



universal hovercraft



19XRW Hoverwing™ Wing In Ground-effect Hovercraft

Universal Hovercraft is proud to offer the 19XRW Hoverwing™ ground-effect vehicle for commercial, industrial, and government sales, and it is available to our customers on a ready to run or turnkey basis. The Hoverwing™, designed first as a normal hovercraft, is unique because of the ability to add wings for flight in ground-effect. Flying in ground-effect enables the craft to clear obstacles and fly over rough water for a smooth and enjoyable ride. Operating in ground-effect does not require a pilot's license, and the craft is normally registered as a boat in most areas, bringing a wide range of new opportunities to the tourism industry. Wings removed, the Hoverwing™ is a sleek, high performance hovercraft, able to carry 4 to 5 passengers into brand new areas that cannot be reached with any other vehicle. The Hoverwing™ can be configured in many different ways to accommodate your passenger or equipment needs.



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Performance

Slope Gradient

The slope of a surface expressed as a percentage of change in elevation per unit of distance traveled. Example: 30% grade = 30 feet of increased elevation over a 100 foot distance. The 19XR can traverse 30% to 40% grade depending on the configuration of the craft.

Surface capability

Useful for transportation over nearly any surface including; salt or fresh water of any depth, sand, mud, mangrove, rapids, floods, grass, swamp, desert, sand bank, ice, and snow. Also used for tour operations, passenger services and search and rescue missions. Hoverwing™ mode allows an additional capability of flying over the terrain. Potential applications include flying over corn



fields, bean fields, saw grass, muskegs, reeds, ditches, hills, small trees and logs.

Sea state

→ Hovercraft mode: 25-30 mph winds. 1-2 foot chop. 3 – 6 foot waves. The 19XR's length, low center of gravity and AcuPLOW™ hull make it the most stable hovercraft available today.

→ Hoverwing mode: 15-25 mph winds. 1-2 foot chop. 3 – 6 foot waves. Experienced operators will be capable of operating in rougher conditions.

Temperature

Safe operating temperatures vary depending



on the application and payload. Typical safe operating temperature ranges from -30° F to +130° F

Systems

Control

A joystick controls three vertical rudders, one horizontal elevator and the twist throttle. Throttle has a friction lock setup that acts as a cruise control for long cruises. Lift fan rpm is controlled through our variable drive system that is electrically controlled from the joystick.

Flotation

The 19XR is built from a composite blend of urethane foam and fiberglass rendering the craft unsinkable. Foam fills every available cavity in the hull providing more than 3,300 lbs of positive flotation.



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Power

80 amp engine driven alternator. One 12V gel cell battery powers all onboard systems. Four 12V power outlets are available for additional equipment. All electrical components are powered through a water tight fuse panel.

Instrumentation

Tachometer, Air Speed Indicator, Water Temp, Oil Pressure, Fuel level, Voltage, Hour Meter, level gauge and 6 inch Compass.

Fuel

Dual 9 gallon USCG approved aluminum fuel tanks supply the engine with 87-91 octane fuel. Each tank has its own fuel gauge and fill tube.

Engine

4-stroke, 130 hp engine is twin cylinder, liquid cooled, turbocharged and fuel injected.

Thrust propeller

2-blade low noise propeller manufactured by Universal Hovercraft. A composite wood-carbon structure gives the propeller long life, resistance to wear and the ability to ingest rocks, ice and other debris without seriously damaging the blades.



Lift power

Lift fan rpm is controlled through a variable drive system manufactured by Universal Hovercraft. This system allows 1,100 rpm in lift fan variation.

Lift fan

4-blade, 34 inch, low noise lift fan with spinner. Good airflow and slow turning, precision shaped blades give this fan the ability to perform in the toughest environments.



Skirt system

Bag type skirt. Made from vinyl coated nylon. Bag skirts are more stable, agile and easier to repair than their segmented skirt counterpart. Bag skirts also increase rough water capability.

Landing skids

When the 19XR is at rest or stopping, landing skids will contact the surface. These skids are made from a composite blend of Kevlar and PVC foam. This blend is resistant to wear and can be replaced as necessary.

Brakes

Emergency stopping can be achieved two ways. Reducing lift engine rpm will increase the drag resulting in an effective brake. Dumping the lift fan (dropping throttle from "cruise" to "off") will cause a rapid deceleration over most surfaces. Our AcuPlow™ hull allows the pilot to accurately control braking over water.

AcuPlow™ system

Highly effective hull shape developed by Universal Hovercraft. Our hydro-dynamically shaped hull aerates and detaches water as it passes under the craft. This hull shape offers features including braking, high speed stopping, emergency braking and plowing.

Construction

Composite fiberglass / PVC foam make a heavy

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duty sandwich structure exceeding strength requirements for hovercraft of this size. This combination makes the 19XR unsinkable due to the solid foam hull.

Accommodations

The fully enclosed 19XR has seating for 4-5 passengers. Two rows of adjustable side by side seating. Interior is fully customizable and can be upholstered in a variety of colors and textures.

Safety Equipment

Halogen lights

Two forward facing halogen lights (12,000 candle power).

Navigation lights

Red green light on the bow, 360 degree white light at the stern. Lights are on two separate switches so each can be run independently. USCG approved.

Horn

Compact electric horn. Rated at 106 db.

Fire Extinguisher

Two included. The rechargeable Mariner 340 works for all types of fires and is easy to use—just pull the pin, aim and squeeze the trigger. It includes an integral gauge that indicates if the extinguisher is ready for use, a tri-class dry chemical agent and a metal, USCG-approved bracket. Good for A,B,C fir types.

