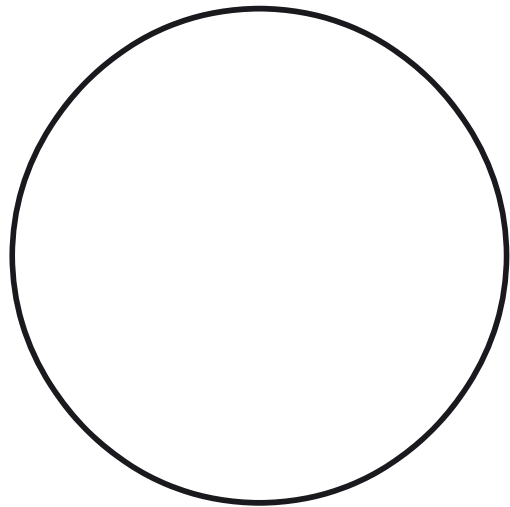


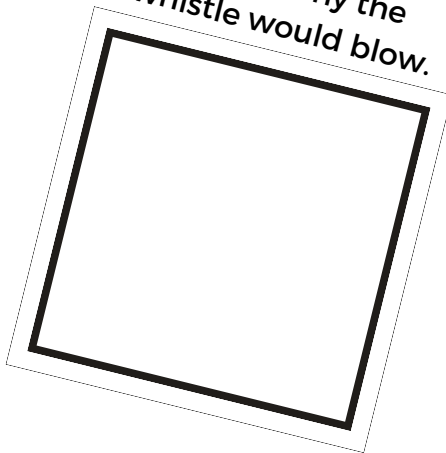
All About Steam Whistles

Who Blows the Whistle?

Draw a picture of them here.



Draw or write one
reason why the
whistle would blow.



List the three main types of
fuel that are used to heat
steam engines' boilers.



Draw a picture of a steam locomotive.

Steam Whistles



"An engine whistles; something
tugs at you, deep inside. Sort of
gets you, a locomotive whistle -
kind of makes you want to climb
aboard."

- S. Kip Farrington, Jr.

Fold here

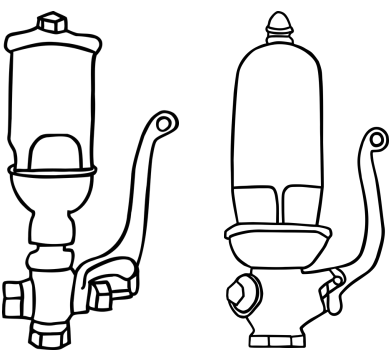
What do steam whistles do?

Before steam whistles were used bells, flags, and lanterns were used to communicate between railroad employees. The problem with these is they could only be used when they were communicating with someone near the train. If the engineer was trying to communicate around corners over a long distance, they had no way to do it.

Steam whistles fixed that problem. They could be put on the engine and used by the engineer. Steam whistles could be heard from miles away to "talk" to other trains, track crew, and bystanders.



Steam whistles come in many shapes and sizes. Different types of whistles can make different sounds. Each engineer also has a style of their own. They communicate through special patterns that are known to other railroad employees.



Top: The first D&RG Steam Locomotive, Montezuma, built in 1871
Middle: Cumbres & Toltec 463, built in 1903
Bottom Right: A dual port whistle
Bottom Left: A single Port Whistle

STEAM WHISTLES

Find the words listed below in the grid.

W E I H S V D C I C T R D F P
N Q K J O A B B T D V X P Z F
E G P J S S F C O A L P C W H
N H K T I F S E F O D M O V A
G N Z D G L A F T W I V W T O
I X W I N F X Q T Y V R S V B
N Q M T S T H C I X Z A W G O
E Z T C L R P L B P Z C O F I
E X U W H A A A G H S A O I L
R C P A F I H Z Y H K T D R E
T Y T R I N J E Z D D Z E A R
Y U J N R S I G N A L F M A X
L R A B E W M I S V T O L R M
K M L O O B E L L T H G O A V
W H I S T L E S T A T I O N G

- | | | |
|----------|---------|---------|
| BELL | FLAG | STEAM |
| BOILER | SAFETY | TRAIN |
| COAL | SIGNS | WARN |
| ENGINEER | SIGNAL | WOOD |
| FIRE | STATION | WHISTLE |

How do steam whistles work?

Steam whistles are powered by steam blown through the whistle. Steam is produced by the steam engine when water is boiled by a fire.

The fire may be fueled by wood, coal, or oil. The coal or wood is put into the firebox where it burns and heats the boiler. The water is boiled, and steam is released. Most of the steam produced by the steam engine is used to power the engine's gear and wheels, allowing the locomotive to move along the tracks.



The engineer can pull a cord that activates a lever inside the locomotive. The lever opens a valve releasing steam through the whistle. As the steam moves through the whistle, it produces sound. There are several types of steam whistles, each making different tones and sounds.

What do steam whistles communicate?

Steam whistles communicate:

- Safety Messages & Warnings
- Information
- Instructions

Signs along the railroad tell the engineer when to blow the whistle and which signal to use.

Types of Safety Warnings:

- Letting bystanders know a train is coming
- Warn people and animals to stay out of the tracks
- Warn about bridges, tunnels, curves, and other things ahead of the train



Types of Informational & Instructional Messages:

- Tell passengers the train is getting ready to leave
- Tell passengers and bystanders the train is coming into a station
- Provide information about what movements the train is making

Whistle Signals on the Cumbres & Toltec Scenic Railroad

Whistle sounds must be distinct. They must have an intensity and duration that can be heard across long distances. The "●" is for short sounds and the "—" is for longer sounds.

	Sound	Indication
A	●	Apply brakes. Stop.
B	— —	Proceed. Go.
C	— ● ● ●	Flagman protect rear of train.
D	● ● ● —	Flagman protect front of train.
E	— — — —	Flagman return from west or south/5-minute departure warning
F	— — — — —	Flagman return from east or north
G	— — —	Train has parted.
H	● ●	Release brakes. Answer to any signal not otherwise provided.
I	● ● ●	When standing, back up. When running stop at next station.
J	● ● ● ●	Call for signals.

	Sound	Indication
K	— — ● —	Approaching public road crossing. To be prolonged or repeated a minimum of 15 seconds and a maximum of 20 seconds and until engine is through crossing.
L	—	Approaching station.
M	— — ●	Approaching waiting or meeting point.
N	— ●	Warning at locations where view is obstructed. Response to yellow flag. Warning to persons on or near track.
O	● ● ● ● ● ● ● ●	(Succession of short sounds) Warning to persons or livestock on track and in imminent danger.
P	● — ●	Engineer with control of air brakes set brakes and cut doubleheading cock. Engineer on lead engine take control of air brakes and acknowledge by repeating whistle signal.
Q	● ● —	Engineer on second engine take control of air brakes. When engineer on second engine has control of air brakes, acknowledge by repeating whistle signal.
R	● —	Inspect train line for leaks or brakes sticking.
S	— ● ● ● ● ● ● ●	Track patrolman return to train.