



**WORLD**  
**AQUATICS**

# **HYBRID DIFFICUTLY CATALOGUE**

**The application of declared difficulty in Free Hybrids**

**Appendix VI of AS Rules**

**Version 5.1**  
**In force as from 1 September 2024**

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**The following has been revised in the October 2024, version 5.1:**

- **Difficulty Guide renamed Hybrid Catalogue**
- **Definition of a Free Hybrid revised**
- **Base Mark (0.5) defined as being added to DD value**
- **Revised Hybrid Difficulty Table**
- **Family descriptions updated to reflect community feedback and revised difficulty table**
- **The removal of hybrid bonuses, except pattern changes**
- **General principles updated**
- **Applicable updates to supporting materials (coach card template and examples, excel tool, etc.)**

## INTRODUCTION

- World Aquatics documents written word will prevail over any other documents or video examples (AQUA or otherwise).
- As stated in the AS Manual regarding judging routines, the same principle shall also apply for TCs: Hybrids may be performed close to or far from TCs position and/or in moving water caused by the (intentional) power of actions, the number of athletes performing, or the moving progression (“travelling”) of the Hybrid, as such TCs must focus on what they see at or over the water surface.
- In regard to any hybrid techniques where compliance to specific angles or height levels is required:
  - If technology is available at a competition where athletes can be **accurately measured** via analysis software for compliance to stated angles or height levels, then clear non-compliance to a required angle or level would result in a Base Mark
  - For Technical Controllers without technology – then non-compliance to a required angle or height level should be **very obvious** and clear in a video review (so far off the angle/height that there is no doubt). If too close to call and in doubt, then the ruling should go in favour of the athlete.

## HYBRIDS

- **Definition of a Hybrid:**
  - A free hybrid (one intentionally being declared for DD on a Coach Card) is defined as having a combination of **five (5) or more movements** performed with lower limbs with intentional apnea (head down under hips level).
  - Short hybrid-like movements of **4 or less movements** with or without intentional apnoea OR horizontal movements along the surface with lower limb actions that have consequential apnoea (rolling over, kicking, etc.) are considered as transitional movements.
- **How to count hybrid movements:**
  - The Definition of a Hybrid Movement = a definitive change in the position or direction of the lower limbs as mandated by the choreography of the routine.
  - Regarding entries and exits:
    - Front Pike Pulldown - the action of the body bending into the pike position is movement number one, with counting continuing from there
    - Entry from a Ballet Leg - A Ballet Leg kick counts in the hybrid if used as an entry into the hybrid (kick up and then a Catalina like rotation, kick up and then into inverted tuck, etc.)

- If starting from underwater, start counting from the first position – for example a pike, tuck, tabletop, or a submerged back pike (before a thrust)
- No movements shall be counted underwater – for example, a tuck from ankles at the end of a spin would count as one movement, however if the athlete(s) tuck when completely submerged no movement shall be counted
- Spins / Twists / Twirls: each ½ turn (180°) shall count as 1 movement
- A “swirl” action counts as one movement from its beginning to its clear stopping point or next clear action as momentum/force must be considered.
- Fast kick type actions (for example fast “tendu” like action similar to ballet: movement in ballet where the working leg is extended along the floor until only the tip of the toe remains touching the floor) shall count as 1 movement (i.e. there is a clear exertion of energy/muscle tension and then a recovery)
- When rotating and performing leg movements at the same time, only the rotations shall be counted.
- Cadence: each cadence movement shall count as 1 movement. You do not count the movements of each athlete as they all do the same action, but on their own counts.

• **Hybrid difficulty components:**

- Hybrid difficulty components are declared skills with assigned degree of difficulty (DD) values that comprise transitions in a hybrid and are grouped in the following “families” by level:
  - **THRUSTS (T)**
  - **SPINS (S)**
  - **TWISTS (R)** – which include Twirls and Swirls
  - **FLEXIBILITY (F)**
  - **AIRBORNE WEIGHT (A)**
  - **CONNECTIONS (C)**
- All families include a first level which is defined as Basic (B), then each family progresses from level 1 upwards to a maximum of level 10.

• **Bonuses:**

- Team Tech, Team Free and Free Combination routines shall include a bonus for each **Pattern Change** executed valued at **0.20** each

• **Hybrid Base Mark:**

- Base Mark for all hybrids is the same and has a value of 0.5.
- The Hybrid Base Mark value of 0.5 is **added** to the value of the hybrid DD, and it is the value (0.5) the hybrid will go to if not successful in achieving the declared difficulty.
- Total Hybrid Declared Difficulty (DD) Value

**= BASE MARK (0.5) + MOVEMENTS (Families) + BONUS (Team only)**



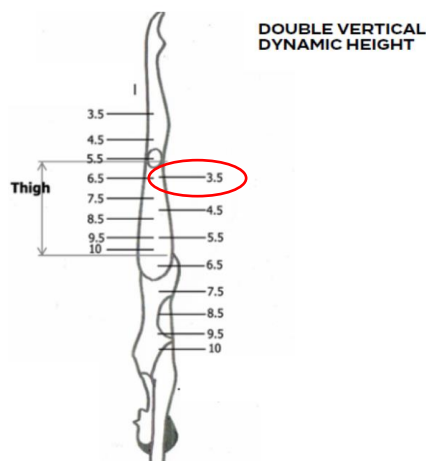
## FAMILIES OF MOVEMENTS

### 1. THRUSTS (T)

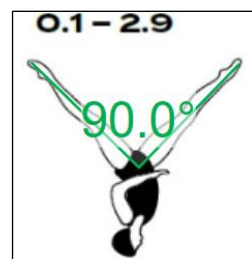
**The Thrust (T) family includes variations of thrusts as defined in AS Rulebook BM:** “From a Submerged Back Pike Position with the legs perpendicular to the surface of the water a vertical upward movement of the legs and hips is rapidly executed as the body unrolls to assume a Vertical Position\*. Maximum height desirable”.

*\*Note: other 1 and 2 leg body positions are allowed as per the Thrust levels defined.*

- Whenever “Thrust” is stated it means two legs, otherwise one leg is stated.
- The minimum height for a Thrust to be able to be accepted is a 3.5 (Dynamic height) which is above the knees meaning TCs must clearly see that height level achieved, or the thrust will be subject to Base Mark.



- Thrust endings with crashing OR with descent are clearly differentiated and defined in the difficulty table at different levels and values.
  - For a Thrust and vertical descent
    - If a descent is executed from maximum height until below the knee (kneecaps submerged) and then a crash occurs, this still applies as an accomplished descent.
- A Thrust with flexibility must exhibit flexibility at maximum height like Airborne Split Position or Vertical to Knight. A thrust with Airborne Split Position or a split variant must show body alignment under hips, as described in BP and must show flexibility at minimum of “scissors (90°) / 0.1-2.9 for split as per the AS Manual. Body alignment means lower back arched, with hips, shoulders, and head on a vertical line. Split variants may not exhibit bent front legs, and only back legs that bend downward (with the knee facing the ceiling / not inward).
- For thrusts with flexibility followed by a spin or twirl, the spin or twirl can begin at any time – ie the legs can be out of the VP cone.



- For thrusts followed by a Twirl = A rotation at a sustained height – height remains constant throughout the rotation. **Therefore, any obvious change in height downwards is subject to a Base Mark.** “Obvious” is defined as a drop in two height levels. So, if the athlete starts above their knee (6.5) and drops to below knee (4.5) that would be a Base Mark. A change in one height level = execution.
- In the case that a thrust is performed that exhibits actions from different levels – declare the most difficult movement. For example, if a Thrust with Flexibility continued by catching (clearly stopping – stable height demonstrated) in a Vertical Position above the knees is performed, declare a T9.
- Regarding a Thrust Level 9 with catching: Once the “stable height demonstrated for 1 second (1s) or more” in VP has occurred any difficulty movement can then be performed and be declared as per the rules, for example: T9 followed by A6, S3, etc.
- Spins following Thrusts must drop gradually. Athletes who obviously hold the rotation at the ankle level (ie twisting vs spinning) will be **subject to a Base Mark** as per below standards:

For Spin 180° to Spin 720°  
Entire rotation must be gradual

For Spin 1080°  
A maximum of one rotation at the ankle level is allowed

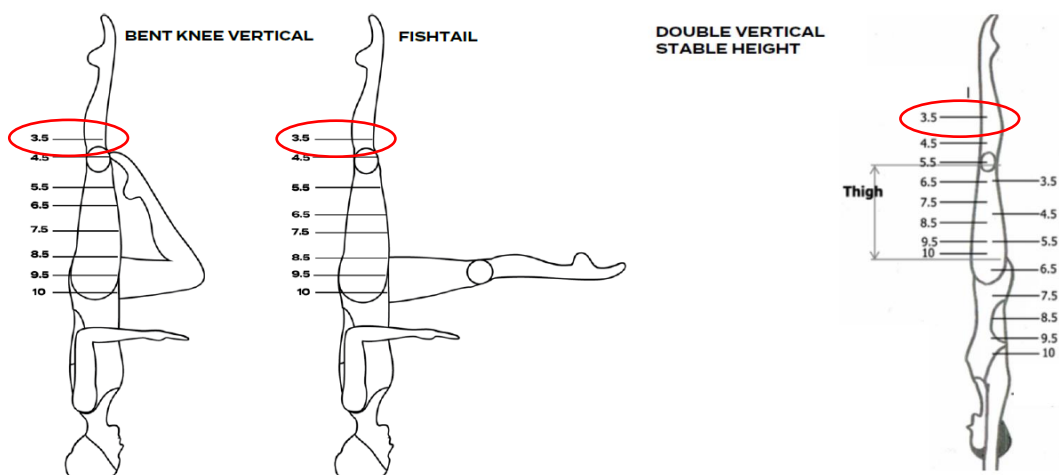
Level	Code	Description	DD Value
<b>B</b>	TB	Thrust with one or two legs followed by crashing on the surface	<b>0.30</b>
<b>1</b>	T1	Thrust with one leg followed by vertical descent	<b>0.45</b>
<b>2</b>	T2a	Thrust with one leg followed by Spin 180°	<b>0.50</b>
	T2b	Thrust with one leg followed by Twirl 180° and a crash	
<b>3</b>	T3a	Thrust and vertical descent	<b>0.65</b>
	T3b	Thrust with one leg followed by Spin 360°	
	T3c	Thrust with one leg followed by Twirl 180° and descent	
	T3d	Thrust with flexibility followed by crashing	
<b>4</b>	T4a	Thrust with one leg followed by Spin 720°	<b>0.80</b>
	T4b	Thrust with flexibility and descent	
	T4c	Thrust followed by Spin 180°	

