

Terminal Tractor/Yard Spotter

Used Yard Spotter Orange - 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. They are capable of towing several trailers in a train formation. Some are designed specifically to tow large aircraft in order to position them into and out of airport terminals and hangars. Tractive effort is how these machines transport loads. Tractive effort is the amount of traction a unit has on the ground. The heavier the load is, the more tractive effort is needed. The tow tractor lifts a portion of the load during towing while ensuring the wheels on the load still remain on the ground. The hydraulic mast on the tow tractor is responsible for lifting the load. It produces downforce on the drive wheel underneath to increase the tractive effort. The tow tractor is capable of transporting very heavy and large loads thanks to the traction it provides. Types of Tow Tractors Heavy-duty tow tractors and load carriers are two types of tow tractors. 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. The wheeled platforms are called bogies, trollies or skates. The tow tug is attached to the trolley similar to train cars being attached to a locomotive. Typically, the tow tug features a steel coupling male-end that attaches to a female-end on the trolley's front. The back of the trolley has a male-end steel coupling that can then be used to attach multiple trollies onto a single tow tug, transporting all the trollies in a train-like formation. These machines can transport a variety of items in varying conditions. The availability of many different types of trollies also allows for greater customization in transporting items. Trollies can connect together and are compatible. Different kinds of trollies can be maneuvered in a single train, creating flexible transport options. A key benefit of using a load carrier tow tractor is that operators can enjoy a clear view instead of relying on forklifts. Further, load carrier tow tractors tow their trollies behind them in a forward-only direction which decreases the safety concerns created by forklifts operating in reverse. 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 subtypes of load carrier tow tractors: 1. Pedestrian; 2. Stand-in; and 3. 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 Popular for industries that conduct order picking and horizontal transport for manufacturing, the stand-in tow tractors are the best design. These units deliver a secure driver platform and deliver a smaller footprint compared to the rider-seated models. Rider-Seated Tow Tractors Similar to stand-in tow tractors, rider-seated units have a seated operator platform. These types of load carrier tow tractors are popular where loads are transported over longer distances, such as airport baggage systems where checked baggage is transported from the check-in counter at the front of an airport to the aircraft at the terminal, often a great distance from one another. Rider fatigue is decreased with sit-down units for more efficiency and productivity. Heavy Duty Tow Tractors The pushback concept is commonly used in aviation for cargo and large passenger planes. Pushback is the process of pushing an aircraft back from the terminal by means not originating from the aircraft's personal power. This pushback process is done by using specially designed heavy duty tow tractors called pushback tractors or pushback tugs. Pushback tugs feature a low-profile

enabling them to travel under the aircraft's nose for easy attachment. Enough ground friction is required to move the weighted aircraft, so these models need to be heavy themselves. 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. While the vehicle is referred to as a pushback tug or pushback tow tractor, it is also used to tow aircraft in areas where taxiing the aircraft is not practical or safe, such as moving large aircraft in and out of maintenance hangars. The pushback tow tractors come in two subtypes, the towbarless and the conventional. Conventional Pushback Tow Tractors These units use a tow bar to attach the tug to the nose landing gear on 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. The tow bar functions as a sizeable lever to facilitate nose landing gear rotation. 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. On heavy towbars for large aircrafts, the towbar rides on its own wheels when not connected to an aircraft. The hydraulic jacking mechanism is attached to the wheels, allowing the towbar to lift to the correct height in order to mate with the tug and the aircraft. The same means are used in reverse during the pushback process to raise the towbar wheels from the ground. 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 do not use a towbar; they scoop up the nose landing gear and lift it off the ground, allowing the tug to maneuver the aircraft. This offers better control and higher speeds while eliminating the requirement of having a worker stationed in the cockpit to put the brakes on. 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.