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Distribution:	Jenbacher Service Subsidiaries Service Service Providers	
<b>Service Information</b>		<b>SI-063</b>  6 August 2009

## TYPE 316: Vibration reduction retrofitting kits

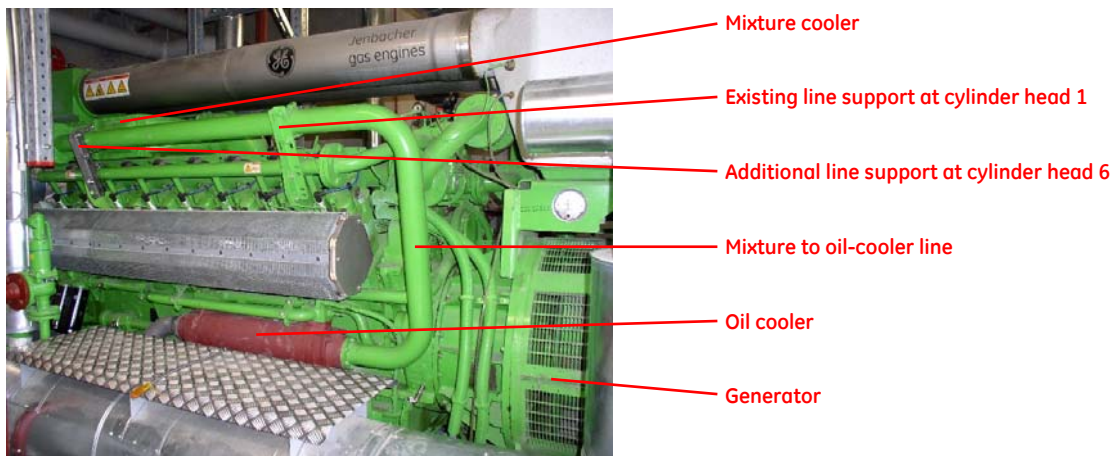
SI-063 describes options to improve the vibration behaviour of 16-cylinder type 3 engines at three critical positions.

**AFFECTED:** Type 316 engines.

**DESCRIPTION:** Due to its physical properties, the 16-cylinder engine features a stronger vibration behaviour when compared to 12 or 20-cylinder engines of the same engine type. Along with particular preconditions (performance improvement, being coupled to specific generator types, engine version, gas type, etc.), in the long term this characteristic can cause overloading of components. Normally, the vibrations are at the level we have calculated and on the basis of which we designed all components.

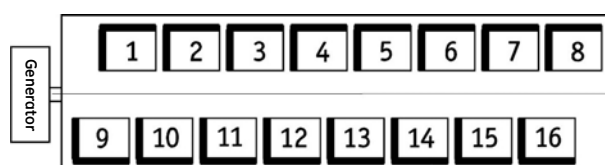
**SOLUTION:** To be able to withstand these higher-load special circumstances, as of now we will be offering retrofitting kits for these positions, which have proven to be critical in the case of such installations.

### RETROFITTING KIT A: Additional support for the "mixture to oil-cooler line" at cylinder head 6



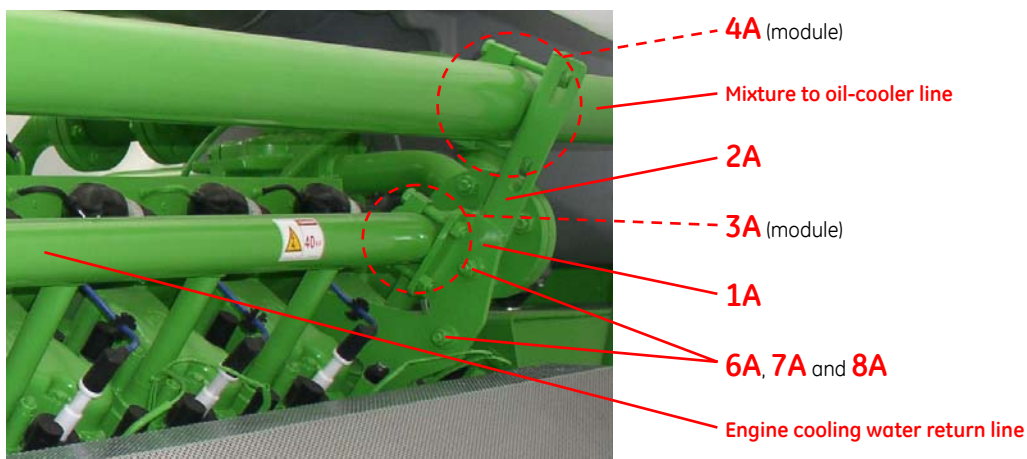
III. 1: Support of the mixture to oil-cooler line (LEFT-HAND cylinder bank)

