Orange County Model Engineers
Conductor's Training

The Purpose of the Conductor
is to provide for the
SAFETY
of the
General Public, Members, and the Equipment

General Notice

Safety is of the first importance.
Obedience to the rules is essential to safety.

*The Purpose of the Conductor is to provide for the **SAFETY** of the **GENERAL PUBLIC**, Members, and the Equipment*

1 Duties

The Conductor is one of the few members of our club that the general public gets to interface with. They are ambassadors of good will, and must treat the public with courtesy and respect. They are on the frontline, protecting the public as well as the club assets. *We thrive as a club only with the good will and support of the public.*

Duties of the Conductor:

1) Crowd control on the station platform
2) Limiting access to the equipment and facilities
3) Loading and Unloading of trains
   a) Understanding of what type of cars are being loaded
   b) How to balance load
   c) How to deal with the public
4) Supervision of passengers while on the train
   a) Hands and feet within the car
   b) Every person stays seated
   c) No photography, no video cameras, no mobile phones

2 Members

The Conductor is also an interface between the public and all the other club members. By being on the frontline, conductors will be answering questions on the railroad and sometimes trying to service special requests, birthday party information, tours, etc. To help in this service the conductor needs to know who to go to for answers.

The conductor needs to know:

1) Who is around?
   a) Club Officers
   b) Experienced members
   c) New members
   d) Special guests
2) What is going on?
   a) How many trains are running?
   b) What types of trains are running?
   c) Regular run weekend or special event, charity run, birthday party, etc.

3 Equipment and Facilities

The Mackerel Flats and Goat Hill Junction Railroad is located in Fairview Park, and is open to the general public. It is not encouraged, but anyone is allowed to walk anywhere in the park with a few restrictions.

Steaming Bays/Compound is off limits to the general public unless a badged member escorts them. Guided tours are freely given, but due to the hazards associated with our hobby a knowledgeable person must take responsibility to make sure no one gets hurt.

Most of the equipment is hazardous to some extent. Sharp metal, heavy locomotives, etc. are everywhere. If something looks unsafe let someone know. If you don't know how to do something, ask.

When a conductor is on duty, they need to know:

1) Their train:
    a) What type of cars:
        Bench – Club owns 18 orange and black bench cars, 2 to 6 passengers may ride depending on size

        Gondola – Club owns 7 gondolas, 2 to 3 passengers

        Passenger – Several members have regular passenger style cars where the passenger sit with their feet in the car, very top heavy

        Prototypical – Box Cars, Refrigeration Cars, Tank Cars, etc. Generally not for riding, used to show the public examples of operational rolling stock.

    b) What type of engine:
        Steam – Takes all of the engineer's attention to operate

        Gas/Diesel – Less work to operate, but noise makes communication with the engineer harder

        Electric – Smaller engines, usually in limited operation

2) The track:
    a) Direction of the day
    b) Run day or Work day
    c) Ask if there are any known bad sections or switches

We are all here to have a good time, but:

Remember Safety is Number One at all Times

General Information

4 Communications

The Engineer is responsible for the train and the safety of everyone on board. It is the responsibility of the Conductor to be able to communicate with their engineer at all times and with all other engineers operating as required.

If there are more than 6 passenger cars, and a second conductor is needed, both conductors must stay in contact to provide for the safety of passengers. (General rule is 1 conductor for every 6 passenger cars.)

Three methods of communication:

1) **Radio** – All trains carrying passengers are required to carry a FRS radio tuned to the required channel of the day, used for communication between trains and the station to report breakdowns or hazards. (It is a good idea if everyone working around the railroad has a radio.)

   It is hard for the engineer to hear what is being said on the radio, the conductor needs to be keeping track of what is being said and determine if it effects their train.

   FRS Radio Channel: 9 Sub-channel: 25

2) **Whistle** – All Conductors are required to carry a whistle. This is the primary communication device between the Conductor and the Engineer when voice communication is ineffective.

   This may be due to background noise, location of the conductor on the train, or in switching operations where the conductor is not on the train.

   Whistle signals: 2 sharp notes When stopped; proceed forward
   2 sharp notes When running; STOP
   3 sharp notes When stopped; proceed in reverse

   Leaving the Station: When the train is loaded and the Station Master has given the Ok, the conductor is to verify that all passengers are safely loaded and the train is ready to leave the station. At this time the conductor will give 2 sharp notes to let the engineer know all is ready. The engineer will then respond with 2 horn signals acknowledging that the train is ready and then proceeds to move.

   In the case that the engineer stops the train at a location other than the station: Once the engineer is ready to move, they will give 2 horn signals to inform the conductor they are ready. The conductor will then verify that all passengers are safely loaded and the train is ready to move. At this time the conductor will give 2 sharp notes to let the engineer know all is ready.

