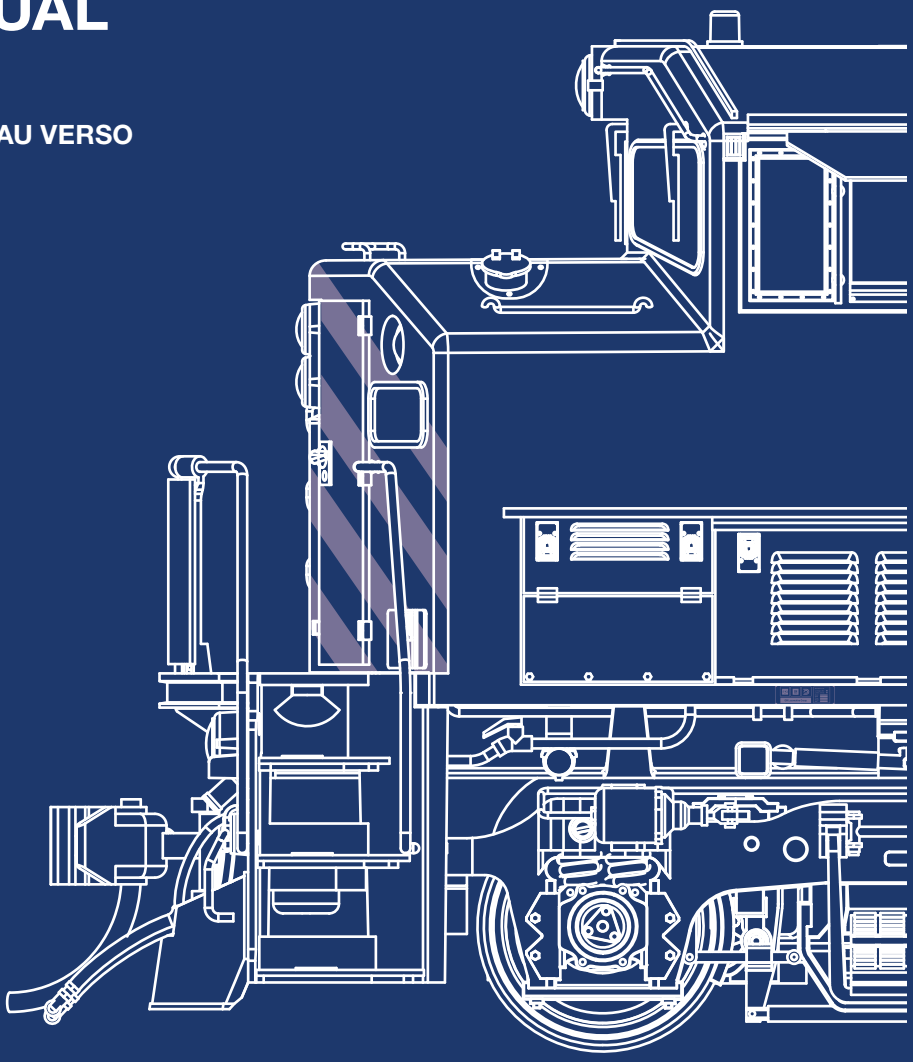
F59PH

OPERATOR'S MANUAL

FRANÇAIS AU VERSO



HO

Rapido Trains Inc.

GMDD F59PH LOCOMOTIVE PRODUCT GUIDELINES

Thank you for purchasing this model of the commuter train workhorse, the GMDD F59PH. This is the first time this locomotive has been released in a ready-to-run model and will be perfect hauling our matching bi-level passenger cars. You did order them, too, right? You gotta have matching passenger cars!

If this is your first Rapido locomotive, we must ask – why is this your first Rapido locomotive? No seriously, we've been around now for almost 20 years, and we've produced boatloads of product. We want to make sure you LOVE your F59PH. And then you'll say to yourself, "What have I missed out on all these years? I need to find and buy every Rapido model that has ever been released, in every scale! Especially that long tube thing that looks like a plane on rails with a red nose!" So we're thanking you in advance for that … if you can find 'em.

If you are a returning customer, welcome back! Just put your engine on the track. All we ask is you don't intentionally set it on fire, don't use it on a daredevil stunt off the layout, and don't MU it to anything made by Tyco. Oh, and REALLY keep it away from cheap DC controllers. Crappy power packs can quickly and easily give any Rapido locomotive an unwanted makeover … and not the good kind. Remember that everything electronic runs on magic smoke because if you release the magic smoke, it will stop working.

Our head office is in Canada, so our model train manuals are usually full of beavers and snow and Tim Horton's references. Since this is a Canadian-designed loco, we have made every effort to install as many Canadian-isms in this manual as possible, eh? There's usually a good amount of humour through these manuals anyway, so it's always good to keep things on the lighter side. After all, model railroading is supposed to be fun, whether you're an experienced modeller or just beginning!

As always, if there is anything amiss with your F59PH please do not hesitate to contact us. We stand by our products 100%. The best way to contact us is through email (trains@rapidotrains.com) but you can also reach us by phone, the postal service, or Messenger Pterodactyl as well. Our contact info is near the back of this manual.

