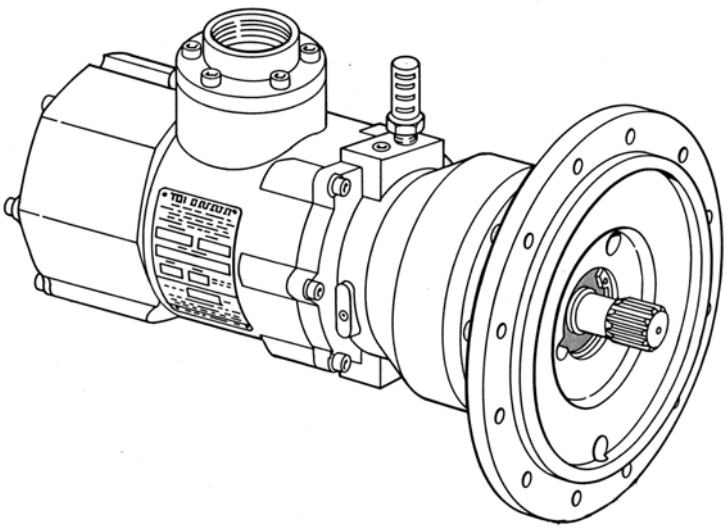


TDI
TURBOSTART™
Model 56G

INDUSTRIAL GAS TURBINE STARTER

- The TDI *TURBOStart* Model 56G turbine powered starter motor is designed for application to General Electric 1600 & 2500 gas turbine engines. The General Electric industrial engines are widely used for electrical power generation, industrial drives, and marine propulsion. The Model 56G was designed as a replacement for both the vane-type starter motor and the over-running and/or pneumatically driven jaw clutch assembles. The 56G has a mounting flange and output shaft spline that mates with the accessory drive assembly starter mount pad.

APPLICATION VERSATILITY

- The 56G uses a robust turbine drive motor design. Properly installed, the turbine motor is highly resistant to damage caused by wet or hard contaminates in the drive air/gas.

CONTAMINATED SUPPLY AIR/GAS

- The Model 56G-21 starter can be used over a wide range of drive pressures from 60 psig (6 BAR) to 150 psig (10 BAR). It is suitable for operation on either compressed air or natural gas. On air it delivers 140 HP (104.3kW) of cranking power at 150 psig (10 BAR) with only 2370 scfm. The starter materials have been selected to be compatible with “sour” natural gas and marine environments.

LOW AIR CONSUMPTION

- The Model 56G provides significantly lower life cycle costs when compared to both the acquisition and operating costs of aviation derived starters. For industrial turbine engine application, the Model 56G provides superior performance and reliability at substantial savings over other starter alternatives.

LOWER COST

- The starter can be operated using compressed air or natural gas pressures up to 150 psig (10 BAR). The 56G produces up to 140 HP on natural gas. See performance data.

CRANKING POWER

- The Model 56G starter incorporates the TDI low mass turbine rotor designed to fracture in a precisely engineered and inherently safe manner should the starter ever over speed.

SAFETY

- The Model 56G features an internal (vented) oil sump, which functions as a stand-alone method of starter lubrication. The Model 56G also provides pressure lubrication ports which permit optional extension of the engine oil system to facilitate starter lubrication. This option is preferred by some operators when using the Model 56G.

