

# TDI **TURBOTWIN™** Model T100-V

**NEW PRE-ENGAGED,  
OVERHUNG PINION**

## **TURBOTWIN™ Model T100-V ENGINE AIR STARTERS**

- The TDI *TURBOTWIN* T100-V starter is suitable for starting either gas or diesel models up to 300 liters (18000 CID)... see installation and selection guidelines. The T100-V's offset envelope and overhung pinion allows simple "bolt on" installation on engines where space for the starter is restricted. This includes Caterpillar 3600 Series (gas or diesel), Waukesha 9390, Cooper Superior 825 Series (including late models), Superior 1700 & 2400 engines.  
**APPLICATION VERSATILITY**
- The turbine motor used in the model T100-V is the same rugged design used in the complete line of *TURBOTWIN* starters. Properly installed, the *TURBOTWIN* motor is highly resistant to damage caused by wet or hard contaminated drive air/gas. A strainer may be recommended on the air/gas supply circuits which actuate starter pinion engagement.  
**CONTAMINATED SUPPLY AIR/GAS**
- Installation requires only a starter relay valve (recommend TDI *TURBOVALVE*), and operation within each starter model recommended maximum pressure. The T100-V features modular construction and individual parts are easily serviced. This provides T100-V users with simple and low cost starter repair and overhaul in the future.  
**SIMPLICITY**
- The T100-V's efficient twin-turbine motor now delivers more torque using less air/gas than previous starter designs. The T100-V is offered in both standard pressure (12 nozzle) and low pressure (21 nozzle) versions. In addition, the T100-V's superior engagement mechanism provides users with true low pressure operation... on air/gas pressures as low as 40 psig.  
**LOW AIR CONSUMPTION**
- The gear train and bearings are factory grease-packed for the life of the starter, therefore it requires no maintenance. There are no rubbing parts, so there is no external lubrication required. Lubricator problems, installation expense, system maintenance, and the messy and hazardous oil film around the starter exhaust can be eliminated.  
**NO MAINTENANCE DESIGN and ENVIRONMENTALLY SAFE**
- *TURBOTWIN* T100-V starters are constructed from durable, corrosion resistant, and high quality materials. Major components are made from high strength aluminum or steel alloy. As with all *TURBOTWIN* T100 Series starters, there are no plastic parts inside.  
**HEAVY DUTY CONSTRUCTION**
- The T100-V can be used over a wide range of drive pressures from 40 psig (2.7 BAR) to 150 psig (10 BAR). It is suitable for operation on either compressed air or natural gas. The lightweight, 54 Lb. unit is capable of delivering over 68 HP (50.75 kW) of cranking power at only 150 psig (10BAR).  
**BROAD RANGE of OPERATION**

