M/700 Trigger Pull Study

S. Franz 9/14/2007

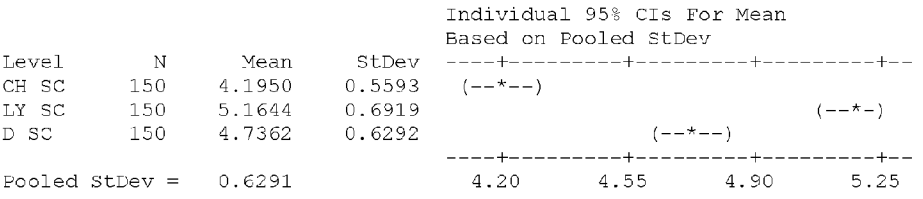
DOES MEASUREMENT METHOD YIELD DIFFERENT TRIGGER PULL RESULTS?

One-way Analysis of Variance
SAFETY CYCLED

Analysis of Variance

Source	DF	SS	MS	F	P
Factor	2	70.797	35.399	89.44	0.000
Error	447	176.911	0.396		
Total	449	247.708			

Level	N	Mean	StDev
CH SC	150	4.1950	0.5593
LY SC	150	5.1644	0.6919
D SC	150	4.7362	0.6292
Pooled StDev =		0.6291	



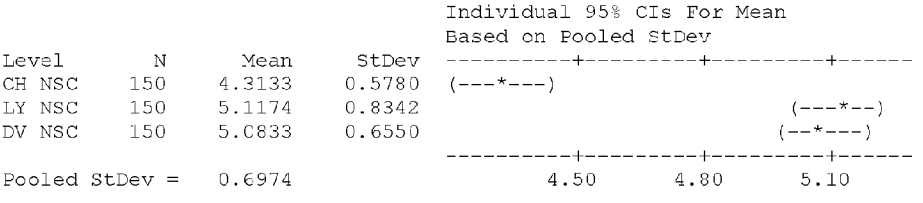
- **Different measurement systems yield statistically different results.**
- **Chatillon spring scale yields lower trigger pulls on average.**
  - **.97 lbs. compared to Lyman**
  - **.54 lbs compared to Dvorak**

One-way Analysis of Variance
SAFETY NOT CYCLED

Analysis of Variance

Source	DF	SS	MS	F	P
Factor	2	62.023	31.011	63.77	0.000
Error	447	217.383	0.486		
Total	449	279.406			

Level	N	Mean	StDev
CH NSC	150	4.3133	0.5780
LY NSC	150	5.1174	0.8342
DV NSC	150	5.0833	0.6550
Pooled StDev =		0.6974	



- **Again, different measurement systems yield statistically different results.**
- **Chatillon spring scale yields lower trigger pulls on average.**
  - **.80 lbs. compared to Lyman**
  - **.77 lbs compared to Dvorak**

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DOES CYCLING THE SAFETY AFFECT TRIGGER PULL RESULTS?

One-way Analysis of Variance
CHATILLON – SAFETY CYCLED Vs NOT CYCLED

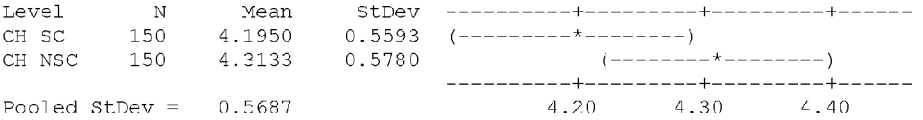
Analysis of Variance

Source	DF	SS	MS	F	P
Factor	1	1.050	1.050	3.25	0.073
Error	298	96.382	0.323		
Total	299	97.432			

Level	N	Mean	StDev
CH SC	150	4.1950	0.5593
CH NSC	150	4.3133	0.5780

Pooled StDev = 0.5687

Individual 95% CIs For Mean Based on Pooled StDev



- **No statistical difference at the 95% Confidence Level with the Chatillon**

One-way Analysis of Variance
LYMAN - SAFETY CYCLED Vs NOT CYCLED

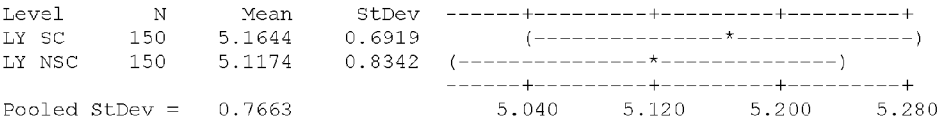
Analysis of Variance

Source	DF	SS	MS	F	P
Factor	1	0.166	0.166	0.28	0.596
Error	298	175.010	0.587		
Total	299	175.176			

Level	N	Mean	StDev
LY SC	150	5.1644	0.6919
LY NSC	150	5.1174	0.8342

Pooled StDev = 0.7663

Individual 95% CIs For Mean Based on Pooled StDev



- **No statistical difference at the 95% Confidence Level with the Lyman gage**

One-way Analysis of Variance
Dvorak - SAFETY CYCLED Vs NOT CYCLED

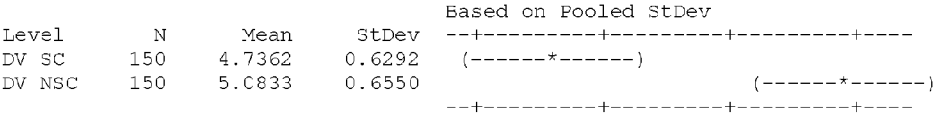
Analysis of Variance

Source	DF	SS	MS	F	P
Factor	1	9.037	9.037	21.91	0.000
Error	298	122.903	0.412		
Total	299	131.940			

Level	N	Mean	StDev
DV SC	150	4.7362	0.6292
DV NSC	150	5.0833	0.6550

Pooled StDev = 0.6422

Individual 95% CIs For Mean Based on Pooled StDev



- **There is a statistical difference at the 95% Confidence Level with the Dvorak gage.**
- **Not cycling the Safety increases Trigger Pull by .35 lbs. with the Dvorak gage.**

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IS THERE A DIFFERENCE IN TRIGGER PULL BETWEEN TRIAL 1,2, & 3?

None of the measurement methods (Safety Cycled or Not) show any difference in Trigger Pull between trial #1, 2, & 3 except the Lyman Gage with No Safety Cycled.

One-way Analysis of Variance
LYMAN – NO SAFETY CYCLED

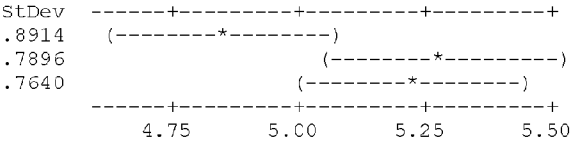
Analysis of Variance for LY NSC

Source	DF	SS	MS	F	P
TP Trial	2	5.605	2.803	4.20	0.017
Error	147	98.084	0.667		
Total	149	103.689			

Level	N	Mean	StDev
1	50	4.8466	0.8914
2	50	5.2853	0.7896
3	50	5.2202	0.7640

Pooled StDev = 0.8168

Individual 95% CIs For Mean Based on Pooled StDev



- **With the Lyman – NSC, the first measurement is lower than trial 2 or 3 by about .4 lbs.**

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