent to assume a <b>Surface Flamingo Position</b>. The bent leg is straightened to a <b>Ballet Leg Double Position</b>. Maintaining the <b>Ballet Leg Double Position</b>, a rotation of 360° is executed. Travelling head first until the <b>Ballet Leg Double Position</b> is assumed. [DD 2.5]</p>
<p>3. From a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a Barracuda Twirl is executed. [DD 2.4]</p>
<p>4. From a <b>Knight Position</b>, maintaining the vertical alignment of the body, the horizontal leg is moved in a 180° arc at the surface of the water to assume a <b>Fishtail Position</b>. Maintaining the angle between the legs, the horizontal leg moves to vertical as the vertical leg simultaneously continues its arc to the surface to assume a <b>Knight Position</b>. The vertical leg is lowered to assume a <b>Surface Arch Position</b>, with continuous motion a surface <i>Arch to Back Layout Finish Action</i> is executed. [DD 2.2]</p>
<p>5. From a <b>Front Pike Position</b>, the legs are lifted to a <b>Vertical Position</b>. A <i>Full Twist</i> is executed as one leg is lowered to a <b>Bent Knee Vertical Position</b>, followed by a <i>Continuous Spin of 720°</i> (2 rotations) as the bent knee is joined to a <b>Vertical Position</b>. [DD 2.3]</p>
<p>6. The routine must contain only one lift, jump or throw. This may be placed anywhere in the routine.</p> <p><b>FINA clarification:</b> Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If the Acrobatic Movement does not fully submerge with all competitors, it does result in a <u>0.5</u> penalty.</p>
<p>7. The routine must contain at least one connected action. This may be placed anywhere in the routine.</p> <p><u>Connected Action.</u> The competitors must be touching in some manner during the performance of the element.</p>
<p>8. Required Elements # 1-5 must be performed simultaneously and facing the same direction. See Section 1.06 D.</p>

**JUNIOR/FINA REQUIRED TECHNICAL ELEMENTS** (continued)  
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<p><b>JUNIOR/FINA TEAM (2:50)</b> Required elements 1-5 must be performed in the order listed.</p>
<p>1. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Thrust</i> is executed to a <b>Vertical Position</b>, and with no loss of height one leg is lowered to a <b>Bent Knee Vertical Position</b>. A rapid <i>180° Spin</i> is executed as the bent knee is extended to a <b>Vertical Position</b>. All movements are executed rapidly. [DD 2.3]</p>
<p>2. From a <b>Vertical Position</b>, a <i>Twist Spin</i> is executed. [DD 1.8]</p>
<p>3. A Cyclone is executed to a <b>Vertical Position</b>. The legs are symmetrically lowered to a <b>Split Position</b>. A <i>Walkout Front</i> is executed. [DD 2.6]</p>
<p>4. <u>Manta Ray Hybrid</u>. A Flamingo is executed to a <b>Surface Flamingo Position</b>, traveling head first. With the ballet leg maintaining its vertical position, the hips are lifted as the trunk unrolls while the bent leg moves with the knee at the surface to assume a <b>Fishtail Position</b>. The horizontal leg is lifted rapidly to a <b>Vertical Position</b>, as the body rotates 180°. The direction of the 180° rotation is closing into the vertical leg. (Note: A right flamingo start requires the right shoulder back during the 180° rotation and a left flamingo start requires the left shoulder back during the 180° rotation). The legs are lowered rapidly simultaneously to a <b>Bent Knee Surface Arch Position</b>. (Note: The <b>Bent Knee Surface Arch Position</b> can be assumed by using either leg.) The bent knee is straightened to a <b>Surface Arch Position</b> and with continuous motion, an <i>Arch to Back Layout Finish Action</i> is executed. [DD 3.1]</p>
<p>5. From a submerged <b>Back Pike Position</b>, with the legs perpendicular to the surface, a Barracuda Airborne Split is executed. [DD 2.5]</p>
<p>6. The routine must contain only 2 Acrobatic Movements: one using all Team members, and one where the competitors are divided into 2 subgroups and who perform identical simultaneous Acrobatic Movements. These may be placed anywhere in the routine.</p> <p><u>Acrobatic Movements</u>. A general term for jumps, throws, lifts, stacks, platforms, etc., which are performed as spectacular gymnastic feats and/or risky actions, and are mostly achieved with assistance from other competitor(s).</p> <p><b>FINA clarification:</b> The Acrobatic movement performed by 2 subgroups should be performed simultaneously and facing the same direction.</p> <p><b>FINA clarification:</b> Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If the Acrobatic Movement does not fully submerge with all competitors, it does result in a <u>0.5</u> penalty.</p>
<p>7. The routine must contain a Cadence Action with either arms, legs or both. This may be placed anywhere in the routine.</p> <p><u>Cadence Action</u>. Identical movement(s) performed sequentially, one by one, by all Team members. When more than 1 Cadence Action is performed, they must be consecutive and not separated by other optional or required elements. A second Cadence Action may begin before the first Cadence Action is completed by all Team members, but each Team member must do the action of each Cadence.</p>
<p>8. At least 1 circle and at least 1 straight line must be included in the routine.</p>