from **TECH DEVELOPMENT**

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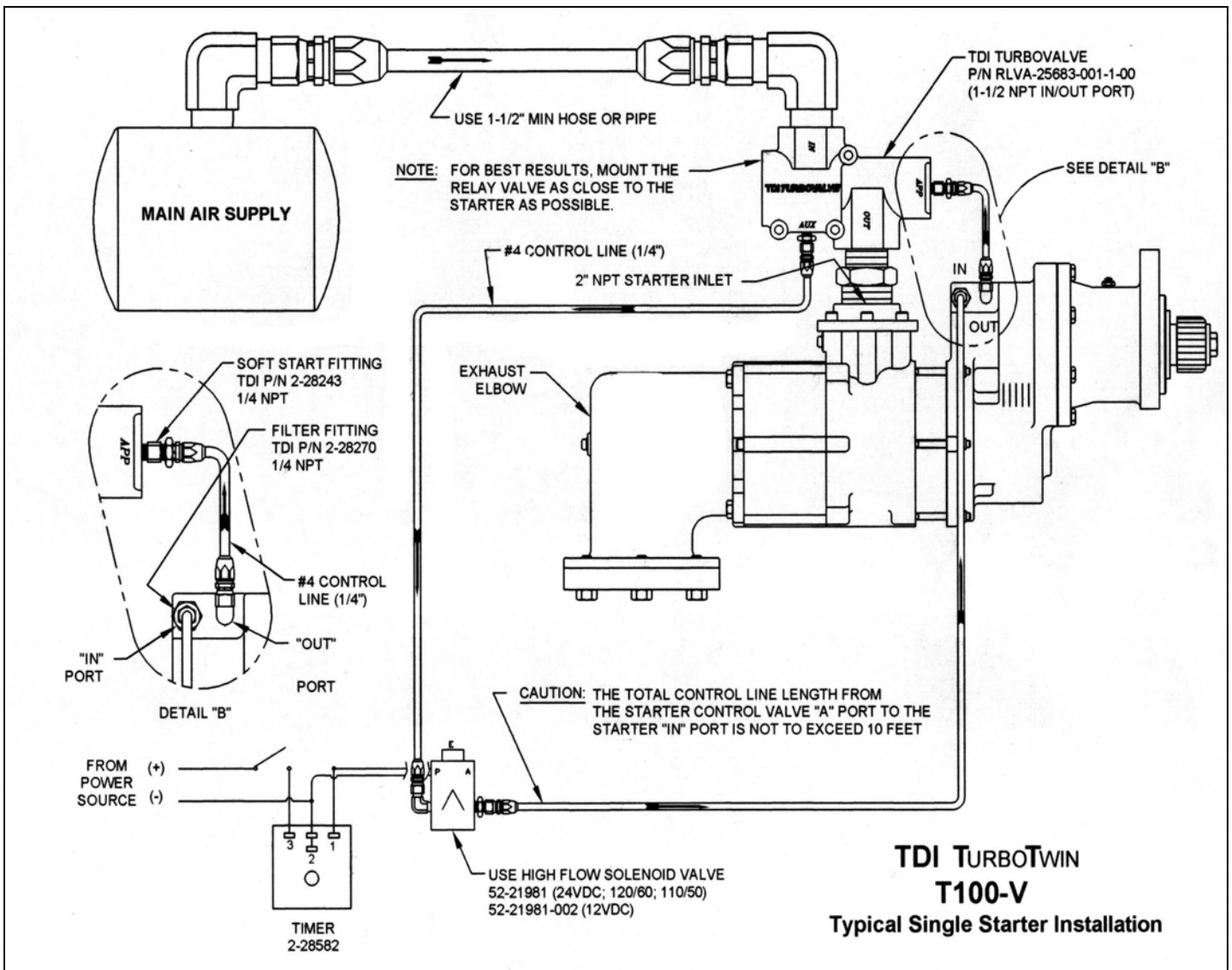
- The high horsepower of a turbine air motor combined with a spur gear speed reducer results in a very efficient and reliable unit. A pair of axial flow turbines coupled to a spur gear reduction set powers the *TURBOTWIN* T100-V.

## DESCRIPTION OF OPERATION

- Tech Development Inc. introduced the first turbine technology for starting industrial engines in 1979. The *TURBOTWIN* T100-V starters feature an innovative and more reliable turbine motor than anything on the market today.

