GATES POWERGRIP® TIMING BELTS

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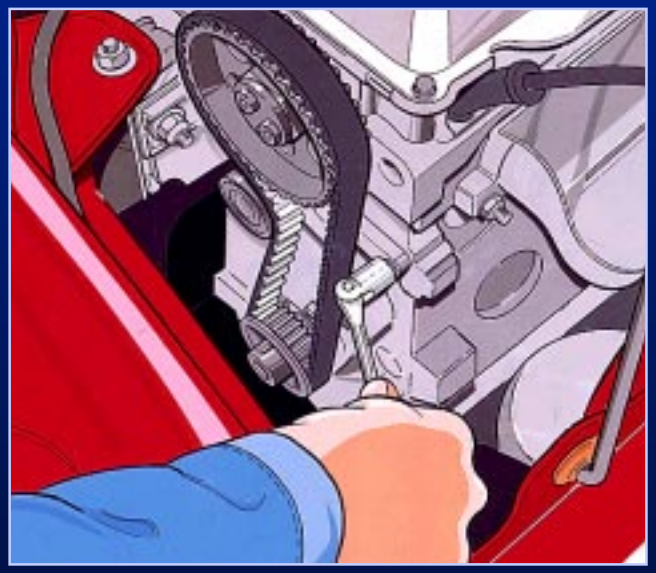
- PowerGrip® timing belt troubleshooting guide
- More about PowerGrip® timing belts

GATES POWERGRIP®
TIMING BELTS

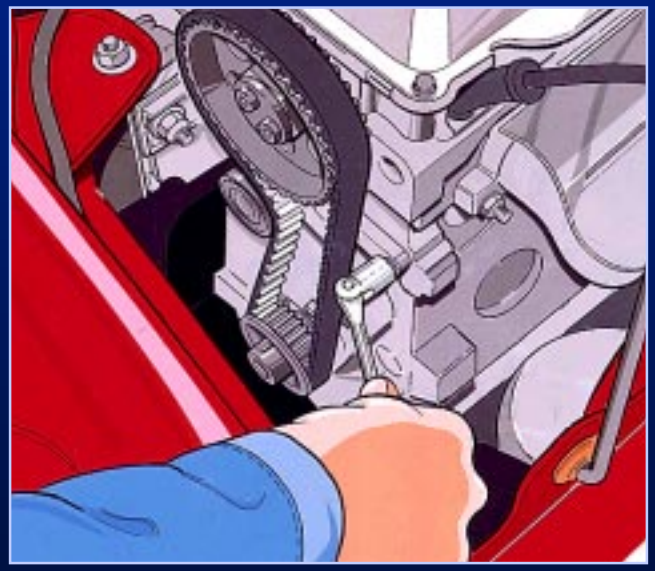
INSTALLATION

Timing Belt Installation



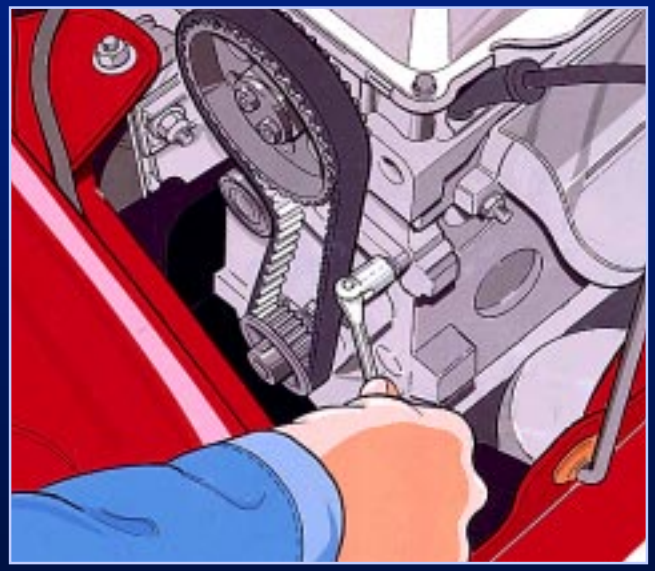
Always follow the vehicle manufacturer's recommendations for replacing timing belts.

