

# Timing Belts For All

## History

Timing belts are truly a new-age item. Slow advances in rubber technology prevented timing belts from being reliable enough to mass produce. It wasn't until 1950 that the Germans used a reinforced rubber belt to operate the synchronization of the camshaft and the crankshaft. The vehicle was the German Goggomobile.

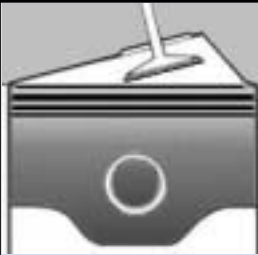
Soon after, many other European car-makers began experimenting with synchronous timing belts. Fiat and Vauxhall were among the first, followed by the General Motors Pontiac Division. The first mass produced vehicle with a timing belt to hit the American highways was the 1966 Pontiac Tempest.

The Tempest Sprint came with a straight six-cylinder overhead cam four-barrel carbureted engine that produced 206 horsepower. It was the only high-performance stock engine that had been produced since the Hudson Hornet. Mechanics scoffed at the idea of having an engine that ran by using a "big rubber band." Others simply dismissed it as "cheap." But, mechanic's criticism soon faded as the idea caught on and spread to the other carmakers.

The beginning of the seventies brought timing belt equipped 4-cylinder Audi Super 90 Diesel 1.6-liter and Honda Accord 1.8-liter engines. Timing belt popularity took off by the middle of the seventies, and timing belts started showing up on just about every make of vehicle. Today, timing belts are found on everything from expensive BMW's, Porsches, and Volvo's to the lowly Yugo.

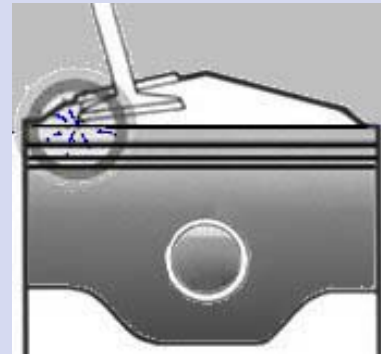
During this time the rubber material has become stronger, becoming reinforced with fiberglass cords and made from Highly Saturated Nitrile (HSN) rubber. The new GM 3.4 dual overhead cam V6 uses a belt made of alkylated chlorosulfonated polyethylene—a space age material with terrific low temperature performance and thermal stability. By combining a new type of glass fiber design, these belts have stronger teeth, load capacity, and offer a longer life.

## Free Wheeling vs. Interference



A free-wheeling engine has enough clearance between the valve and piston if the cam stops and the valve remains fully open. On the other hand, interference engines will allow the piston and valve to collide. As the illustration shows, an interference engine usually sustains damage if the piston and valve synchronization is lost.

Interference engines do not have enough space in the combustion chamber for the valves to remain open when the piston reaches the top of its travel. If the timing belt breaks, the valves will remain open. And since there's not enough space for the valves, the pistons will slam into the valves and cause a great deal of engine damage. At the very least, the valves will be bent and need to be replaced. At the worst, the valves will punch holes in the pistons, and pieces of metal shrapnel will circulate and cause catastrophic engine damage.



The traditional square-cut (trapezoidal) timing belt teeth have been replaced by rounded (curvilinear) and modified curvilinear teeth. These run quieter and are much longer lasting. And all of these rubber technology developments have increased the life of timing belts from 30,000 to well over 100,000 miles.<sup>24</sup>

## Dangers

Because timing belt failure with an interference engines can result in serious engine damage, we want to warn vehicle owners about the potential hazards of operating these types of engines past their suggested change interval.

Nutz and Boltz publishes the quick reference guide of interference engine timing belt applications (on the following pages) in order to save you from an expensive breakdown. If your vehicle is listed below and has a timing belt, it has an interference engine.

All car and light truck engines fall into one of two classifications, either *Free-Wheeling* or *Interference*. The engine classification depends on what happens to the pistons and valves if the synchronization timing between them is lost. This can occur if the timing chain or belt breaks, and the cam stops turning.

Did you buy your vehicle used? If so, you won't really know if the timing belt has ever been replaced. Never assume that it has been replaced, espe-







cially if your engine is interference. And even more important, have the timing belt replaced along with the other repairs. It will save labor time and money to replace it while you're having a similar repair done, especially if it involves replacing the water pump or other drive belts.

