

Shooting the Wisconsin Handgun Qualification Course with Hit Factor Scoring

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Hit Factor scoring is an effective method of scoring a drill or course of fire that takes into account both speed and accuracy, requiring shooters to strike a balance between these two critical shooting aspects present in any real-world engagement.

Hit factor scoring provides shooters with a numerical score, rather than a pass / fail, giving them a goal to aim for the next time they shoot and a way to track progress. As it is currently written, shooters can walk away from a qual attempt thinking they fired a “perfect” score while having multiple rounds strike peripheral areas of the target.

The qualification can be run for an official attempt, while using hit factor scoring as well.

For each stage (1-8), one shooter will fire at a time on the shot timer. Each stage time will be recorded individually. With a group of shooters, it would be easier to have everyone shoot stage 1, going down the line quickly from shooter to shooter, then moving to stage 2, etc.

The qualification is broken down into 3 scored sections. Once a section is complete, the target can be scored officially per LESB directions, counting the number of hits in the required scoring area, and ensuring par times were met.

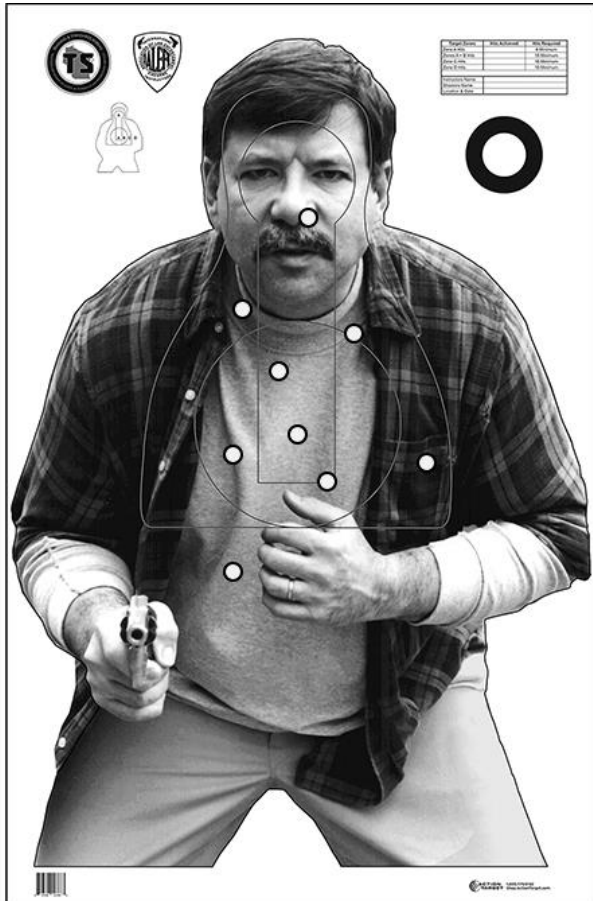
To score hit factor, add the each of the stage times together to get the total section time. Assign points for each round based on the target areas at right.

The LESB designated A&B zones become the hit factor “A zone” and each shot here is worth 5 points. The LESB C zone remains the hit factor C zone and each round scores 3 points. Anything else on the target LESB D zone is the Hit Factor D zone and scores 1 point. For hit factor scoring, rounds are scored even if they are outside the LESB designated scoring zone.

This point system rewards central hits more than peripheral hits at all distances, but takes into account that a hit anywhere on the target is better than a miss.



When the SECTION POINTS are divided by the TOTAL SECTION TIME, you get your SECTION HIT FACTOR. At the end of the qual, times from all three sections are totaled and points from all sections are totaled, with the TOTAL COURSE POINTS divided by TOTAL COURSE TIME for a final COURSE HIT FACTOR. This method provides shooters with a way to measure their performance on each section of the qual, as well as a final overall score



SECTION 1 EXAMPLE (left)

Their stage times are:

Stage 1: 3.20

Stage 2: 3.75

Stage 3: 2.93

For a total SECTION TIME of 9.88 seconds.