However, please do not send a faulty model back to us without first getting authorization. You wouldn't believe how many times we get a delivery of a broken locomotive with only a name inside, meaning we have no idea what's wrong with it! (Hey Frank – your package of telephone poles is still sitting on the shelf in our bathroom.) If it's something simple – like a loose grab iron – then we'll likely tell you how to fix it yourself. While we generally will support repairs to your F59PH for a considerable length of time, please realize that eventually the parts supply will run out. That, or the sun will collapse and form a black hole. Whichever comes first, unfortunately that will dictate when we can no longer help you. Again, please make sure you contact us first so we can tell you whether there's enough parts (or sunlight) left to do your repair.

TABLE OF CONTENTS

Sound-equipped Rapido models feature ESU Loksound V5 decoders. For more information, please visit www.esu.eu.

F59PH DCC FUNCTIONS

F0 Headlight
F1 Bell
F2 Horn
F3 Flange Squeal
F4 Drive Hold
F5 Doppler Horn
F6 Ditch Lights
F7 Dim the Headlights
F8 Startup/Mute/Shutdown
F9 Class Lights/Marker Lights
F10 Independent Brake
F11 Roof Strobe Lights *(if equipped)*
F12 Emergency Light/Gyralite *(if equipped)*
F13 Rear Backup Light
F14 Head End Power
F16 Spitter Valve
F17 Step Lights
F18 Track Inspection Lights
F19 Number Board Lightss
F20 Air Compressor

PROTOTYPE HISTORY

In the mid eighties, GO Transit was looking to replace its aging locomotive fleet with a specially designed locomotive that could meet the growing demands for service across the Greater Toronto Area. The locomotive needed to be able to quickly accelerate while pulling up to 10 Hawker-Siddeley/UTDC BiLevel coaches, and to save on fuel, power them with a separate HEP generator.

In close consultation with GO Transit, GMDD developed the F59PH. Equipped with a turbocharged 12-cylinder two-stroke diesel prime mover (12-710G3A), a full-width North American comfort cab, with HEP provided by a smaller 600hp GM 8-cylinder diesel.

In 1988, GMDD delivered the first sixteen F59PH units to GO Transit. They were numbered 520 to 535 and given a class designation of GCE-430g. Over the next 6 years, GMDD delivered an additional 33 units to GO Transit, with some improvements, including a larger fuel tank and different rear grille arrangement. In 1994, the final four units were delivered to GO, but were very quickly sold to Dallas' Trinity Railway Express by the cash-strapped Ontario government. Other surplus locomotives were leased to West Coast Express in British Columbia and Metrolink in California.

Due to the success of the locomotives with GO Transit, Metrolink in California placed an order for 22 F59PHs, which were delivered between 1992 and 1993. Metrolink would later lease an additional 3 units in 2018 from LTEX, to allow for PTC upgrades to be made to their own units. These are ex-GO units.

In 2007, GO Transit began retiring most of its fleet of F59PHs and replacing them with the MPI MP40PH-3C. Many were sold to other railroads, including AMT, Metra, NCDOT, and RB Railway Group. GO Transit still has several units in service to supplement their newer fleet of MP40PHs and MP54ACs.

BREAK-IN

Just so we're clear, that doesn't mean break into anyone's layout room to steal their F59PH. And don't break into a hobby shop either because that is really frowned upon. Just buy more for yourself. But this isn't about that kind of break-in.

Every locomotive needs a break-in period. Your F59PH has been tested at our factory for about two minutes … maybe … just to make sure everything functions as it should. That is certainly not enough time to get the gears to mesh nicely or to even out any jerky operation in a new motor. We suggest that, after reading this manual, you put your F59PH on a test loop and just let it run in each direction for an hour or two. Fast and slow. Don't have it pulling anything either while you're breaking it in.

There already should be enough grease in the gearbox so you don't need to add any. Just let the thing run. If you are running this thing on track on the carpet, please vacuum first. You have no idea how many models come back to us with gearboxes full of carpet fluff and pet fur. Our models are not designed for that kind of torture.

HOW TO HOLD YOUR F59PH

The F59PH has numerous very delicate parts. If you want to back date it to be the quality of a model produced in the 1970s, then rip all the parts off and handle it like a doughnut from Timmy's after skipping breakfast. We're assuming you don't want to do that, so the F59PH should be picked up carefully. We suggest you DO NOT lift by the shell, because if for whatever reason the clips holding the shell on don't support the weight of the chassis, half your locomotive will have a brief skydiving experience. We don't want to risk that, so the best way to pick up the unit is to grab it from above with your thumb and forefinger on either side of the fuel tank. Always make sure your hands are free of shmutz before touching your engine, otherwise you'll shmutz up your fuel tank. Hey – if your hands have enough oil on them that could be realistic.

If you are taking your F59PH to the club all the time and regularly handling it, stuff will likely break off. Sorry, eh! The little bits are made of plastic and metal with glue, which is all a bit fragile. We attempted to make the small parts out of indestructible unobtainium and use Steady-State Micro Welding to install them. Unfortunately, the unobtainium was unobtainable.

We suggest wrapping your F59PH in a plastic bag before placing it in the packaging or in your holder so you can catch bits that fall off. White glue is the recommended adhesive for reattaching the bits, although you are welcome to use CA but only if you are very careful and very brave. Remember to apply the CA to the part and not the model (don't ask us how we know this).

