Shourt Line

LGB

Instruction Manual and Service Drawings

LGB 24266 G Nicki & Frank S Narrow Gauge Locomotive & Tender

Safety Notes

- This model may only be used with the operating system designed for it.
- Use only switched mode power supply units and transformers that are designed for your local power system.
- This locomotive must never be supplied with power from more than one power pack.
- Pay close attention to the safety notes in the instructions for your operating system.
- Not for children under the age of 15.
- **WARNING!** Sharp edges and points required for operation.

Important Notes

- The operating instructions are a component part of the product and must therefore be kept in a safe place as well as included with the product, if the latter is given to someone else.
- Please see your authorized LGB dealer for repairs or spare parts.
- Disposing: www.maerklin.com/en/imprint.html

Functions

- This model is designed for operation on LGB two-rail DC systems with conventional LGB DC train controllers or power packs (DC, 0 - 24 volts).
- Factory-installed multiple protocol decoder (DC, DCC, mfx).
- The model is programmed with locomotive address 03 for use with the LGB Multi Train System (DCC). The locomotive is automatically recognized in operation with mfx.

Note: Use a locomotive controller with more than 1 amp of train current for this model.

Preparation

Couple the locomotive to the tender:

- Plug the connecting wire for the locomotive into the socket on the tender and plug the wire from the tender into the locomotive. Do not get the wires mixed up!
- Hang the coupler hook on the locomotive in the loop on the tender.

Mode of Operation Switch

This model has a four-position mode of operation switch in the tender under the right water hatch (Figure 1).

Pos. 0	Locomotive stopped without current
Pos. 1	Locomotive motors, sound, and lighting are turned on
Pos. 2 & 3	Same as Pos. 1

Multi-Purpose Socket

The model has a "flat" multi-purpose socket, with a removable cover, on the rear of the tender (Fig. 2). If you are equipping a car with interior lighting or with a sound effects module, you can connect it to the socket and power that circuit with track

voltage. To remove the cover of the socket, pull it straight out. If the cover is tight, gently use a small straight screwdriver to pry it out (do not pull out the rectangular outer housing).

Sound

This model has a volume controller in the tender under the left water hatch (Figure 3). The whistle also can be triggered by the LGB Sound Magnet (17050) included with this model. The 17050 snaps between the ties of most LGB track sections. The magnet in the 17050 is under the LGB logo. If the contact is installed with the logo on the right side of the track (in the direction of travel), it will trigger the whistle as the model passes. When it is set to the other side, the bell will sound.

Multi-Protocol Operation

Analog Operation

This decoder can also be operated on analog layouts or areas of track that are analog. The decoder recognizes alternating current (DC) and automatically adapts to the analog track voltage. All functions that were set under mfx or DCC for analog operation are active (see Digital Operation).

Digital Operation

The decoders are multi-protocol decoders. These decoders can be used under the following digital protocols: mfx or DCC.

The digital protocol with the most possibilities is the highest order digital protocol. The sequence of digital protocols in descending order is:
Priority 1: mfx; Priority 2: DCC; Priority 3: DC

Note: Digital protocols can influence each other. For trouble-free operation, we recommend deactivating those digital protocols not needed by using CV 50. Deactivate unneeded digital protocols at this CV if your controller supports this function.

If two or more digital protocols are recognized in the track, the decoder automatically takes on the highest order digital protocol, example: mfx/DCC; the decoder takes on the mfx digital protocol (see previous table).

Note: Please note that not all functions are possible in all digital protocols. Several settings for functions, which are supposed to be active in analog operation, can be done under mfx and DCC.

Notes on digital operation

- The operating instructions for your central unit will give you exact procedures for setting the different parameters.
- The values set at the factory have been selected for mfx/DCC in order to guarantee the best possible running characteristics. Adjustments may have to be made for other operating systems.
- The setting done at the factory does not permit operation with opposite polarity

DC power in the braking block. If you want this characteristic, you must do without conventional DC power operation (CV 29/Bit 2 = 0).

mfx Protocol

Addresses

- No address is required; each decoder is given a one-time, unique identifier (UID).
- The decoder automatically registers itself on a Central Station or a Mobile Station with its UID.

Programming

- The characteristics can be programmed using the graphic screen on the Central Station or also partially with the Mobile Station.
- All of the Configuration Variables (CV) can be read and programmed repeatedly.
- The programming can be done either on the main track or the programming track.
- The default settings (factory settings) can be produced repeatedly.
- Function mapping: Functions can be assigned to any of the function buttons with the help of the 60212 Central Station (with limitations) and with the 60213/60214/60215 Central Station (See help section in the Central Station).