**9.** With the exception of the deck work, entry, the Acrobatic Movements and the Cadence Action, all elements – required and supplementary – must be performed simultaneously and facing the same direction by all Team members. Variations in propulsion and direction facing are permitted only during underwater pattern changes, underwater actions and making and finishing a circle. Mirror actions are not permitted with exception of the circle. See Section 1.06 D.

**FINA clarification:** The direction of propulsion may vary as long as all competitors are facing the same direction.

**SENIOR/FINA REQUIRED TECHNICAL ELEMENTS**  
**2017-2021 Quadrennium**

<p><b>SENIOR/FINA SOLO (2:00)</b>                      Required elements 1-5 must be performed in the order listed.</p>	<p><b>SENIOR/FINA DUET (2:20)</b>                      Required elements 1-5 must be performed in the order listed.</p>
<p>1. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Thrust</i> is executed to a <b>Vertical Position</b> and with no loss of height one leg is lowered rapidly to a <b>Bent Knee Vertical Position</b> and as the vertical leg is lowered forward, the bent knee is extended to assume an <b>Airborne Split Position</b> and maintaining maximum height the legs are lifted symmetrically to a <b>Vertical Position</b>, followed by a <i>Vertical Descent</i>. All movements are executed rapidly. [DD 2.7]</p>	<p>1. Starting in a <b>Vertical Position</b>, a <i>Full Twist</i> is executed as one leg is lowered to a <b>Bent Knee Vertical Position</b>. Continuing in the same direction another <i>Full Twist</i> is executed, as the bent knee is extended to a <b>Vertical Position</b>. A <i>Continuous Spin of 1080°</i> (3 rotations) is executed. [DD 2.3]</p>
<p>2. A <i>Dolphin</i> is initiated, and the back continues to arch to assume a <b>Surface Arch Position</b>. The legs are lifted to a <b>Vertical Position</b>. Two <i>Full Twists</i> (720°) are executed, and continuing in the same direction a <i>Continuous Spin 1080°</i> (3 rotations) is executed. [DD 3.4]</p>	<p>2. From a <b>Back Layout Position</b>, a straight leg is lifted to a <b>Ballet Leg Position</b>. The shin of the horizontal leg is drawn along the surface to assume a <b>Surface Flamingo Position</b>. The bent knee is straightened to a <b>Surface Ballet Leg Double Position</b>. Maintaining the legs vertical, the body submerges to a submerged <b>Back Pike Position</b> until the feet are just below the surface. Executing a 360° rotation the body rises to the surface simultaneously lowering one leg with foot at the surface to assume a <b>Surface Flamingo Position</b>. The horizontal leg is straightened horizontally to a <b>Ballet Leg Position</b>. The vertical leg is lowered straight to a <b>Back Layout Position</b>. Head first travel is allowed during the Ballet Leg sequence. [DD 2.9]</p>
<p>3. <u>141 – Stingray</u>. A Flamingo is executed to a <b>Surface Flamingo Position</b>, traveling head first. With the ballet leg maintaining its vertical position, the hips are lifted as the trunk unrolls while the bent leg moves with the knee at the surface to assume a <b>Fishtail Position</b>. The horizontal leg is lifted in an arc over the surface. As it passes the vertical leg which moves symmetrically, a 180° rotation is started and is completed as a <b>Split Position</b> is assumed. A <i>Walkout Front</i> is executed. [DD 3.2]</p> <p><b>FINA clarification:</b> From a <b>Fishtail Position</b>, the horizontal leg is lifted. As it passes the vertical leg, a 180° rotation is started, and it becomes the back leg in the <b>Split Position</b>. (i.e. A left horizontal leg lifted becomes a split with the left leg back and the right leg forward.)</p>	<p>3. Starting and maintaining a <b>Fishtail Position</b>, with the horizontal leg leading toward the vertical leg, 2 rapid rotations (720°) are executed. Continuing in the same direction and same speed, a rapid <i>Full Twist</i> is executed as the horizontal leg is lifted to a <b>Vertical Position</b>. A <i>Continuous Spin 720°</i> is executed. [DD 2.8]</p>