CHECKING AND ADJUSTING YOUR LOCOMOTIVE

We try and make sure that every locomotive is perfectly up to spec before it leaves the factory, but if it was a Monday night and our factory workers were placing bets on last night's football game between Taiwan and Singapore rather than assembling models, there may be a couple of bugs. Doing a quick pre-service check will solve most operational glitches.

- Check to see that all wheelsets are correctly in gauge using an NMRA RP-2 Standards Gauge. Should any of the wheelsets be out of gauge, then remove

the affected wheelset from the truck by prying off the bottom lid of the gearbox with a small flat screwdriver and then spreading apart the sideframes. The wheelset can be regauged by grabbing each wheel and twisting. Reverse the steps to replace the wheelset and ensure the gearbox cover is snapped into place before placing it on the track.

- Check that all underbody piping and appliances are firmly installed and clear of the track. Of particular note are the air hoses on the ends of the locomotive and both coupler trip pins. Bend up any low coupler trip pins so they don't interfere with your switches and crossings. We recommend using Kadee part #237 (Trip Pin Pliers) or Micro-Mark part #80600 (Trip Pin Bending Plier). If your track transitions from flat to a 12% grade in three inches, you might also want to cut off the pilot and the fuel tank as they will foul the rails. Have you ever considered roller coaster modeling? That might be more your style.

- Make sure that the trucks swivel freely and without binding. If they catch on anything, check to ensure that the ends of the trucks don't bind against the steps. If they do, see that everything is firmly installed.

MISSING OR DAMAGED PARTS

If you open your F59PH box and discover that something has obviously been bumped in transit and is damaged, please contact us. We know that some of you don't like the idea of human beings touching your models, but if it is a matter of gluing an exhaust stack back on you can do it yourself in less than a minute with a drop of white glue. If you really want to send your model back to us for us to install that, we would be happy to. But if you do send it back to us for us to put that one part back on and other stuff falls off when we send it back to you, then tough tooties. We're not fixing it again.

If you see some grab irons are missing and they are not floating around the packaging, let us know and we will send you replacements. More information about our warranty can be found towards the end of this manual.

ADDITIONAL FEATURES

Over the years, the F59PH came with a few special features that were often customized for or by the purchaser. Some agencies opted for additional lights or details. With that said, let's have a look at what some of the unique F59PH features are:

CAB ROOF AIR CONDITIONERS (GO & METRA, AS-RETROFITTED)

The fleet of GO units eventually received overhauls in the late 90's/early 2000's for continued service as GO's primary commuter power. Starting in late 2001, rooftop mounted RV-style air conditioners started appearing on some of the rebuilt units and it would take about two years for the rest of the fleet to get them. This necessitated removal of the air vent on the cab rooftop on units so equipped. Metra locos received twin AC units when they were rebuilt before delivery to the Windy City.

FUEL TANK SIZE

The first phase of F59PH locomotives had small 1500-gallon fuel tanks. Phase II & III units had slightly larger 1850-gallon tanks. This extra fuel would give a later phase F59PH just over 2 more hours of run time at full throttle.

EMERGENCY LIGHT (METROLINK)

The Red Emergency Light is supposed to turn on whenever the train is put into emergency braking (the "Big Hole") to warn oncoming trains that there may be a problem ahead. This red light was also common on other railroads like the SP and Amtrak.

RED MARKER LIGHTS (METRA, METROLINK, TRE)

Sometimes referred to as "bug eyes" or "beast eyes", these were a detail on all US F59PH locomotives (sorry, Canada gets the full compliment of class lights). The reason for just having red markers was twofold: some railroads required lit red markers on all trains day or night (even for light engine moves), and being the power in a push-pull train set makes the need for the red markers understandable.

E-BELLS (GO TRANSIT, AS-RETROFITTED)

As delivered, all F59PH locos had standard sweet-sounding brass bells. However, during their 2011 rebuild, the remaining eight GO units had their mechanical bells replaced with electronic bells.

REMOVING THE SHELL

If you need to open up your F59PH to install a crew or a decoder, things should be pretty straightforward and easy. In a perfect world, nothing would ever go wrong, and an HO sized crew would open their own doors and walk in. If you must get inside your F59PH, you will need to follow these steps:

- We recommend that you only attempt opening up your locomotive in a zero-gravity environment. That way, if a part does break off, it will just be suspended there, right where you broke it, ready for you to reinstall it. If you don't have a zero-gravity chamber, then we suggest not installing shag carpet in your workspace. Yes, it looks great and yes it feels great on bare feet, but Rapido employees have experience in understanding that whatever detail bits fall into shag carpet are gone forever. No questions, it's not coming back. The only way to find it is to walk barefoot and hope that it impales your foot in the most painful way possible. And if you decide to use this method to find the missing parts, you're not covered by our health plan.

- To that end, please make every effort to ensure nothing flies away. We normally suggest you work in a room with everything white – walls, floor, ceiling, workbench, tools, clothes – everything. But doing so would be very boring (albeit practical) so that's likely not the case, is it? Instead, wear a shop apron (white, of course!) but attach the bottom of it to the underside of your workbench. That way, at least some parts will be saved from hitting the floor. Just remember to remove the apron before standing up.