DCC Protocol

Addresses

- Short address – long address – multiple unit address
- Address range:
  1 - 127 for short address and multiple unit address,
  1 - 10239 for long address
- Every address can be programmed manually.
- Short or long address is selected by means of CV 29 (Bit 5).
- A multiple unit address that is being used deactivates the standard address.

Programming

- The characteristics can be changed repeatedly using the Configuration Variables (CV).
- The CV numbers and the CV values are entered directly.
- The CVs can be read and programmed repeatedly. (Programming is done on the programming track.)
- The CVs can be programmed in any order desired. (Programming can be done on the main track PoM. The PoM can only be done with those designated in the CV table. Programming on the main track PoM must be supported by your central controller (Please see the description for this unit.).
- The default settings (factory settings) can be produced repeatedly.

- 14/28 or 126 speed levels can be set.
- All of the functions can be controlled according to the function mapping (see CV description).
- See the CV description for the DCC protocol for additional information.

We recommend that in general programming should be done on the programming track.

Controllable Functions	
Lighting *	☀
Sound effect: Long locomotive whistle	1
Sound effect: Operating sounds *	2
Sound effect: Bell	3
Sound effect: Station announcements	4
Sound effect: Short whistle blast	5
Sound effect: Blowing off steam	6
Smoke generator	7
Sound off/on	8
Engineer's cab lighting	9
Sound effect: Air pump	10
Sound effect: Coal being shoveled	11
Sound effect: Generator	12
Sound effect: Squealing brakes off	13
ABV, off	14
Low speed switching range & Double A switching light	15

* active in analog operation

Function Mapping

It is possible to assign functions controlled from the decoder to function buttons of your choice (mapping). To do this an appropriate value must be entered in the appropriate CV.

The CVs (lines) and the functions (columns) are listed in the tables on pages 42/43. Four CVs belong to each button. For space reasons the 4 CVs were put together in one line starting with CV 282 (Button F5).

It is basically possible to assign several functions to one button or one function to several buttons.

Note: The programming for function mapping should be done only by experienced users.

Individual functions can be controlled by means of SUSI depending on the design of the decoder. These functions can be handled by the decoder as sound. The volume levels belonging to these functions **cannot** be changed.

Examples of Function Mapping:

AUX 2 is to be forwards and backwards on Function 3
CV 272 & CV 372 = 8
CV 273 & CV 373 = 0
CV 274 & CV 374 = 0
CV 275 & CV 375 = 0

Sound 15 is to be shifted from forwards and backwards on Function 3 to Function 8. The existing function at Function 8 is overwritten in the process.

CV 275 & CV 375 = 0
CV 273 & CV 373 = 0
CV 274 & CV 374 = 0 } away from Function 3
CV 275 & CV 375 = 0

CV 297 & CV 397 = 0
CV 298 & CV 398 = 0
CV 299 & CV 399 = 0 } to Function 8
CV 300 & CV 400 = 4

↑ forwards   ↑ backwards

Programming the CV with the 55015 Universal Hand Controller

The decoder built into your locomotive is a further development of the previous LGB decoder-technology. A lot more functions are available on this decoder than was previously customary. More possibilities for making settings on the decoder are however, necessary compared to previous decoders in order to be able to adapt these functions to your personal needs. These settings can also be done with the 55015 Universal Hand Controller. Since the Universal Hand Controller was not designed for this decoder, the correct procedure with this controller is somewhat more involved.

We basically have to differentiate among 3 different programming methods:
• Programming by means of registers (up to CV 5)
• Programming by means of CVs (up to CV 255)
• Programming by means of pages (up to CV 1024)

The individual programming processes are described below. There is a requirement in each case that the programming module is plugged in and the locomotive with the decoder is standing on the corresponding track.

Programming by means of Registers (Universal-Handy 55015)

CV 1 – 5 can be programmed when programming by means of registers.
• When the programming module is plugged in, the hand controller will show $\boxed{C\ \text{--}}$.
• Enter the desired CV as a two-digit number, example: „02".
• The hand controller will show $\boxed{d\ \text{-}}$
• Now, enter the desired value and confirm it by pressing on the arrow button ▶.
• The hand controller will again show $\boxed{C\ \text{--}}$.

The programming is complete and the desired value has been programmed into the decoder.

Programming by means of CVs

Programming by means of CVs only allows changes to CVs 1 – 5. Another method is necessary in order to program higher CVs. Programming by means of CVs allows changes to CVs 1 – 255.

