



TECH NOTE

AUTOMOTIVE – PASSENGER CAR

BULLETIN: TSB011_AU

GATES BELT SOLUTION FOR VENTILATOR DRIVES MICRO-V® PJ PROFILE BELTS

For many years the PJ profile was only used for industrial applications, especially in the white goods sector, as drive belts for washing machines and tumble dryers.

More recently, these small Micro-V® belts were introduced into the automotive industry, where the main applications are ventilator (fan) drives.

Usually the basic engine configuration only has one fan, which is electrically driven (system installed on radiator) as can be seen in Figure 1.



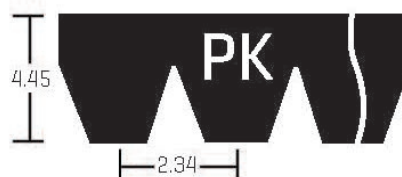
Fig. 1: Electrically driven fan



Fig. 2: PJ belt

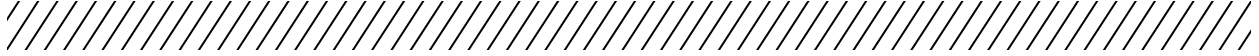
In cases where additional cooling is needed, such as cars with air conditioning, factory installed tow bar, for taxis etc., a second fan is installed in order to pull more cooling air through the radiator. This second fan is then often driven from the first by a 2 or 3 rib PJ belt.

The main difference between a PK and a PJ belt is the size of the rib profile. A PJ profile is quite a bit smaller than a PK profile, the rib width only being 2.34mm compared to 3.56mm, while the height is 3.6mm compared to 4.45mm.





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PJ profile belt are small as a compact drive is what is needed in the restricted front end compartment.

Apart from normal wear, replacement is mainly needed after the bearing of one of the fans has failed, or after an accident as fans are very close to the front of the car.

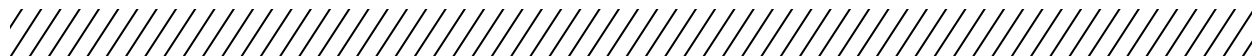
On installation, belts have to be pulled over the second fan pulley as there is no adjustment on the drive.

Gates is the only aftermarket supplier of PJ profile belts for vehicles with ventilator drives.

See over page for table highlighting vehicles/engines related to PJ Profile belts.



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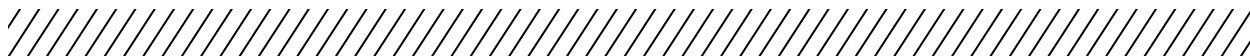


Vehicles/Engines Related to PJ Profile Belts

Vehicle Make	Model	Engine Type	Year	Description	Gates Part Number
Volkswagen	Golf (VR6)	2.8L V6 (AAA) 12v SOHC EFI	1992-98	Fan w/o AC	2PJ800
	Golf	2.0L 4 Cyl. (ADY) 8v SOHC EFI	1994-98	Fan	
	Golf (1H)	1.9L 4 Cyl. (1Z) 8v SOHC Turbo Diesel	1995-97	Extra Fan - w/ AC	
	Golf	1.9L 4 Cyl. (AAZ) 8v SOHC Turbo Diesel	1994-98	Extra Fan - w/o AC	
	Polo (6N)	1.4L 4 Cyl. (AEX) 8v SOHC	1996-98	Fan - Extra Fan w/ Extra Cool. Up to Ch. #: 6K-V-048 900	
	Polo	1.6L 4 Cyl. (AEE) 8v SOHC EFI	1996-00	Fan Up to Ch. #: 6K-V-048 900 w/ XTR COOL	
Mercedes Benz	E230 (W210)	2.3L 4 Cyl. (M111.970) 16v DOHC EFI	1995-99	Fan	2PJ860
	E240 (W210)	2.4L V6 (M112.911) 18v SOHC EFI	1997-01		
	E280 (W210)	2.8L 6 Cyl. (M112.921) 18v SOHC EFI	1998-00		
		2.8L 6 Cyl. (M104.945) 24v DOHC MPFI	1996-02		
	E320 (W210)	3.2L V6 (M112.941) 18v SOHC EFI	1997-02		
	E320 (W210/S210)	3.2L 6 Cyl. (M613.961) 24v DOHC Diesel	1999-03		



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Vehicle Make	Model	Engine Type	Year	Description	Gates Part Number
Seat	Cordoba	1.6L 4 Cyl. (AEE) 8v SOHC EFI	1998-99		2PJ860
		1.8L 4 Cyl. (ADZ) 8v SOHC EFI	1995-99		
Volkswagen	Golf	1.9L 4 Cyl. (AAZ) 8v SOHC Turbo Diesel	1994-98	Extra Fan - w/ AC	
	Golf (VR6)	2.8L V6 (AAA) 12v SOHC EFI	1992-98	Fan w/ AC	
	Polo (6N)	1.4L 4 Cyl. (AEX) 8v SOHC	1996-98	Fan - Extra Fan w/ AC Up to Ch. #: 6K-V-048 900	
	Polo	1.6L 4 Cyl. (AEE) 8v SOHC EFI	1996-00	Fan w/ AC Up to Ch. #: 6K-V-048 900	
Mercedes Benz	S320 (W220)	3.2L 6 Cyl. (M112.944) 18v SOHC MPFI	1999-02	Fan - Extra Fan	3PJ891
	S430 (W220)	4.3L V8 (M113.941) 24v SOHC MPFI	1999-03	Fan	
	S430L (W220)	4.3L V8 (M113.941) 24v SOHC MPFI	1999-03		
	S500 (W220)	5.0L V8 (M113.960) 24v SOHC	1999-05		
	S500L (W220)	5.0L V8 (M113.960) 24v SOHC	1999-06		

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