Remember, timing belts can't be inspected for signs of wear, and can look good and fail shortly after. Timing belts will fail more often with vehicles that operate in extremely hot or cold climates, or in areas where the ozone levels are high. These factors will speed up the demise of the timing belt. Failure to replace the timing belt tensioner is likely to result in repeat failures. Replacement of adjacent components (e.g. water pump, balance shaft and/or injection pump; accessory drive belts) is advisable to minimize the cost of subsequent repairs.

As a general rule, most import and light truck diesel engines are interference engines. But even with a free-running engine, a broken timing chain or belt can cause an unwanted breakdown. All timing belts and chains are hidden under a cover, and its "out-of-sight, out-of-mind" for most vehicle owners. And since timing belts need to be replaced more often than timing chains, it's important to make timing belt replacement a part of your routine maintenance. Especially if you care about your engine and want to avoid a breakdown.

Graphics from www.gates.com

## Table of Timing Belt Interference Engines

	= 100-105,000 miles
	= 90,000 miles
	= 70-75,000 miles
	= 60,000 miles
	= 45-50,000 miles
	= 30-40,000 miles

The above symbol key represent suggested change intervals. If two symbols are used, the lower number should be followed for vehicles driven mostly on short trips (severe service). The higher number is for vehicles driven at least 10 miles per trip (normal service). The same is true for the double symbols.

### BMW

1982-8 528e 6-Cyl. 2.5L, 2.7L<sup>€</sup>  
 1982-91 325 Series 6-Cyl. 2.5L, 2.7L<sup>€</sup>  
 1989-91 525iA 6-Cyl. 2.5L<sup>€</sup>  
 1989-95 525i 6-Cyl. 2.5L<sup>€</sup>  
 1992 325iC 6-Cyl. 2.5L<sup>€</sup>

### Daewoo

1991-88 Optima 4-Cyl. 1.6L, 2.0L<sup>€</sup>  
 1999-01 Lanos 4-Cyl. (DOHC) 1.6L<sup>€</sup>  
 1999-01 Leganza 4-Cyl. (DOHC) 2.2L<sup>¥</sup>  
 1999-01 Nubira 4-Cyl. (DOHC) 2.0L<sup>¥</sup>

### Daihatsu

1992-88 Charade 3-Cyl. 1.0L<sup>€</sup>  
 1992-88 Charade 4-Cyl. 1.3L<sup>€</sup>  
 1992-90 Rocky 4-Cyl. 1.6L<sup>€</sup>

### D-Chrysler

1979-82 Champ 4-Cyl. 1.4L<sup>€</sup>  
 1979-86 Colt 4-Cyl. 1.4L<sup>€</sup>  
 1983-6 Ram 50 Pickups 4-Cyl. Diesel 2.3L<sup>◇</sup>  
 1984-95 Colt, Colt 100 & 200 Canada 4-Cyl. 1.5L<sup>€</sup>  
 1984-95 Colt, Colt 100 & Colt 200 Canada 4-Cyl. 1.5L<sup>€</sup>  
 1989-90 Colt 4-Cyl. 1.6L<sup>€</sup>  
 1989-90 Colt Wagon Canada 4-Cyl. 1.5L<sup>€</sup>  
 1989-93 2000 GTX Canada 4-Cyl. 2.0L<sup>§</sup>  
 1990 Colt 100 & 200 Canada 4-Cyl. 1.6L<sup>€</sup>  
 1990-4 Laser 4-Cyl. 2.0L<sup>€</sup>  
 1991-6 Stealth V-6 3.0L<sup>€</sup>  
 1995-00 Avenger, Cirrus, Sebring Coupe, Stratus V6 2.5L<sup>€</sup>  
 1995-00 Neon 4-Cyl. (DOHC) 2.0L<sup>™</sup>  
 1995-6 Colt Canada 4-Cyl. 1.5L<sup>€</sup>  
 1995-8 Avenger, Sebring, Stratus 4-Cyl. 2.0L<sup>€</sup>  
 1995-9 Avenger, Sebring Coupe 4-Cyl. (DOHC) 2.0L<sup>€</sup>  
 1996-00 Breeze 4-Cyl. (SOHC) 2.0L<sup>™</sup>  
 1997-00 Sebring Convertible V6 2.5L<sup>€</sup>  
 1998-00 Concorde, Intrepid, LHS V6 3.2L<sup>™</sup>  
 2000 Cirrus, Stratus 4-Cyl. (SOHC) 2.0L<sup>™</sup>

