## CATALOG OF DIFFICULTIES [4.2.1]

## Foreword and Acknowledgements

The 2021 CYR Wheel Difficulty Catalogue is an updated version of the 2019 Catalogue prepared by Éric Deschênes (IRV), Philipp Remy (German Gymnastics Federation, DTB), and Maria Sollohub (IRV). The English version will be used for reference in any questions of interpretation.

The origin of the IRV difficulty catalogue stems from the move list produced by Éric Deschênes (Canada) for the 2013 World Championships in Chicago, USA. The 2013 IRV competition regulations were created by André St-Jean (Canada) \& Éric Deschênes (Canada). In November 2013, the IRV received the approval of Daniel Cyr to use the name CYR Wheel instead of Mono Wheel.

IRV Difficulty Catalogue 2015: Published in February 2015
IRV Difficulty Catalogue 2016: Published in February 2016 (German translation by Stefanie Jochem, DTB)
IRV Difficulty Catalogue 2018: Published in February 2018 (German translation by Philipp Remy, DTB)
IRV Difficulty Catalogue 2019: Published in October 2019 (German translation by Philipp Remy, DTB)
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## Big spiral [BS]:

- A static skill in big spiral (ex.: BS-D 1a, 1 arm spiral) must be performed for 2 successive wheel rotations for the difficulty to be recognised
- A dynamic skill in big spiral (ex.: BS-C 2, jumping full twist (monkey)) must be performed consecutively (i.e. in succession, one directly after another) for the difficulty to be recognised
- All skills must be started and finished in standing position in a rotating wheel (reference position will be neutral spine alignment, with permitted flexion in elbows, hips and knees). Exception: backward roll lying in the wheel (BS-D 6), where the gymnast is permitted to touch the floor with his/her feet when initiating the skill

| skill <br> number | Skill <br> Category <br> value | description |  |
| :--- | :--- | :--- | :--- |
| BS-B 0a | Big Spiral | 0.2 | Normal stance |
| BS-B 0b | Big Spiral | 0.2 | Profile stance (hips at right angle to the wheel) | | BS |
| :--- |


| skill number | Skill <br> Category | difficulty value | description |
| :---: | :---: | :---: | :---: |
| BS-C 9 | Big Spiral | 0.3 | Reverse big spiral with change or double change of direction into reverse big spiral |
| BS-D 1a | Big Spiral | 0.4 | With one arm |
| BS-D 1b | Big Spiral | 0.4 | Spindle rotation with one arm |
| BS-D 2 | Big Spiral | 0.4 | Reverse bridge with feet together (body in front of wheel) |
| BS-D 3 | Big Spiral | 0.4 | Reverse bridge with one leg |
| BS-D 4 | Big Spiral | 0.4 | One-armed jumping full twist (monkey) (must be performed twice in succession) |
| BS-D 6 | Big Spiral | 0.4 | Backward roll lying in the wheel, landing on the wheel in a big spiral rotation. The gymnast is allowed to touch the floor with his/her feet when initiating the skill. (In technical routine only permitted as first element) |
| BS-D 7 | Big Spiral | 0.4 | All skills in big spiral with a decentralised element, e.g. hanging tucked/straddle, starting and finishing in any position in spiral |
| BS-D 8 | Big Spiral | 0.4 | one-armed big spiral in horizontal front splits forward |
| BS-D 9 | Big Spiral | 0.4 | Reversed in front or side Splits |
| BS-E 1 | Big Spiral | 0.5 | Reverse bridge with one arm |
| BS-E 2 | Big Spiral | 0.5 | A skill consisting of an ongoing decentralised element (e.g. hanging tucked/cannon ball) in big spiral that is held for at least 2 wheel rotations - it must be started in big spiral and finished in any position in big spiral |
| BS-E 3 | Big Spiral | 0.5 | Backward roll lying in the wheel - performed directly after another skill (e.g. big spiral, change) and finished landing on the wheel to continue the routine without interruption |
| BS-E 4 | Big Spiral | 0.5 | Upward circle in the wheel - performed directly after a preceding skill and finished landing in the wheel to continue the routine without interruption. |
| BS-E 5 | Big Spiral | 0.5 | Jumping over to the other side of wheel in a change of direction (champagne) |
| BS-E 6 | Big Spiral | 0.5 | Front jump over - hips at right angle to wheel (all variations of foot positioning for jumping and landing permitted) |
| BS-E 7 | Big Spiral | 0.5 | Change of direction on hands, landing on wheel ("pillar") (Must be performed only once) |