LUBRICATION OPTIONS

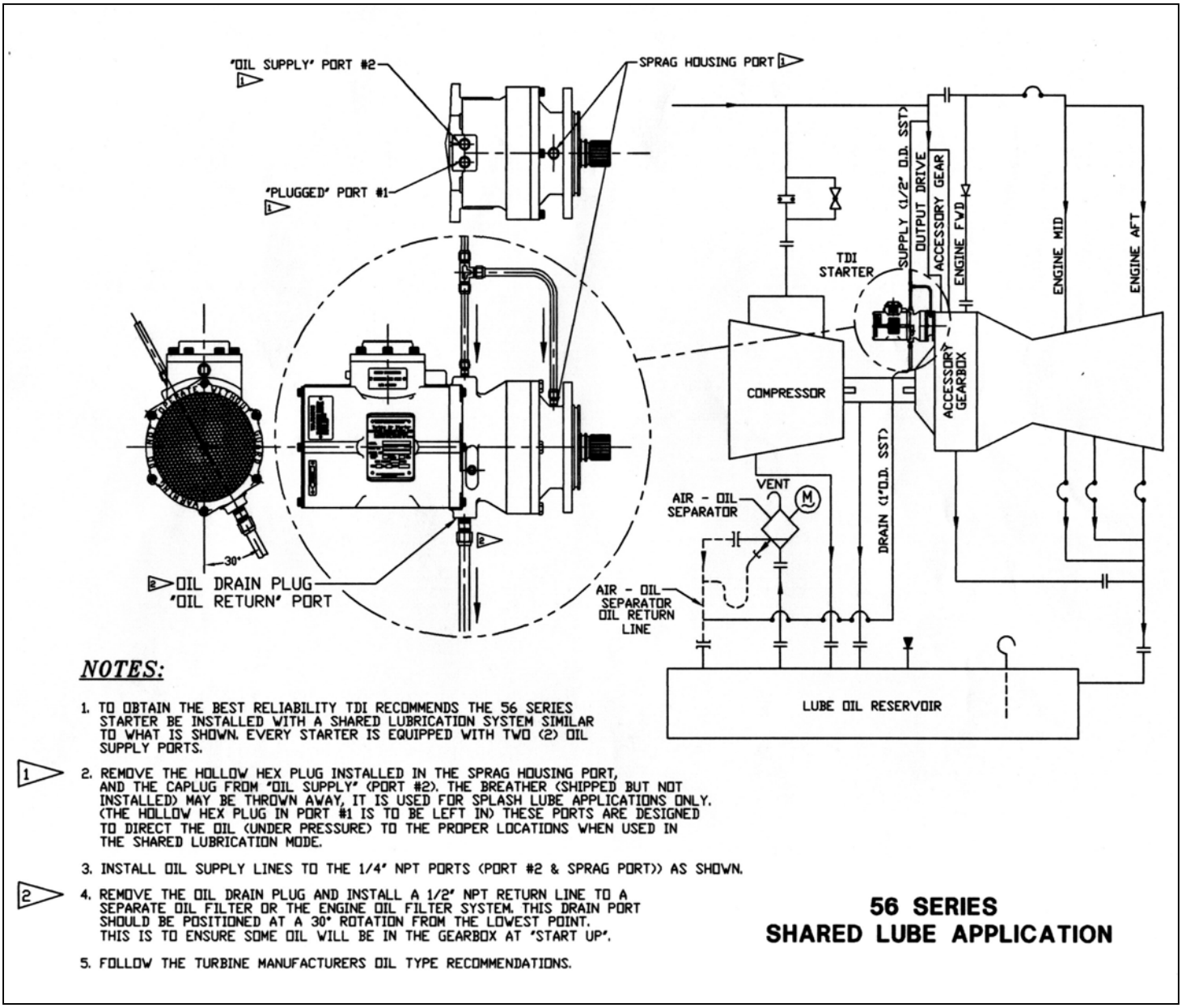
from **TECH DEVELOPMENT**
6800 Poe Avenue •Dayton, OH 45413
Tel: 937-898-9600 •Fax: 937-898-8431

DESCRIPTION OF OPERATION

- An axial flow turbine coupled to an integral planetary gear reduction set powers the Model 56G starter. The turbine power combined with the planetary gear reducer results in a very efficient and compact unit. The Model 56G incorporates a sprag type overrunning clutch in the starter gearbox drive train to provide a means of disengaging the starter from the gas turbine engine once the starter cutout speed has been reached. The Model 56G starter can be operated using either compressed air or natural gas.

DEVELOPMENT HISTORY

- Tech Development Inc. introduced the first turbine technology for starting industrial engines in 1979. The *TURBOStart* 56 series air starters feature an innovative and more reliable turbine motor than any other gas turbine starter on the market today. The 56G is the result of TDI's continuing turbine starter design innovations.



