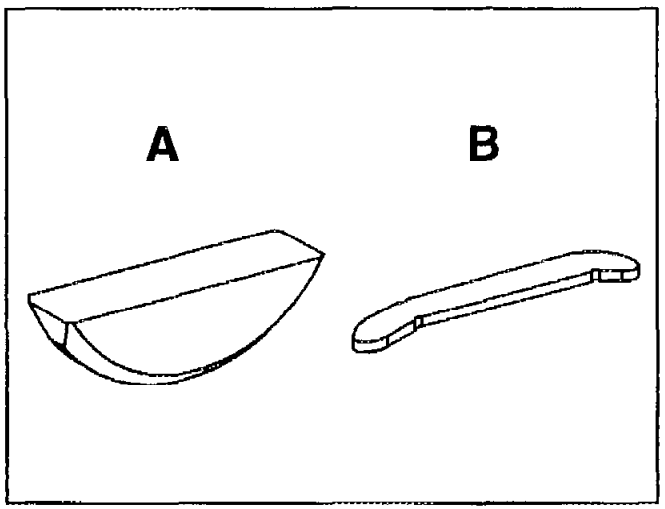
E17 BT00.00-X-1000Z	Technical modifications	21.6.99

BT03.20-P-0001-01A	Modified parallel key (metal version) for hub at crankshaft	ENGINE 602, 604, 605, 606	F17
BT03.20-P-0002-01A	Front crankshaft radial seal with reduced radial pressure stress	ENGINE 602, 604, 605, 606	H17
BT01.40-P-0001-01A	End cover with vulcanized radial seal		M17
BT03.30-P-0004-01A	Vibration damper vulcanized to belt pulley and brazed hub		O17
BT03.30-P-0003-01A	Vibration damper with unhardened contact surface for radial seal	ENGINE 602, 605, 606	P17
BT03.30-P-0001-01A	Bolt for two-mass flywheel modified		C18
BT03.30-P-0002-01A	Bolt for driven plate, flywheel, sheet metal two-mass flywheel standardized	ENGINE 111, 604, 605, 606	D18

F17 BT03.20-P-0001-01A	Modified parallel key (metal version) for hub at crankshaft	ENGINE 602, 604, 605, 606	BT

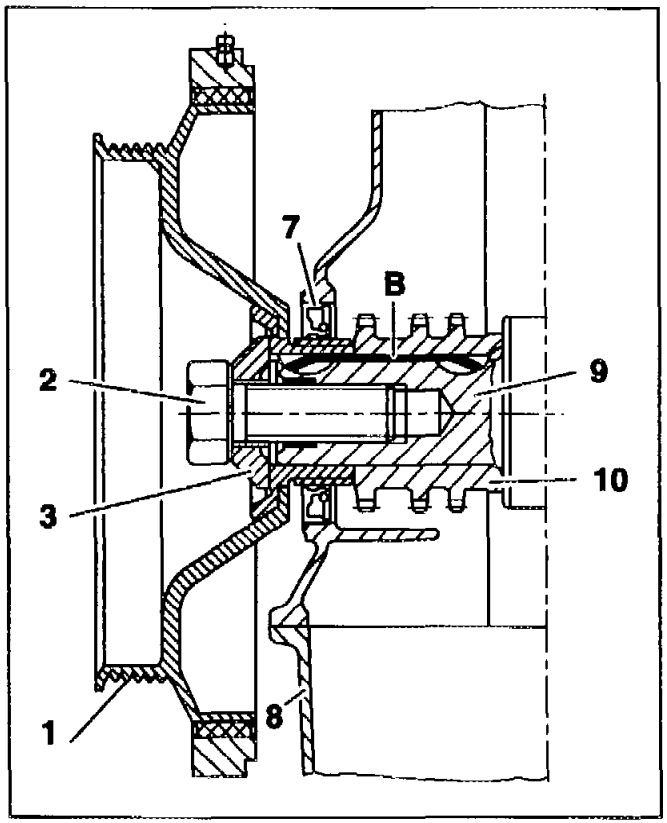
As a result of ongoing technical development, the ground woodruff key is replaced by a metal parallel key on the engines of the model designations listed.



P03.00-0262-01

A Woodruff key (previous)
B Parallel key

The parallel key version B no longer has to be aligned when installing the vibration damper (slip-proof, captive).



