

Safety For Railfans

Contents

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NOTICE: The maintainers of the IRFCA web site urge you to exercise extreme caution whenever in the vicinity of trains and railway lines, and do not accept any responsibility or liability for your actions in the pursuit of railfanning or elsewhere. [Disclaimer of Liability](#)

Introduction

Railfanning is a lot of fun, however, when you are outdoors in close proximity to trains, there are precautions you must take in order to keep it a safe hobby in addition to being a fun one. **The first and foremost thing to remember is that a moving train can be deadly.** A moving train has a huge amount of momentum and kinetic energy. The slightest inadvertent collision between your body and a moving train can result in severe injuries to you if not death! You have doubtless seen pictures of cars and buses and other vehicles destroyed almost beyond recognition after being hit by a train -- think then, of how much damage your own frail and soft body will sustain if hit by a train! Therefore, the cardinal rule in railfanning is to stay a safe distance away from all moving trains. Most of the guidelines below are basically expanding on this basic theme in different situations.

Always use your common sense, and be alert and aware of your surroundings. Try not to be alone when railfanning, especially in lonely or remote areas -- take a friend along. You and your friends should carry mobile phones, or otherwise, note the location of the nearest communications facilities, in case of any emergency. You should also try to let the station master or other appropriate staff person know of your intended presence in an area when you're railfanning in case of any trouble or if help is needed.

Note 1: These guidelines are for your information. We hope that you will be safer in your railfanning by following them. However, there is no guarantee that all danger of injury or death is eliminated by these guidelines. No responsibility for your safety is assumed by the authors of this article or the maintainers of this web site. Your railfanning is at your own risk!

*Note 2: The guidelines below only address physical safety; they do not address the issue of the legality of entering or trespassing on railway property. IRFCA does not encourage or condone any illegal activities. You may be questioned or arrested by railway police or other security staff if you are in areas where you shouldn't be or act suspiciously. **You must have appropriate permits or permission from IR officials for your presence in any restricted areas, yards, sheds, inside locomotives, etc., and also for all your photography and video activities where these are restricted.***

Planning is vital for any serious railfanning trip that involves a lot of hiking. You must spend some time before your trip planning for every aspect of it. You need to have good, accurate maps of the regions you cover (more than one copy, distributed among the members of your group). You must also have

good, up-to-date timetables and you must study them so you know exactly which trains to expect and where. It is highly recommended that you pay a visit to the station master of wayside stations to get up-to-the-minute information on delayed trains, goods train and departmental train movements, unusual situations or local conditions, etc. If it is possible you should even take a trip by train along the same route to note the terrain, features of interest, etc., before setting out on foot. Lastly, plan to have enough slack time for every part of your trip; be prudent in how much distance to cover in the time you have available, and do not plan for tight connections by train at any point.

Trackside Precautions

Railway tracks are VERY DANGEROUS places! Always keep this in mind while railfanning. **If at all possible, stay away from the tracks!** Walk alongside the tracks a safe distance away from them, or by the side of the access road or other trail parallel to the tracks.

Furthermore, **tracks are very uneven and tricky places to walk in** -- not only do the rails themselves form stumbling-blocks for you, the sleepers, the ballast, trackside rods or cables and other equipment, all can make you stumble and fall even if you are trying to be very careful. A fall or a twisted ankle may make it impossible for you to get out of the way of an oncoming train in time. Keeping a close eye on the ground for these and other hazards means you're not able to look for trains.

- **Do not depend on hearing a train** coming towards you. Trains can be deceptively silent. You must check frequently up and down the tracks and watch for trains. Sometimes drivers give a friendly toot of the horn when approaching bystanders, but you cannot count on this. Also do not count on indirect indications such as vibrations in the rails, the 'singing' of the catenary or telephone wires, etc. Fog and rain muffle sounds and make it difficult to determine their direction.
- Sight is the best way to detect a train since you cannot rely on hearing as mentioned above. But it also then follows that in conditions of low light and poor visibility (fog, rain, dusk or at night) you should not even depend on being able to spot a train with your eyes. It is best to **avoid spending any time at all on the tracks when visibility is poor**. Note that fog and rain also muffle the sounds of approaching trains!
- Where possible, walk by the side of the tracks, away from the ballast section, but if you must walk on the tracks, in a double line section always walk on the track where you will see the train coming at you -- in India, this means you walk on the right side track as trains generally use the left side track. Even so, you should keep checking behind you as there may be unusual reasons for trains to move on the 'wrong' track. Beware of triple and multiple line sections where it may not always be clear which line is for which direction of train movement! On these as well as on single line sections check ahead and behind you very often.
- When walking by the side of the tracks, **allow for adequate clearance** so any wide loads, hanging or dragging loads, etc., do not hit you. Also note that when a fast train passes by, the turbulence of the wind may be enough to jostle you around and push you towards the train, so it's better to be farther away from the tracks.