Programming by means of Pages (Universal-Handy 55015)

All CVs up to CV 1024 can be changed with programming by means of pages. The process can be compared to programming by means of CVs, but it uses the CVs 1 to 4 in place of CV 5 for the value. Pages are areas in which 4 addresses can be summarized. CVs 1 to 4 correspond then to the 4 addresses that are summarized on the page. The numbers to be entered can be generated with the following equations:

(CV - 1) / 4 = Page   Whole number result is Page
(decimal x 4) + 1 = Data CV

If for example CV 322 is to be programmed at 200, the following calculation will result:
(322 -1) / 4 = 80,25   Page 80;   CV6 = 80
0,25 x 4 + 1 = ②   Value in CV 2

In order to program that the „page" 80 is first programmed in CV 6 and the value 200 is immediately programmed in CV 2.

Maintenance

Lubrication

Oil the axle bearings and the side rod bearings now and then with a drop of Märklin oil (item no. 7149).

Replacing Light Bulbs (E130023)

Lamps (front, above in the rear): Pull the lamp housing from the model. Pull the light bulb from the socket. Insert the new light bulb. Put the model back together.

Lamps (lower rear): Remove the ring on the outside of the lamp glass. Carefully lift the glass from the lantern. Pull the light bulb from the socket with a pair of tweezers. Insert the new light bulb. Put the model back together.

Interior Lighting: Pull the light bulb from the socket with a pair of tweezers. Insert the new light bulb.

Replacing Traction Tires (E126174)

- Remove the valve gear hanger between the first and second axle.
- Loosen the hex head screws used to mount the drive rods and side rods to the third axle.
- There are several screws on the underside of the drive gear: Remove the second and fifth screws from the front.
- Pull the drive gear out of the frame. Detach the wire.
- Use a small flat blade screwdriver to change the traction tire:
- Lift the old traction tire from the groove in the driving wheel.
- Carefully push the new traction tire into the groove.
- Make sure that the traction tire is properly seated.
- Put the model back together.

Replacing the Smoke Unit

- Pull the cover from the smoke stack (Fig. 5).
- Remove the damaged smoke unit (smoke stack insert) from the smoke stack with needle nose pliers or a pair of tweezers (Fig. 6).
- Cut the wires.
- Connect the wires to the new smoke unit. When doing this twist the ends of the wire that have had insulation stripped from them and insulate them from contact with other wires (Fig. 7).
- Push the new smoke unit into the smoke stack.
- Put the model back together.

Register	Assignment	Range	Default
1	Address	1 – 127	3
2	Minimum speed	0 – 255	25
3	Acceleration delay	0 – 255	5
4	Braking delay	0 – 255	5
5	Maximum speed	0 – 255	255
8	Reset	8	
13	Function F1 – F8 with alternative track signal	0 – 255	66
14	Function FL, F9 – F15 with alternative track signal	0 – 255	1
17	Expanded address, higher value byte	192 – 231	192
18	Expanded address, lower value byte	0 – 255	128
19	Multiple unit operation address	0 – 255	0
21	Functions F1 – F8 with multiple unit operation	0 – 255	0
22	Function FL, F9 – F15 with multiple unit operation	0 – 255	0
29	Bit 0: Direction normal/inverted Bit 1: Number of speed levels 14/28(128) Bit 2: Analog operation off/on Bit 5: short / long address active	0/1 0/2 0/4 0/32	6
50	Alternative Formats Bit 1: Analog DC Bit 3: mfx off/on	0/2 0/8	10
53	Motor control – control reference	0 – 255	230
54	Motor control – control parameter K	0 – 255	16
55	Motor control – control parameter I	0 – 255	32
56	Motor control – control influence	0 – 255	42
57	Steam chuff 1		0
58	Steam chuff 2		2
63	Total volume	0 – 255	255
64	Threshhold for squealing brakes	0 – 255	55
67 – 94	Speed table for speed levels 1 – 28	0 – 255	
112	Mapping lights in the front, mode	0 – 16	1
113	Mapping lights in the front, dimmer	0 – 255	20
114	Mapping lights in the front, cycle	0 – 255	255
115 – 135	Mapping phys. outputs, lights in the rear, Aux 1 – 6, compare 112 – 114	0 – 16 0 – 255	
137	Factor for switching range	1 – 128	128
138	Volume for squealing brakes	0 – 255	255
139 – 155	Volume for individual sounds	0 – 255	255
176	Minimum speed in analog DC	0 – 255	80
177	Maximum speed in analog DC	0 – 255	255
257 – 260	Function mapping Function FL forwards	0 – 255	257 = 1
262 – 265	Function mapping Function F1 forwards	0 – 255	263 = 16
267 – 270	Function mapping Function F2 forwards	0 – 255	268 = 8
272 – 275	Function mapping Function F3 forwards	0 – 255	273 = 64
277 – 280	Function mapping Function F4 forwards	0 – 255	278 = 128
282 – 285	Function mapping Function F5 forwards	0 – 255	283 = 32
287 – 290	Function mapping Function F6 forwards	0 – 255	290 = 1
292 – 295	Function mapping Function F7 forwards	0 – 255	292 = 1
297 – 300	Function mapping Function F8 forwards	0 – 255	300 = 2

