



## 12V GEAR REDUCTION STARTERS FOR DIESEL ENGINE APPLICATIONS



### DESIGNED FOR YOUR TOUGHEST APPLICATIONS

For over 35 years, the biggest names in engine manufacturers have chosen one name in cranking power — DENSO. As the world's largest starter manufacturer, our starters simply install faster and perform better under rigorous conditions. The DENSO commitment to quality, durability, performance and innovation is the reason our components are truly better by design.



## FEATURES / BENEFITS

- Compact and lightweight design
- High torque for maximum starting power
- High durability for the most demanding applications
- Impact torque limiter used to prevent ring gear damage
- Self-contained clutch shaft
- Solenoid and clutch arranged co-axially for smooth engagement
- Sealed heavy-duty ball bearings
- Two-hole mount replaces OE three-hole design for easier installation

Applications: Beverage Fleets, Chevy Kodiak, Construction & Crane Equipment, Ford & Freightliner FL Series Trucks, Generator Sets/Compressor Units, GMC Top Kick, Package Delivery Fleets, Recreation Vehicles School Bus Fleets, Terminal Tractors (Trailer/Yard Jockey Equipment)						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
CATERPILLAR	6.6/7.2L Engine A/T 3126	228000-7121	280-8004	SAE #3	12V 4.0KW	Wet Clutch, Ground Stud
CATERPILLAR	6.6/7.2L Engines Pass. Side 3126	228000-9750	280-8012	Kodiak, Topkick	12V 4.0KW	Dry Clutch, Ground Stud, Jump Start Protection
CATERPILLAR	6.6/7.2L Engines M/T 3116 & 3126	428000-1610		SAE #2	12V 4.0KW	Dry Clutch, Ground Stud
Applications: Beverage Fleets, Construction Equipment (bulldozers, Excavators, Motorgraders, Wheel Loaders), Dodge Trucks, Ford Trucks (F550, F650, F750), Freightliner FL Series Medium Duty Trucks, Generator Sets/Compressor Units, Package Delivery Fleets, Pick-up & Delivery Fleets, Recreation Vehicles, School Bus Fleets, Terminal Tractor						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
CUMMINS	Cummins ISB 5.9L	228000-2292	9722809-229	Dodge Pick Up, 1994 - 2002	12V 2.7KW	Dry Clutch, Driver Side
CUMMINS	Cummins ISB 5.9L	228000-3811			12V 2.7KW	Wet Clutch, Driver Side
CUMMINS	Cummins ISC 8.3L	228000-5311	280-8002		12V 4.0KW	Dry Clutch, Ground Stud, Driver Side
CUMMINS	Cummins ISC 8.3L	228000-6511			12V 4.0KW	Wet Clutch, Ground Stud
CUMMINS	Cummins ISB 5.9L	228000-7280		Thomas Built Bus	12V 4.0KW	Dry Clutch, Ground Stud
CUMMINS	Cummins ISB 5.9L	228000-7291		Thomas Built Bus	12V 4.0KW	Dry Clutch, Ground Stud
CUMMINS	Cummins ISB 5.9L	428000-1600	280-8018	FL70, Package Delivery	12V 2.7KW	Dry Clutch, Ground Stud, Pass. Side
CUMMINS	Cummins ISB 5.9L	428000-5940		Dodge Pick Up, 2003 - 2006	12V 2.7KW	
CUMMINS	Cummins ISB 6.7L	428000-6110		Dodge Pick Up, 2007	12V 3.0KW	PA90S
Applications: Department of Transportation (DOT), Emergency Vehicles, Hotel Shuttle Buses, Landscape Vehicles, Mechanical Services Fleets (HVAC, Electrical, etc.), Rental Car Shuttle Buses, Road Construction Fleets, Support Trucks for Airport Services (Airlines), Support Trucks for Misc. Large Fleets (Garbage, Concrete, etc.) and Tow Vehicles						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
FORD / NAVISTAR	6.9/7.3L A/T & M/T	228000-8410	280-8007		12V 4.0KW	Wet Clutch
FORD / NAVISTAR	7.3L A/T & M/T, Direct Injection	228000-8420	280-8008	Power Stroke	12V 4.0KW	Wet Clutch
Applications: City Delivery Fleets, Cargo Delivery, Furniture Delivery, Landscape, Rental Equipment						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
HINO	J08C-T1 8.0L	228000-6253	9722809-625	YJ22 MT	12V 4.8KW	
HINO	J08C-T1	228000-6261	9722809-626	YJ22A	12V 4.8KW	
HINO	J05C-T1	228000-6383	9722809-638	YJ21	12V 2.5KW	
HINO	J05D	428000-2503		NA, NB, NC	12V 2.5KW	
HINO	J08, J08E	428000-2511	9742809-251	ND, NE, NF, NV	12V 4.0KW	
Applications: Armored Car, Beverage, Bottled Water Distributor, Cargo Delivery, Furniture Delivery, Ice Cream, Landscape, Newspaper Delivery, Rental Equipment, School Bus, Uniform Delivery and Waste Management Fleets						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
INTERNATIONAL	DT466E	428000-2690			12V 4.0KW	Wet Clutch, Ground Stud
INTERNATIONAL	T444E	228000-7371	280-8020	4700	12V 4.0KW	Dry Clutch
INTERNATIONAL	DT466	228000-8510*	280-8011	4300	12V 4.0KW	Wet Clutch
INTERNATIONAL	VT365	428000-0071		1652 Strip Chassis	12V 4.0KW	Wet Clutch
Applications: City Delivery Fleets, Cargo Delivery, Furniture Delivery, Landscape, Rental Equipment						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
ISUZU	6BD1	128000-0494	9712809-049		12V 3.0KW	
ISUZU	6SA1	128000-2451		FRR 13	24V 5.5KW	
ISUZU	6SA1	128000-2742		FTR	24V 5.5KW	
ISUZU		128000-4663		Elf NKR	12V 2.0KW	
ISUZU	6HE1-T 7.1/7.8L	228000-2807	9722809-280	EVR, FRR, FSR, FTR, GMCTrucks	12V 3.0KW	
ISUZU	4JG2	228000-5144		Elf NHR69	12V 2.0KW	
ISUZU	4HE-1 3.9/4.8L	228000-7004		Elf NPR, NQR, GMCTrucks	12V 3.0KW	
ISUZU	4HE1-T 3.9/4.8L	228000-8182	9722809-818	Elf NPR, NQR, GMCTrucks	12V 3.0KW	
ISUZU	6HK1-TC 7.8L I6	228000-9761		Topkick	12V 4.0KW	
Applications: Airport Service, Beverage Fleets, Car Haulers, Dump Trucks, Food Distribution, Landscape Vehicles, Liquid Bulk, Mixers, Refuse, School Bus Fleets, Towing Utility						
Engine OE	Model	New Part No.	Reman Part No.	Application	Size	Additional Information
MERCEDES	Mercedes 904	428000-0310		M2 Business Class & Package Delivery	12V 2.7KW	Dry Clutch, Ground Stud
MERCEDES	Mercedes 906 & 926	428000-1881		M2 Business Class & Sterling Acterra	12V 4.0KW	Dry Clutch, Ground Stud

\*228000-8510 has 5/8" mounting holes. In certain applications you may need to use bushing inserts. See your DENSO representative for details.

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