<p>4. Starting in a <b>Vertical Position</b>, a <i>Full Twist</i> is executed followed by a <i>Combined Spin of 1080°</i> (3 rotations + 3 rotations). [DD 2.7]</p>	<p>4. A Cyclone is executed to a <b>Vertical Position</b>. A <i>Half Twist</i> is executed. Continuing in the same direction an additional rotation of 180° is executed as the legs are symmetrically opened to assume a <b>Split Position</b>. A <i>Walkout Front</i> is executed. [DD 3.0]</p>
<p>5. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Barracuda Continuous Spin 720°</i> (2 rotations) is executed. [DD 2.3]</p>	<p>5. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Thrust</i> is executed to a <b>Vertical Position</b> and with no loss of height one leg is rapidly lowered to a <b>Fishtail Position</b>. The horizontal leg is lifted to a <b>Vertical Position</b> as a <i>Spin 360°</i> is executed. [DD 2.5]</p> <p><b>FINA clarification:</b> With BM 13.3 stating under major desired actions “uniform motion” to be at the same tempo as the rest of the figure, unless otherwise stated. In this element, the <i>Thrust</i> is rapid, the leg is rapidly lowered to a <b>Fishtail Position</b> and then no speed is mentioned for the horizontal leg being lifted to <b>Vertical Position</b> as a <i>Spin 360°</i> is executed. The spin must be at the same speed, that is rapid. This is matching the tempo of the rest of the figure.</p>
	<p>6. The routine must contain a lift, jump or throw. This may be placed anywhere in the routine.</p> <p><b>FINA clarification:</b> Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If the Acrobatic Movement does not fully submerge with all competitors, it does result in a <u>0,5</u> penalty.</p>
	<p>7. With the exception of the deck work, entry and the lift, jump or throw, all elements - required and supplementary - must be performed simultaneously and facing the same direction by both competitors. Mirror actions are not permitted. See Section 1.06 D.</p> <p><b>FINA clarification:</b> The direction of propulsion may vary as long as all competitors are facing the same direction.</p>

