

# TAD-6.4-275

## 1. ALTERNATOR DESCRIPTION

The supplied alternator is a high-output, severe-duty charging system specifically engineered for Ford 6.4L Powerstroke Diesel engines. This system consists of a 275 Amp alternator and internal regulator. The alternator produces a maximum of 275 amps and will produce a minimum of 180 amps continually at low idle speeds and maximum output above 1800 engine RPM. The alternator has a maximum efficiency in excess of 60 percent. The rectifier is mounted onboard the alternator and consists of 6, 75 Amp press-fit diodes. The brush holder assembly and slip ring are environmentally protected and the bearings are heavy-duty, oversized premium bearings. The alternator housings are precision-machined cast aluminum and all components are of OEM or Mil-spec quality with all major components being carefully chosen for maximum performance and reliability.

## 2. TECHNOLOGY

This new charging system features an advanced proprietary stator winding of a new design that maximizes efficiency of the winding coupled with very low coil resistance. This gives the alternator maximum low speed output, as well as reduction of magnetic pulsation with the stator windings built in cancel circuit to minimize electrical noise. The internal regulator is an advanced multifunction digital regulator that completely integrates into the vehicles PCM through the OEM wiring harness to retain all vehicle specific functions such as internal temperature compensation, lamp terminal monitoring, load response control, and alternator load factor.



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## 3. Alternator Mounting

The alternator is specially designed to mount directly in the OEM mounting location with no modification. All electrical connections shall be in the original locations. The alternator features a custom machined drive pulley that is 5% smaller than the OEM diameter for increased output at idle speeds and retains OEM belt length. The pulley is precision CNC 6061T6 aluminum and is .002 hard anodized coating for wear resistance and durability.

## 4. Alternator Performance and Vehicle Demand

The OEM alternator is rated at 150 amps with 100 amps at idle. Engine idle is ~650 RPM without the A/C on and ~700 RPM with the A/C running. The supplied alternator makes 160 amps at normal engine idle, and ~170 amps with the A/C on at fast idle. The vehicle needs a maximum of 100 amps to supply existing electrical loads with all accessories on leaving little room for additional accessories. The supplied alternator will supply an additional 80 amps of available output at low idle, and 70 amps additional at high idle, and up to 125 amps additional at highway speeds.

<b>Engine speeds</b>	<b>Vehicle demand</b>	<b>OEM remaining output with all OEM loads on</b>	<b>Upgraded alternator remaining output with all OEM loads on</b>
650 RPM idle	95 Amps	5 Amps	80 Amps
700 RPM AC on	100 Amps	5 Amps	70 Amps
Normal driving	100 Amps	5 Amps	125 Amps

## 5. Alternator Durability

The supplied charging system is manufactured to the highest quality standards, and is manufactured wholly in the USA, of USA made or sourced components and are of the highest quality. All parts are carefully chosen and used for their durability, dependability, and proven performance in the field.

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Description	High output alternator
Availability	In Stock
Volts	14
Amps @ engine idle	180
Amps @ fast idle	190
Amps maximum	275
Mounting type	Direct fit to OEM Mounting
Rotation	Clockwise
Housing Material	A305 aluminum
Housing Finish	Natural aluminum
Positive output stud	8MMx1.25 Copper
Negative	Case Ground
Insulated ground	NO
Regulator sensing	Internal
Excitation	Vehicle OEM
Regulation	Internal
Regulator type	OEM
Rotor Shaft Diameter	17mm
Pulley	6061 aluminum alloy hard anodized 8K
Rectifier	Internal 7x 75 Amp press fit
Weight	18 lbs

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