- To remove the shell, first remove one end of each corner grab that connects the shell to the steps. The grabs are made of sturdy wire but be careful not to damage the paint on them. Rotate the four grabs away, then gently spread the sides of the shell to disengage the hidden clips. The body will lift off while both the front and rear pilot steps will stay with the chassis. We recommend not trying this above a full bathtub as the chassis does not float.

- If you wish to install a crew inside your F59PH, the cab is secured to the body shell by two clips – one on each side. With a little manipulation the cab should come free after spreading the sides of the shell and maybe using a small prying tool. Patience will be key here as the clips are also the clear window material. Don't jam a tool in there too hard or you might scratch the glass (it will not buff out).

- If you wish to change out the decoder, then just follow the previous steps about removing the shell. It will expose all the wonders that lie within.

At this point you should have the entire shell off the frame, as long as you followed our super simple instructions. We don't know how to put it back together, so from here you're on your own. Just read the instructions backwards and you should be ok. If you find a cryptic message while reading the instructions backwards, it's not our fault.

Any requests for replacement bodies because you broke the little clips will be met

with laughter, followed by sadness, then laughter again, and then a very polite suggestion that you should model a locomotive rebuilder and use your recently broken body as scenery. We did warn you after all. If we can assist, then all joking aside we'll make every effort to do so. But note that we don't have a warehouse full of shells and cabs to replace the broken ones.

OPERATION – DC (SILENT)

If your F59PH locomotive is not equipped with a sound decoder, it should function like most other HO scale locomotives. Put it on the track. Give it some juice. Watch it go. In DC, the number boards are always on and the headlights and ditch lights (when equipped) are directional. All other lights – including class lights and optional strobes, Gyralite or emergency beacon – are wired, but they will not work in DC.

If you are new to the hobby (or just like to occasionally "play trains") and you have a DC-powered train set, please contact us before operating your F59PH as it may not be safe (for your engine and/or your wallet) for you to use your controller.

Some train set throttles put out a very high maximum voltage that is not suitable for scale model trains. The maximum recommended voltage is 15 volts DC. Similarly, controllers designed for large scale trains put out a much higher voltage than your F59PH can handle. Please see the highlighted warning not too much further in this manual.

If you use a train set throttle or a throttle designed for large scale trains, your locomotive's circuitry may end up looking like a TV dinner forgotten in the microwave after you accidentally punched in an extra digit into the timer. In such situations, we'll try our best to fix it for you, but it may be beyond salvaging. Please note we may have to charge you for the replacement parts and/or the labor involved in restoring it to its former self. That's because you didn't read this bit of the manual. For those of you who are reading this, hi! How's it going? You in the mood for pizza?

INSTALLING A DCC DECODER

The F59PH contains a motherboard specially designed for our decoders. This is connected to the track, motor and lighting outputs. A blind plug is attached to the motherboard using a 21-pin connector. To install a decoder, remove the blind plug and install a 21-pin decoder. Your chosen decoder should have eight function outputs.

At the time of writing, we recommend only the following 21-pin decoders:

- ESU #59029 - LokPilot 5 Basic with 21MTC
- ESU #59529 - LokPilot 5 DCC with 21MTC

We feel the 21-pin connectors are superior because there are enough pins to ensure that all your lighting functions are connected. The necessary resistors are included on our motherboard so you don't have to futz around with resistors. Just plug in one of the recommended decoders and you have DCC. We know some of you prefer a different brand of decoder, but we honestly can't help you install it or map the functions.

We have made a F59PH function mapping which can be downloaded onto ESU decoders so that the function buttons and motor control are exactly the same as our factory-released sound versions. This should be available for download from the Support section of our web site. If it isn't, bug us. You will need an ESU LokProgrammer to write the function mapping to the 59029 or 59529 decoders. If you don't have a LokProgrammer, you can adjust CVs in the usual way.

We will be selling F59PH sound decoders separately; if they aren't on our web site by the time you read this, call our office, pick a random number between 1 and 62, divide by 3, multiply by 6, and then take the second last number. Call that extension and you'll be redirected to someone whom you can yell at. Look at us – we use the correct pronoun and then end the sentence with a preposition. This is a metaphor for the contradictory nature of human existence! You can find further editions of this manual in the philosophy department of your local bookstore!

If you want to install a decoder other than the one we suggest, it's more than just plugging in the decoder and then playing trains. You will have to custom map all the functions. It's just how it is. We won't apologize for that. Sorry.

OPERATION – DC (SOUND)

To operate your sound-equipped F59PH locomotive on a DC layout, just give the throttle some juice. The engine will start up once sufficient voltage has been reached (around seven volts). See the note above (in Operation – DC (Silent)) about using

train-set or large-scale throttles. With DC layouts, you have very little control over the sounds of your model.

— WARNING —

Rapido products are designed to operate safely between 0V and 16V. Voltages in excess of 16V - as well as irregular waveforms, voltage spikes or short circuits - may cause severe and sometimes irreversible damage to the product. "Train set" power packs are known to suffer from any one of these unexpected irregularities, whereas higher-end systems have safeguards in place to prevent this. Rapido always recommends using a power supply system that matches the quality of the models you are running. If you're reading this, you've obviously invested in top-of-the-line, museum-quality motive power and equipment, so we hope you've made the same investment with your model railroad power supply too.