## Coin Spin [CS]:

- Skills in coin spin (and ollies/rodeos) must be shown for 3-5 repetitions for their difficulty to be recognised.
- All skills must be started and finished in standing position in a rotating wheel (reference position will be neutral spine alignment, with permitted flexion in elbows, hips and knees)

IMPORTANT: NO upgrade in difficulty for a coin spin performed with a wheel angle of $20^{\circ}$ or less to the floor

| skill number | Skill <br> Category | difficulty value | description |
| :---: | :---: | :---: | :---: |
| CS-B 0a | Coin Spin | 0.2 | Standard stance |
| CS-B 0b | Coin Spin | 0.2 | Profile stance (hips at right angle to wheel) |
| CS-B 1a | Coin Spin | 0.2 | With feet together |
| CS-B 1b | Coin Spin | 0.2 | With one leg |
| CS-B 1c | Coin Spin | 0.2 | With crossed legs |
| CS-C 1 | Coin Spin | 0.3 | Rond de jambe with one leg (leading/trailing leg) |
| CS-C 2 | Coin Spin | 0.3 | In spindle position (feet at least 30 cm apart) |
| CS-C 3 | Coin Spin | 0.3 | With leading arm touching the floor |
| CS-C 4 | Coin Spin | 0.3 | With crossed arms (shoulder width apart) |
| CS-C 5 | Coin Spin | 0.3 | Front or back ollie with helping hand(s) push (coin spin with body standing upright, jumping, has to be performed only once) |
| CS-D 10 | Coin Spin | 0.4 | Rodeo (coin spin with hands on the wheel between feet) |
| CS-D 1a | Coin Spin | 0.4 | With one arm |
| CS-D 1b | Coin Spin | 0.4 | In one-armed spindle position (feet at least 30 cm apart) |
| CS-D 2 | Coin Spin | 0.4 | Reverse bridge |
| CS-D 3 | Coin Spin | 0.4 | Reverse bridge with one leg |
| CS-D 4 | Coin Spin | 0.4 | Reverse sitting |
| CS-D 5a | Coin Spin | 0.4 | In vertical front splits (one foot at top of wheel, one foot at bottom of wheel) |
| CS-D 5b | Coin Spin | 0.4 | In horizontal side splits (facial split) |
| CS-D 6 | Coin Spin | 0.4 | Scorpion (coin with one leg, leading/trailing foot behind body, less than 50 cm from head) |
| CS-D 8 | Coin Spin | 0.4 | Front or back Ollie without hands (Coin spin with body standing upright, jumping, only needs to be performed once, must be performed after an element which ends without hands e.g. opposite Ollie) |
| CS-D 9 | Coin Spin | 0.4 | Front or back ollie with half twist with helping hand(s) push (coin spin with body standing upright, jumping with half twist, has to be performed only once) |


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| :---: | :---: | :---: | :---: |
| skill number | Skill <br> Category | difficulty value | description |
| CS-E 1 | Coin Spin | 0.5 | One-armed reverse bridge |
| CS-E 2 | Coin Spin | 0.5 | Reverse bridge with one leg rond the jambe |
| CS-E 3 | Coin Spin | 0.5 | Front or back Ollie with half twist without hands (Coin spin with body standing upright, jumping with half twist, only needs to be performed once, must be performed after an element which ends without hands e.g. opposite Ollie) |
| CS-E 4 | Coin Spin | 0.5 | Rodeo with 1 arm (coin spin with one hand on the wheel between feet) |
| CS-E 5 | Coin Spin | 0.5 | reverse coin spin bridge in horizontal front or side splits |
| CS-E 6 | Coin Spin | 0.5 | In front split with one hand on ankle (only one hand touches the wheel) |

## Element Combinations

- Element combinations are combinations of two difficulty skills performed directly after one another without extra rotations of the wheel, twice in succession.
- A skill used in an element combination will only be counted once. If it is performed elsewhere in the routine (either as an individual skill or as part of a different element combination), its difficulty will not be counted a second time (repetition).