### General Motors

1981-4 Pontiac Acadian Canada 4-Cyl. 1.8L<sup>€</sup>  
 1981-6 Chevy Chevette 4-Cyl. Diesel 1.8L<sup>€</sup>  
 1982-6 Buick Skyhawk 4-Cyl. 1.8L<sup>€</sup>  
 1981-5 Chevy Luv, Pickups 4-Cyl. Diesel 2.2L<sup>€</sup>  
 1985-8 Pontiac Sunburst Canada 4-Cyl. 1.5L<sup>€</sup>  
 1985-9 Chevy Spectrum 4-Cyl. 1.5L<sup>€</sup>  
 1988-93 Pontiac LeMans 4-Cyl. 1.6L<sup>€</sup>  
 1991-6 Olds Cutlass Supreme V-6 3.4L<sup>€</sup>  
 1991-6 Pontiac Grand Prix V-6 3.4L<sup>€</sup>  
 1991-7 Chevy Lumina Exc. Van, Monte Carlo V-6 3.4L<sup>€</sup>  
 1996-01 Cadillac Catera V6 (DOHC) 3.0L<sup>™</sup>  
 2000-01 Saturn L-Series V6 (DOHC) 3.0L<sup>™</sup>

### Honda/Acura/Sterling

1970-85 Accord 4-Cyl. 1.8L<sup>€</sup>  
 1973 Civic 4-Cyl. 1.2L<sup>€</sup>  
 1974-87 Civic 4-Cyl. 1.3L<sup>€</sup>  
 1975-79 CVCC 4-Cyl. 1.5L<sup>§</sup>  
 1976-82 Accord 4-Cyl. 1.6L<sup>€</sup>  
 1979-97 Prelude 4-Cyl. 1.8L<sup>€</sup>  
 1980-2 Prelude 4-Cyl. 1.6L<sup>€</sup>  
 1980-3 Civic Canada 4-Cyl. 1.3L<sup>€</sup>  
 1980-89 Civic 4-Cyl. 1.5L<sup>€</sup>  
 1983 Accord Canada 4-Cyl. 1.6L<sup>€</sup>  
 1984-89 CRX 4-Cyl. 1.3L, 1.5L<sup>€</sup>  
 1986-89 Accord, Prelude 4-Cyl. 2.0L<sup>€</sup>  
 1986-9 Acura Integra 4-Cyl. 1.6L<sup>¥</sup>  
 1986-9 Legend V-6 2.5L, 2.7L<sup>¥</sup>  
 1987-8 Sterling 825 V-6 2.5L<sup>€</sup>  
 1988-91 Civic, CRX 4-Cyl. 1.6L<sup>€</sup>  
 1988-96 Civic Del Sol 4-Cyl. 1.6L<sup>§</sup>  
 1989-91 Sterling 827 V-6 2.7L<sup>€</sup>  
 1990 Acura Integra 4-Cyl. 1.8L<sup>§</sup>  
 1990 Legend V-6 2.7L<sup>¥</sup>  
 1990-1 CRX 4-Cyl. 1.5L<sup>§</sup>  
 1990-1 Prelude 4-Cyl. 2.1L, 2.0L<sup>§</sup>  
 1990-5 Civic 4-Cyl. 1.5L<sup>§</sup>  
 1990-7 Accord 4-Cyl. 2.2L<sup>§</sup>  
 1990-7 Civic 4-Cyl. 1.6L<sup>§</sup>  
 1991-5 Acura Legend V-6 3.2L<sup>§</sup>  
 1991-6 Acura Integra 4-Cyl. 1.8L, 1.7L<sup>§</sup>  
 1991-6 Acura NSX V-6 3.0L<sup>§</sup>  
 1992-4 Acura Vigor 5-Cyl. 2.5L<sup>§</sup>  
 1992-7 Prelude 4-Cyl. 2.2L, 2.3L<sup>§</sup>  
 1994-6 Passport 4-Cyl. 2.6L<sup>§</sup>  
 1995-6 Acura 2.5TL 5-Cyl. 2.5L<sup>§</sup>  
 1997 Accord V-6 2.7L<sup>™</sup>  
 1995-7 Odyssey 4-Cyl. 2.2L<sup>§</sup>  
 1996 Acura 3.2TL V-6 3.2L<sup>§</sup>  
 1996 Acura 3.5RL V-6 3.5L<sup>§</sup>  
 1996-7 Acura SLX V-6 3.2L<sup>€</sup>  
 1997 Acura 2.2CL 4-Cyl. 2.2L<sup>§</sup>  
 1997-00 Civic 4-Cyl. (SOHC) 1.6L<sup>™</sup>  
 1997-01 CR-V 4-Cyl. 2.0L<sup>™</sup>  
 1997-01 Integra 4-Cyl. 1.8L<sup>™</sup>  
 1997-8 Acura 2.5TL 5-Cyl. 2.5L<sup>™</sup>  
 1997-8 Acura 3.0CL V-6 3.0L<sup>™</sup>  
 1997-8 Acura 3.2TL V-6 3.2L<sup>™</sup>  
 1997-8 Acura 3.5RL V-6 3.5L<sup>™</sup>  
 1997-8 Acura NSX V-6 3.0L, 3.2L<sup>™</sup>  
 1997-99 3.0CL V6 3.0L<sup>™</sup>  
 1998 Accord, Odyssey 4-Cyl. 2.3L<sup>™</sup>  
 1998 Acura 2.3CL 4-Cyl. 2.3L<sup>™</sup>  
 1998 Acura SLX V-6 3.5L<sup>¥</sup>  
 1998 Prelude 4-Cyl. 2.2L<sup>§</sup>  
 1998-01 Accord V6 3.0L<sup>™</sup>

