Manual Supplement

Sound System

Fits 1930's Industrial Switcher Locomotive

Background

The sound system provided for your locomotive is based on a product from the Phoenix Company. If you are familiar with their products from other scales you will find many similar features. The major difference in our unit is the inclusion of a 65 watt amplifier and two stereo quality dual-cone speakers inside of a rugged housing.

CAUTION – You can tell a great deal about the operation of the locomotive by the sounds it makes. When the sound system is operating it is difficult to hear these sounds. Use care to determine if unusual noises are being made during operation.

DANGER – It is very easy to assume that the drive system is at zero speed based on the sound system producing an idle sound. The power may in fact be applied to the motor resulting in sudden motion. Prolonged operation with power applied to the motor but not enough to cause motion can do serious damage to the locomotive. Slipping of the drive belt may be taking place without being noted resulting in belt failure.

CAUTION – The locomotive is heavy, more than 100 pounds, and requires at least two persons to lift. Use great care whenever it is moved. Place it on a surface capable of supporting the weight. Use blocks under the wheels to prevent rolling.

Installation

If you are adding the sound system to an existing locomotive please follow these steps:

1. Turn the power off (master key switch then circuit breaker), remove the cab roof, unplug and remove the battery.
2. On a padded surface tip the locomotive over on its side and remove the belt guard using the procedure in the locomotive manual.
3. There are four button head cap screws towards the rear of the cab floor, Using a 1/8" hex (Allen) wrench and a 3/8" socket remove the nuts from all four of these. You do not need to keep the nuts except as spares.
4. Allow the horn to hang free.
5. Remove the two cap screws at the rear completely. Do not use these to mount the sound system or damage will result. Replace them with two new 1/2" (12mm) long screws provided with the sound system. Allow one of the longer screws to be threaded partially through the floor while the others should be backed out so that the bottom end is flush with the underside of the floor.
6. Remove the two screws holding the control panel using the method in the manual and tip the panel rearward. Unplug the cable going to the horn and remove the horn entirely. It is no longer needed.

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7. Place the sound system between the rear frame rails and slide it upward to engage the screw that is partially through its hole. The speakers face upwards to the rear. Turn this screw until it starts in the threaded hole in the sound system but do not tighten it yet. Thread each of the other three screws in part way. Make sure all four screws are threaded into the sound system bracket. Check the wires from the sound system to make sure they are routed flat against the housing and not crossed and will not be pinched when the screws are tightened. Then fully tightening all four screws.
8. Place the four pin connector through the hole in the floor first (must be in this order). Follow with the six pin connector. Route these flat against the deck to allow them to go under the rear flange of the belt guard without being crushed.
9. Replace the belt guard. Make sure that it does not pinch the wires.
10. Tip the locomotive upright and place blocks under the frame and away from the wheels to allow test running without the locomotive moving.
11. Plug the two sound system cables into the matching plugs on the control panel. The four pin goes where the horn was, the six pin was not previously used.
12. Re-install the control panel. Turn the locomotive upright and install and connect the battery.
13. Place the locomotive up on blocks so the wheels are free to turn without moving the locomotive.
14. Connect the hand control. Turn on the circuit breaker, then the key switch.
15. When the hand controls speed control knob is rotated away from the zero position the sound system should start. This differs from previous systems that started as soon as power was applied. Turning the speed control knob back to the zero position will allow the sound system to continue to run making engine idling sounds. Turning up the speed control knob in either forward or reverse will cause the engine sounds to speed up or slow down.
16. Also check the horn (holding the button down sounds the horn) and bell (press the button once to start it ringing and again to stop it) functions.
17. For additional testing and adjusting see the next section or the Phoenix manual.

Setting Up Your Preferences

If you have been shipped the sound system installed on the locomotive it has been adjusted for basic operation and you should try the locomotive out and learn to operate it before spending time on the sound system. The unit is set up for medium volume and the most common operations as supplied

Manual Programming

The manual programming cable has a single switch that has a center position and may be moved away from this position in either direction. The two positions of this switch are marked “Raise” and “Lower” and these correspond to the instruction in the Phoenix manual. Use this cable for all manual programming operations.

To program your unit you should place it up on blocks so it will not move. With the locomotive elevated or turned on its side you will see a cover over a receptacle on the front of the sound unit. Remove this cover by turning it 1/8 turn counterclockwise and pulling it off. With the power off, plug the manual programming cable into this receptacle. Turn the plug so it aligns with the connector, push it inwards, and then turn the lock ring clockwise until it snaps into its locked position. Then use the methods discussed below as desired. Unplug the cable using the

same steps in reverse and only with the power off . Replace the connector cover when you are finished.

NOTE – Power is applied in stages when the circuit breaker, then the key switch are turned on, to fully turn the unit off both of these must be off.

Volume Setting

With the manual programming cable plugged in, turn on the locomotive power (circuit breaker then master key switch) and move the speed control knob on the hand control away from zero until the sound system starts. Then turn the speed control back to its zero detent position.

You may now increase or decrease the sound system volume by pressing the switch on the manual programming cable in either the raise or lower direction to either increase or decrease the volume. If you decrease the volume too far the sound system may stop, do not turn the system off in this way, you must increase the volume again or the system may fail to operate correctly.

Turning the Sound System Off

If you wish to disable the sound system do not turn the volume all the way down. This may damage the sound system. On the control panel are four fuses, if you remove the one marked 7.5A (with the power off) it will disable the sound system. Note that this also eliminates the use of the horn or bell.

Setting Where the Engine Sound Begins to Speed Up from Idle

To make an adjustment to the start voltage do the following: With the manual programming cable plugged in, hold the switch in the lower position. Turn on the locomotive power (circuit breaker then master key switch) and move the speed control knob on the hand control away from zero until the sound system starts. Release the switch and then turn the speed control back to its zero detent position.

You can now use the raise and lower switch positions to change the point at which the engine sounds transition from idle to higher speeds. Make a change and then use the speed control know to see its effect.

Setting How Fast the Engine Speeds Up

To make an adjustment to the rate do the following: With the manual programming cable plugged in, hold the switch in the raise position. Turn on the locomotive power (circuit breaker then master key switch) and move the speed control knob on the hand control away from zero until the sound system starts. Release the switch and then turn the speed control back to its zero detent position.

You can now use the raise and lower switch positions to change the rate at which the engine sounds transition speed up. Make a change and then use the speed control know to see its effect.

Computer Based Programming

If you have purchased the optional computer interface kit please see the instructions provided with it.

CAUTION – The changes possible with this computer interface are beyond the scope of our warranty and technical support. The user assumes all risk of its use.

Usage

Once installed and programmed operation is fully automatic and you will not have to do anything different in the operation of the locomotive.

Replacement Parts List

Part Name	Part Number	Quantity
Fuse, 7.5 amp	15L1-6001	as required
Computer Interface (cables, CD, instructions)	15L1-6002	if wanted
Mounting screw, 10-24 x 1/2 button head, rear	15L1-6003	replacement
Mounting screw, 10-24 x 1 button head, front	15L1-6004	replacement
Manual Programming Cable	15L1-6005	replacement