

Spur1
Austria

Voith Gravita 10bb

The modern shunting locomotive from Kiel

USER MANUAL

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www.Spur-1.at

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Dear Customer,

first of all we would like to thank you very much for purchasing this Spur 1 Austria model. We attach great importance to the fact that our models are the best possible replicas of the original. Our models are built for collectors as well as for railroaders and combine the highest standard of detail with state-of-the-art functionality.

The Voith Gravita 10bb is the first model from our house whose original was built in the modern Era VI. Even if modern locomotives appear smooth and uninteresting at first glance, the Gravita has shown us, how much details are worth seeing on such locomotives are available. Be it the elaborately designed bogies, the many lines on the substructure or the beautifully shaped design of the front ends and the driver's cab. There is so much that can be to discover about this locomotive and we hope that you will have the same pleasure in exploring this modern powerhouse that we had during the research and development of this model. It is with great enthusiasm that we look to the Gravita 10bb and its many paint schemes to make the 1 Gauge landscape a little more colorful and we will do our very best to expand on this. The modern era has begun and we are already looking forward to the things to come.

We now wish you much pleasure with your model
of the Voith Gravita 10bb!

Your team from
Spur 1 Austria

Scope of delivery

The scope of delivery includes:

- Voith Gravita 10bb locomotive model
- Bag with setup and spare parts
- 20 ml steam distillate
- Dosing pipette
- Cotton gloves
- Spur 1 Austria cleaning brush
- Spur 1 Austria masking cloth
- User manual

Start-up

The locomotive is bolted to a transport board and is protected by a polystyrene hood. After opening the box, the whole units can be lifted out by the closing straps. After opening the straps, the hood can be lifted straight up and removed. Now loosen the screws with which the locomotive is screwed to the board.

CAUTION! The locomotive is loose after removing the retaining screws and can be taken off the board. The locomotive has self-locking gears, but may still slip off the board.

There are two screw brackets attached to the model (Fig. 1). These are screwed directly to the frame of the model. It is best to place the models in a locomotive couch to remove the spacers. First loosen the four screws of the cover plate (Fig. 2) to remove it. Then loosen the two screws of the screw bracket (Fig. 3) so that it can be removed. Then screw the two cover plates back onto the model. Repeat the process on the second side of the model.

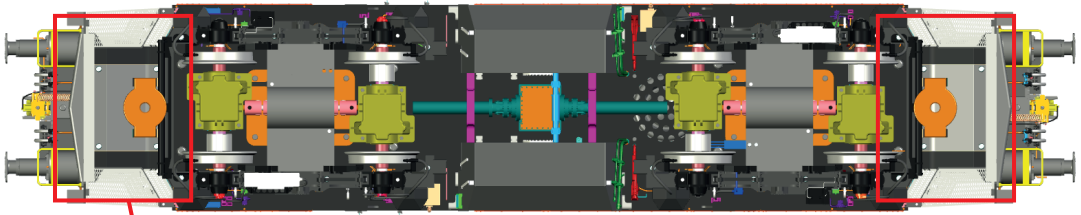


Fig. 1

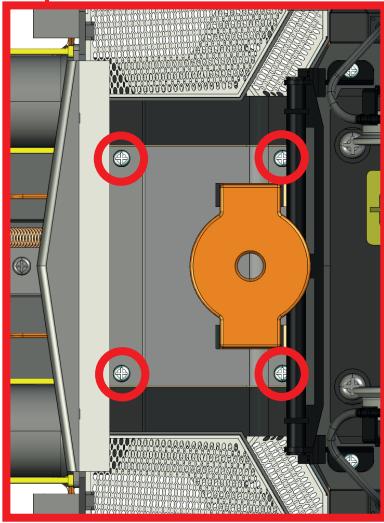


Fig. 2

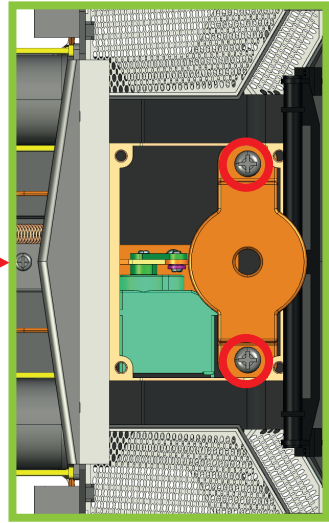


Fig. 3

Make sure that the model does not show any transport damages. You can then place the locomotive on your tracks for a first run. Make sure that no voltage is applied to the track. The locomotive can now be registered via Railcom or via locomotive address 10.

The model is maintenance free and requires no lubrication. The motor and the gearbox area are also maintenance free and do not need lubrication. The axle bearings and current collectors on the ball bearings must not be lubricated under any circumstances, as this can lead to poor conductivity and worsen or completely interrupt the current collection. Damage caused by incorrect lubrication will void the model's warranty.

