Garden Trains
From A to Z

L is for Locomotives

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Garden Trains - A to Z

What you will find in this document.

Discussion groups are a great way to share information. One thing that is unique to LSOL.com is our Tuesday Topic. Each week, for almost six years, we have discussed a specific group topic. It could be about bridges, or maybe you like steam vs. diesel engines. Many times it is about how people solved a problem, or what they think about a current issue or product. My favorite was several years ago. "If your railroad was a candy bar, what would it be." (Good and Plenty, Milk Dud, etc.) We have fun at LSOL.com as well as help each other with serious issues on our railroads.

Now with almost 300 different weekly discussions online we wanted to make it easier for you to use this vast knowledge base of topics. We are taking the time to edit the best answers on a specific Tuesday topic into PDF documents. We have also added photos as available so you can see just what was being talked about from each of the users.

This paper is different than one written by just one author on a topic. You are getting dozens and dozens of years of combined experience from some of the smartest people running Large Scale Trains today. Save this document and start building your own personal reference library on your computer today.

What is LSOL.com? (Large Scale Online)

Large Scale Online has been providing information for Large Scale Garden Train enthusiasts for almost 15 years. We are the oldest, largest, and most professional web site on the Internet that is exclusive to Large Scale Garden Trains.

LSOL.com provides information in many different ways. We have online articles, videos for you to watch and photos for you to see how it is done. We also have organized and secure online discussion groups. We are the only site that requires people to use their real name. No hiding behind your keyboard making anonymous posts. Join Us.

Locomotives

How many locomotives?

How many locomotives do you run at one time to pull a typical train on your railroad? Is it a single engine, double engine, triple or even more?

Also tell us why you run the number of engines that you do, and how you power them. They let us know how many rolling stock items you are pulling behind those engines. If you pull so many cars behind the engine do you automatically add another engine to pull more?

Rick Henderson - "One geared loco"

One geared loco and 4-6 cars... Not in a hurry and there is more to see running slow doing a local run.

Kenneth Allen - "I run double head"

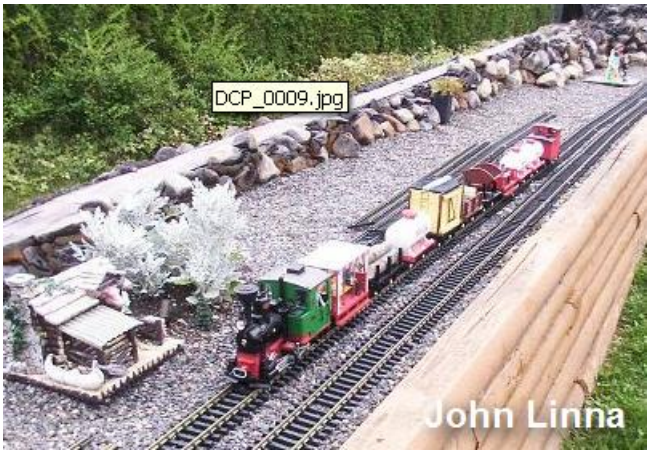
Well I may be in the minority but 99.9 percent of the time I run double head on engines just like the real modern railroads do and I have had about all of my rolling stock pulled by 2 Dash9. 92 cars and they went around the layout 4 or 5 times. Would have liked to pulled more but I was only a car away from the end. The single engines I use are the aristo steam Southern Crescent and the Bachman Shay. I have run 4 engines together at one time what a site.

Joe Fotschky - "Typically only one engine"

Typically only one engine per train. If I am running a steam engine it is usually by itself with cars behind it. Diesels I will double head and usually the same type of engines. 4 to 7 heavyweights or 10 to 25 freight cars. I used 4 engines placed throughout the 80 car freight train I ran earlier this year.

John R. Tow - "...one engine..."

I generally run one engine and one to five cars. My F7s are a different matter - a PRR AB and twelve to fifteen cars - or my newest, a NH ABA pulling fifteen plus. Sadly, the F7s usually see run-time at a train show on 80-110 foot loops.



