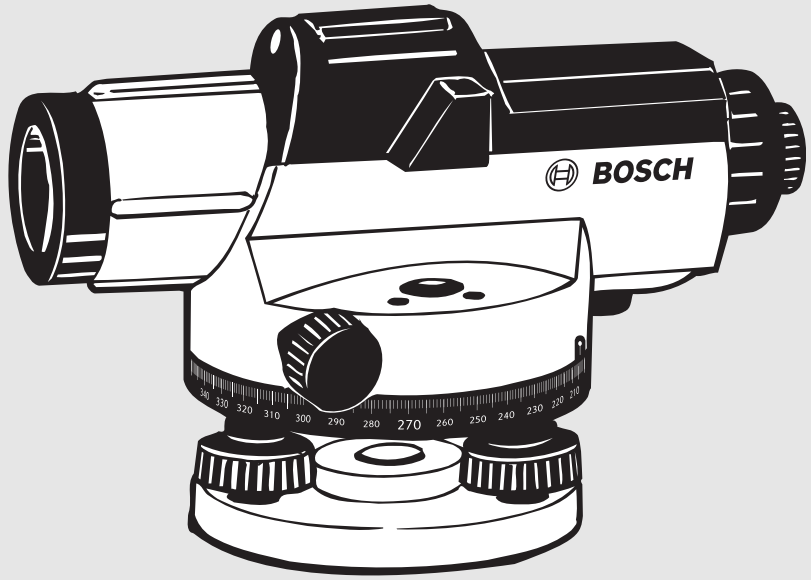

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1 619 929 L41 (2012.07) T / 145 **XXX**