**SENIOR/FINA REQUIRED TECHNICAL ELEMENTS** (continued)  
**2017-2021 Quadrennium**

<p><b>SENIOR/FINA MIXED DUET (2:20)</b> Required elements 1-5 must be performed in the order listed.</p>
<p>1. From a <b>Front Pike Position</b>, the legs are lifted to a <b>Vertical Position</b> as a rotation of 360° is executed. [DD 1.5]</p>
<p>2. <u>Ballet Leg Sequence</u>. A <i>Ballet Leg is assumed</i> followed by a rapid exchange to <i>assume the opposite Ballet Leg</i> as the vertical leg is lowered straight to horizontal. The horizontal leg is bent to assume a <b>Surface Flamingo Position</b>. The bent leg is straightened to a <b>Ballet Leg Double Position</b>. Maintaining the <b>Ballet Leg Double Position</b>, a rotation of 360° is executed. Travelling head first until the <b>Ballet Leg Double Position</b> is assumed. [DD 2.5]</p>
<p>3. From a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a Barracuda Twirl is executed. [DD 2.4]</p>
<p>4. From a <b>Knight Position</b>, maintaining the vertical alignment of the body, the horizontal leg is moved in a 180° arc at the surface of the water to assume a <b>Fishtail Position</b>. Maintaining the angle between the legs, the horizontal leg moves to vertical as the vertical leg simultaneously continues its arc to the surface to assume a <b>Knight Position</b>. The vertical leg is lowered to assume a <b>Surface Arch Position</b>, with continuous motion a surface <i>Arch to Back Layout Finish Action</i> is executed. [DD 2.2]</p>
<p>5. From a <b>Front Pike Position</b>, the legs are lifted to a <b>Vertical Position</b>. A <i>Full Twist</i> is executed as one leg is lowered to a <b>Bent Knee Vertical Position</b>, followed by a <i>Continuous Spin of 720°</i> (2 rotations) as the bent knee is joined to a <b>Vertical Position</b>. [DD 2.3]</p>
<p>6. The routine must contain only one lift, jump or throw. This may be placed anywhere in the routine.</p> <p><b>FINA clarification:</b> Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If the Acrobatic Movement does not fully submerge with all competitors, it does result in a <u>0.5</u> penalty.</p>
<p>7. The routine must contain at least one connected action. This may be placed anywhere in the routine.</p> <p><u>Connected Action</u>. The competitors must be touching in some manner during the performance of the element.</p>
<p>8. Required Elements # 1-5 must be performed simultaneously and facing the same direction. See Section 1.06 D.</p>

**SENIOR/FINA REQUIRED TECHNICAL ELEMENTS** (continued)  
**2017-2021 Quadrennium**

<p><b>SENIOR/FINA TEAM (2:50)</b> Required elements 1-5 must be performed in the order listed.</p>
<p>1. Starting in a submerged <b>Back Pike Position</b> with the legs perpendicular to the surface, a <i>Thrust</i> is executed to a <b>Vertical Position</b>, and with no loss of height one leg is lowered to a <b>Bent Knee Vertical Position</b>. A rapid <i>360° Spin</i> is executed as the bent knee is extended to a <b>Vertical Position</b>. [DD 2.5]</p>
<p>2. From a <b>Vertical Position</b>, a <i>Full Twist</i> is executed, followed by a <i>Continuous Spin of 1440°</i> (4 rotations). [DD 2.2]</p>
<p>3. A Cyclone is executed to a <b>Vertical Position</b>. The legs are symmetrically lowered to a <b>Split Position</b>. A <i>Walkout Front</i> is executed. [DD 2.6]</p>
<p>4. <u>Manta Ray Hybrid</u>. A Flamingo is executed to a <b>Surface Flamingo Position</b>, traveling head first. With the ballet leg maintaining its vertical position, the hips are lifted as the trunk unrolls while the bent leg moves with the knee at the surface to assume a <b>Fishtail Position</b>. The horizontal leg is lifted rapidly to a <b>Vertical Position</b>, as the body rotates 180°. The direction of the 180° rotation is closing into the vertical leg. (Note: A right flamingo start requires the right shoulder back during the 180° rotation and a left flamingo start requires the left shoulder back during the 180° rotation). The legs are lowered rapidly simultaneously to a <b>Bent Knee Surface Arch Position</b>. (Note: The <b>Bent Knee Surface Arch Position</b> can be assumed by using either leg.) The bent knee is straightened to a <b>Surface Arch Position</b> and with continuous motion, an <i>Arch to Back Layout Finish Action</i> is executed. [DD 3.1]</p>
<p>5. From a submerged <b>Back Pike Position</b>, with the legs perpendicular to the surface, a Barracuda Airborne Split is executed. [DD 2.5]</p>
<p>6. The routine must contain only 2 Acrobatic Movements: one using all team members, and one where the competitors are divided into 2 subgroups and who perform identical simultaneous Acrobatic Movements. These may be placed anywhere in the routine.</p> <p><u>Acrobatic Movements</u>. A general term for jumps, throws, lifts, stacks, platforms, etc., which are performed as spectacular gymnastic feats and/or risky actions, and are mostly achieved with assistance from other competitor(s).</p> <p><b>FINA clarification:</b> The Acrobatic movement performed by 2 subgroups should be performed simultaneously and facing the same direction.</p> <p><b>FINA clarification:</b> Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If the Acrobatic Movement does not fully submerge with all competitors, it does result in a <u>0.5</u> penalty.</p>
<p>7. The routine must contain a Cadence Action with either arms, legs or both. This may be placed anywhere in the routine.</p> <p><u>Cadence Action</u>. Identical movement(s) performed sequentially, one by one, by all Team members. When more than 1 Cadence Action is performed, they must be consecutive and not separated by other optional or required elements. A second Cadence Action may begin before the first Cadence Action is completed by all Team members, but each Team member must do the action of each Cadence.</p>

