



EPS-4000 PARK DISTANCE CONTROL (PDC) REVERSE SENSOR FITMENT MANUAL

23-05-2006
REV 04

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CONFIDENTIAL

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EPS-4000 INTRODUCTION

INTRODUCTION

THE EPS4000 UTILIZES THE MOST ADVANCED ULTRASONIC ASYMMETRICAL SENSING TECHNOLOGY. THE SENSOR HAS ULTRA WIDE DETECTION CAPABILITIES THAT SENSES AN EXTRA WIDE ANGLE OF 150 DEGREES HORIZONTALLY AND 60 DEGREES VERTICALLY. THIS TECHNOLOGY INCREASES THE DETECTION ANGLE UP TO 100% COMPARED WITH OTHER CONVENTIONAL SYSTEMS. THE MICRO SIZED SENSORS ARE DESIGNED TO BLEND INTO ALL CARS WITH IT'S SMALL SIZE AND ADAPTABILITY TO CURVED BUMPERS.

PARTS SUPPLIED (SEE TOP OF PAGE 6 FOR STOCK CODE DETAILS)

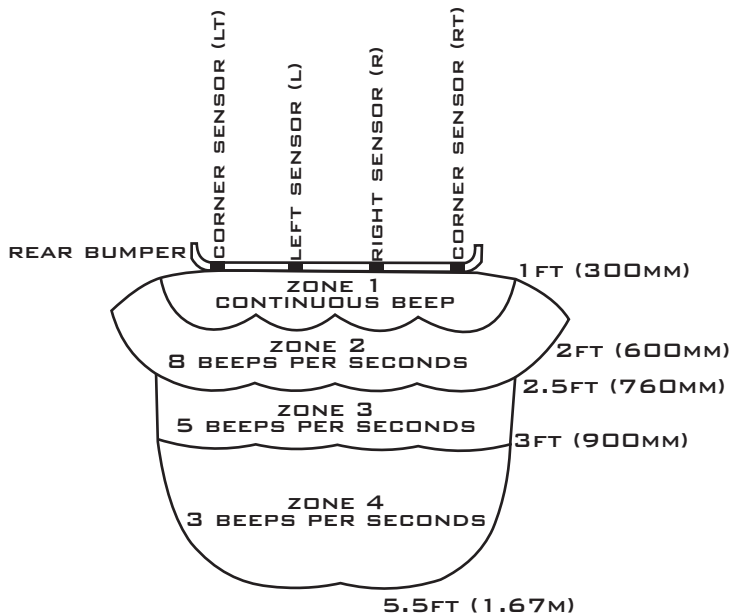
- * CONTROL UNIT.
- * BUZZER UNIT.
- * POWER CABLE HARNESS.
- * 4 SENSOR UNITS (CORNER LEFT [CL], LEFT [L], RIGHT [R], CORNER RIGHT [CR]).

IMPORTANT NOTE :

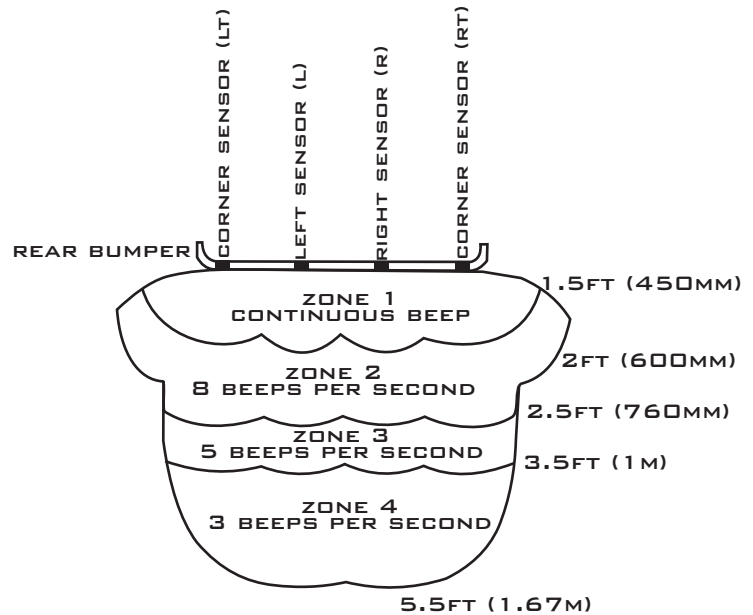
1. THE EPS-4000 MUST BE FITTED WITH ALL 4 SENSORS IN ORDER FOR THE SYSTEM TO WORK. IF YOU HAVE A BUMPER THAT ONLY REQUIRES 2 SENSORS, YOU CAN PURCHASE THE EPS-4000-2S KIT. PLEASE CONTACT SANJI FOR FURTHER INFORMATION.
2. IF YOU REQUIRE FITMENT TO A METAL BUMPER YOU WILL NEED TO PURCHASE THE EPS-4000-R.