1999-01 3.2TL V6 3.2L<sup>™</sup>  
 1999-01 Odyssey V6 3.5L<sup>™</sup>  
 1999-98 2.3CL 2.3L 4-Cyl. <sup>™</sup>  
 2001 3.2CL V6 3.2L<sup>™</sup>  
 2001 MDX V6 3.5L<sup>™</sup>

### Jeep-Eagle

1989-90 Summit, Vista Canada 4-Cyl. 1.6L<sup>€</sup>  
 1989-92 Vista Canada 4-Cyl. 1.5L<sup>€</sup>  
 1989-96 Summit 4-Cyl. 1.5L<sup>€</sup>  
 1990-8 Talon 4-Cyl. & Turbo 2.0L<sup>€</sup>  
 1991-2 2000 GTX Canada 4-Cyl. 2.0L<sup>€</sup>

### Fiat

1974-8 124 Series 4-Cyl. 1.6L<sup>‡</sup>  
 1974-8 Brava, 124 & 131 Series 4-Cyl. 1.8L<sup>‡</sup>  
 1974-8 X1/9 4-Cyl. 1.3L<sup>‡</sup>  
 1974-9 128 Series 4-Cyl. 1.3L<sup>‡</sup>  
 1978-81 Brava 4-Cyl. 2.0L<sup>‡</sup>  
 1979-82 Strada, X1/9 4-Cyl. 1.5L<sup>‡</sup>  
 1979-92 Spider 2000 4-Cyl. 2.0L<sup>‡</sup>

### Ford/Mercury

1984-6 Topaz 4-Cyl. 2.0L<sup>™</sup>  
 1984-7 Escort, Tempo 4-Cyl. Diesel 2.0L<sup>™</sup>  
 1985-7 Ranger Pickup 4-Cyl. Diesel 2.3L<sup>€</sup>  
 1987-90 Tracer 4-Cyl. (SOHC) 1.6L<sup>€</sup>  
 1989-92 Probe 4-Cyl. 2.2L<sup>€</sup>  
 1993-7 Probe 4-Cyl. 2.0L<sup>€</sup>  
 1993-8 Villager V-6 3.0L<sup>™</sup>  
 Geo  
 1985-9 Spectrum 4-Cyl. 1.5L<sup>€</sup>  
 1990-3 Storm 4-Cyl. 1.6L<sup>€</sup>