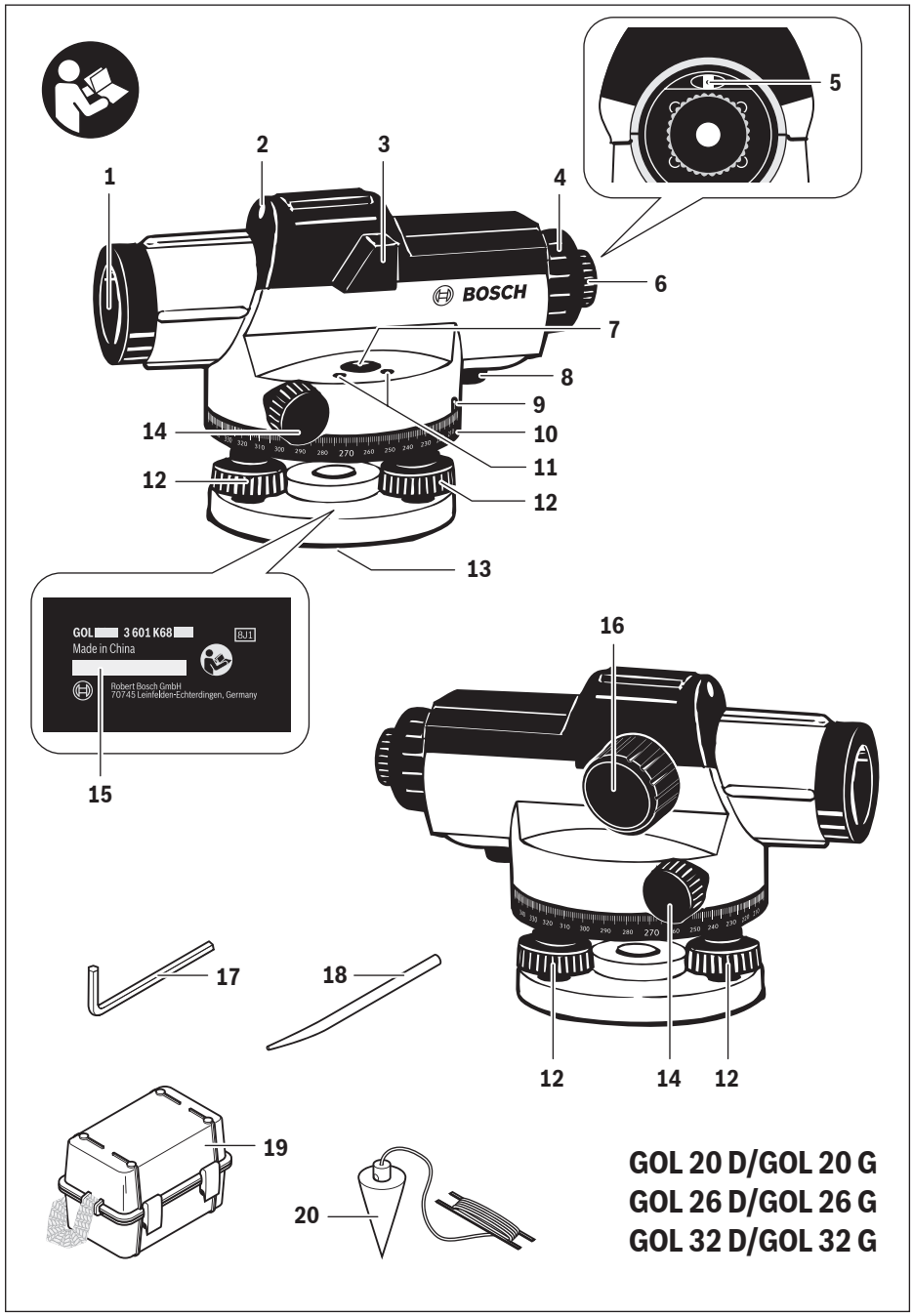
1 619 929 L41

GOL Professional

20 D | 20 G | 26 D | 26 G | 32 D | 32 G

BOSCH

de Originalbetriebsanleitung
en Original instructions
fr Notice originale
es Manual original
pt Manual original
it Istruzioni originali
nl Oorspronkelijke gebruiksaanwijzing
da Original brugsanvisning
sv Bruksanvisning i original
no Original driftsinstruks
fi Alkuperäiset ohjeet
el Πρωτότυπο οδηγιών χρήσης
tr Orijinal işletme talimatı
pl Instrukcja oryginalna
cs Původní návod k používání
sk Pôvodný návod na použitie
hu Eredeti használati utasítás
ru Оригинальное руководство по эксплуатации
uk Оригінальна інструкція з експлуатації
ro Instrucţiuni originale
bg Оригинална инструкция
sr Originalno uputstvo za rad
sl Izvirna navodila
hr Originalne upute za rad
et Algupärane kasutusjuhend
lv Instrukcijas oriģinālvalodā
lt Originali instrukcija
cn 正本使用说明书
tw 正本使用說明書
ko 사용 설명서 원본
th หนังสือคู่มือการใช้งานฉบับต้นแบบ
id Petunjuk-Petunjuk untuk Penggunaan Orisinal
vi Bảng hướng dẫn nguyên bản
ar تعليمات التشغيل الأصلية
fa راهنمای طرز کار اصلی



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Entsorgung

Messwerkzeuge, Zubehör und Verpackungen sollen einer umweltgerechten Wiederverwertung zugeführt werden.

Änderungen vorbehalten.

English

Safety Notes

Read and observe all instructions. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

- ▶ **Have the measuring tool repaired only through qualified specialists using original spare parts.** This ensures that the safety of the measuring tool is maintained.

Product Description and Specifications

Please unfold the fold-out page with the representation of the measuring tool and leave it unfolded while reading the operating instructions.

Intended Use

The measuring tool is intended for determining and checking precise horizontal partitions. It is also suitable for measuring heights, distances and angles.

Product Features

The numbering of the product features shown refers to the illustration of the measuring tool on the graphic page.

1 Objective lens
2 Optical peep sight
3 Bubble vial mirror
4 Eyepiece cover
5 Adjusting screw for sighting line
6 Eyepiece
7 Circular bubble vial
8 Compensator lock
9 Horizontal circle reference mark
10 Horizontal circle
11 Adjusting screw of circular bubble vial
12 Levelling screw
13 Tripod mount 5/8" (on the rear side)
14 Horizontal drive screw
15 Serial number
16 Focusing knob
17 Allen key
18 Adjusting pin
19 Case
20 Plumb-bob

The accessories illustrated or described are not included as standard delivery.