	T4d	<b>Flying Fish (with descent)</b> <i>A thrust is executed to a Vertical Position and with no loss of height one leg is rapidly lowered to an airborne Fishtail Position*. After the Flying Fish the join may be with a straight or bent leg followed by a vertical descent. The declaration ends with the descent.</i> <i>*The bottom leg must be out of the "VP cone" area</i> <i>**Reminder you may not combine with a rotation or vertical descent declaration</i>	
	T4e	Thrust followed by Twirl 180° and a crash	
<b>5</b>	T5a	Thrust followed by Spin 360°	<b>0.90</b>
	T5b	Thrust followed by Twirl 180° and descent	
	T5c	Thrust with flexibility followed by Spin 180°	
	T5d	<b>Flying Fish Spin 180° or Thrust Fishtail Helicopter Spinning 180°</b> <i>Same definition as T4 Flying Fish with a Spin 180° as ending</i>	
	T5e	One leg Thrust with Twirl 180° followed by Spin 360°	
<b>6</b>	T6a	Thrust with flexibility followed by Spin 360°	<b>1.10</b>
	T6b	Thrust with Twirl 180° followed by Spin 360°	
	T6c	<b>Flying Fish 360° or Thrust Fishtail Helicopter Spinning 360°</b> <i>Same definition as T4 Flying Fish with a Spin 360° as ending</i>	
<b>7</b>	T7	Thrust followed by Spin 720°	<b>1.50</b>
<b>8</b>	T8	Thrust with flexibility followed by Spin 720°	<b>1.70</b>
<b>9</b>	T9a	Thrust to height of <b>8.5 (waist)</b> or higher followed by Spin 1080° or more	<b>2.00</b>
	T9b	Thrust to height of <b>8.5 (waist)</b> or higher continued by catching (clearly stopping - stable height demonstrated <b>for 1s or more</b> ) in a VP above the knees or higher	

## 2. SPINS (S)

**This family includes all types of Spins – which is a rotation in a Vertical Position (as per general principles). It includes ascending/descending spins and combined/reversed combined spins.**

- When spin is stated, it can be either an ascending or descending spin (same code and value) – ascending and descending are NOT differentiated.
  - For descending spins in free hybrids, the definition of degrees is by the **submersion of the toes**, OR when the rotation has come to a complete stop at the **ankles level**. Please note this is different than for Figures or Technical Required Elements (see BM 13).
  - For ascending spins in free hybrids, the definition of degrees begins when the **toes break the water's surface**, OR at the **ankles level**. Please note this is different than for Figures or Technical Required Elements (see BM 13).
- Spin allowances (BM 12 and 13) do not apply to spin declarations in free hybrids. Athletes must fully complete rotations as declared on the Coach Card. For example, if a S2 is declared (Spin 720° with one or two legs), then the Technical Controllers will be watching for completion of at least a full 720°. Rotating more than declared is ok, rotating less than declared is subject to a Base Mark.
- A minimum height of 3.5 as per single and double leg height chart must be demonstrated to start a spin descending and a minimum height of 3.5 as per single and double leg height chart must be demonstrated to finish a spin ascending:



- A spin (ascending or descending) is defined as a **gradual** change of a minimum of two height levels **which must always end at the ankles or the submersion of the toes**. A change of only one height level during a spin declaration would be subject to Base Mark.
- Ascending and descending spins must rise/drop **gradually**. Athletes who obviously hold the rotation at the same height level (ie twisting vs spinning) will be **subject to a Base Mark** as per below standards:

For Levels SB-S2

Entire rotation must be gradual

For Levels S3-S5

A maximum of one rotation at each height level is allowed

For Levels 6-10

A maximum of two rotations at each height level is allowed

- Spin Level Basic (B), Level 1 and Level 2, are for spins with one or two legs. Beginning at level 3 all spins must be performed with two legs.
- Spins shall have the rotation of the **BODY** counted “**wall-to-wall**” to accomplish the declared degree of rotation. For rotations of 360° or more - the wall or direction you start at is the wall or direction you must finish for TCs to verify completion of rotation. Rotating more than declared is ok, rotating less than declared is subject to a Base Mark.
- Various modifications of leg positions during spins are allowed as long as the one or two leg position meets the definition of VP as per General Principle a). Unbalanced or off-angle spins are not differentiated, and those movements would be considered in artistic impression.
- When “two legs” is stated, it means VP definition (two legs within 45° of vertical), and “one leg” means one leg within 45° of vertical. Both as per general principle a).
  - Spins with one leg includes Bent Knee Vertical Position, Fishtail/Crane, Knight, and other one leg VP position options or variants.
  - Rotations with two legs includes Vertical Position “VP”, Fishtail within 45° of Vertical, Arched VP and other positions where 2 legs are clearly visible within 45° of the vertical line.
  - Joining/opening/bending/extending movements from one leg positions to two leg (VP) positions (or two-leg to one leg positions) such as Bent Knee VP/Fishtail to VP or VP to Bent Knee VP/Fishtail, are considered in all “one leg” spin classifications.
- A Combined or Reverse Combined Spin (defined in the table as “Combined”) will be counted only in the case of an equal number of descending and ascending or ascending and descending rotations with no stop that start and finish at the same height (for example if toes breaking the surface is beginning of spin, then toes submerging must be the end).
  - A Combined or Reverse Combined Spin in Levels Basic, 1 and 2 where it states, “one or two legs” MAY include a combination of one and two legs
    - Example 1: starting in a Bent Knee VP, spin descending 360 while joining to VP, and then spin ascending 360 staying in VP
    - Example 2: starting in a Bent Knee VP, spin descending 360 while joining to VP, then ascending spin 360 while returning to a Bent Knee VP
- Ascending and descending during Combined or Reverse Combined Spins (including Two-Direction) must rise/drop **gradually**. Athletes who obviously hold the rotation at the same height level (ie twisting vs spinning) will be **subject to a Base Mark** as per below standards:

For Levels SC~~B~~-SC2 / SCDB-SCD2

Entire rotation must be gradual

For Levels SC3-SC5 / SCD3-SCD5

A maximum of one rotation at each height level is allowed

For Level SC6 / SCD6

A maximum of two rotations at each height level is allowed

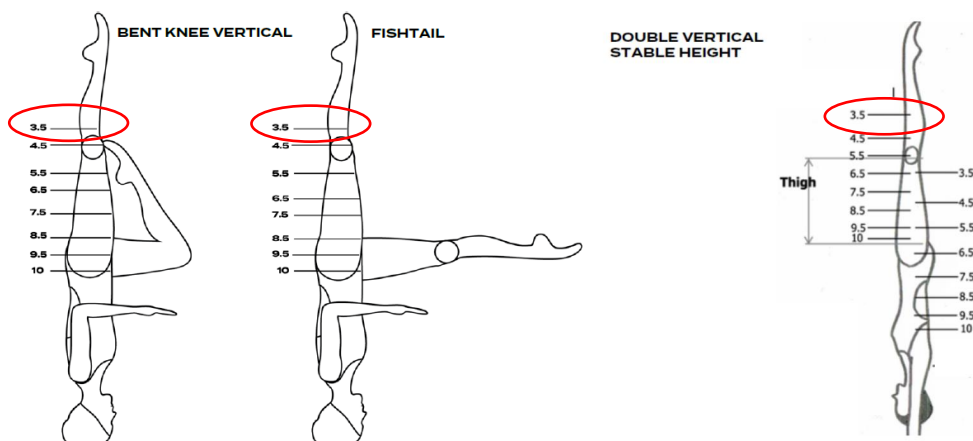
- A “Two-Direction” Spin means a spin in one direction, followed without a pause by an equal spin in the opposite direction. For example:
  - SCD2 - Combined 720° (one or two legs) = a descending or ascending rotation of 720° followed without a pause by an ascending or descending rotation of 720° in the opposite direction.

Level	Code	Description	DD Value
<b>B</b>	SB	Spin 180° (one or two legs)	<b>0.15</b>
	SCB	Combined 180° (one or two legs)	<b>0.35</b>
	SCDB	Two-direction Combined 180° (one or two legs)	<b>0.40</b>
<b>1</b>	S1	Spin 360° (one or two legs)	<b>0.35</b>
	SC1	Combined 360° (one or two legs)	<b>0.80</b>
	SCD1	Two-direction Combined 360° (one or two legs)	<b>0.85</b>
<b>2</b>	S2	Spin 720° (one or two legs)	<b>0.75</b>
	SC2	Combined 720° (one or two legs)	<b>1.60</b>
	SCD2	Two-direction Combined 720° (one or two legs)	<b>1.65</b>
<b>3</b>	S3	Spin 1080° (two legs)	<b>1.15</b>
	SC3	Combined 1080° (two legs)	<b>2.40</b>
	SCD3	Two-direction Combined 1080° (two legs)	<b>2.45</b>
<b>4</b>	S4	Spin 1440° (two legs)	<b>1.55</b>
	SC4	Combined 1440° (two legs)	<b>3.20</b>
	SCD4	Two-direction Combined 1440° (two legs)	<b>3.25</b>
<b>5</b>	S5	Spin 1800° (two legs)	<b>1.95</b>
	SC5	Combined 1800° (two legs)	<b>4.00</b>
	SCD5	Two-direction Combined 1800° (two legs)	<b>4.05</b>
<b>6</b>	S6	Spin 2160° (two legs)	<b>2.35</b>
	SC6	Combined 2160° (two legs)	<b>4.80</b>
	SCD6	Two-direction Combined 2160° (two legs)	<b>4.85</b>
<b>7</b>	S7	Spin 2520° (two legs)	<b>2.75</b>
<b>8</b>	S8	Spin 2880° (two legs)	<b>3.15</b>
<b>9</b>	S9	Spin 3240° (two legs)	<b>3.55</b>
<b>10</b>	S10	Spin 3600° (two legs)	<b>3.95</b>

### 3. TWISTS including Twirls/Swirls (R)

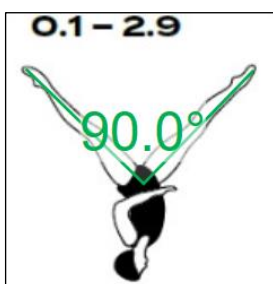
This family includes **Twists** and **Twirls** (as defined in AS Rulebook BM - the body remains on its longitudinal axis throughout the rotation) and **Swirls**.