Register	Assignment	Range	Default
302 – 305	Function mapping Function F9 forwards	0 – 255	302 = 8
307 – 310	Function mapping Function F10 forwards	0 – 255	309 = 64
312 – 315	Function mapping Function F11 forwards	0 – 255	314 = 16
317 – 320	Function mapping Function F12 forwards	0 – 255	319 = 8
322 – 325	Function mapping Function F13 forwards	0 – 255	323 = 4
327 – 330	Function mapping Function F14 forwards	0 – 255	328 = 1
332 – 335	Function mapping Function F15 forwards	0 – 255	332 = 3
337 – 340	Function mapping standstill forwards	0 – 255	
342 – 345	Function mapping running forwards	0 – 255	
347 – 350	Function mapping Sensor 1 forwards	0 – 255	
352 – 355	Function mapping Sensor 2 forwards	0 – 255	
357 – 360	Function mapping Function FL backwards	0 – 255	357 = 2
362 – 365	Function mapping Function F1 backwards	0 – 255	363 = 16
367 – 370	Function mapping Function F2 backwards	0 – 255	368 = 8
372 – 375	Function mapping Function F3 backwards	0 – 255	373 = 64
377 – 380	Function mapping Function F4 backwards	0 – 255	378 = 128
382 – 385	Function mapping Function F5 backwards	0 – 255	383 = 32
387 – 390	Function mapping Function F6 backwards	0 – 255	390 = 1
392 – 395	Function mapping Function F7 backwards	0 – 255	392 = 1
397 – 400	Function mapping Function F8 backwards	0 – 255	400 = 2
402 – 405	Function mapping Function F9 backwards	0 – 255	402 = 8
407 – 410	Function mapping Function F10 backwards	0 – 255	409 = 64
412 – 415	Function mapping Function F11 backwards	0 – 255	414 = 16
417 – 420	Function mapping Function F12 backwards	0 – 255	419 = 8
422 – 425	Function mapping Function F13 backwards	0 – 255	423 = 4
427 – 430	Function mapping Function F14 backwards	0 – 255	428 = 1
432 – 435	Function mapping Function F15 backwards	0 – 255	432 = 2
437 – 440	Function mapping standstill forwards backwards	0 – 255	
442 – 445	Function mapping running forwards backwards	0 – 255	
447 - 450	Function mapping Sensor 1 backwards	0 – 255	
452 – 455	Function mapping Sensor 2 backwards	0 – 255	
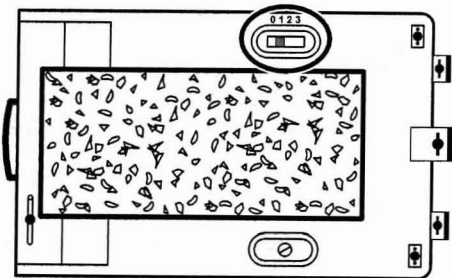
Bild 1, Betriebsartenschalter
Fig. 1, Power control switch
Img. 1, Modes d'exploitation
Afb. 1, Bedrijfssoorten schakelaar
Fig. 1, Selector de modo de funcionamiento
Figura 1, Commutatore del tipo di esercizio
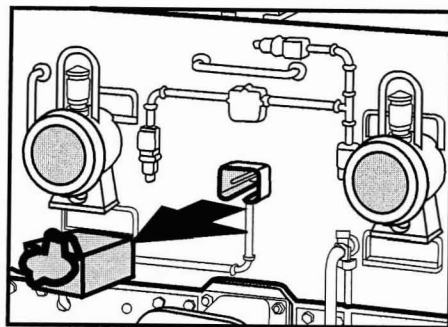
Bild 2, Mehrzweck-Steckdose
Fig. 2, Multi-purpose socket
Img. 2, Douille à usages multiples
Afb. 2, Universele stekerbus
Fig. 2, Enchufe multiuso
Figura 2, Presa a innesto per uso promiscuo
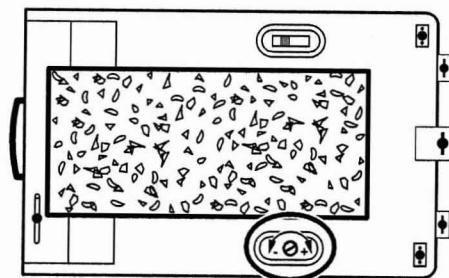
Bild 3, Lautstärkeregler
Fig. 3, Volume Control
Img. 3, Commande de réglage du volume sonore
Afb. 3, Volumeregelaar
Fig. 3, Regulador de volumen de sonido
Figura 3, regolatore di volume sonoro
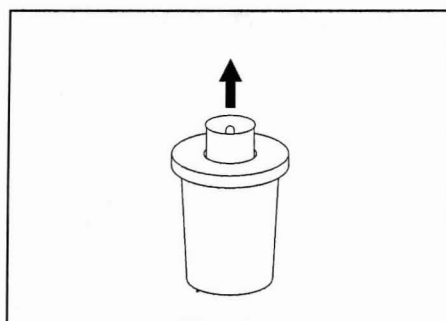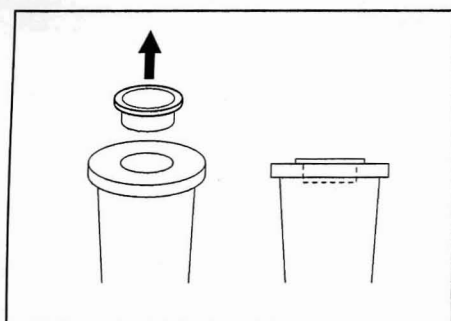
Bild 4,5 & 6, Austausch des Dampfentwicklers
Fig. 4,5 & 6, Replacing the smoke unit
Img. 4,5 & 6, Remplacement du générateur de fumée
Afb. 4,5 & 6, Vervangen van de rookgenerator
Fig. 4,5 & 6, Sustitución del generador de vapor
Figura 4,5 & 6, Sostituzione del generatore di vapore
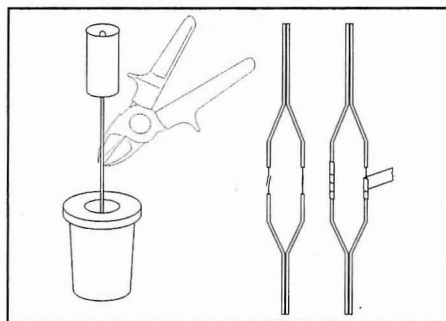
Bild 7, zum Öffnen der Lok die markierten Schrauben entfernen
Fig. 7, remove the screws marked in the image in order to open the locomotive
Img. 7, Pour ouvrir la locomotive, retirez les vis marquées
Afb. 7, voor het openen van de loc de gemarkeerde schroeven verwijderen
Fig. 7, para abrir la loco, extraer los tornillos marcados
Figura 7, per l'apertura della locomotiva rimuovere le viti contrassegnate