**8.** At least 1 circle and at least 1 straight line must be included in the routine.

**9.** With the exception of the deck work, entry, the Acrobatic Movements and the Cadence Action, all elements – required and supplementary – must be performed simultaneously and facing the same direction by all Team members. Variations in propulsion and direction facing are permitted only during underwater pattern changes, underwater actions and making and finishing a circle. Mirror actions are not permitted with exception of the circle. See Section 1.06 D.

**FINA clarification:** The direction of propulsion may vary as long as all competitors are facing the same direction.

## COLLEGIATE TECHNICAL CATEGOR Y A ELEMENTS

### COMPULSORY ROUTINE ELEMENTS (1:30)

Required elements 1-4 must be performed in the order listed.

1. Starting in a submerged **Back Pike Position** with the legs perpendicular to the surface, a *Thrust* is executed to a **Vertical Position**, and with no loss of height one leg is lowered to a **Bent Knee Vertical Position**. A rapid *360° Spin* is executed as the bent knee is extended to a **Vertical Position**. [DD 2.5]
2. From a **Vertical Position**, a *Full Twist* is executed, followed by a *Continuous Spin of 1440°* (4 rotations). [DD 2.2]
3. A Cyclone is executed to a **Vertical Position**. The legs are symmetrically lowered to a **Split Position**. A *Walkout Front* is executed. [DD 2.6]
4. Manta Ray Hybrid. A Flamingo is executed to a **Surface Flamingo Position**, traveling head first. With the ballet leg maintaining its vertical position, the hips are lifted as the trunk unrolls while the bent leg moves with the knee at the surface to assume a **Fishtail Position**. The horizontal leg is lifted rapidly to a **Vertical Position**, as the body rotates 180°. The direction of the 180° rotation is closing into the vertical leg. (*Note: A right flamingo start requires the right shoulder back during the 180° rotation and a left flamingo start requires the left shoulder back during the 180° rotation*). The legs are lowered rapidly simultaneously to a **Bent Knee Surface Arch Position**. (*Note: The Bent Knee Surface Arch Position can be assumed by using either leg.*) The bent knee is straightened to a **Surface Arch Position** and with continuous motion, an *Arch to Back Layout Finish Action* is executed. [DD 3.1]

**Note.** For scoring purposes, the Collegiate Technical Category A Elements should be listed in the Integrated Sports Systems scoring program as AE1, AE2, AE3 and AE4.

## COLLEGIATE TECHNICAL CATEGORY B ELEMENTS

### COMPULSORY ROUTINE ELEMENTS (1:30)

Required elements 1-4 must be performed in the order listed.