These vary. There are different tensioning methods and some automakers have designed special installation tools. Use of any other tool could cause damage. So make sure you use the right tools in order not to damage the belt.

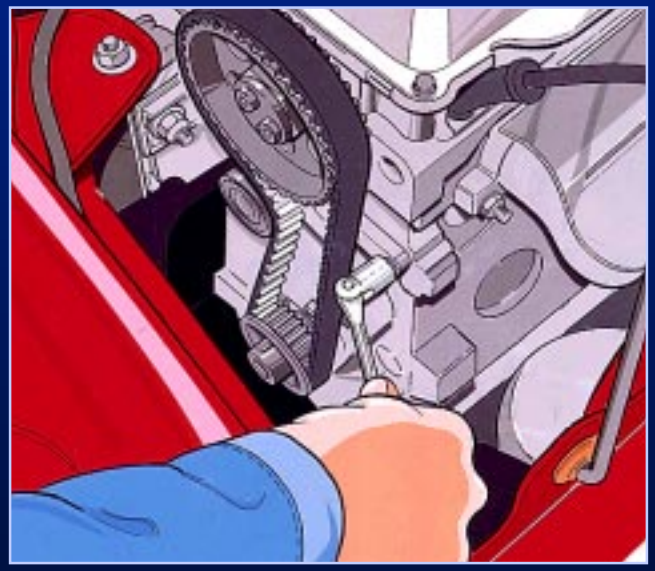


Timing Belt Replacement Example

Timing Belt Replacement Example



There are no general procedures that apply to every job. To provide an idea of what steps would be taken in a job of this type, here's the step-by-step procedure recommended by one manufacturer. Remember, this is just an example. **It's important that you check your particular vehicle manufacturer's maintenance manual for specific instructions.**



Timing Belt Replacement Example

Belt removal

Timing Belt Replacement Example

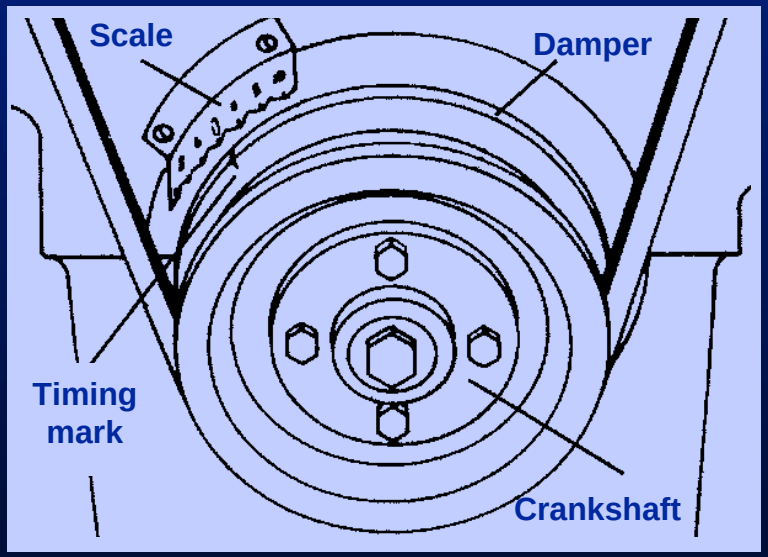
Belt removal

Step 1

Disconnect battery earth cable.

Step 2

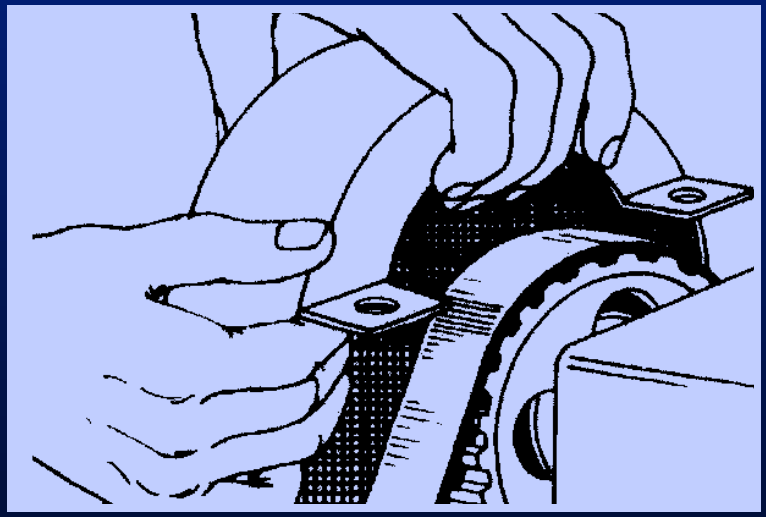
Turn the crankshaft (in the direction of normal rotation) to TDC by aligning the “O” timing mark on the engine cover scale with the timing mark on the crankshaft damper. The distributor rotor should be lined up with the index mark on the distributor body to be in No. 1 cylinder firing position.