### Hyundai

1984-94 Excel 4-Cyl. 1.5L<sup>€</sup>  
 1989-91 Sonata 4-Cyl. 2.4L<sup>€</sup>  
 1990-8 Sonata V-6 3.0L<sup>€</sup>  
 1991-5 Scoupe 4-Cyl. 1.5L<sup>€</sup>  
 1992-5 Elantra 4-Cyl. 1.6L<sup>€</sup>  
 1992-8 Sonata 4-Cyl. 2.0L<sup>€</sup>  
 1993-8 Elantra 4-Cyl. 1.8L<sup>€</sup>  
 1995-8 Accent 4-Cyl. 1.5L<sup>€</sup>  
 1997 Tiburon 4-Cyl. 1.8L<sup>€</sup>  
 1997-8 Tiburon 4-Cyl. 2.0L<sup>€</sup>  
 1999-01 Elantra, Tiburon 4-Cyl. 2.0L<sup>€</sup>  
 2001 Accent 4-Cyl. (DOHC) 1.6L<sup>€</sup>

### Isuzu

1981-4 I-Mark 4-Cyl. 1.8L<sup>€</sup>  
 1981-7 P'UP Pickup 4-Cyl. 2.2L<sup>€</sup>  
 1983-5 Pickup 4-Cyl. 2.2L<sup>€</sup>  
 1984-7 P'UP Pickup, Trooper II 4-Cyl. Turbo 2.2L<sup>€</sup>  
 1984-7 Trooper II 4-Cyl. 2.2L<sup>€</sup>  
 1985-9 I-Mark 4-Cyl. 1.5L<sup>€</sup>  
 1985-9 Impulse 4-Cyl. 2.0L<sup>€</sup>  
 1986-7 P'UP Pickup, Trooper II 4-Cyl. 2.3L<sup>€</sup>  
 1986-95 Pickup 4-Cyl. 2.3L<sup>€</sup>  
 1987-9 I-Mark 4-Cyl. Turbo 1.5L<sup>€</sup>  
 1988-9 Impulse 4-Cyl. 2.3L<sup>€</sup>  
 1988-91 Trooper 4-Cyl. 2.6L<sup>€</sup>  
 1988-95 Pickup 4-Cyl. 2.6L<sup>€</sup>  
 1989-93 Amigo 4-Cyl. 2.3L<sup>€</sup>  
 1989-94 Amigo 4-Cyl. 2.6L<sup>€</sup>  
 1991-7 Rodeo 4-Cyl. 2.6L<sup>€</sup>  
 1996-7 Oasis 4-Cyl. 2.2L<sup>§</sup>  
 1998 Amigo, Rodeo 4-Cyl. 2.2L<sup>¥</sup>

1998 Oasis 4-Cyl. 2.3L<sup>Ⓜ</sup>  
 1998 Trooper V-6 3.5L<sup>¥</sup>  
 1999-00 Amigo, Rodeo 4-Cyl. 2.2L<sup>€-Ⓜ</sup>  
 2001 Rodeo 4-Cyl. 2.2L<sup>€-¥</sup>

### Kia

1995-01 Sportage 4-Cyl. (DOHC Calif.)  
 2.0L<sup>Ⓜ</sup>  
 1995-01 Sportage 4-Cyl. (DOHC) 2.0L<sup>€</sup>  
 1995-8 Sportage 4-Cyl. DOHC Calif 2.0L<sup>Ⓜ</sup>  
 1995-8 Sportage 4-Cyl. DOHC 2.0L<sup>€</sup>  
 1998-01 4-Cyl. (DOHC) (Calif.) 1.8L<sup>Ⓜ</sup>  
 1998-01 4-Cyl. (DOHC) (Exc. Calif.) 1.8L<sup>€</sup>  
 2000-01 Spectra 4-Cyl. (DOHC Calif.)  
 1.8L<sup>Ⓜ</sup>  
 2000-01 Spectra 4-Cyl. (DOHC) 1.8L<sup>€</sup>

### Mazda

1984-5 626 4-Cyl. Diesel 2.0L<sup>€</sup>  
 1987-93 B2200 4-Cyl. 2.2L<sup>€</sup>  
 1988-91 929 V-6 3.0L<sup>€</sup>  
 1988-92 MX-6, 626 4-Cyl. 2.2L<sup>€</sup>  
 1989-97 MPV V-6 3.0L<sup>€</sup>  
 1990-1 323 Canada 4-Cyl. 1.8L<sup>€</sup>  
 1992-5 Serenia Canada, 929 V-6 3.0L<sup>€</sup>  
 1993-7 MX-6 4-Cyl. 2.0L<sup>€</sup>  
 1994-7 B2300 4-Cyl. 2.3L<sup>€</sup>  
 1983-00 626 4-Cyl. (DOHC) 2.0L<sup>Ⓜ</sup>  
 1997-00 626 4-Cyl. (DOHC) 2.0L<sup>€</sup>  
 1998 626 4-Cyl. Calif 2.0L<sup>Ⓜ</sup>  
 1998 626 4-Cyl. 2.0L<sup>€</sup>  
 1998 MPV V-6 Calif 3.0L<sup>Ⓜ</sup>  
 1998 MPV V-6 3.0L<sup>€</sup>  
 2001 626, Protégé 4-Cyl. (DOHC) 2.0L<sup>Ⓜ</sup>