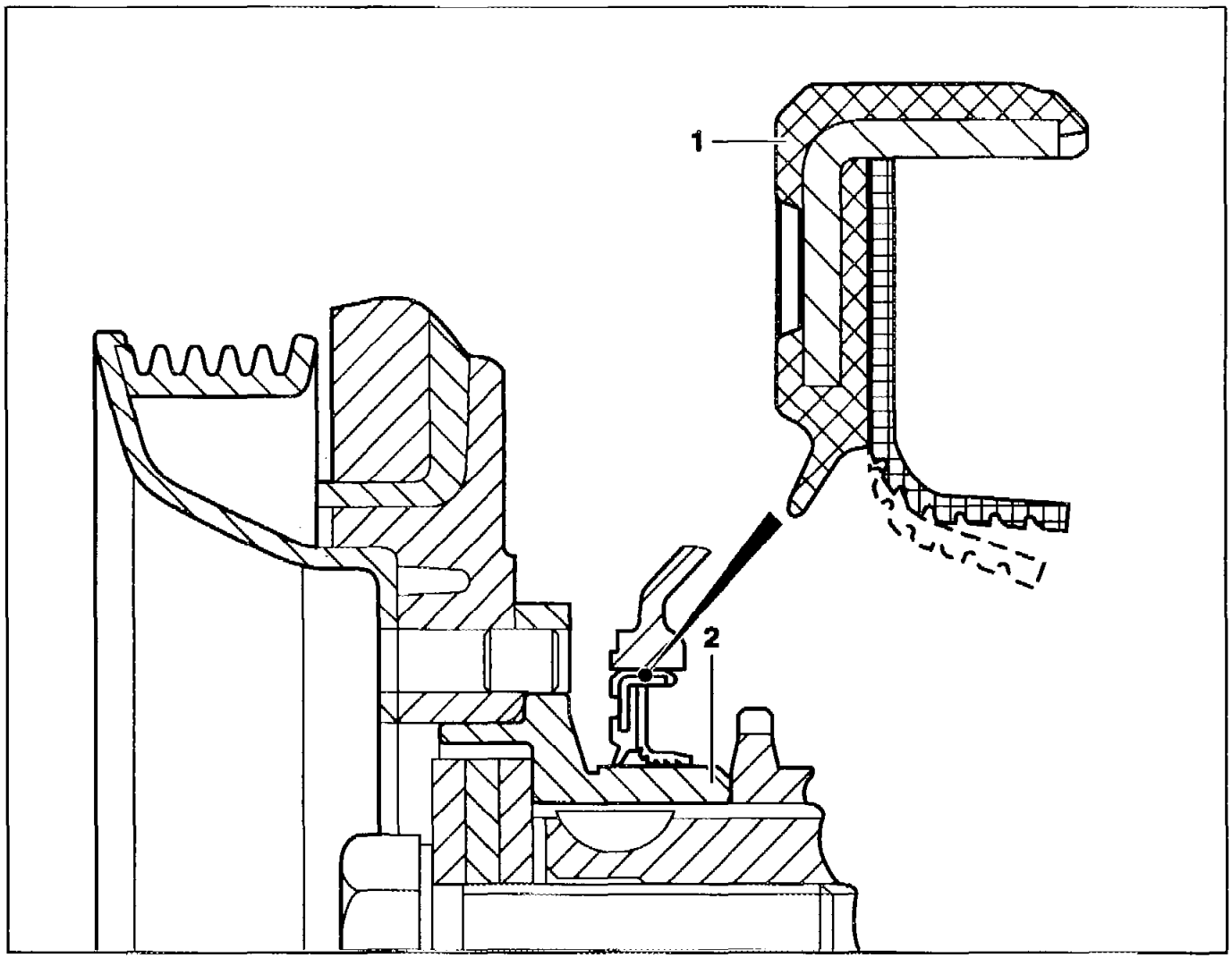
P03.20-0291-02

H17 BT03.20-P-0002-01A	Front crankshaft radial seal with reduced radial pressure stress	ENGINE 602, 604, 605, 606	BT