CV	Taste	Sound 20	Sound 19	Sound 18	Sound 17	Sound 16	Sound 15	Sound 14	Sound 13	Sound 12	Sound 11	Sound 10	Sound 9	Sound 8	Sound 7	Sound 6	Sound 5	Sound 4	Sound 3	Sound 2	Sound 1	Fahrsound	Bremss.	Rangiergang	ABV	AUX 6	AUX 5	AUX 4	AUX 3	AUX 2	AUX 1	LR	LV
257	FL																									128	64	32	16	8	4	2	1
258	FL																	128	64	32	16	8	4	2	1								
259	FL									128	64	32	16	8	4	2	1																
260	FL	128	64	32	16	8	4	2	1																								
262	F1																									128	64	32	16	8	4	2	1
263	F1																	128	64	32	16	8	4	2	1								
264	F1									128	64	32	16	8	4	2	1																
265	F1	128	64	32	16	8	4	2	1																								
267	F2																									128	64	32	16	8	4	2	1
268	F2																	128	64	32	16	8	4	2	1								
269	F2									128	64	32	16	8	4	2	1																
270	F2	128	64	32	16	8	4	2	1																								
272	F3																									128	64	32	16	8	4	2	1
273	F3																	128	64	32	16	8	4	2	1								
274	F3									128	64	32	16	8	4	2	1																
275	F3	128	64	32	16	8	4	2	1																								
277	F4																									128	64	32	16	8	4	2	1
278	F4																	128	64	32	16	8	4	2	1								
279	F4									128	64	32	16	8	4	2	1																
280	F4	128	64	32	16	8	4	2	1																								
282-285	F5	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
287-290	F6	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
292-295	F7	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
297-300	F8	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
302-305	F9	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
307-310	F10	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
312-315	F11	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
317-320	F12	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
322-325	F13	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
327-330	F14	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
332-335	F15	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
337-340	Stand	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
342-345	Fahrt	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
347-350	Sen.1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1