- **Twisting or Twirling** = A rotation at a sustained height - height remains constant throughout the rotation. Therefore, any **obvious** change in height **downwards** will be subject to a Base Mark. A change in height upwards will be considered in execution. **“Obvious”** is defined as a **drop in two height levels**. So, if the athlete starts above their knee (6.5) and drops to below knee (4.5) that would be a Base Mark. A change in one height level = execution.
- The minimum height for a Twist to be able to be accepted is a 3.5 (as per single and double leg height chart) meaning TCs must clearly see that height level achieved, or the Twist will be subject to Base Mark.



- **Swirl** = A 1 or 2 leg rotation in a piked/arched body position (or other positions where body is not aligned with its vertical axis), while turning. Swirls may have height variation - the legs can be lower than VP definition or can move in and out of VP area.
- Twist allowances (BM 12 and 13) do not apply to twist/twirl/swirl declarations in **Free Hybrids**. Athletes must fully complete rotations as declared on the Coach Card. For example, if an 2R3 is declared - Twist 1080° (VP), then the Technical Controllers will be watching for completion of at least a full 1080°. Rotating more than declared is ok, rotating less than declared is subject to a Base Mark.
- Twists, Twirls and Swirls shall have the rotation of the **BODY** counted **“wall-to-wall”** to accomplish the declared degree of rotation. For rotations of 360° or more - the wall or direction you start at is the wall or direction you must finish for TCs to verify completion of rotation. Rotating more than declared is ok, rotating less than declared is subject to a Base Mark.
- Various modifications of leg positions during rotations are allowed as long as the one or two leg position meets the definition of VP and the requirement to complete rotations (as per above point)
- For ROB, RO1, RCB and RC1, the legs may be slightly bent during the rotation
- Rotations with one leg includes Bent Knee Vertical Position, Fishtail, Crane, and other position options. Please note that Knight rotations are included in the Flexibility Family, however, if a Knight is done as a 1 leg rotation declaration (1RB, 1R1, etc.) this is ok (not Base Mark).

- Rotations with two legs includes Vertical Position “VP”, Fishtail within 45° of Vertical, Arched VP and other positions where 2 legs are clearly visible within 45° of the vertical line.
- Joining/opening/bending/extending movements from one leg positions to two leg (VP) positions (or two-leg to one leg positions) such as Bent Knee VP/Fishtail to VP or VP to Bent Knee VP/Fishtail, are considered in all “1 leg only” twist/twirl classifications.
- Please see general principles on p.24-27 for definition of unbalanced
- Unbalanced one leg twists are considered in all “1 leg” rotation classifications.
- A Two-direction Twist means a rotation in one direction, followed without a pause by an equal rotation in the opposite direction. For example:
  - RD1 - Two-Direction 360° (VP) = a rotation of 180° in one direction followed without a pause by a rotation of 180° in the opposite direction.
  - RD2 - Two-Direction 720° (VP) = a 360° rotation in one direction followed without a pause by a rotation of 360° in the opposite direction.
- For VP open 180°/360° to Split (ROB/RO1) by the halfway point (90°/180°) the legs must be at least at 45° – meaning the opening must be **gradual** (not a twirl 360° then open to split rapidly). Also – the starting “VP” position must begin with feet/ankles touching.
- Split close 180°/360° to VP (RCB/RC1) must not reach the VP until 135°/270° – meaning if close (where feet/ankles must be touching) finishes at ¾ point and then a ¼ turn in VP occurs that is ok, however if less than 135°/270° accomplished – the rotation would be subject to Base Mark.
- For ROB, RO1, RCB and RC1, Split position must show flexibility at minimum of “scissors (90°) / 0.1-2.9 for split as per the AS Manual.





Level	Code	Description	DD Value
<b>B</b>	RB	Swirl 180°/Turn 180° non-sustained or up-down	<b>0.10</b>
	1RB	1 leg Twist/Twirl 180°	<b>0.15</b>
	2RB	Twist/Twirl 180° (VP)	<b>0.20</b>
	ROB	VP open 180° to Split	<b>0.25</b>
	RCB	Split close 180° to VP	<b>0.25</b>
<b>1</b>	R1	Swirl 360°/Turn 360° non-sustained or up-down	<b>0.20</b>
	1R1	1 leg Twist/Twirl 360°	<b>0.35</b>
	2R1	Twist/Twirl 360° (VP)	<b>0.45</b>
	RD1	Two-direction 360° (VP)	<b>0.50</b>
	RU1	Unbalanced Twist/Twirl 360° (VP)	<b>0.55</b>
	RO1	VP open 360° to Split	<b>0.55</b>
	RC1	Split close 360° to VP	<b>0.55</b>
<b>2</b>	R2	Swirl 720°	<b>0.40</b>
	1R2	1 leg Twist 720°	<b>0.75</b>
	2R2	Twist 720° (VP)	<b>0.95</b>
	RD2	Two-direction 720° (VP)	<b>1.05</b>
	RU2	Unbalanced Twist 720° (VP)	<b>1.15</b>
<b>3</b>	R3	Swirl 1080°	<b>0.60</b>
	1R3	1 leg Twist 1080°	<b>1.15</b>
	2R3	Twist 1080° (VP)	<b>1.45</b>
	RU3	Unbalanced Twist 1080° (VP)	<b>1.75</b>
<b>4</b>	R4	Swirl 1440°	<b>0.80</b>
	1R4	1 leg Twist 1440°	<b>1.55</b>
	2R4	Twist 1440° (VP)	<b>1.95</b>
	RD4	Two-direction 1440° (VP)	<b>2.15</b>
	RU4	Unbalanced Twist 1440° (VP)	<b>2.35</b>
<b>5</b>	1R5	1 leg Twist 1800°	<b>1.95</b>
	2R5	Twist 1800° (VP)	<b>2.45</b>
	RU5	Unbalanced Twist 1800° (VP)	<b>2.95</b>

<b>6</b>	1R6	1 leg Twist 2160°	<b>2.35</b>
	2R6	Twist 2160° (VP)	<b>2.95</b>
	RD6	Two-direction 2160° (VP)	<b>3.35</b>
	RU6	Unbalanced Twist 2160° (VP)	<b>3.55</b>
<b>7</b>	2R7	Twist 2520° (VP)	<b>3.45</b>
	RU7	Unbalanced Twist 2520° (VP)	<b>4.15</b>
<b>8</b>	2R8	Twist 2880° (VP)	<b>3.95</b>
	RU8	Unbalanced Twist 2880° (VP)	<b>4.75</b>
<b>9</b>	2R9	Twist 3240° (VP)	<b>4.45</b>
	RU9	Unbalanced Twist 3240° (VP)	<b>5.35</b>
<b>10</b>	2R10	Twist 3600° (VP)	<b>4.95</b>
	RU10	Unbalanced Twist 3600° (VP)	<b>5.95</b>

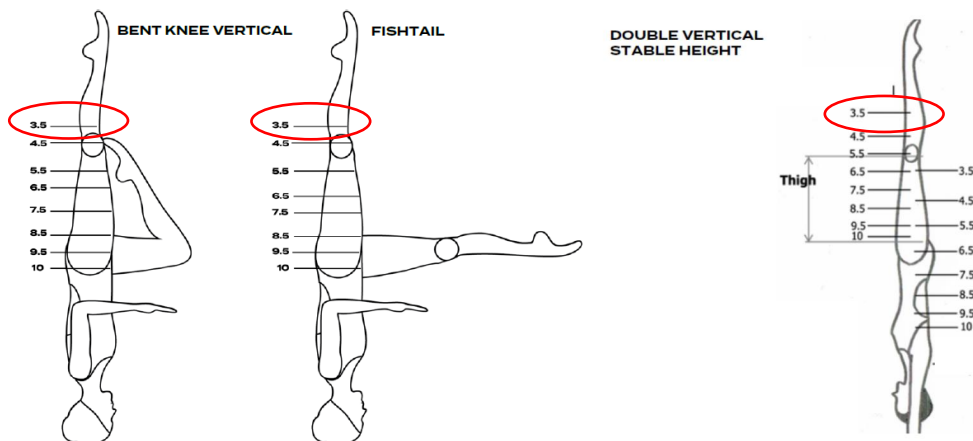
#### 4. AIRBORNE WEIGHT (A)

**This family includes movements that require an amount of the body out of the water (single or double legs) and reflect the difficulty of maintaining balanced and unbalanced airborne weight.**

- When “sustained height” is stated, it means airborne weight lasting **equal or more than 3 seconds**. The duration of execution should be sufficient to clearly identify the difficulty by the technical controllers.
- Please take note of General Principle **d)** as Airborne Weight may not be declared when occurring simultaneously with a rotation.
- Please see general principles on p.21-22 for definition of unbalanced
- The minimum height required for Airborne Weight is 3.5, meaning starting or finishing positions or sustained actions must meet this standard.
  - For example if doing AB (Lift to any single leg position from Inverted Tuck Table Top or a variant), the single leg position must be at 3.5.

