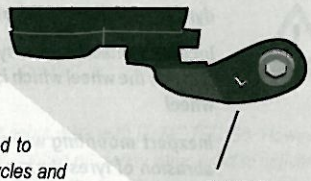
Inhalt

General Instructions

Prior to mounting and using the DYMOTEC light travel dynamo, please read this leaflet carefully for fitting and operating details to ensure fault free and safe running.



Application — *DYMOTEC is exclusively designed to serve as a lighting dynamo for bicycles and should not be applied for any other purposes. Any arbitrary conversion or modification thereof is deemed to be carried out at the user's own risk.*

Versions — *These Fitting And Operating Instructions equally refer to DYMOTEC 6, S6 and S12 versions.*

L.H./R.H. Design — *DYMOTEC light travel dynamos are available in two versions designed to be attached on either side of the bicycle. The bracket is marked to identify the L.H. or R.H. design.*

Introduction

Safety Instructions

Caution !

In extreme cases incorrect mounting of DYMOTEC being a tyre driven dynamo entails the risk of accidents.

Incorrect attachment may cause DYMOTEC to fall between the spokes and jam the wheel which is particularly dangerous when fitted to the front wheel.

Inexpert mounting will result in an increase in running resistance and abrasion of tyres during operation. Accordingly, tyres may be damaged by the weatherproof roller.

We recommend that DYMOTEC is fitted (or its assembly checked) by your independent specialized bicycle dealer.

Check DYMOTEC for secure fitting to the bracket both after a few miles following initial assembly and every time before the bicycle is used.

If the dynamo bracket is mounted onto the bicycle frame, ensure that you check the connection for secure fit in accordance with the manufacturers' instructions.

For S6 / S12 Versions Only — Introduction

DYMOTEC S6 and S12

The DYMOTEC S6 and S12 versions are provided with integral electronics to regulate and restrict output within the defined range. Benefits

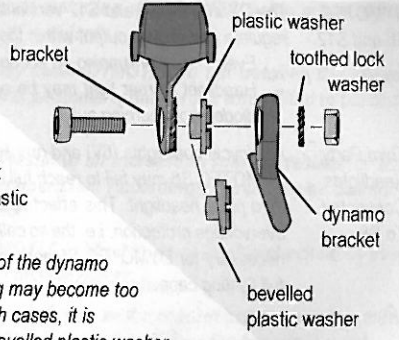
- *Even smoother running on account of increased efficiency.*
- *Headlight or rear light may be operated individually to prevent bulbs or diodes from burning out.*

Third Party Headlights Connected To S6

All bicycle headlights (6V) and rear lights work with DYMOTEC S6. However, DYMOTEC S6 may fail to reach full lighting efficiency when used to activate a third party headlight. This effect is due to the headlight's insufficient integral overvoltage protection, i.e. the so called Z diode (supressor diode) which is not necessary for DYMOTEC S6 and should be removed (or bypassed) to reach full lighting capacity.

Attaching To Welded Dynamo Bracket With Longitudinal Slot

- Adjust DYMOTEC to ensure exact location of plastic washer into the longitudinal slot of dynamo bracket attached to the bicycle frame. Turn plastic washer in bracket by hand, if required.



Note ! *Depending on the position of the dynamo bracket, the dynamo casing may become too close to the spokes. In such cases, it is recommended to use the bevelled plastic washer enclosed to replace the washer already mounted.*

- Align DYMOTEC so that the roller runs along the knurled dynamo roller surface of the tyre.

- Insert bolt and securely tighten the locking nut against the toothed lock washer.

Note ! *Locking nuts cannot be tightened by hand.*

Attaching To Welded Dynamo Bracket Without Longitudinal Slot

- Remove plastic washer from bracket.
- Assemble the DYMOTEC following the same procedure set as for assembly to a bracket with longitudinal slot (without plastic washer).