SENSING ZONE DETAILS

VEHICLE WITH NO TOW BAR OR SPARE WHEEL
BLUE WIRE CONNECTED TO GROUND



VEHICLE WITH TOW BAR OR SPARE WHEEL
BLUE WIRE CONNECTED TO POSITIVE (+)



IMPORTANT (SPECIAL NOTE TO OWNER)

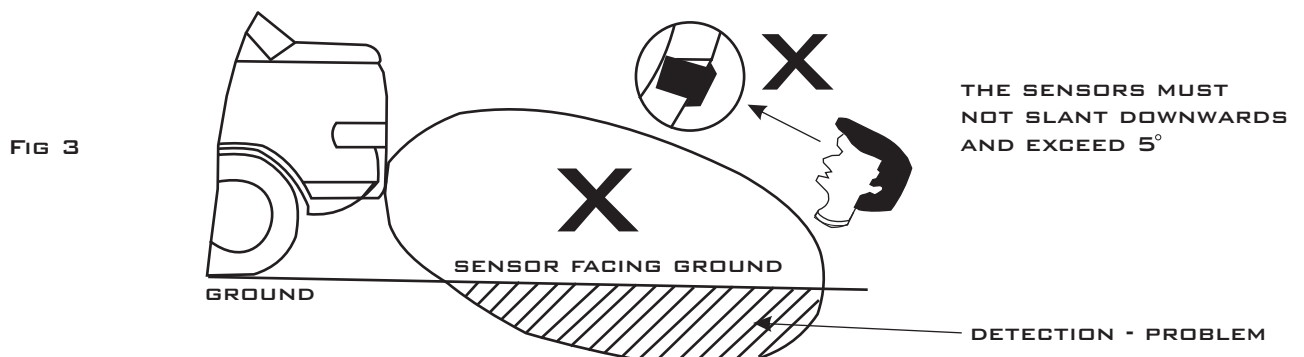
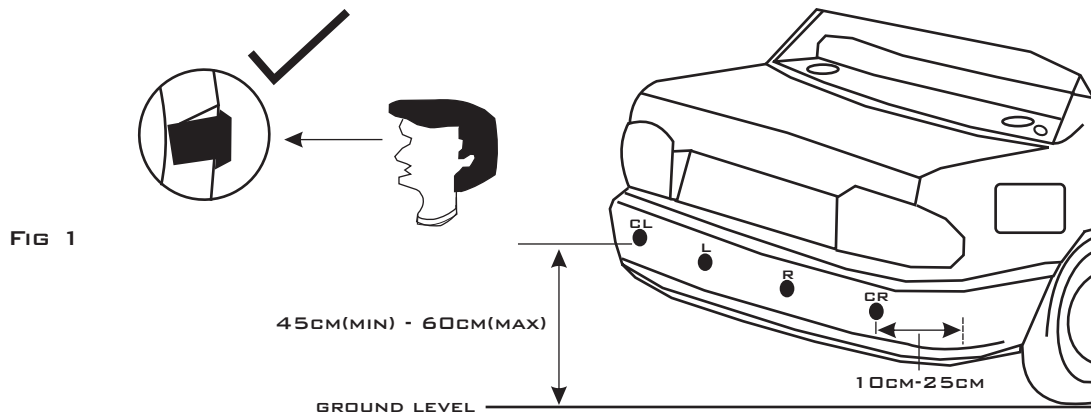
- * THIS DEVICE IS DESIGNED TO AID DRIVERS WHEN REVERSING AND DURING REVERSE PARKING. IT SHOULD NOT BE CONSIDERED AS A SAFETY DEVICE FOR ANY OTHER PURPOSE. PROPER DRIVING TECHNIQUE AND THE USE OF MIRRORS ARE ALWAYS ESSENTIAL.
- * THE MANUFACTURER, DISTRIBUTOR AND DEALER SHALL NOT BE HELD LIABLE FOR ANY UNFORESEEN ACCIDENT.
- * DETECTION OF HUMAN BEINGS AND ANIMALS ARE NOT ADVISABLE.