Of 9 rounds fired, 8 rounds are in the LESB C zone and all stage times were below the LESB requirements, so the shooter has officially passed this section of the qual in an official attempt.

To score HIT FACTOR points we see:

AB zone (5 points) – 6 rounds worth 30 points

C zone (3 points) – 2 rounds worth 6 points

D zone (1 point) – 1 round worth 1 point

Total section 2 points: **37**

Even though the low round on the target impacting the D zone counts as a miss per LESB scoring, it hit the target in what is arguably not a bad location. It still receives a

point.

To calculate the SECTION 1 HIT FACTOR, we take the total SECTION POINTS (41) and divided by the SECTION TIME 9.88 for a **SECTION 1 HIT FACTOR of 3.74**

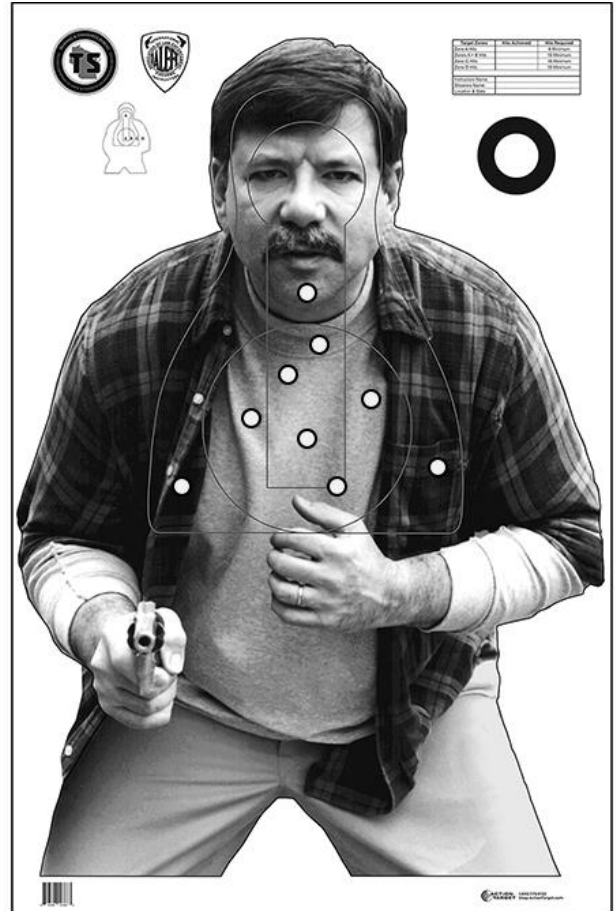
Cover the rounds with target paster, masking tape or mark with a permanent marker and move to SECTION 2.

For a total SECTION TIME of 37.01

Total section 2 points: 41

To calculate the SECTION 2 HIT FACTOR, we take the total SECTION POINTS (41 again) and divided by the SECTION TIME **37.01** for a **SECTION 2 HIT FACTOR of 1.11**

Why is the section 2 hit factor so much lower? Because section two of the qualification requires extensive weapon manipulations, which takes more time for each round fired.



SECTION 3 EXAMPLE (right)

Their stage times are:

Stage 7: 22.45

Stage 8: 17.50

For a total SECTION TIME of 39.95

All rounds were fired within the LESB designated time, and all 12 have landed on the target D zone or better. This is an officially scored pass per LESB requirements.

It is also a “perfect” stage per LESB scoring, though we can clearly see there are rounds far outside the vital areas of the target.

