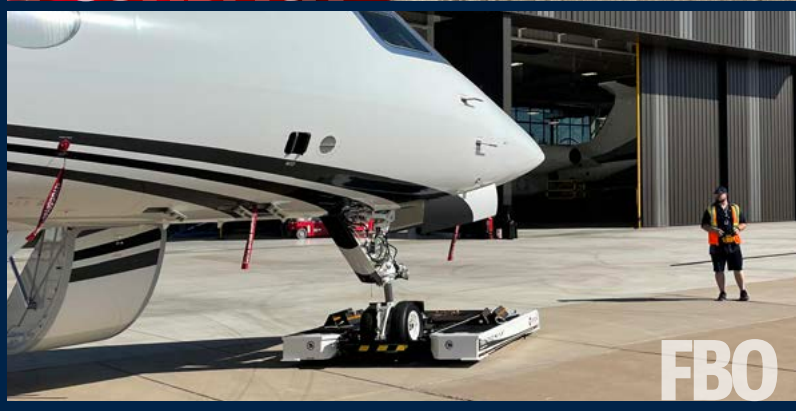










- → Electrically powered
- → Radio remotely controlled
- → Extremely compact
- → Only 1 operator required for operation
- → Fully hydraulic and sensor-controlled nosewheel platform
- → Loads and unloads the nosewheel automatically
- → Park your aircraft into the last corner of your hangar and save space.

FULLY ELECTRIC TOWBARLESS TUGS

Improve your efficiency significantly.

The safest and most effective way of moving aircraft towbarless.

FULLY ELECTRIC DRIVE

REMOTELY CONTROLLED

HANDS-FREE LOADING

AUTOMATIC COUNTER-STEER

THE IDEA.

Electric tugs, built as one system.

Mototok builds electrically driven, remotely controlled aircraft tugs in Germany — from light aircraft and helicopters up to 200-tonne wide-bodies. One platform principle runs through every model: the nosewheel rolls onto the platform, is clamped hydraulically and lifted. No towbar, no winch, no straps, no tractor mass.

What changes between models is capacity, footprint and the level of automation.

→ **M Series** — business jets and light aircraft in tight hangars, up to 28 t / 61,700 lbs

→ **TWIN Series** — regional aircraft and heavier corporate types, up to 75 t / 165,300 lbs

→ **SPACER Series** — the commercial fleet: 8600 MA and 8600 RJ for narrow-bodies and regional jets, 8600 NG for NTO-licensed pushback up to 105 t / 231,500 lbs, SPACER 200 for wide-bodies up to 200 t / 441,000 lbs

→ **LB Series and Alligator** — the militarised platforms, and the ultra-flat specialist for wheeled helicopters

Towbarless by design

The aircraft's own nosewheel is the coupling point. No towbar inventory, no aircraft-specific adapters.

Electric drive at the wheel

Direct drive per wheel, maintenance-free battery system, no combustion engine and no emissions in the hangar.

One operator, remote controlled

The operator walks with the aircraft and is his own wing walker. No driving licence required; training takes hours, not weeks.

Automated and monitored

Clamping and lifting are hydraulic and sensor-controlled. Steering is done electronically, through the differing speeds of the two wheel-hub motors — no steered axle, no hydraulic steering.

CONTENTS.

What is in this brochure.













THE SYSTEM

Electric tugs, built as one system 02

Take a look inside / Turning on the spot 04

Easy-to-use / Automatic docking 06

No blind spots, no wing walkers 08

A comparison of towing principles 10

THE FOUR FIELDS OF APPLICATION

Pushback – Spacer 8600 NG, 8600 RJ and T 7000 14

MRO – Spacer 200 and Spacer 8600 MA 24

FBO – TWIN Series and M Series 30

Military and other forces – LB Series and Alligator 36

REFERENCE

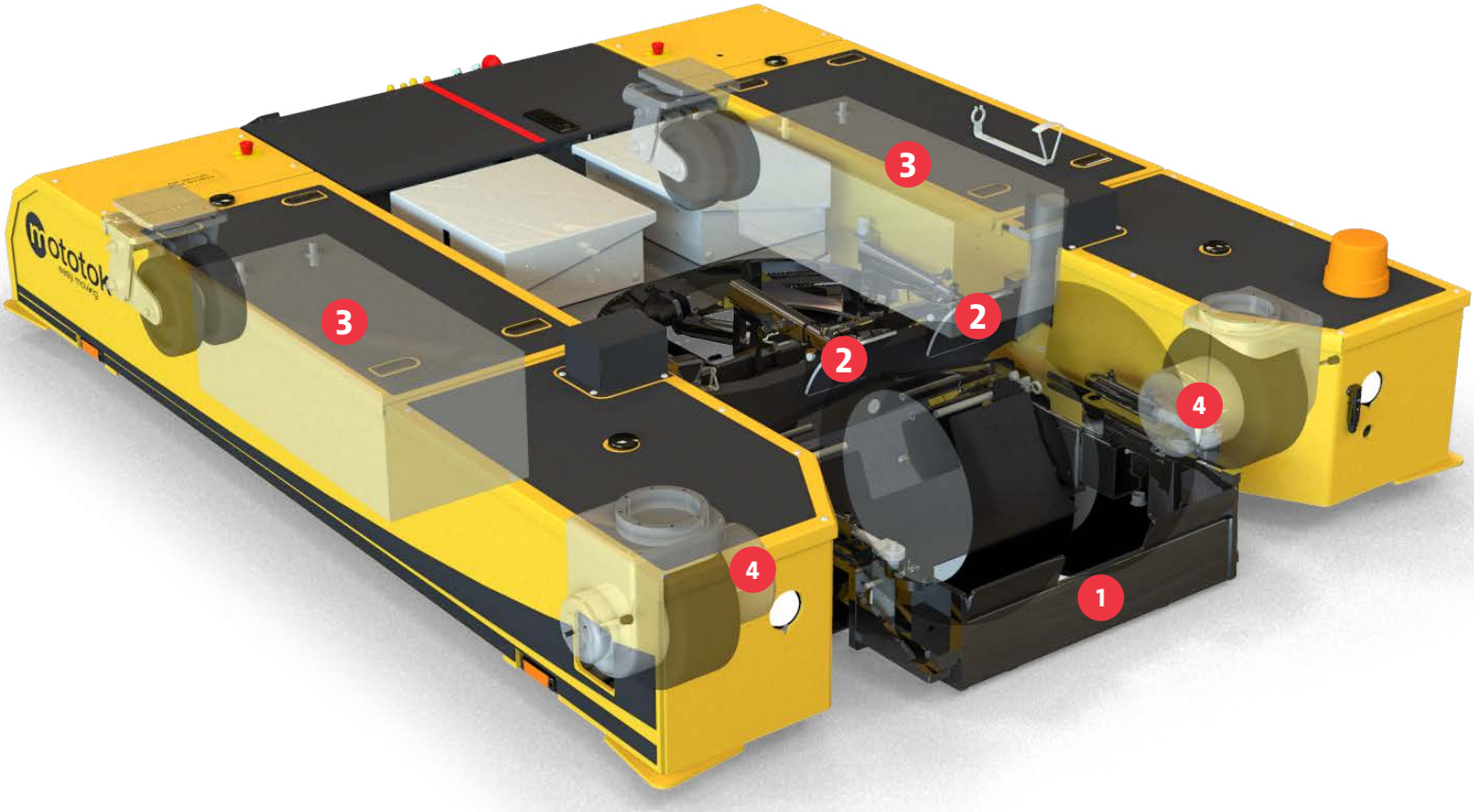
Technical data, all series 42

Our experience, our customers, contact 44

THE MOTOTOK PRINCIPLE.

Take a look inside.

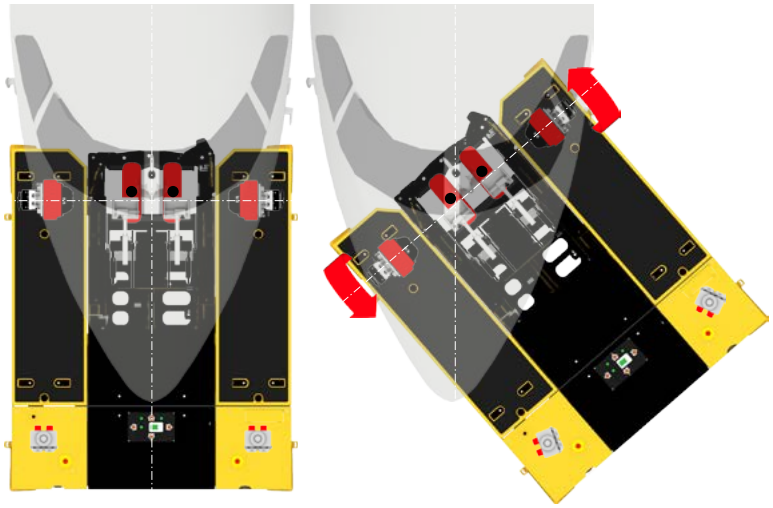
Every Mototok is built around one mechanical idea: take the load of the nosewheel onto a hydraulic platform and drive it electrically. What differs between the series is size and equipment level, not the principle.



1. **Hydraulic nosewheel platform with hydraulic door** — the wheel rolls in, the door closes and is locked mechanically.
2. **Clamping and securing** — the wheel is clamped hydraulically at an adjustable contact pressure and held on the platform.
3. **Battery system** — maintenance-free, high cycle capability, sized for a full shift of movements.
4. **Wheel-hub drive unit**s — one motor per drive wheel, each separately controlled; tread patterns matched to hangar floors or apron surfaces.

Turning on the spot with no wingtip movement.

Steering is performed by varying the rotation speed of two processor-controlled wheel-hub motors. For a turn on the spot, one motor runs forwards and the other backwards, so the aircraft stays almost stationary during the maneuver. Any curve can be driven by adjusting the relative speed of the two drive wheels. Because no transverse forces are exerted on the nose gear, the bearings and other gear-related components are not subjected to damaging loads — and the risk of collision damage is reduced accordingly.



ONE-CLICK LOADING.

Easy-to-use.



HYDRAULIC AND SENSOR CONTROLLED LOADING SYSTEM

1-CLICK-LOADING

Docking takes seconds. Drive the tug up to the nose gear, press one button on the remote control: the nosewheel is clamped hydraulically and lifted [1]. No strap, no winch, no bolts, no tools.

→ Radio remote control operating under an industrial frequency code approved for airports

→ Alternatively with a 15 m spiral cable, which switches the radio function off automatically

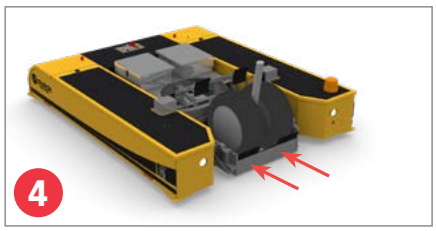
→ Automatic connection to the nosewheel with one click
No straps, no winch, no tools required

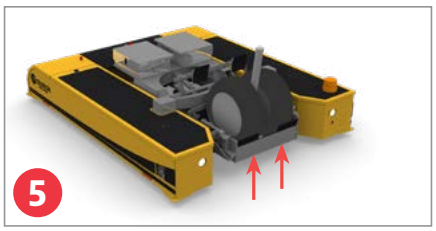
1) The Model M 518 has a semi-automatic loading function, the Model M 515 loads the nose gear manually.

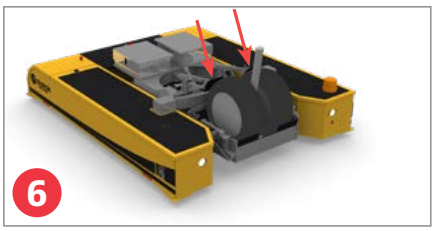












Loading and unloading the nosewheel is hydraulic, sensor-controlled, and requires no bending or crawling under the aircraft.

1. Mototok is driven up to the nose gear with the door open — from the front or from the rear, whichever side is free.
2. It rolls forward until the inner wedge touches the nosewheel.
3. The door closes hydraulically and is locked with a hydraulic safety hook.
4. The nosewheel is clamped at an individually adjustable contact pressure. Wheels of different diameters are held in the correct position.
5. The platform is raised hydraulically. The aircraft is now carried by the Mototok.
6. The operator lowers the securing paddles from the remote control.