- Always **read signals** -- it helps as it gives you a warning of at least a minute or so to get to a safer place when you observe signals change from danger to a less restrictive aspect.
- Be especially careful on blind curves in hilly or built-up areas where you cannot see very far along the track. In such areas, the driver also cannot see very far along the tracks, and will not be in a position to sound a warning note on the horn.
- Wherever possible walk along the tracks with someone who has been on the line before and who knows the locations of various hazards.
- **NEVER EVER step on the tracks at points.** Not only are these more treacherous because of the multiplicity of rail pieces in odd configurations and point rods in the area, but **points can move unexpectedly** and cause you to stumble and fall or worse, even trap your foot! People have died with their feet trapped in the pointwork.
- Avoid walking on the tracks, as mentioned earlier; however, if you do walk on the tracks, note that sleepers can be surprisingly treacherous, especially if wet or oily.
- **Wear good footwear.** Sturdy and strong shoes or boots are best for hiking and walking along tracks. Footwear such as slippers, 'chappals', or sandals may not give you a sufficiently reliable grip to walk safely, may get caught or may come off at the wrong moment, or may slip or make you twist your ankle or fall, especially if you are trying to make a quick getaway in a dangerous situation. They also leave your feet exposed, increasing the risk of injury. Choose shoes that are comfortable enough, with a good grip (soft-sole hiking shoes work well) and good ankle support. Canvas or tennis shoes and the like may not be sturdy enough to take the wear and tear of walking in rocky areas.
- **Beware of dangerous animals.** Tracks may harbour a wide variety of nasty creatures such as scorpions, venomous snakes and so on.
- **Beware of other hazards.** The tracks and the surrounding areas can also have many other hazards, such as jagged or sharp debris, scrap or discarded material, nails, slick and slippery oil or grease spots, water-logged areas, etc. In some cases you may even find small amounts of dangerous materials (chemicals or other substances from tanker wagons, hopper cars, etc.) that have spilled from goods trains by the side of the tracks.
- **Don't get too close to the OHE!** When railfanning in electrified areas, be careful if you climb up on rocks or structures that are close to the OHE. Even if the rocks or other structures are sufficiently far from the OHE as not to interfere with its operation, your body may come within the minimum distance for infringing on the OHE and you may be in danger of electrocution.

Precautions around stationary trains and locos

Stationary trains or locos, whether parked at a station or yard, or stopped on the line at a signal, are often irresistible to railfans for they afford opportunities for close-up inspection and good photography. Unless you are absolutely sure that a train is stabled (parked) for good, or the loco is dead and the crew isn't in it, you should **assume that any stopped train may begin to move at any**

moment. This is especially true for stopped trains where you cannot see the locomotive end. You may not realize when a locomotive is attached to a standing rake for shunting or otherwise, if you are busy with something else. With this in mind, there are some precautions regarding stopped trains.