Communications (cont.)

3) **Flag/Lantern/Hand Signals** – Primarily used in emergency situations for communication with a following train. Every train is required to have a red flag, know where it is. At night all conductors are required to have some form of signal light, flashlight, lantern, etc.

   For any reason that a train may be stopped on the mainline, it is the responsibility of the conductor to inform any following trains that the track is blocked so they may stop at a safe distance.

General Guidelines:

If the train is stopped on level open ground, the conductor needs to be **approximately 200 feet behind the last car with the red flag**.

If the train is stopped on a blind curve, the conductor needs to be **approximately 200 feet behind the last car or before the entrance of the blind curve which ever is greater**.

If the train is stopped on or at the base of a downhill section, the conductor needs to be **approximately 200 feet behind the last car or at the top of the downhill section which ever is greater**.

To inform the oncoming engineer to stop, the conductor is to wave the flag across the track until the engineer acknowledges the signal. Once the following train has acknowledged, the conductor can just hold the flag across the track.

Only after following trains have stopped and the respective conductor(s) is (are) protecting their train may the conductor return to assist the engineer. If necessary a passenger may be enlisted to aid the conductor by flagging the end of a train if the engineer needs assistance.

If the conductor is flagging the end of the train and the engineer is ready to proceed, they will give 4 horn signals to inform the conductor they are ready.

The conductor will then verify that there is no danger from following trains and return. At that time the conductor will verify that all passengers are safely loaded and the train is ready to move. At this time the conductor will give 2 sharp notes to let the engineer know all is ready. The engineer will then respond with 2 horn signals and proceed to move.

5 Passengers

It is the responsibility of the Conductor to know how to load their train

1) Check with the Engineer for instructions on how many passengers are to be loaded. Club trains load typically 6 bench cars with an average of 18 to 24 passengers. Private trains usually are much less.

2) Load the cars properly, (riding cars that are not balanced are subject to tipping over and of derailing):

   a) **Bench** – 2 to 6 passengers, load with the weight to the front of the car.
   Adult-Adult
   Adult-Child-Adult
   Child-Adult-Child-Adult
   Child-Child-Adult-Child-Child
   Child-Child-Child-Child-Child-Child
   Etc.

   b) **Gondola** – 2 to 3 passengers, load with the weight to the front of the car.
   Adult-Adult
   Adult-Child-Adult
   Child-Adult-Child
   Etc.

   c) **Passenger** – Special seating required, consult the Engineer.

   d) **Prototypical** – Special seating required, consult the Engineer.

3) ***Loading and unloading of passengers will normally only be done at a designated station***. In emergency events the Conductor is responsible to get the passenger off the train until it is safe and then properly load as required.

It is the responsibility of the Conductor to maintain order and enforce safety rules on their train

1) **Passengers are to stay seated and facing forward**.

2) **All passengers must have a seat**. Children can not be held in parent's laps. If a derailment occurs, a child could be "launched" if the parent loses their balance.

Passengers (cont.)

3) **Hands and feet are to stay within the car at all times**. No dragging of feet, no reaching for weeds, no touching the bridge, etc. Switches may be kicked during movement causing a derailment, rocks may be kicked under the cars, feet can be drug under the cars causing injury, etc.

4) **No Photography or Video** while the train is in motion. People do not understand the fine balance that our cars require to stay on the track. Leaning to take a picture can put a car on the ground and could throw the passenger off balance and throw them on the ground also.

5) **No Mobile Phone use** while the train is in motion. Passengers who are talking on the phone tend to be distracted and may lose their balance and cause a derailment. They are also an annoyance to other riders who are trying to enjoy the ride.

6) **No Food or Drink** is allowed on the train.

7) **No Smoking** on the train.

8) **Do Not Pick Up Children** and place them on the car. It is the responsibility of the parent or guardian to listen to the conductor and to make sure their child is properly seated.

9) **Offer assistance** to passengers that may have trouble balancing when trying to board a car.

10) **Do not let passengers stand on the cars when boarding**. The proper procedure is to step across the car, sit down, and then place feet in or on the car. The cars will tip over and the passengers may be thrown from the car.

11) **In the case of an emergency**, i.e. a derailment, the conductor must make sure that all **passengers are safe and that they remain seated** until instructed to do otherwise. Then the conductor must **protect their train** by warning following trains that there is a problem and that they must stop. (Red Flag at 200 Ft.)

12) **Use common sense**, if something doesn't look safe or you are unable to solve the issue yourself, get assistance.

6 Operations

During the normal operation of the train the duties of a conductor expand:

In addition to keeping watch on the passengers, the conductor needs to be watching the surroundings for distractions and hazards, animals, bicycles, unauthorized people around the tracks, etc.

