

## ORIGINAL PROTOSOUND (PS1) TROUBLESHOOTING

### Start Up

### Remedy

When I first turn power on, the engine will not begin to run. It sits still with the Start-Up sounds running. I have to turn the throttle off and then on again to get the engine to operate.

This is normal behavior. When power to the track is first turned on, Original ProtoSounds enters a “Reset” phase at which time the engine undergoes a system check. Power must be interrupted to get the engine into the Forward Phase.

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The engine will not start after I press the Direction button.

You may not be sending enough power to the track to power the engine. Press the throttle up for a few more seconds to increase track power.

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Whenever I interrupt the power from RESET to enter Forward, the engine goes back into RESET instead of Forward. I know this occurs because the bell dings twice.

Whenever ProtoSounds enters RESET after power as been off for more than 15 seconds, the microprocessor initiates a system check to determine hat everything is in working order. This system check requires 2.2 seconds to complete during which time the engine will play the startup sounds. We recommend that you don’t interrupt the power in RESET until the diesel startup sounds have completed. This will guarantee that the system check will have been completed since the startup sounds take longer than 2.2 seconds to play. If the problem persists, we recommend that you operate the throttle with a slower movement as you interrupt the power in RESET and enter the Forward Phase

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The engine won’t lock out into Forward, Neutral or Reverse even after the short whistle blast sounds.

You are waiting too long to turn the throttle back on after the short whistle blast sounds. The power must be turned back on immediately after the short whistle blast sounds or the engine will go back into RESET. See the lockout procedure in the Lockout Section of your Operators’ manual.

I have no sound from my engine, but my lights are on and it moves just fine.

Check to be sure your Volume Pot (usually located on the underside of the engine) is turned all the way up.

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The volume may have been programmed at a reduced volume or to be silent. See RESET Feature 6 (below) and adjust the volume. See the section entitled "Using RESET to Program ProtoSound" in your Operators' manual for more information.  
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The horn seems distorted at low voltages.

Your battery may be undercharged or dead. Try recharging the battery as explained in the battery sections of your Operators' Manual.

I get no sounds when the engine shifts between the direction states.

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The battery may be dead or needs charging. See the Battery Backup section in your Operators' manual for more information.  
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When I press the Whistle/Horn button, the bell comes on instead (or vice-versa).

You are trying to operate the horn in neutral or the bell in Forward/Reverse.  
The horn will only operate in Forward or Reverse unless you program ProtoSound through Feature 25 (see below for full chart of Features and Resets). Also check the transformer wiring. The bell only operates in Neutral unless you have programmed ProtoSound to recognize a separate bell button.

There's a crackling sound coming from my tender.

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Check to see if a screw or some other material hasn't lodged itself in the underside of the tender.  
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My engine sounds are distorted or garbled.

The battery may have run down, especially if the engine has been in storage for some time. See the "Self-Charging Battery Back-Up" section of your operators' manual for instructions on how to test, recharge, and (if necessary) replace the battery.

I can't get the whistle to blow when I press the whistle button.

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You may be pressing the whistle button too quickly. Older AC transformers contain a two--step whistle button that releases a DC signal onto the track. It is this DC signal that tells the whistle to blow. However, because the signal is weaker when the whistle button is depressed fully, the ProtoSound circuit may not recognize the signal. Try pressing the whistle button slower, taking approximately 1 second to fully depress the button.  
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Smoke	Remedy
My engine isn't smoking at all.	<p>Make sure you've got the smoke turned ON.</p> <p>If you just added smoke fluid it may have formed a seal in the stack by forming a bubble. Gently blow into the stack to clear the air bubble.</p> <p>Check the tender/boiler drawbar connection. They must be locked together in order for the smoke unit to function.</p> <p>-----</p>
My engine barely smokes.	<p>You may have set the smoke to Low. The smoke "volume" can be changed from Low to Med to High.</p> <p>Check for an obstruction in the smoke stack.</p> <p>Add 10 - 12 drops of smoke fluid.</p> <p>-----</p>

Lights	Remedy
One of my lights is out.	<p>The locomotive's headlights are controlled by the track voltage and will glow with greater intensity depending on the transformer voltage setting. The headlight can be easily removed from its lamp holder should the bulb expire. To remove the bulb, follow the boiler removal instructions found in the Lubrication section of your Operators' Manual. Once the cab has been separated from the chassis, gently unscrew the bulb from its socket. Replacement bulbs are available directly from MTH Electric Trains.</p> <p>-----</p>
None of my lights are on.	<p>See "One of my lights is out" from above.</p> <p>Is the engine getting power? Check to see if there is voltage on the track or move the engine a few feet in either direction.</p> <p>Check the tender/boiler drawbar connection. You've got to have them locked together in order for the engine functions to work.</p> <p>-----</p>

Operation	Remedy
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The ProtoCoupler won't let the engine uncouple on the "fly".

