



IMPORTANT CAUTION

**Read these instructions before
switching on your lamp!!!**

The life span of the accumulator amounts
between 2 days and 7 years and depends
on the user.

The batteries may not be opened !

The batteries can just be upgraded by the manufacturer !

The nonobservance of the following tips in the manual
can lead to damages to property, personal damages or
death!

The operating instructions are on the state 01.01.2014.
Technical changes are left.

The most topical changes are to be found
on the last side.

**BEFORE THE FIRST USE
PLEASE REMOVE THE PROTECTIVE FOIL
ON THE GLASS OF THE LAMP HEAD
(OTHERWISE THE LIGHT POWER IS LESS) !!!**



Table of contents

	Instruction summary	3
	Safety Advice	4
1.	Operation and Handling	5
2.	General Care and Usage Instructions	5
3.	Using Light Heads	
	3.1 LED Lamp Heads	6
4.	Advice on Using Battery Chargers	
	4.1 Battery Chargers TT-series / MPL-series (not MPL 30010 , MPL 15010 and MPL 40010)	7
	4.2 Charger for battery type 18650 LiCoMn	7
	4.3 charging times	8
5.	Advices on using batteries	
	5.1 Using batteries	9
	5.2 burning duration	10
6.	special features	
	6.1. charging	11
	6.2. protection cap	11
	6.3. charging when using umbilical lamp	11
7.	MPL 500 series	
	7.1. Introduction	12
	7.2. Type of batteries	13
	7.3. To change alkaline batteries	13
	7.4. To change batteries (optional)	13
	7.5. Types of MPL 500 torches	13
8.	MPL - series and hand torches	
	8.1. Introduction	14
	8.2. Type of batteries	14
	8.3. To change batteries	15
	8.4. To change alkaline batteries (optional)	15
	8.5. Types of MPL – series handlamps	15
9.	The new backupholder / backupbag from TillyTec	16
10.	GOODMAN	19
	10.1. Connection possibility	19
11.	Mounting of the front lens for photograph or night dives with all LED – heads	20
12.	Place for own notes	21
12.	technical news	23

Date: 01.01.2014



INSTRUCTION SUMMARY

Which torch have I bought ?

Light head	Appellation of battery system					Comparable output in halogen watts	light power in Lux (approx.)
		TT1	TT2	TT3	MPL1		
MPL 9010						approx. 30	approx. 9000
MPL 18005						approx. 40	approx. 18000
MPL 15010						approx. 60	approx. 15000
MPL 30010						approx. 85	approx. 30000
MPL 40010						approx. 130	approx. 40000
MPL UV 1						no value	no value
MPL 1000						approx. 60	approx. 15000
MPL 1500						approx. 85	approx. 13000
MPL 4500						approx. 130	approx. 40000
LED 1500						approx. 85	approx. 30000
LED 1800						approx. 75	approx. 25000
LED 4500						approx. 175	approx. 50000
LED 3000-S3						approx. 175	approx. 50000

If using the letter "V" it is the video version of the torch

Purchase Date ?

.....