Attaching To Bicycle Frame Without Welded Dynamo Bracket

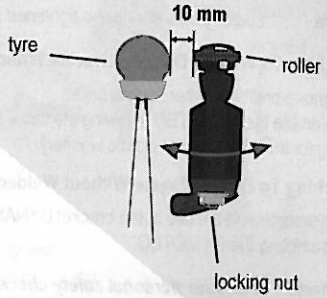
- We recommend the use of the bracket DYNASHOE from Zinkens (our item no. 406ZDPB) for assembling the DYMOTEC.

Caution ! ***For your personal safety check DYMOTEC for secure fitting to the bracket both after a few miles following initial assembly and every time before the bicycle is used to prevent the dynamo from falling into the spokes and jamming the wheel.***

If the dynamo bracket is screwed to the bicycle frame, ensure that you also check the connection for secure mounting in accordance with the bracket manufacturer's instructions.

Assembly — Adjusting Distance Between Roller And Tyre

The distance between roller and tyre should be 10 mm.

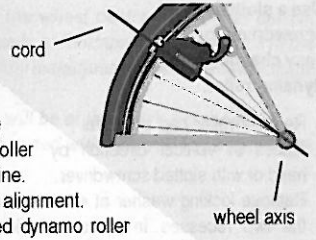


- Unscrew locking nut between the bracket and dynamo casing (8 mm spanner).
- Adjust DYMOTEC in relation to the tyre ensuring a distance of approximately 10mm when the dynamo is not activated.
- Tighten locking nut.

Note ! *When using a single wire cable, also attach enclosed connector cable below locking nut (refer to paragraph on single wire cabling).*

Aligning DYMOTEC In Central Position — Assembly

The longitudinal axis of DYMOTEC must be aligned centrally to the wheel circumference

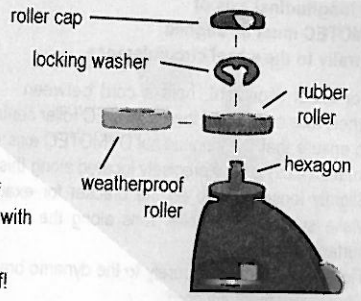


- For exact alignment, hold a cord between wheel axis centre and the DYMOTEC roller centre to ensure that the longitudinal DYMOTEC axis (roller rotation axis) is now precisely located along this line.
- Slightly loosen clamp on the bracket for exact alignment. Make sure that the roller runs along the knurled dynamo roller surface of the tyre.
- Tighten attachment securely to the dynamo bracket.
- Check alignment via cord.

Note ! *Non compliance with the instructions detailled above will lead to an increase in running resistance, tyre abrasion and noise level. Precise alignment on the wheel centre is of fundamental importance in the assembly of the weatherproof roller where a quiet whirring sound will indicate its correct positioning.*

Changing The Roller Fitting Weatherproof Dynamo Roller

Use a slotted screwdriver for easy changing of dynamo roller.



- Remove roller cap at lateral recess in vertical direction by hand or with slotted screwdriver.
- Remove locking washer at either one of the two recesses in lateral direction with slotted screwdriver.

Note ! Locking washer may spring off!

- Remove roller from hexagon.

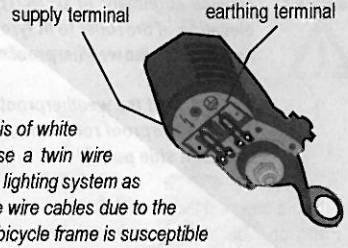
Caution ! ***Precise alignment of DYMOTEC on the wheel centre as well as correct elevation of the roller to fit tyre surface is of fundamental importance in the assembly of the weatherproof roller. Any maladjustment may cause damage to the tyre.***
Utilization of the weatherproof roller will be at the user's personal risk.
The weatherproof roller should not be used with skinwall tyres (tyres with very thin side panel)!