The power required to fire the coupler open when the engine is on the "Fly" may be greater than the ProtoSound system is capable of providing. As a result, you may experience times when the coupler won't fire open. Unfortunately, the only solution is to stop the engine and fire the coupler in Neutral. If that doesn't resolve the problem, try lubricating the coupler knuckle and rivet as explained in the ProtoCoupler Operation section.

I can't get the coupler to arm of fire open when I press the whistle button.

You may have pressed the whistle button too quickly. See the remedy above for "whistle won't blow when button pressed".

Another possibility is that ProtoSounds has been programmed to turn the coupler function off. See the RESET functions below.

My engine hesitates at slow speeds.

An engine may do this right out of the box if it has not been lubricated. Follow the operator's manual lubrication instructions and then try running it again. New engines, even after lubrication, may take a little while to get everything run-in. Be a little patient and let the engine run for a while at higher voltages. Check to see if you have any kind of binding on the side rods. There may be a piece of debris preventing the side rods from turning smoothly.

The engine won't lock into forward, neutral, or reverse.

Engine speed must be below 10 scale mph (approx. 10 volts or less in conventional mode).

My engine will not leave the initial neutral setting.

Check to be sure the battery is installed and fully charged. See the "Self-Charging Battery Back-Up" section of your operators' manual. You might have locked your engine in neutral position. Follow the "Lock into a Direction" procedure in your operators' manual.

#### Brake Sound Problems

#### Remedy

When the transformer is throttled down, the sounds won't

The brake features have not been activated. See the section on

play.

activating the brake feature for more information. The throttle voltage setting on the transformer is either not starting high enough or ending low enough to trigger the brakes sounds. Try increasing the throttle setting to 14 volts or higher before throttling down to 8 volts or less.

The brake sounds continue to play even after the engine stops.

The brake feature sound record lasts for three seconds. With practice you can control how quickly you should stop the engine to keep it in sequence with the sound of the brake's squeaking.

The brake feature was activated in neutral after the engine was running in forward, but the brake sounds would not play when triggered after the engine went back into forward or reverse.

The brake feature will only remain enabled if it is triggered in the first direction state you enter after activating the feature in neutral. You cannot interrupt the power twice to enter another direction state and still have the brake feature active. Therefore, in order to make the brake sound feature operate in forward, you must first activate the feature in the neutral position that occurs after the engine was in the reverse state.

After triggering the brake sound and stopping the engine in neutral, the engine begins making freight yard sound effects.

After you trigger the brake sounds, you cannot stop the engine in neutral and leave the track power on without activating the freight yard sounds. If you don't want to hear the freight yard sounds after entering neutral, turn the power off for three seconds to disable the freight yard sound effects.

PFA

Remedy

The PFA feature does not begin even after stopping the engine and hearing the brake sounds.

The power was not turned back on once the engine entered the neutral state and thus disabling PFA. The transformer throttle was interrupted too quickly in neutral thus disabling PFA. Leave the throttle on in neutral until after the PFA arrival message plays.

When I enter PFA event 5, the bell automatically comes on.

PFA has a built-in command to turn on the bell when the system enters Event 5. After approximately 15 rings of the bell, it automatically will turn off.

The PSA sounds occasionally repeat themselves.

Original ProtoSounds has a built-in random number generator that randomly selects each sound clip to play. Due to the limited number of sound clips available in each PFA sequence, it is probable that some of these clips will be repeated from time to

time.

Once in PFA, the engine never goes in Reverse. My Whistle and bell buttons also have no effect when PFA is enabled.

So that the freight yard sound effects and operation is as realistic as possible, ProtoSounds disables the reverse unit state whenever FYS is enabled. This way the engine never goes into reverse as the operator cycles through the various FYS events.

Because FYS must control various effects in each FYS event, the bell and whistle functions are disabled until either the FYS events have been completed, or the engine is shut down for 3 or more seconds.

Why does my engine run away all by itself after the PFA is over?

This is normal. The engine will leave the station at the same speed it entered (when hit the PFA button). The speed setting can be changed after the bell stops ringing.

#### Original ProtoSound RESET Features

RESET#	OPERATION	Default	Clinks/Clanks
6	Engine Volume	Full Volume	1 Clank/ 1 Clink
10	Coupler ON/OFF	Coupler ON	2 Clanks/ 0 Clinks
18	Reset Default Settings		3 Clanks/3 Clinks
20	Remote Bell Button	Bell Button Active	4 Clanks/0 Clinks

23	RESERVED	RESERVED	
25	Whistle in Neutral	Whistle in Neutral OFF	5 Clanks/ 0 Clinks
27	Chuff Rate	Full Chuff Rate	5 Clanks/ 2 Clinks
28	PFA Enabled	PFA ON	5 Clanks/ 3 Clinks
40	Lockout Enabled	Lockout OFF	8 Clanks/ 0 Clinks
45	Squeaking Brakes	Brakes Always ON	9 Clanks/ 0 Clinks

The Above chart lists the available features found in your ProtoSound equipped engine. The default settings are listed for each feature as well as the operation of the feature. You can reset all features to their original factory settings by accessing Feature 18 in RESET and then pressing holding the transformer whistle button until you hear a soft, warbled bell sound.

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