HOTLINE (24 h 7 days) : +49 (0) 171 742 52 21



Safety Advice

- Before using the torch, ensure that you read and understand the safety advice leaflet so that the torch is always operated correctly.
- Never point the light beam at your or other persons eyes. Doing so could damage the retina.
- Keep the torch away from children.
- Never attempt to take the torch apart unless it is specifically directed in the operating instructions. Doing so can result in severe injuries and electric shocks. Servicing of internal components, servicing or repairs have to be carried out by qualified persons, authorized by the manufacturer.
- If smoke or steam appears, switch off the mains or battery supply immediately. Disconnect the torch head from the battery and remove the charger from the socket..
- Do not touch the charger's power cable with wet hands as there is danger of an electric shock or short circuit. To disconnect, depress the catch on the connector whilst withdrawing it from the charging adapter plug. Do not disconnect it by pulling on the cable.
- To prevent overheating, damage, fires, electric shocks or other dangers only use the charger and attachments supplied.
- Keep the torch and battery pack away from open fires or sources of heat as it could lead to overheating, fires, electric shocks and explosions and cause severe injury.
- Never attempt to change or take apart the battery pack. To do so could lead to injury by explosion.
- Do not drop the batteries or battery packs and protect them from impact. Damage could result in leakage of the battery chemicals and result in injuries.
- Clean with water all areas of the body (especially mouth and eyes) or clothing that come in contact with battery chemicals.
- Never short across the battery contacts with metal objects (e.g. key rings, screwdrivers etc) as this could result in overheating and to burns and other injuries.
- After charging disconnect the charger from the battery pack and the mains socket to avoid fires or other damage.
- The charger supplied with the torch has been developed for use exclusively with the torch and battery pack. Do not use it with other products or batteries as this could result in fires or damage.
- Use and store the torch, battery pack and charger away from exposure from heavy solar radiation or high temperature (e.g. the dashboard or the boot of a car etc.). Heavy solar radiation and heat can lead to leakage, overheating or explosion of the batteries which can result in fire other damage.
- While charging the battery pack keep it in a well ventilated area.
- Charge the battery pack at room temperature.
- If the batteries become too warm, cease charging immediately. Normal temperature is slightly higher than "hand-hot" (+/- 50 degree)
- Let the batteries cool down after charging.
- Use the torch, battery pack and accessories only when diving. Using the products or other component parts for other purposes is not allowed.
- **For enquiries please contact the TillyTec hotline at any time on 0049 171 742 52 21 or contact your local specialist retailer.**

Date: 01.01.2014



1. Operation and Handling

- To turn your torch on, rotate the torch head. A half revolution is sufficient to engage the contacts. Further rotation when switching off is not a problem as the system is protected with 3 O-rings, however it should be stopped when the first O-ring is visible.
- When transporting your torch, unscrew the torch head and carry it separately. Protect the ends of the torch head, battery pack and umbilical cable with the caps provided. (see point 6)

2. General Care and Usage Instructions

- The O-rings (sealing rings) should only be removed if they require replacing.
- Lubricate the O-rings occasionally with a smear of silicone grease. Please do not apply too much grease. Do not use silicone spray !
- Regularly inspect the O-rings for damage or contamination, and change them if necessary. We recommend that you carry spare O-rings.
- The torches can be operated out of water for a short time, however they will become very hot very quickly so do not leave unattended. Only operate until the torch head becomes warm.
- After use rinse the torch thoroughly with fresh water whilst still attached to the umbilical and battery pack. Never use any other cleaning agents.
- **Recharge the battery as soon after use as possible to ensure a full battery lifespan. Partial charging will not damage the batteries or reduce their lifespan. The lifespan also depends on how fast the accumulator will be charged.**
- The battery pack must not be opened unless the battery requires replacing.
- When the torch head is removed, the battery pack and the umbilical cable are not waterproof. If you wish to dive the battery pack or umbilical without the torch head you must use an accessory blanking plug and screw it into the open ends.

Date: 01.01.2014



3. Using Light Heads

3.1 LED Lamp Heads

- Our LED torches can be operated out of water for a short time. Only operate until the torch head becomes warm.
- Longer operation out of water will overheat and destroy the LED.
- Switch the torch off immediately if it is too hot to touch.
- As the battery reaches full discharge the light emitted darkens. If the light fades the torch must be switched off immediately to prevent over-discharge. It does not automatically switch off.
- Do not shine the torch into your eyes or the eyes of others as severe damage to the retina could result.
- All LED modules can be equipped together.
- **IMPORTANT INFORMATION WHEN USING ALL KIND OF LED LIGHT HEADS :**
 - The front checkered adjusting ring of all models must not be rotated when under water.
 - Turning the adjusting ring will result in immediate destruction of the LED bulb.
- **IMPORTANT INFORMATION WHEN USING LIGHT HEADS WITH UV:**
DO NOT SHINE THE TORCH INTO YOUR EYES OR THE EYES OF OTHERS !
OTHERWISE THE RESULT IS NET SKIN COMBUSTION AND GOING BLIND !