ENGINE 602.982 as of 1.7.97 in MODEL 210
ENGINE 604.910 as of 1.7.97 in MODEL 202
ENGINE 604.912 as of 1.7.97 in MODEL 210
ENGINE 604.915 as of 1.7.97 in MODEL 202
ENGINE 604.917 as of 1.7.97 in MODEL 210
ENGINE 605.912 as of 1.7.97 in MODEL 210
ENGINE 605.960 as of 1.7.97 in MODEL 202
ENGINE 605.962 as of 1.7.97 in MODEL 210
ENGINE 606.961 as of 1.7.97 in MODEL 140
ENGINE 606.962 as of 1.7.97 in MODEL 210

Modified crankshaft radial seal and vibration damper

Since 07/97 crankshaft radial seals (1) with PTFE sealing lips (teflon coating) are installed at the front of the crankshaft on these engines. The vibration dampers will have a unhardened contact surface (2) in the future for the radial seal. Implementation of this modification at a later date. The crankshaft radial seals have a reduced radial pressure stress compared to the previous design.



P03.20-0292-06

Repair note

The modified crankshaft radial seals can also be fitted to the engines listed below with hardened hub contact surfaces. The previous crankshaft radial seals with conventional sealing edge must on no account be fitted to engines with unhardened hub contact surfaces as this combination would immediately result in leakages at the engine.

The modified vibration dampers are recognizable from the raised part no. on the rear.

Because of the reduced wear of the contact surfaces, it is no longer necessary to install the crankshaft radial seal offset to the rear.

A new insertion tool is required to ensure that the sealing lip is not damaged when installing. This tool replaces the previous one. Do not apply pressure to the sealing lip of the radial seal.

Designation	Engine	Marking
Vibration damper	602.982	602 030 19 03
	604	not yet specified
	605.91	602.030 19 03
	605.96	605 030 05 03
	606.91	606 030 03 03
	606.96	606 030 04 03

After stocks of the previous crankshaft radial seals have been used up, only the modified version will be supplied in future.

Parts

Designation	Engine
Radial shaft seal	602.930, 602.942, 602.961, 602.962, 602.982, 603.960, 603.963, 603.971, 603.972, 604, 605, 606

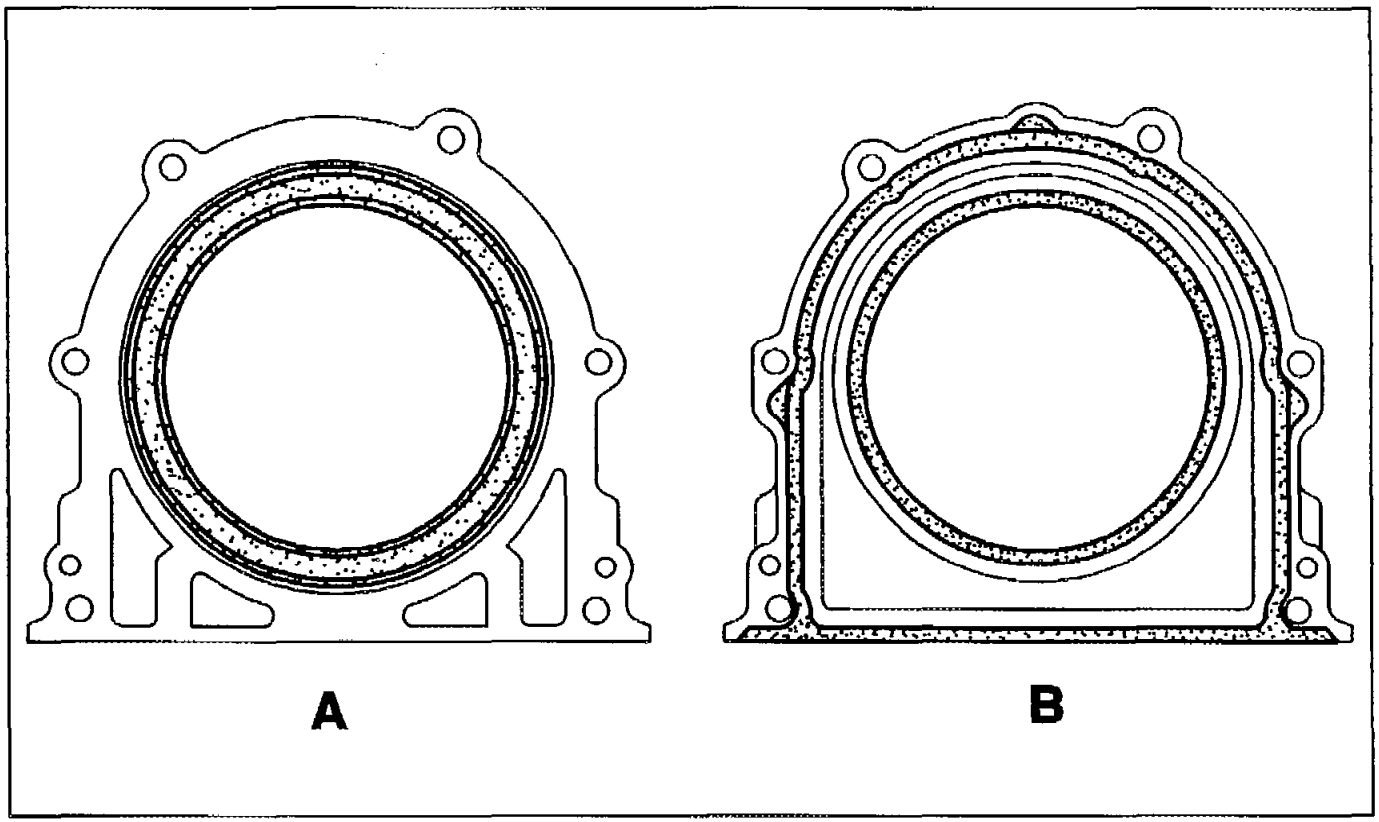
M17 BT01.40-P-0001-01A	End cover with vulcanized radial seal		☞BT