EPS-4000 SENSOR DETAILS

IMPORTANT - PLEASE READ THE POINTS BELOW BEFORE MOUNTING THE SENSORS

SENSOR MOUNTING DETAILS

1. THE 4 SENSORS MUST BE MOUNTED 45CM(MIN) - 60CM(MAX) FROM GROUND (SEE FIG 1).
2. THE 2 CORNER SENSORS (CL & CR) MUST BE MOUNTED 10CM(MIN) - 25CM(MAX) FROM EACH CORNER (SEE FIG 1).
3. MAKE SURE THAT THE SENSORS ARE EVENLY SPACED.
4. PLASTIC SENSOR (PLASTIC BUMPERS) : DRILL A 20MM HOLE FOR THE SENSORS.
RUBBER SENSOR (METAL BUMPERS) : DRILL A 25MM HOLE FOR THE RUBBER SENSORS.
5. THE SENSORS MUST BE PLACED WITH THE MARKING DOT FACING DOWN (SEE FIG 2).
6. THE SENSORS MUST NOT SLANT DOWNWARDS (SEE FIG 3).
7. YOU MUST CONNECT ALL 4 SENSORS, IN ORDER FOR THE SYSTEM TO WORK PROPERLY.
8. DO NOT APPLY STRONG FORCE TO THE SENSORS WHEN MOUNTING (SEE FIG 4).



EPS-4000 INSTALLATION DETAILS

SENSOR INSTALLATION PROCEDURE

1. MARK FROM BOTH CORNERS OF THE REAR BUMPER POSITION FOR BOTH CORNER SENSORS CL AND CR.
2. MEASURE SENSOR LEFT (L) AND SENSOR RIGHT (R) WHICH IS EQUAL DISTANCE BETWEEN BOTH CORNER SENSORS (CL AND CR).
3. MEASURE FROM THE GROUND LEVEL A DISTANCE OF 45cm(450MM) TO 60cm (600MM) TO INDICATE THE FINAL POSITION OF THE SENSORS.
NOTE : TO AVOID FALSE TRIGGERING, PLEASE ENSURE THAT THE SENSORS ARE INSTALLED ABOVE 45cm.
4. ENSURE THAT THE BUMPER CURVE SURFACE WHERE THE SENSORS ARE TO BE MOUNTED SHOULD NOT BE MORE THAN 5° FACING TO THE GROUND.
5. PLASTIC SENSOR (PLASTIC BUMPERS) : DRILL A 20MM HOLE FOR THE SENSORS. RUBBER SENSOR (METAL BUMPERS) : DRILL A 25MM HOLE FOR THE SENSORS.
6. INSERT THE SENSORS.
NOTE : MAKE SURE THAT THE SENSORS ARE MOUNTED INTO THE CORRECT POSITION. THE DOT MARK OF THE SENSOR TO FACE DOWNWARDS.
7. USE CABLE TIES TO SECURE AND ROUTE SENSOR WIRES ALONG THE INTERNAL BUMPER WALL. WHEN ROUTING THE SENSOR WIRES, AVOID SHARP BENDS, EDGES AND LOOSE ROUTINGS.
8. INSERT THE SENSOR WIRES CONNECTORS TO THE CONTROL UNIT HEADERS AS PER THE MARKINGS.