Minimum radius

The Gravita 10bb model is designed for a minimum radius of 1020 mm. In the area of S-curves, a radius of approximately 1400 mm should not be undercut. We generally recommend a minimum radius of approximately 1500 mm to keep wear in the undercarriage area to a minimum. Likewise, it is not possible to use the original coupling in small radii. This should be used from a radius of approximately 2300 mm (for couplings with wagons with a short overhang to the wheelsets or pivot point to the bogie, this radius can also be smaller, this is to be determined by tests).

Models with finescale wheelsets can be used from a radius of approximately 2300 mm. The larger the radius, the greater the operational reliability in the train set.

A minimum radius of 2300 mm also applies to PUR wheelsets. Please note that PUR models have original wheel flanges. The original Gravita 10bb requires a minimum radius of 80m. This corresponds to 2.5m in 1:32 scale. The larger the radius is chosen, the safer the model can be operated.

We can guarantee safe operation of the model with the specified radii. Our specifications are chosen for safe and low-wear operation. In some situations, smaller radii are possible. This must be determined by testing.

Function keys

If you operate your layout with DCC command stations, the locomotive is to be called up under address 10. When operating with Motorola the locomotive address is also 10. The following functions can be called up under this address:

- F0 Head light on/off
- F1 Driving sounds on/off
- F2 Sound: Signal horn high
- F3 Sound: Signal horn low
- F4 Smoke generator on/off
- F5 Fan on/off
- F6 Servo coupler front
- F7 Servo coupler rear
- F8 Shunting gear
- F9 High beam
- F10 Cab lighting
- F11 Appearance lighting
- F12 Tail light switch off
- F13 Sound: Double horn
- F14 Sound: Short whistle high
- F15 Sound: Short whistle low
- F16 Sound: Sanding
- F17 Sound: Curve squeaking
- F18 Sound: Turnout squeal
- F19 Sound: Rail bumps
- F20 Sound: Brake release/apply
- F21 Sound: Release compressed air
- F22 Sound: Coupling
- F23 Sound: Open/close door
- F24 Sound: Radio message #1
- F25 Sound: Radio message #2
- F26 Sound: Radio message #3
- F27 Sound: Radio message #4
- F28 Volume control
- F29 Not assigned
- F30 Not assigned
- F31 Random sounds

Servo-electric shunting coupler

The models of the Gravita 10bb are equipped with a servo-electric shunting coupler. Exceptions are the "Panlog" and "Stahl Gerlafingen" models (order number 20510-20514), as these are equipped with high performance buffers true to the original and thus with a modified buffer chest. As delivered, the coupler head functions as in the original (Fig. 4). The clutch tongue can be opened via the small lever on the top and closed again by actuating the pressure plate in the clutch head.

This primarily serves to faithfully reproduce the clutch.

For play operation, a second coupling head is included, which has been modified so that it functions easily in play operation and can be lowered from above onto the hook of the car to be towed.

To change the coupling head, the marked screw on the bottom of the coupling must be loosened (Fig.5). Once this has been removed, the head can simply be pulled out of the sleeve. The second head can then be inserted into the sleeve and fastened again with the screw.

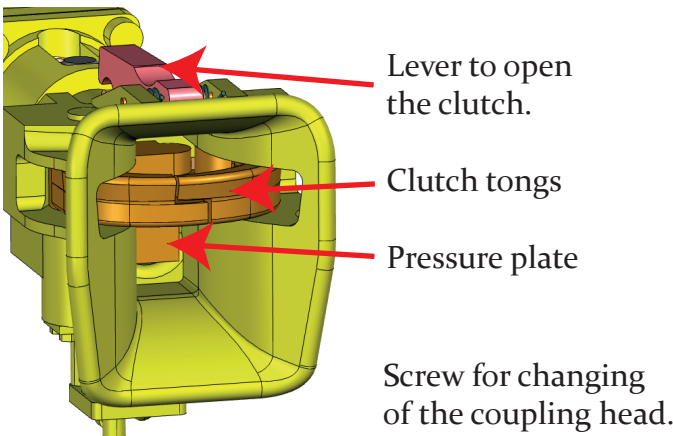


Fig. 4

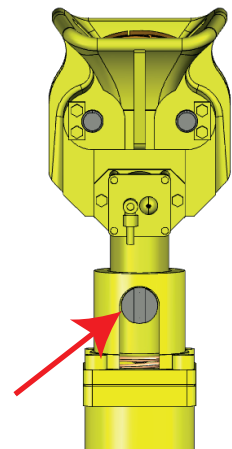


Fig. 5

Dismantling the shunting coupler / replacement

It is of course possible to disassemble the shunting coupler and replace it with any third party system or screw coupler. To disassemble the shunting coupler, first the hoses and springs on the locomotive must be disconnected. The next step is to loosen the marked screw on the bottom of the locomotive and remove the cover (Fig.6). Then the screw connecting the drive rod and servo can be loosened. Now the complete coupling can be pulled out to the front and replaced by another coupling.