Technical Data

Automatic level	GOL 20 D	GOL 20 G	GOL 26 D	GOL 26 G	GOL 32 D	GOL 32 G
Article number	3 601 K68 400	3 601 K68 401	3 601 K68 000	3 601 K68 001	3 601 K68 500	3 601 K68 501
Working range	60 m	60 m	100 m	100 m	120 m	120 m
Height accuracy for an individual measurement	3 mm/30 m	3 mm/30 m	1.6 mm/30 m	1.6 mm/30 m	1 mm/30 m	1 mm/30 m
Deviation for 1 km double run leveling	2.5 mm	2.5 mm	1.5 mm	1.5 mm	1.0 mm	1.0 mm
Accuracy of the bubble vial	8´/2 mm	8´/2 mm	8´/2 mm	8´/2 mm	8´/2 mm	8´/2 mm
Compensator – Levelling range – Magnet dampening	 ±15´ ●	 ±15´ ●	 ±15´ ●	 ±15´ ●	 ±15´ ●	 ±15´ ●

The measuring tool can be clearly identified with the serial number **15** on the type plate.

Automatic level	GOL 20 D	GOL 20 G	GOL 26 D	GOL 26 G	GOL 32 D	GOL 32 G
Telescope						
– Image	erect	erect	erect	erect	erect	erect
– Magnification	20x	20x	26x	26x	32x	32x
– Field of view	1°30´	1°30´	1°30´	1°30´	1°30´	1°30´
– Clear objective aperture	36 mm	36 mm	36 mm	36 mm	36 mm	36 mm
– Minimum measuring distance	0.3 m	0.3 m	0.3 m	0.3 m	0.3 m	0.3 m
– Stadia ratio	100	100	100	100	100	100
– Stadia addition	0	0	0	0	0	0
Horizontal circle graduation	1°	1 gon	1°	1 gon	1°	1 gon
Tripod mount	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Weight according to EPTA-Procedure 01/2003	1.7 kg	1.7 kg	1.7 kg	1.7 kg	1.7 kg	1.7 kg
Degree of protection	IP 54 (dust and splash water protected)					

The measuring tool can be clearly identified with the serial number **15** on the type plate.

Operation

- ▶ **Check the levelling and indication accuracy of the measuring tool each time before using and after longer transport of the measuring tool.**
- ▶ **Protect the measuring tool against moisture and direct sun light.**
- ▶ **Do not subject the measuring tool to extreme temperatures or variations in temperature.** As an example, do not leave it in vehicles for long time. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation. In case of extreme temperatures or variations in temperature, the accuracy of the measuring tool can be impaired.
- ▶ **Avoid any impact to or dropping of the measuring tool.** After severe exterior effects to the measuring tool, it is recommended to carry out an accuracy check (see "Accuracy Check of the Measuring Tool", page 10) each time before continuing to work.
- ▶ **Place the measuring tool in the provided case when transporting it over larger distances (e. g. in the car). Ensure that the measuring tool is correctly placed in the transport case.** When placing the measuring tool in the case, the compensator is locked; otherwise, it could be damaged in case of intense movement.

Setting Up/Aligning the Measuring Tool

Mounting on the Tripod

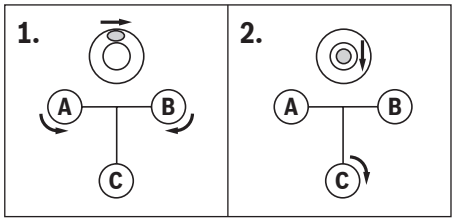
Set up the tripod stable and safe against tipping over or slipping off. Place the measuring tool via the tripod mount **13** onto the male thread of the tripod and screw the measuring tool tight with the locking screw of the tripod.

Roughly level the tripod.

Over short distances, the measuring tool can be carried mounted on the tripod. To ensure that the measuring tool is not damaged during this, the tripod must be held vertically during transport, and should not be carried lengthwise over the shoulder.

Aligning the Measuring Tool

Align the measuring tool with the levelling screws **12** so that the air bubble is positioned in the centre of the circular bubble vial **7**.



Turn the first two levelling screws **A** and **B** to move the air bubble so that it is centred between the two levelling screws. Then turn the third levelling screw **C** until the air bubble is positioned in the centre of the circular bubble vial.

Any remaining deviation of the measuring tool to the horizontal plane following the balancing of the circular bubble vial is compensated by means of the compensator.

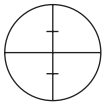
While working, regularly check (e. g. by viewing through the bubble vial mirror **3**) whether the air bubble is still in the centre of the circular bubble vial.

Centring the Measuring Tool over a Point on the Ground

If required, centre the measuring tool over a point on the ground. For this, hang the plumb-bob **20** onto the locking screw of the tripod. Align the measuring tool above the point on the ground either by moving the measuring tool on the tripod or by adjusting the tripod.