Operations (cont.)

While riding the train the conductor needs to pay attention to the sounds and the feel of the train. Many times problems can be felt or heard before being seen. Watch the faces of the passengers. If a car derails they will definitely show signs of concern.

In general the engineer is responsible for the trackage in front of the train. In the case that switches need to be thrown, the conductor will throw the switch as directed by the engineer and remain by the switch until the train has cleared and return it to the original position. At all times the conductor is responsible for the protection of their train and during a switching operation must be aware of other trains that may be following.

Whenever a switch is thrown, the person operating the switch is responsible to verify that the points of the switch are aligned properly. Switch points must be aligned against the main rail, with no debris or damage keeping the points in a partially open state.

If placing a train in the yard, verify that the switches at both ends of the siding are aligned to allow other trains to pass.

7 Emergency Procedures

Many of the problems that occur, derailments, running out of fuel, having to stop and talk to a passenger, etc. are basically normal in the operation of a train. Occasionally the problems become more severe:

If the engine derails it takes more than a crew of 2 and bare hands to get going
If a car breaks a truck or coupler and is inoperable
If the track or a switch is damaged

These are types of problems that require a conductor and engineer to **get extra help**.

Once again the conductor must make sure that all **passengers are safe and that they remain seated** until instructed to do otherwise and then **protect the train**.

When everything is secure, the conductor needs to get on the radio and request assistance or send someone to the station or steaming bays for help.

If the problem is severe or will take a large amount of time to remedy, the conductor should call for an empty train to pick up the stranded passengers.

When requesting assistance note your location.

There are mileposts every 660 feet.
Every switch on the mainline has an identification number.
Use a landmark, the bridge, the water tank, etc.

This will speed up assistance and let the other trains know exactly where the problem is and can possible be routed around.

8 Club Rules

General Notice

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Obedience to the rules is essential to safety

Read the rule book

Every member should have a copy of the rulebook and have read and understand everything contained within. It covers all facets of our operation, definitions, general safety information, operations, roles and responsibilities, communications, etc. The book is only 20 pages in length, of which 5 pages are on automated signals that are not available at the present, total time to read, about 10 minutes.

In many clubs, conductors are to have a copy of the rulebook on their persons when operating a train with public.

The following are excerpts from the rule book that are directly applicable to passenger operations and basic safety.

8.1 General Rules

A. *Members whose activities are prescribed by these rules must be provided with a copy.*

B. *Members, and others who utilize Orange County Model Engineers, Inc, (O.C.M.E.) facilities, must be conversant with and obey the rules and any special instructions. If in doubt as to their meaning, they must apply to proper authority of the Corporation for an explanation.*

C. *Members who utilize O.C.M.E. facilities must pass the required examinations.*

E. *Members should render every assistance in carrying out the rules and special instructions, and should report any violation thereof to the proper officer.*

F. *Accidents, defects in track, bridges, or signals or any unusual condition, which may affect the safe operation of the railroad, must be reported to the proper authority.*

G. *The use of alcoholic beverages or narcotics by members while on railroad property is prohibited. Being under the influence of alcoholic beverages or narcotics while on railroad property is prohibited.*

8.2 General Regulations

700 *Members and guests must never be careless of the safety of themselves or of others. Individual conduct should never subject the railroad or O.C.M.E. to criticism or cause good will to be lost.*

General Regulations (cont.)

701 *Courteous, considerate conduct is required of all members at all times.*

701(A) *Members must not enter into altercation with any person, regardless of the provocation.*

705 *Members should exercise care and consideration in the use of O.C.M.E., or other members' property.*

707 *Railroad and O.C.M.E. premises must be kept in a clean, orderly, and safe condition.*

709 *Members must not discriminate between individuals who ride the railroad. Acceptance of tips or gratuities by individual members is not permitted, however, these may be received in behalf of O.C.M.E.*

714 *Every precaution must be taken to prevent loss and damage by fire. The rules and instructions governing fire prevention and fire protection must be fully complied with.*

715 *Members must observe trains to detect anything unusual, defective, or dangerous and make the crew aware of any problem.*

716(A) *In the event passengers, guests, or members are injured, everything possible must be done to care for them properly. If warranted, 911 should be called immediately.*

716(H) *All cases of personal injury to any member, guest, or passenger must be reported to a member of the board of directors.*

719 *When persons who are evidently intoxicated or otherwise impaired are on railroad property, every effort must be made to protect them from injury. If they can not be peacefully removed from the property, proper authority must be notified.*

740 *Non-members of O.C.M.E. are welcome to tour the facilities, but all visitors should be accompanied by a member, especially young children.*

741 *Members should not use any equipment that belongs to another member without first receiving permission. No member is under any obligation to allow anyone else to use railroad equipment, tools, or any other personal property.*

742 *When members are conducting visitors on tours of the facility, great care should be exercised to see than no damage is done to any equipment that is stored or is otherwise on the property.*

8.3 Passenger Service

831 *All crewmembers on a passenger train are responsible to the engineer. The engineer must know that they are qualified to perform their duties. Courtesy to passengers and to each other is of utmost importance.*

Passenger Service (cont.)