Date: 01.01.2014



4. Advice on Using Battery Chargers

4.1 Battery Chargers TT-Series / MPL-series (not MPL 30010 und 15010 und 40010)

- **Always** connect the charger to the battery first, and then plug in the charger. Never reverse this procedure. Charger input voltage range : 90 – 240 Volt (automatically detected).
- Screw the adapter connector into the battery pack end (see point 6), then plug in and switch on at the socket.
- The charger has LEDs with the following functions:
 - red = fast charging
 - green = battery is fully charged 100 % (overloading no possible)
- After charging is completed, switch off and unplug the charger from the mains supply first, then disconnect the lead from the adapter. Finally unscrew the adapter from the battery pack.
- **The charger can be used to top up a partially discharged battery with no adverse effects. Fully discharging a partially used battery is not necessary.**
- Recharging the batteries during the surface interval between dives is recommended especially if long duration and/or frequent dives are being undertaken. This is particularly useful where larger battery packs are being used which require extended recharge times. **Important: Battery charging must be undertaken in a dry protected environment. The correct voltage as specified for each charger must be adhered to.**

4.2 Charger for battery type 18650 LiCoMn

- Please read the user manual inside the charger.
Important: Battery charging must be undertaken in a dry protected environment. The correct voltage as specified for each charger must be adhered to.
ONLY BATTERY TYPE 18650 AND TYPE LiCoMn charge with this charger!
By using of other cells exists danger of explosion !!!

IMPORTANTLY

TILLYTEC has developed the battery technology during the last years. So it happened that different chargers are used for different battery types (NiMH, LiFe, LiCoMn). These chargers do not differ optically! Please NEVER!!! exchange the chargers together. Always pay attention to the fact that the charger fits to the battery type. The chargers are marked on the front. Should the marking not be recognize any more please contact with TillyTec. Otherwise the use of the wrong charger leads to the immediate destruction of the battery or an explosion!!!!

Date: 01.01.2014

4.3. charging times

batteries	Charging times in min
Single cell 18650 LiCoMn	approx. 120
MPL1	approx. 180
TT 1	approx. 100
TT2	approx. 200
TT 3	approx. 180-300

Important : The charging time raises during the first 30 – 50 charging cycles. In this time the battery becomes formatted.

We recommend during the charging cycles to leave the charger connected to the battery over night (about 12 hours). Without this charge cycling, full charge cannot be reached resulting in reduced burn duration.

Date: 01.01.2014



5. Advices on using batteries

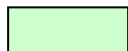
5.1. Using batteries

- The batteries we use lose their charge only for a minimum when stored. Fully charged batteries will require recharging before use after 12 months.
- If recharging after storage do not pre-discharge the batteries. The charger will detect the remaining capacity in the batteries and will compensate during the charging cycle.
- **After each use the batteries should always be fully recharged.**
- **Discharges until end of capacity of battery (100 %) reduce the lifespan of battery.**
- The lifespan of the batteries depends very much on how often they are used.
- The lifespan of the batteries depends very much on, how long the batteries are using with one charging period (example : The battery is charged and will discharged until 30 % of capacity, then the lifespan is much more higher than discharging until 70 % !).
- If an umbilical lamp is used, the charging about the umbilical is generally possible. However, we recommend exclusively the charging directly about the accumulator tank (charging plug screw in the accumulator tank, remove the umbilical). If you charge with umbilical, the room / outside temperature should not be lower than 20 ° degrees.
- We recommend only the use of original batteries from TillyTec. By application of other battery cells the guarantee is not given. We also point out to the fact that with using of other battery cells the given light achievements as light power, burning duration and loading times are not valid!
- The battery may be never damaged ! If damages are recognised never use it any more !!!

