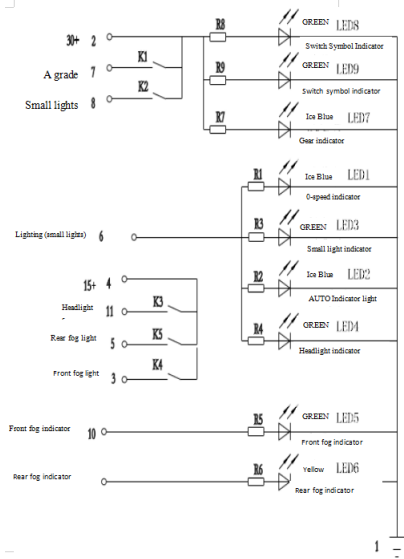
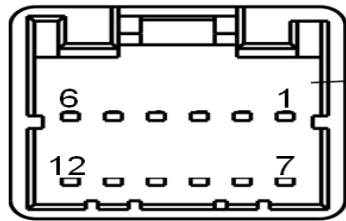


8、 Instrument panel switch 仪表台开关

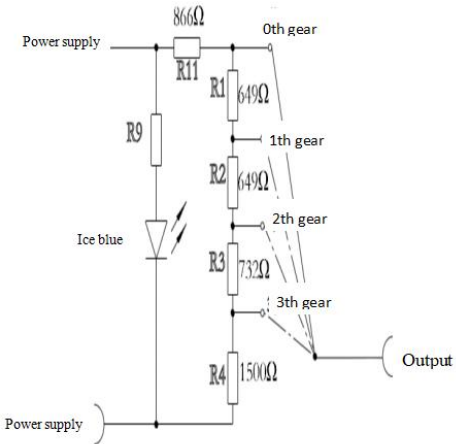
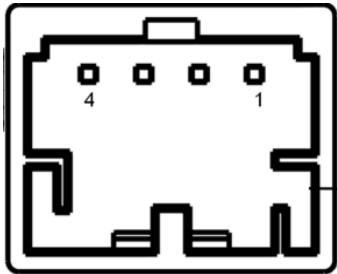
8.1 Function, principle introduction - light combination switch

Function Description 功能说明	
	Small lights
	Low beam
	Front fog light
	Rear fog light
	Automatic lighting
	Near light angle adjustment

Light control principle
12-hole plug-in connector



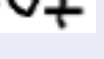
Low beam angle adjustment principle
4-hole plug-in connector

