



My Personal Thoughts About Trumpet Bore Size

I have always played a medium-large bore trumpet, except for my years in the Navy when I played a Conn Constellation. I always found it interesting that many people thought that it was a large bore horn, because of the fact that it played so freely. Actually, it was a medium bore instrument with a bore size of .438. It played so freely because of the large bends it had. It was a very popular horn with many jazz musicians including Maynard Ferguson, Cat Anderson, Lee Morgan, Freddy Hubbard and others. The flexibility was great and it was easy to play in the upper register.

Bore size, as measured in the valve section is only one part of the total equation of how a trumpet reacts to one's personal use of air and their embouchure set up. Here is a list of some other factors that I believe contribute to the way any horn plays for any individual:

- **Lead pipe** – this makes a huge difference in the way a horn plays and feels. A smaller lead pipe can put more resistance closer to the player, and a more open lead pipe will make that resistance feel further into the horn.
- **Receiver** – The weight of this can make a difference and of course, how far the mouthpiece shank goes into the receiver can affect the way the horn plays. I know some people are very sensitive to how large the gap is between the end of the mouthpiece shank and the beginning of the lead pipe, but this hasn't been something that I have worried about too much.
- **Tuning Slide** – the bends in the tuning slide can really affect the feel of the instrument. A slide with sharp bends at the top and bottom, provides more resistance and can even make it feel like the horn is "backing up" for some players. (Myself included.) A partially rounded slide can make the horn feel a bit more open, and a fully rounded slide can take all resistance at that point in the horn completely away. I have always liked a bit of roundness at this point and am now playing a fully rounded tuning slide. I have decided that I now like to feel the resistance farther out in the bell section these days. (See next section....)
- **Bell Taper and Size** – This is a huge factor in the feel of a horn. For many years, I had a bit more resistance in the lead pipe and tuning slide and then had a very large bell flair so that resistance felt closer to me and the bell let the air "zing" through. Now that I am a bit older and have had some medical and dental challenges, I like a bit more resistance out in the bell area, so I have a medium-large bell flair. The circumference of the bell itself can also make a difference. I have moved from a 4 7/8 inch bell to a 5 inch bell. I think I am getting a bit more sound now.
- **Weight and type of the materials used in the lead pipe, valve section and bell** - I, for one, do not like heavy horns. The sound is just too dark for me and they feel like it takes more work to play them. For many years now I have favored a light weight gold brass bell. I like the sound of the gold brass and the lighter weight bell seems to respond faster for me. The bell vibrates with less work than a standard or heavy weight bell. The rest of my horn is basically standard weight, although some of the bracing is lighter weight as well. I feel that this gives me a nice core to my sound, while helping with endurance and flexibility.

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- **Where braces are placed and weight of the braces** - Even the slightest movement of the braces can change nodal points on the horn to make intonation, ease of playing, flexibility, and tone production work differently. Also, the braces (or lack of) between the lead pipe and lower tube that goes into the third valve casing, and on the tuning slide, can make notes feel more "locked in" or feel as if there is more flexibility in placement of notes. For me, the brace between the lead pipe and lower tube makes note slotting too rigid. I like to have just one brace in the main tuning slide. Some people like no brace at all in those places. The horn actually vibrates more when there is no brace in those areas.
- **Size and shape of all the other bends in tubing, including the main bend in the bell** - All of these can factor into the amount of resistance and where that resistance is felt. I seem to like a horn with less bending of the slides going into and out of the valve section.
- **Mouthpiece size and backbore** - I leave this for last, mainly because it is SO variable. In fact, some people will even change a mouthpiece to make a new horn play better. As you all know, there is even more variation in mouthpieces than there is in horns. I play a basically shallow but medium wide mouthpiece and it has worked for me with any horns that I have played. Now that I am playing Warburton equipment, I have found for the first time, that I can change the backbore in the mouthpiece to give me a different feeling in any horn, while keeping the cup size the same.

Of course, one's own embouchure, ability to use the air correctly, placement of tongue, and other "human" factors will have influence on the way any instrument plays, but all that might be best left for another time.

I have had many discussions with other players as to preference of bore size. I know that there are some players who really prefer a larger bore instrument. Many of these players are larger in stature themselves. I do know that many of the great big band lead trumpet players throughout history have played medium-large equipment. This is such a personal choice that it is best left to any individual. My only caveat to that would be that over the years in my teaching, I have seen some players who have believed the "macho" large bore thought, and really shouldn't have been playing large equipment, as their endurance, flexibility, and even sound suffered because they couldn't really control the horn that they were playing. For these players, my suggestion of trying medium-large equipment, helped them immensely.

I guess I would end this treatise by simply saying that whatever bore size works best for you, is what you should be playing. If you aren't sure, of course the best way to figure it out is with a good teacher, or at least another experienced player who can help you decide. Don't just change because you think that the equipment will do the work for you. The main answer is and has always been a sufficient amount of practice, no matter what equipment you are playing.

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