IMPORTANT: It is not permitted to combine A/B skills with C/D/E skills to create element combinations.
A gymnast can combine either $A$ and $B$ skills with each other or $C, D$ and $E$ skills with each other.

- The difficulty value of element combinations consisting of 2 skills with different difficulty values will be the higher of the two difficulties.
- If a gymnast wants to perform an element combination consisting of a " $D$ " skill and a " $C$ " skill, the element combination can be performed " $D-C-D-$ C" or "C - D - C - D" (with no gaps between the skills).
- In the above example, the C/D element combination will be counted as D difficulty.
- Similarly, an A/B element combination will be counted as B difficulty.
- The difficulty of element combinations of 2 skills with the same difficulty value will be counted as follows:

A1-A2-A1-A2 $=A$ (performed in succession, i.e. no gaps between skills)
B1-B2-B1-B2 = B (performed in succession, i.e. no gaps between skills)
C1-C2-C1-C2 = D (performed in succession, i.e. no gaps between skills)
D1-D2-D1-D2 = E (performed in succession, i.e. no gaps between skills)

- NEW:

Previously, Big Spiral skills were not permitted in element combinations.
It is now permitted to use D or E difficulty Big Spiral skills in element combinations.

Combinations involving a big spiral skill together with a skill from a different category will have the following format:

D or E difficulty BIG SPIRAL skill + C, D or E skill from a different category
(This is based on the general rule that $A / B$ skills cannot be combined with $C / D / E$ skills in element combinations.)

- IMPORTANT: According to the current difficulty, an element combination consisting of 2 E skills cannot be counted as more than E difficulty.
- It is possible for one element combination to fulfil the composition requirements for two skill categories.
- It is important to note that element combinations are different from turn/twist combinations, where two "T" skills are performed directly after one another, once.
- Some examples of element combinations are listed below:

| C-C-C-C=D | Alternating: full turn/flower picker, twice in succession |
| :--- | :--- |
| D-C-D-C=D | Alternating: coin spin reverse bridge / Rond de jambe with one <br> leg (leading/trailing leg), twice in succession |
| C-C-C-C=D | Front and back handsprings (directly linked), twice in <br> succession |
| C-D-C-D=D | Alternating: full turns/coin spin with one arm, twice in <br> succession |
| C-C-C-C=D | Alternating: front ollie/back ollie with helping hand(s), twice in <br> succession |
| D-D-D-D=E | Front ollie with half twist / back ollie with half twist with helping <br> hand(s), twice in succession |

## Spin [Spin]:

- The gymnast is usually in an upright position in the wheel (reference position will be neutral spine alignment, with permitted flexion in elbows, hips and knees).
- The wheel makes centred/spin movements (i.e. turns on the same point of the wheel), without any basic step action from the competitor to avoid unwanted inclining of the wheel.
- To be recognised, a spin skill has to either be performed twice in succession in the case of a dynamic movement (e.g. monkey) or, in the case of a static position, be held for at least 2 complete spin rotations (e.g. jump into front support).
- Depending on the skill, 1-2 additional basic steps are permitted between two elements (see difficulty list below)
- All spin skills start and finish in standing position on one or two feet in a rotating wheel.

| skill <br> number | Skill <br> Category | difficulty <br> value | description |
| :--- | :--- | :--- | :--- |
| Spin-A 1 | Spin | 0.1 | With normal foot (and/or hand) positioning |
| Spin-A 2a | Spin | 0.1 | With feet or hands together |
| Spin-A 2b | Spin | 0.1 | Sping |