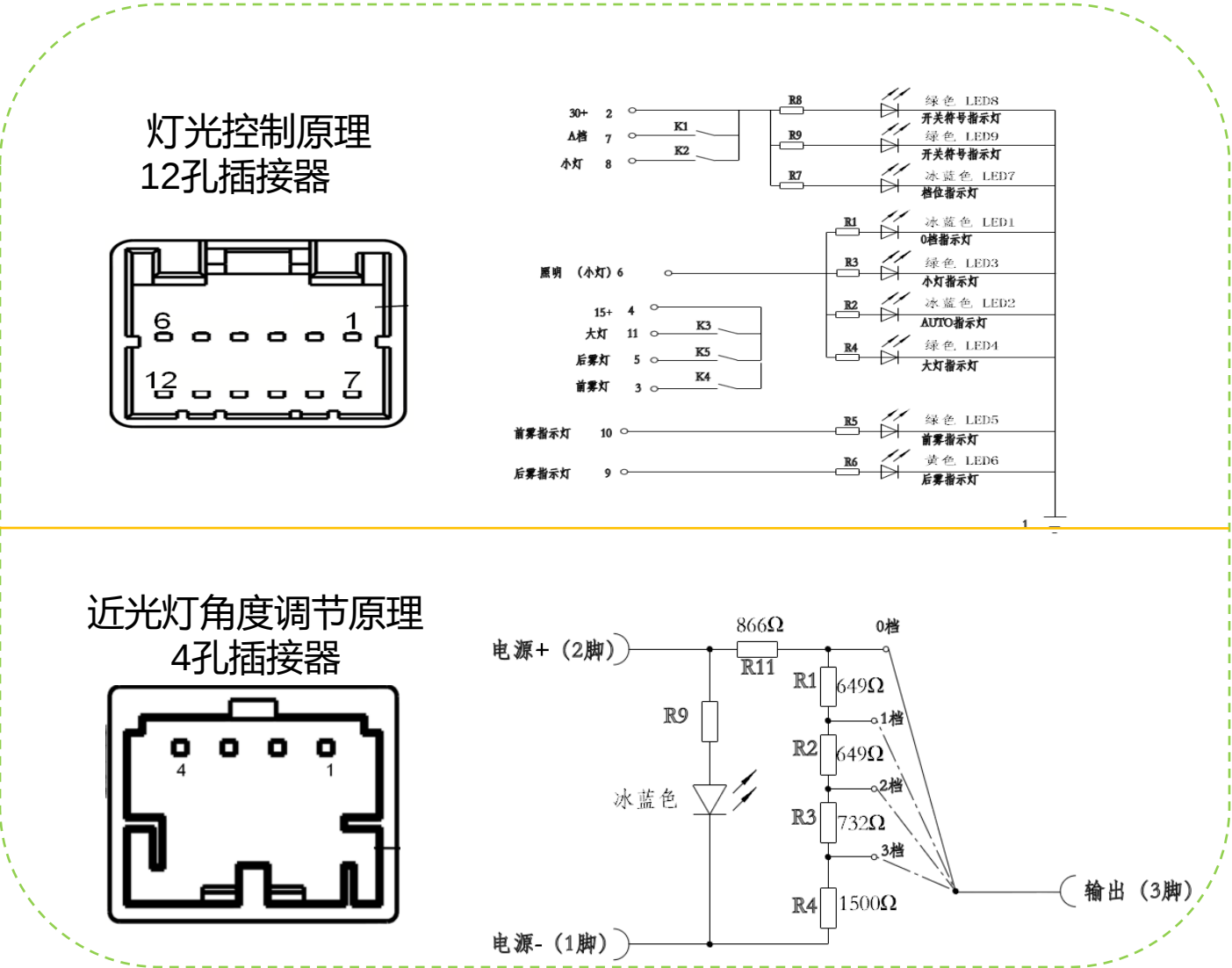


8、 Instrument panel switch 仪表台开关

8.1Function, principle introduction - light combination switch

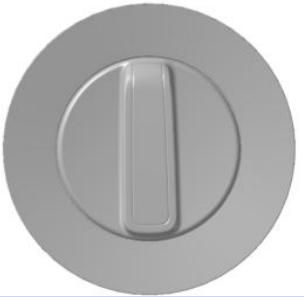
8.1功能、原理介绍-灯光组合开关

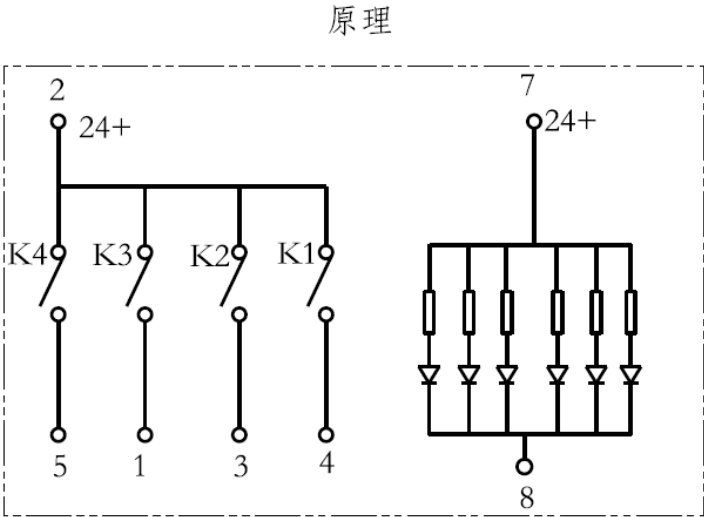
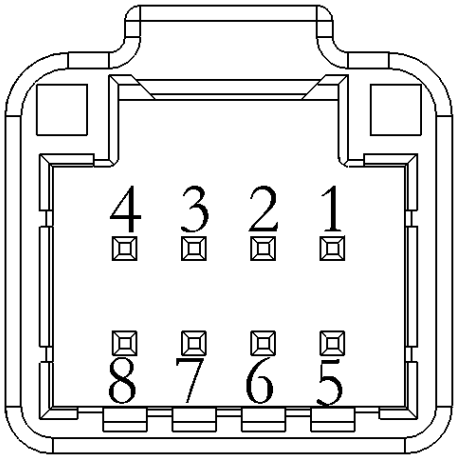
功能说明	
	小灯
	近光灯
	前雾灯
	后雾灯
	自动灯光
	近光角度调节



8、Instrument panel switch 仪表台开关

8.1Function, principle introduction - light combination switch

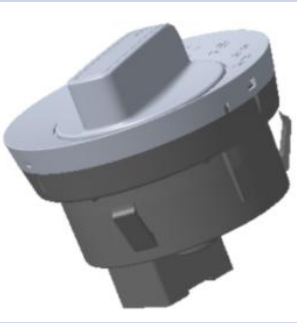
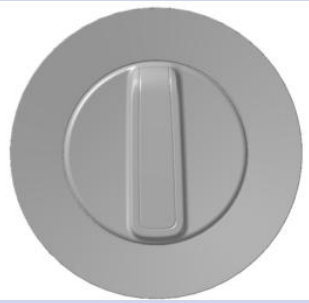
Function Description	
	 Inter-wheel differential lock
	 Inter-axle differential lock
	 Parking pickup force
	 Driving force extraction

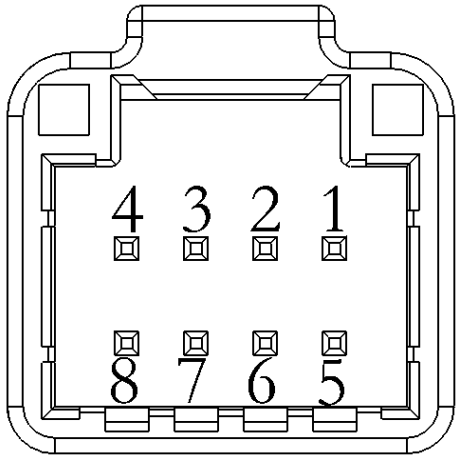


- 1) When the backlight is turned on, all indicators of the switch are always on.;
- 2) When the knob position is at 0, the switch has no output;
- 3) If the knob position is in inter-wheel differential gear (1st gear), K1 is on;
- 4) The knob position is in inter-axle differential gear (i.e. rotate to 2nd gear), then K1 and K2 are on at the same time;
- 5) The knob can be pulled up when the knob is rotated to any gear, and the current rotating gear is kept on when it is pulled up to a gear. and the K3 pin is on.
- 6) The knob can be pulled up when the knob is rotated to any gear, and when it is pulled up to two gears, the current rotating gear is kept on and K3, K4 are on.