CONTROL UNIT INSTALLATION PROCEDURE

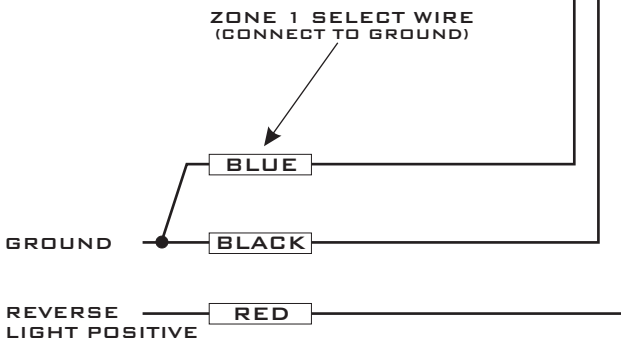
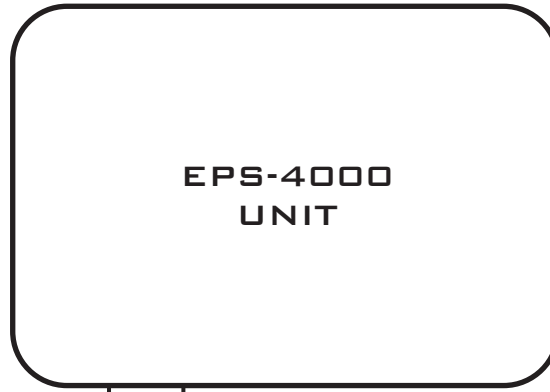
1. LOCATE A SUITABLE SURFACE TO MOUNT THE CONTROL UNIT. PREFERABLY TO BE FITTED TO THE RIGHT SIDE STEEL PANEL INSIDE THE BOOT USING A SCREW AND NUT.
2. TO PREVENT WATER FROM GETTING INTO THE CONTROL UNIT, PLEASE NOTE THE VERTICAL POSITIONING OF THE CONTROL UNIT.
3. ROUTE AND CONCEAL WIRE HARNESS UNDERNEATH THE BOOT CARPET.
4. CONNECT THE RED WIRE TO THE REVERSE LAMP POSITIVE WIRE (+10V TO 25V).
5. CONNECT THE BLACK WIRE TO AN INDEPENDENT GROUND TERMINAL (ENSURE THAT IT IS PROPERLY GROUNDED).
6. REFER TO PAGE 5 FOR BLUE WIRE CONNECTION.
7. PLUG INTO THE POWER WIRE CONNECTOR TO THE CONTROL UNIT.

NOTE : DO NOT MOUNT THE CONTROL UNIT OUTSIDE THE VEHICLE, MAKE SURE THAT IT IS INSTALLED IN A CLEAN DRY PLACE, AWAY FROM DIRT, WATER AND MOISTURE.