To add up HF points we see:

AB zone (5 points) – 4 rounds worth 20 points

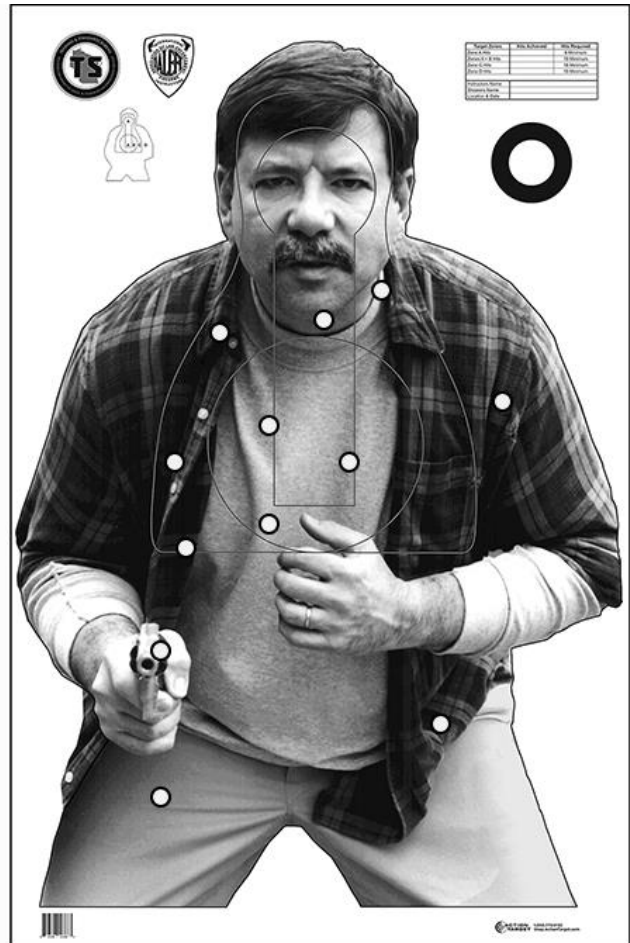
C zone (3 points) – 4 rounds worth 12 points.

D zone (1 point) – 4 rounds worth 4 points.

Total section 3 points: 36

To calculate section 3 hit factor we take 36 points and divide by our total section time of 39.95, and get a **SECTION 3 HIT FACTOR of 0.90**.

This shooter has a lot of room for improvement in both accuracy and speed in this section.



Finally, we will calculate the COURSE HIT FACTOR:

Add points from all three sections: $41+41+36 = 118$ COURSE POINTS (max possible is 150)

Add the three section times: $9.88 + 37.01 + 39.95 = 86.84$ COURSE TIME.

We divide 114 / 86.84 for a COURSE HIT FACTOR OF 1.31

The shooter has passed the state qual following all official LESB scoring requirements. The shooter could also walk away thinking they only “dropped” 1 round – the low hit in SECTION 1 that arguably wasn’t that bad of a shot. However, the hit factor scoring shows the shooter they have room for improvement.

The hit factor scoring sheet for the above scenario is on the next page. The LESB qual is submitted on the standard qualification form.

WI Handgun Qualification Course - Hit Factor Scoring

DIRECTIONS			
Time each shooter individually		Section 1	
Record each stage time individually		Stage 1 Time	3.20
Add stage times to get SECTION time		Stage 2 Time	3.75
Record SECTION points per target below		Stage 3 Time	2.93
Divide SECTION POINTS BY TOTAL SECTION TIME TO GET SECTION HIT FACTOR		Tot SECTION Time	9.88
		SECTION 1 Points (45 max)	37
FOR FINAL HIT FACTOR, ADD ALL SECTION TIMES AND ALL SECTION POINTS. DIVIDE TOTAL COURSE POINTS BY TOTAL COURSE TIME		HF (Points / Time)	3.74
		Section 2	
		Stage 4 Time	10.05
		Stage 5 Time	8.65
		Stage 6 Time	18.31
		Tot SECTION Time	37.01
		SECTION 2 Points (45 max)	41
		HF (Points / Time)	1.11
		Section 3	
		Stage 7 Time	22.45
		Stage 8 Time	17.50
		Tot SECTION Time	39.95
		SECTION 3 Points (60 max)	36
		HF (Points / Time)	0.90
		TOTAL COURSE POINTS*	114
		TOTAL COURSE TIME	86.84
		TOTAL COURSE HF	1.31



*150 POINT MAX

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FAQs

What is the best way for the shooter to improve their score?

They can shoot more accurately, faster, or ideally - both!

