



## Multi Purpose Engineer Vehicle or MPEV

### **Innovation Description:**

The MPEV is a high-speed (110 km/hour) backhoe/loader designed and built to meet the operational needs and requirements of the Canadian Forces. The Directorate of Land Requirements (DLR) established these requirements based upon the operational needs of the Canadian Land Forces. While the machine was originally designed for use in the Canadian Forces some of its capabilities can easily be adapted for use in the private sector. (Examples: its high speed capability illuminates the need for expensive transporting of equipment between jobs, exceptionally quick airport runway snow removal, to name a few). More important the MPEV is designed with ballistic protection and incorporates features to protect the occupant from land mines. The MPEV can be built with or have retrofitted mine blast protection making it an ideal piece of equipment for use in key domestic/international theaters/peacekeeping missions.

While the MPEV is similar in earth-moving capability to many backhoe/loaders currently available to industry, it is definitely in a league of its own. Its high-speed capability and electronically controlled top speed of 110 km/hour (68 mph), both on and off road performance capability the MPEV is the Field Engineering workhorse of the future. Capable of fording water at depths of 30 inches, climbing slopes of 60 degrees, operable in weather that can drop to -40 degrees Celsius and is road capable with an operational road range of 450 km the MPEV can move itself anywhere in the theatre/private sector in a moments notice without the need to tie up expensive transport equipment.

The deployment of the MPEV provides Canadian Forces with a highly mobile, high-speed backhoe/loader capable of providing intimate close support digging. Thus the MPEV provides mobility and counter-mobility support in the theatre resulting in advantageous defensive positions for soldiers in the field, meaning less pick and shovel work. This significantly improves the Quality of Life (QOL) of deployed soldiers in the field.

With these one of a kind innovations, features and benefits the MPEV will become a strong asset in any countries armed forces arsenal.

### **Where and when it originated, has been used, and is expected to be used in the future:**

Fred Smith and Vern Eck entrepreneurs and top executives of Arva Industries Incorporated located in St. Thomas, Ontario, Canada, consistently generates quality in developing new construction equipment, while recognizing cost and safety concerns. 18 years ago the Canadian Military approached these gentlemen in search of a high speed front end backhoe/loader to support combat troops. The two gentlemen successfully designed and developed the Multi-Purpose Engineer Vehicle (MPEV). Working tightly with the Canadian Forces over the year's success was finally achieved and resulted in recent orders from the Canadian Forces. Currently with the Canadian military utilizing its fleet of over 30 machines in theatres unknown to the private sector the feed back has been extremely positive. Arva Industries Inc. is also proud to announce that it has already developed the next generation MPEV which is environmentally compliant with the new Tier III engine.

### **Why it is innovative:**

Currently MPEV is one of few specially designed high-speed backhoe/loader systems in the world and the only one presently built in North America.

### **What it changed or replaced:**

This is a unique product which gives our troops abroad/domestically the tools required to keep them safe while serving us so bravely. This is a one of a kind product which will stand alone for its capabilities for quite some time now and in the future.

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