EPS-4000 WIRING DETAILS

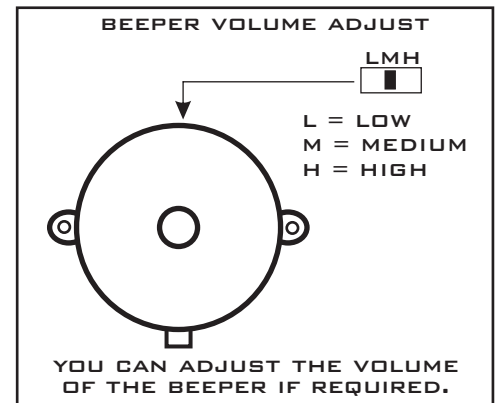
OPTION 1

NO TOW BAR OR SPARE WHEEL FIT



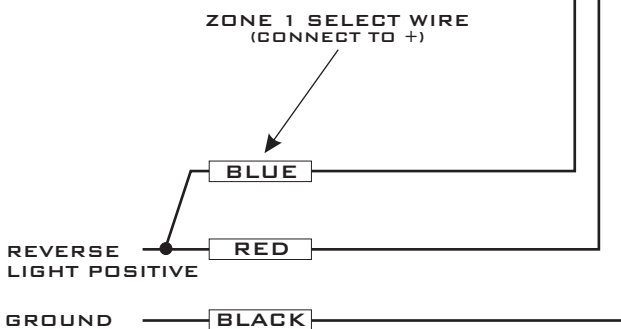
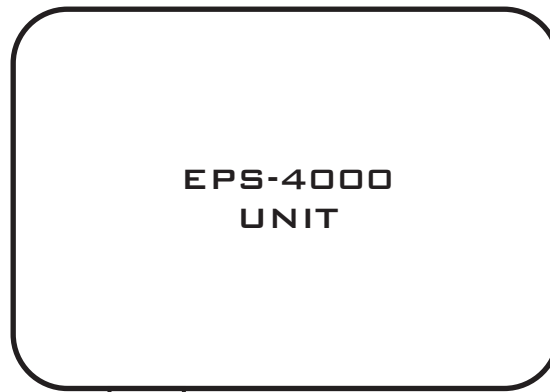
NOTE :

NORMAL FIT - WITH NO TOW BAR OR SPARE WHEEL.
CONNECT THE BLUE WIRE TO GROUND.
ZONE 1 - 1 FT (305MM).



OPTION 2

TOW BAR OR SPARE WHEEL FIT



NOTE :

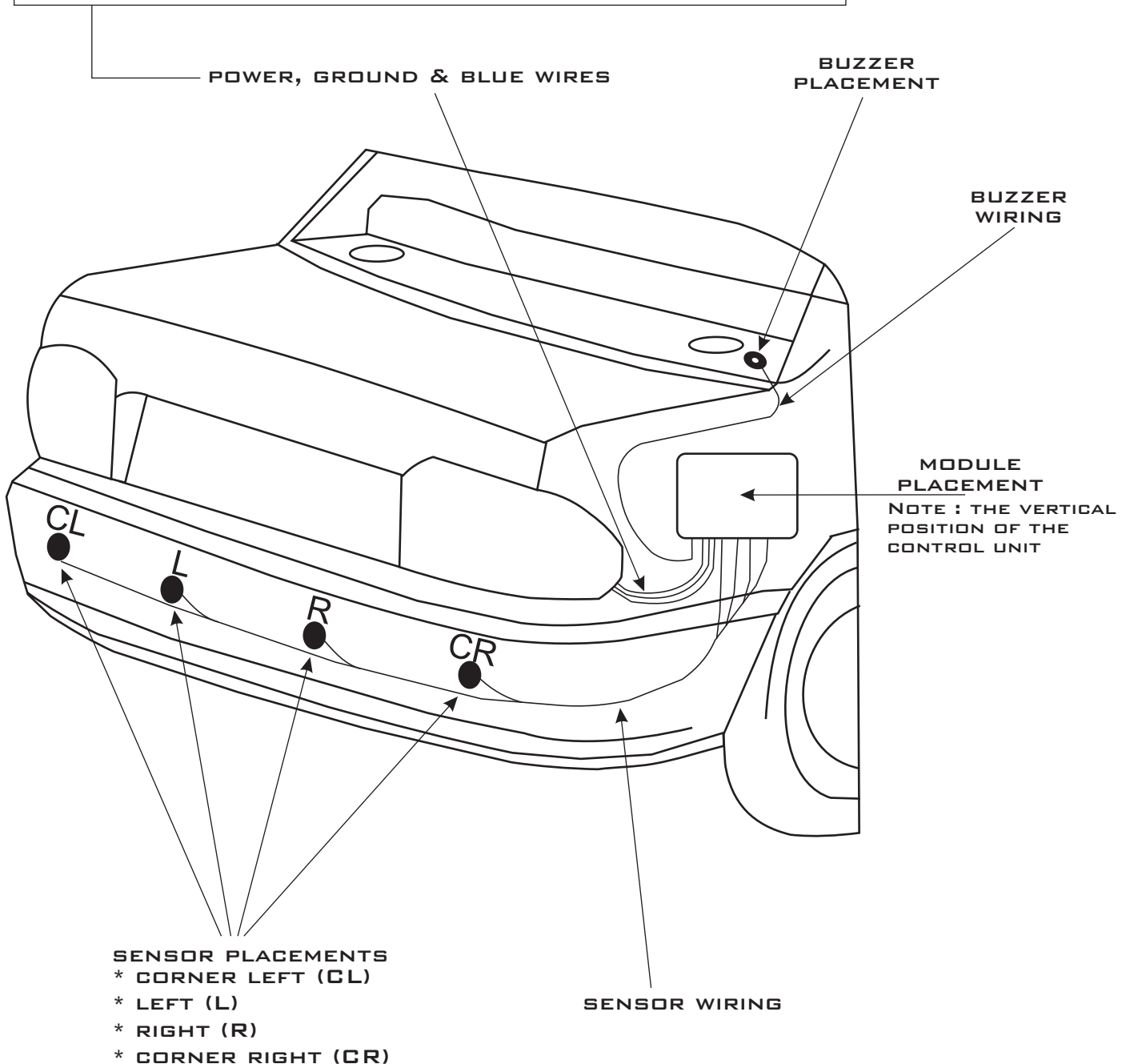
SPECIAL FIT - WITH A TOW BAR OR SPARE WHEEL.
CONNECT THE BLUE WIRE TO POSITIVE.
ZONE 1 - 1.5FT (458MM).