Timing Belt Replacement Example

Belt removal

Step 3
Remove any belts, pulleys or hoses interfering with the removal of timing belt cover.

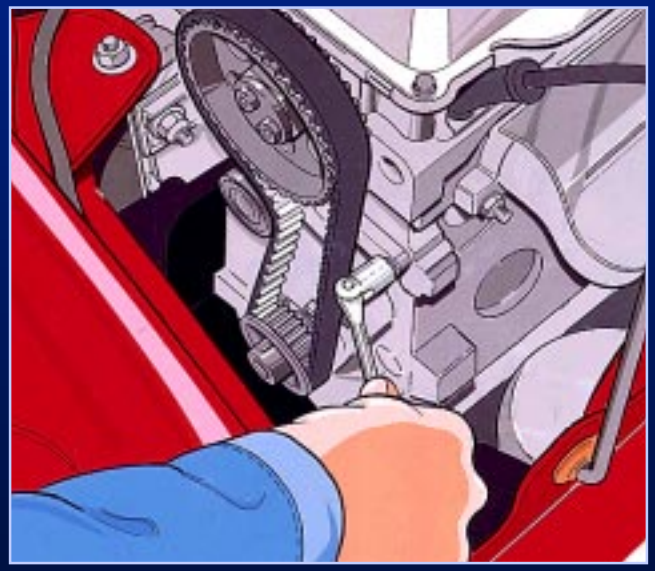


Step 4
Remove the timing belt cover.

Step 5
Loosen belt tensioner adjustment bolt.

Step 6
Pry tensioner away from the belt and re-tighten the tensioner adjustment bolt.

Step 7
Remove timing belt.



Timing Belt Replacement Example

Belt installation

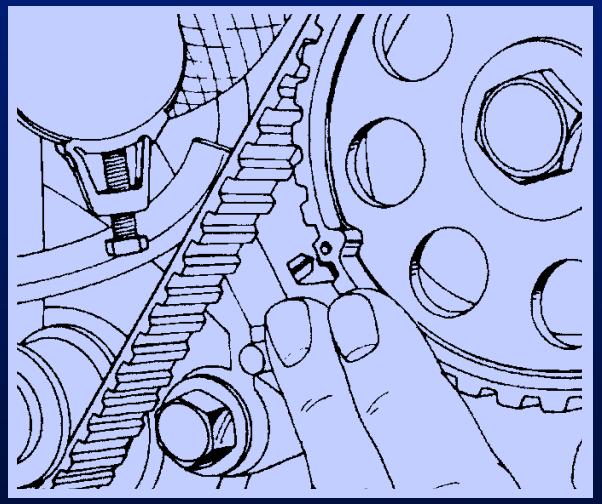
Timing Belt Replacement Example

Belt Installation

Step 1

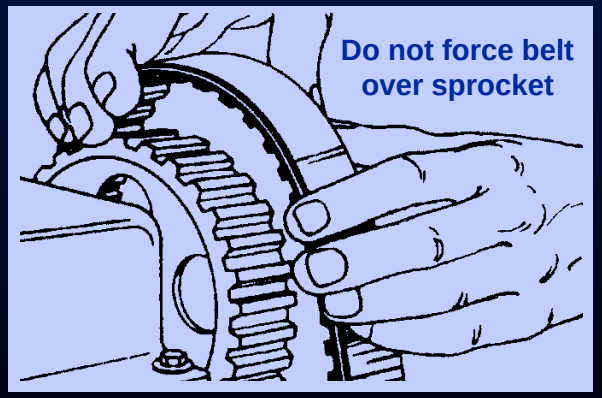
Make sure timing marks are properly aligned.

a. **Crankshaft pointer at TDC.**
b. **Distributor rotor aligned with timing mark on distributor housing.**
c. **Camshaft pulley timing pointer aligned with mark on engine block.**



Step 2

Place belt over pulleys.