### Mitsubishi

1983-6 Pickup 4-Cyl. 2.3L<sup>◇</sup>  
 1985-8 Mirage 4-Cyl. Turbo 1.6L<sup>€</sup>  
 1987-89 Precis 4-Cyl. 1.5L<sup>€</sup>  
 1987-93 Precis 4-Cyl. 1.5L<sup>€</sup>  
 1989 Mirage 4-Cyl. 1.6L DOHC<sup>€</sup>  
 1989-93 Galant 4-Cyl. 2.0L DOHC<sup>€</sup>  
 1990-4 Eclipse 4-Cyl. 1.8L, 2.0L<sup>€</sup>  
 1990-8 Eclipse 4-Cyl. Turbo 2.0L<sup>€</sup>  
 1991 Mirage 4-Cyl. DOHC 1.6L<sup>€</sup>  
 1991-8 3000 GT V-6 3.0L<sup>€</sup>  
 1992-5 Expo 4-Cyl. 2.4L<sup>€</sup>  
 1992-6 Diamante V-6 DOHC 3.0L<sup>€</sup>  
 1994-6 Galant 4-Cyl. DOHC 2.4L<sup>€</sup>  
 1995 Expo LRV 4-Cyl. 2.4L<sup>€</sup>  
 1995-8 Eclipse 4-Cyl. VIN Y 2.0L<sup>€</sup>  
 1996-8 Eclipse 4-Cyl. 2.4L<sup>€-Ⓜ</sup>  
 1995-01 Mirage 4-Cyl. 1.5L<sup>€-Ⓜ</sup>  
 1997-01 Montero & Sport V6 (SOHC)  
 3.5L<sup>€</sup>  
 1997-01 Montero Sport V6 (SOHC, 24-  
 Valve) 3.0L<sup>€</sup>  
 1997-01 Diamante V6 (SOHC) 3.5L<sup>€</sup>  
 1997-8 Montero Sport 4-Cyl. 2.4L<sup>€</sup>  
 1997-8 Montero Sport V-6 3.0L<sup>€</sup>  
 1998-99 Eclipse 4-Cyl. (Non-Turbo) 2.0L<sup>€</sup>  
 1999-00 Pathfinder V6 (SOHC) 3.3L<sup>Ⓜ</sup>  
 1999-01 Galant V6 (SOHC, 24-Valve)  
 3.0L<sup>€</sup>  
 2000-01 Eclipse V6 (SOHC, 24-Valve)  
 3.0L<sup>€</sup>

### Nissan/Infiniti

1982 Sentra, 310 4-Cyl. 1.5L<sup>€</sup>  
 1982-9 Stanza 4-Cyl. 2.0L<sup>€</sup>  
 1983 Pulsar 4-Cyl. 1.5L<sup>€</sup>

1983-7 Sentra Canada 4-Cyl. 1.7L<sup>€</sup>  
 1983-8 Pulsar, Sentra 4-Cyl. 1.6L<sup>€</sup>  
 1984-6 200SX 4-Cyl. Turbo 2.0L<sup>€</sup>  
 1984-8 200SX 4-Cyl. 2.0L<sup>€</sup>  
 1984-96 300ZX V-6 Turbo 3.0L<sup>€</sup>  
 1986-93 Pathfinder, Pickup V-6 3.0L<sup>€</sup>  
 1987-8 200SX V-6 3.0L<sup>€</sup>  
 1988-9 Pulsar 4-Cyl. 1.8L<sup>€</sup>  
 1990-2 Infiniti M30 V-6 3.0L<sup>€</sup>  
 1993-7 Infiniti J30, Quest V-6 3.0L<sup>€</sup>  
 1994-6 300ZX V-6 3.0L<sup>Ⓜ</sup>  
 1995-7 Maxima V-6 3.0L<sup>€</sup>  
 1996-7 Infiniti QX4 V-6 3.3L<sup>‡</sup>  
 1996-7 Pathfinder V-6 3.3L<sup>€</sup>  
 1998 Infiniti QX4, Pathfinder V-6 3.3L<sup>Ⓜ</sup>  
 1998 Maxima, Quest V-6 3.0L<sup>Ⓜ</sup>