OR

- For example if doing an A5 (Front Pike to VP while rotating 360°), the ending VP must be at 3.5.
- As per general principle **g)** for Vertical ascent with 1 or 2 legs (A3): A vertical ascent must rise above the knees (kneecaps clearly visible) or not bend at the knees before reaching above the knees (kneecaps clearly visible). Once above knees other movements/declarations can occur



- For movement from Front Pike to VP (Porpoise action): There may be variations in leg movements as long as the integrity of the porpoise lift action is maintained.
  - For example:
    - Legs may be slightly apart (not more than 45 degrees)
    - Legs may be crossed or one slightly bent and one straight, or both slightly bent – as long as still in the “VP Cone” area
- For movements with lifting from Front Pike and rotating:
  - From Front Pike to a single leg position (Bent Knee VP, Fishtail, etc.) while rotating 180°
  - From Front Pike to a single leg position (Bent Knee VP, Fishtail, etc.) while rotating 360°

- Front Pike to VP while rotating 180°
- Front Pike to VP while rotating 360°

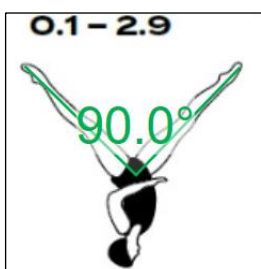
By the halfway point (90°/180°) the legs should not be higher than 45° – meaning the lifting action must be gradual (not a lift into the single leg position or VP followed by a twirl 180°/360°)

Level	Code	Description	DD Value
<b>B</b>	AB	Lift to any single leg position from Inverted Tuck Table Top or a variant	<b>0.05</b>
<b>1</b>	A1a	Lift to any single leg position from Front Pike	<b>0.10</b>
	A1b	Single leg descent	
	A1c	Lift to VP from Inverted Tuck, Table Top or a variant	
	A1d	Join to VP from Fishtail, Bent Knee VP or Split	
<b>2</b>	A2a	Vertical descent in VP (with or without isolated movements)	<b>0.15</b>
	A2b	From Front Pike to a single leg position (Bent Knee VP, Fishtail, etc.) while rotating 180°	
<b>3</b>	A3a	Front Pike to VP (Porpoise lift)	<b>0.20</b>
	A3b	Vertical ascent with 1 or 2 legs (with or without isolated movements)	
<b>4</b>	A4a	From Front Pike to a single leg position (Bent Knee VP, Fishtail, etc.) while rotating 360°	<b>0.45</b>
	A4b	Front Pike to VP while rotating 180°	
<b>5</b>	A5	Front Pike to VP while rotating 360°	<b>0.65</b>
<b>6</b>	A6	<p>Sustained height with one leg or a combination of one or two legs lasting equal or more than 3 seconds</p> <p>Or</p> <p>Isolated movements performed in a stable and fixed single leg position (within VP definition of 0-45 degrees) – isolated movements performed with other (non-fixed) leg lasting 3 seconds or more</p> <p>Or</p> <p>A combination of the two techniques (<i>for example 2 seconds of isolated movements, then 1 second of a combination of one and two leg movements</i>)</p>	<b>1.15</b>
<b>7</b>	A7	Sustained height in VP lasting equal or more than 3 seconds	<b>1.45</b>
<b>8</b>	A8	Sustained height shown at least 3 seconds or more in VP performed in an unbalanced position	<b>1.65</b>

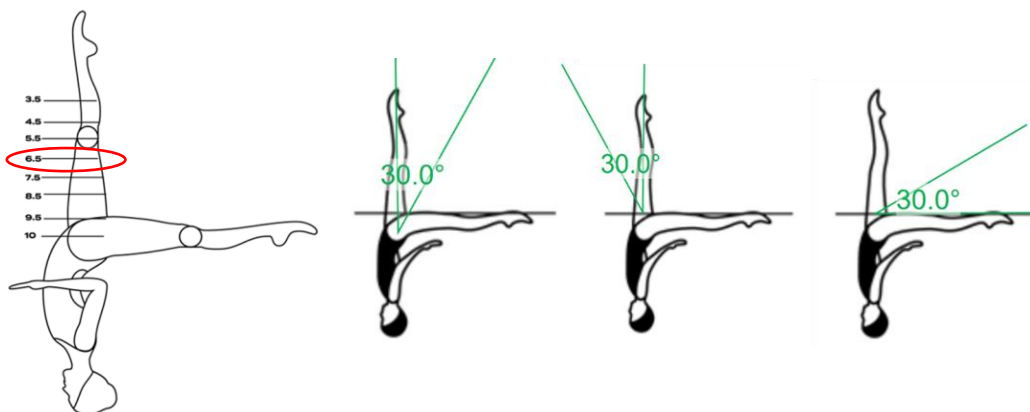
## 5. FLEXIBILITY (F)

**This family includes different types of flexibility movements that require an extreme range of suppleness (bring a joint to its maximum range of motion), such as Arches, Splits, Knight, Walkouts, and Nova/Cyclone lift.**

- All positions should be shown with maximum strength in legs and a body position with shoulders under the hips that demonstrates the flexibility of the athletes.
- The duration of execution should be sufficient to clearly identify the difficulty by the technical controllers.
- Split position must demonstrate flexibility at the minimum height for split (0.1-2.9 = "scissors") as per the AS Manual or it is subject to a Base Mark.



- For Knight position:
  - Minimum height of 6.5 (above knee) is required.
  - The vertical leg can be a maximum of 30 degrees off the vertical line
  - The horizontal leg can't come off the surface more than 30 degrees



- If declaring Rapid Knight (F1b), you may declare consecutively, however the vertical leg must come out of the VP Cone.
- In regard to Rapid Knight Position or Rapid Split from any position, the action from the starting position to the Knight or Split must be rapid
- Knight join 180°/360° to VP: By the halfway point (90°/180°) the bottom leg should not be higher than 45° – meaning the lifting action must be gradual (not a lift into VP followed by a twirl 180°/360°)
- For F8b: Bent Knee Surface Arch Position to VP rotating 360° (Nova rotating 360°), By the halfway point (180°) the bottom leg should not be higher than 45° – meaning the lifting action must be gradual (not a lift into VP followed by a twirl 360°)

- For movement from Surface Arch to VP:
  - There may be variations in leg movements as long as the integrity of the lift action is maintained
    - For example:
      - Legs may be slightly apart (not more than 45 degrees)
      - Legs may be crossed or one slightly bent and one straight
      - Both legs may not be bent intentionally – slight bending (soft knees) due to bad execution should not be Base Marked.
- Flat Split (F6) as per Height Chart 8.5 level:

8.5	170° - 180°			Legs dry
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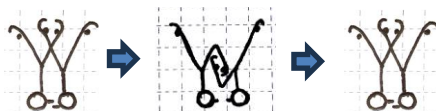
Level	Code	Description	DD Value
<b>B</b>	FB	Back Layout to Surface Arch or Bent Knee Surface Arch	<b>0.05</b>
<b>1</b>	F1a	Rapid Split from any position	<b>0.10</b>
	F1b	Rapid Knight Position	
	F1c	BK Surface Arch to Knight (extending the BK up to Knight)	
<b>2</b>	F2a	Walkout Front (to breath)	<b>0.20</b>
	F2b	Split to Front Pike (180° arc with a straight leg)	
	F2c	Split variants at the surface (demonstration of at least 2 different Splits)	
<b>3</b>	F3a	Split to Split through VP (changing legs)	<b>0.30</b>
	F3b	Ariana Rotation	
	F3c	Combination of a Right and Left Leg Knight Position	
<b>4</b>	F4a	Bent Knee Front Layout to Bent Knee Arch Position OR Front Layout to Split with a straight leg	<b>0.40</b>
	F4b	From Surface Arch Position to Knight or Split with a straight leg	
	F4c	Bent Knee Surface Arch to Bent Knee VP	
	F4d	BK Surface Arch to Knight (lifting the extended leg to VP and extending the bent leg horizontally on the surface)	
	F4e	Fishtail to Knight (horizontal plane, along the surface)	
	F4f	Fishtail to Knight (through VP)	

<b>5</b>	F5a	Knight to VP OR Knight to Fishtail through VP	<b>0.50</b>
	F5b	Bent Knee Surface Arch to VP	
	F5c	Knight rotating 180° (twisting in the Knight position)	
<b>6</b>	F6a	Cyclone 180° (BK Surface Arch Twirl 180° to a VP)	<b>0.65</b>
	F6b	Knight rotating 360° (twisting in the Knight position)	
	F6c	Knight Join to VP while rotating 180°	
	F6d	Flat Split or Split variants sustained at the surface 3 seconds or more (split variants may not bend knees more than 90° or lift the thigh past 45° while transitioning from one split to another)	
<b>7</b>	F7	Surface Arch to VP	<b>0.75</b>
<b>8</b>	F8a	Knight Join to VP while rotating 360°	<b>0.90</b>
	F8b	Bent Knee Surface Arch Position to VP rotating 360° (Nova rotating 360°)	
<b>9</b>	F9	Surface Arch Position to VP rotating 180°	<b>1.00</b>
<b>10</b>	F10	Surface Arch Position to VP rotating 360°	<b>1.30</b>

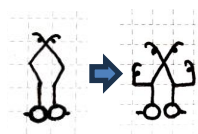
## 6. CONNECTIONS (C)

**This family includes movements when swimmers join or link together with their legs creating a connected action.**

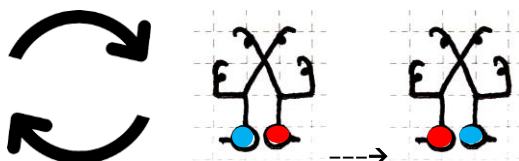
- The swimmers must be touching with 1-2 legs in the manner detailed in the table. An exception shall be wrapping a leg around the body (CB and C1 levels).
- Connected Actions in Teams (Connections of 4-10 athletes):
  - This means groupings of 4-10 athletes are connected - for example 2 lines of 4-5 athletes, 1 line of 8-10 athletes, a circle of 8-10 athletes **or circles of 4-5 athletes**
  - For these connected actions of 4-10 athletes 0.10 will be added to the declared connection
  - Connected actions for groupings of 4-10 athletes will have a plus symbol (+) added to the codes**
- When two of the **SAME** connections are performed consecutively (one after the other), then they must be separated by a disconnection OR the connected legs coming out of the VP "cone" area
  - For example, if declaring C2 C2, then the athletes must connect, disconnect/or come out of VP "cone", then connect again:



- When two **DIFFERENT** connections are performed consecutively (one after the other) then they may be performed one after the other without a disconnection or coming out of the VP "cone" area
  - For example, if declaring C4 C3, then the athletes may demonstrate a C4 connection, immediately followed by a C3 connection:



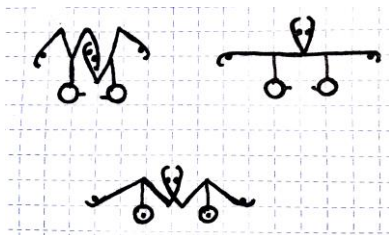
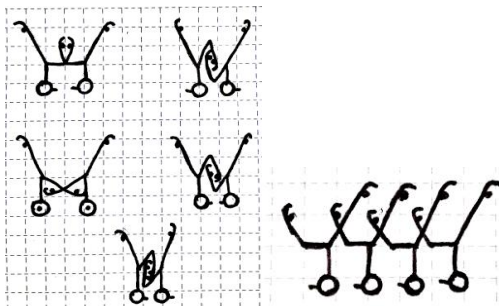
- For connections with a rotation of at least 180° or 360° at sustained height:
  - Rotations in the connections family must have the athletes rotate around (change of position), be a "rotation of the construction" and NOT just a pivot of the hips (like a RD1)**

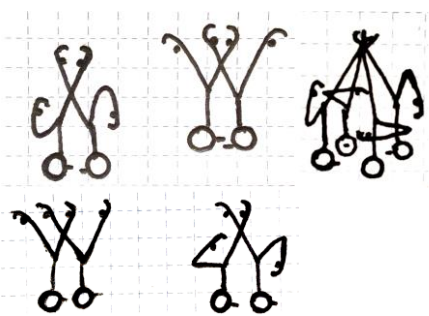
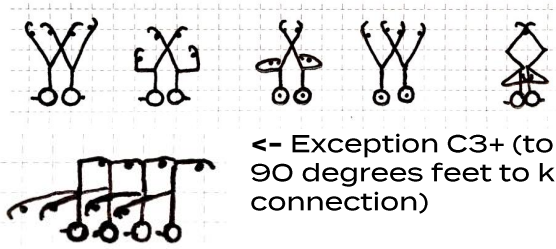
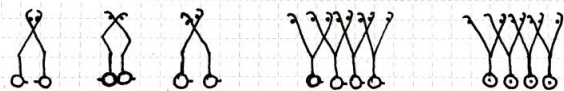


- Connected rotations must be completed at a sustained height – the rotation may not begin while ascending or end while descending. A drop of two height levels during the rotation would be subject to Base Mark.



