

Santa Fe Steam Whistles

Material Contributed by Ron Chamberlain

Updated 10-10-11

The earliest known documented (shop drawing 14-127) common standard whistle type the Santa Fe used was a brass three tone chime (manufacture unknown) which was employed on all classes beginning in the late 1800's and through the first decade of the twentieth century. The whistle was similar in size and sound to the then popular CROSBY brass three chime whistle. Surviving examples can be found on 0-4-0 No. 5, "Little Buttercup," and 2-8-0 No.1, the "Cyrus K. Holliday" exhibition engines.

The Santa Fe in 1910 began to phase out the "old" brass standard with the introduction of two iron five chime types from steam locomotive appliance supplier LFM or Locomotive Finished Material Co. of Atchison, KS. They were the type LM-191 five-chime for passenger applications and the LM-192 five-chime for switcher and freight applications (shop dwg. 11-539). The new styles were to be applied to all new locomotives and those requiring retrofits due to wear or damage beyond repair. Notable LM-192 survivors are with the 3751(original whistle), and 3759.

According to Santa Fe locomotive service folio 94a (see below), the LM-191 five-chime and new valve became the common standard for all classes in the early twenties. The position of the whistle in relationship to the steam or auxiliary dome is also mentioned. Not mentioned in folio 94a, however, is the right hand (engineers' side) location, a standard for all Santa Fe whistle applications whether it on the steam dome or near the stack. Many survive on display engines including the 940, 1050 and 1880.

The LM-191 remained the stay until the summer of 1931 (folio 94a) when a new common standard, the six chime LM-540, was adopted. Like those standards before, the LM-540 was to be supplied by LFM and applied to all new classes, and retrofits. This included all locomotives built after 1931 with the exception of the MADAM QUEEN which may have been retrofitted with the first LM-540. Interestingly enough the LM-540 was applied to most if not all of the 4-6-2 3400 class rebuilds as well. The 3415, 3416, and 3423 are surviving examples. A few Prairie types also received six chime retrofits, notably the 1010.

According to Santa Fe steam locomotive engineer, author, and photographer James Burke, the oldest style whistles had been purged from the ranks with few exceptions going into the twilight years of steam.

Most Santa Fe steam whistles were built by manufacturer/supplier LFM and can be identified by the following features but not limited to. Railroad initials, manufacturer initials and pattern number embossed(cast) in the whistle top. For example, Santa Fe's six chime: ATSF LM540. However, whistles built "in house" or Santa Fe shops can be identified by embossed railroad initials and pattern number cast into the whistle top. For example, the Santa Fe shop built six-chime whistle: AT&SF LB5501.

Santa Fe Steam Whistles

Material Contributed by Ron Chamberlain

I wish to thank the following in preparation for this article: Craig Ordner: archivist the Temple Archives, Monty Cunningham, Stan Kistler, James Burke, Matt Ritchie, Dave Decker, Mike Daughtery and a special thanks to Eric Larson: publisher of the *Horn and Whistle Journal* for making available the Lloyd Burr Santa Fe shop dwg. collection.

- [AT&SF three chime full scale replica sound file](#)
- Photo: LM-191 (locos 940 and 1050) – see below
- AT&SF six-chime drawing provided by Bob Kittel, SBRHS – see below
- [Sound File: LM-191, five-chime full scale replica](#)
- [Sound File: LM-192, five-chime full scale replica](#)
- Photo: ML-540 6-chime (loco 2913) – see below
- [Sound File: LM-540 \(loco 3415\)](#)

Santa Fe Steam Whistles

Material Contributed by Ron Chamberlain

MAY 1, 1921

Date Revised	
5-29-22	3-26-26 (AL)
12-19-28	
7-26-36	
5-23-39	

LOCOMOTIVE FOLIO

LOCOMOTIVE WHISTLES

Application and Maintenance of.

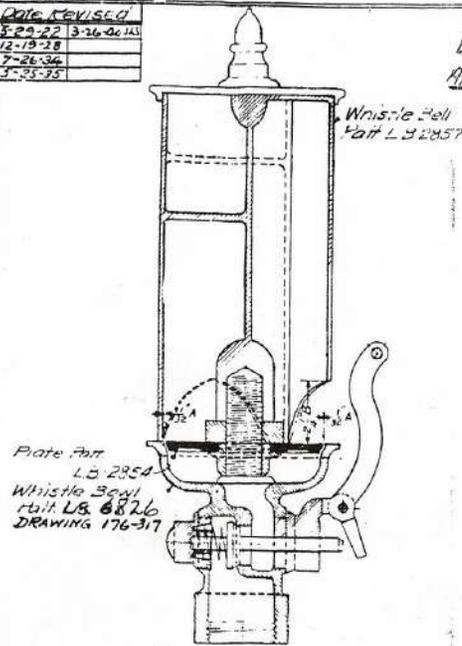


Figure 1. Orig. 1127.