1. Starting in a submerged **Back Pike Position** with the legs perpendicular to the surface, a *Thrust* is executed to a **Vertical Position**, and with no loss of height one leg is lowered to a **Bent Knee Vertical Position**. A rapid *180° Spin* is executed as the bent knee is extended to a **Vertical Position**. All movements are executed rapidly. [DD 2.3]
2. From a **Vertical Position**, a *Twist Spin* is executed. [DD 1.8]
3. A Cyclone is executed to a **Vertical Position**. The legs are symmetrically lowered to a **Split Position**. A *Walkout Front* is executed. [DD 2.6]
4. Manta Ray Hybrid. A Flamingo is executed to a **Surface Flamingo Position**, traveling head first. With the ballet leg maintaining its vertical position, the hips are lifted as the trunk unrolls while the bent leg moves with the knee at the surface to assume a **Fishtail Position**. The horizontal leg is lifted rapidly to a **Vertical Position**, as the body rotates 180°. The direction of the 180° rotation is closing into the vertical leg. (*Note: A right flamingo start requires the right shoulder back during the 180° rotation and a left flamingo start requires the left shoulder back during the 180° rotation*). The legs are lowered rapidly simultaneously to a **Bent Knee Surface Arch Position**. (*Note: The Bent Knee Surface Arch Position can be assumed by using either leg.*) The bent knee is straightened to a **Surface Arch Position** and with continuous motion, an *Arch to Back Layout Finish Action* is executed. [DD 3.1]

**Note.** For scoring purposes, the Collegiate Technical Category B Elements should be listed in the Integrated Sports Systems scoring program as BE1, BE2, BE3 and BE4.

## MASTERS REQUIRED TECHNICAL ELEMENTS

<b>MASTERS SOLO (1:30)</b> Required elements 1-5 must be performed in the order listed. Element 6 may be performed at any time during the routine.	<b>MASTERS DUET/TRIO (1:40)</b> Required elements 1-5 must be performed in the order listed. Elements 6-7 may be performed at any time during the routine.
1. Fishtail - From a <b>Front Layout Position</b> , a <b>Front Pike Position</b> is assumed. One leg is lifted to a <b>Fishtail Position</b> and the second leg is lifted to a <b>Vertical Position</b> (the ending is optional). [DD 1.6]	1. Fishtail - From a <b>Front Layout Position</b> , a <b>Front Pike Position</b> is assumed. One leg is lifted to a <b>Fishtail Position</b> and the second leg is lifted to a <b>Vertical Position</b> (the ending is optional). [DD 1.6]
2. <b>Split Position</b> followed by a <i>Walkout Front</i> or <i>Walkout Back</i> . [DD 1.3]	2. <b>Split Position</b> followed by a <i>Walkout Front</i> or <i>Walkout Back</i> . [DD 1.3]
3. Spinning 180° – From a <b>Bent Knee Vertical Position</b> , a <i>Spin 180°</i> is executed as the legs are joined to a <b>Vertical Position</b> at the ankles followed by submergence. [DD 1.1]	3. Spinning 180° – From a <b>Bent Knee Vertical Position</b> , a <i>Spin 180°</i> is executed as the legs are joined to a <b>Vertical Position</b> at the ankles followed by submergence. [DD 1.1]
4. Traveling Ballet Leg combination - beginning in a <b>Back Layout Position</b> to include any 2 of the following positions: <b>Right Bent Knee Back Layout; Left Bent Knee Back Layout; Right Ballet Leg; Left Ballet Leg; Right Flamingo; Left Flamingo</b> or <b>Double Ballet Leg</b> . [DD 1.3]	4. Traveling Ballet Leg combination - beginning in a <b>Back Layout Position</b> to include any 2 of the following positions: <b>Right Bent Knee Back Layout; Left Bent Knee Back Layout; Right Ballet Leg; Left Ballet Leg; Right Flamingo; Left Flamingo</b> or <b>Double Ballet Leg</b> . [DD 1.3]
5. Barracuda Bent Knee - From the <b>Back Pike Position</b> with the legs perpendicular and the toes just below the surface, a <i>Thrust</i> is executed as one leg is drawn along the inside of the other extended leg to assume a <b>Bent Knee Vertical Position</b> . A <i>Vertical Descent</i> is executed in the <b>Bent Knee Vertical Position</b> at the same tempo as the <i>Thrust</i> . [DD 1.6]	5. Barracuda Bent Knee - From the <b>Back Pike Position</b> with the legs perpendicular and the toes just below the surface, a <i>Thrust</i> is executed as one leg is drawn along the inside of the other extended leg to assume a <b>Bent Knee Vertical Position</b> . A <i>Vertical Descent</i> is executed in the <b>Bent Knee Vertical Position</b> at the same tempo as the <i>Thrust</i> . [DD 1.6]
6. Two (2) Forms of Propulsion - must include eggbeater traveling sideways and/or forward (arms are optional).	6. Two (2) Forms of Propulsion - must include eggbeater traveling sideways and/or forward (arms are optional).
	7. Joined Action – where the competitors are connected (touching) in some manner to perform 1 of the following: a connected figure, or a connected float or connected stroking. <ul style="list-style-type: none"> <li>a. All competitors must perform the Joined Action simultaneously. Mirror action is permitted.</li> <li>b. Stacks, lifts, platforms or throws are not permitted.</li> </ul>

