

IMPACT Data Book Instructions

While many shooters have used a data book in the past, it is very common to find that many shooters don't understand how to properly fill out or use their data book to its full potential. When collecting data in a data book you want to keep complete and accurate information that can be used at a later date. What you did on your last shooting session is very important and useful for the future target engagements. Having this information and being able to properly analyze it, becomes the starting point to base future shots from. I would like to take the time and provide a quick lesson on how to properly fill out and use your Impact Data Book to allow you to get the most from your range sessions and allow you to extract the data from previous range days of varying conditions to help you make those first round hits.

The sample page below has reference numbers in place so you can refer to the corresponding information for that numbered box. The information below gives you examples on how to fill in that box with the proper data.

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1. **DATE**- Write the date of your range session in the box.
2. **TIME**- Insert time for the day. Military time is useful to avoid confusion.
3. **LOCATION**- This can be the shooting facility, state or country. This allows you to refer back to that area of operation to recall the data you used.
4. **AMMO TYPE**- In this box the ammunition type, grain and lot number should be recorded so that you can make sure this recalled data will correspond with the same ammunition. Most shooters fail to take this into consideration.
5. **TEMP**- The actual outside temperature that you are taking the shots in.
6. **HUMIDITY**- The actual outside humidity you are taking the shots in.
7. **BARO PRES**- The actual outside barometric pressure you are taking the shots in.
8. **ALTITUDE**- The elevation you are currently shooting from.
9. **ANGLE**- Angle is determined by using an inclinometer. There are products on the market, such as the Sniper Tools angle cosine indicator, and the Slope Doper to help you with finding your angle. There are even binoculars that give you your angle.
10. **WIND**- Located on the left side of the wind box you will find the quick fill check boxes or the blank line to hand write in the wind speed information. Just to the right you have your quick check fill boxes for the wind values, and to the right of that you have your wind direction rosette. To properly fill out the wind rosette you will draw an arrow across it with it showing the direction the wind is blowing in.

FULL VALUE WIND- Wind that blows from 3 to 9 or 9 to 3 O'clock. This type of wind will have the most effect on your bullet.

HALF VALUE WIND- Wind that blows from 2 to 8, 8 to 2, 10 to 4 or 4 to 10 O'clock. This type of wind will have the second most effect on the bullet.

QUARTER VALUE WIND- Wind that blows from 1 to 7, 7 to 1, 11 to 5 or 5 to 11 O'clock. This type of wind will have the most effect on your bullet.

HEAD WIND- Wind that blows from 12 to 6 O'clock. This type of wind will have a downward effect on your bullet.

TAIL WIND- Wind that blows from 6 to 12 O'clock. This type of wind will have a lifting effect on your bullet.

11. **LIGHT**- Most people don't understand the effects of light. The way that light hits your target and your sights will have an effect on how your eye perceives the target. This can effect how you aim at your target and ultimately causing your rounds not to impact where you want them. Use the quick check fill boxes at the left side to correspond with your light condition. Then to the right you have a light rosette. Place your pen or pencil in the center of the rosette and see which way the pen casts a shadow. Once you determine the direction of the shadow draw an arrow on the rosette in that direction to indicate the direction the sun is coming from hitting your sights and target.

12. **SHOT CALL AREA-** This is the most common area of error I see in shooters that use data books. When a shooter properly fills out this area and does it honestly and correctly it will help you analyze the plot area and determine what is going right or wrong with your shooting.

To properly use the call area you will place a dot on the plot target in the last place where you seen your sights prior to the rifle firing.

I know you see that I stated honestly, more times then not, when I see a lot of shooters data books, they always seemed to have the center marked. You are only lying to yourself if you do this. Mark the proper spot where you had seen your sights prior to the weapon firing and you will be able to gather good quality information from your shots.

13. **SHOT PLOT AREA-** This area is where you will plot the actual shot you took. You will do this by writing the actual shot number in the area of its impact. If you miss your target you can also write that number off the target were it impacted so you can reference your misses and figure out what the problem may have been.
14. **TARGET RANGE-** This is the actual measured range to your target. You may even want to write in a small note in notes section of how you obtained that range being that you used your Mil Dots, a laser range finder or range was given. Make sure you use the quick check fill box to choose yards or meters for your difference, It makes a difference.
15. **POSITION-** This area allows you to use the quick fill check boxes to show what position you took your shoots from, if these shots were taking using an unsupported or supported position and if you used your sling during the shooting.
16. **TARGET SIZE-** This area allows you to write in the dimensions of the target that you are shooting at.
17. **NOTES-** Use this area to write in any information about that string of fire or course of fire. This is not limited to shooting information. You can add stuff like didn't feel well, jerked the trigger on shot #3, poor follow thru on shot #9 ect.
18. **ENDING DATA-** This is the final sight setting or your corrected sight setting that allowed you to hit your target center mass.

Below you will find an example of a properly filled out data book page accompanied by a paragraph that explains what happened from shot to shot.