Whistles authorized for use on locomotives are shown by figures 1, 2 and 3.

New whistles built or purchased are to be made as shown by figure 3. Whistles of other designs as shown by figures 1 and 2 are to be continued in service until renewal of certain parts specified in the following paragraphs is needed.

Whistles as shown by figure 1 are to be continued in service until the whistle bell requires renewal. Whistles of this type are then to be dismantled and all unserviceable parts are to be scrapped. Serviceable parts are to be saved and used on other whistles as shown by figure 3.

Whistles shown by figure 2 are to be continued in service until renewal of bowl is necessary, at which time the whistle is to be rebuilt into the whistle shown by figure 3 by the application of new bowl and valve.

Whistle valves are to have a lift of not less than $\frac{3}{8}$ " Whistle triggers and stems of whistle valves are to fit closely into openings provided for them in the whistle bowl so as to prevent the escape of steam.

The edges of whistle bells, against which the steam acts to produce the sound, are to be filed smooth and true to the shape and dimensions called for by drawings.

When whistles are assembled, the plate in the middle of the whistle bowl must be properly centered so that the annular opening between this plate and the edge of the bowl will be of uniform width around its entire circumference. The width

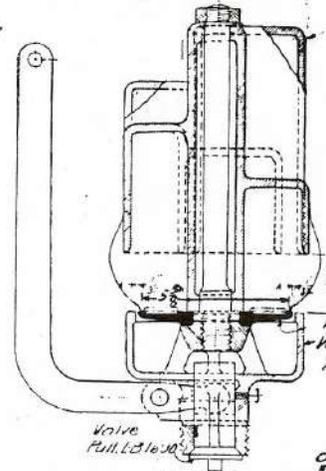


Figure 2. Orig. 11539.

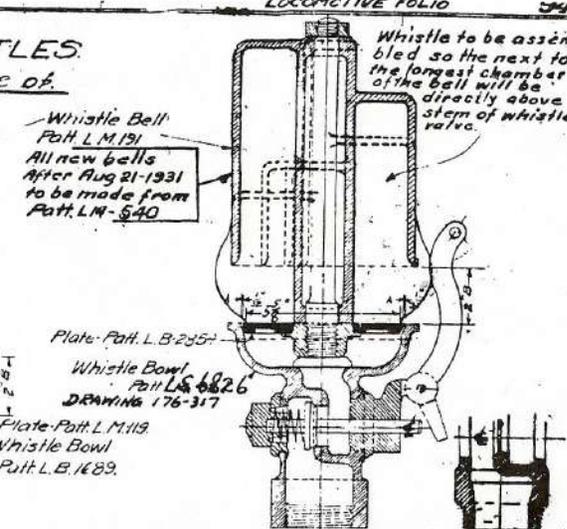


Figure 3. Orig. 44-26 or 44-26A.

of this opening is shown by dimensions A on figures 1, 2 & 3. Dimension B for whistles shown by figures 2 and 3 is .200". This dimension is to be strictly adhered to unless the whistle produces overtones commonly known as squealing. If squealing occurs when the whistle is properly assembled, the bell should be raised slightly until normal tones are produced with whistle valve wide open and full boiler pressure. For this purpose the bells to be raised by applying a washer of the required thickness between the bell and the bowl of the whistle. This washer is to be not less than $\frac{1}{8}$ " outside diameter.

When the whistle is located on the auxiliary dome, the dome is to be turned so as to present the whistle connection at an angle of 45 degrees toward the front of the engine.

Whistle elbow pattern L. B. 2270 or L. B. 2271 is to be used with the whistle shown by figure 2. The use of extensions or nipples between whistles of this type and the whistle elbow should be avoided, but if an extension must be used it is to be made as per S. C. 5548 or 5549.

Whistles applied to main steam domes of locomotives are to be provided with dry pipes as shown by S. C. 239 extending up inside the dome so as to insure dry steam. A $\frac{1}{2}$ " hole to be drilled in the elbow of the lower end of the dry pipe so as to permit water to drain out.

Rods and levers for operating locomotive whistles are to be applied as shown by drawing 170-13. On locomotives having steel cabs, all brackets and futerums entering into the construction of this arrangement are to be applied directly to the steel sheet of the cab with bolts or rivets. They are not to be attached to the wood lining of the cab or to have wooden blocks inserted between them and the steel sheets of the cab.

Whistles are not to be tampered with for the purpose of changing the tone to suit individuals, by partially filling one or more chambers of the bell with wood, babbitt or other material.



Santa Fe Steam Whistles
Material Contributed by Ron Chamberlain

ML-540 6-Chime (2913)



Santa Fe Steam Whistles
Material Contributed by Ron Chamberlain

LM-191 Five-Chime Whistle



ATSF 940



ATSF 1050

Monty Cunningham photographs