### Peugeot

1986-92 505 4-Cyl. Exc. Turbo 2.2L<sup>€</sup>

### Porsche

1976-83 924 4-Cyl. 2.0L<sup>◇</sup>  
 1978-83 928 V-8 4.5L<sup>€</sup>  
 1983-9 944 & S 4-Cyl. 2.5L<sup>◇</sup>  
 1984 928 V-8 4.7L<sup>€</sup>  
 1985-8 924 4-Cyl. 2.5L<sup>◇</sup>  
 1985-91 928 V-8 5.0L<sup>€</sup>  
 1987-9 944 Turbo 4-Cyl. 2.5L<sup>◇</sup>  
 1989 944 4-Cyl. 2.7L<sup>◇</sup>  
 1989-91 944S2 4-Cyl. 3.0L<sup>◇</sup>  
 1992-5 928 V-8 5.0<sup>€</sup>  
 1992-5 968 4-Cyl. 3.0L<sup>◇</sup>

### Renault

1984-7 Alliance, Encore 4-Cyl. 1.7L<sup>€</sup>

### Subaru

1992-7 SVX 6-Cyl. 3.3L<sup>€</sup>

### Suzuki

1989-94 Swift 4-Cyl. DOHC 1.3L<sup>Ⓜ</sup>

### Toyota

1980-94 Tercel 4-Cyl. 1.5L<sup>€</sup>  
 1981-3 Pickup 4-Cyl. 2.2L<sup>€</sup>  
 1983-6 Camry, Corolla 4-Cyl. 1.8L<sup>€</sup>  
 1987-84 Pickup 4-Cyl. 2.4L<sup>Ⓜ</sup>  
 1998-01 Land Cruiser, Lexus LX470 V8  
 4.7L<sup>§</sup>  
 2000-01 Tundra V8 4.7L<sup>§</sup>

### Volkswagen/Audi

1970-3, Audi Super 90 Diesel 1.6L<sup>€</sup>  
 1976-80 Dasher, Rabbit 4-Cyl. 1.5L<sup>€</sup>  
 1980 Pickup 4-Cyl. 1.5L<sup>€</sup>  
 1981-2 Dasher, Vanagon 4-Cyl. 1.6L<sup>€</sup>  
 1981-3 Pickup 4-Cyl. Diesel 1.6L<sup>€</sup>  
 1981-3, Audi Diesel 2.0L<sup>€</sup>  
 1981-4 Rabbit 4-Cyl. 1.6L<sup>€</sup>  
 1981-6 Quantum 4-Cyl. 1.6L<sup>€</sup>  
 1981-92 Jetta 4-Cyl. 1.6L<sup>€</sup>  
 1983-4 GTI 4-Cyl. Diesel 1.6L<sup>€</sup>  
 1985-8 Golf 4-Cyl. 1.6L<sup>€</sup>  
 1985-92 Golf Canada 4-Cyl. 1.6L<sup>€</sup>  
 1993-00 Golf, Jetta 4-Cyl. 2.0L<sup>€</sup>  
 1995-01 Cabrio 2.0L<sup>€</sup> 4-Cyl.  
 1995-7 Audi 90, A4, A6 & Quattro, Cabrio-  
 let V-6 2.8L<sup>§</sup>  
 1996-7 Passat 4-Cyl. 1.9L<sup>€</sup>  
 1996-99 GTI 4-Cyl. 2.0L<sup>€</sup>  
 1997-8 Audi A8, A8 Quattro V-8 3.7L,  
 4.2L<sup>§</sup>