- **NEVER go underneath a train** to cross to the other side. With any such stopped train, even one that appears stabled for a long time, you never know when a locomotive may begin moving it. Even the very act of attaching a locomotive to the rake may move it by several feet with a jerk. Death or severe injury will result.
- If you plan to cross a stopped passenger train by getting into it by one door and out the opposite one, bear in mind that doors sometimes get jammed in the closed position and you may need to run to another door to get out in a hurry if the train starts moving. The jerk when a train starts moving is especially perilous at the moment you are trying to get on or off the train.
- **Do not climb over the buffers and couplers** to cross a stopped train.
- **Do not climb into or over any wagon** -- boxcar, flatcar, hopper, tanker, or any other kind -- of a goods train. These are not intended for anyone to ride in and you may not find secure handholds or may injure yourself on the equipment, especially if it starts to move.
- Do not lean against a stopped train when taking a picture or for any other reason -- if the train begins to move, you could be thrown to the ground and fall near or under the wheels. Similarly, do not sit down near the wheels of a stopped train.
- **Do not cross the tracks very close to the end of a stopped train**, as it may start moving suddenly towards you.
- Continuing on the above point, **do not to stand near the end of a stopped train if there is a gradient and you are at the lower end.** Even slight variations in air pressure in the brake system and the slack letting out in the couplers can cause the end of the train to move by a few meters.
- Always try to keep your hands clean and dry for a good grip on the handles and rails when climbing into or off railway vehicles to avoid falls. You can rub your hands in some sand if they are greasy or oily from contact with railway machinery.

Precautions around moving trains

It is best to give moving trains a wide berth. Fast trains should be given extra clearance because the turbulence of the wind as they pass by may make you lose your balance and fall down, perhaps towards the train.

- It is hard to judge the speed of a moving train at a distance. **Do not attempt to race or beat a train** in any way, for instance to get a last-second photograph or trying to cross the tracks in front of the oncoming train. The slightest miscalculation may lead to severe injury or death. Stay away from the tracks when a train is approaching: turbulent wind gusts may make you fall towards the train as it passes by; sometimes there may be dragging or hanging loads that can hit you;

sometimes people in trains throw out small items of trash that can injure you when they hit you at speed.

- **Always face a train moving towards you** or face in the direction you expect a train to come from when you are close to the tracks; do not spend time with your back to the direction where trains will come from, unless you are a safe distance from the tracks and someone is at hand to watch behind you while you are looking the other way.
- If you are next to a stopped train and another train comes through on the adjacent track, or worse, **if you are caught between two moving trains on adjacent tracks, it is best to lie down flat in the space between the tracks**, away from the ballast profile of either. Do not attempt to keep standing -- turbulence may throw you off balance. Even squatting down is not entirely safe. Do not lean against the stopped train for support -- it may begin to move at the same time.
- **Always be on the watch for multiple trains.** When a train passes by, do not lower your guard and hop on to the tracks right away -- there may be another train coming right behind it. This is especially a concern in busy suburban sections. Also, when you are watching and distracted by one train on one of the tracks, another train may be approaching you on another track, perhaps the one you are standing on. You cannot always hear the separate horns of the two (or more) trains distinctly when the horns are all being blown at the same time.
- When you are near a light loco (one not hauling a rake), be especially careful not to stand in front of it even if it is moving extremely slowly. As the driver notches up the loco may suddenly jump ahead as the available tractive power increases as it is harder to control the speed smoothly in a light loco.

Precautions inside moving trains, locos, etc.

- Although a common scene in Indian trains, **sitting at the door of the train or hanging out of the doorway holding on to the hand rails is very unsafe.** Hanging out of the doorway is especially dangerous when the train is moving with violent jerks as with bad track or poor suspension. If you must engage in the dangerous practice of sitting or standing in the doorway, at least use both hands to get a firm grip on the hand rails.
- Continuing on the point above: Do not depend on one arm for support while using the other for shooting pictures or video out of a moving train's open doorway.
- Another point to note if you sit at the doorway with your feet on the steps -- at some stations the edge of the platform may be close enough to hit your feet and injure you.
- Ballast may be thrown up by your train, or by passing trains, and may hurt you if it strikes you. Sometimes objects thrown out of the train by passengers, or discarded liquid waste, may end up on you if you are at the open doorway. In some cases this can be downright dangerous and cause severe injuries. In addition to this, there are unfortunately some locations where the local

children have made it a sport to throw stones at passing trains. In addition to the injury that such things can cause, the momentary shock when you are startled by these things may cause you to lose your handholds. This applies also to much smaller items such as flecks of dust that may get lodged in your eye.

- In some areas, especially built-up ones, if you lean out of the doorway or hold your arm out, you may get hit by structures that are too close to the tracks. Be especially careful when the train goes through areas with makeshift construction or huts or shacks right next to the tracks. Clearances can also be tight where the railways are engaged in construction or repair work.