### DEFINITION: Cylinder numbering

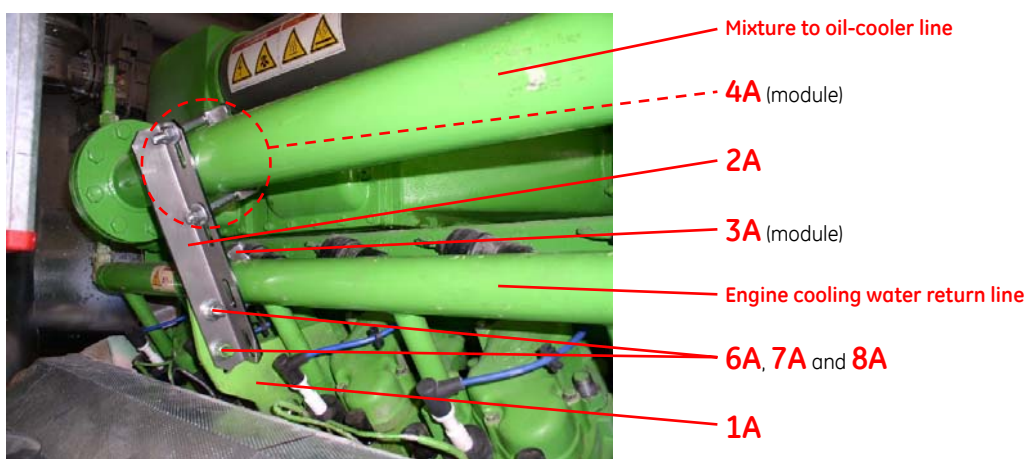


III. 2: Cylinder numbering

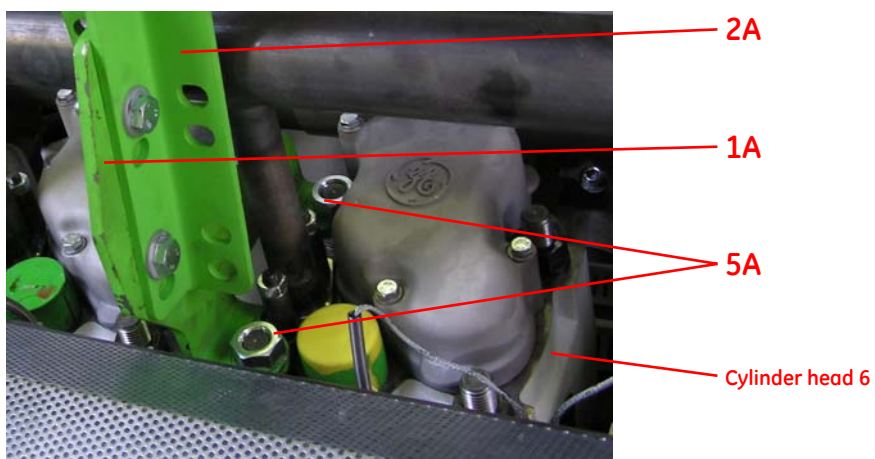
When numbering the cylinders, the engine is viewed from the generator side and every cylinder bank is sequentially numbered front to back – always starting on the left side.