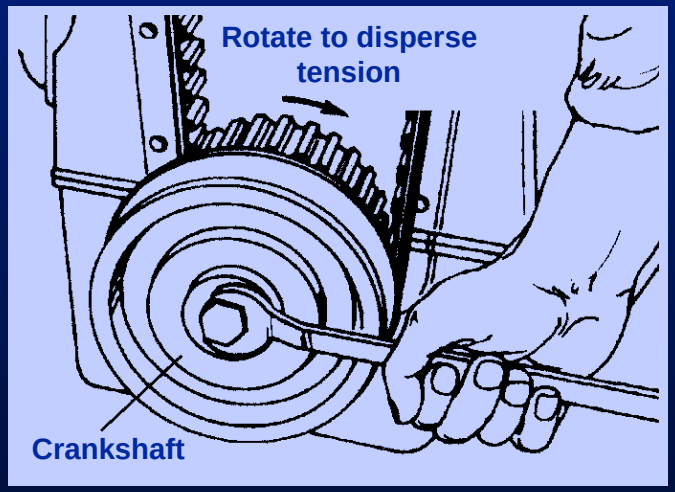


Timing Belt Replacement Example

Belt Installation

Step 3

Loosen the tensioner adjustment bolt so that it can swing back against the belt. Be careful to ease the tensioner into position. Do not let it strike the belt a hard blow. Make sure the tensioner spring is engaged properly.
If there is no spring-loaded tensioner, tension the belt according to the vehicle manufacturer's recommendations.



Step 4

Rotate crankshaft (in the direction of normal rotation) at least two complete turns to remove any slack in the belt and allow tensioner to tighten against the belt.

Timing Belt Replacement Example

Belt Installation

Step 5

Re-check timing marks. Torque the tensioner adjustment and pivot bolts to the manufacturer's recommended torque setting.

Step 6

Reinstall the timing belt cover and any belts, pulleys or hoses that may have been removed. Torque all bolts to the manufacturer's recommended torque (Nm) setting.

Step 7

Reconnect battery earth cable.

Step 8

Start the engine, check the ignition timing and make any necessary adjustments.

This is a procedure recommended by one manufacturer. These steps can differ significantly for the same job on another model or make of car.

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GATES POWERGRIP® TIMING BELTS

TROUBLESHOOTING GUIDE

Timing belt troubleshooting guide

When a belt fails prematurely, it's important to determine why it failed so corrective action can be taken. If the belt has to be removed for any reason, a new belt should be installed. Never refit a used timing belt.

Noise

PROBABLE CAUSE	CORRECTIVE ACTION
1. High tension	Install at correct tension
2. Low tension	Install at correct tension
3. Misalignment	Correct alignment
4. Flange(s) damaged	Replace pulley(s)

Timing belt troubleshooting guide

Tensile failure

PROBABLE CAUSE	CORRECTIVE ACTION
1. Foreign body in drive	Ensure cover is correctly fitted
2. Excessive installation tension	Install at correct tension
3. Belt crimped due to improper handling	Observe handling instructions