EPS-4000 STOCK CODES & WIRING DETAILS

STOCK CODES DETAILS :

- EPS-4000 = STANDARD KIT WITH 4 SENSORS (PLASTIC SENSORS)
- EPS-4000-R = METAL KIT WITH 4 SENSORS (RUBBER SENSORS)
- EPS-4000-2S = STANDARD KIT WITH 2 SENSORS (PLASTIC SENSORS)
- EPS-4000-2SR = METAL KIT WITH 2 SENSORS (RUBBER SENSORS)
- EPS-7000 = SINGLE SENSOR (PLASTIC SENSOR)
- EPS-2500 = METAL SINGLE SENSOR (RUBBER SENSOR)

CONNECT THE RED WIRE TO THE REVERSE LAMP POSITIVE.
CONNECT THE BLACK WIRE TO GROUND.
CONNECT THE BLUE WIRE TO EITHER GROUND OR POSITIVE (+).



EPS-4000 OPERATION & TESTING

OPERATION AND TESTING (VEHICLE WITH NO TOW BAR OR SPARE WHEEL)

1. REVERSE YOUR CAR TOWARDS ANOTHER CAR/WALL TO A DISTANCE OF ABOUT 7FT (2.1M) APART.
2. ENGAGE REVERSE GEAR, A SINGLE AUDIBLE BEEP SHOULD BE HEARD INDICATING THE SYSTEM IS ACTIVATED.
3. REVERSE THE CAR SLOWLY TOWARDS THE CAR/WALL.
4. WHEN THE CAR/WALL IS WITHIN THE OUTERMOST DETECTION (ZONE 4), THE BUZZER SOUNDS 3 BEEPS/SEC INDICATING THE CAR/WALL BEHIND THE CAR IS WITHIN 3FT (900MM) TO 5.5FT (1.67M).

NOTE : SMALL AND FINE OBJECTS MAY NOT BE DETECTED AT THIS ZONE.

5. WHEN THE DISTANCE APART IS WITHIN 2FT (600MM) TO 3FT (900MM), THE BUZZER SOUND 5 BEEPS/SEC (ZONE 3).
6. WHEN THE DISTANCE APART IS WITHIN 1 FT (300MM) TO 2FT (600MM), THE BUZZER SOUND 8 BEEPS/SEC (ZONE 2).
7. CONTINUE TO REVERSE THE CAR UNTIL YOU HEAR A CONTINUOUS BEEP (ZONE 1), STOP THE CAR IMMEDIATELY AS THE DISTANCE APART IS LESS THAN 1 FT (300MM).

