



TECH NOTE



AUTOMOTIVE – PASSENGER CAR

BULLETIN: TSB012_AU

SOLUTION FOR BELT DRIVEN STARTER GENERATORS

Systems Engineering and Technology

As our many worldwide OE partners have learned, Gates can enhance optimisation efforts by getting involved early – right at the design stage. Gates' developments in higher capacity EPDM Micro-V® belts and robust tensioners are driving Gates' research and innovation in belt-driven starter generators.

Introducing new Gates EMD™ Belts which are now available for the aftermarket. Gates' Electro-Mechanical Drive (EMD) System allows starter-generator systems to use an advanced belt drive for an almost completely silent vehicle start-up.

NEW START/STOP SYSTEMS REQUIRE A DIFFERENT BELT TECHNOLOGY.



GATES EMD™ TECHNOLOGICAL ADVANCEMENTS

- Up to 10% fuel reduction
- Potential to reduce friction loss by lowering system tension
- EMD™ belt driven technology enables:
 - Start-stop
 - Boost mode
 - Stall mode
 - Recoverable braking energy
- Recuperation mode
- Increases driving comfort due to silent start-stop
- Elimination of starter motor results in weight reduction
- Engine downsizing
- Potential to eliminate tuning devices
- Conversion of conventional belt drive within existing packaging
- Easily incorporated in current customer assembly lines



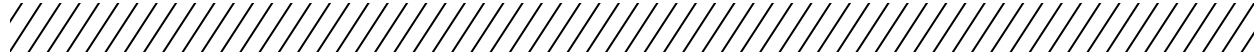
GATES HIGH PERFORMANCE EMD™ MICRO-V® BELTS

- Special high-load Micro-V® belt to provide the performance required in an engine starting function, being more than 600,000, start ups





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- Special belt composition using a high performance rubber compound, advanced adhesion technology and enhanced cord material
- Improved noise robustness
- Lifetime of more than 240,000 km
- High load and flex capability
- Packaging within the existing belt width

VEHICLES/ENGINES RELATED TO MICRO-V® EMD™ BELTS

Vehicle Make	Model	Engine Type	Year	Description	Gates Part Number
Smart	Fortwo Coupe	999cc 3 Cyl. (3B21A/132910) 6v SOHC	2008-15	Alt. - w/ VIN 451380	6PK803EMD
Peugeot	308	1.6L 4 Cyl. (DV6C) 8v Hdi Turbo Diesel	2010-On	Alt. w/ Stop-Start	6PK1020EMD
Mercedes Benz	A150 (W169)	1.5L 4 Cyl. (M266.920) 8v SOHC	2005-07	Serp. - w/o Stop-Start	6PK1986EMD
	A170 (W169)	1.7L 4 Cyl. (M266.940) 8v SOHC EFI	2005-07		
	A180 (W169)	1.7L 4 Cyl. (M266.940) 8v SOHC	2009-On		
	A200 (W169)	2.0L 4 Cyl. (M266.960) 8v SOHC	2005-10	Serp. - w/ Stop-Start	
		2.0L 4 Cyl. (M266.980) 8v SOHC Turbo	W169		
	B180 (W245)	1.7L 4 Cyl. (M266.940) 8v SOHC	2010-12		
		1.7L 4 Cyl. (M266.940) 8v SOHC	2010-12		
	B200 (W245)	2.0L 4 Cyl. (M266.960) 8v SOHC	2005-12		
2.0L 4 Cyl. (M266.980) 8 v SOHC		2005-12			