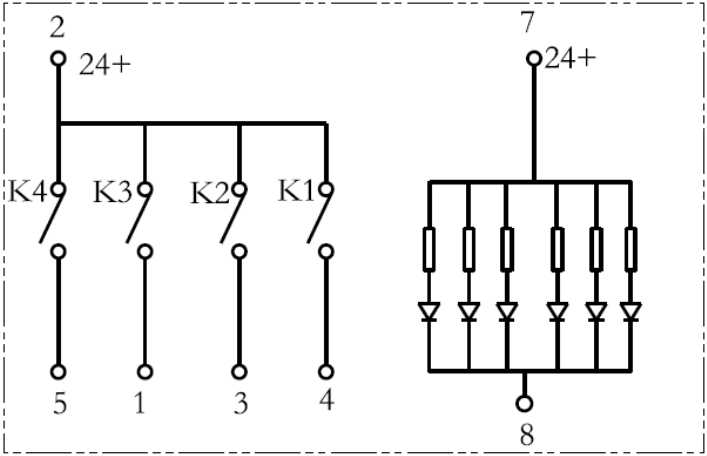
8、Instrument panel switch 8、仪表台开关

8.1功能、原理介绍-轮轴差开关

功能说明	
	 轮间差速锁
	 轴间差速锁
	 1 停车取力
	 2 行车取力



原理

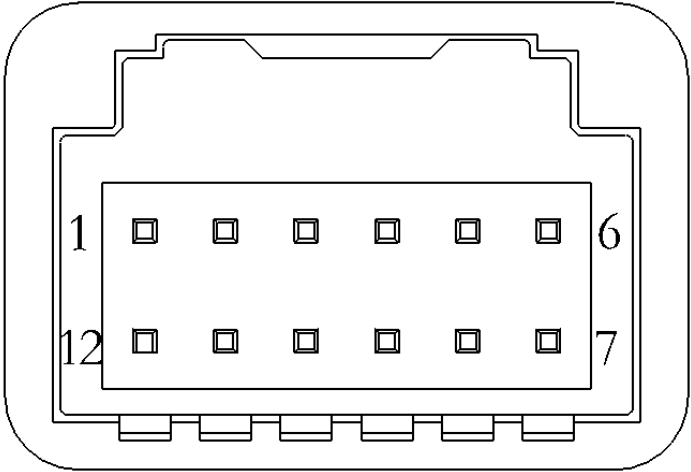


- 1) 背光打开后，开关所有指示灯常亮；
- 2) 旋钮位置在0档时，开关无输出；
- 3) 旋钮位置在轮间差速档（即旋转至1档），则K1接通；
- 4) 旋钮位置在轴间差速档（即旋转至2档），则K1、K2同时接通；
- 5) 旋钮旋转至任一档位时旋钮均可上拉，上拉至一档时保持当前旋转档位接通状态不变且K3脚接通；
- 6) 旋钮旋转至任一档位时旋钮均可上拉，上拉至两档时保持当前旋转档位接通且K3、K4接通。

8、Instrument panel switch 仪表台开关

8.1 Function, principle introduction - piano key switch switch功能、原理介绍-琴键开关

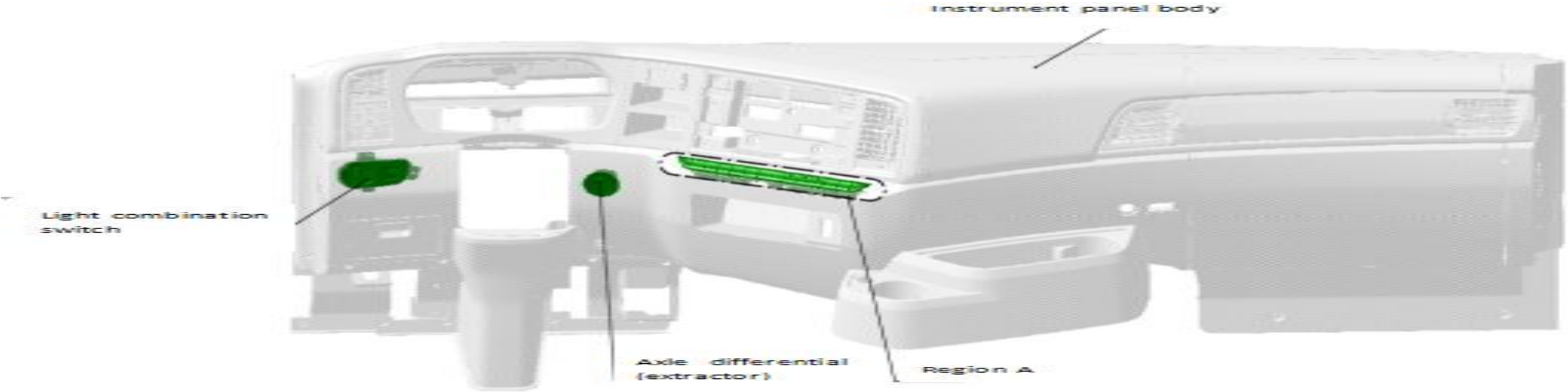
	Function Description 功能说明
	Emergency alarm switch 危急报警开关
	Other key switches 其它琴键开关



Principle reference drawing DZ97189584500
原理参考图纸 DZ97189584500

8、Instrument panel switch 仪表台开关

8.2 Installation Location 安装位置

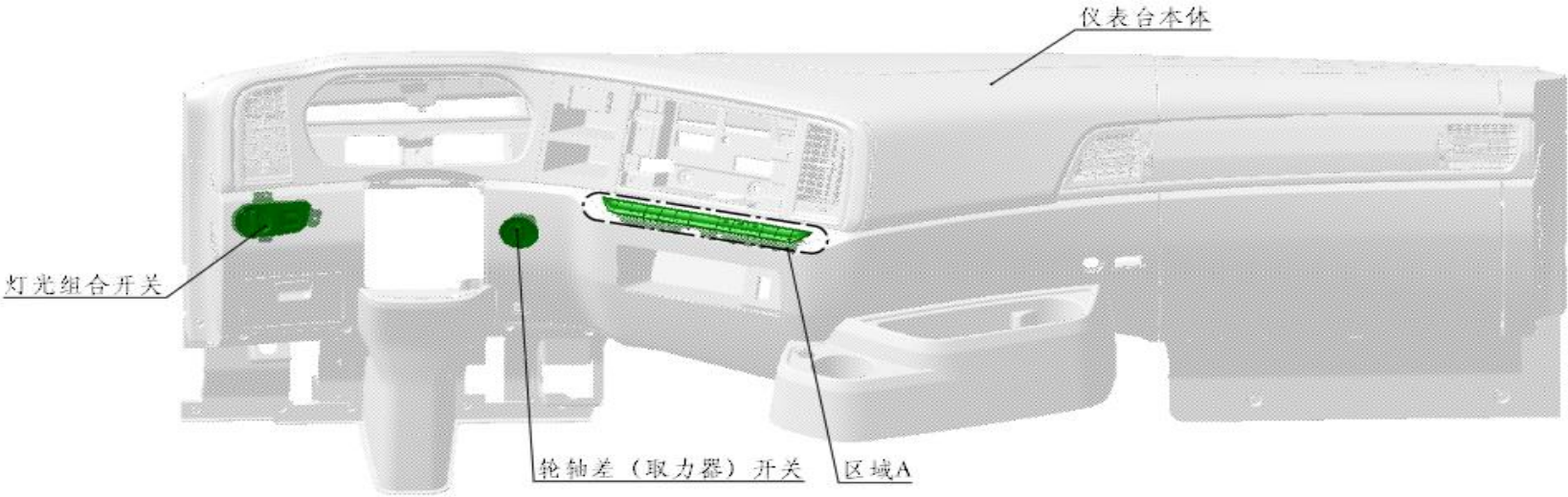


	1	2	3	4	5	6	7	8	9	10	11
Region A											Reserved
	Electrical horn transfer switch	Indoor lamp lighting switch	Rear work light switch	Cab flip switch	Gas heating single switch	Emergency alarm switch	Axial load switch	All-wheel drive switch	Front axle inter-wheel differential switch	Hill start assist switch	

The light combination switch is secured to the instrument panel using three cross slotted pan head tapping screws. The other switches are secured using a snap structure.

