PORSCHE

Technical Information	6-cyl 1/95	1 E

Increase of engine power - engine kit 3.8 l - **Rep. Gr. 1001**

Vehicle Type: **911 Carrera (993) / 911 Carrera 4 (993)**

Engine Type: **M 64.05 - Manual transmission** (approval for individual countries to be noted)

Model Year: **'94 (R) / '95 (S)**

Concerns: **Increase of engine power - engine kit 3.8 and special "Exclusive" option no. "X 51".**

Approval: The increase of the engine power (retrofitting and special "Exclusive" option no. "X 51") has been approved for the following countries (for the above vehicle type):
- EU member countries
- Gulf countries
- Hong Kong
- Singapore

General: With immediate effect, the **"Engine kit 3.8 l"** is available for retrofitting in order to increase the power of the **M 64.05** engines (manual transmission). Retrofitting can be carried out at the Customer Center of the Porsche AG in Stuttgart-Zuffenhausen (VRS department) or by any authorized Porsche Dealer.

The more powerful engine is also available for new 911 Carrera (993) / 911 Carrera 4 (993) vehicles (ex works) as **special "Exclusive" option no. "X 51".** On these vehicles, retrofitting will be performed during standard production. In this case, however, **not all** of the parts are identical with those required for retrofitting (see list, page 2).

Technical Data:

M 64.05 S **- Increase of engine power**

Engine type:	-	M 64.05 S
Displacement	-	3746 cm^3 (3.8 l)
Rated power	-	210 kW (285 hp) at 6000 rpm
Torque	-	350 Nm at 5000 rpm
Max. engine speed	-	6700 rpm
Max. speed	-	270 km/h
Fuel	-	Unleaded premium plus - RON 98
Valve clearance	-	Hydraulic valve lash adjustment
Ignition timing	-	1.1 mm BTDC
Compression	-	11.3 : 1
Engine type:	-	A capital "S" has been added to the engine type designation.

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Technical Data:

Retrofitting

993.100.903.00 **Engine kit 3.8 l** (without air conditioner)
993.100.904.00 **Engine kit 3.8 l** (with air conditioner)

consisting of the following parts:

Part no.	Designation	Qty.
993.103.915.70	Piston and cylinder - ø 102 mm	6
993.105.246.41	RH camshaft	1
993.105.247.41	LH camshaft	1
964.106.051.75	Boss for alternator	1
993.102.050.40	Single-type belt pulley (w/o air cond.)	1
993.102.050.41	Double-type belt pulley (w. air cond.)	1

Information: All other parts and seals are identical with those of the standard engine M 64.05.

New engine "X 51" - modified parts:

Part no.	Designation	Qty.
993.103.915.70	Piston and cylinder - ø 102 mm	6
993.102.021.70	Crankshaft with cone	1
993.102.050.70	Vibration damper	1
993.105.246.41	RH camshaft	1
993.105.247.41	LH camshaft	1
900.378.124.01	Bolt for vibration damper	1

All other parts and seals are identical with those of the standard engine M 64.05.

Information: If you have further, specific questions related to the **"X 51"** engine with increased power, please contact the **VRS** department:

- Phone: ++49 711 - [illegible]

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Technical Information	6-cyl 1/95	1 E

Assembly Instructions: **Power increase for 911 Carrera (993) / 911 Carrera 4 (993) engines**
- Retrofitting -

When retrofitting engines with a mileage of **up to** approx. 20,000 kilometers, partial disassembly will usually be sufficient.

When retrofitting engines with a mileage of **more than** 20,000 kilometers, complete disassembly of the engine and inspection of all parts is recommended.

Crankcase:
The base diameter of the 3.8 l cylinder is identical with that of standard production cylinders, i.e. 107 mm.
Therefore no rework of the crankcase in the area of the cylinder base is required.

Pistons and cylinders:
For the installation of the pistons and cylinders, proceed as described in the Repair Manual.

When installing the knock sensor bridge, make sure it does not contact the cylinder head (install washer, if required).

Camshaft housing:
For installation and adjustment, proceed as described in the Repair Manual.

Belt pulley on crankshaft:
Install modified belt pulley.
- single-type belt pulley on vehicles without air conditioner.
- double-type belt pulley on vehicles with air conditioner.

Put the belt pulley into its position with an alignment pin and tighten.
Tightening torque **170 Nm.**

Cooling fan / alternator:
The cooling fan and the alternator have to be assembled to form a rigid unit.
To this aim, press out the bearing from the disassembled cooling fan.
Fit the boss required for a rigid connection to the cooling fan.
Slide the boss with the cooling fan onto the alternator shaft.
The small V-belt pulley for the alternator has been omitted!

Engine assembly:
For the remaining steps of the assembly, proceed as described in the Repair Manual.
This also applies to the various tightening torques.

Engine type:
A capital "S" has to be added to the standard engine type designation M 64.05.

Engine adjustment and test values:
The adjustment and test values (e.g. exhaust values) are identical with those of the standard engine M 64.05.

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1 E	6-cyl 1/95	Technical Information

Retrofitting Times:

Working Pos. No.	Job description	Flat rates Carrera	Flat rates Carrera 4
	Engine removed and reinstalled:		
10 01 19 00	- without air conditioner	840 TU	910 TU
10 01 19 01	- with air conditioner	880 TU	950 TU
10 80 19 00	Power unit guard removed and reinstalled	40 TU	40 TU
34 35 27 50	Transmission unflanged and flanged	80 TU	80 TU
	Partial disassembly of engine, conversion to 3.8 l:		
15 70 20 76	Cylinder heads removed and reinstalled	1250 TU	1250 TU
13 10 20 66	6 pistons removed and reinstalled	120 TU	120 TU
	Complete disassembly of engine, conversion to 3.8 l:		
10 01 37 50	Engine removed and reinstalled 1890 TU **Does not include:** Removing and reinstalling clutch. Disassembling and reassembling intake air distributor, cylinder heads, crankshaft and alternator.	1890 T	1890 TU
	Other operations		
–	Test on engine test stand	app. 550 TU	app. 550 TU
44 90 03 00	Wheel alignment, rear (Adjustment of toe, camber and caster will be charged separately)	80 TU	80 TU

Warranty: For new vehicles: Warranty in accordance with the Porsche regulations.

For retrofitting: Warranty in accordance with the repair regulations and the warranty regulations for original Porsche parts.

Registration: **In the Federal Republic of Germany, the power increase of the engine has to be entered into the vehicle identification documents; otherwise, the operating permit of the vehicle concerned will become void.**

The respective regulations of the individual countries must be observed at all times!

Reference: Repair Manual "911 Carrera (993)", Vol. I.