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| skill number | Skill <br> Category | difficulty value | description |
| Spin-D 1 | Spin | 0.4 | Hanging from one elbow (all body positions) |
| Spin-D 4 | Spin | 0.4 | Straight jump into front support on the wheel, landing on the wheel |
| Spin-D 5 | Spin | 0.4 | On hands in an inverted position in the wheel |
| Spin-E 1 | Spin | 0.5 | Hanging from one arm (all body positions) |
| Spin-E 2 | Spin | 0.5 | Straight jump into front support on the wheel with at least one knee over the wheel, landing on the wheel |
| Spin-E 3 | Spin | 0.5 | No hands |
| Spin-E 5 | Spin | 0.5 | Spin on hands with feet together and continuous stepover (at least 4 Steps) |
| Spin-E 6 | Spin | 0.5 | Windshield Wiper Spin on hands without feet touching the wheel (legs are allowed to touch the wheel) legs move from straddle position to closed position back to straddle position within two wheel rotations |

## Turns and twists (in spin or basic step/waltz) [T]:

- The gymnast is in an upright position in the wheel (reference position will be neutral spine alignment, with permitted flexion in elbows, hips and knees).
- The wheel moves as if in a waltz/basic step or spin.
- Turns: the wheel rotates around the gymnast in the opposite rotational direction
- Twists: the gymnast rotates in the same rotational direction as that of the wheel
- To be recognised, turns and twists must either be performed twice in succession or as a twist/turn combination (e.g. half turn + half twist with no basic step in between).
- When turns/twists are performed in succession, 1 basic step is permitted between two half turns/twists, while 2 basic steps are permitted between two full turns/twists.
- In the case of a twist/turn combination consisting of $A+B$ or $B+C$, the difficulty will be counted as the higher of the two (e.g. half twist $[B]+$ full turn $[C]=$ C)
- In the case of a twist/turn combination consisting of $A+A$, the difficulty will be counted as $A$, while $B+B$ will be counted as $B$
- In the case of a twist/turn combination consisting of $C+C$, the difficulty will be counted as D , while $\mathrm{D}+\mathrm{D}$ will be counted as E
- A twist/turn combination (consisting of 2 skills) only has to be performed once in order to be recognised.
- A hanging full turn/twist only has to be performed once in order to be recognised.
- All skills must be started and finished in standing position in a rotating wheel.

| skill <br> number | Skill <br> Category | difficulty <br> value | description |
| :--- | :--- | :--- | :--- |
| T-B 1 | Turns/Twist | 0.2 | Half twist on leading or trailing foot |
| T-B 2 | Turns/Twist | 0.2 | Half turn on leading or trailing foot |
| T-B 3 | Turns/Twist | 0.2 | Curns/Twist | | Turns/Twist |
| :--- |


| 4/2/24, 8:11 PM <br> skill <br> number | Skill <br> Category | difficulty <br> value | IRV - Catalog of difficulties |
| :---: | :--- | :--- | :--- |
| T-D 5 | Turns/Twist | 0.4 | One-armed hanging full twist from hanging waltz/spin (only needs to be performed once) |
| T-D 5a | Turns/Twist | 0.4 | Hanging half twist from hanging waltz/spin (only needs to be performed once) |
| T-D 6 | Turns/Twist | 0.4 | Three hanging half turns |
| T-E 1 | Turns/Twist | 0.5 | One-armed hanging full twist from hanging waltz/spin (only needs to be performed once) |
| T-E 2 | Turns/Twist | 0.5 | Four (or more) hanging half turns from hanging waltz/spin |

## Basic steps or waltz [W/WF]:

- The gymnast is generally in an upright position in the wheel (reference position will be neutral spine alignment, with permitted flexion in elbows, hips and knees).
- The wheel moves as if in a waltz/basic step, inclining from one foot to the other, in control of the back and front half turns.
- A basic step/waltz skill has to be shown 3-5 times consecutively in order for the difficulty to be recognised.
- 1-3 additional basic steps/waltz moves are permitted as a transition between difficulty skills in the technical programme. There is no limit to the length of a transition in the free programme.
- A distinction is made between "leading" and "trailing"; for example: if the CYR wheel rotates clockwise, the right shoulder pulls backwards and is the "leading" side, while the left side is "trailing".
- All skills must start and finish in standing position in a rotating wheel.


