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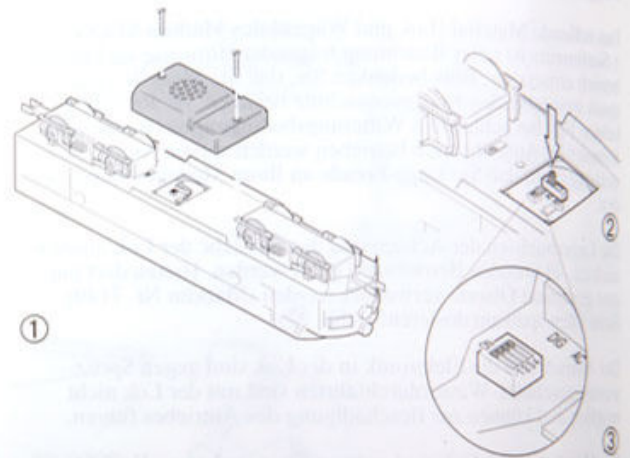
Operation

This locomotive can be run on track with a radius of at least 600 mm (23-5/8"). It is designed for operation on two-rail track with a gauge of 45 mm (1-3/4").

This locomotive is set at the factory for operation with alternating current. Changing the switch settings on the electronic circuit board will allow you to operate the locomotive with Märklin DELTA/Digital or with direct current.

Changing to DELTA/Digital operation

1. Remove the cover on the bottom of the locomotive (illustration ①).
2. Set the operating mode switch for DELTA/Digital (left position DIG, illustration ②).
3. The DELTA or Digital address can also be set on the circuit board with the 4 coding switches (illustration ③ and Table 1).
4. Screw the cover back in place on the locomotive.



Operation

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The following settings are possible:
Table 1

Switch				
1	2	3	4	
on	off	off	off	DELTA = address 1 / Digital = address 78
on	on	off	off	DELTA = address 2 / Digital = address 72
on	off	on	off	DELTA = address 3 / Digital = address 60
on	off	off	on	DELTA = address 4 / Digital = address 24
off	on	on	on	Digital = address 02
off	off	on	on	Digital = address 08
on	off	on	on	Digital = address 06
on	on	off	on	Digital = address 18
off	on	off	on	Digital = address 20
off	off	off	on	Digital = address 26
on	on	on	off	Digital = address 54
off	on	on	off	Digital = address 56
off	off	on	off	Digital = address 62
off	on	off	off	Digital = address 74
on	on	on	on	Digital = address 80

Changing to direct current/alternating current operation

1. Remove the cover on the bottom of the locomotive (illustration ①).
2. Set the operating mode switch for direct current (right position DC, illustration ②) or for alternating current (center position AC, illustration ②).
3. Put the cover back in place on the locomotive.

Important: Always provide the locomotive with the type of current for which it has been set. If a locomotive does not run on the layout, runs uncontrolled or cannot be reversed, then the first thing to check is whether the circuit plate in the locomotive is set correctly for the type of operation you have selected for the layout.

Märklin MAXI locomotives conform to the NEM 621 standard for DC operation. Unfortunately not all systems out on the market conform to this standard. Please have your local authorized dealer send this locomotive to the Märklin repair service for conversion to the systems not in conformity with the standard.

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Operation

Operation with alternating current

When operating with alternating current using the TRANSFORMER 32 VA (no. 6647) or the 6606 locomotive controller, the speed control knob must first be turned to the zero setting to reverse the locomotive. After a short pause turn the speed control knob briefly to the left until you can feel that the knob cannot be turned further. Never go directly from a transformer speed setting where the locomotive is in motion to the reverse setting.

Operation with DELTA

The DELTA Station (6607) central electronic unit and the DELTA Mobil (6608) hand controller are suitable for control of the locomotive with the DELTA system. Set the address selection switch on the hand controller to the DELTA address that has been set in the locomotive.

Turn the speed control knob from the zero setting to the right = locomotive is traveling forward.

Turn the speed control knob from the zero setting to the left = locomotive is traveling in reverse.

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Operation with Digital

Enter at the locomotive controller (Control Unit 6021, Control 80 f 6036) the digital address that has been set in the locomotive. The speed control knob must first be turned to the zero setting to reverse the locomotive. After a short pause turn the speed control knob briefly to the left until you can feel that the knob cannot be turned further. Never go directly from a transformer speed setting where the locomotive is in motion to the reverse setting. When the switch on the locomotive is set for "Digital 1" (can be used on the backside of the Control Unit), there is also a display on the locomotive controller with direction arrows which give information about the direction in which the locomotive is travelling.

Arrow pointing up – locomotive is traveling forward.

Arrow pointing down – locomotive is traveling in reverse.

