

**READ ALL INSTRUCTIONS BEFORE FIRST USE**  
 Thank you for purchasing the CAT EYE ABS Advanced Battery System, a unique 6 volt rechargeable head lamp series. ABS is a combination system of lamps, battery packs and chargers. Before operating, thoroughly familiarize yourself with this manual so that you understand the light's safe and correct operation. Please keep this manual, along with the warranty card, for future reference.

**SAFE OPERATIONS (IMPORTANT)**

- WARNING**
- Never short-circuit the terminal of the battery pack and the plug of the battery charger. It may cause the battery to over heat, resulting in fire or damage of the components.
  - Securely connect the plug so that the light will not turn off while riding, or the cord will not hinder riding.
  - Never use the ABS if the cord of the battery charger or the switch unit is damaged, Consult with the shop where this lamp kit was purchased.
  - The lamp body becomes extremely hot when turned on. Never touch the lamp body or the lens until thoroughly cooled. Injury may result.
- Important Note**
- Use only the designated battery charger for charging.
  - Never mix different types of battery packs.
  - Safely and properly dispose of the old battery according to your local regulations when it comes to the end of its useful life.
  - This lamp kit is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with this appliance.
  - The battery's nature will affect the light output, High light output will remain just before the battery runs out, After that the output drops suddenly. Take precautions against such a situation and prepare a spare light or spare battery packs.
  - Long periods of non-use will lower the voltage of the battery and will naturally self discharge. Always charge the battery before using.
  - Overdischarge (leaving the light on after the power is completely gone) shortens the performance life of the battery.
  - If the lamp body or parts become dirty with mud, etc., clean with a soft cloth which is moistened with mild soap. Never apply paint thinner, benzene or alcohol; damage will result.

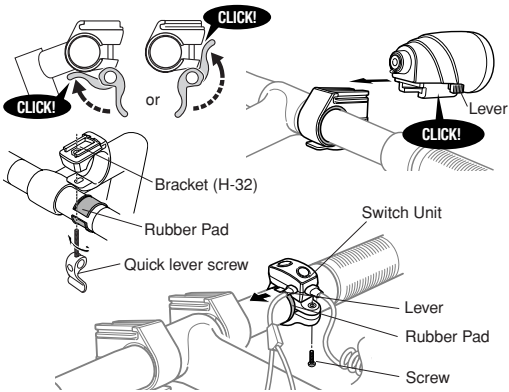
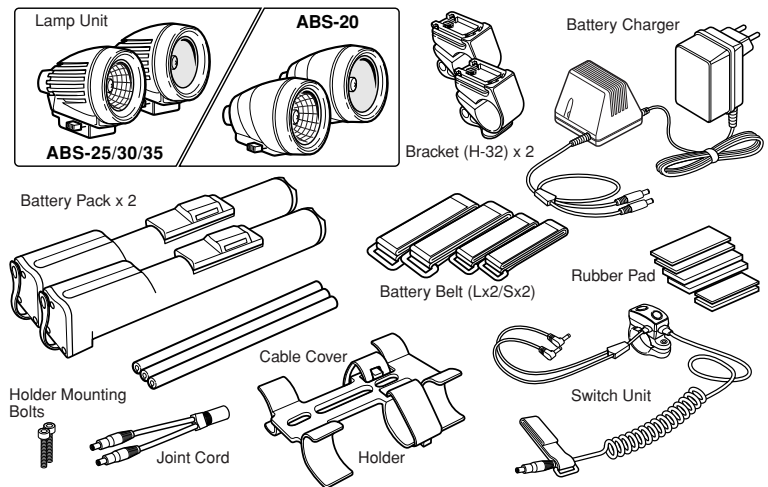
**BEFORE FIRST USE:**

The factory-loaded battery pack is not fully charged; the charge is useful only for testing only ! Before first use, charge the battery fully following the instructions on [RECHARGING INSTRUCTIONS].

**CONTENTS**

The ABS series are the combined system of the following parts. Make sure that your package includes all the parts that are necessary for your model.