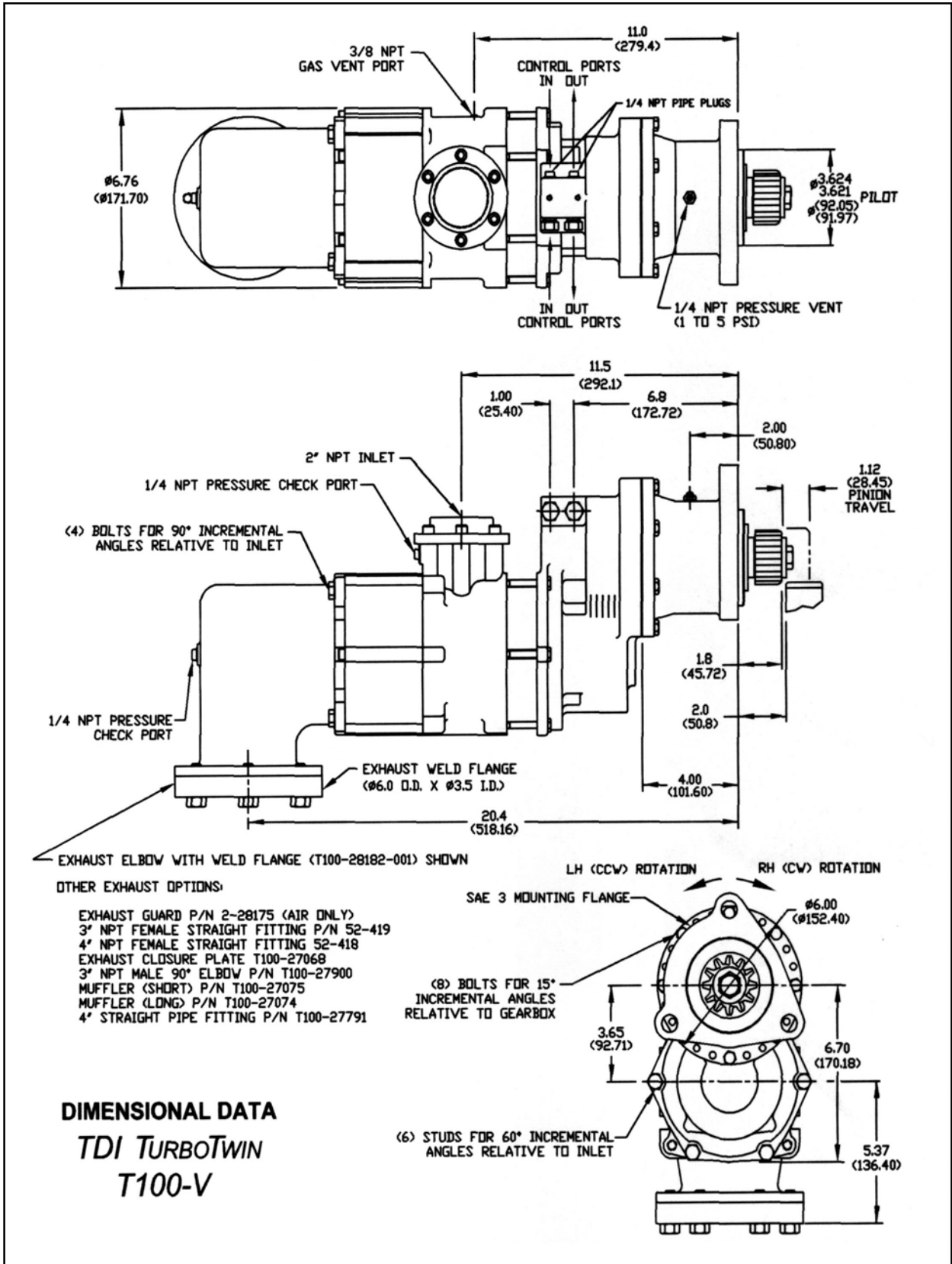
## DEVELOPMENT HISTORY

- The *TURBOTWIN* T100-V is the result of TDI's continuing turbine starter design innovations. Based on our successful *TURBOTWIN* T100 Series starters, the *TURBOTWIN* T100-V starters should exceed customer requirements in every installation.



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**DIMENSIONAL DATA**  
**TDI TURBOTWIN**  
**T100-V**

# TDI TURBOTWIN T100-V PERFORMANCE CURVES

Model: T112-V  
12 Nozzles  
70° F Compressed Air  
9.25:1 Gear Ratio

INLET Pressure	FLOW (Scfm)	FLOW (Nm3/h)
60 PSIG	657	1117
90 PSIG	929	1579
120 PSIG	1199	2038
150 PSIG	1472	2502

## TORQUE

Nm lb.ft.

