



HO SCALE

GENERAL ELECTRIC

DASH 8-40CM

LOCOMOTIVE PRODUCT GUIDELINES

Thank you for purchasing the first accurate model ever produced of GE's uniquely Canadian Dash 8-40CM "Draper Taper" locomotive. This has been one of the more highly sought after locomotive models which called Canadian rails home, but could be found all across North America. This model is also the first release under our Prime Movers series of locomotives, so some of the details are installed and some are included in the box. If you want to take it out of the box and just let it run, all the power to you!

As always, please do not hesitate to contact us should there be anything wrong with your model. Whether you have a warranty issue (missing parts, square wheels, leaking toilet retention tank, etc.), a question ("Who was Draper and why did he Taper?") or a comment ("The frame on my model doesn't sag! You should have made it sag! You guys suck!") please give us a shout. More warranty information is available towards the back of this manual.

PROTOTYPE INFORMATION

The Dash 8-40CM (also known as the C40-8M or just the "CN Dash 8") was delivered to Canadian National, British Columbia Railway and Quebec North Shore & Labrador between 1990 and 1994. (No, we aren't doing QNS&L. We need to sell more than 12 engines in a given paint scheme.) CN received 30 units (2400-2429) in 1990, classified EF-640a (General Electric, Freight, 6 Axles, 4000 HP, batch a). This was followed by a further 25 units (2430-2454) in 1992, classified EF-640b. BC Rail received 22 units (4601-4622) in 1990, followed by four more (4623-26) in 1993. These were transferred to CN following the de facto purchase of BCR in 2004. The final units were for QNS&L, which purchased three (401-403). These arrived in March 1994 and were later sold to The Andersons (renumbered AEX 100017-100019).

Fun fact: The Dash 8s were the first new GE diesels delivered to a main line railroad in Canada since CN 44-tonner #5 entered service in 1956!

Fun opinion: Today's diesels are phenomenally ugly when compared to the Dash 8. Why don't locomotive builders employ industrial designers any more? Goodbye Raymond Loewy and Henry Dreyfus. Hello Rube Goldberg and Wile E. Coyote.

OPERATION - DC (SILENT)

If your Dash 8-40CM 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.

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 Dash 8-40CM 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 16 volts DC. Similarly, controllers designed for large scale trains put out a much higher voltage than your Dash 8-40CM can handle.

INSTALLING A SILENT DCC DECODER

The Dash 8-40CM contains an ESU-designed motherboard which 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, carefully turn your locomotive over and place in a foam cradle or other safe surface. Open the access door on the bottom of the fuel tank, remove the blind plug and install a 21-pin decoder. Your chosen decoder should have six function outputs.

At the time of writing, we recommend the following 21-pin decoder: ESU #54615 - LokPilot V4.0 DCC with 21MTC

OPERATION - DC (SOUND)

To operate your sound-equipped Dash 8-40CM 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: If you have purchased any Rapido locomotive and you operate your trains with a Model Rectifier Corporation RailPower 1300-series DC controller, stop what you are doing immediately. Do not pass GO. Do not collect \$200. The RailPower 1300 is notorious for voltage spikes and it WILL destroy your locomotive. There is no "if" about it. We will not repair any Dash 8-40CM destroyed by a 1300 or any other "train set" DC controller. "Train set" DC controllers should not be used with any modern model locomotives. Try using your Commodore 64 power supply to charge your iPhone.

The ditch lights, headlights and number boards work in DC. But you can't turn any of them off. Some throttle manufacturers produce special doo-hickey which are meant to trigger the sounds in locomotives on DC layouts. As we have no involvement in the development of those doo-hickeys, we have absolutely no idea how they will affect your Dash 8-40CM, for good or for ill. As always, we'll try to help you fix your Dash 8-40CM if one of these doo-hickeys scrambles your locomotive's circuitry, but we can't guarantee we'll be able to. And we have to charge for repairs caused by strange technology used on Rapido models. So leave that Flux Capacitor out of your layout room.