Model	Lamp Unit			Battery Pack (battery type)		Battery Charger (exclusive for each battery type)
	Spot	Wide	Body Material			
ABS-20	10W	10W	Plastic	Ni-Cd	6V 1600mAhx2	Ni-Cd (normal) CHR-1610
ABS-25	15W	10W	Aluminum	Ni-MH	6V 2200mAhx2	Ni-MH (normal) CHR-2210
ABS-30	20W	10W	Aluminum	Hi Ni-MH	6V 3000mAhx2	Hi Ni-MH (normal) CHR-3010
ABS-35	20W	15W	Aluminum	Hi Ni-MH	6V 3000mAhx2	Hi Ni-MH (fast) QCHR-3010



**HOW TO ATTACH**

Attach the brackets (H-32 x 2 pieces) to the handlebar. Turn over the quick lever and it is fastened. Slide the lamp units onto the brackets. To remove the lamp body, slide it forward while pushing the lever.

**Warning!!!** When removing the lamp body, make sure that it has been cooled.

**How to distinguish the spot bulb from the wide bulb:** the inside reflective mirror of the spot bulb is more finely cut.

Attach the switch unit onto the handlebar where it will not hinder the braking and shifting operation. To remove the switch unit, slide it to the left while pushing the lever.

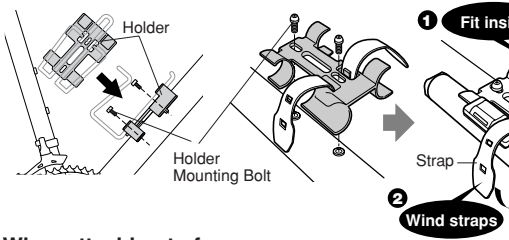
**Do not mix different types of batteries**  
**Do not mix batteries that are in different states of charge**

**Connecting Battery Pack and Cord**

Choose your favorite location to attach the battery packs.

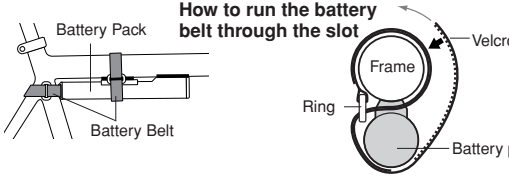
**Warning!!!** Never mix different types of batteries. Even if they are the same type, never mix them if they are in different states of charge.

**When attaching to bottle cage**  
 Attach the holder onto the down tube using the holder mounting bolts.



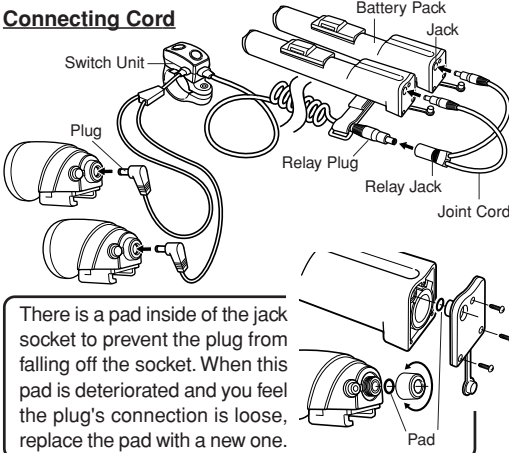
**Note:** Fix the battery packs securely with the hold-down straps. For safety's sake, also use the battery belts (velcro straps) to secure the batteries.

**When attaching to frame**  
 Fix the battery pack firmly to the frame, using the battery belts.



**Note:** If the cable is not covered by cable housing, use the included cable cover to prevent direct contact between the cable and the belts.

**Note:** You can use only one battery pack. In this case, the run time becomes half of the designated time.



Connect the battery packs, joint cord and the switch unit as illustrated. If you are using only one battery pack, connect the relay plug directly to the battery pack.

**Attention:** Secure the cord along the frame with the cord belt, so that it will not hinder riding.

**Note:** Wind the cord round the frame so that it will not hinder riding. Securely connect the jacks to the plug.

**Run Time**

Model	Spot Beam	Wide Beam	Spot + Wide
ABS-20	1.6 hrs(10W)	1.6 hrs(10W)	0.8 hr
ABS-25	1.6 hrs(15W)	2.4 hrs(10W)	1.0 hr
ABS-30	1.5 hrs(20W)	3.0 hrs(10W)	1.0 hr
ABS-35	1.5 hrs(20W)	2.0 hrs(15W)	0.9 hr

**HOW TO SWITCH ON/OFF**

The switch unit controls the operation of the lamps.