	<p>8. With the exception of the deck work, entry and as noted in the Joined Action, all elements - required and supplementary - must be performed simultaneously and facing the same direction by all competitors. Variations in propulsion and direction facing are permitted during pattern changes.</p>
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## MASTERS REQUIRED TECHNICAL ELEMENTS *(continued)*

<p><b>MASTERS TEAM (1:50)</b> Required elements 1-5 must be performed in the order listed. Elements 6-9 may be performed at any time during the routine.</p>
<p>1. Fishtail - From a <b>Front Layout Position</b>, a <b>Front Pike Position</b> is assumed. One leg is lifted to a <b>Fishtail Position</b> and the second leg is lifted to a <b>Vertical Position</b> (the ending is optional). [DD 1.6]</p>
<p>2. <b>Split Position</b> followed by a <i>Walkout Front</i> or <i>Walkout Back</i>. [DD 1.3]</p>
<p>3. Spinning 180° – From a <b>Bent Knee Vertical Position</b>, a <i>Spin 180°</i> is executed as the legs are joined to a <b>Vertical Position</b> at the ankles followed by submergence. [DD 1.1]</p>
<p>4. Traveling Ballet Leg combination - beginning in a <b>Back Layout Position</b> to include any 2 of the following positions: <b>Right Bent Knee Back Layout; Left Bent Knee Back Layout; Right Ballet Leg; Left Ballet Leg; Right Flamingo; Left Flamingo</b> or <b>Double Ballet Leg</b>. [DD 1.3]</p>
<p>5. Barracuda Bent Knee - From the <b>Back Pike Position</b> with the legs perpendicular and the toes just below the surface, a <i>Thrust</i> is executed as one leg is drawn along the inside of the other extended leg to assume a <b>Bent Knee Vertical Position</b>. A <i>Vertical Descent</i> is executed in the <b>Bent Knee Vertical Position</b> at the same tempo as the <i>Thrust</i>. [DD 1.6]</p>
<p>6. Two (2) Forms of Propulsion - must include eggbeater traveling sideways and/or forward (arms are optional).</p>
<p>7. Joined Action – where the competitors are connected (touching) in some manner to perform 1 of the following: a connected figure, or a connected float or connected stroking.</p> <ol style="list-style-type: none"><li>All competitors must perform the Joined Action simultaneously. Mirror action is permitted.</li><li>Stacks, lifts, platforms or throws are not permitted.</li></ol>
<p>8. Cadence Action - identical movement(s) performed sequentially one-by-one by all Team members. When more than one Cadence Action is performed, they must be consecutive and not separated by other optional or required elements. A second Cadence Action may begin before the first Cadence Action is completed by all Team members but each Team member must do the action of each cadence.</p>
<p>9. Patterns - must show a circle and a straight line. Elements may be performed when in the circle or the straight line patterns.</p>
<p>10. With the exception of the deck work, entry, the Cadence Action and as noted in the Joined Action, all elements - required and supplementary - must be performed simultaneously and facing the same direction by all Team members. Team members need not face the same direction in the circle pattern. Variations in propulsion and direction facing are permitted during pattern changes. Mirror actions are not permitted except as specified in the description of the elements.</p>

