



SERVICE BULLETIN

Classification: EM87-010	Reference: TS87-191	Date: December 28, 1987
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VG30 ENGINE MODIFICATIONS

APPLIED VEHICLE(S): All vehicles with VG30 Engine

SERVICE INFORMATION

Beginning with April, 1987 production, several major components of the VG30 engine have been changed to decrease noise levels and improve power output.

The MODIFIED AND NON-MODIFIED engines can be identified by the engine serial number as follows:

MODIFIED	NON-MODIFIED
(XXXXXX W)	(XXXXXX A) OR (XXXXXX B)

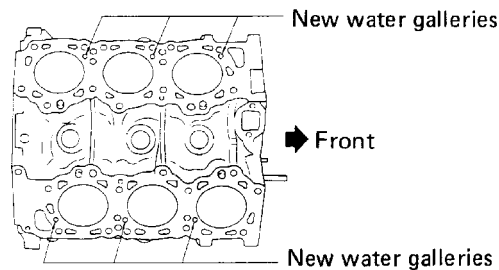
The major engine components that have been changed to create the "W" engine are shown below, and on the following pages. In addition, a summary of changes is provided for each component.

Component Name: Cylinder Block

SUMMARY OF CHANGES: Six new water galleries were added at the exhaust side of the cylinders.

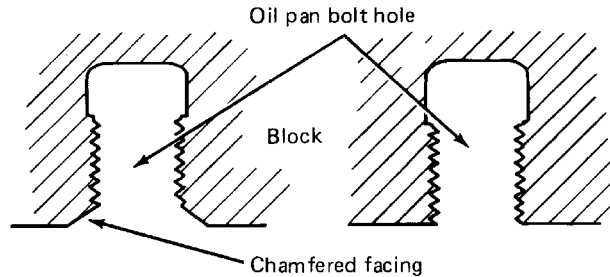
NOTE: The "W" engine bare block will NOT be stamped with a "W". Check for additional water galleries to identify a modified bare block.

COMPONENT ILLUSTRATION:



SUMMARY OF CHANGES: In addition, the oil pan bolt holes have been altered in the modified cylinder block. The holes have been chamfered to allow usage of a liquid oil pan gasket. These chamfered bolt holes are also helpful in identifying the modified bare block.

COMPONENT ILLUSTRATION:



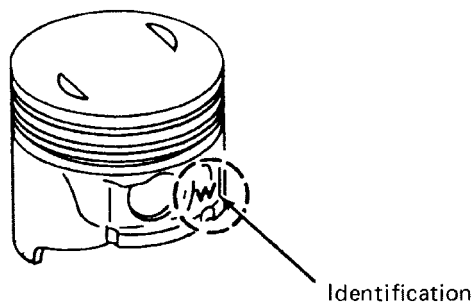
Component Name: Piston & Piston Pins

SUMMARY OF CHANGES: The piston and pin have been changed to a full-floating type, with two snap rings to locate the piston pin outer diameter has been decreased.

The modified piston can be identified by a “W” mark on the piston skirt (As shown).

NOTE: A “W” piston requires a modified connecting rod, wrist pin, and piston rings.

COMPONENT ILLUSTRATION:

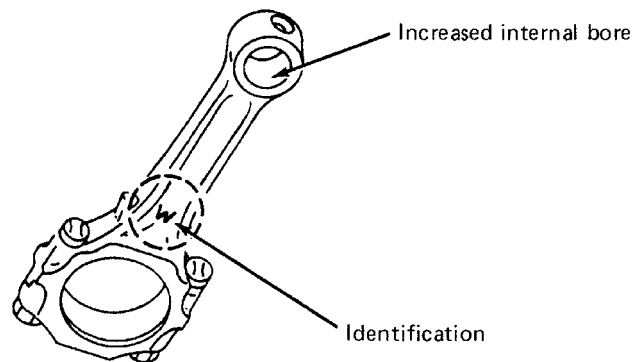


Component Name: Connecting Rod

SUMMARY OF CHANGES: The modified connecting rod has been increased in weight, along with an increase in small end internal bore. It can be identified by a “W” stamped in the side of the rod shaft as shown in illustration.

NOTE: A “W” connecting rod requires a “W” piston, new style wrist pin, and modified crankshaft.

COMPONENT ILLUSTRATION:



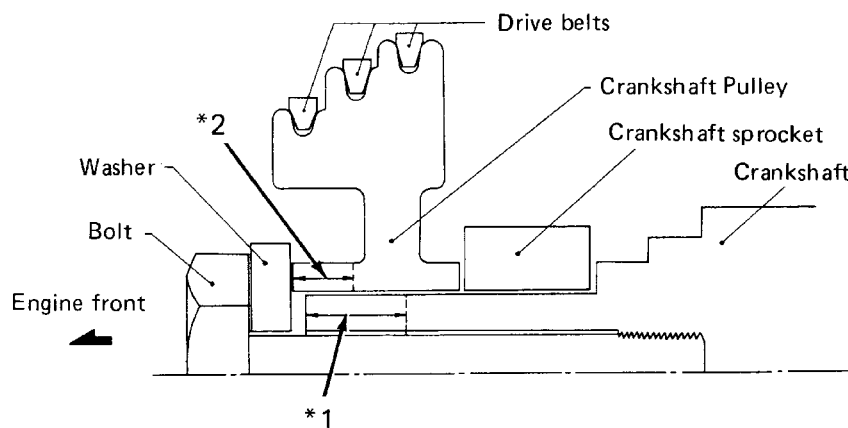
Component Name: Crankshaft, Pulley, Bolt & Washer

SUMMARY OF CHANGES: The crankshaft front tip was lengthened by 18.7mm (0.736 in). See illustration (*1).