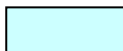
Date: 01.01.2014

5.3 Burning duration

light head	Burning duration in min					
	MPL 9010 MPL 18005 UV1	MPL 30010 MPL 15010	MPL 1	TT1	TT2	TT3
MPL 9010 MPL 18005 UV 1	approx. 180-600*	X	approx. 540-600*	X	X	X
MPL 15010 (V) MPL 30010 (V)	X	approx. 60-90	X	X	X	X
MPL 40010 (V)	X	approx. 45-60	X	X	X	X
MPL1000 (V) MPL 1500 (V)	X	X	approx. 120-240	X	X	X
MPL 4500 (V)			approx. 80-150	X	X	X
LED 1500 (V)	X	X	X	approx. 120-240	approx. 180-300	approx. 420-600
LED 1800 (V)	X	X	X	approx. 60-120	approx. 90-150	approx. 210-300
LED 4500 (V)	X	X	X	approx. 60-90	approx. 90-120	approx. 180-220
LED 3000-S3	X	X	X	approx. 60-90	approx. 90-120	approx. 180-220



Using with alkaline
batteries



standard delivery
with TT1 - series all possibilities

* **green value** = recommend burning time for optimal lifetime of battery
red value = maximum burning duration with using of the emergency light
(V) = videoversion



6. spezial features

6.1. charging



Screw the adapter connector, attach the cable, then plug in and switch on the socket

6.2. protection cap



The protective cap fits onto the thread on the torch head and the battery pack. Only one cap is needed.

6.3. charging when using umbilical lamp

If an umbilical lamp is used, the charging about the umbilical is generally possible. However, we recommend exclusively the charging directly about the accumulator tank (charging plug screw in the accumulator tank, remove the umbilical).

If you charge with umbilical, the room / outside temperature should not be lower than 20 ° degrees.

Date: 01.01.2014



7. MPL 500 series

7.1. Introduction

To turn your torch on, rotate the torch head. A half revolution is sufficient to engage the contacts. Further rotation when switching off is not a problem as the system is protected with 3 O-rings, however it should be stopped when the first O-ring is visible.

Please, unscrew the lamp head during the diving and transport a little further. **(when the first of all three O-ring is visible)**. With it is avoided that the lamp intervenes in water or in the luggage.

In addition the lamp further protect with a carabine on the jacket. For this the hole (DIR style) can be used at the end of the handle.

With the light LED light do not shine in own eyes or in the eyes of other people, there is danger of the net skin combustion. (Damage of the eyes)

Lubricate the O-rings **and the thread of both ends occasionally** with a smear of silicone grease in regular time (all 6 - 8 weeks). Please do not apply to much grease.

Do not use silicone spray be suited for rubber rings and for thread ! If use other kind of smear destroys the rubber rings.

The lamp can use out of water.

7.2. Type of batteries

long version :

standard

3 x AA Alkaline Batterie

optional

3 x battery typ AA NiMh

3 x AA 1.5 volt Lithium battery

short version :

optional

1 x battery 3.2 volt LiFe 18650 or 3.7 volt LiCoMn 18650

1 x 3.7 volt LiMn 18650

1 x 3.2 volt CR 123 possible, please ask

In the short version is only possible the use of a **battery LiFe 18650 or LiCoMn 18650**.

Please use only 18650 LiFe or 18650 LiCoMn battery - **use never Li-Ion 18650**

batteries.

There is a danger of explosion if using of Li - Ion batteries !!!!

Please notice that the light power is easily reduced if using battery LiFe 18650. This is absolutely normal. The best light power is reached with 3 x AA batteries NiMh and 18650 LiCoMn battery.

Attention: The use of 2 pieces of battery LiFe 18650 or LiCoMn 18650 in the long pipe (long version) leads to the immediate destruction of the LED !!!!!

We recommend the use in the long version with 3 x 1.5 volts alkaline batteries or in the short version with 1 x battery LiFe 18650 or LiCoMn 18650.

