

## Terminal Tractor/Yard Spotter

Used Yard Spotter Alberta - Tow tractors are a common piece of industrial equipment used in large buildings, arenas, warehouses, airports and manufacturing plants for moving loads horizontally. They go by different names including tow tugs and towing tractors. 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. The tractive effort concept is how loads move from place to place. Tractive effort is the amount of traction a unit has on the ground. Tractive effort says that the heavier the load, the more tractive effort is required. The unit works by lifting a part of the load while it is towing; however, the load's wheels stay on the ground. The load is partially lifted by use of the tow tractor's hydraulic mast which is specifically designed to produce downforce on the drive wheel immediately beneath it, increasing the tractive effort. 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 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. The category that load carrier tow tractor models fall into includes forklift trucks, cranes and pallet jacks. Load carrier tow tugs transport loads at ground level only, rather than lifting or lowering off the ground or from shelving or other hard to reach areas. 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 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. The trolley's back portion has a male-end steel coupling that can be used to connect a variety of trollies to a single tug. 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. Additionally, load carrier tow tractors move their units in a forward-only way and this drastically decreases safety concerns associated with forklifts traveling in reverse. These safety considerations are of special importance in busy areas such as manufacturing floors and airports. It is more economical to tow multiple items when possible with a tug than using a forklift truck to transport single items. They are safe and easy to maneuver. The operator doesn't require a license, which is another benefit compared to forklifts. 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

A pedestrian tow tractor, also referred to as an electric tug, electric tugger, electric hand tug or tow tractor, is a walk-behind machine designed for easy movement of 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. 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. 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. These rider-seated options help to decrease driver fatigue allowing for greater efficiency.

### Heavy Duty Tow Tractors

In the aviation industry, large passenger and cargo planes usually employ the concept of pushback. 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 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. Laterally attached to the nose landing gear, the tow tractor can make certain slight vertical height adjustments if needed. 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. Attached to the wheels, the hydraulic jacking mechanism allows the towbar to lift to the proper height to mate with the aircraft and tug. The same mechanism is employed in reverse to raise the towbar wheels off the ground for pushback. 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 design facilitates higher speeds greater aircraft control and can eliminate the necessity of having a worker inside of the cockpit to apply the 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.