

# TUG TECHNOLOGIES

## Providing Ground Support Solutions Worldwide



Model shown above includes additional options.

## TUG GT110 Aircraft Gate Tractor

With over 20 years of airline service, TUG's tractors are proven performers. The GT-110 is the largest tractor available and it is the ideal tractor to handle pushback and towing requirements for all wide-body aircraft (except A380). Utilizing the newest manufacturing technology, and a wealth of tractor-building experience, the GT-110 provides our customers with reliability and guarantees satisfaction. The combined efforts of TUG and other major OEMs have established the GT-110 as the tractor of choice for customers that want to lower engine noise levels, lower harmful emissions, improve fuel economy and eliminate heavy diesel smoke. The GT-110's coordinated, track or crab steering can be selected to provide optimum maneuverability in tight places and ensure aircraft safety. All of these important needs are met while simultaneously providing up to 78,000 pounds of drawbar pull.

**Equipment Sales**  
Tel: (770) 422-7230  
Fax: (770) 428-7315

**Parts Sales**  
Tel: (800) 989-8499  
Fax: (770) 422-8730

**Online**  
[www.tugtech.com](http://www.tugtech.com)

*Standard features include:*

- 3-Mode steering (coordinated, track, crab)
- Downshift inhibitor
- Out of neutral, parking brake "ON" alarm
- Upper-surface access steps
- Sealed-beam halogen headlights
- Backup lights
- Turn signals/ side marker/ Emergency flashing lights
- Dual-view rearview mirrors
- Electric horn
- Fuel water separator
- Automatic lube system
- Engine glow plugs for cold-start aid
- Front and rear communication jacks
- Two removable jacking plate Adapters
- Auxiliary transmission cooler
- Anti-skid matting on top of tractor



*If it doesn't say TUG, it's not TUG TUFF*

## Specifications

## Model GT110

## Aircraft Tow Tractor

### General

Gross Vehicle Weight (gvw) ..... Maximum Drawbar Pull\*  
At gvw 90,000 lb (40,824 kg) ..... 72,000 lb (32,659 kg)  
At gvw 100,000 lb (45,360 kg) ..... 78,000 lb (35,380 kg)  
At gvw 110,000 lb (49,895 kg) ..... 78,000 lb (35,380 kg)  
At gvw 120,000 lb (54,432 kg) ..... 78,000 lb (35,380 kg)  
\* At 0.8 traction coefficient.  $\pm 3\%$  variation on published drawbar pull and weight, owing to manufacturing tolerances.

### Speed

Forward  
1st ..... 2.1 mph (3.4 km/h)  
2nd ..... 5.2 mph (8.4 km/h)  
3rd ..... 12.4 mph (20 km/h)  
4th ..... 15 mph (24.1 km/h)  
Reverse - same as above, but without 3rd and 4th gear.

### Overall Dimension

Length\* w/o Hitches ..... 258" (6,553 mm)  
w/Standard Hitches ..... 285" (7,239 mm)  
w/GPU-and Standard Hitches ..... 342" (8,687 mm)  
Width ..... 110" (2,794 mm)  
Height Over frame ..... 68" (1,727 mm)  
Standard Stationary Cab ..... 81.5" (2,070 mm)  
Lifting Cab 65.5" to 93" (1,664 mm to 2,362 mm)  
Wheelbase ..... 124" (3,150 mm)  
Ground Clearance (Nominal) ..... 8.5" (216 mm)  
Length will vary with hitch selection.

### Turning Radius (Four-Wheel Coordinated Steer)

Minimum Inside ..... 96" (2,438 mm)  
Minimum Outside ..... 260" (6,604 mm)

### Ramp Angles

Approach Angle ..... 7.0°  
Breakover Angle ..... 12.0°  
Departure Angle ..... 17.0°  
Departure Angle w/GPU/RO platform ..... 8.0°

### Engine - Certified Tier III

Manufacturer ..... Deutz Model TCD 2013 L6 2V  
Type ..... Water-cooled, diesel, four-cycle  
Number of Cylinders ..... Six (6)-cylinder; in-line  
Displacement ..... 433 C.I.D. (7.1L)  
Horsepower@ Flywheel ..... 268 hp (200 kW) @ 2300 rpm  
Maximum Torque ..... 774 ft lb @ 1500 rpm  
Fuel Injection ..... Common Rail  
Aspiration ..... Turbocharged, charge air-cooled