8、Instrument panel switch 仪表台开关

8.2 Installation Location安装位置



区域A	1	2	3	4	5	6	7	8	9	10	11
											预留
	电气喇叭 转换开关	室内灯照明 开关	后工作 灯开关	驾驶室翻 转开关	燃气加热 单联开关	危急报 警开关	轴荷开关	全轮驱 动开关	前桥轮间 差速开关	坡道起步 辅助开关	

灯光组合开关使用3个十字槽盘头自攻螺钉固定在仪表台上。
其它开关使用卡扣结构固定。

8、Instrument panel switch 仪表台开关

8.3 Disassembly and repair拆卸维修

◆Disassembly instructions拆卸说明

1)Light master switch灯光总开关

Step1: Remove the left knee shield assembly.

拆下左侧膝部护板总成;

Step2: Unplug the wire harness plug.拔掉线束插接器;

Step3: Unscrew the bolt and remove the light master switch, as shown in Figure I below

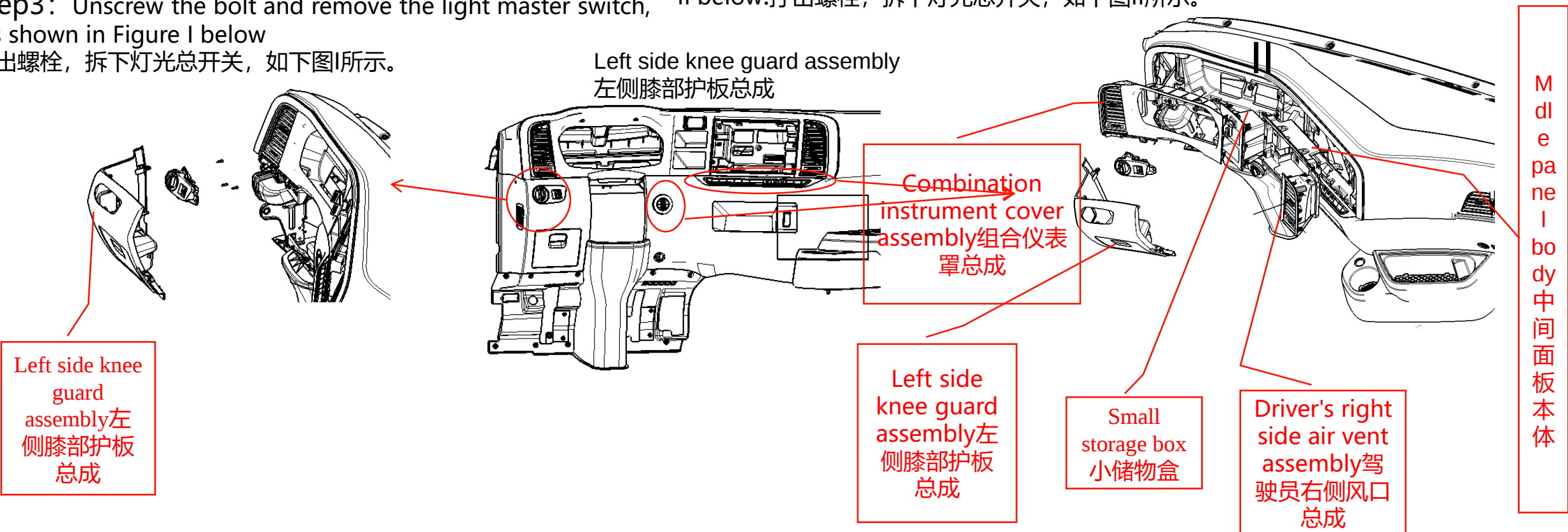
拧出螺栓, 拆下灯光总开关, 如下图I所示。

2)Axle Differential Switch & Key Switch轮轴差器开关&琴键开关

Step1: Remove the left knee guard assembly, the combination instrument cover assembly, the small storage box, and the center panel body拆下左侧膝部护板总成、组合仪表罩总成、小储物盒、中间面板本体;

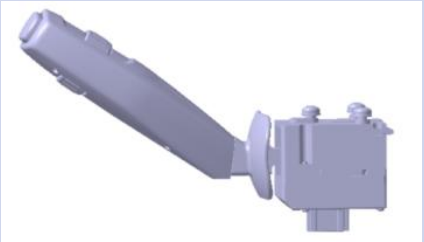
Step2: Unplug the wire harness plug.拔掉线束插接器;

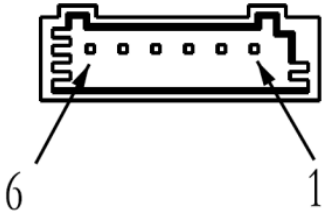
Step3: Unscrew the bolt and remove the light master switch, as shown in Figure II below.拧出螺栓, 拆下灯光总开关, 如下图II所示。



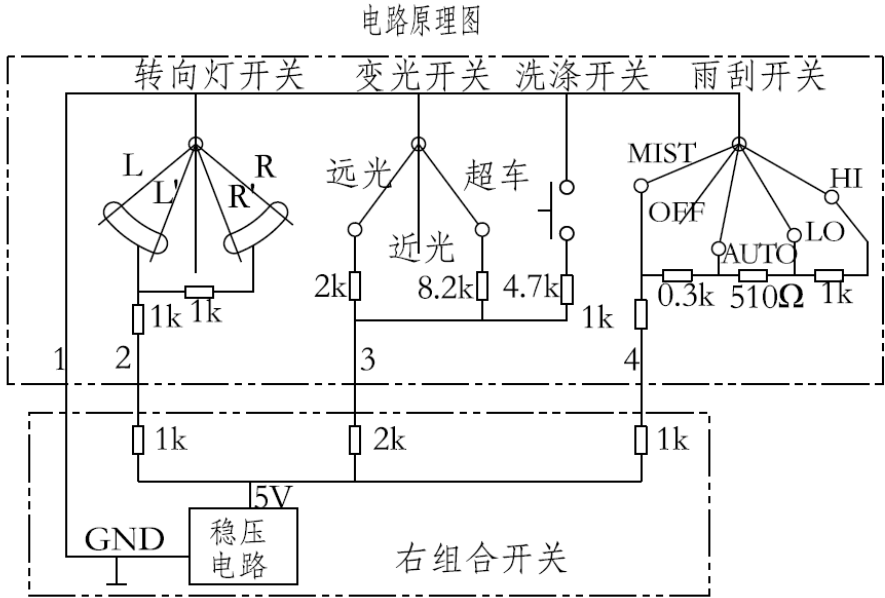
9、Left combination switch 左组合开关

9.1 Function and principle introduction功能、原理介绍

	Function Description功能说明	
		转向灯 Turn signal
		远光灯 High beam
		超车 Overtaking
		洗涤 Washing
		雨刮 Wiper