OPERATION - DCC WITH SOUND

We go to extreme lengths for the accuracy of the sound of our models. Even though this is a Prime Mover "budget model", the sound quality you'll get out of your Dash 8-40CM is just like our other models. We use LokSound Select decoders by ESU, programmed with sounds recorded from an actual Dash 8.

As we do for all of our sound decoders, we ensure they sound prototypical. A locomotive pulling a train under load sounds a lot different than one just doing a stationary load test. 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.



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More detailed decoder instructions, including all sorts of weird CV settings we still don't understand, can be found in the ESU Loksound Select decoder manual. This is available for download on the Dash 8-40CM page in the Support section of our web site.

LOCOMOTIVE ADDRESS

Your Rapido Dash 8-40CM 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. Once you have verified that the locomotive is responding you should assign it a unique address (we suggest the road number of the locomotive) before going any further. Please be aware that if you give your locomotive a four-digit address it will not work at all if you try to run it on a friend's DC layout.

If you have a really, really old DCC system, you may find that this locomotive won't work at all – nor will many other new models. Go update your DCC system to a newer version. See note above about Commodore 64s and iPhones.

TURN ON THE SOUND

Press F8 and you will hear the Dash 8-40CM 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. We turned this feature off. Refer to a full ESU LokSound Select decoder manual if you want to turn it back on. The feature is called the "Prime Mover Startup Delay" and at the time of writing it was on page 35 of the ESU 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 Dash 8-40CM idling nicely and then you select another engine with your throttle, 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 his or her controller, the Dash 8-40CM will promptly shut down. They will need to press F8 again.

FUNCTIONS

More information about each function can be found on our web site. Check the Dash 8-40CM Support Section.

F0	Headlight
F1	Bell
F2	Horn
F3	Full Throttle
F4	Dynamic Brake
F5	Slow Doppler Horn
F6	Ditch Lights
F7	Dim the Headlights
F8	Startup/Mute/Shutdown
F9	Compressor
F10	Brake
F11	Fast Doppler Horn
F12	Switching Mode
F14	Number Boards
F19	Slow Sarco Valve (Spitter)
F20	Fast Sarco Valve (Spitter)
F21	Sarco After Shutdown
F22	Brake Set/Release

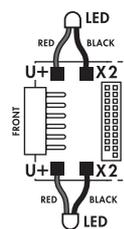
FULL THROTTLE

ESU's "Full Throttle" feature allows you to play the prime mover of your Dash 8-40CM 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 allows you to simulate hauling a heavy load. On the prototype the prime mover would be up at 7 or 8 while the engine is moving slowly.

"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 locomotive may take off like a race car.

BC RAIL ROCK LIGHTS

If you model BC Rail and you want to install the BC Rail rock lights, we've included them in the box. We've also included a separate set of solder pads on the circuit board in the fuel tank for you to wire these too, so there's no guess work involved. Just solder the red wire to the **U+** and black wire to the **X2** solder pads as shown in the diagram.



LIMITED LIFETIME WARRANTY

We will do our best to solve any problems or issues that you may have with your Dash 8-40CM 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. We normally keep spares for up to six months after a model is released. If you are like most of us and – after purchasing this locomotive – you shoved it under your layout and are now opening it for the first time in 2041, then you're probably on your own if there are any issues. If you caused the damage yourself, please don't hesitate to contact us. We will still try and fix your model, though we may need to charge a fee for the work and/or replacement parts.

ACKNOWLEDGEMENTS

Thank you to everyone who badgered us to make the ditch lights work. You were right and we were wrong and we think it's a better model because of it. Thanks also to Gareth Bayer, Dan Dell'Unto, Laslo Dora and Dave Minshall. Thanks of course to Richard Longpre for his excellent French translation, though we are just guessing it is excellent as we haven't given this to him yet.