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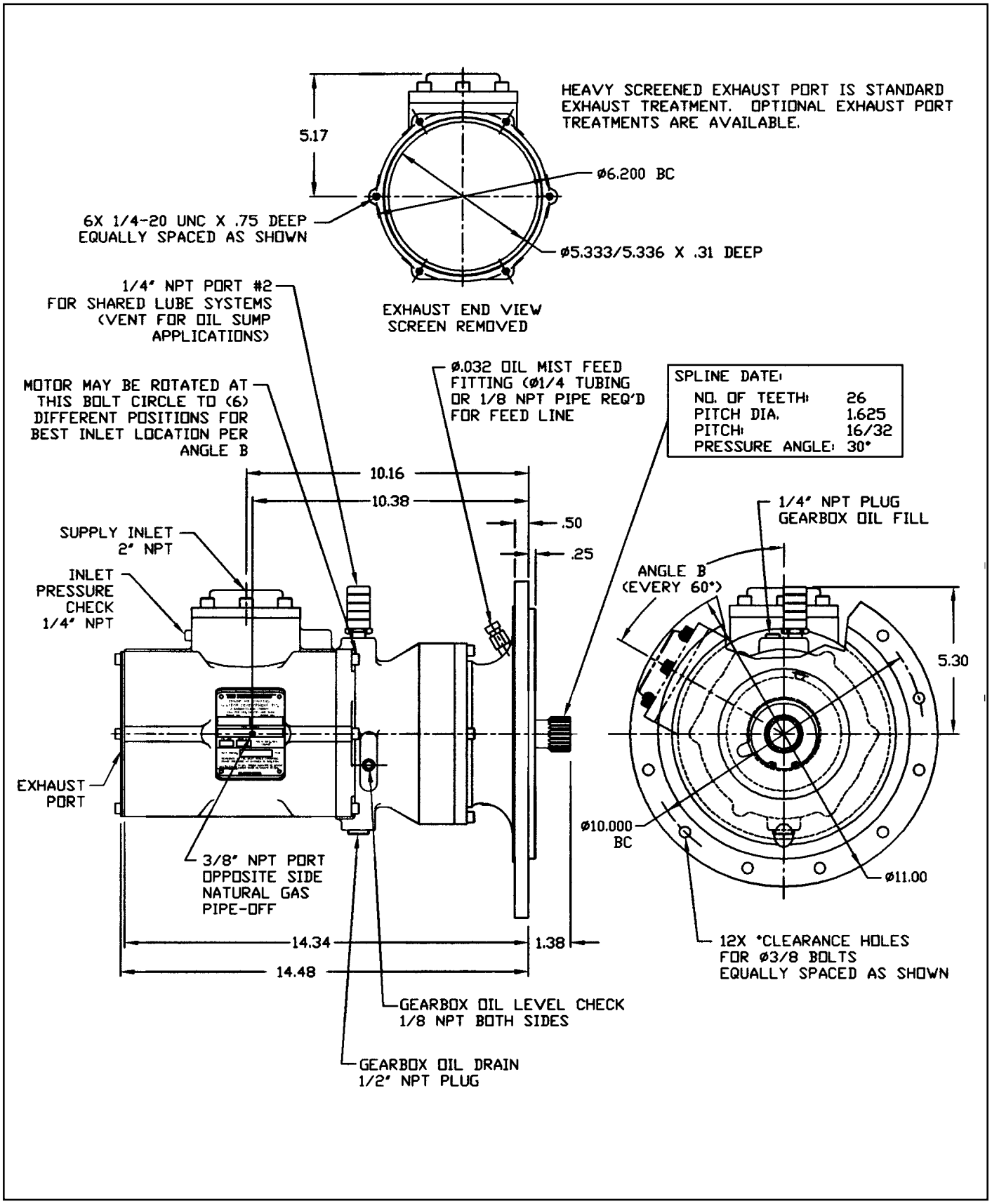

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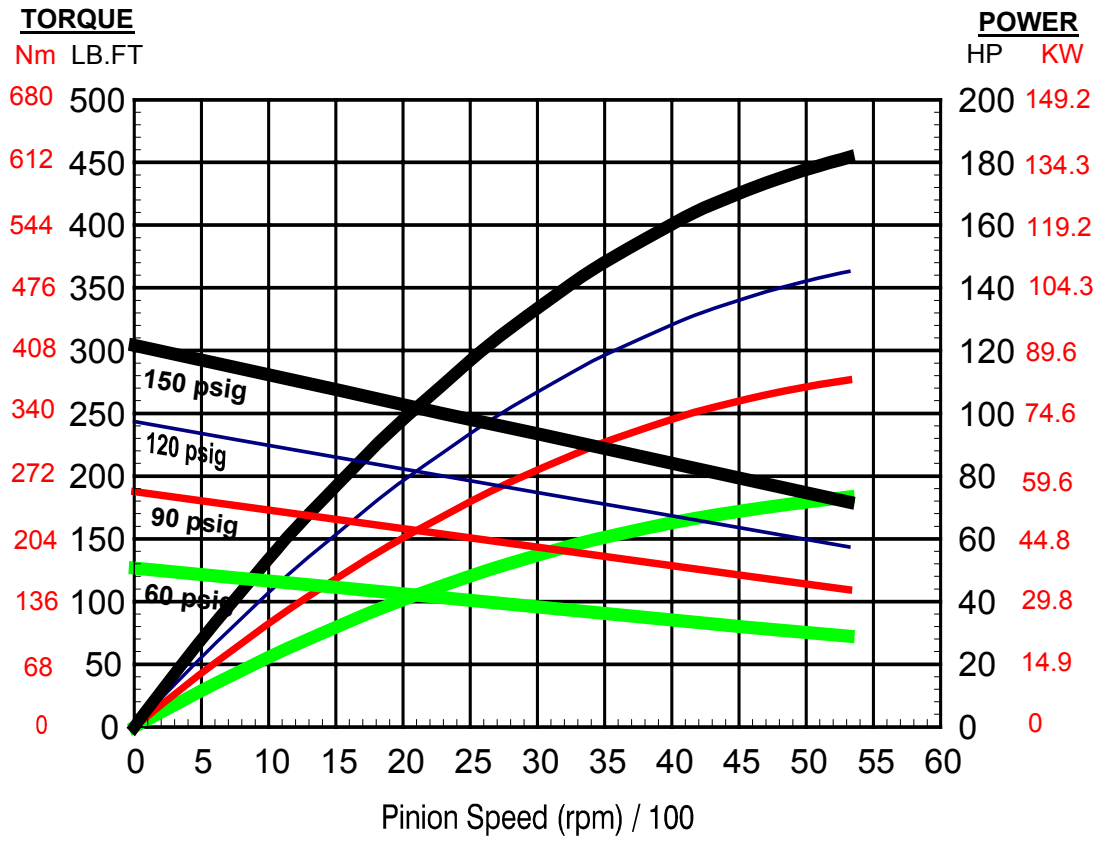
TDI *TURBOSTART*

