

# NEVADA STATE RAILROAD MUSEUM

CARSON CITY, NEVADA



## HOSTLER HELPER HANDBOOK

2010

## **Hostler Helper**

**Description:** A Hostler Helper is a volunteer who is an assistant to the Hostler. He is responsible to and assists the Hostler with anything needed or requested in the preparation of locomotives and equipment for operation. The Hostler Helper may be responsible for oiling car journals, putting in boiler plugs, washing engines, checking for loose, damaged or missing components of the equipment. The Hostler Helper shall observe and learn the tasks of the Hostler. They are directly responsible to and shall receive directions from the Hostler, Fireman and Engineer.

### **Hostler Helper's duties include:**

1. Attending the daily pre-operation Safety Briefing.
2. Following the instructions in the NSRM Hostler Helper's Handbook.
3. Being responsible to and taking direction from the remainder of the Engine Crew.
4. Wiping down the locomotive before the first trip of the day.

**Requirements:** Qualification as a Brakeman or above, eight hours as a Hostler Helper Trainee under the supervision of an Engineer or Fireman and with the approval of both the Crew Chief and the day's Hostler. A Hostler Helper must be at least 18 years old.

**All positions require that the Crew Member have passed the NSRM Rule Book / Safety Test. Attendance at the annual Safety Meeting is required to maintain status as a Crew Member.**

## 1.0 INTRODUCTION

This Hostler Helper's Handbook is intended to provide the basic information needed to perform the duties of a Hostler Helper. Any update of the safety information will be noted in the text as a revision from the previous issue of the handbook.

Appearance is important.

**You should at all times wear your volunteer's name badge.**

It is understood that the Hostler Helper's job is a dirty one. Be prepared to change into neater, cleaner clothing when the job as the Hostler Helper is finished.

It is preferred, but not mandatory, that the Hostler Helper be dressed in the typical NSRM uniform: a museum logo shirt, jeans or overalls, a railroader's cap and jackets or coats when required by the weather.

Footwear is an important factor in safety. Wear work boots/shoes with soles and heels firmly attached and heels that are not excessively worn. Suitable footwear around shops, tracks, and moving equipment does NOT include high-heeled boots or shoes, sandals, low quarter slip-on shoes or tennis shoes.

**You should carry your NSRM Rulebook at all times while on duty.**

## **2.0 SUMMARY OF HOSTLER HELPER'S DUTIES**

### **2.1 ASSISTING THE HOSTLER**

The Hostler Helper assists the Hostler in the performance of his duties. As such the Hostler is the supervisor of the Hostler Helper. The Hostler Helper may do any or all of the things necessary to prepare the locomotive for service. Below is the description of the duties of the Hostler. You should be prepared to learn each of these duties and be ready to do them to the satisfaction of the Hostler.

#### **THE HOSTLER'S DUTIES**

The Hostler has responsibility for preparing the locomotive for use and maintaining safe and appropriate conditions. He will also direct and monitor the activities of the Hostler Helpers in their duties.

The Hostler **MUST** have a thorough knowledge of the locomotive appliances and the operation of each. This will include the brake system, combustion system, methods of proper lubrication, electrical generation, and proper use of the water delivery and monitoring system including the injector, gauge glass and try cocks.

A comprehensive knowledge of the basic skills is necessary in order to be able to safely respond to conditions which may arise. Serious injury or equipment damage could occur if mistakes are made while working in this capacity.

Because of exposure to hot metal it is advisable to wear long sleeved shirts and gloves.

#### **A. PRIOR TO LIGHTING FIRE IN LOCOMOTIVE**

Before moving locomotive from the Annex the following must be done:

1. All doors through which any portion of the train will pass must be fully open to the maximum of their travel and the operating chain secured with a keeper.
2. Inspect locomotive surroundings to make sure that there are no obstructions that might be hit when moving the locomotive.
3. Ensure that the Switcher Locomotive (Dinky) is coupled and the operator is aware of the movement to be done.
4. Release tender hand brake and make sure that reverse lever is positioned in the direction of intended movement and cylinder cocks are open.
5. Remove chain blocking driver and stow on its hook.
6. Position a person in a location to be sure that pedestrians and other workers can be made aware of the movement.
7. When all is clear signal Dinky operator to move locomotive from building.
8. When the locomotive is clear of the walk signal Switcher Locomotive (Dinky) operator to stop.
9. Remove chain from hook and place on both sides of driver nearest the engineer's cab window. Set tender hand brake.
10. Notify Dinky operator that movement is complete and that the Switcher Locomotive (Dinky) may be relocated and/or shut down.

## **B. INITIAL INSPECTION**

The hostler must read log books and other bulletins or notices before the day's operation and inspect all items listed as needing attention to verify that they have been corrected and are in acceptable condition.

The first thing the hostler should do when getting on the locomotive is to inspect the boiler, paying particular attention to staybolts within and outside the firebox, leaky flues, and the general condition of the firebox. The hostler should make a general inspection of the exterior of the boiler to ensure there are no leaking fittings or appliances.

The hostler should inspect the injectors, lubricator, air pump, cylinder cocks, headlights and air brakes to ensure they are in working condition. Fill the sand box and sand dome and test the sander for proper operation. Blow down the water glass and verify the water level by using the try cocks.