While many power supply systems exist, some are known to have caused problems with model train circuitry in the past. If you have any one of the following systems, PLEASE DO NOT USE IT until you contact us for more information: MRC RailPower 1300/1370-series, Bachman Spectrum Magnum, Atlas 313 Universal Power Pack.

The DC lighting is limited. Some throttle manufacturers produce special gadget-like thingies which are meant to trigger the sounds in locomotives on DC layouts. As we have no involvement in the development of those gadget-like thingies, we have absolutely no idea how they will affect your F59PH, for good or for ill, for richer or poorer, in sickness and in … sorry, wrong transcript. As always, we'll try to help you fix your F59PH if one of these gadget-like thingies turns your locomotive's circuitry into something akin to burnt toast, but we can't guarantee we'll be able to.

It is usually at this point in the manual that Jason inserts a gentle dig at his fellow modelers who won't switch from DC to DCC. The rest of the staff continue to repeatedly remind him what happened the last time he did that. Something about being chased down the county highway by a group of townsfolk wielding transformers and potentiometers. As long as we can keep reminding him of this event, he'll be nice to DC modelers. Not that we're calling DC modelers Luddites.

OPERATION – DCC (SOUND)

We go to extreme lengths for accuracy, in sounds as well as in looks. Our sound decoders are LokSound V5 decoders by ESU, with Full Throttle functionality,

programmed with correct sounds from a real GMDD F59PH. So you can rest assured that the sounds are bang-on accurate.

As we do for all of our sound decoders, we recorded the prime mover under load – it was a dead unit in tow, up a grade, both ways, in a snowstorm, in July. Or maybe it was August…hey, it's Canada! It could happen! Anyway, locomotives sound a lot different when they are actually working. If you have decoders from other manufacturers in your locomotives you might want to check out the available line of Rapido decoders on our web site. All of our decoder sounds were recorded under load and we simply can't stand decoders that don't have this feature.

More detailed decoder instructions, including all sorts of weird CV settings we don't understand, can be found in the ESU LokSound V5 decoder manual. It is available for download from the support section of our web site or directly from the ESU website.

LOCOMOTIVE ADDRESS

Your Rapido F59PH comes from the factory with a decoder address of 3. We suggest if you are using DCC control that you first test that the locomotive responds on address 3 to all functions – motor, lights, sounds, everything. Once you have verified that the locomotive is responding you should assign it a unique address (normally the road number of the unit) before going any further. This can be done either on your programming track (recommended) or on the main if your system supports programming on the main. Be aware however that if you do program the locomotive on the main and you have any other locomotives assigned to address 3 (the normal default address for new locomotives) that ALL of them will also be changed to your new address! This is great if you want to simulate a bunch of kids getting into the engine shop, notching the controllers, and then heading for the hills.

Note that some DCC systems get a little wonky when programming sound-equipped locomotives on the programming track because of the high current draw. If weird stuff happens, try programming on the main.

TURN ON THE SOUND

Press F8 and you will hear the F59PH startup sequence followed by the sound of it idling. You can adjust CVs to prevent the locomotive from moving until the startup sequence has played out. Most of us at Rapido are really impatient so we turned this feature off. Refer to a full ESU LokSound V5 decoder manual for more information. You can now download it from the Support section of our web site. The feature is called the "Prime Mover Startup Delay" and is Section 13.2 on Page 89 of the ESU LokSound V5 manual.

If you press F8 when the locomotive is already moving, it will skip the startup and the sound will just turn on. Press F8 again to turn the sound off.

Note that if you are listening to your F59PH idling nicely and then you select another engine, your locomotive still thinks F8 is pressed so it will keep idling along. However, if someone else selects your locomotive's number and F8 isn't pressed on their controller, the F59PH will promptly shut down. They will need to press F8 again.

FUNCTIONS

F0 Headlight
F1 Bell
F2 Horn
F3 Flange Squeal
F4 Drive Hold
F5 Doppler Horn
F6 Ditch Lights
F7 Dim the Headlights
F8 Startup/Mute/Shutdown
F9 Class Lights/Marker Lights
F10 Independent Brake
F11 Roof Strobe Lights *(if equipped)*
F12 Emergency Light/Gyralite *(if equipped)*
F13 Rear Backup Light
F14 Head End Power
F16 Spitter Valve
F17 Step Lights
F18 Track Inspection Lights
F19 Number Board Lights
F20 Air Compressor

FUNCTIONS: MORE INFORMATION

F0 Headlight

Unlike the real thing, our F59PH headlight is directional. It leads the way no matter which way you're going. Not like some fancy FP or FPA unit where it always stays on no matter which way it's going. If you want the headlight facing the opposite way of travel to be on, then read a little further on under the Rear Backup Light function.

F1 Bell

Probably one of the most difficult sounds to master is the bell, because it's such a noticeable feature and no matter what, chances are they all had their own unique tone to them, whether they were air operated or electric. So, it really is up to the user to choose a bell to their liking. Speaking of liking, don't get us started on E-bells! Jason loves E-bells. No, we don't understand it either. Check the "Custom Sound Settings" section for details on how to customize your bell from the standard.