In the example above, if the shooter fired the exact same hits (scoring the same number of points) but did it **10 seconds faster**, their total hit factor would increase to a **1.48!**

If the shooter could improve their accuracy, turning all five of their D zone hits into C zones, they would **pick up an additional 10 points** and their new hit factor would be **1.43!**

If the shooter did **BOTH**, they would have scored 128 points with a total course time of 76.84 they would score a **1.61!**

What is a “good” hit factor?

It depends on the stage and the shooter. There are such a wide range of skill levels at nearly every agency, it is important that each shooter use hit factor as a way to challenge themselves to be better than they were before. That should be everyone’s goal regardless of how well they currently shoot.

That said, some friendly competition is a great way to put a little stress on your shooters especially those who are more skilled. You can also keep things lower pressured but recognize top performers by recognizing the top (or top several) in various categories: overall shooter, top female, top rookie, top brass, most improved from last qual, etc.

Because I know some people will ask anyways, I believe the following is possible for the best LE shooters I’ve worked with in our state.

In section 1, a HF of 9.

In section 2, a HF in the high 2s... maybe 3?

In section 3, a HF in the 4s.

A total HF above 4.

These hit factors are realistic estimates of what a highly skilled shooter could achieve. It would not be easy to do however.

What is far more important is that individuals look to improve their scores, and hit factor shows them they can perform better by increasing accuracy, speed or both.

Doesn't hit factor promote speed over accuracy?

Not at all. Both are important and like in real life the optimal balance will depend on the situation. The best way to look at any shooting in my opinion, is to have the goal of shooting as fast as you can while placing rounds in the desired target location. How you achieve that, and how carefully you shoot will depend on the target size, distance, your confidence level and the consequences for missing.

A good way to look at it is a fast C hit on that target is probably better than a slow AB. However, too many C hits no matter how fast will hurt your hit factor, just as they will hurt your ability to neutralize a target in real life. D zone hits should not be seen as effective hits regardless of how fast they are shot, and obviously a miss is not effective either. However, if a shooter shoots 100% A zones, there is a good chance they are not shooting fast enough. My goal is to shoot a minimum of 130 points (just about 85%) with no D zone hits.

As a side note, slowing down to “get your hits” only works when the shooting error is the result of a lack of awareness: when the shooter is going too fast to visually process the information their sights are providing, or they cannot perform the fundamentals or marksmanship without conscious thought, and they need that time to think through their grip and trigger press. Otherwise, misses are caused by breakdown in shooting technique and shooting more slowly will likely not improve accuracy.

Do you make any other modifications to the course?

I recommend running each stage from the holster, except for stage 3 support hand only. I start that stage with the gun at low ready pointed at the bottom of the target, finger off the trigger. The LESB regulations allow agencies to make the qualification more restrictive and I believe this is a good modification.

Stage 6 (phase 2 malfunction) I utilize a larger caliber round (.40 in a 9mm) to create an actual feeding malfunction. This was recommended to me by the LESB Tactical Curriculum Consultant. It produces a more realistic malfunction and it removes the potential “training scar” by having the shooter perform remedial action they already know will not be effective before moving to clear their “phase 2” malfunction.

Stage 7 will shoot from all four positions on the barricade the way the original course was written, instead of alternating between two different positions.

Stage 8 I remove the option to shoot from kneeling or standing, or require officers to assume that position on the clock, starting from the holster.

Can I just average the three hit factors to get my final course hit factor?

No. Because the hit factors are so different between the courses of fire, this will not provide an accurate overall assessment of how you shot the course. For instance, if you drop one second in stage 1, it would dramatically raise your stage hit factor and your average hit factor. Dropping one second in stage 2 may hardly be noticeable. It is better to calculate the hit factor as explained above.

Who does hit factor benefit? Good shooters? Bad shooters? Or both?

It can benefit all levels of shooters. It makes the qual interesting and have some training value for your better shooters. It provides incentives for mid-level shooters to improve, helping them realize their “perfect” scores actually aren’t perfect. For the low-level shooters, even if they are not trying to shoot faster, it incentivizes them to make central hits. “Aim small, miss small” is a very real thing, and all shooters should be encouraged to attempt to hit the center scoring areas regardless of distance.