III. 3: Existing line support at cylinder head 1



III. 4: Additional line support at cylinder head 6

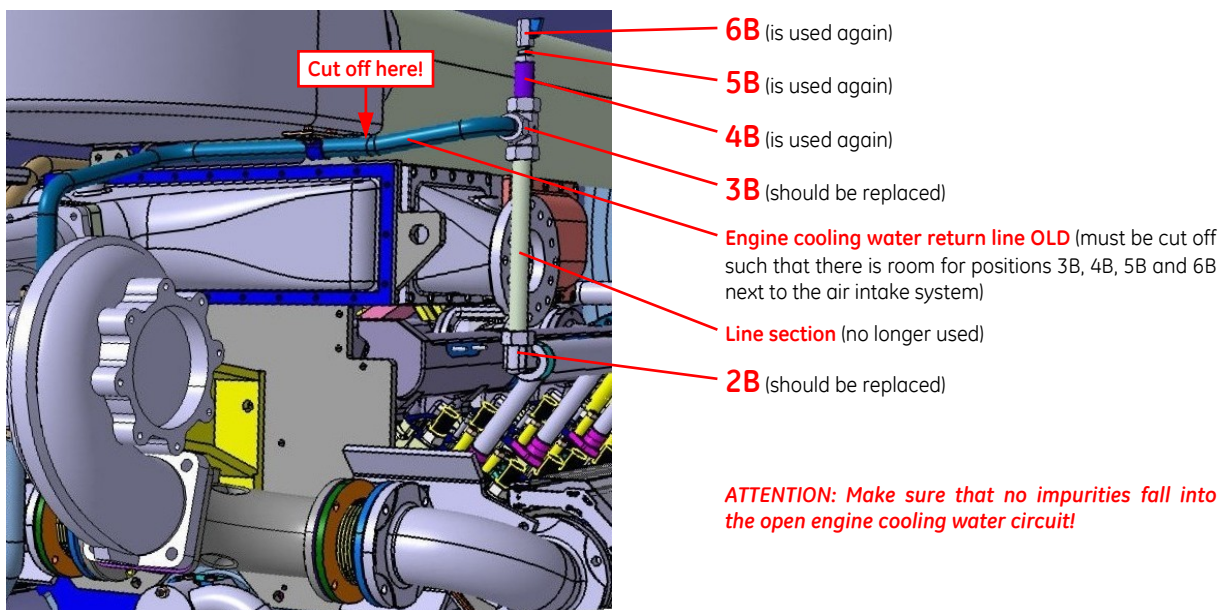


III. 5: Fix support to the left cylinder head screws

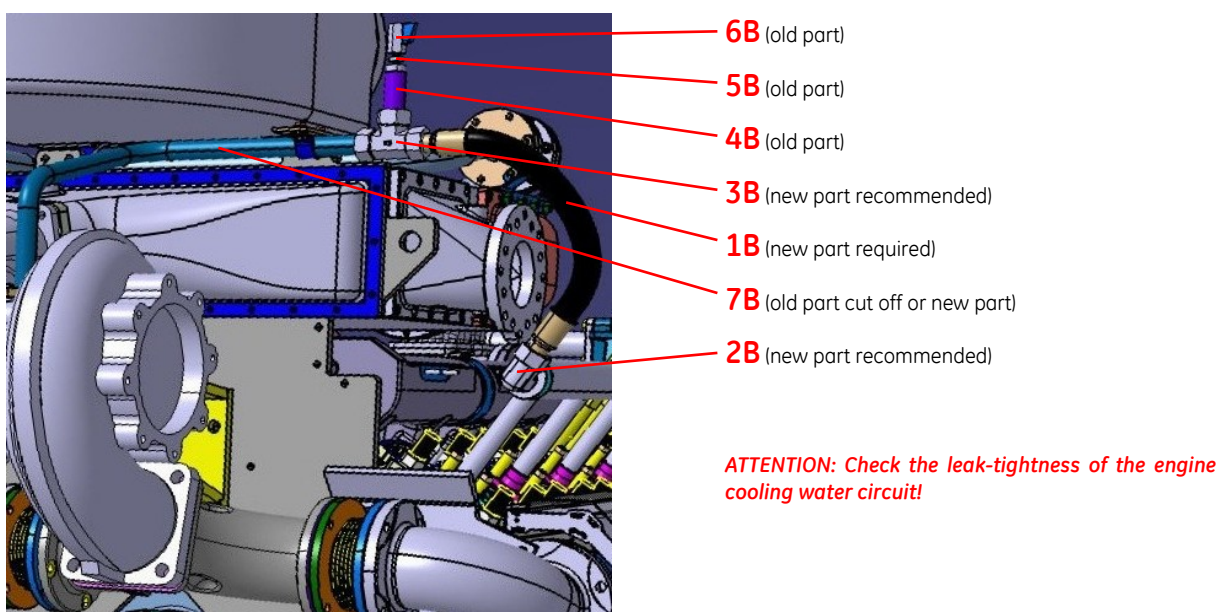
POS.	PART NO.	QUANTITY	DESCRIPTION
1A	429058	1	Support
2A	325635	1	Support
3A	394290	1	Mounting bracket DN50 cpl. (mounting bracket + hexagonal head screws M12x90 + lock nuts + dished washers)
4A	394695	1	Mounting bracket DN80 cpl. (mounting bracket + hexagonal head screws M12x110 + lock nuts + dished washers)
5A	101855	2	Hexagonal nut M20
6A	100475	2	Hexagonal head screw M12x40
7A	101823	2	Hexagonal nut M12
8A	101934	4	Washer A13

Tab. 1: New parts required to assemble retrofitting kit A

**RETROFITTING KIT B: Replacing the inflexible engine cooling water return line near the exhaust-gas turbocharger with a flexible SOH-type hose line**



III. 6: Engine cooling water return line BEFORE installation of retrofitting kit B



III. 7: Engine cooling water return line AFTER installation of retrofitting kit B

POS.	PART NO.	QUANTITY	DESCRIPTION
1B	106946	1	SOH-type hose DN25x500
2B	221149	1	Elbow fitting (we advise replacing this part)
3B	101218	1	T-coupling (we advise replacing this part)

**Tab. 2:** Required NEW PARTS to assemble retrofitting kit B – must/should be ordered!

4B	183302	1	Engine cooling water venting line cpl. (with welded-on nut)
5B	104129	1	Double nipple
6B	102783	1	Ball valve G1/4"

