

The Ten Commandments for Student Engineers*

or

Things your parents never told you about running trains!

1. Safety first:

A job briefing is a must. It is the commonsense way to understand the job or a move. ***If you don't know, ask.*** If you are unsure of the signal being given either by the crew or that wayside signal that is blanked by the sun or filled in with snow, don't move the equipment. Others can rant and rave but they can't make the train go. If you think a move is unsafe, discuss it with the crew. If, after discussing the move, you still feel it is unsafe, don't move the train. If you are drilling cars, know where the crew is before you move the train. ***Too late is TOO LATE!***

Remember: As the engineer, YOU are the only crew member authorized to move the train. When doing so, you must...

2. Obey the rules:

Obeying the rules is your first and most important job and cannot be stressed more strongly. But, you say "Stupid Web guy, my job is running trains"? You say, "Ignorant Web guy, rules are just guidelines"? You say, "Dopey Web guy, rules are made to be broken"? I say, If you don't obey the rules, you may not be running trains very long. You must know all the rules that pertain to the running of your train and that means all the rules that pertain to the running of all the trains that you meet along the railroad. You must know all the signal rules, you must know all the speed limits and restrictions, You must know that the orders you are given by the Dispatchers, Conductors, Trainmasters, Road Foreman, Superintendents, etc. are legal and in accordance with the rules of the railroad.

Remember: if you are caught breaking one rule you can bet there will be someone in an office somewhere making a list of all the rules you could possibly have broken. A list that will be used against you at a company hearing.

The FRA de-certification limits are only minimums. The railroad can take your license for one mile per hour over the speed limit. Don't put yourself in this position. Obey the rules or the next step might be "Would you like fries with that?" No one can legitimately fault you for delaying a train because you stopped to have a Bulletin Order item clarified, a move explained, or slowed down to clearly see an obstructed signal. But wait to see what happens if you miss a station, fail to comply with a train order, or run a Stop Signal.

But, even if you end up at Burger King, you must...

3. Pay Attention:

This commandment covers a multitude of sins. Paying attention means knowing where you are on the railroad, knowing where you are going, what the last signal was, what rules are in effect for your train, and most importantly, that your train is under control. Paying attention means that in spite of all the distractions of bad weather, long, fatigue causing hours on the equipment, cold cabs in the winter, hot cabs in the summer, crew members or management riders who talk incessantly, that good looking girl/guy who suns her/himself at that special place along the right-of-way, you are ready to do that "engineer stuff" that maintains your control of the train no matter what comes up in the course of your trip whether it is twelve minutes or twelve hours long. To insure you know how to do that...

4. Learn the job right:

The job of Locomotive Engineer is a craft and like all crafts it is primarily learned by doing under the tutelage of an experience craftsman. The first few trips at the throttle can be a sobering, even frightening experience. The student is expected to be nervous and the condition is considered normal. If, however, the engineer instructor is nervous then there might be something wrong. It is the training department's responsibility to make sure the student engineer is taught by the best engineer instructors available. It is the engineer instructor's responsibility to teach the student proper train handling techniques in a manner that the student can learn and retain. It is the students' responsibility to pay attention to what is being taught and to absorb this information and make it their own. **This process takes time; more for some than others but again, this is to be expected.**

The student should observe as many different engineers as possible. There may be instances when a train handling technique that an instructor engineer teaches will make a student uncomfortable. This is not to say that the technique is necessarily unsafe or a violation of rules but just uncomfortable for the student. By observing several engineers over the course of train handling instruction the student is most apt to find a train handling technique they feel comfortable with and make it their own.

Do your homework before you report for the job. Study the road before you take the throttle. Learning to be an engineer is not an eight hour assignment. Don't arrive at the engine without knowing the rules in effect, the territory over which you will be operating, and any special instructions that pertain to the train you will be operating (a coffee and doughnut or breakfast sandwich for the engineer might not be a bad idea either).

But even though you do all your homework...

5. You never know it all:

Probably the worst attitude a student can bring to the job is that he/she knows how to run a train. Sometimes it comes from having a relative who precedes him/her in the craft. Sometime it just comes along for the ride. Regardless, a student can't learn with a closed mind. Years after you finish your apprenticeship and are out on the road by yourself, you will continue to learn new things about the equipment, the territory, and yourself.

Eventually you will be out on your own running trains. But no matter how much experience you acquire...

6. Never be afraid to admit there is something you don't know or understand. Never be afraid to ask questions:

Find out who the best engineers are and watch how they handle a train over the same territory you run. Remember that no two trains handle the same and sometimes the same train will handle differently over the same territory on different days. Accept the fact that you do not now, and probably never will, know everything about running trains. At this early stage in your career, you don't have the ability to be as good as you want to be. Be fair to yourself. Be patient. **If you want to be really good, you'll never be as good as you really want to be.**

A good engineer must always...