Every shooter now will also know their personal best, and it provides an incentive for them to improve.

How much longer does it take to run the course with hit factor?

Honestly, it’s not that bad but it will depend on your range, how efficiently you usually run the qual and how many shooters you have. The key is having every shooter ready, the score sheets all organized on a clip board and just going down the row with one person on the timer and one on the score sheet. Get all shooters ready and loaded at the same time, and then just move down the line rapidly with just a couple seconds pause between each shooter.

Does the drive to shoot faster because of HF scoring result in more shooters failing the qual?

I have yet to see a shooter fail because they were pushed too hard by the pressure of HF scoring. Most shooters who fail due to accuracy do not use all their time anyways, and those who are concerned about failing tend not to worry about the hit factor scoring. My advice for those shooters is to simply shoot the qual at their pace, while we passively record the time. That way they still get a hit factor score, and they still can experience the thrill of improving their score when they shoot more accurately next time!

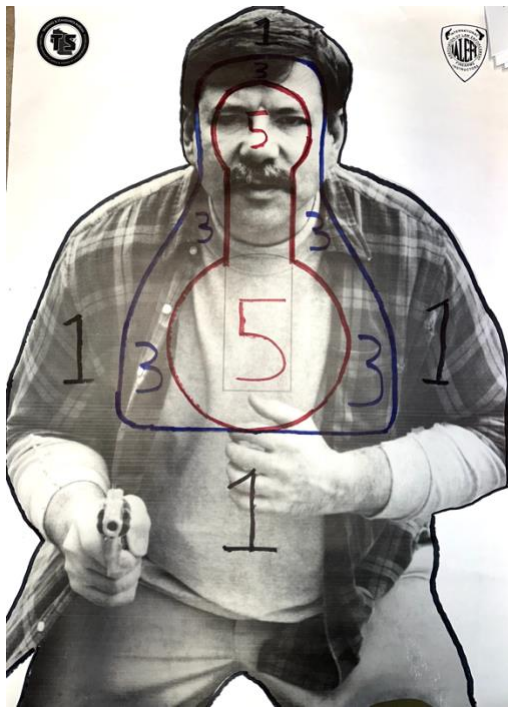
What if a shooter fails the LESB qual while running it with hit factor scoring?

Re-shoot the section as you normally would. They still get their hit factor score and the LESB form gets checked as a re-shoot.

Can hit factor be run with all shooters on a line firing at the same time? We don't have time to run it this way?

Unfortunately not, each shooter must receive their own individual time on every stage. However, you can still incentivize accuracy while running an entire line at the same time using a shot timer or a turning target system.

Simply keep the par times the same, and then use the same points system. AB hits are worth 5, C hits are worth 3, and D hits are worth one. **This is called “graduated scoring.”** While it doesn't factor in the shooter's speed, it does provide them with a better indication of their accuracy. The top score possible is 150 points and it is not easy to do, however top level LE shooters can shoot a 150 within the generous LESB par times.



If you cannot run hit factor scoring because of time limitations, at the minimum use graduated scoring. AB hits are worth 5, C hits are worth 3 and D hits are worth 1 – regardless of what distance they were fired. The shooter will get a total point score out of 150. Any rounds not fired within the par time count as zero. If a round is fired over par time (using a shot timer and not a turning target system), deduct 5 points for that shot.

Can other drills and standards be run with hit factor or just the qual?

Yes! Lots of drills can be run using hit factor, though some work better than others. I like running small “stages” with 4-6 targets that require shooters to move, shoot targets of different distances and difficulty levels quickly, navigate around obstacles, all while on the clock. I like to give the shooter one run, then have them self-analyze their performance and identify one or two things they could improve on their second run. Shoot faster, be more careful while engaging a certain target, reload in a different place, etc.

This gets shooters thinking about how they can improve, rather than just running through a course of fire. If you want suggestions, email me at info@criticalimpactgroup.com