The optional sets 3 x AA NiMh batteries and charger and 1 x battery LiFe 18650 or LiCoMn 18650 and charger are available with TillyTec. Please ask !

Date: 01.01.2014



7.3. To change alkaline batteries

The pluspol of alkaline battery is in the direction of lamphead, not bottom. The minuspol is in the direction of the bottom of handle.

The pluspol of alkaline battery above is compared with the pluspol in the middle of LED light head. (pluspol in the middle = plus, external ring = minus).

7.4. To change batteries (optional)

The pluspol of battery is in the direction of lamphead, not bottom. The minuspol is in the direction of the bottom of handle. The battery should never be damaged. If damages are recognised this battery never use any more.

7.5. Types of MPL 500 torches

In the series MPL 500 there are :

MPL 500 - 9000 - 10

approx. 500	Lumen (theoretically possible according to data sheet)
approx. 9000	Lux (light power in Lux measured in 1 meter distance)
ca.10	degrees beam angle 10°

MPL 500 - 18000 - 5

approx. 500	Lumen (theoretically possible according to data sheet))
approx. 18000	Lux (power in Lux measured in 1 meter distance)
approx.10	degrees beam angle 10°

MPL – UV (UV-Lampe)

IMPORTANT !!!

**For all light heads of MPL-series is possible to use the MPL1 – battery.
In combination with the battery MPL1 the lamp is only used as a tank lamp.
The use of the lamp heads of the MPL-series with the battery MPL1 extends
the burning duration considerably !**

Date: 01.01.2014

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8. MPL series and hand torches

8.1. Introduction

To turn your torch on, rotate the torch head. A half revolution is sufficient to engage the contacts. Further rotation when switching off is not a problem as the system is protected with 3 O-rings, however it should be stopped when the first O-ring is visible.

Please, unscrew the lamp head during the diving and transport a little further. **(when the first of all three O-ring is visible)**. With it is avoided that the lamp intervenes in water or in the luggage.

In addition the lamp further protect with a carabine on the jacket. For this the hole (DIR style) can be used at the end of the handle.

With the light LED light do not shine in own eyes or in the eyes of other people, there is danger of the net skin combustion. (Damage of the eyes)

Lubricate the O-rings **and the thread of both ends occasionally** with a smear of silicone grease in regular time (all 6 - 8 weeks). Please do not apply to much grease.

Do not use silicone spray be suited for rubber rings and for thread ! If use other kind of smear destroys the rubber rings.

The lamp can use out of water.

8.2. Type of batteries

Long version :

optional version

3 x AA NiMh batteries 1,2 Volt

3 x alkaline battery 1,5 Volt

3 x AA 1,5 Volt lithium battery

Short version :

standard version

1 x battery 3,7 Volt LiCoMn type 18650

optional version

1 x battery 18650 LiFe 3,2 Volt

1 x 3,7 Volt LiMn battery type 18650

1 x 3,2 Volt CR 123 , possible please ask

In the short version is only possible the use of a **battery LiFe 18650 or LiCoMn 18650**.

Please use only 18650 LiFe or LiCoMn 18650 battery - **use never Li-Ion 18650 batteries**.

There is a danger of explosion if using of Li - Ion batteries !!!!

Please notice that the light power is easily reduced if using battery LiFe 18650. This is absolutely normal. The best light power is reached with 3 x AA batteries NiMh or 18650 LiCoMn battery.

Attention: The use of 2 pieces of battery LiFe 18650 or LiCoMn 18650 in the long pipe (long version) leads to the immediate destruction of the LED !!!!!

We recommend the use in the long version with 3 x 1.5 volts alkaline batteries or in the short version with 1 x battery LiFe 18650 or LiCoMn 18650.

The optional sets 3 x AA NiMh batteries and charger and 1 x battery LiFe 18650 or LiCoMn 18650 and charger are available with TillyTec. Please ask !

Date: 01.01. 2014



8.3. To change batteries

The pluspol of battery is in the direction of lamphead, not bottom. The minuspol is in the direction of the bottom of handle. The battery should never be damaged. If damages are recognised this battery never use any more.