Jon D. Miller - "Using steam its one locomotive for a train."

Since the CD&StL is primarily a narrow gauge operation we run mostly steam.
Using steam it's one locomotive for a train. On very rare occasions we'll double head the Climax locomotives. Really no valid reason since the Climax will easily pull 12-15 freight cars. Number of cars in a consist will depend on the headend power. In 1:20 scale with a locomotive like the K-27 or Connie a consist will have 12-15 cars. Right now there are 18 1:20 scale cars on the roster.

Smaller 1:20 scale locomotives like the Indy will pull a consist of 1-2 passenger cars (1:22.5 J&S) or 3-4 freight. The Mogul or American will pull 4 J&S passenger cars (1:22.5 scale). The Mogul may be assigned a freight of up to 10 cars. Running 1:22.5 scale a 10-Wheeler will be pulling 4 passenger cars or 5-10 freight. The 0-6-6-0T Mallet will usually handle up to 15 freight cars. The number of cars behind all the other 1:22.5 locomotives will depend on the engine.

Running 1:29 scale a consist will usually have 10-15 freight cars. Only have 5 diesels. The RS3 is the locomotive of choice. Once passenger cars arrive for the D&H PA double as then it's consist will depend on how many D&H coaches we end up with.

Only time running double headed on a regular basis would be at a place like Jim Hobbs' PT&GB RR. Jim and I have the 0-6-6-0T Mallets that we double head. When double heading we will pull 40-50 1:22.5 scale reefer cars or a mixed freight that will have up to 50 cars. The 1:20.3 geared locomotives will usually have a consist of 8-10 cars. These could be skeleton or disconnects for logs. Might also pull 8-10 flats with various loads. The Heisler is also used to pull mixed freights. If we had more trackage then longer freight trains would be pulled.

Mike Evans - "I like steam"

Some of the club members are diesel enthusiasts and they simply look better double-headed. However, I like steam and usually just run multiple trains at one time, each headed by its own single steam engine. The trick is to find engines that will run more or less at a similar speed so that they can be spaced apart on the same mainline track. Or the alternative is to keep several loops going at once - but don't get distracted because an unwatched train will surely have a problem!

Dennis Paulson - "Short trains, operated often"

The Darlington Railway is an electric interurban line, and serves passengers first, on an hourly schedule. The freight business is low, and marketing is trying to increase this to offset the decrease in passenger ridership because of the automobiles on the new paved highway. Bulk freight trains are usually one steeple cab loco and 5 cars because of track limitations at the Inglenook yards. LCL traffic continues to be served by the combine cars in normally scheduled use. Short trains, operated often, seem to be the norm here.

E. Paul Austin - "One only, but sometimes two"

One only, but sometimes two - one in each hand (Controllers that is). I ran two at a time once and had to do major rebuild of a Bachmann 4-4-0. Normal power is a 2T or 3T shay I can haul as many cars as I want up a 3.5% grade.

Paul Roberts - "…double up on the logging line"

I like to double up on the logging line. No reason other than looks but I do like the looks of 24 log cars snaking their way thru the woods! I run mainly steam on the main and I keep it down to single loco with maybe 10 bill board reefers behind the Mike and 8 Heavyweights behind the Pacific.

Geoffrey Cullison - "…five to push the snowplow…"

"Normally," it's just one engine, but we have run as many as five to push the snowplow when the snow was heavy and deep.

The "standard" train length is 5-7 cars, usually pre-50's era steam; only one locomotive is necessary. However, when running our 15-20 car 50's era 1:29 freight, we use a USA F7A-B set, both powered. When we finally get the couplers changed out, we plan to add a USA GP-9 to that lash-up. At present, all but one ALF locomotives are track powered.