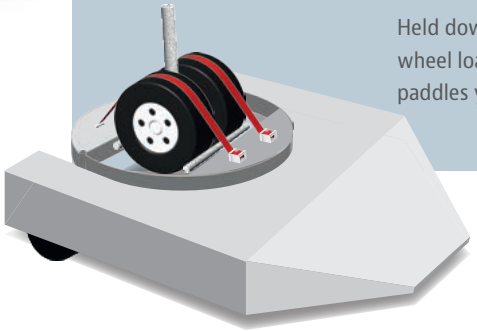


STRESS FREE NOSEGEAR FIXING SYSTEM

Why a strap is the wrong tool.

On a double nosewheel the outer wheel rises when the steering angle becomes strong — that movement comes from the geometry of the nose gear, not from the tug. A strap cannot follow it: it holds the wheel down and puts the load straight into the gear. Mototok balances the movement instead. A gas accumulator compensates the pressure on the securing paddles, so the wheel can rise while it stays secured. At any steering angle the nosewheel is held without additional stress on the gear.

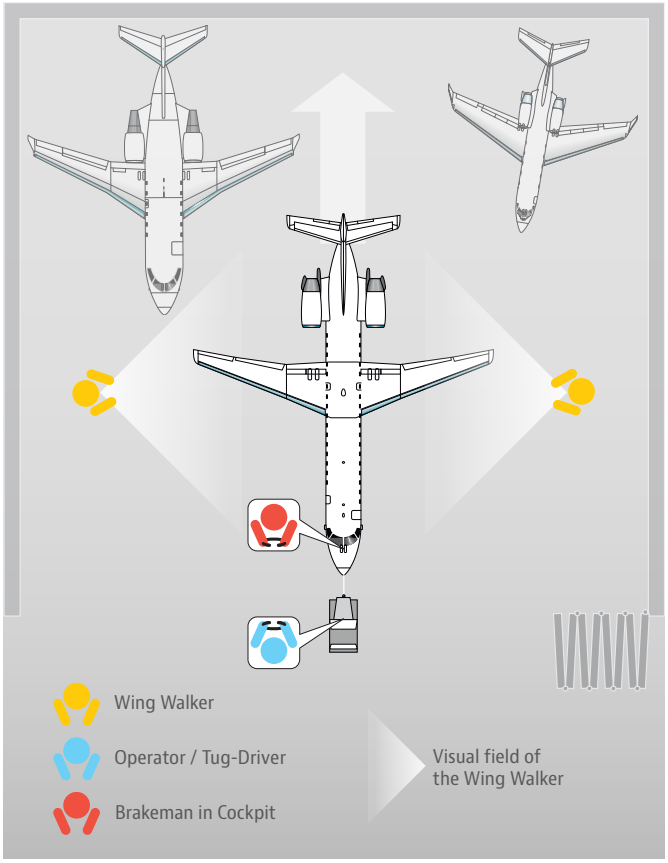
On the TWIN and the SPACER models the safety paddles balance the heights of the individual nosewheels hydropneumatically.

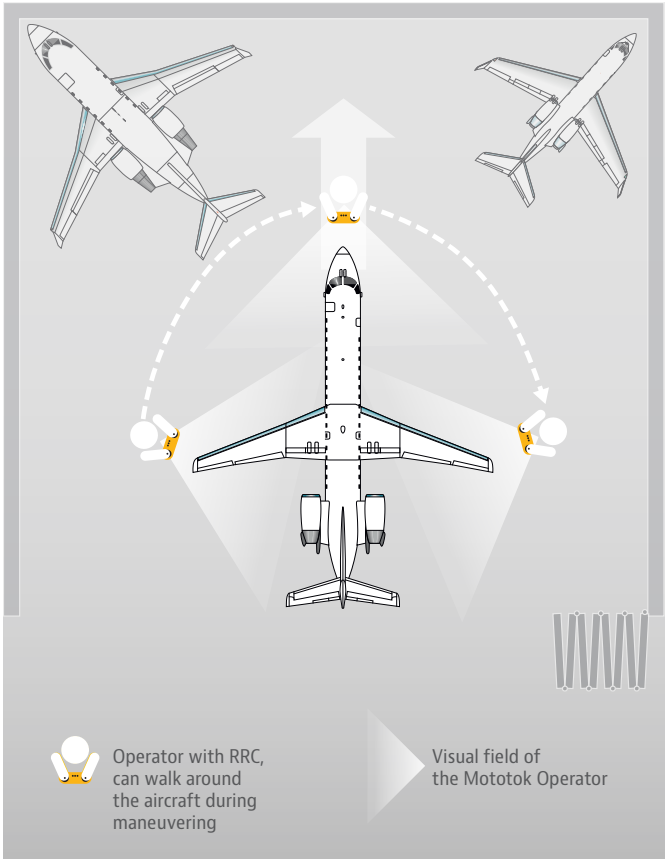


Held down rigidly, the rising wheel loads the nose gear. The paddles yield; a strap does not.

LINE OF SIGHT.

No blind spots, no wing walkers.





- **Industrial radio remote control.** The operator walks with the aircraft and keeps the nose gear and its surroundings in view — he is his own wing walker.
- **Hands-free coupling.** Engaging and disengaging the nose gear takes seconds, with one tap on the remote — no strap, no winch, no tools.
- **No entry or exit path to consider.** Park the aircraft against a wall or in the corner of the hangar; the tug drives out from under it.
- **Low maintenance and no fuel.** Electric drive, no combustion engine, no fuel logistics in the hangar or on the apron.
- **One person, no driving licence.** A short driving and safety training qualifies ground staff for the movement.

Cost effective.

One operator per movement — the remote control makes him his own wing walker

More aircraft in the same hangar – no exit path has to be kept clear

No driving license required – a short driving and safety training is sufficient

Low maintenance: no combustion engine, no fuel, and wheels, tires, gearboxes and motors as separate service items

Safe.

Hydraulic securing of the nosewheel — no straps, no winch

Speeds, braking curves, initial torque and over-steering protection are programmable per operation

Hydropneumatic clamping follows the movement of the nose gear instead of blocking it

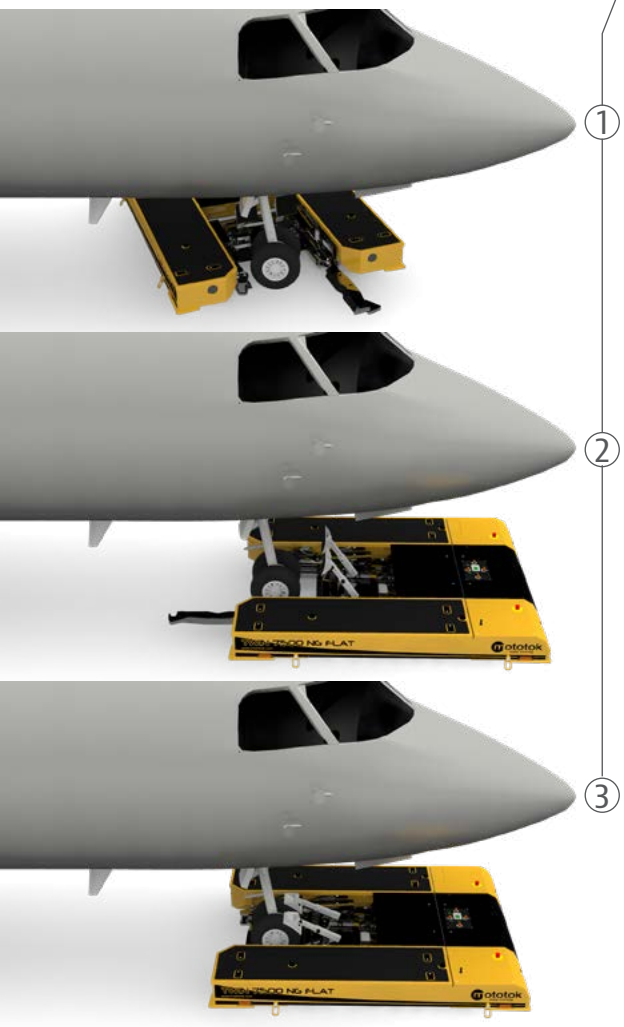
Full view around the aircraft throughout the movement, from the position that matters

Flexible.

One machine for a wide range of types — single or double nosewheel, including wheeled helicopters

Hydraulic adjustment for different nosewheel diameters

Coupling from the front or the rear, at any approach angle



Easy to use.

Docking takes seconds, with one tap on the remote

Around three hours of operator training

Settings and log files readable from a laptop, tablet or phone

No bending down, no crawling under the aircraft



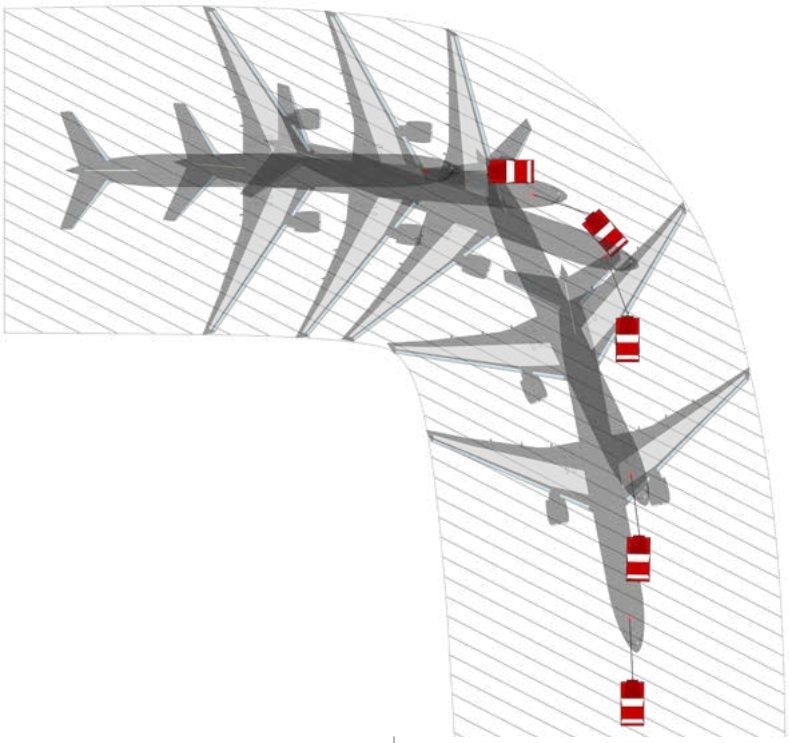


THE COMPARISON.

How the three principles differ.

Tow tractor with towbar

Steering by moving.
The aircraft has to travel to change direction.



Maneuvering with a towbar means steering by moving. Turning the nose gear and moving the aircraft are two inseparable motions: the nosewheel only changes direction while the aircraft rolls, so the aircraft has to travel several meters before it points where it should. That is what increases the area a movement requires.

- A **separate towbar** has to be stored and handled for each aircraft type
- The towbar is a load path of its own — and a damage source
- A **second person** is required as a wing walker, because the driver's view from the cab is limited
- **A path out has to be kept clear** for the tug itself, so the aircraft cannot be parked against a wall or into a corner.
- **Combustion engine**: fuel logistics and a maintenance plan

Conventional towbarless tug

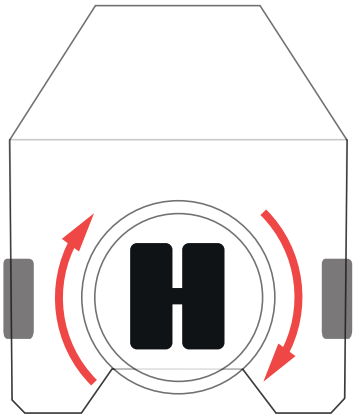
Steering by moving. The nosewheel is carried, but the tug cannot turn under the aircraft.

Conventional towbarless tugs remove the bar, not the limitation: the nosewheel is carried instead of pulled, but steering still happens by moving. The space requirement stays approximately the same as with a towbar.