### Transmission

Manufacturer ..... ZF  
Type ..... Torque Converter/Powershift  
Speeds ..... Four (4) forward; two (2) reverse  
Control ..... Electric shift with downshift inhibitor

### Axles

Manufacturer ..... Meritor (Rockwell International)  
Type (Front and Rear) ..... Planetary-drive and steering w/high traction differential  
Tires ..... 16.00x25  
Suspension ..... Front, rigid; Rear, trunnion  
Interaxle Differential ..... Integral with transmission  
Type ..... Bias (proportional)

### Brakes

Service Brakes ..... Hydraulic power braking system w/dual accumulator backup. Disk brakes on the four wheels. Brakes on each axle are actuated through 1 of the 2 independent service brake circuits.  
Parking Brakes ..... Spring-applied, hydraulically released calipers on each axle pinion.

### Hydraulic System

Hydraulic Pump ..... Engine-driven, providing hydraulic power for steering & braking  
Type ..... Piston  
Capacity ..... 40 gpm (152 L/min) @ 2300 rpm  
Hydraulic Oil Tank  
Type ..... Removable  
Capacity ..... 30 U.S. gallons (113 L)  
Steering Type ..... Closed center hydraulic power steering system. Three mode steering with electrical selection of front 2-wheel, 4-wheel coordinated or 4-wheel crab.

Emergency Steering ..... Provided by 12VDC motor-driven hydraulic pump

### Electrical System

Voltage ..... 12V  
Alternator ..... 150A  
Batteries (2)  
Type ..... Heavy-duty diesel starting  
Cranking Capacity (ea.) ..... 925A

### Fuel System

Capacity ..... 65 U.S.-gallons (246 L)  
Fuel ..... No. 2 Diesel (Jet-A approved)

### Hitches

Front and Rear - Standard  
Type ..... Pin coupler  
Height ..... 16" (406mm)  
Pin diameter ..... 2.5" (63.5 mm)

Front and Rear - Optional

Type ..... Cushioned, pin coupler  
Height ..... 16.0" (406mm)  
Pin diameter ..... 2.5" (63.5 mm)  
\* Hitches include automatic pin retainers.

### Capacities

Hydraulic Oil ..... 30 U.S. gallons (removable tank)  
Engine Coolant ..... 25.4 quarts  
Engine Oil ..... 22.2 quarts  
Transmission Fluid ..... 8 gallons  
Fuel ..... 65 U.S. gallons  
(No. 2 Diesel Jet-A-approved)

### Standard Front Operator Instrument Panel

Speedometer with odometer · engine tachometer/hour meter · engine diagnostic reader · engine diagnostic light · fuel indicator with low fuel level warning light · voltmeter · keyless, anti-restart ignition/shutdown switch · emergency engine shutdown switch · light switches · blue high-beam indicator light · red parking brake "ON" warning light · turn signal/ hazard indicator lights · glow plug "ON" indicator light · alternator "NO CHARGE" indicator light · warning lights and audible alarm for engine L.O.P., H.C.T. and transmission H.O.T. · parking brake switch · steering mode selector switch · system pressure gauge · emergency steering switch · intercom jacks

### Optional Equipment

Full-width elevating cab with front hitch mirror or stationary front cab · open front operator compartment · rear operator compartment with GPU platform · backup alarm · battery disconnect · amber safety beacon · rear viewing camera · cold-weather options · fire extinguisher · fire suppression system · integral internal GPU cable · GPU installation · front and rear hitch lights · hydraulic self-jacking system · spare tire and wheel assembly · tire chains · custom paint schemes · cab air conditioning · other options available · automatic lube system

### Features of Optional Front Cab

Removable doors with door retainers · sliding door windows/rear windows · roof windows with driver's side wiper · ventilating fans (2) · front windshield wipers and washers · adjustable, padded driver's seat · two-man, padded passenger seat with storage compartment · heater-defroster · dome light · audible alarm while raising/lowering cab

### Features of Optional Rear Operator Compartment

Operator station selection switch · dual rearview mirrors · (if open cab) standing position driver's seat · (if closed cab) driver's bucket seat and passenger bench seat · electric shift control with downshift inhibitor and out of neutral · park brake "ON" alarm · park brake switch · rear headlight switch · emergency engine shutdown switch · steering mode selector switch · emergency steering switch · alternator "NO CHARGE" indicator light · warning light for engine and transmission faults



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Specifications are subject to change without notice.  
Models shown may include optional features.

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