Operation with direct current

The instructions that come with the DC power pack you are using will give information on how to operate a locomotive. The locomotive is designed for operation with 14–18 volts DC.

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Operation

Coupling a 2nd unpowered locomotive to the powered unit

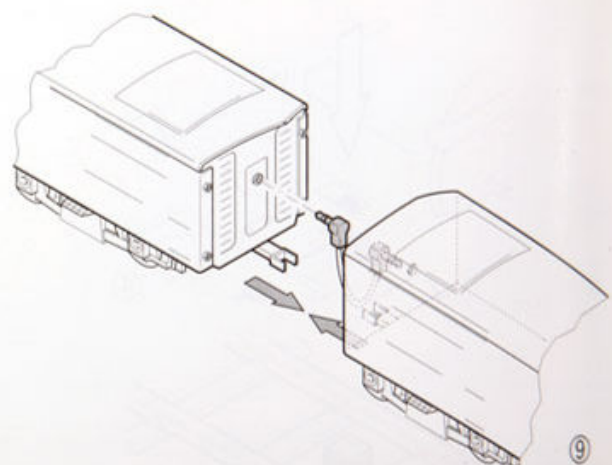
In the prototype several diesel locomotives are often used together. A second, unpowered unit is offered for this American diesel locomotive to enable you to create this attractive motive power combination.

Coupling the two units together

1. Plug the connecting cable into both locomotives (illustration ⑨).
2. Couple the locomotives together mechanically.

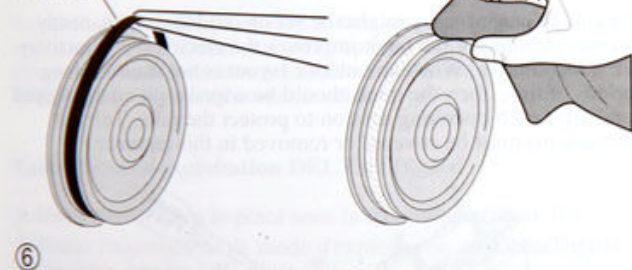
Important:

Never operate the two locomotives when they are uncoupled.



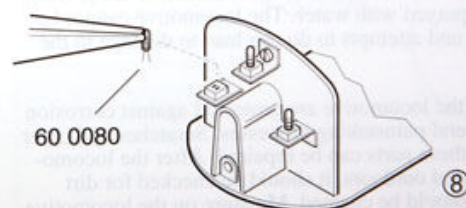
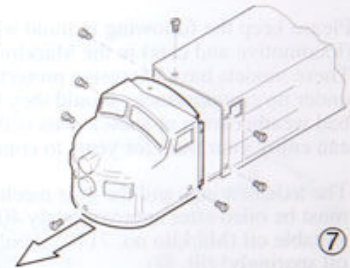
Changing traction tires

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Changing light bulbs

1. Remove front part of body (illustration 7).
2. Change light bulb (illustration 8).
3. Mount the front part of the body back in place.



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Maintenance

Service Information

Please keep the following in mind when using the rolling stock (locomotive and cars) in the Märklin Maxi I program outdoors: These models have extensive protection against corrosion, but under no circumstances should they be operated outdoors during bad weather (rain or snow). This is the only way to insure that you can enjoy your train for years to come.

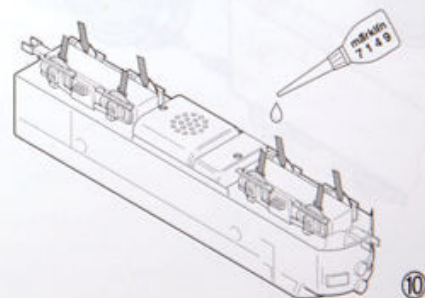
The axle bearings and the gear mechanism for the locomotive must be oiled after approximately 40 hours of operation. Only a suitable oil (Märklin no. 7149) should be used for this. Apply the oil sparingly! (ill. 10).

The mechanism and the electronics in the locomotive are protected against being sprayed with water. The locomotive cannot be run through water, and attempts to do can lead to damage to the mechanism.

The metal parts of the locomotive are protected against corrosion as the result of several painstaking processes. Scratches and other minor damages to these parts can be repaired. After the locomotive has been operated outdoors, it should be checked for dirt accumulation and should be cleaned. Moisture on the locomotive

should be removed. The locomotive should be cleaned with a dry cloth only. Never attempt to clean the locomotive with running water!

Märklin I Gauge track can also be set up outdoors permanently. Regular cleaning of the track improves the electrical conductivity to the locomotive. When an outdoor layout is not used for long periods of time, then the track should be wiped with a rag dipped in oil after each operating session to protect the rails. Turnout mechanisms must be covered or removed in this instance.



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