The most frequent train that appears on the ALF is the Mail Train, 6 Bachmann baggage cars and a combine pulled by a battery-powered LGB Garratt. The next most frequent is the work train, a gondola (full of my track maintenance tools), a flat with longitudinal and lateral masons' levels mounted on it, and a caboose pulled either by a LGB mogul or a Bachmann Porter.

The ALF does have some 3% slopes, but they are not long and we've never had to double-up motive power just because of the slopes.

James O'Connor - "I generally run 1 engine"

I generally run 1 engine and 5-8 cars, but when the mood strikes, I will double head with 15-20 cars.

Tony Goatz - "I run an ABA USA F-3"

I run an ABA USA F-3 with about 30-40 cars. I also have run 3 U25B and an RS-3 at one time pulling about 75 cars, only did this once, just to see if I could. I double head after about 20 cars. I have never doubled headed my steam locomotives. I use a Crest 10 amp power unit with the Train Engineer and an MRC 20 for track power. I'm in the process of changing over to RC and batt power (Air Wire), so the days of 4 locomotives are done for now.

Donald Urquhart - "... the "Lashup" command."

When running Steam, 6 to 12 cars or I get "Wheel Slip" on hills. With Diesel and DCS control, I tend to run a pair with the "Lashup" command. 12 to 25 cars make a nice train for my size layout.

I also have 3 diesels setup as dummy units. That makes it look to the public as a 3 unit lashup is pulling the train. If I run more than one train, I could have two pair of dual-motored diesels running (8 motors); good reason for a large Power Supply.

Ray Jakabcin - "... we generally run single engine..."

On the "Horsebucket & Bryantville" RR being narrow gauge we generally run single engine steam. However we do sometimes see a mixed consist with the LGB track cleaning car (running in neutral) with a diesel engine helper and about 5 cars to make our grades.

A LGB Jumbo powers the layout when I'm not using RCS battery.

Ray Turner - "... single ten-wheeler..."

I typically run a single ten-wheeler with 11 cars. I did double head two ten-wheelers once. I have a six-car passenger train pulled by a ten-wheeler and a 13 car coal train pulled by a 2-8-8-2. The 2-8-8-2 pulled 33 cars once up a 2.5% grade but the couplers kept parting.

Todd Brody - "...1 engine with 4-6 cars..."

Because of the lengths of our sidings and blocks, we typically run 1 engine with 4-6 cars on our "loops." We run shorter consists or single cars on out "P-T-Ps." All are powered off the rails using three wireless remotes (two TEs and 1 RCS).

Typically, I'll run two of the P-T-Ps off one power pack through reversers built right into my control panel (each of the three power packs has its own 10 amp reverser built into the control panel), one P-T-P and one loop off a second power pack, and my "leap frog (two trains alternate) and one loop off the third pack) for a total of 7 trains over the ~600 feet of track.

We've run longer trains in the past, but with more cars come more problems (typically couplers letting go) and that's not what you want when a few dozen people are standing around.

Ron Brantner - "2 or 3 locomotives on each train."

I always run in consist mode with 2 or 3 locomotives on each train. The only single loco/train I run is my steam/heavyweights train. I have run 5 locos in a single consist train. To date, the longest train I have pulled was with my FA/B/A units (6 motors) with 60 pieces of rolling stock without a problem up a 2% grade. It was drawing maximum Amps going up the grade so I probably at the train configuration max. All my equipment is 1:29 with both Aristo and USA equipment. I love long trains and run them for hours at a time.

To run all of this equipment at one time you need power. I have converted to a 20 Amps / 20 Volts AC power supply. DC power supplies do not maintain voltage so the more locos you have running at one time, the slower they run. AC power maintains the voltage only dropping 3 volts with 6 locos (11 motors) running at one time at maximum draw.

I also had to convert from train engineer to a DCC system. Digitrax is the DCC systems I decided to install. The reason is for the scalability and programming abilities. I needed to add a power booster to maintain the track power with these many units running and be able to program the locomotives to run at the same speed. To ID each loco on the system, I use the loco numbers broads and to build consist trains, a DCC systems is required to run multiple units together.