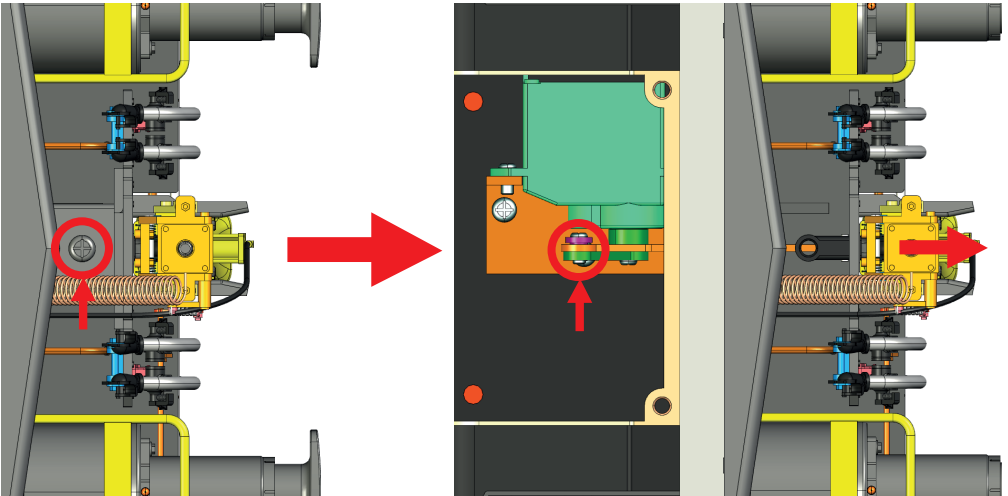


Fig. 6

Fig. 7

For the "Panlog" and "Stahl Gerlafingen" models, the cover plates on the underside of the model must also be removed. The retaining ring can then be pulled off the coupling and the spring removed. Finally, the coupling can be pulled forward through the shaft and removed (Fig. 8 on page 10).

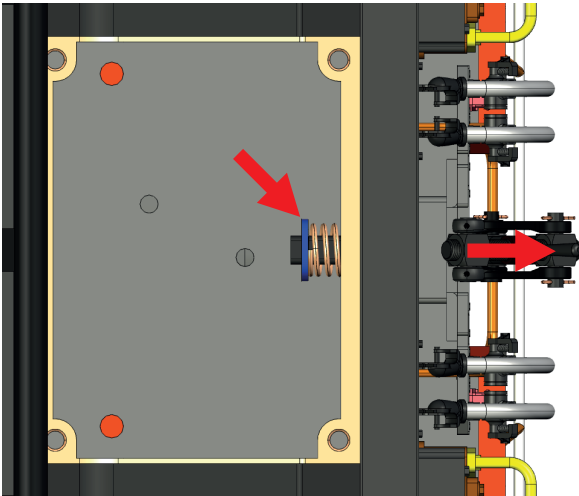


Abb. 8

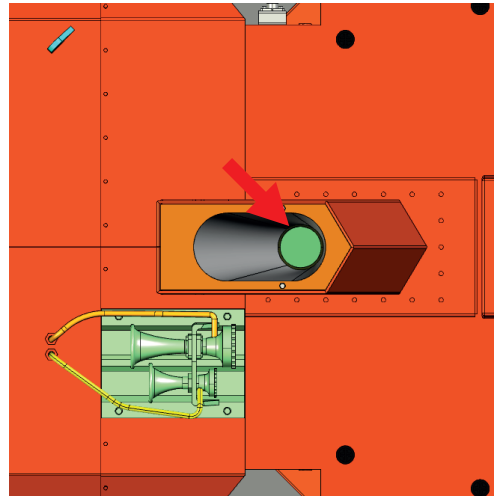


Abb. 9

Setting the servo movements

The setting of the clutch servos is possible via the following CV's:

Coupler 1 / 2	Function	Value
CV387 / CV395	Mode Select Servo	27
CV388 / CV396	On/off delay	0-255
CV389 / CV397	Automatic switch off	0-255
CV390 / CV398	Run time "A"	0-63
CV391 / CV399	Run time "B"	0-63
CV392 / CV400	End position "A"	0-63
CV386 / CV394	End position "B"	0-63

Exhaust smoke

Already out of the box your Gravita 10bb is equipped with the latest version of the ESU smoke generator XL. As soon as you switch on F4, the smoke generator is set to operational readiness. The locomotive will now simulate the exhaust smoke of the diesel engine while running. The smoke generator is filled through the filling pipe in the exhaust of the locomotive (Fig. 9).