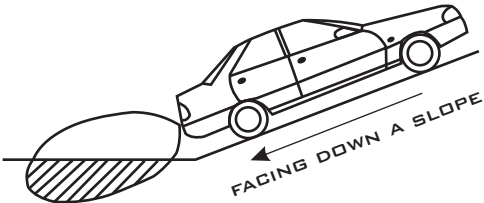
OPERATION AND TESTING (VEHICLE WITH A TOW BAR OR SPARE WHEEL)

1. REVERSE YOUR CAR TOWARDS ANOTHER CAR/WALL TO A DISTANCE OF ABOUT 7FT (2.1M) APART.
2. ENGAGE REVERSE GEAR, A SINGLE AUDIBLE BEEP SHOULD BE HEARD INDICATING THE SYSTEM IS ACTIVATED.
3. REVERSE THE CAR SLOWLY TOWARDS THE CAR/WALL.
4. WHEN THE CAR/WALL IS WITHIN THE OUTERMOST DETECTION (ZONE 4), THE BUZZER SOUNDS 3 BEEPS/SEC INDICATING THE CAR/WALL BEHIND THE CAR IS WITHIN 3.5FT (1000MM) TO 5.5FT (1.67M).

NOTE : SMALL AND FINE OBJECTS MAY NOT BE DETECTED AT THIS ZONE.

5. WHEN THE DISTANCE APART IS WITHIN 2.5FT (760MM) TO 3.5FT (1000MM), THE BUZZER SOUND 5 BEEPS/SEC (ZONE 3).
6. WHEN THE DISTANCE APART IS WITHIN 1.5FT (450MM) TO 2.5FT (760MM), THE BUZZER SOUND 8 BEEPS/SEC (ZONE 2).
7. CONTINUE TO REVERSE THE CAR UNTIL YOU HEAR A CONTINUOUS BEEP (ZONE 1), STOP THE CAR IMMEDIATELY AS THE DISTANCE APART IS LESS THAN 1.5FT (450MM).

EPS-4000 TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	CHECKING PROCEDURE / SOLUTION
A. NO BEEP SOUND WHEN THE REVERSE GEAR IS ENGAGED.	1. NO POWER SUPPLY.	i) ENSURE THE RED (+) AND BLACK (-) WIRES ARE PROPERLY CONNECTED. ii) ENSURE THE POWER CABLE SOCKET IS PROPERLY INSERTED ON THE CONTROL UNIT (B+). iii) ENSURE POWER CABLE IS IN GOOD CONDITION.
	2. BUZZER FAULTY.	i) ENSURE THAT THE BUZZER CABLE SOCKET IS PROPERLY SEATED ON THE CONTROL UNIT HEADER. ii) ENSURE DISPLAY CABLE IS IN GOOD CONDITION. iii) IF i) & ii) CAN'T SOLVE THE PROBLEM, VERIFY WITH NEW BUZZER.
B. FALSE ALARM/BUZZER BEEPING WITHOUT ANY OBJECT/S BEHIND.	1. SENSOR WRONG ORIENTATION. (SENSORS ARE DETECTING THE GROUND).	i) ENSURE THE SENSORS ARE INSTALLED AT THE CORRECT ORIENTATION.
	2. SENSOR'S FACING MORE THAN 5° TO THE GROUND.	i) ENSURE THE BUMPER SURFACE IS NOT MORE THAN 5° FACING THE GROUND.
	3. SENSOR MOUNTING POSITION TOO LOW (BELOW 45CM).	i) ENSURE THE SENSOR MOUNTING HEIGHT FROM THE GROUND IS MORE THAN 45CM.
	4. CAR IS FACING DOWN A SLOPE.	
C. SENSOR MALFUNCTION WARNING INDICATION/ SOUND. (A LONG BEEP FOLLOW BY TWO SHORT BEEPS).	1. EITHER ONE OR ALL SENSORS IS/ARE DISCONNECTED FROM THE CONTROL UNIT.	i) ENSURE THE SENSORS CABLE SOCKETS ARE PROPERLY SEATED ON THE CONTROL UNIT.
	2. EITHER ONE OR ALL SENSORS IS/ALL FAULTY.	i) VERIFY WITH NEW SENSOR/S.
	3. CONTROL UNIT FAULTY.	i) VERIFY WITH NEW CONTROL UNIT.