- For example, a duet may rise connected in a two leg connection and claim an A3, THEN once the ascent is complete, they can then turn 180° for the C6a
- Please beware an ascent (A2 or A3) can't be declared simultaneously with a connection. The ascent must be completed first (rise above the knee) and then the connection must occur as a separate movement.
- Please see the following table for example images of descriptions of connections

Level	Description	Code	DD Value
<b>B</b>	Piked body position at the surface of the water or any position out of VP "cone" area (facing any direction)	CB	<b>0.10</b>
	Connections are on the surface of the water without lifting the feet from the water OR any position out of VP "cone" area (facing any direction) OR wrapping a leg around the body (pelvis).	2-3 connected	
		CB+	<b>0.20</b>
		4-5, 8-10 connected	
<b>1</b>	<b>C1a:</b> Connection in any one leg VP position (in "cone" area) with the "bottom" leg (non-VP leg) connected. Can be facing any direction	C1a C1b	<b>0.20</b>
	<b>C1b:</b> Connecting a bottom leg with a thigh of VP leg (athletes facing same direction) OR wrapping a leg around the body (pelvis) – can be facing any direction.	2-3 connected	
		C1a+ C1b+	<b>0.30</b>
		4-5, 8-10 connected	
<b>2</b>	<b>C2a:</b> One leg (in VP "cone" area) face-to-face connection <b>C2b:</b> One leg back (in VP "cone") one leg forward (in VP "cone") connection  In C2a or C2b swimmers connect in any one or two leg Vertical Position and make a clear connection with one vertical ("top") leg.	C2a C2b C2c	<b>0.30</b>
		2-3 connected	

	<p><b>C2c:</b> C1 connections with a rotation of at least 180° at sustained height</p> 	C2a+ C2b+ C2c+  4-5, 8-10 connected	<b>0.40</b>
3	<p>One leg (in VP “cone” area) <u>back</u> or <u>side</u> connection</p> <p>Swimmers are connected in any one or two leg Vertical Position with one leg back or to the side of each other and make a clear connection with one vertical (“top”) leg.</p>  <p>&lt;- Exception C3+ (top leg at 90 degrees feet to knee connection)</p>	C3  2-3 connected	<b>0.40</b>
		C3+  4-5, 8-10 connected	<b>0.50</b>
4	<p>Two-leg connection (both legs must be in VP “cone” area). May be facing any direction.</p> <p>Swimmers are connected with two legs facing ANY direction in any two-leg Vertical Position (variants of 2 legs close to vertical – legs can be up to 45° off from vertical).</p> 	C4  2-3 connected	<b>0.50</b>
		C4+  4-5, 8-10 connected	<b>0.60</b>
5	<p>Rotation vertical connection with one leg in VP “cone” area (Rotation of 180°+ at maximum height). May be facing any direction.</p> <p>When swimmers are connected with ONE LEG, which could be executed in a one or two leg vertical position. Facing any direction, athletes make a clear connection with one vertical (top) leg while performing a rotation of at least 180° at sustained height.</p>	C5  2-3 connected	<b>1.00</b>
		C5+  4-5, 8-10 connected	<b>1.10</b>

<b>6</b>	<p><b>C6a:</b> Rotation vertical connection with two legs in VP “cone” area (rotation of 180°+ at maximum height). May be facing any direction.</p> <p>When swimmers are connected with TWO LEGS facing ANY direction in any two-leg Vertical Position (variants of 2 legs close to vertical – legs can be up to 45° off from vertical), while performing a rotation of at least 180° at sustained height.</p> <p><b>C6b:</b> Rotation vertical connection with one leg (rotation of 360°+ at maximum height. May be facing any direction. C5 definition with rotation of 360° or more at sustained height.</p>	C6a C6b  2-3 connected	<b>1.25</b>
		C6a+ C6b+  4-5, 8-10 connected	<b>1.35</b>
<b>7</b>	<p>360° Rotation vertical connection with two legs in VP “cone” area (rotation of 360°+ at maximum height). May be facing any direction. C6a definition with rotation of 360° or more at sustained height.</p>	C7 2-3 connected	<b>1.50</b>
		C7+ 4-5, 8-10 connected	<b>1.60</b>

## BONUSES

### 1. PATTERN CHANGES (PC)

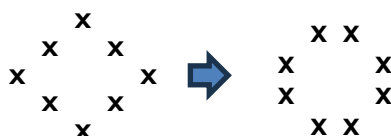
This bonus is applied for Teams only for changes of formations made by the spatial relationship between members of a team.

Team Tech, Team Free and Free Combination routines shall include a bonus for each **Pattern Change** executed valued at 0.20 each

Each pattern change in a hybrid is counted. For example, if a hybrid has 3 pattern changes the code would be 3PC in the bonus section of the Coach Card.

#### IMPORTANT NOTES REGARDING TC VERIFICATION OF PATTERN CHANGES:

- Traveling of all athletes in the same direction while maintaining the pattern is not a pattern change.
- When pattern changes are 'transitional' – passing through from one to another – the pattern change must pause and clearly demonstrate the new pattern before continuing.
- If a team declares a pattern change, the DTC's do need to see that the change was clearly attempted. They do not judge execution of the pattern change or new pattern, but they do need to clearly see that that a new pattern was created.
- If there is a lack of clarity in the pattern changes declared, meaning change to a new pattern is not recognizable, this will result in a Base Mark.
- Further notes:
  - If from the Rhombus/Diamond  $\blacklozenge$  a change to a circle  $\bigcirc$  is executed – this is Ok – the DTCs should not see the points for the Rhombus/Diamond.



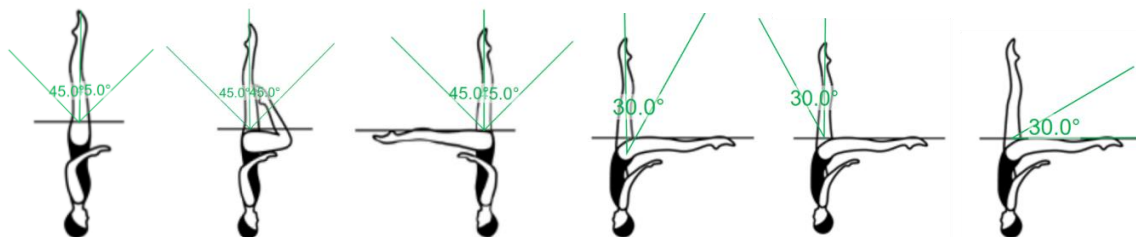
- If a rotation on themselves in Rhombus/Diamond  $\blacklozenge$  (remaining in a Rhombus/Diamond) then it is not a pattern change.

#### **HYBRID DIFFICULTY TABLE:**

- **Please see the end of the guide for printable Hybrid Difficulty Table**
- **Important: Most up-to-date version is October 2024**

## GENERAL PRINCIPLES FOR DECLARING DIFFICULTY ON THE COACH CARD

- a) When Vertical Position (VP) is indicated it includes variants of 2 legs at or close to vertical (legs can be up to 45° off from vertical). One leg Vertical Positions such as Bent Knee, Crane, or Fishtail can also be up to 45° off vertical line. Knight position is as per Flexibility family (max 30° off top or bottom leg).



- b) Each Free Routine (Senior, Junior, Youth, 12U) **MUST** include a skill from every family (except for Connections in Solo). All routine members must perform that skill in the same declaration on the coach card (not factored).

Example: The skill is a Thrust Level 3a (Thrust and vertical descent). A **T3a** is declared on the coach card. It could be done all 8 together (fully synchronized), or as a cadence action; for example, 4 and then 4, or 3/3/2 or 2/2/2/2, or one at a time.

- c) There is a maximum of 5 declarations per family per hybrid, with a limit of 3x per technique. For example, you may do 5x “R” family declarations but a maximum of 3 specific techniques (ie 2R1 x 3 and RO1 x 2).

- d) When two movements from different families in the difficulty table occur simultaneously then you may only declare one. Examples:

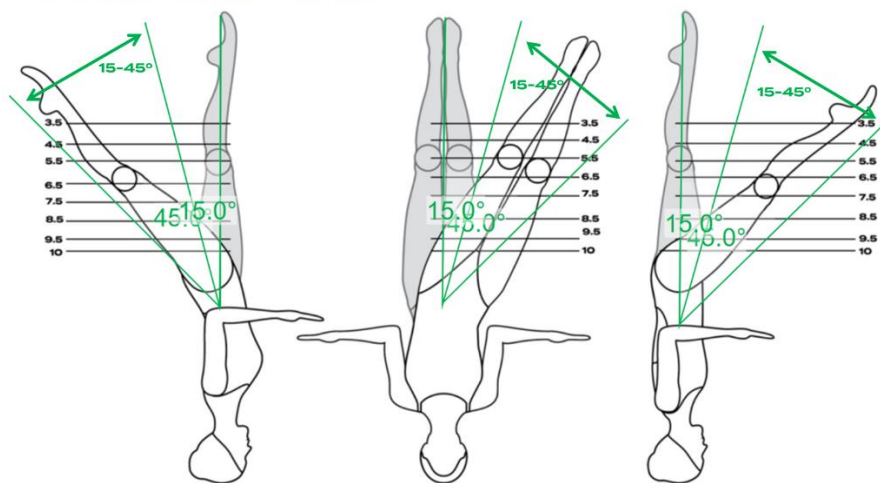
- If a VP open to Split 360° (RO1) is being executed, then you may not also declare F1 (Rapid Split from any position).
- If a SB (Spin 180°) is declared performed as a spin ascending, then an A3 (vertical ascent) can't be declared simultaneously
- If a RU5 (Unbalanced Twist 1800) is declared and it takes 3s+ then an A8 can't be declared simultaneously.