Please use only ESU smoke distillate to avoid damage to the electronics of the model. Under no circumstances should smoke or steam oil be used.

CAUTION!

The maximum filling quantity of the smoke generator is 5 ml. If you fill too much distillate into the reservoir, it may overflow and cause considerable damage to the electronics. Always insert the pipette completely (as far as it will go) into the filling tube when filling.

CAUTION!

The smoke generator reaches an operating temperature of up to 100°Celsius. Please be careful when refilling the smoke generator!

Running the smoke generator

If handled properly, the smoke generator is maintenance-free. Heavy use may cause the heating element and wick material to wear out. The same applies to damp or hot running fan motors. These are wearing parts and can be replaced in our workshop. Operation is also possible in closed rooms. In any case we recommend the use in rooms, but only if you have the possibility to ventilate them well. Direct inhalation of the vapors must be avoided at all costs. People with respiratory diseases should principally refrain from using the smoke generator. We do not assume any liability for possible health effects!

CAUTION!

Steam distillate is not an oil and therefore does not have an insulating effect. If distillate is applied to the circuit boards, there is a risk of short-circuits and damage to the model!

Decoder

A "Loksound XL V5.0" decoder from ESU is installed in your model. All described functions are standard on the decoder. If you have special questions about the decoder, please contact the company ESU directly:

ESU electronic solutions ulm GmbH & Co. KG
Edisonallee 29
D-89231 Neu-Ulm
Phone: +49 (0) 731 - 1 84 78 - 0

CAUTION! Caution when programming!

Since the used decoders have their own firm- and software, there may be problems when programming the decoder with different command stations. Write CV's only if you are 100% sure about the effects. We are not liable for malfunctions of reprogrammed decoders. In addition, you must always have the latest firmware installed on your command station. Since from time to time bugs in the software are removed, or new functions are integrated, this step is unfortunately necessary. Please contact the manufacturer of your digital command station.

Maintenance and care

When cleaning your model you should always use a brush without hard bristles! You will find a suitable one in the scope of delivery to remove dust and dirt from your model. Other suitable brushes are make-up brushes with synthetic fibers or brushes for cleaning photo lenses. For cleaning fingerprints you can use isopropyl alcohol. We recommend n-hexane. Apply little to a microfiber cloth and gently rub the dirty area. Under no circumstances should harsh cleaning agents such as turpentine and thinner be used, as these can attack the lettering and paintwork! Check the wheel tires regularly for contamination. Clean them with cleaning alcohol as described above. For cleaning work, we recommend using a foam pad with an additional soft cloth as a base. This will protect the numerous add-on parts and details.

Fitting & Spare parts

In addition to the coupler head for play operation described on page 8, you will find useful spare parts such as screws and hoses in the accessory parts section.

You will also find the wind deflectors for the cab windows. These small disks can simply be mounted in the holders provided on both sides in front of and behind the side cab windows.

Shipping

If the model is to be shipped, repack it properly and be sure to use an outer carton with appropriate and sufficient filling material! Otherwise we can not give warranty on the model.

Warranty

The legal basis is the EU directive 1999/44/EG. The warranty on your model is therefore 2 years from delivery. The invoice is at the same time your documentation for the warranty and should therefore be kept in a safe place. If the model is opened, modified or not used properly within these 2 years, the warranty will expire. In addition, the warranty is not transferable. In case of complaints, please contact your specialist dealer if you purchased your model from him. He will take care of all further questions.

If you bought the model directly at Spur-1.at, you can contact them directly:

Spur 1 Modellbahnen GmbH
Freileiten 6, 4840 Vöcklabruck, Austria
Phone: +43 7672 24111
Mail: office@spur-1.at

Inspection protocol and certificate of authenticity

Each of our models undergoes a strict inspection at the factory and is checked again after arrival at our premises before it is handed over to its new owner. Together with the serial number on the locomotive, this protocol also forms a certificate of authenticity for your limited edition model.

Geprüft:

- Head light on both sides
- Cab lighting
- Tail light on both sides
- High beam on both sides
- Appearance light
- Shunting couplers
- Smoke generator
- Doors and windows
- Optical control
- Driving characteristics
- Full range of functions
- Packaging and accessories

Variant of the Gravita 10bb: Not added at the online version

Part number of the model: Not added at the online version

Serial number of the model: Not added at the online version

Serial number of the decoder: Not added at the online version

Not added at the online version

Signature of the tester

Spur 1 Austria

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USER MANUAL VOITH GRAVITA 10bb V1