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*Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, technical proofs (TP), and all past articles are available online at [billiards.colostate.edu](http://billiards.colostate.edu). Reference numbers used in the articles help you locate the resources on the website.*

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In Bob Jewett’s July and August columns, he presented an interesting family of runout drills that cover a wide range of playing ability. Since then, Bob and I worked together on a simplified version of the system that focusses on 8-ball, rotation, and straight pool. I call it the **Runout Drill System (RDS)**. It consists of a set of 16 break-and-run challenges of increasing levels of difficulty. The levels are summarized below along with associated **player ratings** (described more below). Online videos [NV J.53](#) and [NV J.54](#) demonstrate all 16 RDS levels and recommend some useful strategy. Each level is also described and illustrated in detail in the [RDS instructions](#) document linked in the online YouTube video descriptions. **Images 1** and **2** show example pages from this document.


**RDS Levels:**

1. 6 balls, pocket OBs directly with no CB – **lower novice**
2. 6 balls, any order, BIH on every shot – **mid novice**
3. 6 balls, any order, 3 extra BIHs – **upper novice**
4. 6 balls, any order, 2 extra BIHs – **lower beginner (D-)**
5. 6 balls, any order, 1 extra BIHs – **mid beginner (D)**
6. 7 balls (3 solids, 3 stripes, 8), 8-ball rules, 1 extra BIH – **upper beginner (D+)**
7. 9 balls, any order, 1 extra BIH – **lower intermediate (C-)**
8. 9 balls (4 solids, 4 stripes, 8), 8-ball rules, 1 extra BIH – **mid intermediate (C)**
9. 15 balls, any order, 2 extra BIHs – **upper intermediate (C+)**
10. 6 balls, in order – **lower advanced (B-)**
11. 15 balls, any order – **mid advanced (B)**
12. 15 balls, 8-ball rules – **upper advanced (B+)**
13. 9 balls (4 solids, 4 stripes, 8), 8-ball rules, remaining balls in order – **lower shortstop (A-)**
14. 9 balls, 9-ball rules – **upper shortstop (A)**
15. 15 balls, 8-ball rules, remaining balls in order – **semipro / pro (A+/AA)**
16. 15 balls, in order – **world class pro (A++/AAA)**


The number of balls in each RDS rack varies from 6 to 15. You start with a break shot and then take ball in hand (BIH), meaning you can place the CB anywhere you want on the table. There is no penalty for a scratch on the break, and balls pocketed on the break remain down. Unlike dedicated skill or setup drills, where you repeat the same or similar shots or patterns over and over, RDS provides endless variations of shots, patterns, and game situations. And no table setup is required ... just rack, break, and run the balls ... just like playing regular pool. RDS tests and challenges all player levels from complete novice to seasoned professional. And you get to pocket lots of balls regardless of your playing level, so there is no major frustration involved. RDS provides excellent practice and helps one develop and improve strategy and pattern play in the games of 8-ball, 9-ball, 10-ball, and straight pool.

RDS is progressive and adaptive. When you do well, the level gets harder; and when you do poorly, the level gets easier. If you run 2 out of 3 racks at one level, where you make all the required balls without a miss or foul, you go to the next higher level. If you run only 1 of 3, you stay at the current level. And if you do not run any of the 3, you go down to the next lower level. If you are trying RDS for the first time, pick a level at which you are confident to run 2 out of 3 racks and start there; otherwise, start where you left off in your previous RDS session. After a practice session, your ending level and associated rating should be a decent indicator of your level of playing ability. And if you record your ending levels over time, you will be able to easily monitor your improvement as your game develops.