Production breakpoints/modifications/new features

Engine	*LHD RHD*	*Trans-mis-sion*	*Engine end no. as of*	*Engine end no. up to*	*Productio n period as of*	*Productio n period up to*	*Nature and reason for modification*	*Reference/remarks*
111					02.95			
604					02.95			
605					09.94	11.94		
606					09.94	11.94		

A *End cover with interference-fit radial seal*

B *End cover with vulcanized radial seal and vulcanized sealing lip (seal to crankcase)*



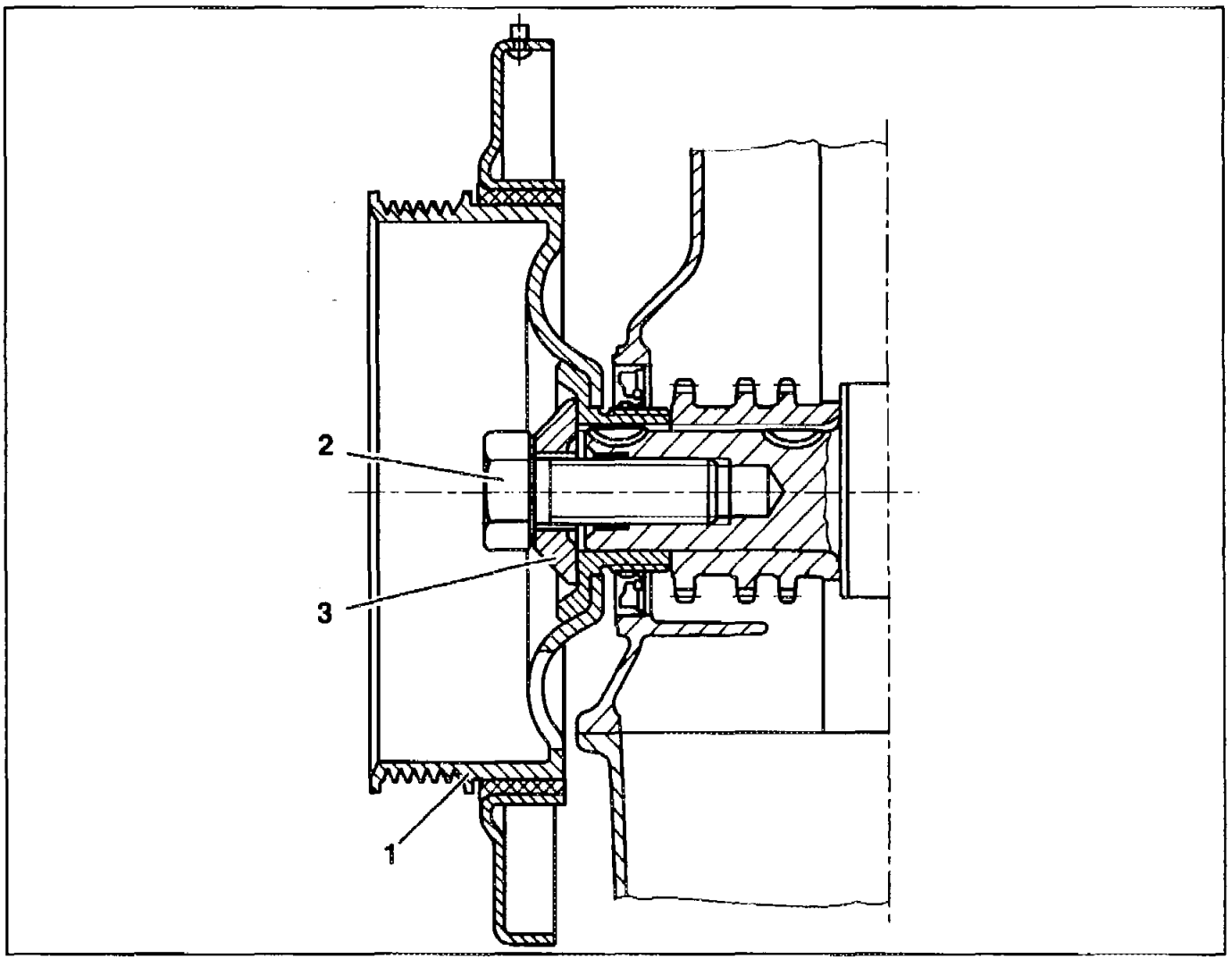
P01.40-0232-05

O17 BT03.30-P-0004-01A	Vibration damper vulcanized to belt pulley and brazed hub		

ENGINE 604.910 as of 1.10.94,
605.960 as of 1.8.95
in MODEL 202
ENGINE 605.911, 606.910 as of 1.10.94 in MODEL 124

Vibration damper shown on engine 604.910

i With effect from the period stated above the hub is brazed to the vibration damper (1); was bolted.