- Attach a new or different roller.
- Press on locking washer from lateral direction, using a slotted screwdriver carefully, if required.
- Snap roller cap back on.
- Check DYMOTEC alignment on wheel centre and correct elevation of the roller to fit tyre surface. Re-align, if required.

Note ! *The weatherproof roller is perfectly suited to avoid slipping in rainy and snowy weather.*

Cabling — With Twin Wire Cable

Twin Wire Cable Connection With Flat Plug Connectors:



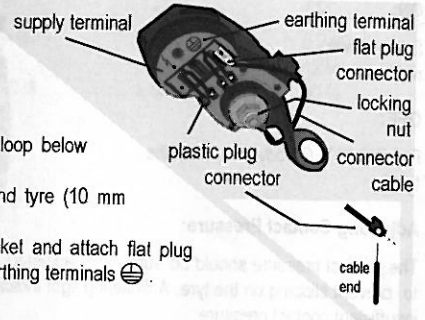
- Attach live cable to supply terminal ϟ .
- Attach mass cable to earthing terminal ⏚ .

Note ! *As a general rule, the mass cable is of white colour. It is recommended to use a twin wire cable to prevent breakdown of the lighting system as frequently experienced with single wire cables due to the fact that an electrical circuit via a bicycle frame is susceptible to failure. (Since alternating current is present, electric supply and earthing terms are used for explanatory reasons only.)*

Caution ! ***To avoid short circuits via conducting bicycle frame with twin wire cables, it is of fundamental importance to connect both live and earthing cables of headlight, rear lights and dynamo to the terminals marked electric 'supply' and 'earth'. Riding under short circuit conditions may damage the tyre or the roller, and even the dynamos S6 and S12.***

With Single Wire Cable — Cabling

Single Wire Cable Connection:



To Attach Connector Cable:

- Unscrew locking nut between bracket and dynamo casing (8 mm spanner).
- Attach short connector cable with loop below locking nut.
- Readjust distance between roller and tyre (10 mm approx.) and retighten locking nut.
- Guide connector cable around bracket and attach flat plug connector to either one of the two earthing terminals ⏚ .

To Attach Flat Plug Connectors:

- Connect headlight and rear light cables to supply terminal ϟ .

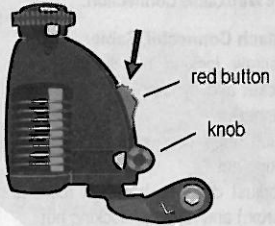
To Attach Exposed Cable Ends:

- Remove approx. 10 mm of insulation.
- Guide exposed cable ends through round opening of plastic plug connectors, bend sidewards to fit lateral slot and plug the connectors onto terminals.

Operation — ON/OFF Mode / Adjusting Contact Pressure

ON:

Press down red button



OFF:

Pull DYMOTEC body away from the tyre.

Adjusting Contact Pressure:

The contact pressure should be sufficiently adjusted to prevent slipping on the tyre. A flickering light indicates insufficient contact pressure.

- To reduce the contact pressure, turn knob to the left.
- To increase contact pressure, turn knob to the right.

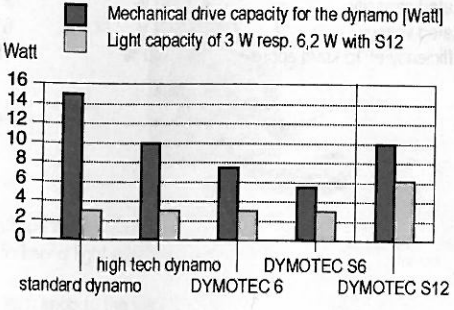
Note ! *The contact pressure required is subject to the type of roller (rubber or weatherproof design), the type of tyre and the weather conditions.*

Technical Data — Technical Information

DYMOTEC	*6*	*S6*	*S12*
Rated capacity	3 W	3 W	6,2 W
Rated voltage	6 V	6 V	12 V
Efficiency at 15 km/h approx..	40 %	55 %	60 %

Efficiency

The efficiency of a dynamo is expressed in terms of the percentage of mechanical drive capacity transformed to electric power via the dynamo and, as a result, to its lighting output.