- It should not need to be explicitly said here, but will be because it is not uncommon in India: **DO NOT travel on the roof of a coach, on the buffers or couplers, or hanging from any part of the train.** You may think you're getting the 'real experience' of a train ride in India, or securing the best vantage point for the perfect photo or video shot, but you are also courting death. Travelling on the roof of a coach is especially dangerous in electrified territory.

- **It is always dangerous to attempt to get out of a moving train or locomotive, even one moving slowly.** But if you absolutely must do so, if the train is moving only a few km/h, you should at least face ahead and be prepared to take a few steps or run a little as your feet hit the ground. It is extremely dangerous to attempt to get out of a moving locomotive as most locos do not have steps that are easy to use and there are numerous protruding parts of the loco that can hit you as you are trying to get off.

Bridges and Tunnels

Bridges, tunnels, underpasses, and similar structures can be especially dangerous because of the lack of adequate clearances or safe places to position yourself when a train goes by. Generally, bridges or tunnels have 'refuges' or 'escape platforms' intended to be used by anyone who is caught in the bridge or tunnel when a train comes by. On bridges these should be clearly visible. In tunnels, refuges or cut-outs may be marked by white paint but you cannot depend on this. In tunnels, because of the dim light or darkness refuges may not be immediately apparent, so always note the nearest one when you are walking in a tunnel. They are usually at regular intervals (about 100m-150m apart), so you can use their spacing to guess where the next one will be.

- **Do not attempt crossing bridges in fog or rain or at night,** or in other conditions that reduce visibility. Remember that fog and rain also muffle the sounds of a moving train.

- **Do not run on the tracks on a bridge or tunnel when you see a train approaching** -- you can easily lose your footing, twist your ankle or worse, and fall down on the tracks. On a bridge, do not trust the steel strips or sheet metal placed under or by the side of the tracks -- walk slowly, and test each one before setting all your weight on it. It is best if you walk in small groups and only one person has his weight on any one metal strip at a time.

- **Be absolutely sure there is no train approaching the tunnel** before entering it. It is best if you have accurate scheduled times for all trains on the route (including goods trains and

departmental trains that are not in the public timetable) to plan your exploration. You can get this information from the station master of the nearest station.

- Always **keep a working flashlight (electric torch) with you** (and a spare one too) ready to use inside tunnels, especially unlit ones that can be pitch dark a few yards inside. You are urged not to walk into unlit tunnels, as a rule.
- If the track curves in a tunnel, bear in mind that you may not see a train approaching you from either direction in time.
- **It is hard to judge from afar which track a train is approaching on.** The best thing to do when you see a train approaching is to either get off the bridge or out of the tunnel if you are very near the end (but do not try to race or beat the train!) or to find the nearest refuge and head for it immediately. Do not try to stay on one track figuring the train will use the other one -- you may have a nasty surprise, or you may find another train heading your way on the track you're standing on.
- If you cannot locate a refuge in a tunnel and a train is approaching, the best position is probably lying down at the corner formed by the wall of the tunnel. Note that the vertical clearance is higher by the side of the ballast profile for a track so the farther you can get away from the track the better -- and you should lie down parallel to the tracks to prevent a situation where you are struck by a projecting load or by the coaches or wagons in case the clearance to the wall is really not sufficient. There is also usually a rainwater drainage ditch running along the length of the tunnel. Get into this and lie down flat as far as possible in it (throw away your rucksack).
- Larger groups should split up into twos and threes and spread out. This is not only safer when looking for refuges if a train should arrive, it also allows someone to spot a train earlier from a different vantage point. On bridges, this also prevents the support metal strips from taking the weight of several persons at once. Do not walk abreast -- remain in single file, and do not get distracted by idle conversation, stories, etc., when inside a tunnel. In a curving tunnel, try to walk along the outer curve so as to be able to see an approaching train a bit earlier than otherwise.
- When you have walked through a very long tunnel, your eyes may be dark-adjusted and you can get blinded by bright sunlight when you exit the tunnel; try to look at the ground to let your eyes adjust gradually to the brightness; otherwise if you look straight at the sky you may be blinded enough not to be able to see a train approaching.

