

# Amphibious Excavator



The high performance amphibious excavator is powered by our patented 'multi-synchronous hydraulic motor direct drive' system, the pivotal technology that positions us 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 your investment. Greater versatility can be easily attained when used in conjunction with the wide range of attachments we produce. We have in-house expertise in designing customized attachments to tackle unique challenges where traditional off-the-shelf solutions fail to deliver.

## Optional Features:

- 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 meters deep.
- Hydraulic extendable pontoon system offer the flexibility of narrow track width when fully retracted, particularly useful during transportation.



## Applications:

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

## Features:

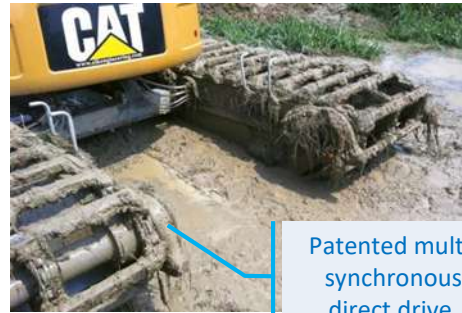
- Patented multi-synchronous hydraulic motor direct drive system.
- 2 bulkheads per pontoon, hermetically sealed.
- Service manholes on each pontoon for easy maintenance and field servicing.
- Heavy duty track chain system, laser trimmed to extreme precision.
- Hardened rollers and bushings for extended operation life.
- Bolt-on sprocket system for perfect track pitch alignment.
- Modular design for easy transportation.

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## Industry Leading Design and Technology:

- **Drive Motor:** The patented 'multi-synchronous hydraulic motor direct drive' system provides superior tracking capability, making the machine virtually undeterred in any terrain. Multi-motors also offers the advantage of redundancy during unforeseen circumstances.

Many users do not realize that swampy areas are not necessary all flat. Mud viscosity varies widely from area to area and country to country. One would fully appreciate the superior design of the multi- synchronous motor powered pontoon system when faced with the most challenging terrains.



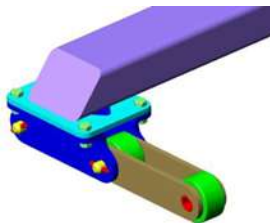
Patented multi-synchronous direct drive.

- **Hydraulic Extendable pontoons:** An innovative design in the undercarriage system allows each pontoon to retract inward via hydraulic function to achieve a smaller footprint, which is especially useful during land transportation on a low-bed trailer. When extended outwardly, it provides the extra stability needed at work.

It has 2 bulkheads with 3 watertight compartments that are hermetically sealed. Each compartment comes with a manhole for easy access from the outside for inspection and preventive maintenance.



- **Sprocket, Roller & Bushing:** We unequivocally favoured a non weld-on sprocket design. Sprockets are precisely machined and bolted onto the axial. This concept ensures a perfect alignment of each sprocket across the axial, a critical criterion for the longevity of the track chain. The hardworking sprockets, rollers and bushings (embedded within the rollers) are made from hardened steel which helps in reducing the frequency of replacement and costly downtime. Rollers travel on a strip of wear resistant steel track, preventing it from premature wearing to the pontoons.



- **Track Chain:** One of the most critical components of the undercarriage system, is its entirely in-house design and manufacture, to ensure proper quality control. One of the criterion of a good design is that the track chain has to perform reliably under various working conditions. Special grade steel is used and precisely trimmed to extremely tight tolerance. We insist that this is the only way to maintain the quality we demand and there should be no compromise under any circumstances.

- **Track Shoe:** 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.