Focusing the Telescope

Remove the lens cap from the objective lens **1**.



Direct the telescope against a bright object or hold a white sheet of paper in front of the objective lens **1**. Turn the eyepiece **6** until the crosshair appears sharp and deep black.

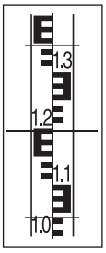
Direct the telescope towards the levelling rod, if required with help of the optical peep sight **2**. Turn the focusing knob **16** until the graduation field of the levelling rod appears sharp. Align the crosshair exactly with the centre of the levelling rod by turning the horizontal drive screw **14**.

When the telescope is correctly focussed, the crosshair and the image of the levelling rod must remain aligned when moving your eye behind the eyepiece.

Measuring Functions

Always set up the levelling rod exactly vertical. Direct the aligned and focussed measuring tool against the levelling rod in such a manner that the crosshair faces centrally against the levelling rod.

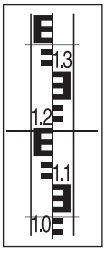
Reading Off the Height



Read off the height of the levelling rod at the centre line of the crosshair.

Height measured in the figure: 1.195 m.

Measuring a Distance



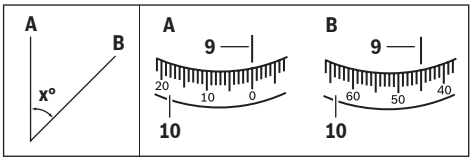
Centre the measuring tool above the point from which on the distance is to be measured.

Read off the height of the levelling rod at the top and bottom stadia lines. Multiply the difference of both heights by 100 to receive the distance from the measuring tool to the levelling rod.

Distance measured in the figure:
(1.347 m – 1.042 m) x 100 = 30.5 m.

Measuring Angles

Centre the measuring tool above the point from which on the angle is to be measured.



Direct the measuring tool against point **A**. Rotate the horizontal circle **10** with the zero point toward the reference mark **9**. Then direct the measuring tool against point **B**. Read off the angle at the reference mark **9**.

GOL 20 D/GOL 26 D/GOL 32 D: Angle measured in the example: 45°.

GOL 20 G/GOL 26 G/GOL 32 G: Angle measured in the example: 45 gon.

Accuracy Check of the Measuring Tool

Check the levelling and indication accuracy of the measuring tool each time before using and after longer transport of the measuring tool.

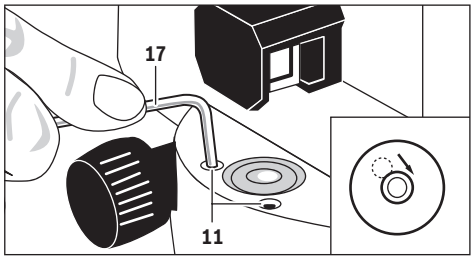
Checking the Circular Bubble Vial

Align the measuring tool with the levelling screws **12** so that the air bubble is positioned in the centre of the circular bubble vial **7**.

Rotate the telescope by 180°. When the air bubble is no longer in the centre of the circular bubble vial **7**, the circular bubble vial must be readjusted.

Readjusting the Circular Bubble Vial

Bring the air bubble of the circular bubble vial **7** in a position between the centre and the end position of the check by turning the levelling screws **12**.



Using the Allen key **17**, turn the adjusting screws **11** until the air bubble is positioned in the centre of the circular bubble vial.

Check the circular bubble vial by rotating the telescope by 180°. If required, repeat the procedure or refer to an authorised Bosch after-sales service.

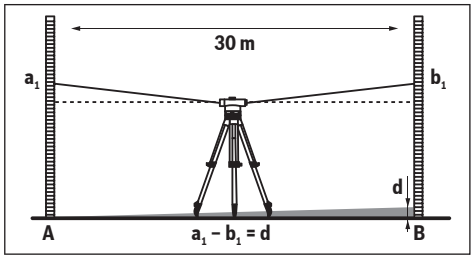
Checking the Compensator

After aligning and focussing the measuring tool, measure the height at a reference point. Then press the lock button of the compensator **8** and release again. Measure the height again at the reference point.

If both heights do not exactly match, have the measuring tool repaired by an authorised Bosch after-sales service.