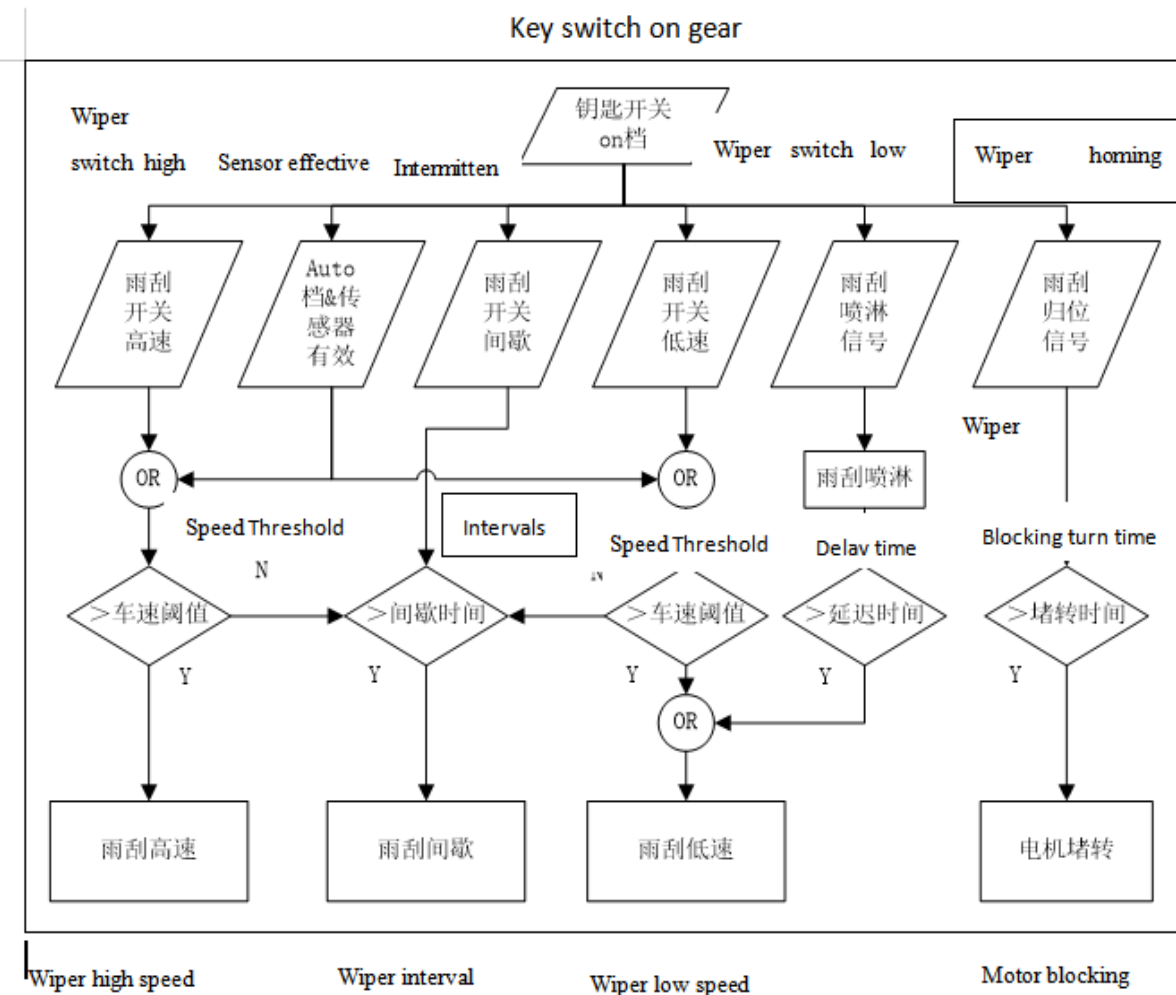
PIN	功能
1	GND
2	转向灯开关
3	变光+洗涤开关
4	雨刮开关
5	
6	



9、Left combination switch 左组合开关

9.2 Wiper and sprinkler control 雨刮及喷淋控制

- Valid signal for the key switch ON position. 钥匙开关ON档信号有效;
- The wiper switch is located in Auto, when the whole vehicle is equipped with a rain sensor, the wiper runs in automatic mode; when the whole vehicle does not have a rain sensor, the wiper runs in intermittent mode, and the default intermittent time is 11s. 雨刮开关位于Auto档, 当整车配置有雨量传感器时, 雨刮以自动模式运行; 当整车无雨量传感器时, 雨刮以间歇模式运行, 默认间歇时间为11s;
- When the wiper switch is in low speed, the wiper motor runs in low speed mode. 雨刮开关位于低速档时, 雨刮电机以低速模式运行;
- 雨刮开关位于高速档时, 雨刮电机以高速模式运行;
- Wiper MIST gear: The switch is point touch type, when the switch signal is valid, the wiper runs in low speed gear, when the switch signal is invalid, wait for the wiper to return to the position, the wiper ends working. 雨刮MIST档: 开关为点触式, 开关信号有效时, 雨刮以低速档运行, 开关信号无效时, 待雨刮回位, 雨刮结束工作。
- Spraying: The spraying switch is effective and the wiper motor ends its work after three cycles of operation. 喷淋: 喷淋开关有效, 雨刮电机运行三个周期后, 结束工作。
- Intermittent gear time self-learning: after the wiper switch switches from intermittent (Auto) gear to OFF gear and then switches to intermittent (Auto) gear within 30s, this time interval is the intermittent time for the next intermittent wiper operation. 间歇档时间自学习: 雨刮开关从间歇 (Auto) 档切换至OFF档后在30s内又切换至间歇 (Auto) 档, 此时间间隔则为下一次雨刮间歇运行的间歇时间。
- The functional logic is shown in the diagram on the right 功能逻辑如右图所示。