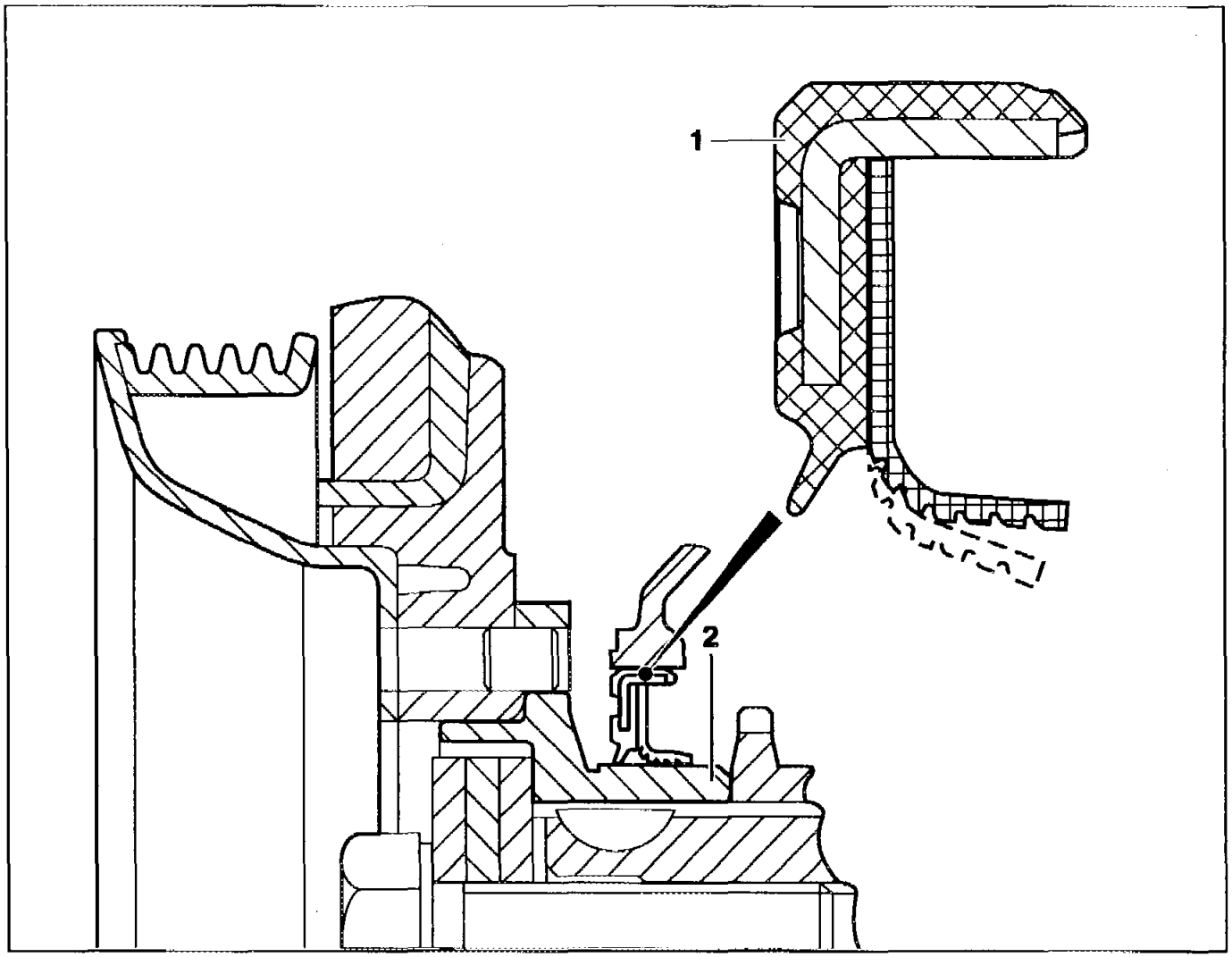
P01.45-0214-06

P17 BT03.30-P-0003-01A	Vibration damper with unhardened contact surface for radial seal	ENGINE 602, 605, 606	☞ BT

ENGINE 602.982 #0 as of 026411,
602.982 #2 as of 027454,
605.912 #0 as of 011805,
605.912 #2 as of 002950,
605.960 #0 as of 032799,
605.960 #2 as of 021611,
605.962 #0 as of 002042,
606.961 #2 as of 005480,
606.962 #2 as of 018403

Modified vibration damper

Vibration dampers with unhardened contact surface (2) are fitted to the engine stated above.
These vibration dampers must be fitted only in combination with the crankshaft radial seals (1) with PTFE sealing lips (teflon coating).
The raised part no. is indicated on the rear of the vibration damper, see table.



P03.20-0292-06

Designation	Engine	Marking
