

The following is some measurements and observations comparing a newly acquired (11/2022) "Open Box" Bach LR180S72 from "The Mighty Quinn", for a dramatic discount off new price (>\$1000). The question of course was, why the discount? This horn is Conn-Selmer "B Stock", a horn that has been used as a demo, or returned, or set-aside during plant Quality Control checks. The seller did not provide a basis for the B-Stock classification, but the tech, an accomplished player, put the horn through its paces over the phone and after I did the same, I would agree that it might be slightly brighter than expected, but (and this will become curious) has excellent intonation, and a good full tone. It plays freely and responds very easily. All-in-all, a great player. In comparing it to a standard-construction, fairly new (2009/10) 72, which had way less than 50 hours on it, I found it mechanically to be comparable to regular stock, except for a leadpipe anomaly unlike anything I have seen before. The pipe has debris attached to the wall that looks like silver powder. Given the intrusion into the taper, the intonation is quite a surprise, as this should corrupt the leadpipe functionally. As this horn is essentially new, the leadpipe debris is from manufacturing, and appears bonded to the metal, not something that just needs to be cleaned out, having come from use/misuse. What exactly it is, and how it came to be there was a mystery. Several theories were offered.

Item	2009/10 180SMLV72G (stock)	2021/2 LR180S72 (B-stock)
Bell		
Crook thin spot	1/2" minor, ctr back side	1" minor, ctr back side
2" into flare	1.787	1.789
3" into flare	1.365	1.366
4" into flare	1.99	1.21
Nail ring	C, slightly brighter/tinny	Bb, tube stockish ring
crook oval A	0.538	0.527
crook oval B	0.538	0.537
crook oval	None (balled out at plant)	0.532 +/-0.005
Leadpipe		
Entry	0.345	0.344
Exit	0.453	0.459
Bore camera		
Leadpipe	clean, mostly plated	Strange build-up on walls
Receiver	clean ledge	solder/buildup in tube
Bell crook	plated, smooth	It plated, seam lump
Port alignment		
tuning to 3rd	aligned	aligned
3rd slide up	loose guide, rt bias	slight left bias
3rd slide dn	loose guide, rt bias	slight left bias
1st slide up	left bias slight	aligned
1st slide dn	aligned	right bias slight
2nd slide	aligned	aligned
Valve casing bottom		
1 max	0.665	0.665
1 min	0.664	0.664
1 var	0.001	0.001
2 max	0.664	0.665
2 min	0.66	0.665
2 var	0.004	0
3 max	0.665	0.666

3 min	0.663	0.665
3 var	0.002	0.001
Piston tops		
1 max	0.663	0.664
1 min	0.663	0.664
1 var	0	0
2 max	0.663	0.664
2 min	0.663	0.664
2 var	0	0
3 max	0.663	0.664
3 min	0.663	0.664
3 var	0	0
Piston bottoms		
1 max	0.663	0.664
1 min	0.663	0.664
1 var	0	0
2 max	0.663	0.664
2 min	0.663	0.664
2 var	0	0
3 max	0.663	0.664
3 min	0.663	0.664
3 var	0	0
Piston gap (average diameters)		
1st	0.00075	0.00035
2nd	0.001	0.0005
3rd	0.0005	0.00075

silvery powdery debris stuck to leadpipe wall near receiver



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Far more powder build-up mid-run in leadpipe, with ridges of solid build-up on wall