F2 Horns

We love our horns. Like really! Seriously, who doesn't love a good sounding horn? So, we're now providing a wide range of horns for you to apply to your locomotive as appropriate or as you see fit (even if it's not appropriate). To get a short "toot" just tap F2 or your "HORN" button. If you hear a long tail-off, you are tapping for too long. If, no matter what you do, you just can't get the darn thing to make a short "toot," switch to NCE. The default horn is a Nathan K5LA, but we've included many others. Refer to the "Custom Sound Settings" section below.

F3 Flange Squeal

We first introduced Flange Squeal on our HO scale SW1200RS in 2018 and since then, everyone has wanted it on every … single … model … we … make. People even want us to make sound decoders for freight cars! Press F3 to turn it on. Press F3 again to turn it off. If your neighbor complains about that nasty racket, just keep F3 on and say you can't hear them and maybe they'll go away.

F4 Drive Hold

ESU's "Full Throttle" feature allows you to play the prime mover of your F59PH like a musical instrument. When you press F4, you turn on "drive hold." This keeps the speed of the engine constant at whatever speed step your throttle happens to be on. Then as you increase the throttle, you hear the prime mover revving up. This sounds awesome, especially when you're taking off from a commuter station stop at warp speed.

"Full Throttle" is even neater when you throttle down, as it allows you to simulate "coasting" which is such an important part of running a real train. When you press F4 again you turn off "Full Throttle" and the engine will accelerate or decelerate to whatever speed step your throttle happens to be on. For realism it's a good idea to take note of what speed step your throttle was on when you turned on "Full Throttle" and be back at that speed step when you turn "Full Throttle" off. Otherwise, your F59PH may fly like an eagle, to the sea. Yes, fly like an eagle. Please don't make us sing the whole chorus.

F5 Doppler Horn

You can play this when approaching level crossings or any other whistle post. The doppler is nicely timed for a moderately paced train blowing for a level crossing. When you change the default horn for F2, the doppler horn will also change to the appropriate tone as well. It's like we're wizards or something!

F6 Ditch Lights

F6 turns on the ditch lights. Unlike the prototype, the ditch lights are directional (just

like the headlights). Remember to press F7 to temporarily turn off the ditch lights when approaching a station or an oncoming train as they are BLINDING, and we currently do not offer HO scale sunglasses for your customers. For just the American units, when you apply the horn using F2 the ditch lights will flash until a few seconds after the audio stops. However, due to Canadian regulations, GO and AMT ditch lights won't flash at all. Sorry, eh.

F7 Dim the Headlights

When approaching a station stop or an oncoming train, press F7 to dim your lights and turn off your ditch lights – you don't want to blind your passengers or the oncoming train's engineers. See our note above about sunglasses. It will also turn off any other potentially blinding lights you may be running. Not dimming your lights is a direct violation of what's commonly referred to as "Rule 17". The internet can answer all your questions about said rule.

F8 Startup/Mute/Shutdown

While your locomotive is stationary, pressing F8 will begin the startup sequence of the engine sounds. If your locomotive is silent but already in motion, pressing F8 will skip the startup sequence and simply turn on the sound. If the sound is already on, press F8 to mute the sounds. If your locomotive is stationary, then you will hear the engine shut down sequence before the sound turns off.

> *If you have a DCC system that only allows eight functions, you can remap the functions following the guidelines in the ESU LokSound V5 manual, which can be downloaded from the support section of our web site. Or you can upgrade to a newer DCC system, which may be less stressful.*

F9 Classification/Marker Lights

When you press F9, your white class lights will turn on. Hitting F9 a second time will cycle the lights to Green, a third hit will turn the lights red and finally, hit F9 again to cycle the lights off. White Class lights were used to signify a train was running as an extra in territory where train orders and schedules still applied. Green Class lights were to signify that there was an additional (usually just a second) section of the same train number, also in train order territory. The Red Markers indicate the rear and are part of the definition of a train by rule book: "An engine, with or without cars, displaying markers." Without markers, it is simply not a train. *Duh.*

F10 Brake

F10 works just like the brakes on a real engine. Press F10 and you put on the brakes. Turn off F10 and the brakes come off, so you can start moving again. ESU's Drive Hold feature has made the brake function more popular, so we've moved it up

to F10 to match the ESU standard. The default sound is based on composite brake shoes but if you love your eardrums, you can change it to cast iron brake shoes and writhe in pain every time the train stops. Check the "Custom Sound Settings" section further on for how to change this.

F11 Roof Strobe Lights *(Metrolink only)*

Press F11 to see pretty flashing lights on the cab roof of the Metrolink version. Nobody else got them, however.