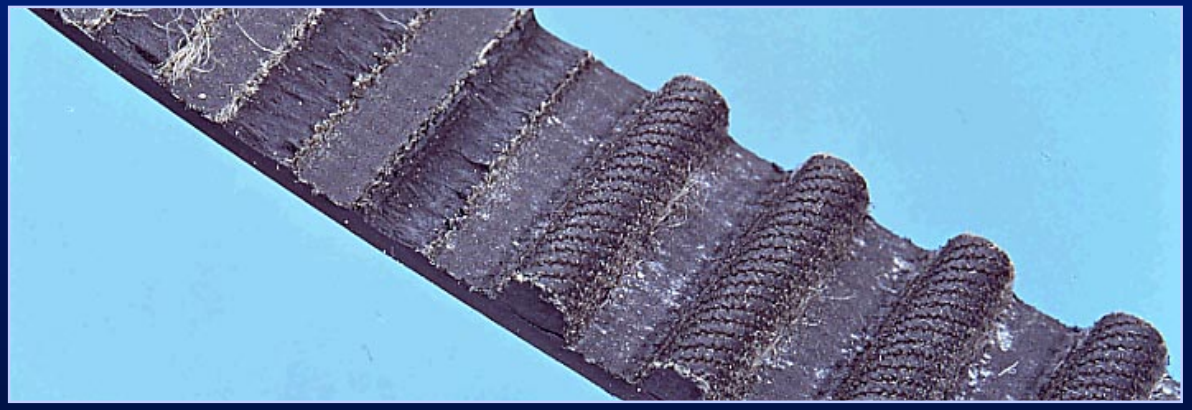
Timing belt troubleshooting guide

Tooth shear

PROBABLE CAUSE	CORRECTIVE ACTION
1. Low tension	Install at correct tension
2. Seizure of driven part	Eliminate cause
3. Misalignment	Correct alignment

Timing belt troubleshooting guide

Tooth wear



PROBABLE CAUSE	CORRECTIVE ACTION
1. Incorrect tension	Install at correct tension
2. Worn pulley(s)	Replace pulley(s)

Timing belt troubleshooting guide

Hollowed teeth

PROBABLE CAUSE	CORRECTIVE ACTION
1. Extremely low tension	Install at correct tension
2. Loss of tension during running	Ensure tensioner screws are tight

Timing belt troubleshooting guide

Back cracks

PROBABLE CAUSE	CORRECTIVE ACTION
1. High temperature	Eliminate cause
2. Low temperature	Eliminate cause

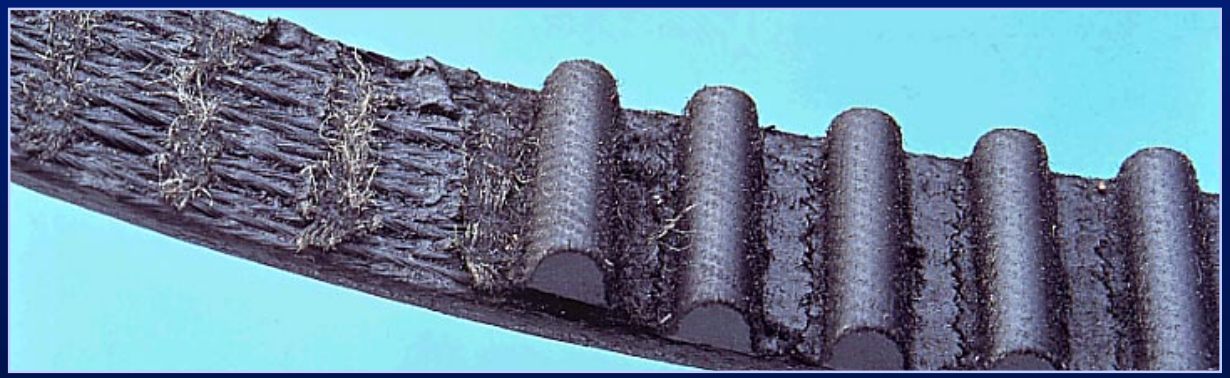
Timing belt troubleshooting guide

Land wear

PROBABLE CAUSE	CORRECTIVE ACTION
1. Excessive tension	Install at correct tension
2. Rough pulley(s)	Replace pulley(s)

Timing belt troubleshooting guide

Oil contamination



PROBABLE CAUSE	CORRECTIVE ACTION
1. Oil leak	Replace faulty oil seals

Timing belt troubleshooting guide

Edge wear

PROBABLE CAUSE	CORRECTIVE ACTION
1. Flange(s) damaged	Replace pulley(s)
2. Misalignment	Correct alignment

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MORE ABOUT

GATES POWERGRIP®

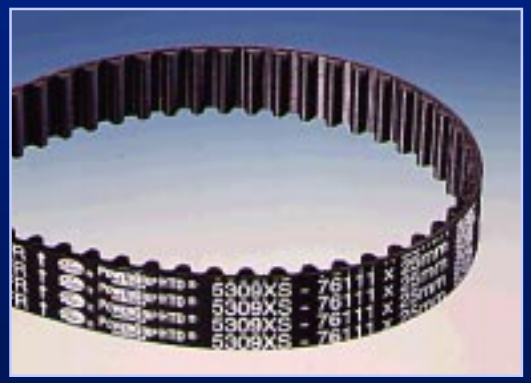
TIMING BELTS

Gates PowerGrip® timing belts

- Gates has the most complete line of OE-equivalent belts of any manufacturer.
- Gates sells more timing belts to car builders than any other belt manufacturer.
- Gates leads the way in timing belt technology, introducing design changes in materials and tooth profiles.
- Gates helps you sell timing belts.

