



## Ashwoods Hybrid Transit

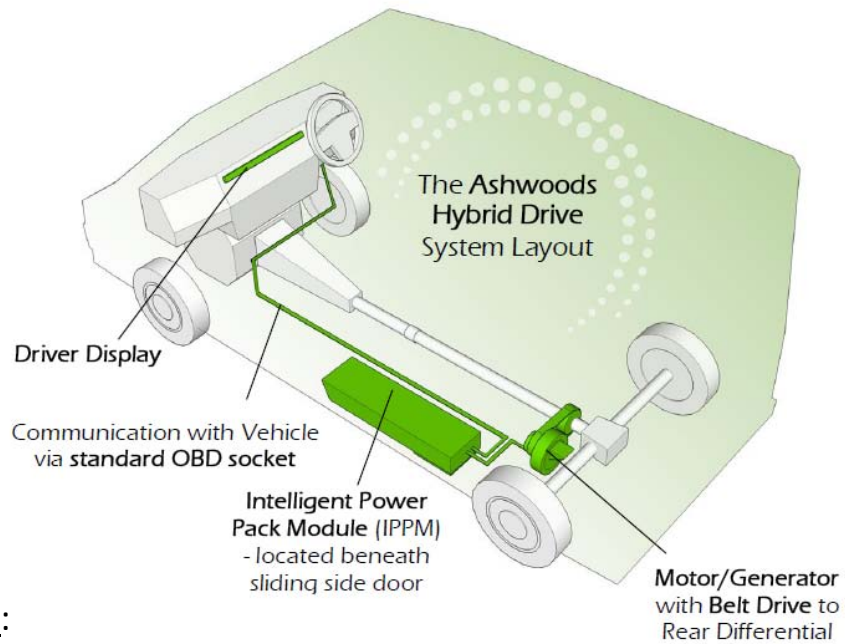


## Driver Training Manual

# Ashwoods System Overview

- Ashwoods Hybrid Vehicles use electric power to assist vehicle acceleration.
- This electrical assistance means that the engine does not have to work as hard during acceleration and therefore uses less diesel.
- When the vehicle is braking and decelerating the hybrid system charges the battery in preparation for the next acceleration event.
- Ashwoods Hybrid Vehicles do not need to be plugged in to charge!

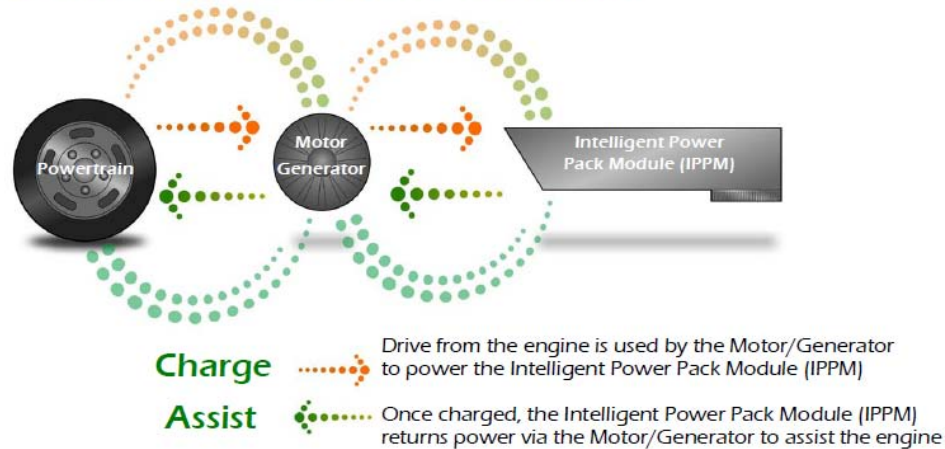
# Hybrid System Layout



## 3 core components:

1. Driver Display – mounted to centre consol in the cabin
2. Intelligent Power Pack Module – attached to underside of the vehicle
3. Electric Motor/Generator – attached to rear differential and connected by belt to the drive shaft

## How the Hybrid Drive works...



### Charge

- The Hybrid System captures energy normally wasted during braking and deceleration.

### Assist

- The Hybrid System uses energy stored in the battery to assist the vehicle during acceleration.

# What is the driver experience?

1. The vehicle drives and feels just like a normal van.
2. The vehicle is fitted with a Driver Display on the dashboard for driver interaction

## Driver Display



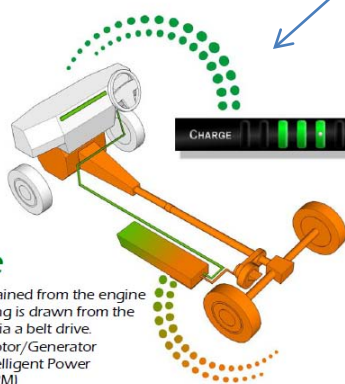
The unique AshWoods display is placed centrally within the driver's cabin

A clear LED display indicates the status of the system and the varying stages of charge or assist

The LED display also indicates the need to change gear up or down for optimum vehicle performance