- e) In teams or duet: when a **code (technique)** is not performed by all team or duet members its value will be factored by \*0.5 (half of swimmers included), or by \*0.3 (less than half of swimmers included). This principle also applies in duet actions where just one swimmer is performing a hybrid movement while the other performs surface accompaniment (whether connected or not).

- When a code (for example when 3x maximum per technique is being used) has a factor applied of 0.5 (half swimmers) or 0.3 (less than half of swimmers) a coach may declare that movement a maximum of 6x in one hybrid when factored.
- Factoring does not apply to the pattern change bonus.

- Factoring can only be used when different codes/techniques are being executed by the athletes. If all athletes are doing the same choreography (same code/technique) factoring can't be used.
- f) When a cadence is performed you just declare the full code once on the Coach Card. Difficulty Guide General Principle **e)** does not apply (factoring). Meaning – when the whole team does the same “cadence” movement sequentially/ consecutively (one after the other – 1 at a time, 2 at time, 4/4/2, **4/4**, etc.), you just put the difficulty code once. For example, if all 8 athletes on a team do a S1 (spin descending/ascending 360°) one at a time – just declare S1 once on the Coach Card.
- g) In Thrust Level 9 (Thrust continued by catching – clearly stopping – stable height demonstrated for 1 second or more) in a Vertical Position above the knees or higher), we use **the knees as a reference point** for verification of accomplishing the movement. Knees as a reference point for difficulty verification will also be applied to other movements as follows with ascending or descending actions:
- For a Thrust and vertical descent
    - If a descent is executed from maximum height until below the knee (kneecaps submerged) and then a crash occurs, this still applies as an accomplished descent.
  - For Vertical descent (one or two legs – A1 or A2)
    - If a descent is executed from a high VP (9.5–8.5) until below the knee (kneecaps submerged) and then a crash occurs, then an A1 or A2 still applies.
  - For Vertical ascent with 1 or 2 legs (A3)
    - A vertical ascent **must rise above the knees** (kneecaps clearly visible) or not bend at the knees before reaching above the knees (kneecaps clearly visible). Once above knees other movements/declarations can occur.
- h) When unbalanced is stated it means both legs from thighs to feet, in the same direction: forwards, backwards, or sideways (Body position arched, piked, or tilted) clearly OFF the vertical line, and clearly ABOVE (off) the surface of the water.
- If technology is available at a competition where athletes can be measured for compliance **15–45 degrees** off VP is the required angle to be achieved **0–15 degrees** is too straight and therefore not unbalanced, and lower than 45 degrees is out of the VP definition.
  - For Technical Controllers without technology – if an athlete is completely straight during a declared unbalanced action that is subject to a Base Mark. If an athlete is clearly lower than 45 degrees and near the surface of the water that is subject to a Base Mark.

**UNBALANCED DOUBLE VERTICAL**




- If one leg bends while the other leg is unbalanced and the swimmer's centre of gravity out of the vertical line is compensated by the knee bending that keeps the swimmer in a stable position – this does not qualify as unbalanced.

## HOW DO ALL OF THESE DIFFICULTY COMPONENTS GO INTO A COACH CARD?

The Coach Card is where the declared difficulty for a routine is detailed – Technical Required Elements, Free Hybrids and Acrobatics. Transition parts will also be declared on the coach card to assist with following the order of performance. Please find this template in full size as an appendix at the end of the document after the difficulty tables.

For acrobatics difficulty please refer to the Team Acrobatics Catalogue and Pair Acrobatics Catalogue. This acrobatics information is needed to complete a routine's declared difficulty on the Coach Card for Duet and Team routines.

Online Coach Cards are also provided by the scoring systems that support World Aquatics competitions. Specific instructions for online coach cards are provided in competition information packages so please ensure these packages are read thoroughly with instructions followed.



# WORLD AQUATICS

COACH CARD

In force as from 9 June 2023

Please fill in with type or write in capital letters!

<b>Member Federation:</b>					
<b>Competition:</b>					
<b>Event:</b>	<input type="checkbox"/> PRELIMS		<input type="checkbox"/> FINALS		
	<input type="checkbox"/> Women Solo Tech	<input type="checkbox"/> Men Solo Tech	<input type="checkbox"/> Women Duet Tech	<input type="checkbox"/> Mixed Duet Tech	
	<input type="checkbox"/> Women Solo Free	<input type="checkbox"/> Men Solo Free	<input type="checkbox"/> Women Duet Free	<input type="checkbox"/> Mixed Duet Free	
	<input type="checkbox"/> Mixed Team Tech	<input type="checkbox"/> Mixed Team Free	<input type="checkbox"/> Acrobatic	<input type="checkbox"/> Combo	
<b>Theme:</b>					
<b>Name of competitor(s):</b>					

ELEMENTS IN ORDER OF PERFORMANCE							
TIME	PART	EL	BASE MARK	DECLARED DIFFICULTY	BONUS	DD	TC

**Member Federation:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_



## IMPORTANT - REGARDING DECLARED DIFFICULTY MOVEMENTS / COACH CARD:

It is very important that athletes perform skills (codes/techniques) as declared on the Coach Card AND in the order in which they are declared – otherwise a deduction will occur. We strongly advise “Do what you declare!”

If the coach has declared a movement on the Coach Card and an athlete does not perform it at all (it is omitted), or does not perform it in conformance to what is declared on the Coach Card (code/technique is different or in wrong order than declared) then the following shall occur:

### **For a Free Hybrid:**

- Only the Base Mark (value of 0.5) will be applied
- For example, a routine hybrid is declared to have:
  - Thrust Level 3 (T3), Airborne Weight Level 3 (A3), and a Spin Level 4 (S4),
  - However, an athlete does not perform their Spin Level 4 (for example a spin descending 1440°) and instead does a S3 (spin descending 1080°)
  - The routine will have this hybrid put to Base Mark (value of 0.5).
  - Please note in duet or team if ONE athlete does not perform movement as declared the deduction will apply
- The hybrid declaration must be in the exact order that it appears in the hybrid chronologically – as above – First a T3, then A3, then S4 occurs. IF this is incorrectly ordered on Coach Card vs what is done in the water, the deduction will apply.

### **For a Technical Required Element:**

- In technical routines, a Technical Required Element (TRE) will be declared as TRE1a or TRE1b, TRE2a or TRE2b, TRE3a or TRE3b, TRE4a or TRE4b, and TRE5a or TRE5b (note: in disciplines where there is only one option for an element no letter is included when declared on the Coach Card – for example “TRE3”)
- Required Elements can be performed in any order however, athletes must perform the Technical Required Elements in the order as declared on the Coach Card or a penalty will be applied as per the rulebook.
- Please also note that additional movements can be added immediately before and after (breath to breath) Technical Required Element. Those movements will not add any extra difficulty nor will be considered as additional hybrids and therefore are not to be added to the Coach Card.

### **For an Acrobatic movement (Teams and Duets):**

- Acrobatic codes should be added to the Coach Card as per the Acrobatic Catalogues
- A Base Mark will be applied to acrobatics not performed in conformance to what is declared on the Coach Card.
- Please refer to the Acrobatic Catalogue for Acrobatic Base Marks

## COACH CARD LEGEND:

### Acrobatics Base Mark:

Group A	ACRO-A	For Acrobatics, please enter the acrobatic code in the “declared difficulty” column as per the Acrobatics Catalogue.
Group B	ACRO-B	
Group C	ACRO-C	
Group P	ACRO-P	
Pair Acro	Acro-Pair	

**\*\*Please refer to the Acrobatics Catalogue for Acrobatic codes and Acro Base Marks.**

### Hybrid Base Mark:

Hybrid Base Mark is fixed at 0.5 and is added to the value of the hybrid DD, and it is the value (0.5) the hybrid will go to if not successful in achieving the declared difficulty.

### Hybrid Families and Bonuses:

Families (groups)/Bonuses:		Family and Level Codes:
Thrusts	T	TB, T1-T9
Spins:		
Spins – ascending/descending	S	SB, S1-S10
Spins – combined	SC	SCB, SC1-SC6
Spins – combined two-direction	SCD	SCDB, SCD1-SCD6
Twists (Incl. Twirls and Swirls)		RB, R1-R9
Swirl	R	RB, R1-R4
One leg Twists	1R	1RB, 1R1-1R6
Two leg Twists	2R	2RB, 2R1-2R10
Two-direction Twist	RD	RD1-RD6
Unbalanced Twist	RU	RU1-RU10
VP to Split	RO	ROB, RO1
Split to VP	RC	RCB, RC1
Flexibility	F	FB, F1-F10
Airborne Weight	A	AB, A1-A8
Connections		
Connections (2-3 athletes)	C	CB, C1-C7
Connections (4-5, 8-10 athletes)	C+	CB+, C1+-C7+
Pattern Changes	PC	1PC, 2PC, etc . . .
<i>In Thrusts, Airborne Weight, Flexibility and Connections where are few skills are grouped together in a level, each technique has been labelled as a, b, c, d, e or f to ensure clarity or what is being declared.</i>		

