TOWBAR INFO SHEET

TOWBARS

Conventional tugs use a tow bar to connect the tug to the nose landing gear of the aircraft.

The tow bar is fixed laterally at the nose landing gear, but may move slightly vertically for height adjustment. At the end that attaches to the tug, the tow bar may pivot freely laterally and vertically. In this manner the tow bar acts as a large lever to rotate the nose landing gear.

Each aircraft type has a unique tow fitting so the tow bar also acts as an adapter between the standard-sized tow pin on the tug and the type-specific fitting on the aircraft's landing gear.

The tow bar must be long enough to place the tug far away enough to avoid hitting the aircraft and to provide sufficient leverage to facilitate turns.

On heavy tow bars for large aircraft the tow bar rides on its own wheels when not connected to an aircraft.

The wheels are attached to a hydraulic jacking mechanism which can lift the tow bar 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 tow bar can be connected at the front or the rear of the tractor, depending on whether the aircraft will be pushed or pulled.

The tow bar has a shear pin which prevents the aircraft from being mishandled by the tug; when overstressed the shear pin will snap, disconnecting the bar from the nose gear to prevent damage to the aircraft and tug.

Depending on the aircraft type and airline procedure, a bypass pin may be temporarily installed into the nose gear to disconnect it from the aircraft's normal steering mechanism.

Once the pushback is completed, the towbar is disconnected, and the bypass pin is removed. The ground handler will show the bypass pin to the pilots to make it clear that it has been removed.