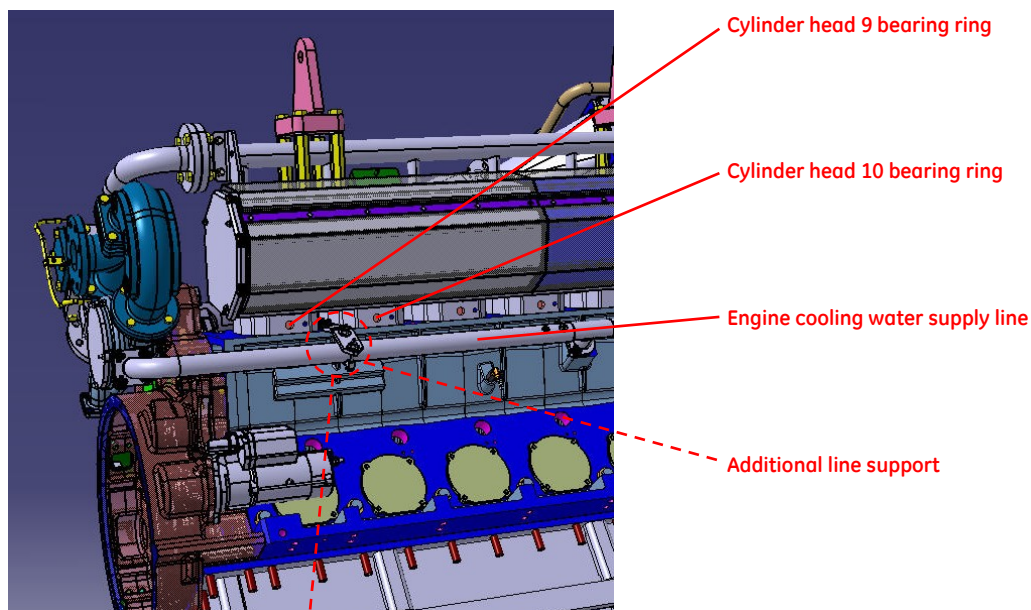
**Tab. 3:** Required OLD PARTS – can be taken from the existing situation!

7B	615946	1	Engine cooling water return line cpl. (with welded-on flange)
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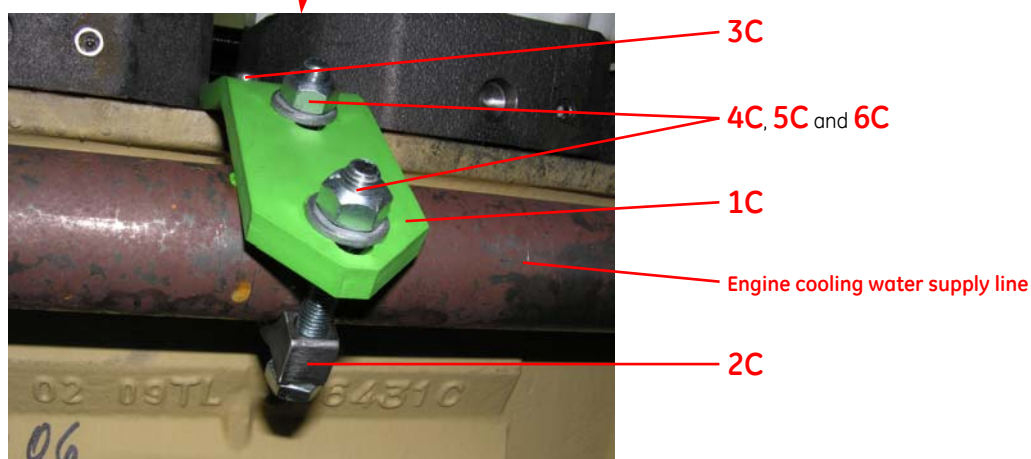
**Tab. 4:** Optional NEW PART – if you should wish to replace the existing line instead of cutting it off!



**RETROFITTING KIT C: Additional support of the engine cooling water supply line between cylinder head 9 and cylinder head 10**



III. 8: Additional line support between cylinder head 9 and 10 – Total view (RIGHT-HAND cylinder bank)



III. 9: Additional line support between cylinder head 9 and 10 – Detailed view

POS.	PART NO.	QUANTITY	DESCRIPTION
1C	325432	1	Support for engine cooling water supply line
2C	372411	1	Mounting bracket DN40 for engine cooling water supply line
3C	100441	2	Hexagonal head screw M10x25
4C	100287	2	Hexagonal head screw M10x80
5C	101872	2	Lock nut M10
6C	102162	2	Dished washer 10

Tab. 5: New parts required to assemble retrofitting kit C

**IMPORTANT:** Switch off the engine according to Technical Instructions TI1100-0105 and observe the Safety Instructions in TI2300-0005!