### Technical Required Elements:

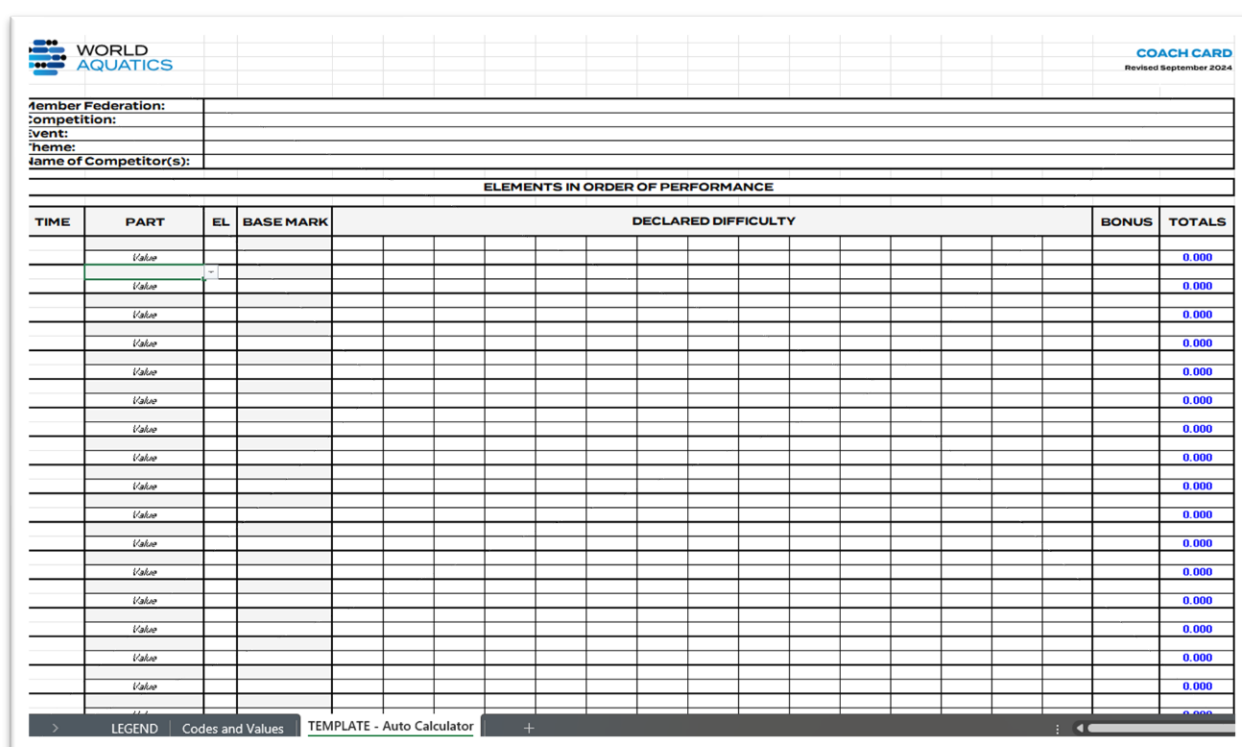
Element 1	Element 2	Element 3	Element 4	Element 5
TRE1a	TRE2a	TRE3a	TRE4a	TRE5a
TRE1b	TRE2b	TRE3b	TRE4b	TRE5b

\*Note: in disciplines where there is only one option for an element, no letter is included – for example “TRE3”

## COACH CARD AUTO CALCULATOR (EXCEL TEMPLATE TOOL)

A Difficulty Calculator designed like a Coach Card format has been developed into an Excel Template Tool and is available for coaches to use and modify to suit their needs to assist in strategizing their routine difficulty. This is a tool and resource for coaches and is not meant to be used for competition submission. Get familiar with it and make it your own, always adhering to values as per the current Hybrid Difficulty Table and Acrobatic Catalogues. Updates to the calculator will be made as needed to stay up to date with any revised values.

The user can enter movement codes to calculate the difficulty for hybrids, as well as add in Technical Required Element codes. Please refer to the “LEGEND” tab in the spreadsheet for all codes (this is important). When a code is entered the value will appear automatically in the cell below the code. Acrobatic values are based on the Acrobatics Catalogues and must be added manually. The user can also add all values in manually if preferred.



TIME	PART	EL	BASE MARK	DECLARED DIFFICULTY	BONUS	TOTALS
						0.000
						0.000
						0.000
						0.000
						0.000
						0.000
						0.000
						0.000
						0.000
						0.000
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						0.000
						0.000
						0.000

**IMPORTANT NOTES:**

- All hybrids shall start with a base value or “Base Mark” of **0.50** and then start adding difficulty from that base value
- Each **Free Routine** (Senior, Junior, Youth, 12U) MUST include a skill from every family (except for Connections in Solo). **All routine members must perform that skill in the same declaration on the coach card (not factored).**
  - **Example: The skill is a Thrust Level 3a (Thrust and vertical descent). A **T3a** is declared on the coach card. It could be done all 8 together (fully synchronized), or as a cadence action; for example, 4 and then 4, or 3/3/2 or 2/2/2/2, or one at a time.**
- There is a maximum of **5 declarations per family per hybrid, with a limit of 3x per technique**
  - In Spins (S) or Twists (R), you may do 5x “S” family and 5 x “R” family declarations per hybrid but a maximum of 3 specific techniques. Each Spin (S) or Twist (R) code on the table represents a specific technique.
    - For example, for Twists you could declare: 2R1 x 3 and R01 x 2
  - In other families (Thrusts, Airborne Weight, Flexibility and Connections) where a few skills are grouped together in a level, each technique has now been labelled as **a, b, c, d, e, or f** to ensure clarity of what is being declared (for example in Flexibility Level 1 you will now see: F1a, F1b and F1c).
    - For example, for Flexibility you could declare: 1 x F7, 3 x F5a, and 1 x F1a
- **Thrust family:**
  - Whenever “Thrust” is stated it means two legs, otherwise one leg is stated.
- **Spin family:**
  - Spins for ascending and descending are not differentiated, for example an S1 (spin 360 with one or two legs) may be ascending or descending.
  - When “Combined” is stated, it means a Combined (descending then ascending) or Reverse Combined (ascending then descending) Spin
- Team Tech, Team Free and Free Combination routines shall include a **bonus** for each Pattern Change executed valued at **0.20** each

L	THRUSTS (T)	SPINS (S)		TWISTS <i>incl. Twirls/Swirls</i> (R)		AIRBORNE WEIGHT (A)	FLEXIBILITY (F)	CONNECTIONS (C)	
<b>(B) A S I C</b>	Thrust with one or two legs followed by crashing on the surface	<b>SB = 0.15</b>	Spin 180° (one or two legs)	<b>RB = 0.10</b>	Swirl 180°/Turn 180° non-sustained or up-down	Lift to any single leg position from Inverted Tuck, Table Top or a variant	Back Layout to Surface Arch or Bent Knee Surface Arch	Piked body position at the surface of the water or any position out of VP "cone" area (facing any direction)	
	<b>TB = 0.30</b>	<b>SCB = 0.35</b>	Combined 180° (one or two legs)	<b>1RB = 0.15</b>	1 leg Twist/Twirl 180°				
		<b>SCDB = 0.40</b>	Two-direction Combined 180° (one or two legs)	<b>2RB = 0.20</b>	Twist/Twirl 180° (VP)				
				<b>ROB = 0.25</b>	VP open 180° to Split				
				<b>RCB = 0.25</b>	Split close 180° to VP	<b>AB = 0.05</b>	<b>FB = 0.05</b>	<b>CB = 0.10</b>	<b>CB+ = 0.20</b>
<b>1</b>	Thrust with one leg followed by vertical descent	<b>S1 = 0.35</b>	Spin 360° (one or two legs)	<b>R1 = 0.20</b>	Swirl 360°/Rotation 360° non-sustained or up-down	<b>a.</b> Lift to any single leg position from Front Pike	<b>a.</b> Rapid Split from any position	<b>a.</b> Connection in any one leg VP position (in "cone" area) with the "bottom" leg (non-VP leg) connected. Can be facing any direction.	
		<b>SC1 = 0.80</b>	Combined 360° (one or two legs)	<b>1R1 = 0.35</b>	1 leg Twist/Twirl 360°	<b>b.</b> Single leg descent	<b>b.</b> Rapid Knight Position	<b>b.</b> Connecting a bottom leg with a thigh of VP leg (athletes facing same direction) OR wrapping a leg around the body (pelvis) – can be facing any direction.	
		<b>SCD1 = 0.85</b>	Two-direction Combined 360° (one or two legs)	<b>2R1 = 0.45</b>	Twist/Twirl 360° (VP)	<b>c.</b> Lift to VP from Inverted Tuck, Table Top or a variant	<b>c.</b> BK Surface Arch to Knight (extending the BK up to Knight)		
				<b>RD1 = 0.50</b>	Two-direction 360° (VP)	<b>d.</b> Join to VP from Fishtail, Bent Knee VP or Split			
				<b>RU1 = 0.55</b>	Unbalanced Twist/Twirl 360° (VP)				
				<b>RO1 = 0.55</b>	VP open 360° to Split				
				<b>RC1 = 0.55</b>	Split close 360° to VP				
	<b>T1 = 0.45</b>					<b>A1 = 0.10</b>	<b>F1 = 0.10</b>	<b>C1 = 0.20</b>	<b>C1+ = 0.30</b>
<b>2</b>	<b>a.</b> Thrust with one leg followed by Spin 180°	<b>S2 = 0.75</b>	Spin 720° (one or two legs)	<b>R2 = 0.40</b>	Swirl 720°	<b>a.</b> Vertical descent in VP (with or without isolated movements)	<b>a.</b> Walkout Front (to breath)	<b>a.</b> One leg (in VP "cone" area) face-to-face connection	
	<b>b.</b> Thrust with one leg followed by Twirl 180° and a crash	<b>SC2 = 1.60</b>	Combined 720° (one or two legs)	<b>1R2 = 0.75</b>	1 leg Twist 720°	<b>b.</b> From Front Pike to a single leg position (Bent Knee VP, Fishtail, etc.) while rotating 180°	<b>b.</b> Split to Front Pike (180° arc with straight leg)	<b>b.</b> One leg back (in VP "cone"), one leg forward (in VP cone) connection	
		<b>SCD2 = 1.65</b>	Two-direction Combined 720° (one or two legs)	<b>2R2 = 0.95</b>	Twist 720° (VP)		<b>c.</b> Split variants at the surface (demonstration of at least 2 different Splits)	<b>c.</b> C1 connections with a rotation of at least 180° at maximum height	
				<b>RD2 = 1.05</b>	Two-direction 720° (VP)				
	<b>T2 = 0.50</b>			<b>RU2 = 1.15</b>	Unbalanced Twist 720° (VP)	<b>A2 = 0.15</b>	<b>F2 = 0.20</b>	<b>C2 = 0.30</b>	<b>C2+ = 0.40</b>