476 350

408 300

340 250

272 200

204 150

136 100

68 50

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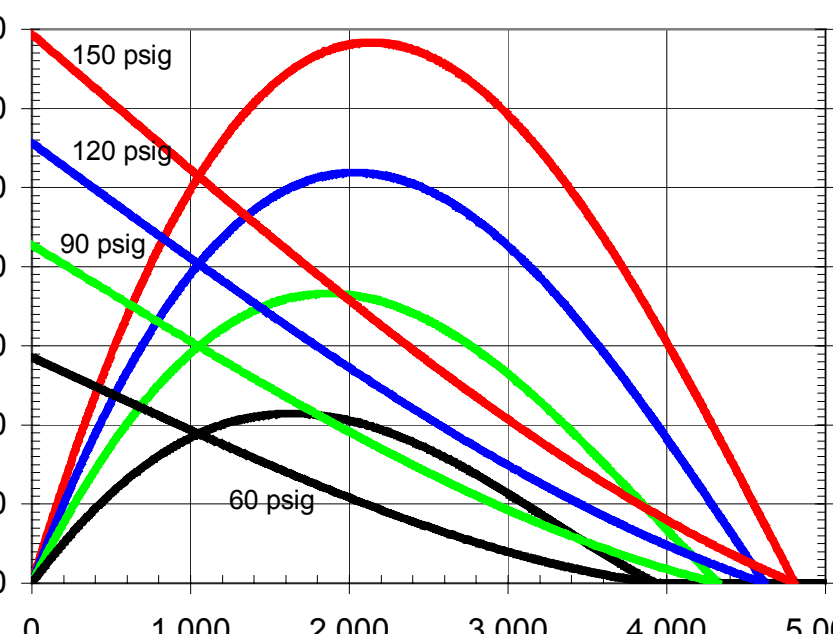
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Pinion Speed (rpm)

Model: T121-V  
21 Nozzles  
70° F Compressed Air  
9.25:1 Gear Ratio

INLET Pressure	FLOW (Scfm)	FLOW (Nm3/h)
40 PSIG	848	1442
60 PSIG	1158	1969
90 PSIG	1606	2730

## TORQUE

Nm lb.ft.

544 400

476 350

408 300

340 250

272 200

204 150

136 100

68 50

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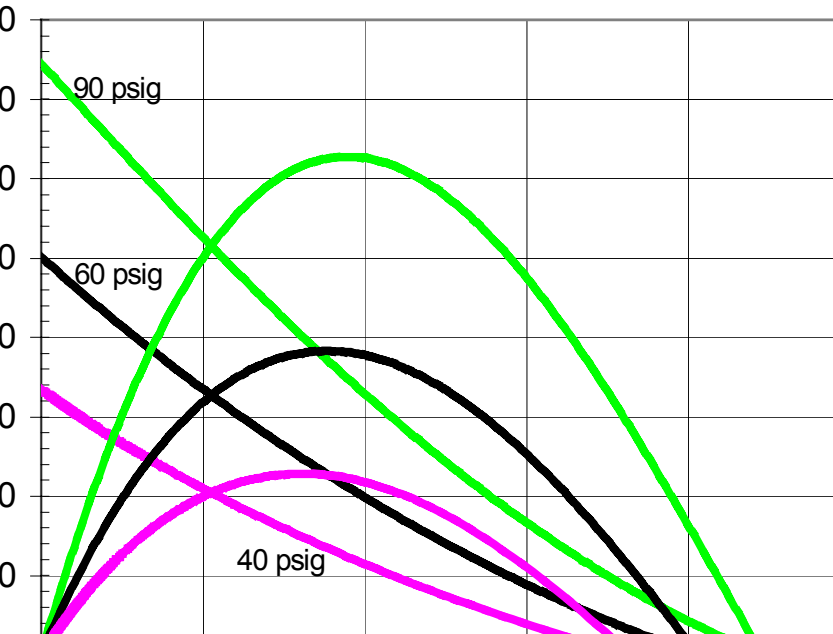
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Pinion Speed (rpm)