MODEL: 56G PERFORMANCE CURVE

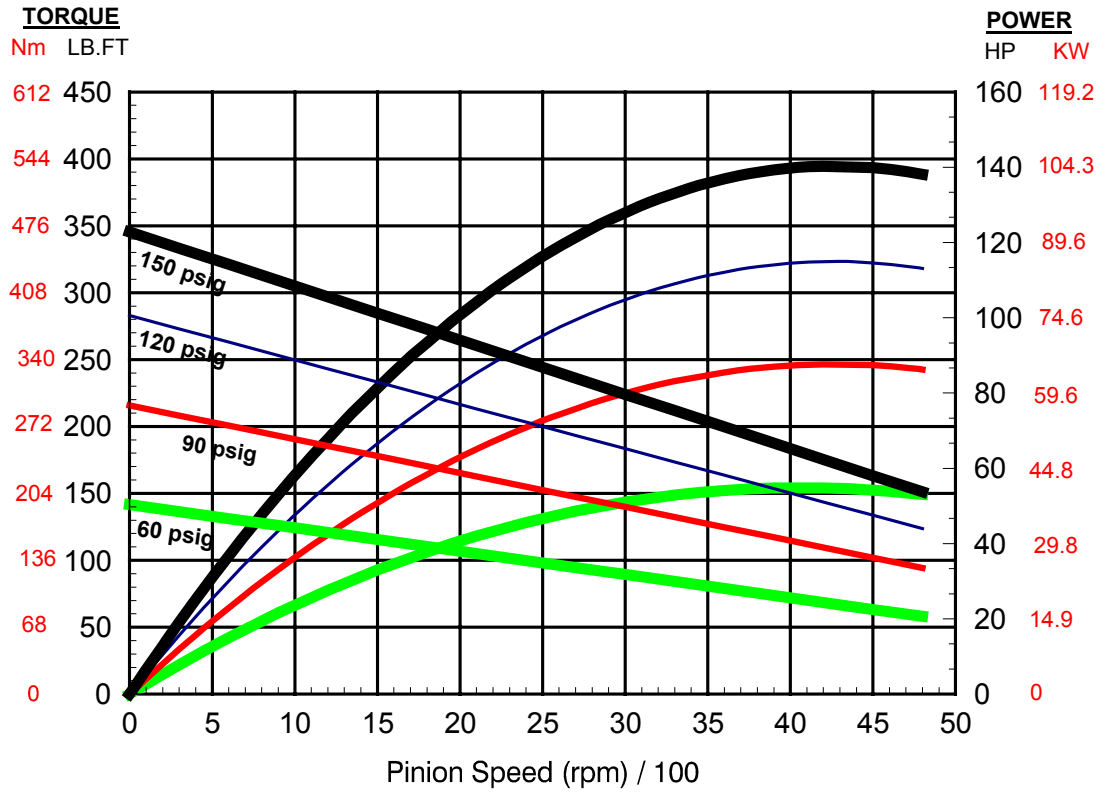
Model: 56G
21 Nozzles
70° F Methane Gas
7.5:1 Gear Ratio

INLET Pressure	FLOW (Scfm)	FLOW (Nm3/h)
60 PSIG	1475	2508
90 PSIG	2070	3519
120 PSIG	2660	4522
150 PSIG	3255	5534



Model: 56G
21 Nozzles
70° F Compressed Air
7.5:1 Gear Ratio

INLET Pressure	FLOW (Scfm)	FLOW (Nm3/h)
60 PSIG	1050	1785
90 PSIG	1450	2465
120 PSIG	1940	3298
150 PSIG	2370	4029



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