## Handsprings [FHS/BHS]:

- Handsprings must be performed 3-5 times in succession for the difficulty to be recognised (reference position will be neutral spine alignment, with permitted flexion in elbows, hips and knees)
- All skills must be started and finished in standing position in a rotating wheel
- Trailing hand (FHS) or leading hand (BHS) must touch the floor in order to be recognised.

| skill number | Skill Category | difficulty value | description |
| :---: | :---: | :---: | :---: |
| BHS-C 1a | Back | 0.3 | Normal stance |
|  | Handspring |  |  |
| BHS-C 1b |  | 0.3 | With feet together |
|  | Handspring |  |  |
| BHS-C 2 | Back | 0.3 | Legs together off centre (trailing side) |
|  | Handspring |  |  |
| BHS-C 3 | Back | 0.3 | 1 leading leg (standing on trailing leg) |
|  | Handspring |  |  |
| BHS-C 4 | Back | 0.3 | With body in front of the wheel (fully open) |
|  | Handspring |  |  |
| BHS-C 5 | Back | 0.3 | With crossed legs |
|  | Handspring |  |  |
| BHS-D 1 | Back | 0.4 | In spindle position |
|  | Handspring |  |  |
| BHS-D 2 | Back | 0.4 | 1 trailing leg (standing on leading leg) |
|  | Handspring |  |  |
| BHS-D 3 | Back | 0.4 | With trailing ankle hook (trailing batman) |
|  | Handspring |  |  |
| BHS-E 1 | Back | 0.5 | With one arm |
|  | Handspring |  |  |
| BHS-E 2 | Back | 0.5 | In spindle position, off centre |
|  | Handspring |  |  |
| FHS-C 1 | Front | 0.3 | Legs together off centre (leading side) |
|  | Handspring |  |  |


| skill number | Skill Category | difficulty value | description |
| :---: | :---: | :---: | :---: |
| FHS-C 2 | Front <br> Handspring | 0.3 | With leg kick, leading or trailing leg |
| FHS-C 3 | Front <br> Handspring | 0.3 | With body in front of the wheel (fully open) |
| FHS-C 4 | Front <br> Handspring | 0.3 | In spindle position |
| FHS-C 5 | Front <br> Handspring | 0.3 | With leading ankle hook (leading batman) |
| FHS-C 6 | Front <br> Handspring | 0.3 | Normal stance (or profile either side; i.e. both feet in same direction) |
| FHS-C 7 | Front <br> Handspring | 0.3 | With feet together |
| FHS-C 8 | Front <br> Handspring | 0.3 | With crossed legs |
| FHS-D 2 | Front Handspring | 0.4 | In spindle position, off centre |
| FHS-D 3 | Front <br> Handspring | 0.4 | In front or side split |
| FHS-E 1 | Front <br> Handspring | 0.5 | With one arm |
| FHS-E 2 | Front <br> Handspring | 0.5 | Without feet (feet must leave the wheel before the gymnast reaches 90 degrees body inclination and land on wheel in the last 90 degrees before completion) |
| W-A 1 | Waltz | 0.1 | With normal foot (and/or hand) positioning |
| W-A 2a | Waltz | 0.1 | With feet or hands together |
| W-A 2b | Waltz | 0.1 | With crossed legs |
| W-A 3 | Waltz | 0.1 | With feet (and/or hands) wide apart |
| W-A 4 | Waltz | 0.1 | With body in profile, either side (hips at right angle to wheel) |
| W-A 5 | Waltz | 0.1 | With hands in pronation, supination, cubital or mixed grip |
| W-A 6 | Waltz | 0.1 | With one leg extended behind (does not need to be straight) |
| W-A 7 | Waltz | 0.1 | With one leg extended in front (does not need to be straight) |
| W-B 1a | Waltz | 0.2 | With crossed arms |
| W-B 1b | Waltz | 0.2 | In spindle position (feet at least 30 cm apart) |
| W-B 1c | Waltz | 0.2 | In spindle position with one arm (feet at least 30 cm apart) |
| W-B 2 | Waltz | 0.2 | With one arm |


