

Aural and Visual Identification of Common Trumpet Repairs

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Terms:

- Ports: Holes in the piston valves
- Valve Alignment: Ports must line up with internal tubing
 - Material in the top cap controls down-stroke (when valve is pressed)
 - Material on valve stem controls up-stroke (when valve is not pressed)



Ports overshooting the tubing on down-stroke = material in top cap is too thin

http://redwingmusicrepair.org/portfolios/JHuth/pdfs/BIR_Brass_Manual_valve_porting.pdf



Ports aligned on up-stroke (approximately). Look for the half circle in the upper slide tube.

- Leakage or “compression”: The degree to which air is escaping where it shouldn’t
 - Poorly made or very worn valves & casings
 - Solder points
 - Water key seals
- Red Rot (Dezincification): The loss of zinc as brass corrodes, leaving only copper behind
 - Can be minor, only affecting cosmetic appearance
 - Can be major, weakening the brass and even causing (extra) holes in the instrument
 - Cannot be reversed, only solution is part replacement
 - Can usually be prevented with regular cleanings



Red rot on a lacquered leadpipe www.mencheymusic.com/case-yearly-brass-tune-up

Preventative Maintenance:

- Valve lubrication
- Slide lubrication
 - Slides that don’t move on the fly
 - Slides that do move on the fly
- Other misc. lubrication
 - Threads
 - Noisy springs & valve guides
- Wipe down the instrument with a soft cloth (microfiber is ideal)
- Swabs- they’re not just for woodwinds!
- At-home cleanings
- Visit a trued technician for a professional cleaning once a year (ultrasonics recommended)

Check Yourself Before You Wreck Yourself (or blame the instrument):

- 3rd slide dump slide- does it move? Did you know it exists?
- 3rd slide stop
- Proper valve assembly
- Are the valves in the proper casings?
- Are the valves facing the correct direction?
- How are you pressing the valves?
- Posture
- Gappers (for 1st/3rd slide saddles/rings)
- Leather valve guard

Emergency Repairs:

- Stuck Mouthpieces
 - Remove with “Bobcat”
 - Remove with “Claw”
- Mouthpiece shank dents
- Replacing a water key seal
- Valve/Casing Repair
 - Removing a stuck valve with caution
 - Bent slide causing a warped casing
 - Casing mandrels
 - Valve sleeves
 - Bent valve stems
- Stuck Slides
 - Push-to-pull
 - Tap & heat
 - Wicking material + something REALLY stable
 - Heat ‘n Set thermoplastic
- Springs
 - Water key springs (can use rubber bands temporarily)
 - Piston springs
- Broken solders
 - Zip ties are our friend
 - JB Weld and glues are our enemy
- Missing pearls
 - Epoxy & Pearl Powder

Things a band director should have:

- Mouthpiece puller
- Mouthpiece truing tool
- Rawhide mallet (canvas or plastic mallet also OK)
- Set of small, flathead screwdrivers
- Smooth-jaw pliers, such as Knipex Pliers Wrench
- Spare felts (synthetic if possible)
- Spare water key seals (synthetic if possible)
- Spare springs (valve and water key)
- Mouthpiece spray
- Ground Casing Mandrels
- Ground Valve Sleeves
- Replacement parts assortment (Finger buttons, caps, screws, water key parts)
- Wicking material
- Heat 'n Set

Repair Tool/Supply Sources for band directors:

- MusicMedic: musicmedic.com
- J.L. Smith: jlsmithco.com
- Ferree's Tools: ferreestoolsinc.com
- Votaw Tool Company: votawtool.com

BRAND	COR/ TRPT.	ALT/HRN MELLO.	VALVE TROMB	BARI	EUPH.	E♭ BASS	B♭ BASS	JUMBO BASS
Pan Am, Cont, Conn	.682	.714	.714	.828		.888	1.048	1.223
16A	.665							
201 Short Action					.888			
Japanese	.664							
Bach, Mercedes 1	.664	.741		.840 march				
Benge	.658							
Besson—1st line	.685			.776	.923	1.365	1.360	1.365
Student line	.684	.684		.775	.864	.939	.978	
Student line 609 USA	.664							
4 Valve Baritone				.976				
Blessing	.645	.724	.842				.920	
Boosey & Hawkes, Regent	.645				.864		.978	
Bundy	.650		.665		.772		1.062	
					.840		.978 tuba	
Buescher-new	.650						1.062	
-old	.682							
Couesnon	.668							
Czechoslovakia	.674							
Deg, Dynasty II, 2 Valve					.836			

East German	.686						.916 tuba	
Getzen	.650		.650	.791			.924	
Holton-new, made in USA incl								
Colleg T602	.660							
Old Holton	.650	.668		.802		.922	.922	1.141
Old Collegiate	.668			.791				
New Colleg-Yamaha T602R	.664							
Huttl	.672							
Imperial Creations, Pocket	.644							
Jupiter	.649	.728	.728	.807	.906		1.003	
King	.660	.660	.737	.835			.976	
Marching Baritone				.738				
Cleveland	.661							.936
Leblanc	.660	.660						
Martin, Indiana	.660	.715	.812	.812			1.015	
Meinl Weston							.916 tuba	
Mercedes II, Signet	.650		.665	.772			1.062	
Musica Austria	.673							
Olds	.665	.665	.738	.839			.976	
Orsi	.645							
Reynolds by Olds	.664	.664	.738	.839			.975	
Reynolds by Reynolds	.660			.832			.976	

Roth, Sears, RMC, Reynolds by Blessing, Wards	.645			.837				
Schenkelaars	.657			.893			.893 tuba	
Schilke	.645							
Selmer, French	.661							
Shanghai	.660							
Windsor	.651							
Yamaha	.664	.680		9.25		.947	1.039	
YB 102							.947 tuba	
York	.631							