- **Winches or straps** are often needed to secure the nosewheel
- **A second person** is required as a wing walker, because the operator's view is limited
- **Large vehicle dimensions**, which need parking space of their own
- **A path out has to be kept clear** for the tug itself, so the aircraft cannot be parked against a wall or into a corner

Towbarless with rotary table

Steering by moving, plus correcting the table

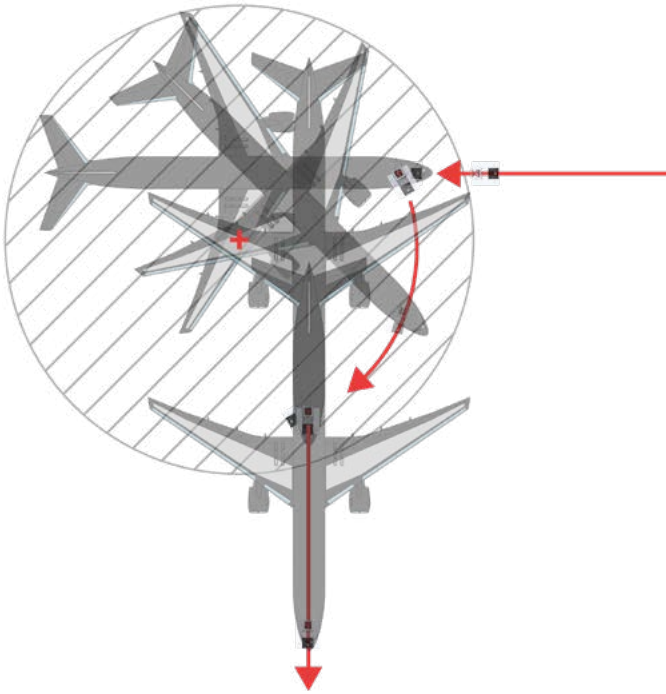


The nose gear is clamped on a rotating turntable so that the maximum nosewheel angle is not exceeded: the tug can keep turning while the nose gear stays where it is. When pushing, however, the table follows the trail of the wheel like the castor of a shopping cart — it turns around its vertical axis and has to be corrected, manually or electrically.

- ⊖ Loading is possible from **one side of the aircraft only**
- ⊖ **No automatic hydraulic securing:** hydraulic and electric lines cannot be routed into a rotating platform without risking a premature defect
- ⊖ The oversteering protection provided by the turntable works reliably **only when pulling**
- ⊖ Large drive wheels in the **operator's walking area**

Mototok

Turning and moving are separate.
The aircraft stays in place while the nose gear turns.



With Mototok, turning the nose gear and moving the aircraft are two different movements. The fuselage and the wingtips remain in position while the nose gear is turned. A 90° turn therefore reduces the maneuvering area to the circle the aircraft itself occupies.

- ⊕ **Coupling from the front or the rear,** at any approach angle
- ⊕ **Fully hydraulic, sensor-monitored** nosewheel platform — no winches, no straps
- ⊕ **One operator** with a full view of the aircraft throughout the movement
- ⊕ **No exit path:** the Mototok drives out from under the aircraft
- ⊕ **Fully electric drive:** no combustion engine, no fuel logistics



“Our Mototok is the second best piece of equipment in the hangar (the airplane is first)!“

“The ease of operation and the ability for one person to safely manoeuvre our plane in and out of our hangar because of the industrial remote control wing walker feature is unbeatable. This is a quality machine and very reliable.“

Steve Nelson, Aviation Manager & Chief Pilot,
TLS Aviation LLC















Conventional handling

Top: The view outside a standard tug – the operator needs at least two additional wing walkers.

Middle: Working with conventional tugs

Bottom: Using tow bars or other towbarless systems means cumbersome handling

Handling with Mototok

Moving an aircraft the innovative way – with Mototok: Circumferential view around the aircraft, easy and convenient handling. Mototok makes the use and storage of different tow bars unnecessary. And it needs far less space than conventional tractors.

VIDEOLINK

See Mototok in daily Pushback-Operation: bit.ly/mototok-pb



PUSHBACK.

A tug on site, not a queue at every stand.

The Spacer 8600 NG pushes narrow-bodies and regional jets under NTO licence, charged from any CEE socket and operated by ground staff after a short training — not by a specialised tractor driver.

105 t / 231,500 lbs
maximum towing capacity

30
pushbacks per battery charge

3 Million +
pushbacks worldwide since 2017

THE PUSHBACK MODELS.

Three sizes. Matched to your fleet.

SPACER 8600 NG

Narrow-bodies and regional jets



105 t / 231,500 lbs

NTO licence for Boeing 737 incl. MAX, Airbus A220, A320 family incl. NEO and A321 NEO LR / XLR, MHI / Bombardier CRJ and Embraer regional jets.

i-NPS with automatic counter-steer onboard charger with CEE plug and cable drum.

SPACER 8600 RJ

Regional and crossover jets



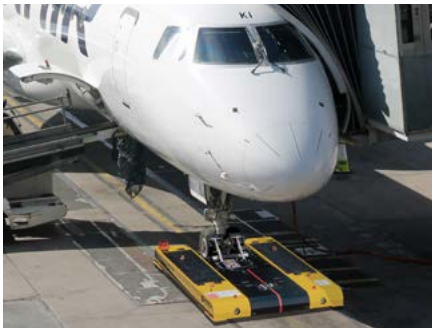
80 t / 176,400 lbs

MHI / Bombardier CRJ and Embraer regional jets.

i-NPS with automatic counter-steer

T 7000

Regional and crossover jets



75 t / 165,300 lbs

MHI / Bombardier CRJ and Embraer regional jets.

"We are the most punctual of the major short-haul airlines flying out of London and this technology helps us stay at the top."

Tom Stevens,
British Airways' Head of Airports Operations

British Airways is showing the way: The high availability of Mototok machines at every stand ensures an enormous reduction in delays. With the capabilities of towing and pushing aircraft up to 105 tonnes Mototok SPACER 8600 is the ideal tug for your pushback operations. In combination with the outstanding pros of all Mototok vehicles like

→ The low initial and maintenance costs

→ The eco-friendly electric drive

→ The one-man-operation without the need of any driving license

you gain a powerful and flexible machine for all apron and – in addition – hangar operations.



THE PUSHBACK-CONCEPT

A tug that waits at the stand, not a driver you wait for.

A conventional pushback tractor is a shared resource: it is dispatched, it drives across the apron, and the aircraft waits. A Mototok is stationed where it is needed — one unit covers up to five stands, and the person who closes the door can perform the pushback.

No dispatch, no transit

The tug is stationed and charged in the area it serves. Every minute of waiting for a tractor is a minute of delay that never occurs.

Ground handling staff, not specialists

No driving licence and no tractor qualification are required. A short driving and safety training is sufficient, which widens the pool of qualified staff per shift.

One operator, full view

The operator walks with the aircraft and keeps eye contact with the nose gear and the surroundings. He is his own wing walker; no headset marshalling, no cab blind spots.

No fuel, low maintenance

No combustion engine, no hydraulic transmission, no fuel logistics on the apron. Wheels, tyres, gearboxes and motors are separate service items.

IN SERVICE

Proven at scale, at one of the busiest hubs in Europe.

British Airways operates Mototok pushback tugs at London Heathrow Terminal 5. Since launch in 2017, Mototok tugs have performed more than three million pushbacks worldwide.

54%
reduction in pushback-related delays reported by British Airways

3 million +
pushbacks performed worldwide since 2017

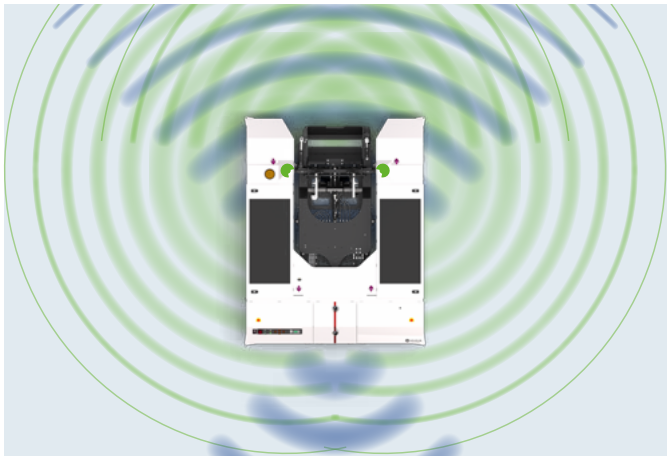
TELEPUSH · AUTOPUSH

The next step runs on the same hardware.

With Telepush, the operator no longer walks with the tug: the pushback is performed from an operator stand with camera view. Autopush is the consequent next stage on the same platform — the movement itself becomes automated. Both stages use the same tug, the same control system and the same fleet; nothing has to be replaced.



The remote operator controls the pushback via VR headset and multi-monitor setup — from the control room.



Two 90° cameras and two 276° LiDAR sensors give the operator a complete, overlapping view around the tug.

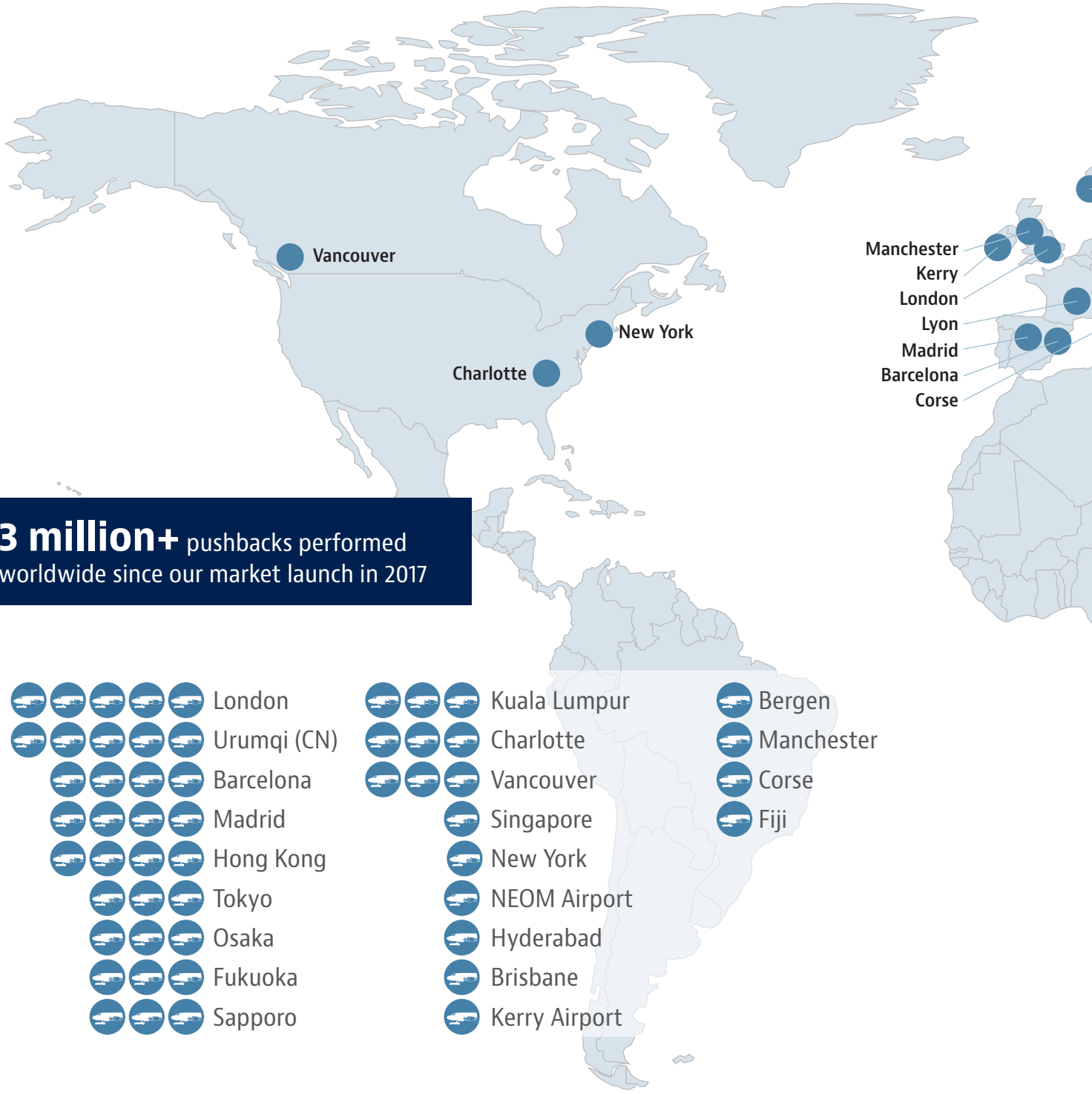
telepush

autopush

MOTOTOK IN DAILY PUSHBACK OPERATIONS

Globally proven in airport operations.