Miscellaneous guidelines

- Be careful on station platforms and **do not stand too close to the edge** when a train is imminently arriving. You may fall on to the tracks. This is especially a concern when you are concentrating on getting the perfect shot of an approaching train -- in adjusting your position for the approaching train you may take a step too close to the edge or over it. In crowded stations there is also the danger of being pushed by the crowd.

- Give especially wide berth to trains that pass through the station without stopping, again to avoid any chance of being pushed or pulled and falling towards the train because of the wind turbulence it creates.
- On the same point, note that EMUs in suburban systems (Mumbai, etc.) are much wider than the normal BG coaches.
- Drivers often honk the loco horn as they approach level crossings, but not always. So always look both ways to see if a train is approaching before traversing a level crossing, even if you are on foot. If you are in a vehicle, do not attempt to cross just because drivers behind you are urging you on.
- When hiking longer distances for railfanning, observe the same precautions as when hiking otherwise through remote or uninhabited regions: wear the right kind of clothes for the weather; use good and sturdy shoes; and carry sufficient food and water and any needed medication for yourself. You cannot always depend on finding drinkable water on the way, even at railway stations. For long hikes of 5 miles or more, it may be better to carry rehydration drinks (Electral, Cerelyte, etc.). Biscuits, chocolate, and energy bars are compact and easy to carry, and satisfy hunger; avoid snacks like chips and fried food which can leave you feeling thirsty.
- If a long trek leaves you exhausted, it is better to rest a bit than to begin railfanning right away as your movements will be tired and slower which may hamper you in case of an emergency on or near the tracks. Stow away your heavy backpacks and other gear in a safe place away from the tracks so that you can move around more freely -- do not attempt to observe or photograph trains from the tracks or near them when you are encumbered by heavy gear. Do not sit down or lie down to rest anywhere close to the tracks -- you may fall asleep without realizing it because of your tiredness and you may be too close to the tracks.
- **Do not hitch a ride on a goods train.** Wagons may not have secure handholds for you, and the coupler slack action on goods rakes can be extremely violent and fling you around, and you may sustain severe injuries.

Footplating

Some railfans are lucky enough to be able to get a ride in a loco. Generally you are in good hands if this happens, but you need to bear in mind some safety precautions. **Remember you need official permission to be allowed inside a locomotive on normal traffic duty! You run the risk of being arrested if you are footplating illegally.**

- Do not touch or operate any control in the cab. Stay a safe distance away from the controls, especially the emergency brake valve just behind the driver on many locos.
- Do not talk excessively and distract the driver or assistant driver and keep them from their tasks of running the train, observing signals, etc.

- Do not attempt to walk into the machinery compartment of the loco unless you have permission to do so, and then be careful about oil spots and the like which make it a very dangerous place.
- The same caution applies to moving about the catwalk or other parts outside the loco cab.
- Make sure your hands are dry and clean, without any contact with grease or oil, so as to have a good grip on the handrails, handles, armrests, and guide rails in the loco cab, on the catwalk, at the steps, etc. Be careful when climbing on or off the loco; if you slip you could have a nasty fall of several feet.
- Wait a minute or so after the loco has come to a complete rest after the driver has applied the brakes, to get down off the loco. Sometimes the slack action of the couplers can cause jerks on the loco well after it has come to a halt.
- Watch out for sharp edges or protruding items inside the loco cab on which you can snag and tear your clothes or hurt yourself. E.g., back panels on control stands can be bent and gaping open.
- Hinged panel doors on many locos, especially WDM-2 / WDM-3A, etc., can open up on the run because the spring-loaded rotating clips that secure them unlock with vibrations; watch out for these when moving about the cab.
- **Do not lean against the door** of the cab, especially in the WDM-2 locos and others. The doors in many locos are secured by sliding bolts that may come undone on the run.
- Be especially careful when observing a token exchange on the run. Keep well away from the driver or assistant and the window when the token is being exchanged as the token can separate from the ring, or if the token is being collected by hand, the pouch may be flung around violently.
- Be careful to anticipate the jerk at certain transitions such as at about 39-42km/h in WDM-2 engines.
- If you feel sleepy or think you might doze off, see if you can head to the other cab of the loco or get off the loco entirely. Sleepiness appears to be 'infectious' and drivers have been known to lose their concentration and get drowsy when someone else is sleeping in the cab!