Vibration damper	602.982	602 030 19 03 was 602 030 15 03
	604	not yet specified
	605.91	602.030 19 03 was 605 030 01 03
	605.96	605 030 05 03 was 605 030 02 03
	606.91	606 03 03 03
	606.96	606 030 04 03 was 606 030 01 03

C18 BT03.30-P-0001-01A	Bolt for two-mass flywheel modified		BT

Production breakpoints/modifications/new features

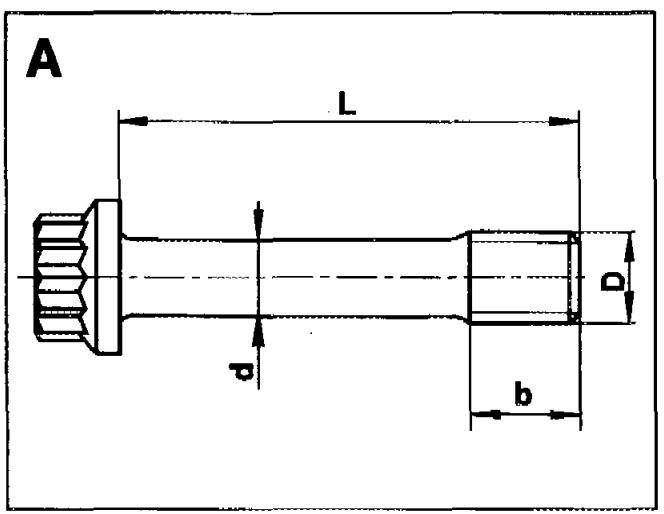
Engine	*LHD RHD*	*Trans-mission*	*Engine end no. as of*	*Engine end no. up to*	*Production period as of*	*Production period up to*	*Nature and reason for modification*	*Reference/remarks*
111					07.94	04.95		
605					07.94	04.95		
606					07.94	04.95		

Stretch shank bolt (A)
part no. 103 032 00 71 is replaced by a straight stretch shank bolt (B)
part no. 111 032 00 71.

i

The straight stretch shank bolt (B) should be replaced when performing repairs.