From major hubs like London, Madrid, and Hong Kong to regional airports worldwide, Mototok tugs are in daily pushback and MRO operation.



3 million+ pushbacks performed worldwide since our market launch in 2017

- London
- Urumqi (CN)
- Barcelona
- Madrid
- Hong Kong
- Tokyo
- Osaka
- Fukuoka
- Sapporo
- Kuala Lumpur
- Charlotte
- Vancouver
- Singapore
- New York
- NEOM Airport
- Hyderabad
- Brisbane
- Kerry Airport
- Bergen
- Manchester
- Corse
- Fiji



These airlines rely on Mototok tugs every day.

British Airways · Iberia · Vueling · Japan Airlines · ANA · Malaysia Airlines · American Airlines · United Airlines · Lufthansa · Eurowings · SWISS · Air France · Transavia · easyJet · Wizz Air · Finnair · SAS · and more

Trusted by aircraft manufacturers.

Airbus · Boeing · Embraer · Bombardier · Dassault · Gulfstream · Pilatus



NOSE GEAR PROTECTION · I-NPS

Counter-Steer. The tug corrects itself.

Counter-Steer is the Spacer's answer to oversteering. Onboard weighing cells read the torque on the nose gear continuously, and as it approaches the aircraft's limit the tug reduces its own steering angle — automatically, before the nose gear is ever put at risk. Oversteering is the trigger; Counter-Steer is what the tug does about it. Intelligent Nose Gear Protection System: i-NPS.

	I-NPS (MOTOTOK)	CONVENTIONAL SYSTEMS
At the limit	Counter-Steer applied automatically	Alarm only — operator must react
Outcome	Incident prevented before it occurs	Reported once it's too late — can trigger a nose gear inspection and delay the flight

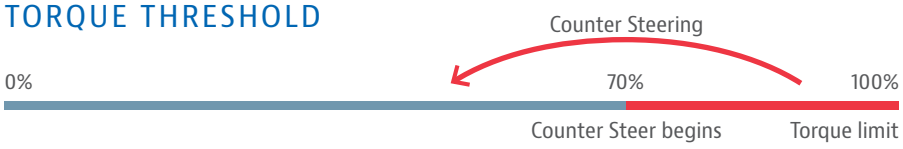


HOW THIS WORKS

From detection to correction.

1. **Weighing cells measure torque**
   Two sensors on the nosegear platform read force continuously; i-NPS compares them in real time.
2. **Threshold reached**
   At 70% of the allowed torque limit, the system flags an oversteer occurrence.
3. **Automatic counter-steer**
   The tug reduces its steering angle immediately and brings the nose gear back below the limit — no operator input required.

TORQUE THRESHOLD



OPERATOR FEEDBACK

- Live status on the tug's integrated display
- Spoken alert through the wireless headset
- Event log stored

REMOTE SUPPORT · TELEMETRY

M-Check. Maintenance from anywhere.

When something needs a second look, Mototok technicians connect directly to the tug's central unit over its secure WiFi access point or mobile data link — reading live system data, diagnostics, and fault logs without traveling on site. Paired with a phone or video call, M-Check turns a support case into a live, guided fix.

On-site technician

Reads live data directly from the tug's central unit over its own WiFi access point.

Mototok remote support

If needed, a Mototok technician connects in over a secure mobile data link to assist directly.

Live system diagnostics

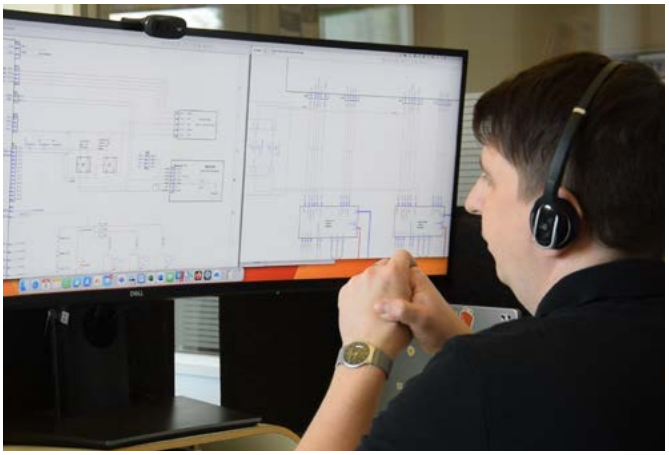
Software version, fault codes, unit and sensor status, read in real time from the central unit.

Role-based access

Viewer and operator roles keep sensitive configuration changes with Mototok service only.

Guided troubleshooting

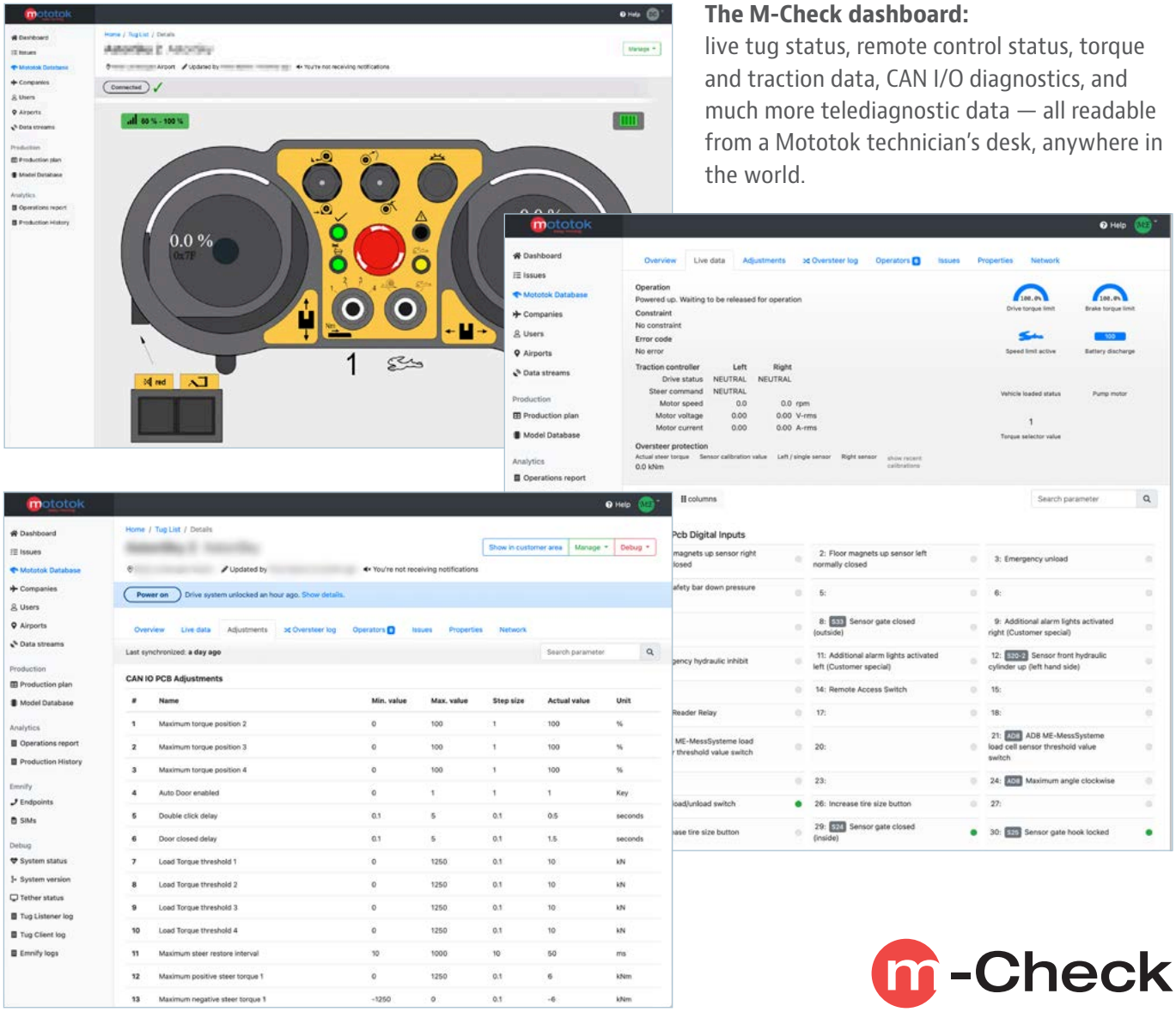
By phone or video call — many cases are resolved without waiting for a technician to travel.



Remote diagnostics: a Mototok technician, connected with your Mototok tug over the air.



One card, one tap — the system recognizes the user and grants the corresponding operating rights.



The M-Check dashboard:
live tug status, remote control status, torque and traction data, CAN I/O diagnostics, and much more telediagnostic data — all readable from a Mototok technician's desk, anywhere in the world.

m-Check

MY MOTOTOK

Machine status, one tap away.

An NFC tag on the tug links directly to My Mototok, the service that holds its technical status. Ground crew hold a phone against the tag and the device opens the page for that specific unit — operating hours, service intervals, fault history, and documentation. No login, no app installation, no searching for the serial number. The information stays tied to the machine itself, so whoever stands in front of the tug has the same picture as the maintenance team.



Hold the phone against the tag on the tug — the current status of that unit opens instantly.



MRO.

Every line in the hangar, moved by one person.

Heavy maintenance means moving aircraft in and out of a fixed footprint, several times a day, without a single scratch. The Spacer 200 handles wide-bodies, the Spacer 8600 MA narrow-bodies and regional jets — both electrically, from a hand-held remote.

---

200 t / 441,000 lbs
SPACER 200, wide-body capacity

80 t / 176,400 lbs
SPACER 8600 MA towing capacity

up to 60 %
more usable hangar space

FOR MRO OPERATIONS.

From regional jets to wide-bodies.

SPACER 200

Wide- and Narrow-bodies



200 t / 441,000 lbs

→ Maximum nosewheel weight capacity: 22 t / 48,500 lbs
→ Gimbal-mounted nosegear platform for compensating the tilt of the nosegear whilst turning
→ Oversteering Protection and Electronic Torque Control for safely and gently turning the nosegear
→ Fully automatic nosegear engaging function
→ For aircraft with a wheel diameter of 650 – 1200 mm and a width up to 1400 mm
→ Improved Lighting: Front, rear, break and direction lights switch depending on the driven direction
→ Remote technical support over the cloud available

SPACER 8600 MA

Narrow-bodies and regional jets



80 t / 176,400 lbs

→ Maximum nosewheel weight capacity: 8 t / 17,600 lbs
→ Gimbal-mounted nosegear platform for compensating the tilt of the nosegear whilst turning
→ Electronic torque control for safely and gently turning the nosegear
→ i-NPS – Intelligent Nosegear Protection System with counter steering, optional
→ Fully automatic nosegear engaging function
→ For aircraft with a wheel diameter of 450 – 850 mm
→ Remote technical support over the cloud available

„The high and precise maneuverability was the key factor when ordering second and third device following year. Thanks to it one of our facilities has increased their capacity from 7 to 10 parallel lines."