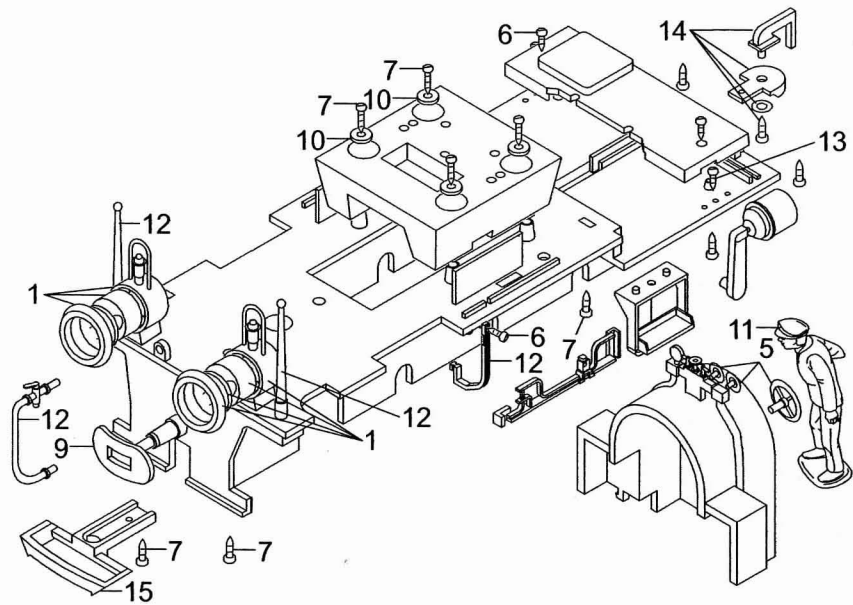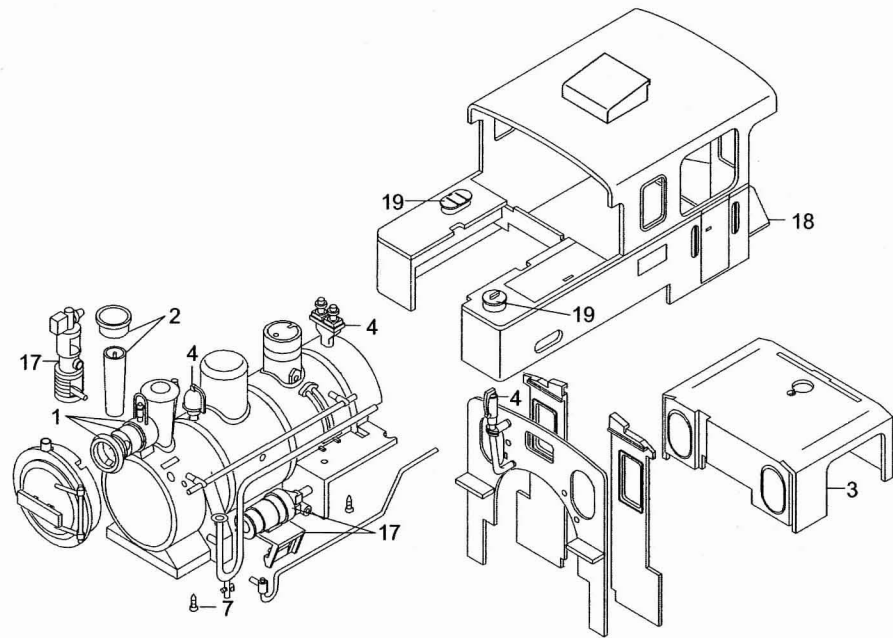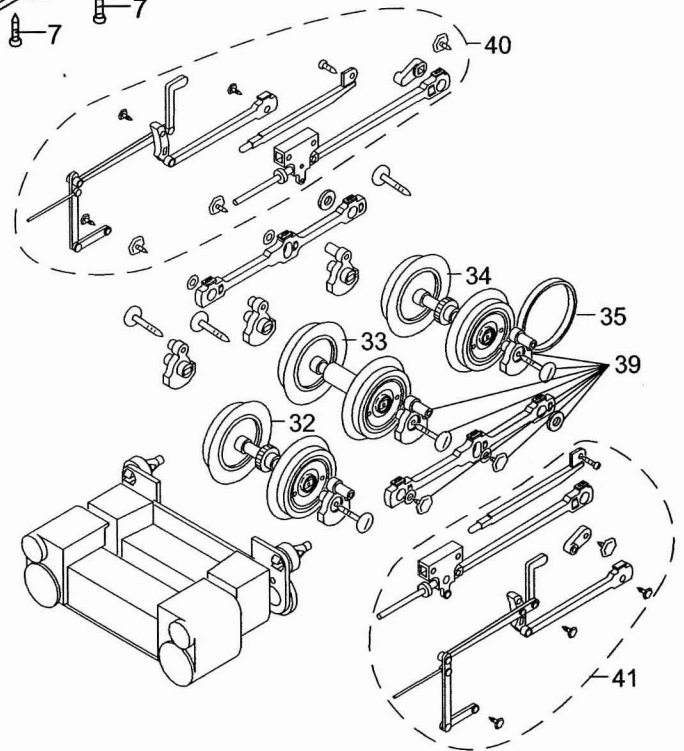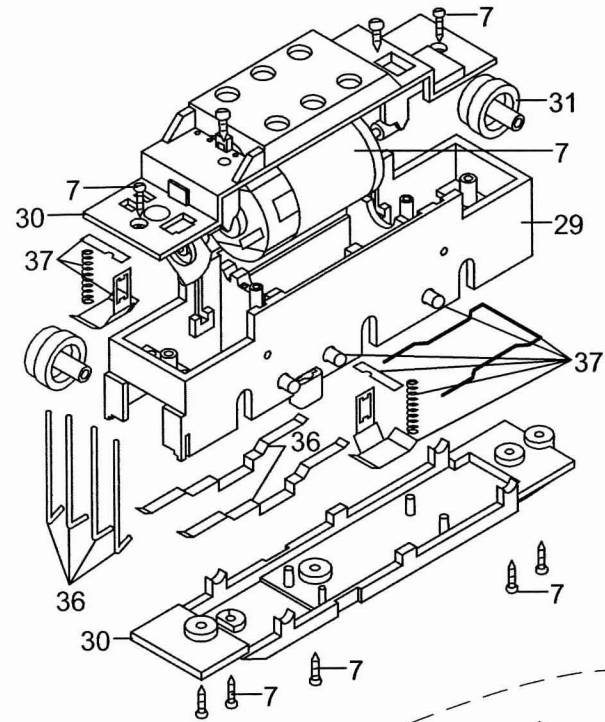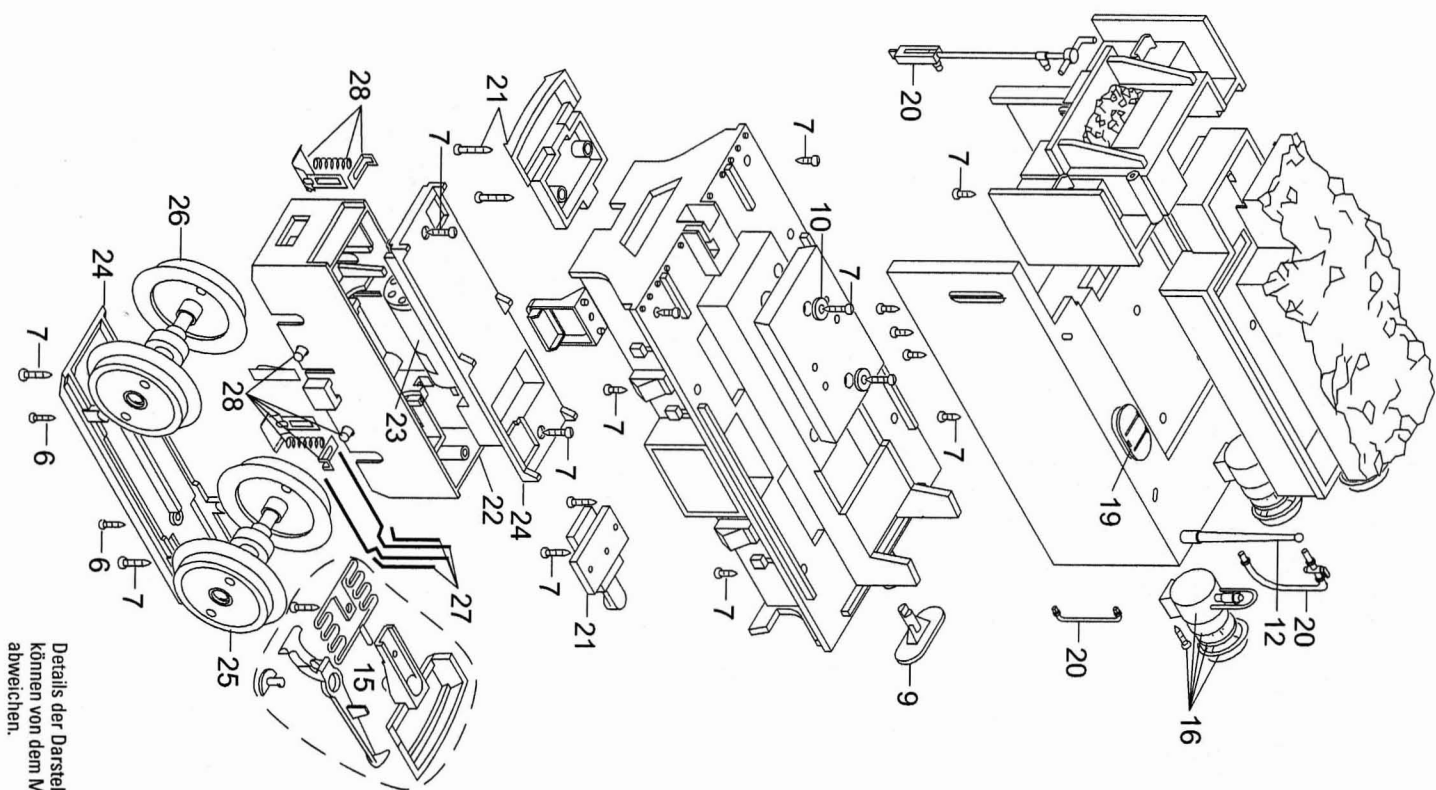| CV	Taste	Sound 20	Sound 19	Sound 18	Sound 17	Sound 16	Sound 15	Sound 14	Sound 13	Sound 12	Sound 11	Sound 10	Sound 9	Sound 8	Sound 7	Sound 6	Sound 5	Sound 4	Sound 3	Sound 2	Sound 1	Fahrsound	Bremss.	Rangiergang	ABV	AUX 6	AUX 5	AUX 4	AUX 3	AUX 2	AUX 1	LR	LV
352-355	Sen.2	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
357-360	FL	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
362-365	F1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
367-370	F2	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
372-375	F3	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
377-380	F4	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
382-385	F5	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
387-390	F6	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
392-395	F7	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
397-400	F8	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
402-405	F9	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
407-410	F10	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
412-415	F11	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
417-420	F12	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
422-425	F13	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
427-430	F14	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
432-435	F15	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
437-440	Stand	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
442-445	Fahrt	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
447-450	Sen.1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
452-451	Sen.2	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1

