

TESTING

All MRC decoders have been factory programmed with address #3, 28/128 speed steps and maximum top voltage. **Never run the installed decoder on your layout without first successfully running on test track.** Otherwise, you may damage the decoder if it is not wired correctly or if you have not properly isolated the motor, chassis and lights.

To test, place the loco on the test track. Select the "Run" mode of your DCC system and select or acquire address #3. Move up the throttle and the loco should move forward. Push the light button [F0] and the front headlight should come on. Change the direction of the loco and the loco should change direction and the rear headlight (if equipped) should come on. The loco cannot reach full speed, due to the resistor. If all above occurs, you passed the test. Congratulations!

Do not run the loco for an extended period of time on the test track or the resistor will overheat.

If your installed decoder does not pass the test, find the problem, correct it and test it again.

TROUBLE SHOOTING

The MRC 0001641 and 0001642 N gauge decoder should perform well with all DCC systems. See your DCC system manual to learn how to program and operate the decoder. For more information about register/CVs and their functions, please refer to the NMRA DCC Standard & Recommended practices, RP-9.2.2 this is available directly from the NMRA or their website at www.nmra.org.

Whenever the decoder doesn't work please use program track to re-program the loco address to factory setting. This should bring the decoder to life.

FCC COMPLIANCE

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions. (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that cause undesired operation.

RETURN PROCEDURE

If it should become necessary to return your decoder, remove the decoder from the loco chassis and return. Please include a letter, [printed clearly], with your name, address, daytime phone number, and a detailed description of the problem you are experiencing. Include a \$9.50 check to cover shipping and handling.

Warranty does not include abuse, neglect, or using this product for anything other than it's intended purpose. Warranty coverage will be handled on a case by case basis, and other charges may apply for repair/replacement of the product.

Send the decoder to:

Model Rectifier Corporation
Attn: Parts & Service
80 Newfield Avenue
Edison, NJ 08837-3817 U.S.A

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80 NEWFIELD AVENUE
EDISON, NJ 08837-3817

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N Gauge DCC Decoder

Item #0001641 for most Atlas N Scale

Item #0001642 for Kato SD70 MAC & AC4400

Thank you for purchasing our highly advanced DCC locomotive decoder. Combined with any DCC System, our new decoder make your model railroad come to life.

- 1.0 amp capacity
- Programmable for either 2-digit (1-127) or 4-digit (1-9999) addresses
- Programmable start voltage
- Programmable acceleration rate
- Programmable deceleration rate
- Programmable top voltage
- Programmable 14, 28, 128 speed steps
- Supports advanced consisting (CV19)
- Supports programming on the main (OPS mode)
- Compatible with NMRA DCC standards
- Complies with Part 15 of FCC regulations
- Directly replaces original PC Board

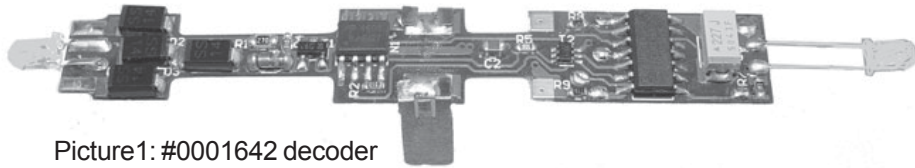
INSTALLATION

Your new MRC 0001642 decoder will virtually "drop-in" to a Kato SD70MAC & AC4400 diesel locomotive. Although easy, please follow instructions carefully.

Remove the locomotive body following Kato's instructions. Remove the original circuit board by very carefully sliding the circuit board slightly to the rear of the chassis. Lift out. The 0001642 decoder is installed in the same location.

First, deburr the chassis (with emery cloth) any casting flash that may cause a sharp edge under the location of the insulation tape. Then, using **electrical or equiv plastic tape**, carefully tape the chassis in the areas shown in piture 2 to isolate the decoder from the chassis. This must be done to prevent damage to the decoder. Align the decoder and carefully insert it in the slots in the chassis. Gently press down on the rear of the decoder while sliding it into position, being careful not to bend the vertical copper motor contacts on the side of the chassis. Ensure the vertical copper contacts (on the decoder) cover the thin vertical motor contacts. The motor contact must not touch the loco chassis. The decoder installation is complete.

