

FOLDAR

RETURN TO ZERO TESTING (AVERAGE POINT OF IMPACT SHIFTING)

DATE:

DEC. 11, 2018

LOCATION:

TEEX LAW'S 300 M RANGE-
COLLEGE STATION, TX

PRODUCT:

FOLD AR-16" .223 WYLDE
(GEN2)

PRODUCT PHOTO:



AVG. POI SHIFT

X: -0.025" AND Y: -0.050"

AMMUNITION

223 60gr Nosler Match

DISTANCE

50 Yards

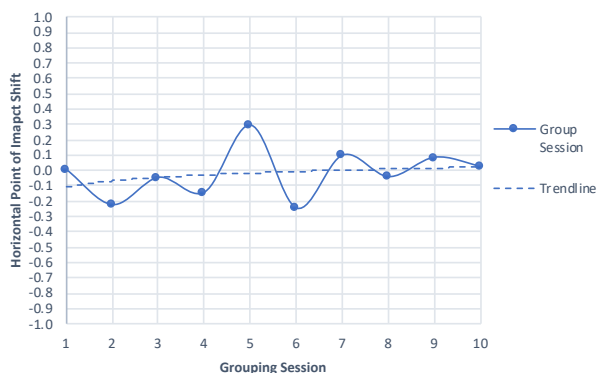
HOLE SIZE

.224

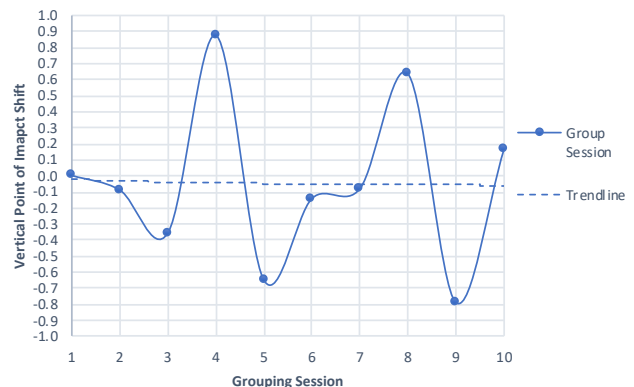
PLOTTED TEST ROUNDS

40-10 GROUPS OF 4

Horizontal POI Shifting Results



Vertical POI Shifting Results



Primary and Secondary Creep of Barrel Connection Interface in Horizontal Plane - Trend-line Analysis

Creep is logarithmic by mechanical necessity in this application.

Trend line is not possible to be linear given that a point exists when creep can no longer continue.

Test data shows primary creep of $\sim .08"$ (Groups 1-5) which will max out at $< .15"$ (overall creep) in the secondary.

Because the average POI is shifting from left to right (-0.1 to 0.03), and because the lever and hook latch are on the right side of the rifle, creep is moving in the direction of barrel pull (left to right), therefore it is evident that the high tensile alloy steel hook and lever are not creeping, but rather the aluminum in the upper receiver and/or forearm are very slightly (during primary creep phase) then stabilizing after about 5 grouping sessions (secondary creep phase).

More test data would very likely continue this logarithmic trend, flattening out before $\sim .15"$ overall creep.

Primary and Secondary Creep of Barrel Connection Interface in Vertical Plane - Trend-line Analysis

Because the barrel interface is clamped in the horizontal plane, no vertical creep should be detected.

As such, the trend-line should remain relatively flat/linear.

Test data shows an immeasurable primary and secondary creep, with average POI stable in the vertical plane.

As can easily be seen by comparison of the two graphs, horizontal grouping stability greatly exceeds vertical grouping stability. If the opposite were true, we would look to the pivoting interface components for explanation. However, reasons of vertical grouping instability can be attributed to influences to the vertical plane of the firearm. Such influencing factors are commonly known to include: over-gassing (results from oversized gas port hole or attachment of suppressor), harmonic instability with combination of suppressor attached to a light profile barrel (as is the case for this study), and headspace tuning (which directly effects vertical plane barrel harmonics by inconsistently pressuring the bore - tighter headspacing produces more pressure consistency, while looser headspacing produces greater cyclic reliability). Regardless of how unstable grouping might be in the vertical plane, it is important to note that there is no shifting trend and the average point of impact is almost perfectly stable. A medium or heavier barrel profile would also drastically increase vertical plane stability.

More test data would very likely continue this flat linear trend, flattening out before $\sim .15"$ overall creep.

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Group	Ammunition	Distance	Hole Size	Holes	Offset Horizontal	Offset Vertical	Mean Radius (MOA @ 100yd)
1	223 60gr Nosler Match	50yd	0.224	4	-0.622	-1.400	0.871
Delta Offset Shift					0.000	0.000	
2	223 60gr Nosler Match	50yd	0.224	4	-0.395	-1.309	0.900
Delta Offset Shift					-0.227	-0.091	
3	223 60gr Nosler Match	50yd	0.224	4	-0.346	-0.951	1.217
Delta Offset Shift					-0.049	-0.358	
4	223 60gr Nosler Match	50yd	0.224	5	-0.202	-1.824	0.848
Delta Offset Shift					-0.144	0.873	
5	223 60gr Nosler Match	50yd	0.224	4	-0.493	-1.171	0.690
Delta Offset Shift					0.291	-0.653	
6	223 60gr Nosler Match	50yd	0.224	4	-0.243	-1.028	1.140
Delta Offset Shift					-0.250	-0.143	
7	223 60gr Nosler Match	50yd	0.224	4	-0.339	-0.947	1.098
Delta Offset Shift					0.096	-0.081	
8	223 60gr Nosler Match	50yd	0.224	4	-0.294	-1.579	1.761
Delta Offset Shift					-0.045	0.632	
9	223 60gr Nosler Match	50yd	0.224	4	-0.376	-0.786	0.902
Delta Offset Shift					0.082	-0.793	
10	223 60gr Nosler Match	50yd	0.224	4	-0.398	-0.952	1.289
Delta Offset Shift					0.022	0.166	
Averages:					-0.371	-1.195	1.072
Average Delta Offset Shift:					-0.025	-0.050	0.306
Std Dev Delta Offset Shift:					0.171	0.546	

Testing Notes:

- Between each shot grouping the weapon was unlatched/fold/latched 3 times.
- FoldAR 16" was evaluated for safety. FoldAR 16" was safely fired without hook and lever engaged.

To inquire about the FOLDAR 16" contact FoldAR:
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