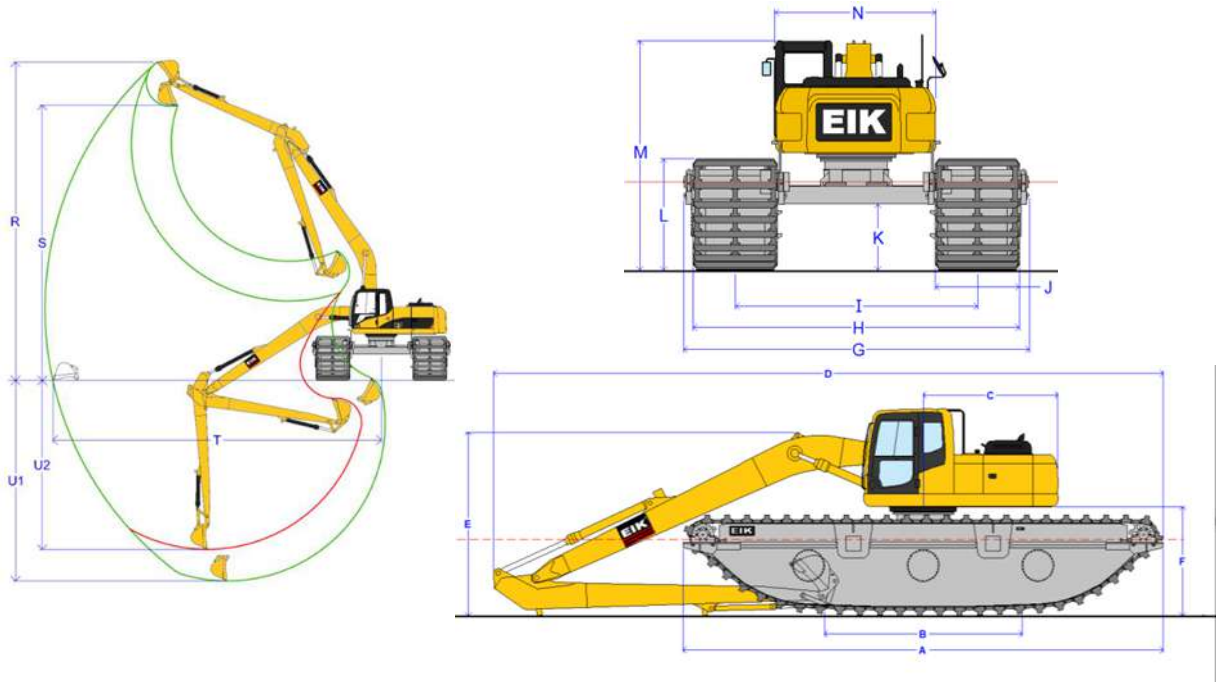
Customer may opt for the polymer track shoes. The grade of polymer we have selected is extremely tough and yet appropriately flexible for its application. It can better retain its shape and is less susceptible to deformation than ferrous based or aluminium alloy. And it is non corrosive.

The polymer track shoe is fully backward compatible, customers who have invested in our pontoon undercarriage can upgrade easily. Simple and hassle free.



