

Flute Headjoint Substitution Chart

by Joseph Wilds Sallenger

- **Headjoint Diameters (inches)**
- **Head/Body Material & Wall Thicknesses (inches)**
- **Sounding Lengths (mm)**

In pursuit of the “perfect” headjoint/flute combination, have you ever wished all headjoints fit all flutes? Of course you have!

Just to make such substitution easier, the chart lists measurements from numerous flutes showing outer headjoint diameter (O.D.) in order of increasing size. Headjoints with the same outside diameter are interchangeable; and with appropriate teflon or paper shims, a headjoint can be made to fit any flute below it in the list.

Actual headjoint outside diameter measurements are approximate (tenons tend to be out-of-round and quite flexible); listed in order of increasing headjoint diameter as determined by substitution of headjoints with flute bodies.

Tube column indicates Al=aluminum; BS=brass; SG=solid gold; SS=solid silver, SP=silver plate, Wd=wood.

Wall thicknesses were measured at headjoint tenon and body tenon and averaged over several measurements using a modified micrometer (see image) – I ground a large steel ball bearing down to .300" to fit inside tubing. Accuracy is somewhat questionable due to wear, tenon burnishing, and GoferdJoe’s (Joe Sallenger) somewhat suspect ingenuity.



Sounding length measurements were made with headjoints fully inserted, from center of embouchure to end of foot (c-foot unless otherwise indicated); these measurements are in millimeters since it is convenient to think of 600mm being approximately A-440 for normal cylindrical bore flutes.

Alto Flutes

H.J. Tenon O.D.	Flute Maker Model or Serial Number	Tube	Wall Thickness (inches)		Sounding Length (mm)
			Head	Body	
0.972"	Emerson A3CT Alto 76582	SS	.017	.025	787
1.000"	Opperman Alto 121	SP	.026	.028	793
1.025"	Yamaha A421 Alto 1145 (brass)	BS	.019	.019	782

NA indicates measurement not available; for example, wall thickness not measured in wood, aluminum, or unibody (footless) flutes.

Soprano Flutes

H.J. Tenon O.D.	Flute Maker Model or Serial Number	Tube	Wall Thickness (inches)		Sounding Length (mm)
			Head	Body	
.768"	Rudall Rose Carte 1867 sys.	SS	.0075	.011	571
.769"	Armstrong Heritage H280	SS	.012	.0135	600
.771"	Haynes handmade 14k 23950	SG	.0105	.009	635 b
.774"	August Bonneville 2155	SP	.012	.012	600
.774"	SML Alliance (no S#)	SP	.015	.015	596
.775"	Philip Hammig 19154	SS	.014	.015	595
.775"	Stramalux SML 907	SP	.015	.013	594
.775"	Armstrong 80 V1392	SS	.014	.018	602
.775"	Almeida 160 w Cooper head	SS	.0125	.013	635 b
.775"	Powell 1775	SS	.0125	.012	635 b
.775"	Powell 2577	SS	.014	.013	636 b
.776"	Rampone 1462	SP	.012	.0135	643 b
.776"	Marigaux 1359	SS	.013	.013	599
.776"	Lebret 4242	SP	.014	.013	602
.776"	Rive-Gauti 1756	SS	.012	.0115	600
.776"	Miyazawa Standard 1618	SS	.015	.015	597
.777"	Yamaha 821 1433	SS	.014	.016	596
.777"	Berteling 30	Wd	NA	NA	588
.777"	Prima Sankyo Artist 21040	SS	.015	.015	633 b
.778"	Muramatsu 29529	SS	.015	.014	595
.778"	Muramatsu 27126	SS	.0145	.015	594
.778"	Yamaha 521 1149	SS	.014	.015	597
.778"	Yamaha 892H Julius Baker 3646	SS	.0145	.015	633 b
.779"	Conn 1906 10210	SP	.011	NA	587
.779"	Le Maire 7903	SP	.015	.0175	601
.781"	Artley Artist 58629	SS	.015	.016	
.782"	Armstrong Heritage H2230	SS	.016	.017	637 b
.782"	Artley Artist 386663	SS	.0155	.0145	600
.782"	Artley Super Artist 109184	SS	.015	.016	598
.782"	Haynes 7458	SS	.0145	.016	601
.783"	Bettoney 1532	SS	.010	.014	597
.783"	Artley Wilkins 98838	SS	.0135	.0155	598
.784"	Hans Reiner 858	SP	.016	.015	595
.784"	Gemeinhardt 2SP F57730	SP	.016	.0165	601
.784"	Armstrong 90 33258	SS	.017	.0195	601
.785"	Artley Super Artist 6880	SS	.016	.018	599
.786"	Gemeinhardt M2 A20820	SP	.0165	.014	600
.786"	Uebel 116-69-1481 (aluminum)	Al	.013	NA	597
.788"	Hammerschmidt Klingson	SP	.014	.017	598
.789"	Grassi Milano 5237	SP	.0185	.017	598
.790"	C. Krusp	SP	.016	.018	600
.790"	Bettoney M33	SS	.018	.018	593
.791"	Prof. Romeo Orsi	SP	.020	.020	605
.791"	Christensen & Co.	SP	.020	.020	602