Options

Spot light

400,000 candle watt hand held search light. Intense, fog-penetrating beam with minimal back splatter. Includes a deck-mounted socket for hands-free use or pick it up for hand-held operation.

VHF Radio

Many radio options are available. All options include VHF radio and 48 inch tower mounted antenna.

Commercial life vest

Search and Rescue (SAR) vest with a soft, lightweight mesh designed for comfort and ventilation.

→ Soft Aquafoam™ combined with durable Crosstech® foam adds extra comfort

→ Two 1 1/2" encircling belts, adjustable chest strap and zipper front for optimal fit and security

→ Two pockets with hook and loop closure

→ Rolled, stand-up collar

→ 62 sq. in. (400 sq. cm.) SOLAS-grade reflective tape

→ USCG approved Type III

Throw rope

Throw lines provide an accurate way to deliver a line to a person in the water or to pass a messenger line to another boat. The 70' Throw Rope is safety yellow with foam inserts inside the bag for added buoyancy and SOLAS reflective tape which makes it easy to see.

Anchor

Folding grapnel anchor stores under the pilot seat. This lightweight system includes 50' of nylon rope and a vinyl storage bag.

Miscellaneous

Storage

Two locking cupboards are located port and starboard. Inside dimensions are 14" x 9" x 9". Under seat storage for pilot and passengers.

Mooring

One bow tow eye, two mid-ship cleats, two stern cleats and four lifting eyes.

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Specifications

	19XR 'Hovercraft Mode'	19XRW 'WIG Mode'
Performance		
Payload:	1200 lbs	600 lbs
Range:	160 miles	150 miles
Duration	4 hours @ 35 mph	4 hours @ 35 mph
Cruise speed:	35 mph	35-60 mph
Max speed:	75 mph	70 mph
Hover height:	11 inches	11 inches
Ground Effect Height:	11 inches	24 to 240 inches
Obstacle Clearance	11 inches	11 inches
Noise	75 db @ 50 feet	75 db @ 50 feet
Physical		
Length:	19 feet	19 feet
Hull width:	92 inches	92 inches
Wingspan:	-	20 ft
Height:	78 inches	78 inches
Empty weight:	980 lbs	1,100 lbs
Fuel capacity:	18 gallons	18 gallons
Limiting Conditions		
Sea state:	Beaufort 5	Beaufort 3.5
Temperature:	-30° F to +110° F (-34° C to +43° C)	-30° F to +110° F (-34° C to +43° C)
Slope gradient:	30% to 40%	30% to 40%
Surface capability:	Useful for transportation on salt or fresh water of any depth, sand, mud, mangrove, grass, swamp, flat desert, ice, and snow.	Useful for transportation on salt or fresh water of any depth, sand, mud, mangrove, grass, swamp, flat desert, ice, and snow.
Systems		
Control:	Joystick controls three vertical rudders and one horizontal elevator, twist throttle w/ friction lock, electrically controlled lift fan rpm.	Joystick controls three vertical rudders and one horizontal elevator, twist throttle w/ friction lock, electrically controlled lift fan rpm.
Instrumentation:	Tachometer, Air Speed Indicator, Water Temp, Oil Pressure, Fuel level, Voltage, Hour Meter, level gauge, Compass	Tachometer, Air Speed Indicator, Water Temp, Oil Pressure, Fuel level, Voltage, Hour Meter, level gauge, Compass
Flotation:	Urethane foam positive flotation. 3,300 Lbs (1,500 Kgs)	Urethane foam positive flotation. 3,300 Lbs (1,500 Kgs)
Electrical:	Engine driven AC alternator.	Engine driven AC alternator.
Power supply:	Two, 12 volt, gel cell batteries	Two, 12 volt, gel cell batteries
Aux. power supply:	Four 12V power supply outlets	Four 12V power supply outlets
Navigation:	Optional global positioning system (GPS) and radar.	Optional global positioning system (GPS) and radar.
Fuel:	Two 9 gallon aluminum tanks, fuel shut off valve.	Two 9 gallon aluminum tanks, fuel shut off valve.
Engine:	4-stroke, 130 hp, twin cylinder, turbo-charged, liquid cooled, fuel injected, electric start	4-stroke, 130 hp, twin cylinder, turbo-charged, liquid cooled, fuel injected, electric start
Thrust propeller:	2-blade, 60 inch, 56 pitch	2-blade, 60 inch, 60 pitch
Lift power:	Variable drive system, electrically controlled	Variable drive system, electrically controlled
Lift fan:	4-blade, 34 inch, low noise with spinner	4-blade, 34 inch, low noise with spinner
Skirt system:	Bag type skirt. Vinyl coated nylon.	Bag type skirt. Vinyl coated nylon.
Landing:	Kevlar composite skids, 6 places	Kevlar composite skids, 6 places
Safety:	Aluminum paddle, boat hook, throw rope	Aluminum paddle, boat hook, throw rope
Storage:	Two cupboards, under seat storage	Two cupboards, under seat storage
Lighting:	Two forward facing halogen lights (12,000 candle power), navigation lights	Two forward facing halogen lights (12,000 candle power), navigation lights
Construction:	Composite fiberglass/foam sandwich, unsinkable	Composite fiberglass/foam sandwich, unsinkable
Accommodations:	Two side by side seats	Two side by side seats