Andrzej Borowczyk,
Logistic and Purchasing Deputy Manager,
Linetech S.A., Poland



WIDE- & NARROWBODY, REGIONAL AIRCRAFT

HANGAR OPTIMIZATION

MRO / FBO

SPACER 200













Field of Application	MRO
Applicable for	
Max. towing capacity	200 t / 440924 lbs
Maximum nosewheel weight capacity	22 t / 48502 lbs
Technical support out of the cloud	available
Use for	· Wide Body (e.g. A 330, A 340, A350, B 757, B 767, B 777-X, B 787) · Narrow Body (e.g. A 320 Family, Embraer)

VIDEOLINK

See Mototok Spacer 200 and Spacer 8600 in Hangar use: bit.ly/spacer-hangar



NARROWBODY REGIONAL AIRCRAFT

HANGAR OPTIMIZATION

MRO / FBO







SPACER 8600 MA



Turning on the Spot

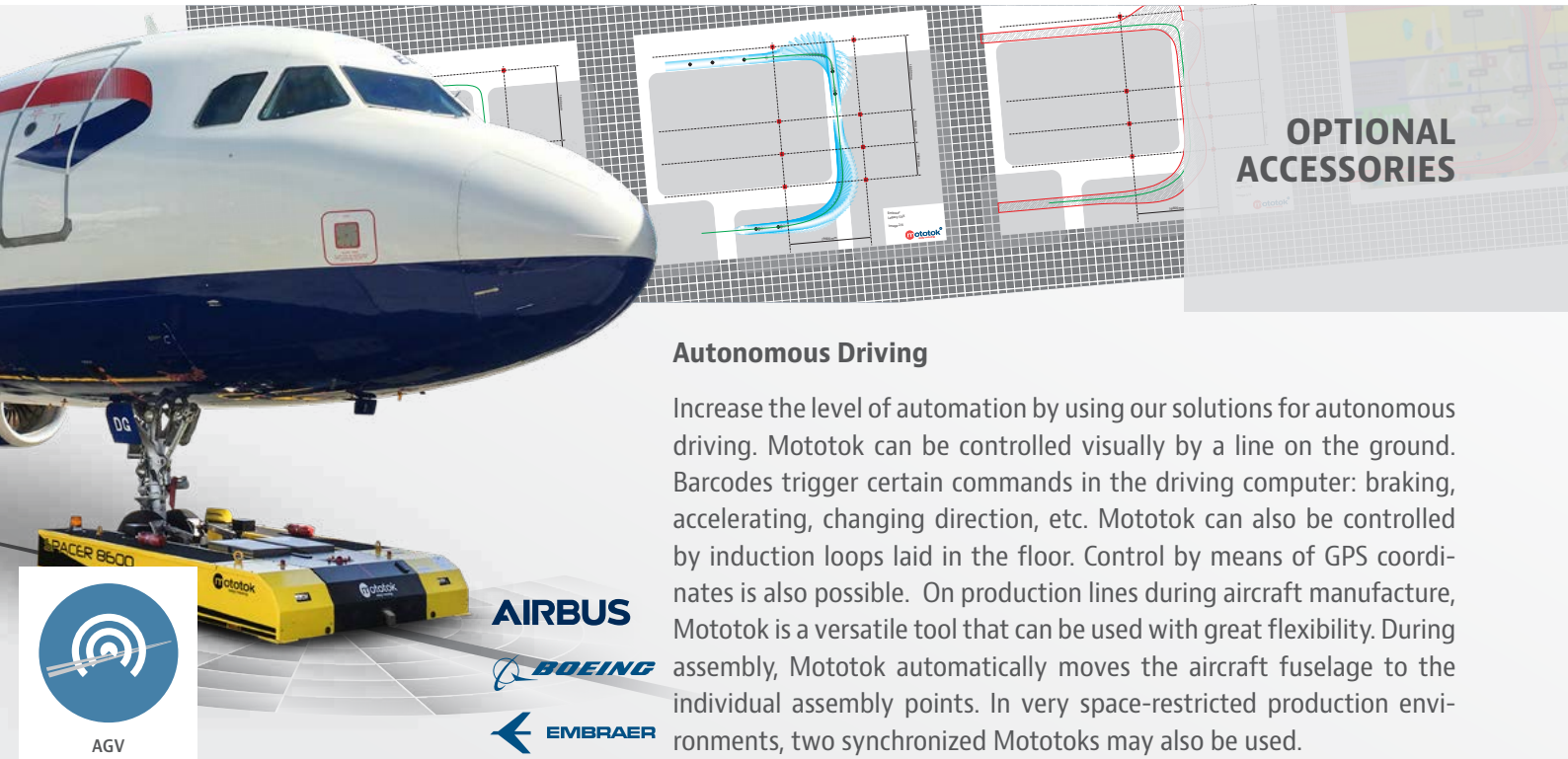
Maximum manoeuvrability and safe placement of the aircraft even in very tight places: Mototok turns the raised nosewheel under the fuselage. The wingtips and the fuselage remain almost stationary.

VIDEOLINK

See Mototok's precision in manoeuvring
bit.ly/turning-spot







OPTIONAL ACCESSORIES

Autonomous Driving

Increase the level of automation by using our solutions for autonomous driving. Mototok can be controlled visually by a line on the ground. Barcodes trigger certain commands in the driving computer: braking, accelerating, changing direction, etc. Mototok can also be controlled by induction loops laid in the floor. Control by means of GPS coordinates is also possible. On production lines during aircraft manufacture, Mototok is a versatile tool that can be used with great flexibility. During assembly, Mototok automatically moves the aircraft fuselage to the individual assembly points. In very space-restricted production environments, two synchronized Mototoks may also be used.

AGV

AIRBUS

BOEING

EMBRAER

Field of Application	MRO
Applicable for	
Max. towing capacity	80 t / 176,400 lbs
Maximum nosewheel weight capacity	8 t / 17,600 lbs
Technical support out of the cloud	available
Use for	· Narrow Body (e.g. A 320-Family, Boeing 737-Family) · Regional Jets



FBO.

Park the aircraft where the space actually is.

No exit path to keep clear, no towbar to fetch, no second person to walk the wing. The TWIN and M Series turn the nosewheel under the fuselage and park a jet against the wall or in the corner.

---

up to 50 %
more aircraft in the same hangar

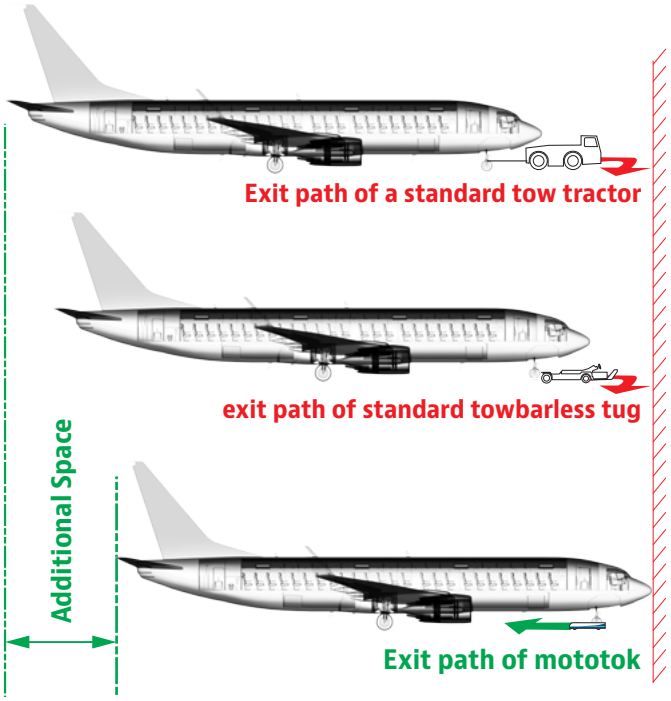
15 – 75 t / 33,000 – 165,300 lbs
M and TWIN towing capacity

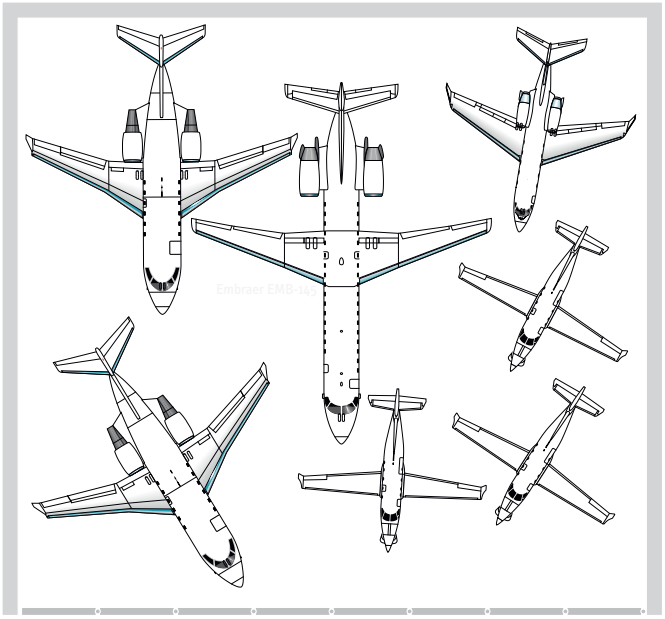
1 person
for the whole movement

Park the aircraft where you want: into the hangar's corner, nose to the wall, or close alongside the next aircraft — and accommodate up to 50 % more aircraft in the same building.

With a towbar or a conventional towbarless tug, neither is possible: the nosewheel cannot be turned without moving the aircraft, and every parking position has to include an exit path for the tug. The hangar is never used to its full capacity.

Low build height, a compact footprint and radio remote control put that space back at your disposal.

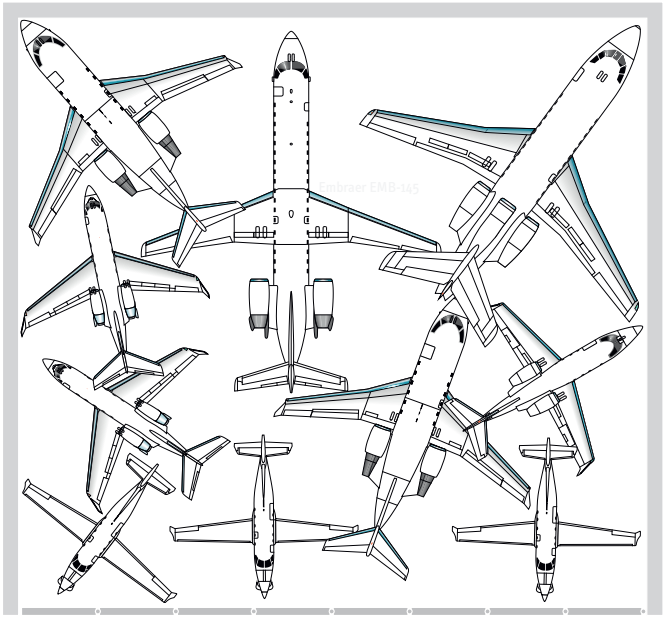




A typical hangar, parked with a conventional tow tractor:

- Every aircraft faces the gate, because the exit path of the tractor has to stay clear. Parking into a corner is not possible.
- The distance between aircraft has to stay generous, so the tractor can reach every nose gear.

The hangar is never used to its full capacity.



The same hangar, parked with a Mototok:

- Park nose to the wall or into the corner — the tug drives out from under the aircraft, so no exit path has to be kept clear.
- Stack the aircraft: minimal distance between them, and manoeuvring stays possible in the narrowest positions

Up to 50 % more aircraft in the same building.







REGIONAL AIRCRAFT
BUSINESS JETS

HELICOPTER

HANGAR
OPTIMIZATION

MRO / FBO

TWIN Series



OPTIONAL ACCESSORIES

Additional Weights

A low nose wheel load on the aircraft can lead to traction problems. And the sloshing of the remaining aviation fuel in the aircraft's tanks in particular can cause sudden weight shifts. If the ground is also slippery (shiny floor) and slightly inclined, the Mototok may no longer have fully traction. With the help of the **additional weights** and our well-proven **quartz sand tyres** of the drive wheels with a higher contact area, traction can be increased considerably.







Trailer Coupling Adaptor

With the Mototok TWIN and our suitable towing adaptor, you can tow all heavy equipment such as GPU and other – safely and easily.





	TWIN 7500 NG TWIN 7500 NG Flat	TWIN 6600 NG	TWIN 6500 NG Flat	TWIN 3900 NG
Applicable for				
Oversteering Protection	Electronic Torque Control, optional	Electronic Torque Control, optional	Electronic Torque Control, optional	Electronic Torque Control, optional
Technical support out of the cloud	available	available	available	available
Max. towing capacity	75 t / 165,300 lbs	55 t / 121200 lbs	50 t / 110230 lbs	39 t / 85980 lbs
Use for	Aircraft like Boeing 737 · Gulfstream 700 / 800 · Global Express · Dassault Falcon · ATR · Pilatus · Hawker Nearly all wheeled Helicopter like Sikorsky · Boeing · Eurocopter · Bell · AgustaWestland	Aircraft like Gulfstream 650 · Dassault Falcon · Global Express · ATR · Pilatus · Hawker Nearly all wheeled Helicopter like Sikorsky · Boeing · Eurocopter · Bell · AgustaWestland	Aircraft like Gulfstream 550 · Dassault Falcon · Global Express · ATR · Pilatus · Hawker Nearly all wheeled Helicopter like Sikorsky · Boeing · Eurocopter · Bell · AgustaWestland	Aircraft like Bombardier Challenger · Embraer Legacy · Lear Jet · Cessna · Beechcraft · Dassault Falcon · Hawker · Pilatus Nearly all wheeled Helicopter like Sikorsky · Boeing · Eurocopter · Bell · AgustaWestland







BUSINESS JETS
LIGHT AIRCRAFT

HELICOPTER

HANGAR
OPTIMIZATION

MRO / FBO

M Series











Nosewheel Securing System

All Mototok models **secure the nosewheel hydraulically — without the need for straps, belts, or any manual fastening devices**. This eliminates the need to crawl under the aircraft or bend down during operation. The entire **securing process** is **safe**, **fast**, and **requires minimal physical effort**, ensuring maximum operator comfort and efficiency.