When replacing the body, ensure the copper contacts on the trucks are under the horizontal chassis contacts.

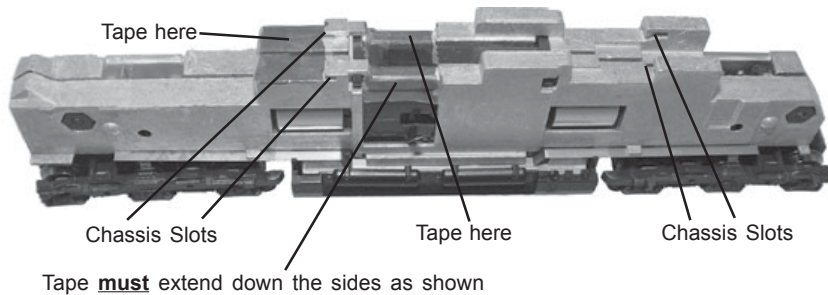


Picture1: #0001642 decoder

CAUTION:

The decoder must be isolated as shown. Apply electrical tape or plastic equiv.) tape in the areas shown to prevent the electrical contacts from touching the chassis and damaging the decoder.

picture 2: the loco chassis that 0001642 decoder designed for

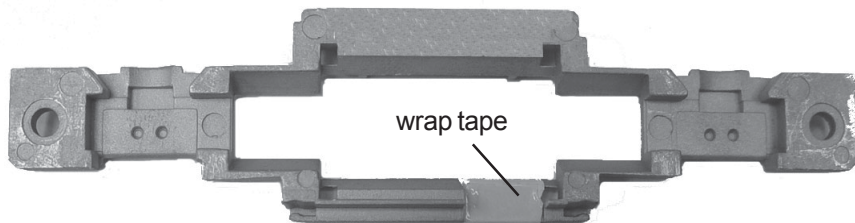


The 0001641 decoder is designed to fit most Atlas locomotives. The body shell and fuel tank casting must be removed and the frame halves must be split to remove the original circuit board. Wrap the whole notch on both frame halves with tape to prevent motor's contact (picture 4) from touching the chassis. Otherwise, the decoder will be destroyed if the motor's contact touches any unwrapped part of the chassis.

Picture3: #0001641 decoder



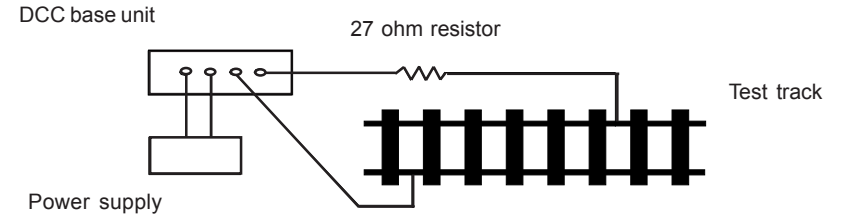
picture 4: the loco chassis that 0001641 decoder designed for



MAKING A TEST TRACK

When you complete the decoder installation, we strongly recommend building a test track with a 27 ohm resistor to limit current. Only test your installed decoder on the test track. The test track may prevent damage from an incorrectly installed decoder.

Note: The program track is NOT a test track. The program track does not use a current limiting resistor. So it can't protect an incorrectly installed decoder.



picture 5. Diagram of test track

PROGRAMMING

This decoder supports all programming methods including: register, paged CV, direct CV, and programming on the main (ops mode programming).

CV	Register	Description	Range	Default
CV1	R1	Short address	1-127	3
CV2	R2	Start voltage	0-32	0
CV3	R3	Acceleration	0-32	0
CV4	R4	Deceleration	0-32	0
CV5	---	Top voltage	0-32	32
---	R6	Page number	---	---
CV29	R5	Basic configuration	---	2
CV7	R7	Manufacturer version number	---	32
CV8	R8	Manufacturer ID	---	143
CV17	---	Long address upper byte	192-231	192
CV18	---	Long address lower byte	0-255	3
CV19	---	Advanced consist address	0-127	0
CV105	---	User identification number	0-255	0
CV106	---	User identification number	0-255	0