8.4. To change alkaline batteries (optional)

The pluspol of alkaline battery is in the direction of lamphead, not bottom. The minuspol is in the direction of the bottom of handle.

The pluspol of alkaline battery above is compared with the pluspol in the middle of LED light head. (pluspol in the middle = plus, external ring = minus).

5.5. Types of MPL – series handlamps

In the MPL - series handlamps there are :

MPL 1000 – 15000 - 10

approx. 1000	Lumen (theoretically possible according to data sheet)
approx. 15000	Lux (light power in Lux measured in 1 meter distance)
ca.10	degrees beam angle 10°

MPL 1500 - 30000 - 10

approx. 1500	Lumen (theoretically possible according to data sheet))
approx. 30000	Lux (power in Lux measured in 1 meter distance)
approx.10	degrees beam angle 10°

MPL 4500 - 40000 - 10

approx. 4500	Lumen (theoretically possible according to data sheet))
approx. 40000	Lux (power in Lux measured in 1 meter distance)
approx.10	degrees beam angle 10°

IMPORTANT !!!

**For all light heads of MPL-series is possible to use the MPL1 – battery.
In combination with the battery MPL1 the lamp is only used as a tank lamp.
The use of the lamp heads of the MPL-series with the battery MPL1 extends
the burning duration considerably !**

Date: 01.01.2014

9. THE NEW BACKUPHOLDER / BACKUPBAG FROM TILLYTEC

We identify that the backup bag we used before looked very nice and made a nice impression but nobody used it.
So we decided to create a new one. Now you can use it to mount the MPL-series (series MPL 500 and series MPL 1500) directly on the BCDs.

Here a short information :



picture 1

So the new backup holder looks.
Here you can see the holder with the lamp.



picture 2

Once again the holder without lamp.



picture 3

step 1 :

Please open the booth ends of holder.



picture 4

Stepp 2 :

You mount the holder on the BCD. It is possible to do it on different places. Here you can see the mounting on the strap of the BCD.

Date: 01.01.2014



ready mounted without lamp

picture 5



ready mounted with lamp

picture 6

Date: 01.01.2014



picture 7

step 3 :

Push the lamp in the holder.

The holder is made of elastic band and so it is flexible.
To push the lamp better in holder pull on the blue band.



picture 8

IMPORTANT :

Mount the lamp in addition with a karabiner on the
D-ring of BCD !!!



picture 9

You can mount the holder in different directions
on the BCD.

Here : The lamp pushes into the holder from
below - the light
head shows downwards.

OR

The lamp pushes into the holder from the top -
the light
head shows upwards. See picture 6.

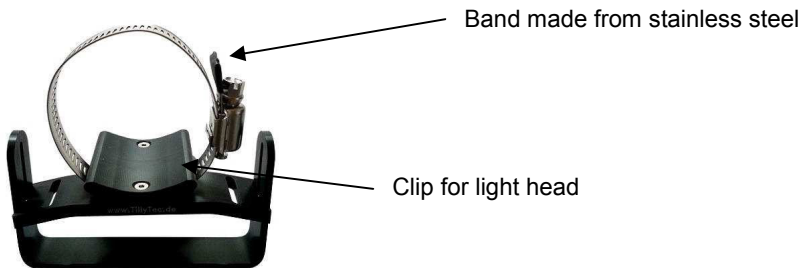
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10. GOODMAN

The goodman has a band made from stainless steel to mount the light head.
The goodman is universal and suits to all light heads of TillyTec.

10.1. Connection possibility

The provided tube pull on the light head. The tube is a slide protection between light head and the small clamb. Please fix the light head in the band made from stainless steel than pull it strongly.
After solve the band made from stainless steel the lamp head can be removed again from the clip.