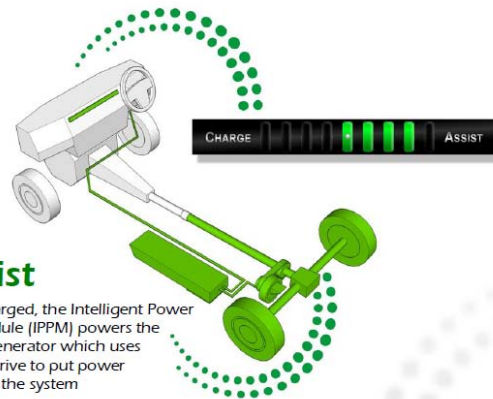
### Charge

Surplus power gained from the engine and under braking is drawn from the rear differential via a belt drive. This turns the Motor/Generator charging the Intelligent Power Pack Module (IPPM)



### Assist

Once charged, the Intelligent Power Pack Module (IPPM) powers the Motor/Generator which uses the belt drive to put power back into the system



### Gear Shift Indicator

Vehicle can change gear at lower RPM due to additional torque provided by Hybrid Drive



# What must the driver do?

## 1. Obey Gear Shift Indicator



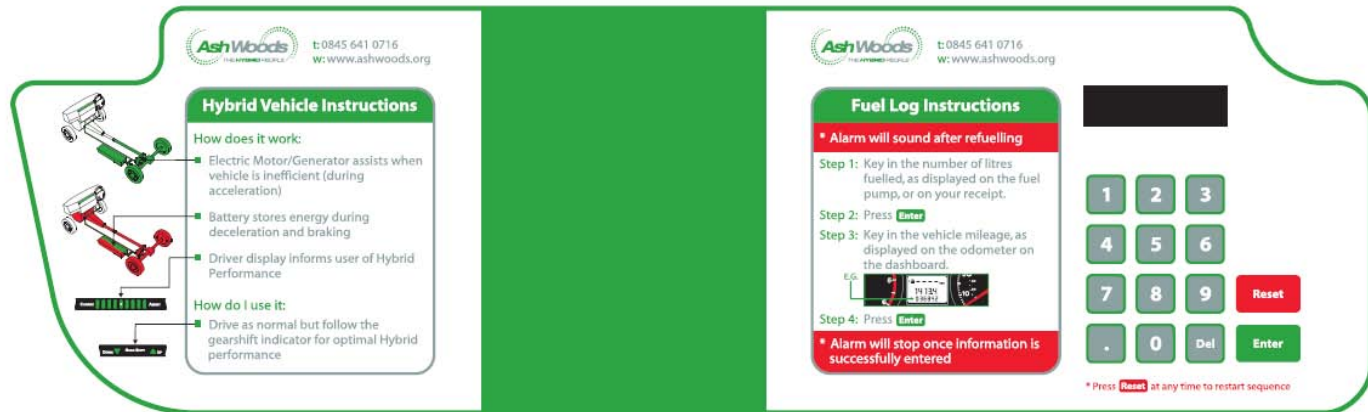
Additional torque supplied by the hybrid system enables drivers to change gear at lower RPM therefore maximising Hybrid performance.

## 2. Insert fuel data into Fuel Logger in sun visor – instructions overleaf

A graphic representing a fuel logger interface. It is divided into two main sections. The left section, titled "Hybrid Vehicle Instructions", includes a diagram of a car's drivetrain and text explaining how the electric motor/generator assists during acceleration and how the battery stores energy during deceleration and braking. The right section, titled "Fuel Log Instructions", features a keypad with buttons for digits 1-9, 0, a decimal point, and "Del". It also includes a "Reset" button and an "Enter" button. The instructions are numbered 1 through 4, detailing the steps for entering fuel volume and mileage. Both sections include the Ash Woods logo and contact information (t:0845 641 0716, w:www.ashwoods.org).

# Fuel Logger Instructions

The Ashwoods Fuel Logger is a simple device designed to keep a real-time record of each vehicle Mile Per Gallon (mpg).



The graphic is a large green-bordered shape containing two instruction panels. The left panel, titled 'Hybrid Vehicle Instructions', includes a diagram of a car chassis with callouts for the electric motor/generator, battery, and driver display. The right panel, titled 'Fuel Log Instructions', features a numeric keypad with 'Reset' and 'Enter' buttons. Both panels include the Ashwoods logo and contact information.

**Ash Woods** t:0845 641 0716  
w: www.ashwoods.org

### Hybrid Vehicle Instructions

**How does it work:**

- Electric Motor/Generator assists when vehicle is inefficient (during acceleration)
- Battery stores energy during deceleration and braking
- Driver display informs user of Hybrid Performance

**How do I use it:**

- Drive as normal but follow the gearshift indicator for optimal Hybrid performance

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### Fuel Log Instructions

**\* Alarm will sound after refuelling**

Step 1: Key in the number of litres fuelled, as displayed on the fuel pump, or on your receipt.

Step 2: Press **Enter**

Step 3: Key in the vehicle mileage, as displayed on the odometer on the dashboard.

EG: 

Step 4: Press **Enter**

**\* Alarm will stop once information is successfully entered**

**\* Press **Reset** at any time to restart sequence**

## Simple to operate:

1. After refuelling an alarm will sound in the sun visor
2. Pull down visor and follow instructions on screen which will ask driver to:
  - a. Enter litres fuel and press enter
  - b. Enter total mileage displayed on dash and press enter
3. Alarm will stop
4. The data entered will be send automatically via GSM to the Ashwoods website for publication

# Questions?

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