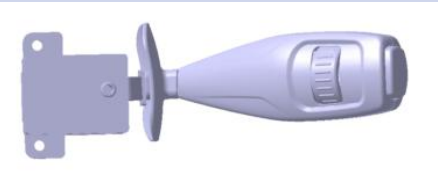
9、 Left combination switch 左组合开关

9.3 Failure mode of automatic light wiper 自动灯光雨刮的故障模式

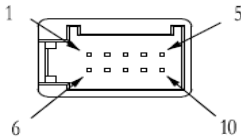
1	Automatic wiper does not work 自动雨刮不工作	Switch not used开关未使用	Checking the switch signal input检查开关信号输入
2	Automatic wiper does not work 自动雨刮不工作	Sensor not installed properly 传感器安装不到位	Please check the sensor installation 请检查传感器安装
3	Automatic wiper does not work 自动雨刮不工作	Wire Harness Connection 线束连接	Please check the wiring harness connection 请检查线束连接
4	Lights on, wiper frequency uncomfortable 灯光开启、雨刮频率不舒适	Sensitivity not adapted 敏感度未适配	Instrument Adjustment Sensitivity仪表调整敏感度

10、 Right combination switch 右组合开关

◆ Function and principle introduction功能、原理介绍

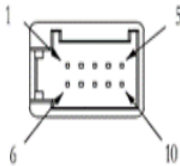
	Function Description功能说明	
		Retarder 缓速器
		JACBO

插接器针脚定义



PIN	功能	PIN	功能
1	GND	6	GND 地
2	转向灯开关	7	B+ 常电24V
3	变光+洗涤开关	8	LIN
4	雨刮开关	9	
5		10	

插接器针脚定义 Plug-in connector pin definition

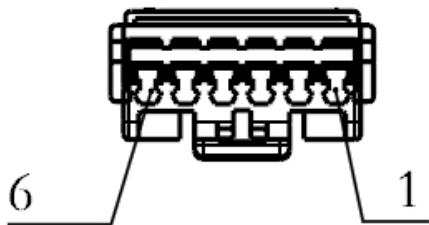
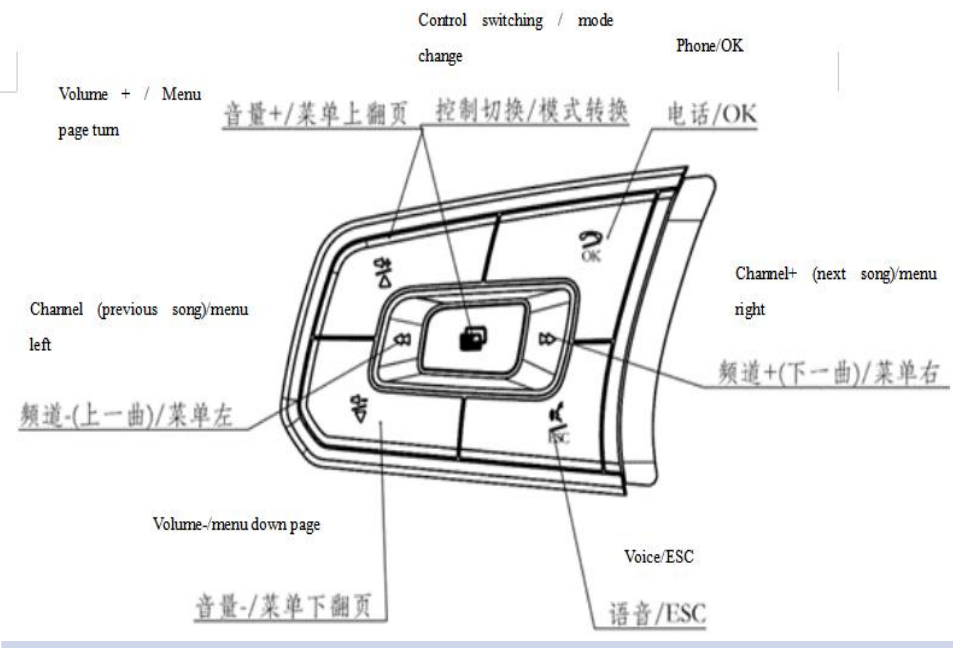


PIN	Function 功能	PIN	Function 功能
1	GND	6	GND 地
2	Turn signal switch 转向灯开关	7	B+ 常电24V
3	Light change + wash switch 变光+洗涤开关	8	LIN
4	Wiper switch 雨刮开关	9	
5		10	

11、 Left steering wheel switch 左方向盘开关

- ◆ Function and principle introduction
- ◆ 功能、原理介绍

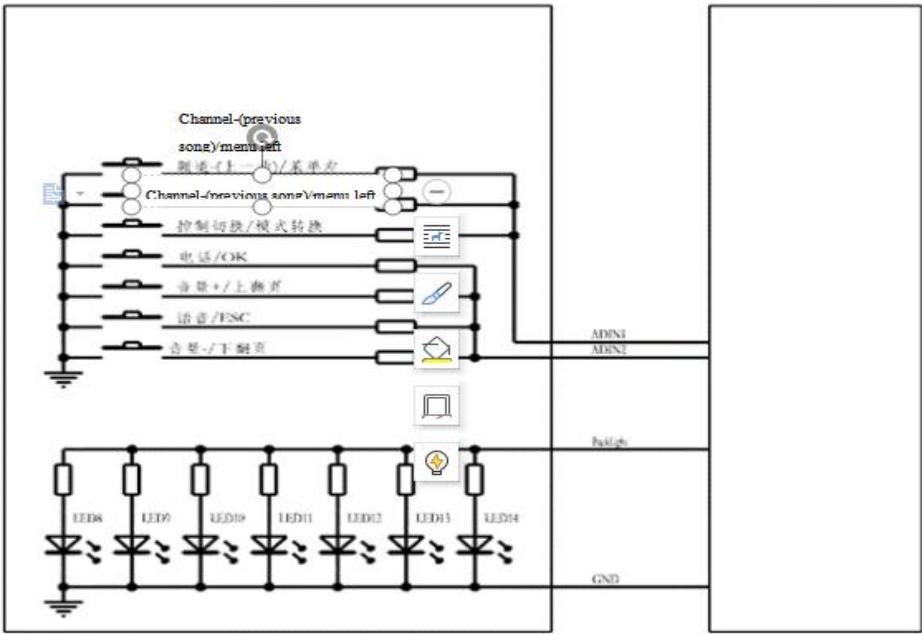
Function Description 功能说明



Serial number 插脚序号	Definition 定义	Function Description 功能描述
1	Backlight Power 背光电源	24+
2	GND	Hitchhike 搭铁
3	Empty 空	Empty 空
4	Empty 空	Empty 空
5	Signal 1 信号 1	ADIN1
6	Signal 2 信号 2	ADIN2