F12 Emergency Light *(Metrolink only)*

If you press F12, it better be an emergency! Prototype Metrolink units have a feature that displays a red light on the front of the locomotive when the emergency air brakes are applied, either by the engineer, a broken air hose, or by someone pulling a red lever inside the train. This dumping of the air can cause a jackknife derailment that fouls a parallel track and possibly ruin someone else's day. The red light would warn oncoming trains to stop and look out for a possible problem. You can replicate that by turning on F12. Naturally, this would never happen in HO scale because our trackwork and train handling skill is always perfection, right? *Right?*

F12 Gyralite *(Metra only)*

Metra in Chicago equipped their F59PH units with a flashing Gyralite, replicated on our model by using function F12. This light fixture moves the beam of light around in a circular pattern ahead of the loco. In addition to warning pedestrians and cars along the right of way, it also signals to low-flying aircraft and possibly UFOs.

If you have either GO, AMT, or TRE, sorry, no special lights for you! You must suffer.

F13 Rear Light On/Off

Pressing F13 will simply toggle the rear light 'on' and 'off'. It's magic, I tell you!

F14 Head End Power

The F59PH was an improvement over older F40PH units because it had a separate diesel motor-generator set that proved all the Head End Power (HEP) to provide electricity to trailing passenger cars. Not being "screamers" like an F40PH, the F59PH was much easier on the ears and the fuel budget. It also allowed for all the prime mover's horsepower to be use for locomotion rather than losing some to hotel power. To activate the HEP generator, push F14 and power up your cars.

F16 Spitter Valve

To save you from the saliva clean-up should you try to mimic the sound of the spitter valve, we've provided its sporadic sounds on F16. By default, it's always on, as the real thing would always be going when the locomotive is running (and for a few

minutes after it's shut down). But if you prefer to not hear it at all, just press F16 to silence the spit.

F17 Step Lights

We're tired of being sued by HO-scale lawyers claiming that darkened stepways are a safety liability to HO-scale engine crews. Therefore, our F59PH models are equipped with step lights. *Huzzah!*

F18 Track Inspection Lights

These lights shine down onto the roadbed. Why did we include them? Because they look neat, of course. Oh, and your engineer will be happy at night when he's making a shove. By default, they are on. Pressing F18 will turn them off.

F19 Number Board Lights

The number boards are on all the time as a default. We hate having to turn number boards back on after a power failure. If you want to turn off the number boards, just press F19.

F20 Air Compressor

Pump that air up! By pressing F20, this will activate the air compressor but by default, the sound file will randomly play this feature.

CUSTOM SOUND SETTINGS

The F59PH was used by several operators and, as such, were equipped with a multitude of different horns, and could even feature slightly different bell tones, different brake materials and everything else in between.

The default horn on your model is a Nathan P5. We have zero scientific justification for doing this other than it sounded nice during a blindfold test with our secretary without her permission. You can change the default horn by changing the value of CV 163. We've also chosen defaults in the remaining categories because someone had to make the important decisions. They can all be changed by adjusting the value of their respective CVs.

Horns

- CV 163=0 Nathan P5
- CV 163=1 Nathan K5LA *(Default)*
- CV 163=2 Nathan M3H
- CV 163=3 Leslie RS-2M
- CV 163=4 Nathan K3HA
- CV 163=5 Nathan K3L
- CV 163=6 Nathan K3H
- CV 163=7 Nathan K5H
- CV 163=8 Nathan P5A
- CV 163=9 Nathan P5 (Old Cast)
- CV 163=10 Nathan M3RT1
- CV 163=11 Leslie S3L
- CV 163=12 Leslie S5T
- CV 163=13 Nathan K5LR24
- CV 163=14 Leslie S5TRF

Bells

- CV 164=0 EMD Steel Bell #1 *(Default)*
- CV 164=1 EMD Steel Bell #2
- CV 164=2 EMD Steel Bell #3
- CV 164=3 Graham-White E-Bell #4
- CV 164=4 Graham-White E-Bell #5

Air Dryer

- CV 166=0 Air Dryer #1 *(Default)*
- CV 166=1 Air Dryer #2
- CV 166=2 Air Dryer #3
- CV 166=3 Air Dryer #4

Brake Squeal

- CV 165=0 Comp. Brake Shoe #1*(Default)*
- CV 165=1 Comp. Brake Shoe #2

Note that after you change the horn, bell or any other sound effect, you may need to cycle the power (turn it off and on). And changing the default horn automatically changes the doppler recording on F5 too.

SOUND VOLUME SETTINGS

The sound volumes on your decoder have been pre-set at the factory to levels that we found comfortable on our test tracks.

Sound levels are very much a matter of personal taste (especially if you are showing signs of advanced deafness like we are), and what sounds great in one layout environment may sound too loud or too soft in another. Fortunately, the sound levels can be easily adjusted to best suit your own requirements and we recommend that you experiment with different settings if you don't care for the default levels.

To set the volume levels go into the program mode on your DCC system (refer to your system's manual for instructions on how to do this as each system is slightly different); enter the desired CV number; then enter the desired levels. Note that this can be done either on a programming track or on the main (Ops mode) if your DCC system supports programming on the main.

We strongly recommend that you keep notes on which settings you have changed, and which values were used. If you ever need to do a reset on the decoder (see "Factory Reset" below) then having good notes will allow you to easily re-enter any changes that you wish to keep.

— VERY IMPORTANT —

Before you manually change any of the volume control CVs, you must set CV 31 to 16 and then CV 32 to 1. CV 31 and CV 32 are used as index selection registers and if you don't set them first, unspeakable things may happen to your unit. You must set the CVs every time before changing any volume CV settings.

