

# Making CE Amphibious

Marsh buggy goes to work where other standard excavators fear to tread because it can move about on dry land, mud, sand and shallow water.

It is a never-ending quest in this era, where customer is always looking for an enhanced safety, efficiency, and a more comprehensive product all the time. That is also what has been driving EIK Engineering, a Malaysia-based heavy equipment and attachment company constantly to become the leader in the search of a solution on driving dredging application to a higher level.

Celebrating 10 years this year, EIK is again, in the midst of climbing to a higher peak by investing intensively in R&D and the manufacturing facilities in 2016 for a more solid, robust designed range of EIK products, aiming to be the leading attachment solutions provider in the world.

The main selling product which always tops the list, amphibious excavator, also known as marsh buggy or swamp buggy, an amphibious vehicle which is able to move about on dry land, mud, sand and shallow water.

## EIK marsh buggy

The high-performance amphibious excavator is powered by patented 'multi-synchronous hydraulic motor direct drive' system, the pivotal technology that positions EIK at the forefront of amphibious excavator design. The paradigm shift in how modern amphibious machines are being designed has won the hearts of numerous customers, both new and

experienced amphibious excavator users in the industry.

An amphibious excavator/marsh buggy is specifically designed to manoeuvre in marshy, swampy area and soft terrain, and it can also float on water as an added safety feature. It is completely self-propelled and can virtually access all terrains, and yet requires minimum supporting transportation and hoisting equipment. When fitted with a long reach front, the machine offers an unparalleled package with unmatched productivity for customer's investment. Greater versatility can be easily attained when used in conjunction with EIK wide range of attachments.

## Special Features:

- Hydraulic extendable pontoon system offers the flexibility of narrow track width when fully retracted, particularly useful during transportation.
- Patented multi-synchronous hydraulic motor direct drive system.
- Two bulkheads per pontoon, hermetically sealed.
- Service manholes on each pontoon for easy maintenance and field servicing.
- Heavy-duty track chain system, laser trimmed to extreme precision.
- Hardened rollers and bushings for extended operation life.
- Bolt-on sprocket system for perfect track pitch alignment.
- Modular design for easy transportation.

## Applications

Simply put, marsh buggy goes to work where other standard excavators fear to tread because it can float, thus it opens up to a huge area of applications. It is possible to achieve what earlier was not possible, bringing immense advantage, competitiveness and cost reduction.

- Maintenance and cleaning of water-





Supplementary pontoons can be added on each side to enhance stability.

- ways, lakes, shorelines, ponds, etc.
- Erosion control and prevention.
- Deepening of waterways and river deltas.
- Maintenance and repair of natural environment.
- Flood protection and flood maintenance works.




The demand on amphibious excavators will still go strong in 2016.

- Landscape building and protection.
- Accessing difficult strands of water/ soft terrain.
- Swamp and wetland construction.
- Road building through wetlands.

**Safety features**

Operator's safety is always ELK's main concern before delivering products to customers. Safety features have been incorporated on the unit, in the event to ensure normal machine operations

  
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**EIK attachments are manufactured by robotic welding machine and process.**



**EIK is the official OEM supplier of marsh buggies for leading global brands.**

and stability when it is working in water or marshy land. Operator training and manual on the proper use of marsh buggy will be provided by EIK's experienced trainers.

Buoyancy is calculated to lend full floatation as a safety feature, the structure is balanced to minimise tipping possibility. Supplementary pontoons can be added on each side to enhance stability. Spuds for supplementary pontoons overcome buoyancy in deep water, provide additional stability and enhance operability on water up to 4 m deep.

Specially designed long reach provides least tipping, with the multi-synchronous hydraulic motor direct drive system to

provide balance to the system. The machine is welded using robotic welding for weld integrity. Life jackets will be provided in the event of an operator having to bail out, with optional walk-around railings with guard rails can be provided.

