








Airline Financial Benefits

Savings	(737NG Example)	Per Flight	Per Year
	Fuel saved during ground taxi – the advantage of keeping the engines off, and just running the APU. Assume fuel @ \$2.24/gallon.	\$101	\$163,620
	Time saved starting pushback	>10 secs	\$66/min*
	Risk of missing take-off slot	X secs	
	Pushback errors	Y secs	
	First Morning Flight: WheelTug aircraft don't have to be at the gate -- they can be at the runway when the noise curfew ends!	5 mins	
	End of pushback to start of forward roll (tug disconnect, engine start, etc.)	90-150 secs	
Total savings / flight (conservative assumption)	120 secs	\$132	\$213,840
	DIRECT costs: Engine repair, blade blending, etc.	\$22*	\$35,640
	INDIRECT costs: Delays, reduced in-flight fuel efficiency, insurance, etc.	\$88**	\$142,560
	No pushback: Reduction in ground personnel requirements, eliminating the tractor, insurance, maintenance, etc.	\$25	\$40,500
	NO INCREASE IN NET FLYING WEIGHT: Due to reduction in taxi margin fuel	\$0	\$0
	Greatly reduced brake use: Brakes are not constantly resisting engine thrust.	\$15	\$21,300
Total	Quantified Dollar Savings	\$383	\$620,460


* Source: GE Aviation, 2005
** Source: Insight SRI and the FAA

WheelTug Partners


Inverter in E&E Bay

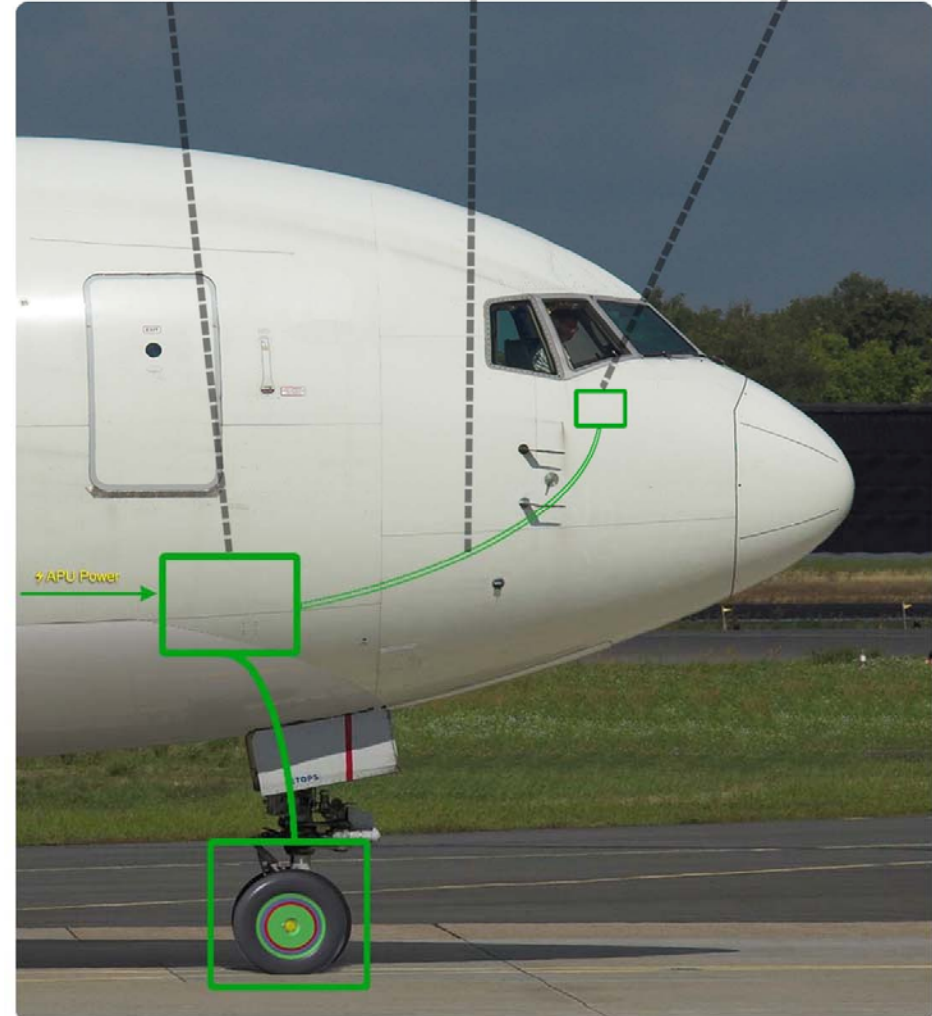


Wire Harness




Thumbwheel, Switch and Lights







Airport Operations



Aircraft for Testing



Custom Gearing








Risk-sharing component partners are AS9100 compliant, and have long and distinguished track records in providing quality aerospace components.

WheelTug is being designed for rapid retrofit on legacy aircraft, allowing fleet upgrades during overnights, with no time out of service.

Deliveries to commence in early 2012.

Passenger Benefits and Beyond

	Much less fuel is burnt, resulting in less pollution. On a single B737-800, for example, WheelTug will save over 600,000 lbs of fuel (and eliminate over 1.9 million lbs of CO2 emissions) <u>annually</u> .
	Engines won't be running on the ground until the aircraft is close to the runway, so the entire flying experience will be more pleasant.
	Ground personnel and passengers boarding from the tarmac will be safer, because engines won't be running anywhere people are walking.
	WheelTug will save several minutes each and every flight, helping everyone reach their destinations on time.
	No more tug-related accidents or delays, leading to more on-time departures and arrivals.

Acceleration Performance