| skill number | Skill Category | difficulty value | description |
| :---: | :---: | :---: | :---: |
| W-B 3 | Waltz | 0.2 | In arabesque (whereby the free leg is at least in parallel to the floor in the front half turn) |
| W-B 4 | Waltz | 0.2 | One leg développé or fouetté |
| W-B 5a | Waltz | 0.2 | Leading side less than 90 degrees off centre (i.e. at the highest point the legs must be less than 90 degrees from the vertical axis) |
| W-B 5b | Waltz | 0.2 | Trailing side less than 90 degrees off centre |
| W-C 1a | Waltz | 0.3 | Leading side more than 90 degrees off centre (leading corner) |
| W-C 1b | Waltz | 0.3 | Trailing side more than 90 degrees off centre (trailing corner) |
| W-C 1c | Waltz | 0.3 | Leading dolphin (1 arm leading less than 90 degrees off centre with ankle hook) |
| W-C 1d | Waltz | 0.3 | Trailing dolphin (1 arm trailing less than 90 degrees off centre with ankle hook) |
| W-C 2 | Waltz | 0.3 | Crossed legs and arms |
| W-C 3 | Waltz | 0.3 | Flower picker; leading/trailing side |
| W-C 4a | Waltz | 0.3 | Flag; leading side |
| W-C 4b | Waltz | 0.3 | Flag; trailing side |
| W-C 4c | Waltz | 0.3 | Flag; trailing side (cubital grip) |
| W-C 4d | Waltz | 0.3 | Cross flag; leading side (flag with leading arm and trailing leg) |
| W-C 4e | Waltz | 0.3 | Cross flag; trailing side (flag with trailing arm and leading leg) |
| W-C 5 | Waltz | 0.3 | In vertical front or side splits |
| W-C 6 | Waltz | 0.3 | Hanging tucked |
| W-C 7 | Waltz | 0.3 | With feet and hands together |
| W-D 1 | Waltz | 0.4 | On hands (in inverted position) |
| W-D 2 | Waltz | 0.4 | Hanging with variations in leg positioning (legs do not need to be straight) |
| W-D 3 | Waltz | 0.4 | Leading dolphin (1 arm leading more than 90 degrees off centre with ankle hook) |
| W-D 4 | Waltz | 0.4 | Trailing dolphin (1 arm trailing more than 90 degrees off centre with ankle hook) |
| W-E 1 | Waltz | 0.5 | On hands in spindle position |
| W-E 2 | Waltz | 0.5 | On hands with one leg |
| WF-B 1 | Waltz body in Front | 0.2 | With normal foot (and/or hand) positioning |
| WF-B 2 | Waltz body in Front | 0.2 | With feet or hands together |


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| skill number | Skill Category | difficulty value | description |
| WF-B 3 | Waltz body in Front | 0.2 | With feet and/or hands wide apart |
| WF-B 4 | Waltz body in Front | 0.2 | With body in profile, either side (hips at right angle to wheel) |
| WF-B 5 | Waltz body in Front | 0.2 | With crossed legs |
| WF-B 6 | Waltz body in Front | 0.2 | With hands in pronation, supination, cubital or mixed grip |
| WF-B 7 | Waltz body in Front | 0.2 | With one leg extended behind (does not need to be straight) |
| WF-B 8 | Waltz body in Front | 0.2 | With one leg extended in front (does not need to be straight) |
| WF-C 1 | Waltz body in Front | 0.3 | With one arm |
| WF-D 1 | Waltz body in Front | 0.4 | With feet and hands together |

