

TUG TECHNOLOGIES

Providing Ground Support Solutions Worldwide



Model shown above includes additional options.

TMD/TRD-250 Aircraft Air Start Unit

The TUG Model TMD-250 air start unit represents our 250 ppm variant of our family of air start units. Designed from a clean sheet of paper, these units offer lower operating costs and decreased environmental impact. The TMD-250 unit will handle the engine starting needs of all wide-bodied aircraft engines requiring 250 ppm of continuous airflow with the exception of the B-777.

One of the many standard features of the TMD-250 Air Start unit is the dual-pressure regulators with an "On-Demand" automatic engine throttle control system. The operator simply selects either the air start or the air packs mode and the control system automatically adjusts the pressure and throttle settings. Benefits of the "On-Demand" system include fuel economy, decreased maintenance, and noise control.

Safety, reliability, and maintainability are key ingredients of our design; decades of experience with both commercial and military GSE provide practical and efficient products. Standard features such as large access doors, remote lube oil drains, and maintenance-free batteries ensure ease of service. These exceptional features, combined with our famous worldwide parts and support make the TMD-250 air start unit the best choice for your operations.

50% - Quieter Operation

Improved operator environment and lower operational overall ramp noise level.

95% - Parts Commonality

Our air start units share running gear, body, burning with consumables, and electrical components.

10% - Smaller Package

Enhanced maneuverability and safety.

8% - More Fuel Efficient

Fuel efficiency and cleaner electronically controlled four-cycle engine, ensuring lower life-cycle cost and logistics requirements.

Equipment Sales

Tel: (770) 422-7230

Fax: (770) 428-7315

Parts Sales

Tel: (800) 989-8499

Fax: (770) 422-8730

Online

www.tugtech.com

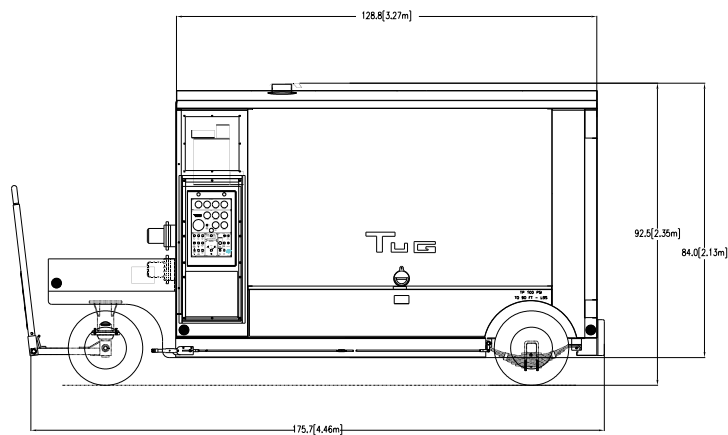
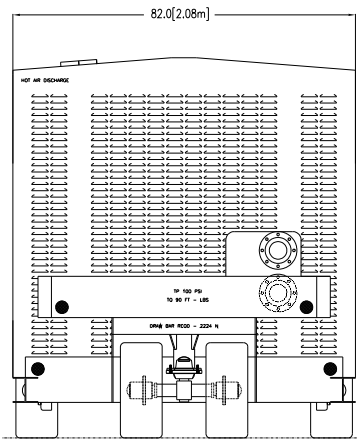
www.tugparts.com

Standard features include:

- Dual discharge air outlet with manual shutoff valves
- Automatic discharge air pressure safety relief system to protect aircraft
- Discharge hose manual bleed-down valve
- On-Demand automatic engine throttle control
- Leaf spring rear suspension
- Remote lube oil drains
- Maintenance-free batteries
- Large full-length "gullwing" module access doors
- Engine lube oil magnetic sump plug
- Sound and vibration dampening material
- Illuminated operator control panel with complete gauge set
- Rust proof engine/compressor heat exchanger
- Pitched roof



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



Specifications: Model TMD/TRD-250 Aircraft Air Start Unit

General

Vehicle type.....Continuous-flow, turbine engine air starter
 Application.....All wide-body aircraft engines with exception of B-777 with GE90 engines

Engine

Manufacturer.....**Cummins Diesel**
 Model.....QSX15
 Horsepower.....535 HP (398 kW)

Manufacturer.....**Detroit Diesel**
 Model.....Series 60 14 liter DDEC IV ECM
 Type.....6-cylinder, direct injection, four-cycle, turbocharged
 Horsepower.....630 HP (470 kW)

Compressor

Manufacturer.....GHH-RAND
 Model.....CD42S (single element)
 Type.....Rotary dry screw oil free air
 Output at 68 °F (20 °C) 60% RH, sea level.....250 lb./min. (113 kg./min.)
 Discharge air temperature.....390 °F (200 °C) nominal

Engine and Compressor Protection System

Operating conditions below are factory set for operator warning and/or automatic shutdown in "UNLOAD" and "AIR PACK" mode only. All safety shutdowns are inoperative in "JET START" modes with the exception of a manual operator emergency stop.

Engine high coolant temperature.....217 °F (103 °C)
 Engine low oil pressure.....10 psig (69 kPag)
 Compressor high air temperature.....450 °F (232 °C)
 Compressor high oil temperature.....176 °F (80 °C)
 Compressor low oil pressure.....10 psig (69 kPag)

Aircraft Protection System

Discharge air regulating valve.....42 psig (289 kPag)
 Discharge air safety valve.....52 psig (359 kPag)

Electrical System

Starting System.....24V DC
 Alternator.....70A
 Batteries.....Maint. Free 750CCA

Dimensions and Weights

	TMD-250 (trailer mounted)	TRD-250 (truck unit)
Length.....	175.7" (4.5 m)	129" (3.3 m)*
Width.....	82" (2.1 m)	82" (2.1 m)*
Height.....	92.5" (2.4 m)	82" (2.1 m)*
Weight (dry).....	12,600 lbs. (5,590 kg)	11,600 lbs. (5,273 kg) plus truck GVW

* Overall dimensions vary by truck manufacturer.

Standard Instrumentation Panel

- Tachometer
- Fuel Pressure (Detroit Diesel engine only)
- Water temperature
- Engine oil pressure
- Panel-mounted electric- and tank-mounted mechanical fuel level gauges
- Voltmeter
- Air output temperature
- Air output pressure
- Compressor oil temperature
- Compressor oil pressure
- Safety warning and shutdown indicators

Automatic Control System

- Demand air throttle control
- Dual-pressure regulation
- Engine protection warning lamps and unit shutdown for high coolant temperature, low engine oil pressure
- Compressor warning lamps and unit shutdown for high compressor oil temperature, low compressor oil pressure and high output air temperature.

Partial List of Options

- Truck mounting (TRD) or Skid mounting (SKD)
- 30', 40', 50' & 60' air discharge hoses (includes ground air connector)
- Unit-running beacon / Low fuel level warning beacon
- Low fuel shutdown circuit
- Engine and/or compressor filter indicators
- Engine coolant - Engine lube oil - Compressor lube oil / Battery heater circuits
- Heated fuel filter
- Manual fuel prime pump (Detroit Diesel engine only)
- Rub rails
- General mechanics tool set
- Fire extinguisher
- Wheel chocks
- Maximum sound attenuation kit
- Low ambient start kit to -40 °F
- Warm-up relay (Cummins engine only)



Equipment Sales

P.O. Box 3028 • Kennesaw, GA 30156 USA
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TUG Genuine Parts

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