1997-98 Audi A8 V8 3.7L<sup>§</sup>  
 1997-99 Audi A4 Quattro 4-Cyl. Turbo  
 1.8L<sup>§</sup>  
 1998 Beetle, Jetta 4-Cyl. 1.9L<sup>€</sup>  
 1998 Passat 4-Cyl. 1.8L<sup>§</sup>  
 1998 Passat V6 2.8L<sup>§</sup>  
 1998-00 New Beetle 4-Cyl. 2.0L<sup>€</sup>  
 1998-01 New Beetle 4-Cyl. Diesel (Auto.  
 Trans.) 1.9L<sup>‡</sup> (Man. Trans.) 1.9L<sup>€</sup>  
 1999 Audi A4, A6 Quattro & Quattro Turbo  
 V6, 30-Valve 2.8L<sup>¥</sup>  
 1999 Audi A8, Quattro V8 3.7L<sup>¥</sup>  
 1999 Cabrio, GTI 4-Cyl. 2.0L<sup>€</sup>  
 1999 Passat V6 2.8L<sup>¥</sup>  
 1999-01 Golf & Jetta 4-Cyl. Diesel 1.9L<sup>€</sup>  
 1999-01 New Beetle 4-Cyl. 1.8L<sup>Ⓜ</sup>  
 2000 Audi A4 Quattro V6 DOHC 2.7L<sup>Ⓜ</sup>  
 2000 Audi A6 Quattro & Quattro Turbo V6,  
 30-Valve 2.8L<sup>Ⓜ</sup>  
 2000 Audi A8 Quattro V8 4.2L<sup>Ⓜ</sup>  
 2000-01 Passat 4-Cyl. 1.8L<sup>§</sup>  
 2000-01 Passat V6 2.8L<sup>Ⓜ</sup>  
 2000-01 TT Coupe & Roadster 4-Cyl.  
 Turbo 1.8L<sup>Ⓜ</sup>  
 2001 New Beetle 4-Cyl. 2.0L<sup>Ⓜ</sup>

### Volvo

1976-9 242, 244, 245 4-Cyl. 2.1L<sup>‡</sup>  
 1980-3 Diesel, DL, 760 GLE 6-Cyl. 2.4L<sup>¥</sup>  
 1980-5 DL, GL, GLT, GT Turbo 4-Cyl.  
 2.1L<sup>‡</sup>  
 1980-3 GLT 4-Cyl. 2.3L<sup>‡</sup>  
 1980-5 DL, GL 4-Cyl. 2.3L<sup>‡</sup>  
 1980-5 GL 6-Cyl. 2.4L<sup>¥</sup>  
 1984-5 760 4-Cyl. 2.3L<sup>‡</sup>  
 1984-5 760 6-Cyl. 2.4L<sup>¥</sup>  
 1984-6 240, 740 4-Cyl. 2.3L<sup>◇</sup>  
 1984-6 740 6-Cyl. 2.4L<sup>¥</sup>  
 1987-90 760, 780 4-Cyl. 2.3L<sup>◇</sup>  
 1987-92 740 4-Cyl. 2.3L<sup>◇</sup>  
 1989-90 740 Canada 4-Cyl. 2.3L<sup>◇</sup>  
 1991 Coupe 4-Cyl. 2.3L<sup>◇</sup>  
 1991-3 940 Canada 2.3L<sup>◇</sup>  
 1991-5 940 4-Cyl. 2.3L<sup>◇</sup>  
 1992-3 960 6-Cyl. 2.9L<sup>‡</sup>  
 1993 850 5-Cyl. 2.4L<sup>◇</sup>  
 1994 960 6-Cyl. 2.9L<sup>◇</sup>  
 1994-7 850 5-Cyl. 2.4L<sup>¥</sup>  
 1995-7 850 5-Cyl. 2.3L<sup>¥</sup>  
 1995-7 960 6-Cyl. 2.9L<sup>¥</sup>  
 1998 C70, S70 & V70 5-Cyl & Turbo. 2.3L<sup>¥</sup>  
 2.4L<sup>¥</sup>  
 1998 S90, V90 6-Cyl. 2.9L<sup>¥</sup>  
 1999-01 C70, S70 & V70 5-Cyl. 2.3L<sup>Ⓜ</sup>  
 1999-01 C70, S70 & V70 5-Cyl. 2.4L<sup>Ⓜ</sup>

### Yugo

1986-9 GV Series 4-Cyl. 1.1L, 1.3L<sup>€</sup>

Data for this list was compiled from material provided by Gates Rubber Company and is only meant to be a quick reference guide. Always check the owner's maintenance manual or the latest updates for more specific information. For more complete info, including belt applications: [www.gates.com](http://www.gates.com).