**1** Level 1 – 6 balls, pocket OBs directly with no CB

	<ul style="list-style-type: none"><li>• break a rack of 6 balls.</li><li>• remove the cue ball.</li><li>• pocket each object ball directly, in any order.</li><li>• wipe chalk marks off the balls when done.</li></ul>
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**2** Level 2 – 6 balls, any order, BIH on every shot

	<ul style="list-style-type: none"><li>• break a rack of 6 balls.</li><li>• take cue ball in hand for each shot.</li><li>• pocket each ball in any order.</li></ul>
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**3** Level 3 – 6 balls, any order, 3 extra BIHs

	<ul style="list-style-type: none"><li>• break a rack of 6 balls.</li><li>• take cue ball in hand after the break and any 3 other times during the run.</li><li>• pocket each ball in any order.</li></ul>
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**4** Level 4 – 6 balls, any order, 2 extra BIHs

	<ul style="list-style-type: none"><li>• break a rack of 6 balls.</li><li>• take cue ball in hand after the break and any 2 other times during the run.</li><li>• pocket each ball in any order.</li></ul>
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**5** Level 5 – 6 balls, any order, 1 extra BIH

	<ul style="list-style-type: none"><li>• break a rack of 6 balls.</li><li>• take cue ball in hand after the break and once any time during the run.</li><li>• pocket each ball in any order.</li></ul>
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**6** Level 6 – 7 balls (3 solids, 3 stripes, 8), 8-ball rules, 1 extra BIH

	<ul style="list-style-type: none"><li>• break a rack of 6 balls (3 solids, 3 stripes) with the 8 ball added (in the center or back).</li><li>• play standard 8-ball rules, except take cue ball in hand after the break.</li><li>• pocket all the stripes or all the solids, and then the 8.</li></ul>
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**7** Level 7 – 9 balls, any order, 1 extra BIH

	<ul style="list-style-type: none"><li>• break a rack of 9 balls.</li><li>• take cue ball in hand after the break and once any time during the run.</li><li>• pocket each ball in any order.</li></ul>
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**Image 1** RDS document page 2



### Level 8 – 9 balls (4 solids, 4 stripes, 8), 8-ball rules, 1 extra BIH



- break a rack of 9 balls (4 solids, 4 stripes, with the 8 ball in the center).
- play standard 8-ball rules, except take cue ball in hand after the break.
- pocket all the stripes or all the solids, and then the 8.



### Level 9 – 15 balls, any order, 2 extra BIHs



- break a rack of 15 balls.
- take cue ball in hand after the break and any 2 other times during the run.
- pocket each ball in any order.



### Level 10 – 6 balls, in order



- break a rack of 6 balls.
- take cue ball in hand after the break.
- shoot the balls in rotation, always hitting the lowest-numbered ball 1<sup>st</sup>.



### Level 11 – 15 balls, any order



- break a rack of 15 balls.
- take cue ball in hand after the break.
- pocket each ball in any order.



### Level 12 – 8-ball rules



- break a rack of 15 balls.
- play standard 8-ball rules, except take cue ball in hand after the break.
- pocket all the stripes or all the solids, and then the 8.



### Level 13 – 9 balls (4 solids, 4 stripes, 8), 8-ball rules, remaining balls in order



- break a rack of 9 balls (4 solids, 4 stripes, with the 8 ball in the center).
- play standard 8-ball rules, except take cue ball in hand after the break.
- pocket all the stripes or all the solids, and then the 8.
- then pocket the remaining balls in rotation, always hitting the lowest-numbered ball 1<sup>st</sup>.

## Image 2 RDS document page 3

An alternative RDS format is a scored approach, where you start with 100 points and attempt to run one rack at each level, deducting points left on the table after a miss or foul. I call it **RDS 100** and it was adopted by the Billiard University (BU) as one of its Playing-Ability Exams (Exam IV). The BU recently sponsored a Challenge offering prizes to thow who could score the highest. If you want to see video entries for the top scores, they are linked in the YouTube video description of [NV J.54](#). In [NV J.54](#), I demonstrate how to shoot and score a complete RDS 100 set.