Oversteering Protection (optional)

Mototok made the entry-level models of the M-Series safer: The 515 and 528 are equipped with a system to prevent oversteering and damage to the nosegear. The system interrupts the torque at predefined points with the help of shear pins. The transfer of the torque onto the nosegear will stop immediately. Beyond that, both model sounds an alarm and comes to an automatic stop.

This is unique in this device class.







	M 528	M 518	M 515
Applicable for			
Operation of the hydraulic platform and the door	Fully automatic operation via Radio Remote Control	semi-automatically with levers on the Mototok	manually with levers on the Mototok
Oversteering Protection	Shear Pin, optional	Shear Pin, optional	Shear Pin, optional
Towing Capacity	28 t / 61,700 lbs	18 t / 39,700 lbs	15 t / 33,000 lbs
Lifting Capacity	2 t / 4,400 lbs	1.5 t / 3,300 lbs	1.5 t / 3,300 lbs
Use for Aircraft like	Bombardier Challenger 650 / 604 · Lockheed Martin F-16 · Embraer Praetor 600 / 500 · Bombardier Challenger 3500 / 300 · Gulfstream G280 · Learjet · Aermacchi T-346 / M-346 · Pilatus PC-24 / PC-12 · Embraer Phenom 300 · King Air · Agusta / Leonardo · Aermacchi MB-339 · Citation CJ2+ / CJ2 / CJ1 · Sikorsky · T-34 · Piper / Diamond	Bombardier Challenger 300 · Embraer Praetor 500 · Gulfstream G280 · Learjet · Aermacchi T-346 / M-346 · Pilatus PC-24 / PC-12 · Embraer Phenom 300 · King Air · Agusta / Leonardo · Aermacchi MB-339 · Citation CJ2+ / CJ2 / CJ1 · Sikorsky · T-34 · Piper / Diamond	Learjet · Aermacchi T-346 / M-346 · Pilatus PC-24 / PC-12 · Embraer Phenom 300 · King Air · Agusta / Leonardo · Aermacchi MB-339 · Citation CJ2+ / CJ2 / CJ1 · Sikorsky · T-34 · Piper / Diamond



MILITARY AIRCRAFT

HELICOPTER

SALTWATER RESISTANT

MILITARY.

LB-Series: Built for shelters, decks and salt water.

The LB Series is the TWIN and M platform optimised for defence use — salt-water resistant, carrier-capable, with a magnetic hold-down. The Alligator handles helicopters with extremely low ground clearance.



LB 9500 – specially designed model for the C130



LB 7500 V22 – specially designed model for the V22



LB 7500 NH90 – specially designed model for the NH90

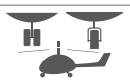
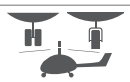
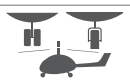
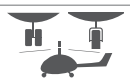
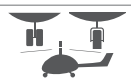








Special adaptions for NH 90, V-22, Casa and similar.

	LB 7500 NG LB 7500 NG Flat	LB 6600 NG	LB 6500 NG Flat	LB 3900 NG	LB 528	LB 9500	LB WIDE 14
Applicable for							
Oversteering Protection	Electronic Torque Control, optional	Electronic Torque Control, optional	Electronic Torque Control, optional	Electronic Torque Control, optional	Shear Pins, optional	Electronic Torque Control, optional	Electronic Torque Control, optional
Technical support out of the cloud	available	available	available	available	available	available	available
Max. towing capacity	75 t / 165,300 lbs	55 t / 121,200 lbs	50 t / 110,230 lbs	39 t / 85,980 lbs	28 t / 61,730 lbs	86 t / 189,600 lbs	85 t / 187,400 lbs
Use for	· Military Machines like Eurofighter · Tornado · F16, F18, F35 · Saab Gripen · Dassault Rafale · Grumman E2C Hawkeye · Helicopter like VC22 · NH90 · CH47 · CH53 · SuperPuma · Airbus H225 · ETZ					· Special tug for Lockheed C-130 Hercules, fits on HCU-6/E pallet for transportation with the C130	· Military Transport aircraft like Lockheed C-130 Hercules · Embraer KC-390 · Airbus A400M and other







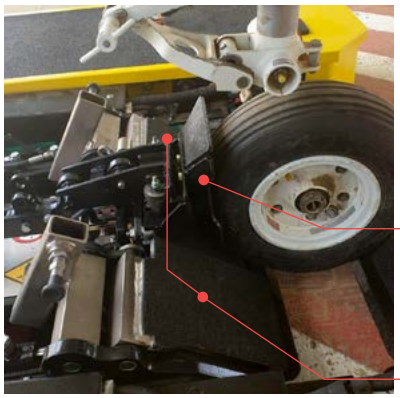
Trailer coupling adaptor
for multi-functonal extensions

OPTIONAL ACCESSORIES

Oversteering Protection System

With the help of the optional Oversteering Protection System, excessive stress on the nosegear due to oversteering or other destructive forces is eliminated. When a defined torque is reached, the Mototok warns the operator and shuts down if the warning is not heeded.

This works for both single and double nose wheel.



Cage with integrated torque measuring equipment (single wheel)

Pressure plates with integrated torque measuring equipment (double wheel)

Optional accessories for the LB-Series.

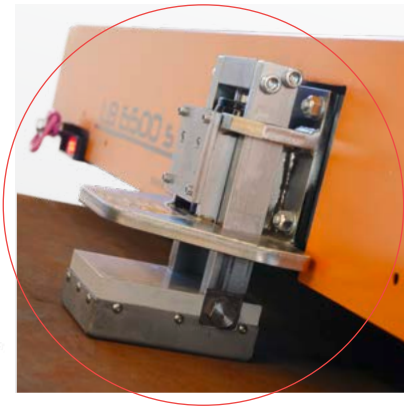
OPTIONAL ACCESSORIES



Magnetic Emergency System

The magnetic emergency system prevents the mototok from slipping on the surface of an aircraft carrier during heavy weather and sea conditions at an extreme incline. It can be activated by the operator manually on the remote when there is a risk of sliding.







Spiral cable for Remote Control

Insert the optional coiled cable connection to switch off the radio function automatically.



VIDEOLINK
See Alligator in action: bit.ly/m-alligator



HELICOPTER

JETS

EXTREMELY FLAT

NEW AUTOMATIC NOSEGEAR CLAMPING SYSTEM

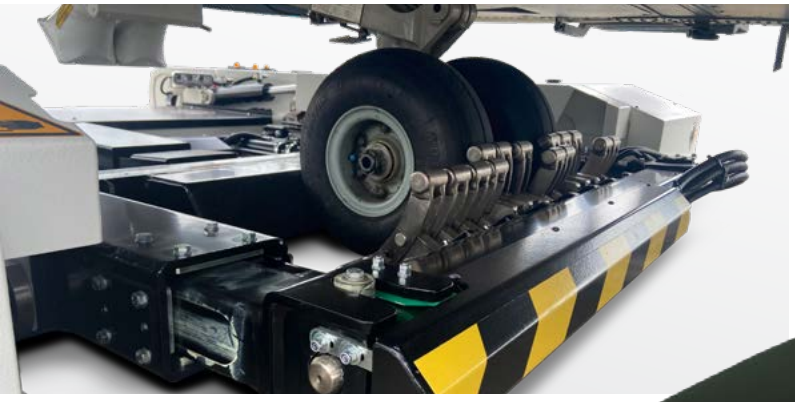
PATENTED

HELICOPTER.

ALLIGATOR 4000: Extreme low height







unlifted



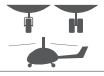
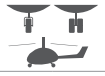
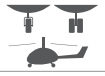
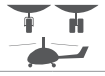
lifted, free rotation possible
under the mounted equipment



Our specialist for helicopters: With a height of only 149 mm / 5.87 inch in the area of the nose wheel platform, the Mototok Alligator is certainly one of the lowest industrial trucks in the world. With its innovative safety brackets for the nose wheel, it is also one of the safest ways to manoeuvre an aircraft or helicopter. No problems with mounted cameras, radar or headlamps underneath the aircraft.

Field of Application	Helicopter
Applicable for	
Max. towing capacity	50 t / 110,200 lbs
Maximum nosewheel weight capacity	3.5 t / 7,700 lbs
Platform height	149 mm / 5.87 inch
max. width of the nose wheel	800 mm / 31.5 inch
Technical support out of the cloud	available

Technical Data

		M-SERIES			TWIN / LB -			
		M 515	**M 518**	**M 528 / LB 528**	**3900 NG**	**6500 NG Flat**	**6600 NG**	**7500 NG**
Use for		**single & double nosewheel, wheeled helicopter** 	**single & double nosewheel, wheeled helicopter** 	**single & double nosewheel, wheeled helicopter** 	**single & double nosewheel, wheeled helicopter** 	**single & double nosewheel, wheeled helicopter** 	**single & double nosewheel, wheeled helicopter** 	**single & double nosewheel, wheeled helicopter** 
Field of application		MRO / FBO	MRO / FBO	MRO / FBO	MRO / FBO	MRO / FBO	MRO / FBO	MRO / FBO
Maximum towing capacity [1]		15 t 33069 lbs	18 t 39700 lbs	28 t 61729 lbs	39 t 85980 lbs	50 t 110231 lbs	55 t 121200 lbs	75 t 165347 lbs
Maximum nosewheel weight capacity		1,5 t 3307 lbs	1,5 t 3307 lbs	2 t 4409 lbs	4,5 t 9920 lbs	6 t 13228 lbs	6 t 13228 lbs	7.5 t [4] 16535 lbs
Dimensions (without antenna, grips on the surface)	width	1810 mm 71.26 inch	1810 mm 71.26 inch	1810 mm 71.26 inch	2136 mm 84.09 inch	2136 mm 84.09 inch	2136 mm 84.09 inch	2136 mm 84.09 inch
	length	1810 mm 71.26 inch	1810 mm 71.26 inch	1810 mm 71.26 inch	2596 mm 102.20 inch	2596 mm 102.20 inch	2596 mm 102.20 inch	2596 mm 102.20 inch
	height	330 mm 12.99 inch	330 mm 12.99 inch	330 mm 12.99 inch	350 mm 13.78 inch	324 mm 12.76 inch	363 mm 14.29 inch	350 mm 13.78 inch
Platform height								
Ground clearance		80 mm 3.15 inch	80 mm 3.15 inch	80 mm 3.15 inch	110 mm 4.33 inch	85 mm 3.35 inch	110 mm 4.33 inch	110 mm 4.33 inch
Max width of the nosewheel		500 mm 19.69 inch	500 mm 19.69 inch	500 mm 19.69 inch	665 mm 26.2 inch	665 mm 26.2 inch	665 mm 26.2 inch	665 mm 26.2 inch
Nosewheel diameter	min.	150 mm 5.91 inch	150 mm 5.91 inch	150 mm 5.91 inch	300 mm [5] [6] 11.81 inch	300 mm [5] [6] 11.81 inch	300 mm [5] [6] 11.81 inch	300 mm [5] [6] 11.81 inch
	max.	500 mm 19.69 inch	500 mm 19.69 inch	500 mm 19.69 inch	670 mm 26.38 inch	670 mm 26.38 inch	670 mm 26.38 inch	670 mm 26.38 inch
Unladen weight		900 kg 1980 lbs	900 kg 1980 lbs	1000 kg 2200 lbs	1900 kg 4189 lbs	1900 kg 4189 lbs	1700 kg 3748 lbs	2100 kg 4630 lbs
Time to load/fix aircraft (approx.)		15 sec	15 sec	15 sec	15 sec	15 sec	15 sec	15 sec
Speed (approx.)		5.22 km/h 1.45 m/s 3.24 mph	5.22 km/h 1.45 m/s 3.24 mph	5.22 km/h 1.45 m/s 3.24 mph	4.5 km/h 1.25 m/s 2.80 mph	4.5 km/h 1.25 m/s 2.80 mph	5.3 km/h 1.47 m/s 3.29 mph	4.4 km/h 1.22 m/s 2.73 mph
Batteries (maintenance-free, deep cycle gel)		4 x 115 Ah maintenance-free, deep cycle gel	4 x 115 Ah maintenance-free, deep cycle gel	4 x 115 Ah maintenance-free, deep cycle gel	4 x 210 Ah maintenance-free, deep cycle gel	4 x 210 Ah maintenance-free, deep cycle gel	4 x 210 Ah maintenance-free, deep cycle gel	4 x 210 Ah maintenance-free, deep cycle gel
Voltage		48 V	48 V	48 V	48 V	48 V	48 V	48 V
AC Microprocessor controlled electric motors		✓	✓	✓	✓	✓	✓	✓
Range (depending on the workload)		2 days	2 days	2 days	3-4 days	3-4 days	3-4 days	3-4 days
Possible terrain		Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone
Drive wheel width		100 mm 3.94 inch	100 mm 3.94 inch	100 mm 3.94 inch	100 mm 3.94 inch	100 mm 3.94 inch	100 mm 3.94 inch	132 mm 5.20 inch
Drive wheel diameter		300 mm 11.81 inch	300 mm 11.81 inch	300 mm 11.81 inch	300 mm 11.81 inch	300 mm 11.81 inch	350 mm 13.78 inch	308 mm 12.13 inch
Tyres		Puncture-proof tyres	Puncture-proof tyres	Puncture-proof tyres	Puncture-proof tyres	Puncture-proof tyres	Puncture-proof tyres	Puncture-proof tyres Quartz sand particles
Standard radio remote control		✓	✓	–	–	–	–	–
Advanced radio remote control		–	–	✓	✓	✓	✓	✓