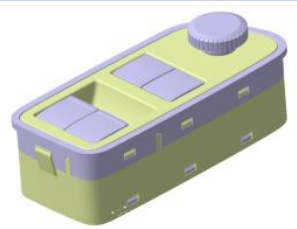
Left side steering wheel switch
左侧方向盘开关

Right side steering wheel switch
右侧方向盘开关

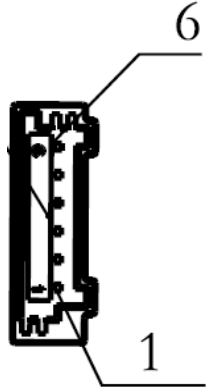


13、Primary and secondary door control switches 主、副门控开关

- ◆ Function and principle introduction
- ◆ 功能、原理介绍

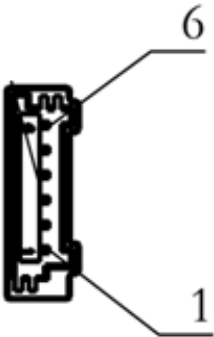
	Function Description 功能说明	
		Glass lift玻璃升降
		Central control lockout中控闭锁
		Central control unlocking中控解锁
		Left rear view mirror selection左后视镜选择
		Right rear view mirror selection右后视镜选择
		Heated rear view mirror后视镜加热

主门控开关
Main door
control switch



针脚	功能
1	GND
2	LIN
3	24V+
4	副门输入
5	空
6	24V输出

副门控开关
Secondary
door control
switch

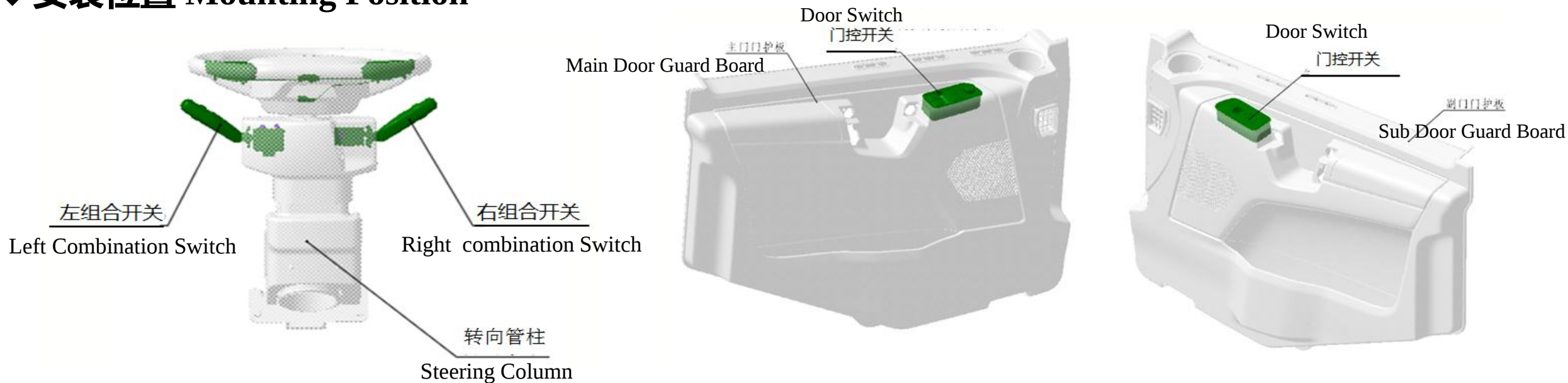


Pinning 针脚	Function 功能
1	GND
2	LIN
3	24V+
4	Sub-gate input 副门输入
5	Empty 空
6	24V output 24V 输出

14、 Combination Switch & Steering Wheel Switch & Door Switch

14、组合开关&方向盘开关&门控开关

◆安装位置 Mounting Position



The left and right combination switches on the steering column are secured to the steering column using three and two cross slotted pan head screws respectively.

转向管柱上的左、右组合开关分别使用三个和两个十字槽盘头螺钉固定在转向管柱上。

The steering wheel switch is fixed by a snap joint structure.

方向盘开关使用卡扣结构固定。

The door control switch is fixed by a snap joint structure.

门控开关使用卡扣结构固定。

14、Combination Switch & Steering Wheel Switch & Door Switch

组合开关&方向盘开关&门控开关

◆ Common Failure Phenomena and Analysis Methods 常见故障现象及分析方法

Switch Communication Methods 开关通讯方式

组合开关:

Combination Switch:



方向盘开关:

Steering Wheel Switch:



门控开关:

Door Switch:

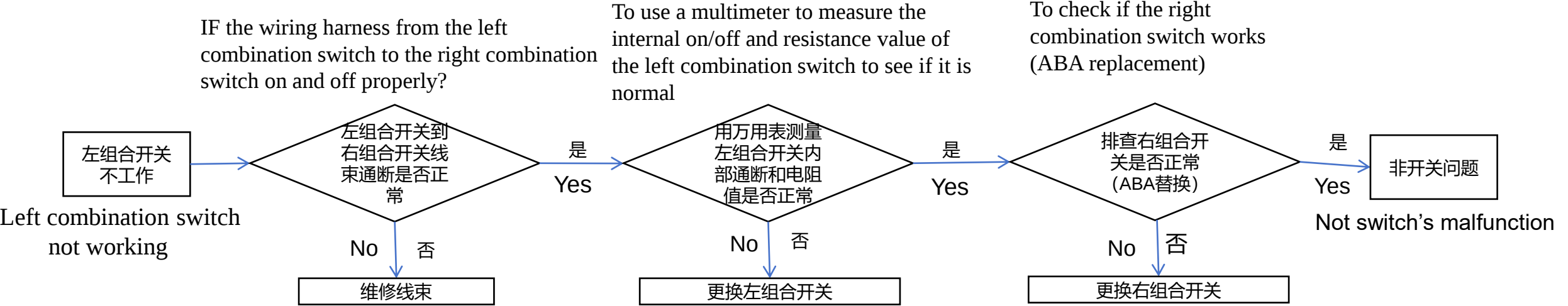


When a function or all functions controlled by these three switches are malfunctioning, please check them according to the following classifications. Let's take the combination switch as an example.