DATE	TIME	LOCATION	AMMO TYPE	TEMP	TARGET RANGE: <u>600</u> <input checked="" type="checkbox"/> YARDS <input type="checkbox"/> METERS	
1-1-09	1325	RIFLES ONLY TX	140 GR HORNADY	76°	POSITION: <input checked="" type="checkbox"/> STRONG SIDE <input type="checkbox"/> WEAK SIDE	
HUMIDITY: <u>61%</u>		BARO PRES: <u>29.92</u>	ALTITUDE: <u>100 FT.</u>	ANGLE: <u>0</u>	<input checked="" type="checkbox"/> PRONE <input type="checkbox"/> SITTING <input type="checkbox"/> KNEELING <input type="checkbox"/> STANDING	
WIND: <input checked="" type="checkbox"/> MPH <input type="checkbox"/> KPH		LIGHT: <input checked="" type="checkbox"/> BRIGHT <input type="checkbox"/> HAZY <input type="checkbox"/> OVERCAST <input type="checkbox"/> NIGHT		<input checked="" type="checkbox"/> SUPPORTED <input type="checkbox"/> UNSUPPORTED <input type="checkbox"/> SLUNG <input type="checkbox"/> UNSLUNG		
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SHOT 1	2	3	4	5		
ELEV <u>3.9</u>			<u>3.8</u>			
WIND <u>1.1R</u>			<u>.9R</u>			
SHOT 6	7	8	9	10		
ELEV						
WIND						
SHOT 11	12	13	14	15		
ELEV			<u>3.8</u>			
WIND			<u>1.1R</u>			
SHOT 16	17	18	19	20		
ELEV						
WIND	<u>M</u>					
TARGET SIZE: <u>8 INCH</u>						NOTES: <u>#16 SUCCEDED SHOT</u>
						<u>#17-20 RUSHED SHOTS</u>
ENDING DATA: <u>3.9</u> <u>1.0R</u>						

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Looking at the data book page above we can deduce and gain a lot of useful information from what was plotted on that page.

For starters we can see that on January 1, 2009 at 1325 hours or 1:25 PM (for you civilians out there), we shot at Rifle's Only Training Center in Texas. The ammunition used was Hornady's 140 gr. 6.5 Creedmoor round. It was 76 degree's with 61 % humidity and the barometric pressure that day was 29.92. The altitude that we were firing at was 100 feet above sea level and the shots we took had 0 degree's of angle distortion. Shots were taken in an 18 MPH half value wind that was blowing from 4 to 10 O'clock on a bright day with the light coming from 7 to 1 O'clock.

Target range was 600 yards shot from the strong side prone position and we had the use of natural support. We engage an 8 inch circle plate with 20 rounds that we called and plotted in our book for reference.

The initial sight setting that we used for our range and environmental conditions was 3.9 Mills of elevation and 1.1 Mills of right wind. Once the rifle was set and I engaged my target for shot 1 I placed a dot in the call box for shot 1 where I last seen my rifle sights when the weapon recoiled. Upon seeing my impact I placed a number 1 on the plot area. I proceed to do the same for shot's 2 and 3. After evaluating these three shots I was able to evaluate that my shots were high and right and I then made a sight adjustment to 3.8 Mills of elevation and .9 Mills of right wind. I am about to shoot shot number 4 with this new data, so I now place that information in the elevation and windage boxes for shot number 4 so I can recall the data and for what shot I made these changes for.

Shots 4 and 10 are now impacting my target pretty close to center and I am fairly happy with the impacts I have so I continue to fire. As you may have noticed shot 6 was a miss

of the plate but if you look at the call that I made on that shot I had obviously made a bad shot and called it that way and the plot was true to what I had called. So with that being said it's easy to eliminate that shot for bad windage or elevation due to my screw up.

On shots 11-13 we see that the impacts are now getting to the far left of the target and my calls are still coming in near center or close to. This can now be an indication that the wind has now picked up and that we need to add more right wind on the rifle. Once again we annotate that information in the windage box for shot 14 and we reengage the target.

On shots 14 and 15 are new wind call helps true the rifle back up to center mass on the target plate. Shot 16 comes and I really screw up and messed up my fundamentals of marksmanship and "bucked" the shot. By doing so I just cause the rifle to dive to 6 O'clock as my call box indicated and I now have a miss on target. Being that I knew what I did wrong and want to make sure it doesn't happen again I write myself a note in the notes section stating that on shot #16 I bucked the shot.

Getting back on track shots 17 - 20 correspond with what my calls were and I can deduct that my data for those shots was good but somewhere in what I was doing I was messing up my fundamentals of marksmanship and maybe need to slow down between shots.

Upon completion of fire I then take the final firing data that I used and place it in the ending data box. You can also put in a corrected ending data that will get you dead center on target. All you do is upon analyzing your data book to determine how much you needed to adjust your sights in those conditions to get you to center mass. By doing this it will allow you a great starting point for when you encounter these conditions in the future. So for this example I determined my end fire data should be 3.9 Mils of elevation and 1.0 of right wind.