

Terminal Tractor/Yard Spotter

Used Yard Spotter Downey - Tow tractors, also called tow tugs or towing tractors are popular for moving loads horizontally in airports, arenas, warehouses, manufacturing plants and other large buildings. Tow tractors are responsible for moving multiple trailers in a train. Some are designed specifically to tow large aircraft in order to position them into and out of airport terminals and hangars. All tow tractors use the concept of tractive effort to move loads. The complete amount of traction a vehicle utilizes on the ground. Heavier loads require more tractive effort compared to lighter loads. The unit works by lifting a part of the load while it is towing; however, the load's wheels stay on the ground. The tractive effort is increased by the unit's hydraulic mast. This has been engineered to produce downforce on the drive wheel directly under the mast. Traction allows the machine to deliver very large and heavy loads. Types of Tow Tractors Two types of towing tractors include heavy-duty tow tractors and load carriers. Load Carriers Industries such as e-commerce, manufacturing, and airport baggage and parcel systems must regularly move many individual and varying sized items to or from a single location. Tow tugs and load carriers easily transport single items that have been deposited on wheeled platforms and move them with ease. Load carrier tow tractor models are categorized in the material handling equipment that covers cranes, forklifts and pallet jacks. Load carrier tow tugs do not transport items from high places such as shelves or platforms. They only move cargo at ground level. This means that the load has already been on wheels or placed on a wheeled platform before transport. Wheeled platforms are called skates, trollies and bogies. The tow tractor joins to the trolley and functions similarly to a train locomotive. Usually, the tow tug has a male-end steel coupling that couples to the female-end fixed to the front of the trolley. Trollies move in a train-like system thanks to the male-end steel coupling on the back which can connect to numerous units and allow a single tug to transport them. These machines can transport a variety of items in varying conditions. Different trolley types are on the market to facilitate better transportation customization. Most trollies types are compatible with each other, meaning they can be connected together. Since multiple trolley types can be utilized in a single train, there is flexibility. An additional benefit of operating with load carrier tow tractors as opposed to forklifts is the unobstructed view offered by a tow tractor, increasing the safety of work areas. Load carrier tow tractors transport trollies in a forward direction which decreases the safety concerns common with reverse forklift operations. This is vital for safety-sensitive places including airports and manufacturing facilities. Towing solutions are a good alternative to traditional forklifts to handle many single items. Tugs are easy to move and safe to use. One benefit of these tow tugs is that an operator usually does not require a license. Tow tractor operators do not need licenses since they don't lift loads off of the ground. There are three kinds of load carrier tow tractor units to choose from; pedestrian, stand-in and rider-seated. Pedestrian Tow Tractors Pedestrian tow tractors go by many names including electric tow tractor, electric tug, or electric tugger. These units are walk-behind models that move wheeled loads. It is compact, maneuverable and easy to use. Stand-in Tow Tractors Stand-in tow tractors are the most popular design for industries that involve order picking and horizontal transport in manufacturing. They provide a secure platform for the driver to operate while still having a smaller footprint than that of the rider-seated tow tractors. Rider-Seated Tow Tractors Rider-seated tow tractors are similar to stand-in models except they offer a seated platform for the operator. These models are commonly used for transporting loads over farther distances such as moving checked baggage from the airport check-in to the aircraft at the terminal. These rider-seated options help to decrease driver fatigue allowing for greater efficiency. Heavy Duty Tow Tractors Aviation relies on the pushback concept for moving big passenger and cargo aircraft. Pushback refers to the process of pushing an aircraft back from an airport terminal by some means other than the aircraft's own power. Heavy-duty tow tractors are known as pushback tugs or pushback tractors complete this task. Pushback tugs feature a low-profile enabling them to travel under the aircraft's nose for easy attachment. Since the aircraft weight is heavy, these units need to be heavy in order to retain

adequate ground friction to move the aircraft. A common tractor for moving large aircraft can weigh in up to fifty-four tons. Their driver's cab has the ability to be lowered and raised for increased visibility during reversing. The pushback tow tractor and pushback tug are also employed when taxiing the aircraft is not an option. They are commonly used to move the machine into and outside of aircraft maintenance hangars. The two subtypes of pushback tow tractors include conventional tow tractors and towbarless tow tractors.

Conventional Pushback Tow Tractors Conventional tugs use a tow bar to connect the tug to the nose landing gear of the aircraft. The tow bar is laterally fixed at the nose landing gear; however, it is possible to make height adjustments with slight vertical movements. The tow bar that attaches to the tug can pivot vertically and laterally. Acting like a giant lever, the tow bar can rotate the nose landing gear. Every aircraft has a special tow fitting and the towbar functions as an adapter between the fitting on the landing gear and the standard-sized tow pin. Heavy towbars have their own wheels for big aircraft and can ride on these wheels when disconnected from planes. The wheels are attached to a hydraulic jacking mechanism which can lift the towbar to the correct height to mate to both the airplane and the tug, and once this is accomplished the same mechanism is used in reverse to raise the tow bar wheels from the ground during the pushback process. The towbar is capable of being connected at the tractor's rear or front, depending on if the machine needs to be pulled or pushed. Depending on whether the aircraft needs to be pushed or pulled, the towbar can be attached to the front or rear of the tractor.

Towbarless Pushback Tow Tractors Towbarless tractors, as their name suggests, don't rely on a towbar. Instead, these machines scoop up the nose landing gear to lift it off of the ground so the tug can move the plane. This allows better control of the aircraft and higher speeds; it may also eliminate the need to have a worker in the cockpit to apply the aircraft's brakes. As there is no need to maintain numerous towbars, simplicity is the main advantage of this unit. Greater control and responsiveness while moving the aircraft is achieved with this direct connection of the tug to the landing gear.