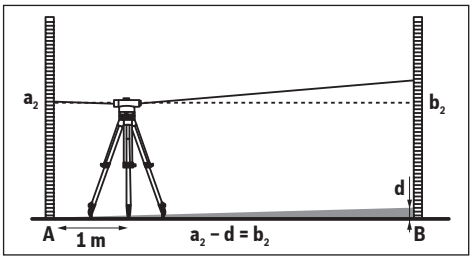
Checking the Crosshair

A measuring distance of approx. 30 m is required for the check. Set up the measuring tool in the centre and levelling rods **A** and **B** at both ends of the measuring distance.



After aligning and focussing the measuring tool, read the heights at both levelling rods. Calculate the difference **d** between the height $\mathbf{a_1}$ of levelling rod **A** and the height $\mathbf{b_1}$ of levelling rod **B**.

Example:
$\mathbf{a_1}$ = 1.937 m
$\mathbf{b_1}$ = 1.689 m
$\mathbf{a_1} - \mathbf{b_1}$ = 1.937 m − 1.689 m = 0.248 m = **d**



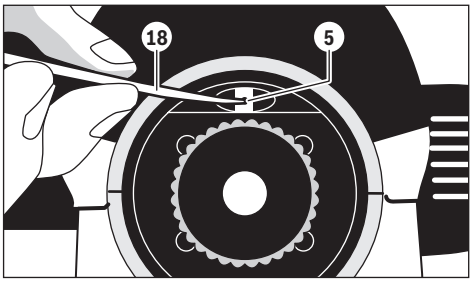
Set up the measuring tool approx. 1 m away from levelling rod **A**. After aligning and focussing the measuring tool, read the height $\mathbf{a_2}$ at levelling rod **A**.

Subtract the previously calculated value **d** from the measured height $\mathbf{a_2}$ in order to receive the set value for the height $\mathbf{b_2}$ at levelling rod **B**.

Measure height $\mathbf{b_2}$ at levelling rod **B**. When the measured value deviates by more than 6 mm (GOL 20 D/G), 3 mm (GOL 26 D/G) or 2 mm (GOL 32 D/G) from the calculated set value, the crosshair must be readjusted.

Example:
$\mathbf{a_2}$ = 1.724 m
d = 0.248 m
$\mathbf{a_2} - \mathbf{d}$ = 1.724 m − 0.248 m = 1.476 m
GOL 20 D/G: When measuring, height $\mathbf{b_2}$ must be 1.476 m ±6 mm.
GOL 26 D/G: When measuring, height $\mathbf{b_2}$ must be 1.476 m ±3 mm.
GOL 32 D/G: When measuring, height $\mathbf{b_2}$ must be 1.476 m ±2 mm.

Readjusting the Crosshair



Unscrew the eyepiece cover **4**. Using the adjusting pin **18**, turn adjusting screw **5** clockwise or anticlockwise, until the calculated set value for height $\mathbf{b_2}$ is reached when measuring on levelling rod **B**.

Screw on eyepiece cover **4** again.

Example:
When measuring $\mathbf{b_2}$, the value 1.476 m must be set.

Check the crosshair again. If required, repeat the procedure or refer to an authorised Bosch after-sales service.

Maintenance and Service

Maintenance and Cleaning

Store and transport the measuring tool only in the supplied case.

Keep the measuring tool clean at all times.

Do not immerse the measuring tool in water or other fluids.

Wipe off debris using a moist and soft cloth. Do not use any cleaning agents or solvents.

Handle the lenses with particular attention. Remove dust only with a soft brush. Do not touch the lenses with your fingers.

Before storing, allow the measuring tool and the case to dry completely. A bag of silica gel dryer for the removal of residual moisture is included in the case. Renew the bag of silica gel dryer regularly.

If the measuring tool should fail despite the care taken in manufacturing and testing procedures, repair should be carried out by an authorised after-sales service centre for Bosch power tools. Do not open the measuring tool yourself.

In all correspondence and spare parts orders, please always include the 10-digit article number given on the type plate of the measuring tool.

For repairs, only send in the measuring tool in the case.

After-sales Service and Customer Assistance

Our after-sales service responds to your questions concerning maintenance and repair of your product as well as spare parts. Exploded views and information on spare parts can also be found under:
www.bosch-pt.com
Our customer service representatives can answer your questions concerning possible applications and adjustment of products and accessories.

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