Optional Equipment

Hydraulic nosewheel securing [2]		✓	✓	✓	✓	✓	✓	✓
Hydraulic full hands free wheel opening doors		manual	semi-automatic	✓	✓	✓	✓	✓
Ground power cable for ground power connection 13,4V / 25,6 V (short time up to 1300 A) [3]		available	available	available	available	available	available	available
Driving light (LED, 10,000 hour operating life, very high beam range)		–	–	✓	✓	✓	✓	✓
Yellow flashlight		✓	✓	✓	✓	✓	✓	✓
Safety beeper		✓	✓	✓	✓	✓	✓	✓
Oversteering protection		Shear pin, optional	Shear pin, optional	Shear pin, optional	Electronic torque control, available	Electronic torque control, available	Electronic torque control, available	Electronic torque control, available
Cloud-support		–	–	–	available	available	available	available
Trailer coupling adaptor for multi-functional extensions		available	available	available	available	available	available	available
Military spiral cable (15 m)		–	–	available	available	available	available	available
Automatic controls by ground markings (AGV)		–	–	available	available	available	available	available
Adaptations for special demands (i.e. military version)		–	–	available	available	available	available	available

Mistakes and technical alterations reserved / Date 09.2026

1) The stated towing capacity is valid for towing on normal ground conditions with no incline.

2) This prevents the nosewheel from rising and slipping out of position. The securing device is hydraulically lowered onto the nosewheel and securely locked at the push of a button.

3) In most aircraft, the generator voltage is 28.4 V. The 25.6 V on-board batteries are charged with this voltage. With the Mototok ground power supply, the on-board voltage can be maintained and used to start the turbines. Functionality depends on the electronic of the aircraft.

SERIES

SPACER

7500 NG Flat	T 7000	LB WIDE 14	LB 9500	Alligator 4000	8600 MA / RJ	8600 PB NG	200
single & double nosewheel, wheeled helicopter 	**double nose wheel** 	**double nose wheel** 	**double nose wheel** 	**single & double nosewheel, wheeled helicopter** 	**double nosewheel** 	**double nosewheel** 	**double nosewheel** 
MRO / FBO	Pushback	Military	Military	Military	MRO / Pushback	Pushback	MRO
75 t 165347 lbs	75 t 165347 lbs	85 t 187393 lbs	86 t 189600 lbs	50 t 110231 lbs	80 t 176400 lbs	105 t 231485 lbs	200 t 440925 lbs
7.5 t [4] 16535 lbs	7.5 t 16535 lbs	7 t 15432 lbs	11.8 t 26000 lbs	3.5 t 7720 lbs	8 t 17600 lbs	10 t 22046 lbs	22 t 48502 lbs
2136 mm 84.09 inch	2136 mm 84.09 inch	2956 mm 116.38 inch	2577 mm 101.46 inch	2812 mm 110.71 inch	2610 mm 102.76 inch	2800 mm 110.24 inch	3980 mm 156.69 inch
2596 mm 102.20 inch	2596 mm 102.20 inch	2596 mm 102.20 inch	2029 mm 78.88 inch	2505 mm 98.62 inch	3305 mm 130.12 inch	3555 mm 130.96 inch	4210 mm 165.75 inch
324 mm 12.76 inch	350 mm 13.78 inch	316 mm 12.44 inch	639 mm 25.16 inch	320 mm 12.60 inch	553 mm 21.77 inch	701 mm 27.6 inch	910 mm 35.83 inch
			468 mm 18.43 inch	149 mm 5.87 inch			
85 mm 3.35 inch	110 mm 4.33 inch	85 mm 3.35 inch	78 mm 3.07 inch	75 mm 2.95 inch	81 mm 3.19 inch	73 mm 2.87 inch	105 mm 4.11 inch
665 mm 26.2 inch	665 mm 26.2 inch	1425 mm 56.1 inch	1100 mm 43.31 inch	800 mm 31.5 inch	840 mm 33.07 inch	840 mm 33.07 inch	1400 mm 55.12 inch
300 mm [5] [6] 11.81 inch	300 mm [5] 11.81 inch	170 mm [5] 6.69 inch	600 mm 23.62 inch	330 mm 12.99 inch	450 mm 17.72 inch	500 mm 19.69 inch	650 mm 25.59 inch
670 mm 26.38 inch	670 mm 26.38 inch	600 mm 23.62 inch	1000 mm 39.37 inch	480 mm 18.90 inch	850 mm 33.46 inch	850 mm 33.46 inch	1200 mm 47.24 inch
2100 kg 4630 lbs	2100 kg 4630 lbs	2400 kg 5291 lbs	To be determined	2300 kg 5070 lbs	5400 kg 11905 lbs	5100 kg 11244 lbs	13000 kg 28660 lbs
15 sec	15 sec	15 sec		15 sec	15 sec	15 sec	15 sec
4.4 km/h 1.22 m/s 2.73 mph	3.78 km/h 1.05 m/s 2.35 mph	4 km/h 1.11 m/s 2.49 mph		3.78 km/h 1.05 m/s 2.35 mph	5.4 km/h 1.5 m/s 3.36 mph	5.4 km/h 1.5 m/s 3.36 mph	4 km/h 1.11 m/s 2.49 mph
4 x 210 Ah maintenance-free, deep cycle gel	4 x 210 Ah maintenance-free, deep cycle gel	4 x 210 Ah maintenance-free, deep cycle gel		4 x 210 Ah maintenance-free, deep cycle gel	Armour Plate 300 Ah with electrolyte recirculation	330 Ah Maintenance-free high-current AGM	330 Ah Maintenance-free high-current AGM
48 V	48 V	48 V		48 V	80 V	96 V	96 V
✓	✓	✓		✓	✓	✓	✓
3-4 days	3-4 days	3-4 days		3-4 days	3-4 days	30 pushbacks	1 day
Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone	Concrete, stone
132 mm 5.20 inch	132 mm 5.20 inch	132 mm 5.20 inch	229 mm 9.02 inch	132 mm 5.20 inch	170 mm 6.69 inch	305 mm 12.01 inch	220 mm 8.66 inch
308 mm 12.13 inch	308 mm 12.13 inch	308 mm 12.13 inch	454 mm 17.87 inch	308 mm 12.13 inch	406 mm 15.98 inch	563 mm 22.17 inch	710 mm 27.95 inch
Puncture-proof tyres Quartz sand particles	Puncture-proof tyres Quartz sand particles	Puncture-proof tyres Quartz sand particles	Puncture-proof tyres Quartz sand particles	Puncture-proof tyres	Puncture-proof tyres Quartz sand particles	Puncture-proof super elastomer tyres	Puncture-proof tyres
–	–	–	–	–	–	–	–
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	To be determined	✓	✓	✓	✓
✓	✓	✓		✓	✓	✓	✓
available	available	available		available	–	–	–
✓	✓	✓		✓	✓	✓	✓
✓	✓	✓		✓	✓	✓	✓
✓	✓	✓		✓	✓	✓	✓
Electronic torque control, available	Electronic torque control, available	Electronic torque control, available		-	Electronic torque control with counter steering, available	Electronic torque control with counter steering, available	Electronic torque control, available
available	available	available		available	available	available	available
available	available	available		-	–	–	–
available	available	available		available	available	available	available
available	available	available		available	available	available	available
available	available	available		available	available	available	available

4) LB-Series for Military purposes: Maximum nosewheel weight capacity 6.5 t / 14330 lbs

5) Smaller wheel diameters may be suitable under optimal conditions (e.g. sufficient tyre pressure).

6) Equipment dependent and customizable. The use of vertical securing paddles for the NH 90, for example, places the possible wheel diameters in other ranges. The values listed here apply to the standard models of the LB- and TWIN-Series.

Our experience and expertise.

Our many years of expertise are based, among other things, on our experience with pushbacks. In order to push aircraft with passengers into position at airports, very complex processes and quality controls are necessary. They culminate in the so-called NTO – a certificate of conformity from the respective aircraft manufacturer.

Mototok currently holds the following NTO declarations of conformity:

- → B 737 incl. MAX
- → A 220
- → A 320 family incl. NEO
- → MHI / Bombardier CRJ
- → Embraer E1 / E2





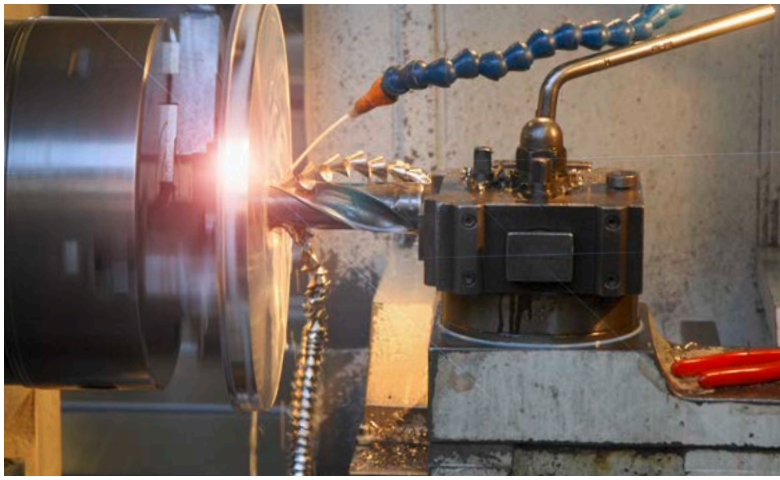




Our aircraft tractors are built for daily heavy use, with high-grade materials and components engineered to Mototok specifications. They are designed to withstand wind and salt water exposure, requiring only limited maintenance.