Or just get a LokProgrammer. No, we will not teach you how to use it!

F59PH SOUND VOLUME SETTINGS

KEY	FUNCTION	CV	DEFAULT	RANGE	YOUR VALUE
	Master Volume	63	155	0-192	
F1	Bell Volume	283	60	0-128	
F2	Horn Volume	275	128	0-128	
F3	Flange Squeal Volume	435	30	0-128	
F5	Doppler Horn Volume	355	75	0-128	
F8	Diesel Volume	259	80	0-128	
F10	Brake Set/Release Volume	339	30	0-128	
F14	Head End Power Volume	499	90	0-128	
F16	Air Dryer Volume (on shutdown)	387	80	0-128	
F20	Air Compressor Volume	307	40	0-128	

FACTORY RESET

On your F59PH you can perform a factory reset by entering a value of "8" into CV 8. Note that this will cause all of your new volume and motor settings to be lost, so you will need to reprogram any settings that you want to keep. What do you mean, you didn't take any notes? WE JUST TOLD YOU TAKE NOTES. If we had a band, you'd be kicked out of it. Again!

You can NOT lose all of the pre-recorded sounds on your F59PH decoder by doing a factory reset. However, after performing a factory reset your F59PH may begin to sound like Foster Hewitt calling a Maple Leafs game. If that happens, you have probably lost your mind. We also don't know how to change it to Dick Irvin calling a Canadiens game either. But don't worry. Just sit back, grab some popcorn and enjoy the game.

By the way, pay no attention to the person breaking into your layout room attempting to steal your Rapido F59PH because they misread the instructions on Page 4.

AWESOME SLOW SPEED THINGY

There is an awesome trick that you can use to get even better slow speed running and smoother operation with your 5-pole skew-wound motor-equipped F59PH. It's called the Automatic Motor Tuning Feature. This feature will automatically adjust the Back-EMF in most cases (again, in MOST cases) and give you phenomenal slow-speed performance. We highly recommend breaking in your locomotive (as mentioned earlier in the manual) to get the gears meshing nicely before applying this feature.

In order to use this automatic adjustment, you need to setup the following:

- Use Ops mode programming, i.e. programming on the main
- Make sure your locomotive is in "forward"
- Make sure you have a level, straight section of track with ample space ahead of the locomotive. When we say ample, we mean like 3-5 feet (1-1.5 meters) of empty track. Avoid gaps, switches or other special track work if possible. Any disruptions or irregularities could cause improper reading of the motor resistance.
- You may have to set up pylons or a work block to keep other errant model railroaders from entering your territory. Little blue flags are also beneficial too.

Once you've established your setup, start by setting CV 54 to a value of 0. Then get out of programming mode and turn on the bell (press F1).

Your F59PH will quickly take off at full speed and suddenly stop. If you had previously installed an HO scale crew without HO scale seatbelts, you may want to dispatch an HO scale ambulance to attend to the injured. After that, you should have fabulous motor control. If you ever have to reset your locomotive, you can do the automatic adjustment thingy again – it just takes a few seconds. Just remember to install the seat belts if you haven't already.

MORE INFORMATION

While addressing the features that most modelers will need for normal operation, these instructions have covered just a small number of the many customizable features of your ESU LokSound decoder. For advanced users who want to more fully explore the capabilities of the decoder we suggest downloading the ESU LokSound V5 decoder manual. This is available in the Support section of our web site.

LIMITED WARRANTY

We will do our best to solve any problems or issues that you may have with your F59PH locomotive. If your locomotive has any defects that originate from the factory, we will repair your locomotive using new components or replace it outright should a repair not be possible. However, we can only replace your locomotive while we have additional ones in stock. While we would love to have an infinite supply of spare parts and do our best to keep as many on hand as possible, eventually these will run out too. In some cases, future productions of the same locomotive may result in a parts supply being restocked, but that is not always guaranteed. If you are like most of us and – after purchasing this locomotive – you put it on the collection shelf under the darkest corner of your layout and are now just discovering it 30 years later after your friend at the club ran theirs, then you are on your own if there are any issues.

There are several things that this warranty cannot cover. If your F59PH arrives with a couple of loose grab irons or underbody bits, there is a very good chance that you can affect a repair in less time and effort than it would take to contact us. Don't be afraid to do some model railroading! White glue works wonders for securing all sorts of parts and will not mar or damage your paint. However, if parts are missing that is another story – contact us directly through our website or give us a call and we'll send you some replacements.

If catastrophe does strike – even as the result of your own actions (or possible inactions) – and your locomotive gets damaged, please give us a shout and we'll do our best to help you out if possible. Don't be shy.

ACKNOWLEDGEMENTS

The F59PH project was a labour of love for Canadian passenger power. It is yet another one of those locomotives that seems to have been glossed over for far too long, so we took it upon ourselves to finally give it its proper due. Of course, to do so means that we must call upon some experts for their input.

Without the help of the following, none of this could have been possible: Mike Armstrong, Thomas Blampied, Jay Brooks, Dan Dell'Unto, Chris Fox, Brandan Frisina, Stephan Gardner, Manny Jacob, Richard Longpre, Jakob Mueller, and David Vincent.