

Terminal Tractor/Yard Spotter

Used Yard Spotter South Dakota - 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 hangers. Tractive effort is how these machines transport loads. Tractive effort refers to the total amount of traction a vehicle deploys on the ground. Tractive effort says that the heavier the load, the more tractive effort is required. 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. Traction allows the machine to deliver very large and heavy loads.

Types of Tow Tractors There are two basic types of tow tractors: 1. Load carriers; and 2. Heavy-duty tow tractors; Load Carriers Numerous businesses need to transport items of different sizes on a regular basis including manufacturing, parcel delivery services and airport baggage. Tow tugs or load carrier tow tractors are excellent for these jobs as they can maneuver single items stacked on wheeled platforms for streamlined transport. These load carrier tow tractors fall under the material handling equipment industry which includes other machines such as pallet jacks, forklifts and cranes. These units only transport loads at ground level and do not lift or lower items from shelving or off the ground. Therefore, the load must already be on wheels or on a wheeled platform, ready to be transported. Bogies, skates and trollies are other names for wheeled platforms. The tow tug is attached to the trolley similar to train cars being attached to a locomotive. Usually, the tow tug has a male-end steel coupling that couples to the female-end fixed to the front of the trolley. 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. Tow tractors are capable of moving many machines in a variety of conditions. Different trolley types are on the market to facilitate better transportation customization. Many trollies can be connected since they are compatible with one another. This means several different types of trollies can be used in a single train allowing greater flexibility for operations. A key benefit of using a load carrier tow tractor is that operators can enjoy a clear view instead of relying on forklifts. Load carrier tow tractors transport trollies in a forward direction which decreases the safety concerns common with reverse forklift operations. This design is excellent for locations that have a high level of safety such as manufacturing locations and airports. 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. No license is necessary since these units do not lift loads up from the ground like cranes, and forklifts that require licensing. There are three kinds of load carrier tow tractor units to choose from; pedestrian, stand-in and rider-seated. Pedestrian Tow Tractors A walk-behind model that can transport wheeled loads is called a pedestrian tow tractor. These machines may go by the names of electric hand tug, electric tugger, electric tug or tow tractor. These compact machines are simple to use and can maneuver easily. Stand-in Tow Tractors The most common design for businesses that rely on horizontal manufacturing transport and order picking are stand-in tow tractors. Stand-in tow tractors feature a tinier footprint compared to rider-seated editions and they offer a safe driver platform. Rider-Seated Tow Tractors The rider-seated tow tractors are similar to the stand-in tow tractors with the exception they provide a seated platform for the driver. Rider-seated models are used for moving loads longer distances. They are popular for airport luggage transport to move checked baggage from the check-in counter to the aircraft parked at the terminal. Rider fatigue is decreased with sit-down units for more efficiency and productivity. 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. This pushback process is done by using

pecially designed heavy duty tow tractors called pushback tractors or pushback tugs. Pushback tractors are built with a low-profile to allow them to move underneath the nose of the aircraft so that it can attach. Because of the added heavy weight of the aircraft, these tow tractors must be heavy enough to retain enough traction on the ground in order to move the aircraft. A typical tractor for large aircraft weighs up to 54 tons. They usually have a driver's cab that can be raised and lowered to increase visibility when 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. There are two subtypes of pushback tow tractors: 1. Conventional; and 2. Towbarless. Conventional Pushback Tow Tractors Conventional units rely on a tow bar to connect the tug to the aircraft's nose landing gear. 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 is able to pivot vertically and laterally at the end that connects to the tug. 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-duty towbars required for sizeable aircraft ride on their own wheels when they are disconnected from the machine. 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, 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. Simplicity is the main advantage of the towbarless tugs since it is not necessary to maintain a variety of towbars. Directly connecting the tug to the landing gear allows operators to have better responsiveness and control while moving the aircraft.