Dick Chapple Sr - "One line may have an A-B-B-A FA's..."

I have four main lines powered by 10 amp crest with two TE's so if I'm running four trains at the same time I haven't as yet tried running double headers. I have kept total power units to four sometimes five total. One line may have an A-B-B-A FA's pulling 10-18 cars while another may be running an FA with three streamline pass cars in tow.

I like to lash up my 3 Dash 9's to a specialty train of 13 extra long center depressed cars with construction equipment and a caboose. Looks good to me. If I'm running just Euro stuff, I'll doublehead some Stainz engines with 8-12 cars behind them. I haven't doubleheaded any American steam mainly because I haven't addressed the front coupler issues they have.

The portable layout I use a dual control Bridgewerks 15amp supply which allows me to run up to 6 or 7 power units at a time, of course the head engine is usually less than one car length from the caboose. I have run an FA with three streamliners and an executive eggliner bringing up the rear for extra power, works good for my railroad.

William O. Thumbtzen - "...USA Trains GG1s are awfully powerful."

As with real life GG1s, my USA Trains GG1s are awfully powerful: the 4815 powers my 12 car Broadway Limited with ease, even starting on a grade with no wheelslip. These cars are USA Trains metal streamliners each weighing 10 pounds. My 4929 powers my extruded streamlined, The Federal, all fourteen cars easily at a scale 80 mph. I use track power from a pre-war Lionel "Z" with solid state conversion to DC, of course.

I use Llagas Creek Code 215 aluminum 1/29 scale track. In the past I have lashed-up three USA Santa Fe F3As to power The Chief, but there is no valid reason to double-

head GG1s; they are more than powerful enough. It can be done for looks if one likes; the on-board computers can be set to operate one engine as the second and one as the lead locomotive. I am just happy that the computers regulate the trains' speeds; slowing on curves sufficiently to stay on the rails and speeding up to 80 again.

Tom Weaver - "Typically, three engines and about 60 cars."

Typically, three engines and about 60 cars. I love l-o-n-g trains. Usually, two engines up front and a helper on the rear. Track power, runs for hours without mishap. Even the passenger train has a helper, not because it needs one, just because I like it. Sorta like Western Maryland.

David Maynard - "One per train...; like a hippo in a bikini."

One per train, usually 2 trains at a time. The P&CSRR being a narrow gauge railroad the bridge loading will not accommodate more than one loco at a time. I have a small railroad (about 150 feet of track) so if I run long trains they look funny, like a hippo in a bikini. Here it's all track power. Typically about 8 to 10 cars, once I loaded up a loco with as many cars as the one reverse loop would handle, and that was 15 cars with 4 of them being 100 ton hopper cars.

Dave Marecek - "single steam engine"

The Lone Firr is early 1900's with smaller steam loco's, and a logging/coal focus, so single steam engine with up to 10 cars is the norm.

The passing sidings dictate train length as the layout is a dogbone style, so meets are common and the first criteria of any train is it need to fit into the passing sidings. So rather than long trains, we run many short trains (up to 6 per session). There are 4 passing sidings, so lots of room for trains to wait for mainline action to clear.

Wesley Drummond - "I typically run two diesels..."

I typically run two diesels in lashup with 20(+/-) cars. But I also run single units with 10-15 cars as well. Usually I have the consist's sitting in the yard ready to move out as another consist comes into the yard.

When I am switching I only run single units such as a GP-38/NW-2/GP-40's with onboard TE and Aristo Lithium batteries. My "road engines" are the (2) E8's with 9 USA Streamliners; (3) F3's; Dash-9's doubled or single; SD-45's doubled or single. In these cases where units are doubled (except the E8's and F3's); the one loco is usually a "dummy" unit.