## HIGHLIGHT REQUIRED ELEMENTS

### GENERAL REQUIRMENTS (2:30)

1. Time limits as in CP 4.2.5.
2. Additional content may be added.
3. Required Elements # 1-3 may be performed in any order.

### REQUIRED ELEMENTS

All Team members must be involved in the performances of the Required Elements.

1. A minimum of 4 Acrobatic Movements.

Acrobatic Movements. A general term for jumps, throws, lifts, stacks, platforms, etc., which are performed as spectacular gymnastic feats and/or risky actions, and are mostly achieved with assistance from other competitor(s).

The Acrobatic Movement ends with complete submersion of all participants including the ones(s) being pushed.

For multiple Acrobatic Movements:

When submersion occurs between 2 Acrobatic Movements, it shall be considered as 2 lifts.

When 2 Acrobatic Movements happen simultaneously, it shall be considered as 1 lift.

**FINA clarification:** According to AS 4.3, the Acrobatic Movement ends with complete submersion of all competitors including the one(s) being pushed. Any Acrobatic Movement that does not submerge completely (arms, or bust, or legs of 1 competitor remains at the surface) is not counted as an Acrobatic Movement. If it is followed by a 2<sup>nd</sup> Acrobatic Movement where all competitors submerge, this is counted as 1 Acrobatic Movement.

**FINA clarification:** For Highlight routine: Acrobatic Movements with fully submersion of all competitors count as one (1). Highlight routine needs at least 4 fully submersion Acrobatic Movements.

2. A Connected or Intertwined Action.

Connected Action. Joined or linked together

Intertwined Action. Act of twisting together and around each other in spirals.

**FINA clarification:** It states that all members must be involved when performing the Required Elements #1 and #2. This does not necessarily mean all must be connected to each other. If partners are connected or 2 groups of 4 is acceptable. All groups have to perform at the same time.

**FINA clarification:** The Connected Action cannot be a part of the Kaleidoscope float. A team needs to perform the Kaleidoscope float and the Connected Action separately. The Kaleidoscope float might be connected though (this is rather likely). But the team needs to do a separate Connected Action in addition.

3. A Float to give a kaleidoscopic effect.

A Float. A formation or pattern competitors carry out with their bodies. Some parts of their bodies can be above, at or below the surface.

A kaleidoscopic effect. A symmetrical design or pattern that continuously shifts and rapidly changes pattern or shape.

**FINA clarification:** In Section G of the AS Manual, Glossary of Terms for Routines, it states for a float that 2 or more competitors attached to make a surface formation. The rule in any case does not state the number of pattern changes, and as far as an attached horizontal (surface) spatial formation is reached it can be considered a float with either whole body of part of it.

**FINA clarification:** A kaleidoscopic effect is a symmetrical design or pattern that shifts and changes and at least 2 changes would be required to give a kaleidoscopic effect.

## FINA FREE COMBINATION REQUIRED ELEMENTS

### GENERAL REQUIRMENTS

Intermediate (3:00); 12 & under (3:00); 13-15 (3:30); Junior, 16-19, Senior & Masters (4:00)

1. Time limits as in CP 4.2.5 and MS 2.7.1.
2. Start may be on the deck or in the water, or a combination of both.
3. All subsequent parts must start in the water.
4. A new part begins in very close proximity to the previous part.

### REQUIRED ELEMENTS

1. At least 2 parts must have fewer than 3 competitors and at least 2 parts must have 8 to 10 competitors.

**Note.** For competitions held under US rules, the above required element is “At least 2 parts must have fewer than 3 competitors and at least 2 parts must have 4 to 10 competitors”.