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Metric System



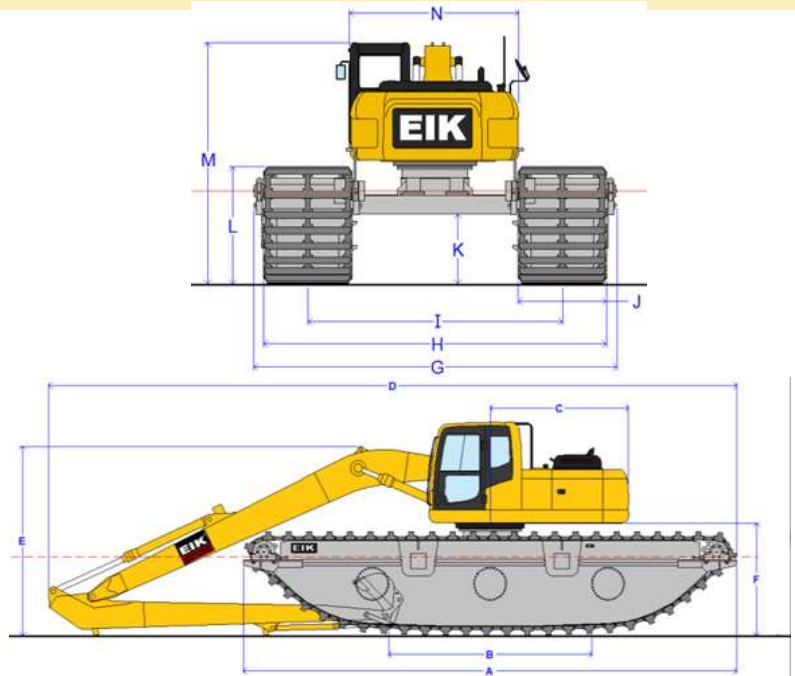
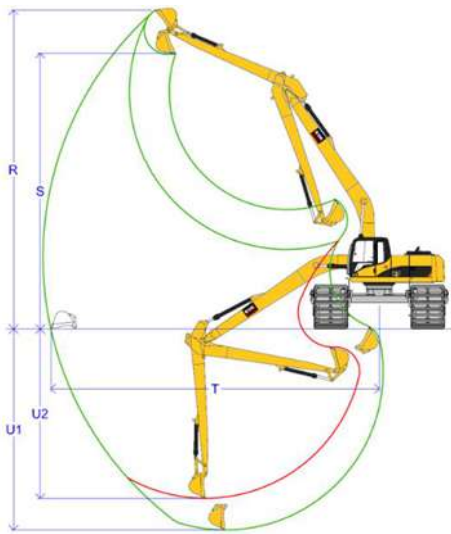
Dim. (m)	Description	Amphibious Undercarriage Models							
		AM60	AM80	AM140	AM200	AM250	AM300	AM350	AM400
		For 5-6 ton class excavator	For 7-8 ton class excavator	For 12-14 ton class excavator	For 20-23 ton class excavator	For 24-27 ton class excavator	For 28-30 ton class excavator	For 33-38 ton class excavator	For 40-45 ton class excavator
A	Max. Track Length	5.56	6.28	9.30	9.65	9.65	10.90	11.90	11.77
B	Track Length On Ground	2.75	3.17	4.00	4.15	4.15	5.40	6.00	6.50
C	Rear Upper Structure Length	0.85	1.50	2.18	2.75	3.00	3.12	3.40	3.65
D	Overall Length	7.90	8.87	12.30	13.55	14.40	15.00	16.60	17.00
E	Height of Boom	2.40	2.78	2.95	3.47	3.60	4.10	4.15	4.20
F	Counterweight Clearance	1.52	1.62	1.90	2.17	2.20	2.30	2.35	2.40
G	Overall Width, min/max (outwardly extendable)	2.75/3.45	3.38/4.18	4.22/5.32	4.80/ 6.28	5.47/6.91	6.21/7.21	6.27/7.27	5.97/6.97
H	Undercarriage Width, min/max	2.75/3.45	3.38/4.18	3.95/5.05	4.47/ 5.95	5.17/6.61	5.91/6.91	5.97/6.97	5.97/6.97
I	Track Gauge, min/max	1.75/2.45	2.06/2.86	2.50/3.60	2.85 / 4.33	3.25/4.69	3.99/4.99	4.02/5.02	4.02/5.02
J	Track Cleat Width	1.00	1.30	1.45	1.62	1.92	1.92	1.95	1.95
K	Min. Ground Clearance	1.01	1.05	1.14	1.30	1.30	1.30	1.13	1.16
L	Track Height	1.46	1.50	1.70	2.03	2.03	2.03	2.03	2.19
M	Overall Cab Height	3.46	3.46	3.90	4.10	4.20	4.23	4.25	4.37
N	Upper Structure Overall Width	1.50	2.17	2.50	2.75	2.85	2.98	3.00	3.09
R	Max. Cutting Height	7.28	9.50	11.90	14.00	14.60	15.10	15.60	15.90
S	Max. Loading Height	6.15	8.50	10.00	12.10	12.20	13.00	13.30	13.20
T	Recommended Outreach	7.00	9.00	12.00	14.00	15.00	16.00	17.00	18.00
U1	Max. Digging Depth from Front	4.00	6.20	8.00	8.80	9.80	10.60	11.50	12.20
U2	Max. Digging Depth from Side	3.30	5.50	6.60	6.90	7.75	8.20	9.40	10.00
	Bucket Capacity (m <sup>3</sup> )	0.13	0.25	0.40	0.50	0.70	0.80	0.90	1.10

\*Dimensions are for reference only, it may vary from excavator brands and models.

\*\*For the benefit of continuous product improvement, specifications are subjected to change without prior notice.