The crankshaft pulley width was increased by 13.6mm (0.535 in.) as shown (*2).

The pulley bolt was changed from M12 to M14, and the washer inner and outer diameter were increased. (See illustration.)

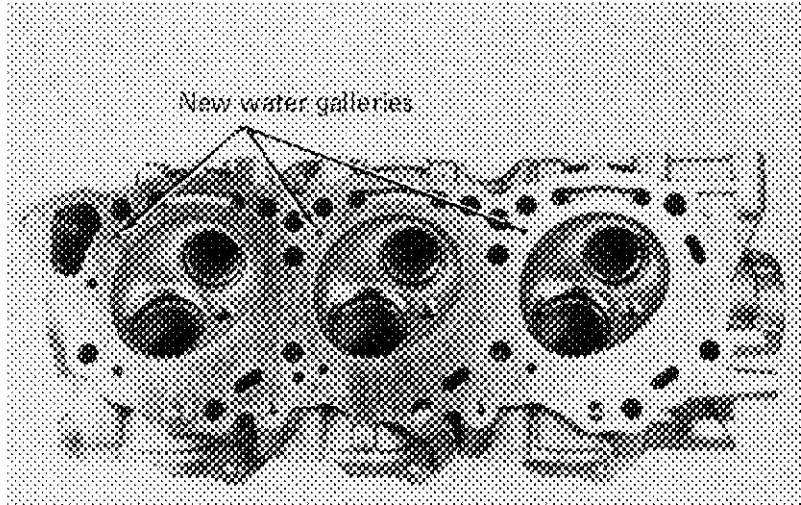
COMPONENT ILLUSTRATION:



Component Name: Cylinder Head

SUMMARY OF CHANGES: Three new water galleries were added to each cylinder head (at the exhaust side). These match the new galleries in the block.

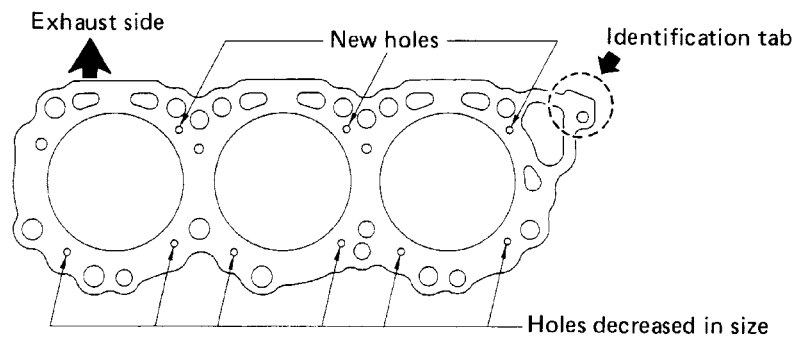
COMPONENT ILLUSTRATION:



Component Name: Cylinder Head Gasket

SUMMARY OF CHANGES: Three new holes were added to the gasket on the exhaust side, and the six holes in the intake side of the gasket were decreased in size.

COMPONENT ILLUSTRATION:







SEM915B

Component Name: Cylinder Head Gasket Identification

SUMMARY OF CHANGES: The tab shape can be used to identify the modified gasket from the non-modified gasket. (See illustration.)

COMPONENT ILLUSTRATION:

Tab shapes

Modified	Former
<p data-bbox="581 457 706 478">For Z31, U11, S12</p> 	<p data-bbox="927 457 1052 478">For Z31, U11, S12</p> 
<p data-bbox="581 632 706 653">For D21, WD21</p> 	<p data-bbox="927 632 1052 653">For D21, WD21</p> 

Component Interchangeability Information

In certain combinations, some MODIFIED engine components can be installed on NON-MODIFIED VG30 ENGINES (production prior to April, 1987) as shown in the following chart. However, NON-MODIFIED ENGINE COMPONENTS CANNOT BE INSTALLED ON MODIFIED VG30 ENGINES (production starting April, 1987).

Use the chart below to determine proper component combinations.