So far, tyre driven roller dynamos have been designed to show an efficiency of appoximately 20% to 30%, i.e. to comply with a prescribed rated light capacity of 3W, 10W to 15W alone are to be generated by human power to activate the dynamo. Persons in average physical condition normally achieve mean values of generally 70W to 100W whilst riding a bicycle. Accordingly, standard tyre driven roller dynamos require 10% to 20% of human power.

DYMOTEC types 6 and S6 featuring an efficiency of 40% and 55% respectively, consume merely half and/or a third of this capacity. Correspondingly with a lighting output of 6.2W, double the rate obtained so far, DYMOTEC S12 does not require a capacity in excess of approximately 10W. As a result, the DYMOTEC dynamos offer the hitherto unequalled capacity of driveless hub dynamos featuring an integral dynamo in the hub of the wheel.

Electronic Control

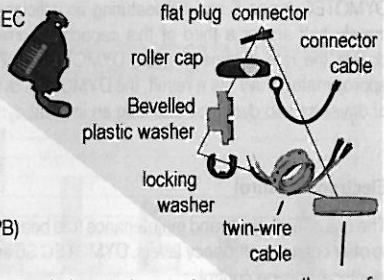
The use of high grade and maintenance free bearings, superior materials and magnets combine to offer optimum efficiency levels. DYMOTEC S6 and S12 feature the unique concept of integral electrical voltage control.

This concept permits more efficient power generation due to the fact that maximum permissible voltage is now defined via electronic control rather than restricted by generator characteristics. Accordingly, DYMOTEC S6 or S12 are also designed to activate either headlight or rear light without the risk of bulbs or diodes burning out.

Product Support — Spares / Warranty

Spares Availability (spare part no.)

- Flat plug connector (470KS)
- Roller cap, spare part (406K)
- Bevelled plastic washer (406B)
- Connector cable (424KSO/4/11B)
- Locking washer, spare part (406SR)
- Twin -wire cable 185 cm (424DKS/4/185)
- Mounted: Rubber roller (406GPB)
- With S6/S12 : weatherproof roller (406APB)
- DYMOTEC 6, S6 or S12 dynamos



Note! *The DYMOTEC 6 is not supplied with the weatherproof roller. This part is avaialble as a spare part.*

Warranty

A warranty period of three years is in place from the date of sale covering the dynamo and accessories unless any such damage has been caused by accident, incorrect assembly or opening the lower casing cover. Likewise, our warranty shall not include any parts subject to wear and tear.

Bicycle Lighting Systems — Complimentary Products

Complimentary Products For A Complete Bicycle Lighting System

In addition to the DYMOTEC dynamos we recommend the environmentally friendly B+M high grade headlights and rear lights which feature automatic standlight function without the use of accumulators or batteries. A high capacity condenser fully charged by the dynamo within only 2 or 3 minutes of riding supplies the energy required to permit this standlight function.

Headlights

- LUMOTEC®*plus*
- LUMOTEC®*oval plus*
- LUMOTEC®*oval senso*
- LUMOTEC®*oval senso plus*

Rearlights

- *D*Toplight®*plus*
- *D*Toplight®*multi*
- *D*Toplight®*senso*
- *D*Toplight®*senso multi*
- Toplight®*plus*
- *4D-lite*®*plus*
- SECUTEC®
- SECULITE®plus

All rear lights except 'Toplight®*plus*' and 'SECUTEC®' feature super bright LEDs distinctly superior to bulbs for their extended service.

The lamps with 'senso' in their name are automatically activated whilst riding in darkness. The lamps with 'multi' in their name can be powered by dynamo and battery.

A number of industrial property rights have been filed for DYMOTEC® and its components. These registered trademarks ® are the property of BUSCH & MÜLLER KG.