7. Be ready to compensate for situations not under your control:

Your ability to run a train will change weekly, daily, or even station to station, depending on your mental state (alertness) at any give time. Circumstances will arise that are not under your control. These include but are not limited to weather, terrain, the performance of the locomotives and braking ability of the train, signals hidden by foliage, hills, and

curves. You may be running an engine with the long hood forward, obstructing your vision. The variation of distractions is almost limitless. A good engineer learns to compensate for these changes in his working environment and handles the train accordingly. It is as much a part of your job as taking an annual rules class or filling out a time sheet. Every mile presents a different set of conditions that affect the way a train behaves when accelerating and braking. The way a given consist "handles" may vary day to day, or even may change from one stop to another. Your performance at the throttle will also depend on the rest you have had before you report for work.

Fatigue is, and will continue to be, the most important factor in the performance of locomotive engineers on the job...now and in the future.

Until such time as the Government and the railroads see the light on this matter, the locomotive engineer will continue to fight the battle against insufficient rest. In many circumstances, fatigue will be your constant companion and it is up to you to protect yourself from its dangers.

8. *The Stop signal is your god...and it is a vengeful god:*

Disobey it and its wrath will descend upon you as surely as a lightning strike. Just a fraction of an inch over those insulated joints have been enough to cause heart attacks in the strongest of train crews and Dispatchers. **Never accelerate to a Stop Signal. You have to stop anyway and in your haste, you just might forget its there.**

But if you should... Don't be afraid to use the emergency portion of the brake valve. When you see your career or a life (yours or somebody else's) going out the window, don't hesitate, Dump it. If you can talk about it later, at least you can talk about it. Don't be afraid to stop short, whether you are approaching a Stop Signal, the end of a siding, or a bumping block. You can always start again.

Remember: the Bold, the Brave, the Fired!

9. *The engineer is the strongest member of the train crew:*

A 110 pound engineer can toss a 275 pound trainman off the end of a car with just the flick of a wrist. Ask any trainman who has ridden the end of a cut of cars being shoved by a careless engineer.

Remember: You are surrounded by over a hundred tons of steel while the crew may be riding unprotected by anything more than a light jacket and a pair of gloves. His safety is your responsibility!

10. *The train crew consists of the engineer and...:*

There are many ways to screw up (whether it is the unauthorized passing of a stop signal or the collision of two trains). The series of events that lead up to the screw up are like a series of links in a chain that, placed end to end, can wreck your day. To break the chain and safely complete an assignment requires the cooperative effort of the entire train crew. An observation, comment, or refusal to move the equipment can break a link in the chain and prevent a potential disaster. The better the crew cooperates, the easier it will be for each member of the crew, including the engineer, to work safely. Having said that, while the crew may be dedicated and cooperative, the final responsibility for the safe operation of the train rests solely with the engineer who, in his/her enthusiasm to be first among equals, will almost always be the first to arrive at the wreck.

11. *This job is not for everyone:*

While you are immersed in the process of becoming a locomotive engineer remember that

your new craft is at the very heart of what a railroad does. You are among the most productive workers in the world. Whether you are training to move a 150 car freight train or hundreds of passengers from where they are to where they are going, nobody moves as much freight or carries as many passengers as the locomotive engineer. Nobody but a locomotive engineer is required to start a long and heavy freight train that may be stretched out over a line where the equipment is going down grade at the same time it is going up. Nobody but a locomotive engineer is required to start a passenger train loaded with homeward bound commuters, from zero to seventy miles per hour and stop again within seven tenths of a mile (and keep the passengers from falling over in the process). Nobody is required to assume such a great responsibility for the safety of as many passengers and such a huge amount of cargo as is the locomotive engineer.

Most of all, it is not a career that everyone can or should undertake. Running a train is a complex job involving tremendous weight, high speeds, and complex rules conducted over constantly varying terrain and the learning of the craft takes time and commitment. It is not easily accomplished and certainly not overnight. Successfully controlling a train requires good hand/eye coordination, the knowledge what lies ahead, a great deal of common sense, and the experience to do what needs to be done to safely control your train under all circumstances regardless of working conditions.

If you are a student engineer and you think you have it "figured out" and you can't understand why your engineer instructor is screaming in your ear, you have probably missed something and should sit back and recheck your situation. If, on the other hand, you wake up in the middle of the night with nightmares about running a Stop Signal or derailling because of a simple mistake that YOU have made then you are probably applying the proper amount of concern for your new craft (don't worry, the nightmares will vanish with time and experience).

Most of all, commit yourself to working safety. This job can be rewarding both personally and financially. If you are a young student, you may have thirty years or more left to work. Make them safe.

Good Luck!

***This is not to say that these are the only commandments a student should heed. This is to say that these commandments are the compilation of thoughts of Engineer Instructors on New Jersey Transit by the web guy and should not be construed to be the opinion of the "Unofficial Hoboken Division Engineer's Web Site" or represent the opinions of the BLE Division 171/272 officers or their families, other members of BLE Division 171/272 or their families, any other members of the BLE in general or their families, the Management of New Jersey Transit, the Locomotive Engineer Training Program or it's instructors, New Jersey Transit's employees or their vendors, the vendor's employees, New Jersey Transit's customers, their vendors and employees, any local, state, and federal employees of any railroad regulatory agencies that have anything to do with New Jersey Transit or the Brotherhood of Locomotive Engineers, its successors, and/or assigns, and their families, inclusive.**