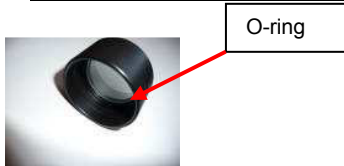


**The changing of the goodman to a soft goodman is not planned normally.
If you need it please contact with TillyTec directly!**

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11. Mounting of the front lens for photograph or night dives



O-ring

Delivered front ring with inside lying one rubber ring.



Here the ancillary lens is completely mounted on the LED lamp head.



From the front thus it looks with the frosted glass.

TIP: The frosted glass can clatter a little. This must be in such a way, so that the water is able behind the glass out and purely.



The ancillary lens has a drilling to fasten e.g. a carabiner there as a protection from loss of the ancillary lens.

Important : You see on the picture a red rubber ring. **This red rubber ring is no more mounted and not necessarily.**

ATTENTION (only with small front ring - not LED 4500 / LED 3000-S3):

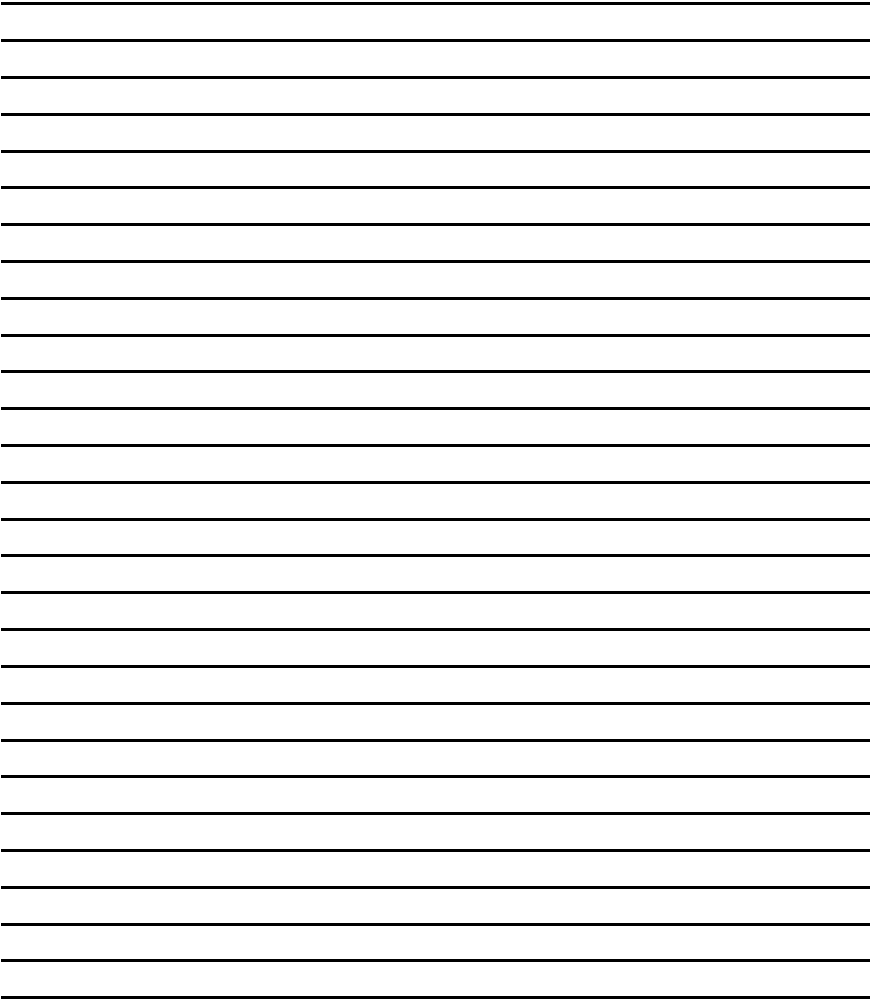
In the scope of supply 3 rubber rings are included.

It is necessary, to change the rubber ring, if the intention with the mounted one rubber ring on the lamp head does not fit.

The insert rubber rings have different strength.

Date: 01.01.2014

[illegible]





13. technical news