The hostler should start an inspection of the locomotive forward from the right cab steps and inspect the engine on that side, then the front, and along the other side of the engine and tender, the back of the tender, and lastly inspect the tender on the side from which he started. He should inspect the main and side rods; look for loose, broken or worn brasses; wedges and crosshead keys; loose bolts or missing cotter pins; broken springs or defective rigging; and defects in brake gear, etc. He should verify that all the lubrication devices are in proper condition.

Fill the hydrostatic lubricator and adjust the feed rate.

The hostler should drain all condensation from the main air reservoir and before starting the air pump open its drain cocks to relieve condensation. Start the air pump slowly until sufficient pressure has been built up in the main reservoir to cushion it, and only then completely open the steam valve. Adjust the oil feed so as to feed oil to the steam cylinder before starting the air pump. Check the air pressure shown on the gauges to verify that the pump governor and feed valve are working properly. Test the brakes by applying them with each brake valve and note whether the air discharges freely and the gauges function properly.

The hostler should make sure that there is an adequate supply of fuel and water in the tender before leaving the terminal.

## **C. LIGHTING FIRE IN LOCOMOTIVE**

1. Remove stack cover and ensure that atmosphere valve on steam dome is open if there is no pressure in the boiler.
2. Using try cocks, determine the water level in the boiler. Confirm that water glass shows the same level and that valves to water glass are open.
3. Check water and fuel levels in tender.
4. If there is no pressure in the boiler attach shop air line and start shop air compressor.
5. Inspect firebox for leaks or brick damage using a flashlight.
6. Open damper on firebox door and main firebox damper.
7. Cut in air line (or steam, if the boiler has pressure from a previous operation) to atomizer and blower and open valves to each in order to clear the line of any condensed water. Close valves after lines are clear.
8. Open oil valve beneath apron plate on Fireman's side of cab making sure that oil firing valve is shut.
9. Toss a lighted rag or fusee into the firebox in front of the burner.
10. Replace flash plate and close firebox door.

11. Open oil valve on tender oil tank.
12. Using the blower, atomizer and firing valve, light fire in the firebox and adjust to maintain a spot fire. Log time that fire was lit.
13. When starting with a cold boiler three hours should be allowed before reaching operating pressure. With a warm boiler allow two hours. Building steam at a faster rate causes uneven expansion of the boiler and can cause damage.
14. When starting with a cold boiler allow steam to escape from the atmosphere valve for three minutes before closing valve.
15. When starting with a cold boiler allow steam pressure to reach approximately 20 psi before transitioning to steam atomization and removing house air line.
16. Stop shop air compressor if it was started.
17. Allow steam pressure to build until safety valve lifts. Note pressure and time in log.
18. The Hostler is responsible for oiling and greasing the locomotive prior to train service and must be familiar with the proper methods and lubricants for all points to be lubricated and for appliances such as the air pump and dynamo.
19. Prior to departure for train service the Hostler must insure that all oil cans are filled and tools needed for routine service are available.

## **2.2 OTHER DUTIES OF THE HOSTLER HELPER**

### **A. OPERATING THE SWITCHING LOCOMOTIVE (DINKY)**

The Hostler Helper is expected to be able operate the Diesel-Hydraulic Switching Locomotive (usually called the Dinky). The Dinky is used to move the Steam Locomotive from inside the Annex Building and to move train cars when the Steam Locomotive is not available for use.

1. Starting the Dinky
  - a. Press and hold the oil-pressure override switch.
  - b. Turn on the Starter Key.
  - c. Continue to hold the oil-pressure override switch until the oil pressure rises to 30 psi.
2. Operating the Dinky
  - a. Release the Hand Brake.
  - b. Move the hydraulic Drive Lever forward or back to go in that direction.
  - c. Stop by moving the Hydraulic Drive Lever to its neutral position and applying the Hand Brake.
  - d. Be especially careful when moving onto or off of the Turntable.
  - e. The black Knob next to the gauge panel is the Throttle. Increasing the engine's RPM will provide more power but not more speed. Speed is controlled by the position of the Hydraulic Drive Lever.
3. When shutting down the Dinky be sure that you not only turn off the engine but also apply the Hand Brake. Turn the engine off by returning the key to the center (Off) position. If the Key is placed in the left (Auxiliary) position the battery will soon be drained of its charge.

### **2.3 STANDARD CLOCK**

The Standard Clock is in the Restoration Shop. This railroad runs on Pacific Time. The Standard Clock is set automatically via radio signal several times a day. You should adjust your watch to be within one minute of the Standard Clock. Compare your watch with that of the Conductor. Use of a digital watch is permitted.

### **2.4 EXCEPTIONS**

All of the above describe the regular activities of an ordinary day's operation. **There is never an ordinary day's operation.** Be prepared for changes in your work necessitated by safety concerns, a different routine (such as Santa Train or night operation), differing equipment or the needs of the museum.

**BE FLEXIBLE**

**BE SAFE**

<b><u>Date:</u></b>	<b>Description</b>	
8/28/2009	Original release	
9/10/2009	Revised release	Electronic Device
1-31-2010	Revised Release	Standard Clock

**The Nevada State Railroad Museum is an Agency of the Nevada Department of Cultural Affairs,  
Division of Museums & History.**