All my locos are TE in a trailing car with non-Aristo Lithium and Nickel Metal Hydride batteries. I like to make up trains in the yard, assign a road engine, single or double, to that consist and send it out on the mainline. My E8's are always assigned to the passenger consist

Ron Hill - " both ways"

Now that I have my second GP-30, I run them back to back with 30 cars because they look good that way and the IC rarely ran single locos except on local switchers. I run my Dash-9 single with the same amount of cars.

I run both ways, the steam units as single headed and the diesel units as double headed. The diesels I have are the RS-3's, F A&B, and the USA cow & calf; I also have the smaller Critter, Mack, Doozie and Railtruck.

I am in the process of eliminating my RS-3s and the F units and will be adding more steam to my railway. The NW2s were the first units purchased and work well the transition era. I currently have only the Aristo C-16's and the Bachmann Climax, but am hoping to add the K-27 and the Mikado to the roster.

My trains are usually only about 15-20 cars long, the only passenger units I have are a 4 car set of Aristo Sierras, 1 combine, 2 passenger and 1 observation which are pulled by steam only. All locos are battery power, and will be upgrading from the TE onboard system to the RCS system hopefully.

MEMBERS ONLINE STORIES ON LOCOMOTIVES

Here is a small sample of the articles that are online for members of LSOL.com

Engines / Rolling Stock

Super Bash: Making a 2-8-8-2 Cab Forward Part I

In the past several years I have converted over to 1/20.3 modeling. I enjoy the logging phase of modeling in 1/20. I have just about every scale in large scale trains and before converting to 1/20 my last purchase was the Aristo Craft 2-8-8-2 Mallet. I ran it but not as often as I did my 1/20 scale trains. It was becoming a shelf Queen and while on LSOL one evening I saw some photo's that Ron Senek who had converted the Aristo Mallet into a cab forward #4181.

Engines / Rolling Stock

Super Bash: Making a 2-8-8-2 Cab Forward Part 2

My next step was to figure out how to build the pipes for the steam exhaust that go to the high pressure cylinders. I needed to acquire some 1/4 inch copper pipe and 90 degree fittings. The pipe was not a problem, the fittings, well that is the problem. My thought was to make the fittings with 1/4 inch tubing. The problem was getting the curve in the 90 degrees.

Engines / Rolling Stock

Aristo Dash-9 & Kadee Couplers

One thing I love about Large Scale Trains is that there are at least two ways to do something.

Engines / Rolling Stock

Painting your Large Scale Engines

Painting large-scale engines and rolling stock isn't as hard as you'd think. I paint of lot of equipment for Suleski Transportation. I think engines are the most fun. Just like real railroads the engine is what shows off your image to the public.

Engines / Rolling Stock

Disassembling the Bachmann Ten Wheeler

I recently had to replace the motor in one of my Bachmann Ten Wheelers. I decided to do this myself rather than send it to Bachmann for repair since I had heavily modified the engine and had considerable experience “inside” the engine. Bachmann sent me a new motor for the usual repair fee.

Engines / Rolling Stock

Conversion of a LGB 2-6-0 Mogul into a Uintah 0-6-2T

A little over a year ago, one of our club members passed away and his wife sold his railroad to many of our members. I purchased the Uintah Mallet #51 and a water car. After looking at pictures of several model engines that might lead to a good conversion rather than building one from scratch, I settled on the LGB Mogul #23191 Come see how I convert it to a Uintah 0-6-2T

Engines / Rolling Stock

Installing a New Drive in an Old Pacific

When my new Pacific arrived I threw it on the test bench and was not disappointed with its performance. I started to look at my old Pacific (about 9 years old) with lots of hours and worn bearings and tires, and the wheels started turning.

Engines / Rolling Stock

LGB Forney Coal Bunker Modification

After receiving my fourth LGB Forney on the property, I decided that something had to be done with the coal bunker. The original bunker is unrealistically too small to provide an adequate coal supply to the locomotive, unless maybe the engine is assigned as a yard goat.