Length (L) 57 ± 0.2 mm



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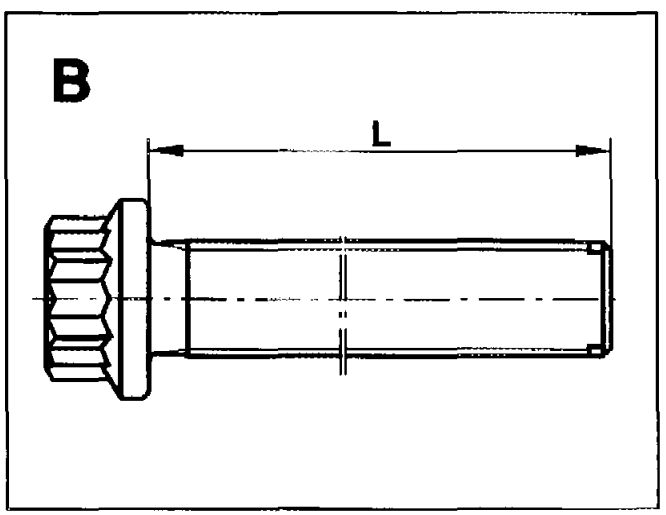


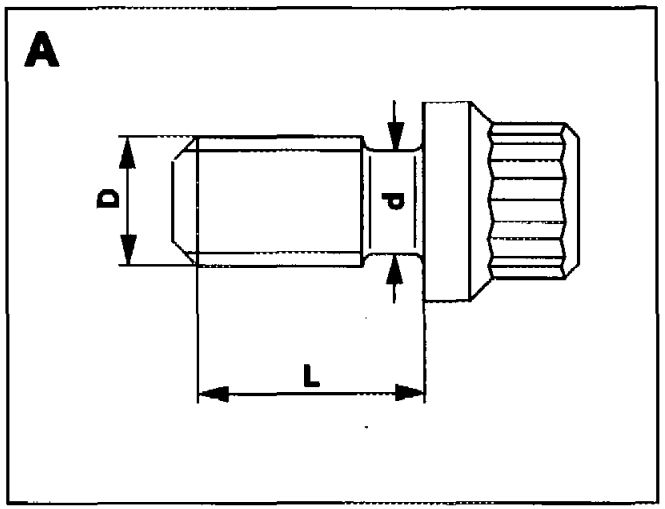
P03.30-0230-01

D18 BT03.30-P-0002-01A	Bolt for driven plate, flywheel, sheet metal two-mass flywheel standardized	ENGINE 111, 604, 605, 606	BT

Stretch shank bolt (A) part no.
102 032 00 71 is replaced by an internal torx bolt (B) T55 part no. 111 990 03 12.

The internal torx bolt (B) T55 should be replaced when performing repairs.

Length (L) bolt (A) = 22 mm
Length (L) bolt (B) = 28.5mm



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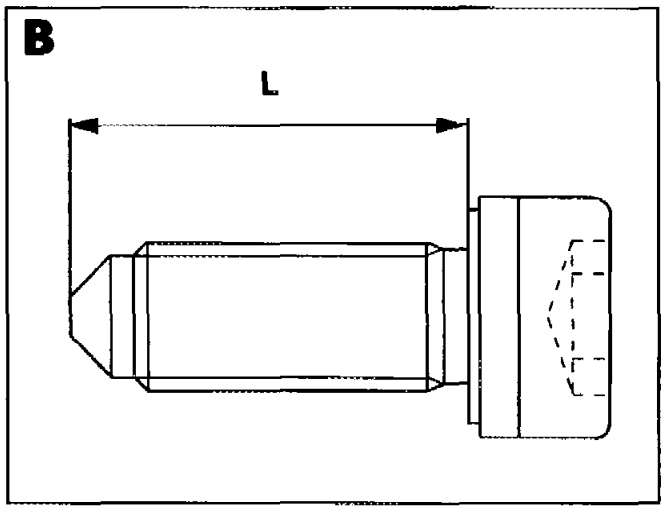

P03.30-0243-01