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Imperial System



Dim. (m)	Description	Amphibious Undercarriage Models							
		AM60	AM80	AM140	AM200	AM250	AM300	AM350	AM400
		For 11,023-13,227 lbs excavator	For 13,200-17,600 lbs excavator	For 26,400-30,800 lbs excavator	For 44,000-50,600 lbs excavator	For 52,800-59,400 lbs excavator	For 61,600-66,000 lbs excavator	For 72,600-83,600 lbs excavator	For 88,000-99,000 lbs excavator
A	Max. Track Length	18' 3"	20' 7"	30' 6"	31' 8"	31' 8"	35' 9"	39' 1"	38' 7"
B	Track Length On Ground	9' 0"	10' 5"	13' 1"	13' 7"	13' 7"	17' 9"	19' 8"	21' 4"
C	Rear Upper Structure Length	2' 9"	4' 11"	7' 2"	9'	9' 10"	10' 3"	11' 2"	12'
D	Overall Length	25' 11"	29' 1"	40' 4"	44' 5"	47' 3"	49' 3"	54' 6"	55' 9"
E	Height of Boom	7' 10"	9' 1"	9' 8"	11' 5"	12'	13' 5"	13' 7"	13' 9"
F	Counterweight Clearance	4' 11"	5' 4"	6' 3"	7' 1"	7' 3"	7' 7"	7' 9"	7' 10"
G	Overall Width, min/max (outwardly extendable)	9' 0"/11' 4"	11' 1"/13' 9"	13' 10"/17' 5"	15' 9"/ 20' 7"	17' 11"/22' 8"	20' 4"/23' 8"	20' 7"/23' 10"	19' 7"/22' 10"
H	Undercarriage Width, min/max	9' 0"/11' 4"	11' 1"/13' 9"	13' /16' 7"	14' 8"/19' 6"	17'/21' 8"	19' 5"/22' 8"	19' 7"/22' 10"	19' 7"/22' 10"
I	Track Gauge, min/max	5' 9"/8'	6' 9"/9' 5"	8' 2"/12'	9' 4" /14' 2"	10' 8"/15' 5"	13' 1"/16' 4"	13' 2"/16' 6"	13' 2"/16' 6"
J	Track Cleat Width	3' 3"	4' 3"	4' 9"	5' 4"	6' 4"	6' 4"	6' 5"	6' 5"
K	Min. Ground Clearance	3' 4"	3' 5"	3' 9"	4' 3"	4' 3"	4' 3"	3' 8"	3' 10"
L	Track Height	4' 9"	4' 11"	5' 7"	6' 8"	6' 8"	6' 8"	6' 8"	7' 2"
M	Overall Cab Height	11' 4"	11' 4"	13'	13' 5"	13' 9"	13' 11"	13' 11"	14' 4"
N	Upper Structure Overall Width	4' 11"	7' 1"	8' 2"	9'	9' 4"	9' 9"	9' 10"	10' 2"
R	Max. Cutting Height	23' 11"	31' 2"	39' 1"	45' 11"	47' 11"	49' 6"	51' 2"	52' 2"
S	Max. Loading Height	20' 2"	27' 11"	33'	39' 8"	40'	42' 8"	43' 8"	43' 4"
T	Recommended Outreach	23'	29' 6"	39' 4"	45' 11"	49' 3"	52' 6"	55' 9"	59' 1"
U1	Max. Digging Depth from Front	13' 1"	20' 4"	26' 3"	28' 10"	32' 2"	34' 9"	37' 9"	40'
U2	Max. Digging Depth from Side	11'	18' 1"	21' 8"	22' 8"	25' 5"	26' 11"	30' 10"	32' 10"
	Bucket Capacity (cubic yard)	0.17	0.33	0.52	0.65	0.92	1.05	1.18	1.44

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## Transportation and Installation

The modular system is designed with ease of transportation and installation with minimum field equipment and manpower in mind, yet without compromising speed and safety. A trained 4-man team can fully assemble a complete 20 ton class amphibious excavator in a mere 3 hours or less, only assisted by a crane.



## Post Sales Service and Support

We are a vertically integrated organization and take pride in our fully in-house design and manufacturing capability. Most parts and components are manufactured in-house, thus considerably reducing the risk of components becoming unavailable in years to come. Spare parts are well-stocked and can be delivered at a short notice. The availability of spare parts is guaranteed for at least 10 years.