PowerGrip® Timing Belt

(Prod. types 8595 and 8597)



Construction:

- Strong fibreglass tensile cords
- Durable backing material
- Precision-formed teeth
- Tough facing

Recommended for:

overhead camshaft applications with small diameter pulleys and other applications originally equipped with synchronous belts.

Packaging:

individually packed in boxes showing belt applications and installation.

PowerGrip® Kit

(Prod. type 7883)

Timing belts and metal components combined in one package.
Today's highly sophisticated and compact engines make life harder on timing belts, idlers and tensioners. Therefore, simultaneous and preventive replacement of belt and metal components, before the expected lifetime is reached, is highly recommended.

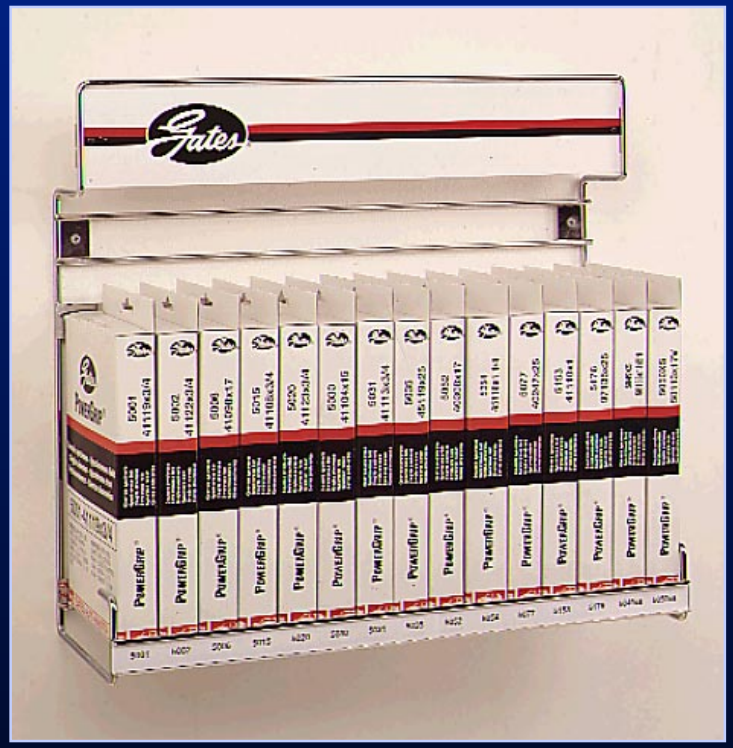
Each kit contains:

- **1 or 2 timing belts;**
- **1 or 2 idlers / tensioners;**
- **metal support plates, depending on the application;**
- **installation instructions.**

Packaging:

all components are handily packed in a biodegradable plastic shell or in a carton.

PowerGrip®
timing belt merchandiser



Have the most popular replacement belts readily available to ensure fast service to your customers!

This handy and compact merchandiser is especially designed to carry a stock of 15 timing belts. Out of the Gates timing belt range, select 15 belts to suit your market requirements.

PowerGrip® Packaging

Timing belts have a very strong tensile cord made of fibreglass. It is of utmost importance not to kink the fibreglass tensile cords.

In order not to damage the belt during handling and transportation, Gates timing belts are **individually packed in boxes**.

Consult the **application data and installation tips** on the box.

PowerGrip® timing belts

Extra information on storage, handling and installation of timing belts is available in Gates' troubleshooting guide for timing belts.

Ref. E/70117

If you want other useful information on Gates timing belts, consult our timing belt leaflet.

Ref. E/70260

Go back to PowerGrip® timing belt menu