The Billiard University Rating Comparison table in **Image 3** shows how RDS Player Levels (1-16) compare to other commonly used rating and handicapping systems. So, if you run through the progressive version of RDS, you can get a fairly good estimate for where you fall on the standard ABCD Rating system and estimate what your handicap might be in various league systems. You can even estimate your expected [FargoRate](#) score if you do not already have one. So RDS is not just a fun and useful system for learning, practicing, and teaching pool, it can also be used to estimate your level of playing ability.

## BU Rating Comparisons

BU Score	Player Level	ABCD Rating	Alt ABCD	Fargo Rate	RDS Level	ARS (AZ)	APA 8-ball*	APA 9-ball*	BCAPL, VNEA 8-ball*	BCAPL 9-ball*
185-200	world class pro	A++ / AAAA	Master	> 750	16	10-2	7	9	10	10
175-184	semipro / pro	A+ / AAA	Master	720-749	15	10-1	7	9	10	10
165-174	upper shortstop	A / AA	Master	680-719	14	10, 10-1	7	9	9, 10	9, 10
155-164	lower shortstop	A- / A	Master	640-679	13	9, 10	7	9	9, 10	9, 10
140-154	upper advanced	B+	AA	600-639	12	8, 9	7	9	8, 9	8, 9
125-139	mid advanced	B	AA, A	550-599	11	7, 8	6, 7	8, 9	8, 9	6, 7
110-124	lower advanced	B-	A	500-549	10	7, 8	6	7, 8	7, 8	4, 5
95-109	upper intermediate	C+	B	450-499	9	6, 7	5, 6	6, 7	7, 8	2, 3
70-94	mid intermediate	C	B, C	400-449	8	5, 6	4, 5	5, 6	6, 7	1, 0, 1
55-69	lower intermediate	C-	C	350-399	7	5, 6	4	4, 5	5, 6	-2, -3
40-54	upper beginner	D+	C	325-349	6	4, 5	3, 4	3, 4	4, 5	-4, -5
30-39	mid beginner	D	C	300-324	5	3, 4	3, 4	2, 3	4, 5	-6, -7
20-29	lower beginner	D-	D	200-299	4	2, 3	2, 3	1, 2	3, 4	-8, -9
0-19	novice	D--	D	0-200	1, 2, 3	1, 2	2	1	2	-10

\* These ratings can vary quite a lot among leagues and regions depending on the level of competition.

[BilliardUniversity.org](http://BilliardUniversity.org)

### Image 3 Ratings Comparison Chart

I hope you enjoy and benefit from the Runout Drill System and RDS 100. RDS is great practice for runout skills, but it is helpful to also mix up your practice with dedicated skill drills periodically, like those found in BU Playing-Ability Exams I and II (the basis for the “BU Score” in the table). It is important to develop and improve your skills, especially the ones you identify during play and RDS practice as problem areas. You should also work on offensive and defensive skills and techniques you might not use very often during typical play. That is the only way you will be able to add them to your arsenal. The [Video Encyclopedia of Pool Practice \(VEPPP\)](#) has a large collection of drills to help you work on every technique and skill needed in top-level pool, so that might be a useful resource to help you develop your game.

Good luck with your game,  
Dr. Dave



[NV J.53](#) – RUNOUT DRILL SYSTEM (RDS) ... A New Way to Practice, Teach, and Learn  
[NV J.54](#) – RDS 100 CHALLENGE – Enter for Free and Win Prizes

PS:

- I know other authors and I tend to use lots of terminology, and I know not all readers are totally familiar with these terms. If you ever come across a word or phrase you do not fully understand, please refer to the [online glossary](#) at [billiards.colostate.edu](http://billiards.colostate.edu).

*Dr. Dave is a PBIA Advanced Instructor, Dean of the Billiard University, and author of the book: [The Illustrated Principles of Pool and Billiards](#) and numerous instructional DVD series, all available at: [DrDaveBilliards.com](http://DrDaveBilliards.com).*