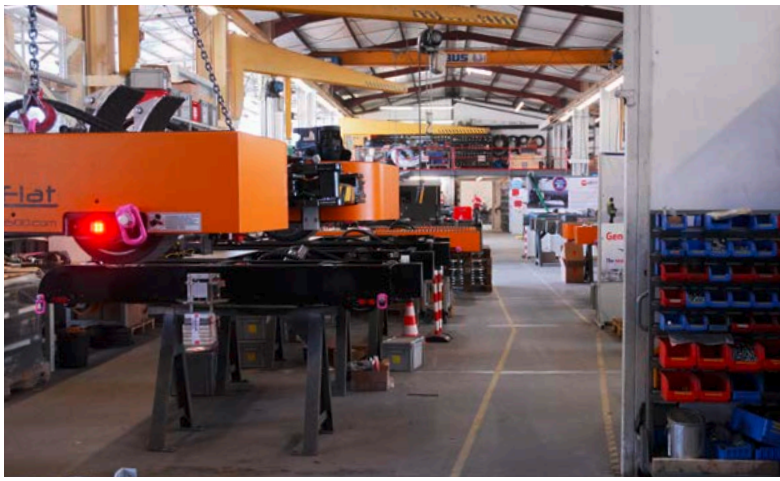
Our production process corresponds and applies to all necessary demands and conditions required in the engineering industry.

2006/42/EC	Machinery Directive (MD)
2014/35/EU	Low Voltage Directive (LVD)
2014/30/EU	Electromagnetic Compatibility Directive (EMC)
2014/53/EU	Radio Equipment Directive (RED)
EN 1915-1	Aircraft ground support equipment – General requirements – Part 1: Basic safety requirements
EN 1915-2	Aircraft ground support equipment – General requirements – Part 2: Stability and strength requirements, calculation and test methods
EN 12312-7	Aircraft ground support equipment – Part 7: Aircraft movement equipment
EN ISO 12100	Safety of machinery – General principles for design – Risk assessment and risk reduction
EN 1175-1	Safety of industrial trucks – Electrical requirements – Part 1: General requirements for battery powered trucks
EN ISO 4413	Hydraulic fluid power – General rules and safety requirements for systems and their components
EN ISO 13849-1	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
EN 60204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements









The German Art of Engineering.



Satisfaction guaranteed – our customers

(extract)

Airports

Bern	Switzerland	Airport	Several Aircraft
Birmingham	USA	Shuttlesworth Intern. Airport	Several Aircraft
Burbank	USA	Bob Hope Airport	Several Aircraft
Cannes	France	Mandelieu Airport	Several Aircraft and Helicopter
Chicago	USA	Chicago Executive Airport	Several Aircraft
Dallas	USA	Dallas Love Field	Several Aircraft
Denison	USA	North Texas Regional Airport	Several Aircraft
Dresden	Germany	Airport	General Aviation
Dublin	Ireland	International Airport	Several Aircraft
Glasgow	UK	International Airport	Several Aircraft
Indianapolis	USA	International Airport	Several Aircraft
Kuala Lumpur	Malaysia	Sultan Abdul Aziz Shah International Airport	Several Aircraft
London	UK	Luton Airport	Several Aircraft
Lugano	Switzerland	Airport	Several Aircraft Helicopter Agusta and others
Lyon	France	Saint Exupery Airport	Several Aircraft and Helicopter
Malaga	Spain	Airport Costa del Sol	Several Aircraft and Helicopter
McKinney	USA	National Airport	Several Aircraft
Minneapolis	USA	Saint Paul International Airport	Several Aircraft
Orlando	USA	Sanford International Airport	Several Aircraft
Panama	Panama	Albrook „Marcos A. Gelabert" International Airport	Several Aircraft
Philadelphia	USA	International Airport	Several Aircraft
Provo	USA	Municipal Airport	Several Aircraft
Santiago de Chile	Chile	Arturo Merino Benítez International Airport	Several Aircraft
Seattle	USA	Tacoma International Airport	Several Aircraft
Seattle	USA	King County International Airport	Several Aircraft
Sion	Switzerland	International Airport	Several Aircraft
Truckee	USA	Tahoe Airport	Several Aircraft
Tulsa	USA	International Airport	Several Aircraft
Waukegan	USA	Regional Airport	Several Aircraft
Zürich	Switzerland	International Airport	Several Aircraft and Helicopter

FBO / MRO

ACC Columbia, Hannover & Cologne	Germany	Global & others
ACI Jet Center	USA	Several Aircraft
AERO Dienst, Nuremberg	Germany	FBO
Air Service Basel	Switzerland	G5, Global Express, Boeing 737
AirMec	Angola	MRO / Military Aircraft
Alpark SA	Switzerland	Several Aircraft
Atlantic Aviation	USA	
Business Jet Center	USA	
Alaska Airlines	USA	
Cannes	France	Several Aircraft and Helicopter
Centeravia		Several Aircraft
Chantilly Air	USA	
Constant Aviation	USA	
Duncan Aviation	USA	Several Aircraft
Dupage Aerospace	USA	
Firehawk Helicopters	USA	
First Wing Jet Center	USA	
Flying Group, Antwerpen	Belgium	Several Aircraft
Grand Air	USA	
Great Falls Jet Center	USA	
Hawker Pacific Asia Pte Ltd	Singapore	Several Aircraft
Jet Alliance Vienna	Austria	Several Aircraft
JetAviation, Dallas	USA	
JetAviation, Geneva	Switzerland	Several Aircraft
Legacy Jet Center, Tulsa	USA	Several Aircraft
MillionAir	USA	
Panaviatic Ltd	Estonia	Several Aircraft
Perth	Australia	FBO
Sapura Aero	Malaysia	Several Aircraft
Silk Way Airlines, Baku	Azerbaijan	Several Aircraft
Standard Aero	USA	
Starport Aviation	USA	Several Aircraft
Sundance Airport	USA	
Synergy Flight Center	USA	Several Aircraft
TACAir	USA	
Tarkim Air	Turkey	General Aviation
XJEt	UK	Several Aircraft
FAI Nürnberg	Germany	Several Aircraft
Executive Jet Service	Switzerland	Several Aircraft
Alpin Sky Jets	Switzerland	Several Aircraft
Aeroground Berlin GmbH	Germany	Several Aircraft
DC Aviation GmbH	Germany	Several Aircraft
Dedeman	Romania	Several Aircraft
Execujet New Zealand	New Zealand	Several Aircraft
Falcon Aviation Services	UAE	Several Aircraft
JetEx	UAE	Several Aircraft
Flying Service	Belgien	Several Aircraft
GCH Aviation	New Zealand	Several Aircraft
Hawker Pacific Asia Pte Ltd	Australia	Several Aircraft
Jet Flight Air Services	New Zealand	Several Aircraft
Japat AG	Switzerland	Several Aircraft
Luxembourg Air Rescue	Luxembourg	Several Aircraft
Volkswagen AG	Germany	Several Aircraft
ADAC Luftrettung	Germany	Skidded Helicopter

Aircraft Manufacturers

Airbus S.A.S., Hamburg	Germany	Spacer
Boeing	USA	Ridley Park (PA), Earth City (MO)
Bombardier, Montreal	Canada	Global Express Delivery Center
Dassault Aviation	France	Twin
EMBRAER S.A.S. José dos Campos	Brazil	Embraer 195, 190, 175, 170, KC 390
Gulfstream Aerospace	USA	Appleton (WI), Savannah (GA), West Palm Beach (FL), Dallas (TX), Mesa (AZ)
Korea Aerospace Industries Inc (KAI)	South Korea	
Lockheed	USA	Dallas (TX), Stratford (CT)

Nasa	USA	X-59 Supersonic
Pilatus Aircraft Ltd	Switzerland	PC 12 Maintenance & Delivery
Rosvertol PLC	Russia	Helicopter Production MI-series
Sikorsky	USA	
Turkish Aerospace Industries, Inc. (TAI)	Turkey	F 16 Fighter Maintenance Facility, Tiger Maintenance Facility
Xi'an Aircraft Company	China	Y 20

Corporate Flight Dept

Abbvie	USA	
ABP Food Group	Ireland	
Access Aviation	UK	
ACM	Chile	
ACSI Corporation	USA	
Aflac	USA	
Alpine Sky Jets	Switzerland	
American Colors International	USA	
Anglo American	South Africa	Agusta AW139, G5
C & P Aviation	USA	
Cargill	USA	
Caribbean Investor Group	USA	
CNH Industrial	The Netherlands	
Coca Cola	USA	
Columbia Pacific Management	USA	
Comcast	USA	Several Aircraft
Cook Canyon Ranch	USA	
Disney	USA	
Exelon Corp	USA	
Exxon Mobil	USA	
First National Bank	USA	
Harbert Aviation	USA	
Home Depot	USA	Several Aircraft
Indianapolis Colts	USA	
L-3	USA	Several Aircraft
McDonalds	USA	
Michelin	France	
Novartis AG (JAPAT AG), Basel	Switzerland	Global Express, EC 135
Occidental Petroleum	USA	
QuikTrip	USA	
Regions Financial Group	USA	
Statefarm	USA	Several Aircraft
Taxxas	USA	
The Boler Company	USA	
The CocaCola Company	USA	Several Aircraft
The Duchossois Group	USA	
TLS Aviation	USA	

Special Forces

Federal Police	Germany	Helicopter Super Puma, EC 155
Guardia di Finanza Rome	Italy	ATR

Government

Army Corp of Engineers	USA	Vicksburg (LA)
CalFire	USA	Sacramento (CA)
Dept of Energy	USA	Pasco (WA)
L3-Areomet	USA	Tulsa (OK)
Sultanat of Oman	Oman	Eurocopter Super Puma Fleet

Military

Brazil Navy	Brazil	Onboard Helicopter
California National Guard	USA	
CASSIDIAN Manching (EADS)	Germany	Tornado & Eurofighter
China Military	China	All kind of Aircraft, Helicopters
Colombian Air Force	Columbia	
Danish Army	Denmark	Challenger, Agusta EH 101, F 16
French Navy / Air Force	France	Rafale, Mirage 2000, Casa 235, NH 90,
German Navy	Germany	NH90
Israel Airforce	Israel	Alenia Aermacchi M-346 Master, F16
Korea Navy	South Korea	Onboard Helicopter
Pakistan Military	Pakistan	HELIMO for Helicopters with skids
Peru Navy	Peru	Helicopter on the BAP Pisco
South Korea Cost Guard	South Korea	Onboard Helicopter
Thailand Army	Thailand	
US Airforce (in England)	UK	F 15
US Army National Guard	USA	
Wisconsin National Guard	USA	
Venezuela Military	Venezuela	Helicopters with skids & with wheels

Airlines

Aegean Airlines	Greece	
Asiana Airlines	South Korea	
Air Nostrum, Líneas Aéreas del Mediterráneo S.A	Spain	
Alaska Airlines, Seattle	USA	BOEING 737 Family
British Airways	UK	AIRBUS 320 Series
HOP!	France	
Iberia, Líneas Aéreas de España S.A.	Spain	Spacer for BOEING and Airbus
Thomson/TUI, Luton	UK	BOEING 737 Family

Pushback

Allegiant Air	USA	
ANA – All Nippon Airways	Japan	
British Airways	UK	28 Machines at Heathrow T5
Changsha Huanga Airport	China	
DNATA	USA	JFK Airport, NY
Figari-Sud Corse Airport	France	
FRAport	Germany	Demo
Iberia	Spain	15 Machines at Madrid Barajas 15 Machines at Barcelona El Prat
JetBlue	USA	Demo
Rovaniemi Airport	Finland	Demo
TCR	UK	
WTS	USA	McCarren Airport, NV



FUELLED BY PASSION

Mototok was founded in 2003 by aviator and inventor Kersten Eckert together with his friend and business partner Thilo Wiers-Keiser.

The idea behind Mototok grew out of Eckert's own experience as a pilot. Moving an aircraft on the ground was cumbersome, time-consuming and dependent on several people. He was convinced there had to be a better way — safer, faster and more efficient.

That conviction led to the development of Mototok: a compact, fully electric, towbarless aircraft tug operated by remote control.

FROM AN IDEA TO A GLOBAL SOLUTION

Today, more than 1,800 Mototok tugs of all sizes are in operation worldwide. Their combination of electric drive, hydraulic and sensor-controlled aircraft handling, remote operation and connected diagnostics has made Mototok a specialist in compact towbarless aircraft movement.

At London Heathrow Terminal 5A alone, 28 Mototok units have completed 1.2 million pushbacks since 2017 — demonstrating the technology in one of the world's most demanding airport environments.

Continuous development remains at the heart of Mototok. Intelligent nosegear protection, automated loading, remote diagnostics and technologies such as Telepush continue the original idea that started it all:

Make aircraft ground movement simpler, safer and smarter.

Learn more about Mototok at **www.mototok.com**.

mototok
easy moving

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