L	THRUSTS (T)	SPINS (S)		TWISTS <i>incl. Twirls/Swirls</i> (R)		AIRBORNE WEIGHT (A)	FLEXIBILITY (F)	CONNECTIONS (C)	
3	<b>a.</b> Thrust and vertical descent <b>b.</b> Thrust with one leg followed by Spin 360° <b>c.</b> Thrust with one leg followed by Twirl 180° and descent <b>d.</b> Thrust with flexibility followed by crashing	<b>S3 = 1.15</b>  <b>SC3 = 2.40</b>  <b>SCD3 = 2.45</b>	Spin 1080° ( <u>two legs</u> )  Combined 1080° ( <u>two legs</u> )  Two-direction Combined 1080° ( <u>two legs</u> )	<b>R3 = 0.60</b>  <b>1R3 = 1.15</b>  <b>2R3 = 1.45</b>  <b>RU3 = 1.75</b>	Swirl 1080°  1 leg Twist 1080°  Twist 1080° (VP)  Unbalanced Twist 1080° (VP)	<b>a.</b> Front Pike to VP (Porpoise lift) <b>b.</b> Vertical ascent with 1 or 2 legs (with or without isolated movements)	<b>a.</b> Split to Split through VP (changing legs) <b>b.</b> Ariana Rotation <b>c.</b> Combination of a Right and Left Leg Knight Position	One leg (in VP "cone" area) <u>back</u> or <u>side</u> connection	
	<b>T3 = 0.65</b>					<b>A3 = 0.20</b>	<b>F3 = 0.30</b>	<b>C3 = 0.40</b>	<b>C3+ = 0.50</b>
4	<b>a.</b> Thrust with one leg followed by Spin 720° <b>b.</b> Thrust with flexibility and descent <b>c.</b> Thrust followed by Spin 180° <b>d.</b> Flying Fish (with descent) <b>e.</b> Thrust followed by Twirl 180° and a crash	<b>S4 = 1.55</b>  <b>SC4 = 3.20</b>  <b>SCD4 = 3.25</b>	Spin 1440° ( <u>two legs</u> )  Combined 1440° ( <u>two legs</u> )  Two-direction Combined 1440° ( <u>two legs</u> )	<b>R4 = 0.80</b>  <b>1R4 = 1.55</b>  <b>2R4 = 1.95</b>  <b>RD4 = 2.15</b>  <b>RU4 = 2.35</b>	Swirl 1440°  1 leg Twist 1440°  Twist 1440° (VP)  Two-direction 1440° (VP)  Unbalanced Twist 1440° (VP)	<b>a.</b> From Front Pike to a single leg position (Bent Knee VP, Fishtail, etc.) while rotating 360° <b>b.</b> Front Pike to VP while rotating 180°	<b>a.</b> Bent Knee Front Layout to Bent Knee Arch Position OR Front Layout to Split with a straight leg <b>b.</b> From Surface Arch Position to Knight or Split with a straight leg <b>c.</b> Bent Knee Surface Arch to Bent Knee VP <b>d.</b> BK Surface Arch to Knight (lifting the extended leg and extending on the surface the bent leg) <b>e.</b> Fishtail to Knight (horizontal plane, along the surface) <b>f.</b> Fishtail to Knight (through VP)	Two-leg connection (both legs must be in VP "cone" area). May be facing any direction.	
	<b>T4 = 0.80</b>					<b>A4 = 0.45</b>	<b>F4 = 0.40</b>	<b>C4 = 0.50</b>	<b>C4+ = 0.60</b>

L	THRUSTS (T)	SPINS (S)		TWISTS <i>incl. Twirls/Swirls</i> (R)		AIRBORNE WEIGHT (A)	FLEXIBILITY (F)	CONNECTIONS (C)	
5	<b>a.</b> Thrust followed by Spin 360° <b>b.</b> Thrust followed by Twirl 180° and descent <b>c.</b> Thrust with flexibility followed by Spin 180° <b>d.</b> Flying Fish Spin 180° or Thrust Fishtail Helicopter Spinning 180° <b>e.</b> One leg Thrust with Twirl 180° followed by Spin 360°	<b>S5 = 1.95</b>  <b>SC5 = 4.00</b>  <b>SCD5 = 4.05</b>	Spin 1800° ( <u>two legs</u> )  Combined 1800° ( <u>two legs</u> )  Two-direction Combined 1800° ( <u>two legs</u> )	<b>1R5 = 1.95</b>  <b>2R5 = 2.45</b>  <b>RU5 = 2.95</b>	1 leg Twist 1800°  Twist 1800° (VP)  Unbalanced Twist 1800° (VP)	Front Pike to VP while rotating 360°	<b>a.</b> Knight to VP OR Knight to Fishtail through VP <b>b.</b> Bent Knee Surface Arch to VP <b>c.</b> Knight rotating 180° (twisting in the Knight position)	Rotation vertical connection with one leg in VP "cone" area (rotation of 180°+ at maximum height). May be facing any direction.	
	<b>T5 = 0.90</b>					<b>A5 = 0.65</b>	<b>F5 = 0.50</b>	<b>C5 = 1.00</b>	<b>C5+ = 1.10</b>
6	<b>a.</b> Thrust with flexibility followed by Spin 360° <b>b.</b> Thrust with Twirl 180° followed by Spin 360° <b>c.</b> Flying Fish 360° or Thrust Fishtail Helicopter Spinning 360°	<b>S6 = 2.35</b>  <b>SC6 = 4.80</b>  <b>SCD6 = 4.85</b>	Spin 2160° ( <u>two legs</u> )  Combined 2160° ( <u>two legs</u> )  Two-direction Combined 2160° ( <u>two legs</u> )	<b>1R6 = 2.35</b>  <b>2R6 = 2.95</b>  <b>RD6 = 3.35</b>  <b>RU6 = 3.55</b>	1 leg Twist 2160°  Twist 2160° (VP)  Two-direction 2160° (VP)  Unbalanced Twist 2160° (VP)	Sustained height with one leg or a combination of one or two legs lasting equal or more than 3 seconds Or Isolated movements performed in a stable and fixed single leg position (within VP definition of 0-45 degrees) – isolated movements performed with other (non-fixed) leg lasting 3 seconds or more Or A combination of the two techniques	<b>a.</b> Cyclone 180° (BK Surface Arch Twirl 180° to a VP) <b>b.</b> Knight rotating 360° (twisting in the Knight position) <b>c.</b> Knight Join to VP while rotating 180° <b>d.</b> Flat Split/Split variants sustained at the surface 3 seconds or more	<b>a.</b> Rotation vertical connection with two legs in VP "cone" area (rotation of 180°+ at maximum height). May be facing any direction.  <b>b.</b> Rotation vertical connection with one leg (rotation of 360°+ at maximum height). May be facing any direction.	
	<b>T6 = 1.10</b>					<b>A6 = 1.15</b>	<b>F6 = 0.65</b>	<b>C6 = 1.25</b>	<b>C6+ = 1.35</b>

L	THRUSTS (T)	SPINS (S)		TWISTS <i>incl. Twirls/Swirls</i> (R)		AIRBORNE WEIGHT (A)	FLEXIBILITY (F)	CONNECTIONS (C)	
7	Thrust followed by Spin 720°	<b>S7 = 2.75</b>	Spin 2520° (two legs)	<b>2R7 = 3.45</b>  <b>RU7 = 4.15</b>	Twist 2520° (VP)  Unbalanced Twist 2520° (VP)	Sustained height in VP lasting equal or more than 3 seconds	Surface Arch to VP	Rotation vertical connection with two legs in VP "cone" area (rotation of 360°+ at maximum height). May be facing any direction.	
	<b>T7 = 1.50</b>								
8	Thrust with flexibility followed by Spin 720°	<b>S8 = 3.15</b>	Spin 2880° (two legs)	<b>2R8 = 3.95</b>  <b>RU8 = 4.75</b>	Twist 2880° (VP)  Unbalanced Twist 2880° (VP)	Sustained height shown at least 3 seconds or more in VP performed in an unbalanced position	<b>a.</b> Knight Join to VP while rotating 360° <b>b.</b> Bent Knee Surface Arch Position to VP rotating 360° (Nova rotating 360°)		
	<b>T8 = 1.70</b>								
9	<b>a.</b> Thrust to height of 8.5 (waist) or higher followed by Spin 1080° or more <b>b.</b> Thrust to height of 8.5 (waist) or higher continued by catching (clearly stopping - stable height demonstrated for 1s or more) in a VP above the knees or higher	<b>S9 = 3.55</b>	Spin 3240° (two legs)	<b>2R9 = 4.45</b>  <b>RU9 = 5.35</b>	Twist 3240° (VP)  Unbalanced Twist 3240° (VP)		Surface Arch Position to VP rotating 180°		
	<b>T9 = 2.00</b>								
10		<b>S10 = 3.95</b>	Spin 3600° (two legs)	<b>2R10 = 4.95</b>  <b>RU10 = 5.95</b>	Twist 3600° (VP)  Unbalanced Twist 3600° (VP)		Surface Arch Position to VP rotating 360°		



**Please fill in with type or write in capital letters!**

<b>Member Federation:</b>				
<b>Competition:</b>				
<b>Event:</b>	<input type="checkbox"/> <b>PRELIMS</b>		<input type="checkbox"/> <b>FINALS</b>	
	<input type="checkbox"/> <b>Women Solo Tech</b>	<input type="checkbox"/> <b>Men Solo Tech</b>	<input type="checkbox"/> <b>Women Duet Tech</b>	<input type="checkbox"/> <b>Mixed Duet Tech</b>
	<input type="checkbox"/> <b>Women Solo Free</b>	<input type="checkbox"/> <b>Men Solo Free</b>	<input type="checkbox"/> <b>Women Duet Free</b>	<input type="checkbox"/> <b>Mixed Duet Free</b>
	<input type="checkbox"/> <b>Mixed Team Tech</b>	<input type="checkbox"/> <b>Mixed Team Free</b>	<input type="checkbox"/> <b>Acrobatic</b>	<input type="checkbox"/> <b>Combo</b>
<b>Theme:</b>				
<b>Name of competitor(s):</b>				

### ELEMENTS IN ORDER OF PERFORMANCE

[illegible]

**Member Federation:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_