**OEM to global excavator manufacturer**

EIK is the official OEM supplier of marsh buggies for Caterpillar, Volvo, Hyundai, Hitachi and Doosan. The recognition becomes another pillar which motivates the company to strive in becoming the market leader for amphibious undercarriage product in-

corporate with the patented drive technology.

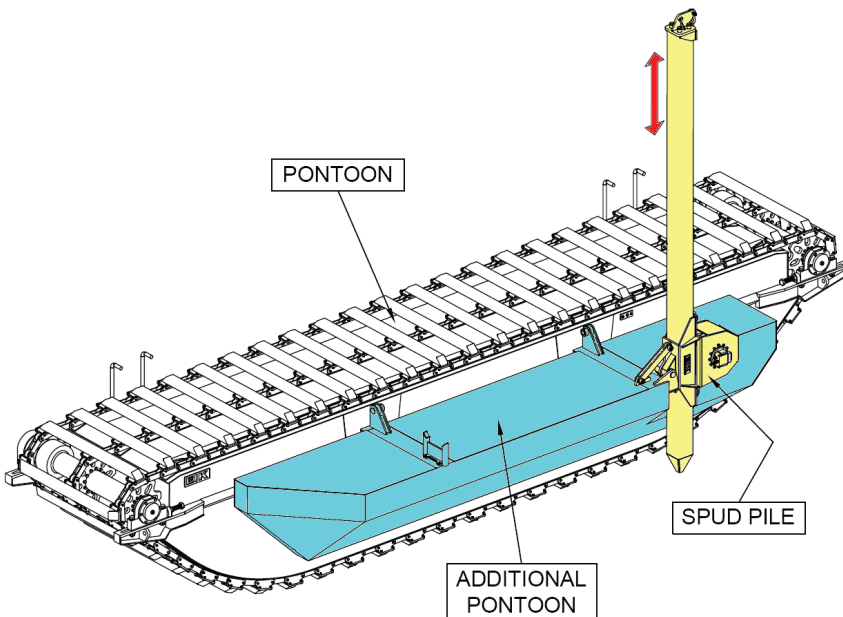
**Highly automated facilities**

EIK attachments are manufactured by robotic welding machine and process through high-tech automated machine to the exact precision required by excavator manufacturers. Being the selected after-market manufacturers that implement automated system in our production line, EIK always commits to produce highly reliable and quality products.

**Track shoes**

The track shoes/cleats are steel fabricated and are robotically welded to utmost precision. Steel is favoured over aluminium alloy because of its malleable property. Its malleability makes it less prone to cracking.

Customers can now opt for polymer track cleat to enhance the durability and extend the serviceable live of amphibious undercarriage the track group. After two years of exhaustive field testing at various ground conditions, terrains, geographical regions, climates etc, the grade of polymer selected by EIK is extremely tough and yet appropriately flexible for its application. It can better retain its shape and is less susceptible to deformation than ferrous-based or aluminium alloy and is non-corrosive.



**As a safety feature, the structure is balanced to minimise tipping possibility.**

**Current trend in india**

EIK is confident that the demand on

## OPPORTUNITIES GALORE

- a. Demand on amphibious excavators to go strong in 2016.
- b. A number of go-green activities such as landscaping and rehabilitation project that has been going on actively in India.
- c. Government has been providing support on cleaning and collection of waste material and garbage accumulated along the shoreline of lakes.
- d. There will be continuous environmental-cleaning and area-improvement projects in India until end of this year.



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amphibious excavators will still go strong in 2016. A number of go-green activities such as landscaping and rehabilitation project has been going on actively in India which will greatly improve the air and water quality by reducing the pollution levels. The government has been providing support on cleaning and collection of waste material and garbage accumulated along the shoreline of lakes. Around five units of amphibious excavators can be seen in marshy area, early this year, doing clean-up to improve the water spread. Another amphibious excavator was seen removing the floating materials such as polythene bags, covers, plastics, food-wrappers, and other garbage in Hussainsagar Lake in April. There will be continuous environmental-cleaning and area-improvement projects in India until end of this year. **EI**

Article courtesy: EIK Engineering

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