**Yellow button** ---- switches on/off the yellow plug side

**Gray button** ----- switches on/off the gray plug side

**Note:** The run time shown here is the calculated figure.

- The beam angle must be downwards.
- Use quick lever to adjust 10° horizontally.

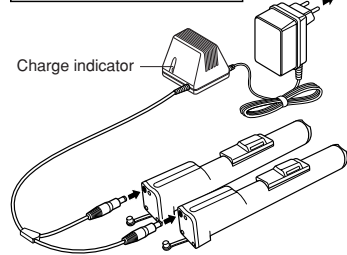
- Recharge after thorough discharge. (in order to prevent memory after effect)
- Recharge two batteries simultaneously
- Use exclusive charger

**Standard Charging Time**

ABS20/25/30:	8 - 10 hours
ABS35 (fast charge):	3 hours

**RECHARGING INSTRUCTIONS**

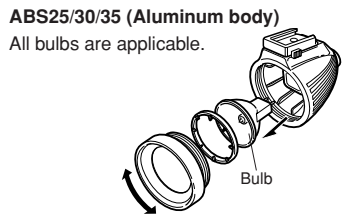
- Recharge only when battery power has completely diminished.
  - Recharged both batteries at the same time.
  - Use only the ABS recharger.
  - For indoor use only.
- Note:**
- Red indicator color ---- Empty/Not charged.
  - Green indicator color - Fully charged.
  - Battery life will vary due to adverse conditions.
  - Fully charged batteries that yields no power means battery life is dead.



**ABS20 (Plastic body)**  
 Only 10W bulb is applicable.

**HOW TO REPLACE THE BULB**

- Disassemble the lamp unit as illustrated.
- Caution:**
- Do not rotate the bulb but pull it straight out.
  - Use 10w bulb only !
  - Over 10w bulb used will cause plastic to melt.
  - To replace bulb, first let it cool down.
  - Use only the CAT EYE 6V halogen bulb.
  - Never use (2) 20w bulbs at the same time.



**SAFETY SYSTEM (AUTO-RESET FUSE)**

When an electrical surge or malfunction occurs in the circuit or the temperature of the battery rises, the fuse blows due to its safety system and the circuit will be closed. After leaving it for a while, the fuse will automatically recover.

**Note:** If the fuse continues to blow, or if the fuse does not recover, call the appropriate service center for assistance.

**SPECIFICATIONS**

Bulb:	6V Halogen spot bulb + wide bulb (ABS-20: 10W+10W/ABS-25: 15W+10W/ABS-30: 20W+10W/ABS-35: 20W+15W)	
Battery pack:	ABS-20:	Ni-Cd battery
	ABS-25:	Ni-MH battery
Battery charger:	ABS-30/35:	Hi Ni-MH battery
	ABS-20:	Ni-cd charger (normal)
	ABS-25:	Ni-MH charger (normal)
	ABS-30:	Hi Ni-MH charger (normal)
	ABS-35:	Hi Ni-MH charger (fast)
		QCHR-3010

\* As for Hi Ni-MH charger, normal charger and fast charger is compatible with each other.

Standard charging time: ABS-20, ABS-25, ABS-30: 8-10 hours / ABS-35: 3 hours

Temperature range: Charging: 0°C - 30°C Operating: -15°C - 45°C

Recharge/discharge number of times: about 500 times (until the rated capacity drops to 50%)

\* The specifications and design are subject to change without notice.

**LIMITED WARRANTY**

**2-Year Warranty:** Only for Lamp unit, switch unit, battery pack and charger (excluding bulb and deteriorated battery)

If trouble or damage occurs during normal use, the product will be repaired or replaced free of charge. Type your name, address, date of purchase and the situation of trouble clearly on the warranty certificate, and send it back to the appropriate service center together with the product. Insurance, handling and transportation charges shall be borne by the customer. After being repaired or replaced, the product will be shipped back to the customer.

**Address for service: CAT EYE CO.,LTD.**

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