

# Aircraft Support Equipment



## Aircraft Air Start Unit Model TMD/TRD-150/180

The Stewart & Stevenson Model TMD-150 and 180 air start units represent our 150 and 180 ppm variants of our all new family of air start units. Designed from a clean sheet of paper, these units offer lower operating costs and decreased environmental impact. The TMD-150 unit will handle the engine starting needs of all standard-bodied aircraft engines requiring 150 ppm of continuous airflow. The TMD-180 is designed to meet the engine-starting requirements of the DC-10.

One of the many standard features of the TMD-150 and 180 Air Start units are 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-150 and 180 air start units the best choice for your operations.

### **50% - Quieter Operation**

Improved operator environment and lower overall ramp noise level.

### **95% - Parts Commonality**

Our air start units share running gear, body, consumables, and electrical components ensuring lower life-cycle cost and logistics requirements.

### **10% - Smaller Package**

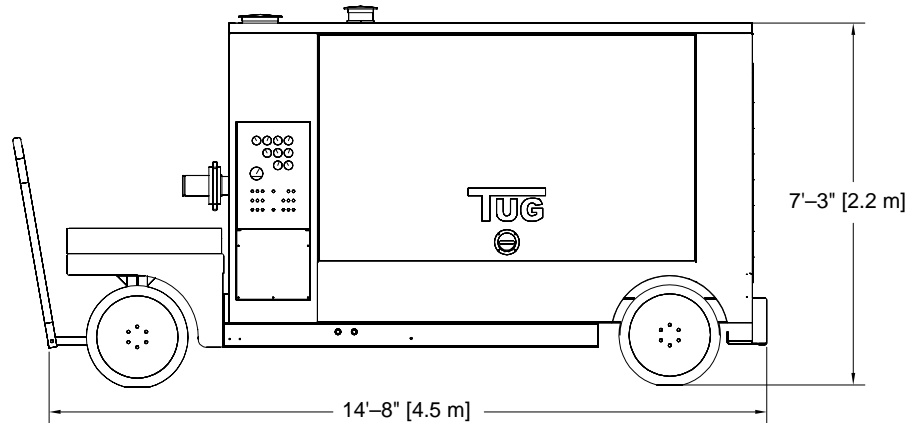
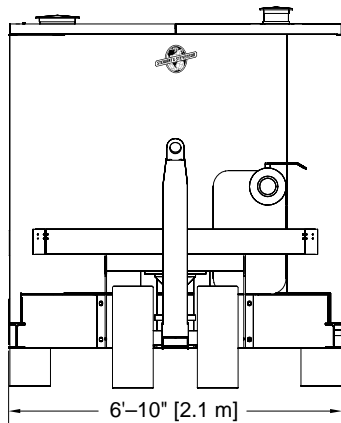
Enhanced maneuverability and operational safety.

### **8% - More Fuel Efficient**

Fuel efficiency and cleaner burning with electronically controlled four-cycle engine.

### Standard features include:

- Single discharge air outlet with manual shutoff valve
- 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
- Corrosion resistant fuel tank
- 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



## Specifications Model TMD/TRD-150/180

### General

Vehicle type ..... Continuous-flow, turbine engine  
air starter  
Application ..... All standard-body aircraft  
engines  
TMD-180 ..... DC10

### Engine

Manufacturer ..... Detroit Diesel  
Model ..... Series 60 12.7 liter DDEC IV  
ECM  
Type ..... 6-cylinder, direct injection,  
four-cycle, turbocharged

### Horsepower

TMD-150 ..... 425 bhp(317kW)  
TMD-180 ..... 500 bhp(373kW)

### Compressor

Manufacturer ..... GHH-RAND  
Model ..... CD26S (single element)  
Type ..... Rotary dry screw oil free air  
Output at 68°F (20°C) 60% RH, sea level  
TMD-150 ..... 150lbs./min. (68 kg./min.)  
TMD-180 ..... 180lbs./min. (82 kg./min.)  
Discharge air temperature 450°F (232°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  
..... 502°F (261°C)  
Compressor high coolant temperature  
..... 176°F (80°C)  
Compressor low coolant pressure  
..... 10 psig (69 kPag)

### Aircraft Protection System

Discharge air regulating valve  
..... 42 psig (290 kPag)  
Discharge air safety valve  
..... 50 psig (345 kPag)

### Electrical System

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

### Dimensions and Weights

	TMD-150/180 (trailer mounted)	TRD-150/180 (truck unit)
Length	14'-8" (4.5 m)	10'-9" (3.3 m)*
Width	6'-10" (2.1 m)	6'-10" (2.1 m)*
Height	7'-3" (2.2 m)	6'-10" (2.1 m)*
Weight(dry)	12,300 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  
Water temperature  
Engine oil pressure  
Panel-mounted electric and tank mounted  
mechanical fuel level gauges  
Ammeter  
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.

### Options

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