832 *Passengers must not be allowed to use photo or video equipment while on board the train. Food and drink are not permitted aboard the trains.*

832(A) *Passengers loading and unloading will normally be done at a designated station area only.*

833 *Station agents or crewmen must not allow persons who are intoxicated or otherwise disorderly to board any train. Mentally or physically handicapped persons are to be boarded only when accompanied by an attendant. They must not permit obscene, profane, or offensive language, or other misconduct. Interference with or annoyance of other passenger, or damage to equipment must not be permitted.*

833(A) *Young children are not permitted to ride trains until they are able to stand and walk. Pregnant females should not be allowed to board trains.*

837 *Passengers will be seated on a seat facing forward. Small children may be seated on the car floor if practicable. Each car must be loaded so as to distribute the weight evenly between the trucks.*

841 *Before departure from the station, the station agent must instruct passengers:*

1) *to keep hands and feet inside the car at all times,*
2) *to not lean to one side or the other,*
3) *to not try to touch anything along the way,*
4) *to follow the instruction of the crew at all times,*
5) *and to not attempt to get off the train until it has come to a complete stop at the station.*

When the conductor has determined the train is ready to depart he will give the engineer a proceed signal, (2 whistles). Before starting, the engineer will sound two long sounds of the locomotive whistle.

841(A) *At no time are members obligated to provide transportation for the public. This service is entirely voluntary.*

9 Checklist:

Prior to loading passengers:

Personal Equipment:

Whistle – Have a good survival/sports whistle, example FOX 40.

Radio – Standard FRS type radio with 14 channels and 38 sub-channels.

Switch Key – Every conductor should have a key. The lanyard with whistle is an excellent place to keep the key.

Red Flag – Know where it is, usually in the control car or caboose.

Lantern or Flashlight – Required for night operation.

Engine Type: Any special requirements from the engine/engineer

Riding Car Type(s): If unsure of how to load, check with the engineer.

Track Condition: Any concerns, or work being performed

Verify all cars have ***safety chains***. ***It is a requirement for all club equipment***, but is a good idea for everyone.

Check the fuel level

Proper attire: Jacket, sunscreen, hat, sunglasses…

Proper Attitude: You are representing the Club to the general public.

10 Notes

11 OCME Trivia

Club was founded in 1977 – Incorporated in 1985 – Moved to Fairview Park in 1989

We have approximately 20,000 ft of track, approximately 2 miles for mainline and the remaining in yard track and sidings.

The typical loop for a run day is approximately 1.25 miles.

The club owned locomotives: 5 diesel, (gas/hydraulic drive)

Privately owned locomotives on site:
- Miniature steam locomotives, (Coal, fuel oil, natural gas fired)
- Diesel models, (gas/hydraulic, gas/hydrostatic, and gas/mechanical drives)
- Electrically powered locomotives, (12V and 24V battery systems)

Many more privately owned locomotives are brought in at different times.

There are enough cars to make up a train for each locomotive. (Over 100 cars stored onsite)

3 *"SCALES"* of train run on our 7.5 inch *"GAUGE"* track: 1/8 scale 1 ½ inches to the foot
1/5 scale 2 ½ inches to the foot
1/3 scale 3 ¾ inches to the foot

Steam locomotives weight upward to 2000 lbs.
Diesel locomotives weight upward to 900 lbs.
Electrics are usually less than 500 lbs for a switcher, but upwards to 900 lbs for a road engine.

Prices:
- Steam locomotives typically $5,000 to $40,000, some exceed $100,000
- Diesel locomotives $4,000 to $25,000
- Electric locomotives $1,000 to $25,000

- Bench Car/Riding Car: $700
- Prototypical Freight car $500 to $2,000
- Streamline Passenger car $1,000 to $5,000

Track
- Aluminum rail approximately $1 per foot
- Recycled plastic ties approximately $1.50 each.
- 1 ft of finished track, approximately $8 per foot

Capacity:
- A bench-type riding car can weigh up to 1000 lbs loaded.
- A typical club train has 6 bench-type cars
- Our little engines pull an average of 3 tons around the track

Almost everything at the club has been donated or paid for by donations.

Over 300 man-hours are required for a run weekend to be successful

In a years time we typically volunteer over 10,000 man-hours to keep the club running