POSSIBLE COMPONENT COMBINATIONS FOR SERVICING VEHICLES ORIGINALLY EQUIPPED WITH THE FORMER TYPE ENGINE

ENGINE TYPE	CYLINDER HEAD	HEAD GASKET	CYLINDER BLOCK	SHORT ENGINE	ACCEPTABLE COMBINATION
VG30 Prior to 4/1987 ("A" or "B")	Modified	Former	Former	--	Yes
	Former	Former	Modified	--	Yes
	Former	Former	Former	--	Yes
	Modified	Modified	Modified	--	Yes
	Modified	Former	Modified	--	Yes
	Modified	Modified	Former	--	No
	Former	Modified	Modified	--	No
	Former	Modified	Former	--	No
	Former	Former	--	Modified	Yes
	Modified	Modified	--	Modified	Yes
	Modified	Former	--	Modified	Yes
	Former	Modified	--	Modified	No

POSSIBLE COMPONENT COMBINATIONS FOR SERVICING VEHICLES ORIGINALLY EQUIPPED WITH THE MODIFIED TYPE ENGINE

ENGINE TYPE	CYLINDER HEAD	HEAD GASKET	CYLINDER BLOCK	SHORT ENGINE	ACCEPTABLE COMBINATION
VG30 4/1987 ("W")	Modified	Modified	Modified	--	Yes
	Modified	Modified	--	Modified	Yes
	Any combination of former components				No

VG30 Parts and Interchangeability Information

PART DESCRIPTION	APPLICATION	NON-MODIFIED PART NUMBER	INTERCHANGE -ABILITY	MODIFIED PART NUMBER
Short Engine Assembly	Truck, Pathfinder	10103-12GA0	(2)	10103-12GAA
	300ZX Non-Turbo, 200SX, Maxima	10103-V5200 (1) 10103-16E00 (1)	(2)	10103-V520A
	300ZX Turbo	10103-02P00	(2)	10103-02P0A (4/87-7/87)
			NO	10103-17V00 (From 7/87)
Cylinder Block	Truck, Pathfinder, 300ZX, 200SX, Maxima	11010-V5280 (1) 11010-V5281 (1) 11010-V5282 (1)	(3)	11010-21V80
Cylinder Head, RH	Truck, Pathfinder, 300ZX, 200SX, Maxima	11041-V5200	(3)	11041-21V10
Cylinder Head, LH	Truck, Pathfinder, 300ZX, 200SX, Maxima	11091-V5280	(3)	11091-21V80
Head Gasket	Truck, Pathfinder	11044-06P00	(3)	11044-12G00
	300ZX, 200SX, Maxima	11044-V5201 (1) 11044-V5202 (1) 11044-V5212 (1)	(3)	11044-21V00

(1) Refer to Parts Microfiche for complete application information.

(2) Modified short engine can be used in place of non-modified short engine in conjunction with the cylinder head/head gasket combinations shown as acceptable in chart on the previous page. Also, the crank pulley must be changed as indicated below:

Truck, Pathfinder, 200SX, Maxima, and 300ZX (except 300ZX prior to 9/86 production), must use the modified crankshaft pulley, bolt and washer shown in the chart on the last page.

300ZX Non-Turbo prior to 9/86 production requires crankshaft pulley (P/N 12303-12G01), bolt (P/N 12309-16V00) and washer (P/N 12308-77A00).

300ZX Turbo prior to 9/86 production requires crankshaft pulley (P/N 12303-V5320), spacer (P/N 12308-V5321), bolt (P/N 12309-16V00) and washer (P/N 12308-77A00).

(3) Modified parts can be used in place of non-modified parts in combinations shown as acceptable in chart on the previous page.

VG30 Parts and Interchangeability Information - continued

PART DESCRIPTION	APPLICATION	NON-MODIFIED PART NUMBER	INTERCHANGEABILITY	MODIFIED PART NUMBER
Piston With Pin	Truck, Pathfinder, 300ZX, 200SX, Maxima	Refer to Parts Microfiche. Non-modified parts are listed with applied dates up to 4/87.	NO	Refer to Parts Microfiche. Modified parts are listed with applied dates from 4/87
Piston Ring Set	Truck, Pathfinder, 300ZX, 200SX, Maxima		YES	
Piston Pin Bushing	Truck, Pathfinder, 300ZX, 200SX, Maxima	N/A	NO	12030-21V00
Piston Ring Snap Ring	Truck, Pathfinder, 300ZX, 200SX, Maxima	N/A	NO	12032-58S00
Connecting Rod	Truck, Pathfinder, 300ZX, 200SX, Maxima	12100-02P00 (1) 12100-02P01 (1)	NO	12100-21V02
Crankshaft	Truck, Pathfinder, 300ZX, 200SX, Maxima	12201-02P80	NO	12201-21V80
Crankshaft Pulley	Truck, Pathfinder	Refer to Parts Microfiche. Non-modified parts are listed with applied dates up to 4/87.	NO	12303-12G01
	300ZX, 200SX		NO	12303-21V10
	Maxima		NO	12304-26E21
Crankshaft Bolt	Truck, Pathfinder, 300ZX, 200SX, Maxima	12309-V5000	NO	12309-16V00
Crankshaft Washer	Truck, Pathfinder, 300ZX, 200SX, Maxima	12308-V5000 (1) 12308-V5001 (1) 12308-V5010 (1)	NO	12308-77A00

(1) Refer to Parts Microfiche for complete application information.