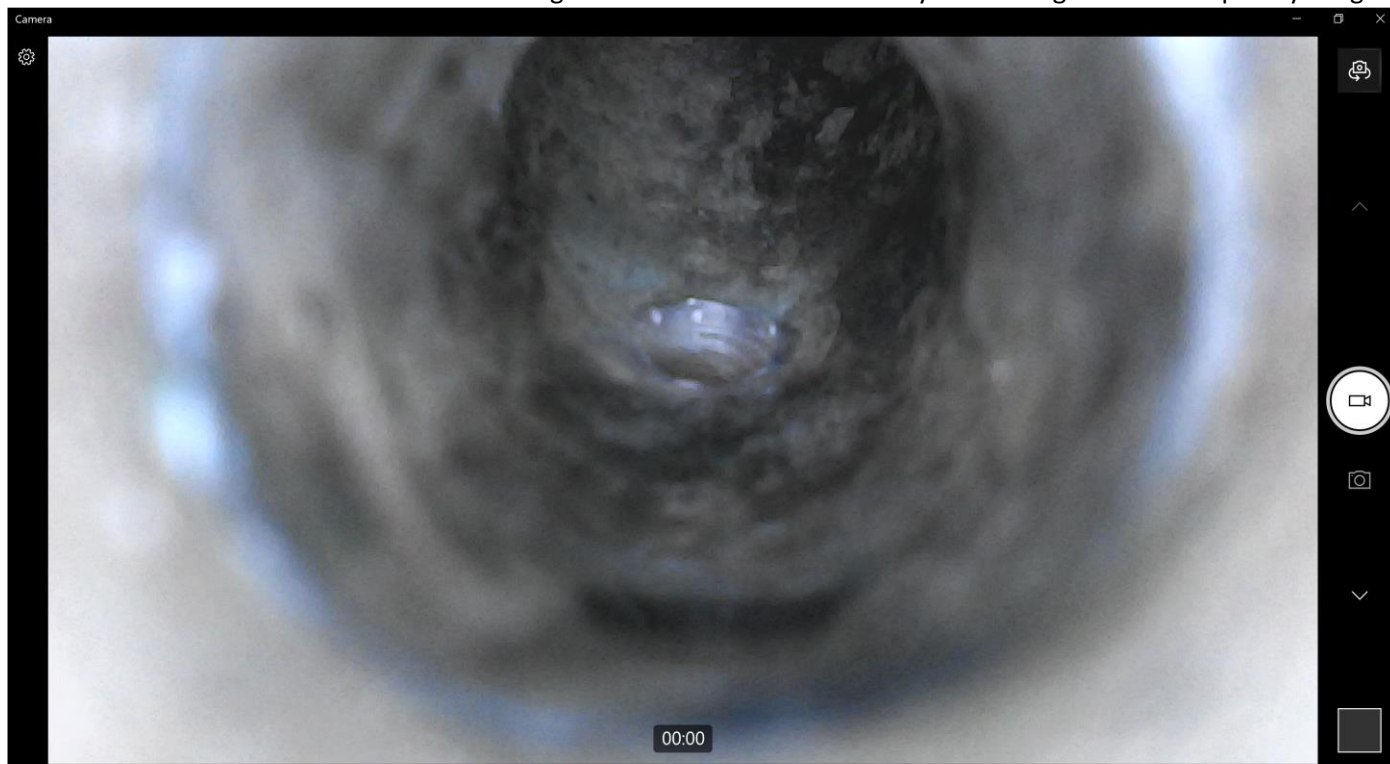
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Then there was the real fear: debris coming loose as that silver went away & reaching the valves. Spit key caught some.



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On the advice of Robb Stewart, I fashioned a means to scrape the wall of the leadpipe softly while watching through the borescope camera inserted from the other end. Using a 1/8" X 3/32" long oak probe, I approached the first spot. When splinters came off my probe accompanied by a crunching sound, I was worried that this would require more aggressive means such as the steel tools Robb uses for corrosion accumulation. However, the debris instantly lifted after that as I rotated the oak, and in the matter of a few minutes, everything in the leadpipe had been loosened and rinsed out. Problem solved.

One other interesting detail of this particular horn is that when you strike the rim with a finger nail, it rings at Bb. All of the other Bachs that I have do not. The Mt. Vernon 43 is an A, the Early Elkhart is a dull B, and even my Holton Stratodyne, which is a similarly very in-tune and flexible horn, rings at C#. One wonders if the unrestrained length of the bell resonating at an overtone of the fundamental might be of benefit.

So now I have the best responding, best in tune, and at most tonally flexible Bach I have ever played, for \$1000 off. At the end of the day, it took a little effort to investigate, and maybe the crook isn't perfectly round (+/- .005" is zip), and the seam was not flattened quite perfectly in the lower bell stem - but its smooth where it counts after that. And, whoever reamed the receiver (maybe the source of the dust?) left a slight nick in the inner surface. BUT All in all, a pretty good deal.