Details der Darstellung
können von dem Modell
abweichen.

Details der Darstellung
können von dem Modell
abweichen.

Details der Darstellung können von dem Modell abweichen.

1	Laterne	E185 948
2	Dampfschlot	E185 949
3	Fenster	E185 950
4	Glocke, Pfeife, Ventil	E185 951
5	Handräder	E185 952
6	Schraube	E124 010
7	Schraube	E124 197
8	Schraube	E124 205
9	Puffer	E129 266
10	Beilagscheibe	E124 208
11	Lokführer	E132 022
12	Bremsschl. Stangen, Schürze	E185 953
13	Schraube	E129 265
14	Kupplungshaken mit Platte	E185 954
15	Kupplung	E171 327
16	Lampe f. Tender	E185 955
17	Pumpe, Generator m. Halter	E185 957
18	Übergangsblech	E180 455
19	Wasserkastendeckel	E185 958
20	Steckteile am Tender	E185 960
21	Kupplungshaken	E185 961
22	Getriebe-Mittelteil	E126 006
23	Motor	E126 050
24	Getriebe-Deckel, Boden	E185 962
25	Radsatz	E180 599
26	Radsatz	E126 580
27	Kontaktdrähte	E177 051
28	Schleifschuh u. Kohle	E171 326
29	Getriebe-Mittelteil	E144 034
30	Getriebedeckel, Boden	E185 774
31	Untersetzungszahnr.	E133 761
32	Radsatz	E180 518
33	Radsatz	E180 520
34	Radsatz	E180 522
35	Haftreifen	E126 174
36	Schleifer	E162 586
37	Schleifer	E185 963

38	Schraube	E124 014
39	Kuppelstange	E185 964
40	Gestänge komplett rechts	E185 965
41	Gestänge komplett links	E185 966

Hinweis: Einige Teile werden nur ohne oder mit anderer Farbgebung angeboten. Teile, die hier nicht aufgeführt sind, können nur im Rahmen einer Reparatur im Märklin-Reparatur-Service repariert werden.