当这三种开关控制的某个功能或所有功能出现故障时，按以下分类方法检查。以组合开关为例。

a) Only when the left combination switch function (hardwire switch) is malfunctioning

仅左组合开关功能（硬线开关）出现故障



b) Right combination switch function (LIN switch) failure directly with the ABA replacement method to determine whether the switch has a fault. (See maintenance manual)

右组合开关功能（LIN开关）故障直接用ABA替换法判断开关是否有故障。（见维修手册）

c) The left and right combination switches are malfunctioning, the right combination switch can be directly investigated, and the method of investigation is the same as above. (See maintenance manual)

左右组合开关均出现故障，直接排查右组合开关即可，排查方法同上。（见维修手册）

14、 Combination Switch & Steering Wheel Switch & Door Switch 组合开关&方向盘开关&门控开关

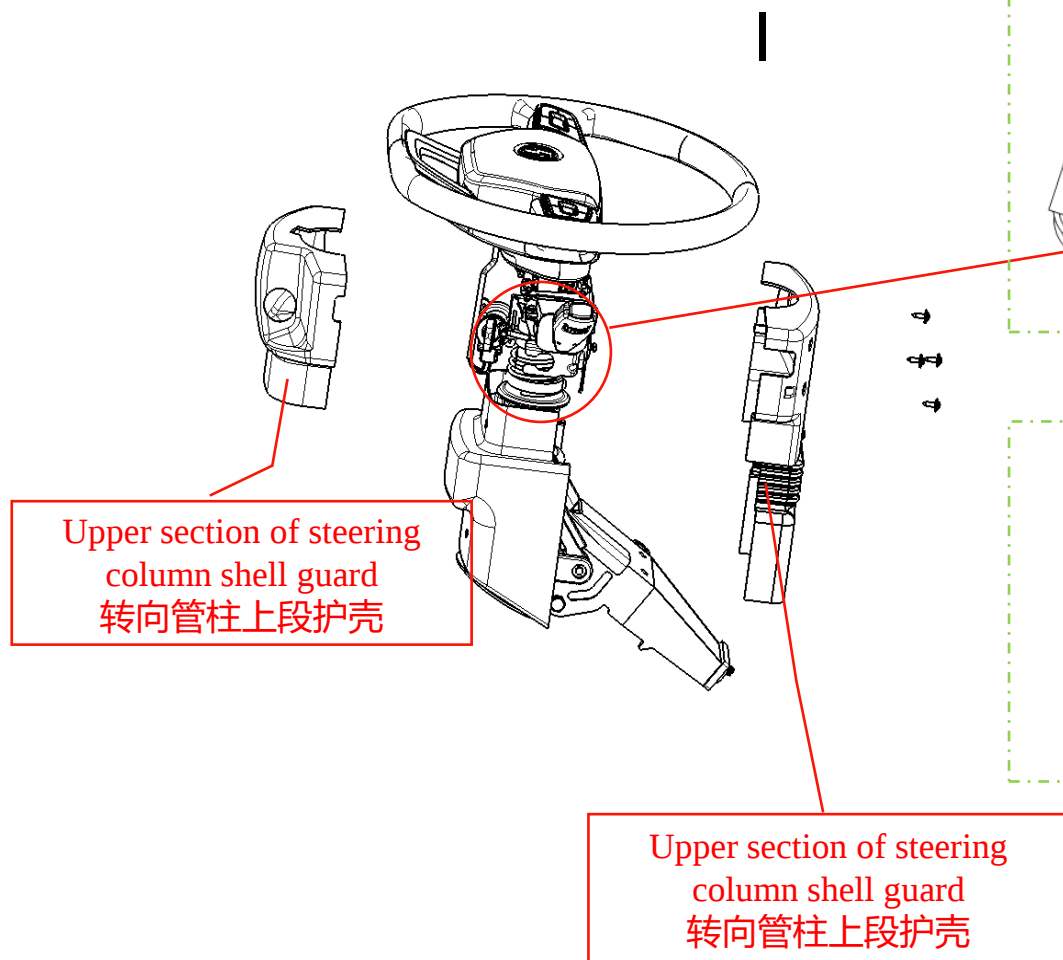
◆ Disassembly & Repair 拆卸维修

1) Steering combination switch 转向组合开关

Step1: Unscrew the screws and remove the upper section of the steering column housing;
拧出螺丝，拆下转向管柱上段护壳；

Step2: Unplug the wire harness plug;
拔掉线束插接器；

Step3: Unscrew the left or right combination switch screws and remove the combination switch as shown in picture I.
拧出左或右组合开关螺丝，拆下组合开关，如图I所示。



14、 Combination Switch & Steering Wheel Switch & Door Switch 组合开关&方向盘开关&门控开关

2) Steering wheel switch (no tools required)

方向盘开关（无需工具）

Step1: Remove the upper cover of the steering wheel

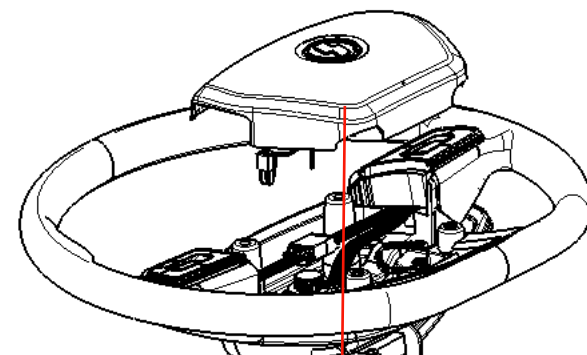
第一步：拆下方向盘上盖；

Step2: Unplug the wire harness plug

第二步：拔掉线束插接器；

Step3: Remove the steering wheel switch, as shown in picture II.

第三步：拆下方向盘开关，如图II所示。



upper cover of the steering
wheel
方向盘上盖

14、Combination Switch & Steering Wheel Switch & Door Switch 组合开关&方向盘开关&门控开关

3) Door Switch 门控开关

Step1: Remove the inner door guard assembly.

第一步：拆下车门内护板总成；

Step2: Unplug the wire harness plug

第二步：拔掉线束插接器；

Step3: Remove the door control switch, as shown in picture III.

第三步：拆下门控开关即可，如图III所示。

The sub door control switch removal method is the same.

副门控开关拆卸方法相同。

